

Notice of Public Meeting

The Board of Retirement of the San Mateo County Employees' Retirement Association will meet on **Tuesday, August 27, 2019, at 10:00 A.M.**

PUBLIC SESSION – The Board will meet in Public Session at 10:00 a.m.

1. Call to Order, Roll Call and Miscellaneous Business

- 1.1 Administration of Oath of Office to Reappointed Trustee
- 1.2 Announcement of Appointment of Board Committees

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 July 16, 2019

4. Approval of the Consent Agenda*

- 4.1 Disability Retirements (7)
 - Anthony Adams
 - Cheryl Batiste
 - Kimberly Calderaro
 - Maria Calderon-Sanchez
 - Melvin Parker
 - Kathryn Rampton
 - Anna Stock
- 4.2 Survivor Death Benefits
- 4.3 Service Retirements
- 4.4 Continuances
- 4.5 Deferred Retirements
- 4.6 Member Account Refunds
- 4.7 Member Account Rollovers
- 4.8 Member Account Redeposits
- 4.9 Acceptance of Trustees' Reports of Educational Activities (SACRS)
- 4.10 Acceptance of Semi-Annual Compliance Certification Statements for Period Ended June 30, 2019
- 4.11 Approval of Resolutions Amending Definitions of Compensation Earnable and Pensionable Compensation

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 July 31, 2019
- 6.2 Report on Quarterly Investment Performance Report for the Period Ended June 30, 2019
- 6.3 Report on Fixed Income Manager Annual Reviews
- 6.4 Report on SamCERA's Securities Lending Program
- 6.5 Educational Presentation on Investment Leverage
- 6.6 Report on Asset-Liability Study: Asset Allocation Mixes

7. Board & Management Support

- 7.1 Report on Preliminary Financial Statements for the Fiscal Year Ended June 30, 2019
- 7.2 Report on Budget-to-Actual for the Fiscal Year Ended June 30, 2019
- 7.3 Approval of Resolution Amending the Regulations of the Board of Retirement

8. Management Reports

- 8.1 Chief Executive Officer's Report
- 8.2 Assistant Executive Officer's Report
- 8.3 Chief Investment Officer's Report
- 8.4 Chief Legal Counsel's Report

Notice of Public Meeting

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

C1 Consideration of Disability Items, if any, removed from the Consent Agenda

9. Report on Actions Taken in Closed Session

10. Adjournment in Memory of the Following Deceased Members:

Showes, Joyce	July 3, 2019	Hospital
Coghlan, Gail	July 4, 2019	Probation
Panaligan, Ruben	July 5, 2019	Hospital
Lamb, Marguerite	July 7, 2019	Clerk Recorder's Office
Lamb, H Richard	July 10, 2019	Mental Health
Arqueza, Andreiam	July 16, 2019	Sheriff's
Barnett, Carolyn	July 17, 2019	Hospital
Glass, Zeb	July 17, 2019	DPW
Lucier, Judy	July 17, 2019	Superior Court
Dilsaver, Harold	July 19, 2019	Health Services
Padden, Lorraine	July 20, 2019	Hospital
Baker, Anna	July 20, 2019	Social Services
Watson, Betty	July 21, 2019	Courts
Ford, William	July 23, 2019	Building and Grounds
Kane, Terence	July 26, 2019	Probation
Ochi, Mae	July 30, 2019	County Clerk
Sotomayor, Estelle	July 31, 2019	General Services
Quadros, Elizabeth	July 31, 2019	Mental Health
Espaldon, Merle	August 4, 2019	Aging & Adult Services
Rives, Robert	August 5, 2019	General Services
Bolanos, Sonia	August 6, 2019	Hospital
Green, Raymond	August 8, 2019	Mail Room
Montemagni, Arnold	August 13, 2019	Environmental Health



Scott Hood, Chief Executive Officer

Posted: August 21, 2019

(* 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

August 27, 2019

Agenda Item 1.1

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer



SUBJECT: Administration of the Oath of Office to Newly Reappointed Trustee

In this agenda item, the Trustee Oath of Office will be given to **Ben Bowler** reappointed by the Board of Supervisors.

Enclosure

Board of Supervisors Reappointment Memo

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Item 1.2

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer 

SUBJECT: Announcement of Appointment of Board Committees

Recommendation

Staff recommends the Chair announce appointments to the Investment Committee and the Audit Committee as the Chair deems appropriate.

Background

The Board Chair is authorized by the Regulations of the Board of Retirement to appoint all committees.

“2.1 Election of Chair: At the first regular meeting in July, the Board of Retirement shall elect one of its members chair for a term of one year or until his or her successor is duly elected and qualified. The Chair shall preside at all meetings of the Board, **shall appoint all committees** (*emphasis added*) and shall perform all duties incidental to that office.”

Committee assignments for FY18-19 were as follows:

- Audit Committee- Mark Battey, Katherine O’Malley, Alma Salas and Kurt Hoefer, Chair
- Investment Committee- Al David, Robert Raw, Eric Tashman and Ben Bowler, Chair

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

JULY 16, 2019 – REGULAR BOARD MEETING MINUTES

1907.1 Call to Order, Roll Call and Miscellaneous Business

Call to Order: Ms. Sandie Arnott, Chair, called the Regular Meeting of the Board of Retirement to order at 10:00 a.m.

Roll Call:

Present: Sandie Arnott, Mark Battey, Al David, Paul Hackleman, Kurt Hoefer, Katherine O'Malley, Robert Raw and Eric Tashman.

Absent: Ben Bowler.

Alternates present: Susan Lee and Alma Salas.

Staff: Brenda Carlson, Michael Coultrip, Lili Dames, Scott Hood, Elizabeth LeNguyen, JulieAnne Nagal, Doris Ng, Gladys Smith and Anne Trujillo.

Consultants and speakers: Margaret Jadallah, Marc Gesell and John Nicolini (Verus); and Nick Collier (Milliman, Inc.).

1907.1.1 Administration of Oath of Office to Elected and Reappointed Trustees: Ms. Arnott administered the oath of office to reelected trustees Al David (Third Member), Paul Hackleman (Eighth Member) and Alma Salas (Eighth Member Alternate), and reappointed trustee Kurt Hoefer (Ninth Member).

1907.1.2 Election of Board Officers: Ms. O'Malley, Chair of the Ad Hoc Nominating Committee reported to the Board that the committee, consisting of Mr. Hoefer, Mr. Raw and herself, discussed candidates for the officer positions. They recommended the following slate of officers for the term ending June 30, 2020: Kurt Hoefer, Chair; Al David, Vice-chair; and Robert Raw, Secretary. There were no other nominations made.

Action: Mr. Battey moved to approve the nominations of Kurt Hoefer, Chair; Al David, Vice-chair; and Robert Raw, Secretary. The motion was seconded by Mr. Hackleman and carried with a vote of 7-0, with trustees Arnott, Battey, David, Hackleman, Hoefer, O'Malley and Raw all in favor; none opposed.

The remainder of the meeting was chaired by Mr. Hoefer.

1907.1.3 Announcement of Appointment of Board Committees: Mr. Hoefer announced that he will provide the Board committees for FY 19-20 at the August Board meeting.

1907.2.1 Oral Communications from the Board: None.

1907.2.2 Oral Communications from the Public: Ms. Salas thanked the Board and staff for all the well wishes she received during her recovery. Mr. Hood shared with the Board an honorary resolution given by the Board of Supervisors to commemorate SamCERA's 75 years of service.

1907.3.1 Approval of the Minutes: Mr. Hoefer asked if there were any changes or corrections, or objections, to the meeting minutes from the Board meeting held on June 4, 2019.

Action: Mr. David moved to approve the minutes from the Board Meeting on June 4, 2019. The motion was seconded by Mr. Hackleman and carried with a vote of 7-0, with trustees Arnott, Battey, David, Hackleman, Hoefer, O'Malley and Raw all in favor; none opposed.

1907.4.0 **Approval of the Consent Agenda:** Mr. Hoefler continued the disability application of Anna Stock to next month's Board meeting. Mr. Hoefler asked if there were additional items to be removed. No other items were removed.

Action: Mr. Raw moved to approve the remaining items on the Consent Agenda, and the motion was seconded by Mr. Hackleman. The motion carried with a vote of 7-0, with trustees Arnott, Battey, David, Hackleman, Hoefler, O'Malley and Raw all in favor; none opposed.

1907.4.1 **Disability Retirements:**

a) The Board found that **Michelle Barlesi** is (1) permanently incapacitated from the performance of her usual and customary duties as a Supervising Radiologic Technologist, (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.

b) The Board found that **Jennifer Clamon** is (1) permanently incapacitated from the performance of her usual and customary duties as a Deputy Sheriff, (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.

c) The Board found that **Maurice Dickens** is (1) permanently incapacitated from the performance of his usual and customary duties as a Correctional Officer, (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 **Mikiko Ohara** is (1) permanently incapacitated from the performance of her usual and customary duties as a Custodian, (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.

e) The Board found that **Frederick Roth** is (1) permanently incapacitated from the performance of his usual and customary duties as a Community Worker II, (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.

1907.4.2 **Survivor Death Benefits:** None.

1907.4.3 **Service Retirements:**

Name	Effective Retirement Date	Department
Anaya, Nora	March 29, 2019	Deferred from Family Services
Deleon, Nalin	May 1, 2019	Deferred from Mental Health
Emerson, Diana	April 12, 2019	Deferred from Coastside Clinic
Emerson, Diana	April 10, 2019	QDRO
Hamilton, Nicole	April 22, 2019	Deferred from H.S.A.
Murphy, Marjorie	April 22, 2019	HOS - Acute Psychiatric
Perez, Kristina	May 1, 2019	Deferred from SamCERA
Rackmil, Jeffrey	March 30, 2019	Deferred from Mental Health
Tan, Lay-Ting	May 1, 2019	Deferred from Health
Williams, Beverly	April 18, 2019	HOS - Acute Medical Surgery

1907.4.4 **Continuances:**

Member Name	Retirement Plan Type
Lynam, Theresa	Lynam, Richard
Neves, Jerry	Mercado, Genoveva
Page, Kathleen	Page, Mark

1907.4.5 **Deferred Retirements:**

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

Member Name	Retirement Plan Type
Buck, Chad	S4, Vested – Auto Defer - Code 31700
Folauoo, Patsy	G4, Vested – Auto Defer - Code 31700
Gonzalez, Ana Yvette	G4, Vested
Lee, Amarra	G5, Vested – Auto Defer - Code 31700
Mahabali, Yaswan	G4, Vested – Auto Defer - Code 31700
Rainaldi, Linda	G4, Vested – Auto Defer - Code 31700
Taylor, Nicole	G4, Vested – Auto Defer - Code 31700

1907.4.6 **Member Account Refunds:**

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

Member Name	Retirement Plan Type
Berjiky, Artin	G4, Non-vested
Delgado, Adriana (QDRO)	G4, Non-vested
Ertas, Leyth	G7, Non-vested
Guardado, Eva	G7, Non-vested
Hanson, Emily	G7, Non-vested
Ming, Xylona (QDRO)	G4, Non-vested
Okazaki, John (FBO: Mark Tanaka)	G7, Non-vested
Tercero, Jisselle	G7, Non-vested
Tostado, Efrain	S7, Non-vested
Woodburn, Chad	G7, Non-vested

1907.4.7 **Member Account Rollovers:**

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

Member Name	Retirement Plan Type
Bautista, Lorenz	S7, Non-vested
Carlay, Denicia	G4, Vested
Chiem, Johnny	G7, Non-vested
Estonilo, Albert	G4, Non-vested
Huang, Ting-Yi	G7, Non-vested
Huerta, Javier	G4, Non-vested
Huynh, Tony	G7, Non-vested
Lee, Benjamin W.	S4, Non-vested

1907.4.8 **Member Account Redeposits:** None.

1907.4.9 **Acceptance of Trustees' Reports of Educational Activities:** The Board accepted the submitted report for educational activities attended by Robert Raw.

1907.4.10 **Acceptance of Semi-Annual Compliance Certification Statements for Period Ended June 30, 2019:** The Board accepted the semi-annual Compliance Certification Statements for SamCERA's non-alternative investment managers and investment consultant, as of June 30, 2019.

1907.5.1 **Consideration of Agenda Items, if any, removed from the Consent Agenda:** Mr. Hoefer removed the disability application of Anna Stock from the Consent Agenda. This item will continue at next month's Board meeting.

Mr. Tashman arrived at 10:17 a.m. and took his seat at the dais.

1907.5.2 **Approval of Actuarial Assumptions for the June 30, 2019 Actuarial Valuation:** Nick Collier, from Milliman, Inc. presented the impact of different assumption rates on the 2019 valuation and answered questions from the Board and public.

Action: Mr. David motioned to approve the actuarial assumptions of: investment return at 6.5%, inflation at 2.5%, and general wage and payroll growth at 3.0%. The motion was seconded by Mr. Hackleman and carried by a vote of 7-1, with trustees Arnott, Battey, David, Hackleman, Hoefer, O'Malley and Raw all in favor; Mr. Tashman opposed.

1907.6.1 **Report on Preliminary Monthly Portfolio Performance Report for the Period Ended June 30, 2019:** Mr. Coultrip reported that due to the early Board meeting date, the performance report was included in the Day of Folder. The report does not include the benchmark return because of the early meeting date. He also reported the pre-preliminary return for June is 3.3%, with the pre-preliminary trailing twelve-month return ending June 2019 of 5.2% net. This item was informational and for discussion only, no action was taken.

1907.6.2 **Report on the Core Equity and Low Volatility Equity Manager Annual Reviews:** Ms. Ng reported that staff met with core equity manager, D.E. Shaw, and low volatility equity managers, Acadian and PanAgora on May 16, 2019. The discussion included a firm/organizational update, investment process review, performance review and attribution, and current positioning/market outlook. There were no significant concerns identified during the portfolio reviews. This item was informational and for discussion only, no action was taken.

The meeting was adjourned for lunch at 11:15 a.m. and reconvened at 12:20 p.m. At that time, item 6.4 was heard out of order.

1907.6.3 **Report on the International Equity Manager Annual Reviews:** Ms. Ng reported that staff met with international equity managers, Baillie Gifford, Parametric and Mondrian on June 6, 2019. The discussion included a firm/organizational update, investment process review, performance review and attribution, and current positioning/market outlook. This item was informational and for discussion only, no action was taken.

1907.6.4 **Report on Asset Liability Study - Enterprise Risk Tolerance Results and Asset Liability Introduction:** Ms. Jadallah introduced Mr. Gesell to the Board. Ms. Jadallah and Mr. Gesell shared the results of the risk tolerance survey submitted by Board members. They discussed SamCERA's risk tolerance

assessment as well as the asset liability study process and portfolio complexity. This item was informational and for discussion only, no action was taken.

1907.6.5 **Approval of Core Real Estate Manager Recommendation:** Mr. Nicolini presented the manager evaluation for the Harrison Street Core Property Fund and answered questions from the Board.

Action: Mr. Battey motioned to approve the commitment of \$30 million to the Harrison Street Core Property Fund. The motion was seconded by Mr. Hackleman and carried a vote of 8-0, with trustees, Arnott, Battey, David, Hackleman, Hoefer, O'Malley, Raw and Tashman all in favor; none opposed.

1907.7.1 **Approval of Resolution Authorizing CEO to Enter into Office Space Lease Extension Agreement:** Mr. Hood discussed the details of renewing a new lease versus relocating. Based on a study completed by SamCERA's real estate broker, Kidder Matthews, it was determined that a lease renewal would be more financially prudent.

Action: Mr. David motioned to approve the resolution authorizing the Chief Executive Officer to execute a 6th amendment to the office lease with Shores Center Owner, LLC to extend the occupancy to December 31, 2027. The motion was seconded by Ms. Arnott and carried a vote of 8-0, with trustees, Arnott, Battey, David, Hackleman, Hoefer, O'Malley, Raw and Tashman all in favor; none opposed.

Mr. Raw left the meeting at 1:37 p.m.

1907.7.2 **Discussion of Proposed Changes to the Regulations of the Board of Retirement:** Mr. Hood discussed the analysis and proposed changes to the Board of Retirement regulations. This item was informational and for discussion only, no action was taken.

1907.8.1 **Chief Executive Officer's Report:** Mr. Hood called to attention the 2020 Legislative Timeline in the Board's Day of folder. He reported that he will be attending the Wharton course in San Francisco next week and also mentioned of future CALAPRS education opportunities: Pepperdine Course in August and Trustees' Roundtable in October. Mr. Hood informed the Board that he presented a funding status report at the County Budget Hearing. Mr. Hood requested the Board's feedback on retrieving Board packet material and the use of Dropbox for confidential packet materials going forward. Lastly, Mr. Hood mentioned the proposed changes to the regulations as well as financial and budget reports would be on next month's agenda.

1907.8.2 **Assistant Executive Officer's Report:** Ms. Smith informed the Board that Ruby Boyette has accepted one of the Retirement Support Specialist positions and that staff is still in the process of filling the second vacancy. Ms. Smith reported her attendance at the CALAPRS Administrators' Roundtable. She announced the completion of the V3 upgrade and that staff has started the beginning phase for the IT Risk Assessment Audit.

1907.8.3 **Chief Investment Officer's Report:** Mr. Coultrip informed the Board that staff will be conducting two manager review sessions next month and that Ms. Ng will send the Board an email with additional information. Mr. Coultrip reported he and Ms. Ng completed a successful due diligence trip to Western Asset Management in Pasadena to meet the new head of risk management.

1907.8.4 **Chief Legal Counsel's Report:** None.

C1 **Consideration of Disability Items, if any, removed from the Consent Agenda:** Mr. Hoefer removed the disability application of Anna Stock from the Consent Agenda. This item will be moved to next month's Board meeting.

1907.10 **Adjournment:** Mr. Hoefler adjourned the meeting at 1:58 p.m. in memory of the deceased members listed below.

Stienstra, Dorothy	May 14, 2019	Health & Welfare
Bernhagen, Royal	May 15, 2019	Motor Vehicles Division
Allen, Hodges	May 20, 2019	Human Services Agency
Lennon, D. Edward	May 26, 2019	Mental Health
Anderson, Karen L	May 30, 2019	Courts
Davis, Grant	June 19, 2019	Sheriff's
Bosco, Mildred	June 22, 2019	Crystal Springs Rehab Center
Hernal, Peter	June 23, 2019	Hospital
Demers, Maurice	June 23, 2019	Hospital
James, Alice	June 22, 2019	Human Services Agency

Scott Hood
Chief Executive Officer

Anne Trujillo
Retirement Executive Secretary

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Items 4.1- 4.9

TO: Board of Retirement

FROM: Elizabeth LeNguyen, Retirement Benefits Manager



SUBJECT: Approval of Consent Agenda Items 4.1 – 4.9

4.1 Disability Retirements

- a) The Board find that **Anthony Adams** (1) is permanently incapacitated from the performance of his usual and customary duties as a Deputy Sheriff, (2) find that his disability was the result of an injury arising out of and in the course of his employment and (3) grant his application for a service-connected disability retirement.
- b) The Board find that **Cheryl Batiste** (1) is permanently incapacitated from the performance of her usual and customary duties as a Deputy Probation Officer III, (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.
- c) The Board find that **Kimberly Calderaro** (1) is permanently incapacitated from the performance of her usual and customary duties as a Deputy Probation Officer III, (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.
- d) The Board find that **Maria Calderon-Sanchez** (1) is 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.
- e) The Board find that **Melvin Parker** (1) is permanently incapacitated from the performance of his usual and customary duties as a Probation Services Manager I, (2) find that his disability was the result of an injury arising out of and in the course of his employment and (3) grant his application for a service-connected disability retirement.
- f) The Board find that **Kathryn Rampton** (1) is permanently incapacitated from the performance of her usual and customary duties as a Deputy Probation Officer III, (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.

- g) The Board find that **Anna Stock** (1) is not permanently incapacitated from the performance of her usual and customary duties as a Clinical Lab Scientist II and (2) deny her application for a service-connected disability retirement.

4.2 Survivor Death Benefits

None.

4.3 Service Retirements

The Board ratifies the service retirement for the individuals listed below as follows:

Name	Effective Retirement Date	Department
Carter, Barry	June 29, 2019	Deferred from Medical Center
Du, Nang	June 29, 2019	Behavioral Health
Gage, Tammela	May 28, 2019	Deferred from Sheriff's
Galanter, Gennady	April 17, 2019	QDRO
Gemmet, Michelle	June 5, 2019	Sheriff's Office
Hamel, Jeanne	May 31, 2019	Probation Dept.
Hauser, Roberta	May 26, 2019	Behavioral Health
Herrador, Ana	May 20, 2019	Deferred from Mental Health
Jukich, Douglas	May 15, 2019	QDRO
Lambert, Kelly	May 22, 2019	Deferred from Behavioral Health
Liljegren-Cullen, Debra	June 29, 2019	Public Works
Liu, Qing	June 26, 2019	Assessor's Office
Miller, Maria	June 29, 2019	Deferred from Human Services Agency
Munson, Kenneth	May 4, 2019	Sheriff's Office
Murphy, Cynthia A	June 11, 2019	Deferred from Social Services
Parker, Mari	June 24, 2019	QDRO
Ramos, Louis	May 25, 2019	Human Services Agency
Reese, Joyce	May 31, 2019	Probation
Savage, Andrew	May 16, 2019	Sheriff's Office
Shaffer, Craig	June 8, 2019	District Attorney's Office
Sirotko, Lidia	June 28, 2019	San Mateo Medical Center
Souza, Ana	June 14, 2019	Human Services Agency

Stevens, James	May 8, 2019	Deferred from Sheriff's
Wilkins, Rachelle	June 9, 2019	Deferred from Superior Court

4.4 Continuances

The Board ratifies the granting of a continuance to the following individuals:

Survivor's Name	Beneficiary of:
Bernhagen, Jean	Bernhagen, Royal
Hernal, Lourdes	Hernal, Peter
Johnson, Craig	Demers, Maurice
Longbehn, Corazon	Longbehn, John
Obayashi, Mary Jo	Obayashi, Taihei

4.5 Deferred Retirements

The Board ratifies the deferred retirements as listed below for the following individuals:

Name	Retirement Plan Type
Arteaga La Spina, Joanna M.	G4, Vested - Reciprocity
Bakovic, Dragan	G5, Vested – Auto Defer – Code 31700
Benavides, Benjamin	G4, Vested - Auto Defer – Code 31700
Chambers, Priscilla	G4, Vested - Auto Defer – Code 31700
Fielding, Roger G.	G4, Vested - Reciprocity
Hernandez, Marta	G5, Vested - Auto Defer – Code 31700
Howard, Trisha	G7, Non-vested - Reciprocity
Tauilili, Lacey Leah	G7, Vested - Reciprocity
Williamson, Joseph	G7, Non-vested - Reciprocity
Van Wert, Ellen	G7, Vested - Auto Defer – Code 31700

4.6 Member Account Refunds

The Board ratifies the refunds as listed below for the following individuals:

Name	Retirement Plan Type
Cola, Mila	G5, Non-vested
Coll, Eleana	G7, Non-vested
Karr, Elizabeth	G7, Non-vested
Martinez, Kelly	G4, Vested
Richardson-Dorsey, Kelley	G7, Non-vested

Takahashi, Jae	G7, Non-vested
Tides, Margaret	G7, Non-vested
Yokoyama, Candace	P7, Non-vested

4.7 Member Account Rollovers

The Board ratifies the rollovers as listed below for the following individuals:

Name	Retirement Plan Type
Abello, Erna	G7, Non-vested
Babilonia, Rocio	G7, Non-vested
Chan, Ka Man	G7, Non-vested
Garcia, Garrett	G7, Non-vested
Gough, Jacqueline	G7, Non-vested
Lau, Gloria	G7, Non-vested
Singh, Romila	G4, Vested
Trudeau, Valerie	G7, Non-vested

4.8 Member Account Redeposits

None

4.9 Acceptance of Trustees' Reports of Educational Activities Through Outside Provider

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2018

Agenda Item 4.9

TO: Board of Retirement
FROM: Anne Trujillo, Retirement Executive Secretary
SUBJECT: Trustee's Reports of Educational Activities



Recommendation

Accept the following reports from Board of Retirement trustees who have recently attended educational events.

Background

SamCERA's Education Policy Section 1D states "Prior to the next regularly scheduled meeting of the Board following the Board member's participation in an educational activity, the Board member shall submit for inclusion on the Consent Agenda, a summary written report on the content of educational activities. The report shall substantially reflect the information contained in the attached sample report."

Discussion

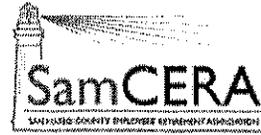
SamCERA Trustees attended the following educational events, and their reports are attached:

SACRS Public Pension Investment Management Program, UC Berkeley
Susan Lee
Katherine O'Malley
Robert Raw

Attachments

Trustee's Education Proof of Participation Certificates and Summaries

SamCERA Board of Retirement Trustee Education
 Proof of Participation Certificate and Summary



Trustee Name Susan Lee		Date(s) of Event 7/22/19-7/24/19
Education Event Name Public Pension Investment Management Program		
Event Provider SACRS		
Type of Participation: Attended Event <input checked="" type="checkbox"/> Listened to Audio/Watched Video <input type="checkbox"/>		Eligible Credit: Total hours for sessions you participated in: <u>24</u> <i>(Staff may adjust hours if the provider issues an education certificate that reflects different hours.)</i>

This event satisfies the following requirements of the Board of Retirement's Education Policy and Government Code section 31522.8:

Topic: *(Check all that apply)*

- | | |
|--|---|
| <input checked="" type="checkbox"/> Fiduciary responsibilities | <input type="checkbox"/> Disability evaluation |
| <input type="checkbox"/> Ethics | <input type="checkbox"/> Fair hearings |
| <input type="checkbox"/> Benefits administration | <input checked="" type="checkbox"/> Pension fund governance |
| <input checked="" type="checkbox"/> Actuarial matters | <input type="checkbox"/> New board member orientation |
| <input checked="" type="checkbox"/> Pension funding | <input type="checkbox"/> Other: _____ |
| <input checked="" type="checkbox"/> Pension fund investments and investment program management | |

Summary Report

What concepts or information did you learn about?

Risk factors and return predictability
Portfolio analysis / asset allocation
Fiduciary Duties / things on leadership

Would you recommend this event to other trustees?

- Yes No Maybe

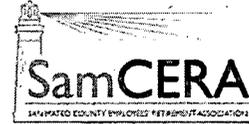
You may provide additional comments to SamCERA's CEO.

By signing below, I certify that I participated in the activities described above and am entitled to claim the indicated amount of education credit hour(s).

Trustee Signature <i>(print this form and sign)</i> 	Date 7/25/19
--	------------------------

NOTE: Please return this completed form to SamCERA's Executive Secretary prior to the mailing of the Board packet, so it can be included in that month's Consent Agenda.

SamCERA Board of Retirement Trustee Education
Proof of Participation Certificate and Summary



Trustee Name Katherine O'Malley		Date(s) of Event 7/22/19-7/24/19
Education Event Name Public Pension Investment Management Program		
Event Provider SACRS		
Type of Participation: Attended Event <input checked="" type="checkbox"/> Listened to Audio/Watched Video <input type="checkbox"/>		Eligible Credit: Total hours for sessions you participated in: <u>24</u> (Staff may adjust hours if the provider issues an education certificate that reflects different hours.)

This event satisfies the following requirements of the Board of Retirement's Education Policy and Government Code section 31522.8:

Topic: (Check all that apply)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Fiduciary responsibilities | <input type="checkbox"/> Disability evaluation |
| <input type="checkbox"/> Ethics | <input type="checkbox"/> Fair hearings |
| <input type="checkbox"/> Benefits administration | <input type="checkbox"/> Pension fund governance |
| <input type="checkbox"/> Actuarial matters | <input type="checkbox"/> New board member orientation |
| <input type="checkbox"/> Pension funding | <input type="checkbox"/> Other: _____ |
| <input checked="" type="checkbox"/> Pension fund investments and investment program management | |

Summary Report

What concepts or information did you learn about?

ASSET ALLOCATION, RISK FACTORS, ASSET CLASSES -
(Fixed income, real estate, hedge funds)
ESG, Leadership.

Would you recommend this event to other trustees?

- Yes No Maybe

You may provide additional comments to SamCERA's CEO.

By signing below, I certify that I participated in the activities described above and am entitled to claim the indicated amount of education credit hour(s).

Trustee Signature (print this form and sign) <i>Katherine O'Malley</i>	Date 7/25/19
--	------------------------

NOTE: Please return this completed form to SamCERA's Executive Secretary prior to the mailing of the Board packet, so it can be included in that month's Consent Agenda.

SamCERA Board of Retirement Trustee Education
 Proof of Participation Certificate and Summary



Trustee Name Robert Raw		Date(s) of Event 7/22/19-7/24/19
Education Event Name Public Pension Investment Management Program		
Event Provider SACRS		
Type of Participation: Attended Event <input checked="" type="checkbox"/> Listened to Audio/Watched Video <input type="checkbox"/>		Eligible Credit: Total hours for sessions you participated in: <u>24</u> (Staff may adjust hours if the provider issues an education certificate that reflects different hours.)

This event satisfies the following requirements of the Board of Retirement's Education Policy and Government Code section 31522.8:

Topic: (Check all that apply)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Fiduciary responsibilities | <input type="checkbox"/> Disability evaluation |
| <input type="checkbox"/> Ethics | <input type="checkbox"/> Fair hearings |
| <input type="checkbox"/> Benefits administration | <input checked="" type="checkbox"/> Pension fund governance |
| <input checked="" type="checkbox"/> Actuarial matters | <input type="checkbox"/> New board member orientation |
| <input checked="" type="checkbox"/> Pension funding | <input type="checkbox"/> Other: _____ |
| <input checked="" type="checkbox"/> Pension fund investments and investment program management | |

Summary Report

What concepts or information did you learn about?

LONG TERM PLANNING, PORTFOLIO MANAGEMENT, FIXED INCOME, ASSET ALLOCATION, REAL ESTATE, HEDGE FUNDS, FIDUCIARY DUTIES, ACTUARIAL FORECASTING, ESG AND LEADERSHIP ISSUES.

Would you recommend this event to other trustees?

- Yes No Maybe

You may provide additional comments to SamCERA's CEO.

By signing below, I certify that I participated in the activities described above and am entitled to claim the indicated amount of education credit hour(s).

Trustee Signature (print this form and sign) 	Date 7/25/19
---	------------------------

NOTE: Please return this completed form to SamCERA's Executive Secretary prior to the mailing of the Board packet, so it can be included in that month's Consent Agenda.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Item 4.10

TO: Board of Retirement

FROM: Doris Ng, Retirement Investment Analyst 

SUBJECT: Semi-Annual Compliance Certification Statement for Period Ended June 30, 2019

Recommendation

Accept the semi-annual Compliance Certification Statement for SamCERA's non-alternative investment managers, as of June 30, 2019.

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 and investment consultant 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.

The attached Compliance Certification Statements were not received in time to be included in the mailing for the July Board meeting.

Discussion

The attached Compliance Certification Statements report that SamCERA's investment managers, BlackRock, Brown Brothers Harriman, Fidelity Institutional Asset Management, Franklin Templeton, PIMCO, INVESCO, SSGA and Cushing Asset Management, were in compliance with SamCERA's Investment Policy as of June 30, 2019. There were no reported significant developments in portfolio construction, investment approach, firm ownership or organizational structure of concern. There were no notable issues regarding industry or regulatory actions that impact SamCERA. The managers were also requested to provide data regarding the characteristics and composition of their portfolios. No prominent issues were identified during the review. Any items that raise concern will be brought to the manager's or investment consultant's attention and will be thoroughly vetted by staff.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

Attachments

Compliance Certification Statement Matrix 6-2019

Compliance Certification Statements (10)

- A. Domestic Equity: BlackRock
- B. International Equity - Developed: BlackRock
- C. Fixed Income: Blackrock, Brown Brothers Harriman, Fidelity Institutional Asset Management, Franklin Templeton, PIMCO
- D. Real Estate: INVESCO
- E. Public Real Asset: State Street Global Advisors, Cushing Asset Management

Compliance Certification Statement Matrix – June 30, 2019

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
Domestic Equity					
BlackRock Russell 1000		<u>2019 Initiatives</u> <ul style="list-style-type: none"> • Make BAI (BlkRck Alternative Investors) a specialized unit • Rotated sr. glbl ldrs • Jan 2019-Salim Ramji rejoined Gbl Exec Comm in new role as Gbl Hd of iShares & Index Invmnts 	<ul style="list-style-type: none"> • No Concerns 	<ul style="list-style-type: none"> • No Concerns 	<ul style="list-style-type: none"> • Largest single security Microsoft Corp 3.70% • Largest single industry Information Technology 21.69% vs bmk 21.71%
International Equity - Developed					
BlackRock EAFE		<u>2019 Initiatives</u> <ul style="list-style-type: none"> • Make BAI (BlkRck Alternative Investors) a specialized unit • Rotated sr. glbl ldrs <p>Jan 2019-Salim Ramji rejoined Gbl Exec Comm in new role as Gbl Hd of iShares & Index Invmnts</p>	<ul style="list-style-type: none"> • No Concerns 	<ul style="list-style-type: none"> • No Concerns 	<ul style="list-style-type: none"> • 0.14% ADRs

Compliance Certification Statement Matrix – June 30, 2019

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
Fixed Income					
BlackRock Intermediate Government Bond Index		<u>2019 Initiatives</u> <ul style="list-style-type: none"> • Make BAI (BlkRck Alternative Investors) a specialized unit • Rotated sr. glbl ldrs Jan 2019-Salim Ramji rejoined Gbl Exec Comm in new role as Gbl Hd of iShares & Index Invmnts 	Not Applicable	No Concerns	No Concerns
Brown Brothers Harriman		No Concerns	No Concerns	No Concerns	No Concerns
Fidelity Institutional Asset Management (FIAM) BMD Bond		<ul style="list-style-type: none"> • Dec 2018-Charlie Morrison, Presid of Asset Mgmt retired, succeeded by Steve Neff. • Jan 2018 -Bill Irving promoted to MD of Rsrch within Gbl Asset Alloc. 	No Concerns	No Concerns	<ul style="list-style-type: none"> • 0.8% below inv grade (inv grade at purchase) • 4.4% in Rule 144A securities
Franklin Templeton		<ul style="list-style-type: none"> • Feb 2019-acquired Benefit Street Partners (BSP), an 	No Concerns	No Concerns	No Concerns

Compliance Certification Statement Matrix – June 30, 2019

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
		alt credit manager. Tom Gahan, Founder of BSP became Hd of Franklin’s alt biz.			
		<ul style="list-style-type: none"> • May 2019 - Ken Lewis, Exec VP & CFO retired • PM/Analyst Laura Burakreis & analyst Vivian Guo left 			
PIMCO		<ul style="list-style-type: none"> • Oct 2018-PIMCO to acquire Gurtin Municipal Bond Management (specialist muni bond mngr) 	No Concerns	No Concerns	No Concerns
Real Estate					
Invesco (U.S. Core Real Estate Fund)		No Concerns	Not Applicable	No Concerns	No Concerns
Real Assets					
State Street Global Advisors (Custom Real Asset Account)		<ul style="list-style-type: none"> • Feb 2019-Chris Rice, Gbl Hd of Trading left firm 	<ul style="list-style-type: none"> • Largest single counterparty: Goldman Sachs 21.4% 	No Concerns	<ul style="list-style-type: none"> • 2.77% ADRs • 32.78% Derivatives • 1.91% Rule 144A

Compliance Certification Statement Matrix – June 30, 2019

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
Cushing Asset Management (MLP Alpha Total Return)		<ul style="list-style-type: none"> • Jun 2019-Don Torey, CIO of Alt Invmnts retired • Jan 2019-Co-PM Libby Toudouze replaced by Paul Euseppi, PM on several midstream products 	Not Applicable	No Concerns	<ul style="list-style-type: none"> • Largest single security: 7.15% Plains G.P. Holdings LP (7% wgt at purchase) • 4.05% foreign ordinary shares (Pembina Pipeline Corp, also listed on Toronto Stock Exchg)
10 Total		 10 Completed	 0 Pending Information		

BlackRock Russell 1000 Index – June 30, 2019

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 8, 2019.**

General Compliance Issues

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

Yes: Please explain. / No

Ownership

There have been no material changes to the firm's ownership structure as of 31 March 2019. The ownership details for 2Q19 is not yet publicly available.

BlackRock is an independent, publicly traded company, with no single majority shareholder and over two-thirds of its Board of Directors consisting of independent directors. As of 31 March 2019, The PNC Financial Services Group, Inc. ("PNC"), through a wholly-owned subsidiary, owned 22.4% of BlackRock and institutional investors, employees and the public held economic interest of 77.6%. With regard to voting common stock, PNC, through a wholly owned-subsiary, owned 22.0% and institutional investors, employees and the public owned 78.0% of voting shares.

Organizational changes

BlackRock constantly looks for ways to better serve clients, increase efficiency in our organization and develop talent. Periodically we take a fresh look at the firm to determine how we should evolve our organization in anticipation of changing market dynamics and client needs and to position the firm so that we can maximize our fullest potential for BlackRock and our clients.

2019 Changes

Beginning in November 2018 and concluding in April 2019, BlackRock initiated a series of moves designed to anticipate the evolution of client needs and expectations. Among our objectives were to enhance the client experience, to streamline and simplify the firm and to continue driving strong investment performance.

Some of the key changes included:

- Shifting the primary axis of client coverage to the regions, including regionalizing our Institutional Client Business ("ICB"). By orienting more of our client businesses regionally, we aim to respond more quickly to local client needs and preferences while still fully leveraging the benefits of our global, One BlackRock platform. We also established Latin America as a unique region for the firm alongside and the U.S. and Canada, EMEA and Asia-Pacific.
- Ensuring consistent delivery of the entire firm to clients, especially our largest global clients, by creating a new Chief Client Officer role. That role is responsible for teams focused on global clients (including the Strategic Partner Program, Official Institutions Group, Financial Institutions Group, Financial Markets Advisory and Global Consultant Relations) as well as sales enablement globally.

- Taking our alternatives business to the next level of its development by making BlackRock Alternative Investors ("BAI") a specialized business unit that integrates client-facing and investment teams. BlackRock Alternative Specialists becomes part of BAI.
- Leveraging the strength of some of our best investment talent more effectively across the alpha platform.
- Fostering more dynamic product innovation and management through a Chief Product Officer.

With these initiatives were several executive appointments, including (in chronological order):

- Geraldine Buckingham – Head of Asia Pacific
- Ryan Stork – Deputy Chief Operating Officer
- Mark Wiedman – Head of International and of Corporate Strategy
- Salim Ramji – Global Head of iShares and Index Investments
- Mark McCombe – Chief Client Officer
- Edwin Conway – Global Head of BAI
- Patrick Olsen – Chief Product Officer
- Rob Fairbairn – Vice Chairman

In addition to these, David Blumer, previously Global Head of BAI, becomes a senior advisor and continues as chairman for Switzerland. Richie Prager, Global Head of Trading and Liquidity Strategies, will retire 1 July 2019.

More broadly, BlackRock also made some changes to the size and shape of its global workforce. These changes impacted approximately 3% of BlackRock's worldwide headcount. It is important to note, however, that even after that impact, BlackRock headcount was still 4% higher than it had been a year before.

In all these things and everything BlackRock does, our focus is on the long term. BlackRock has consistently differentiated itself by pivoting quickly when emerging strategic trends impact our clients. We are continuing to invest in our business to ensure we meet the investment needs of our clients. At the same time, by simplifying certain structures and processes, we are making it easier for clients to navigate the firm and leverage the full breadth of BlackRock's capabilities.

Global Executive Committee Changes

In 2010, BlackRock created the Global Executive Committee ("GEC") to provide oversight of operations and business performance, strategy and planning, talent development and retention, risk management, and external affairs.

In January 2019, Salim Ramji rejoined the GEC in his new role as Global Head of iShares and Index Investments.

Please refer to the link below for biographies of the firm's current GEC members.

<http://www.blackrock.com/corporate/en-us/about-us/leadership>

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

Yes: Please explain. / No

BlackRock has followed the same investment philosophy of Total Performance Management for index strategies since 1971.

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

Yes: Please explain. / No

As a global investment manager, BlackRock Inc., and its various subsidiaries including BTC may be subject to regulatory oversight in numerous jurisdictions including examinations and various requests for

information. BTC's regulators routinely provide it with comment letters at the conclusion of these examinations in which they request that BTC correct or modify certain of its practices. In all such instances, BTC has addressed, or is working to address, these requests to ensure that it continues to operate in compliance with applicable laws, statutes and regulations.

BTC also receives subpoenas or requests for information in connection with regulatory inquiries and/or investigations by its various regulators, some of which are ongoing. None of these matters has had or is expected to have any adverse impact on BTC's ability to manage its clients' assets. Please refer to BlackRock's Form ADV and SEC disclosures for additional information on regulatory matters concerning BTC or BlackRock as a whole. The recent fines related to BlackRock Inc. or BTC's investment advisory responsibilities are set forth below. These matters do not include fines paid to non-US regulators relating to the late filing of issuer-specific holdings reports.

On 8 March 2012, BlackRock Institutional Trust Company, N.A. ("BTC") entered into an Offer of Settlement (the "Agreement") with the CFTC and consented to the entry of an Order, which makes findings and imposes remedial sanctions against BTC. Without admitting or denying wrongdoing, BTC agreed to the imposition of a \$250,000 penalty and the entry of the Order to resolve allegations by the CFTC that two trades by BTC violated Section 4c(a)(1) of the Commodity Exchange Act and CFTC Regulation 1.38(a). BTC also agreed to refrain from any further violations of the above-mentioned statutory provisions. The CFTC did not allege that any clients of BTC, BlackRock or any related affiliate were harmed in any way in the execution of these two trades.

On 11 September 2012, the UK Financial Services Authority ("FSA") issued a Final Notice against BlackRock Investment Management (UK) Limited ("BIMUK"), following a settlement agreement reached between the FSA and BIMUK. The FSA found that BIMUK had breached certain provisions of the FSA's Client Money Rules and Principles, during the period 1 October 2006 to 31 March 2010, by not having trust letters in place for client money placed on money market deposit and not having adequate systems and controls for the identification and protection of client money in this respect. BIMUK agreed to a settlement payment of GBP 9,533,100 for the breach, which it had self-reported to the FSA in April 2010. The FSA final order acknowledged that no client of BIMUK (or BlackRock or any related affiliate) suffered any harm and that BIMUK had remedied the situation and put in place robust systems and controls relating to client money protection.

On 3 October 2012, BlackRock Financial Management Inc. ("BFM") reached an agreement with the U.S. Department of Labor ("DOL") to reimburse clients \$2,661,513 in connection with certain trades the DOL alleged violated Title I of the Employee Retirement Income Security Act ("ERISA"). BFM also agreed to pay to the DOL a \$266,151 penalty.

On 8 January 2014, BlackRock Inc. reached a settlement with the New York Attorney General's office ("AG") pursuant to which the AG found BlackRock's use of analyst surveys violated New York's Martin Act and Executive Law. The settlement did not involve the payment of any fine or other penalty although BlackRock paid \$400,000 to cover the AG's costs of investigation. BlackRock neither admitted nor denied the allegations, but agreed to stop using analyst surveys.

On 8 May 2014, the primary Italian securities regulator ("CONSOB") fined BlackRock Investment Management (UK) Limited ("BIMUK") 150,000 EURO (approximately \$205,826 USD) for negligent market manipulation. The fine was based on BIMUK's filing, on behalf of the BlackRock group of companies, a large shareholder report regarding its holdings in Unicredit S.p.A. to CONSOB in December 2011, that turned out to be incorrect.

On 16 September 2014, BlackRock Institutional Trust Company, N.A. ("BTC") entered into an agreement with the SEC to resolve allegations relating to three alleged violations of an SEC regulation prohibiting short sales of an equity security during the restricted period preceding a public offering. The three trades at issue occurred in 2010 and 2011. As part of the approximately \$1.7 million settlement, BTC agreed to disgorge profits from each of the violations and to pay interest and a civil penalty. BTC also agreed to cease and desist from any future violations of the rule in question.

On 20 April 2015, BlackRock Advisors, LLC ("BAL") reached a settlement with the Securities and Exchange Commission ("SEC") regarding BlackRock's handling of a former portfolio manager's personal investments and involvement in a family business, Rice Energy LP and related entities. As part of the settlement, BAL agreed to pay a \$12 million penalty and retained an independent compliance consultant to review BlackRock's policies and procedures regarding the outside activities of BlackRock's employees. There was neither an allegation by the SEC of any loss to any BlackRock investors, nor did this settlement have any adverse impact on BlackRock's ability to manage its clients' funds.

On 17 January 2017, BlackRock Inc. reached an agreement with the SEC resolving a matter regarding a provision in an old version of BlackRock's form employee separation agreement that the SEC believed violated Dodd Frank's whistleblower provisions. The settlement with the SEC included a \$340,000 payment and BlackRock agreed it would not include the provision in future agreements. In addition, BlackRock agreed to notify by letter, certain former employees who signed the agreement between October 2011 and March 2016.

On 25 April 2017, BlackRock Fund Advisors ("BFA") reached an agreement with the SEC resolving a matter regarding whether one BFA-managed ETF (the iShares MSCI Russia Capped ETF) was covered by certain exemptive relief the SEC previously granted BFA and other iShares funds. BFA, which did not admit or deny any of the SEC's findings, agreed to resolve the matter for a civil monetary penalty of \$1.5 million.

BlackRock, Inc. and its various subsidiaries, including BTC, also have been subject to certain business litigation that has arisen in the normal course of their business. Our litigation has included a variety of claims, some of which are investment-related. None of BlackRock's prior litigation has had, and none of its pending litigation currently is expected to have, an adverse impact on BlackRock's ability to manage client accounts.

In past years, BlackRock has acquired organizations that provide investment-related services, including, but not limited to, State Street Research & Management Company, Merrill Lynch Investment Managers, the fund of funds business of Quellos Group, LLC, and Barclays Global Investors. This response does not address any regulatory or litigation that arose out of conduct within the acquired organizations prior to their acquisition by BlackRock. It also does not address any regulatory or litigation unrelated to BlackRock or BTC's investment management responsibilities.

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

As a fiduciary investor and acting in the best long-term economic interest of our clients, we see voting at a company annual general meeting and special meetings as one of our responsibilities. Voting is an essential part of our efforts to protect and enhance shareholder value. It is the most broad-based form of engagement we have with companies, and provides a channel for feedback to the board and management about investor perceptions of their performance and governance practices. BlackRock votes annually at more than 17,000 shareholder meetings. We take a case-by-case approach to the business put to a shareholder vote. Our analysis is informed by our internally-developed proxy voting guidelines, our company engagements, research, and the situation at a particular company.

We intend to vote at all shareholder meetings of companies in which our clients are invested. In cases where there are significant obstacles to voting, such as share blocking or requirements for a power of attorney, we will review the resolutions to assess the extent of the restrictions on voting against the potential benefits. We generally prefer to engage in the first instance where we have concerns, and give management time to address or resolve the issue. We will vote in favor of proposals where we support the approach taken by a company's management or where we have engaged on matters of concern and anticipate management will address them. BlackRock will vote against management proposals where we believe the board or management may not have adequately acted to protect and advance the interests of long-term investors. We will abstain on proposals where we wish to indicate to the company we are

concerned about its approach to certain issues and expect them to be responsive to investors' views. In all situations the economic interests of our clients will be paramount.

Our market-specific voting guidelines are available on our website at <https://www.blackrock.com/corporate/about-us/investment-stewardship/voting-guidelines-reports-position-papers#guidelines>.

Our voting guidelines are intended to help clients and companies understand our thinking on key governance matters. They are the benchmark against which we assess a company's approach to corporate governance and the items on the agenda for the shareholder meeting. We apply our guidelines pragmatically, taking into account a company's unique circumstances where relevant. We take vote decisions to achieve the outcome that we believe best protects our clients' long-term economic interests. We review our voting guidelines annually and update them as necessary to reflect changes in market standards, evolving governance practice and insights gained from engagement over the prior year.

BlackRock voting guidelines:

- Australian securities
- Hong Kong securities
- Asia ex Japan and Hong Kong securities
- Latin America securities
- Canadian securities
- New Zealand securities
- Europe, Middle Eastern and African (EMEA) securities
- US securities
- Chinese securities (in English and Simplified Chinese)
- Japanese securities (in English and Japanese)

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

Yes / No: **Please explain.**

BlackRock maintains the following types of global insurance coverage:

Type
<u>Investment Advisers Professional Liability (aka Errors & Omissions Liability)</u>
<u>Fidelity Bond (aka Crime or Financial Institution Bond)</u>

Although we do not disclose the insurer information and level of coverage, BlackRock only places insurance with insurers rated "Excellent" by AM Best and maintains coverage at levels that are commercially reasonable and consistent with industry peers.

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.**

We typically use exchange traded equity index futures in our strategies for the purposes of efficient portfolio management. Futures are not used for speculative or leveraged positions in the portfolio and we keep cash to fully cover all outstanding futures positions.

Exchange traded futures are employed to equitize dividend accruals as well as to manage day-to-day cash flows generated from clients trades, dividends, interest received and other activity associated with securities in the portfolio. Specifically, futures contracts are purchased to provide immediate market exposure proportionate to cash accruals and investable cash within the portfolio. While we seek to remain fully invested, a small amount of spendable cash is retained to minimize trading and transactions costs. Skillful cash management and cash equitization are critical to minimizing the potential impact of cash drag and ensure tight tracking to the benchmark.

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

N/A

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

N/A

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?

Managing Counterparty Credit Risk

BlackRock's philosophy is to manage counterparty credit risk conservatively. As such, the firm actively monitors counterparty credit risk exposures globally and evaluates counterparty credit quality on a continuous basis. We believe that our policies and procedures for counterparty risk management are robust and thorough.

In 2005, BlackRock established the Counterparty & Concentration Risk Group, a dedicated team of professionals that leads the global process for managing counterparty risk. The Group is responsible for managing credit risk in all trading relationships with counterparties and to that end coordinates with Credit Research, Investment Strategies, Trading & Liquidity Strategies, Legal & Compliance, Operations, and data integrity functions across the organization. The Group monitors and assesses counterparty exposures arising from both bilateral and centrally-cleared products that include derivatives, mortgage TBAs, foreign exchange, financing trades (repo and securities lending), equities, fixed income securities and other forward-settling transactions. Reporting is generated to show aggregate risk exposures by counterparty and by portfolio.

The Counterparty & Concentration Risk Group developed the firm-wide Counterparty Credit Policies and Procedures, and is responsible for implementing, updating and enforcing them, as follows:

- Assess prospective trading counterparty creditworthiness and approve counterparties;
- Measure and monitor credit exposure to each counterparty, broken out by asset classes;
- Monitor financial performance of counterparties in order to establish, confirm, or adjust exposures as needed;
- Monitor levels of exposure by product, by tenor, and by counterparty, and provide feedback to Trading & Liquidity Strategies when aggregate exposures warrant; and
- Provide guidance and supervision of credit issues for ISDA and other transaction documentation.

The firm has Credit Alert Procedures which serve as a guideline for the action and interaction of key BlackRock constituencies in the case of a counterparty related "credit event." These procedures specifically contemplate the coordination among the Counterparty & Concentration Risk, Investment Strategies, Trading & Liquidity Strategies, Legal, and Operations groups in order to facilitate BlackRock's ability to make timely and informed decisions following the recognition of credit concerns. The major aspects addressed include fact finding, communication, liquidation and close-out, and key roles and responsibilities.

BlackRock's Counterparty Approval Process

BlackRock focuses primarily on counterparty credit risk and counterparty reputation risk.

Counterparty credit risk is the potential loss that BlackRock clients' accounts or BlackRock accounts could incur if a counterparty is unable to perform on its trading commitments. Reputation risk is defined as the risk to earnings or capital arising from negative public opinion. The process by which we select broker/dealer counterparties for transaction purposes is outlined below.

Determine the nature of the proposed transaction activity:

What are the securities to be traded? What is the expected volume by security?

Determine the settlement and delivery procedure:

How is our client going to receive monetary compensation in exchange for delivering the particular security in question? If the client is going to receive securities, how is the counterparty going to deliver those securities? Is settlement through an established clearing platform or is there also a physical settlement? From a delivery risk perspective, we view DTC and Fed settlement along with settlement through several other established trading and clearing platforms to be of limited risk. We view settlement via other methodologies as bearing potentially significant risk, and generally limit such activity to investment grade counterparty groupings. OTC derivatives are transacted with major global financial institutions.

Determine if the proposed counterparty settles transactions "directly" or uses a correspondent:

Most "agency" counterparties utilize correspondents to clear securities for them. If they do so, who are they using? On what basis are they clearing, fully disclosed or otherwise? BlackRock will only accept clearing

correspondents that are well-capitalized, well-established, and possess a favorable reputation in the marketplace.

Settlement risk tolerance levels:

BlackRock has established certain tolerance levels for aggregate exposure to settlement risk, defined as a credit balance on all trades outstanding but not settled. The level reflects our settlement risk tolerance per counterparty and is monitored by BlackRock's Counterparty & Concentration Risk Group on a daily basis. If the threshold is exceeded, the trade details are reviewed in concert with the counterparty's financial strength in order to determine if any intervention is required.

Financial review:

Our view is that the level and trend of excess regulatory capital, as shown in the financial information, is a key barometer of the financial strength of our trading counterparty. Most brokerage firms are required to calculate and report this figure to regulatory authorities on a periodic basis. We are directly interested in ensuring that the process is maintained.

As previously stated, non-investment grade counterparties are required to clear through well-established clearing correspondents and are generally limited to short settlement trades. Updated regulatory financial filings are reviewed on an ongoing basis. Major financial institutions are additionally monitored as part of BlackRock's internal credit research process and via alert portfolios with market data service providers.

Counterparty Exposure Monitoring

BlackRock prefers to have multiple counterparties for liquidity, risk management, and best execution purposes. The counterparties with which we trade must have broad market coverage. Positions are marked-to-market on a regular basis and exposure to each counterparty is monitored. Transaction documentation is implemented where appropriate to minimize exposure to individual counterparties.

To monitor post-trade counterparty risk, BlackRock has implemented a strong technological infrastructure and proprietary internal review processes. BlackRock also has a number of reporting tools on the Aladdin platform that allow us to manage counterparty exposure, balancing net exposures to our different counterparties. Where necessary, credit risk exposure to counterparties can be adjusted, both at the individual portfolio level and at the aggregate firm-wide level.

Country Risk

Members of the Counterparty & Concentration Risk Group are active participants in BlackRock's Global Country Operating Risk Committee. The Committee includes participants from Legal & Compliance, Business Operations, Fund Services, Product Tax, and Risk & Quantitative Analysis, along with representation from each of the Investment groups.

This Committee meets regularly to consider, inter alia, the legal status, ownership and official recognition of exchanges and clearing houses, trading and settlement practices and procedures and BlackRock's ability to track trades from execution to settlement in the various trading markets. For markets where direct local access to exchanges is deemed to present inappropriately high risks for client portfolios, a range of restrictions may be applied.

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

BlackRock's Global Valuation methodologies Committee provides oversight of the valuation of investments for the Funds and certain Accounts. Assets of funds and Accounts are valued in accordance with Financial Accounting Standards Board Accounting Standards Codification ("ASC") 820-10, Fair Value Measurements and Disclosures. ASC 820-10 establishes a fair valuation hierarchy to increase consistency and comparability in fair value measurements and related disclosures. The fair value hierarchy prioritizes inputs to valuation techniques used to measure fair value into three broad levels: Level I, Level II, Level III. Inputs

may be based on independent market data ("observable inputs") or they may be internally developed ("unobservable inputs"). See additional details about valuation procedures and external pricing agents/sources in "16 Things You Should Know" attached.

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.

As stated above, we typically use equity index futures in our strategies for the purpose of efficient portfolio management. Futures are not used for speculative or leveraged positions in the portfolio and we keep cash to fully cover all outstanding futures positions.

Exchange traded futures are employed to equitize dividend accruals as well as to manage day-to-day cash flows generated from clients trades, dividends, interest received and other activity associated with securities in the portfolio. Specifically, futures contracts are purchased to provide immediate market exposure proportionate to cash accruals and investable cash within the portfolio. While we seek to remain fully invested, a small amount of spendable cash is retained to minimize trading and transactions costs. Skillful cash management and cash equalization are critical to minimizing the potential impact of cash drag and ensure tight tracking to the benchmark.

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

Domestic Equity Portfolios (Large, Mid & Small)

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

<i>Common Stock</i>	<i>99.4%</i>
<i>Preferred Stock</i>	<i>0.00%</i>
<i>Convertible Securities</i>	<i>0.00%</i>
<i>Cash & Equivalents</i>	<i>0.6%</i>

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

<i>Large-Cap</i>	<i>86.4%</i>
<i>Mid-Cap</i>	<i>11.6%</i>
<i>Small-Cap</i>	<i>2.0%</i>

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.

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? Please specify the security and percentage amount. If any securities were above 5% at the time of purchase, please list and explain why.

Microsoft Corp (3.7% of the total fund).

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

Information Technology--21.69% of fund, 21.71% of benchmark.

Signed by:
Dated:
Name of Firm


7-12-19
Anthony R. Freitas, CFA
Managing Director
BlackRock

BlackRock EAFE Index – June 30, 2019

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 8, 2019.**

General Compliance Issues

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

Yes: Please explain. / **No**

Ownership

There have been no material changes to the firm's ownership structure as of 31 March 2019. The ownership details for 2Q19 is not yet publicly available.

BlackRock is an independent, publicly traded company, with no single majority shareholder and over two-thirds of its Board of Directors consisting of independent directors. As of 31 March 2019, The PNC Financial Services Group, Inc. ("PNC"), through a wholly-owned subsidiary, owned 22.4% of BlackRock and institutional investors, employees and the public held economic interest of 77.6%. With regard to voting common stock, PNC, through a wholly owned-subsiary, owned 22.0% and institutional investors, employees and the public owned 78.0% of voting shares.

Organizational changes

BlackRock constantly looks for ways to better serve clients, increase efficiency in our organization and develop talent. Periodically we take a fresh look at the firm to determine how we should evolve our organization in anticipation of changing market dynamics and client needs and to position the firm so that we can maximize our fullest potential for BlackRock and our clients.

2019 Changes

Beginning in November 2018 and concluding in April 2019, BlackRock initiated a series of moves designed to anticipate the evolution of client needs and expectations. Among our objectives were to enhance the client experience, to streamline and simplify the firm and to continue driving strong investment performance.

Some of the key changes included:

- Shifting the primary axis of client coverage to the regions, including regionalizing our Institutional Client Business ("ICB"). By orienting more of our client businesses regionally, we aim to respond more quickly to local client needs and preferences while still fully leveraging the benefits of our global, One BlackRock platform. We also established Latin America as a unique region for the firm alongside and the U.S. and Canada, EMEA and Asia-Pacific.
- Ensuring consistent delivery of the entire firm to clients, especially our largest global clients, by creating a new Chief Client Officer role. That role is responsible for teams focused on global clients (including the Strategic Partner Program, Official Institutions Group, Financial Institutions Group, Financial Markets Advisory and Global Consultant Relations) as well as sales enablement globally.

- Taking our alternatives business to the next level of its development by making BlackRock Alternative Investors ("BAI") a specialized business unit that integrates client-facing and investment teams. BlackRock Alternative Specialists becomes part of BAI.
- Leveraging the strength of some of our best investment talent more effectively across the alpha platform.
- Fostering more dynamic product innovation and management through a Chief Product Officer.

With these initiatives were several executive appointments, including (in chronological order):

- Geraldine Buckingham – Head of Asia Pacific
- Ryan Stork – Deputy Chief Operating Officer
- Mark Wiedman – Head of International and of Corporate Strategy
- Salim Ramji – Global Head of iShares and Index Investments
- Mark McCombe – Chief Client Officer
- Edwin Conway – Global Head of BAI
- Patrick Olsen – Chief Product Officer
- Rob Fairbairn – Vice Chairman

In addition to these, David Blumer, previously Global Head of BAI, becomes a senior advisor and continues as chairman for Switzerland. Richie Prager, Global Head of Trading and Liquidity Strategies, will retire 1 July 2019.

More broadly, BlackRock also made some changes to the size and shape of its global workforce. These changes impacted approximately 3% of BlackRock's worldwide headcount. It is important to note, however, that even after that impact, BlackRock headcount was still 4% higher than it had been a year before.

In all these things and everything BlackRock does, our focus is on the long term. BlackRock has consistently differentiated itself by pivoting quickly when emerging strategic trends impact our clients. We are continuing to invest in our business to ensure we meet the investment needs of our clients. At the same time, by simplifying certain structures and processes, we are making it easier for clients to navigate the firm and leverage the full breadth of BlackRock's capabilities.

Global Executive Committee Changes

In 2010, BlackRock created the Global Executive Committee ("GEC") to provide oversight of operations and business performance, strategy and planning, talent development and retention, risk management, and external affairs.

In January 2019, Salim Ramji rejoined the GEC in his new role as Global Head of iShares and Index Investments.

Please refer to the link below for biographies of the firm's current GEC members.

<http://www.blackrock.com/corporate/en-us/about-us/leadership>

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

Yes: Please explain. / No

BlackRock has followed the same investment philosophy of Total Performance Management for index strategies since 1971.

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

Yes: Please explain. / No

As a global investment manager, BlackRock Inc., and its various subsidiaries including BTC may be subject to regulatory oversight in numerous jurisdictions including examinations and various requests for information. BTC's regulators routinely provide it with comment letters at the conclusion of these examinations in which they request that BTC correct or modify certain of its practices. In all such instances, BTC has addressed, or is working to address, these requests to ensure that it continues to operate in compliance with applicable laws, statutes and regulations.

BTC also receives subpoenas or requests for information in connection with regulatory inquiries and/or investigations by its various regulators, some of which are ongoing. None of these matters has had or is expected to have any adverse impact on BTC's ability to manage its clients' assets. Please refer to BlackRock's Form ADV and SEC disclosures for additional information on regulatory matters concerning BTC or BlackRock as a whole. The recent fines related to BlackRock Inc. or BTC's investment advisory responsibilities are set forth below. These matters do not include fines paid to non-US regulators relating to the late filing of issuer-specific holdings reports.

On 8 March 2012, BlackRock Institutional Trust Company, N.A. ("BTC") entered into an Offer of Settlement (the "Agreement") with the CFTC and consented to the entry of an Order, which makes findings and imposes remedial sanctions against BTC. Without admitting or denying wrongdoing, BTC agreed to the imposition of a \$250,000 penalty and the entry of the Order to resolve allegations by the CFTC that two trades by BTC violated Section 4c(a)(1) of the Commodity Exchange Act and CFTC Regulation 1.38(a). BTC also agreed to refrain from any further violations of the above-mentioned statutory provisions. The CFTC did not allege that any clients of BTC, BlackRock or any related affiliate were harmed in any way in the execution of these two trades.

On 11 September 2012, the UK Financial Services Authority ("FSA") issued a Final Notice against BlackRock Investment Management (UK) Limited ("BIMUK"), following a settlement agreement reached between the FSA and BIMUK. The FSA found that BIMUK had breached certain provisions of the FSA's Client Money Rules and Principles, during the period 1 October 2006 to 31 March 2010, by not having trust letters in place for client money placed on money market deposit and not having adequate systems and controls for the identification and protection of client money in this respect. BIMUK agreed to a settlement payment of GBP 9,533,100 for the breach, which it had self-reported to the FSA in April 2010. The FSA final order acknowledged that no client of BIMUK (or BlackRock or any related affiliate) suffered any harm and that BIMUK had remedied the situation and put in place robust systems and controls relating to client money protection.

On 3 October 2012, BlackRock Financial Management Inc. ("BFM") reached an agreement with the U.S. Department of Labor ("DOL") to reimburse clients \$2,661,513 in connection with certain trades the DOL alleged violated Title I of the Employee Retirement Income Security Act ("ERISA"). BFM also agreed to pay to the DOL a \$266,151 penalty.

On 8 January 2014, BlackRock Inc. reached a settlement with the New York Attorney General's office ("AG") pursuant to which the AG found BlackRock's use of analyst surveys violated New York's Martin Act and Executive Law. The settlement did not involve the payment of any fine or other penalty although BlackRock paid \$400,000 to cover the AG's costs of investigation. BlackRock neither admitted nor denied the allegations, but agreed to stop using analyst surveys.

On 8 May 2014, the primary Italian securities regulator ("CONSOB") fined BlackRock Investment Management (UK) Limited ("BIMUK") 150,000 EURO (approximately \$205,826 USD) for negligent market manipulation. The fine was based on BIMUK's filing, on behalf of the BlackRock group of companies, a large shareholder report regarding its holdings in Unicredit S.p.A. to CONSOB in December 2011, that turned out to be incorrect.

On 16 September 2014, BlackRock Institutional Trust Company, N.A. ("BTC") entered into an agreement with the SEC to resolve allegations relating to three alleged violations of an SEC regulation prohibiting short sales of an equity security during the restricted period preceding a public offering. The three trades at issue occurred in 2010 and 2011. As part of the approximately \$1.7 million settlement, BTC agreed to disgorge

profits from each of the violations and to pay interest and a civil penalty. BTC also agreed to cease and desist from any future violations of the rule in question.

On 20 April 2015, BlackRock Advisors, LLC ("BAL") reached a settlement with the Securities and Exchange Commission ("SEC") regarding BlackRock's handling of a former portfolio manager's personal investments and involvement in a family business, Rice Energy LP and related entities. As part of the settlement, BAL agreed to pay a \$12 million penalty and retained an independent compliance consultant to review BlackRock's policies and procedures regarding the outside activities of BlackRock's employees. There was neither an allegation by the SEC of any loss to any BlackRock investors, nor did this settlement have any adverse impact on BlackRock's ability to manage its clients' funds.

On 17 January 2017, BlackRock Inc. reached an agreement with the SEC resolving a matter regarding a provision in an old version of BlackRock's form employee separation agreement that the SEC believed violated Dodd Frank's whistleblower provisions. The settlement with the SEC included a \$340,000 payment and BlackRock agreed it would not include the provision in future agreements. In addition, BlackRock agreed to notify by letter, certain former employees who signed the agreement between October 2011 and March 2016.

On 25 April 2017, BlackRock Fund Advisors ("BFA") reached an agreement with the SEC resolving a matter regarding whether one BFA-managed ETF (the iShares MSCI Russia Capped ETF) was covered by certain exemptive relief the SEC previously granted BFA and other iShares funds. BFA, which did not admit or deny any of the SEC's findings, agreed to resolve the matter for a civil monetary penalty of \$1.5 million.

BlackRock, Inc. and its various subsidiaries, including BTC, also have been subject to certain business litigation that has arisen in the normal course of their business. Our litigation has included a variety of claims, some of which are investment-related. None of BlackRock's prior litigation has had, and none of its pending litigation currently is expected to have, an adverse impact on BlackRock's ability to manage client accounts.

In past years, BlackRock has acquired organizations that provide investment-related services, including, but not limited to, State Street Research & Management Company, Merrill Lynch Investment Managers, the fund of funds business of Quellos Group, LLC, and Barclays Global Investors. This response does not address any regulatory or litigation that arose out of conduct within the acquired organizations prior to their acquisition by BlackRock. It also does not address any regulatory or litigation unrelated to BlackRock or BTC's investment management responsibilities.

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

As a fiduciary investor and acting in the best long-term economic interest of our clients, we see voting at a company annual general meeting and special meetings as one of our responsibilities. Voting is an essential part of our efforts to protect and enhance shareholder value. It is the most broad-based form of engagement we have with companies, and provides a channel for feedback to the board and management about investor perceptions of their performance and governance practices. BlackRock votes annually at more than 17,000 shareholder meetings. We take a case-by-case approach to the business put to a shareholder vote. Our analysis is informed by our internally-developed proxy voting guidelines, our company engagements, research, and the situation at a particular company.

We intend to vote at all shareholder meetings of companies in which our clients are invested. In cases where there are significant obstacles to voting, such as share blocking or requirements for a power of attorney, we will review the resolutions to assess the extent of the restrictions on voting against the potential benefits. We generally prefer to engage in the first instance where we have concerns, and give management time to address or resolve the issue. We will vote in favor of proposals where we support the approach taken by a company's management or where we have engaged on matters of concern and

anticipate management will address them. BlackRock will vote against management proposals where we believe the board or management may not have adequately acted to protect and advance the interests of long-term investors. We will abstain on proposals where we wish to indicate to the company we are concerned about its approach to certain issues and expect them to be responsive to investors' views. In all situations the economic interests of our clients will be paramount.

Our market-specific voting guidelines are available on our website at <https://www.blackrock.com/corporate/about-us/investment-stewardship/voting-guidelines-reports-position-papers#guidelines>.

Our voting guidelines are intended to help clients and companies understand our thinking on key governance matters. They are the benchmark against which we assess a company's approach to corporate governance and the items on the agenda for the shareholder meeting. We apply our guidelines pragmatically, taking into account a company's unique circumstances where relevant. We take vote decisions to achieve the outcome that we believe best protects our clients' long-term economic interests. We review our voting guidelines annually and update them as necessary to reflect changes in market standards, evolving governance practice and insights gained from engagement over the prior year.

BlackRock voting guidelines:

- Australian securities
- Hong Kong securities
- Asia ex Japan and Hong Kong securities
- Latin America securities
- Canadian securities
- New Zealand securities
- Europe, Middle Eastern and African (EMEA) securities
- US securities
- Chinese securities (in English and Simplified Chinese)
- Japanese securities (in English and Japanese)

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

Yes / No: Please explain.

BlackRock maintains the following types of global insurance coverage:

Type
<u>Investment Advisers Professional Liability (aka Errors & Omissions Liability)</u>
<u>Fidelity Bond (aka Crime or Financial Institution Bond)</u>

Although we do not disclose the insurer information and level of coverage, BlackRock only places insurance with insurers rated "Excellent" by AM Best and maintains coverage at levels that are commercially reasonable and consistent with industry peers.

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.**

We typically use exchange traded equity index futures in our strategies for the purposes of efficient portfolio management. Futures are not used for speculative or leveraged positions in the portfolio and we keep cash to fully cover all outstanding futures positions.

Exchange traded futures are employed to equitize dividend accruals as well as to manage day-to-day cash flows generated from clients trades, dividends, interest received and other activity associated with securities in the portfolio. Specifically, futures contracts are purchased to provide immediate market exposure proportionate to cash accruals and investable cash within the portfolio. While we seek to remain fully invested, a small amount of spendable cash is retained to minimize trading and transactions costs. Skillful cash management and cash equitization are critical to minimizing the potential impact of cash drag and ensure tight tracking to the benchmark.

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.**

N/A

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

N/A

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**

N/A

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?

Managing Counterparty Credit Risk

BlackRock's philosophy is to manage counterparty credit risk conservatively. As such, the firm actively monitors counterparty credit risk exposures globally and evaluates counterparty credit quality on a continuous basis. We believe that our policies and procedures for counterparty risk management are robust and thorough.

In 2005, BlackRock established the Counterparty & Concentration Risk Group, a dedicated team of professionals that leads the global process for managing counterparty risk. The Group is responsible for managing credit risk in all trading relationships with counterparties and to that end coordinates with Credit Research, Investment Strategies, Trading & Liquidity Strategies, Legal & Compliance, Operations, and data integrity functions across the organization. The Group monitors and assesses counterparty exposures arising from both bilateral and centrally-cleared products that include derivatives, mortgage TBAs, foreign exchange, financing trades (repo and securities lending), equities, fixed income securities and other forward-settling transactions. Reporting is generated to show aggregate risk exposures by counterparty and by portfolio.

The Counterparty & Concentration Risk Group developed the firm-wide Counterparty Credit Policies and Procedures, and is responsible for implementing, updating and enforcing them, as follows:

- Assess prospective trading counterparty creditworthiness and approve counterparties;
- Measure and monitor credit exposure to each counterparty, broken out by asset classes;
- Monitor financial performance of counterparties in order to establish, confirm, or adjust exposures as needed;
- Monitor levels of exposure by product, by tenor, and by counterparty, and provide feedback to Trading & Liquidity Strategies when aggregate exposures warrant; and
- Provide guidance and supervision of credit issues for ISDA and other transaction documentation.

The firm has Credit Alert Procedures which serve as a guideline for the action and interaction of key BlackRock constituencies in the case of a counterparty related "credit event." These procedures specifically contemplate the coordination among the Counterparty & Concentration Risk, Investment Strategies, Trading & Liquidity Strategies, Legal, and Operations groups in order to facilitate BlackRock's ability to make timely and informed decisions following the recognition of credit concerns. The major aspects addressed include fact finding, communication, liquidation and close-out, and key roles and responsibilities.

BlackRock's Counterparty Approval Process

BlackRock focuses primarily on counterparty credit risk and counterparty reputation risk.

Counterparty credit risk is the potential loss that BlackRock clients' accounts or BlackRock accounts could incur if a counterparty is unable to perform on its trading commitments. Reputation risk is defined as the risk to earnings or capital arising from negative public opinion. The process by which we select broker/dealer counterparties for transaction purposes is outlined below.

Determine the nature of the proposed transaction activity:

What are the securities to be traded? What is the expected volume by security?

Determine the settlement and delivery procedure:

How is our client going to receive monetary compensation in exchange for delivering the particular security in question? If the client is going to receive securities, how is the counterparty going to deliver those securities? Is settlement through an established clearing platform or is there also a physical settlement?

From a delivery risk perspective, we view DTC and Fed settlement along with settlement through several other established trading and clearing platforms to be of limited risk. We view settlement via other methodologies as bearing potentially significant risk, and generally limit such activity to investment grade counterparty groupings. OTC derivatives are transacted with major global financial institutions.

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Country Risk

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

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

International Equity Portfolios - Developed

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

<i>Foreign Ordinary Shares</i>	<i>98.5%</i>
<i>ADR's</i>	<i>0.14%</i>
<i>Cash & Equivalents (Foreign)</i>	<i>1.36%</i>
<i>Cash & Equivalents (Domestic)</i>	<i>0.00%</i>

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

<i>Large-Cap</i>	<i>88.01%</i>
<i>Mid-Cap</i>	<i>11.43%</i>
<i>Small-Cap</i>	<i>0.56%</i>

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.

Signed by:
Dated:
Name of Firm

Anthony R. Freitas

7-12-19

Anthony R. Freitas, CFA
Managing Director
BlackRock

BlackRock Intermediate Government Bond Index – June 30, 2019

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 8, 2019**.

General Compliance Issues

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

Yes: Please explain. / **No**

Ownership

There have been no material changes to the firm's ownership structure as of 31 March 2019. The ownership details for 2Q19 is not yet publicly available.

BlackRock is an independent, publicly traded company, with no single majority shareholder and over two-thirds of its Board of Directors consisting of independent directors. As of 31 March 2019, The PNC Financial Services Group, Inc. ("PNC"), through a wholly-owned subsidiary, owned 22.4% of BlackRock and institutional investors, employees and the public held economic interest of 77.6%. With regard to voting common stock, PNC, through a wholly owned-subsiary, owned 22.0% and institutional investors, employees and the public owned 78.0% of voting shares.

Organizational changes

BlackRock constantly looks for ways to better serve clients, increase efficiency in our organization and develop talent. Periodically we take a fresh look at the firm to determine how we should evolve our organization in anticipation of changing market dynamics and client needs and to position the firm so that we can maximize our fullest potential for BlackRock and our clients.

2019 Changes

Beginning in November 2018 and concluding in April 2019, BlackRock initiated a series of moves designed to anticipate the evolution of client needs and expectations. Among our objectives were to enhance the client experience, to streamline and simplify the firm and to continue driving strong investment performance.

Some of the key changes included:

- Shifting the primary axis of client coverage to the regions, including regionalizing our Institutional Client Business ("ICB"). By orienting more of our client businesses regionally, we aim to respond more quickly to local client needs and preferences while still fully leveraging the benefits of our global, One BlackRock platform. We also established Latin America as a unique region for the firm alongside and the U.S. and Canada, EMEA and Asia-Pacific.
- Ensuring consistent delivery of the entire firm to clients, especially our largest global clients, by creating a new Chief Client Officer role. That role is responsible for teams focused on global clients (including the Strategic Partner Program, Official Institutions Group, Financial Institutions Group, Financial Markets Advisory and Global Consultant Relations) as well as sales enablement globally.

- Taking our alternatives business to the next level of its development by making BlackRock Alternative Investors ("BAI") a specialized business unit that integrates client-facing and investment teams. BlackRock Alternative Specialists becomes part of BAI.
- Leveraging the strength of some of our best investment talent more effectively across the alpha platform.
- Fostering more dynamic product innovation and management through a Chief Product Officer.

With these initiatives were several executive appointments, including (in chronological order):

- Geraldine Buckingham – Head of Asia Pacific
- Ryan Stork – Deputy Chief Operating Officer
- Mark Wiedman – Head of International and of Corporate Strategy
- Salim Ramji – Global Head of iShares and Index Investments
- Mark McCombe – Chief Client Officer
- Edwin Conway – Global Head of BAI
- Patrick Olsen – Chief Product Officer
- Rob Fairbairn – Vice Chairman

In addition to these, David Blumer, previously Global Head of BAI, becomes a senior advisor and continues as chairman for Switzerland. Richie Prager, Global Head of Trading and Liquidity Strategies, will retire 1 July 2019.

More broadly, BlackRock also made some changes to the size and shape of its global workforce. These changes impacted approximately 3% of BlackRock's worldwide headcount. It is important to note, however, that even after that impact, BlackRock headcount was still 4% higher than it had been a year before.

In all these things and everything BlackRock does, our focus is on the long term. BlackRock has consistently differentiated itself by pivoting quickly when emerging strategic trends impact our clients. We are continuing to invest in our business to ensure we meet the investment needs of our clients. At the same time, by simplifying certain structures and processes, we are making it easier for clients to navigate the firm and leverage the full breadth of BlackRock's capabilities.

Global Executive Committee Changes

In 2010, BlackRock created the Global Executive Committee ("GEC") to provide oversight of operations and business performance, strategy and planning, talent development and retention, risk management, and external affairs.

In January 2019, Salim Ramji rejoined the GEC in his new role as Global Head of iShares and Index Investments.

Please refer to the link below for biographies of the firm's current GEC members.

<http://www.blackrock.com/corporate/en-us/about-us/leadership>

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

Yes: Please explain. / No

BlackRock has followed the same investment philosophy of Total Performance Management for index strategies since 1971.

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

Yes: Please explain. / No

As a global investment manager, BlackRock Inc., and its various subsidiaries including BTC may be subject to regulatory oversight in numerous jurisdictions including examinations and various requests for information. BTC's regulators routinely provide it with comment letters at the conclusion of these examinations in which they request that BTC correct or modify certain of its practices. In all such instances, BTC has addressed, or is working to address, these requests to ensure that it continues to operate in compliance with applicable laws, statutes and regulations.

BTC also receives subpoenas or requests for information in connection with regulatory inquiries and/or investigations by its various regulators, some of which are ongoing. None of these matters has had or is expected to have any adverse impact on BTC's ability to manage its clients' assets. Please refer to BlackRock's Form ADV and SEC disclosures for additional information on regulatory matters concerning BTC or BlackRock as a whole. The recent fines related to BlackRock Inc. or BTC's investment advisory responsibilities are set forth below. These matters do not include fines paid to non-US regulators relating to the late filing of issuer-specific holdings reports.

On 8 March 2012, BlackRock Institutional Trust Company, N.A. ("BTC") entered into an Offer of Settlement (the "Agreement") with the CFTC and consented to the entry of an Order, which makes findings and imposes remedial sanctions against BTC. Without admitting or denying wrongdoing, BTC agreed to the imposition of a \$250,000 penalty and the entry of the Order to resolve allegations by the CFTC that two trades by BTC violated Section 4c(a)(1) of the Commodity Exchange Act and CFTC Regulation 1.38(a). BTC also agreed to refrain from any further violations of the above-mentioned statutory provisions. The CFTC did not allege that any clients of BTC, BlackRock or any related affiliate were harmed in any way in the execution of these two trades.

On 11 September 2012, the UK Financial Services Authority ("FSA") issued a Final Notice against BlackRock Investment Management (UK) Limited ("BIMUK"), following a settlement agreement reached between the FSA and BIMUK. The FSA found that BIMUK had breached certain provisions of the FSA's Client Money Rules and Principles, during the period 1 October 2006 to 31 March 2010, by not having trust letters in place for client money placed on money market deposit and not having adequate systems and controls for the identification and protection of client money in this respect. BIMUK agreed to a settlement payment of GBP 9,533,100 for the breach, which it had self-reported to the FSA in April 2010. The FSA final order acknowledged that no client of BIMUK (or BlackRock or any related affiliate) suffered any harm and that BIMUK had remedied the situation and put in place robust systems and controls relating to client money protection.

On 3 October 2012, BlackRock Financial Management Inc. ("BFM") reached an agreement with the U.S. Department of Labor ("DOL") to reimburse clients \$2,661,513 in connection with certain trades the DOL alleged violated Title I of the Employee Retirement Income Security Act ("ERISA"). BFM also agreed to pay to the DOL a \$266,151 penalty.

On 8 January 2014, BlackRock Inc. reached a settlement with the New York Attorney General's office ("AG") pursuant to which the AG found BlackRock's use of analyst surveys violated New York's Martin Act and Executive Law. The settlement did not involve the payment of any fine or other penalty although BlackRock paid \$400,000 to cover the AG's costs of investigation. BlackRock neither admitted nor denied the allegations, but agreed to stop using analyst surveys.

On 8 May 2014, the primary Italian securities regulator ("CONSOB") fined BlackRock Investment Management (UK) Limited ("BIMUK") 150,000 EURO (approximately \$205,826 USD) for negligent market manipulation. The fine was based on BIMUK's filing, on behalf of the BlackRock group of companies, a large shareholder report regarding its holdings in Unicredit S.p.A. to CONSOB in December 2011, that turned out to be incorrect.

On 16 September 2014, BlackRock Institutional Trust Company, N.A. ("BTC") entered into an agreement with the SEC to resolve allegations relating to three alleged violations of an SEC regulation prohibiting short sales of an equity security during the restricted period preceding a public offering. The three trades at issue occurred in 2010 and 2011. As part of the approximately \$1.7 million settlement, BTC agreed to disgorge

profits from each of the violations and to pay interest and a civil penalty. BTC also agreed to cease and desist from any future violations of the rule in question.

On 20 April 2015, BlackRock Advisors, LLC ("BAL") reached a settlement with the Securities and Exchange Commission ("SEC") regarding BlackRock's handling of a former portfolio manager's personal investments and involvement in a family business, Rice Energy LP and related entities. As part of the settlement, BAL agreed to pay a \$12 million penalty and retained an independent compliance consultant to review BlackRock's policies and procedures regarding the outside activities of BlackRock's employees. There was neither an allegation by the SEC of any loss to any BlackRock investors, nor did this settlement have any adverse impact on BlackRock's ability to manage its clients' funds.

On 17 January 2017, BlackRock Inc. reached an agreement with the SEC resolving a matter regarding a provision in an old version of BlackRock's form employee separation agreement that the SEC believed violated Dodd Frank's whistleblower provisions. The settlement with the SEC included a \$340,000 payment and BlackRock agreed it would not include the provision in future agreements. In addition, BlackRock agreed to notify by letter, certain former employees who signed the agreement between October 2011 and March 2016.

On 25 April 2017, BlackRock Fund Advisors ("BFA") reached an agreement with the SEC resolving a matter regarding whether one BFA-managed ETF (the iShares MSCI Russia Capped ETF) was covered by certain exemptive relief the SEC previously granted BFA and other iShares funds. BFA, which did not admit or deny any of the SEC's findings, agreed to resolve the matter for a civil monetary penalty of \$1.5 million.

BlackRock, Inc. and its various subsidiaries, including BTC, also have been subject to certain business litigation that has arisen in the normal course of their business. Our litigation has included a variety of claims, some of which are investment-related. None of BlackRock's prior litigation has had, and none of its pending litigation currently is expected to have, an adverse impact on BlackRock's ability to manage client accounts.

In past years, BlackRock has acquired organizations that provide investment-related services, including, but not limited to, State Street Research & Management Company, Merrill Lynch Investment Managers, the fund of funds business of Quellos Group, LLC, and Barclays Global Investors. This response does not address any regulatory or litigation that arose out of conduct within the acquired organizations prior to their acquisition by BlackRock. It also does not address any regulatory or litigation unrelated to BlackRock or BTC's investment management responsibilities.

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

Yes / No: Please explain.

BlackRock maintains the following types of global insurance coverage:

Type
<u>Investment Advisers Professional Liability (aka Errors & Omissions Liability)</u>
<u>Fidelity Bond (aka Crime or Financial Institution Bond)</u>

Although we do not disclose the insurer information and level of coverage, BlackRock only places insurance with insurers rated "Excellent" by AM Best and maintains coverage at levels that are commercially reasonable and consistent with industry peers.

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?

Managing Counterparty Credit Risk

BlackRock's philosophy is to manage counterparty credit risk conservatively. As such, the firm actively monitors counterparty credit risk exposures globally and evaluates counterparty credit quality on a continuous basis. We believe that our policies and procedures for counterparty risk management are robust and thorough.

In 2005, BlackRock established the Counterparty & Concentration Risk Group, a dedicated team of professionals that leads the global process for managing counterparty risk. The Group is responsible for managing credit risk in all trading relationships with counterparties and to that end coordinates with Credit Research, Investment Strategies, Trading & Liquidity Strategies, Legal & Compliance, Operations, and data integrity functions across the organization. The Group monitors and assesses counterparty exposures arising from both bilateral and centrally-cleared products that include derivatives, mortgage TBAs, foreign exchange, financing trades (repo and securities lending), equities, fixed income securities and other forward-settling transactions. Reporting is generated to show aggregate risk exposures by counterparty and by portfolio.

The Counterparty & Concentration Risk Group developed the firm-wide Counterparty Credit Policies and Procedures, and is responsible for implementing, updating and enforcing them, as follows:

- Assess prospective trading counterparty creditworthiness and approve counterparties;
- Measure and monitor credit exposure to each counterparty, broken out by asset classes;
- Monitor financial performance of counterparties in order to establish, confirm, or adjust exposures as needed;
- Monitor levels of exposure by product, by tenor, and by counterparty, and provide feedback to Trading & Liquidity Strategies when aggregate exposures warrant; and
- Provide guidance and supervision of credit issues for ISDA and other transaction documentation.

The firm has Credit Alert Procedures which serve as a guideline for the action and interaction of key BlackRock constituencies in the case of a counterparty related "credit event." These procedures specifically contemplate the coordination among the Counterparty & Concentration Risk, Investment Strategies, Trading & Liquidity Strategies, Legal, and Operations groups in order to facilitate BlackRock's ability to make timely and informed decisions following the recognition of credit concerns. The major aspects addressed include fact finding, communication, liquidation and close-out, and key roles and responsibilities.

BlackRock's Counterparty Approval Process

BlackRock focuses primarily on counterparty credit risk and counterparty reputation risk. Counterparty credit risk is the potential loss that BlackRock clients' accounts or BlackRock accounts could incur if a counterparty is unable to perform on its trading commitments. Reputation risk is defined as the risk to earnings or capital arising from negative public opinion. The process by which we select broker/dealer counterparties for transaction purposes is outlined below.

Determine the nature of the proposed transaction activity:

What are the securities to be traded? What is the expected volume by security?

Determine the settlement and delivery procedure:

How is our client going to receive monetary compensation in exchange for delivering the particular security in question? If the client is going to receive securities, how is the counterparty going to deliver those securities? Is settlement through an established clearing platform or is there also a physical settlement? From a delivery risk perspective, we view DTC and Fed settlement along with settlement through several other established trading and clearing platforms to be of limited risk. We view settlement via other methodologies as bearing potentially significant risk, and generally limit such activity to investment grade counterparty groupings. OTC derivatives are transacted with major global financial institutions.

Determine if the proposed counterparty settles transactions "directly" or uses a correspondent:

Most "agency" counterparties utilize correspondents to clear securities for them. If they do so, who are they using? On what basis are they clearing, fully disclosed or otherwise? BlackRock will only accept clearing correspondents that are well-capitalized, well-established, and possess a favorable reputation in the marketplace.

Settlement risk tolerance levels:

BlackRock has established certain tolerance levels for aggregate exposure to settlement risk, defined as a credit balance on all trades outstanding but not settled. The level reflects our settlement risk tolerance per counterparty and is monitored by BlackRock's Counterparty & Concentration Risk Group on a daily basis. If the threshold is exceeded, the trade details are reviewed in concert with the counterparty's financial strength in order to determine if any intervention is required.

Financial review:

Our view is that the level and trend of excess regulatory capital, as shown in the financial information, is a key barometer of the financial strength of our trading counterparty. Most brokerage firms are required to calculate and report this figure to regulatory authorities on a periodic basis. We are directly interested in ensuring that the process is maintained.

As previously stated, non-investment grade counterparties are required to clear through well-established clearing correspondents and are generally limited to short settlement trades. Updated regulatory financial filings are reviewed on an ongoing basis. Major financial institutions are additionally monitored as part of BlackRock's internal credit research process and via alert portfolios with market data service providers.

Counterparty Exposure Monitoring

BlackRock prefers to have multiple counterparties for liquidity, risk management, and best execution purposes. The counterparties with which we trade must have broad market coverage. Positions are marked-to-market on a regular basis and exposure to each counterparty is monitored. Transaction documentation is implemented where appropriate to minimize exposure to individual counterparties.

To monitor post-trade counterparty risk, BlackRock has implemented a strong technological infrastructure and proprietary internal review processes. BlackRock also has a number of reporting tools on the Aladdin platform that allow us to manage counterparty exposure, balancing net exposures to our different counterparties. Where necessary, credit risk exposure to counterparties can be adjusted, both at the individual portfolio level and at the aggregate firm-wide level.

Country Risk

Members of the Counterparty & Concentration Risk Group are active participants in BlackRock's Global Country Operating Risk Committee. The Committee includes participants from Legal & Compliance, Business Operations, Fund Services, Product Tax, and Risk & Quantitative Analysis, along with representation from each of the Investment groups.

This Committee meets regularly to consider, inter alia, the legal status, ownership and official recognition of exchanges and clearing houses, trading and settlement practices and procedures and BlackRock's ability to track trades from execution to settlement in the various trading markets. For markets where direct local access to exchanges is deemed to present inappropriately high risks for client portfolios, a range of restrictions may be applied.

6. Specify the security pricing sources used when developing portfolio market value exposures for non-exchange 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

Domestic Fixed Income Portfolios

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

<i>Certificates of Deposit</i>	%
<i>Commercial Paper</i>	%
<i>Other high grade short-term securities</i>	0.31%
<i>U.S. Government & Agency securities</i>	99.69%
<i>Corporate Bonds</i>	%
<i>Mortgage and asset-backed securities</i>	%
<i>Yankee bond securities</i>	%
<i>Other (please specify)</i>	%

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

Signed by:
Dated:
Name of Firm

Anthony R. Freitas
7-12-19

Anthony R. Freitas, CFA
Managing Director
BlackRock

***Brown Brothers Harriman Intermediate Inflation Indexed Securities –
June 30, 2019***

***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 8, 2019.**

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**

In 2014, as a result of a broad sweep investigation involving over 30 individuals and entities, the U.S. Securities and Exchange Commission ("SEC") issued an administrative order citing Brown Brothers Harriman & Co. ("BBH") for failure to make certain required filings under the Securities Exchange Act of 1934. Without admitting or denying the findings, BBH entered into a settlement agreement with the SEC and agreed to pay a civil penalty. BBH also enhanced its policies, procedures and controls. The settlement had no impact on BBH's financial status or its ability to conduct business.

In 2013, Financial Industry Regulatory Authority ("FINRA") conducted an examination of BBH, which included a Financial Operations, Sales Practice and AML review. In 2014, without admitting or denying the findings, BBH entered into a settlement agreement with FINRA addressing BBH's policies and procedures relating to the surveillance and processing of U.S. low-priced securities on behalf of certain of our bank clients located outside of the United States and paying a fine to FINRA. There were no limitations on BBH's ability to conduct business as a result of the settlement.

In September 2007, BBH and the New York State Department of Financial Services ("NYSDFS," formerly known as the New York State Banking Department) entered into a written agreement pursuant to which BBH agreed to take certain actions to remedy deficiencies in its Bank Secrecy Act / Anti-Money Laundering compliance program. BBH was not found to be participating in any wrongdoing and there was no fine associated with the agreement. The written agreement recognized the significant steps BBH had made in remediation to date and did not impact BBH's ability to

provide products and services to its clients. Effective September 23, 2009, the NYSDFS lifted its written agreement with BBH.

In 2006, BBH settled a matter with the New York Stock Exchange ("NYSE"). The matter involved BBH's employee due diligence policies and procedures and BBH's reporting of certain events in the NYSE's electronic database. This matter did not relate to the provision of any products or services provided to clients by BBH. The NYSE case had no material impact on BBH's financial stability, did not involve any practices relating to clients or client investments and did not impact BBH's ability to provide products and services to its clients going forward.

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.**

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

3. 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.**
4. 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.

5. 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 six months? **Not applicable.**

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

BBH has not invested in "limited allocation derivative investments" in the Intermediate Inflation-Indexed Securities CIT.

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.

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 to manage the portfolio duration independently from security selection. Typically, the duration of the portfolio is maintained in a range of +/-0.50 years relative to the benchmark. 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 fund (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

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**

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

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

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**
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, 2019.**
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 5/31/2019 the Intermediate Inflation Indexed Securities CIT made up 2.1% of the firm's total assets. As of 5/31/2019, San Mateo County Employees' Retirement Association's investment in the CIT made up 26.5% of the total fund AUM.

Signed by: John Ackler, CFA

Dated: July 10, 2019

Name of Firm: Brown Brothers Harriman

SamCERA I Compliance Certification Questionnaire**Compliance Certification Statement**

FIAM U.S. Core Bonds – June 30, 2019

FIAM Broad Market Duration**June 30, 2019**

Firm Name	Fidelity Institutional Asset Management Trust Company (FIAMTC)
Product Name	FIAM Broad Market Duration
Asset Class	Investment Grade Fixed Income
Respondent/Contact	Art Greenwood, Senior Vice President, Sales Relationship Manager
Address	900 Salem Street, Smithfield, RI 02917
Telephone	401-292-4729
Email Address	Art.Greenwood@fmr.com

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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:

- Effective December 31, 2018, Charlie Morrison, president of Asset Management retired. Steve Neff, who previously served as head of Technology and Global services succeeded him. Steve is a 22-year Fidelity veteran with a broad range of leadership experience both within and outside of Fidelity, and has exhibited outstanding leadership capabilities in his current and past roles.
- In January 2018, Bill Irving, previously a portfolio manager in Fidelity's Fixed Income division, was appointed Managing Director of Research in Fidelity's Global Asset Allocation (GAA) division. In this role, Bill has oversight of the GAA Quantitative Research and Counterparty Research teams.

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**

SamCERA I Compliance Certification Questionnaire

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 generally does not make public comment about such inquiries, examinations or investigations unless and until enforcement proceedings are initiated. Moreover, certain regulators prohibit disclosure of any examination results.

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 the 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**

SamCERA I Compliance Certification Questionnaire

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?

We consider this information to be proprietary 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 Fund & Investment Operations (FFIO) utilizes a combination of sources for derivatives pricing. 3rd party pricing vendors, such as Markit and Pricing Direct, are primary sources for different swap types. Refinitiv (Reuters) is the 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 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

Domestic Fixed Income Portfolios

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

<i>Certificates of Deposit</i>	<i>%</i>
<i>Commercial Paper</i>	<i>%</i>
<i>Other High Grade Short-term securities</i>	<i>0.4%</i>

SamCERA I Compliance Certification Questionnaire

<i>U.S. Government & Agency securities</i>	36.6%
<i>Corporate Bonds</i>	26.8%
<i>Mortgage- and asset-backed securities</i>	30.3%
<i>Yankee bond securities</i>	5.9%

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

Scenario Analysis is performed at both the security and portfolio level. We perform scenario analysis on a daily basis for most fixed-income securities in our universe. There are 13 interest-rate scenarios consisting of unchanged, shift, and twist yield curve movements. We also allow for interactive analysis, incorporating spread changes into the estimated scenarios.

3. Are any holdings below investment grade? Yes / No**a) If Yes, why are they held in the portfolio?**

As of June 30, 2019, 0.8% of holdings in the portfolio were 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.

4. 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.****5. What percentage of the portfolio is held in Rule 144A securities?**

4.4%

6. 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.****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?**

Please note that 6/30/2019 assets are not available yet. A revised version of the questionnaire will be submitted once they become available.

Signed by: Jeff Goretti

DocuSigned by:

 BFF527A7670B467...
Dated: 7/8/2019

Name of Firm: FIAMTC



**FRANKLIN
TEMPLETON**

July 23, 2019

**RESPONSE TO COMPLIANCE CERTIFICATION STATEMENT FROM
San Mateo County Employees' Retirement Association**

Franklin Templeton Global Multisector Plus (Master) Fund, Ltd. (3c7)
Review Period: January 1, 2019 – June 30, 2019

Bill Deakyne, CFA

Senior Vice President – Head of US Institutional Client Relations
Franklin Templeton Institutional

tel: (650) 312- 2270

email: bill.deakyne@franklintempleton.com

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APPENDIX 1

FRANKLIN ADVISERS, INC. REGULATORY HISTORY

Please note that the San Mateo Employees' Retirement account is in a 3c7 fund and is no longer managed in a separately managed account within the guidelines of an investment management agreement (IMA).

As such, any references to the terms, guideline(s) and policy statement(s) within this questionnaire refer to the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd.'s offering documents and/or private placement memorandum.

GENERAL COMPLIANCE ISSUES

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

Yes No

If yes, please explain.

Portfolio Developments

There have been no significant developments to the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd. over the last six months ended June 30, 2019.

Firm Ownership

There have been no material changes to the ownership structure of Franklin Resources, Inc. (Parent Company) during the past six months ended June 30, 2019.

Organizational Structure and Personnel Changes

Please refer to the below changes within the Franklin Templeton business organization during the past six months ended June 30, 2019.

- Following Franklin Templeton's acquisition of Benefit Street Partners (BSP), a leading alternative credit manager, on February 1, 2019, Tom Gahan, founder, CEO and CIO of BSP, became Head of Franklin Templeton's Alternatives business (including K2 Advisors). Mr. Gahan also joined Franklin Templeton's Executive Committee. In connection with Mr. Gahan's new role as Head of Alternatives, K2 Advisors announced that David Saunders, Founding Managing Director, will transition to the role of Chairman Emeritus effective April 1, 2019. In Mr. Saunders' new role, he will continue to communicate with clients and K2 in a consultant capacity as an executive advisor and strategic resource.
- Kenneth Lewis, Executive Vice President and Chief Financial Officer for Franklin Resources, Inc., retired from the firm effective May 6, 2019 after a 30-year tenure. Matthew Nicholls, formerly of Citigroup, took over the role of Executive Vice President and Chief Financial Officer for Franklin Resources, Inc. as of that date.

Templeton Global Macro is the investment team responsible for managing the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd. During the period under review, portfolio manager/analyst Laura Burakreis and analyst Vivian Guo left the team. Neither Laura nor Vivian had direct management responsibilities for the fund under review.

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

Yes No

If yes, please explain.

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

Yes No

If yes, please explain.

No. During the period of January 1, 2019 through June 31, 2019, Franklin Advisers Inc. (FAV) was not the subject of any *investment-related proceedings, findings or orders* brought or made by any U.S. federal or state regulatory agency, *foreign financial regulatory authority or self-regulatory organization*.

For a summary of *investment-related proceedings, findings or orders* brought or issued by any such regulatory entity against FAV and/or certain of its *advisory affiliates* in the past 10 years ended March 31, 2019, as well as certain other regulatory matters, please see Appendix 1: Franklin Advisers Inc Regulatory History. In addition, from time to time, FAV and its *advisory affiliates* receive subpoenas and inquiries including requests for documents or information, from governmental authorities or regulatory bodies and also are the subject of governmental or regulatory examinations or investigations. *Investment-related proceedings, findings or orders* resulting from such subpoenas, inquiries, examinations or investigations if any, will be reported, to the extent required and permitted by law, on FAVs Form ADV filed with the U.S. Securities and Exchange Commission. (Italicized terms are as defined on Form ADV.)

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

Yes No

If 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 No

If yes, please explain.

DERIVATIVE INVESTMENTS

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

Yes No

If Yes, please answer the remaining questions in this section. If 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

If 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

If 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

If no, please explain.

5. Is individual counter-party exposure well diversified?

Yes No

The risk exposure to a single counterparty in an OTC derivative transaction may not exceed 10%.

Counterparty credit risk is managed at the firm-wide level. All potential counterparties are subject to initial approval and ongoing review by Franklin Templeton's Counterparty Credit Committee (CCC). This process evaluates a variety of different metrics for assessing creditworthiness, including each counterparty's credit rating, credit default swap spread, and stock price, as well as Franklin Templeton's money market and trading desk input.

The CCC and Franklin Templeton's Investment Risk Management Group are responsible for ongoing monitoring of counterparties' creditworthiness and firm-wide exposure to counterparties. The Investment Risk Management Group calculates exposure to each counterparty across Franklin Templeton mandates daily, and on an as-needed basis, based on market conditions. Total exposure is compared to monetary limits that may vary due to the size and creditworthiness of the counterparty.

The majority of our counterparty relationships are collateralized daily. Collateral is ring-fenced and protected from the balance sheet of either firm. Therefore, should one of our counterparties go out of business overnight, it would have minimal impact on value of the trade, as the trade's cash value would be in the collateral account and protected from creditors.

If 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?

Counter-party exposure cannot be released under fair disclosure rules.

Changes to our approved list of counter-parties routinely occur nearly every month.

6. Specify the security pricing sources used when developing portfolio market value exposures for non-exchange traded derivatives.

Typically, there are readily available market quotations for certain kinds of derivative instruments, like those traded on recognized exchanges, and those instruments are valued accordingly. Over-the-counter (OTC) derivatives are valued using quotations from independent third-party vendors and sources that may apply fair value techniques. OTC derivatives contracts may not trade frequently. Our vendors may use valuation techniques including fair value pricing models to determine Net Present Value (NPV). The vendors' evaluated prices (NPV) are derived using the attributes described in the instrument terms and conditions, relevant credit or interest rate curves derived from contributed data from a network of market participants and current broker-dealer quotations. If a current market quotation cannot be established or a market event occurs that calls into question the reliability of current market quotations, the pricing department will initiate fair value procedures. Fair valuation might include an internal fair valuation by management appraisal. All fair value management appraisals are documented and the Valuation Committee reviews and approves them.

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.

Derivatives will only be used when client guidelines permit and Franklin Templeton's risk management systems enable us to properly model derivative instruments and fully understand portfolio risk. Derivative instruments are used for hedging purposes and for efficient portfolio management when we determine that it is more cost or tax efficient to use a derivative instrument rather than investing directly in the underlying bond or currency market. Compared with cash bonds, derivatives can be more flexible and more liquid, and may have lower transaction costs. In those strategies that employ derivative instruments, or when clients request the use of derivatives to achieve certain investment objectives, we may also seek to gain exposure through the use of exchange-traded and/or over-the-counter derivatives.

As an opportunistic strategy, the Templeton Global Multisector Plus Strategy (the investment strategy of the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd.) utilizes a wide variety of instruments to gain exposure to various fixed income sectors and achieve strategy objectives. For example, foreign exchange forward contracts are frequently used in the implementation of its overall strategy, either for hedging purposes and/or to express positive and negative currency views. We may also engage in cross hedging as an efficient method of implementing the portfolio's optimal currency structure. Interest rate swaps may also be used to implement views on interest rates, quickly adjust portfolio duration, or efficiently handle cash flows.

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

Yes No

If yes, please explain.

INVESTMENT MANAGER GUIDELINES

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

Yes No

As an essential part of the investment process, liquidity risk is researched in the security selection stage. Our research analysts and traders partner to ensure that any required liquidity provisions can be met given the risk parameters of the underlying mandate. In the event that, within the confines of the account structure, we invest in securities that have limited liquidity, we seek to ensure that investors are being adequately compensated for any liquidity risk. On an ongoing basis, analysts are required to ensure that current market prices reflect attractive valuations. Liquidity risk is further controlled by monitoring aggregate ownership levels to help ensure that they remain prudent.

The global government bond and foreign currency markets in which the fund invests are among the largest and most liquid markets in the world. We generally seek to avoid holding assets in which we believe forced selling could occur at stressed levels due to liquidity constraints. Historically, the fund has never experienced any significant issues with liquidity, and we do not believe that liquidity issues going forward are likely to be of great concern, regardless of the economic environment.

It is also important to note that at a firm level, we have our Global Credit Facility, an unsecured, senior committed line of credit, if required as a source of funds for temporary and emergency purposes to meet unanticipated or unusually large redemption requests by shareholders. In the case that this facility would be needed, this would provide the portfolio managers with added flexibility in managing redemptions without disrupting our ability to meet our investment objectives and serve the long-term interests of our shareholders. Currently, it is undrawn.

If no, please explain.

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

Yes No

The Templeton Global Multisector Plus Strategy does not engage in short selling, employ leverage, margins or investments in commodities.

If yes, please explain.

GLOBAL FIXED INCOME PORTFOLIOS

1. State the percentage of the portfolio held in each of the following types of securities (please sub-total each by region):

The following table represents the sector and region breakdown for the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd. (3c7) as of June 30, 2019.

Sector	Region	MV%
Certificates of Deposit (by region)		0.00
Cash & Cash Equivalents		30.46
Preferred Stock		0.00
Commercial Paper (by region)		0.00
Other high grade short-term securities (by region)		0.00
Government securities (by region)	US	0.00
	Non-US	64.71
Agency Securities (by region)	US	0.00
	Non-US	5.98
Investment Grade Corporate Bonds (by region)	US	0.00
	Non-US	0.00
High Yield Corporate Bonds (by region)	US	0.00
	Non-US	0.00
Mortgage and asset-backed securities (by region)		0.00
Supranational		0.05
Derivatives		-2.23
Bank Loans		0.00
Other		1.03
Total		100.00

Region	Percentage (%)
Americas	34.73
Asia	31.95
Europe	0.00
Middle-East/Africa	2.74
Supranational	0.05
Cash & Cash Equivalents	30.46
Other	0.08
Total	100.00

2. Please list any holdings that are below investment grade or not-rated

The data as of June 30, 2019 that is being requested is currently not available. We will provide it as soon as it becomes publicly available.

The table below represents the quality allocation breakdown for the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd. (3c7) as of December 31, 2018. During the quarter ended June 30, 2019, 50.03% of the portfolio consisted of holdings that were below investment grade or not rated.

Range	IG/Non-IG	Percentage
AAA	IG	0.05
AA+	IG	0.00
AA	IG	10.13
AA-	IG	0.00
A+	IG	0.00
A	IG	0.00
A-	IG	16.09
BBB+	IG	4.58
BBB	IG	10.19
BBB-	IG	8.93
BB+	Non-IG	0.00
BB	Non-IG	0.00
BB-	Non-IG	12.97
B+	Non-IG	0.22
B	Non-IG	8.60
B-	Non-IG	0.00
CCC+	Non-IG	0.00
CCC	Non-IG	0.00
CCC-	Non-IG	0.00
CC+	Non-IG	0.00
C	Non-IG	0.00
NR	Non-IG	0.01
N/A	Non-IG	-2.23
Cash & Cash Equivalents	Non-IG	30.46

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 No

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

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

As of June 30, 2019, the portfolio did not hold any Rule 144A securities.

5. **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.**

NO industry has 15% or more allocation'. (Only Govt. sector has it more than 15%).

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

Franklin Templeton Global Multisector Plus (Master) Fund Ltd. total AUM as of June 30, 2019 was US\$1,503.66million, this makes up 0.21% of total firm AUM.

SamCERA's account assets makes up 2.82% of Franklin Templeton Global Multisector Plus (Master) Fund Ltd's total assets as of June 30, 2019.

Signed By: 
Name: Breda Beckerle
Title: Chief Compliance Officer
Dated: Tuesday, July 23, 2019
Name of Firm: Franklin Advisers, Inc. (FAV)

IMPORTANT NOTES

This response (the Response) is based on the information provided in the Due Diligence Questionnaire (the Questionnaire). To the extent any such information in the Questionnaire is incomplete or inaccurate, Franklin Templeton reserves the right to alter, amend or delete any information it has provided in the Response. Franklin Templeton has prepared the Response in good faith and, to the best of its knowledge, all information provided in the Response is accurate as of the date submitted. Information, including all data, provided in the Response is unaudited, unless otherwise indicated. Additionally, any information relating to assets under management (AUM) is being provided in response to the particular request contained in the Questionnaire and the figures provided may, therefore, be categorized differently than those reported for regulatory or other disclosure purposes. AUM includes assets for which the firm provides various investment management services as described in Franklin Resources, Inc.'s current Form 10K (See Item I, "Business". A copy of the current Form 10K as well as the most recent Annual Report can be located at www.franklintempleton.com). The way we calculate our AUM may change from time to time based on such factors as changes in industry standards, regulatory requirements or specific requests. Any information from third-party sources is believed to be reliable, but Franklin Templeton cannot guarantee its accuracy or completeness. Information set forth in the Response is subject to change and Franklin Templeton does not undertake any duty to update the Response after its issuance nor does it accept responsibility for any modifications made to the Response after its date of issue. Responses may include a general description of the types of services Franklin Templeton may provide to its clients and may not be applicable or tailored to the Questionnaire. Data shown for currency exposure, country exposure, maturity, duration, coupon allocation, sector allocation and asset allocation may reflect certain derivatives held in the portfolio (or their underlying reference assets). Breakdowns may not total 100% or may be negative due to rounding, use of derivatives, unsettled trades or other factors. When performance for either the portfolio or its benchmark has been converted into another currency, different foreign exchange (FX) closing rates may be used for the conversion of the portfolio and benchmark performance.

The information contained in the Response is solely for the purpose of responding to the Questionnaire, shall be treated as confidential, and shall be distributed internally on an as-needed basis only. Subject to applicable regulatory requirements, it shall not be distributed or otherwise communicated to third parties (other than any consultant engaged by the issuer of the Questionnaire to assist in connection therewith) without the prior written consent of Franklin Templeton. Any such consultant shall likewise be obligated to treat the Response as confidential.

Investing may involve a high degree of risk. The issuer of the Questionnaire is deemed to be an experienced institutional investor or consultant and is expected to make its own independent assessment of the appropriateness and the associated risks of investing. Franklin Templeton shall not be held liable for any losses or damages arising out of any person's reliance upon the information contained in the Response. Except as expressly provided in the Response, no person, firm, or corporation has been authorized to give any information or to make any representation other than those contained in the Response.

All investors should inform themselves as to the legal and other requirements applicable to them with respect to any investments, holdings, and/or disposition of any investments. Franklin Templeton takes no responsibility for informing or advising investors of any applicable laws or regulations.

Views or opinions expressed in the Response do not constitute investment, legal, tax, financial or other advice. The Response is neither an offer for a particular security nor a recommendation to purchase any investments. The way Franklin Templeton implements its investment strategies and the resulting portfolio holdings may change depending on a variety of factors such as market and economic conditions, as well as client account guidelines and restrictions, if applicable. The information provided in the Response is not a complete analysis of every aspect of any market, country, industry, security, strategy or portfolio. Past performance does not guarantee future results and results may differ over future time periods.

By accepting these materials, you confirm your acceptance of the above terms.

PIMCO Diversified Income Fund – June 30, 2019

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 8, 2019.**

General Compliance Issues

The Fund you are invested in is an investment company registered under the Investment Company Act of 1940 ("1940 Act"), which prohibits selective disclosure of information to some investors and not to others. Therefore, we cannot respond directly to your inquiry.

For additional information please reference the attached compliance letter, Fund Prospectus and Statement of Additional Information.

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

Yes: Please explain. / **No**

Please refer to the attached Quarterly Firm Report.

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

Yes: Please explain. / **No**

Please refer to the attached Fund Prospectus and/or Statement of Additional Information.

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

Yes: Please explain. / **No**

Please reference the attached compliance letter.

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

Yes / **No: Please explain.**

Please reference the attached compliance letter.

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**

Please refer to the attached Fund Prospectus and/or Statement of Additional Information.

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.

Please refer to the attached Fund Prospectus and/or Statement of Additional Information.

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.**

Please refer to the attached Diversified Income Fund Annual Report

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.**

Please refer to the attached Diversified Income Fund Annual Report

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.**

Please refer to the attached Diversified Income Fund Annual Report

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?

Please refer to the attached Diversified Income Fund Annual Report

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

Please refer to the attached PIMCO Pricing Policy

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.

Please refer to the attached PIMCO's Use of 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**

The Fund is permitted to engage in short sales as allowed by the Fund's Prospectus and Statement of Additional Information, which are attached for reference.

Domestic Fixed Income Portfolios

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

<i>Treasury</i>	<i>%</i>
<i>Agency</i>	<i>%</i>
<i>Inflation-Linked</i>	<i>%</i>
<i>Mortgage-Backed</i>	<i>%</i>
<i>Asset-Backed</i>	<i>%</i>
<i>Investment-Grade Credit</i>	<i>%</i>
<i>High-Yield Credit</i>	<i>%</i>
<i>Bank Loan</i>	<i>%</i>
<i>Non-US</i>	<i>%</i>
<i>EM Government</i>	<i>%</i>
<i>EM Local Currency</i>	<i>%</i>
<i>EM Corporate</i>	<i>%</i>
<i>Cash & Equivalents</i>	<i>%</i>

Total	%
-------	---

Please refer to the attached Bond Statistics Report

2. 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

Please refer to the attached Holdings Report as of 3/31/2019

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

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

Please reference the attached compliance letter.

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

Please refer to the attached Holdings Report as of 3/31/2019

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

5. 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 3/31/2019, the Fund represented 0.19% of the Firm's AUM.

As of 3/31/2019, SamCERA's account represented 2.60% of Fund assets.

Signed by:



Dated: 7/8/2019

Name of Firm: PIMCO

INVESCO Core Real Estate – June 30, 2019

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 8, 2019.**

General Compliance Issues

1. Are *SamCERA's* market benchmarks in the respective asset class areas acceptable to the firm?
 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. Have there have been any industry or regulatory disciplinary actions taken against the firm?
 Yes: Please explain. / **No - We note that this response solely pertains to Invesco Core Real Estate – U.S.A., L.P. and those managing such entity.**
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**

Investment Manager Guidelines

1. Are portfolio holdings well-diversified? **Yes** / **No: Please explain.**
2. Has the firm used leverage? **Yes: Please explain.** / **No The maximum leverage for the Fund is 35%. As of March 31, 2019, the Fund's leverage was 25.0%.**

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.

Real Estate Portfolios

1. Is the portfolio diversified as to region, property type, industry, and economic base?
 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? Yes / No: Please explain. - **As of March 31, 2019, the Fund's since inception net return of 7.50% exceeds the net NFI ODCE index of 6.99%.**
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. / No
4. Is the portfolio leverage within the 35% of overall loan to value guideline?
 Yes / No: Please explain.
5. What proportion of total AUM do the assets in this product make-up of the firm? – **20.1% (as of March 31, 2019)** What size does SamCERA's account comprise of total product assets? – **2.62% (as of March 31, 2019)**

Signed by: _____



Dated: July 12, 2019

Name of Firm: Invesco Realty, Inc.

State Street Global Advisors Custom Real Asset Account – June 30, 2019

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 8, 2019.**

General Compliance Issues

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

Please see attached Q1 and Q2 2019 Organizational Memos

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**

Please see attached SSGA Regulatory and Litigation Memo. As with any similarly regulated financial institution, State Street Global Advisors is likely to be responding to multiple inquiries, both formal and informal, from various regulators at any given time. In the normal course, various regulators also conduct periodic reviews, exams and audits of State Street Global Advisors. Our policy is that such communications are confidential.

4. Have there been any investment guideline breaches during the prior 6 months?
 Yes: Please explain. / **No**
5. Have proxy ballots been voted in accordance with the best economic interest of *SamCERA*?
 Yes / **No: Please explain.**

Members of the Stewardship team evaluate the proxy solicitation to determine how to vote based on facts and circumstances, and consistent with SSGA's Proxy Voting Guidelines, that seeks to maximize the value of our client accounts.

6. 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.**

Firms are registered by the applicable regulatory authorities. Counterparties are banks as opposed to broker dealers. Net Capital is a broker dealer related term.

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?
Approximately 21.4%

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

Goldman Sachs, approximately \$67.6 million

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

Yes. Two new counterparties are added the OTC derivatives panel during this period.

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

The swap positions are based on a commodity index (Bloomberg Commodity Roll Select TR Index). The Index levels are quoted on Bloomberg.

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.

The swap positions are based on a commodity index (Bloomberg Commodity Roll Select TR Index). The Index is comprised of a diversified basket of liquid (listed) commodity futures contracts. Please see attached Commodity Index SDD.

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

Real Asset Portfolio

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

<i>Foreign Ordinary Shares</i>	<i>0.11%</i>
<i>ADR's</i>	<i>2.77%</i>
<i>Common Stock</i>	<i>60.60%</i>
<i>MIP Limited Partnership</i>	<i>0.00%</i>
<i>Derivatives: Futures/ Options</i>	<i>32.78%</i>
<i>Cash & Equivalents (Domestic)</i>	<i>0.09%</i>
<i>Cash & Equivalents (Foreign)</i>	<i>0.61%</i>
<i>Other (Pooled Investment)</i>	<i>3.04%</i>

2. Specify the large, mid and small capitalization exposure of the portfolios.
S&P Global Large MidCap Natural Resources Index NL Fund (ZVB5)

<i>Large-Cap</i>	<i>75.41%</i>
<i>Mid-Cap</i>	<i>21.21%</i>
<i>Small-Cap</i>	<i>3.38%</i>

S&P Global Infrastructure Index NL CTF (ZVPY)

<i>Large-Cap</i>	<i>70.30%</i>
<i>Mid-Cap</i>	<i>24.12%</i>
<i>Small-Cap</i>	<i>5.58%</i>

Bloomberg Roll Select Commodity Index SM NL FD (ZVME)

<i>Large-Cap</i>	<i>N/A - Swaps</i>
<i>Mid-Cap</i>	<i>N/A - Swaps</i>
<i>Small-Cap</i>	<i>N/A - Swaps</i>

3. What percentage of the portfolio is held in Rule 144A securities?
% of the SMCERA Portfolio at 06/30/2019

Shandong Gold Mining Co Ltd – 0.01%
Aena SME SA – 1.73%
Enav SpA – 0.17%

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

SECURITYID	NAME	Percentage of Portfolio
BDRJLN0	Nutrien Ltd	1.97%

5. What is the largest percentage of the portfolio represented by a single issuer? Please specify the security and percentage amount. If any exposure to a single issuer was above 15% at time of purchase, please list and explain why.

SECURITYID	NAME	Percentage of Portfolio
BDRJLN0	Nutrien Ltd	1.97%

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?

Real Asset Strategy AUM (06/30/2019) – 4,659,653,265 (0.16%)

Underlying Funds:

S&P Global LargeMidCap Natural Resources Index NL Fund (ZVB5) – 969,992,513 (0.03%)
 Bloomberg Roll Select Commodity Indx SM NL FD (ZVME) – 341,222,891(0.01%)
 S&P Global Infrastructure Index NL CTF (ZVPY) – 336,367,612(0.01%)

SSGA Firm AUM (06/30/2019) - 2,918,151,929,167

SMCERA AUM (06/30/19) - \$ 251,230,510.63 (5.39%)

Real Asset Strategy AUM (06/30/2019) - \$4,659,653,265

A handwritten signature in black ink, appearing to read "Melissa Lo". The signature is fluid and cursive, with a long horizontal stroke extending from the end of the name.

Signed by: Melissa Lo, Officer
Dated: July 22, 2019
Name of Firm State Street Global Advisors

Cushing Asset Management MLP Alpha Total Return – June 30, 2019

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 8, 2019.**

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**

Co-Portfolio Manager Libby Toudouze departed from the Firm in January 2019 to pursue other opportunities. She was replaced by Paul Euseppi, who is a portfolio manager on several of the Firm's midstream products.

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

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. 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

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

<i>Foreign Ordinary Shares*</i>	<i>4.05%</i>
<i>ADR's</i>	<i>0.00%</i>
<i>MIP Limited Partnership**</i>	<i>95.07%</i>
<i>Other (please specify)</i>	
<i>Cash & Equivalents (Domestic)</i>	<i>0.88%%</i>

**Cushing owns the NYSE listed shares of Pembina Pipeline Corporation (NYSE: PBA). Shares are also listed on the Toronto Stock Exchange.*

****Includes midstream companies and their affiliates organized either as qualified publicly traded partnerships (MLPs) or as traditional c-corporations for tax purposes.*

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

<i>Large-Cap</i>	<i>50.19%</i>
<i>Mid-Cap</i>	<i>37.80%</i>
<i>Small-Cap</i>	<i>12.02%</i>

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

0%.

4. What is the largest percentage of the portfolio represented by a single security? Please specify the security and percentage amount. If any securities were above 7% at the time of purchase, please list and explain why.

Plains G.P. Holdings LP (NYSE: PAGP): 7.15%, the security was not above 7.00% at the time of purchase.

5. What is the largest percentage of the portfolio represented by a single issuer? Please specify the security and percentage amount. If any exposure to a single issuer was above 15% at time of purchase, please list and explain why.

Plains G.P. Holdings LP (NYSE: PAGP): 7.15%.

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?

Product assets as a % of firm AUM: 29.76%

SAMCERA's account as % of total product assets: 9.37%

Signed by:

A handwritten signature in black ink, appearing to read 'Brian Atwood', written over a horizontal line.

Brian Atwood, Senior Associate

Dated: July 10, 2019

Name of Firm: Cushing Asset Management, LP

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Item 4.11

TO: Board of Retirement

FROM: Gladys Smith, Assistant Executive Officer 

SUBJECT: Amending Resolutions Defining Compensation Earnable and Pensionable Compensation

Recommendation

Approve amendments to the Resolution defining Compensation Earnable, pursuant to Government Code §31461 for members who are not subject to Government Code §7522.34 and (2) Resolution defining Pensionable Compensation for members who are subject to Government Code §7522.34 to:

(a) Include as a pensionable earning codes: two listed pay codes used by the payroll system in addition to those used by the automatic timekeeping system (holiday hours worked at straight time) and (Comp/Admin leave hours used); and

(b) Include as a pensionable earning codes: earnings for use of winter recess hours; and

(c) Include as non-pensionable earning codes: termination cash out of winter recess hours.

Background

Depending upon a member's date of hire and other factors, a member is either subject to Government Code §31461 in County Employees Retirement Law ("CERL") or §7522.34 of the Public Employees' Pension Reform Act (PEPRA). Under CERL, compensation earnable is used: (1) to calculate the final average compensation in order to determine a member's pension benefit and (2) to calculate the ongoing contributions to be paid by the member and the employer. For the PEPRA members, "pensionable compensation" is used for the same purposes. The Board determines which elements of compensation are to be included in pensionable earnings.

Discussion

Pay items are referred to in both of the attached resolutions by pay code. There are different pay code identifications for the same pay item in the automatic timekeeping system (ATKS) and in the payroll system. Both references should be included in the resolutions for clarity. References to two ATKS pay codes, as pensionable earnings, are listed on both resolutions: holiday hours worked at straight time (Code 045-P) and X-Comp/Admin Leave Hours Used (Code 052-A).

In addition, recently, certain bargaining groups and unrepresented officers and employees received two paid "Winter Recess" holidays (Code 131) to be used on designated days between

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 26 and December 31. Under certain conditions, members not scheduled to work on a Winter Recess holiday can use the hours on a later date (Code 133). And, if a member leaves service with accrued Winter Recess hours, those hours will be cashed out as terminal pay (Codes 132, 134).

Sections 31461 and 7522.34 provide that: "Compensation earnable" and "Pensionable compensation" would include the "normal rate of pay" which would include paid hours such as holiday, vacation and winter recess (Code 131, 133), that are used at time during employment. However, both §31461 and §7522.34 exclude payments received upon termination of employment that were not payable during a final compensation period. Pay codes 132 and 134 are for accruing and cashing out unused accrued winter recess hours made after termination of employment.

Staff will address any specific questions that the Board may have. The attached resolutions each rescind the previous resolution and add the new earnings codes to the updated resolution.

Attachments

Resolution Defining Compensation Earnable pursuant to Government Code §31461

Resolution Defining Pensionable Compensation pursuant to Government Code §7522.34

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

RESOLUTION 2019-__

***RESOLUTION DEFINING COMPENSATION EARNABLE
PURSUANT TO GOVERNMENT CODE §31461 FOR MEMBERS
WHO ARE NOT SUBJECT TO GOVERNMENT CODE §7522.34.***

WHEREAS, for those current members who became active members prior to January 1, 2013, and those members who became active members on or after January 1, 2013, but who are not subject to Government Code §7522.34 of the California Public Employees' Pension Reform Act, the determination of compensation earnable for remuneration earned by those members is governed by Government Code §31461; and

WHEREAS, Government Code §31461 provides that compensation earnable by a member means the average compensation as determined by the Board, for the period under consideration upon the basis of the average number of days ordinarily worked by persons in the same grade or class of positions during the period, and at the same rate of pay; and

WHEREAS, Government Code §31461 provides that this Board determine which items of remuneration earned by members shall constitute "compensation earnable"; and

WHEREAS, the Board has reviewed the current pay items and has determined which of those items are to be included in "compensation earnable" and which items are not to be included; and

WHEREAS, it is necessary for this Board from time to time to amend its determinations of compensation earnable due to changes in the compensation schedules of SamCERA employers or changes in the law and the County of San Mateo just notified this Board that when it upgraded its payroll system to Workday, some of the pay codes designations were changed; Therefore, be it

RESOLVED, that Resolution number 2019-08 is rescinded, and pursuant to Government Code §31461 as interpreted by the courts, the Board hereby makes the following determinations to be effective August 27, 2019, as to what is included in "compensation earnable" and items of remuneration that are not included:

1. Compensation earnable shall include:

Pay Code	Description
001	Regular hours worked
001-G	Regular hours worked (grace paid)
001-M	Regular hours worked (mandatory meeting)
001-T	Regular hours worked (training)
001-TW	Regular hours worked (telecom)
006	Sheriff's 84/12 Plan
00680	84/12 Plan (Sheriff)
010	Release time with pay
011	Night shift differential-com dispatch
013	Night shift differential
014	Special night shift differential

Pay Code	Description
015	Special duty hours
016	Inspection/Testing/Repair with a Certification
019	Charge nurse shift differential
020	Split shift
021-L1	Bilingual pay
021-L2	Bilingual pay
022	Staffing differential
023	Weekend pay
027	On-call hours
033	Bomb squad (flight/observer/pilot)
035	Sick leave with pay
036	Sick leave with pay (work-related injury)
041	Vacation hours with pay
041-A	X-Vacation hours with pay
041H	Vacation hours with pay on holiday
043	Holiday hours regular pay
043CNA	Holiday premium for PT CNA
044	Holiday worked at 1.5
045	Holiday hours worked at straight time
045-P	Holiday hours worked at straight time
045O	Holiday hours worked at straight time-overflow
048	Accumulated holiday hours taken
048-A	X-Accumulated holiday hours taken
048H	Holiday hours taken on holiday
052	Comp time hours used
052-A	X-Comp/Admin Leave Hours Used
052H	Comp time hours used on holiday
054	Administrative leave
055	Jury duty with pay
056	Military-leave with pay
057	Education leave with pay
058	Other leave with pay
059	Disability leave with pay
064	Management overtime used
080	Uniform/tool allowance
080A	Uniform/tool allowance annual
081	Transportation allowance
087	Bi-weekly special pay
088	Miscellaneous special pay
090	Voluntary time off used
093	Furlough w/o pay used with payment of contributions
102	Annual in-service management administrative leave cash-outs
104	LTC shift differential

Pay Code	Description
104B	LTC shift differential adjustment
110	Compulsory time off
112	Bereavement leave
127	On-call days/hours – Post 2012
131	Winter Recess HRs Regular Pay
133	Accum Winter Recess Hrs Taken
313	LC4850 night shift differential
315	LC4850 special duty
359	LC4850 disability with pay
502	Admin leave cash out w/1-time deferred comp
557	Educational lv with pay
827	Special on call
306	LC4850WC 84/12 plan shf
30680	LC4850WC 84/12 plan shf

2. Compensation earnable, at a minimum, shall not include, in any case, the following pay items.

A. The following pay codes are not included:

Pay Code	Description
007	EH. relief nurse shift differential
009	E.H. relief nurse shift differential
025	Call back pay
025-P	Call back pay (premium)
025S	Call back pay SART nurses
025-S	Call back pay SART nurses
026	Part-time double shift differential
028	On call EH. relief nurse
029	Part-time double shift differential
037	Layoff sick leave
040	Terminal vacation
046	Holiday hours accrued
046CNA	Holiday premium hours accrued for PT CNA
046-P	Holiday hours accumulated at straight time
047	Holiday hours accrued at 1.5
049	Terminal holiday pay
050	Terminal compensatory pay
051	Comp Time Earned at 1.5
051-P	Premium portion for call back
053	Comp time earned at straight time
060	Absent without leave
061	Leave without pay
061-A	X-Leave without pay
062	Disability leave without pay

Pay Code	Description
063	Terminal MOT Pay
065	Overtime training hours
066	Overtime at time and one-half
069	Overtime special duty desk officer
069-P	Overtime special duty desk officer
070	Overtime special duty
073	Overtime special duty night shift
075	Overtime night shift premium hours
076	Rest period differential
079	Overtime special shift differential
083	Worker's compensation payment
084	Employee incentives
085	Disability payment
086	Taxable benefits-DP
089	Relocation Allowance
091	Terminal VTO pay
096	County Deferred Comp Contribution
097	Miscellaneous terminal pay
101	LTD payments
103	FMLA earnings
105	Miscellaneous subsidies
106	FSLA adjustments
106 80	FSLA adjustment for 84/12
106 980-P1	FSLA adjustment 9/80 period 1
106 980-P2	FSLA adjustment 9/80 period 2
107	Overtime at straight time
108	Comp hours earned at straight time (OT)
111	Terminal compulsory time off
125	Call back pay st.
132	Winter Recess Hours Accrued
134	Terminal Winter Recess Pay
203	Wellness Dividend
225	Call back pay flat rate
383	LC4850 worker's compensation payment
803	SART nurses meeting/service-flat rate
804	SART nurses training and education-flat rate
P25	Call in phone

B. Payments associated with the provision of insurance benefits, or other third-party payments such as professional membership dues, that are not received in cash by a member.

C. Payments by a SamCERA employer of member-required contributions to the retirement system under Government Code sections 31581.1, 31630, 31639.85 or under a memorandum

of understanding (MOU) between members (or their representatives) and the SamCERA employer.

3. Pursuant to Government Code §31461(b) compensation earnable, shall not include in any case the following:

A. Any compensation determined by the Board to have been paid to enhance a member's retirement benefit under that system. That compensation may include:

(1) Compensation that had previously been provided in kind to the member by the employer or paid directly by the employer to a third party other than the retirement system for the benefit of the member, and which was converted to and received by the member in the form of a cash payment in the final average salary period.

(2) Any one-time or ad hoc payment made to a member, but not to all similarly situated members in the member's grade or class.

(3) Any payment that is made solely due to the termination of the member's employment, but is received by the member while employed, except those payments that do not exceed what is earned and payable in each 12-month period during the final average salary period regardless of when reported or paid.

B. Payments for unused vacation, annual leave, personal leave, sick leave, or compensatory time off, however denominated, whether paid in a lump sum or otherwise, in an amount that exceeds that which may be earned and payable in each 12-month period during the final average salary period, regardless of when reported or paid.

C. Payments for additional services rendered outside of normal working hours, whether paid in a lump sum or otherwise.

D. Payments made at the termination of employment, except those payments that do not exceed what is earned and payable in each 12-month period during the final average salary period, regardless of when reported or paid.

4. Pursuant to Government Code §31641(c), the terms listed above in paragraph 3 are intended to be consistent with and not in conflict with the holdings in *Salus v. San Diego County Employees Retirement Association* (2004) 117 Cal.App.4th 734 and *In re Retirement Cases* (2003)110 Cal.App.4th 426.

BE IT FURTHER RESOLVED, that the above listed determinations by the Board of what is included or not included in compensation earnable, shall be in effect until such time as action taken by the Board or action by the Legislature or the Courts as a matter of law requires a different determination.

* * * * *

Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on August 27, 2019.

Ayes, Trustees:

Noes, Trustees:

Absent, Trustees:

Abstain, Trustees:

Robert Raw, Board Secretary
SamCERA

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

RESOLUTION 2019-__

**RESOLUTION DEFINING PENSIONABLE COMPENSATION
PURSUANT TO GOVERNMENT CODE §7522.34 FOR MEMBERS
WHO ARE NOT SUBJECT TO GOVERNMENT CODE §31461**

WHEREAS, for those members who became active members on or after January 1, 2013, and who are subject to the California Public Employees' Pension Reform Act contained in Government Code §7522 et seq., the determination of their pensionable compensation is governed by Government Code §7522.34; and

WHEREAS, the pensionable compensation for those employee members who are subject to Government Code §7522.34 shall be the normal monthly rate of pay or base pay of the member paid in cash to similarly situated members of the same group or class of employment for services rendered on a full-time basis during normal working hours, pursuant to publicly available pay schedules; and

WHEREAS, the Board has reviewed the current pay items and has determined which of those items are to be included in "pensionable compensation" and which items are not to be included; and

WHEREAS, it will be necessary for this Board, from time to time, to amend its determinations of pensionable compensation due to changes made by SamCERA employers in their compensation schedules as well as changes in the law; Therefore, be it;

RESOLVED, Resolution number 2019-09 is rescinded, and pursuant to Government Code §7522.34 as interpreted by the courts, the Board hereby makes the following determinations to be effective August 27, 2019, as to what is included in "pensionable compensation" and items of remuneration that are not included:

1. Pensionable compensation shall include:

Pay Code	Description
001	Regular hours worked
001-G	Regular hours worked (grace paid)
001-M	Regular hours work (mandatory meeting)
001-T	Regular hours worked (training)
001-TW	Regular hours worked (telecom)
006	Sheriff's 84/12 Plan
00680	84/12 Plan (Sheriff)
010	Release time with pay
011	Night shift differential-com dispatch
013	Night shift differential
014	Special night shift differential
015	Special duty hours
016	Inspection/Testing/Repair with a Certification

Pay Code	Description
019	Charge nurse shift differential
020	Split shift
021-L1	Bilingual pay
021-L2	Bilingual pay
022	Staffing differential
023	Weekend pay
033	Bomb squad (flight/observer/pilot)
035	Sick leave with pay
036	Sick leave with pay (work-related injury)
041	Vacation hours with pay
041-A	X-Vacation hours with pay
041H	Vacation hours with pay on holiday
043	Holiday hours regular pay
043CNA	Holiday premium for PT CNA
044	Holiday worked at 1.5
045	Holiday hours worked at straight time
045-P	Holiday hours worked at straight time
048	Accumulated holiday hours taken
048-A	X-Accumulated holiday hours taken
048H	Holiday hours taken on holiday
052	Comp time hours used
052-A	X-Comp/Admin leave hours used
052H	Comp time hours used on holiday
054	Administrative leave
055	Jury duty with pay
056	Military leave with pay
057	Educational leave with pay
058	Other leave with pay
059	Disability leave with pay
064	Management overtime used
087	Bi-weekly special pay
090	Voluntary time off used
093	Furlough w/o pay used with payment of contributions
104	LTC shift differential
104B	LTC shift differential adjustment
110	Compulsory time off
112	Bereavement leave
131	Winter Recess HRs Regular Pay
133	Accum Winter Recess Hrs Taken
313	LC4850 night shift differential
315	LC4850 special duty
359	LC4850 disability with pay
557	Educational lv with pay
306	LC4850WC 84/12 plan shf

30680	LC4850WC 84/12 plan shf
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2. Pensionable compensation, at a minimum, shall not include, in any case, the following pay items.
A. The following pay codes are not included:

Pay Code	Description
007	E.H. relief nurse shift differential
009	E.H. relief nurse shift differential
025	Call back pay
025-P	Call back pay (premium)
025S	Call back pay SART nurses
025-S	Call back pay SART nurses
026	Part-time double shift differential
027	On-call hours
028	On call E.H. relief nurse
029	Part-time double shift differential
037	Layoff sick leave
040	Terminal vacation
0450	Holiday hours worked at straight time-overflow
046	Holiday hours accrued
046CNA	Holiday premium hours accrued for PT CNA
046-P	Holiday hours accumulated at straight time
047	Holiday hours accrued at 1.5
049	Terminal holiday pay
050	Terminal compensatory pay
051	Comp Time Earned at 1.5
051-P	Premium portion for call back
053	Comp time earned at straight time
060	Absent without leave
061	Leave without pay
061-A	X-Leave without pay
062	Disability leave without pay
063	Terminal MOT Pay
065	Overtime training hours
066	Overtime at time and one-half
069	Overtime special duty desk officer
069-P	Overtime for mandatory meeting
070	Overtime special duty
073	Overtime special duty night shift
075	Overtime night shift premium hours
076	Rest period differential
079	Overtime special shift differential
080	Uniform/tool allowance
080A	Uniform/tool allowance annual
081	Transportation allowance

Pay Code	Description
083	Worker's compensation payment
084	Employee incentives
085	Disability payment
086	Taxable benefits-DP
088	Miscellaneous special pay
089	Relocation Allowance
091	Terminal VTO pay
096	County Deferred Comp Contribution
097	Miscellaneous terminal pay
101	LTD payments
102	Annual in-service mgmt administrative leave cash-outs
103	FMLA earnings
105	Miscellaneous subsidies
106	FSLA adjustments
106 80	FSLA adjustment for 84/12
106 980-P1	FSLA adjustment 9/80 period 1
106 980-P2	FSLA adjustment 9/80 period 2
107	Overtime at straight time
108	Comp hours earned at straight time (OT)
111	Terminal compulsory time off
125	Call back pay st.
127	On-call days/hours – Post 2012
132	Winter Recess Hours Accrued
134	Terminal Winter Recess Pay
203	Wellness Dividend
225	Call back pay flat rate
383	LC4850 worker's compensation payment
502	Admin leave cash out w/1-time deferred comp
803	SART nurses meeting/service flat rate
804	SART nurses training and education flat rate
827	Special on call
P25	Call in phone

B. Pursuant to Government Code §7522.34, pensionable compensation does not include the following:

- 1) Any compensation determined by the Board to have been paid to increase a member's retirement benefit.
- 2) Compensation that had previously been provided in kind to the member by the employer or paid directly by the employer to a third party other than the retirement system for the benefit of the member and which was converted to and received by the member in the form of a cash payment.

- 3) Any one-time or ad hoc payments made to a member.
 - 4) Severance or any other payment that is granted or awarded to a member in connection with or in anticipation of a separation from employment but is received by the member while employed.
 - 5) Payments for unused vacation, annual leave, personal leave, sick leave, or compensatory time off, however denominated, whether paid in a lump sum or otherwise, regardless of when reported or paid.
 - 6) Payments for additional services rendered outside of normal working hours, whether paid in a lump sum or otherwise.
 - 7) Any employer-provided allowance, reimbursement, or payment, including, but not limited to, one made for housing, vehicle, or uniforms.
 - 8) Compensation for overtime work, other than as defined in Section 207(k) of Title 29 of the United States Code.
 - 9) Employer contributions to deferred compensation or defined contribution plans.
 - 10) Any bonus paid in addition to the compensation described in subdivision (a) of Government Code §7522.34.
 - 11) Any other form of compensation the Board determines is inconsistent with the requirements of subdivision §7522.34 (a).
 - 12) Any other form of compensation that this Board determines should not be pensionable compensation.
3. Pursuant to Government Code §7522.10, whenever pensionable compensation, as defined in §7522.34, is used in the calculation of a benefit, the pensionable compensation shall be subject to the monetary limitations set forth in subdivision §7522.10.

BE IT FURTHER RESOLVED, that the above listed determinations by the Board of what is included or not included in pensionable compensation, shall be in effect until such time as this Board, the Legislature, or the Courts take action that as a matter of law requires a different determination.

* * * * *

Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on August 27, 2019.

Ayes, Trustees:

Noes, Trustees:

Absent, Trustees:

Abstain, Trustees:

Robert Raw, Board Secretary
SamCERA

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Item 6.1

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer *Michael R. Coultrip*

SUBJECT: Preliminary Monthly Portfolio Performance Report for the Period Ended July 31, 2019

Recommendation

Accept the preliminary performance report dated July 31, 2019.

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 credit, 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 July was 1.1%, bringing the preliminary trailing twelve-month return ending July 2019 to 5.1% net. The preliminary twelve-month net return is below both SamCERA's Plan Benchmark return of 5.7% and SamCERA's Actuarial Assumed Earnings Rate of 6.5%.

July was another positive month for U.S. equities as positive earnings news in the U.S. helped the S&P 500 Index reach an all-time high. The broad U.S. equity market (as measured by the Russell 3000 Index) was up 1.5% (+20.5% YTD). International markets were lower on the month as Brexit concerns and a stronger U.S. Dollar weighed on international markets. Developed international equity (as measured by MSCI EAFE) was down 1.3%, while emerging markets were down 1.2%.

Economic data was mostly higher in July. The advance estimate for second quarter real GDP growth was 2.1%, which was higher than the expected 1.8% growth rate. Manufacturing activity slumped in July, while non-farm payrolls and consumer confidence both increased. The U.S. Federal Reserve cut short-term rates by 0.25% on global growth and trade concerns, bringing the fed funds range to 2.0 – 2.25%. The markets were caught off-guard when Chairman Powell

referred to the cut as a “mid cycle adjustment”, suggesting that this rate cut does not suggest many more will follow.

The general U.S. fixed income market was slightly higher by 0.2% during the month. The 10-year U.S. Treasury yield was slightly higher during the month, with the yield increasing 2 basis points and ending at 2.02% by month-end.

Attachments

Verus Capital Markets Update

Northern Trust Performance Report



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

JULY 2019

Capital Markets Update

Market commentary

U.S. ECONOMICS

- U.S. GDP expanded at an annualized quarterly rate of 2.1% (exp. 1.8%) in Q2 2019, the lowest since Q1 2017. Personal consumption drove growth, contributing 2.9% to the quarterly rate. This was partially offset by a 1.0% decrease in gross private domestic investment, the lowest since Q4 2015.
- Total nonfarm payroll employment rose by 164,000 in July, in line with expectations of an increase of 165,000. Hiring activity was strongest in professional and technical services (+31k) and health care (+30k). Unemployment remained unchanged at 3.7% (exp. 3.6%).
- Consumer confidence rebounded and beat estimates substantially in July. The Conference Board Consumer Confidence Index rose from 121.5 to 135.7 (exp. 125.0) its highest level since November 2018.

U.S. EQUITIES

- The S&P 500 Index rose 1.4% in July and continued to all time highs. At the end of July, the S&P 500 Index had generated a year-to-date total return of 20.2%.
- With 85% of companies reporting as of August 6th, revenue and earnings growth for the S&P 500 have come in at 3.4% and 1.5%, respectively. Revenue growth modestly topped expectations with a 0.6% surprise, while the earnings surprise of 5.2% was more substantial.
- Per FactSet the July 2020 bottom up price target for the S&P 500 is 3296 which represents an 11.6% year over year return. The Energy sector is expected to see the largest price appreciation of 20.3% while Real Estate is projected to see the smallest of 4.7%.

U.S. FIXED INCOME

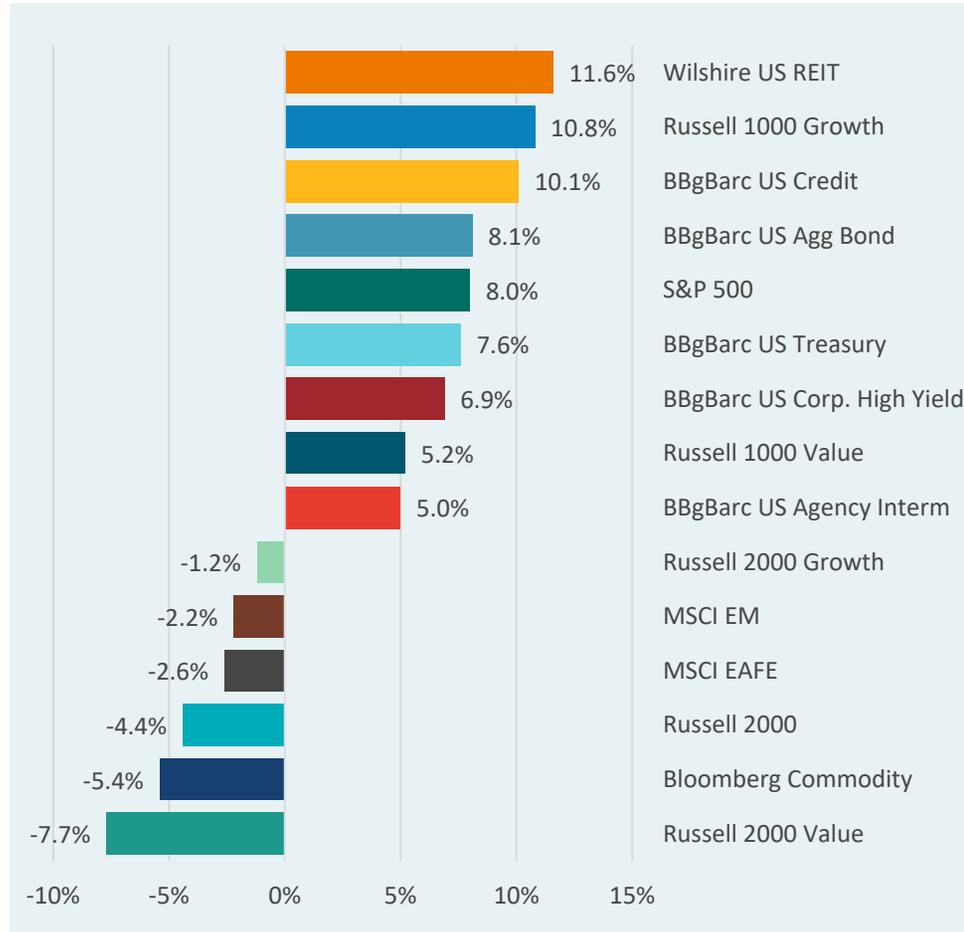
- The Federal Reserve cut rates 0.25%, bringing its new federal funds range to 2.00-2.25%. In his press conference following the release, Chairman Powell described the cut as a “mid-cycle adjustment” and noted that the cut was not an indication of the beginning of a “lengthy cutting cycle.”
- Following the FOMC meeting, Chairman Powell announced that the balance sheet unwind, which had been scheduled to conclude in September, would be concluding August 1st.
- Markets viewed the Fed’s release as less dovish than expected and appeared unconvinced of the Fed’s guidance relating to the rate-cutting cycle. At month-end, futures implied an 85% chance of at least another 0.25% cut by year-end, and a 43% chance of at least another 0.50% in cuts to the fed funds range by year-end.

INTERNATIONAL MARKETS

- U.S. equities extended outperformance in global equity markets. The S&P 500 Index advanced 1.4%, while emerging market (MSCI EM Index -1.2%) and international developed (MSCI EAFE Index -1.3%) equities offered negative performance for the month.
- The British pound depreciated sharply versus pairs as uncertainty surrounding “Brexit” built. Recently elected this month, Prime Minister Boris Johnson took a harder negotiating stance with the E.U., stoking speculation that the U.K. could leave the E.U. without a deal by October 31st.
- PMI data continued to paint a gloomy picture for the European industrial economy. The German Manufacturing PMI fell from 45.0 to 43.2 in July, farther into the contractionary level below 50.0.

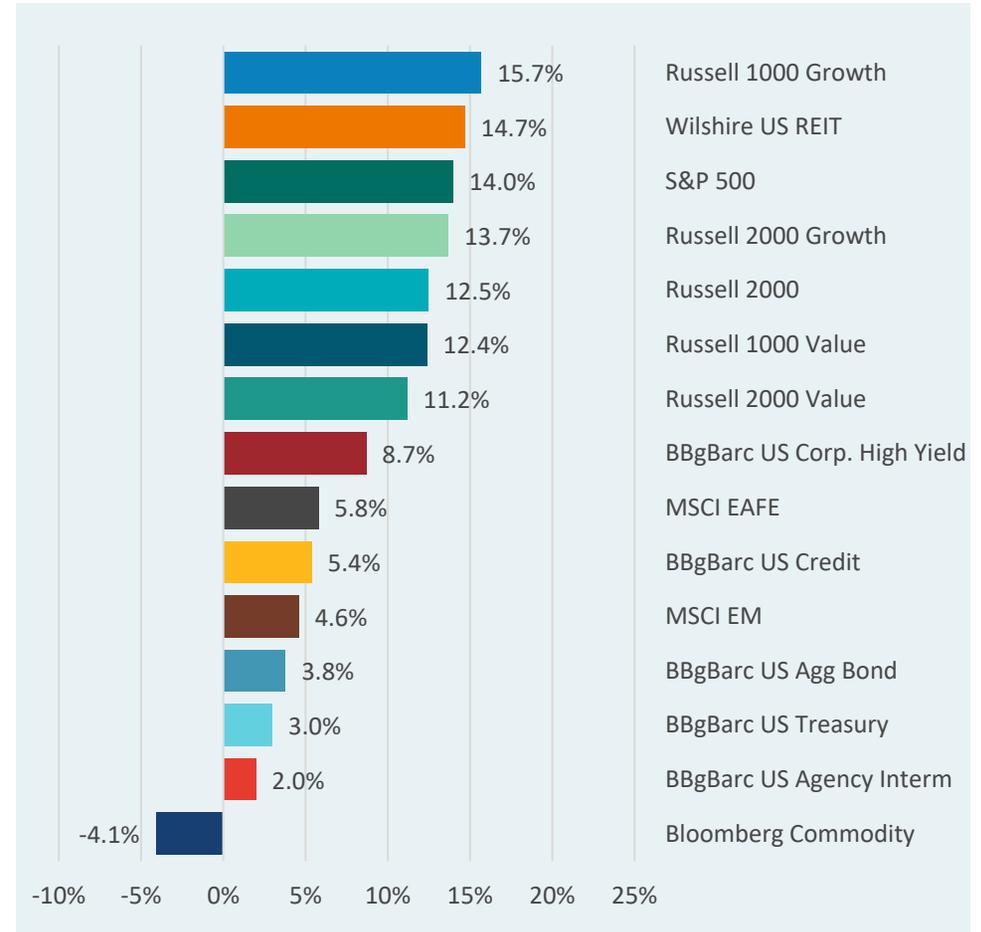
Major asset class returns

ONE YEAR ENDING JULY



Source: Morningstar, as of 7/31/19

TEN YEARS ENDING JULY



Source: Morningstar, as of 7/31/19

U.S. large cap equities

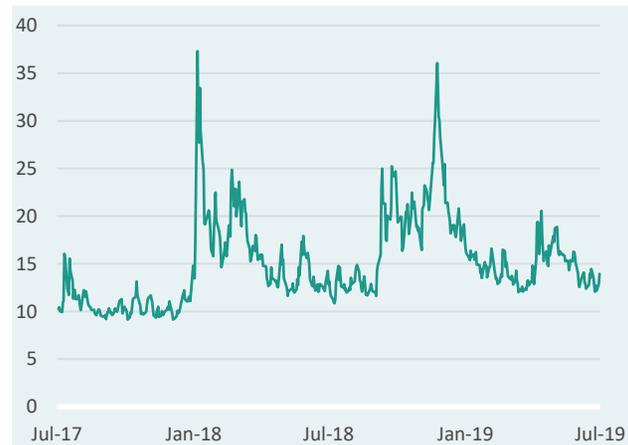
- The S&P 500 Index gained 1.4% in July. Telecom (+3.4%), Information Technology (+3.3%), and Consumer Staples (+2.5%) were the top performers of the month with Energy (-1.8%) and Health Care (-1.6%) lagging.
- At a weight of roughly 22% the Information Technology sector helped lead the overall index higher with a return of 3.3%. Apple's earnings beat, driven by an uptick in "Services" and wearables, helped to contribute 0.3% to the 1.4% index increase.
- At month-end, the forward one-year P/E ratio of the S&P 500 Index was 16.8, which exceeded both its 5- and 10-year averages of 16.5 and 14.8, respectively. Per FactSet, the Consumer Discretionary (21.3) and Financials (11.9) sectors have the highest and lowest forward one-year P/E.
- The CBOE VIX Index ticked up in July from 15.1 to 16.1, below its 20-year average of 19.7. The S&P 500 trailing 30- and 90-day realized volatility was subdued at 8.7 and 10.8, respectively.

S&P 500 PRICE INDEX



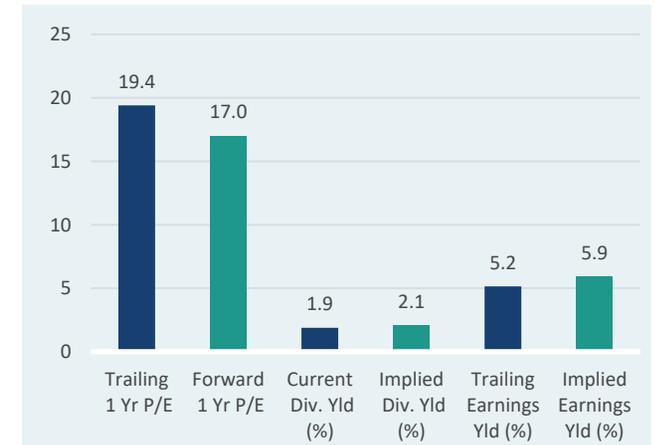
Source: Bloomberg, as of 7/31/19

IMPLIED VOLATILITY (VIX INDEX)



Source: CBOE, as of 7/31/19

S&P 500 VALUATION SNAPSHOT



Source: Bloomberg, as of 7/31/19

Domestic equity size and style

- Large cap stocks resumed outperformance over small-cap stocks. The Russell 1000 Index returned 1.6% while the Russell 2000 Index added 0.6%. Over the year-to-date, large cap equities (+20.7%) have outperformed their small-cap peers (+17.7%) by 3.0%.
- Growth outperformed value in July, across both large- and small-cap universes. The Russell 3000 Growth Index advanced 2.2%, outpacing the Russell 3000 Value Index (+0.8%) for six out of seven months this year. The price of value stocks relative to growth stocks remains in a normal range.
- Growth outperformance over the month was largely attributed to the outperformance of the Telecom (+3.4%) and Information Technology (+3.3%) sectors which at month-end held a combined weight of 47% in the Russell 3000 Growth Index and a 14% weight in the Russell 3000 Value Index.
- The S&P 500 Price Index closed the month at 2980, above its 50-, 100-, and 200-day moving-averages, indicating that there has been an upward price trend over the past six months.

VALUE VS. GROWTH RELATIVE VALUATIONS



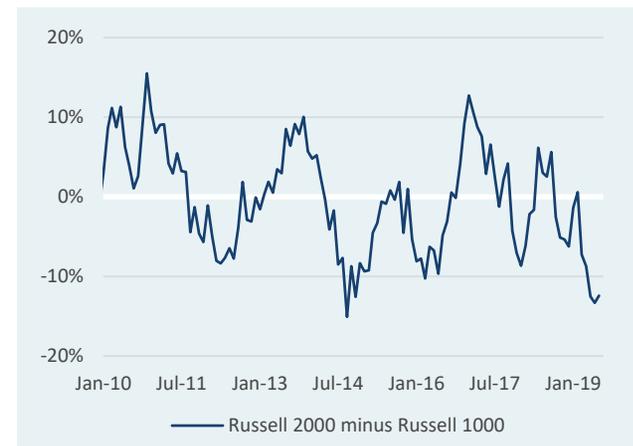
Source: Russell, Bloomberg, as of 7/31/19

VALUE VS. GROWTH 1-YR ROLLING RELATIVE PERFORMANCE



Source: FTSE, as of 7/31/19

SMALL VS. LARGE 1-YR ROLLING RELATIVE PERFORMANCE



Source: FTSE, as of 7/31/19

Fixed income

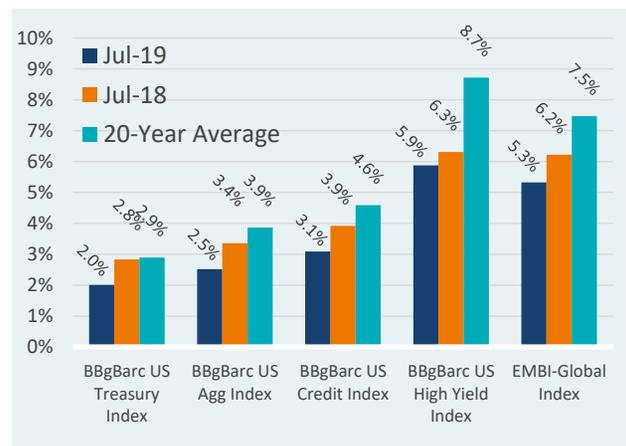
- The European Central Bank decided in its July meeting to keep its key interest rates unchanged but issued a dovish shift in forward guidance. The ECB now expects interest rates to remain “at present or lower levels, at least through the first half of 2020.” At month-end, futures implied a 92% chance the ECB would cut its main deposit rate by 10 bps to -0.5% in September.
- Emerging market debt extended year-to-date gains. Hard-currency EMD (+1.2%) and local-currency EMD (+0.9%) both outperformed U.S. credit.
- Ten-year Italian bond yields plunged from 2.1% to 1.5%, back below the 1.8% level held prior to the 2018 Italian election which yielded a hung Parliament, a coalition government, and a spike in sovereign yields. Rome’s decision to cut its 2019 budget deficit target, as well as hints of new stimulus from the ECB fueled the rally for Italian sovereign bonds.
- U.S. credit spreads ticked lower in July. Investment-grade spreads dropped 7 bps to YTD tight of 1.08% while high-yield spreads tightened 6 bps to 3.71%.

U.S. TREASURY YIELD CURVE



Source: Bloomberg, as of 7/31/19

NOMINAL YIELDS



Source: Morningstar, as of 7/31/19

BREAKEVEN INFLATION RATES

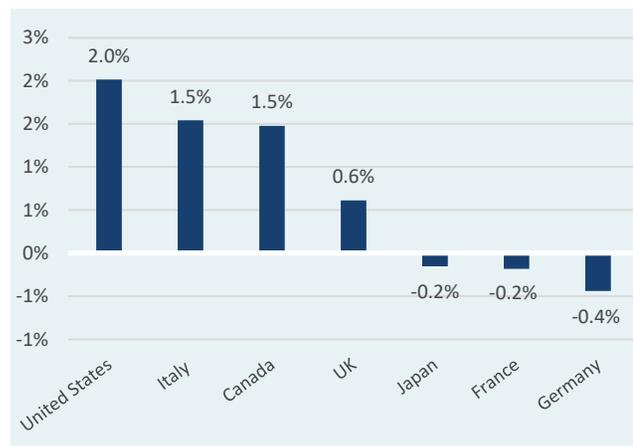


Source: Bloomberg, as of 7/31/19

Global markets

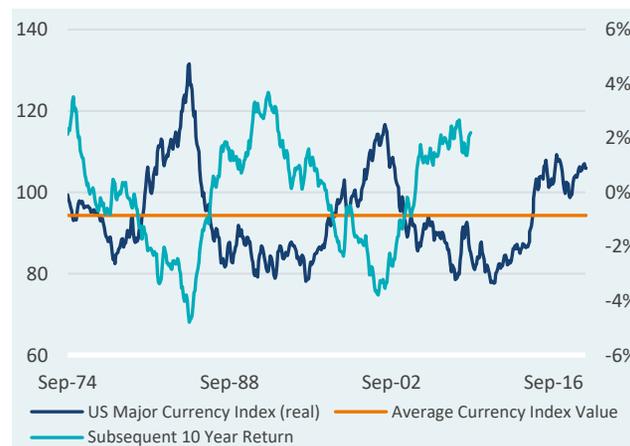
- U.S. and Chinese officials restarted trade negotiations for the first time since May. While official reports indicated that the talks were constructive, President Trump announced that a 10% tariff would be applied to the remaining \$300b in Chinese imports, effective September 1st. China responded by immediately halting U.S. purchases of U.S. agricultural goods.
- The U.S. dollar rebounded, appreciating materially versus trade-weighted pairs. The Bloomberg Dollar Spot Index added 1.8%, erasing its -1.6% slide in June.
- Global sovereign yields continued to sink, and ten-year bond yields in France and Germany established fresh all-time lows. French yields fell 18 bps to -0.19% and German yields fell from -0.33% to -0.44%, below the ECB's main deposit rate of -0.40%.
- Over the month of July, the value of global negative-yielding debt grew from \$12.9T to \$14.1T, representing 26% of global debt outstanding. At the end of 2018, the value of global negative-yielding debt was \$8.3T, representing only 17% of global debt outstanding.

GLOBAL SOVEREIGN 10-YEAR YIELDS



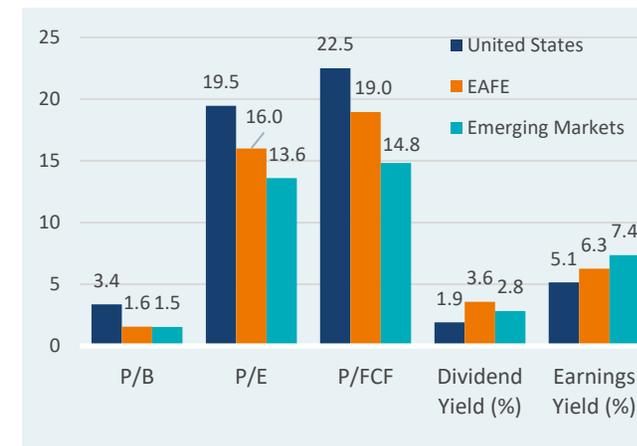
Source: Bloomberg, as of 7/31/19

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 7/31/19

MSCI VALUATION METRICS (3-MONTH AVG)



Source: Bloomberg, as of 7/31/19

Commodities

- The Bloomberg Commodity Index fell 0.7% over the month. The Livestock (+2.9%) and Precious Metals (+2.4%) sectors outperformed the overall index, while Softs (-5.2%) and Agriculture (-5.1%) underperformed.
- The Precious Metals Index continued its advance in July (+2.4%) driven by climbing silver prices. Silver gained 7.1% and reached its highest point since June 2018 of \$16.40 per ounce. Easier monetary policy from global central banks as well as simmering tensions in the Middle East have likely boosted demand for low-correlation assets.

- Grains (-5.7%) offered the poorest performance of any commodity sector in July, as Chinese demand for U.S. agricultural products came in below expectations. African swine fever has continued to drive pig culling in China, which has softened demand for soybeans and pig feed.
- Following President Trump’s proposal to levy tariffs of 10% on \$300 in Chinese imports on September 1st, the Chinese halted domestic purchases of U.S. agricultural goods. In 2018, China spent \$5.9 billion on U.S. farm products, and purchased 60% of U.S. soybean exports.

INDEX AND SECTOR PERFORMANCE

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg Commodity	(0.7)	(0.7)	4.4	(5.4)	(0.7)	(8.3)	(4.1)
Bloomberg Agriculture	(5.1)	(5.1)	(4.0)	(11.5)	(9.5)	(9.3)	(3.5)
Bloomberg Energy	0.1	0.1	10.8	(10.3)	3.3	(16.8)	(11.7)
Bloomberg Grains	(5.7)	(5.7)	(3.7)	(11.5)	(7.7)	(9.2)	(4.4)
Bloomberg Industrial Metals	1.4	1.4	6.2	(5.3)	5.8	(3.1)	(1.7)
Bloomberg Livestock	2.9	2.9	(4.2)	3.8	1.6	(5.9)	(1.7)
Bloomberg Petroleum	0.7	0.7	25.4	(10.4)	11.0	(15.0)	(6.2)
Bloomberg Precious Metals	2.4	2.4	9.7	13.2	(1.4)	(0.2)	3.0
Bloomberg Softs	(5.2)	(5.2)	(5.1)	(11.3)	(15.6)	(12.2)	(4.7)

Source: Morningstar, as of 7/31/19

COMMODITY PERFORMANCE



Source: Bloomberg, as of 7/31/19

Appendix

Periodic table of returns

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD	5-Year	10-Year
Large Cap Growth	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	13.3	31.7	37.3	6.7	24.2	14.3	15.7
Small Cap Growth	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	21.3	30.2	1.9	21.5	11.2	14.1
Large Cap Equity	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	17.3	25.0	0.0	20.7	10.2	13.7
Small Cap Equity	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	12.1	22.2	-1.5	17.7	8.8	12.5
Large Cap Value	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	11.8	21.7	-3.5	17.2	8.5	12.4
Small Cap Value	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	11.2	14.6	-6.0	13.6	8.0	11.2
International Equity	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	11.3	17.1	-4.8	12.6	6.7	9.3
60/40 Global Portfolio	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	8.0	13.7	-8.3	12.1	4.6	6.8
Emerging Markets Equity	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	7.1	7.8	-9.3	9.2	3.0	5.8
Hedge Funds of Funds	-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	5.7	7.7	-11.0	6.9	2.4	4.6
US Bonds	-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	2.6	7.0	-11.2	6.3	2.4	3.8
Commodities	-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	1.0	3.5	-12.9	4.4	1.8	3.1
Real Estate	-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	0.5	1.7	-13.8	3.3	0.9	0.5
Cash	-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	0.3	0.9	-14.6	1.4	-8.3	-4.1

- Large Cap Equity
- Large Cap Value
- Large Cap Growth
- Small Cap Equity
- Small Cap Value

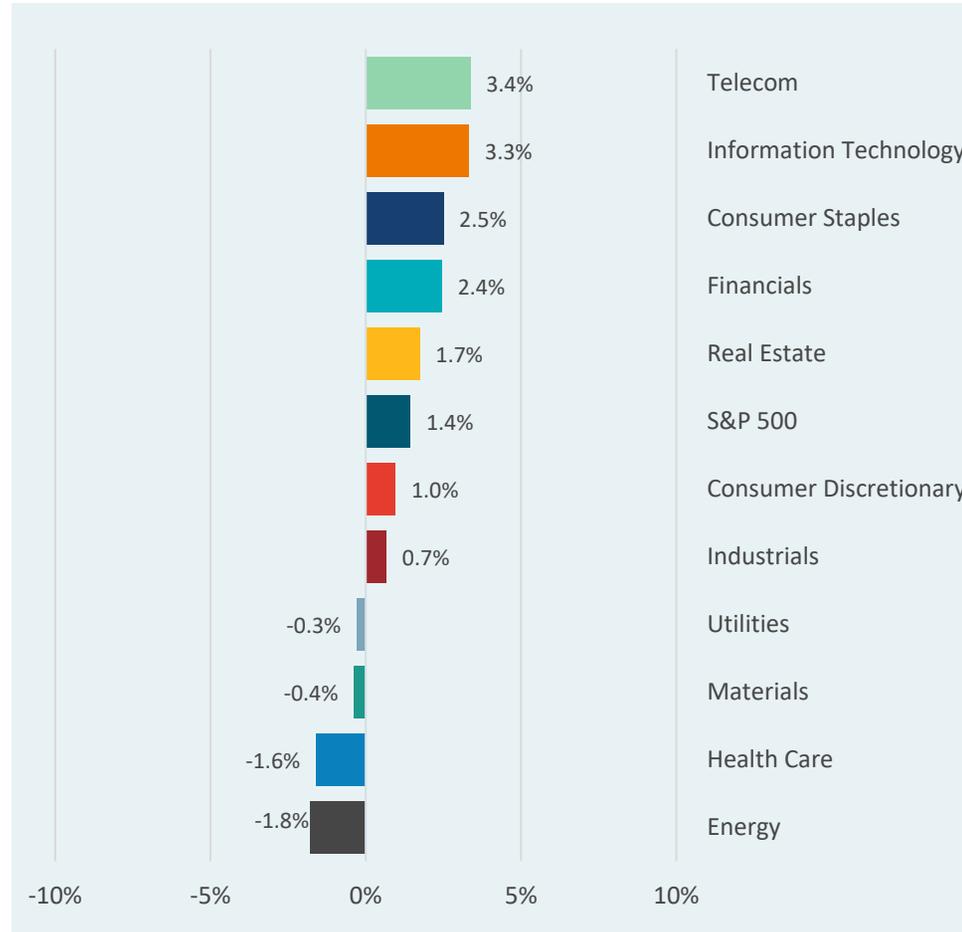
- Small Cap Growth
- International Equity
- Emerging Markets Equity
- US Bonds
- Cash

- Commodities
- Real Estate
- Hedge Funds of Funds
- 60% MSCI ACWI/40% BBgBarc 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, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 6/30/19.

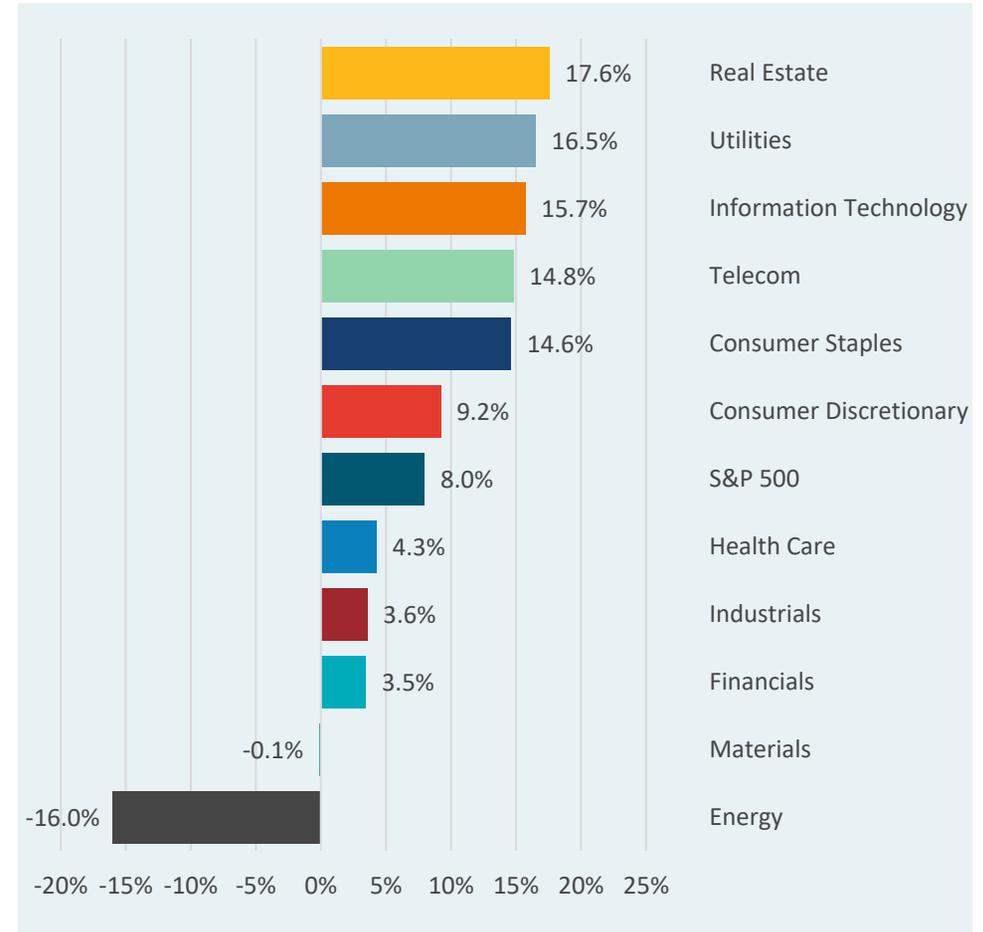
S&P 500 sector returns

QTD



Source: Morningstar, as of 7/31/19

ONE YEAR ENDING JULY



Source: Morningstar, as of 7/31/19

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	1.4	1.4	20.2	8.0	13.4	11.3	14.0
S&P 500 Equal Weighted	0.9	0.9	20.2	5.7	11.2	9.8	14.6
DJ Industrial Average	1.1	1.1	16.7	8.2	16.1	12.9	14.2
Russell Top 200	1.6	1.6	19.8	8.5	14.2	11.8	14.0
Russell 1000	1.6	1.6	20.7	8.0	13.3	11.2	14.1
Russell 2000	0.6	0.6	17.7	(4.4)	10.4	8.5	12.5
Russell 3000	1.5	1.5	20.5	7.0	13.1	11.0	14.0
Russell Mid Cap	1.4	1.4	23.1	6.7	11.0	9.6	14.3
Style Index							
Russell 1000 Growth	2.3	2.3	24.2	10.8	17.1	14.3	15.7
Russell 1000 Value	0.8	0.8	17.2	5.2	9.4	8.0	12.4
Russell 2000 Growth	1.0	1.0	21.5	(1.2)	12.7	10.2	13.7
Russell 2000 Value	0.2	0.2	13.6	(7.7)	8.0	6.7	11.2

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	0.3	0.3	16.6	2.9	10.2	6.5	9.3
MSCI ACWI ex US	(1.2)	(1.2)	12.2	(2.3)	7.2	2.1	5.4
MSCI EAFE	(1.3)	(1.3)	12.6	(2.6)	6.9	2.4	5.8
MSCI EM	(1.2)	(1.2)	9.2	(2.2)	8.4	1.8	4.6
MSCI EAFE Small Cap	(0.7)	(0.7)	11.7	(7.6)	6.7	4.7	8.8
Style Index							
MSCI EAFE Growth	(0.4)	(0.4)	18.0	1.8	7.8	4.8	7.3
MSCI EAFE Value	(2.2)	(2.2)	7.1	(7.0)	5.8	(0.1)	4.3
Regional Index							
MSCI UK	(1.8)	(1.8)	10.9	(4.6)	5.3	(0.4)	5.7
MSCI Japan	0.1	0.1	7.9	(4.4)	5.9	4.4	5.4
MSCI Euro	(2.2)	(2.2)	13.6	(5.2)	7.6	1.8	4.3
MSCI EM Asia	(1.6)	(1.6)	8.0	(4.5)	8.9	3.5	6.0
MSCI EM Latin American	0.1	0.1	12.8	8.6	8.9	(0.9)	1.5

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
BBgBarc US TIPS	0.4	0.4	6.5	5.7	1.9	1.8	3.7
BBgBarc US Treasury Bills	0.2	0.2	1.5	2.4	1.4	0.9	0.5
BBgBarc US Agg Bond	0.2	0.2	6.3	8.1	2.2	3.0	3.8
Duration							
BBgBarc US Treasury 1-3 Yr	(0.1)	(0.1)	2.4	3.9	1.3	1.2	1.2
BBgBarc US Treasury Long	0.2	0.2	11.2	14.2	0.6	5.6	6.5
BBgBarc US Treasury	(0.1)	(0.1)	5.1	7.6	1.2	2.5	3.0
Issuer							
BBgBarc US MBS	0.4	0.4	4.6	6.8	2.1	2.8	3.2
BBgBarc US Corp. High Yield	0.6	0.6	10.6	6.9	6.8	5.1	8.7
BBgBarc US Agency Interm	(0.0)	(0.0)	3.1	5.0	1.6	1.8	2.0
BBgBarc US Credit	0.5	0.5	9.9	10.1	3.5	4.0	5.4

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	(0.7)	(0.7)	4.4	(5.4)	(0.7)	(8.3)	(4.1)
Wilshire US REIT	1.6	1.6	19.8	11.6	3.2	8.2	14.7
CS Leveraged Loans	0.8	0.8	6.2	4.1	5.2	4.0	5.9
Alerian MLP	(0.5)	(0.5)	17.2	(1.7)	(0.8)	(5.9)	7.7
Regional Index							
JPM EMBI Global Div	1.2	1.2	12.7	11.0	5.3	5.5	7.6
JPM GBI-EM Global Div	0.9	0.9	9.7	8.0	4.4	(0.1)	3.0
Hedge Funds							
HFRI Composite	0.7	0.7	8.0	1.6	4.5	3.2	4.5
HFRI FOF Composite	0.7	0.7	6.9	1.7	4.0	2.4	3.1
Currency (Spot)							
Euro	(2.2)	(2.2)	(2.6)	(4.8)	(0.1)	(3.6)	(2.4)
Pound	(3.8)	(3.8)	(3.9)	(6.7)	(2.7)	(6.2)	(3.0)
Yen	(0.8)	(0.8)	1.0	3.1	(1.9)	(1.1)	(1.3)

Source: Morningstar, HFR, as of 7/31/19

Notices & disclosures

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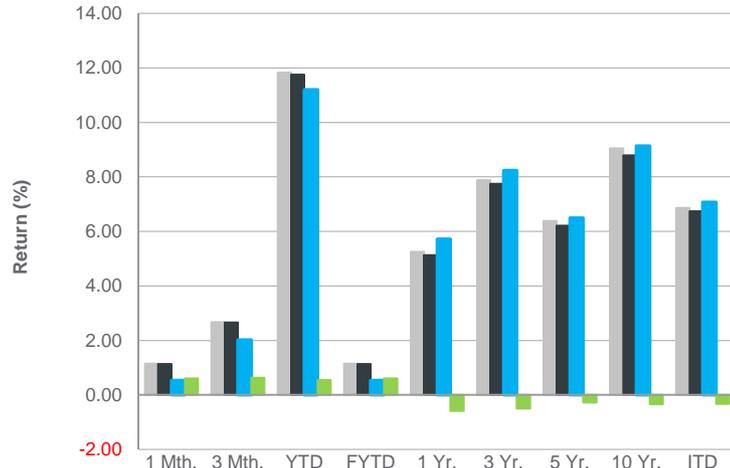
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San Mateo County Composite Return Summary

7/31/2019

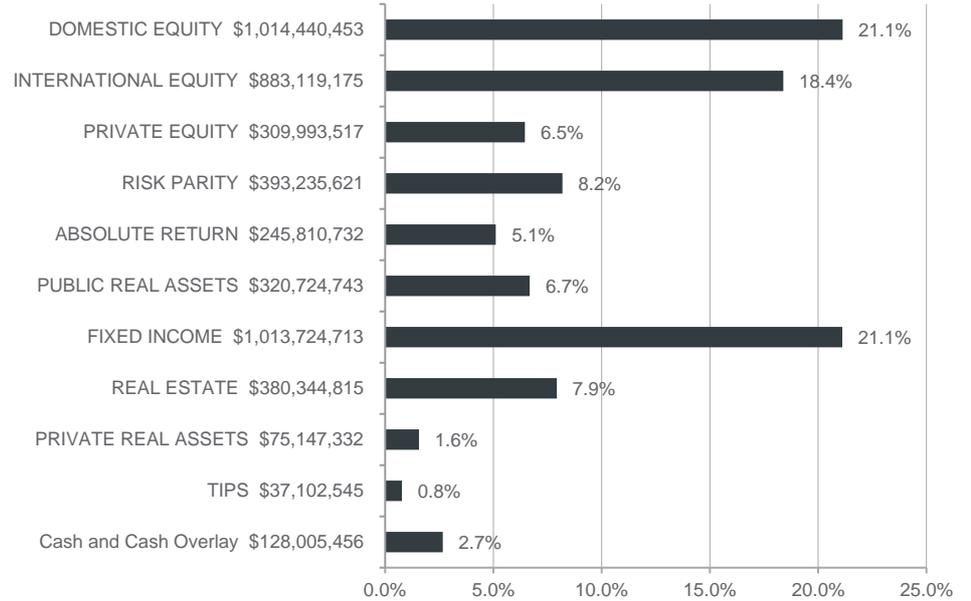


Total Fund Performance

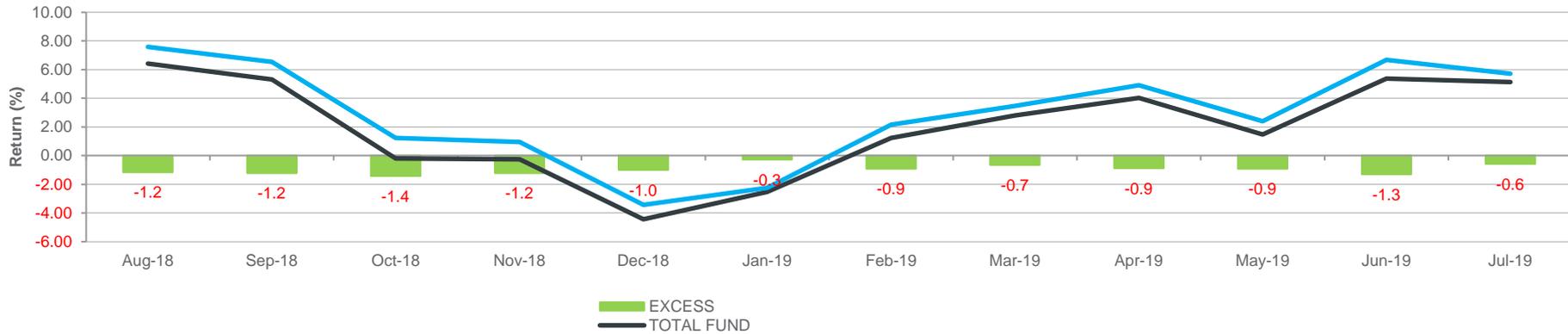


	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.	ITD
TOTAL FUND - Gross	1.1	2.7	11.8	1.1	5.2	7.9	6.4	9.1	6.9
TOTAL FUND - Net	1.1	2.7	11.8	1.1	5.1	7.7	6.2	8.8	6.7
SAMCERA PLAN BENCHMARK	0.5	2.0	11.2	0.5	5.7	8.2	6.5	9.1	7.1
Excess (Net)	0.6	0.6	0.6	0.6	-0.6	-0.5	-0.3	-0.3	-0.3

Asset Allocation



Rolling Month End Annual Returns

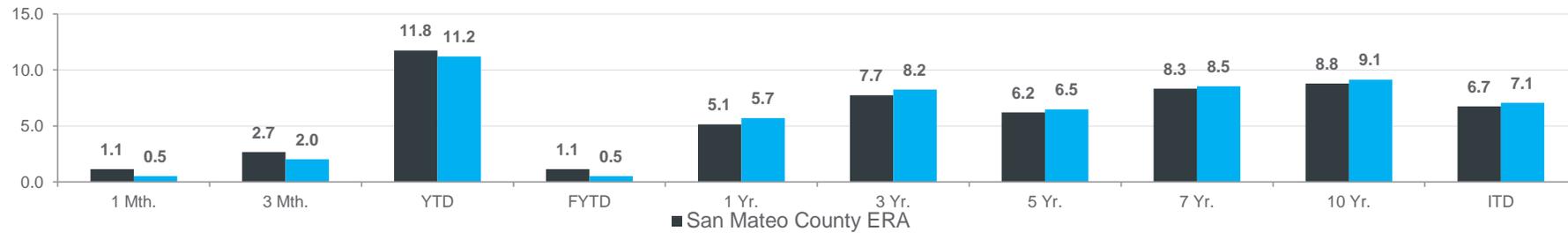


San Mateo County Composite Return Summary

July 31, 2019



Return Comparison



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	4,801,649,101	1.1	2.7	11.8	1.1	5.1	7.7	6.2	8.3	8.8	6.7
Samcera Total Plan Benchmark		0.5	2.0	11.2	0.5	5.7	8.2	6.5	8.5	9.1	7.1
Excess		0.6	0.6	0.6	0.6	-0.6	-0.5	-0.3	-0.2	-0.3	-0.3
San Mateo Ex-Clifton Overlay	4,782,998,847	1.2	2.7	11.5	1.2	4.9	7.6	6.1	8.3	8.7	6.7
Samcera Total Plan Benchmark		0.5	2.0	11.2	0.5	5.7	8.2	6.5	8.5	9.1	7.1
Excess		0.6	0.7	0.3	0.6	-0.9	-0.6	-0.4	-0.3	-0.4	-0.4
Total Equity	1,897,559,628	0.7	1.1	16.8	0.7	2.8	10.3	7.5	10.8	10.6	7.8
Samcera Total Equity Benchmark		0.6	0.6	16.9	0.6	2.8	11.1	8.6	11.7	11.5	8.3
Excess		0.1	0.5	-0.1	0.1	-0.0	-0.8	-1.1	-0.9	-0.9	-0.6
Fixed Income	1,013,724,713	0.3	2.6	5.9	0.3	6.6	4.8	3.8	4.1	5.8	5.5
Samcera Fixed Income Benchmark		0.3	3.0	7.8	0.3	8.4	3.2	3.4	2.7	4.1	5.0
Excess		-0.1	-0.3	-1.9	-0.1	-1.8	1.6	0.4	1.4	1.7	0.5
Risk Parity	393,235,621	1.1	6.6	18.0	1.1	12.0	6.8	5.4	6.2	--	6.8
Samcera Risk Parity Benchmark		0.2	2.0	12.7	0.2	4.8	7.9	7.4	8.9	--	8.4
Excess		0.9	4.7	5.3	0.9	7.2	-1.0	-1.9	-2.8	--	-1.6

San Mateo County Composite Return Summary

July 31, 2019



Return Comparison



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
Alternatives	555,804,249	7.7	9.6	10.8	7.7	12.2	9.3	6.9	5.8	-3.9	-1.5
Samcera Alternatives Benchmark		2.5	6.0	3.9	2.5	11.7	11.1	7.6	9.2	10.0	7.9
Excess		5.2	3.5	6.9	5.2	0.4	-1.8	-0.7	-3.4	-13.9	-9.4
Inflation Hedge	813,319,435	-0.7	0.5	5.9	-0.7	1.6	5.6	--	--	--	6.9
SamCERA Inflation Hedge Index		-0.4	1.3	6.1	-0.4	4.1	6.3	--	--	--	6.7
Excess		-0.2	-0.7	-0.2	-0.2	-2.6	-0.7	--	--	--	0.2
Cash	109,355,202	0.1	0.3	0.7	0.1	1.1	1.0	0.7	0.7	0.7	1.9
Samcera Cash Benchmark		0.2	0.6	1.4	0.2	2.3	1.4	0.9	0.7	0.5	1.9
Excess		-0.1	-0.3	-0.7	-0.1	-1.2	-0.5	-0.2	0.0	0.2	0.1

San Mateo County Composite Return Summary

July 31, 2019



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Equity	1,897,559,628	0.7	1.1	16.8	0.7	2.8	10.3	7.5	10.8	10.6	7.8
Samcera Total Equity Benchmark		0.6	0.6	16.9	0.6	2.8	11.1	8.6	11.7	11.5	8.3
Excess		0.1	0.5	-0.1	0.1	-0.0	-0.8	-1.1	-0.9	-0.9	-0.6
Domestic Equity	1,014,440,453	1.4	2.4	19.4	1.4	5.8	13.0	10.7	13.4	13.4	8.8
Samcera Dom. Equity Benchmark		1.5	1.6	20.5	1.5	7.0	13.1	10.9	13.8	13.9	9.1
Excess		-0.0	0.9	-1.1	-0.0	-1.2	-0.1	-0.2	-0.4	-0.5	-0.4
Large Cap Equity	928,927,726	1.5	2.8	20.0	1.5	7.5	13.8	11.5	14.1	13.7	9.5
Russell 1000		1.6	1.8	20.7	1.6	8.0	13.3	11.2	14.0	14.1	9.8
Excess		-0.1	1.1	-0.7	-0.1	-0.5	0.5	0.4	0.1	-0.4	-0.3
Blackrock Russell 1000	489,360,287	1.6	1.7	20.6	1.6	8.0	--	--	--	--	13.5
Russell 1000		1.6	1.8	20.7	1.6	8.0	--	--	--	--	13.5
Excess		0.0	-0.0	-0.1	0.0	-0.0	--	--	--	--	0.1
DE Shaw Commingled Fund	147,153,475	1.3	4.0	17.1	1.3	3.9	13.2	--	--	--	11.2
Russell 1000		1.6	1.8	20.7	1.6	8.0	13.3	--	--	--	10.5
Excess		-0.2	2.3	-3.6	-0.2	-4.1	-0.1	--	--	--	0.7
Acadian US MGD V-SL	144,114,349	2.1	4.3	18.3	2.1	--	--	--	--	--	20.3
Russell 1000		1.6	1.8	20.7	1.6	--	--	--	--	--	21.7
Excess		0.5	2.5	-2.3	0.5	--	--	--	--	--	-1.3
Panagora Defuseq -SL	148,299,614	1.0	3.8	22.6	1.0	--	--	--	--	--	24.6
Russell 1000		1.6	1.8	20.7	1.6	--	--	--	--	--	21.7
Excess		-0.6	2.1	1.9	-0.6	--	--	--	--	--	2.9
Small Cap Equity	85,512,727	0.8	-1.5	13.5	0.8	-8.8	6.8	4.8	9.4	11.3	6.1
Russell 2000		0.6	-0.7	17.7	0.6	-4.4	10.4	8.5	11.9	12.5	7.8
Excess		0.2	-0.8	-4.1	0.2	-4.3	-3.5	-3.7	-2.6	-1.2	-1.7
QMA US Small Cap	85,512,727	0.8	-1.5	13.5	0.8	-8.8	--	--	--	--	8.1
Russell 2000		0.6	-0.7	17.7	0.6	-4.4	--	--	--	--	10.0
Excess		0.2	-0.8	-4.1	0.2	-4.3	--	--	--	--	-1.9

San Mateo County Composite Return Summary

July 31, 2019



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
International Equity	883,119,175	-0.1	-0.4	14.0	-0.1	-0.9	6.8	3.0	6.7	5.4	5.4
SamCERA Custom Hedge Intl		-0.5	-0.7	12.8	-0.5	-2.2	7.3	2.4	6.3	5.8	4.9
Excess		0.4	0.3	1.2	0.4	1.4	-0.4	0.6	0.4	-0.3	0.5
Developed Markets Equity	793,399,089	0.1	-0.3	14.7	0.1	-0.8	7.0	3.3	7.1	5.8	4.4
MS AC WldxUS IMI Nt		-1.1	-1.0	12.0	-1.1	-3.0	7.0	2.2	6.2	5.7	4.7
Excess		1.2	0.7	2.7	1.2	2.2	0.0	1.1	1.0	0.1	-0.3
Baillie Gifford	258,594,938	0.6	0.4	20.7	0.6	-0.6	7.7	4.9	8.6	--	7.6
MSCI ACWI ex US Growth		-0.2	1.1	17.3	-0.2	1.1	8.4	4.6	7.6	--	6.5
Excess		0.8	-0.7	3.4	0.8	-1.7	-0.8	0.2	1.0	--	1.1
Blackrock EAFE Index Fund	252,465,060	-1.3	-0.4	12.8	-1.3	-2.3	7.2	2.7	--	--	3.0
MSCI EAFE ND		-1.3	-0.4	12.6	-1.3	-2.6	6.9	2.4	--	--	2.6
Excess		0.0	0.1	0.3	0.0	0.3	0.4	0.3	--	--	0.3
Mondrian Investment Partners	247,748,704	-1.8	-2.9	8.6	-1.8	-2.3	5.4	1.4	5.5	5.3	5.0
MSCI ACWI ex US Value		-2.2	-2.5	8.0	-2.2	-4.7	7.0	0.5	5.3	4.7	4.8
Excess		0.4	-0.4	0.6	0.4	2.4	-1.5	0.9	0.3	0.5	0.3
Emerging Markets Equity	89,720,086	-1.7	-1.0	8.1	-1.7	-1.9	5.4	0.1	3.0	--	1.8
MSCI Emerging Markets ND		-1.2	-2.7	9.2	-1.2	-2.2	8.4	1.8	3.7	--	2.5
Excess		-0.4	1.6	-1.2	-0.4	0.3	-3.0	-1.8	-0.7	--	-0.7
EV Parametric EM	89,720,086	-1.7	-1.0	8.1	-1.7	-1.9	5.4	--	--	--	4.7
MSCI Emerging Markets GD		-1.1	-2.5	9.5	-1.1	-1.8	8.8	--	--	--	6.4
Excess		-0.5	1.5	-1.4	-0.5	-0.1	-3.4	--	--	--	-1.8
Fixed Income	1,013,724,713	0.3	2.6	5.9	0.3	6.6	4.8	3.8	4.1	5.8	5.5
Samcera Fixed Income Benchmark		0.3	3.0	7.8	0.3	8.4	3.2	3.4	2.7	4.1	5.0
Excess		-0.1	-0.3	-1.9	-0.1	-1.8	1.6	0.4	1.4	1.7	0.5
Core Fixed Income	652,625,330	0.2	2.6	5.6	0.2	7.0	3.0	3.4	3.2	5.2	5.3
BB Barclays U.S. Aggregate		0.2	3.3	6.3	0.2	8.1	2.2	3.0	2.5	3.8	4.9
Excess		-0.0	-0.7	-0.7	-0.0	-1.1	0.8	0.3	0.7	1.4	0.4

San Mateo County Composite Return Summary

July 31, 2019



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
FIAM Core Bond	282,042,707	0.3	3.2	7.0	0.3	8.1	2.7	3.5	3.0	4.8	4.7
BB Barclays U.S. Aggregate		0.2	3.3	6.3	0.2	8.1	2.2	3.0	2.5	3.8	4.3
Excess		0.1	-0.1	0.7	0.1	0.1	0.6	0.4	0.6	1.0	0.4
Western Total Return	137,241,880	0.5	2.2	5.9	0.5	5.8	4.8	--	--	--	4.3
BB Barclays U.S. Aggregate		0.2	3.3	6.3	0.2	8.1	2.2	--	--	--	3.1
Excess		0.3	-1.1	-0.5	0.3	-2.3	2.7	--	--	--	1.2
Blackrock Inter Gov	233,340,743	-0.2	2.2	3.9	-0.2	6.3	--	--	--	--	2.6
BB Barclays U.S. Aggregate		0.2	3.3	6.3	0.2	8.1	--	--	--	--	3.9
Excess		-0.4	-1.1	-2.5	-0.4	-1.8	--	--	--	--	-1.3
Opportunistic Credit	361,099,382	0.4	2.7	6.3	0.4	5.8	8.0	5.6	7.8	--	9.0
BB Barc BA Intermediate HY Ind		0.5	2.4	10.6	0.5	8.9	5.7	5.2	5.7	--	7.3
Excess		-0.2	0.3	-4.3	-0.2	-3.1	2.3	0.4	2.1	--	1.7
Pimco Private Income	22,000,000	0.0	0.0	--	0.0	--	--	--	--	--	0.0
BB Barc BA Intermediate HY Ind		0.5	2.4	--	0.5	--	--	--	--	--	3.4
Excess		-0.5	-2.4	--	-0.5	--	--	--	--	--	-3.4
AG Opportunistic Whole Loan	5,239,442	0.0	1.0	1.5	0.0	18.9	19.6	11.6	--	--	10.6
BB Barc BA Intermediate HY Ind		0.5	2.4	10.6	0.5	8.9	5.7	5.2	--	--	5.0
Excess		-0.5	-1.4	-9.1	-0.5	10.0	13.9	6.4	--	--	5.6
Angelo Gordon	4,333,463	0.0	6.3	9.3	0.0	23.5	23.2	14.8	--	--	14.5
BB Barc BA Intermediate HY Ind		0.5	2.4	10.6	0.5	8.9	5.7	5.2	--	--	5.4
Excess		-0.5	4.0	-1.3	-0.5	14.6	17.5	9.6	--	--	9.1
Beach Point Select Fund	52,539,185	0.0	3.7	5.1	0.0	5.2	7.9	--	--	--	7.9
BB Barc BA Intermediate HY Ind		0.5	2.4	10.6	0.5	8.9	5.7	--	--	--	5.4
Excess		-0.5	1.4	-5.5	-0.5	-3.7	2.3	--	--	--	2.6
Brigade Cap Mngmt	79,283,628	0.0	1.8	6.2	0.0	1.5	6.4	3.7	5.5	--	6.4
BB Barc BA Intermediate HY Ind		0.5	2.4	10.6	0.5	8.9	5.7	5.2	5.7	--	6.7
Excess		-0.5	-0.5	-4.5	-0.5	-7.4	0.7	-1.5	-0.3	--	-0.3

San Mateo County Composite Return Summary

July 31, 2019



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
White Oak Yield Spec	34,330,714	-0.0	1.9	2.5	-0.0	6.4	--	--	--	--	--
BB Barc BA Intermediate HY Ind		0.5	2.4	10.6	0.5	8.9	--	--	--	--	5.5
Excess		-0.5	-0.5	-8.2	-0.5	-2.5	--	--	--	--	--
PIMCO Div. Income Fund	88,331,292	0.6	3.6	10.3	0.6	9.5	--	--	--	--	5.4
BB Barc BA Intermediate HY Ind		0.5	2.4	10.6	0.5	8.9	--	--	--	--	4.7
Excess		0.1	1.2	-0.3	0.1	0.6	--	--	--	--	0.7
TCP Direct Lending VIII	32,003,070	0.0	1.6	4.7	0.0	8.6	--	--	--	--	--
BB Barc BA Intermediate HY Ind		0.5	2.4	10.6	0.5	8.9	5.7	--	--	--	6.3
Excess		-0.5	-0.8	-5.9	-0.5	-0.3	--	--	--	--	--
Franklin Templeton	43,038,588	1.6	3.1	4.9	1.6	3.7	5.3	2.2	3.8	--	4.1
BB Barclays Multiverse Index		-0.2	3.3	5.5	-0.2	5.8	1.6	1.5	1.6	--	2.3
Excess		1.9	-0.2	-0.7	1.9	-2.2	3.7	0.7	2.3	--	1.8
Risk Parity	393,235,621	1.1	6.6	18.0	1.1	12.0	6.8	5.4	6.2	--	6.8
Samcera Risk Parity Benchmark		0.2	2.0	12.7	0.2	4.8	7.9	7.4	8.9	--	8.4
Excess		0.9	4.7	5.3	0.9	7.2	-1.0	-1.9	-2.8	--	-1.6
AQR Global Risk III	198,860,666	1.2	7.0	17.4	1.2	11.9	8.4	4.1	5.2	--	5.9
Samcera Risk Parity Benchmark		0.2	2.0	12.7	0.2	4.8	7.9	7.4	8.9	--	8.4
Excess		1.1	5.0	4.7	1.1	7.1	0.5	-3.3	-3.7	--	-2.5
Panagora	194,374,955	0.9	6.3	18.6	0.9	12.0	5.6	7.1	--	--	7.0
Samcera Risk Parity Benchmark		0.2	2.0	12.7	0.2	4.8	7.9	7.4	--	--	7.0
Excess		0.7	4.3	5.9	0.7	7.2	-2.3	-0.3	--	--	-0.0
Alternatives	555,804,249	7.7	9.6	10.8	7.7	12.2	9.3	6.9	5.8	-3.9	-1.5
Samcera Alternatives Benchmark		2.5	6.0	3.9	2.5	11.7	11.1	7.6	9.2	10.0	7.9
Excess		5.2	3.5	6.9	5.2	0.4	-1.8	-0.7	-3.4	-13.9	-9.4
Private Equity	309,993,517	13.3	19.3	21.1	13.3	28.6	20.0	17.0	14.7	--	-15.0
Samcera PE Benchmark		1.7	2.3	22.5	1.7	10.2	16.5	14.2	17.2	--	16.6
Excess		11.5	16.9	-1.4	11.5	18.3	3.5	2.8	-2.5	--	-31.6

San Mateo County Composite Return Summary

July 31, 2019



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Absolute Return	245,810,732	1.2	-1.1	-0.4	1.2	-4.5	-1.6	2.4	2.7	--	2.5
Samcera LIBOR + 4%		0.5	1.6	3.8	0.5	6.4	5.6	5.1	4.8	--	4.7
Excess		0.6	-2.7	-4.2	0.6	-10.9	-7.2	-2.6	-2.1	--	-2.2
AQR Delta XN	142,375,154	1.3	-3.2	-5.3	1.3	-10.0	-4.3	0.9	1.6	--	1.6
Samcera LIBOR + 4%		0.5	1.6	3.8	0.5	6.4	5.6	5.1	4.8	--	4.7
Excess		0.7	-4.8	-9.0	0.7	-16.4	-9.9	-4.1	-3.2	--	-3.1
Aberdeen Std GARS	103,435,578	1.0	2.0	7.1	1.0	4.3	2.2	--	--	--	0.6
Samcera LIBOR + 4%		0.5	1.6	3.8	0.5	6.4	5.6	--	--	--	5.3
Excess		0.4	0.4	3.3	0.4	-2.1	-3.4	--	--	--	-4.7
Inflation Hedge	813,319,435	-0.7	0.5	5.9	-0.7	1.6	5.6	--	--	--	6.9
SamCERA Inflation Hedge Index		-0.4	1.3	6.1	-0.4	4.1	6.3	--	--	--	6.7
Excess		-0.2	-0.7	-0.2	-0.2	-2.6	-0.7	--	--	--	0.2
TIPS	37,102,545	0.1	2.2	5.7	0.1	4.6	2.4	--	--	--	2.6
BBG Barclays US TIPS		0.4	2.9	6.5	0.4	5.7	1.9	--	--	--	2.5
Excess		-0.3	-0.7	-0.8	-0.3	-1.1	0.5	--	--	--	0.1
Brown Brothers Harriman	5	--	--	--	--	--	--	--	--	--	--
BBG Barclays US TIPS		--	--	--	--	--	--	--	--	--	--
Excess		--	--	--	--	--	--	--	--	--	--
Real Estate	380,344,815	-0.0	1.0	4.5	-0.0	7.0	7.5	--	--	--	8.3
Samcera NCREIF ODCE EW (gross)		0.0	1.3	3.1	0.0	6.9	7.9	--	--	--	7.8
Excess		-0.0	-0.3	1.4	-0.0	0.1	-0.3	--	--	--	0.5
Invesco Core Real Estate	269,029,753	-0.1	1.0	4.1	-0.1	6.7	7.6	10.0	10.5	9.6	7.8
Samcera NCREIF ODCE EW (gross)		0.0	1.3	3.1	0.0	6.9	7.9	10.1	10.6	9.8	7.7
Excess		-0.1	-0.4	1.1	-0.1	-0.2	-0.3	-0.1	-0.1	-0.2	0.1
Invesco US Val IV	19,090,969	1.1	1.1	9.8	1.1	12.6	10.6	--	--	--	12.3
Samcera NCREIF ODCE EW (gross)		0.0	1.3	3.1	0.0	6.9	7.9	--	--	--	8.7
Excess		1.1	-0.2	6.8	1.1	5.7	2.7	--	--	--	3.5

San Mateo County Composite Return Summary

July 31, 2019

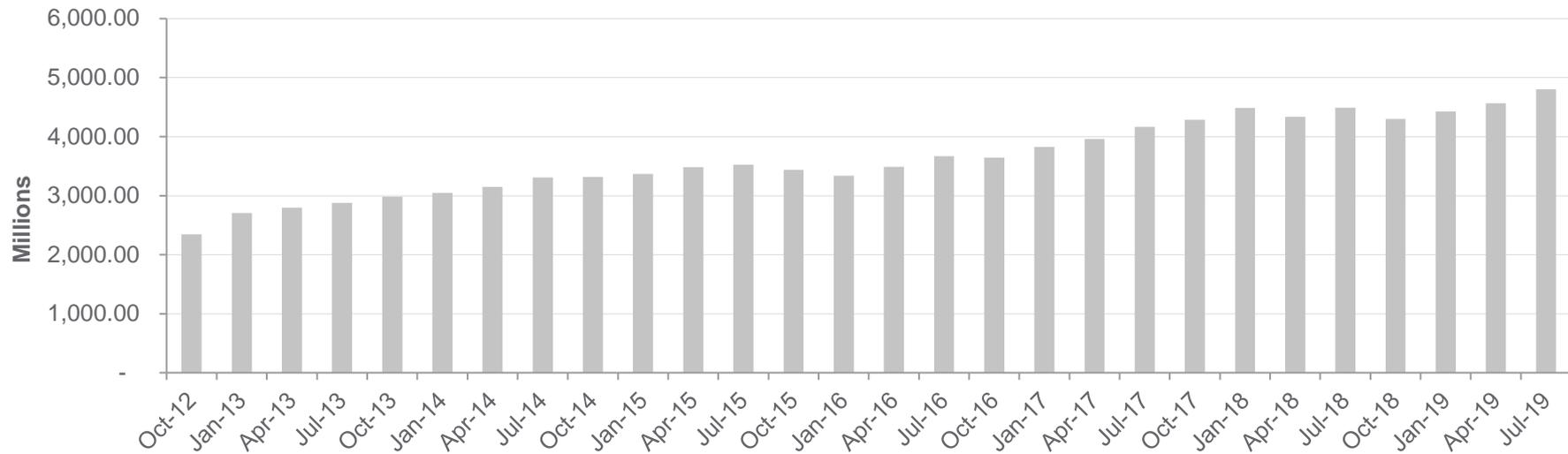


Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
PGIM Real Estate US Debt Fund	85,208,627	0.0	1.4	4.7	0.0	6.7	--	--	--	--	4.7
Samcera NCREIF ODCE EW (gross)		0.0	1.3	3.1	0.0	6.9	--	--	--	--	7.4
Excess		0.0	0.1	1.6	0.0	-0.2	--	--	--	--	-2.8
Invesco US VAL V	7,015,466	0.0	0.0	--	0.0	--	--	--	--	--	-4.5
Samcera NCREIF ODCE EW (gross)		0.0	1.3	--	0.0	--	--	--	--	--	--
Excess		0.0	-1.3	--	0.0	--	--	--	--	--	--
Public Real Assets	320,724,743	-1.6	-0.1	11.6	-1.6	-2.5	--	--	--	--	--
SamCera Liquid Real Asset Inde		-1.6	0.1	10.9	-1.6	-0.3	5.2	--	--	--	7.6
Excess		0.0	-0.3	0.7	0.0	-2.2	--	--	--	--	--
CUSHING MLP ALPHA TR	73,504,909	-1.4	-0.5	14.9	-1.4	-8.1	--	--	--	--	-7.5
50% BC US TIPS/50% SamCERA CRA		-0.6	1.6	8.9	-0.6	2.9	--	--	--	--	2.5
Excess		-0.8	-2.0	6.0	-0.8	-11.0	--	--	--	--	-10.0
SSGA CST REAL ASSET NL	247,219,834	-1.6	-0.0	10.7	-1.6	-0.7	--	--	--	--	--
SamCera Liquid Real Asset Inde		-1.6	0.1	10.9	-1.6	-0.3	--	--	--	--	5.9
Excess		-0.0	-0.2	-0.2	-0.0	-0.4	--	--	--	--	--
Private Real Assets	75,147,332	-0.8	0.1	-11.2	-0.8	-9.1	4.1	--	--	--	9.1
SamCERA Private Real Asset Idx		0.4	2.5	2.5	0.4	3.1	5.5	--	--	--	7.5
Excess		-1.1	-2.4	-13.6	-1.1	-12.2	-1.5	--	--	--	1.5
Cash	109,355,202	0.1	0.3	0.7	0.1	1.1	1.0	0.7	0.7	0.7	1.9
Samcera Cash Benchmark		0.2	0.6	1.4	0.2	2.3	1.4	0.9	0.7	0.5	1.9
Excess		-0.1	-0.3	-0.7	-0.1	-1.2	-0.5	-0.2	0.0	0.2	0.1
General Account	51,461,601	0.2	0.6	1.5	0.2	2.4	1.6	1.1	0.8	0.7	2.0
Transition Account	405	--	--	--	--	--	--	--	--	--	--
County Treasury Pool	57,894,006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	2.4
San Mateo County ERA	4,801,649,101	1.1	2.7	11.8	1.1	5.1	7.7	6.2	8.3	8.8	6.7
Samcera Total Plan Benchmark		0.5	2.0	11.2	0.5	5.7	8.2	6.5	8.5	9.1	7.1
Excess		0.6	0.6	0.6	0.6	-0.6	-0.5	-0.3	-0.2	-0.3	-0.3

Record of Asset Growth

	Three Months	One Year
TOTAL FUND		
Beginning Market Value	4,567,542,731	4,493,630,928
Contributions	170,405,864	545,196,941
Withdrawals	-60,655,839	-482,157,687
Income Received	14,794,499	51,032,463
Gain/Loss	109,803,848	188,382,463
Ending Market Value	4,801,649,101	4,801,649,101

Net Asset Values Over Time (\$000)

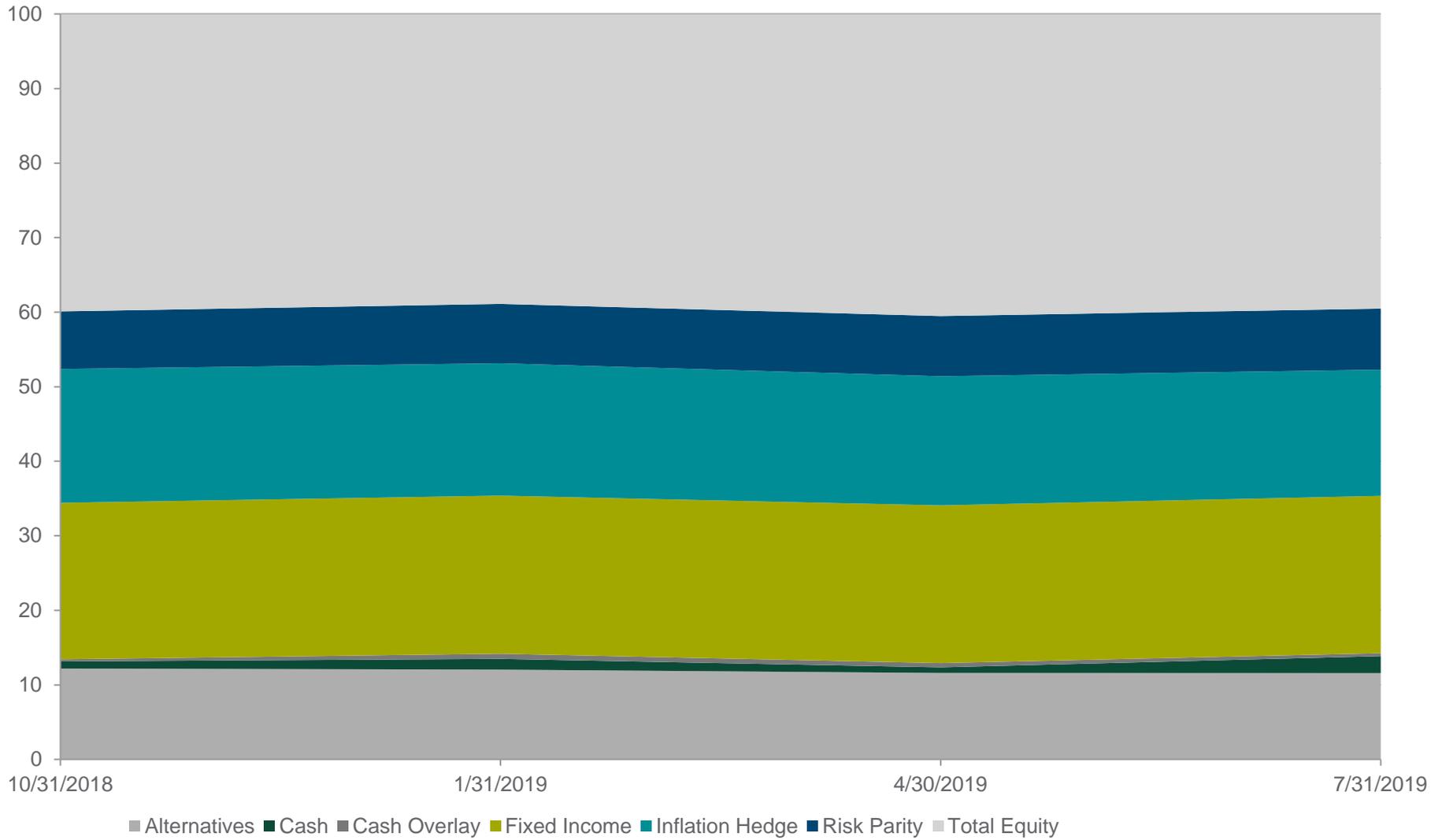


Actual vs Target Weights

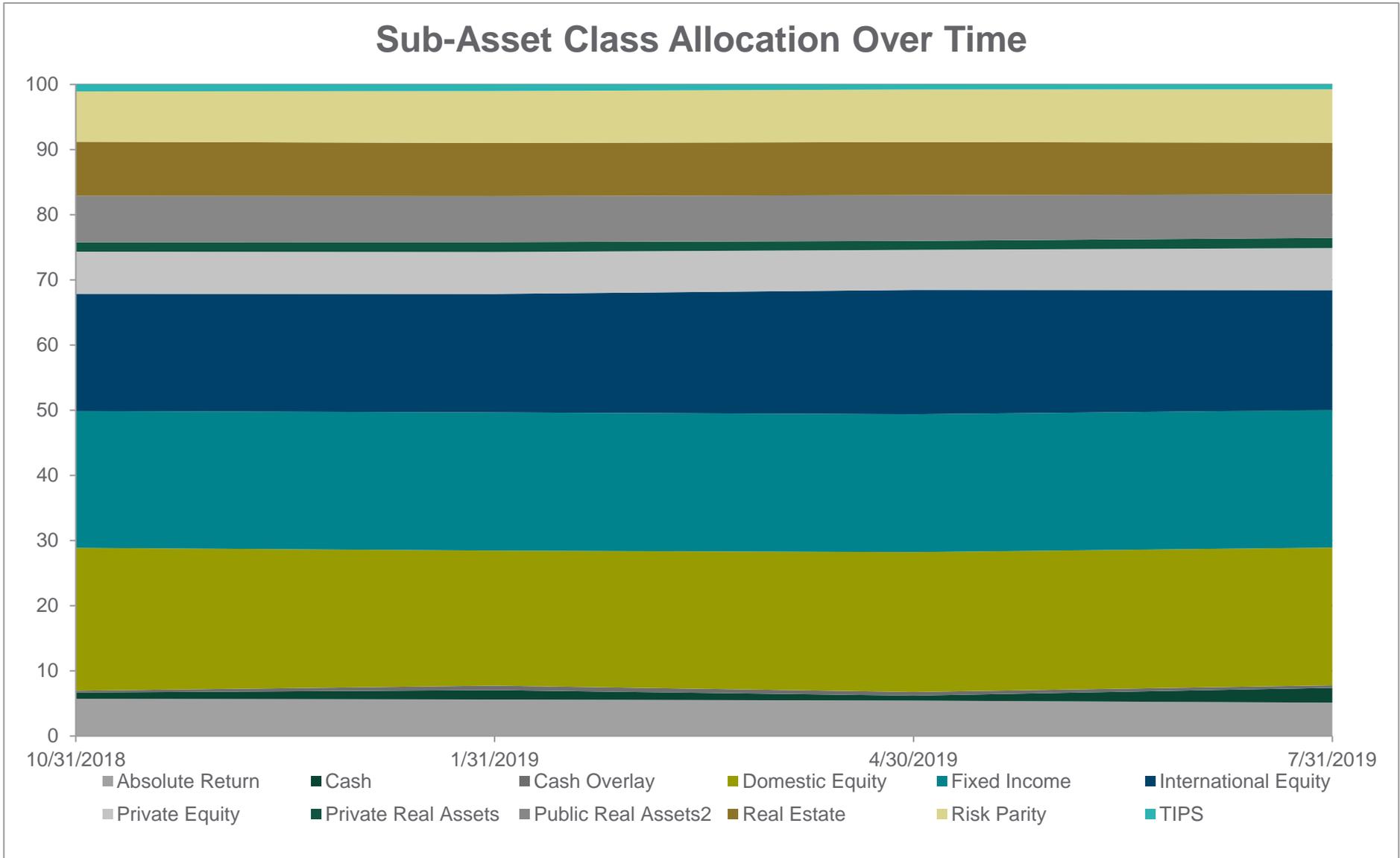


	Min	Actual	Target	Deviation	Max
Domestic Equity	20.0	21.1	22.0	-0.9	24.0
International Equity	17.0	18.4	19.0	-0.6	21.0
Fixed Income	19.0	21.1	21.0	0.1	23.0
Private Equity	4.0	6.5	6.0	0.5	8.0
Risk Parity	6.0	8.2	8.0	0.2	10.0
Absolute Return	4.0	5.1	6.0	-0.9	8.0
TIPS	0.0	0.8	2.0	-1.2	4.0
Public Real Assets	4.0	6.7	6.0	0.7	8.0
Real Estate	6.0	7.9	8.0	-0.1	10.0
Private Real Assets	0.0	1.6	2.0	-0.4	4.0

Asset Allocation over Time



Sub-Asset Class Allocation Over Time



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SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Item 6.2

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer *Michael R. Coultrip*

SUBJECT: Report on Quarterly Investment Performance Report for the Period Ended June 30, 2019

Recommendation

Accept Verus Advisory's quarterly performance report for the period ended June 30, 2019.

Discussion

The 2nd quarter net total return for the SamCERA portfolio was +2.9%, which was 100 bps lower than the +3.9% policy benchmark return. As can be seen on Page 20 and 21, alternatives (private equity and absolute return) and private real assets were the main detractors of performance.

For the Fiscal Year ending June 30, 2019, the net total return for the SamCERA portfolio was +5.4%, which was 130 bps lower than the +6.7% policy benchmark return. Absolute return was the main detractor, followed by inflation hedge and fixed income.

Table One below shows net performance characteristics for the total fund over 1, 3, 5, and 10-year trailing periods ending June 30, 2019.

Table One: SamCERA Total Fund Net Performance Characteristics Ending June 30th, 2019

	1 Year	3 Years	5 Years	10 Years
SamCERA Return	5.4%	8.2%	5.7%	9.3%
Benchmark Return	6.7%	9.0%	6.1%	9.7%
Excess Return	(1.3%)	(0.8%)	(0.4%)	(0.4%)
Peer Rank Return (Percentile)	52nd	79th	48th	40th
SamCERA Sharpe Ratio	0.4	1.1	0.8	1.1
Benchmark Sharpe Ratio	0.5	1.3	0.8	1.1

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

Table Two below shows the current allocation and the primary composite relative returns for the year ending June 30, 2019.

Table Two: SamCERA Composite Net Performance for Trailing Year Ending June 30th, 2019

Composite	Allocation* (%)	Composite Return	Benchmark Return	Excess Return
Public Equity	41.4	4.8%	5.0%	-0.2%
Fixed Income	21.0	6.7%	8.5%	-1.8%
Alternatives	11.4	4.6%	9.5%	-4.9%
Inflation Hedge	17.3	2.5%	4.8%	-2.3%
Risk Parity	8.3	10.8%	7.3%	3.5%

*Cash balance was 0.4% as of 6/30/2019.

Margaret Jadallah will present the report to the Board and will be available for questions.

Attachment

Verus Quarterly Performance Report Ending 6/30/2019



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: JUNE 30, 2019

Investment Performance Review for

San Mateo County Employees' Retirement Association

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VERUSINVESTMENTS.COM

SEATTLE 206-622-3700

LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

Market Environment

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Alternatives

TAB VI

Total Fund

TAB II

Inflation Hedge

TAB VII

US Equity

TAB III

Risk Parity

TAB VIII

International Equity

TAB IV

Appendix

TAB IX

Fixed Income

TAB V

2nd quarter summary

THE ECONOMIC CLIMATE

- U.S. real GDP expanded 3.2% YoY in Q1 (3.1% quarterly annualized rate). Year-over-year growth was the strongest since the second quarter of 2015. The U.S. Congressional Budget Office expects the U.S. economy to slow to a 2.1% pace in 2020, near the growth rate of other developed markets.
- Effective May 10th, U.S. tariff rates on \$200 billion in Chinese imports were hiked from 10% to 25%, and the Chinese responded with commensurate tariff rate hikes. In June, Presidents Trump and Xi met on the sidelines of the G20 summit in Osaka. The meeting yielded a “trade truce” in which both countries agreed to pause any additional tariffs.

PORTFOLIO IMPACTS

- Equity performance in Q2 appears to have been largely driven by higher prices, rather than improved earnings expectations. Estimated Q2 S&P 500 earnings worsened from -0.5% to -2.6% during this time.
- U.S. inflation remained stable at 2.1% YoY in June, excluding food & energy. Headline inflation rose 1.6% YoY, dragged down by falling energy prices. Core inflation has been range-bound over the past five years, fluctuating between 1.7% and 2.3%. Investors and consumers expect this trend to continue.

THE INVESTMENT CLIMATE

- The Federal Open Market Committee left the range for its benchmark interest rate unchanged at 2.25%-2.50% and reiterated that it would continue to act appropriately to sustain the expansion. Markets interpreted the press conference as confirmation of a 0.25% rate cut in July.
- European Central Bank President Mario Draghi issued dovish forward guidance, announcing that “additional stimulus” was on the table should the economic backdrop worsen, and inflation remain subdued. European and international developed sovereign yields have fallen along with U.S. yields. German 10-year bunds closed the month at new lows of -0.33%.

ASSET ALLOCATION ISSUES

- Risk assets delivered strong returns over the quarter. Global Equities gained +3.6% and U.S. high yield gained +2.5%. Longer duration exposures generally outperformed as interest rates fell.
- U.S. equity prices have continued to rise on expectations of nearly three interest rate cuts in 2019 and perhaps an assumption that U.S. earnings exceptionalism will extend into the future. If domestic conditions converge with other developed economies and these expectations turn out to be overly optimistic, we believe U.S. equities may possess greater downside risk.

A neutral risk stance may be appropriate in today's environment

U.S. economics summary

- U.S. real GDP expanded 3.2% YoY in Q1 (3.1% quarterly annualized rate). Year-over-year growth was the strongest since the second quarter of 2015.
- The U.S. economy is expected to slow to a 2.1% pace in 2020, near the growth rate of other developed markets, as indicated by the U.S. Congressional Budget Office.
- U.S.-China trade remained central to headlines over the quarter. Effective May 10th, U.S. tariff rates on \$200 billion in Chinese imports were hiked from 10% to 25%, and the Chinese responded with commensurate tariff increases. In June, Presidents Trump and Xi met on the sidelines of the G20 summit in Osaka. The meeting yielded a “trade truce” in which both countries agreed to pause any additional tariff rate hikes.
- Headline CPI inflation fell from a YoY rate of 1.9% in March to 1.6% in June. PCE inflation, the Fed’s preferred inflation gauge, ticked up from a YoY rate of 1.5% at the end of the 1st quarter to 1.6% in May.
- Average hourly earnings grew 3.1% YoY in June, below expectations of 3.2%. The average non-farm private workweek fell slightly from 34.5 hours per week to 34.4.
- The labor market continued to show strength in Q2. The U-3 unemployment rate touched 50-year lows at 3.6% in May and ended the quarter in June at 3.7%.
- The Federal Open Market Committee messaged that it would continue to “act as appropriate to sustain the expansion”, which markets viewed as dovish. Over the quarter, expectations for additional 2019 rate cuts moved from a 64% chance of a 0.25% cut to a 61% chance of 0.75% in cuts.

	Most Recent	12 Months Prior
GDP (YoY)	3.2% 3/31/19	2.6% 3/31/18
Inflation (CPI YoY, Core)	2.1% 6/30/19	2.2% 6/30/18
Expected Inflation (5yr-5yr forward)	1.9% 6/30/19	2.2% 6/30/18
Fed Funds Target Range	2.25 – 2.50% 6/30/19	1.75 – 2.00% 6/30/18
10 Year Rate	2.0% 6/30/19	2.9% 6/30/18
U-3 Unemployment	3.7% 6/30/19	4.0% 6/30/18
U-6 Unemployment	7.2% 6/30/19	7.8% 6/30/18

International economics summary

- U.S.-China trade remained central to headlines over the quarter. Effective May 10th, U.S. tariff rates on \$200 billion in Chinese imports were hiked from 10% to 25%, and the Chinese responded with commensurate tariff rate hikes. In June, Presidents Trump and Xi met on the sidelines of the G20 summit in Osaka. The meeting yielded a “trade truce” in which both countries agreed to pause any additional tariff rate hikes.
- The U.K. Prime Minister Theresa May announced her resignation effective June 7th. In July, Boris Johnson defeated Jeremy Hunt and will replace Theresa May as Britain’s next prime minister. Mr. Johnson has taken a harder line on Brexit than Mr. Hunt, and his election likely increases the probability that the U.K. exits the E.U. without a deal.
- President Trump called off prospective 5% tariffs on Mexican imports after the two countries signed an immigration deal aimed at reducing illegal border crossings. The deal expanded the Migrant Protection Protocols program, which requires asylum-seekers to wait on the Mexican side of the border while their cases are reviewed.
- Chinese GDP growth slowed 0.2% to 6.2% YoY in the second quarter, its slowest rate in 27 years. On a brighter note, YoY growth in industrial production and retail sales both surprised to the upside, supporting the view that Beijing’s countercyclical easing measures have proven effective.
- The Citi Global Economic Surprise Index fell from -18.8 to -27.7 in June, registering its 15th consecutive month in negative territory.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	3.2% <i>3/31/19</i>	1.6% <i>6/30/19</i>	3.7% <i>6/30/19</i>
Eurozone	1.2% <i>3/31/19</i>	1.1% <i>5/31/19</i>	7.5% <i>5/31/19</i>
Japan	0.9% <i>3/31/19</i>	0.7% <i>5/31/19</i>	2.4% <i>5/31/19</i>
BRICS Nations	5.2% <i>3/31/19</i>	2.4% <i>3/31/19</i>	5.2% <i>3/31/19</i>
Brazil	1.4% <i>3/31/19</i>	3.4% <i>6/30/19</i>	12.4% <i>6/30/19</i>
Russia	2.7% <i>12/31/18</i>	4.7% <i>6/30/19</i>	4.5% <i>5/31/19</i>
India	7.2% <i>12/31/18</i>	3.2% <i>6/30/19</i>	8.5% <i>12/31/17</i>
China	6.4% <i>3/31/19</i>	2.7% <i>6/30/19</i>	3.7% <i>3/31/19</i>

Equity environment

- The Russell 1000 Index slightly outperformed international developed equities in Q2, gaining +4.2% while the MSCI EAFE Index gained +3.7%. Perceptions of an accommodative Federal Reserve and views that U.S.-China relations are on a productive track likely impacted price movement.
- Equity performance in Q2 appears to have been largely driven by higher prices, rather than improved earnings expectations. The valuation expansion of equity markets (U.S., international developed, emerging markets) aligned with performance over the quarter.
- According to FactSet, estimated Q2 S&P 500 YoY earnings worsened from -0.5% to -2.6% in Q2. Nine of eleven sectors saw downward revisions to EPS estimates. Further negative revisions will likely act as a headwind to equity performance.
- Currency movement had a material positive impact on unhedged exposure to the U.K. (+3.1%) and Japan (+2.3%) over the quarter, though currency movement had a negligible impact on overall international equity performance (MSCI EAFE). Unhedged currency movement on a 1-year basis has had a substantially negative effect on investors' performance.
- The J.P. Morgan Emerging Market Currency Index gained +0.5% in the second quarter, stabilizing after a downward trend since 2018.
- Size and value factors continued to underperform. Small-cap equities lagged large-cap by -2.1% during the quarter and -13.3% over the past year (Russell 2000 vs. Russell 1000). Value equities underperformed growth by -0.8% over the quarter and by -3.1% over the past year (Russell 1000 Value vs Russell 1000 Growth).

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	4.2%		10.0%	
US Small Cap (Russell 2000)	2.1%		(3.3%)	
US Large Value (Russell 1000 Value)	3.8%		8.5%	
US Large Growth (Russell 1000 Growth)	4.6%		11.6%	
International Large (MSCI EAFE)	3.7%	3.5%	1.1%	4.8%
Eurozone (Euro Stoxx 50)	6.2%	6.4%	0.4%	8.6%
U.K. (FTSE 100)	4.0%	0.9%	(2.3%)	3.7%
Japan (NIKKEI 225)	3.1%	0.8%	0.1%	(2.6%)
Emerging Markets (MSCI Emerging Markets)	0.6%	0.1%	1.2%	1.7%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 6/30/19

Domestic equity

U.S. equities outperformed in the second quarter following a strong rebound in the first quarter. The S&P 500 Index delivered a total return of 4.3%, bringing its first-half return to 18.5%. Perceptions of an accommodative Federal Reserve and views that U.S-China relations were on a productive track likely impacted price movement.

Over the last decade, U.S. equities have led global equity indices, which is not typically the case. In prior periods, U.S. equities have ranked from slightly below average to slightly above average among regional indices. Furthermore, a

portion of U.S. equity outperformance has been due to a move towards high prices, which will most likely negatively impact future performance.

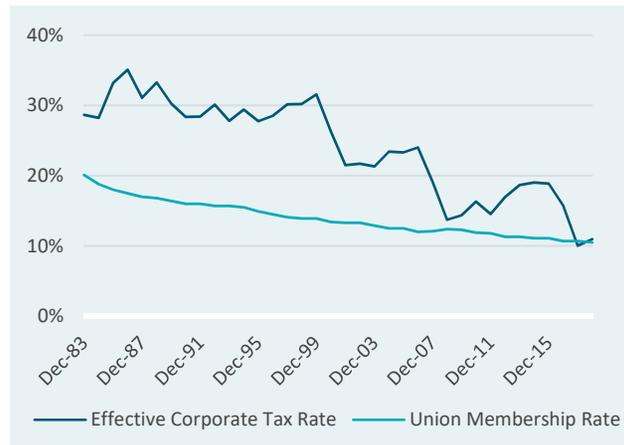
A number of secular trends have helped create a supportive environment for U.S. stocks. Technological advances, falling interest rates and therefore costs of corporate borrowing, and lower corporate tax rates have all helped to boost profit margins to all-time-highs. As expectations moderate, these margins may be increasingly scrutinized by investors.

U.S. EQUITIES



Source: Standard & Poors, as of 6/30/19

SECULAR TRENDS SUPPORTING MARGINS



Source: FRED, BLS, Bloomberg, Verus, as of 6/30/19

U.S. RELATIVE PERFORMANCE - HISTORICAL

	2014-2019	2009-2014	2004-2009	1999-2004	1994-1999
Best ↑	United States	United States	China	Australia	Sweden
	Australia	Sweden	India	India	Spain
	France	Japan	Spain	Canada	France
	India	Germany	Australia	United States	United States
	UK	Switzerland	Sweden	Spain	Germany
	Italy	India	Canada	Switzerland	Switzerland
	Japan	Australia	Germany	UK	UK
	Sweden	UK	UK	Italy	Canada
	Canada	Canada	Switzerland	France	Australia
	Switzerland	France	France	Sweden	India
	Germany	Spain	United States	Japan	Japan
	China	China	Japan	Germany	
Worst ↓	Spain	Italy	Italy		

Source: Verus, as of 6/30/19

Domestic equity size & style

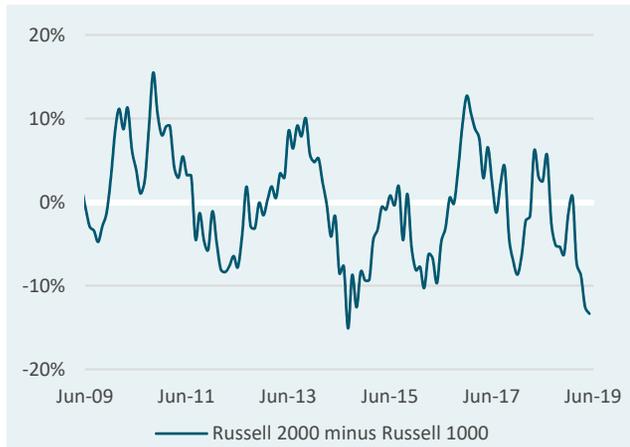
Size and value factors continued to underperform. Small-cap equities lagged large-cap by -2.1% during the quarter and -13.3% over the past year (Russell 2000 vs. Russell 1000). Value equities underperformed growth by -0.8% over the quarter and by -3.1% over the past year (Russell 1000 Value vs Russell 1000 Growth).

Similar to Q1, the impact of sector performance on the value premium was more nuanced in the second quarter. Financials (+8.0%) and Materials (+6.3%) outperformed the overall index (S&P 500 +13.6%), but Energy (-2.8%)

underperformed. Information Technology performed better than the overall index (+6.1%) which acted as a headwind for value stocks.

Both small cap and value premia have exhibited underperformance for an extended period of time. Longer periods of underperformance do not necessarily indicate an investment opportunity if value stocks and small cap stocks remain fairly-priced. This appears to be the case today, as neither value stocks nor small cap stocks are particularly cheap by traditional measures.

SMALL CAP VS LARGE CAP (YOY)



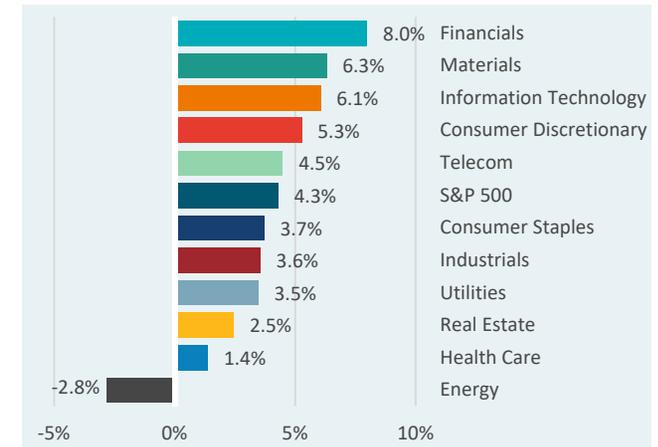
Source: FTSE, as of 6/30/19

VALUE VS GROWTH (YOY)



Source: FTSE, as of 6/30/19

Q2 S&P 500 SECTOR RETURNS



Source: Morningstar, as of 6/30/19

International developed equity

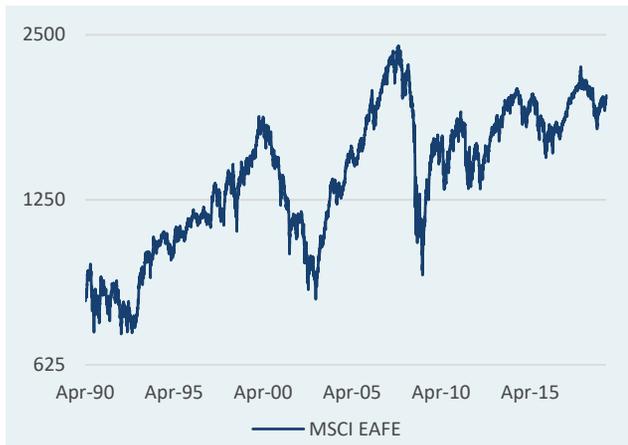
International developed equities posted a second consecutive quarter of solid performance. The MSCI EAFE Index returned +3.9% for the quarter (+14.5% YTD). On a currency hedged basis, the MSCI EAFE Index returned +3.5% for the quarter (+15.2% YTD), indicating that unhedged U.S. investors in EAFE equities benefited from non-dollar exposure over the quarter, but not in the year-to-date.

Japanese equities, which represent about 24% of the MSCI EAFE Index, underperformed, and gained only +0.5% in Q2. Japan's exposure China's economy, which in Q2 grew at its slowest pace in 27 years, likely weighed on performance.

U.K. equities underperformed the international developed equities on an unhedged basis, with the FTSE 100 Index delivering a +3.3% return for the quarter. In U.S. dollar terms, the FTSE 100 Index returned +4.0% in Q2, indicating that the weakness in the British Pound relative to the dollar presented headwinds for unhedged U.S. investors.

Wage gains and employment have been strong in the U.K., which would typically prompt higher rates and a stronger currency, but the uncertainty surrounding Brexit has likely had a significant impact on the British Pound.

INTERNATIONAL DEVELOPED EQUITIES



Source: MSCI, as of 6/30/19

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 6/30/19

YTD CUMULATIVE PERFORMANCE (U.S. VS. U.K.)



Source: Bloomberg, as of 6/30/19

Emerging market equity

Emerging market equity performance (MSCI Emerging Markets +0.6%) lagged developed markets (MSCI EAFE +3.7%) over the quarter, while U.S. equities outperformed (Russell 1000 +4.2%). Economists expect emerging market economies to accelerate modestly in 2020 and expect developed economies to slow. This divergence may provide a tailwind to emerging market equity performance. Recent central bank dovishness may also boost returns, as easing conditions have often had an outsized positive impact on the emerging markets.

kept near their long-term average - the U.S. being an exception. The divide between U.S. equity valuations and the rest of the world remains wide.

Decelerating global growth and a rising probability of recession presents unique risks to emerging markets, as these markets typically exhibit a higher beta during market downside and upside moves. However, a recession does not appear to be on the immediate horizon, and we believe recent central bank easing may lead to emerging market outperformance in the interim.

Moderate growth and central bank easing may boost emerging market equities

Equity multiples expanded in the second quarter but have

EQUITY PERFORMANCE (3-YR ROLLING)



Source: Standard & Poor's, MSCI, as of 6/30/19

FORWARD P/E



Source: MSCI, as of 6/30/19

EMERGING MARKET PERFORMANCE



Source: MSCI, as of 6/30/19

Interest rate environment

— The Federal Open Market Committee left the range for its benchmark interest rate unchanged at 2.25%-2.50% and reiterated that it would continue to act appropriately to sustain the expansion. Markets viewed the Fed’s press conference as successful in setting expectations for a 0.25% rate cut in July.

— The fed funds futures market now implies 2 or even 3 rate cuts (0.50% to 0.75% total cuts) as likely by the end of 2019. The market’s expectation of three rate cuts seems aggressive, and we worry about possible downside to risk markets if the Fed does not deliver on these expectations.

— U.S. Treasury yields continued to push lower following the messaging from the Federal Reserve. The 10-year U.S. Treasury yield finished the quarter at 2.00%, down from 3.14% in Q4 2018.

— European Central Bank President

Mario Draghi announced “additional stimulus” was on the table should the economic backdrop worsen and inflation remain subdued. Over the month, the likelihood that the ECB would cut its main deposit rate from -0.40% to -0.50% by its September meeting rose from 18% to 67%, as indicated by market pricing.

— European and international developed sovereign yields have fallen along with U.S. yields. German 10-year bunds closed the month at new lows of -0.33%.

— High yield bond spreads tightened alongside equities as the asset class was positively impacted by Federal Reserve dovishness. Anticipation of easier interest rate policies, which could potentially lengthen the credit cycle, has strengthened sentiment for risk assets.

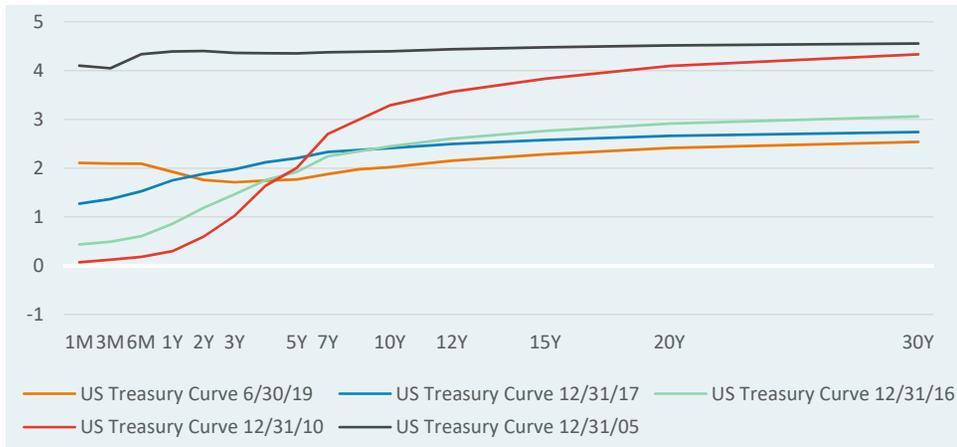
— Emerging market bonds delivered outsized returns in Q2. The JPM GBI-EM Index returned +5.6% and the JPM EMBI Index returned +4.1%.

Area	Short Term (3M)	10-Year
United States	2.09%	2.00%
Germany	(0.57%)	(0.33%)
France	(0.55%)	(0.01%)
Spain	(0.47%)	0.39%
Italy	(0.14%)	2.10%
Greece	0.99%	2.41%
U.K.	0.78%	0.83%
Japan	(0.08%)	(0.17%)
Australia	1.43%	1.32%
China	2.25%	3.21%
Brazil	6.24%	7.44%
Russia	8.03%	8.26%

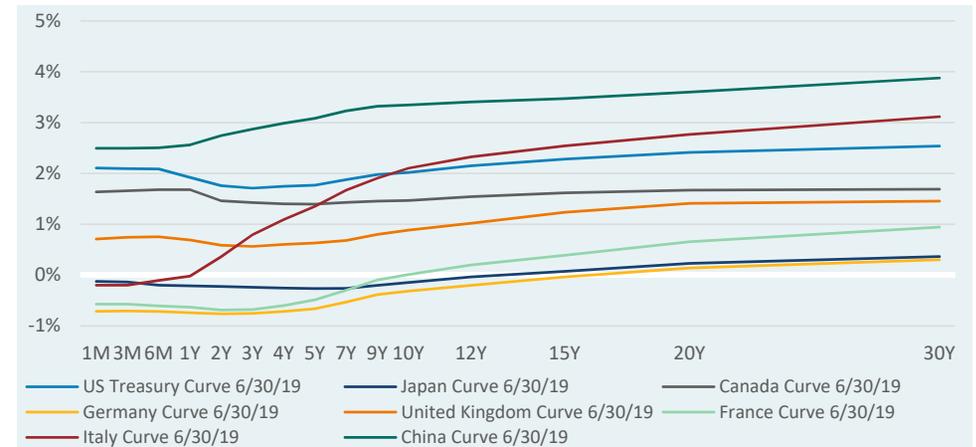
Source: Bloomberg, as of 6/30/19

Yield environment

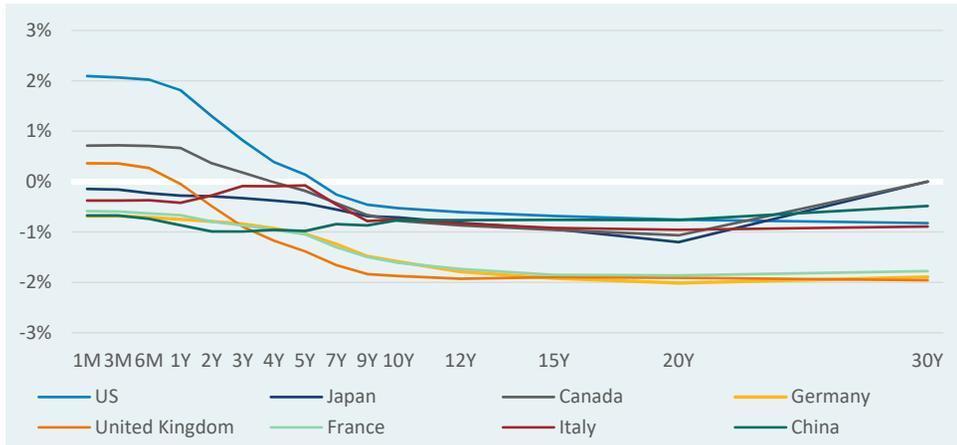
U.S. YIELD CURVE



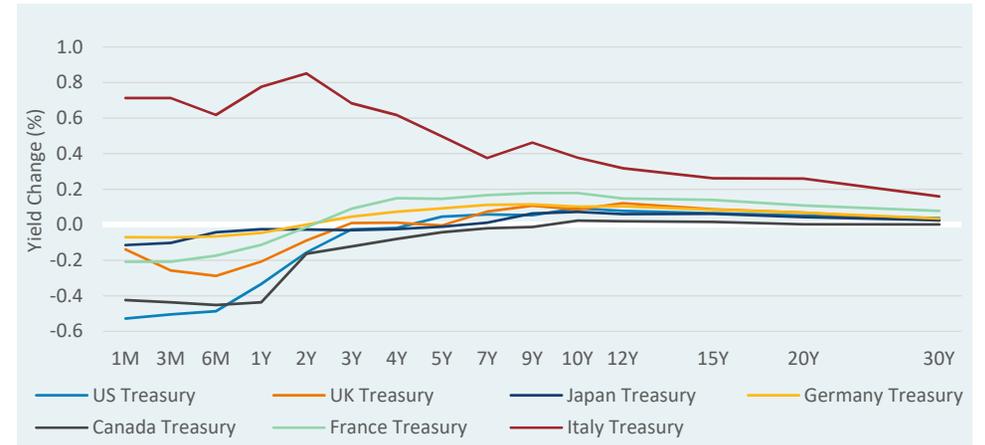
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 6/30/19

Currency

The U.S. dollar depreciated -0.2% in Q2 relative to a trade-weighted basket of currencies. After a period of strength in April and May, the dollar weakened significantly vs. developed currency pairs in June as the Federal Reserve issued dovish guidance. By the end of the quarter, markets were pricing between 0.50% and 0.75% in cuts to the federal funds range in 2019. In Europe, investors were pricing between 0.1% and 0.2% in cuts to the ECB's main deposit rate, which was already in negative territory at -0.40%.

Some analysts attributed the dollar's weakness relative to the euro as a byproduct of converging interest rate differentials driven by the Fed's ability to cut rates more significantly than the ECB.

Emerging market currencies rose in the second quarter, with the JPM Emerging Markets Currency Index gaining 0.5%. The South African Rand led the complex higher.

Surprise central bank dovishness has likely contributed to currency movement

U.S. DOLLAR TRADE WEIGHTED INDEX



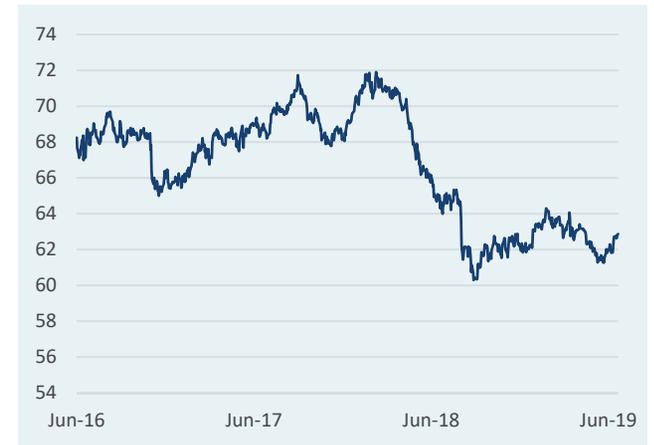
Source: Federal Reserve, Verus, as of 6/30/19

EUR/USD



Source: Bloomberg, as of 6/30/19

JPM EMERGING MARKET CURRENCY INDEX



Source: Bloomberg, JPMorgan, as of 6/30/19

- The Total Fund, net of manager fees, returned 2.9% in the second quarter of 2019 and ranked in the 51st percentile among other public plans greater than \$1 billion (median of 2.9%). The plan lagged the policy index return of 3.9%. The total one-year return of 5.4% lagged the policy index return of 6.7% and ranked in the 52nd percentile of its peer universe (median of 5.4%). The three-year return of 8.2% (79th percentile) lagged the median large public plan (8.7%) and the policy index (9.0%).

- Second Quarter results (net) were enhanced by the following factors:
 1. PanAgora Defuseq (5.5%) outperformed the Russell 1000 (4.2%) for the quarter. Security selection helped bolster performance in Materials, Industrial and Health Care despite slight drawdowns in Consumer Staples and Information Technology relative to the benchmark.
 2. Ballie Gifford (5.9%) beat the MSCI ACWI ex US (3.2%). Security selection within the Health Care sector led most outperformance. Materials, Consumer Staples and Information Technology all contributed significantly relative to the benchmark. Geographically, Developed Markets (73% of portfolio by weight) can be attributed to all outperformance.
 3. Parametric Core beat the MSCI Emerging Markets Gross (2.1% vs. 0.7%). Consumer Discretionary and Communication Services led performance despite modest drawdowns from other sectors. Asia/Pacific stocks performed particularly well as a result of an underweight relative to the benchmark and strong security selection.

- Second Quarter results (net) were hindered by the following factors:
 1. QMA US Small Cap gained 0.4% for the quarter but lagged the Russell 2000 (2.1%). Underperformance can be attributed to security selection, detracting -1.6% compared to the benchmark. Eight of the 12 detracted relative to the benchmark.
 2. Western TRU (2.2%) lagged the BBgBarc US Aggregate TR (3.1%) during the quarter. Yield curve performance was a detractor to performance as the back end of the curve steepened. Investment-Grade Corporate, High-Yield, Bank Loans, and Structured products all contributed positively as spreads tightened. TIPS exposure had a negative impact on performance as breakeven inflation rates declined.

Total Fund
Performance Summary (Net of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	Rank *	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Fund**	2.9	51	10.2	55	5.4	52	6.0	86	8.2	79	5.7	48	9.3	40
<i>Policy Index¹</i>	3.9	5	10.6	43	6.7	18	7.3	32	9.0	37	6.1	33	9.7	22
<i>InvMetrics Public DB > \$1B Net Median</i>	2.9		10.3		5.4		6.9		8.7		5.6		9.0	
Total Fund ex Overlay	2.9	52	9.9	67	5.1	62	5.9	94	8.1	87	5.6	56	9.2	41
<i>Policy Index¹</i>	3.9	5	10.6	43	6.7	18	7.3	32	9.0	37	6.1	33	9.7	22
<i>InvMetrics Public DB > \$1B Net Median</i>	2.9		10.3		5.4		6.9		8.7		5.6		9.0	
Public Equity	3.6	53	16.1	79	4.8	58	7.8	73	11.3	76	6.8	64	11.3	64
<i>Blended Public Equity Index¹</i>	3.4	67	16.2	75	5.0	56	8.3	57	12.0	45	6.9	63	11.8	56
<i>InvMetrics All DB Total Eq Net Median</i>	3.7		16.7		5.5		8.4		11.9		7.2		11.9	
US Equity	3.9	68	17.7	80	7.5	58	11.2	54	13.5	59	9.5	50	14.0	54
<i>Blended US Equity Index¹</i>	4.1	48	18.7	49	9.0	30	11.8	28	14.1	29	10.0	31	14.7	18
<i>Russell 3000</i>	4.1	48	18.7	49	9.0	30	11.8	28	14.0	36	10.2	21	14.7	18
<i>InvMetrics All DB US Eq Net Median</i>	4.1		18.7		7.9		11.3		13.7		9.5		14.1	
Large Cap Equity	4.3	48	18.2	45	10.0	40	12.5	36	14.8	31	11.0	26	14.4	34
<i>Russell 1000</i>	4.2	48	18.8	40	10.0	39	12.3	37	14.1	36	10.5	31	14.8	26
<i>eV US Large Cap Equity Net Median</i>	4.1		17.5		8.2		10.7		12.7		9.1		13.8	
<i>Acadian US MGD V**</i>	4.7	37	15.9	69	--	--	--	--	--	--	--	--	--	--
<i>BlackRock Russell 1000</i>	4.2	45	18.8	33	10.0	39	12.3	28	--	--	--	--	--	--
<i>DE Shaw</i>	2.7	78	15.6	73	6.3	67	11.9	33	14.4	20	11.3	12	--	--
<i>PanAgora Defuseq***</i>	5.5	17	21.3	11	--	--	--	--	--	--	--	--	--	--
<i>Russell 1000</i>	4.2	44	18.8	33	10.0	39	12.3	28	14.1	25	10.5	22	14.8	14
<i>eV US Large Cap Core Equity Net Median</i>	4.1		17.3		8.3		10.9		12.9		9.3		13.9	

* Total Fund and asset class aggregates are ranked in InvMetrics universes. Managers are ranked in eVest (eA) manager universes.

** Includes Parametric Minneapolis manager funded in August 2013.

***Funded December 2018.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Small Cap Equity	0.4	86	12.7	85	-7.4	78	3.0	72	8.9	71	4.0	84	12.6	72
<i>Russell 2000</i>	2.1	62	17.0	50	-3.3	54	6.6	48	12.3	42	7.1	47	13.4	55
<i>eV US Small Cap Equity Net Median</i>	2.9		16.8		-2.7		6.1		11.3		6.8		13.7	
QMA US Small Cap	0.4	86	12.7	87	-7.4	81	3.0	79	--	--	--	--	--	--
<i>Russell 2000</i>	2.1	58	17.0	47	-3.3	51	6.6	51	12.3	37	7.1	54	13.4	50
<i>eV US Small Cap Core Equity Net Median</i>	2.5		16.6		-3.2		6.6		11.4		7.1		13.4	
International Equity	3.3	31	14.2	41	1.7	23	4.0	34	8.6	66	2.7	34	6.4	73
<i>Blended International Equity Index¹</i>	2.6	66	13.4	61	0.4	46	4.1	33	9.4	36	2.6	40	7.0	50
<i>MSCI EAFE Gross</i>	4.0	12	14.5	35	1.6	24	4.4	26	9.6	30	2.7	33	7.4	33
<i>InvMetrics All DB ex-US Eq Net Median</i>	2.9		13.8		0.2		3.3		9.1		2.4		7.0	
Developed Markets	3.7	29	14.9	43	1.3	39	4.0	48	8.6	60	2.9	51	6.7	65
<i>MSCI ACWI ex USA Gross</i>	3.2	49	14.0	54	1.8	34	4.8	39	9.9	35	2.6	61	7.0	51
<i>InvMetrics All DB Dev Mkt ex-US Eq Net Median</i>	3.1		14.2		0.3		4.0		9.3		2.9		7.0	
Baillie Gifford	5.9	30	20.0	40	0.3	49	4.9	80	9.8	64	4.5	58	--	--
<i>MSCI ACWI ex US¹</i>	3.2	86	14.0	95	1.8	37	4.8	81	9.9	63	2.6	96	--	--
<i>MSCI ACWI ex US Growth</i>	4.5	60	17.5	70	3.0	30	6.6	54	10.2	59	4.4	60	--	--
<i>eV ACWI ex-US Growth Equity Net Median</i>	5.0		19.2		0.2		6.9		10.6		5.1		9.3	
BlackRock EAFE Index	3.9	27	14.4	34	1.4	27	4.3	32	9.5	31	2.6	62	--	--
<i>MSCI EAFE</i>	3.7	32	14.0	40	1.1	27	3.9	35	9.1	37	2.2	67	6.9	80
<i>MSCI EAFE Gross</i>	4.0	26	14.5	32	1.6	25	4.4	32	9.6	27	2.7	58	7.4	66
<i>eV EAFE Core Equity Net Median</i>	2.8		13.1		-2.2		2.9		8.5		3.0		8.1	
Mondrian	1.4	54	10.6	42	2.2	10	3.0	17	7.1	50	1.3	36	6.3	51
<i>MSCI ACWI ex USA Value Gross</i>	1.9	34	10.5	43	0.6	19	2.9	18	9.6	23	0.9	52	6.0	54
<i>MSCI ACWI ex USA Gross</i>	3.2	19	14.0	14	1.8	11	4.8	5	9.9	19	2.6	22	7.0	40
<i>eV ACWI ex-US Value Equity Net Median</i>	1.4		9.8		-4.3		0.7		7.0		1.0		6.4	

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Emerging Markets	2.1	33	9.9	69	3.2	23	3.2	57	7.5	75	0.7	81	--	--
MSCI Emerging Markets Gross	0.7	62	10.8	48	1.6	53	5.0	16	11.1	21	2.9	19	6.2	24
InvMetrics All DB Emg Mkt Eq Net Median	1.0		10.6		1.8		3.6		8.9		1.9		5.3	
Parametric Core	2.1	33	9.9	74	3.2	27	3.2	64	7.5	80	--	--	--	--
MSCI Emerging Markets Gross	0.7	65	10.8	59	1.6	45	5.0	34	11.1	32	2.9	42	6.2	65
eV Emg Mkts Equity Net Median	1.4		12.0		0.9		4.0		9.9		2.5		6.7	
Parametric Currency Overlay*	-3.0	--	10.6	--	--	--	--	--	--	--	--	--	--	--
Fixed Income	2.5	70	5.7	67	6.7	63	3.8	41	4.9	9	3.6	27	6.1	19
Blended Fixed Income Index ¹	3.0	35	7.4	23	8.5	20	4.1	30	3.5	46	3.3	37	4.2	72
InvMetrics All DB Total Fix Inc Net Median	2.7		6.1		7.0		3.7		3.5		3.0		4.8	
Core Fixed	2.7	--	5.4	--	6.9	--	3.3	--	3.2	--	3.2	--	5.3	--
BBgBarc US Aggregate TR	3.1	--	6.1	--	7.9	--	3.7	--	2.3	--	2.9	--	3.9	--
BlackRock Intermediate Govt	2.4	67	4.0	72	6.3	58	2.8	61	--	--	--	--	--	--
BBgBarc US Govt Int TR	2.3	70	4.0	73	6.2	60	2.7	65	1.3	69	1.9	75	2.4	79
eV US Government Fixed Inc Net Median	2.5		4.7		6.5		3.1		1.6		2.4		3.1	
FIAM Bond	3.1	48	6.7	33	7.9	49	4.0	26	3.0	17	3.4	18	5.0	19
BBgBarc US Aggregate TR	3.1	56	6.1	69	7.9	49	3.7	53	2.3	64	2.9	57	3.9	73
Western TRU	2.2	97	5.2	92	6.0	96	2.6	98	4.7	1	--	--	--	--
3-Month Libor Total Return USD	0.6	99	1.3	99	2.6	99	2.2	99	1.8	93	1.2	99	0.8	99
BBgBarc US Aggregate TR	3.1	56	6.1	69	7.9	49	3.7	53	2.3	64	2.9	57	3.9	73
eV US Core Fixed Inc Net Median	3.1		6.4		7.9		3.7		2.5		3.0		4.3	
Opportunistic Credit	2.3	--	6.4	--	6.3	--	5.2	--	8.3	--	5.4	--	--	--
BBgBarc BA Intermediate HY ¹	2.9	--	10.1	--	9.6	--	4.9	--	6.3	--	4.8	--	--	--
Angelo Gordon Opportunistic**	5.4	--	6.4	--	12.0	--	18.2	--	17.6	--	9.8	--	--	--
Angelo Gordon STAR**	6.2	--	12.0	--	22.3	--	21.2	--	19.8	--	13.4	--	--	--
BBgBarc US Aggregate TR	3.1	--	6.1	--	7.9	--	3.7	--	2.3	--	2.9	--	3.9	--

* Funded September 2018.

** Preliminary return as of 06/30/2019.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Beach Point Select	3.0	15	7.6	78	5.2	82	6.2	3	8.7	4	--	--	--	--
BBgBarc BA Intermediate HY ¹	2.9	25	10.1	35	9.6	3	4.9	35	6.3	69	4.8	20	--	--
eV US High Yield Fixed Inc Net Median	2.5		9.4		6.7		4.6		6.8		4.1		8.5	
Brigade Capital	1.9	82	6.3	86	2.6	98	3.5	89	7.5	22	3.4	82	--	--
BBgBarc BA Intermediate HY ¹	2.9	25	10.1	35	9.6	3	4.9	35	6.3	69	4.8	20	--	--
50% Barclays HY/ 50% Bank Loan	2.0	72	7.7	77	5.8	71	4.7	45	6.5	63	4.3	43	--	--
eV US High Yield Fixed Inc Net Median	2.5		9.4		6.7		4.6		6.8		4.1		8.5	
PIMCO Diversified	3.6	4	9.6	47	10.0	1	--	--	--	--	--	--	--	--
Blended PIMCO Diversified Index	3.5	4	9.7	46	9.8	1	4.9	35	5.4	93	4.6	27	7.4	91
BBgBarc BA Intermediate HY	2.9	25	10.1	35	9.6	3	4.9	35	6.3	69	4.8	20	--	--
eV US High Yield Fixed Inc Net Median	2.5		9.4		6.7		4.6		6.8		4.1		8.5	
Franklin Templeton	1.5	90	3.2	94	5.7	61	1.6	92	4.6	45	1.5	70	--	--
BBgBarc Multiverse TR	3.3	38	5.8	71	6.0	57	3.7	59	1.9	82	1.3	72	3.1	84
eV All Global Fixed Inc Net Median	3.0		6.9		6.4		3.8		4.0		2.7		4.8	
Private Credit	0.7	--	3.0	--	6.6	--	6.7	--	--	--	--	--	--	--
Cliffwater Direct Lending Index**	2.8	--	5.6	--	9.1	--	9.0	--	9.5	--	8.6	--	10.9	--
PIMCO Private Income*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BBgBarc BA Intermediate HY	2.9	25	10.1	35	9.6	3	4.9	35	6.3	69	4.8	20	--	--
Cliffwater Direct Lending Index	2.8	31	5.6	93	9.1	5	9.0	1	9.5	2	8.6	1	10.9	4
eV US High Yield Fixed Inc Net Median	2.5		9.4		6.7		4.6		6.8		4.1		8.5	
TCP Direct Lending VIII**	1.7	85	4.1	99	8.4	15	7.3	2	--	--	--	--	--	--
White Oak Yield**	0.0	99	2.2	99	5.3	80	5.3	17	--	--	--	--	--	--
Cliffwater Direct Lending Index	2.8	31	5.6	93	9.1	5	9.0	1	9.5	2	8.6	1	10.9	4
eV US High Yield Fixed Inc Net Median	2.5		9.4		6.7		4.6		6.8		4.1		8.5	

* Funded April 2019.

** Preliminary return as of 06/30/2019.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Risk Parity	5.6	--	17.5	--	10.8	--	8.7	--	7.1	--	5.1	--	--	--
<i>Blended Risk Parity Index¹</i>	3.7	--	12.6	--	7.3	--	7.3	--	8.6	--	7.0	--	--	--
AQR GRP, 10% Volatility	5.7	--	17.5	--	11.4	--	9.5	--	8.3	--	3.8	--	--	--
PanAgora	5.4	--	17.5	--	10.3	--	8.0	--	6.2	--	--	--	--	--
<i>Blended Risk Parity Index¹</i>	3.7	--	12.6	--	7.3	--	7.3	--	8.6	--	7.0	--	--	--
S&P Risk Parity 10% Target Volatility Index TR USD	4.3	--	12.7	--	8.3	--	7.1	--	5.4	--	3.5	--	6.6	--
Alternatives	2.0	--	1.6	--	4.6	--	3.6	--	7.9	--	6.1	--	--	--
<i>Blended Alternatives Index¹</i>	8.0	--	1.6	--	9.5	--	9.7	--	11.2	--	6.7	--	--	--
Private Equity**	5.6	14	4.3	34	14.6	26	11.9	50	17.4	11	16.1	8	--	--
<i>Blended Private Equity Index¹</i>	14.6	1	-0.5	89	11.8	35	12.7	40	15.5	20	12.3	27	17.2	1
<i>InvMetrics All DB Private Eq Net Median</i>	2.4		3.3		9.4		11.8		11.4		10.1		10.5	
Hedge Fund/Absolute Return	-2.1	97	-1.4	95	-5.9	93	-4.7	97	-1.8	96	2.2	58	--	--
<i>Libor 1 month +4%</i>	1.6	49	3.2	78	6.4	6	6.0	10	5.6	37	5.1	7	--	--
<i>InvMetrics All DB Hedge Funds Net Median</i>	1.6		5.4		1.4		3.4		4.9		2.4		4.8	
AQR DELTA XN	-4.4	95	-6.3	96	-12.1	93	-8.5	94	-4.4	93	0.6	84	--	--
Aberdeen Standard GARS	1.4	55	6.1	45	4.3	45	1.1	74	2.0	75	--	--	--	--
<i>Libor 1 month +4%</i>	1.6	51	3.2	70	6.4	28	6.0	34	5.6	48	5.1	42	--	--
<i>eV Alt All Multi-Strategy Median</i>	1.7		5.4		3.5		4.2		5.3		4.2		6.7	
Inflation Hedge	1.2	--	5.6	--	2.5	--	4.6	--	5.0	--	--	--	--	--
<i>Blended Inflation Hedge Index¹</i>	2.8	--	6.4	--	4.8	--	6.0	--	5.4	--	--	--	--	--
Real Estate	1.1	56	2.4	83	7.0	21	7.4	21	7.7	19	10.0	5	9.6	12
NCREIF ODCE	1.0	75	2.4	83	6.4	47	7.4	20	7.6	21	9.8	9	9.9	12
<i>InvMetrics All DB Real Estate Pub Net Median</i>	1.2		2.9		6.4		6.8		6.6		8.4		8.6	
Invesco	1.0	--	2.0	--	6.7	--	7.3	--	7.6	--	9.8	--	9.5	--
NCREIF ODCE	1.0	--	2.4	--	6.4	--	7.4	--	7.6	--	9.8	--	9.9	--

* Excludes EnCap Energy Capital Fund and Sheridan Production Partners.

** Returns are one-quarter lag.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Invesco US Val IV	1.0	--	5.0	--	12.2	--	12.0	--	11.0	--	--	--	--	--
NCREIF ODCE	1.0	--	2.4	--	6.4	--	7.4	--	7.6	--	9.8	--	9.9	--
NCREIF CEVA 1Q Lag - NET	3.0	--	6.0	--	12.3	--	12.0	--	11.0	--	13.5	--	--	--
Invesco US Val V***	5.4	--	--	--	--	--	--	--	--	--	--	--	--	--
NCREIF ODCE	1.0	--	2.4	--	6.4	--	7.4	--	7.6	--	9.8	--	9.9	--
NCREIF CEVA 1Q Lag - NET	3.0	--	6.0	--	12.3	--	12.0	--	11.0	--	13.5	--	--	--
PGIM RE US Debt Fund	1.4	--	3.1	--	6.8	--	--	--	--	--	--	--	--	--
NCREIF ODCE	1.0	--	2.4	--	6.4	--	7.4	--	7.6	--	9.8	--	9.9	--
Private Real Asset**	1.7	--	-10.3	--	-6.0	--	-5.9	--	-3.1	--	--	--	--	--
Blended Private Real Asset Index ¹	13.0	--	3.2	--	7.6	--	4.7	--	4.8	--	5.0	--	--	--
Blended Secondary CA Private RA Index ¹	2.6	--	-0.1	--	4.3	--	7.5	--	10.2	--	--	--	--	--
Public Real Assets	1.0	--	13.3	--	-0.9	--	4.5	--	--	--	--	--	--	--
Blended Public Real Asset Index ¹	1.7	--	12.4	--	1.1	--	5.5	--	6.0	--	5.7	--	--	--
Cushing MLP Alpha TR****	-1.2	--	16.2	--	--	--	--	--	--	--	--	--	--	--
50% BBgBarc US TIPS/ 50% Blended PRA Index	2.3	--	9.4	--	3.1	--	--	--	--	--	--	--	--	--
Alerian MLP TR USD	0.1	--	17.0	--	3.1	--	-0.8	--	-0.4	--	-7.2	--	8.2	--
SSgA Custom Real Asset	1.7	--	12.5	--	1.1	--	5.5	--	--	--	--	--	--	--
SSgA Custom Real Asset Index ¹	1.7	--	12.4	--	1.1	--	5.5	--	--	--	--	--	--	--
TIPS	2.6	--	5.5	--	4.3	--	3.4	--	2.6	--	1.6	--	--	--
BBgBarc US TIPS TR	2.9	--	6.2	--	4.8	--	3.5	--	2.1	--	1.8	--	3.6	--
Brown Brothers Harriman	2.6	69	5.5	72	4.3	76	3.4	48	2.6	30	1.6	37	--	--
BBgBarc US TIPS TR	2.9	39	6.2	58	4.8	27	3.5	38	2.1	51	1.8	19	3.6	46
eV US TIPS / Inflation Fixed Inc Net Median	2.8	--	6.2	--	4.6	--	3.3	--	2.1	--	1.5	--	3.5	--

** Returns are one-quarter lag.

*** Funded February 2019.

****Funded July 2018.

1. See Appendix for Benchmark History.

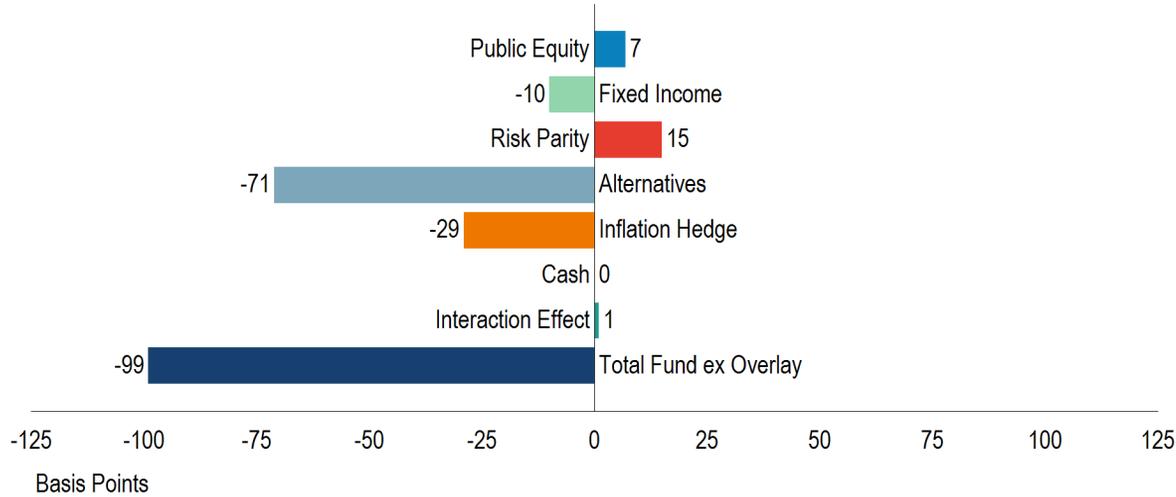
Total Fund
Performance Summary (Net of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Cash	0.4	--	0.6	--	1.3	--	1.1	--	1.0	--	1.0	--	0.8	--
91 Day T-Bills	0.6	--	1.2	--	2.3	--	1.8	--	1.4	--	0.9	--	0.5	--
General Account	1.1	--	2.0	--	5.3	--	4.0	--	3.0	--	2.4	--	1.3	--
Treasury & LAIF	0.9	--	1.6	--	3.7	--	3.4	--	2.5	--	1.9	--	1.4	--
91 Day T-Bills	0.6	--	1.2	--	2.3	--	1.8	--	1.4	--	0.9	--	0.5	--

Total Fund ex Overlay
Performance Attribution

Period Ending: June 30, 2019

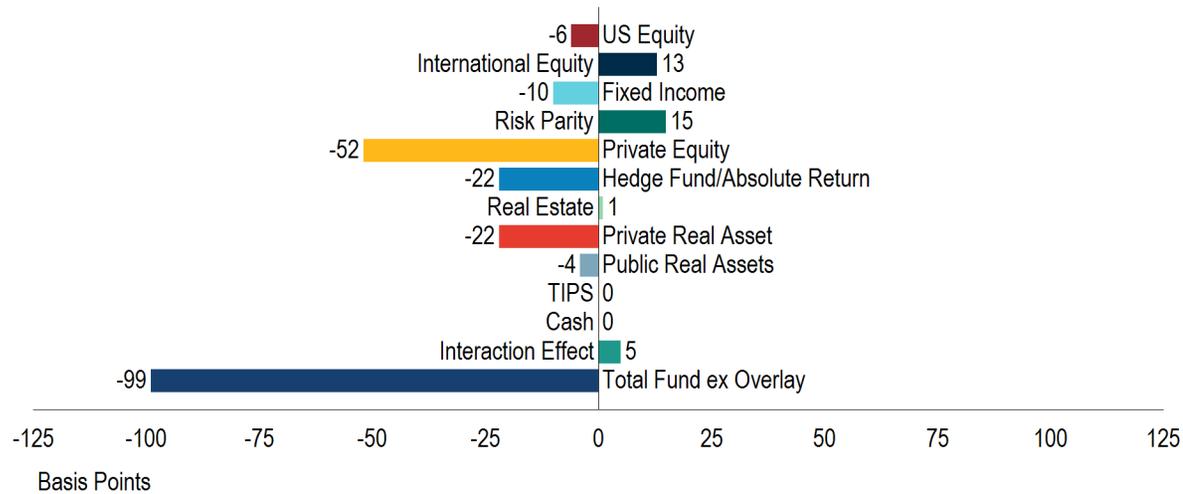


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction*	Total Effects
Public Equity	3.63%	3.42%	0.21%	0.07%	-0.05%	0.00%	0.03%
Fixed Income	2.54%	3.02%	-0.48%	-0.10%	-0.02%	0.00%	-0.12%
Risk Parity	5.57%	3.68%	1.89%	0.15%	0.00%	0.00%	0.15%
Alternatives	2.00%	8.00%	-6.00%	-0.71%	0.00%	0.01%	-0.70%
Inflation Hedge	1.20%	2.80%	-1.60%	-0.29%	0.00%	0.01%	-0.28%
Cash	0.35%	0.57%	-0.22%	0.00%	-0.06%	0.00%	-0.06%
Total	2.88%	3.87%	-0.99%	-0.88%	-0.13%	0.01%	-0.99%

Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund ex Overlay
Performance Attribution

Period Ending: June 30, 2019

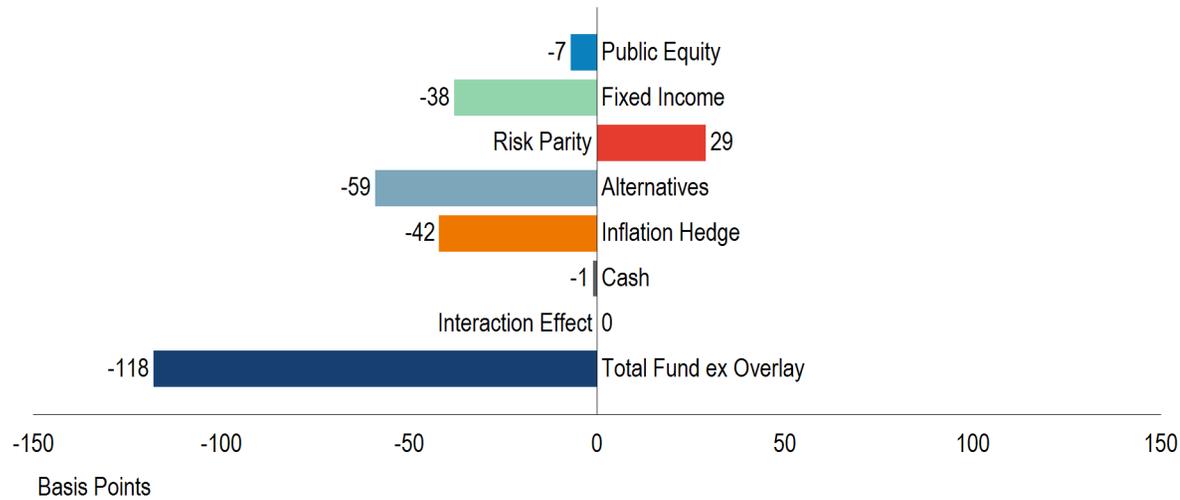


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction * Effects	Total Effects
US Equity	3.91%	4.10%	-0.19%	-0.06%	-0.04%	0.01%	-0.09%
International Equity	3.33%	2.63%	0.69%	0.13%	-0.01%	0.00%	0.12%
Fixed Income	2.54%	3.02%	-0.48%	-0.10%	-0.02%	0.00%	-0.12%
Risk Parity	5.57%	3.68%	1.89%	0.15%	0.00%	0.00%	0.15%
Private Equity	5.61%	14.58%	-8.97%	-0.52%	0.04%	-0.03%	-0.51%
Hedge Fund/Absolute Return	-2.06%	1.62%	-3.68%	-0.22%	0.01%	0.02%	-0.19%
Real Estate	1.14%	0.99%	0.15%	0.01%	-0.01%	0.00%	0.00%
Private Real Asset	1.67%	13.03%	-11.36%	-0.22%	-0.06%	0.07%	-0.21%
Public Real Assets	1.02%	1.69%	-0.67%	-0.04%	-0.03%	-0.01%	-0.08%
TIPS	2.63%	2.87%	-0.23%	0.00%	0.01%	0.00%	0.01%
Cash	0.35%	0.57%	-0.22%	0.00%	-0.06%	0.00%	-0.06%
Total	2.89%	3.87%	-0.99%	-0.88%	-0.17%	0.05%	-0.99%

Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund ex Overlay
Performance Attribution (1 Year)

Period Ending: June 30, 2019

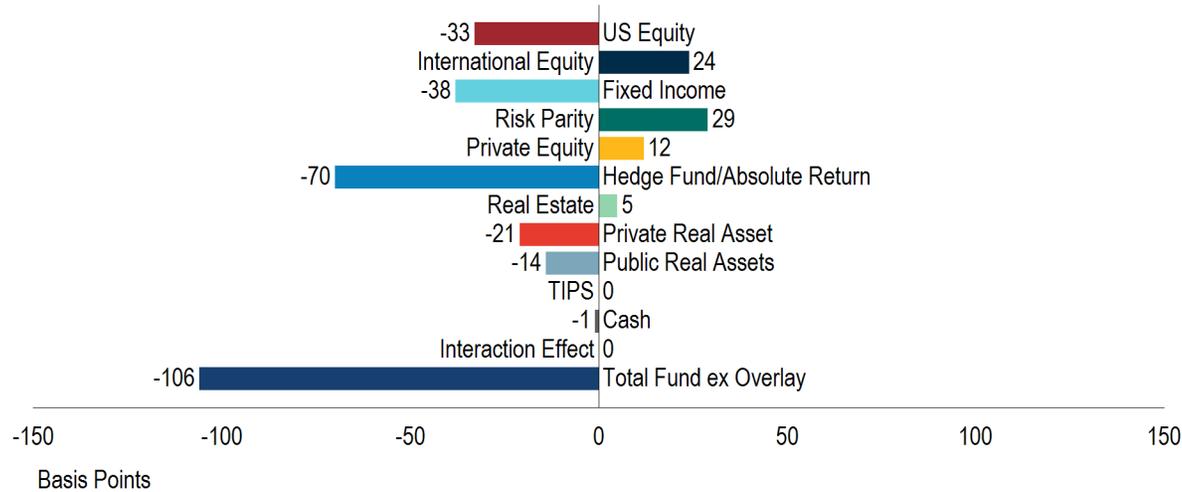


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction *	Total Effects
Public Equity	4.84%	4.97%	-0.13%	-0.07%	0.00%	0.00%	-0.07%
Fixed Income	6.70%	8.47%	-1.77%	-0.38%	0.00%	0.00%	-0.38%
Risk Parity	10.81%	7.29%	3.51%	0.29%	0.00%	0.00%	0.29%
Alternatives	4.59%	9.50%	-4.91%	-0.59%	0.00%	0.00%	-0.59%
Inflation Hedge	2.47%	4.83%	-2.36%	-0.42%	0.00%	0.00%	-0.42%
Cash	1.29%	2.27%	-0.98%	-0.01%	0.00%	0.00%	-0.01%
Total	5.12%	6.30%	-1.18%	-1.18%	0.00%	0.00%	-1.18%

Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund ex Overlay
Performance Attribution (1 Year)

Period Ending: June 30, 2019



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction*	Total Effects
US Equity	7.52%	8.98%	-1.46%	-0.33%	0.00%	0.00%	-0.33%
International Equity	1.66%	0.40%	1.26%	0.24%	0.00%	0.00%	0.24%
Fixed Income	6.70%	8.47%	-1.77%	-0.38%	0.00%	0.00%	-0.38%
Risk Parity	10.81%	7.29%	3.51%	0.29%	0.00%	0.00%	0.29%
Private Equity	14.60%	11.77%	2.84%	0.12%	0.00%	0.00%	0.12%
Hedge Fund/Absolute Return	-5.85%	6.43%	-12.28%	-0.70%	0.00%	0.00%	-0.70%
Real Estate	7.05%	6.41%	0.64%	0.05%	0.00%	0.00%	0.05%
Private Real Asset	-6.02%	7.57%	-13.60%	-0.21%	0.00%	0.00%	-0.21%
Public Real Assets	-0.91%	1.05%	-1.96%	-0.14%	0.00%	0.00%	-0.14%
TIPS	4.30%	4.84%	-0.53%	0.00%	0.00%	0.00%	0.00%
Cash	1.29%	2.27%	-0.98%	-0.01%	0.00%	0.00%	-0.01%
Total	5.13%	6.19%	-1.06%	-1.06%	0.00%	0.00%	-1.06%

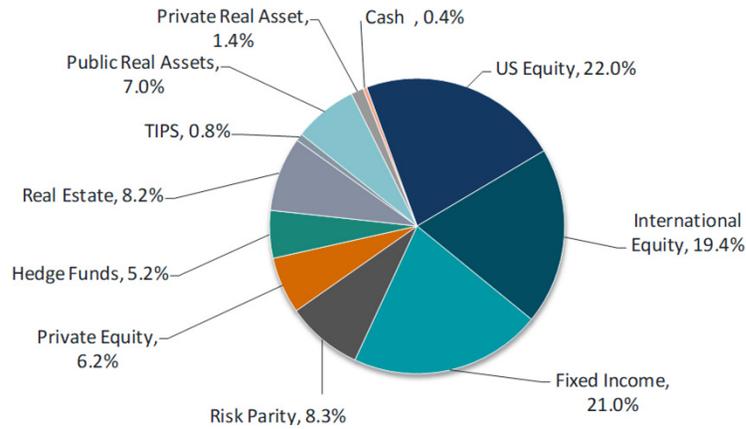
Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund

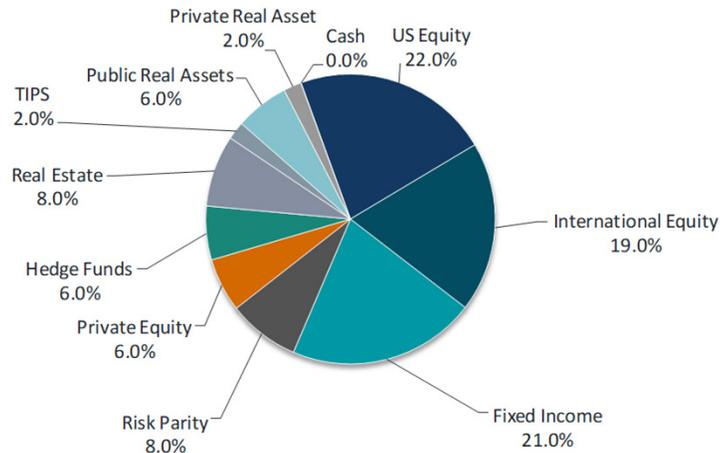
Asset Allocation Analysis

Period Ending: June 30, 2019

Current w/Overlay



Target



ASSET ALLOCATION	MARKET VALUE		W/O OVERLAY
	W/OVERLAY	W/OVERLAY	
US Equity	1,026,896,560	22.0%	21.5%
International Equity	904,284,310	19.4%	19.0%
Fixed Income	980,195,710	21.0%	21.4%
Risk Parity	389,039,098	8.3%	8.3%
Private Equity	289,677,403	6.2%	6.2%
Hedge Funds	243,015,696	5.2%	5.2%
Real Estate	380,727,065	8.2%	8.2%
TIPS	37,067,410	0.8%	0.8%
Public Real Assets	325,804,292	7.0%	7.0%
Private Real Asset	64,121,953	1.4%	1.4%
Cash	19,088,820	0.4%	1.0%
TOTAL	4,659,918,318	100.0%	100.0%

ASSET ALLOCATION	W/OVERLAY	TARGET	DIFF
US Equity	22.0%	22.0%	0.0%
International Equity	19.4%	19.0%	0.4%
Fixed Income	21.0%	21.0%	0.0%
Risk Parity	8.3%	8.0%	0.3%
Private Equity	6.2%	6.0%	0.2%
Hedge Funds	5.2%	6.0%	-0.8%
Real Estate	8.2%	8.0%	0.2%
TIPS	0.8%	2.0%	-1.2%
Public Real Assets	7.0%	6.0%	1.0%
Private Real Asset	1.4%	2.0%	-0.6%
Cash	0.4%	0.0%	0.4%
TOTAL	100.0%	100.0%	0.0%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	8.2%	79	5.9%	46	1.1	58	-0.8	93	1.0%	46
Policy Index	9.0%	37	6.0%	47	1.3	37	--	--	0.0%	1
InvMetrics Public DB > \$1B Net Median	8.7%	--	6.0%	--	1.2	--	-0.1	--	1.1%	--

Statistics Summary

5 Years

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	5.7%	48	6.5%	49	0.7	43	-0.4	65	1.1%	38
Policy Index	6.1%	33	6.8%	61	0.8	39	--	--	0.0%	1
InvMetrics Public DB > \$1B Net Median	5.6%	--	6.6%	--	0.7	--	-0.1	--	1.2%	--

Statistics Summary

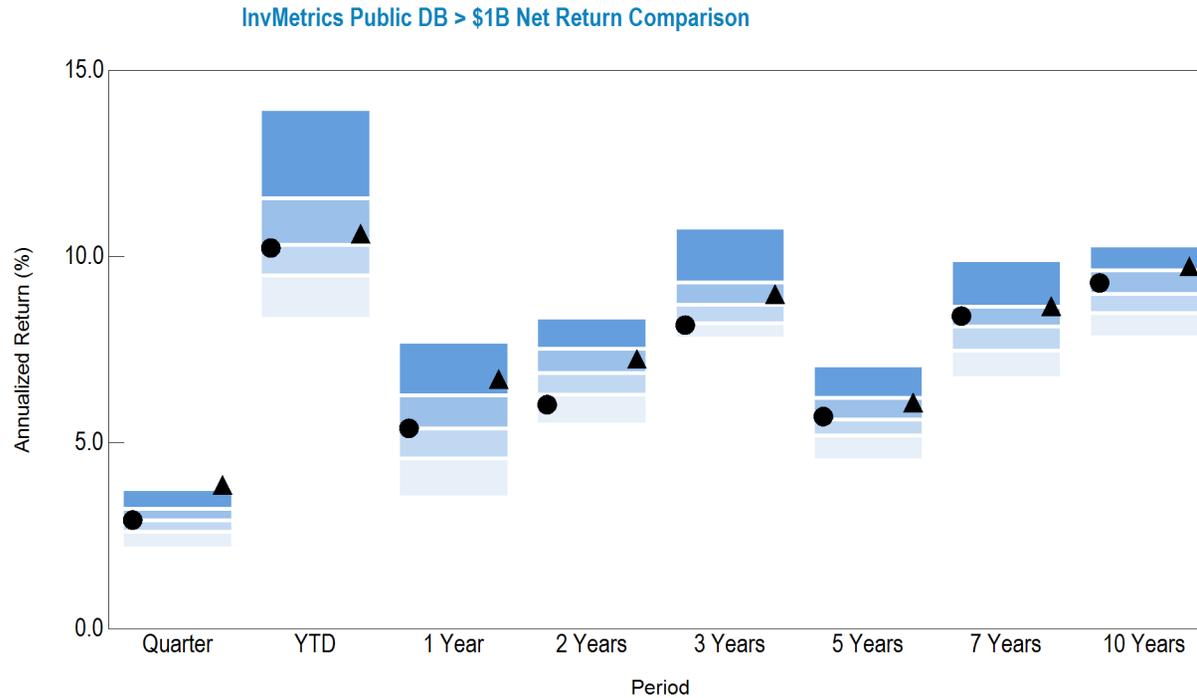
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Cash	1.0%	0.2%	-2.3	-1.8	0.2%
91 Day T-Bills	1.4%	0.2%	0.0	--	0.0%
General Account	3.0%	1.0%	1.7	1.9	0.9%
91 Day T-Bills	1.4%	0.2%	0.0	--	0.0%
Treasury & LAIF	2.5%	1.0%	1.0	1.1	0.9%
91 Day T-Bills	1.4%	0.2%	0.0	--	0.0%

Statistics Summary

5 Years

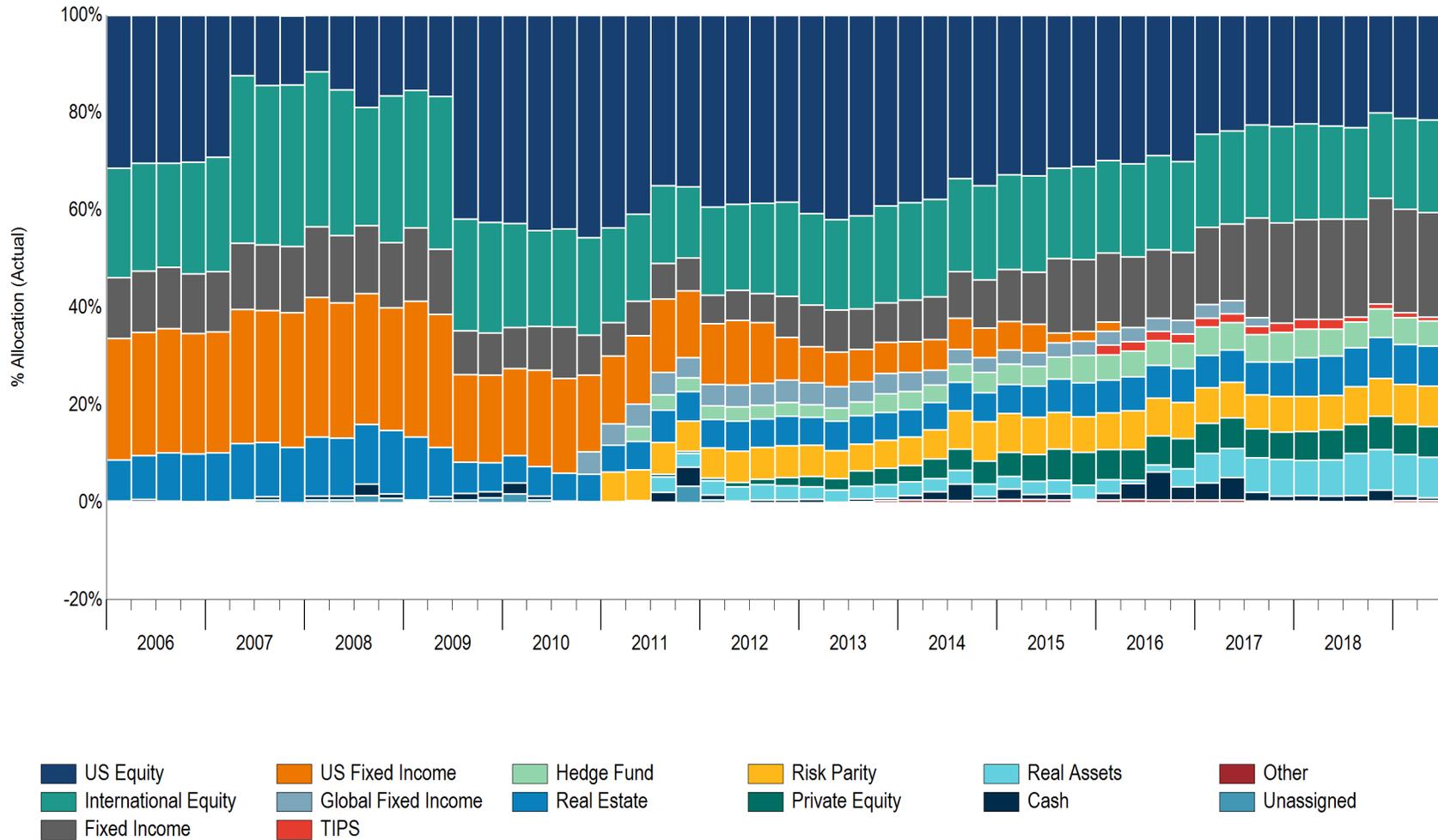
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Cash	1.0%	0.3%	0.5	0.4	0.4%
91 Day T-Bills	0.9%	0.3%	0.0	--	0.0%
General Account	2.4%	0.9%	1.7	1.9	0.8%
91 Day T-Bills	0.9%	0.3%	0.0	--	0.0%
Treasury & LAIF	1.9%	0.9%	1.1	1.2	0.8%
91 Day T-Bills	0.9%	0.3%	0.0	--	0.0%



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.8	14.0	7.7	8.4	10.8	7.1	9.9	10.3
25th Percentile	3.2	11.6	6.3	7.5	9.3	6.2	8.7	9.6
Median	2.9	10.3	5.4	6.9	8.7	5.6	8.1	9.0
75th Percentile	2.6	9.5	4.6	6.3	8.2	5.2	7.5	8.5
95th Percentile	2.2	8.3	3.5	5.5	7.8	4.5	6.7	7.9
# of Portfolios	78	78	77	77	77	73	71	65
● Total Fund	2.9 (51)	10.2 (55)	5.4 (52)	6.0 (86)	8.2 (79)	5.7 (48)	8.4 (36)	9.3 (40)
▲ Policy Index	3.9 (5)	10.6 (43)	6.7 (18)	7.3 (32)	9.0 (37)	6.1 (33)	8.7 (25)	9.7 (22)

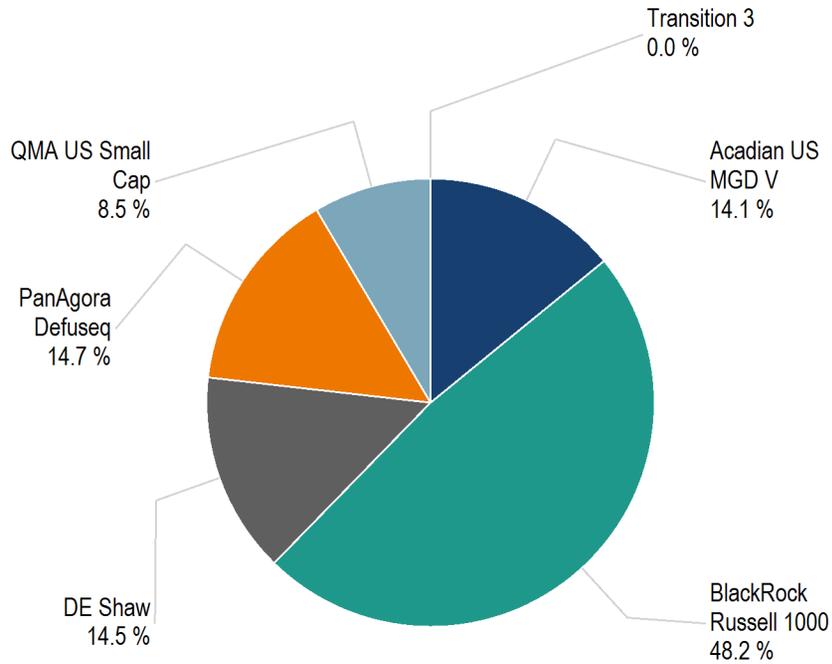
Total Fund
Asset Allocation History

Period Ending: June 30, 2019



US Equity
 Manager Allocation Analysis

Period Ending: June 30, 2019



	Actual \$	Actual %	Manager Contribution to Excess Return %
Acadian US MGD V	\$141,156,247	14.1%	0.1%
BlackRock Russell 1000	\$481,876,704	48.2%	0.0%
DE Shaw	\$145,207,692	14.5%	-0.2%
PanAgora Defuseq	\$146,896,369	14.7%	0.2%
QMA US Small Cap	\$84,864,694	8.5%	-0.2%
Transition Account	\$15	0.0%	0.0%
Actual vs. Policy Weight Difference			0.0%
Total	\$1,000,001,721	100.0%	-0.2%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	13.5%	12.1%	1.0	-0.8	0.8%
Blended US Equity Index	14.1%	12.5%	1.0	--	0.0%
Russell 3000	14.0%	12.5%	1.0	-0.9	0.1%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	14.8%	11.7%	1.1	0.5	1.4%
Russell 1000	14.1%	12.3%	1.0	--	0.0%
DE Shaw	14.4%	11.9%	1.1	0.1	2.3%
Russell 1000	14.1%	12.3%	1.0	--	0.0%
Small Cap Equity	8.9%	17.1%	0.4	-1.2	2.7%
Russell 2000	12.3%	17.1%	0.6	--	0.0%

Statistics Summary

5 Years

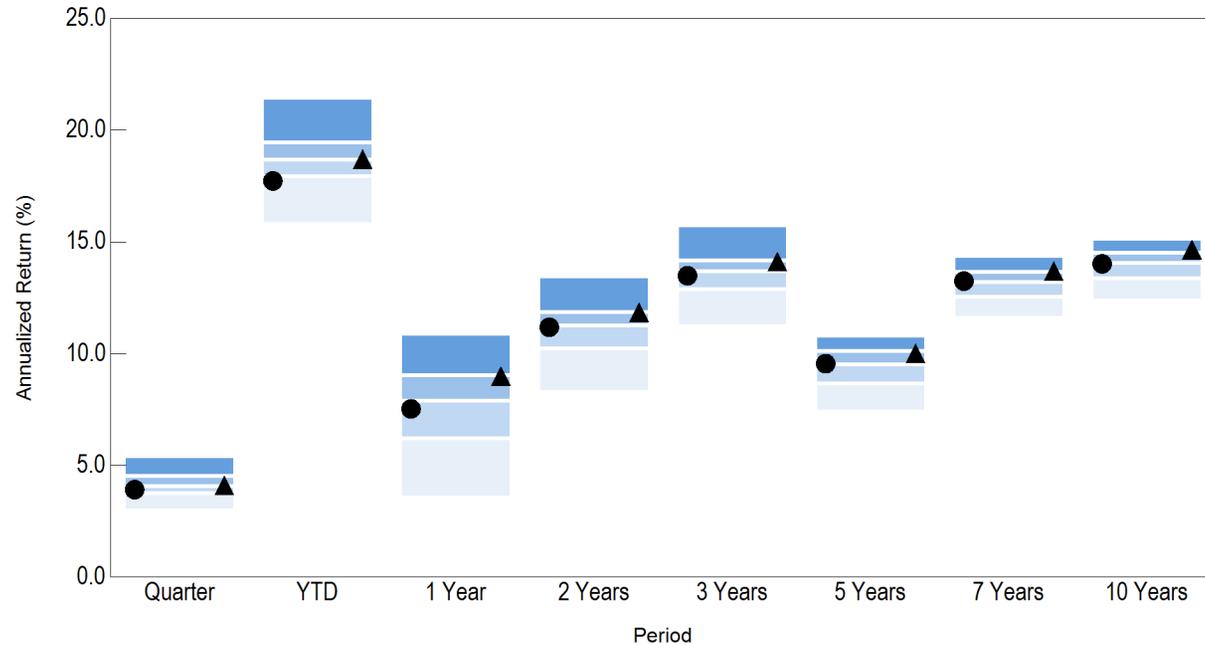
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	9.5%	12.1%	0.7	-0.5	0.8%
Blended US Equity Index	10.0%	12.4%	0.7	--	0.0%
Russell 3000	10.2%	12.3%	0.8	0.3	0.7%

Statistics Summary

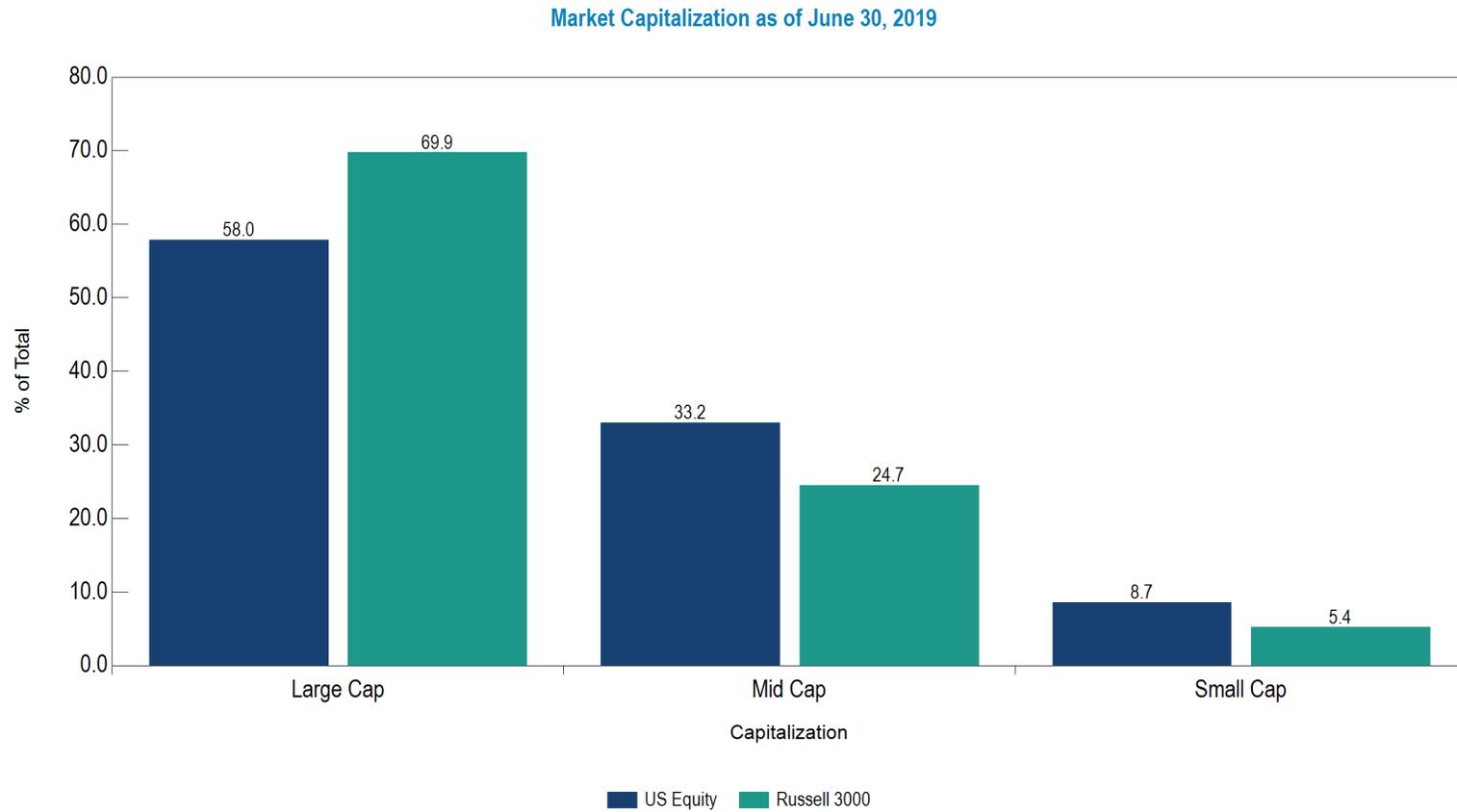
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	11.0%	11.8%	0.9	0.4	1.2%
Russell 1000	10.5%	12.1%	0.8	--	0.0%
DE Shaw	11.3%	12.1%	0.9	0.4	2.3%
Russell 1000	10.5%	12.1%	0.8	--	0.0%
Small Cap Equity	4.0%	16.2%	0.2	-1.1	2.8%
Russell 2000	7.1%	16.6%	0.4	--	0.0%

InvMetrics All DB US Eq Net Return Comparison



	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	5.4	21.4	10.9	13.4	15.7	10.8	14.4	15.1
25th Percentile	4.5	19.5	9.0	11.9	14.2	10.1	13.7	14.5
Median	4.1	18.7	7.9	11.3	13.7	9.5	13.2	14.1
75th Percentile	3.8	18.0	6.2	10.3	12.9	8.7	12.6	13.4
95th Percentile	3.0	15.8	3.6	8.3	11.2	7.4	11.6	12.4
# of Portfolios	605	604	603	590	574	548	462	356
● US Equity	3.9 (68)	17.7 (80)	7.5 (58)	11.2 (54)	13.5 (59)	9.5 (50)	13.2 (49)	14.0 (54)
▲ Blended US Equity Index	4.1 (48)	18.7 (49)	9.0 (30)	11.8 (28)	14.1 (29)	10.0 (31)	13.7 (25)	14.7 (18)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	Russell 3000
Number of Holdings	2,825	2,954
Weighted Avg. Market Cap. (\$B)	142.5	190.7
Median Market Cap. (\$B)	3.2	1.6
Price To Earnings	20.1	20.5
Price To Book	3.2	3.4
Price To Sales	1.7	1.9
Return on Equity (%)	22.6	21.8
Yield (%)	2.0	1.9
Beta (holdings; domestic)	1.0	1.0

Top Holdings

MICROSOFT	2.3%
AMAZON.COM	2.0%
APPLE	2.0%
JOHNSON & JOHNSON	1.2%
AT&T	1.1%
VISA 'A'	1.0%
FACEBOOK CLASS A	0.9%
ALPHABET A	0.9%
VERIZON COMMUNICATIONS	0.9%
CHEVRON	0.9%

Best Performers

	Return %
IOVANCE BIOTHERAPEUTICS (IOVA)	157.8%
ARQULE (ARQL)	129.9%
RAFAEL HOLDINGS B (RFL)	127.3%
ADVERUM BIOTCHS. (ADVM)	126.9%
CHIMERIX (CMRX)	105.7%
ZYNEX (ZYXI)	99.8%
ENPHASE ENERGY (ENPH)	97.5%
MAXAR TECHNOLOGIES (C:MAXR)	95.3%
ARRAY BIOPHARMA (ARRY)	90.0%
MELINTA THERAPEUTICS (MLNT)	87.3%

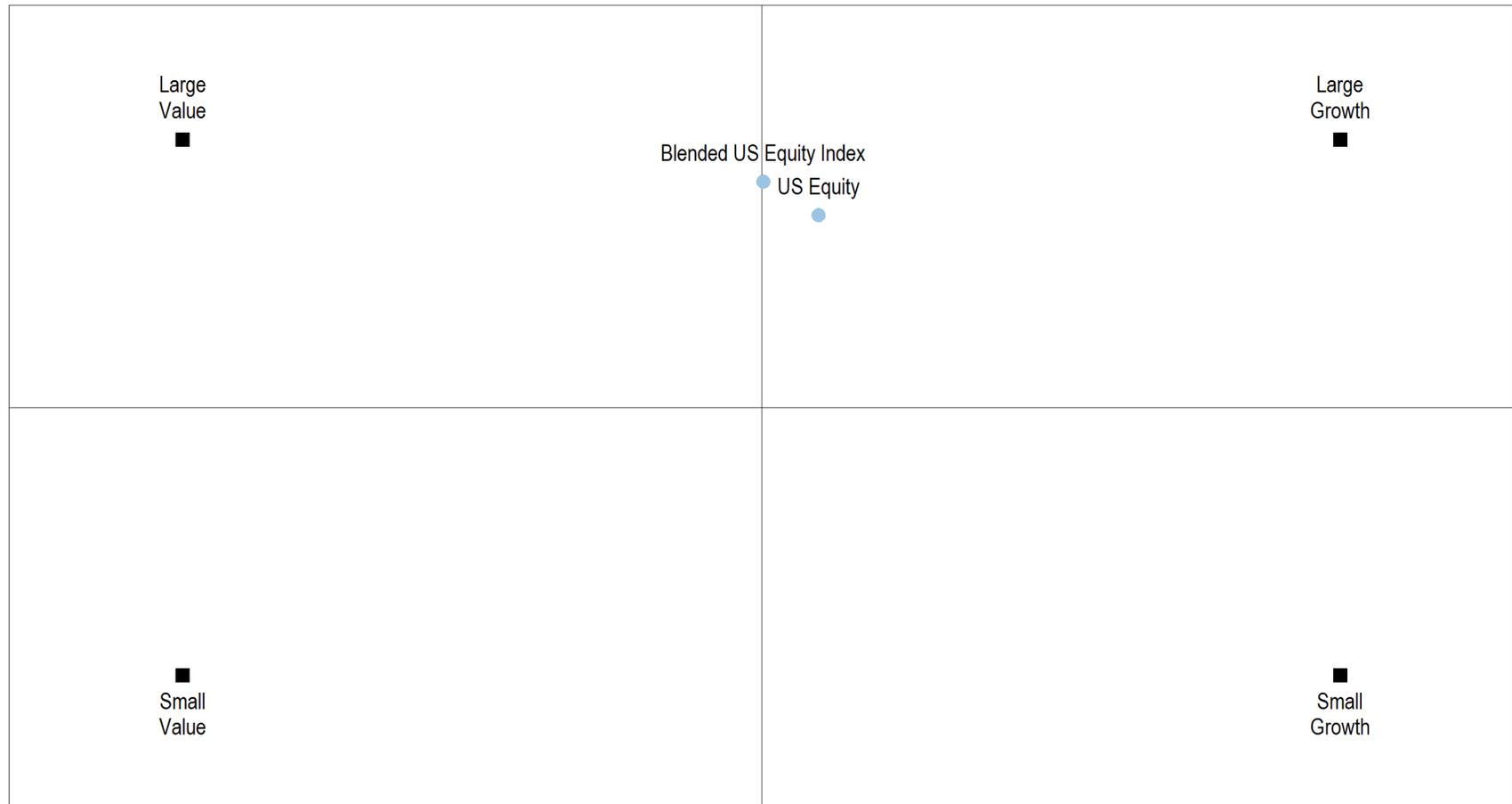
Worst Performers

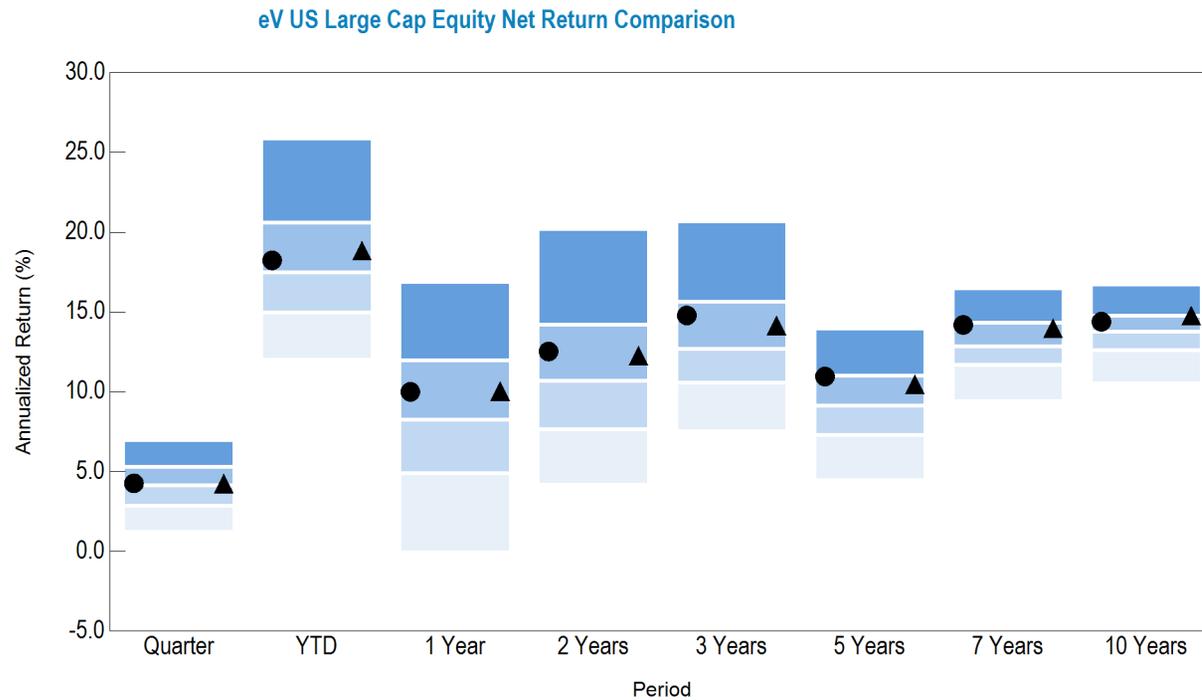
	Return %
FUSION CONNECT (FSNNQ)	-96.2%
INSYS THERAPEUTICS (INSYQ)	-93.5%
FTD COMPANIES (FTDCQ)	-93.1%
WEATHERFORD INTL. (WFTIQ)	-92.8%
BRISTOW GROUP (BRSWQ)	-91.4%
HALCON RESOURCES (HKRSQ)	-86.9%
PIONEER ENERGY SERVICES (PESX)	-85.7%
EROS INTERNATIONAL CL.A (EROS)	-85.2%
ACER THERAPEUTICS (ACER)	-84.0%
FRED'S 'A' (FRED)	-80.1%

US Equity Performance Attribution vs. Russell 3000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.1%	0.0%	0.1%	0.0%	-3.0%	-3.8%	4.3%	5.1%			
Materials	0.1%	0.1%	0.0%	0.0%	7.0%	5.0%	3.0%	2.9%			
Industrials	0.1%	0.2%	0.0%	0.0%	6.2%	4.6%	9.4%	10.1%			
Consumer Discretionary	-0.1%	-0.1%	0.0%	0.0%	3.9%	4.6%	12.3%	10.4%			
Consumer Staples	0.0%	0.0%	0.0%	0.0%	3.0%	3.3%	7.5%	6.5%			
Health Care	0.0%	0.0%	0.0%	0.0%	1.6%	1.5%	15.5%	14.4%			
Financials	0.0%	0.0%	-0.1%	0.0%	7.7%	7.6%	11.7%	13.2%			
Information Technology	-0.2%	-0.2%	0.0%	0.0%	4.7%	5.7%	18.3%	21.1%			
Communication Services	-0.1%	-0.1%	0.0%	0.0%	3.6%	4.4%	7.7%	9.1%			
Utilities	0.0%	0.0%	0.0%	0.0%	3.3%	3.6%	6.1%	3.2%			
Real Estate	0.0%	0.0%	0.0%	0.0%	1.2%	1.7%	3.9%	4.0%			
Cash	0.0%	0.0%	0.0%	0.0%	0.6%	--	0.1%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	4.0%	--	0.1%	0.0%			
Portfolio	-0.2%	=	-0.1%	+	-0.1%	+	0.0%	3.9%	4.1%	100.0%	100.0%

U.S. Effective Style Map





	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	7.0	25.9	16.9	20.2	20.6	14.0	16.5	16.7
25th Percentile	5.3	20.6	12.0	14.2	15.7	11.0	14.4	14.8
Median	4.1	17.5	8.2	10.7	12.7	9.1	12.8	13.8
75th Percentile	2.9	15.0	4.9	7.7	10.6	7.3	11.7	12.6
95th Percentile	1.2	12.0	-0.1	4.2	7.6	4.5	9.4	10.6
# of Portfolios	633	632	621	613	599	566	516	455
● Large Cap Equity	4.3 (48)	18.2 (45)	10.0 (40)	12.5 (36)	14.8 (31)	11.0 (26)	14.2 (28)	14.4 (34)
▲ Russell 1000	4.2 (48)	18.8 (40)	10.0 (39)	12.3 (37)	14.1 (36)	10.5 (31)	14.0 (31)	14.8 (26)

Characteristics

	Portfolio	Russell 1000
Number of Holdings	2,781	977
Weighted Avg. Market Cap. (\$B)	155.5	204.6
Median Market Cap. (\$B)	3.7	10.3
Price To Earnings	20.6	20.6
Price To Book	3.4	3.5
Price To Sales	1.9	2.0
Return on Equity (%)	23.5	24.9
Yield (%)	2.0	1.9
Beta (holdings; domestic)	0.9	1.0

Top Holdings

MICROSOFT	2.6%
AMAZON.COM	2.2%
APPLE	2.1%
JOHNSON & JOHNSON	1.3%
AT&T	1.2%
VISA 'A'	1.1%
FACEBOOK CLASS A	1.0%
ALPHABET A	1.0%
VERIZON COMMUNICATIONS	1.0%
CHEVRON	0.9%

Best Performers

	Return %
IOVANCE BIOTHERAPEUTICS (IOVA)	157.8%
ARQLE (ARQL)	129.9%
RAFAEL HOLDINGS B (RFL)	127.3%
ADVERUM BIOTCHS. (ADVM)	126.9%
CHIMERIX (CMRX)	105.7%
ZYNEX (ZYXI)	99.8%
ENPHASE ENERGY (ENPH)	97.5%
MAXAR TECHNOLOGIES (C:MAXR)	95.3%
ARRAY BIOPHARMA (ARRY)	90.0%
MELINTA THERAPEUTICS (MLNT)	87.3%

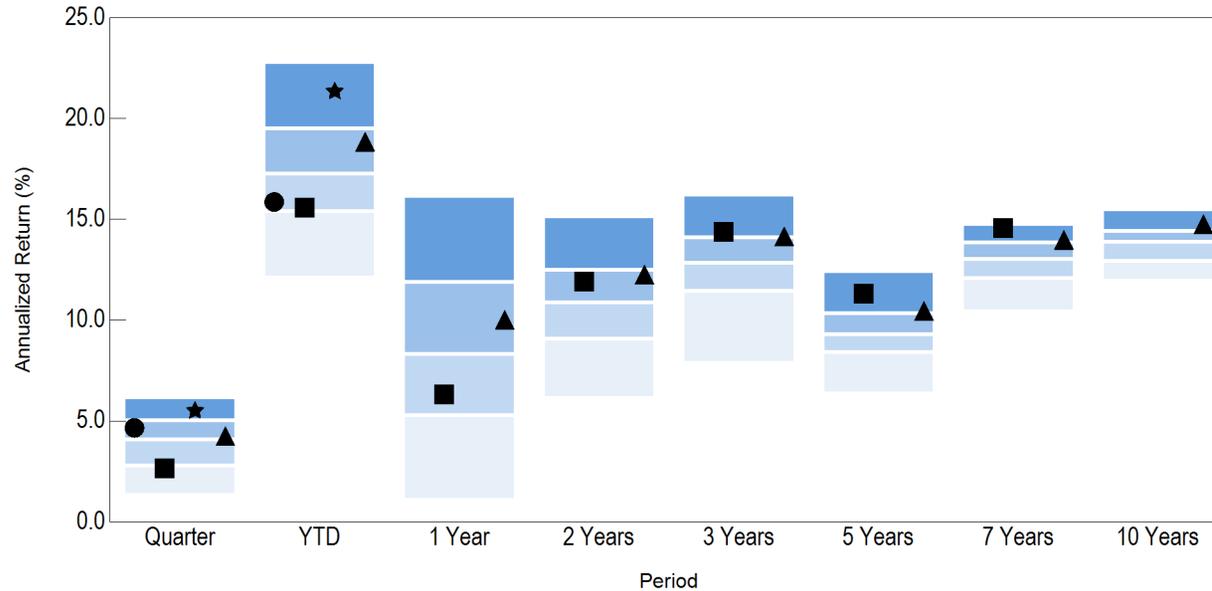
Worst Performers

	Return %
FUSION CONNECT (FSNNQ)	-96.2%
INSYS THERAPEUTICS (INSYQ)	-93.5%
FTD COMPANIES (FTDCQ)	-93.1%
WEATHERFORD INTL. (WFTIQ)	-92.8%
BRISTOW GROUP (BRWSQ)	-91.4%
HALCON RESOURCES (HKRSQ)	-86.9%
PIONEER ENERGY SERVICES (PESX)	-85.7%
EROS INTERNATIONAL CL.A (EROS)	-85.2%
ACER THERAPEUTICS (ACER)	-84.0%
FRED'S 'A' (FRED)	-80.1%

Large Cap Equity Performance Attribution vs. Russell 1000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.1%	0.1%	0.1%	0.0%	-2.4%	-3.6%	4.3%	5.2%			
Materials	0.1%	0.1%	0.0%	0.0%	8.1%	5.6%	3.0%	2.9%			
Industrials	0.1%	0.1%	0.0%	0.0%	5.5%	4.2%	8.8%	9.8%			
Consumer Discretionary	0.0%	0.0%	0.0%	0.0%	4.6%	5.0%	12.3%	10.3%			
Consumer Staples	0.0%	0.0%	0.0%	0.0%	3.4%	3.5%	8.0%	6.8%			
Health Care	0.0%	0.0%	0.0%	0.0%	1.8%	1.6%	15.5%	14.2%			
Financials	0.0%	0.0%	-0.1%	0.0%	8.2%	7.9%	11.3%	12.9%			
Information Technology	-0.1%	-0.1%	0.0%	0.0%	5.3%	5.9%	18.5%	21.5%			
Communication Services	-0.1%	-0.1%	0.0%	0.0%	3.9%	4.6%	8.1%	9.5%			
Utilities	0.0%	0.0%	0.0%	0.0%	3.3%	3.4%	6.4%	3.2%			
Real Estate	0.0%	0.0%	0.0%	0.0%	1.1%	1.8%	3.6%	3.8%			
Cash	0.0%	0.0%	0.0%	0.0%	0.6%	--	0.1%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	4.0%	--	0.1%	0.0%			
Portfolio	0.0%	=	0.1%	+	-0.1%	+	0.0%	4.2%	4.3%	100.0%	100.0%

eV US Large Cap Core Equity Net Return Comparison



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	6.2	22.8	16.1	15.1	16.2	12.4	14.7	15.5
25th Percentile	5.1	19.5	11.9	12.5	14.1	10.4	13.9	14.4
Median	4.1	17.3	8.3	10.9	12.9	9.3	13.1	13.9
75th Percentile	2.8	15.4	5.3	9.1	11.5	8.4	12.1	13.0
95th Percentile	1.4	12.1	1.1	6.1	7.9	6.4	10.4	12.0
# of Portfolios	199	198	195	191	186	174	152	129
● Acadian US MGD V	4.7 (37)	15.9 (69)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
■ DE Shaw	2.7 (78)	15.6 (73)	6.3 (67)	11.9 (33)	14.4 (20)	11.3 (12)	14.6 (8)	-- (--)
★ PanAgora Defuseq	5.5 (17)	21.3 (11)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
▲ Russell 1000	4.2 (44)	18.8 (33)	10.0 (39)	12.3 (28)	14.1 (25)	10.5 (22)	14.0 (21)	14.8 (14)

Characteristics

	Portfolio	Russell 1000
Number of Holdings	138	977
Weighted Avg. Market Cap. (\$B)	70.5	204.6
Median Market Cap. (\$B)	18.6	10.3
Price To Earnings	19.2	20.6
Price To Book	2.9	3.5
Price To Sales	1.9	2.0
Return on Equity (%)	24.5	24.9
Yield (%)	2.0	1.9
Beta (holdings; domestic)	0.8	1.0

Top Holdings

DANAHER	1.3%
ESTEE LAUDER COS.'A'	1.3%
BRIGHT HORIZONS FAMILY SOLUTIONS	1.2%
ZOETIS	1.2%
STARBUCKS	1.2%
COSTCO WHOLESALE	1.2%
HONEYWELL INTL.	1.2%
METTLER TOLEDO INTL.	1.2%
MONDELEZ INTERNATIONAL CL.A	1.2%
NEWS 'A'	1.2%

Best Performers

	Return %
ARCO PLATFORM A (ARCE)	35.6%
ARENA PHARMS. (ARNA)	30.8%
BRUKER (BRKR)	30.1%
HASBRO (HAS)	25.1%
H&R BLOCK (HRB)	23.5%
WASHINGTON FEDERAL (WAFD)	21.7%
MOTOROLA SOLUTIONS (MSI)	19.2%
BRIGHT HORIZONS FAMILY SOLUTIONS (BFAM)	18.7%
HERSHEY (HSY)	17.4%
SERVICE CORP.INTL. (SCI)	17.0%

Worst Performers

	Return %
UNITED THERAPEUTICS (UTHR)	-33.5%
HERBALIFE NUTRITION (HLF)	-19.3%
MARCUS (MCS)	-17.3%
GENOMIC HEALTH (GHDX)	-17.0%
SCHOLASTIC (SCHL)	-16.1%
WATERS (WAT)	-14.5%
ELI LILLY (LLY)	-14.1%
DELL TECHNOLOGIES C (DELL)	-13.4%
ROBERT HALF INTL. (RHI)	-12.0%
K12 (LRN)	-10.9%

Acadian US MGD V Performance Attribution vs. Russell 1000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.3%	0.2%	0.2%	-0.1%	-0.5%	-3.6%	3.0%	5.2%			
Materials	0.1%	0.2%	0.0%	-0.1%	12.2%	5.6%	1.8%	2.9%			
Industrials	0.0%	-0.1%	0.0%	0.1%	3.0%	4.2%	1.9%	9.8%			
Consumer Discretionary	0.2%	0.2%	0.0%	0.0%	6.5%	5.0%	13.3%	10.3%			
Consumer Staples	0.1%	0.1%	0.0%	0.1%	5.2%	3.5%	10.1%	6.8%			
Health Care	0.1%	0.2%	-0.2%	0.1%	3.0%	1.6%	21.8%	14.2%			
Financials	0.0%	0.0%	0.0%	0.0%	7.6%	7.9%	13.7%	12.9%			
Information Technology	-0.3%	-0.2%	-0.2%	0.1%	4.7%	5.9%	8.5%	21.5%			
Communication Services	-0.3%	-0.3%	0.0%	0.0%	1.9%	4.6%	9.3%	9.5%			
Utilities	0.0%	0.0%	-0.1%	0.0%	3.8%	3.4%	15.5%	3.2%			
Real Estate	0.1%	-0.1%	0.1%	0.1%	-0.5%	1.8%	0.6%	3.8%			
Cash	0.0%	0.0%	0.0%	0.0%	0.6%	--	0.4%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	0.3%	=	0.1%	+	-0.3%	+	0.4%	4.5%	4.3%	100.0%	100.0%

Characteristics

	Portfolio	Russell 1000
Number of Holdings	1,002	977
Weighted Avg. Market Cap. (\$B)	202.7	204.6
Median Market Cap. (\$B)	9.8	10.3
Price To Earnings	20.8	20.6
Price To Book	3.6	3.5
Price To Sales	2.1	2.0
Return on Equity (%)	24.7	24.9
Yield (%)	1.9	1.9
Beta (holdings; domestic)	1.0	1.0

Top Holdings

MICROSOFT	3.7%
APPLE	3.3%
AMAZON.COM	2.9%
FACEBOOK CLASS A	1.7%
BERKSHIRE HATHAWAY 'B'	1.5%
JOHNSON & JOHNSON	1.4%
JP MORGAN CHASE & CO.	1.3%
ALPHABET 'C'	1.2%
EXXON MOBIL	1.2%
ALPHABET A	1.2%

Best Performers

	Return %
ADIANT (ADNT)	87.3%
ANADARKO PETROLEUM (APC)	55.8%
CYPRESS SEMICON. (CY)	49.8%
OKTA CL.A (OKTA)	49.3%
ERIE INDEMNITY 'A' (ERIE)	43.2%
HEICO (HEI)	41.1%
ROKU (ROKU)	40.4%
SINCLAIR BROADCAST 'A' (SBGI)	39.9%
LEGG MASON (LM)	39.9%
COUPA SOFTWARE (COUP)	39.2%

Worst Performers

	Return %
WEATHERFORD INTL. (WFTIQ)	-92.8%
2U (TWOU)	-46.9%
ALKERMES (ALKS)	-38.2%
RANGE RES. (RRC)	-37.7%
ANTERO RESOURCES (AR)	-37.4%
CHESAPEAKE ENERGY (CHK)	-37.1%
RPC (RES)	-36.5%
REALOGY HOLDINGS (RLGY)	-35.8%
CHEMOURS (CC)	-34.7%
UNITED THERAPEUTICS (UTHR)	-33.5%

Characteristics

	Portfolio	Russell 1000
Number of Holdings	112	977
Weighted Avg. Market Cap. (\$B)	57.1	204.6
Median Market Cap. (\$B)	14.7	10.3
Price To Earnings	22.7	20.6
Price To Book	3.1	3.5
Price To Sales	2.2	2.0
Return on Equity (%)	21.0	24.9
Yield (%)	2.7	1.9
Beta (holdings; domestic)	0.7	1.0

Top Holdings

AT&T	3.4%
CHEVRON	3.1%
REPUBLIC SVS.'A'	2.8%
APTARGROUP	2.5%
AIR PRDS.& CHEMS.	2.3%
WASTE MANAGEMENT	2.2%

Best Performers

	Return %
ERIE INDEMNITY 'A' (ERIE)	43.2%
KAR AUCTION SERVICES (KAR)	29.6%
RENAISSANCERE HDG. (RNR)	24.3%
CINCINNATI FINL. (CINF)	21.3%
NORTHROP GRUMMAN (NOC)	20.4%

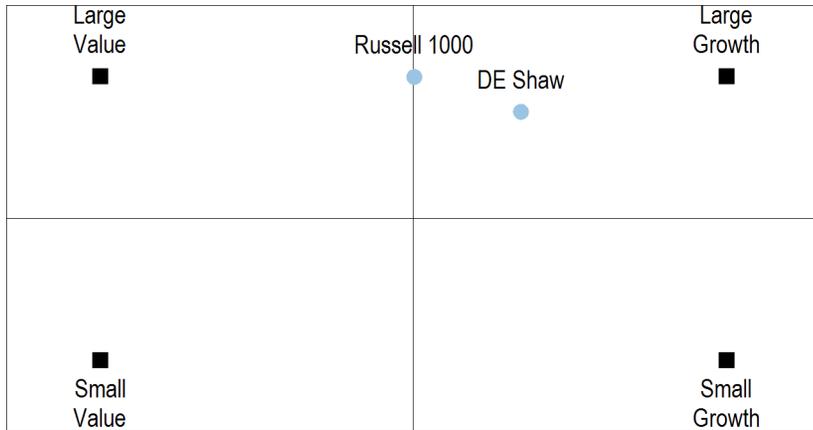
Worst Performers

	Return %
CDK GLOBAL (CDK)	-15.7%
WATERS (WAT)	-14.5%
ROLLINS (ROL)	-13.6%
INGREDION (INGR)	-12.2%
HIGHWOODS PROPERTIES (HIW)	-10.8%

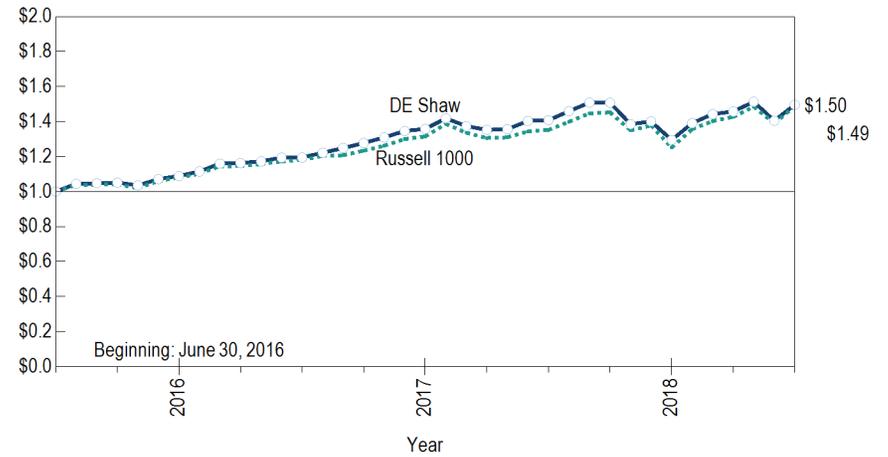
PanAgora Defuseq Performance Attribution vs. Russell 1000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.4%	0.3%	0.3%	-0.2%	2.0%	-3.6%	1.9%	5.2%			
Materials	0.7%	0.3%	0.0%	0.4%	15.5%	5.6%	6.4%	2.9%			
Industrials	0.5%	0.5%	0.0%	0.1%	8.9%	4.2%	11.6%	9.8%			
Consumer Discretionary	0.2%	0.1%	0.0%	0.0%	6.5%	5.0%	12.4%	10.3%			
Consumer Staples	-0.3%	-0.2%	0.0%	-0.1%	1.3%	3.5%	13.3%	6.8%			
Health Care	0.5%	0.5%	0.1%	-0.1%	5.3%	1.6%	11.2%	14.2%			
Financials	0.1%	0.7%	-0.2%	-0.4%	13.2%	7.9%	6.0%	12.9%			
Information Technology	-0.3%	-0.2%	-0.2%	0.1%	4.9%	5.9%	10.7%	21.5%			
Communication Services	0.0%	0.1%	0.0%	-0.1%	5.7%	4.6%	4.3%	9.5%			
Utilities	0.0%	0.0%	-0.1%	0.0%	3.8%	3.4%	14.5%	3.2%			
Real Estate	-0.2%	-0.1%	-0.1%	-0.1%	0.0%	1.8%	7.5%	3.8%			
Cash	0.0%	0.0%	0.0%	0.0%	0.6%	--	0.1%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	1.5%	=	2.1%	+	-0.3%	+	-0.3%	5.7%	4.3%	100.0%	100.0%

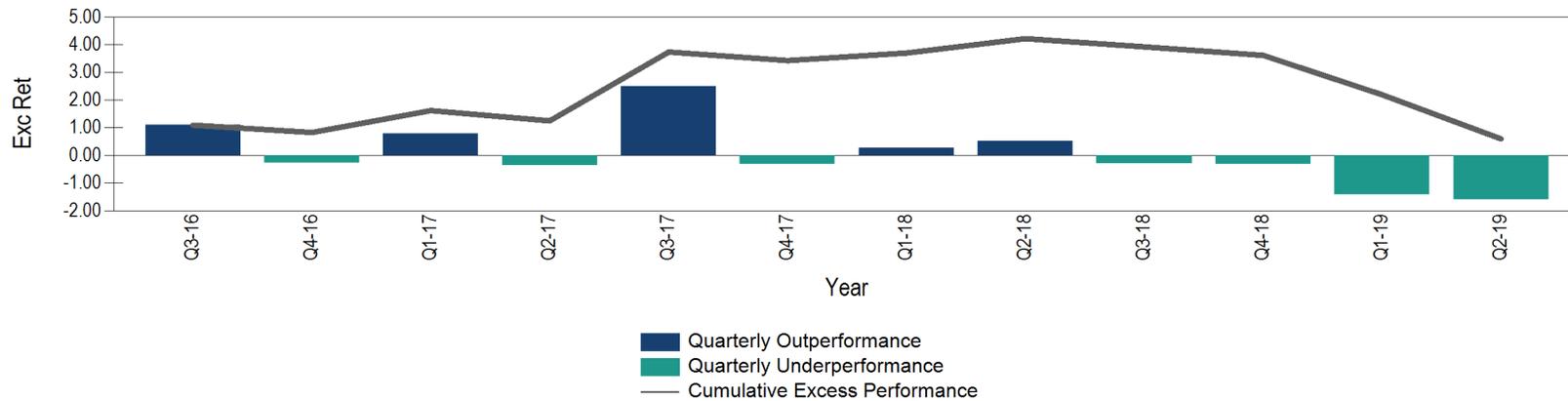
U.S. Effective Style Map



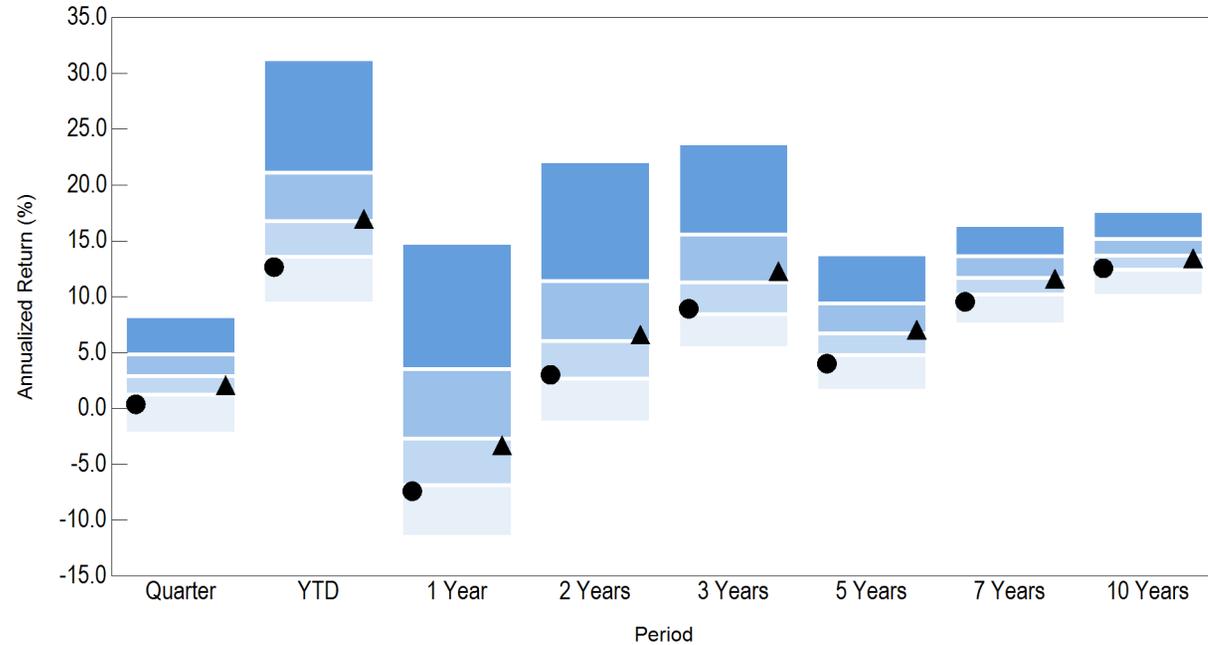
Growth of a Dollar



Quarterly and Cumulative Excess Performance



eV US Small Cap Equity Net Return Comparison



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	8.2	31.2	14.8	22.1	23.7	13.8	16.4	17.7
25th Percentile	4.9	21.1	3.6	11.5	15.6	9.5	13.7	15.2
Median	2.9	16.8	-2.7	6.1	11.3	6.8	11.7	13.7
75th Percentile	1.3	13.6	-6.9	2.7	8.5	4.8	10.2	12.4
95th Percentile	-2.2	9.4	-11.4	-1.3	5.5	1.6	7.6	10.1
# of Portfolios	410	410	404	399	388	368	341	310
● Small Cap Equity	0.4 (86)	12.7 (85)	-7.4 (78)	3.0 (72)	8.9 (71)	4.0 (84)	9.5 (84)	12.6 (72)
▲ Russell 2000	2.1 (62)	17.0 (50)	-3.3 (54)	6.6 (48)	12.3 (42)	7.1 (47)	11.6 (52)	13.4 (55)

Characteristics

	Portfolio	Russell 2000
Number of Holdings	344	1,977
Weighted Avg. Market Cap. (\$B)	2.3	2.6
Median Market Cap. (\$B)	1.4	0.8
Price To Earnings	15.7	19.2
Price To Book	2.2	2.5
Price To Sales	0.7	1.2
Return on Equity (%)	13.4	2.9
Yield (%)	1.5	1.4
Beta (holdings; domestic)	1.3	1.2

Top Holdings

HAEMONETICS	1.1%
EMCOR GROUP	1.0%
PORTLAND GEN.ELEC.	1.0%
RADIAN GP.	1.0%
WORLD FUEL SVS.	0.9%
TEGNA	0.9%
INTEGER HOLDINGS	0.9%
MGIC INVESTMENT	0.8%
RYMAN HOSPITALITY PROPS.	0.8%
PROGRESS SOFTWARE	0.8%

Best Performers

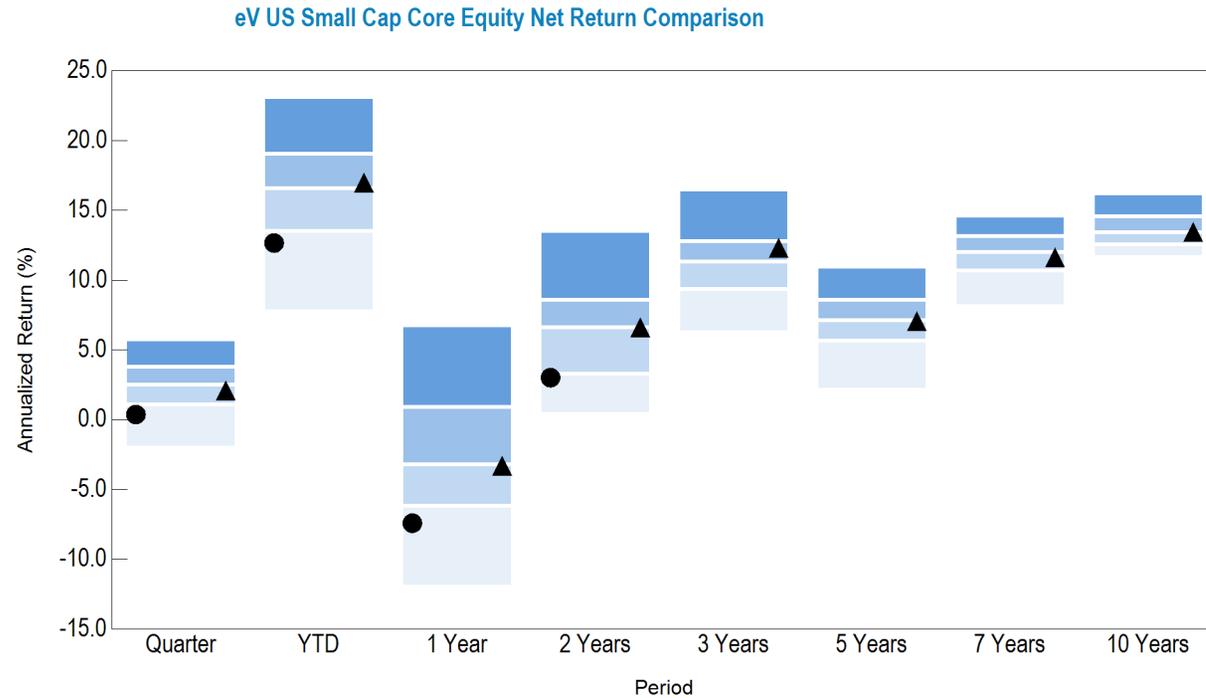
	Return %
ARRAY BIOPHARMA (ARRY)	90.0%
SONIC AUTOMOTIVE 'A' (SAH)	58.3%
VECTRUS (VEC)	52.5%
SCORPIO TANKERS (STNG)	49.4%
GMS (GMS)	45.5%
REPLIGEN (RGEN)	45.5%
META FINANCIAL GROUP (CASH)	42.8%
SINCLAIR BROADCAST 'A' (SBGI)	39.9%
HAEMONETICS (HAE)	37.6%
NACCO INDUSTRIES 'A' (NC)	36.4%

Worst Performers

	Return %
SUPERIOR ENERGY SVS. (SPN)	-72.2%
J JILL (JILL)	-63.8%
MAMMOTH ENERGY SERVICES (TUSK)	-58.3%
R R DONNELLEY & SONS (RRD)	-57.9%
MALLINCKRODT (MNK)	-57.8%
RAYONIER ADV.D.MATERIALS (RYAM)	-51.6%
TENNECO A (TEN)	-50.0%
ENDO INTERNATIONAL (ENDP)	-48.7%
CARE.COM (CRCM)	-44.4%
OFFICE DEPOT (ODP)	-42.5%

Small Cap Equity Performance Attribution vs. Russell 2000

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.1%	0.0%	-0.1%	0.0%	-9.2%	-8.4%	4.4%	3.6%			
Materials	-0.1%	-0.1%	0.0%	0.0%	-4.0%	-0.7%	3.1%	3.9%			
Industrials	0.3%	0.3%	0.0%	0.0%	10.5%	8.5%	15.0%	14.4%			
Consumer Discretionary	-0.3%	-0.3%	0.0%	0.0%	-3.1%	-0.6%	12.6%	12.1%			
Consumer Staples	-0.2%	-0.4%	0.0%	0.1%	-15.9%	-3.3%	2.0%	2.8%			
Health Care	0.1%	0.1%	0.0%	0.0%	0.6%	-0.1%	15.1%	16.2%			
Financials	-0.3%	-0.3%	0.0%	0.0%	3.5%	5.2%	16.7%	17.2%			
Information Technology	-1.0%	-0.9%	0.0%	-0.1%	-3.2%	2.9%	16.7%	15.2%			
Communication Services	-0.1%	0.0%	-0.1%	0.0%	-6.3%	-5.9%	4.0%	3.3%			
Utilities	-0.1%	0.0%	0.0%	0.0%	4.2%	5.2%	3.3%	3.8%			
Real Estate	0.0%	0.0%	0.0%	0.0%	1.7%	1.1%	7.2%	7.5%			
Cash	0.0%	0.0%	0.0%	0.0%	0.6%	--	0.0%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	-1.6%	=	-1.6%	+	0.0%	+	0.0%	0.5%	2.1%	100.0%	100.0%



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	5.7	23.1	6.7	13.5	16.5	11.0	14.6	16.2
25th Percentile	3.8	19.1	0.9	8.6	12.8	8.6	13.2	14.6
Median	2.5	16.6	-3.2	6.6	11.4	7.1	12.1	13.4
75th Percentile	1.1	13.5	-6.1	3.3	9.4	5.7	10.7	12.6
95th Percentile	-2.0	7.8	-12.0	0.4	6.3	2.2	8.2	11.7
# of Portfolios	109	109	108	104	100	98	88	77
● QMA US Small Cap	0.4 (86)	12.7 (87)	-7.4 (81)	3.0 (79)	-- (--)	-- (--)	-- (--)	-- (--)
▲ Russell 2000	2.1 (58)	17.0 (47)	-3.3 (51)	6.6 (51)	12.3 (37)	7.1 (54)	11.6 (57)	13.4 (50)

Characteristics

	Portfolio	Russell 2000
Number of Holdings	344	1,977
Weighted Avg. Market Cap. (\$B)	2.3	2.6
Median Market Cap. (\$B)	1.4	0.8
Price To Earnings	15.7	19.2
Price To Book	2.2	2.5
Price To Sales	0.7	1.2
Return on Equity (%)	13.4	2.9
Yield (%)	1.5	1.4
Beta (holdings; domestic)	1.3	1.2

Top Holdings

HAEMONETICS	1.1%
EMCOR GROUP	1.0%
PORTLAND GEN.ELEC.	1.0%
RADIAN GP.	1.0%
WORLD FUEL SVS.	0.9%
TEGNA	0.9%
INTEGER HOLDINGS	0.9%
MGIC INVESTMENT	0.8%
RYMAN HOSPITALITY PROPS.	0.8%
PROGRESS SOFTWARE	0.8%

Best Performers

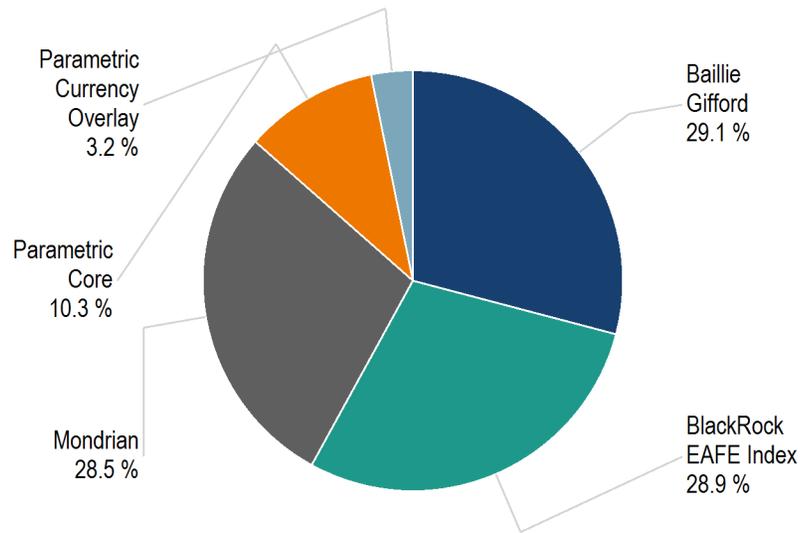
	Return %
ARRAY BIOPHARMA (ARRY)	90.0%
SONIC AUTOMOTIVE 'A' (SAH)	58.3%
VECTRUS (VEC)	52.5%
SCORPIO TANKERS (STNG)	49.4%
GMS (GMS)	45.5%
REPLIGEN (RGEN)	45.5%
META FINANCIAL GROUP (CASH)	42.8%
SINCLAIR BROADCAST 'A' (SBGI)	39.9%
HAEMONETICS (HAE)	37.6%
NACCO INDUSTRIES 'A' (NC)	36.4%

Worst Performers

	Return %
SUPERIOR ENERGY SVS. (SPN)	-72.2%
J JILL (JILL)	-63.8%
MAMMOTH ENERGY SERVICES (TUSK)	-58.3%
R R DONNELLEY & SONS (RRD)	-57.9%
MALLINCKRODT (MNK)	-57.8%
RAYONIER ADV.D.MATERIALS (RYAM)	-51.6%
TENNECO A (TEN)	-50.0%
ENDO INTERNATIONAL (ENDP)	-48.7%
CARE.COM (CRCM)	-44.4%
OFFICE DEPOT (ODP)	-42.5%

QMA US Small Cap Performance Attribution vs. Russell 2000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.1%	0.0%	-0.1%	0.0%	-9.2%	-8.4%	4.4%	3.6%			
Materials	-0.1%	-0.1%	0.0%	0.0%	-4.0%	-0.7%	3.1%	3.9%			
Industrials	0.3%	0.3%	0.0%	0.0%	10.5%	8.5%	15.0%	14.4%			
Consumer Discretionary	-0.3%	-0.3%	0.0%	0.0%	-3.1%	-0.6%	12.6%	12.1%			
Consumer Staples	-0.2%	-0.4%	0.0%	0.1%	-15.9%	-3.3%	2.0%	2.8%			
Health Care	0.1%	0.1%	0.0%	0.0%	0.6%	-0.1%	15.1%	16.2%			
Financials	-0.3%	-0.3%	0.0%	0.0%	3.5%	5.2%	16.7%	17.2%			
Information Technology	-1.0%	-0.9%	0.0%	-0.1%	-3.2%	2.9%	16.7%	15.2%			
Communication Services	-0.1%	0.0%	-0.1%	0.0%	-6.3%	-5.9%	4.0%	3.3%			
Utilities	-0.1%	0.0%	0.0%	0.0%	4.2%	5.2%	3.3%	3.8%			
Real Estate	0.0%	0.0%	0.0%	0.0%	1.7%	1.1%	7.2%	7.5%			
Cash	0.0%	0.0%	0.0%	0.0%	0.6%	--	0.0%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	-1.6%	=	-1.6%	+	0.0%	+	0.0%	0.5%	2.1%	100.0%	100.0%



	Actual \$	Actual %	Manager Contribution to Excess Return %
Baillie Gifford	\$257,008,271	29.1%	0.8%
BlackRock EAFE Index	\$255,711,316	28.9%	0.1%
Mondrian	\$252,340,656	28.5%	-0.1%
Parametric Core	\$91,229,837	10.3%	0.1%
Parametric Currency Overlay	\$27,910,151	3.2%	0.0%
Actual vs. Policy Weight Difference			-0.1%
Total	\$884,200,231	100.0%	0.7%

Statistics Summary

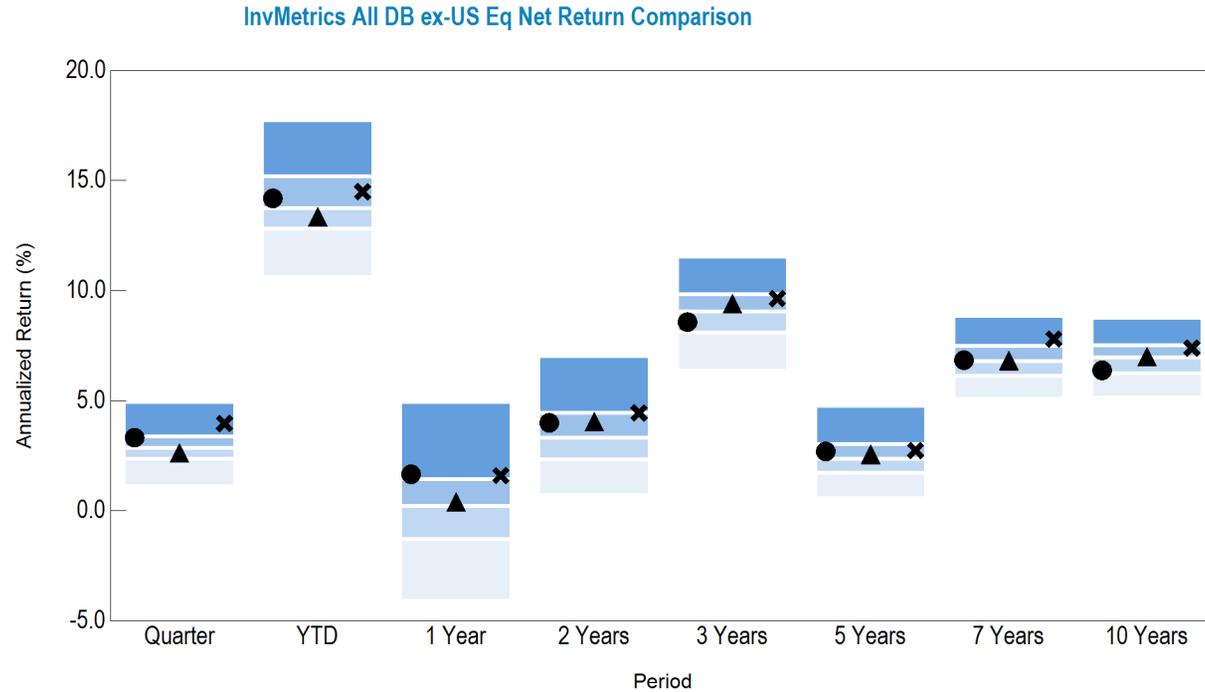
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	8.6%	11.3%	0.6	-0.6	1.5%
Blended International Equity Index	9.4%	11.3%	0.7	--	0.0%
Developed Markets	8.6%	11.6%	0.6	-0.7	1.9%
MSCI ACWI ex USA Gross	9.9%	11.4%	0.7	--	0.0%
Baillie Gifford	9.8%	13.6%	0.6	0.0	5.2%
MSCI ACWI ex US	9.9%	11.4%	0.7	--	0.0%
BlackRock EAFE Index	9.5%	11.1%	0.7	1.9	0.2%
MSCI EAFE	9.1%	11.1%	0.7	--	0.0%
Mondrian	7.1%	11.3%	0.5	-0.7	3.7%
MSCI ACWI ex USA Value Gross	9.6%	11.3%	0.7	--	0.0%
Emerging Markets	7.5%	12.2%	0.5	-0.9	4.0%
MSCI Emerging Markets Gross	11.1%	13.9%	0.7	--	0.0%
Parametric Core	7.5%	12.2%	0.5	-0.9	4.0%
MSCI Emerging Markets Gross	11.1%	13.9%	0.7	--	0.0%

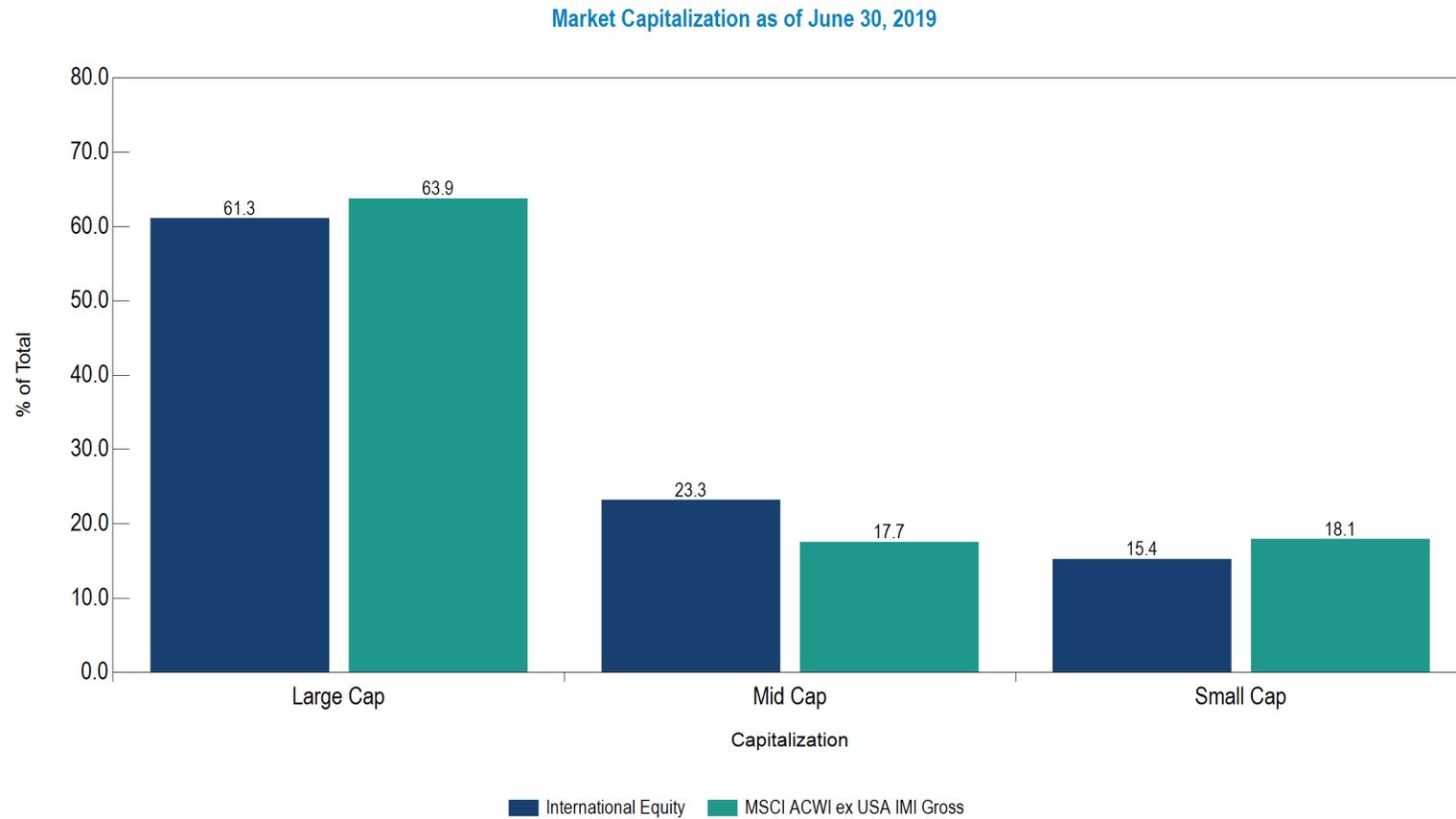
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	2.7%	12.2%	0.1	0.1	1.6%
Blended International Equity Index	2.6%	12.4%	0.1	--	0.0%
Developed Markets	2.9%	12.3%	0.2	0.1	2.1%
MSCI ACWI ex USA Gross	2.6%	12.6%	0.1	--	0.0%
Baillie Gifford	4.5%	13.9%	0.3	0.4	4.6%
MSCI ACWI ex US	2.6%	12.6%	0.1	--	0.0%
BlackRock EAFE Index	2.6%	12.3%	0.1	1.9	0.2%
MSCI EAFE	2.2%	12.3%	0.1	--	0.0%
Mondrian	1.3%	11.9%	0.0	0.1	4.4%
MSCI ACWI ex USA Value Gross	0.9%	13.1%	0.0	--	0.0%
Emerging Markets	0.7%	14.1%	0.0	-0.5	4.2%
MSCI Emerging Markets Gross	2.9%	15.8%	0.1	--	0.0%



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	4.9	17.7	4.9	7.0	11.5	4.8	8.8	8.7
25th Percentile	3.4	15.2	1.5	4.5	9.9	3.1	7.5	7.5
Median	2.9	13.8	0.2	3.3	9.1	2.4	6.8	7.0
75th Percentile	2.4	12.8	-1.3	2.4	8.1	1.7	6.1	6.3
95th Percentile	1.1	10.6	-4.1	0.7	6.4	0.6	5.1	5.2
# of Portfolios	418	418	416	407	396	375	308	239
● International Equity	3.3 (31)	14.2 (41)	1.7 (23)	4.0 (34)	8.6 (66)	2.7 (34)	6.8 (49)	6.4 (73)
▲ Blended International Equity Index	2.6 (66)	13.4 (61)	0.4 (46)	4.1 (33)	9.4 (36)	2.6 (40)	6.8 (51)	7.0 (50)
✕ MSCI EAFE Gross	4.0 (12)	14.5 (35)	1.6 (24)	4.4 (26)	9.6 (30)	2.7 (33)	7.8 (18)	7.4 (33)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	MSCI ACWI ex USA IMI Gross
Number of Holdings	2,139	6,381
Weighted Avg. Market Cap. (\$B)	49.5	57.1
Median Market Cap. (\$B)	6.7	1.6
Price To Earnings	16.1	14.9
Price To Book	2.3	2.3
Price To Sales	1.1	1.1
Return on Equity (%)	15.5	14.8
Yield (%)	3.1	3.1
Beta (holdings; global)	1.0	0.9

Top Holdings

UNITED OVERSEAS BANK	1.3%
AIA GROUP	1.0%
ALIBABA GROUP HOLDING ADR 1:8	1.0%
NOVARTIS 'R'	0.9%
NASPERS	0.9%
ALLIANZ	0.9%
ENEL	0.8%
GLAXOSMITHKLINE	0.8%
BP	0.8%
SANOFI	0.8%

Best Performers

	Return %
IMPERIAL PAC.INTL.HDG. (K:FNAT)	260.3%
BANK OF PIRAEUS (G:PEIR)	155.1%
VGI FB (Q:VGIF)	96.1%
EOH (R:EOHJ)	92.4%
NAVIOS MARITIME HDG. (NM)	88.2%
WHA FB (Q:WHAF)	76.3%
PJSC GAZPROM ADR (OTC) CDI 1:2 (OGZPY)	61.9%
NATIONAL BK.OF GREECE (G:ETE)	57.1%
QUALICORP ON (BR:QUA)	54.5%
PLAY COMMUNICATIONS (PO:PLY)	49.5%

Worst Performers

	Return %
HLB (KO:KPI)	-56.6%
FULLSHARE HOLDINGS (K:WARD)	-53.6%
SIAM CITY CEMENT FB (Q:SCCF)	-49.2%
THE SEARLE COMPANY (PK:SEA)	-45.5%
D G KHAN CEMENT COMPANY (PK:DEG)	-41.7%
TEVA PHARM.INDS.ADR 1:1 (TEVA)	-41.1%
INSCOBEE (KO:ENK)	-40.7%
VIROMED (KO:VIR)	-39.6%
NISHAT MILLS (PK:NMI)	-38.9%
TRG PAKISTAN (PK:TRG)	-37.5%

International Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.1%	0.1%	0.0%	-0.1%	0.8%	0.3%	5.0%	6.9%			
Materials	-0.2%	-0.2%	0.0%	0.0%	-0.1%	3.1%	6.1%	7.9%			
Industrials	0.2%	0.2%	0.0%	0.0%	6.4%	4.8%	13.6%	12.8%			
Consumer Discretionary	-0.1%	-0.1%	0.0%	0.0%	2.5%	3.2%	13.4%	11.3%			
Consumer Staples	0.2%	0.1%	0.0%	0.0%	3.7%	2.0%	9.6%	9.5%			
Health Care	0.2%	0.2%	0.0%	0.0%	3.7%	1.1%	9.1%	8.3%			
Financials	-0.3%	-0.2%	0.0%	-0.1%	3.3%	4.5%	18.0%	20.2%			
Information Technology	0.1%	0.1%	0.0%	0.0%	6.2%	4.2%	7.7%	8.6%			
Communication Services	0.1%	0.2%	0.0%	0.0%	2.8%	1.1%	7.0%	6.7%			
Utilities	0.0%	0.0%	0.0%	0.0%	3.7%	2.6%	4.1%	3.3%			
Real Estate	0.1%	0.1%	0.1%	0.0%	1.5%	0.0%	2.4%	4.5%			
Cash	-0.1%	0.0%	-0.1%	0.0%	0.6%	--	4.1%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	0.4%	=	0.6%	+	0.0%	+	-0.2%	3.4%	3.0%	100.0%	100.0%

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

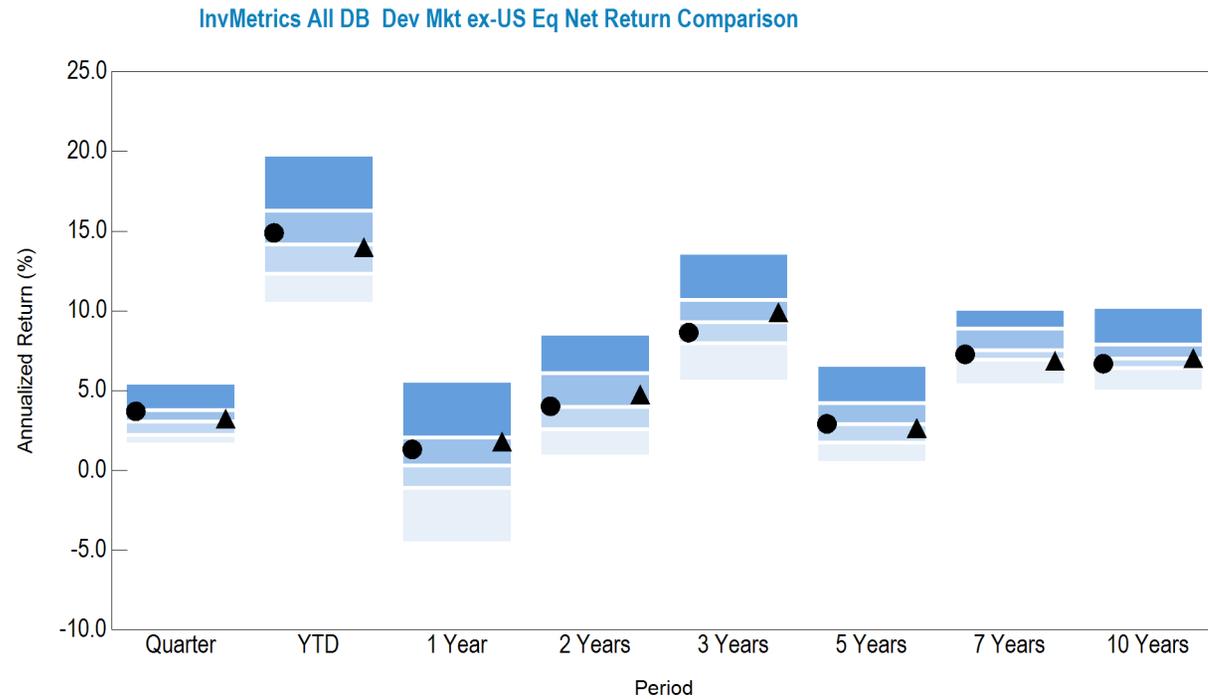
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	1.3%	3.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Belgium	1.2%	2.1%	0.3%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	1.5%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Denmark	2.0%	1.4%	1.4%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Finland	9.6%	1.6%	0.6%	0.7%	0.1%	0.0%	0.0%	0.0%	0.1%
France	7.0%	7.3%	5.1%	6.9%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Germany	10.1%	7.5%	6.6%	5.5%	0.1%	0.0%	0.0%	0.0%	0.2%
Greece*	19.7%	23.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Hungary*	-2.1%	-4.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Ireland	14.3%	3.7%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Italy	3.4%	3.2%	2.1%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Luxembourg	-6.1%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	4.9%	6.3%	2.4%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Norway	2.9%	1.6%	0.2%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	6.8%	4.0%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Portugal	10.9%	3.3%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Russia*	22.2%	16.6%	0.5%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%
Spain	4.7%	2.6%	2.7%	2.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Sweden	5.3%	5.6%	2.9%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Switzerland	9.9%	8.9%	4.8%	5.6%	0.1%	0.0%	0.0%	0.0%	0.0%
United Kingdom	0.2%	0.8%	13.7%	11.8%	-0.1%	0.0%	0.0%	0.0%	-0.1%

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

	Returns and Weights				Attribution Effects				Total Effects	
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect		
AsiaPacific										
Australia	8.2%	6.8%	3.5%	4.8%	0.1%	-0.1%	0.0%	0.0%	0.0%	
China*	-1.8%	-3.8%	4.2%	7.7%	0.2%	0.2%	0.0%	-0.1%	0.3%	
Hong Kong	2.0%	0.6%	4.4%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
India*	-3.0%	-0.2%	2.8%	2.5%	-0.1%	0.0%	0.0%	0.0%	-0.1%	
Indonesia*	6.9%	3.2%	0.5%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
Japan	0.2%	0.7%	16.7%	17.0%	-0.1%	0.0%	0.0%	0.0%	-0.1%	
Korea*	-4.7%	-2.3%	2.6%	3.4%	-0.1%	0.0%	0.0%	0.0%	0.0%	
Malaysia*	-0.3%	1.5%	0.9%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
New Zealand	4.0%	4.5%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
Pakistan*	-19.3%	-21.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Philippines*	3.0%	4.5%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
Singapore	6.5%	6.6%	2.8%	0.9%	0.0%	0.1%	0.0%	0.0%	0.1%	
Taiwan*	0.5%	0.9%	2.6%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
Thailand*	9.9%	10.1%	0.9%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
Americas										
Brazil*	7.2%	7.6%	1.7%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	
Canada	22.1%	4.8%	1.1%	6.8%	1.2%	0.0%	-0.1%	-1.0%	0.0%	
Chile*	-2.3%	-3.8%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
Colombia*	2.0%	-1.7%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
Mexico*	1.1%	1.5%	0.8%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	
Peru*	-2.5%	-2.4%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
United States	7.9%	4.2%	1.4%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	-5.2%	3.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Israel	-3.8%	1.0%	0.1%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Kuwait**	7.5%	3.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	1.4%	2.3%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	12.5%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	5.2%	6.3%	2.1%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Turkey*	4.7%	3.0%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	-2.7%	-2.1%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	8.9%	4.7%	5.5%	9.7%	0.5%	0.0%	-0.1%	-0.2%	0.1%
Europe	5.3%	4.9%	44.7%	43.4%	0.2%	0.0%	-0.1%	0.0%	0.2%
Asia/Pacific	1.0%	0.6%	42.4%	44.4%	0.1%	0.0%	0.0%	0.0%	0.2%
Other	3.9%	4.1%	3.4%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.6%	--	4.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Total	3.4%	3.0%	100.0%	100.0%	0.9%	0.0%	-0.2%	-0.2%	0.4%
Totals									
Developed	4.3%	3.8%	73.7%	74.8%	0.5%	0.0%	-0.2%	0.0%	0.4%
Emerging*	1.0%	0.6%	22.1%	25.2%	0.1%	0.1%	0.0%	0.0%	0.1%
Frontier**	8.6%	--	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.6%	--	4.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%



	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	5.4	19.8	5.6	8.6	13.6	6.6	10.1	10.2
25th Percentile	3.8	16.3	2.1	6.1	10.7	4.2	8.9	7.9
Median	3.1	14.2	0.3	4.0	9.3	2.9	7.6	7.0
75th Percentile	2.2	12.3	-1.1	2.6	8.0	1.7	6.9	6.4
95th Percentile	1.6	10.5	-4.6	0.9	5.6	0.5	5.4	4.9
# of Portfolios	155	155	154	148	140	130	110	71
● Developed Markets	3.7 (29)	14.9 (43)	1.3 (39)	4.0 (48)	8.6 (60)	2.9 (51)	7.3 (57)	6.7 (65)
▲ MSCI ACWI ex USA Gross	3.2 (49)	14.0 (54)	1.8 (34)	4.8 (39)	9.9 (35)	2.6 (61)	6.9 (77)	7.0 (51)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	1,037	2,204
Weighted Avg. Market Cap. (\$B)	52.5	65.4
Median Market Cap. (\$B)	10.7	7.6
Price To Earnings	16.6	15.0
Price To Book	2.3	2.3
Price To Sales	1.1	1.2
Return on Equity (%)	15.3	15.3
Yield (%)	3.0	3.2
Beta (holdings; global)	1.0	5.4

Top Holdings

UNITED OVERSEAS BANK	1.5%
AIA GROUP	1.1%
ALIBABA GROUP HOLDING ADR 1:8	1.0%
NOVARTIS 'R'	1.0%
ALLIANZ	1.0%
ENEL	0.9%
GLAXOSMITHKLINE	0.9%
BP	0.9%
NASPERS	0.9%
SANOFI	0.9%

Best Performers

	Return %
PJSC GAZPROM ADR (OTC) CDI 1:2 (OGZPY)	61.9%
SHOPIFY 'A' (NYS) (SHOP)	45.3%
PERSOL HOLDINGS (J:TMHD)	45.1%
AXEL SPRINGER (D:SPR)	43.3%
TAIYO NIPPON SANZO (J:TNSC)	39.4%
TSINGTAO BREWERY 'H' (K:TSIN)	35.1%
WIRECARD (D:WDI)	34.4%
FORTESCUE METALS GP. (A:FMGX)	34.4%
MERLIN ENTERTAINMENTS (UKIR:MERL)	29.8%
FAST RETAILING (J:RETA)	28.6%

Worst Performers

	Return %
TEVA PHARM.INDS.ADR 1:1 (TEVA)	-41.1%
IMPERIAL BRANDS (UKIR:IMB)	-30.2%
BAIDU 'A' ADR 10:1 (BIDU)	-28.8%
RYOHIN KEIKAKU (J:YOHN)	-28.7%
INDIABULLS HOUSING FIN (IN:IEZ)	-27.9%
SUZANO ON (BR:SUZ)	-27.6%
UMICORE (B:UMI)	-27.2%
PANDORA (DK:PND)	-24.0%
SUMITOMO DAINIPPON PHA. (J:DPPH)	-23.3%
BLUESCOPE STEEL (OTC) (BLSFF)	-22.5%

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.0%	0.1%	0.0%	-0.1%	0.8%	0.7%	5.1%	7.4%			
Materials	-0.2%	-0.2%	0.0%	0.0%	0.5%	3.1%	5.6%	7.6%			
Industrials	0.3%	0.2%	0.0%	0.0%	7.0%	5.4%	14.1%	11.8%			
Consumer Discretionary	-0.2%	-0.2%	0.0%	0.0%	2.0%	4.0%	14.3%	11.0%			
Consumer Staples	0.2%	0.1%	0.0%	0.0%	4.0%	2.4%	9.9%	9.9%			
Health Care	0.3%	0.2%	0.0%	0.0%	4.1%	1.3%	9.6%	8.4%			
Financials	-0.3%	-0.2%	0.0%	-0.1%	3.2%	4.7%	18.8%	21.7%			
Information Technology	0.2%	0.2%	0.0%	0.0%	6.5%	4.1%	8.0%	8.4%			
Communication Services	0.1%	0.1%	0.0%	0.0%	2.3%	1.0%	7.2%	7.0%			
Utilities	0.1%	0.1%	0.0%	0.0%	3.8%	2.3%	3.8%	3.4%			
Real Estate	0.1%	0.1%	0.1%	0.0%	0.2%	-1.6%	2.1%	3.4%			
Cash	0.0%	0.0%	0.0%	0.0%	0.6%	--	1.5%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	0.4%	=	0.5%	+	0.1%	+	-0.1%	3.6%	3.2%	100.0%	100.0%

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

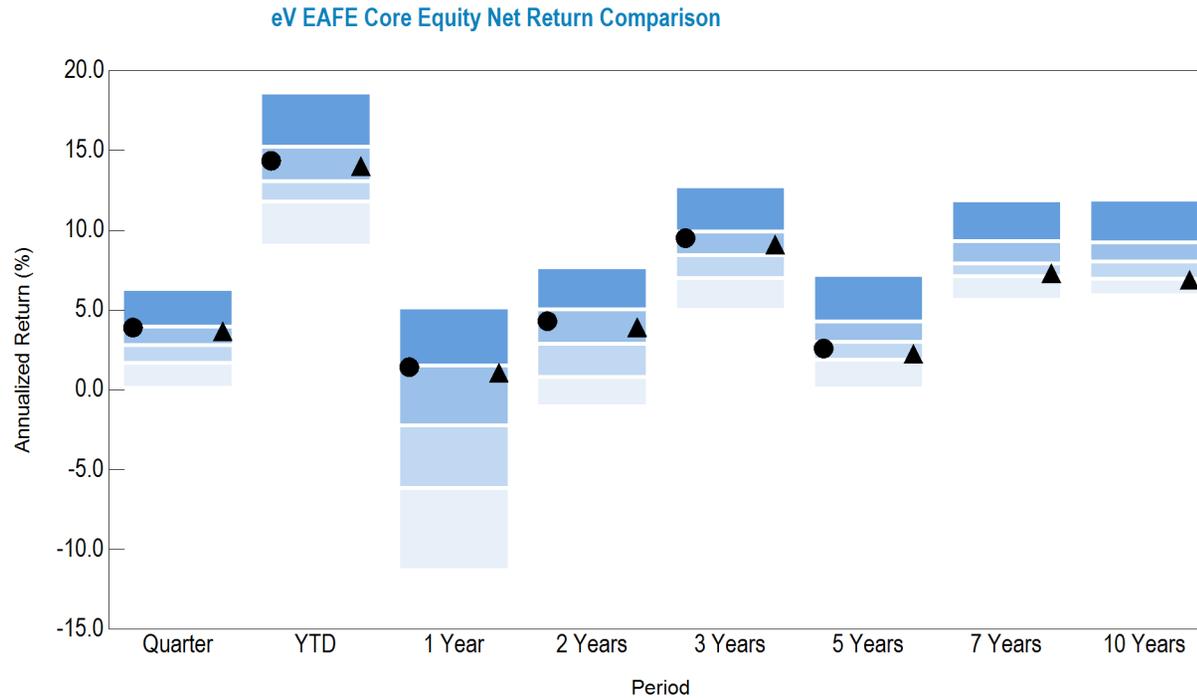
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	1.3%	1.2%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Belgium	1.2%	1.1%	0.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	--	3.9%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	2.0%	1.9%	1.6%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Finland	9.6%	1.0%	0.7%	0.7%	0.1%	0.0%	0.0%	0.0%	0.1%
France	7.0%	7.3%	5.8%	7.5%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Germany	10.1%	7.8%	7.5%	5.7%	0.1%	0.1%	0.0%	0.0%	0.3%
Greece*	--	16.9%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	-4.2%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	14.3%	4.7%	0.5%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Italy	3.4%	3.5%	2.4%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Luxembourg	-1.8%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	4.8%	6.0%	2.7%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Norway	2.9%	2.9%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	--	3.6%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	10.9%	2.6%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Russia*	36.1%	16.7%	0.3%	1.0%	0.2%	-0.1%	0.0%	-0.2%	-0.1%
Spain	4.7%	2.5%	3.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Sweden	5.3%	5.4%	3.3%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Switzerland	9.9%	8.9%	5.5%	6.0%	0.1%	0.0%	0.0%	0.0%	0.0%
United Kingdom	0.2%	0.9%	15.6%	11.5%	-0.1%	0.0%	-0.1%	0.0%	-0.2%

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	8.2%	7.4%	4.0%	4.7%	0.0%	0.0%	0.0%	0.0%	0.0%
China*	-1.1%	-3.8%	4.0%	8.5%	0.3%	0.3%	0.0%	-0.1%	0.4%
Hong Kong	1.1%	1.0%	4.3%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%
India*	-3.3%	0.5%	2.9%	2.4%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Indonesia*	10.3%	3.7%	0.1%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Japan	0.2%	1.0%	19.0%	16.1%	-0.1%	-0.1%	0.1%	0.0%	-0.2%
Korea*	-3.3%	-1.2%	1.8%	3.4%	-0.1%	0.0%	0.0%	0.0%	0.0%
Malaysia*	-1.8%	1.3%	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	4.0%	4.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Pakistan*	--	-20.5%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Philippines*	18.7%	4.6%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	6.6%	6.9%	3.2%	0.9%	0.0%	0.1%	0.0%	0.0%	0.1%
Taiwan*	-0.6%	1.1%	1.9%	3.0%	-0.1%	0.0%	0.0%	0.0%	0.0%
Thailand*	4.9%	9.8%	0.2%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Americas									
Brazil*	6.9%	7.2%	1.3%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Canada	22.1%	5.0%	1.3%	6.8%	1.2%	0.0%	-0.1%	-1.0%	0.1%
Chile*	--	-4.7%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Colombia*	--	-2.3%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	3.1%	1.4%	0.5%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru*	-2.1%	-2.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
United States	8.2%	4.2%	1.3%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	--	7.3%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	-3.8%	-3.4%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	-3.3%	1.7%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	12.5%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	4.7%	6.8%	1.4%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Turkey*	-2.5%	2.9%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	-2.9%	-1.9%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	11.1%	4.7%	4.5%	9.8%	0.7%	0.0%	-0.2%	-0.4%	0.2%
Europe	5.2%	5.1%	50.1%	43.7%	0.2%	0.1%	-0.1%	0.0%	0.2%
Asia/Pacific	1.0%	0.9%	42.1%	44.0%	0.0%	0.0%	0.1%	0.0%	0.1%
Other	3.2%	3.9%	1.8%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.6%	--	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	3.6%	3.2%	100.0%	100.0%	0.8%	0.1%	-0.2%	-0.4%	0.4%
Totals									
Developed	4.2%	4.0%	83.1%	74.0%	0.3%	0.1%	-0.1%	0.0%	0.3%
Emerging*	0.5%	0.8%	15.4%	26.0%	0.0%	0.2%	-0.1%	0.0%	0.1%
Frontier**	12.5%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.6%	--	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



	Return (Rank)							
5th Percentile	6.3	18.6	5.1	7.6	12.7	7.2	11.9	11.9
25th Percentile	4.0	15.2	1.5	5.1	9.9	4.3	9.4	9.2
Median	2.8	13.1	-2.2	2.9	8.5	3.0	7.9	8.1
75th Percentile	1.7	11.8	-6.1	0.8	7.0	1.9	7.2	7.0
95th Percentile	0.1	9.1	-11.3	-1.0	5.0	0.1	5.7	5.9
# of Portfolios	151	151	150	149	146	128	107	89
● BlackRock EAFE Index	3.9 (27)	14.4 (34)	1.4 (27)	4.3 (32)	9.5 (31)	2.6 (62)	-- (--)	-- (--)
▲ MSCI EAFE	3.7 (32)	14.0 (40)	1.1 (27)	3.9 (35)	9.1 (37)	2.2 (67)	7.3 (70)	6.9 (80)

Characteristics

	Portfolio	MSCI EAFE
Number of Holdings	926	922
Weighted Avg. Market Cap. (\$B)	61.1	61.2
Median Market Cap. (\$B)	10.1	10.1
Price To Earnings	15.5	15.5
Price To Book	2.2	2.3
Price To Sales	1.1	1.1
Return on Equity (%)	14.6	14.6
Yield (%)	3.3	3.4
Beta (holdings; global)	0.9	7.7

Top Holdings

NESTLE 'R'	2.2%
NOVARTIS 'R'	1.4%
ROCHE HOLDING	1.4%
HSBC HOLDINGS	1.2%
ROYAL DUTCH SHELL A	1.0%
TOYOTA MOTOR	1.0%
BP	1.0%
TOTAL	1.0%
SAP	0.9%
AIA GROUP	0.9%

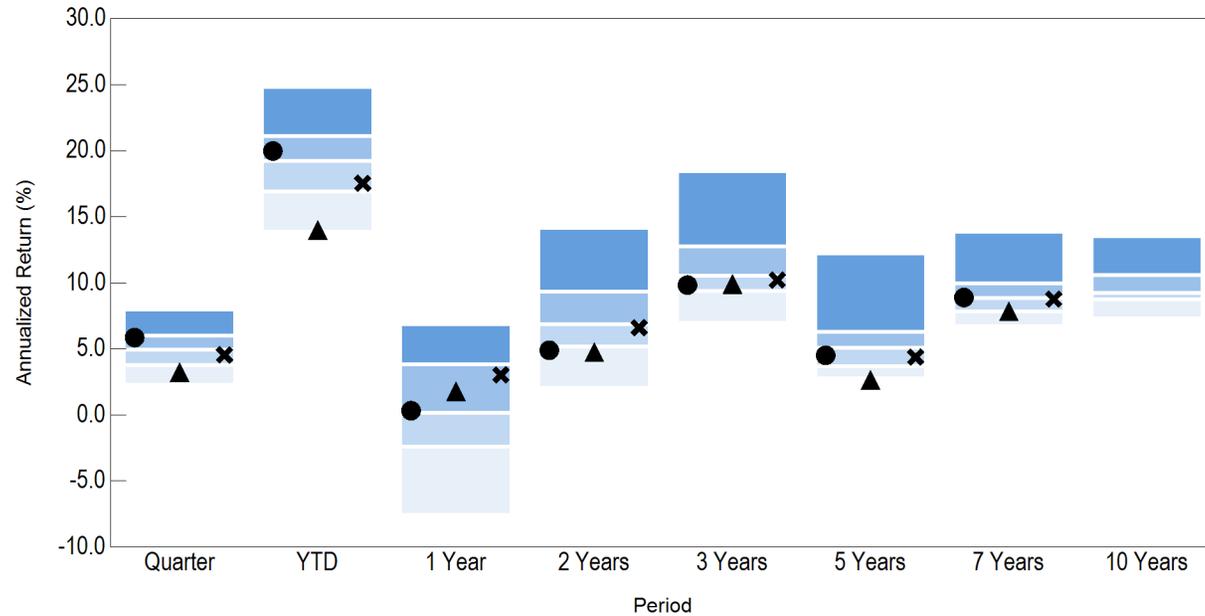
Best Performers

	Return %
PERSOL HOLDINGS (J:TMHD)	45.1%
AXEL SPRINGER (D:SPR)	43.3%
TAIYO NIPPON SANSO (J:TNSC)	39.4%
WIRECARD (D:WDI)	34.4%
FORTESCUE METALS GP. (A:FMGX)	34.4%
MERLIN ENTERTAINMENTS (UKIR:MERL)	29.8%
FAST RETAILING (J:RETA)	28.6%
NINTENDO (J:NNDO)	28.5%
ADIDAS (D:ADS)	28.1%
SONY FINANCIAL HOLDINGS (J:SFH)	27.3%

Worst Performers

	Return %
TEVA PHARM.INDS.ADR 1:1 (TEVA)	-41.1%
IMPERIAL BRANDS (UKIR:IMB)	-30.2%
RYOHIN KEIKAKU (J:YOHN)	-28.7%
UMICORE (B:UMI)	-27.2%
PANDORA (DK:PND)	-24.0%
SUMITOMO DAINIPPON PHA. (J:DPPH)	-23.3%
BLUESCOPE STEEL (OTC) (BLSFF)	-22.5%
DEUTSCHE WOHNEN BR.SHS. (D:DWNI)	-22.4%
KANSAI ELECTRIC PWR. (J:KE@N)	-22.3%
TAISEI (J:TC@N)	-21.8%

eV ACWI ex-US Growth Equity Net Return Comparison



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	8.0	24.8	6.9	14.1	18.4	12.2	13.9	13.5
25th Percentile	6.0	21.1	3.8	9.4	12.8	6.3	10.0	10.6
Median	5.0	19.2	0.2	6.9	10.6	5.1	8.9	9.3
75th Percentile	3.8	16.9	-2.4	5.2	9.4	3.7	7.8	8.8
95th Percentile	2.3	13.9	-7.5	2.1	7.0	2.8	6.7	7.3
# of Portfolios	71	71	71	71	70	61	53	43
● Baillie Gifford	5.9 (30)	20.0 (40)	0.3 (49)	4.9 (80)	9.8 (64)	4.5 (58)	8.9 (50)	-- (--)
▲ MSCI ACWI ex US	3.2 (86)	14.0 (95)	1.8 (37)	4.8 (81)	9.9 (63)	2.6 (96)	7.8 (76)	-- (--)
✕ MSCI ACWI ex US Growth	4.5 (60)	17.5 (70)	3.0 (30)	6.6 (54)	10.2 (59)	4.4 (60)	8.8 (53)	-- (--)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	88	2,204
Weighted Avg. Market Cap. (\$B)	43.1	65.4
Median Market Cap. (\$B)	14.6	7.6
Price To Earnings	25.7	15.0
Price To Book	3.8	2.3
Price To Sales	2.0	1.2
Return on Equity (%)	22.5	15.3
Yield (%)	1.6	3.2
Beta (holdings; global)	1.1	5.4

Top Holdings

NASPERS	2.7%
HARGREAVES LANSDOWN	2.5%
ALIBABA GROUP HOLDING ADR 1:8	2.5%
TAIWAN SEMICON.SPN.ADR 1:5	2.4%
SHISEIDO	2.4%
AIA GROUP	2.3%
COCHLEAR	2.2%
HOUSING DEVELOPMENT FINANCE CORPORATION	2.1%
METTLER TOLEDO INTL.	2.0%
SHOPIFY 'A' (NYS)	2.0%

Best Performers

	Return %
SHOPIFY 'A' (NYS) (SHOP)	45.3%
TSINGTAO BREWERY 'H' (K:TSIN)	35.1%
ADIDAS (D:ADS)	28.1%
BECHTLE (D:BC8)	24.4%
SEEK (A:SEXX)	19.2%
SARTORIUS SHS.PREF. (D:SRT3)	19.0%
RAIA DROGASIL ON (BR:DR3)	18.6%
KINGSPAN GROUP (LON) (UKIR:KGP)	18.0%
COCHLEAR (A:COHX)	17.9%
KINGSPAN GROUP (UKIR:KRX)	17.4%

Worst Performers

	Return %
BAIDU 'A' ADR 10:1 (BIDU)	-28.8%
ASOS (UKIR:ASC)	-22.2%
CTRP.COM INTL.ADR 8:1 (CTRP)	-15.5%
SAMSUNG FIRE & MAR.IN. (KO:AFM)	-12.5%
INFINEON TECHNOLOGIES (D:IFX)	-10.2%
MAKEMYTRIP (MMYT)	-10.1%
WOOD GROUP (JOHN) (UKIR:WG.)	-9.9%
MURATA MANUFACTURING (J:SM@N)	-9.8%
NAVER (KO:NHN)	-9.6%
ASIAN PAINTS (IN:API)	-8.2%

Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.0%	-0.4%	0.2%	0.3%	-9.9%	0.7%	0.8%	7.4%			
Materials	-0.2%	-0.3%	0.0%	0.1%	-1.0%	3.0%	4.8%	7.6%			
Industrials	0.8%	0.6%	0.1%	0.2%	9.8%	5.4%	15.5%	11.7%			
Consumer Discretionary	-0.1%	-0.2%	0.1%	0.0%	2.5%	4.0%	19.9%	11.1%			
Consumer Staples	0.8%	0.6%	0.0%	0.2%	8.1%	2.4%	12.8%	9.9%			
Health Care	1.0%	1.0%	0.0%	-0.1%	13.8%	1.1%	8.0%	8.4%			
Financials	-0.1%	0.3%	-0.1%	-0.3%	5.1%	4.8%	16.7%	21.7%			
Information Technology	0.6%	0.4%	0.0%	0.2%	9.4%	4.1%	10.6%	8.4%			
Communication Services	-0.4%	-0.2%	0.0%	-0.2%	-2.9%	0.9%	9.1%	7.0%			
Utilities	0.0%	--	0.0%	--	--	2.5%	0.0%	3.4%			
Real Estate	0.1%	--	0.2%	--	--	-1.5%	0.0%	3.4%			
Cash	0.0%	0.0%	0.0%	0.0%	0.6%	--	1.9%	0.0%			
Portfolio	2.5%	=	1.8%	+	0.4%	+	0.3%	5.7%	3.2%	100.0%	100.0%

Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	--	1.3%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Belgium	--	1.2%	0.0%	0.7%	--	0.0%	0.0%	--	0.0%
Czech Republic*	--	3.9%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	1.5%	1.7%	1.8%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Finland	17.1%	0.9%	1.2%	0.7%	0.1%	0.0%	0.0%	0.1%	0.2%
France	11.8%	7.3%	1.4%	7.5%	0.4%	-0.2%	-0.1%	-0.3%	-0.3%
Germany	16.2%	7.8%	7.3%	5.7%	0.5%	0.1%	0.0%	0.1%	0.7%
Greece*	--	15.8%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	-4.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	17.4%	4.5%	1.1%	0.4%	0.0%	0.0%	0.0%	0.1%	0.2%
Italy	--	3.6%	0.0%	1.6%	--	0.0%	0.0%	--	0.0%
Netherlands	12.7%	6.1%	1.5%	2.4%	0.2%	0.0%	0.0%	-0.1%	0.1%
Norway	--	2.8%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
Poland*	--	3.6%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	11.8%	2.6%	1.2%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%
Russia*	--	16.8%	0.0%	1.0%	--	-0.1%	0.0%	--	-0.1%
Spain	3.8%	2.5%	1.9%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sweden	6.7%	5.4%	5.2%	1.8%	0.0%	0.1%	0.0%	0.1%	0.2%
Switzerland	12.3%	8.7%	3.2%	6.0%	0.2%	-0.1%	-0.1%	-0.1%	-0.1%
United Kingdom	2.0%	0.9%	13.7%	11.5%	0.2%	0.0%	-0.1%	0.0%	0.1%

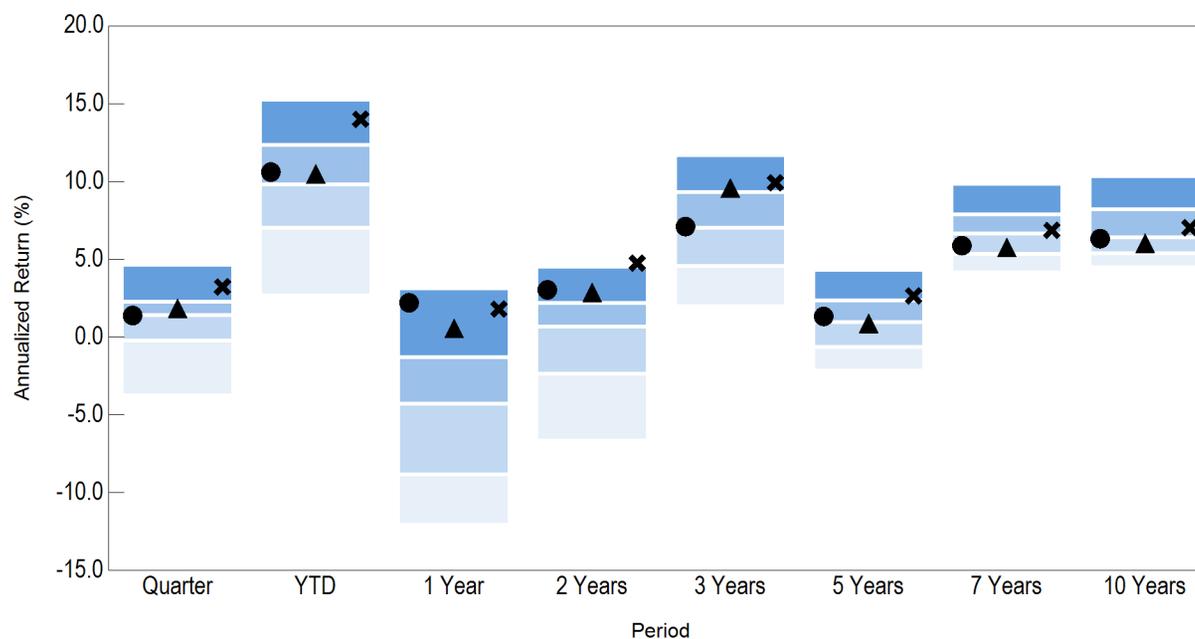
Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	13.1%	7.4%	4.1%	4.7%	0.3%	0.0%	0.0%	0.0%	0.2%
China*	-3.7%	-3.7%	7.7%	8.5%	0.1%	0.1%	0.0%	0.0%	0.2%
Hong Kong	10.4%	1.0%	2.2%	2.8%	0.3%	0.0%	0.0%	0.0%	0.3%
India*	0.8%	0.5%	4.7%	2.4%	0.0%	-0.1%	0.0%	0.0%	0.0%
Indonesia*	--	3.7%	0.0%	0.6%	--	0.0%	0.0%	--	0.0%
Japan	1.1%	1.0%	18.0%	16.1%	0.0%	-0.1%	0.1%	0.0%	0.0%
Korea*	-6.4%	-1.2%	1.9%	3.4%	-0.2%	0.1%	0.0%	0.1%	0.0%
Malaysia*	-1.9%	1.2%	1.1%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	--	4.0%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Pakistan*	--	-20.5%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Philippines*	--	4.6%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Singapore	3.6%	6.9%	3.8%	0.9%	0.0%	0.1%	0.0%	-0.1%	0.0%
Taiwan*	-0.7%	1.1%	3.2%	2.9%	-0.1%	0.0%	0.0%	0.0%	0.0%
Thailand*	--	9.6%	0.0%	0.6%	--	0.0%	0.0%	--	-0.1%
Americas									
Brazil*	18.6%	7.1%	1.1%	1.8%	0.2%	0.0%	0.0%	-0.1%	0.1%
Canada	31.3%	5.0%	2.7%	6.8%	1.8%	0.0%	-0.1%	-1.0%	0.6%
Chile*	--	-4.8%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Colombia*	--	-2.2%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	3.1%	1.4%	0.7%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru*	--	-2.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
United States	8.7%	4.2%	3.5%	0.0%	0.0%	0.1%	0.0%	0.2%	0.2%

Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	--	7.3%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	--	-4.2%	0.0%	0.4%	--	0.0%	0.0%	--	0.0%
Qatar*	--	2.0%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
South Africa*	6.1%	6.7%	3.9%	1.5%	0.0%	0.1%	0.0%	0.0%	0.1%
Turkey*	--	3.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
United Arab Emirates*	--	-2.3%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Totals									
Americas	17.3%	4.9%	8.0%	9.9%	1.3%	0.0%	-0.2%	-0.2%	0.9%
Europe	8.2%	5.1%	39.4%	43.7%	1.6%	-0.1%	-0.3%	-0.2%	1.1%
Asia/Pacific	1.8%	0.9%	46.8%	43.9%	0.4%	-0.1%	0.0%	0.0%	0.4%
Other	6.1%	3.4%	3.9%	2.5%	0.1%	0.0%	0.0%	0.0%	0.1%
Cash	0.6%	--	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	5.7%	3.2%	100.0%	100.0%	3.4%	-0.1%	-0.3%	-0.4%	2.5%
Totals									
Developed	7.4%	4.0%	73.8%	74.1%	2.8%	0.0%	-0.3%	0.0%	2.5%
Emerging*	0.5%	0.8%	24.3%	25.9%	0.0%	0.0%	-0.1%	0.0%	0.0%
Cash	0.6%	--	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

eV ACWI ex-US Value Equity Net Return Comparison



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	4.6	15.2	3.1	4.5	11.7	4.3	9.8	10.3
25th Percentile	2.3	12.4	-1.3	2.2	9.3	2.4	7.9	8.2
Median	1.4	9.8	-4.3	0.7	7.0	1.0	6.7	6.4
75th Percentile	-0.2	7.1	-8.8	-2.3	4.6	-0.6	5.4	5.4
95th Percentile	-3.7	2.7	-12.0	-6.6	2.0	-2.1	4.2	4.5
# of Portfolios	39	39	39	37	37	34	27	18
● Mondrian	1.4 (54)	10.6 (42)	2.2 (10)	3.0 (17)	7.1 (50)	1.3 (36)	5.9 (67)	6.3 (51)
▲ MSCI ACWI ex USA Value Gross	1.9 (34)	10.5 (43)	0.6 (19)	2.9 (18)	9.6 (23)	0.9 (52)	5.8 (67)	6.0 (54)
✕ MSCI ACWI ex USA Gross	3.2 (19)	14.0 (14)	1.8 (11)	4.8 (5)	9.9 (19)	2.6 (22)	6.9 (42)	7.0 (40)

Characteristics

	Portfolio	MSCI ACWI ex USA Value Gross
Number of Holdings	130	1,314
Weighted Avg. Market Cap. (\$B)	53.3	50.8
Median Market Cap. (\$B)	18.7	7.0
Price To Earnings	13.2	11.6
Price To Book	1.6	1.7
Price To Sales	0.8	0.9
Return on Equity (%)	11.9	11.9
Yield (%)	4.3	4.5
Beta (holdings: global)	0.9	10.2

Top Holdings

UNITED OVERSEAS BANK	2.5%
ENEL	2.4%
SAINT GOBAIN	2.2%
LLOYDS BANKING GROUP	2.2%
ENI	2.2%
ALLIANZ	2.2%
TELIA COMPANY	2.2%
FUJIFILM HOLDINGS	2.1%
GLAXOSMITHKLINE	2.1%
BANCO SANTANDER	2.1%

Best Performers

	Return %
PJSC GAZPROM ADR (OTC) CDI 1:2 (OGZPY)	61.9%
WPP (UKIR:WPP)	23.9%
CMPH.COCS. RODOVIARIAS ON (BR:CCR)	21.0%
HYPERMARCAS ON (BR:HYP)	18.8%
PLDT (PH:PLD)	18.7%
SINGAPORE TELECOM (T:TELC)	16.0%
G4S (UKIR:GFS)	13.8%
IBERDROLA (E:IBE)	13.6%
ALLIANZ (D:ALV)	12.7%
LARSEN & TOUBRO (IN:LST)	12.5%

Worst Performers

	Return %
INDIABULLS HOUSING FIN (IN:IEZ)	-27.9%
SUZANO ON (BR:SUZ)	-27.6%
SASOL (R:SOLJ)	-20.4%
OTSUKA HOLDINGS (J:OTHD)	-15.8%
HENGAN INTL.GP. (K:HENG)	-14.2%
ISUZU MOTORS (J:IM@N)	-13.3%
TAKEDA PHARMACEUTICAL (J:TA@N)	-13.1%
KONINKLIJKE AHOLD DELHAIZE (H:AD)	-12.8%
SAMSUNG FIRE & MAR.IN. (KO:AFM)	-12.5%
TURKIYE HALK BANKASI (TK:HLB)	-12.1%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.2%	-0.1%	0.0%	-0.1%	-0.8%	1.1%	8.8%	11.9%			
Materials	-0.1%	0.0%	-0.1%	-0.1%	1.4%	0.8%	4.7%	8.4%			
Industrials	0.2%	0.2%	-0.1%	0.1%	4.0%	2.2%	12.7%	7.9%			
Consumer Discretionary	-0.6%	-0.5%	0.0%	-0.2%	-4.1%	1.9%	12.1%	7.7%			
Consumer Staples	0.1%	0.2%	-0.2%	0.1%	-2.8%	-8.0%	5.3%	3.1%			
Health Care	-0.1%	0.0%	-0.1%	0.0%	-1.6%	-0.9%	9.8%	5.7%			
Financials	-1.1%	-1.3%	-0.2%	0.5%	0.2%	3.9%	21.0%	33.9%			
Information Technology	0.3%	0.2%	0.0%	0.2%	6.8%	0.8%	7.2%	4.1%			
Communication Services	0.5%	0.4%	0.1%	0.1%	8.7%	3.1%	7.2%	6.7%			
Utilities	0.3%	0.2%	0.1%	0.1%	4.3%	2.2%	7.6%	5.5%			
Real Estate	0.3%	0.4%	0.1%	-0.2%	6.7%	-2.0%	2.5%	5.1%			
Cash	0.0%	0.0%	0.0%	0.0%	0.6%	--	1.1%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	7.4%	--	0.0%	0.0%			
Portfolio	-0.2%	=	-0.4%	+	-0.3%	+	0.5%	1.6%	1.8%	100.0%	100.0%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	--	0.7%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Belgium	--	1.5%	0.0%	0.4%	--	0.0%	0.0%	--	0.0%
Czech Republic*	--	4.8%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	2.9%	5.6%	1.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Finland	--	-1.3%	0.0%	0.7%	--	0.0%	0.0%	--	0.0%
France	4.8%	4.3%	5.1%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Germany	6.9%	6.0%	7.0%	5.6%	0.1%	0.0%	0.0%	0.0%	0.1%
Greece*	--	19.6%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	-2.6%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	--	-5.7%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Italy	3.3%	1.7%	4.9%	2.5%	0.0%	0.0%	0.0%	0.0%	0.1%
Netherlands	-1.2%	3.7%	2.3%	1.2%	-0.1%	0.0%	0.0%	-0.1%	-0.1%
Norway	--	-1.7%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
Poland*	--	3.4%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	--	1.6%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Russia*	36.1%	17.4%	0.8%	1.1%	0.2%	0.0%	0.0%	-0.1%	0.1%
Spain	6.7%	2.1%	4.2%	3.0%	0.1%	0.0%	0.0%	0.1%	0.2%
Sweden	1.1%	2.7%	2.1%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Switzerland	10.0%	8.0%	4.8%	3.2%	0.1%	0.1%	0.0%	0.0%	0.2%
United Kingdom	-1.2%	-0.9%	18.2%	15.6%	-0.1%	0.0%	-0.1%	0.0%	-0.1%

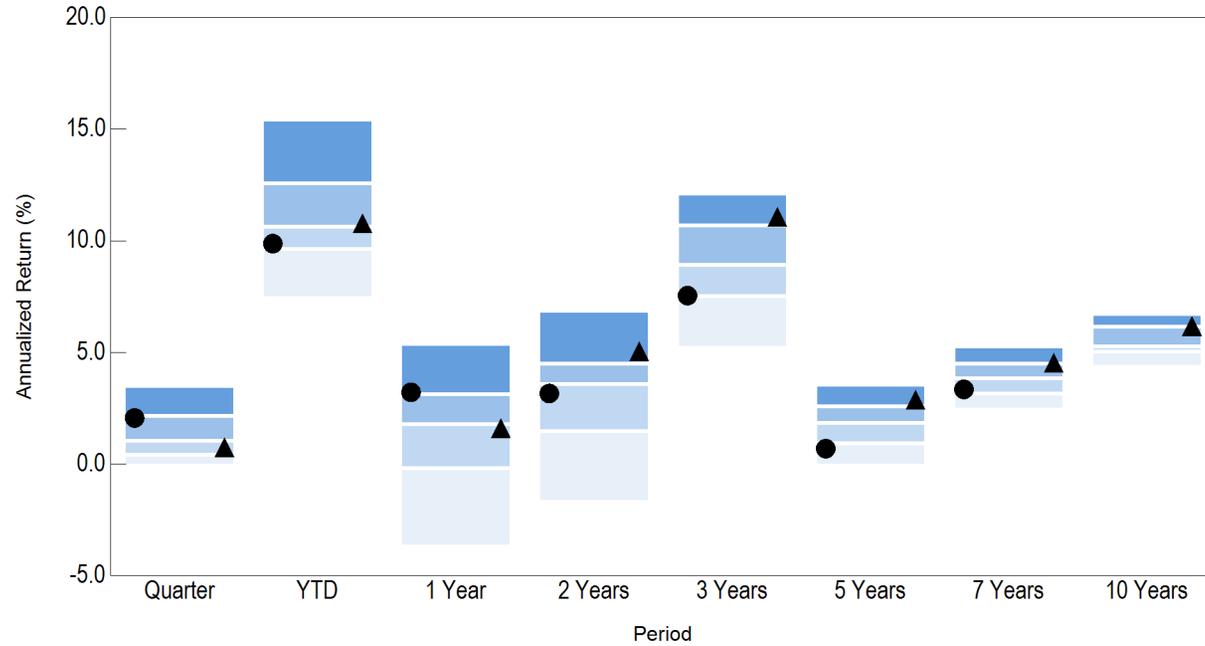
Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	-5.1%	8.2%	1.1%	4.8%	-0.6%	-0.3%	0.1%	0.5%	-0.4%
China*	3.3%	-2.8%	4.2%	8.6%	0.6%	0.2%	0.0%	-0.3%	0.4%
Hong Kong	-2.7%	-3.0%	5.8%	2.7%	0.0%	-0.1%	0.0%	0.0%	-0.1%
India*	-7.0%	-0.8%	3.7%	2.5%	-0.2%	0.0%	0.0%	-0.1%	-0.3%
Indonesia*	10.3%	2.6%	0.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Japan	-2.0%	-0.3%	15.6%	16.2%	-0.3%	0.0%	0.0%	0.0%	-0.2%
Korea*	1.3%	0.3%	3.4%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Malaysia*	-1.7%	1.7%	0.8%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	--	7.0%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Pakistan*	--	-19.5%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Philippines*	18.7%	4.7%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	9.7%	8.6%	4.1%	0.9%	0.0%	0.2%	0.0%	0.0%	0.3%
Taiwan*	-0.4%	2.1%	2.3%	2.9%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Thailand*	4.9%	5.2%	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Americas									
Brazil*	2.2%	5.8%	2.7%	1.8%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Canada	1.2%	3.9%	1.2%	6.8%	-0.2%	0.0%	-0.1%	0.1%	-0.2%
Chile*	--	-0.9%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Colombia*	--	0.1%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	3.1%	1.1%	0.8%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru*	-2.1%	-2.3%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%

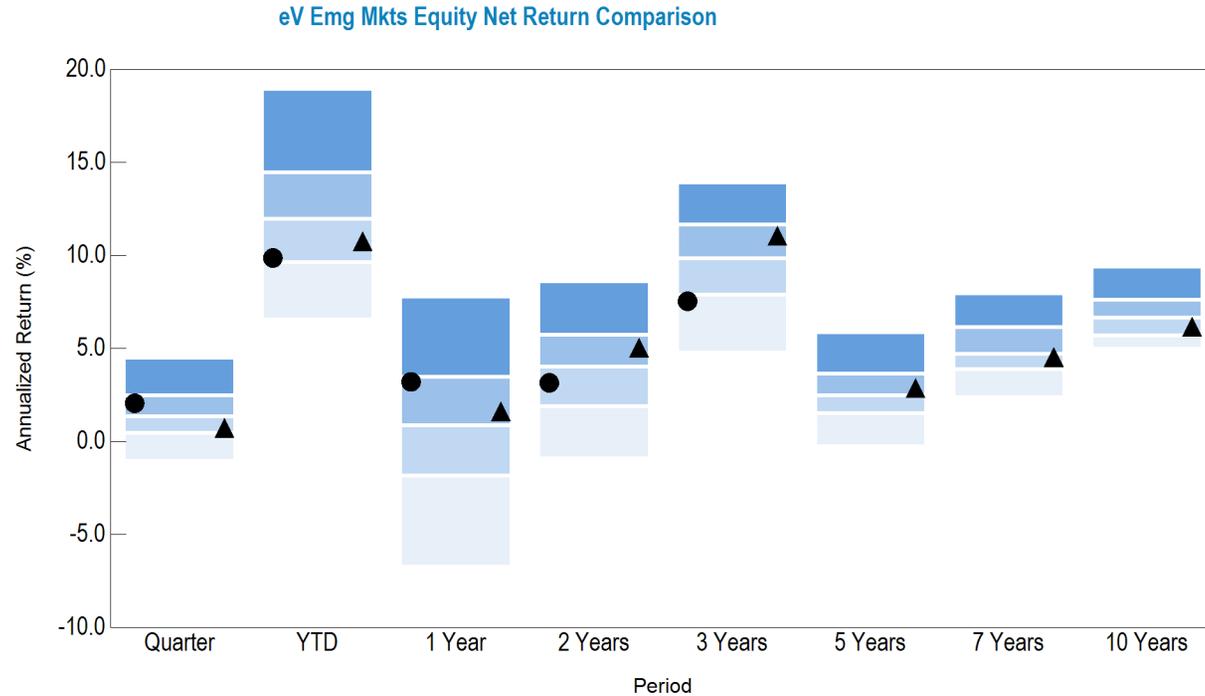
Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	--	2.7%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	--	-14.1%	0.0%	0.3%	--	0.1%	0.0%	--	0.0%
Qatar*	-3.3%	3.6%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	12.5%	1.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	-20.4%	7.6%	0.5%	1.5%	-0.4%	0.0%	0.0%	0.3%	-0.2%
Turkey*	-2.5%	2.1%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	-2.9%	-0.8%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	1.9%	3.8%	4.9%	9.9%	-0.1%	0.0%	-0.1%	0.1%	-0.2%
Europe	3.4%	2.7%	50.8%	43.5%	0.4%	0.1%	0.0%	0.1%	0.5%
Asia/Pacific	-0.3%	0.5%	42.1%	44.3%	-0.4%	0.0%	0.0%	0.0%	-0.3%
Other	-10.3%	3.2%	1.1%	2.4%	-0.3%	0.0%	0.0%	0.2%	-0.2%
Cash	0.6%	--	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	1.6%	1.8%	100.0%	100.0%	-0.4%	0.1%	-0.2%	0.3%	-0.2%
Totals									
Developed	1.7%	2.1%	77.7%	73.9%	-0.1%	0.0%	-0.1%	0.0%	-0.2%
Emerging*	1.1%	1.2%	21.1%	26.1%	0.1%	0.0%	-0.1%	0.0%	0.0%
Frontier**	12.5%	--	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.6%	--	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

InvMetrics All DB Emg Mkt Eq Net Return Comparison



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.5	15.4	5.4	6.9	12.1	3.5	5.3	6.7
25th Percentile	2.2	12.6	3.1	4.5	10.7	2.6	4.5	6.2
Median	1.0	10.6	1.8	3.6	8.9	1.9	3.8	5.3
75th Percentile	0.4	9.6	-0.2	1.5	7.5	0.9	3.2	5.1
95th Percentile	-0.1	7.5	-3.7	-1.7	5.2	-0.1	2.5	4.4
# of Portfolios	86	86	86	82	79	73	56	16
● Emerging Markets	2.1 (33)	9.9 (69)	3.2 (23)	3.2 (57)	7.5 (75)	0.7 (81)	3.3 (70)	-- (--)
▲ MSCI Emerging Markets Gross	0.7 (62)	10.8 (48)	1.6 (53)	5.0 (16)	11.1 (21)	2.9 (19)	4.5 (25)	6.2 (24)



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	4.5	19.0	7.8	8.6	13.9	5.9	7.9	9.4
25th Percentile	2.5	14.5	3.5	5.8	11.7	3.7	6.2	7.6
Median	1.4	12.0	0.9	4.0	9.9	2.5	4.7	6.7
75th Percentile	0.5	9.7	-1.8	1.9	7.9	1.5	3.9	5.7
95th Percentile	-1.0	6.6	-6.7	-0.9	4.8	-0.2	2.4	5.0
# of Portfolios	214	213	206	201	191	165	130	74
● Parametric Core	2.1 (33)	9.9 (74)	3.2 (27)	3.2 (64)	7.5 (80)	-- (--)	-- (--)	-- (--)
▲ MSCI Emerging Markets Gross	0.7 (65)	10.8 (59)	1.6 (45)	5.0 (34)	11.1 (32)	2.9 (42)	4.5 (60)	6.2 (65)

Characteristics

	Portfolio	MSCI Emerging Markets Gross
Number of Holdings	1,167	1,193
Weighted Avg. Market Cap. (\$B)	23.0	81.7
Median Market Cap. (\$B)	3.4	5.6
Price To Earnings	13.4	14.1
Price To Book	2.2	2.4
Price To Sales	1.0	1.2
Return on Equity (%)	15.4	17.0
Yield (%)	3.4	2.8
Beta (holdings; global)	0.7	0.9

Top Holdings

SBERBANK OF RUSSIA	1.1%
PJSC GAZPROM ADR (OTC) CDI 1:2	1.0%
CREDICORP	0.8%
LUKOIL OAO SPN.ADR 1:1	0.8%
NASPERS	0.8%
AMERICA MOVIL SAB DE CV SPN.ADR 'L' 1:20	0.7%
MTN GROUP	0.7%
GPO FINANCE BANORTE	0.6%
SAMSUNG ELECTRONICS	0.6%
PETROLEO BRASILEIRO ADR 1:2	0.6%

Best Performers

	Return %
IMPERIAL PAC.INTL.HDG. (K:FNAT)	260.3%
BANK OF PIRAEUS (G:PEIR)	155.1%
VGI FB (Q:VGIF)	96.1%
EOH (R:EOHJ)	92.4%
NAVIOS MARITIME HDG. (NM)	88.2%
WHA FB (Q:WHAF)	76.3%
PJSC GAZPROM ADR (OTC) CDI 1:2 (OGZPY)	61.9%
NATIONAL BK.OF GREECE (G:ETE)	57.1%
QUALICORP ON (BR:QUA)	54.5%
PLAY COMMUNICATIONS (PO:PLY)	49.5%

Worst Performers

	Return %
HLB (KO:KPI)	-56.6%
FULLSHARE HOLDINGS (K:WARD)	-53.6%
SIAM CITY CEMENT FB (Q:SCCF)	-49.2%
THE SEARLE COMPANY (PK:SEA)	-45.5%
D G KHAN CEMENT COMPANY (PK:DEG)	-41.7%
INSCOBEE (KO:ENK)	-40.7%
VIROMED (KO:VIR)	-39.6%
NISHAT MILLS (PK:NMI)	-38.9%
TRG PAKISTAN (PK:TRG)	-37.5%
TONGAAT-HULETT (R:TONJ)	-37.3%

Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.1%	0.0%	0.0%	-0.1%	0.3%	1.3%	5.2%	8.1%			
Materials	-0.3%	-0.1%	-0.1%	-0.1%	-2.3%	-0.7%	12.6%	7.4%			
Industrials	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	12.2%	5.6%			
Consumer Discretionary	1.1%	1.5%	0.1%	-0.6%	10.3%	-1.1%	8.8%	13.3%			
Consumer Staples	-0.1%	-0.1%	0.1%	-0.1%	0.7%	2.9%	9.8%	6.4%			
Health Care	0.0%	0.1%	-0.3%	0.2%	-2.3%	-6.8%	6.7%	2.6%			
Financials	-0.4%	0.1%	-0.3%	-0.2%	4.2%	4.4%	15.7%	24.3%			
Information Technology	0.3%	0.3%	0.0%	0.0%	3.2%	0.0%	7.4%	14.6%			
Communication Services	0.8%	1.1%	0.2%	-0.4%	7.1%	-2.6%	6.9%	12.1%			
Utilities	0.2%	0.0%	0.1%	0.1%	3.0%	2.7%	8.4%	2.6%			
Real Estate	0.3%	0.2%	0.0%	0.2%	5.2%	-0.2%	6.2%	3.1%			
Cash	0.0%	0.0%	0.0%	0.0%	0.6%	--	0.0%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	1.8%	=	3.2%	+	-0.3%	+	-1.1%	2.5%	0.8%	100.0%	100.0%

Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

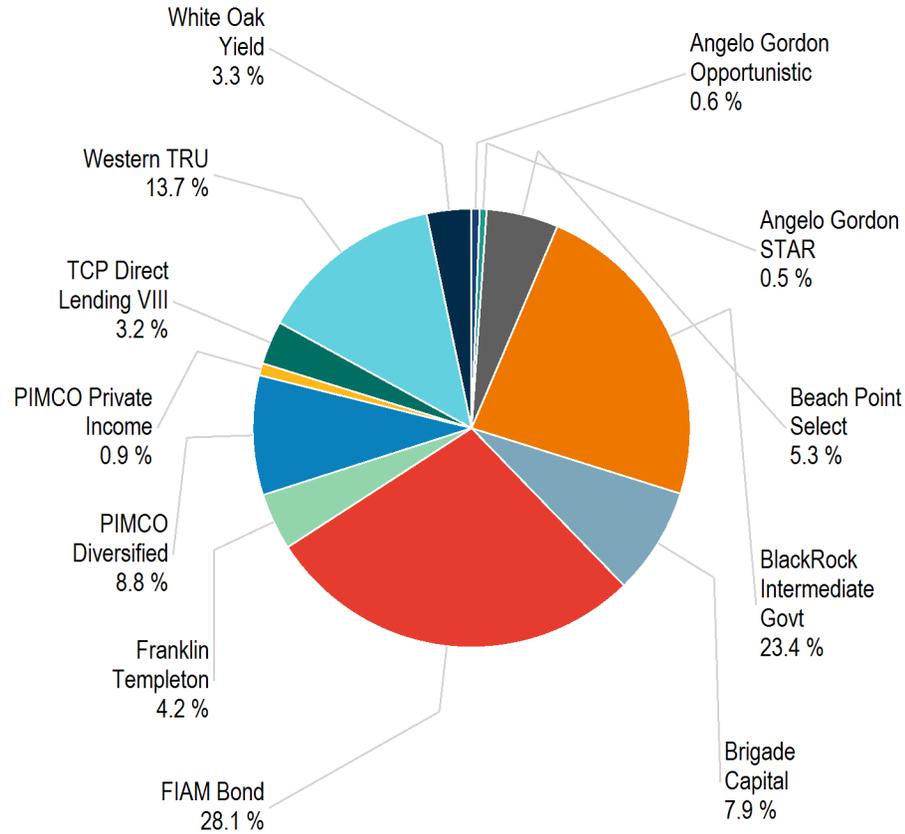
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Czech Republic*	1.5%	3.9%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Greece*	19.7%	16.9%	1.4%	0.2%	0.0%	0.2%	0.0%	0.0%	0.2%
Hungary*	-2.1%	-4.2%	0.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Luxembourg	-17.2%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	34.0%	6.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	6.8%	3.6%	1.9%	1.2%	0.0%	0.0%	0.0%	0.0%	0.1%
Russia*	12.0%	16.7%	3.3%	3.8%	-0.1%	-0.1%	-0.1%	0.0%	-0.2%
United Kingdom	7.6%	0.9%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AsiaPacific									
China*	-5.3%	-3.8%	6.9%	32.8%	-0.5%	1.2%	-0.1%	0.4%	1.0%
Hong Kong	8.9%	1.0%	5.8%	0.0%	0.0%	0.0%	0.0%	0.5%	0.5%
India*	-0.4%	0.5%	3.2%	9.2%	-0.1%	0.0%	0.0%	0.0%	0.0%
Indonesia*	5.6%	3.7%	3.5%	2.2%	0.0%	0.0%	0.0%	0.0%	0.1%
Korea*	-6.9%	-1.2%	10.4%	13.1%	-0.8%	0.0%	0.1%	0.2%	-0.5%
Malaysia*	1.6%	1.3%	4.3%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Pakistan*	-19.3%	-20.5%	2.5%	0.0%	0.0%	-0.3%	-0.3%	0.0%	-0.5%
Philippines*	0.5%	4.6%	2.9%	1.1%	0.0%	0.0%	0.0%	-0.1%	0.0%
Singapore	1.2%	6.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Taiwan*	2.4%	1.1%	9.9%	11.4%	0.1%	0.0%	0.0%	0.0%	0.1%
Thailand*	11.1%	9.8%	7.6%	2.4%	0.0%	0.3%	0.2%	0.1%	0.6%
Americas									
Brazil*	7.9%	7.2%	6.1%	7.1%	0.1%	-0.1%	0.0%	0.0%	0.0%
Chile*	-2.3%	-4.7%	1.9%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Colombia*	2.0%	-2.3%	1.4%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Mexico*	-1.2%	1.4%	4.0%	2.7%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Peru*	-3.4%	-2.1%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
United States	6.5%	4.2%	2.2%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%

Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	-5.2%	7.3%	0.8%	0.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Kuwait**	7.5%	0.8%	0.8%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
Qatar*	2.4%	1.7%	1.6%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	5.8%	6.8%	9.2%	5.8%	-0.1%	0.1%	0.1%	0.0%	0.1%
Turkey*	5.6%	2.9%	5.1%	0.6%	0.0%	0.2%	-0.1%	0.1%	0.3%
United Arab Emirates*	-2.6%	-1.9%	1.5%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	3.5%	4.1%	16.0%	11.7%	0.0%	0.1%	0.0%	0.0%	0.1%
Europe	10.1%	12.5%	8.0%	5.7%	0.0%	0.2%	-0.1%	0.0%	0.1%
Asia/Pacific	0.5%	-1.1%	57.0%	74.5%	1.3%	0.2%	0.0%	-0.3%	1.2%
Other	4.4%	5.2%	18.9%	8.2%	0.0%	0.3%	0.0%	0.0%	0.4%
Cash	0.6%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	2.5%	0.8%	100.0%	100.0%	1.3%	0.9%	-0.1%	-0.3%	1.7%
Totals									
Developed	7.9%	--	8.6%	0.0%	0.0%	0.0%	0.0%	0.6%	0.7%
Emerging*	1.9%	0.8%	90.6%	100.0%	1.3%	0.0%	-0.1%	-0.1%	1.0%
Frontier**	7.5%	--	0.8%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
Cash	0.6%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Fixed Income
 Manager Allocation Analysis

Period Ending: June 30, 2019



	Actual \$	Actual %	Manager Contribution to Excess Return %
Angelo Gordon Opportunistic	\$5,906,000	0.6%	0.0%
Angelo Gordon STAR	\$4,762,300	0.5%	0.0%
Beach Point Select	\$52,539,185	5.3%	0.0%
BlackRock Intermediate Govt	\$233,698,006	23.4%	0.0%
Brigade Capital	\$79,340,937	7.9%	-0.1%
FIAM Bond	\$281,072,703	28.1%	0.0%
Franklin Templeton	\$42,351,913	4.2%	-0.1%
PIMCO Diversified	\$87,782,790	8.8%	0.0%
PIMCO Private Income	\$9,240,000	0.9%	0.0%
TCP Direct Lending VIII	\$32,003,070	3.2%	0.0%
Western TRU	\$136,575,689	13.7%	0.2%
White Oak Yield	\$33,455,120	3.3%	-0.1%
Actual vs. Policy Weight Difference			-0.5%
Total	\$998,727,713	100.0%	-0.5%

Statistics Summary

3 Years

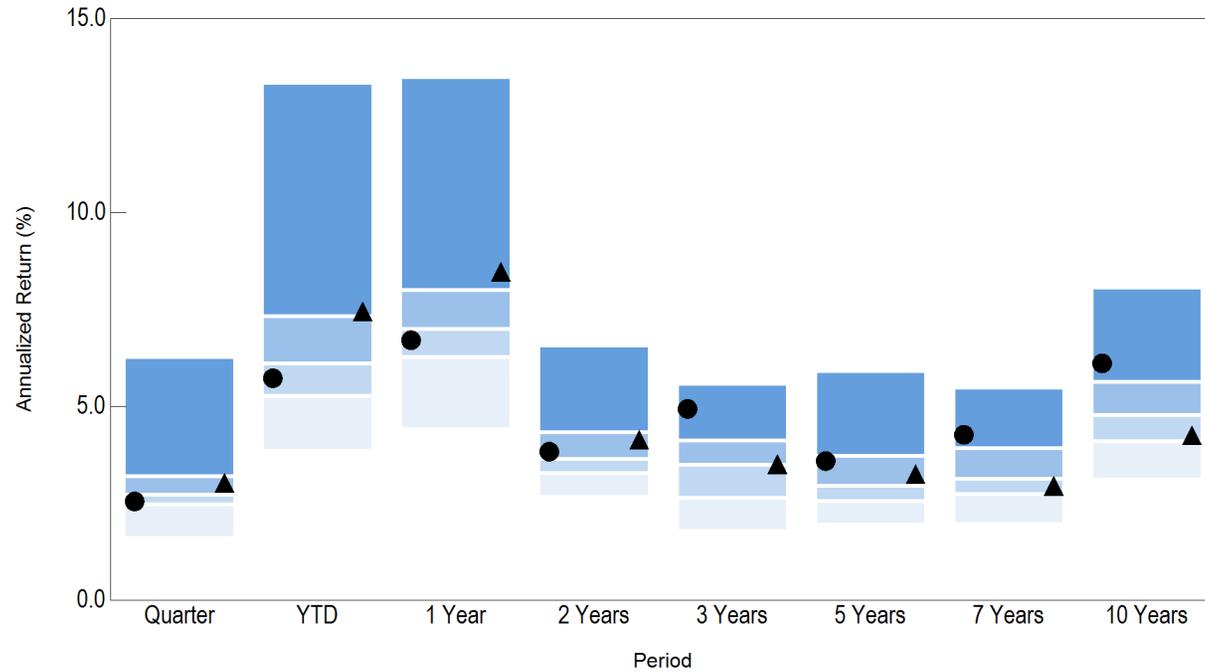
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	4.9%	2.0%	1.8	0.9	1.7%
Blended Fixed Income Index	3.5%	2.8%	0.8	--	0.0%
Core Fixed	3.2%	2.5%	0.7	0.8	1.0%
BBgBarc US Aggregate TR	2.3%	3.0%	0.3	--	0.0%
FIAM Bond	3.0%	3.0%	0.5	1.2	0.6%
BBgBarc US Aggregate TR	2.3%	3.0%	0.3	--	0.0%
Western TRU	4.7%	3.3%	1.0	0.9	3.3%
3-Month Libor Total Return USD	1.8%	0.2%	2.1	--	0.0%
Opportunistic Credit	8.3%	2.8%	2.4	0.8	2.7%
BBgBarc BA Intermediate HY	6.3%	3.7%	1.3	--	0.0%
Angelo Gordon Opportunistic	17.6%	9.1%	1.8	1.6	9.5%
BBgBarc US Aggregate TR	2.3%	3.0%	0.3	--	0.0%
Angelo Gordon STAR	19.8%	8.3%	2.2	2.1	8.4%
BBgBarc US Aggregate TR	2.3%	3.0%	0.3	--	0.0%
Beach Point Select	8.7%	3.2%	2.3	0.9	2.5%
BBgBarc BA Intermediate HY	6.3%	3.7%	1.3	--	0.0%
Brigade Capital	7.5%	4.3%	1.4	0.4	3.1%
BBgBarc BA Intermediate HY	6.3%	3.7%	1.3	--	0.0%
Franklin Templeton	4.6%	6.4%	0.5	0.3	8.2%
BBgBarc Multiverse TR	1.9%	4.4%	0.1	--	0.0%

Statistics Summary

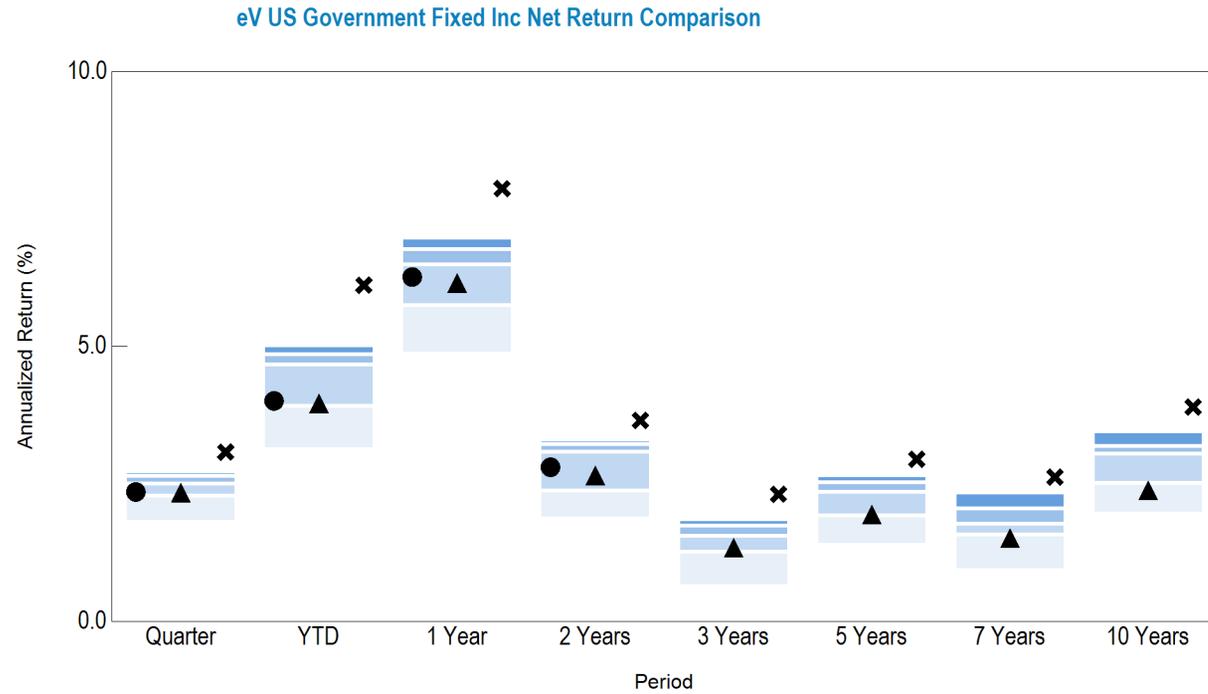
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	3.6%	2.6%	1.0	0.2	1.8%
Blended Fixed Income Index	3.3%	2.9%	0.8	--	0.0%
Core Fixed	3.2%	2.8%	0.8	0.2	1.5%
BBgBarc US Aggregate TR	2.9%	2.9%	0.7	--	0.0%
FIAM Bond	3.4%	3.0%	0.8	0.6	0.8%
BBgBarc US Aggregate TR	2.9%	2.9%	0.7	--	0.0%
Opportunistic Credit	5.4%	3.5%	1.3	0.2	3.2%
BBgBarc BA Intermediate HY	4.8%	4.6%	0.9	--	0.0%
Angelo Gordon Opportunistic	9.8%	7.6%	1.2	0.8	8.2%
BBgBarc US Aggregate TR	2.9%	2.9%	0.7	--	0.0%
Angelo Gordon STAR	13.4%	7.1%	1.8	1.4	7.5%
BBgBarc US Aggregate TR	2.9%	2.9%	0.7	--	0.0%
Brigade Capital	3.4%	6.3%	0.4	-0.3	4.2%
BBgBarc BA Intermediate HY	4.8%	4.6%	0.9	--	0.0%
Franklin Templeton	1.5%	6.5%	0.1	0.0	7.8%
BBgBarc Multiverse TR	1.3%	4.6%	0.1	--	0.0%

InvMetrics All DB Total Fix Inc Net Return Comparison



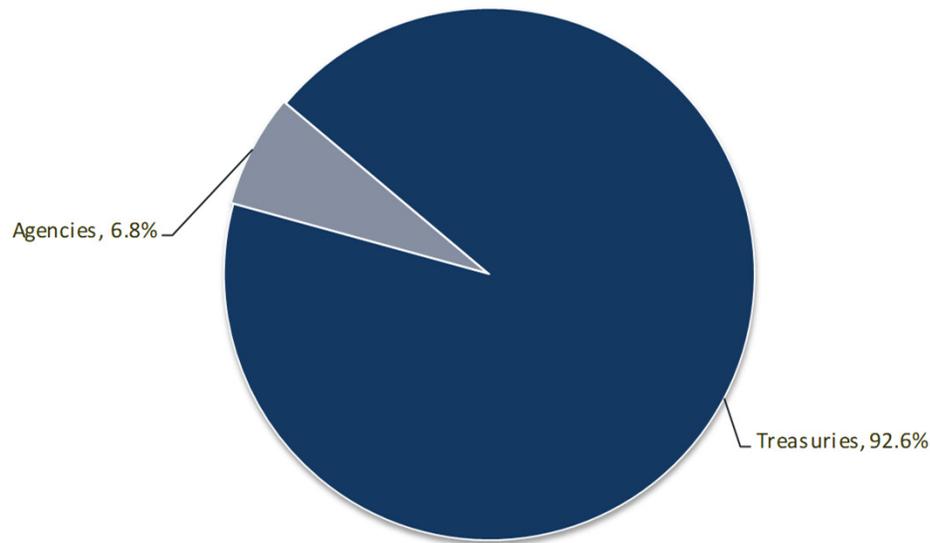
	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	6.3	13.3	13.5	6.6	5.6	5.9	5.5	8.1
25th Percentile	3.2	7.3	8.0	4.3	4.1	3.7	3.9	5.6
Median	2.7	6.1	7.0	3.7	3.5	3.0	3.1	4.8
75th Percentile	2.5	5.3	6.3	3.3	2.6	2.6	2.7	4.1
95th Percentile	1.6	3.9	4.4	2.7	1.8	2.0	2.0	3.1
# of Portfolios	330	330	328	318	308	291	264	209
● Fixed Income	2.5 (70)	5.7 (67)	6.7 (63)	3.8 (41)	4.9 (9)	3.6 (27)	4.3 (20)	6.1 (19)
▲ Blended Fixed Income Index	3.0 (35)	7.4 (23)	8.5 (20)	4.1 (30)	3.5 (46)	3.3 (37)	2.9 (66)	4.2 (72)



	Return (Rank)															
	Quarter		YTD		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
5th Percentile	2.7	5.0	2.7	5.0	2.7	7.0	3.3	1.9	1.9	2.6	2.6	2.3	2.3	3.4	3.4	
25th Percentile	2.6	4.9	2.6	4.9	2.6	6.8	3.2	1.7	1.7	2.5	2.5	2.1	2.1	3.2	3.2	
Median	2.5	4.7	2.5	4.7	2.5	6.5	3.1	1.6	1.6	2.4	2.4	1.8	1.8	3.1	3.1	
75th Percentile	2.3	3.9	2.3	3.9	2.3	5.8	2.4	1.3	1.3	1.9	1.9	1.6	1.6	2.5	2.5	
95th Percentile	1.8	3.1	1.8	3.1	1.8	4.9	1.9	0.6	0.6	1.4	1.4	0.9	0.9	2.0	2.0	
# of Portfolios	12	12	12	12	12	12	12	11	11	11	11	11	11	11	11	
● BlackRock Intermediate Govt	2.4 (67)	4.0 (72)	6.3 (58)	2.8 (61)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	
▲ BBgBarc US Govt Int TR	2.3 (70)	4.0 (73)	6.2 (60)	2.7 (65)	1.3 (69)	1.9 (75)	1.5 (78)	2.4 (79)								
✕ BBgBarc US Aggregate TR	3.1 (1)	6.1 (1)	7.9 (1)	3.7 (1)	2.3 (1)	2.9 (1)	2.6 (1)	3.9 (1)								

BlackRock Intermediate Govt Market Duration Pool
 Bond Sector Allocation

Period Ending: June 30, 2019



Sector	Account Weight	BBgBarc Intermediate	
		Govt Weight	Difference
Treasuries	92.6%	96.9%	-4.3%
Agencies	6.8%	3.1%	3.7%
Corporates	0.0%	0.0%	0.0%
Utilities	0.0%	0.0%	0.0%
Foreign	0.0%	0.0%	0.0%
MBS	0.0%	0.0%	0.0%
CMO	0.0%	0.0%	0.0%
ABS	0.0%	0.0%	0.0%
Municipals	0.0%	0.0%	0.0%
Others/Cash	0.6%	0.0%	0.6%
TOTAL	100.0%	100.0%	0.0%

BlackRock Intermediate Govt Market Duration Pool
 Bond Summary Statistics

Period Ending: June 30, 2019

Portfolio Characteristics		Portfolio	BBgBarc Intermediate Govt
Total Number of Securities		269	
Total Market Value	\$	233,698,006	
Current Coupon		2.61	2.25
Yield to Maturity		1.83	1.81
Average Life		4.05	4.06
Duration		3.74	3.77
Quality		AA+	AA+

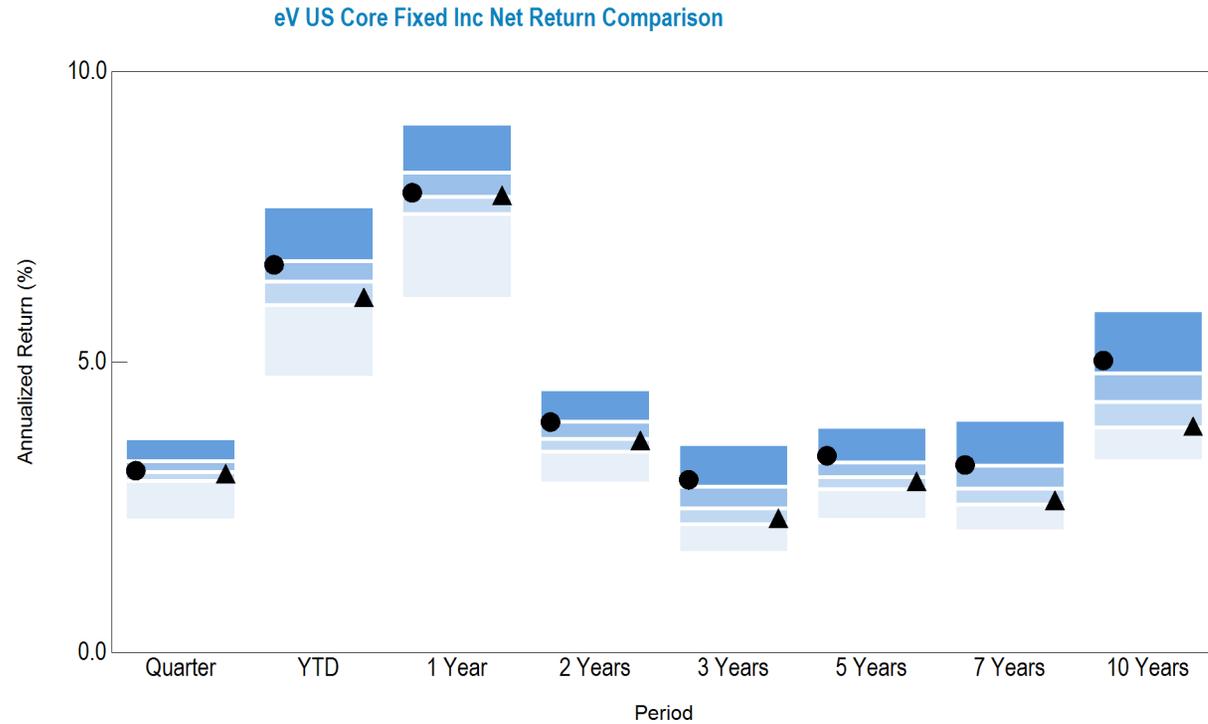
Yield to Maturity	
Range	% Held
0.0 - 5.0	100.0
5.0 - 7.0	0.0
7.0 - 9.0	0.0
9.0 - 11.0	0.0
11.0 - 13.0	0.0
13.0+	0.0
Unclassified	0.0

Average Life	
Range	% Held
0.0 - 1.0	n/a
1.0 - 3.0	n/a
3.0 - 5.0	n/a
5.0 - 10.0	n/a
10.0 - 20.0	n/a
20.0+	n/a
Unclassified	n/a

Duration	
Range	% Held
0.0 - 2.0	23.0
2.0 - 4.0	36.4
4.0 - 6.0	23.9
6.0 - 8.0	15.8
8.0+	0.8
Unclassified	0.0

Quality	
Range	% Held
Govt (10)	0.0
Aaa (10)	98.1
Aa (9)	1.9
A (8)	0.0
Baa (7)	0.0
Below Baa (6-1)	0.0
Other	0.0

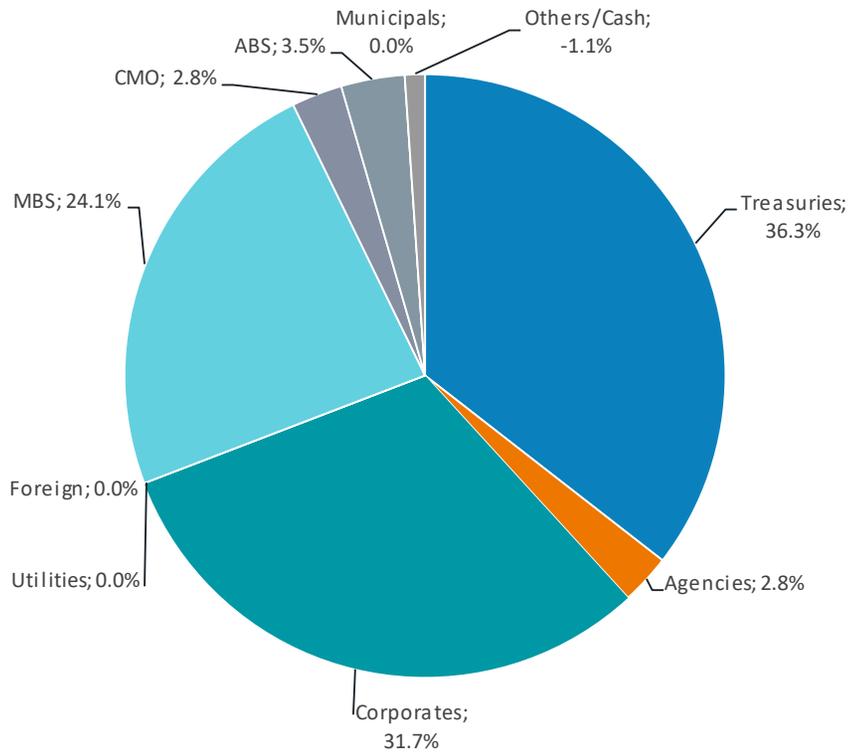
Coupon	
Range	% Held
0.0 - 5.0	100.0
5.0 - 7.0	0.0
7.0 - 9.0	0.0
9.0 - 10.0	0.0
10.0+	0.0
Unclassified	0.0



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.7	7.7	9.1	4.5	3.6	3.9	4.0	5.9
25th Percentile	3.3	6.7	8.3	4.0	2.9	3.3	3.2	4.8
Median	3.1	6.4	7.9	3.7	2.5	3.0	2.8	4.3
75th Percentile	3.0	6.0	7.6	3.5	2.2	2.8	2.6	3.9
95th Percentile	2.3	4.7	6.1	2.9	1.7	2.3	2.1	3.3
# of Portfolios	144	144	143	142	139	135	134	121
● FIAM Bond	3.1 (48)	6.7 (33)	7.9 (49)	4.0 (26)	3.0 (17)	3.4 (18)	3.2 (24)	5.0 (19)
▲ BBgBarc US Aggregate TR	3.1 (56)	6.1 (69)	7.9 (49)	3.7 (53)	2.3 (64)	2.9 (57)	2.6 (69)	3.9 (73)

FIAM Bond Market Duration Pool
Bond Sector Allocation

Period Ending: June 30, 2019



Sector	Account Weight	BBgBarc Aggregate	
		Weight	Difference
Treasuries	36.3%	39.2%	-2.9%
Agencies	2.8%	5.9%	-3.1%
Corporates	31.7%	24.8%	6.9%
Utilities	0.0%	0.0%	0.0%
Foreign	0.0%	0.0%	0.0%
MBS	24.1%	27.6%	-3.5%
CMO	2.8%	0.0%	2.8%
ABS	3.5%	2.5%	1.0%
Municipals	0.0%	0.0%	0.0%
Others/Cash	-1.1%	0.0%	-1.1%
TOTAL	100.0%	100.0%	0.0%

FIAM Bond Market Duration Pool
Bond Summary Statistics

Period Ending: June 30, 2019

Portfolio Characteristics		
		Portfolio
Total Number of Securities		904
Total Market Value	\$	281,072,703
Current Coupon		3.36
Yield to Maturity		2.73
Average Life		7.98
Duration		5.41
Quality		AA

BBgBarc Aggregate	
	3.29
	2.50
	7.86
	5.57
	AA

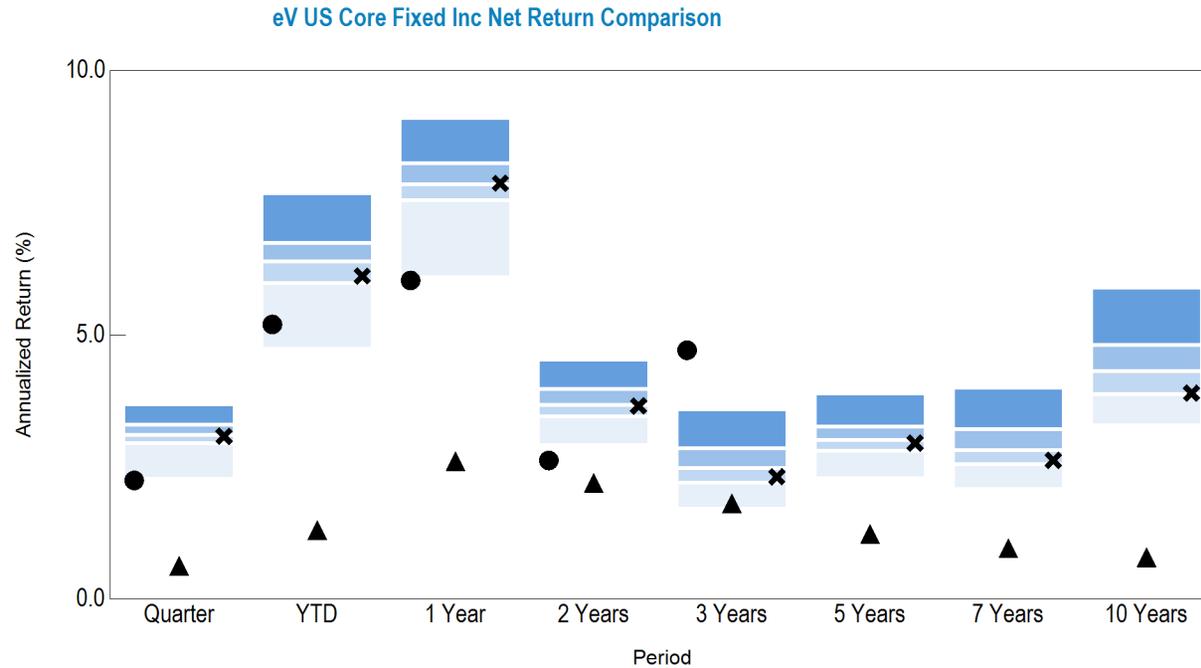
Yield to Maturity	
Range	% Held
0.0 - 5.0	94.7
5.0 - 7.0	3.2
7.0 - 9.0	0.8
9.0 - 11.0	0.0
11.0 - 13.0	0.0
13.0+	1.3
Unclassified	0.0

Average Life	
Range	% Held
0.0 - 1.0	0.8
1.0 - 3.0	15.1
3.0 - 5.0	30.7
5.0 - 10.0	39.1
10.0 - 20.0	3.4
20.0+	10.8
Unclassified	0.0

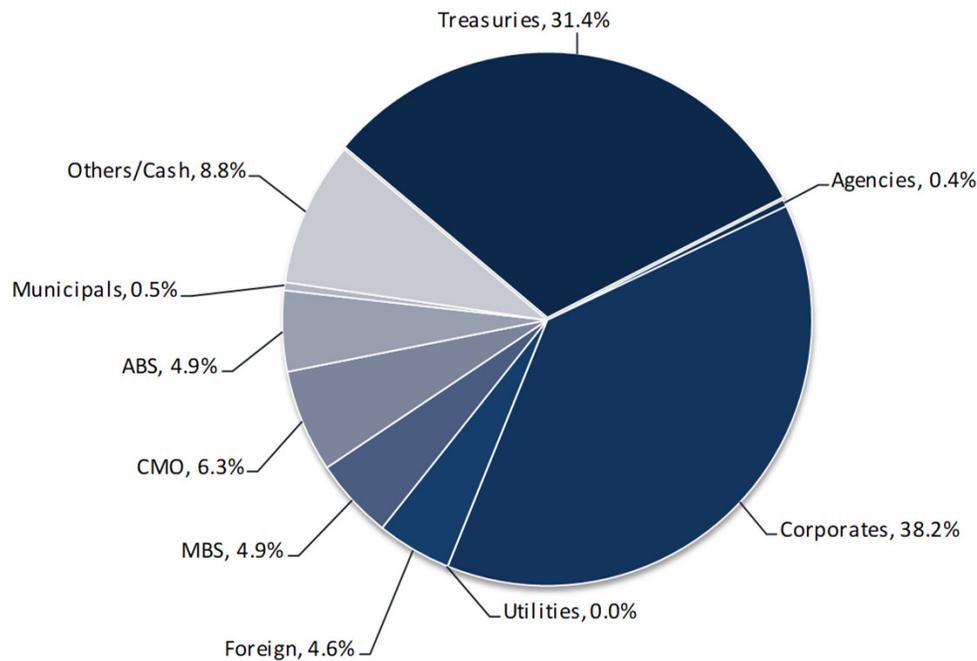
Duration	
Range	% Held
0.0 - 1.0	1.5
1.0 - 3.0	31.1
3.0 - 5.0	31.6
5.0 - 7.0	14.0
7.0 - 10.0	6.3
10.0+	15.5
Unclassified	0.0

Quality	
Range	% Held
Govt (10)	62.8
Aaa (10)	1.7
Aa (9)	2.0
A (8)	14.5
Baa (7)	19.0
Below Baa (6-1)	0.8
Other	-0.6

Coupon	
Range	% Held
0.0 - 5.0	88.0
5.0 - 7.0	9.3
7.0 - 9.0	1.0
9.0 - 11.0	0.0
11.0 - 13.0	0.0
13.0+	1.7
Unclassified	0.0



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.7	7.7	9.1	4.5	3.6	3.9	4.0	5.9
25th Percentile	3.3	6.7	8.3	4.0	2.9	3.3	3.2	4.8
Median	3.1	6.4	7.9	3.7	2.5	3.0	2.8	4.3
75th Percentile	3.0	6.0	7.6	3.5	2.2	2.8	2.6	3.9
95th Percentile	2.3	4.7	6.1	2.9	1.7	2.3	2.1	3.3
# of Portfolios	144	144	143	142	139	135	134	121
● Western TRU	2.2 (97)	5.2 (92)	6.0 (96)	2.6 (98)	4.7 (1)	-- (--)	-- (--)	-- (--)
▲ 3-Month Libor Total Return USD	0.6 (99)	1.3 (99)	2.6 (99)	2.2 (99)	1.8 (93)	1.2 (99)	1.0 (99)	0.8 (99)
✕ BBgBarc US Aggregate TR	3.1 (56)	6.1 (69)	7.9 (49)	3.7 (53)	2.3 (64)	2.9 (57)	2.6 (69)	3.9 (73)



Sector	Account Weight	BBgBarc Aggregate	
		Weight	Difference
Treasuries	31.4%	39.2%	-7.8%
Agencies	0.4%	5.9%	-5.5%
Corporates	38.2%	24.8%	13.4%
Utilities	0.0%	0.0%	0.0%
Foreign	4.6%	0.0%	4.6%
MBS	4.9%	27.6%	-22.8%
CMO	6.3%	0.0%	6.3%
ABS	4.9%	2.5%	2.4%
Municipals	0.5%	0.0%	0.5%
Others/Cash	8.8%	0.0%	8.8%
TOTAL	100.0%	100.0%	-0.1%

Portfolio Characteristics		
	Portfolio	
Total Number of Securities		4,969
Total Market Value	\$	136,575,689
Current Coupon		4.72
Yield to Maturity		4.37
Average Life		7.14
Duration		1.43
Quality		A

BBgBarc Aggregate	
	3.29
	2.50
	7.86
	5.57
	AA

Yield to Maturity		
Range	% Held	
0.0 - 5.0	65.7	
5.0 - 7.0	25.2	
7.0 - 9.0	9.4	
9.0 - 11.0	1.6	
11.0 - 13.0	0.6	
13.0+	1.7	
Unclassified	-4.1	

Average Life		
Range	% Held	
0.0 - 1.0	14.3	
1.0 - 3.0	17.9	
3.0 - 5.0	16.3	
5.0 - 10.0	17.6	
10.0 - 20.0	13.5	
20.0+	20.4	
Unclassified	0.0	

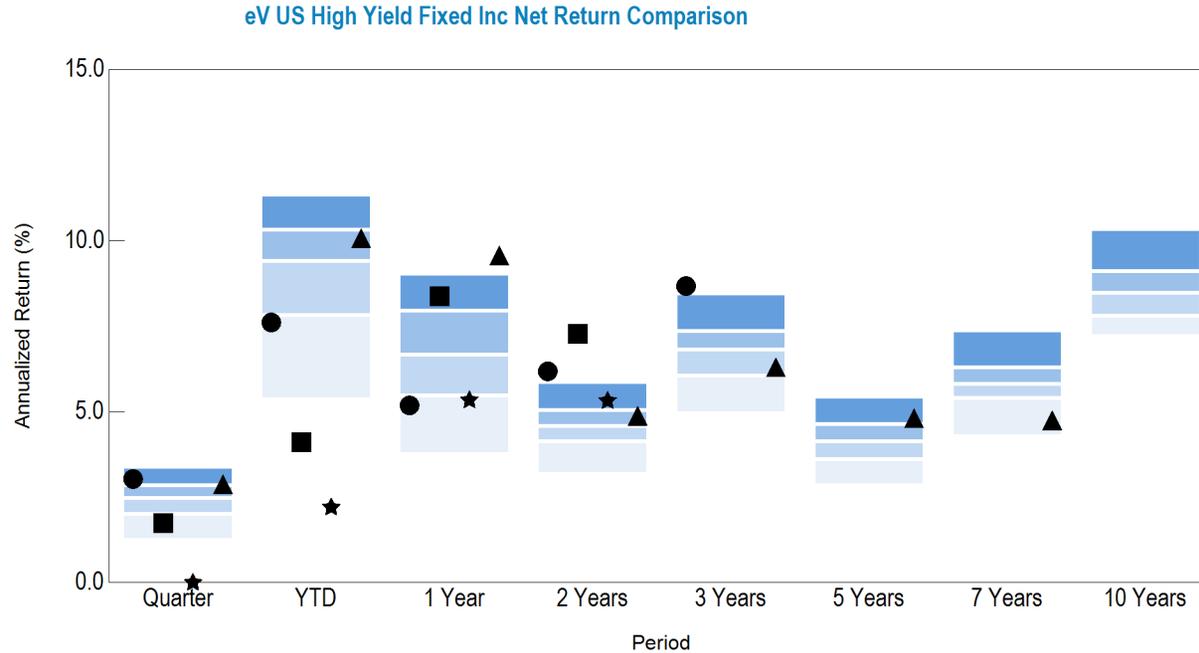
Duration		
Range	% Held	
< 1.0	26.5	
1.0 - 3.0	16.3	
3.0 - 5.0	16.2	
5.0 - 7.0	18.4	
7.0 - 10.0	5.2	
10.0+	17.5	
Unclassified	0.0	

*Unclassified includes negative YTM

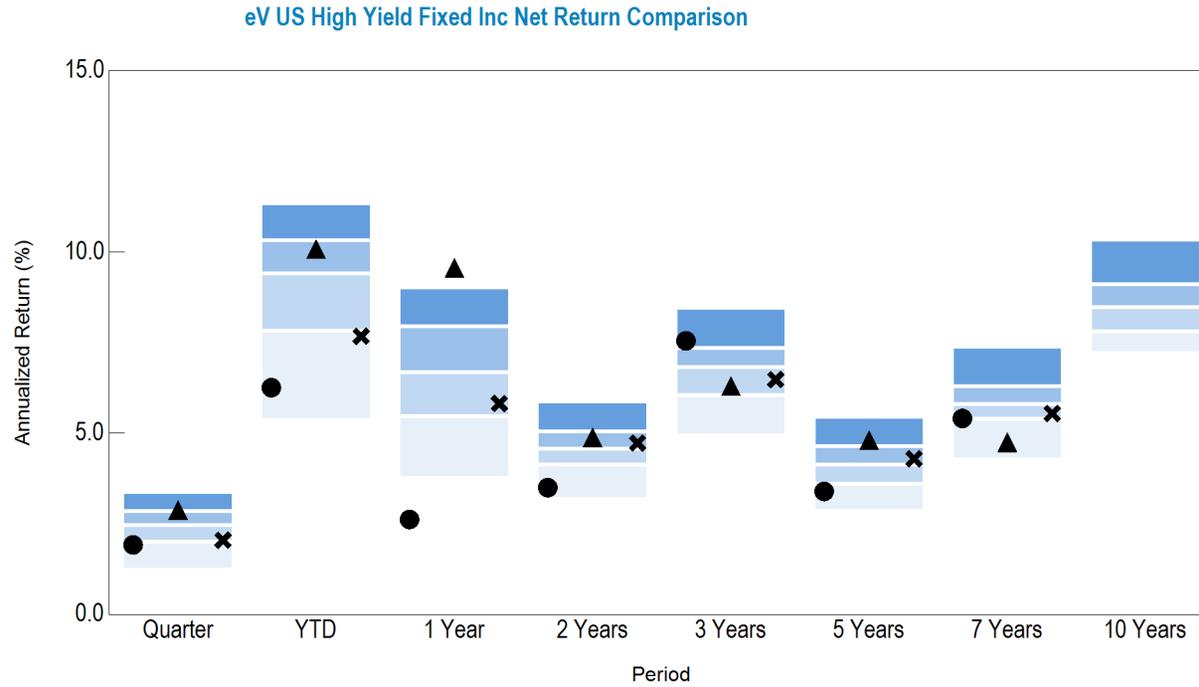
Quality		
Range	% Held	
Govt* (10)	9.1	
Aaa (10)	14.2	
Aa (9)	2.1	
A (8)	21.5	
Baa (7)	26.6	
Below Baa (6-1)	26.7	
Other	-0.2	

Coupon		
Range	% Held	
0.0 - 5.0	50.1	
5.0 - 7.0	29.1	
7.0 - 9.0	14.2	
9.0 - 10.0	0.9	
10.0+	5.8	
Unclassified	0.0	

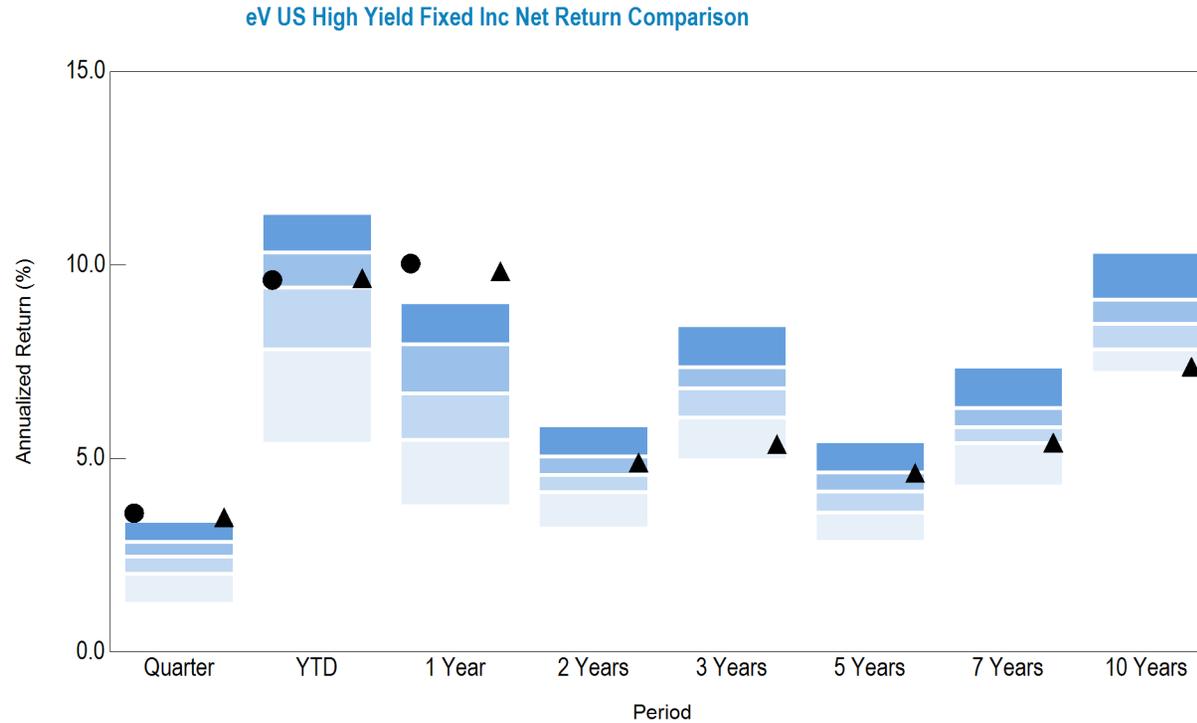
*Govt is specifically U.S Govt securities



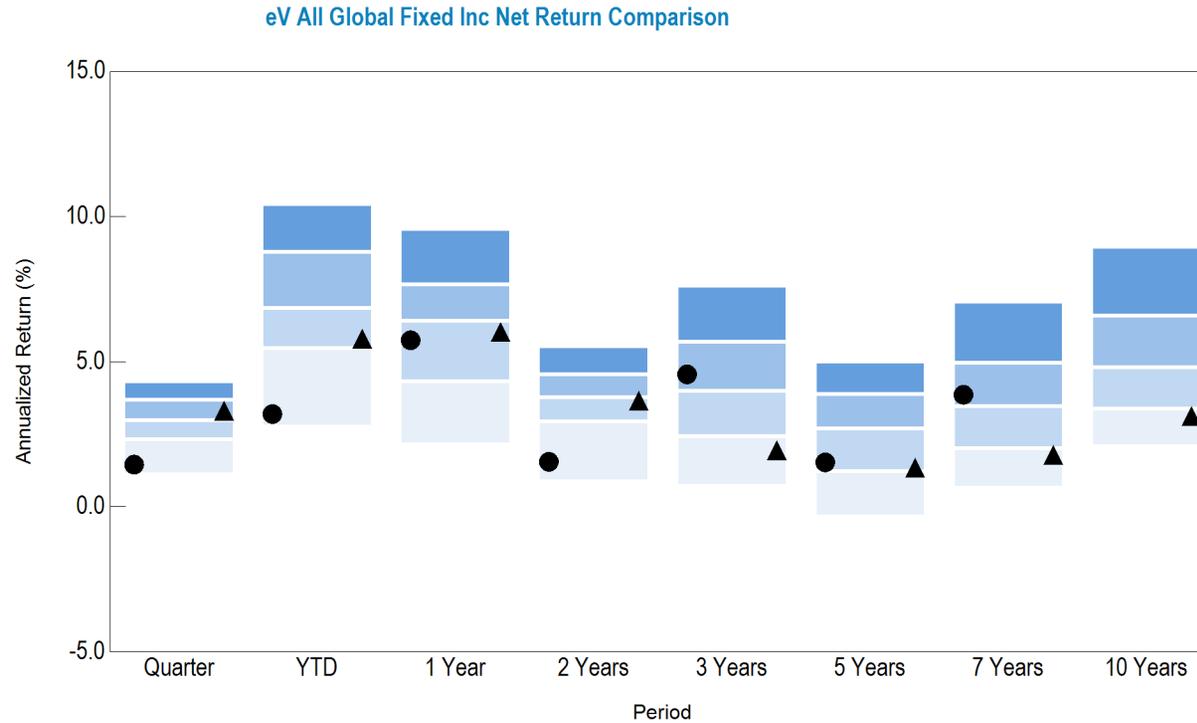
	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.4	11.3	9.0	5.9	8.4	5.4	7.4	10.3
25th Percentile	2.9	10.3	8.0	5.1	7.4	4.6	6.3	9.1
Median	2.5	9.4	6.7	4.6	6.8	4.1	5.8	8.5
75th Percentile	2.0	7.8	5.5	4.1	6.1	3.6	5.4	7.8
95th Percentile	1.2	5.4	3.8	3.2	5.0	2.9	4.3	7.2
# of Portfolios	133	133	133	131	129	117	98	78
● Beach Point Select	3.0 (15)	7.6 (78)	5.2 (82)	6.2 (3)	8.7 (4)	-- (--)	-- (--)	-- (--)
■ TCP Direct Lending VIII	1.7 (85)	4.1 (99)	8.4 (15)	7.3 (2)	-- (--)	-- (--)	-- (--)	-- (--)
★ White Oak Yield	0.0 (99)	2.2 (99)	5.3 (80)	5.3 (17)	-- (--)	-- (--)	-- (--)	-- (--)
▲ BBgBarc BA Intermediate HY	2.9 (25)	10.1 (35)	9.6 (3)	4.9 (35)	6.3 (69)	4.8 (20)	4.7 (93)	-- (--)



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.4	11.3	9.0	5.9	8.4	5.4	7.4	10.3
25th Percentile	2.9	10.3	8.0	5.1	7.4	4.6	6.3	9.1
Median	2.5	9.4	6.7	4.6	6.8	4.1	5.8	8.5
75th Percentile	2.0	7.8	5.5	4.1	6.1	3.6	5.4	7.8
95th Percentile	1.2	5.4	3.8	3.2	5.0	2.9	4.3	7.2
# of Portfolios	133	133	133	131	129	117	98	78
● Brigade Capital	1.9 (82)	6.3 (86)	2.6 (98)	3.5 (89)	7.5 (22)	3.4 (82)	5.4 (76)	-- (--)
▲ BBgBarc BA Intermediate HY	2.9 (25)	10.1 (35)	9.6 (3)	4.9 (35)	6.3 (69)	4.8 (20)	4.7 (93)	-- (--)
✕ 50% Barclays HY/ 50% Bank Loan	2.0 (72)	7.7 (77)	5.8 (71)	4.7 (45)	6.5 (63)	4.3 (43)	5.5 (69)	-- (--)



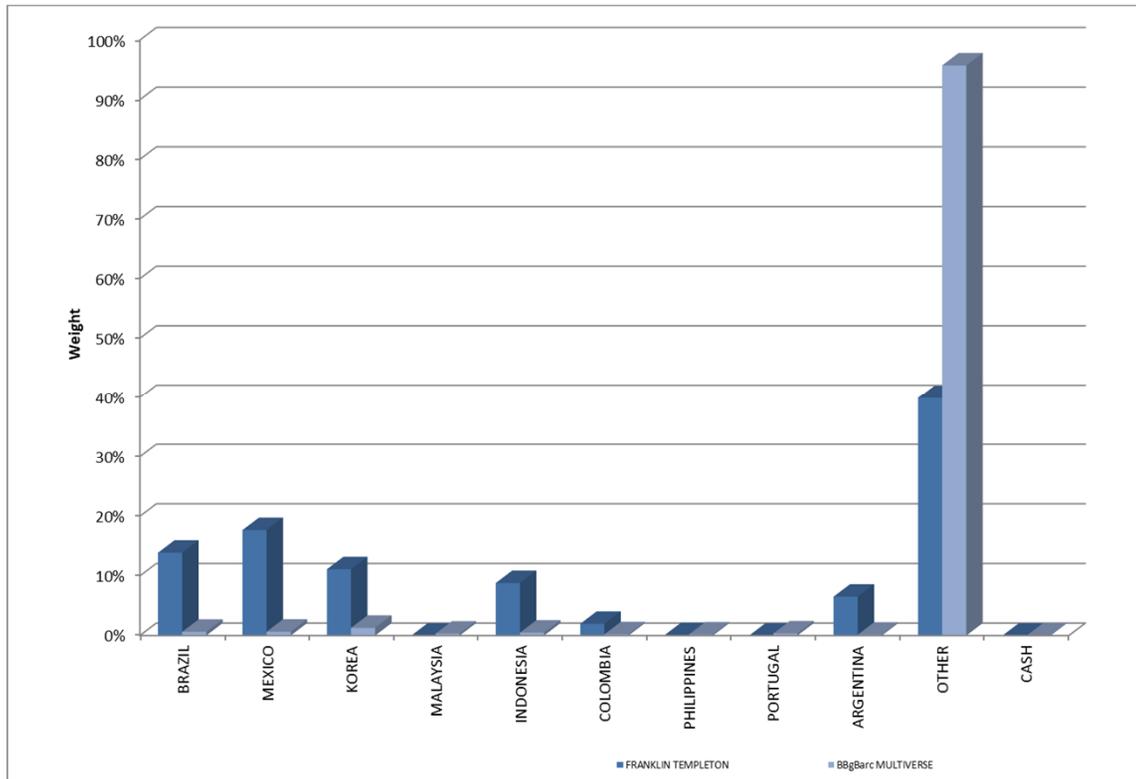
	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.4	11.3	9.0	5.9	8.4	5.4	7.4	10.3
25th Percentile	2.9	10.3	8.0	5.1	7.4	4.6	6.3	9.1
Median	2.5	9.4	6.7	4.6	6.8	4.1	5.8	8.5
75th Percentile	2.0	7.8	5.5	4.1	6.1	3.6	5.4	7.8
95th Percentile	1.2	5.4	3.8	3.2	5.0	2.9	4.3	7.2
# of Portfolios	133	133	133	131	129	117	98	78
● PIMCO Diversified	3.6 (4)	9.6 (47)	10.0 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
▲ Blended PIMCO Diversified Index	3.5 (4)	9.7 (46)	9.8 (1)	4.9 (35)	5.4 (93)	4.6 (27)	5.4 (75)	7.4 (91)



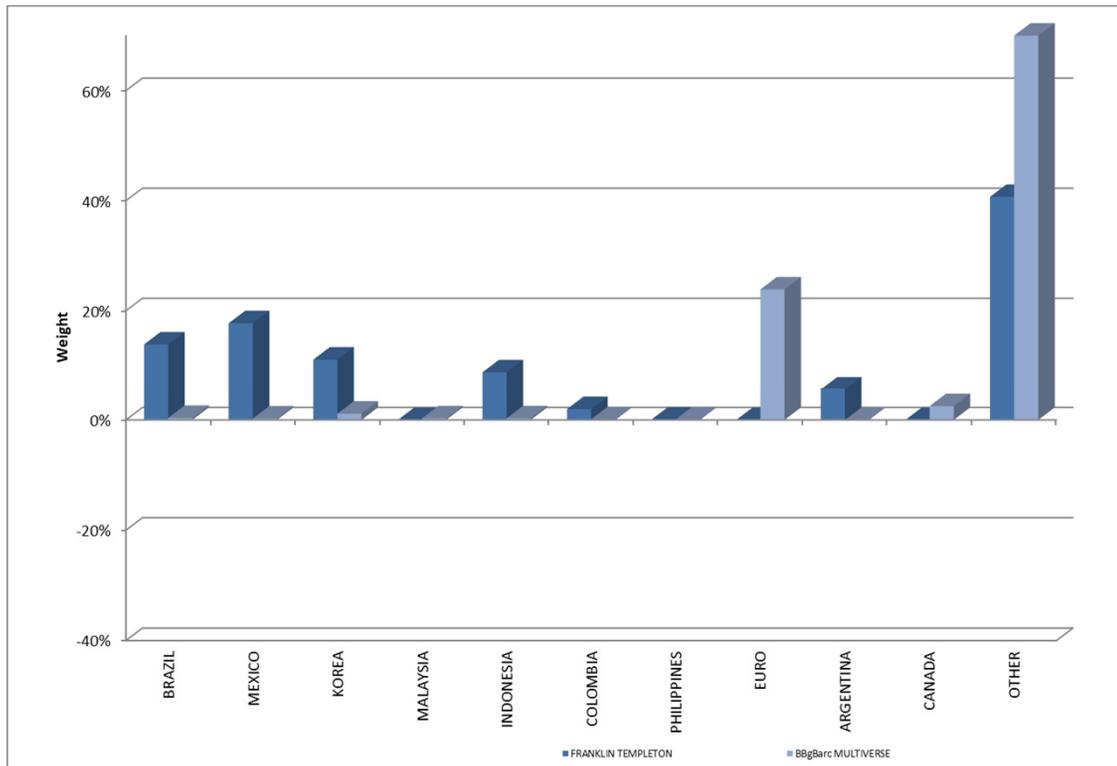
	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	4.3	10.4	9.6	5.5	7.6	5.0	7.1	8.9
25th Percentile	3.7	8.8	7.7	4.6	5.7	3.9	5.0	6.6
Median	3.0	6.9	6.4	3.8	4.0	2.7	3.5	4.8
75th Percentile	2.3	5.5	4.3	3.0	2.5	1.3	2.0	3.4
95th Percentile	1.1	2.8	2.2	0.9	0.7	-0.3	0.7	2.1
# of Portfolios	234	234	224	220	214	190	166	114
● Franklin Templeton	1.5 (90)	3.2 (94)	5.7 (61)	1.6 (92)	4.6 (45)	1.5 (70)	3.9 (44)	-- (--)
▲ BBgBarc Multiverse TR	3.3 (38)	5.8 (71)	6.0 (57)	3.7 (59)	1.9 (82)	1.3 (72)	1.8 (81)	3.1 (84)

Franklin Templeton
Portfolio Country Weights

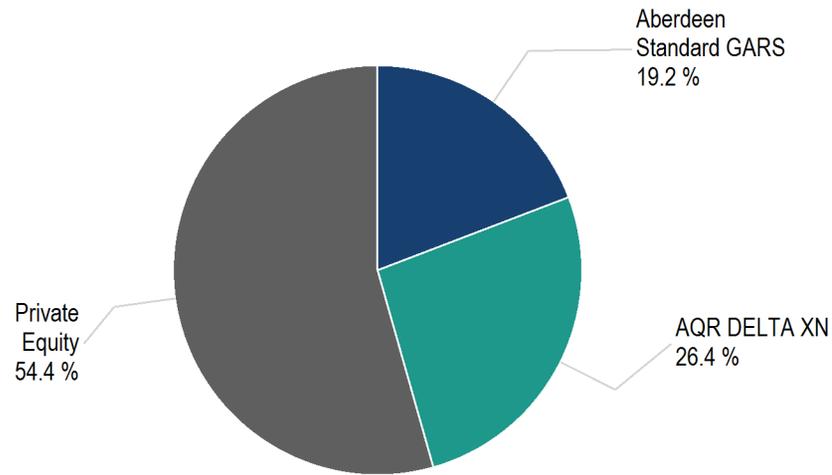
Period Ending: June 30, 2019



COUNTRY	MARKET VALUE	FRANKLIN TEMPLETON	BbgBarc MULTIVERSE	DIFF
BRAZIL	\$ 5,882	13.9%	0.6%	+13.3%
MEXICO	\$ 7,488	17.7%	0.6%	+17.0%
KOREA	\$ 4,709	11.1%	1.3%	+9.8%
MALAYSIA	\$ -	0.0%	0.3%	-0.3%
INDONESIA	\$ 3,734	8.8%	0.5%	+8.3%
COLOMBIA	\$ 833	2.0%	0.2%	+1.8%
PHILIPPINES	\$ 37	0.1%	0.2%	-0.1%
PORTUGAL	\$ -	0.0%	0.4%	-0.4%
ARGENTINA	\$ 2,764	6.5%	0.1%	+6.4%
OTHER	\$ 16,905	39.9%	95.7%	-55.8%
CASH	\$ -	0.0%	0.0%	0.0%
	\$ 42,352	100.0%	100.0%	0.0%



CURRENCY	MARKET VALUE	FRANKLIN TEMPLETON	BbgBarc MULTIVERSE	DIFF
BRAZIL	\$ 5,882	13.9%	0.4%	+13.5%
MEXICO	\$ 7,510	17.7%	0.3%	+17.5%
KOREA	\$ 4,709	11.1%	1.1%	+10.0%
MALAYSIA	\$ -	0.0%	0.3%	-0.3%
INDONESIA	\$ 3,734	8.8%	0.3%	+8.5%
COLOMBIA	\$ 833	2.0%	0.1%	+1.8%
PHILIPPINES	\$ 37	0.1%	0.1%	-0.0%
EURO	\$ -	0.0%	23.9%	-23.9%
ARGENTINA	\$ 2,410	5.7%	0.0%	+5.7%
CANADA	\$ -	0.0%	2.5%	-2.5%
OTHER	\$ 17,236	40.7%	71.1%	-30.4%
	\$ 42,352	100.0%	100.0%	0.0%



	Actual \$	Actual %	Manager Contribution to Excess Return %
Aberdeen Standard GARS	\$102,433,534	19.2%	0.0%
AQR DELTA XN	\$140,582,162	26.4%	-1.7%
Private Equity	\$289,677,403	54.4%	-4.8%
Actual vs. Policy Weight Difference			0.5%
Total	\$532,693,099	100.0%	-6.0%

Statistics Summary

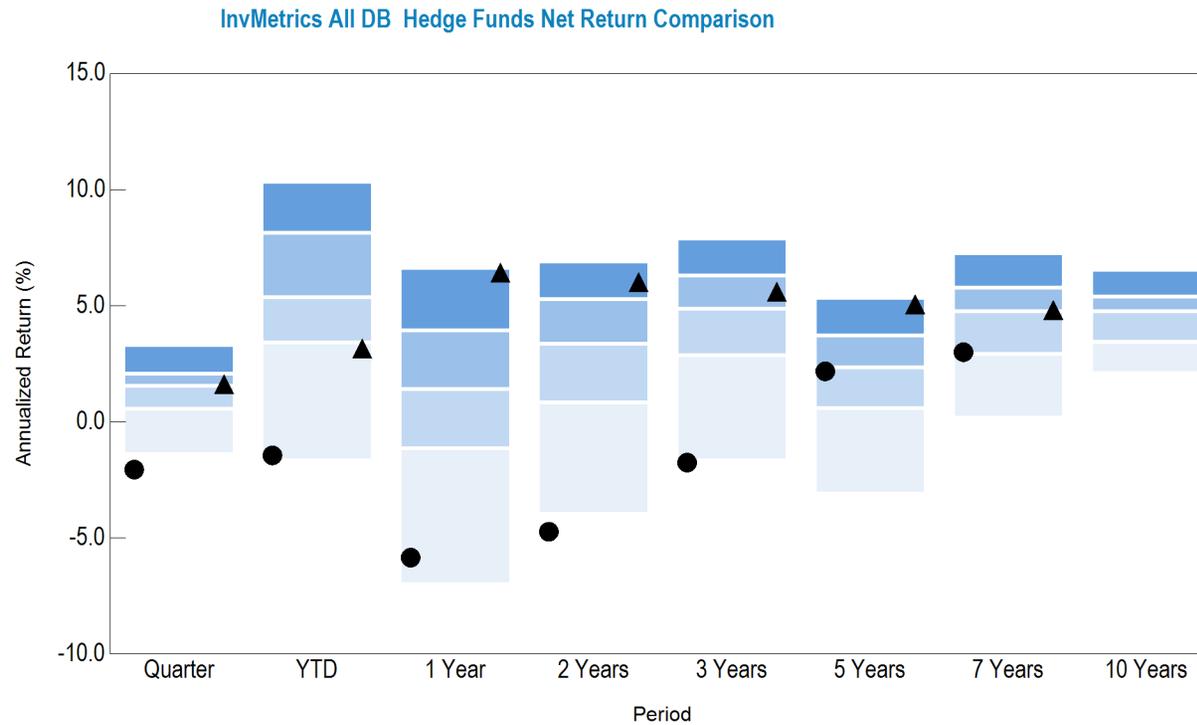
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	7.9%	5.4%	1.2	-0.5	6.5%
Blended Alternatives Index	11.2%	6.0%	1.6	--	0.0%
Private Equity	17.4%	9.1%	1.8	0.2	11.9%
Blended Private Equity Index	15.5%	11.5%	1.2	--	0.0%
Hedge Fund/Absolute Return	-1.8%	4.5%	-0.7	-1.6	4.6%
Libor 1 month +4%	5.6%	0.2%	19.8	--	0.0%
AQR DELTA XN	-4.4%	5.9%	-1.0	-1.7	5.9%
Libor 1 month +4%	5.6%	0.2%	19.8	--	0.0%
Aberdeen Standard GARS	2.0%	3.6%	0.2	-1.0	3.6%
Libor 1 month +4%	5.6%	0.2%	19.8	--	0.0%

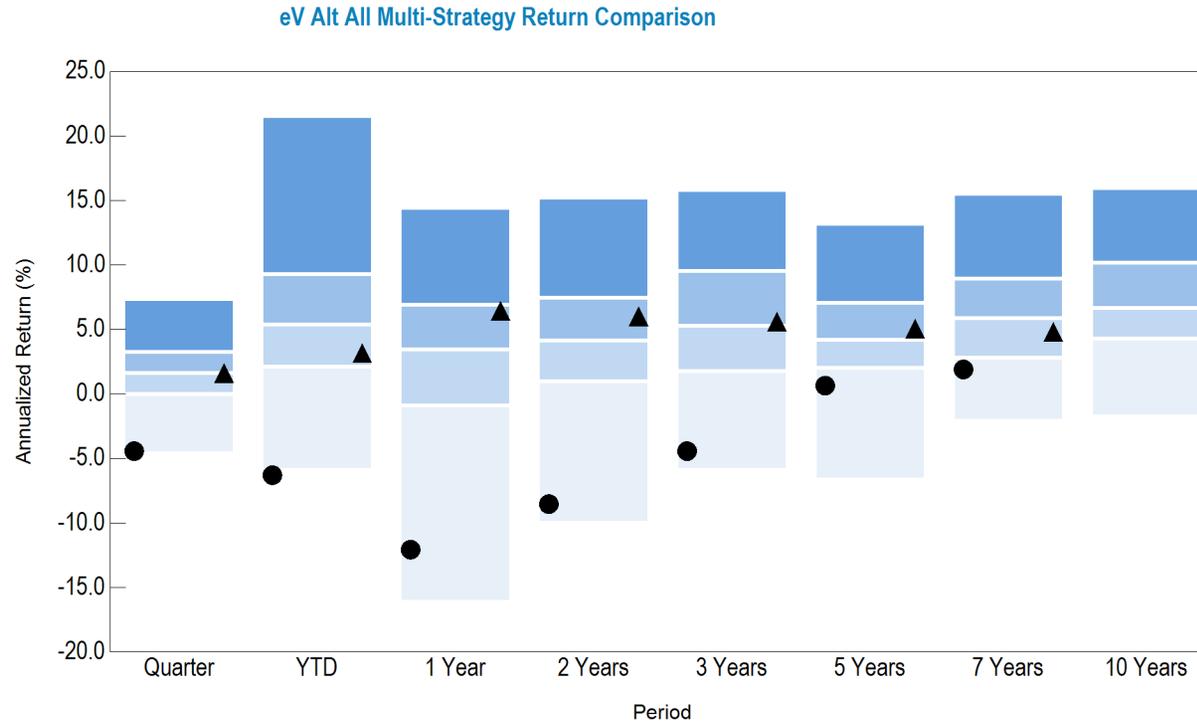
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	6.1%	4.9%	1.1	-0.1	6.7%
Blended Alternatives Index	6.7%	6.2%	0.9	--	0.0%
Private Equity	16.1%	8.9%	1.7	0.3	13.0%
Blended Private Equity Index	12.3%	11.6%	1.0	--	0.0%
Hedge Fund/Absolute Return	2.2%	5.2%	0.2	-0.5	5.3%
Libor 1 month +4%	5.1%	0.3%	16.5	--	0.0%
AQR DELTA XN	0.6%	6.1%	0.0	-0.7	6.3%
Libor 1 month +4%	5.1%	0.3%	16.5	--	0.0%

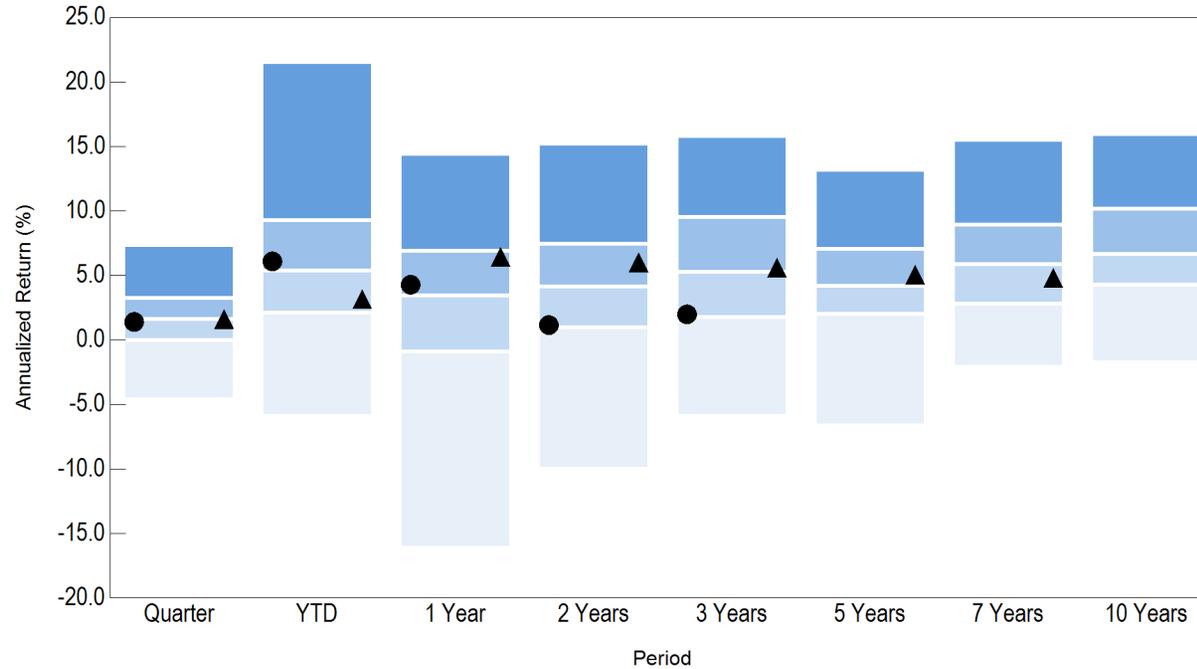


	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.3	10.3	6.6	6.9	7.9	5.3	7.3	6.5
25th Percentile	2.1	8.1	3.9	5.3	6.3	3.7	5.8	5.4
Median	1.6	5.4	1.4	3.4	4.9	2.4	4.8	4.8
75th Percentile	0.6	3.4	-1.1	0.9	2.9	0.6	2.9	3.5
95th Percentile	-1.4	-1.7	-7.0	-3.9	-1.6	-3.1	0.2	2.1
# of Portfolios	219	219	215	211	204	192	169	105
● Hedge Fund/Absolute Return	-2.1 (97)	-1.4 (95)	-5.9 (93)	-4.7 (97)	-1.8 (96)	2.2 (58)	3.0 (73)	-- (--)
▲ Libor 1 month +4%	1.6 (49)	3.2 (78)	6.4 (6)	6.0 (10)	5.6 (37)	5.1 (7)	4.8 (46)	-- (--)



	Return (Rank)							
5th Percentile	7.3	21.5	14.4	15.2	15.8	13.2	15.5	15.9
25th Percentile	3.3	9.3	6.9	7.5	9.5	7.1	9.0	10.2
Median	1.7	5.4	3.5	4.2	5.3	4.2	5.9	6.7
75th Percentile	0.0	2.2	-0.9	1.0	1.8	2.0	2.8	4.3
95th Percentile	-4.6	-5.9	-16.1	-10.0	-5.9	-6.6	-2.1	-1.7
# of Portfolios	289	284	279	263	243	213	173	131
● AQR DELTA XN	-4.4 (95)	-6.3 (96)	-12.1 (93)	-8.5 (94)	-4.4 (93)	0.6 (84)	1.9 (87)	-- (--)
▲ Libor 1 month +4%	1.6 (51)	3.2 (70)	6.4 (28)	6.0 (34)	5.6 (48)	5.1 (42)	4.8 (60)	-- (--)

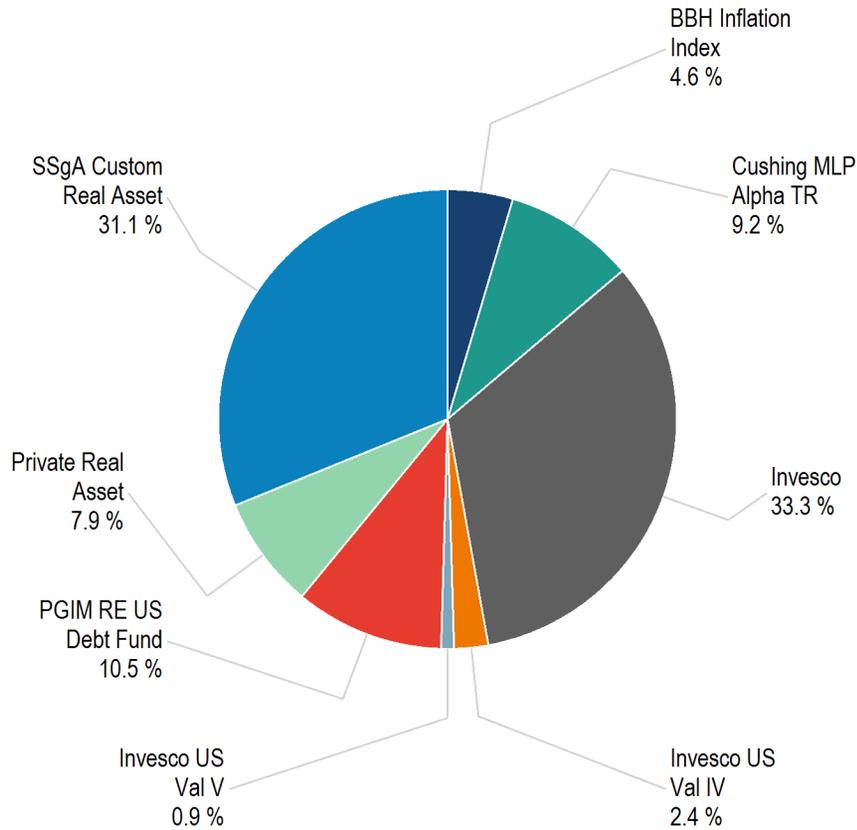
eV Alt All Multi-Strategy Return Comparison



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	7.3	21.5	14.4	15.2	15.8	13.2	15.5	15.9
25th Percentile	3.3	9.3	6.9	7.5	9.5	7.1	9.0	10.2
Median	1.7	5.4	3.5	4.2	5.3	4.2	5.9	6.7
75th Percentile	0.0	2.2	-0.9	1.0	1.8	2.0	2.8	4.3
95th Percentile	-4.6	-5.9	-16.1	-10.0	-5.9	-6.6	-2.1	-1.7
# of Portfolios	289	284	279	263	243	213	173	131
● Aberdeen Standard GARS	1.4 (55)	6.1 (45)	4.3 (45)	1.1 (74)	2.0 (75)	-- (--)	-- (--)	-- (--)
▲ Libor 1 month +4%	1.6 (51)	3.2 (70)	6.4 (28)	6.0 (34)	5.6 (48)	5.1 (42)	4.8 (60)	-- (--)

Inflation Hedge Manager Allocation Analysis

Period Ending: June 30, 2019



	Actual \$	Actual %	Manager Contribution to Excess Return %
Brown Brother Harriman	\$37,067,410	4.6%	0.0%
Cushing MLP Alpha TR	\$74,573,782	9.2%	-0.3%
Invesco	\$269,030,019	33.3%	0.0%
Invesco US Val IV	\$19,090,969	2.4%	0.0%
Invesco US Val V	\$7,397,449	0.9%	0.0%
PGIM RE US Debt Fund	\$85,208,628	10.5%	0.0%
Private Real Asset	\$64,121,953	7.9%	-0.9%
SSgA Custom Real Asset	\$251,230,510	31.1%	0.1%
Actual vs. Policy Weight Difference			-0.4%
Total	\$807,720,721	100.0%	-1.5%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Real Estate	7.68%	3.20%	1.96	0.17	0.64%
NCREIF ODCE	7.57%	3.12%	1.97	--	0.00%
Invesco	7.59%	3.22%	1.92	0.02	0.71%
NCREIF ODCE	7.57%	3.12%	1.97	--	0.00%
Invesco US Val IV	11.00%	5.10%	1.88	1.16	2.96%
NCREIF ODCE	7.57%	3.12%	1.97	--	0.00%
Private Real Asset	-3.07%	8.85%	-0.51	-0.76	10.33%
Blended Private Real Asset Index	4.81%	9.57%	0.36	--	0.00%
TIPS	2.59%	2.13%	0.56	0.45	1.12%
BBgBarc US TIPS TR	2.08%	2.94%	0.23	--	0.00%
Brown Brothers Harriman	2.59%	2.13%	0.56	0.45	1.12%
BBgBarc US TIPS TR	2.08%	2.94%	0.23	--	0.00%

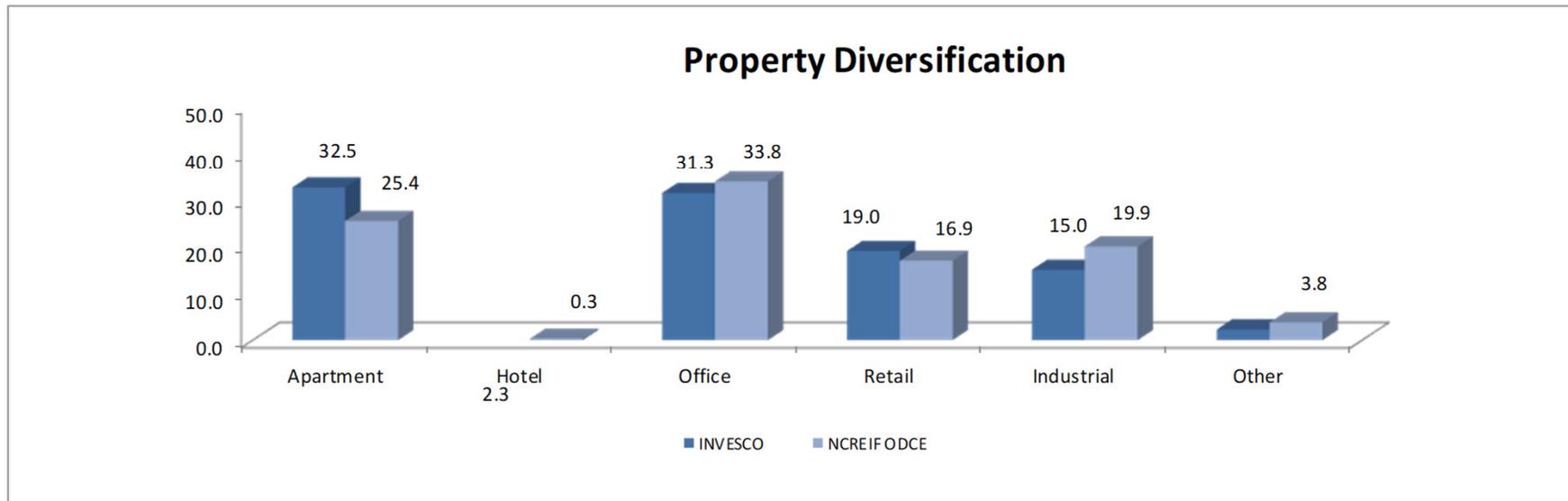
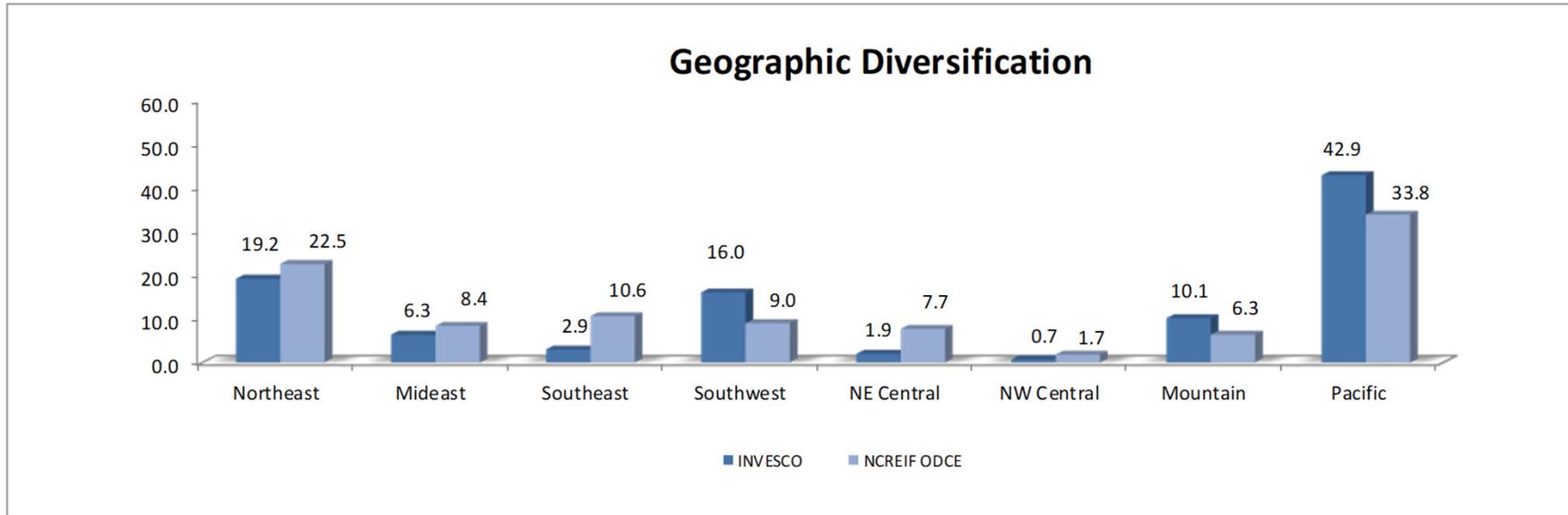
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error Rank
Real Estate	9.97%	4.43%	2.05	0.19	31
NCREIF ODCE	9.75%	4.19%	2.12	--	1
Invesco	9.85%	4.41%	2.03	0.07	--
NCREIF ODCE	9.75%	4.19%	2.12	--	--
TIPS	1.55%	2.65%	0.26	-0.16	--
BBgBarc US TIPS TR	1.75%	3.51%	0.25	--	--
Brown Brothers Harriman	1.55%	2.65%	0.26	-0.16	64
BBgBarc US TIPS TR	1.75%	3.51%	0.25	--	1



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.2	19.3	11.8	8.9	8.1	9.9	10.5	14.6
25th Percentile	1.4	4.0	7.0	7.2	7.3	9.1	9.8	9.1
Median	1.2	2.9	6.4	6.8	6.6	8.4	9.1	8.6
75th Percentile	0.9	2.6	5.9	6.2	5.6	8.0	8.7	7.9
95th Percentile	0.0	1.9	4.6	5.1	3.8	6.1	7.9	7.6
# of Portfolios	89	89	89	84	84	81	68	51
● Real Estate	1.1 (56)	2.4 (83)	7.0 (21)	7.4 (21)	7.7 (19)	10.0 (5)	10.5 (6)	9.6 (12)
▲ NCREIF ODCE	1.0 (75)	2.4 (83)	6.4 (47)	7.4 (20)	7.6 (21)	9.8 (9)	10.5 (5)	9.9 (12)



INVESCO Core Real Estate
Real Estate Valuation Analysis

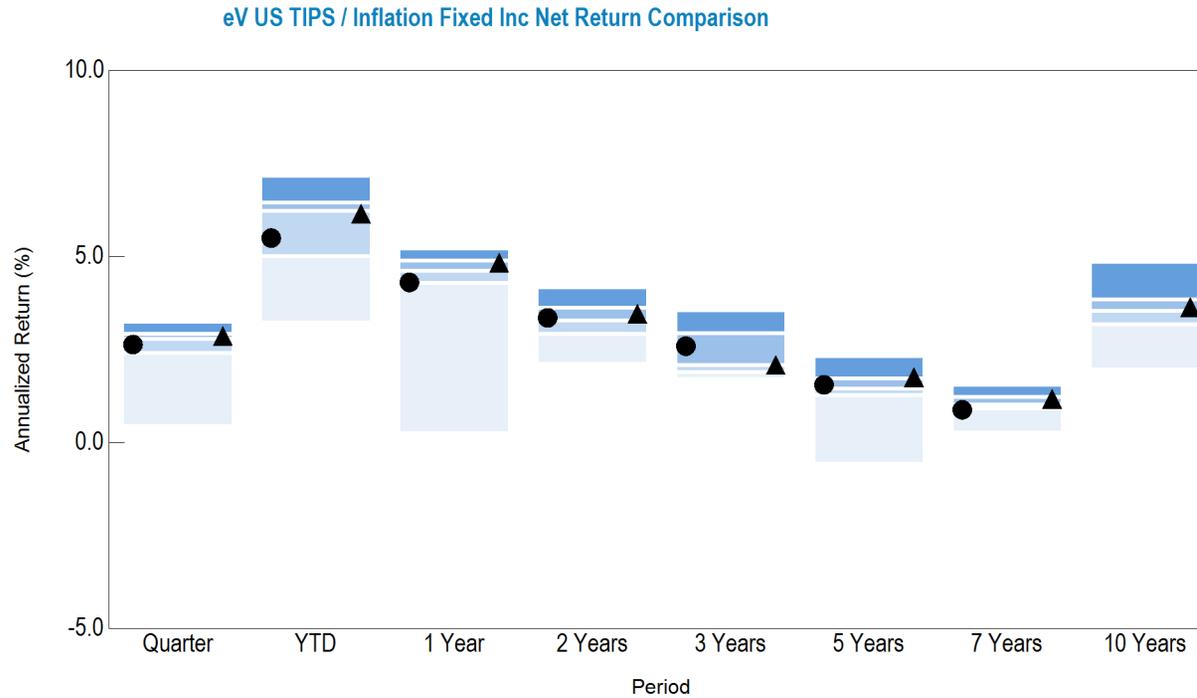
Period Ending: June 30, 2019

Property Name	MSA	Prior Quarter Carry Value	Current Quarter Carry Value	Net Market Value	Date Added to Fund	Last Valuation Date	SamCERA ownership as of 6/30/2019 2.58%
APARTMENTS							
Stoneridge Apartments	Pleasanton, CA	\$242,000,000	\$240,000,000	\$240,000,000	4Q06	June-19	\$6,201,589
Instrata Pentagon City	Arlington, VA	\$156,000,000	\$160,000,000	\$160,000,000	3Q10	June-19	\$4,134,393
Ladd Tower	Portland, OR	\$126,000,000	\$126,000,000	\$68,874,805	4Q10	June-19	\$1,779,722
Legacy Fountain Plaza	San Jose, CA	\$163,000,000	\$163,000,000	\$163,000,000	1Q11	June-19	\$4,211,913
Instrata Gramercy (fka The Elektra)	New York, NY	\$172,000,000	\$173,000,000	\$101,245,650	1Q11	June-19	\$2,616,183
Instrata Brooklyn Heights (fka 75 Clinton Street)	Brooklyn, NY	\$67,600,000	\$67,000,000	\$67,000,000	1Q12	June-19	\$1,731,277
The Artisan Laguna Beach	Orange County, CA	\$165,000,000	\$166,000,000	\$104,178,731	3Q12	June-19	\$2,691,974
The GoodWynn	Atlanta, GA	\$96,600,000	\$98,478,820	\$98,478,820	4Q12	June-19	\$2,544,688
Instrata Hell's Kitchen	New York, NY	\$185,000,000	\$185,000,000	\$185,000,000	1Q13	June-19	\$4,780,392
Sunset Vine Tower	Los Angeles, CA	\$103,000,000	\$104,000,000	\$104,000,000	2Q13	June-19	\$2,687,355
Instrata Ashton Uptown	Dallas, TX	\$121,000,000	\$115,000,000	\$57,572,319	4Q13	June-19	\$1,487,666
206 Bell	Seattle, WA	\$48,900,000	\$49,000,000	\$49,000,000	4Q13	June-19	\$1,266,158
Cadence Union Station	Denver, CO	\$94,500,000	\$94,600,000	\$57,315,297	1Q14	June-19	\$1,481,025
Joseph Arnold Lofts	Seattle, WA	\$70,800,000	\$70,400,000	\$36,008,512	2Q14	June-19	\$930,458
Verve	Denver, CO	\$108,000,000	\$107,400,000	\$107,400,000	3Q14	June-19	\$2,775,211
Broadstone Little Italy	San Diego CA	\$120,000,000	\$120,000,000	\$66,568,957	3Q14	June-19	\$1,720,139
33 Tehama	San Francisco, CA	\$301,886,940	\$304,551,162	\$166,523,588	3Q14	June-19	\$4,302,962
The Parker	Portland, OR	\$63,200,000	\$62,600,000	\$30,777,283	1Q15	June-19	\$795,284
Legacy West Apartments	Plano, TX	\$145,000,000	\$145,000,000	\$53,147,824	1Q15	June-19	\$1,373,337
The Royce	Irvine, CA	\$210,137,339	\$214,139,657	\$107,254,432	2Q15	June-19	\$2,771,450
Jefferson Marketplace	Washington, DC	\$159,000,000	\$159,000,000	\$88,072,484	4Q15	June-19	\$2,275,789
Retreat at Park Meadows	Littleton, CO	\$159,000,000	\$161,000,000	\$161,000,000	4Q15	June-19	\$4,160,233
North Water Apartments	Chicago, IL	\$256,000,000	\$256,000,000	\$256,000,000	1Q16	June-19	\$6,615,029
2270 Broadway	Oakland, CA	\$28,170,689	\$28,208,950	\$28,208,950	1Q16	June-19	\$728,918
Runway at Playa Vista Apartments	Playa Vista, CA	\$167,567,734	\$167,480,000	\$104,653,856	1Q16	June-19	\$2,704,251
Clayton Lane Apartments	Denver, CO	\$39,279,865	\$39,669,161	\$39,669,161	1Q16	June-19	\$1,025,049
Biscayne 27	Miami, FL	\$98,461,074	\$102,870,604	\$56,081,889	2Q16	June-19	\$1,449,154
Flats 8300	Washington DC	\$245,000,000	\$244,000,000	\$244,000,000	2Q16	June-19	\$6,304,949
407 1st Ave	New York, NY	\$201,700,000	\$203,000,000	\$203,000,000	4Q16	June-19	\$5,245,511
5250 Park	Miami, FL	\$42,175,876	\$45,253,423	\$28,775,291	2Q17	June-19	\$743,552
The Mason	Pleasanton, CA	\$103,000,000	\$104,000,000	\$104,000,000	3Q17	June-19	\$2,687,355
The Arnold	Austin, TX	\$103,000,000	\$103,000,000	\$103,000,000	4Q18	June-19	\$2,661,515
The Harlo	Boston, MA	\$150,383,594	\$155,000,000	\$155,000,000	1Q19	June-19	\$4,005,193
Sunset Vine Tower II	Hollywood, CA	\$0	\$19,014,857	\$19,014,857	2Q19	Acq in 2Q19	\$491,343
Legacy West - Block H - Apartment	Plano, TX	\$0	\$6,344,160	\$6,344,160	2Q19	Acq in 2Q19	\$163,933
		\$4,512,363,111	\$4,559,010,793	\$3,620,166,865			\$93,544,950
INDUSTRIAL							
Arjons Industrial Park	San Diego CA	\$47,100,000	\$49,100,000	\$49,100,000	2Q04	June-19	\$1,268,742
Gateway Business Park	Dallas TX	\$14,400,000	\$14,500,000	\$14,500,000	2Q04	June-19	\$374,679
Hayward Industrial	Oakland CA	\$217,900,000	\$218,000,000	\$218,000,000	3Q04-3Q07	June-19	\$5,633,110
Oakdale Commerce Center	Seattle - Belle - Eve WA	\$67,200,000	\$69,700,000	\$69,700,000	1Q06	June-19	\$1,801,045
South Bay Industrial	Los Angeles, CA	\$61,600,000	\$62,600,000	\$62,600,000	4Q06	June-19	\$1,617,581
Steeplechase Portfolio	Capitol Heights, MD	\$108,900,000	\$109,100,000	\$109,100,000	1Q11	June-19	\$2,819,139
Airport Trade Center Portfolio	Dallas, TX	\$144,500,000	\$148,100,000	\$148,100,000	1Q11	June-19	\$3,826,897
IE Logistics	San Bernardino, CA	\$158,000,000	\$168,000,000	\$168,000,000	3Q11	June-19	\$4,341,112
Railhead Industrial	Dallas, TX	\$66,800,000	\$66,500,000	\$66,500,000	4Q11	June-19	\$1,718,357
Empire Gateway aka Chino South Logistics Center	Chino, CA	\$302,000,000	\$311,000,000	\$311,000,000	4Q12	June-19	\$8,036,226
SFO Logistics Center	San Francisco, CA	\$164,000,000	\$164,000,000	\$164,000,000	4Q13	June-19	\$4,237,753
Miami Industrial Portfolio	Various, FL	\$86,505,280	\$86,915,006	\$60,201,415	1Q16	June-19	\$1,555,602
Miami Industrial Portfolio - Fedex	Hollywood, FL	\$46,000,000	\$47,400,000	\$33,381,085	1Q16	June-19	\$862,566
OMP Burbank	Los Angeles, CA	\$103,148,873	\$130,620,348	\$130,620,348	2Q16	June-19	\$3,375,224
Pacific Commons	Freemont, CA	\$214,029,380	\$225,613,743	\$195,321,550	1Q17	June-19	\$5,047,100
Gateway 80 Business Park	Fairfield, CA	\$107,300,000	\$107,500,000	\$107,500,000	1Q18	June-19	\$2,777,795
Meridian Distribution Center II	Riverside, CA	\$58,500,000	\$60,300,000	\$60,300,000	3Q18	June-19	\$1,558,149
Bayport North Industrial Building II and III	Riverside, CA	\$60,000,000	\$60,400,000	\$60,400,000	4Q18	June-19	\$1,560,733
		\$2,027,883,533	\$2,099,349,097	\$2,028,324,398			\$52,411,812

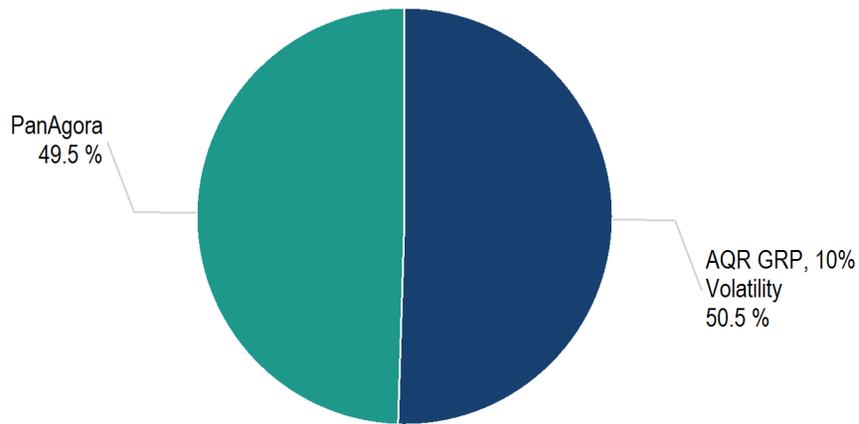
INVESCO Core Real Estate
Real Estate Valuation Analysis

Period Ending: June 30, 2019

OFFICE							
55 Cambridge Parkway	Boston MA - NH	\$362,000,000	\$367,000,000	\$367,000,000	4Q06	June-19	\$9,483,264
1800 Larimer	Denver, CO	\$339,000,000	\$339,000,000	\$339,000,000	1Q11	June-19	\$8,759,745
Hillview Office	San Jose, CA	\$74,000,000	\$70,000,000	\$70,000,000	3Q12	June-19	\$1,808,797
Williams Tower	Houston, TX	\$617,000,000	\$619,000,000	\$433,971,566	1Q13	June-19	\$11,213,806
Westlake Park Place	Westlake Village, CA	\$109,000,000	\$109,000,000	\$109,000,000	4Q13	June-19	\$2,816,555
101 Second	San Francisco, CA	\$464,000,000	\$471,000,000	\$471,000,000	1Q14	June-19	\$12,170,619
Energy Crossing II	Houston, TX	\$104,000,000	\$103,000,000	\$103,000,000	2Q14	June-19	\$2,661,515
1776 Wilson Blvd.	Arlington, VA	\$87,000,000	\$85,400,000	\$85,400,000	3Q14	June-19	\$2,206,732
631 Howard	San Francisco, CA	\$108,000,000	\$108,000,000	\$108,000,000	3Q14	June-19	\$2,790,715
Barton Oaks	Austin, TX	\$98,400,000	\$105,000,000	\$105,000,000	3Q14	June-19	\$2,713,195
Hercules East and South Campus	Los Angeles, CA	\$190,521,411	\$192,435,398	\$192,435,398	3Q14	June-19	\$4,972,522
The Reserve	Playa Vista, CA	\$396,044,682	\$399,017,940	\$399,017,940	1Q15	June-19	\$10,310,606
Fort Point Portfolio	Boston, MA	\$278,006,239	\$287,899,699	\$287,899,699	2Q15	June-19	\$7,439,315
Legacy West Office	Plano, TX	\$143,000,000	\$146,000,000	\$54,147,824	1Q15	June-19	\$1,399,177
1101 Westlake	Seattle, WA	\$146,000,000	\$149,000,000	\$149,000,000	3Q15	June-19	\$3,850,153
PearlWest	Boulder, CO	\$132,000,000	\$132,000,000	\$132,000,000	4Q16	June-19	\$3,410,874
The Mark 302	Santa Monica, CA	\$56,471,735	\$58,170,374	\$58,170,374	1Q18	June-19	\$1,503,120
430 West 15th Street	New York NY	\$164,000,000	\$164,000,000	\$164,000,000	2Q18	June-19	\$4,237,753
Ten Fawcett	Cambridge, MA	\$60,334,000	\$59,752,000	\$30,652,000	3Q18	June-19	\$792,046
Press Blocks	Portland, OR	\$14,311,531	\$19,868,763	\$19,868,763	3Q18	June-19	\$513,408
Union Tower West	Denver, CO	\$69,800,000	\$70,500,000	\$70,500,000	4Q18	June-19	\$1,821,717
Tryon South End	Denver, CO	\$24,434,141	\$33,730,259	\$33,730,259	1Q19	June-19	\$871,588
22 Boston Wharf Rd	Boston, MA	\$176,172,841	\$182,000,000	\$182,000,000	1Q19	June-19	\$4,702,872
Legacy West - Block H - Office	Plano, TX	\$0	\$7,645,526	\$7,645,526	2Q19	Acq 2Q19	\$197,560
		\$4,326,496,579	\$4,390,419,959	\$4,084,439,349			\$105,541,730
RETAIL							
Chandler Pavilion	Phoenix - Mesa AZ	\$22,500,000	\$22,500,000	\$22,500,000	2Q04	June-19	\$581,399
Cityline at Tenley	Washington, D.C.	\$65,000,000	\$64,100,000	\$64,100,000	4Q05	June-19	\$1,656,341
Ridgehaven Shopping Center	Minnetonka, MN	\$42,900,000	\$41,600,000	\$41,600,000	4Q05	June-19	\$1,074,942
The Beacon Garage (units)	San Francisco, CA	\$38,600,000	\$38,800,000	\$38,800,000	1Q06	June-19	\$1,002,590
The Beacon Office (210 King)	San Francisco, CA	\$29,400,000	\$30,400,000	\$30,400,000	1Q15	June-19	\$785,535
Hawthorne Plaza	Overland Park, KS	\$53,275,000	\$53,275,000	\$53,275,000	4Q07	June-19	\$1,376,624
The Loop	Boston MA - NH	\$76,200,000	\$75,000,000	\$75,000,000	1Q08	June-19	\$1,937,997
Westbank Market	Austin, TX	\$64,800,000	\$66,100,000	\$66,100,000	3Q10	June-19	\$1,708,021
910 Lincoln Road	Miami, FL	\$35,700,000	\$30,500,000	\$30,500,000	4Q10	June-19	\$788,119
Lake Pointe Village	Houston, TX	\$88,250,000	\$88,250,000	\$88,250,000	4Q11	June-19	\$2,280,376
Safeway Kapahulu	Hawaii	\$95,200,000	\$95,400,000	\$59,165,166	4Q11	June-19	\$1,528,825
Safeway Burlingame	San Francisco, CA	\$59,100,000	\$58,800,000	\$36,078,086	4Q11	June-19	\$932,256
Shamrock Plaza	Oakland, CA	\$40,800,000	\$40,700,000	\$24,434,383	4Q11	June-19	\$631,383
Pavilions Marketplace	West Hollywood, CA	\$71,100,000	\$71,000,000	\$46,300,953	1Q12	June-19	\$1,196,415
130 Prince	New York, NY	\$124,000,000	\$198,735,712	\$198,735,712	2Q12	June-19	\$5,135,322
Safeway Pleasanton	Pleasanton, CA	\$86,500,000	\$86,600,000	\$86,600,000	4Q12	June-19	\$2,237,740
Liberty Wharf	Boston, MA	\$91,400,000	\$92,000,000	\$92,000,000	4Q12	June-19	\$2,377,276
Shops at Legacy	Plano, TX	\$124,000,000	\$124,000,000	\$124,000,000	3Q13	June-19	\$3,204,154
Pasadena Commons	Pasadena, CA	\$63,400,000	\$63,300,000	\$63,300,000	4Q14	June-19	\$1,635,669
Rush Street Retail	Chicago, IL	\$16,900,000	\$16,900,000	\$16,900,000	4Q14	June-19	\$436,695
Legacy West Retail	Plano, TX	\$280,000,000	\$280,000,000	\$157,530,432	1Q15	June-19	\$4,070,579
131-137 Spring Street	New York, NY	\$263,000,000	\$251,000,000	\$251,000,000	3Q15	June-19	\$6,485,829
Runway at Playa Vista - Retail	Playa Vista, CA	\$128,327,189	\$133,030,000	\$71,253,144	1Q16	June-19	\$1,841,178
139 Spring	New York, NY	\$111,059,200	\$100,151,603	\$100,151,603	1Q16	June-19	\$2,587,913
Clayton Lane	Denver, CO	\$150,907,816	\$150,199,498	\$104,176,643	1Q16	June-19	\$2,691,920
4th & Colorado	Santa Monica, CA	\$13,280,000	\$13,280,000	\$13,280,000	1Q16	June-19	\$343,155
Legacy West - Block H	Plano, TX	\$11,939,122	\$2,277,391	\$2,277,391	4Q17	June-19	\$58,848
Shops at Crystals	Las Vegas, NV	\$302,000,000	\$301,500,000	\$163,899,298	2Q16	June-19	\$4,235,151
		\$2,708,488,327	\$2,662,999,204	\$2,195,207,810			\$56,724,072
Other							
Baranof - Walden Park	San Marcos, TX	\$9,260,960	\$9,724,008	\$9,724,008	1Q18	June-19	\$251,268
Baranof - Ranch Road 620	San Marcos, TX	\$8,705,302	\$9,260,960	\$9,260,960	1Q18	June-19	\$239,303
Baranof - Glenwood Avenue	Raleigh, NC	\$9,260,960	\$9,724,008	\$9,724,008	1Q18	June-19	\$251,268
Baranof - 1-84 & 60th	Vancouver, WA	\$22,226,304	\$23,337,619	\$23,337,619	1Q18	June-19	\$603,043
Baranof - Fishers Landing Vancouver	Vancouver, WA	\$16,299,289	\$17,317,995	\$17,317,995	1Q18	June-19	\$447,496
US Storage - Compton	Compton, CA	\$16,094,385	\$24,999,745	\$18,481,404	4Q17	June-19	\$477,559
The Quad	New York NY	\$82,905,795	\$108,156,649	\$69,809,289	2Q18	June-19	\$1,803,869
Baranof - 622 Capital	Raleigh, NC	\$18,892,358	\$20,466,721	\$20,466,721	3Q18	June-19	\$528,859
51st Street Self Storage	Austin, TX	\$12,100,000	\$12,200,000	\$12,200,000	3Q18	June-19	\$315,247
Campbell Self Storage	Campbell, CA	\$17,800,000	\$17,900,000	\$17,900,000	3Q18	June-19	\$462,535
Baranof - Belmont and 7th	Portland, OR	\$17,873,653	\$19,170,187	\$19,170,187	4Q18	June-19	\$495,357
Boston Lane Self Storage	Austin, TX	\$15,900,000	\$16,100,000	\$16,100,000	4Q18	June-19	\$416,023
US Storage - 4800 Valley	Los Angeles, CA	\$6,016,804	\$5,905,960	\$5,905,960	1Q19	June-19	\$152,610
Newark Self Storage	Newark, CA	\$6,190,020	\$6,722,867	\$6,722,867	1Q19	June-19	\$173,719
Norwood Extra Space	Norwood, MA	\$18,463,974	\$19,900,000	\$19,900,000	1Q19	June-19	\$514,215
		\$277,989,804	\$320,886,718	\$276,021,018			\$7,132,371
Portfolio Total		\$13,853,221,354	\$14,032,665,772	\$12,204,159,440			\$315,354,935



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.2	7.2	5.2	4.2	3.5	2.3	1.5	4.9
25th Percentile	2.9	6.5	4.9	3.6	2.9	1.7	1.2	3.9
Median	2.8	6.2	4.6	3.3	2.1	1.5	1.0	3.5
75th Percentile	2.4	5.0	4.3	2.9	1.9	1.3	0.9	3.2
95th Percentile	0.4	3.2	0.3	2.1	1.7	-0.6	0.3	2.0
# of Portfolios	20	20	19	19	19	17	16	12
● Brown Brothers Harriman	2.6 (69)	5.5 (72)	4.3 (76)	3.4 (48)	2.6 (30)	1.6 (37)	0.9 (77)	-- (--)
▲ BBgBarc US TIPS TR	2.9 (39)	6.2 (58)	4.8 (27)	3.5 (38)	2.1 (51)	1.8 (19)	1.2 (31)	3.6 (46)



	Actual \$	Actual %	Manager Contribution to Excess Return %
AQR GRP, 10% Volatility	\$196,422,334	50.5%	1.0%
PanAgora	\$192,616,764	49.5%	0.9%
Actual vs. Policy Weight Difference			0.0%
Total	\$389,039,098	100.0%	1.9%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Risk Parity	7.1%	7.8%	0.7	-0.3	5.4%
Blended Risk Parity Index	8.6%	6.8%	1.1	--	0.0%
AQR GRP, 10% Volatility	8.3%	7.9%	0.9	-0.1	5.0%
Blended Risk Parity Index	8.6%	6.8%	1.1	--	0.0%
PanAgora	6.2%	8.1%	0.6	-0.4	6.2%
Blended Risk Parity Index	8.6%	6.8%	1.1	--	0.0%

Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Risk Parity	5.1%	8.4%	0.5	-0.3	6.1%
Blended Risk Parity Index	7.0%	7.0%	0.9	--	0.0%
AQR GRP, 10% Volatility	3.8%	8.5%	0.3	-0.5	5.9%
Blended Risk Parity Index	7.0%	7.0%	0.9	--	0.0%

Total Fund
Performance Summary (Gross of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Total Fund	3.0	10.3	5.6	6.2	8.4	5.9	9.6
<i>Policy Index</i>	3.9	10.6	6.7	7.3	9.0	6.1	9.7
Total Fund ex Overlay	2.9	10.0	5.3	6.1	8.3	5.8	9.5
<i>Policy Index</i>	3.9	10.6	6.7	7.3	9.0	6.1	9.7
Public Equity	3.7	16.2	5.1	8.1	11.6	7.1	11.7
<i>Blended Public Equity Index</i>	3.4	16.2	5.0	8.3	12.0	6.9	11.8
US Equity	3.9	17.8	7.7	11.4	13.7	9.8	14.4
<i>Blended US Equity Index</i>	4.1	18.7	9.0	11.8	14.1	10.0	14.7
<i>Russell 3000</i>	4.1	18.7	9.0	11.8	14.0	10.2	14.7
Large Cap Equity	4.3	18.3	10.1	12.7	15.0	11.1	14.7
<i>Russell 1000</i>	4.2	18.8	10.0	12.3	14.1	10.5	14.8
Acadian US MGD V	4.7	15.9	--	--	--	--	--
BlackRock Russell 1000	4.3	18.9	10.1	12.3	--	--	--
DE Shaw	2.7	15.8	6.7	12.7	15.2	12.0	--
PanAgora Defuseq	5.5	21.3	--	--	--	--	--
<i>Russell 1000</i>	4.2	18.8	10.0	12.3	14.1	10.5	14.8
Small Cap Equity	0.4	13.0	-6.9	3.7	9.6	4.7	13.4
<i>Russell 2000</i>	2.1	17.0	-3.3	6.6	12.3	7.1	13.4
QMA US Small Cap	0.4	13.0	-6.9	3.7	--	--	--
<i>Russell 2000</i>	2.1	17.0	-3.3	6.6	12.3	7.1	13.4
International Equity	3.4	14.4	2.0	4.3	8.9	3.1	6.8
<i>Blended International Equity Index</i>	2.6	13.4	0.4	4.1	9.4	2.6	7.0
<i>MSCI EAFE Gross</i>	4.0	14.5	1.6	4.4	9.6	2.7	7.4
Developed Markets	3.8	15.1	1.6	4.3	9.0	3.2	7.1
<i>MSCI ACWI ex USA Gross</i>	3.2	14.0	1.8	4.8	9.9	2.6	7.0
Baillie Gifford	6.0	20.2	0.8	5.4	10.3	5.0	--
<i>MSCI ACWI ex US</i>	3.2	14.0	1.8	4.8	9.9	2.6	--
<i>MSCI ACWI ex US Growth</i>	4.5	17.5	3.0	6.6	10.2	4.4	--

Total Fund
Performance Summary (Gross of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
BlackRock EAFE Index	3.9	14.4	1.5	4.3	9.6	2.6	--
<i>MSCI EAFE</i>	3.7	14.0	1.1	3.9	9.1	2.2	6.9
<i>MSCI EAFE Gross</i>	4.0	14.5	1.6	4.4	9.6	2.7	7.4
Mondrian	1.5	10.8	2.6	3.4	7.5	1.7	6.6
<i>MSCI ACWI ex USA Value Gross</i>	1.9	10.5	0.6	2.9	9.6	0.9	6.0
<i>MSCI ACWI ex USA Gross</i>	3.2	14.0	1.8	4.8	9.9	2.6	7.0
Emerging Markets	2.1	10.0	3.5	3.5	7.9	1.1	--
<i>MSCI Emerging Markets Gross</i>	0.7	10.8	1.6	5.0	11.1	2.9	6.2
Parametric Core	2.1	10.0	3.5	3.5	7.9	--	--
<i>MSCI Emerging Markets Gross</i>	0.7	10.8	1.6	5.0	11.1	2.9	6.2
Parametric Currency Overlay	-3.0	10.7	--	--	--	--	--
Fixed Income	2.6	5.8	6.8	3.9	5.1	3.8	6.4
<i>Blended Fixed Income Index</i>	3.0	7.4	8.5	4.1	3.5	3.3	4.2
Core Fixed	2.7	5.5	7.1	3.5	3.4	3.4	5.6
<i>BBgBarc US Aggregate TR</i>	3.1	6.1	7.9	3.7	2.3	2.9	3.9
BlackRock Intermediate Govt	2.4	4.0	6.3	2.8	--	--	--
<i>BBgBarc US Govt Int TR</i>	2.3	4.0	6.2	2.7	1.3	1.9	2.4
FIAM Bond	3.2	6.7	8.1	4.1	3.1	3.5	5.2
<i>BBgBarc US Aggregate TR</i>	3.1	6.1	7.9	3.7	2.3	2.9	3.9
Western TRU	2.3	5.3	6.3	3.1	5.3	--	--
<i>3-Month Libor Total Return USD</i>	0.6	1.3	2.6	2.2	1.8	1.2	0.8
<i>BBgBarc US Aggregate TR</i>	3.1	6.1	7.9	3.7	2.3	2.9	3.9
Opportunistic Credit	2.3	6.4	6.3	5.2	8.5	5.9	--
<i>BBgBarc BA Intermediate HY</i>	2.9	10.1	9.6	4.9	6.3	4.8	--
Angelo Gordon Opportunistic	5.4	6.4	12.0	18.2	17.8	10.3	--
Angelo Gordon STAR	6.2	12.0	22.3	21.2	20.2	14.2	--
<i>BBgBarc US Aggregate TR</i>	3.1	6.1	7.9	3.7	2.3	2.9	3.9

Total Fund
Performance Summary (Gross of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Beach Point Select	3.0	7.6	5.2	6.2	8.8	--	--
<i>BBgBarc BA Intermediate HY</i>	2.9	10.1	9.6	4.9	6.3	4.8	--
Brigade Capital	1.9	6.3	2.6	3.5	7.7	3.8	--
<i>BBgBarc BA Intermediate HY</i>	2.9	10.1	9.6	4.9	6.3	4.8	--
<i>50% Barclays HY/ 50% Bank Loan</i>	2.0	7.7	5.8	4.7	6.5	4.3	--
PIMCO Diversified	3.6	9.6	10.0	--	--	--	--
<i>Blended PIMCO Diversified Index</i>	3.5	9.7	9.8	4.9	5.4	4.6	7.4
<i>BBgBarc BA Intermediate HY</i>	2.9	10.1	9.6	4.9	6.3	4.8	--
Franklin Templeton	1.5	3.2	5.7	1.6	4.6	1.5	--
<i>BBgBarc Multiverse TR</i>	3.3	5.8	6.0	3.7	1.9	1.3	3.1
Private Credit	0.7	3.0	6.6	6.7	--	--	--
<i>Cliffwater Direct Lending Index</i>	2.8	5.6	9.1	9.0	9.5	8.6	10.9
PIMCO Private Income	--	--	--	--	--	--	--
<i>BBgBarc BA Intermediate HY</i>	2.9	10.1	9.6	4.9	6.3	4.8	--
<i>Cliffwater Direct Lending Index</i>	2.8	5.6	9.1	9.0	9.5	8.6	10.9
TCP Direct Lending VIII	1.7	4.1	8.4	7.3	--	--	--
White Oak Yield	0.0	2.2	5.3	5.3	--	--	--
<i>Cliffwater Direct Lending Index</i>	2.8	5.6	9.1	9.0	9.5	8.6	10.9
Risk Parity	5.6	17.5	10.8	8.7	7.1	5.1	--
<i>Blended Risk Parity Index</i>	3.7	12.6	7.3	7.3	8.6	7.0	--
AQR GRP, 10% Volatility	5.7	17.5	11.4	9.5	8.3	3.8	--
PanAgora	5.4	17.5	10.3	8.0	6.2	--	--
<i>Blended Risk Parity Index</i>	3.7	12.6	7.3	7.3	8.6	7.0	--
<i>S&P Risk Parity 10% Target Volatility Index TR USD</i>	4.3	12.7	8.3	7.1	5.4	3.5	6.6
Alternatives	2.0	1.6	4.6	3.6	7.9	6.1	--
<i>Blended Alternatives Index</i>	8.0	1.6	9.5	9.7	11.2	6.7	--
Private Equity	5.6	4.3	14.6	11.9	17.4	16.1	--
<i>Blended Private Equity Index</i>	14.6	-0.5	11.8	12.7	15.5	12.3	17.2

Total Fund
Performance Summary (Gross of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Hedge Fund/Absolute Return	-2.1	-1.4	-5.9	-4.7	-1.8	2.2	--
<i>Libor 1 month +4%</i>	1.6	3.2	6.4	6.0	5.6	5.1	--
AQR DELTA XN	-4.4	-6.3	-12.1	-8.5	-4.4	0.6	--
Aberdeen Standard GARS	1.4	6.1	4.3	1.1	2.0	--	--
<i>Libor 1 month +4%</i>	1.6	3.2	6.4	6.0	5.6	5.1	--
Inflation Hedge	1.3	5.7	2.8	4.9	5.3	--	--
<i>Blended Inflation Hedge Index</i>	2.8	6.4	4.8	6.0	5.4	--	--
Real Estate	1.3	2.6	7.5	7.9	8.1	10.4	10.0
<i>NCREIF ODCE</i>	1.0	2.4	6.4	7.4	7.6	9.8	9.9
Invesco	1.0	2.1	7.0	7.7	8.0	10.2	9.9
<i>NCREIF ODCE</i>	1.0	2.4	6.4	7.4	7.6	9.8	9.9
Invesco US Val IV	1.2	5.4	13.2	13.0	12.1	--	--
<i>NCREIF ODCE</i>	1.0	2.4	6.4	7.4	7.6	9.8	9.9
<i>NCREIF CEVA 1Q Lag - NET</i>	3.0	6.0	12.3	12.0	11.0	13.5	--
Invesco US Val V	5.7	--	--	--	--	--	--
<i>NCREIF ODCE</i>	1.0	2.4	6.4	7.4	7.6	9.8	9.9
<i>NCREIF CEVA 1Q Lag - NET</i>	3.0	6.0	12.3	12.0	11.0	13.5	--
PGIM RE US Debt Fund	1.6	3.4	7.5	--	--	--	--
<i>NCREIF ODCE</i>	1.0	2.4	6.4	7.4	7.6	9.8	9.9
Private Real Asset	1.7	-10.3	-6.0	-5.9	-3.1	--	--
<i>Blended Private Real Asset Index</i>	13.0	3.2	7.6	4.7	4.8	5.0	--
<i>Blended Secondary CA Private RA Index</i>	2.6	-0.1	4.3	7.5	10.2	--	--
Public Real Assets	1.1	13.5	-0.7	4.7	--	--	--
<i>Blended Public Real Asset Index</i>	1.7	12.4	1.1	5.5	6.0	5.7	--
Cushing MLP Alpha TR	-1.1	16.6	--	--	--	--	--
<i>50% BBgBarc US TIPS/ 50% Blended PRA Index</i>	2.3	9.4	3.1	--	--	--	--
<i>Alerian MLP TR USD</i>	0.1	17.0	3.1	-0.8	-0.4	-7.2	8.2
SSgA Custom Real Asset	1.8	12.6	1.3	5.7	--	--	--
<i>SSgA Custom Real Asset Index</i>	1.7	12.4	1.1	5.5	--	--	--

Total Fund
Performance Summary (Gross of Fees)

Period Ending: June 30, 2019

	3 Mo (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
TIPS	2.6	5.6	4.5	3.5	2.8	1.7	--
<i>BBgBarc US TIPS TR</i>	2.9	6.2	4.8	3.5	2.1	1.8	3.6
Brown Brothers Harriman	2.6	5.6	4.5	3.5	2.8	1.7	--
<i>BBgBarc US TIPS TR</i>	2.9	6.2	4.8	3.5	2.1	1.8	3.6
Cash	0.4	0.6	1.3	1.1	1.0	1.0	0.8
<i>91 Day T-Bills</i>	0.6	1.2	2.3	1.8	1.4	0.9	0.5
General Account	1.1	2.0	5.3	4.0	3.0	2.4	1.3
Treasury & LAIF	0.9	1.6	3.7	3.4	2.5	1.9	1.4
<i>91 Day T-Bills</i>	0.6	1.2	2.3	1.8	1.4	0.9	0.5

Acadian Asset Management – Acadian U.S. Managed Volatility

Acadian attempts to take advantage of the mispricing of risk by building low-risk equity portfolios that hold predominantly low-risk stocks, and then also adding information on the correlation structure of equities to help further reduce risk through diversification.

Angelo, Gordon & Co. – AG STAR Fund

The STAR Fund will focus on CMBS and non-Agency RMBS priced between 25-75% of par, which AG believes are even today mispriced due to their complex nature and a dearth of natural buyers capable of accurately valuing these assets. In addition, AG will target securities that are well-positioned to benefit from home and commercial property price stabilization and recovery, and/or borrower credit quality improvement. In this regard the STAR Fund will be more aggressive than the PPIP Fund since it will target securities that are more geared to a recovery of the commercial and residential real estate markets. The Fund will utilize a moderate amount of leverage (1x to 1.5x) and is targeting a base-case 15% net IRR with a downside return in the mid/high single digits and an upside projection of 25%+ returns.

Angelo, Gordon & Co. – AG Opportunistic Whole Loan Fund

As bank balance sheets have strengthened since the crisis, Angelo Gordon expects approximately \$40 billion of re-performing loans and non-performing loans will trade hands each year in the near term. By acquiring these loans at a discounted price and replacing original servicers with better-focused special servicers, Angelo Gordon believes it can improve operational efficiency and generate attractive returns. To take advantage of this opportunity, Angelo Gordon established this Opportunistic Whole Loan Fund to make investments primarily in a portfolio of non-performing loans and re-performing, but will also include investments in new residential mortgage loans and excess mortgage servicing rights. Opportunistic investments in commercial mortgage loans and other mortgage related investments may also be included in the Fund's portfolio. Angelo Gordon has been an active participant in the residential and consumer debt market since 2008. The Partnership's investment approach to residential mortgage loans and securities is guided by an analytically based investment process anchored by distressed asset valuation and cash flow modeling. Angelo Gordon's analysis of re-performing and non-performing loans begins with its loan due diligence process. This process will include a review of substantially all of the properties in the pool, as well as a review of the loan files backing the loan pool. In addition, a macro overlay is embedded in the investment process which incorporates general economic trends, along with specific views on interest rates, unemployment, collateral appreciation or depreciation, governmental intervention in creditors' rights and liquidation timelines.

AQR Capital Management - AQR Delta

The AQR DELTA Fund aims to deliver efficient exposure to a well-diversified portfolio of hedge fund strategies, including Convertible Arbitrage, Event Driven, Fixed Income Relative Value, Equity Market Neutral, Long/Short Equity, Dedicated Short Bias, Global Macro, Managed Futures, and Emerging Markets. The Delta Fund's approach is to capture and deliver the "hedge fund risk premiums" that explain much of the returns of each of these strategies by building bottom-up positions in each strategy. AQR's research has demonstrated that many hedge funds use similar strategies to generate returns. These strategies are often well-known, widely understood and share common exposures. AQR's experience and research suggests much of the insight underlying these strategies - as well as a meaningful portion of their returns - can be captured using a dynamic, disciplined investment approach. Just as the equity risk premium can explain a large portion of the returns from equity investing, hedge fund risk premiums can explain the returns from hedge fund investing. Importantly, while compensation for equity risk is dependent on economic growth, hedge fund risk premiums are largely unrelated to economic activity, and thus provide attractive diversification properties.

AQR – Risk Parity

The objective of Global Risk Parity (GRP) is to generate excess returns from a risk diversified portfolio of asset exposures. AQR believes that its approach maximizes the diversification benefit across a broad range of economic environments. For many institutional portfolios, equity risk has historically been the predominant risk and the source of most return expectations since equities offer higher expected returns to compensate for their high risk. Investor preference for and concentration in equities has been driven by their expected return needs, which cannot be satisfied in a well-diversified un-levered portfolio. GRP is a diversified portfolio that can be scaled to similar levels of risk as a portfolio concentrated in equities, but with a higher expected return resulting from diversification across asset class risk. The approach helps do away with the compromise of concentrating in high risk assets to meet high return needs. Consistent with portfolio theory, the GRP strategy is designed to maximize diversification across a broad spectrum of liquid global risk premia to create a portfolio with higher expected risk-adjusted returns. Research shows that risk-adjusted returns across asset classes are similar over the long-term. Since realized risk-adjusted returns across asset classes are similar, AQR expects a portfolio that is diversified equally by risk to perform better. The Global Risk Premium strategy aims to deliver efficient market exposure across four broad asset classes in a risk balanced fashion.

Baillie Gifford – ACWI ex US Focus Equities

ACWI ex US Focus is a fundamental growth strategy. Research is organized primarily by regional teams, with each member of the ACWI ex US Focus Portfolio Construction Group representing a regional team. Four global sector groups also contribute research. Baillie Gifford conducts approximately 2000 company meetings annually both in Edinburgh and onsite. Companies are evaluated on their growth opportunity relative to the average company, their ability to execute on that opportunity, and the degree to which probability of future success is already valued by the market. Baillie Gifford's basic philosophy is that share prices ultimately follow earnings. They believe that the stock market has a recurring tendency to under-appreciate the value of long-term compound growth. The process seeks to add value through use of proprietary fundamental research to identify companies exhibiting some combination of sustained above average growth, and attractive financial characteristics. The portfolio generally holds 80-120 stocks, with country and sector weights +/-6% relative to the index and industry weights +/- 5% relative to the index.

Beach Point Capital Management, L.P. - Beach Point Select Fund

Beach Point Select Fund is a commingled fund vehicle within the firm's Opportunistic Credit strategy. This fund focuses on off-the-run, complex, and less-liquid securities. It is a best ideas portfolio of distressed debt, special situations, private/direct loans, catalyst-driven high yield bonds and bank loans, and credit-informed equities with a North American and European focus. The Select Fund differs from other funds and accounts in the Opportunistic Credit strategy by pursuing a more concentrated portfolio and emphasizing a higher percentage of less-liquid/private investments. Beach Point invests up and down the entire capital structure and it constructs portfolios with a bottom-up, research-driven approach that also takes into account top-down macro considerations. Its investment process includes idea generation, detailed credit analysis, relative value decision making and investment selection, portfolio construction and on-going monitoring. The ultimate goal of its investment process is to produce a well-diversified investment portfolio with limited downside risk and substantial upside potential.

BlackRock – EAFE Index

The EAFE Index Fund seeks to replicate the return of the MSCI EAFE Index. This index represents the developed equity markets outside of North America: Europe, Austral, Asia and the Far East.

BlackRock – Intermediate Government Index

The Intermediate Government Index Fund seeks to track the results of an index composed of U.S. dollar-denominated government, government related, and investment grade U.S. corporate bonds with maturities between 1 and 10 years.

BlackRock – Russell 1000 Index

The Russell 1000 Index Fund tracks large U.S. companies and achieve broad diversification with low costs by fully replicating the Russell 1000 Index.

Brigade – Opportunistic Credit

Opportunistic Credit is a fundamental, bottom-up strategy focused on high yield corporate bonds and bank loans with tactical allocations to structured securities, convertibles and other sectors of the bond markets as they become attractive on a relative value basis. While performing credits represent the majority, Brigade will invest up to 35% of the portfolio in distressed securities and restructuring situations if these types of opportunities are attractive on a risk-adjusted basis and the timing is right with respect to the credit cycle. The portfolio is comprised of mostly North American issuers, but they are not restricted geographically and expect to have a moderate allocation to Europe over time. Although the portfolio is generally long-only, Brigade has the ability to implement a limited amount of tactical macro hedges.

Brown Brothers Harriman – Inflation Indexed Securities

BBH manages TIPS using three main types of strategies: Fundamental, Technical and Opportunistic. The Fundamental bucket has two sub-strategies, real yield duration and real yield curve slope vs. nominal yield curve slope. The Technical strategies consist of yield curve roll-down, auction cycle trading, seasonal vs. non-seasonal CPI and security selection/option value analysis. Finally, nominal Treasuries vs. TIPS, sector relative value (i.e., corporate or Agency inflation-linked bonds) and non-Dollar inflation-linked bonds make up the Opportunistic group. Real yield duration is held to +/- 1 year vs. the benchmark and the portfolio has a limited allocation to non-index securities, typically 5-10% with a maximum of 20% (including nominal Treasuries).

Cushing MLP Alpha TR

A strategy focusing on bottom-up research of company and sectors that will allow them to identify superior distribution growth opportunities in public MLPs.

DE Shaw – DE Shaw US Broad Market Core Alpha Extension Fund

The D. E. Shaw group believes that there exist some market inefficiencies that may be identified through quantitative analysis, advanced technology, and the insight of practitioners. Identifying these inefficiencies involves a process of hypothesis formulation, testing, and validation. Importantly, to avoid data-mining, the hypothesis formulation precedes the analysis of the historical data. D.E. Shaw's Structured Equity strategies rely largely on quantitative and computational investment techniques developed by the D. E. Shaw over the last 19 years in the course of research conducted for purposes of managing the firm's hedge funds. In addition to its beta one strategies, D.E. Shaw manages substantial assets in its hedge fund strategies. D.E. Shaw's investment process involves a suite of quantitative models, each designed to capitalize on a distinct and uncorrelated set of market inefficiencies. Some of these models are technical in nature and involve price and volume inputs. Other models rely on fundamental data, such as figures gleaned from corporate balance sheets or income statements. Still others, again quantitative, anticipate or react to a particular corporate event or set of events. These models typically operate with forecast horizons of a few weeks to many months. The ability to trade on shorter-term signals distinguishes D.E. Shaw from many of its long only and 130/30 peers. Portfolio construction involves the use of a proprietary optimizer which runs dynamically throughout the trading day. The portfolio is broadly diversified with several hundred long and short positions. Over- and under-weighting of sectors and industries relative to the benchmark will be quite modest, with the intention that most of the alpha be generated by security selection. The US Broad Market Core Alpha Extension Fund is a 130/30 strategy which maintains a beta that is approximately neutral to the Russell 1000 Index.

Eaton Vance/Parametric – Structured Emerging Markets Core Equity

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 three tiers, and to equally weight the countries within each tier. Tier 1 countries are the largest eight 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. The Core SEM strategy targets excess return of 3% over a market cycle with 2.5%-4.5% tracking error. It is designed to generate a level of volatility 90%-100% of the MSCI EM index. The strategy invests in 44 countries and will typically hold 700-1,000 securities. Turnover is expected to be in the range of 5%-15%.

Franklin Templeton Investments – Global Fixed Income

Franklin Templeton manages the global bond mandate in an unconstrained fashion using a top-down, fundamental framework. 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 generally 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 investment and portfolio construction process begin with the determination of the Fund's or institutional client's investment objectives, resulting in a set of risk-return parameters and exposure limits within which the portfolio is managed. Next the firm's global economic outlook for the industrialized countries is developed, with a focus on interest rate and exchange rate forecasts. The portfolio's interest rate outlook is a function of global general equilibrium macroeconomic analysis as well as country-specific research. 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 industrialized countries (G-13) as well as emerging markets, which results in broad targets for cash, duration, currencies and the developed/emerging market mix. Using the firm's interest rate and exchange rate outlook, probability-weighted horizon returns for bonds of various countries are then calculated. This analysis is used to establish specific country weights and duration targets based on risk-adjusted expected total return measured in the portfolio's base currency. Analysis of emerging markets includes sovereign credit analysis along with greater emphasis on capital flows, inter-market dynamics and trends in the level of risk aversion in the market.

INVESCO Realty Advisors – INVESCO Core Equity, LLC

SamCERA is a founding member of INVESCO's open-end Core Equity real estate fund and rolled its separate account properties into the fund. INVESCO Core Equity, LLC (the "Fund") is a perpetual life, open-end vehicle which invests in a diversified portfolio of institutional quality office, retail, industrial and multifamily residential real estate assets. The Fund buys core properties that are located within the United States, typically requiring an investment of \$10 million or more. The portfolio cannot be more than 30% leveraged.

INVESCO Realty Advisors – INVESCO US Val IV

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund. The Invesco real estate team manages around \$62B in assets with investments and offices around the globe. Invesco Value Fund IV will look to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments will be limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA's). Invesco Value Fund IV will provide a nice compliment to the more conservative Invesco Core Fund and offer the potential of enhanced returns to the SamCERA Real Estate portfolio.

INVESCO Realty Advisors – INVESCO US Val V

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund and through the Invesco US Value IV Fund since December 2015. The Invesco real estate team manages around \$62B in assets with investments and offices around the globe. Invesco Value Fund V will be similar to the Value Add IV and look to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments will be limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA's).

Mondrian Investment Partners – International Equity

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.

PanAgora Asset Management – Defensive U.S. Equity Low Volatility

PanAgora's Defensive Equity strategy seeks to balance risk exposures within the portfolio across multiple dimensions to achieve true diversification. The Defensive Equity approach is used to construct equity portfolios designed to achieve tailored exposure to certain factors, including low volatility, multi-factor (value, quality, and momentum), and high dividend yield while maintaining less risk concentration throughout the portfolio.

Panagora – Diversified Risk Multi Asset Fund

The Multi Asset team is headed up by Edward Qian, CIO of the group, and the founder of Panagora’s risk parity strategy. A staff of approximately thirteen works in this group on research and portfolio construction, with some people spending more time on the former and some more on the latter. Panagora implements risk parity by distinguishing between three categories of assets: equities, nominal fixed income, and inflation protection. Each of these categories corresponds to a respective economic environment: economic growth, economic contraction and inflation. Panagora’s risk allocation targets 40% each from equities and nominal fixed income, and 20% from inflation protection. In addition to applying concept of risk parity between asset classes, Panagora also applies it within each asset class. The 40/40/20 allocation to equities/nominal fixed income/inflation protection is a long-term strategic allocation. In 2009 Panagora introduced what they refer to as “Dynamic Risk Allocation” or “DRA,” which involves tactically tilting the risk allocations away from the neutral targets in order to enhance returns and reduce risk.

Parametric Currency Overlay – Currency Hedge

An overlay hedge placed on half of the notional value of international equities. The portfolio uses Parametric for this overlay.

PIMCO Diversified

PIMCO Diversified Income Fund offers a broad and flexible multi-credit approach in a liquid and cost-effective format. The Diversified Income Fund seeks to produce consistent above benchmark performance using diversified sources of alpha from a universe that includes global credit as well as “non-core” credit sectors (ex., securitized, emerging markets).

PIMCO Private Income Fund

PIMCO Private Income Fund provides an attractive total return oriented global credit exposure utilizing both top-down sector relative value and bottom up security selection. The strategy invests across private residential, commercial, corporate and specialty finance markets.

PGIM RE Debt

PGIM Real Estate US Debt Fund focuses on a loan origination strategy with a mix of 20% senior long duration loans on stable assets, 60% senior short/medium duration loans on stable and transitional assets, and 20% mezzanine mid/long duration debt.

Pyramis Global Advisors – Broad Market Duration Commingled Pool

Pyramis’ Broad Market Duration (BMD) investment strategy seeks to achieve absolute and risk-adjusted returns in excess of the BC U.S. Aggregate Index, focusing its investments in US Treasuries, agencies, investment grade corporate bonds, mortgage-backed and asset-backed securities. The BMD commingled pool can also hold small, opportunistic positions in out-of-benchmark securities, such as inflation-linked bonds. The investable universe includes all US dollar denominated, investment grade debt securities. The BMD investment approach emphasizes issuer and sector valuation and individual security selection. Through the integration of fundamental and quantitative research and trading, the BMD strategy is implemented in a team environment. Risk management technology is utilized to explicitly quantify benchmark exposures on a daily basis, and Pyramis uses the same analytical framework to assess both index and portfolio risk. Tracking error should range between 40 and 60 basis points per annum over the benchmark, and stringent portfolio construction risk control rules are strictly adhered to.

Quantitative Management Associates – QMA Small-Cap Core

Quantitative Management Associates (QMA) utilizes 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. 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.

Standard Life Aberdeen Global Absolute Return Strategy (GARS)

The Standard Life Aberdeen Global Absolute Return Strategy (GARS) was initially launched in 2005 to help address Standard Life's own pension plan's deficit problem. GARS' primary investment objective is to deliver a positive absolute return over the medium to long term with lower volatility than equities, irrespective of market conditions. It seeks returns through dynamic allocation to investment opportunities in traditional and advanced asset classes, and also separately exploits the team's security selection expertise. In the search for attractive investment positions, the team follows a rigorous research process. This includes a variety of research techniques, including broad global macro-economic, fundamental analysis, quantitative research and valuation modeling. The GARS investment process is designed to capitalize on an array of research and investment techniques and draws together the team's three-year investment insights. The team then rigorously examines and review position proposals to approve a high conviction, short list of positions that work well together. Having a cash benchmark means that GARS has a potentially unrestricted investment universe and all portfolio holdings are at the Portfolio Manager's discretion. The GARS portfolio also routinely uses a variety of conventional derivatives for investment, liquidity, efficiency and hedging purposes. The GARS strategy has experienced significant growth in its asset under management since it becomes available to external investors in 2006.

State Street Global Advisors (SSgA) Custom Real Asset

SSgA Custom Real Asset portfolio uses a portfolio of liquid real assets to proxy private real assets. The portfolio is comprised of equal weightings of the Bloomberg Commodity Index, S&P Global Natural Resources Index, and S&P Global Infrastructure Index. The portfolio is used to fund upcoming private real asset mandates.

Tennenbaum Capital Partners - TCP Direct Lending Fund VIII

TCP Direct Lending Fund VIII is a private investment fund managed by Tennenbaum Capital Partners ("TCP"). The Fund is designed to continue TCP's successful strategy of investing in privately-originated, performing senior secured debt primarily in North America-based companies with target enterprise values between \$100 million and \$1.5 billion. The Fund will include positions in 1st lien, 2nd lien and unitranche debt, with a preference for floating-rate debt, which TCP believes provides better flexibility to adapt to market conditions. TCP's direct lending strategy has generated attractive investment opportunities across market cycles, as evidenced by the Firm's prior direct lending track record. Fund VIII targets an unlevered annual yield of approximately 9-12%, with its return primarily driven by current income.

Western Asset Management – Total Return Unconstrained (TRU)

Western Asset's Total Return Unconstrained strategy (TRU) seeks to provide bond-like risk and return over the long term but does not have a benchmark. This allows for asset allocation based on value rather than using the construction of a benchmark as baseline positioning. The investment approach is active with very broad latitude on duration (-3 to +8 years) and on asset allocation across all of the eligible sectors in a core plus mandate. The portfolio must have at least 50% of its holdings in investment-grade securities. The flexibility offered by this strategy allows for defensive positioning in rising rate environments and opportunistic deployment of capital when value opportunities arise. It also allows the portfolio managers to emphasize (or deemphasize) either credit or rates when one or the other appears to offer greater (or lesser) value. um non-US exposure.

White Oak - White Oak Yield Spectrum Fund

The White Oak Yield Spectrum Fund's objective is to earn substantial current income by originating, extending, and/or investing in a diversified portfolio of primarily senior secured corporate credit and debt instruments consisting of term loans, asset-based loans and equipment leases and loans issued by small to middle-market companies located primarily in the United States and Canada. It focuses on providing self-originated deals for predominantly non-sponsored, privately-held borrowers.

Policy Index and Benchmark History

Period Ending: June 30, 2019

Total Plan Policy Index	As of																				
	4/1/19	1/1/19	10/1/18	4/1/18	10/1/17	2/1/17	1/1/17	10/1/16	9/1/16	1/1/16	7/1/14	1/1/14	2/1/13	1/1/11	10/1/10	1/1/09	5/1/07	6/1/00	3/1/99	9/1/98	7/1/96
10 Year Treasury +2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	10.0%	10.0%
60/40 MSCI World/BBgBarc Global Aggregate (RP)	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
60/40 Russell 3000/BBgBarc US Aggregate (RP)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%	6.0%	6.0%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Aggregate	14.0%	14.0%	14.0%	14.0%	14.0%	12.0%	10.0%	10.0%	10.0%	10.0%	10.0%	9.3%	11.0%	11.0%	12.9%	27.0%	27.0%	29.0%	25.0%	21.0%	21.0%
BBgBarc BA Intermediate HY	7.0%	7.0%	7.0%	7.0%	7.0%	6.0%	6.0%	6.0%	5.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Credit BAA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Multiverse	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.8%	4.4%	4.4%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc TIPS	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	3.1%	3.3%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bloomberg Commodity	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Citigroup non-US WGBI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	9.0%	9.0%
CPI + 5% (RA)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	2.0%	2.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Blended Liquid Real Asset	6.0%	6.0%	6.0%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Blended Private Real Asset	2.0%	2.0%	2.0%	2.0%	8.0%	7.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Libor +4% (HF)	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	5.0%	5.0%	5.0%	5.0%	4.0%	4.0%	3.0%	3.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.0%	18.0%	18.0%	21.0%	21.0%	15.0%	0.0%	0.0%	0.0%
MSCI ACWI ex US IMI 100% Hedged (Net)	5.7%	3.8%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI	0.0%	0.0%	0.0%	0.0%	0.0%	19.0%	19.0%	19.0%	20.0%	20.0%	20.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI (Net)	13.3%	15.2%	17.1%	19.0%	19.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI EAFE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	20.0%	20.0%
NCREIF ODCE	8.0%	8.0%	8.0%	8.0%	8.0%	7.0%	7.0%	7.0%	7.0%	7.0%	6.0%	6.0%	5.0%	5.0%	5.0%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NCREIF Property	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	6.0%	0.0%	0.0%	0.0%
Russell 1000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	24.0%	24.0%	24.0%	28.0%	28.0%	28.0%	37.0%	37.0%	40.0%	22.0%	20.0%	20.0%
Russell 1000 Value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%	0.0%
Russell 2000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	6.0%	6.0%	7.0%	7.0%	7.0%	9.0%	9.0%	10.0%	15.0%	15.0%	15.0%
Russell 3000	22.0%	22.0%	22.0%	21.0%	21.0%	23.0%	28.0%	28.0%	28.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 3000 +3% (PE)	0.0%	0.0%	0.0%	0.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	8.0%	8.0%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 3000 +3% 1Q Lag (PE)	6.0%	6.0%	6.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S&P 500	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Policy Index and Benchmark History

Period Ending: June 30, 2019

Public Equity Benchmark	As of:														
	4/1/19	1/1/19	10/1/18	10/1/17	2/1/17	10/1/16	9/1/16	1/1/16	1/1/14	10/1/10	5/1/07	6/1/00	3/1/99	9/1/98	1/1/96
MSCI ACWI ex-US	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	34.0%	31.3%	23.1%	0.0%	0.0%	0.0%
MSCI ACWI ex US IMI 100% Hedged (Net)	13.9%	9.3%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI	0.0%	0.0%	0.0%	47.5%	45.2%	40.4%	41.7%	41.7%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex US IMI (Net)	32.4%	37.0%	41.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI EAFE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	32.3%	33.3%	33.3%
Russell 1000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	48.0%	52.8%	55.2%	61.5%	35.5%	33.3%	33.3%
Russell 1000 Value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.4%	0.0%
Russell 2000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%	12.0%	13.2%	13.5%	15.4%	24.2%	25.0%	25.0%
Russell 3000	53.7%	53.7%	53.7%	52.5%	54.8%	59.6%	58.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S&P 500	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.4%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

US Equity Benchmark	As of:						
	9/1/16	1/1/16	6/1/00	3/1/99	9/1/98	7/1/96	1/1/95
Russell 1000	0.0%	85.7%	80.0%	52.0%	50.0%	50.0%	69.0%
Russell 1000 Value	0.0%	0.0%	0.0%	12.0%	12.5%	0.0%	0.0%
Russell 2000	0.0%	14.3%	20.0%	36.0%	37.5%	37.5%	14.0%
Russell 3000	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S & P 500	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	17.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

International Equity Benchmark	As of:						
	4/1/19	1/1/19	10/1/18	10/1/17	1/1/14	6/1/00	1/1/96
MSCI ACWI ex US	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
MSCI ACWI ex US IMI 100% Hedged (Net)	30.0%	20.0%	10.0%	0.0%	0.0%	100.0%	0.0%
MSCI ACWI ex US IMI	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
MSCI ACWI ex US IMI (Net)	70.0%	80.0%	90.0%	100.0%	0.0%	0.0%	0.0%
MSCI EAFE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Fixed Income Benchmark	As of:											
	10/1/17	2/1/17	10/1/16	4/1/16	7/1/14	1/1/14	2/1/13	1/1/11	10/1/10	6/1/00	3/1/99	7/1/96
BBgBarc Aggregate	66.7%	57.1%	52.6%	55.5%	50.0%	46.3%	50.0%	50.0%	58.6%	100.0%	83.3%	70.0%
BBgBarc BA Intermediate HY	33.3%	28.6%	31.6%	27.8%	25.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.3%	0.0%	0.0%	0.0%
BBgBarc Credit BAA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	15.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Multiverse	0.0%	14.3%	15.8%	16.7%	15.0%	18.8%	20.0%	20.0%	20.5%	0.0%	0.0%	0.0%
BBgBarc TIPS	0.0%	0.0%	0.0%	0.0%	10.0%	10.0%	14.0%	15.0%	13.6%	0.0%	0.0%	0.0%
Citigroup non-US WGBI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.7%	30.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Opportunistic Credit Benchmark	As of:	
	1/1/14	12/1/09
BBgBarc BA Intermediate HY	100.0%	0.0%
BBgBarc Credit BAA	0.0%	100.0%
	100.0%	100.0%

Risk Parity Benchmark	As of:	
	1/1/17	10/1/10
BBgBarc Aggregate	0.0%	40.0%
BBgBarc Global Aggregate	40.0%	0.0%
MSCI World	60.0%	0.0%
Russell 3000	0.0%	60.0%
	100.0%	100.0%

Policy Index and Benchmark History

Period Ending: June 30, 2019

Alternatives Benchmark	As of:						
	10/1/18	4/1/18	2/1/17	4/1/16	1/1/16	1/1/14	1/1/11
60/40 Russell 3000/BBgBarc US Aggregate (RP)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%
Bloomberg Commodity	0.0%	0.0%	0.0%	0.0%	17.7%	18.8%	15.0%
CPI + 5% (RA)	0.0%	0.0%	0.0%	0.0%	11.8%	12.5%	0.0%
Libor +4% (HF)	50.0%	46.2%	46.2%	41.7%	29.4%	25.0%	15.0%
Russell 3000 +3% (PE)	0.0%	0.0%	53.8%	58.3%	41.2%	43.8%	40.0%
Russell 3000 +3% 1Q Lag (PE)	50.0%	53.8%	0.0%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Private Equity Benchmark	As of:	
	4/1/18	10/1/10
Russell 3000 +3% 1Q Lag	100.0%	0.0%
Russell 3000 +3%	0.0%	100.0%
	100.0%	100.0%

Hedge Fund Benchmark	As of:
	10/1/10
Libor +4%	100.0%
	100.0%

Inflation Hedge	As of:			
	4/1/18	2/1/17	10/1/16	4/1/16
BBgBarc TIPS	11.11%	12.50%	14.3%	14.3%
Bloomberg Commodity	0.00%	0.00%	0.0%	21.4%
CPI + 5% (RA)	0.00%	0.00%	0.0%	14.3%
Blended Liquid Real Asset	33.34%	0.00%	0.0%	0.0%
Blended Private Real Asset	11.11%	43.75%	35.7%	0.0%
NCREIF ODCE	44.44%	43.75%	50.0%	50.0%
	100.0%	100.0%	100.0%	100.0%

Public Real Asset Benchmark	As of:	
	10/1/16	1/1/14
Bloomberg Roll Select Commodity TR	33.34%	0.00%
S&P Global Large-MidCap Commodity and Resources	33.33%	0.00%
S&P Global Infrastructure	33.33%	0.00%
CPI + 5%	0.00%	100.00%
	100.0%	100.0%

Private Real Asset Benchmark	As of:		
	4/1/18	10/1/16	1/1/14
Bloomberg Roll Select Commodity	0.00%	34.00%	0.0%
S&P Global Large-MidCap Commodity and Resources	0.00%	33.00%	0.0%
50/50 S&P Global Infra & Lrg-MidCap Com & Resources +2% 1QL	100.00%	0.00%	0.0%
S&P Global Infrastructure	0.00%	33.00%	0.0%
CPI + 5%	0.00%	0.00%	100.0%
	100.0%	100.0%	100.0%

Private RA Secondary Benchmark	As of:
	9/1/14
Cambridge Associates Private Natural Resources 1 Qtr Lag	50.0%
Cambridge Associates Private Infrastructure 1 Qtr Lag	50.0%
	100.0%

Real Estate Benchmark	As of:		
	1/1/09	6/1/00	7/1/96
10 Year Treasury +2%	0.0%	0.0%	100.0%
NCREIF ODCE	100.0%	0.0%	0.0%
NCREIF Property	0.0%	100.0%	0.0%
	100.0%	100.0%	100.0%

Baillie Gifford Benchmark	As of:	
	1/1/14	5/1/12
MSCI ACWI ex-US	100.0%	0.0%
MSCI EAFE	0.0%	100.0%
	100.0%	100.0%

Baillie Gifford Secondary Benchmark	As of:	
	1/1/14	5/1/12
MSCI ACWI ex-US Growth	100.0%	0.0%
MSCI EAFE Growth	0.0%	100.0%
	100.0%	100.0%

Brigade Secondary Benchmark	As of:	
	8/1/10	
BBgBarc High Yield	50.0%	
Credit Suisse Leveraged Loans	50.0%	
	100.0%	

AQR GRP, 10% Volatility	As of:	
	1/1/17	3/1/11
BBgBarc Aggregate	0.0%	40.0%
BBgBarc Global Aggregate	40.0%	0.0%
MSCI World	60.0%	0.0%
Russell 3000	0.0%	60.0%
	100.0%	100.0%

PanAgora	As of:	
	1/1/17	8/1/14
BBgBarc Aggregate	0.0%	40.0%
BBgBarc Global Aggregate	40.0%	0.0%
MSCI World	60.0%	0.0%
Russell 3000	0.0%	60.0%
	100.0%	100.0%

PIMCO Diversified	As of:	
	9/1/17	
JPMorgan EMBI Global	33.3%	
ICE BofAMLBB-BRatedDvlpdMktsHYHdgdUSD	33.3%	
Global Agg Credit Ex EM USD hedged	33.4%	
	100.0%	

SSgA Custom Real Asset	As of:	
	10/1/16	
Bloomberg Roll Select Commodity TR	33.34%	
S&P Global Large-MidCap Commodity and Resources	33.33%	
S&P Global Infrastructure	33.33%	
	100.0%	

Fee Schedule

Period Ending: June 30, 2019

Baillie Gifford

First \$25 million:	0.60% per annum
Next \$75 million:	0.50% per annum
Next \$300 million:	0.40% per annum
Thereafter:	0.30% per annum

BlackRock-EAFE Equity Index Fund

On All Assets:	0.05% per annum
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BlackRock-Russell 1000 Index Fund

First \$250 million:	0.02% per annum
Thereafter:	0.015% per annum

BlackRock-Intermediate Govt Bond Index Fund

On All Assets:	0.04% per annum
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Brown Brothers Harriman

On All Assets:	0.15% per annum
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Parametric

On All Assets:	0.30% per annum
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Acadian Asset Management

First \$50 million:	0.27% per annum
Next \$50 million:	0.225% per annum
Thereafter:	0.18% per annum

Parametric Overlay

First \$50 million:	0.12% per annum
Next \$100 million:	0.10% per annum
Thereafter:	0.05% per annum
Plus monthly reporting fee of \$1500	

Parametric Currency Overlay

First \$250 million:	0.05% per annum
Thereafter:	0.03% per annum

Cushing Asset Management

First \$50 million:	0.70% per annum
Next \$50 million:	0.60% per annum
Thereafter:	0.55% per annum

Franklin Templeton Investment

First \$50 million:	0.40% per annum
Next \$50 million:	0.30% per annum
Thereafter:	0.25% per annum

FIAM Bond

First \$50 million:	0.20% per annum
Next \$50 million:	0.175% per annum
Next \$100 million:	0.10% per annum
Thereafter:	0.085% per annum

PanAgora Asset Management

First \$50 million:	0.25% per annum
Next \$50 million:	0.15% per annum
Thereafter:	0.10% per annum

PIMCO Diversified

On All Assets:	0.75% per annum
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QMA

First \$50 million:	0.55% per annum
Thereafter:	0.50% per annum

Western Asset Management

On All Assets:	0.25% per annum
Performance Fee:	20.00%

Mondrian Investment Partners

Assets Below \$190 million

First \$20 million:	1.00% per annum
Thereafter:	0.33% per annum

Assets Above \$190 million

First \$50 million:	1.00% per annum
Next \$150 million:	0.19% per annum
Thereafter:	0.33% per annum

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
Acadian US MGD V	Russell 1000	--	--	--
DE Shaw	Russell 1000	✓	✓	✓
PanAgora Defuseq	Russell 1000	--	--	--
QMA US Small Cap	Russell 2000	--	--	--
Baillie Gifford	MSCI ACWI ex US	✓	✗	✓
Mondrian	MSCI ACWI ex USA Value Gross	✓	✓	✓
Parametric Core	MSCI Emerging Markets Gross	--	--	--
FIAM Bond	BBgBarc US Aggregate TR	✓	✓	✓
Western TRU	3-Month Libor Total Return USD	--	--	--
Angelo Gordon Opportunistic	BBgBarc US Aggregate TR	✓	--	✓
Angelo Gordon STAR	BBgBarc US Aggregate TR	✓	--	✓
Beach Point Select	BBgBarc BA Intermediate HY	--	--	--
Brigade Capital	BBgBarc BA Intermediate HY	✗	✗	✗
PIMCO Diversified	Blended PIMCO Diversified Index	--	--	--
Franklin Templeton	BBgBarc Multiverse TR	--	--	--
PIMCO Private Income	BBgBarc BA Intermediate HY	--	--	--
TCP Direct Lending VIII	Cliffwater Direct Lending Index	--	--	--
White Oak Yield	Cliffwater Direct Lending Index	--	--	--
AQR DELTA XN	Libor 1 month +4%	✗	✗	✗
Aberdeen Standard GARS	Libor 1 month +4%	--	--	--

Rule 1 - Manager has underperformed the benchmark index for the five year period.

Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive

Manager Compliance (Gross)

Period Ending: June 30, 2019

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
Acadian US MGD V	Russell 1000	--	--	--
DE Shaw	Russell 1000	✓	✓	✓
PanAgora Defuseq	Russell 1000	--	--	--
QMA US Small Cap	Russell 2000	--	--	--
Baillie Gifford	MSCI ACWI ex US	✓	✗	✓
Mondrian	MSCI ACWI ex USA Value Gross	✓	✓	✓
Parametric Core	MSCI Emerging Markets Gross	--	--	--
FIAM Bond	BBgBarc US Aggregate TR	✓	✓	✓
Western TRU	3-Month Libor Total Return USD	--	--	--
Angelo Gordon Opportunistic	BBgBarc US Aggregate TR	✓	--	✓
Angelo Gordon STAR	BBgBarc US Aggregate TR	✓	--	✓
Beach Point Select	BBgBarc BA Intermediate HY	--	--	--
Brigade Capital	BBgBarc BA Intermediate HY	✗	✗	✗
PIMCO Diversified	Blended PIMCO Diversified Index	--	--	--
Franklin Templeton	BBgBarc Multiverse TR	--	--	--
PIMCO Private Income	BBgBarc BA Intermediate HY	--	--	--
TCP Direct Lending VIII	Cliffwater Direct Lending Index	--	--	--
White Oak Yield	Cliffwater Direct Lending Index	--	--	--
AQR DELTA XN	Libor 1 month +4%	✗	✗	✗
Aberdeen Standard GARS	Libor 1 month +4%	--	--	--

Rule 1 - Manager has underperformed the benchmark index for the five year period.

Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive

Manager Performance Comparison (Gross of Fees)

Period Ending: June 30, 2019

	Apr	May	Jun	2nd Qtr. 2019	Difference	1st Qtr. 2019	Difference	4th Qtr. 2018	Difference	3rd Qtr. 2018	Difference	2nd Qtr. 2018	Difference
Verus	2.50%	-4.31%	6.76%	4.71%		10.70%		-13.79%		7.41%		3.59%	
Acadian US MGD V	2.50%	-4.31%	6.76%	4.71%	0.00%	10.69%	0.01%	-13.79%	0.00%	7.41%	0.00%	3.59%	0.00%
Russell 1000 Index	4.04%	-6.37%	7.02%	4.25%		14.00%		-13.82%		7.42%		3.57%	
Verus	4.04%	-6.37%	7.02%	4.25%		14.02%		-13.79%		7.41%		3.59%	
BlackRock Russell 1000	4.04%	-6.37%	7.02%	4.25%	0.00%	14.02%	0.00%	-13.79%	0.00%	7.41%	0.00%	3.59%	0.00%
Russell 1000 Index	4.04%	-6.37%	7.02%	4.25%		14.00%		-13.82%		7.42%		3.57%	
Verus	3.84%	-7.12%	6.54%	2.75%		12.68%		-14.04%		7.23%		4.31%	
D.E. Shaw	3.84%	-7.12%	6.54%	2.75%	0.00%	12.69%	-0.01%	-14.04%	0.00%	7.24%	-0.01%	4.32%	-0.01%
Russell 1000 Index	4.04%	-6.37%	7.02%	4.25%		14.00%		-13.82%		7.42%		3.57%	
Verus	2.64%	-2.60%	5.54%	5.51%		15.01%		-14.04%		7.23%		4.31%	
PanAgora Defuseq	2.64%	-2.56%	5.54%	5.55%	-0.04%	15.01%	0.00%	-14.04%	0.00%	7.24%	-0.01%	4.32%	-0.01%
Russell 1000 Index	4.04%	-6.37%	7.02%	4.25%		14.00%		-13.82%		7.42%		3.57%	
Verus	2.69%	-9.38%	7.85%	0.37%		12.59%		-20.52%		3.70%		6.98%	
QMA US Small Cap	2.69%	-9.38%	7.86%	0.38%	-0.01%	12.59%	0.00%	-20.52%	0.00%	3.70%	0.00%	6.98%	0.00%
Russell 2000 Index	3.40%	-7.78%	7.07%	2.10%		14.58%		-20.20%		3.58%		7.75%	
Verus	6.17%	-5.31%	5.41%	5.96%		13.47%		-15.28%		-1.31%		0.36%	
Baillie Gifford	6.17%	-5.35%	5.37%	5.89%	0.08%	13.41%	0.06%	-15.28%	0.00%	-1.29%	-0.01%	0.35%	0.00%
MSCI ACWI ex US	2.72%	-5.26%	6.07%	3.22%		10.44%		-11.41%		0.80%		-2.39%	
MSCI ACWI ex US Growth	3.23%	-5.06%	6.68%	4.55%		12.42%		-12.16%		-0.20%		-1.23%	
Verus	2.92%	-4.72%	5.97%	3.92%		10.08%		-12.52%		1.40%		-0.83%	
BlackRock EAFE Equity	2.92%	-4.72%	5.97%	3.92%	0.00%	10.08%	0.00%	-12.52%	0.00%	1.40%	0.00%	-0.83%	0.00%
MSCI EAFE (Net)	2.81%	-4.80%	5.93%	3.68%		9.98%		-12.54%		1.35%		-1.24%	
MSCI EAFE (Gross)	2.91%	-4.66%	5.97%	3.97%		10.13%		-12.50%		1.42%		-0.97%	
Verus	2.63%	-6.59%	5.85%	1.47%		9.19%		-8.82%		1.54%		-3.43%	
Mondrian	2.63%	-6.58%	5.85%	1.48%	-0.01%	9.18%	0.01%	-8.79%	-0.03%	1.55%	-0.01%	-3.43%	0.00%
MSCI ACWI -ex US Value Index	2.19%	-5.47%	5.44%	1.86%		8.46%		-10.63%		1.85%		-3.59%	
MSCI ACWI -ex US	2.72%	-5.26%	6.07%	3.22%		10.44%		-11.41%		0.80%		-2.39%	
Verus	1.48%	-4.20%	5.05%	2.13%		7.73%		-5.81%		-0.11%		-9.47%	
Parametric Core	1.50%	-4.19%	5.07%	2.19%	-0.06%	7.80%	-0.07%	-5.77%	-0.04%	-0.06%	-0.05%	-9.42%	-0.05%
MSCI EM Market Index	2.12%	-7.22%	6.32%	0.74%		9.97%		-7.40%		-0.95%		-7.86%	
Verus	0.05%	1.48%	0.83%	2.37%		1.63%		2.24%		-0.07%		0.12%	
BlackRock Intermediate Govt	0.05%	1.48%	0.83%	2.37%	0.00%	1.63%	0.00%	2.24%	0.00%	-0.07%	0.00%	0.12%	0.00%
BBgBarc US Govt Int Index	0.05%	1.46%	0.82%	2.34%		1.58%		2.22%		-0.11%		0.06%	

Manager Performance Comparison (Gross of Fees)

Period Ending: June 30, 2019

	Apr	May	Jun	2nd_Qtr. 2019	Difference	1st_Qtr. 2019	Difference	4th_Qtr. 2018	Difference	3rd_Qtr. 2018	Difference	2nd_Qtr. 2018	Difference
Verus	0.27%	1.59%	1.27%	3.16%		3.47%		1.07%		0.15%		0.02%	
FIAM Bond	0.27%	1.59%	1.27%	3.16%	0.00%	3.47%	0.00%	1.07%	0.00%	0.15%	0.00%	0.02%	0.00%
BBgBarc US Aggregate Index	0.03%	1.78%	1.26%	3.08%		2.94%		1.64%		0.02%		-0.16%	
Verus	0.57%	0.29%	1.44%	2.31%		2.95%		0.74%		0.17%		-2.90%	
Western TRU	0.57%	0.29%	1.44%	2.31%	0.00%	2.95%	0.00%	0.74%	0.00%	0.17%	0.00%	-2.90%	0.00%
3-Month Libor Total Return USD Index	0.21%	0.22%	0.19%	0.62%		0.67%		0.68%		0.60%		0.59%	
BBgBarc US Aggregate Index	0.03%	1.78%	1.26%	3.08%		2.94%		1.64%		0.02%		-0.16%	
Verus (Net)				5.43%		0.89%		0.45%		5.35%		9.49%	
Angelo Gordon Opportunistic				5.43%	0.00%	0.89%	0.00%	0.45%	0.00%	5.35%	0.00%	9.49%	0.00%
BBgBarc US Aggregate Index				3.08%		2.94%		1.64%		0.02%		-0.16%	
Verus (Net)				6.24%		5.44%		2.51%		6.59%		4.83%	
Angelo Gordon STAR Fund (Net)				6.24%	0.00%	5.44%	0.00%	2.51%	0.00%	6.59%	0.00%	4.83%	0.00%
BBgBarc US Aggregate Index				3.08%		2.94%		1.64%		0.02%		-0.16%	
Verus	1.60%	-0.10%	1.51%	3.03%		4.44%		-3.98%		1.80%		2.01%	
Beach Point Select (Net)	1.60%	-0.10%	1.51%	3.03%	0.00%	4.44%	0.00%	-3.98%	0.00%	1.80%	0.00%	2.01%	0.00%
BBgBarc BA Intermediate HY	1.02%	-0.70%	2.55%	2.87%		7.00%		-2.67%		2.27%		0.04%	
Verus	2.20%	-0.93%	0.66%	1.92%		4.26%		-5.56%		2.28%		1.53%	
Brigade Capital (Net)	2.20%	-0.93%	0.66%	1.92%	0.00%	4.18%	0.08%	-5.55%	-0.01%	2.21%	0.07%	1.56%	-0.03%
BBgBarc BA Intermediate HY	1.02%	-0.70%	2.55%	2.87%		7.00%		-2.67%		2.27%		0.04%	
50% BBgBarc HY/ 50% Bank Loan	1.50%	-0.71%	1.25%	2.05%		5.51%		-3.81%		2.17%		0.91%	
Verus	0.64%	0.30%	2.62%	3.59%		5.82%		-1.26%		1.66%		-0.73%	
PIMCO Diversified (Net)	0.64%	0.30%	2.62%	3.59%	0.00%	5.81%	0.01%	-1.26%	0.00%	1.66%	0.00%	-0.73%	0.00%
Blended PIMCO Diversified Index	0.67%	0.25%	2.54%	3.48%		5.97%		-1.47%		1.65%		-1.13%	
BBgBarc BA Intermediate HY	1.02%	-0.70%	2.55%	2.87%		7.00%		-2.67%		2.27%		0.04%	
Verus	1.39%	-1.57%	1.66%	1.45%		1.72%		2.14%		0.32%		-4.32%	
Franklin Templeton Investments	1.39%	-1.57%	1.66%	1.45%	0.00%	1.72%	0.00%	2.14%	0.00%	0.32%	0.00%	-4.32%	0.00%
BBgBarc Multiverse Index	-0.25%	1.25%	2.29%	3.31%		2.40%		1.02%		0.00%		-2.83%	
Verus				1.75%		2.41%		1.75%		3.41%		2.15%	
TCP Direct Lending VIII				1.75%	0.00%	2.41%	0.00%	1.75%	0.00%	3.41%	0.00%	2.15%	0.00%
Cliffwater Direct Lending Index				2.78%		0.84%		2.38%		2.44%		2.18%	
Verus				0.00%		0.00%		2.03%		0.00%		0.00%	
White Oak Yield				0.00%	0.00%	0.00%	0.00%	2.03%	0.00%	0.00%	0.00%	0.00%	0.00%
Cliffwater Direct Lending Index				2.78%		0.84%		2.38%		2.44%		2.18%	

Manager Performance Comparison (Gross of Fees)

Period Ending: June 30, 2019

	Apr	May	Jun	2nd_Qtr. 2019	Difference	1st_Qtr. 2019	Difference	4th_Qtr. 2018	Difference	3rd_Qtr. 2018	Difference	2nd_Qtr. 2018	Difference
Verus	1.25%	-1.88%	6.40%	5.70%		11.14%		-5.44%		0.30%		-0.45%	
AQR GRP, 10% Volatility (Net)	1.25%	-1.88%	6.40%	5.70%	0.00%	11.14%	0.00%	-5.44%	0.00%	0.30%	0.00%	-0.45%	0.00%
60% R3000/ 40% BBgBarc Agg	2.15%	-2.89%	4.51%	3.68%		8.65%		-7.49%		2.95%		1.12%	
S&P Risk Parity 10% Target Volatility TR	0.91%	-0.59%	4.01%	4.34%		7.98%							
Verus	0.11%	0.29%	5.02%	5.44%		11.43%		-4.10%		-2.11%		0.02%	
PanAgora (Net)	0.11%	0.29%	5.02%	5.44%	0.00%	11.43%	0.00%	-4.10%	0.00%	-2.11%	0.00%	0.02%	0.00%
60% R3000/ 40% BBgBarc Agg	2.15%	-2.89%	4.51%	3.68%		8.65%		-7.49%		2.95%		1.12%	
S&P Risk Parity 10% Target Volatility TR	0.91%	-0.59%	4.01%	4.34%		7.98%		-8.05%		4.25%		2.26%	
Verus	-0.36%	-3.42%	-0.69%	-4.43%		-1.95%		-4.31%		-1.94%		-6.09%	
AQR DELTA XN (Net)	-0.36%	-3.42%	-0.69%	-4.43%	0.00%	-1.97%	0.02%	-4.31%	0.00%	-1.94%	0.00%	-6.09%	0.00%
Libor + 4%	0.54%	0.54%	0.53%	1.62%		1.52%		1.59%		1.55%		1.51%	
Verus	0.34%	-0.96%	2.03%	1.39%		4.63%		-2.24%		0.54%		-2.18%	
Aberdeen Standard GARS (Net)	0.34%	-0.96%	2.03%	1.39%	0.00%	4.63%	0.00%	-2.25%	0.01%	0.54%	0.00%	-2.18%	0.00%
Libor + 4%	0.54%	0.54%	0.53%	1.62%		1.52%		1.59%		1.55%		1.51%	
Verus				1.04%		1.09%		2.16%		2.56%		1.86%	
INVESCO Real Estate				1.04%	0.00%	1.11%	-0.02%	2.16%	0.00%	2.57%	-0.01%	1.85%	0.01%
NCREIF NFI ODCE Index				0.99%		1.42%		1.76%		2.09%		2.05%	
Verus				1.20%		4.17%		4.25%		2.98%		1.97%	
Invesco US Val IV				1.20%	0.00%	4.17%	0.00%	4.25%	0.00%	2.98%	0.00%	1.97%	0.00%
NCREIF NFI ODCE Index				0.99%		1.42%		1.76%		2.09%		2.05%	
NCREIF CEVA 1Q Lag - NET				2.95%		2.95%		2.95%		2.95%		2.13%	
Verus				5.72%		5.72%							
Invesco US Val V				5.72%	0.00%								
NCREIF NFI ODCE Index				0.99%									
NCREIF CEVA 1Q Lag - NET				2.95%									
Verus (net)				1.45%		1.61%		1.64%		2.12%		1.25%	
PGIM RE US Debt Fund (net)				1.45%	0.00%	1.61%	0.00%	1.64%	0.00%	1.95%	0.17%	1.25%	0.00%
NCREIF NFI ODCE Index				0.99%		1.42%		1.76%		2.09%		2.05%	
Verus	-2.03%	-2.54%	3.61%	-1.06%		17.88%		-17.65%					
Cushing MLP Alpha TR	-2.03%	-2.54%	3.61%	-1.06%	0.00%	17.88%	0.00%	-17.65%					
50% BBgBarc US TIPS/ 50% Blended PRA	0.17%	-1.23%	3.28%	2.17%		6.62%		-4.98%					
Alerian MLP TR USD	-1.33%	-1.14%	2.64%	0.12%		16.82%		-17.30%					
Verus	0.49%	1.17%	0.96%	2.63%		2.86%		-0.69%		-0.33%		0.78%	
Brown Brothers Harriman	0.49%	1.17%	0.96%	2.63%	0.00%	2.85%	0.01%	-0.67%	-0.02%	-0.33%	0.00%	0.78%	0.00%
BBgBarc U.S Tips	0.33%	1.65%	0.86%	2.87%		3.19%		-0.42%		-0.82%		0.77%	

1 MSCI

1.1 MSCI US Market Breakpoints

Break Point*	Companies included
Large Cap	1-200
Medium-Large Cap	201-550
Medium Cap	551-750
Medium-Small Cap	751-2500
Small Cap	2501+

*MSCI only categorizes equities per size into large, mid and small cap. For InvestorForce Report analytics coherence regarding domestic benchmarks the buffer zones of the mid-cap category are used to determine Medium-Large and Medium-Small Cap categories.

As Of	Large Cap	Medium Large Cap	Medium Cap	Medium Small Cap	Small Cap
6/30/2019	17.991	11.416	5.265	3.039	0
3/31/2019	17.991	11.416	5.265	3.039	0
12/31/2018	18.559	11.536	5.547	3.012	0
09/30/2018	18.559	11.536	5.547	3.012	0
06/30/2018	17.921	10.888	5.334	3.023	0
03/31/2018	17.921	10.888	5.334	3.023	0
12/31/2017	17.679	9.979	5.011	2.793	0
9/30/2017	17.696	9.979	5.011	2.793	0
6/30/2017	15.834	9.267	4.517	2.573	0
3/31/2017	15.834	9.267	4.517	2.573	0
12/31/2016	15.239	9.375	4.416	2.520	0
9/30/2016	15.239	9.375	4.416	2.520	0
6/30/2016	15.358	9.43	4.548	2.591	0
3/31/2016	15.358	9.43	4.548	2.591	0
12/31/2015	16.507	9.968	5.069	2.917	0
9/30/2015	16.507	9.968	5.069	2.917	0
6/30/2015	15.288	9.09	4.506	2.596	0
3/31/2015	15.356	9.083	4.491	2.577	0
12/31/2014	15.356	9.083	4.491	2.577	0

Number in billion USD

InvestorForce Report reflects changes in the MSCI breakpoints once MSCI publishes new breakpoints. For months when no new breakpoints are published always the last breakpoints are applied. Changes usually but always happen around re-balancing of the indexes. Some index reviews do not contain changes to the market-cap breakpoints.

1.2 MSCI Developed and Emerging Market Breakpoints

In case of MSCI Indexes to define the Size - Segment Indexes for a market, the following free float - adjusted market capitalization Market Coverage Target Ranges are applied to the Market Investable Equity Universe:

Break Point	Companies included
Large Cap Index	70% ±5%
Standard Index*	85% ±5%
Investable Market Index**	99%+1% or -0.5%

* Standard Index (Large+Mid)

**Investable Market Index (Large+Mid+Small)

MSCI Country Classification can be found here: <https://www.msci.com/market-classification>

For Emerging Markets, the Global Minimum Size Reference is set at one-half the corresponding level of full market capitalization used for the Developed Markets for each size- segment.

As Of	Large Cap DM	Large Cap EM	Medium Cap DM	Medium Cap EM	Small Cap
6/30/2019	17.274	8.637	6.203	3.1015	0
3/31/2019	16.204	8.102	5.928	2.964	0
12/31/2018	16.204	8.102	5.928	2.964	0
9/30/2018	17.201	8.6005	6.374	3.187	0
6/30/2018	17.201	8.6005	6.374	3.187	0
3/31/2018	16.392	8.196	6.106	3.053	0
12/31/2017	16.392	8.196	6.106	3.053	0
9/30/2017	15.008	7.504	5.500	2.750	0
6/30/2017	15.008	7.504	5.500	2.750	0
3/31/2017	14.361	7.180	5.077	2.538	0
12/31/2016	14.361	7.180	5.077	2.538	0
9/30/2016	14.180	7.090	5.076	2.538	0
6/30/2016	14.180	7.090	5.076	2.538	0
3/31/2016	14.077	7.0385	5.046	2.523	0
12/31/2015	14.077	7.0385	5.046	2.5230	0
9/30/2015	14.883	7.4415	5.359	2.6795	0
6/30/2015	14.883	7.4415	5.359	2.6795	0
3/31/2015	13.368	6.684	4.781	2.3905	0
12/31/2014	13.368	6.684	4.781	2.3905	0

Number in billion USD

InvestorForce Report shows changes in the MSCI breakpoints once MSCI publishes a new one. For months when no new breakpoints are published always the last breakpoint is applied. Changes usually happen around re-balancing of the indexes.

2 Russell US Breakpoints

The market capitalization breakpoints that appear in the Market Capitalization Chart are defined by the Russell 3000 Index and change for each period end. Russell calculated the total market capitalization of each security for the end of the period, based on the total shares and price, to determine whether it is large enough for inclusion in one or more of the Russell Breakpoints.

Once the market capitalization for each security is determined, each security is then placed in the appropriate market capitalization breakpoint. A market capitalization breakpoint is determined by the break between the companies below.

Break Point	Companies included
Large Cap	50 Largest US Companies
Medium Large Cap	Next largest 150 US Companies
Medium Cap	Next largest 300 US Companies
Medium Small Cap	Next largest 500 US Companies
Small Cap	All US Companies below 1,000 largest

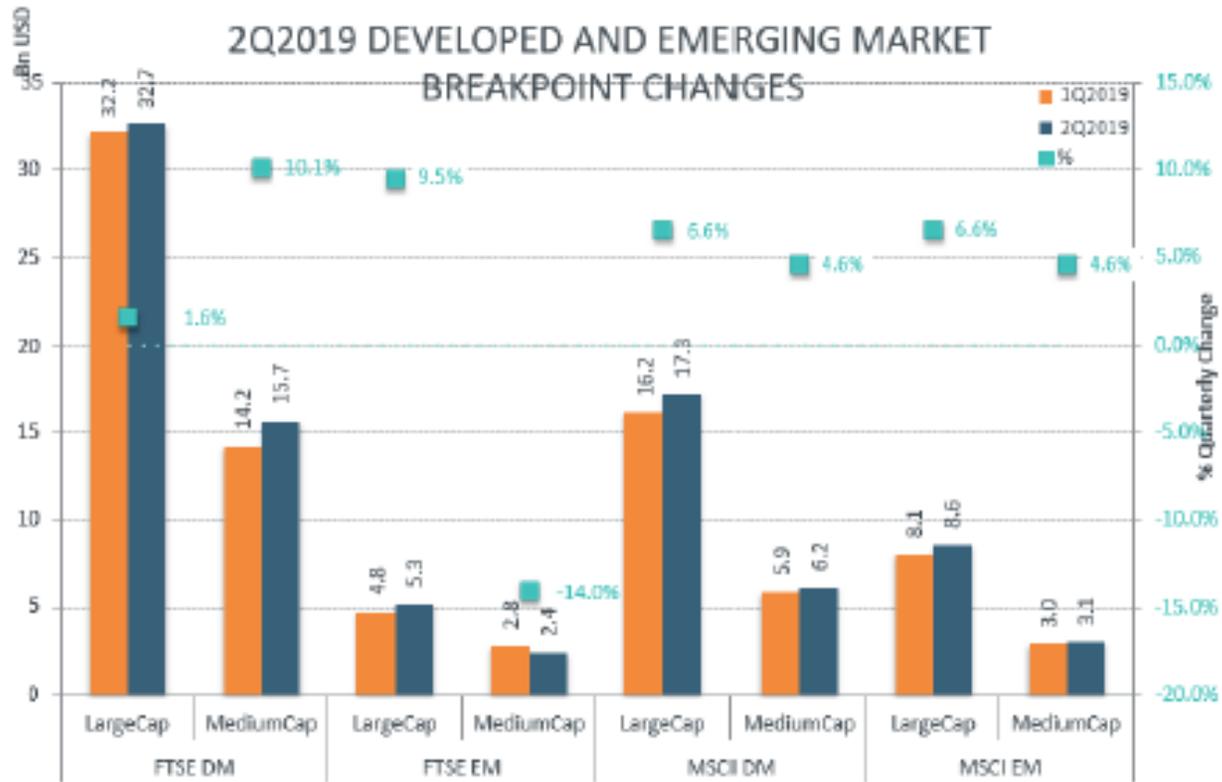
After the breakpoints are determined by the ranges above, new members are assigned on the basis of the breakpoints and existing members are reviewed to determine if they fall within a cumulative 5% market cap range around the new market capitalization breakpoints. If an existing securities market cap falls within this 5%, it will remain in its current index rather than move into a new market capitalization based index.

Market Capitalization Breakpoints

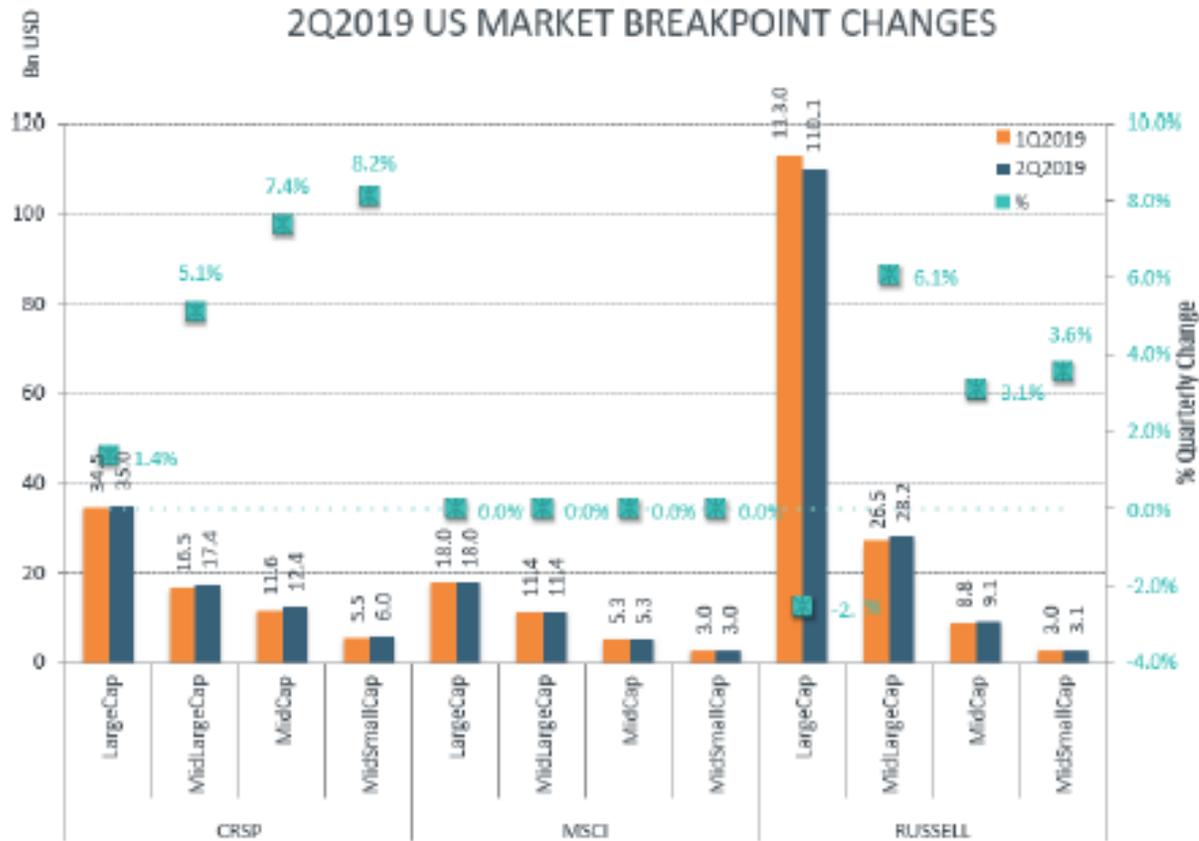
Period Ending: June 30, 2019

As Of	Large Cap	Medium Large Cap	Medium Cap	Medium Small Cap	Small Cap
6/30/2019	110.136	28.151	9.061	3.057	0
3/31/2019	113.008	26.539	8.787	2.951	0
12/31/2018	93.377	23.285	7.693	2.595	0
9/30/2018	106.633	28.088	9.457	3.273	0
6/30/2018	104.455	26.511	9.202	3.171	0
3/31/2018	101.922	26.399	8.890	2.958	0
12/31/2017	95.036	26.237	8.819	3.021	0
9/30/2017	93.539	24.882	8.344	2.935	0
6/30/2017	87.845	25.481	8.204	2.859	0
3/31/2017	89.968	25.293	8.241	2.737	0
12/31/2016	84.960	23.168	7.890	2.702	0
9/30/2016	78.745	23.385	7.394	2.533	0
6/30/2016	77.349	22.250	7.1432	2.444	0
3/31/2016	83.360	22.414	7.435	2.395	0
12/31/2015	90.075	24.308	8.141	2.936	0
9/30/2015	88.944	23.139	7.993	2.946	0
6/30/2015	92.87	25.07	8.797	3.352	0
3/31/2015	93.082	25.494	8.794	3.384	0
12/31/2014	89.92	25.19	8.51	3.29	0
9/30/2014	84.51	24.44	7.97	3.04	0
6/30/2014	80.39	23.62	8.07	3.24	0
3/31/2014	76.77	23.15	7.83	3.06	0
12/31/2013	77.11	22.27	7.65	3.03	0
9/30/2013	72.4	19.93	7.15	2.71	0
6/30/2013	68.47	19.36	6.48	2.46	0
3/31/2013	64.31	18.64	6.39	2.39	0
12/31/2012	58.45	16.8	5.75	2.13	0
9/30/2012	57.06	16.48	5.49	2.08	0
6/30/2012	55.65	16.13	5.14	1.99	0
3/31/2012	57.58	16.43	5.55	2.13	0
12/31/2011	51.97	14.66	4.93	1.93	0
9/30/2011	45.35	13.88	4.38	1.66	0
6/30/2011	54.25	15.95	5.66	2.16	0
3/31/2011	52.22	15.69	5.7	2.16	0
12/31/2010	49.54	14.8	5.16	2.04	0
9/30/2010	42.83	13.13	4.64	1.8	0
6/30/2010	39.95	11.58	4.1	1.59	0

Numbers are billions USD



MSCI is releasing market capitalization breakpoints less frequently than FTSE, hence the market capitalization breakpoints are longer in effect. This could result in no change.



MSCI is releasing market capitalization breakpoints less frequently than others, hence the market capitalization breakpoints are longer in effect. This could result in no change.



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Annual outlooks

REAL ASSETS OUTLOOK

Inflation fears have been subdued in the market over the past year. Both core CPI and headline CPI have been declining over the past nine months and came in at 2.0% and 1.9%, respectively, in March. Over the past twelve months, core CPI has ranged between 2.0 and 2.3%, near the Fed's inflation target. At this stage of the market cycle, we view the risk of deflation from an economic slowdown to be of greater concern than unanticipated inflation.

Topics of interest

A PRACTICAL UNDERSTANDING OF LDI

For corporate pension plans, LDI can be an effective way to reduce the range of outcomes in funded status, which has particular appeal given the asymmetric trade-off associated with a declining funded status relative to a stronger funded status.

Our Topics of Interest paper aims to provide a practical introduction into these issues to assist plan sponsors in evaluating whether LDI makes sense for their organization.

LDI GLIDE PATH CREATION

Our latest Topics of Interest paper on LDI glide path creation seeks to explain the methodology and considerations of building a glide path for a pension plan. It addresses the following points:

- How much of the plan's allocation should be deployed in an LDI strategy?
- How do we align a glide path with the plan's objectives and financial constraints?
- How does the risk of our glide path differ based on changing objectives and financial constraints?

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SEATTLE 206-622-3700

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2nd quarter summary

THE ECONOMIC CLIMATE

- U.S. real GDP expanded 3.2% YoY in Q1 (3.1% quarterly annualized rate). Year-over-year growth was the strongest since the second quarter of 2015. The U.S. Congressional Budget Office expects the U.S. economy to slow to a 2.1% pace in 2020, near the growth rate of other developed markets. [p. 7](#)
- Effective May 10th, U.S. tariff rates on \$200 billion in Chinese imports were hiked from 10% to 25%, and the Chinese responded with commensurate tariff rate hikes. In June, Presidents Trump and Xi met on the sidelines of the G20 summit in Osaka. The meeting yielded a “trade truce” in which both countries agreed to pause any additional tariffs. [p. 14](#)

PORTFOLIO IMPACTS

- Equity performance in Q2 appears to have been largely driven by higher prices, rather than improved earnings expectations. Estimated Q2 S&P 500 earnings worsened from -0.5% to -2.6% during this time. [p. 25](#)
- U.S. inflation remained stable at 2.1% YoY in June, excluding food & energy. Headline inflation rose 1.6% YoY, dragged down by falling energy prices. Core inflation has been range-bound over the past five years, fluctuating between 1.7% and 2.3%. Investors and consumers expect this trend to continue. [p. 9](#)

THE INVESTMENT CLIMATE

- The Federal Open Market Committee left the range for its benchmark interest rate unchanged at 2.25%-2.50% and reiterated that it would continue to act appropriately to sustain the expansion. Markets interpreted the press conference as confirmation of a 0.25% rate cut in July. [p. 18 & 19](#)
- European Central Bank President Mario Draghi issued dovish forward guidance, announcing that “additional stimulus” was on the table should the economic backdrop worsen, and inflation remain subdued. European and international developed sovereign yields have fallen along with U.S. yields. German 10-year bunds closed the month at new lows of -0.33%. [p. 18 & 19](#)

ASSET ALLOCATION ISSUES

- Risk assets delivered strong returns over the quarter. Global Equities gained +3.6% and U.S. high yield gained +2.5%. Longer duration exposures generally outperformed as interest rates fell. [p. 41](#)
- U.S. equity prices have continued to rise on expectations of nearly three interest rate cuts in 2019 and perhaps an assumption that U.S. earnings exceptionalism will extend into the future. If domestic conditions converge with other developed economies and these expectations turn out to be overly optimistic, we believe U.S. equities may possess greater downside risk. [p. 26](#)

A neutral risk stance may be appropriate in today's environment

What drove the market in Q2?

“US-China trade truce leaves markets with big questions”

U.S. SOYBEAN EXPORTS TO CHINA (METRIC TONS) (000s)

Jan	Feb	Mar	Apr	May	Jun
133	3,217	1,256	719	1,219	1,670

Article Source: CNN, July 1st, 2019

“Bond-Yield Plunge Confounds the World’s Economy”

VALUE OF GLOBAL NEGATIVE-YIELDING DEBT (USD TRILLIONS)

Jan	Feb	Mar	Apr	May	Jun
8.85	8.81	10.40	10.03	11.27	12.92

Article Source: Wall Street Journal, June 23rd, 2019

“Fed holds rates steady, but opens the door for a rate cut in the future”

FUTURES IMPLIED PROBABILITY (%) OF CUTTING RATES BY JULY

Jan	Feb	Mar	Apr	May	Jun
7.1	5.4	23.6	31.9	47.8	100.0

Article Source: CNBC, June 19th, 2019

“Draghi Sees Prospect of More ECB Stimulus Amid Weak Inflation”

EUROZONE CONSUMER PRICE INFLATION (YoY %)

Jan	Feb	Mar	Apr	May	Jun
1.4	1.5	1.4	1.7	1.2	1.3

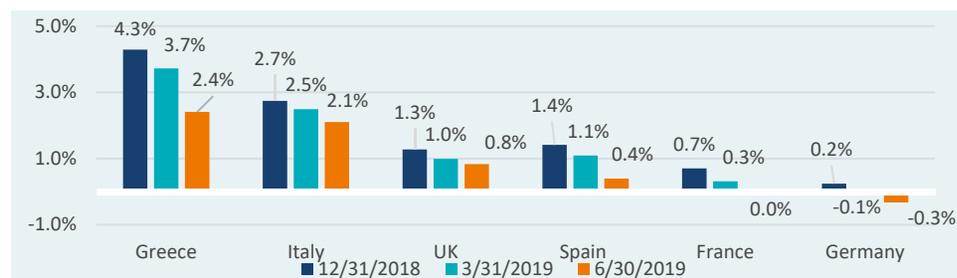
Article Source: Bloomberg, June 18th, 2019

RELATIVE EQUITY MARKET PERFORMANCE (CHINA VS. U.S.)



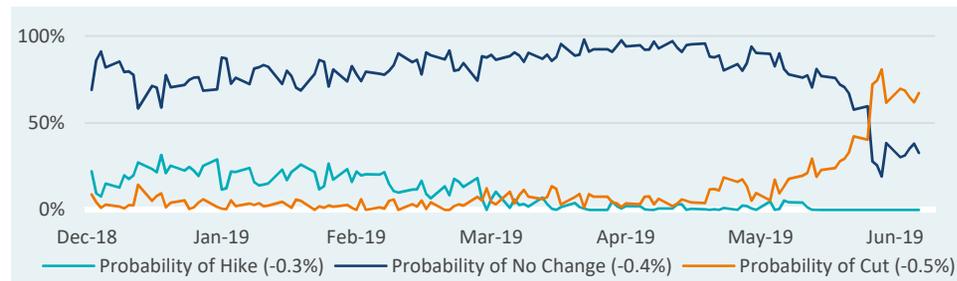
Source: Bloomberg, as of 6/30/19

TEN-YEAR EUROPEAN SOVEREIGN YIELDS



Source: Bloomberg, as of 6/30/19

PROBABILITY OF THE ECB CUTTING ITS MAIN RATE BY SEPTEMBER



Source: Bloomberg, as of 6/30/19

Economic environment

U.S. economics summary

- U.S. real GDP expanded 3.2% YoY in Q1 (3.1% quarterly annualized rate). Year-over-year growth was the strongest since the second quarter of 2015.
- The U.S. economy is expected to slow to a 2.1% pace in 2020, near the growth rate of other developed markets, as indicated by the U.S. Congressional Budget Office.
- U.S.-China trade remained central to headlines over the quarter. Effective May 10th, U.S. tariff rates on \$200 billion in Chinese imports were hiked from 10% to 25%, and the Chinese responded with commensurate tariff increases. In June, Presidents Trump and Xi met on the sidelines of the G20 summit in Osaka. The meeting yielded a “trade truce” in which both countries agreed to pause any additional tariff rate hikes.
- Headline CPI inflation fell from a YoY rate of 1.9% in March to 1.6% in June. PCE inflation, the Fed’s preferred inflation gauge, ticked up from a YoY rate of 1.5% at the end of the 1st quarter to 1.6% in May.
- Average hourly earnings grew 3.1% YoY in June, below expectations of 3.2%. The average non-farm private workweek fell slightly from 34.5 hours per week to 34.4.
- The labor market continued to show strength in Q2. The U-3 unemployment rate touched 50-year lows at 3.6% in May and ended the quarter in June at 3.7%.
- The Federal Open Market Committee messaged that it would continue to “act as appropriate to sustain the expansion”, which markets viewed as dovish. Over the quarter, expectations for additional 2019 rate cuts moved from a 64% chance of a 0.25% cut to a 61% chance of 0.75% in cuts.

	Most Recent	12 Months Prior
GDP (YoY)	3.2% 3/31/19	2.6% 3/31/18
Inflation (CPI YoY, Core)	2.1% 6/30/19	2.2% 6/30/18
Expected Inflation (5yr-5yr forward)	1.9% 6/30/19	2.2% 6/30/18
Fed Funds Target Range	2.25 – 2.50% 6/30/19	1.75 – 2.00% 6/30/18
10 Year Rate	2.0% 6/30/19	2.9% 6/30/18
U-3 Unemployment	3.7% 6/30/19	4.0% 6/30/18
U-6 Unemployment	7.2% 6/30/19	7.8% 6/30/18

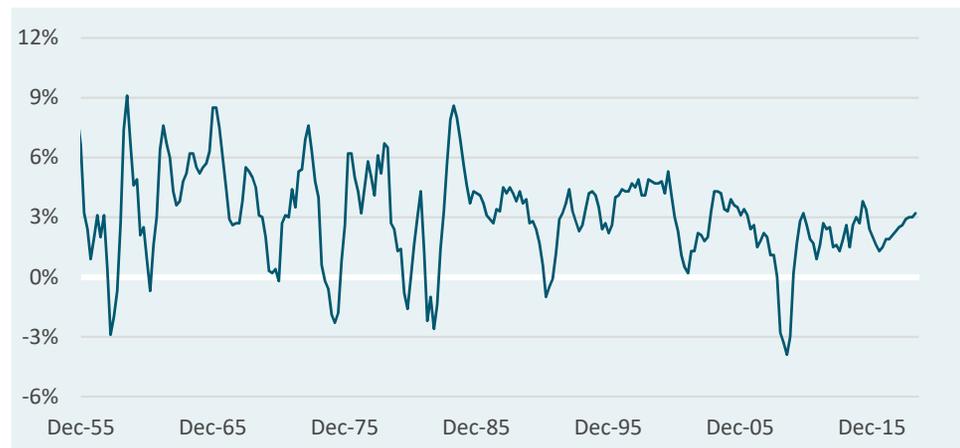
GDP growth

Real GDP grew at an annualized quarterly rate of 3.1% in the first quarter, ahead of analysts' estimates for a 2.3% expansion. Inventory builds and net exports, which tend to be more volatile components of GDP, contributed 1.7% to the print, their most significant addition since 2013. Corporate inventory builds added 0.6% to the overall 3.1% GDP print, a contribution which ranked in the 74th percentile over the past five years. Looking ahead, trade balance volatility may persist as firms around the globe adjust to evolving international trade policies.

U.S. economic growth appears to face many of the same headwinds. The lack of a definitive trade resolution between the U.S. and China, supply chain disruptions caused by new tariff impositions, and the upside limitations of an unemployment rate near 50-year lows may dampen growth prospects for the second quarter. On June 28th, the Federal Reserve Bank of Atlanta GDPNow forecast indicated annualized quarterly GDP growth of 1.5% in the second quarter. This forecast suggests consumer expenditures will provide the greatest contribution of 2.5% to overall growth.

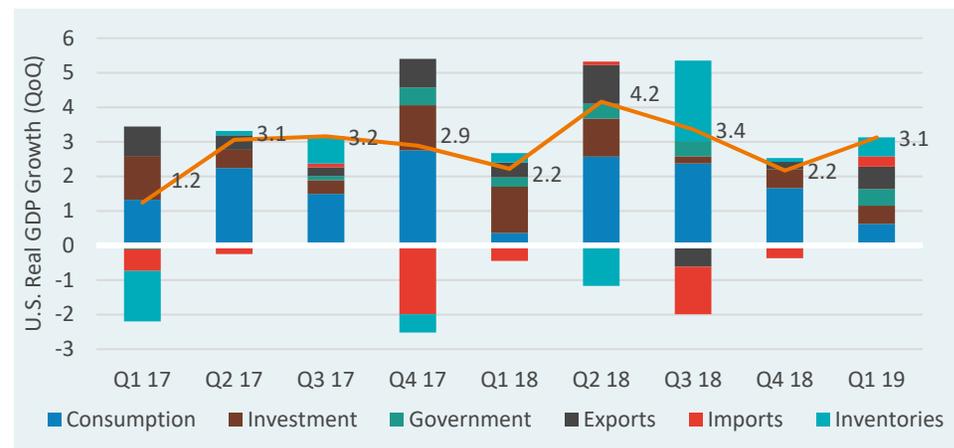
The U.S. economy is expected to slow to 2.1% in 2020, near the growth rate of the developed world

U.S. REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 3/31/19

U.S. GDP GROWTH ATTRIBUTION



Source: BEA, annualized quarterly rate, as of 3/31/19

Inflation

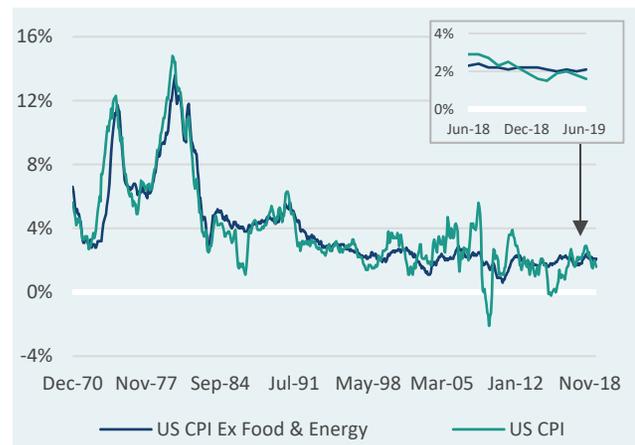
U.S. core inflation (ex-food & energy) remained stable at 2.1% YoY in June. Headline inflation rose 1.6% YoY, dragged down by falling energy prices year-over-year. Core inflation has been range-bound over the past five years, fluctuating between 1.7% and 2.3%. Investors and consumers generally expect this trend to continue, as indicated by market pricing and consumer surveys.

The market is pricing inflation to fall over the next five years (as indicated by U.S. TIPS 5-year breakeven rate of 1.5%) and

is pricing inflation to stay lower for longer (U.S. TIPS 10-year breakeven rate of 1.7%).

We believe subdued inflation of around 2% has been, and will be, a key influence on Federal Reserve policy. Lower inflation provides the Fed with more legroom for easier positioning to support economic growth and strong employment. If the inflation trend were to shift in either direction, this may put Fed officials in a more tenuous position. We will be watching inflation trends closely.

U.S. CPI (YOY)



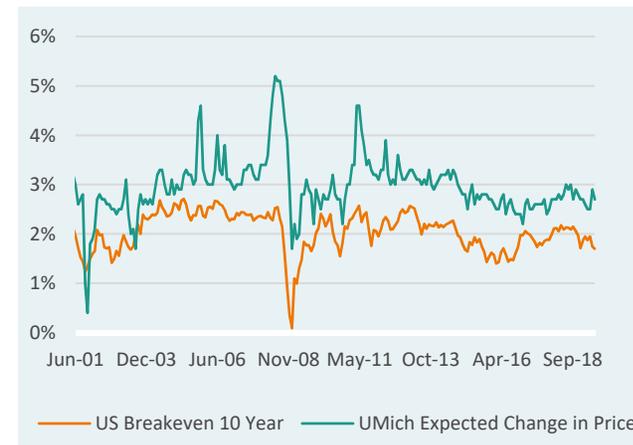
Source: Bloomberg, as of 6/30/19

U.S. BREAKEVEN INFLATION RATES



Source: FRED, as of 6/30/19

INFLATION EXPECTATIONS



Source: Bloomberg, as of 6/30/19

Labor market

The U.S. labor market remains tight. Unemployment during the quarter reached a level of strength not seen since 1969. Nonfarm payrolls expanded by 224,000 in June, well above the consensus estimate of 160,000. The number of U.S. job openings now exceed the number of jobs available.

The U.S. unemployment rate was 3.7% in June, according to the narrower U-3 measure which only encompasses those workers seeking a job. The broader U-6 unemployment rate was 7.2%, which also includes discouraged and part-time workers who seek full-time employment.

Given the relatively limited number of unemployed persons and the high percentage of companies reporting that jobs are hard to fill, we believe it may be difficult for job growth to continue at its recent pace.

Wages have grown modestly but have slowed year-to-date. Weak wage growth limits the spending power of consumers, but also reduces the risk of corporate margin deterioration and may limit general price inflation. In June, average hourly earnings rose 3.1% year-over-year.

U.S. labor market remains strong, though further upside may be limited

U.S. UNEMPLOYMENT



Source: FRED, as of 6/30/19

U.S. JOB OPENINGS VS. UNEMPLOYED



Source: Bloomberg, as 6/30/19

U.S. WAGE GROWTH



Source: FRED, as of 6/30/19

The consumer

Headline retail sales grew 3.4% from the prior year in June. Core retail sales, which exclude spending on automobiles, gasoline, building materials, and food services, grew at a strong pace of 4.6% from the prior year. Typically, core retail sales correspond most closely with the consumer expenditures component of the quarterly GDP calculation.

U.S. personal incomes grew at a YoY rate of 4.1% in May, up from 3.5% at the end of the first quarter. Personal consumption expenditures grew at a YoY rate of 4.2% in May, slightly lower than the pace of 4.4% at the end of Q1. Benign

inflation, improving real wages, and consumers' perceptions of a strong labor market have all likely played a key role in the resilience of consumer spending patterns as of late.

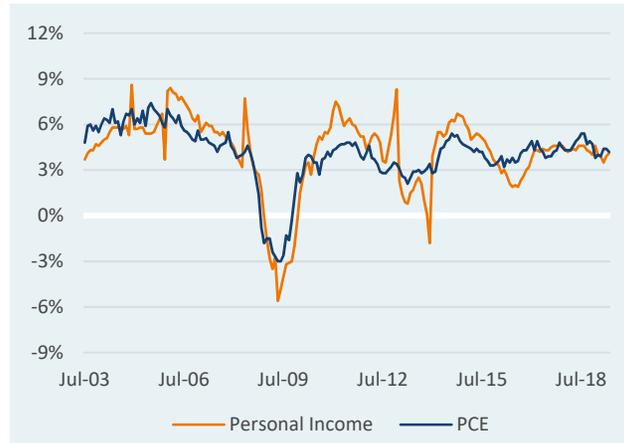
Consumer credit growth has remained tempered over the expansion, but the composition of that credit has shifted. Over the past ten years, student loans have increased their share while mortgage debt has decreased its share.

REAL RETAIL SALES GROWTH (YOY)



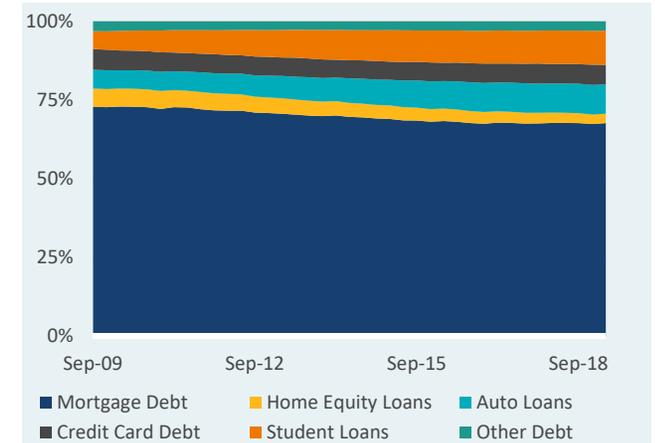
Source: Bloomberg, as of 6/30/19

PERSONAL INCOME AND NOMINAL PERSONAL CONSUMPTION EXPENDITURES (YOY)



Source: Bloomberg, as of 5/31/19

SHARE OF CONSUMER CREDIT OUTSTANDING



Source: Federal Reserve Bank of NY, Bloomberg as of 6/30/19

Sentiment

Consumer sentiment indicators were mixed over the quarter but remain very strong relative to history. In May, the University of Michigan Consumer Sentiment Index registered its highest reading since September 2018 at 100.0 but ended the quarter at 98.2, slightly below its March reading. According to the University of Michigan, consumers were concerned about the impact of ongoing trade tensions on the economic outlook and a moderating job market.

The Bloomberg Consumer Comfort Index rose from 58.9 to 62.6 over the quarter, remaining at cycle highs.

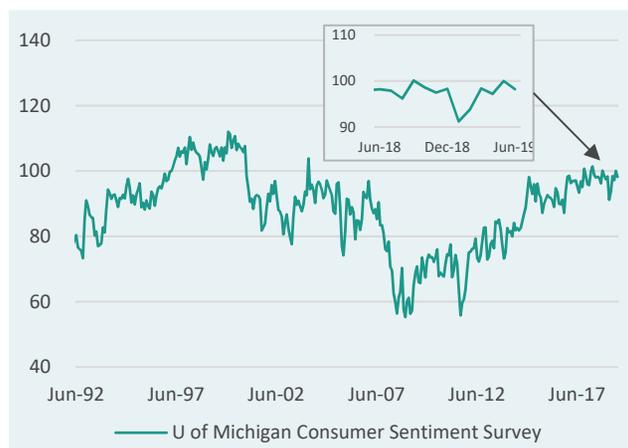
The Conference Board's Consumer Confidence Index advanced in April and May before falling at quarter-end. In June, the indicator fell from 131.3 to 121.5, below expectations for a slight dip to 131.0. While the index remained at a high level, consumers were less optimistic about the current economic climate and the near-term future. The percentage of consumers expecting business conditions to improve in the next six months fell from 21.4% to 18.1% and the percentage expecting conditions to worsen rose from 8.8% to 13.1%.

CONSUMER COMFORT INDEX



Source: Bloomberg, as of 6/30/19 (see Appendix)

CONSUMER SENTIMENT



Source: University of Michigan, as of 6/30/19 (see Appendix)

CONSUMER CONFIDENCE



Source: Conference Board, as of 6/30/19 (see Appendix)

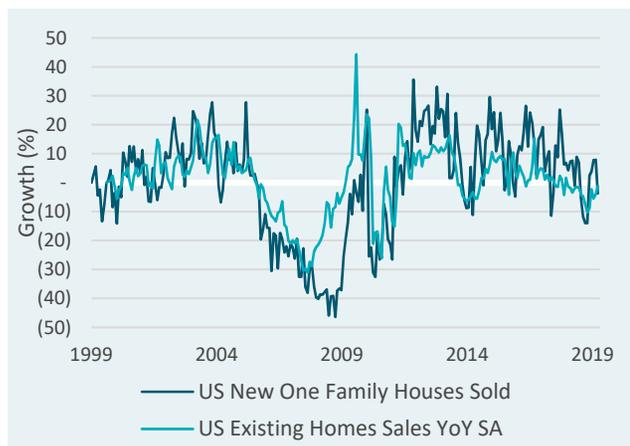
Housing

Some weakness has appeared in the U.S. housing market. U.S. home sales appear to have peaked in late 2017 and have continued to fall, declining -1.1% YoY in May. Higher prices have damaged affordability, and rising interest rates through the end of 2018 likely contributed to weaker purchase activity. On the other hand, the notable shift of the Federal Reserve from rate hikes to rate cuts, and the subsequent drop in interest rates and therefore mortgage rates, may help reignite buying activity.

Housing starts in May were down -4.7% from one year prior, while building permits fell -0.5%. Slowing home construction activity may reflect affordability issues and/or falling homebuilder optimism.

Home prices have fallen slightly. The median U.S. home sale price was down -3% year-over-year as of May. Home price trends can vary significantly by location, which means national statistics are sometimes difficult to interpret at a local level.

U.S. HOME SALES (YOY)



Source: FRED, as of 5/31/19

HOUSING STARTS & PERMITS



Source: Bloomberg, NAHB, as of 5/31/19 (see appendix)

MEDIAN U.S. HOME SALES PRICE



Source: FRED, as of 5/31/19

International economics summary

- U.S.-China trade remained central to headlines over the quarter. Effective May 10th, U.S. tariff rates on \$200 billion in Chinese imports were hiked from 10% to 25%, and the Chinese responded with commensurate tariff rate hikes. In June, Presidents Trump and Xi met on the sidelines of the G20 summit in Osaka. The meeting yielded a “trade truce” in which both countries agreed to pause any additional tariff rate hikes.
- The U.K. Prime Minister Theresa May announced her resignation effective June 7th. In July, Boris Johnson defeated Jeremy Hunt and will replace Theresa May as Britain’s next prime minister. Mr. Johnson has taken a harder line on Brexit than Mr. Hunt, and his election likely increases the probability that the U.K. exits the E.U. without a deal.
- President Trump called off prospective 5% tariffs on Mexican imports after the two countries signed an immigration deal aimed at reducing illegal border crossings. The deal expanded the Migrant Protection Protocols program, which requires asylum-seekers to wait on the Mexican side of the border while their cases are reviewed.
- Chinese GDP growth slowed 0.2% to 6.2% YoY in the second quarter, its slowest rate in 27 years. On a brighter note, YoY growth in industrial production and retail sales both surprised to the upside, supporting the view that Beijing’s countercyclical easing measures have proven effective.
- The Citi Global Economic Surprise Index fell from -18.8 to -27.7 in June, registering its 15th consecutive month in negative territory.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	3.2% <i>3/31/19</i>	1.6% <i>6/30/19</i>	3.7% <i>6/30/19</i>
Eurozone	1.2% <i>3/31/19</i>	1.1% <i>5/31/19</i>	7.5% <i>5/31/19</i>
Japan	0.9% <i>3/31/19</i>	0.7% <i>5/31/19</i>	2.4% <i>5/31/19</i>
BRICS Nations	5.2% <i>3/31/19</i>	2.4% <i>3/31/19</i>	5.2% <i>3/31/19</i>
Brazil	1.4% <i>3/31/19</i>	3.4% <i>6/30/19</i>	12.4% <i>6/30/19</i>
Russia	2.7% <i>12/31/18</i>	4.7% <i>6/30/19</i>	4.5% <i>5/31/19</i>
India	7.2% <i>12/31/18</i>	3.2% <i>6/30/19</i>	8.5% <i>12/31/17</i>
China	6.4% <i>3/31/19</i>	2.7% <i>6/30/19</i>	3.7% <i>3/31/19</i>

International economics

Developed countries are generally exhibiting growth rates between 1-2% YoY. The U.S. remains an exception, at a 3.2% pace, though the domestic economy is forecast to slow to around 2.1% in 2020 as government stimulus fades. Economists expect global growth of 3.3% in both 2019 and 2020, according to Bloomberg.

Inflation remains stable and subdued in developed economies, at or below 2%. Emerging economies have also exhibited lower than average inflation – a 2.4% rate across the BRICS nations. Employment continues to improve in most

markets, though the rate of job gains in some economies appears to be slowing.

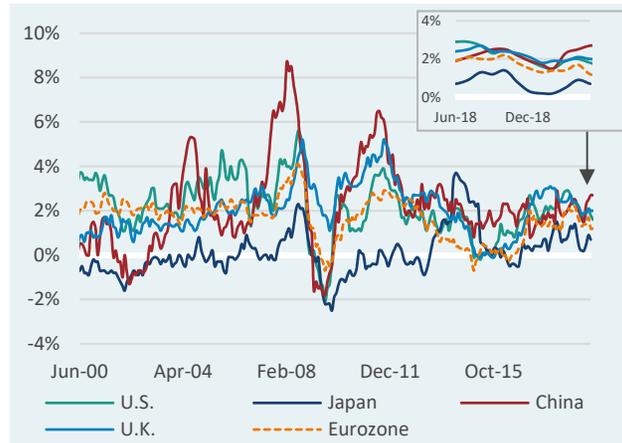
The U.K. Prime Minister Theresa May announced her resignation effective June 7th. In July, Boris Johnson defeated Jeremy Hunt and will replace Theresa May as Britain's next prime minister. Mr. Johnson has taken a harder line on Brexit than Mr. Hunt, and his election likely increases the probability that the U.K. exits the E.U. without a deal.

REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 3/31/19

INFLATION (CPI YOY)



Source: Bloomberg, as of 6/30/19

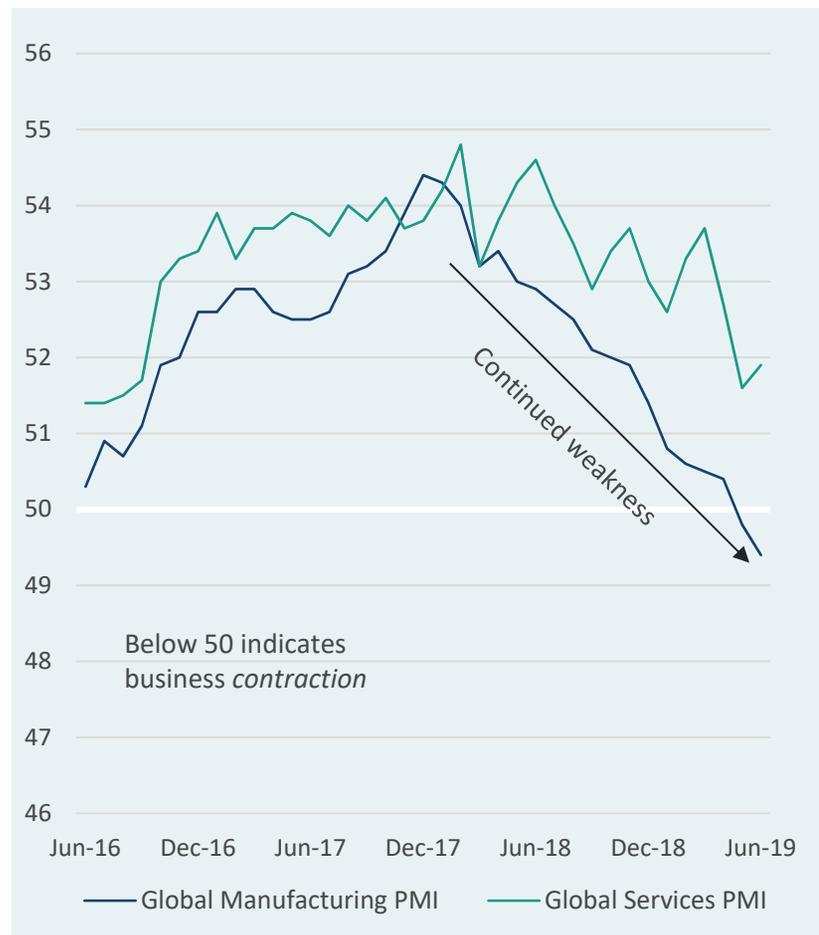
UNEMPLOYMENT RATE



Source: Bloomberg, as of 6/30/19 or most recent release

Global PMI

GLOBAL PMI



Source: JPMorgan, as of 6/30/19

- The PMI business surveys attempt to gauge business sentiment and conditions around the world.
- Surveys have indicated weakening since late 2017 and resumed their decline in the second quarter.
- The Global Manufacturing PMI fell from 50.5 in March to 49.4 in June, below the neutral level of 50.0 that separates expansion from contraction. The stickier Services PMI, which is less cyclical in nature than the Manufacturing PMI, fell from 53.7 to 51.9 over Q2.
- Developed economy Manufacturing PMI readings (48.9) have weakened materially over the past year and are now below emerging economy readings (49.9). Services PMI readings remain similar for developed and emerging economies at 52.0 and 51.5, respectively.
- Surveys remain above levels that might indicate recession.

Fixed income rates & credit

Interest rate environment

— The Federal Open Market Committee left the range for its benchmark interest rate unchanged at 2.25%-2.50% and reiterated that it would continue to act appropriately to sustain the expansion. Markets viewed the Fed's press conference as successful in setting expectations for a 0.25% rate cut in July.

— The fed funds futures market now implies 2 or even 3 rate cuts (0.50% to 0.75% total cuts) as likely by the end of 2019. The market's expectation of three rate cuts seems aggressive, and we worry about possible downside to risk markets if the Fed does not deliver on these expectations.

— U.S. Treasury yields continued to push lower following the messaging from the Federal Reserve. The 10-year U.S. Treasury yield finished the quarter at 2.00%, down from 3.14% in Q4 2018.

— European Central Bank President

Mario Draghi announced "additional stimulus" was on the table should the economic backdrop worsen and inflation remain subdued. Over the month, the likelihood that the ECB would cut its main deposit rate from -0.40% to -0.50% by its September meeting rose from 18% to 67%, as indicated by market pricing.

— European and international developed sovereign yields have fallen along with U.S. yields. German 10-year bunds closed the month at new lows of -0.33%.

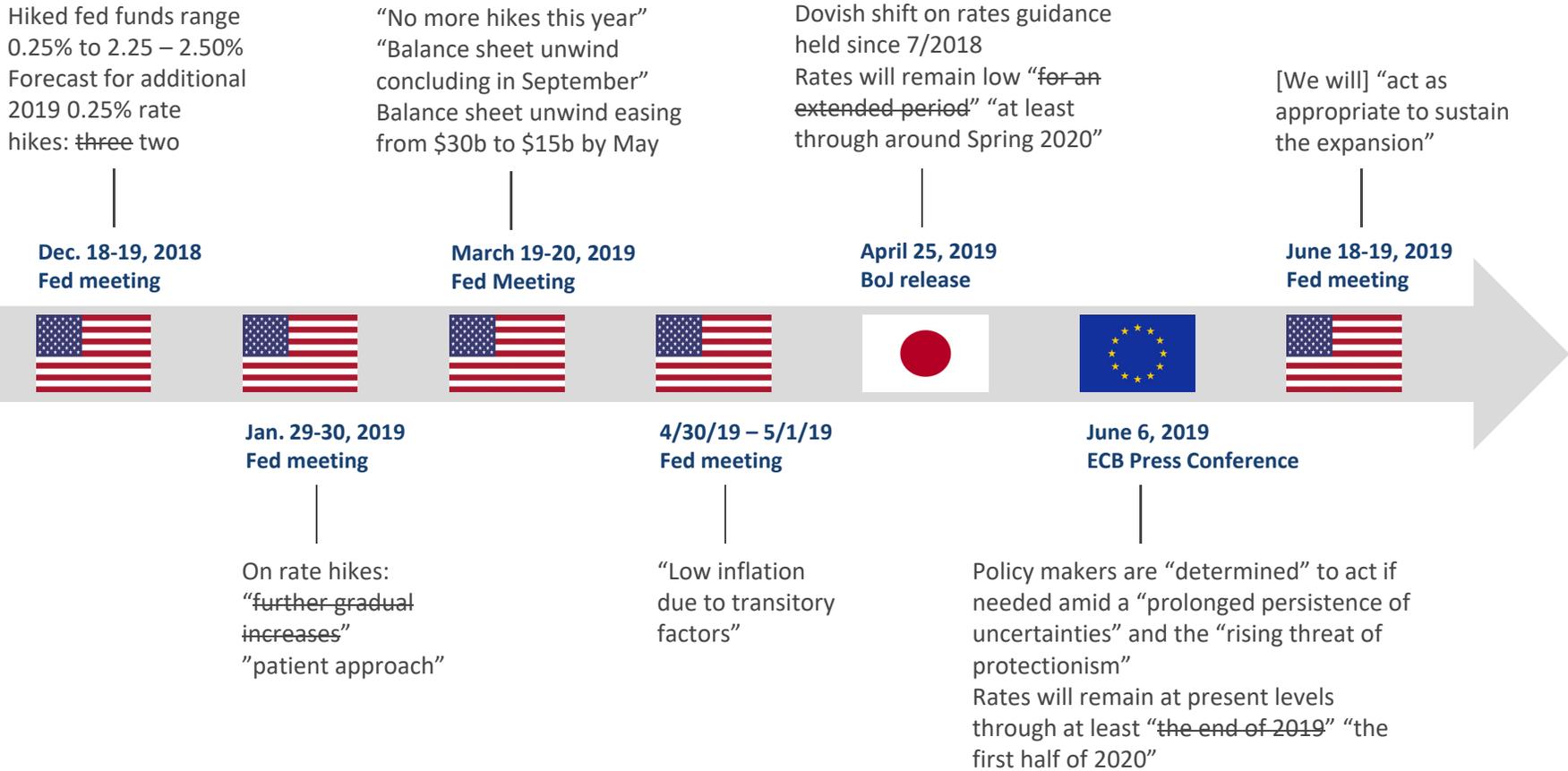
— High yield bond spreads tightened alongside equities as the asset class was positively impacted by Federal Reserve dovishness. Anticipation of easier interest rate policies, which could potentially lengthen the credit cycle, has strengthened sentiment for risk assets.

— Emerging market bonds delivered outsized returns in Q2. The JPM GBI-EM Index returned +5.6% and the JPM EMBI Index returned +4.1%.

Area	Short Term (3M)	10-Year
United States	2.09%	2.00%
Germany	(0.57%)	(0.33%)
France	(0.55%)	(0.01%)
Spain	(0.47%)	0.39%
Italy	(0.14%)	2.10%
Greece	0.99%	2.41%
U.K.	0.78%	0.83%
Japan	(0.08%)	(0.17%)
Australia	1.43%	1.32%
China	2.25%	3.21%
Brazil	6.24%	7.44%
Russia	8.03%	8.26%

Source: Bloomberg, as of 6/30/19

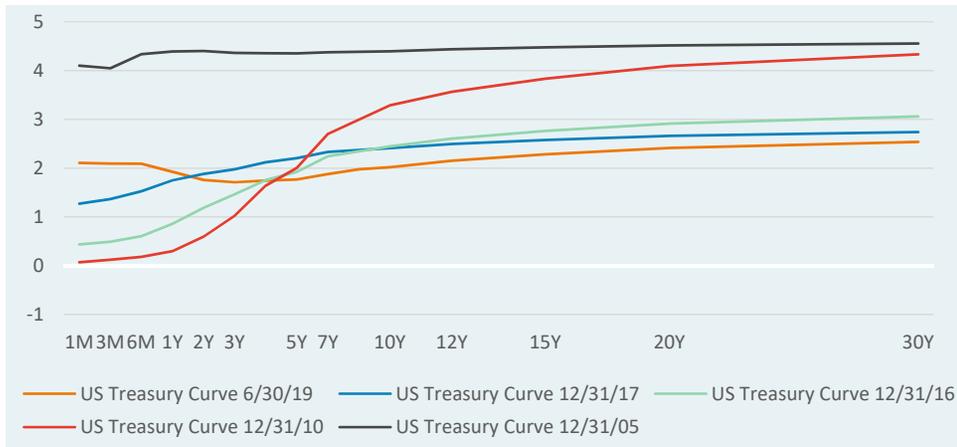
Central bank reversal



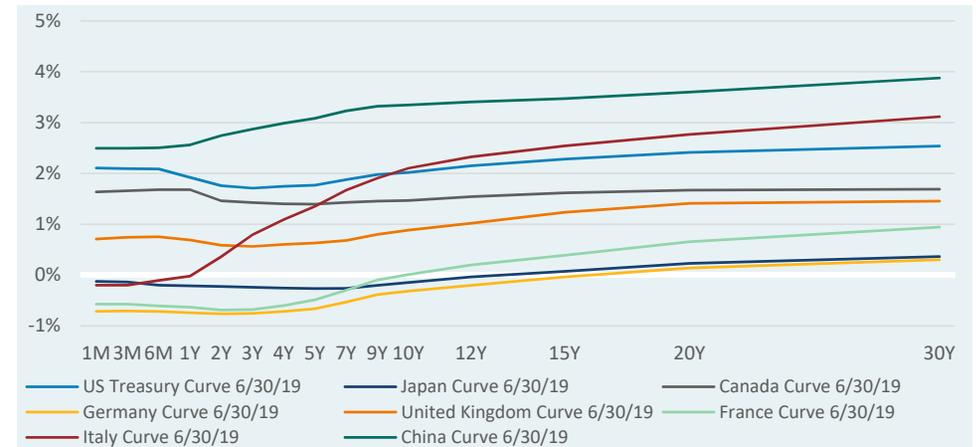
Source: Wikimedia Commons

Yield environment

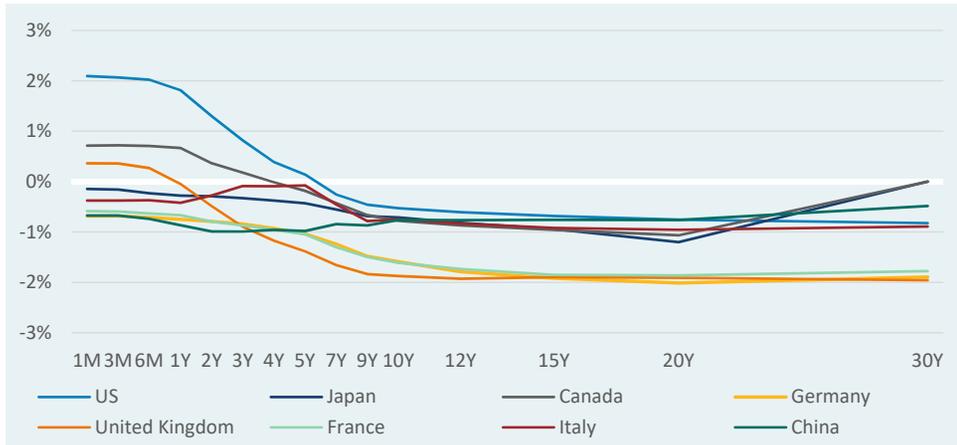
U.S. YIELD CURVE



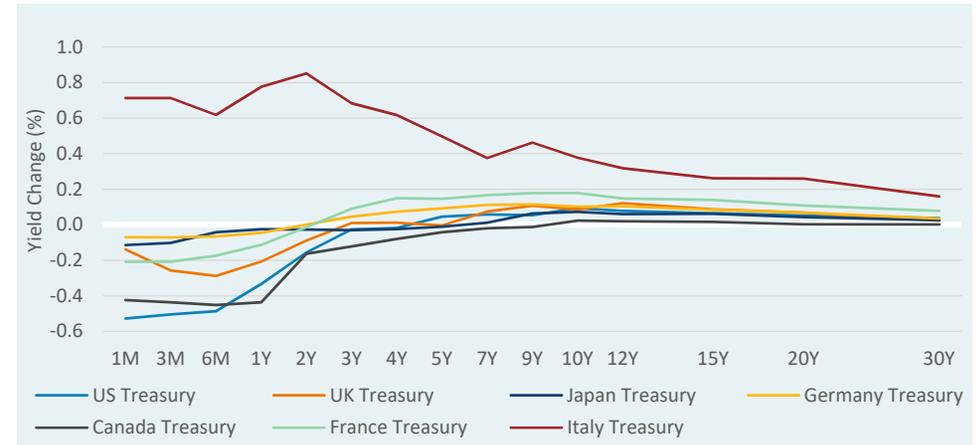
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



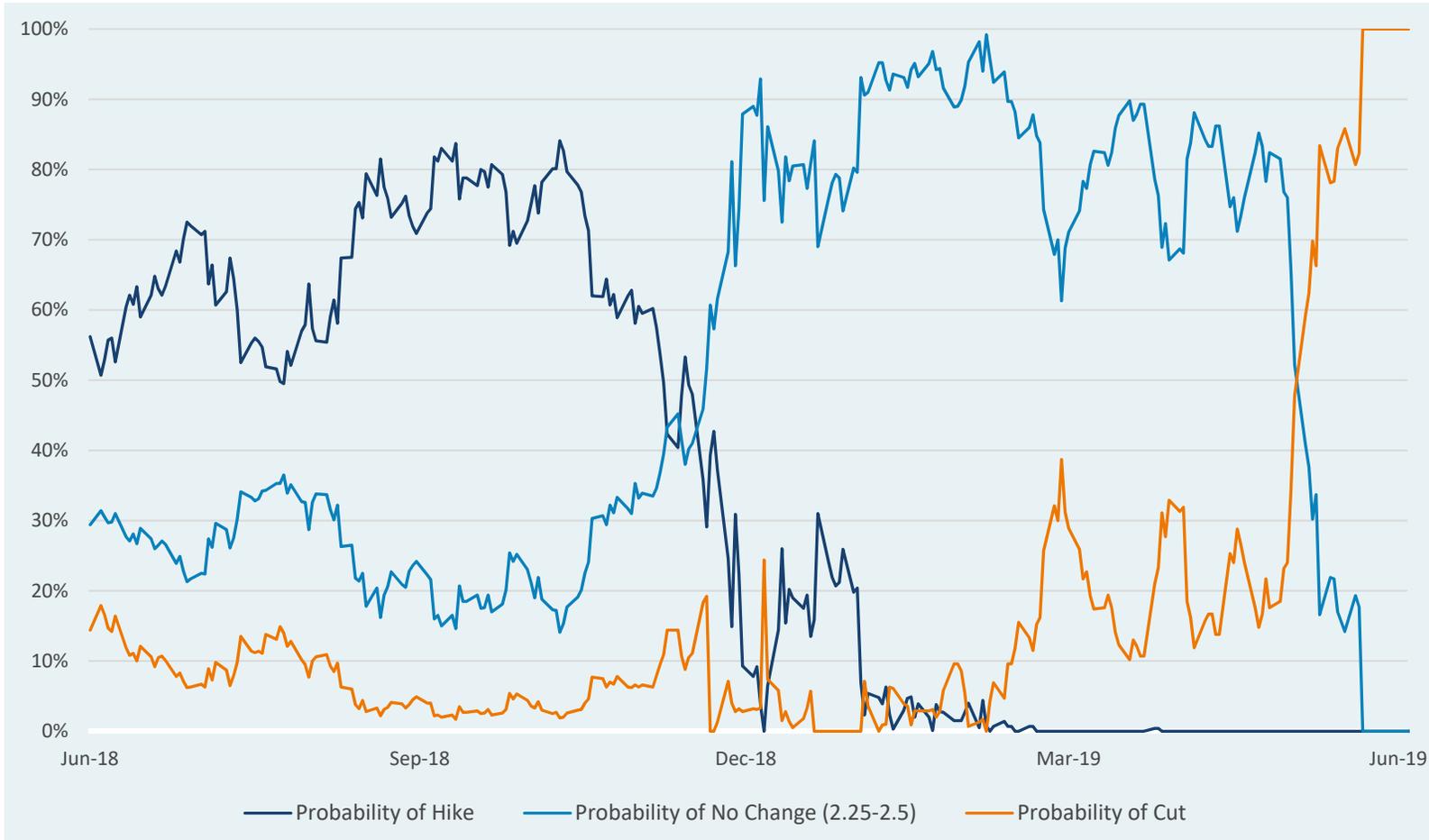
IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 6/30/19

July Fed meeting

FUTURES IMPLIED PROBABILITIES FOR JULY FED RATE DECISION



In April and May, dovish guidance from global central banks made its way into fed funds futures pricing

In June, the Fed pledged to “act appropriately to sustain the expansion” and a 0.25% cut became 100% priced in July

Source: Bloomberg, as of 6/30/19

Credit environment

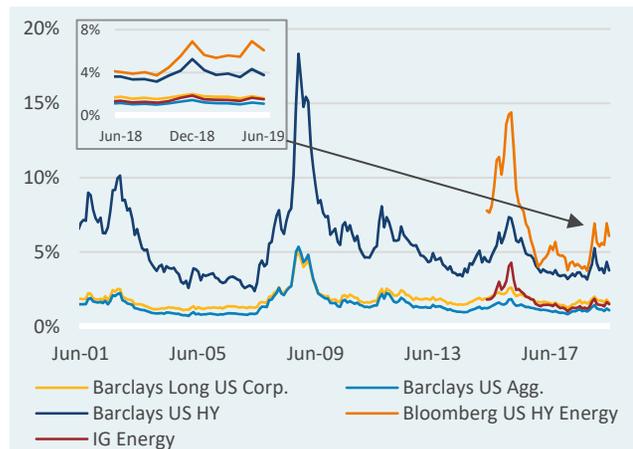
High yield bond spreads tightened alongside equities as the asset class was positively impacted by Federal Reserve dovishness. Anticipation of easier interest rate policies, which could potentially lengthen the credit cycle, has strengthened sentiment for risk assets. BB-rated bonds outperformed both CCC- and B-rated bonds in the second quarter. High yield bonds have returned +9.9% YTD, outperforming investment grade credit (+9.4%) and bank loans (+5.7%).

Bank loan prices continued to decline as demand for the asset class was impacted by a pause in the Fed's hiking cycle and uncertainty surrounding future moves from the Fed. Loan funds

have reported their ninth consecutive monthly outflow in June, totaling over \$40 billion in total. Bank loans have returned +0.3% YTD, underperforming both high yield and investment grade bonds.

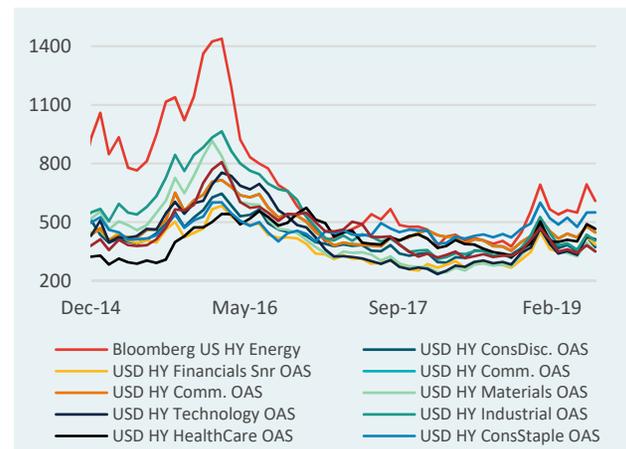
Based on concerns over late-cycle behavior in credit markets, we do not believe investors are being adequately compensated for credit risk. Late-cycle volatility tends to coincide with a jump in credit spreads and steep credit losses. An underweight to U.S. investment grade, high yield credit, and bank loans may be warranted. Within credit, higher quality and more liquid assets appear most attractive.

SPREADS



Source: Barclays, Bloomberg, as of 6/30/19

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 6/30/19

Market	Credit Spread (OAS)	
	6/30/19	6/30/18
Long U.S. Corp	1.6%	1.8%
U.S. Agg Corp	1.1%	1.2%
U.S. High Yield	3.8%	3.6%
U.S. Bank Loans*	4.4%	3.9%

Source: Barclays, Credit Suisse, Bloomberg, as of 6/30/19

*Discount margin (4-year life)

Default & issuance

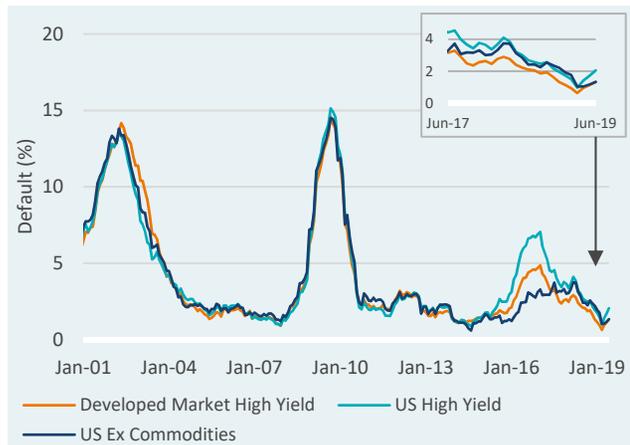
Default activity has been low and stable in the U.S. credit market, despite price volatility. The par-weighted default rate for high yield increased to 1.5% but remains below its long-term average range of 3.0-3.5%. For loans, the par-weighted default rate at the end of the second quarter was 1.3% and remains below the long-term average of 3.1%, according to data from J.P. Morgan. Consumer, retail, telecom, and utilities sectors have been more prone to defaults.

Senior loan and high yield markets have essentially recovered from a wave of defaults seen in 2015-2016 that were

generated by energy and metals/mining sectors. High yield bond recovery rates have improved significantly since that time.

Gross high yield issue activity increased in June as investors took advantage of a dip in yields. Loan market issuance is significantly behind last year's pace, likely influenced by lower demand for floating rate securities now that the Federal Reserve has paused monetary tightening.

HY DEFAULT RATE (ROLLING 1-YEAR)



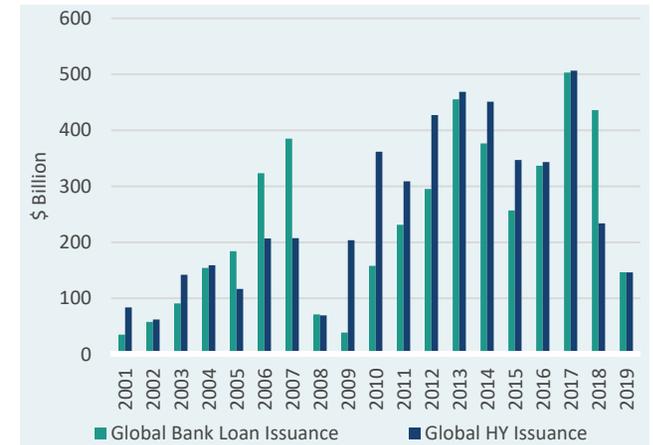
Source: BofA Merrill Lynch, as of 6/30/19

U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)



Source: BofA Merrill Lynch, as of 6/30/19 – par weighted

GLOBAL ISSUANCE (\$ BILLIONS)



Source: Bloomberg, BofA Merrill Lynch, as of 6/30/19

Equity

Equity environment

- The Russell 1000 Index slightly outperformed international developed equities in Q2, gaining +4.2% while the MSCI EAFE Index gained +3.7%. Perceptions of an accommodative Federal Reserve and views that U.S.-China relations are on a productive track likely impacted price movement.
- Equity performance in Q2 appears to have been largely driven by higher prices, rather than improved earnings expectations. The valuation expansion of equity markets (U.S., international developed, emerging markets) aligned with performance over the quarter.
- According to FactSet, estimated Q2 S&P 500 YoY earnings worsened from -0.5% to -2.6% in Q2. Nine of eleven sectors saw downward revisions to EPS estimates. Further negative revisions will likely act as a headwind to equity performance.
- Currency movement had a material positive impact on unhedged exposure to the U.K. (+3.1%) and Japan (+2.3%) over the quarter, though currency movement had a negligible impact on overall international equity performance (MSCI EAFE). Unhedged currency movement on a 1-year basis has had a substantially negative effect on investors' performance.
- The J.P. Morgan Emerging Market Currency Index gained +0.5% in the second quarter, stabilizing after a downward trend since 2018.
- Size and value factors continued to underperform. Small-cap equities lagged large-cap by -2.1% during the quarter and -13.3% over the past year (Russell 2000 vs. Russell 1000). Value equities underperformed growth by -0.8% over the quarter and by -3.1% over the past year (Russell 1000 Value vs Russell 1000 Growth).

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	4.2%		10.0%	
US Small Cap (Russell 2000)	2.1%		(3.3%)	
US Large Value (Russell 1000 Value)	3.8%		8.5%	
US Large Growth (Russell 1000 Growth)	4.6%		11.6%	
International Large (MSCI EAFE)	3.7%	3.5%	1.1%	4.8%
Eurozone (Euro Stoxx 50)	6.2%	6.4%	0.4%	8.6%
U.K. (FTSE 100)	4.0%	0.9%	(2.3%)	3.7%
Japan (NIKKEI 225)	3.1%	0.8%	0.1%	(2.6%)
Emerging Markets (MSCI Emerging Markets)	0.6%	0.1%	1.2%	1.7%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 6/30/19

Domestic equity

U.S. equities outperformed in the second quarter following a strong rebound in the first quarter. The S&P 500 Index delivered a total return of 4.3%, bringing its first-half return to 18.5%. Perceptions of an accommodative Federal Reserve and views that U.S-China relations were on a productive track likely impacted price movement.

Over the last decade, U.S. equities have led global equity indices, which is not typically the case. In prior periods, U.S. equities have ranked from slightly below average to slightly above average among regional indices. Furthermore, a

portion of U.S. equity outperformance has been due to a move towards high prices, which will most likely negatively impact future performance.

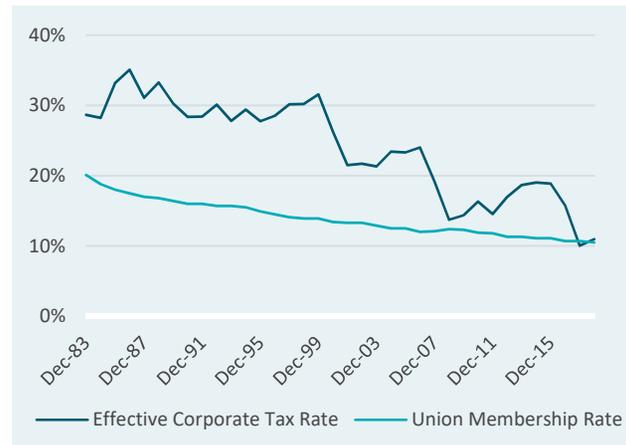
A number of secular trends have helped create a supportive environment for U.S. stocks. Technological advances, falling interest rates and therefore costs of corporate borrowing, and lower corporate tax rates have all helped to boost profit margins to all-time-highs. As expectations moderate, these margins may be increasingly scrutinized by investors.

U.S. EQUITIES



Source: Standard & Poors, as of 6/30/19

SECULAR TRENDS SUPPORTING MARGINS



Source: FRED, BLS, Bloomberg, Verus, as of 6/30/19

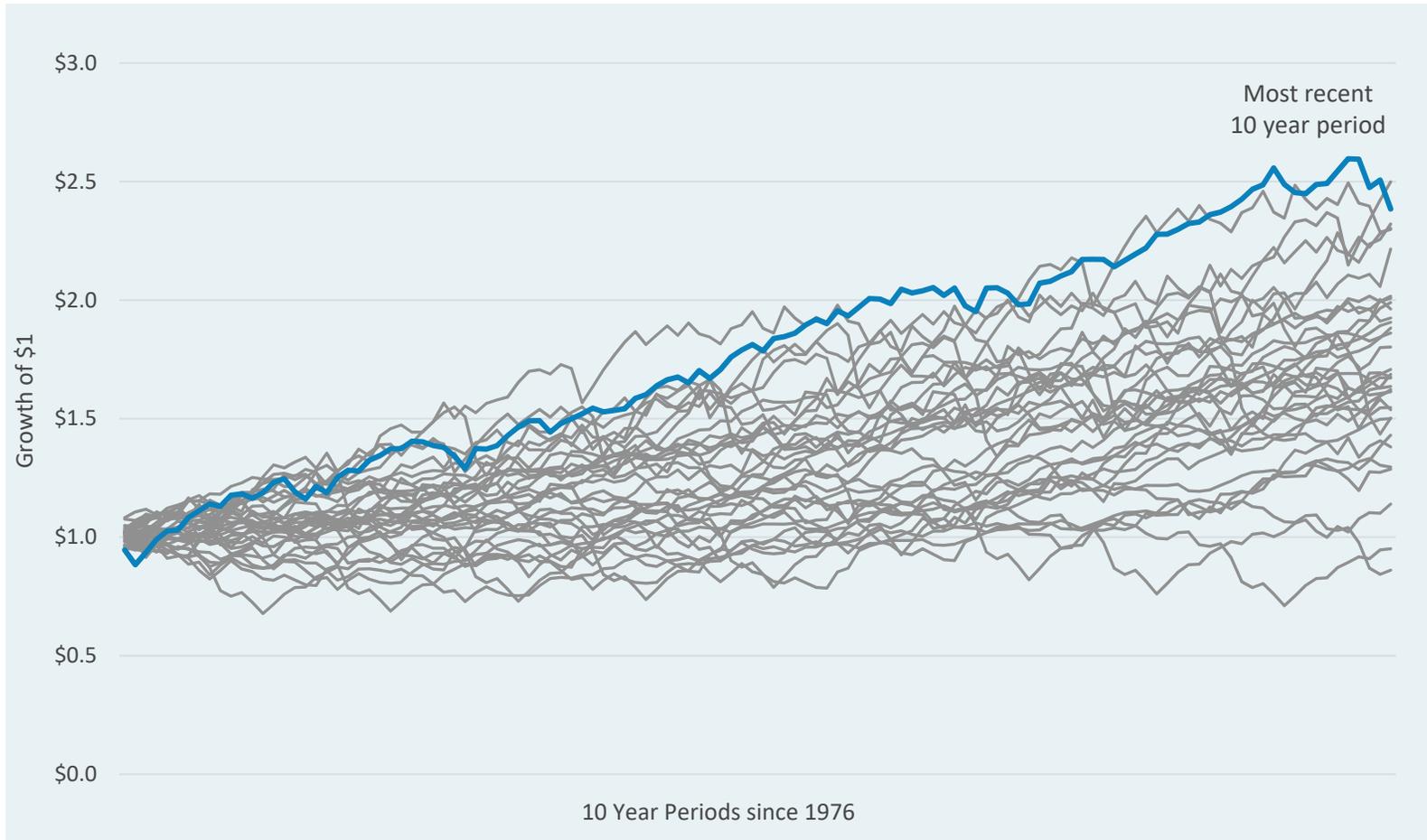
U.S. RELATIVE PERFORMANCE - HISTORICAL

	2014-2019	2009-2014	2004-2009	1999-2004	1994-1999
Best ↑	United States	United States	China	Australia	Sweden
	Australia	Sweden	India	India	Spain
	France	Japan	Spain	Canada	France
	India	Germany	Australia	United States	United States
	UK	Switzerland	Sweden	Spain	Germany
	Italy	India	Canada	Switzerland	Switzerland
	Japan	Australia	Germany	UK	UK
	Sweden	UK	UK	Italy	Canada
	Canada	Canada	Switzerland	France	Australia
	Switzerland	France	France	Sweden	India
	Germany	Spain	United States	Japan	Japan
	China	China	Japan	Germany	
Worst ↓	Spain	Italy	Italy		

Source: Verus, as of 6/30/19

Domestic equity

DOMESTIC 60/40 EXCESS RETURNS



U.S. asset performance over the past 10 years has been unusually strong

Investors should not necessarily expect U.S. outperformance to continue

Source: Verus, 60/40 (S&P 500 / BBgBarc US Aggregate Bond), excess return over T-bills since 1973

Domestic equity size & style

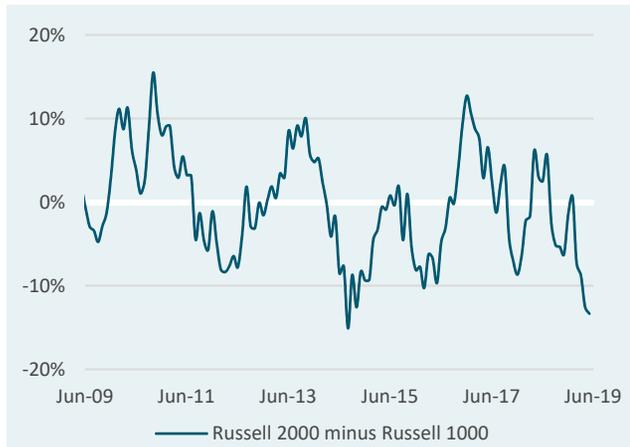
Size and value factors continued to underperform. Small-cap equities lagged large-cap by -2.1% during the quarter and -13.3% over the past year (Russell 2000 vs. Russell 1000). Value equities underperformed growth by -0.8% over the quarter and by -3.1% over the past year (Russell 1000 Value vs Russell 1000 Growth).

Similar to Q1, the impact of sector performance on the value premium was more nuanced in the second quarter. Financials (+8.0%) and Materials (+6.3%) outperformed the overall index (S&P 500 +13.6%), but Energy (-2.8%)

underperformed. Information Technology performed better than the overall index (+6.1%) which acted as a headwind for value stocks.

Both small cap and value premia have exhibited underperformance for an extended period of time. Longer periods of underperformance do not necessarily indicate an investment opportunity if value stocks and small cap stocks remain fairly-priced. This appears to be the case today, as neither value stocks nor small cap stocks are particularly cheap by traditional measures.

SMALL CAP VS LARGE CAP (YOY)



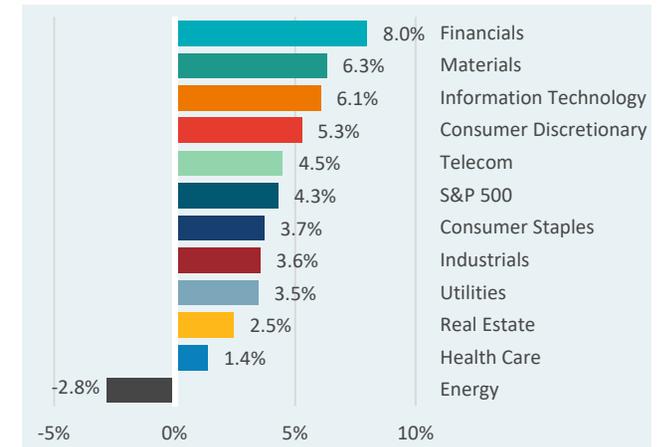
Source: FTSE, as of 6/30/19

VALUE VS GROWTH (YOY)



Source: FTSE, as of 6/30/19

Q2 S&P 500 SECTOR RETURNS



Source: Morningstar, as of 6/30/19

International developed equity

International developed equities posted a second consecutive quarter of solid performance. The MSCI EAFE Index returned +3.9% for the quarter (+14.5% YTD). On a currency hedged basis, the MSCI EAFE Index returned +3.5% for the quarter (+15.2% YTD), indicating that unhedged U.S. investors in EAFE equities benefited from non-dollar exposure over the quarter, but not in the year-to-date.

Japanese equities, which represent about 24% of the MSCI EAFE Index, underperformed, and gained only +0.5% in Q2. Japan's exposure China's economy, which in Q2 grew at its slowest pace in 27 years, likely weighed on performance.

U.K. equities underperformed the international developed equities on an unhedged basis, with the FTSE 100 Index delivering a +3.3% return for the quarter. In U.S. dollar terms, the FTSE 100 Index returned +4.0% in Q2, indicating that the weakness in the British Pound relative to the dollar presented headwinds for unhedged U.S. investors.

Wage gains and employment have been strong in the U.K., which would typically prompt higher rates and a stronger currency, but the uncertainty surrounding Brexit has likely had a significant impact on the British Pound.

INTERNATIONAL DEVELOPED EQUITIES



Source: MSCI, as of 6/30/19

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 6/30/19

YTD CUMULATIVE PERFORMANCE (U.S. VS. U.K.)



Source: Bloomberg, as of 6/30/19

Emerging market equity

Emerging market equity performance (MSCI Emerging Markets +0.6%) lagged developed markets (MSCI EAFE +3.7%) over the quarter, while U.S. equities outperformed (Russell 1000 +4.2%). Economists expect emerging market economies to accelerate modestly in 2020 and expect developed economies to slow. This divergence may provide a tailwind to emerging market equity performance. Recent central bank dovishness may also boost returns, as easing conditions have often had an outsized positive impact on the emerging markets.

kept near their long-term average - the U.S. being an exception. The divide between U.S. equity valuations and the rest of the world remains wide.

Decelerating global growth and a rising probability of recession presents unique risks to emerging markets, as these markets typically exhibit a higher beta during market downside and upside moves. However, a recession does not appear to be on the immediate horizon, and we believe recent central bank easing may lead to emerging market outperformance in the interim.

Moderate growth and central bank easing may boost emerging market equities

Equity multiples expanded in the second quarter but have

EQUITY PERFORMANCE (3-YR ROLLING)



Source: Standard & Poor's, MSCI, as of 6/30/19

FORWARD P/E



Source: MSCI, as of 6/30/19

EMERGING MARKET PERFORMANCE



Source: MSCI, as of 6/30/19

Equity valuations

Equity performance in Q2 appears to have been largely driven by higher prices, rather than improved earnings expectations. Valuation expansion of equity markets (U.S., international developed, emerging markets) aligned with performance over the quarter.

The U.S. equity forward P/E multiple sits at 17.2x, with international equities at 13.5x and emerging markets at 12.1x. International and emerging equity valuations remain near their long-term average, while U.S. equities appear expensive relative to history. U.S. equities currently trade at a 27%

forward premium to EAFE equities, and a 42% premium over emerging.

We believe there are reasons that EAFE equity markets warrant cheap valuations, particularly in Europe, but it is difficult to know whether the current valuation gap is justified. As U.S. corporate earnings expectations, business conditions, and economic growth seem to be converging somewhat with the rest of the developed world, investors may begin to question whether such elevated U.S. valuations are appropriate.

FORWARD P/E RATIOS



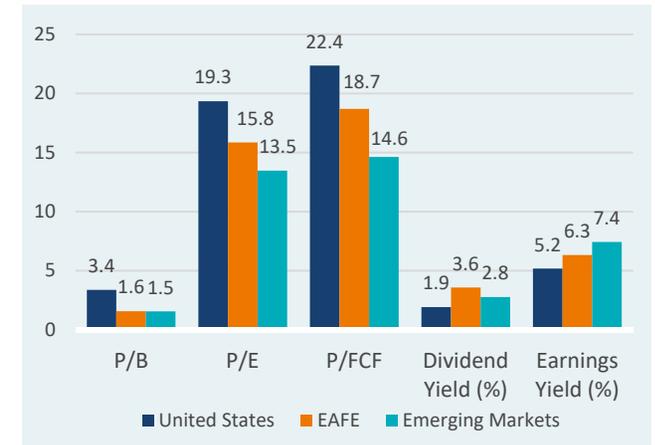
Source: MSCI, as of 6/30/19

U.S. CORPORATE EARNINGS GROWTH (YOY)



Source: Standard & Poor's, as of 6/30/19

VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI as of 6/30/19 - trailing P/E

Equity volatility

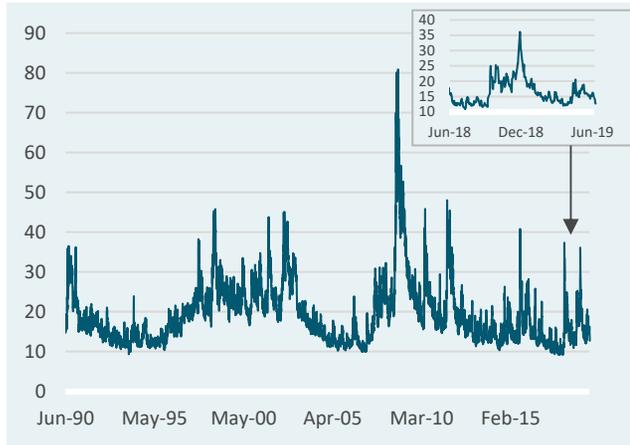
Implied volatility remained depressed over the quarter, as indicated by the VIX Index. Though the implied volatility measure reached as high as 20.6 in the days following the Trump administration’s decision to hike tariff rates on Chinese imports, the VIX Index traded mostly below its long-term average. Out of sixty-three trading days in the second quarter, the VIX Index closed above its historical daily average of 19.2 only three times.

The rolling realized 90-day volatility of the S&P 500 Index retreated from 19.5% to 11.4% over the second quarter. At

quarter-end, the 30-day forward implied volatility of the S&P 500 Index exceeded that of the Euro Stoxx 50 Index. Historically, the VIX has traded at a discount to the V2X, the proxy for expected European equity volatility.

Some pundits have expressed concerns about the low levels of realized volatility despite geopolitical and trade conflict. Other investors have argued that a healthy, less-leveraged financial system is the major driver of a low-vol environment, and that the impacts of geopolitics may be overblown.

U.S. IMPLIED VOLATILITY (VIX)



Source: CBOE, as of 6/30/19

REALIZED 90-DAY VOLATILITY



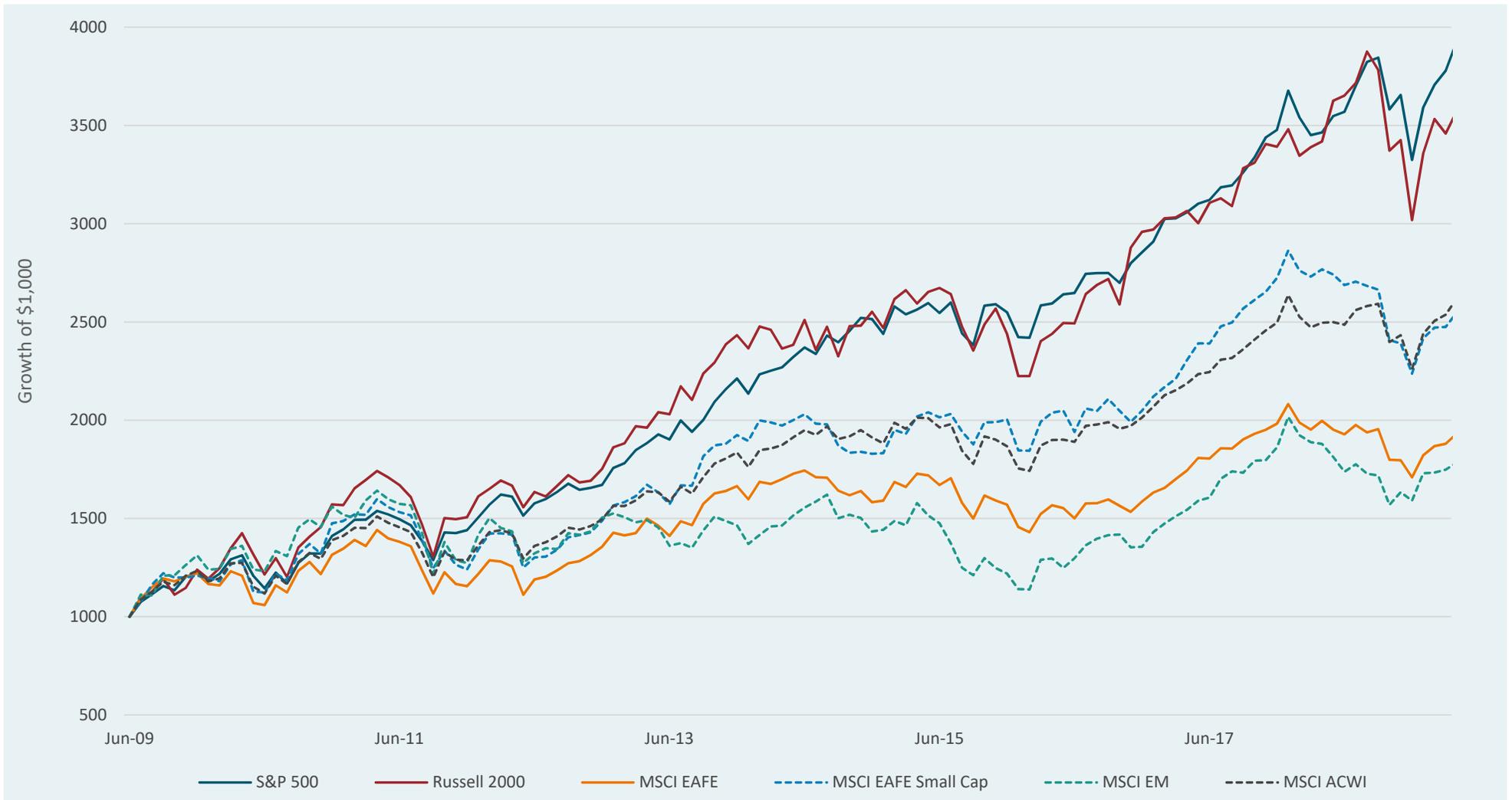
Source: Bloomberg, as of 6/30/19

U.S. IMPLIED VOLATILITY VS. EUROPEAN IMPLIED VOLATILITY



Source: Bloomberg, as of 6/30/19

Long-term equity performance



Source: Morningstar, as of 6/30/19

Other assets

Currency

The U.S. dollar depreciated -0.2% in Q2 relative to a trade-weighted basket of currencies. After a period of strength in April and May, the dollar weakened significantly vs. developed currency pairs in June as the Federal Reserve issued dovish guidance. By the end of the quarter, markets were pricing between 0.50% and 0.75% in cuts to the federal funds range in 2019. In Europe, investors were pricing between 0.1% and 0.2% in cuts to the ECB's main deposit rate, which was already in negative territory at -0.40%.

Some analysts attributed the dollar's weakness relative to the euro as a byproduct of converging interest rate differentials driven by the Fed's ability to cut rates more significantly than the ECB.

Emerging market currencies rose in the second quarter, with the JPM Emerging Markets Currency Index gaining 0.5%. The South African Rand led the complex higher.

Surprise central bank dovishness has likely contributed to currency movement

U.S. DOLLAR TRADE WEIGHTED INDEX



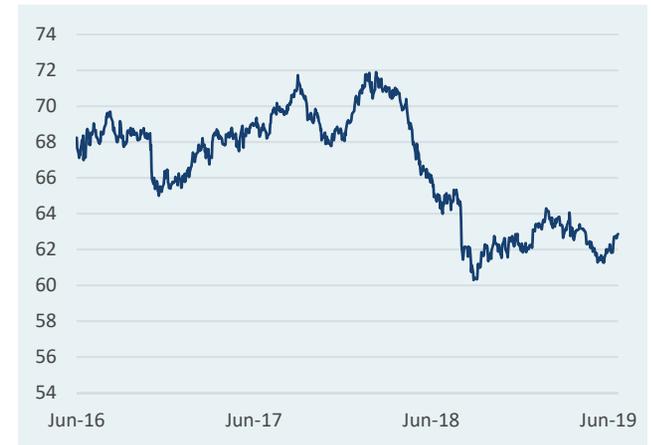
Source: Federal Reserve, Verus, as of 6/30/19

EUR/USD



Source: Bloomberg, as of 6/30/19

JPM EMERGING MARKET CURRENCY INDEX



Source: Bloomberg, JPMorgan, as of 6/30/19

Hedge funds

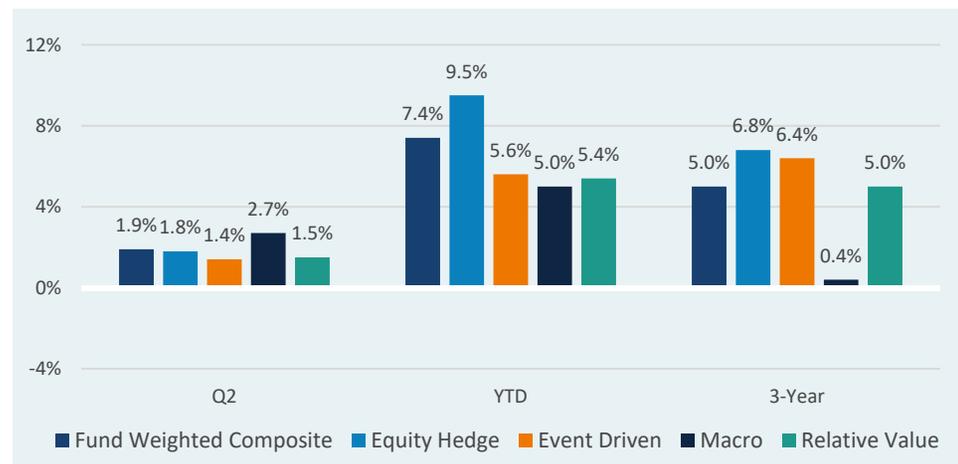
Hedge fund performance was generally positive across strategy types during the second quarter (HFRI Hedge Fund Weighted Composite +1.9% in Q2, +7.4% YTD). This marked the best first half of the year since 2009. Quantitative macro strategies, including CTAs, were the best performing sub strategy group in 2019 Q2 (+2.7%).

Within equities, technology focused funds stood out as top performers (+2.9%) for the quarter. As a group, value-oriented managers (+2.3%) outperformed growth-oriented

peers (+1.6%). Most other strategy types were modestly positive. Healthcare focused strategies (-0.1%) lagged peers due in part to fears of a changing regulatory environment.

Within the fixed income-oriented strategy set, managers trading corporate bonds (+2.5%) and credit arbitrage (+2.2%) strategies were the best performers during the quarter. Managers trading convertibles (+1.7%), asset backed (+1.4%) and distress (+1.3%) posted more muted gains.

HFRI HEDGE FUND STYLE PERFORMANCE



Source: HFRI, as of 6/30/19

Q2 2019 CUMULATIVE PERFORMANCE (INDEXED TO 3/31/19)



Source: Standard & Poor's, Société Générale, as of 6/30/19

Appendix

Periodic table of returns

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD	5-Year	10-Year
Large Cap Growth	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	13.3	31.7	37.3	6.7	21.5	13.4	16.3
Small Cap Growth	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	21.3	30.2	1.9	20.4	10.5	14.8
Large Cap Equity	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	17.3	25.0	0.0	18.8	8.6	14.4
Small Cap Equity	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	12.1	22.2	-1.5	17.0	8.5	13.4
Large Cap Value	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	11.8	21.7	-3.5	16.2	7.5	13.2
International Equity	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	11.3	17.1	-4.8	14.0	7.1	12.4
Small Cap Value	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	11.2	14.6	-6.0	13.5	5.4	9.1
60/40 Global Portfolio	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	8.0	13.7	-8.3	12.0	4.3	7.4
Emerging Markets Equity	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	7.1	7.8	-9.3	10.6	2.9	6.9
Hedge Funds of Funds	-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	5.7	7.7	-11.0	6.3	2.5	5.8
US Bonds	-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	2.6	7.0	-11.2	6.1	2.2	3.9
Commodities	-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	1.0	3.5	-12.9	5.1	2.2	3.2
Real Estate	-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	0.5	1.7	-13.8	1.8	0.9	0.5
Cash	-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	0.3	0.9	-14.6	1.2	-9.1	-3.7

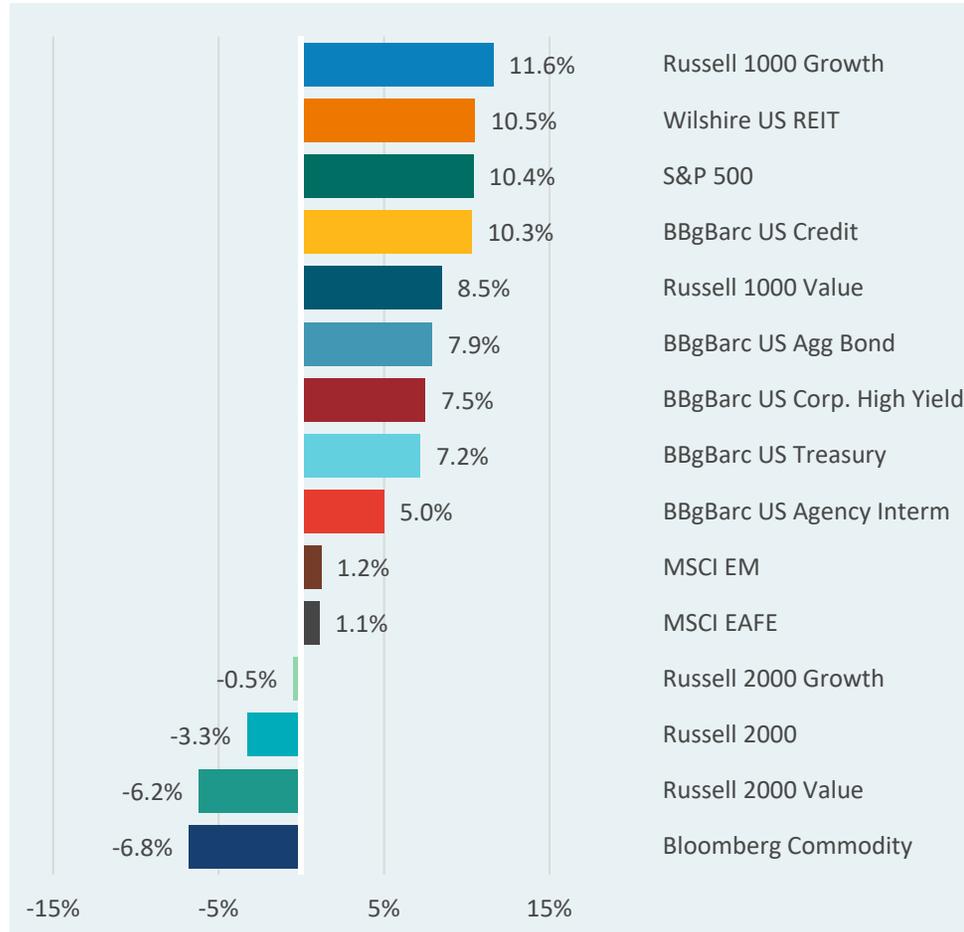
BEST
↑
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WORST

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

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, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 3/31/19.

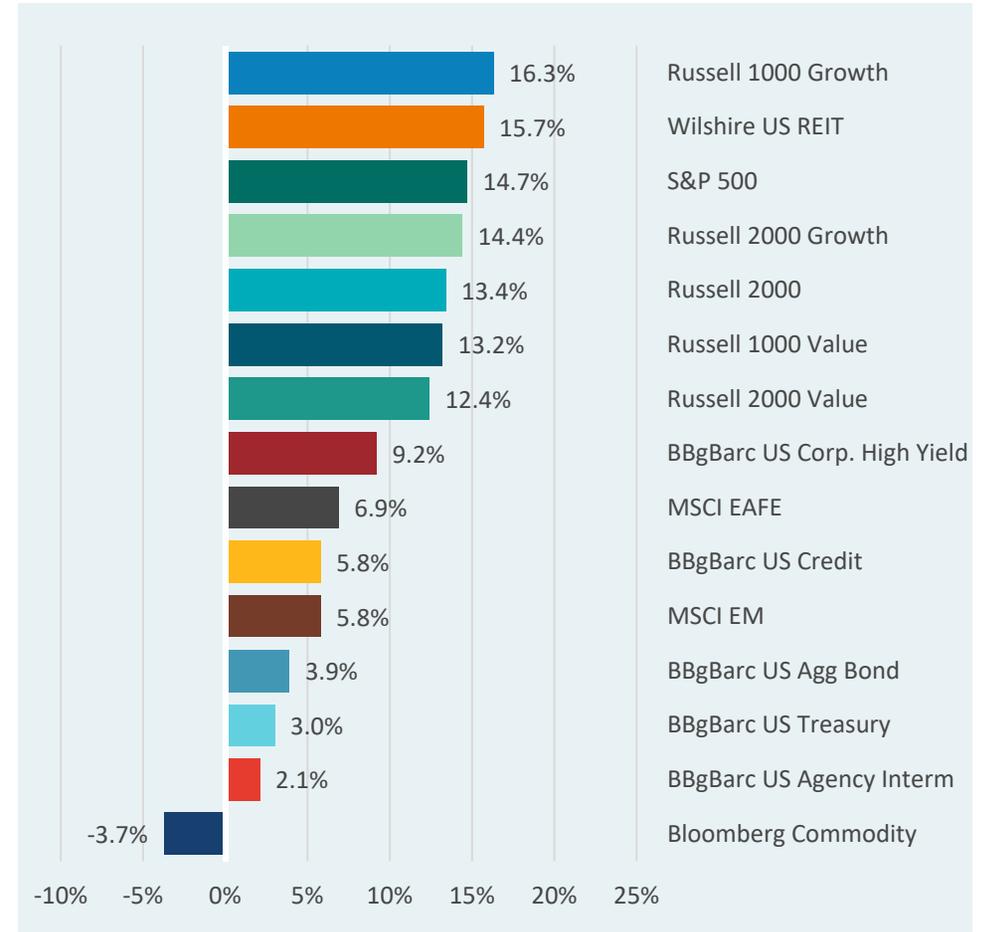
Major asset class returns

ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/19

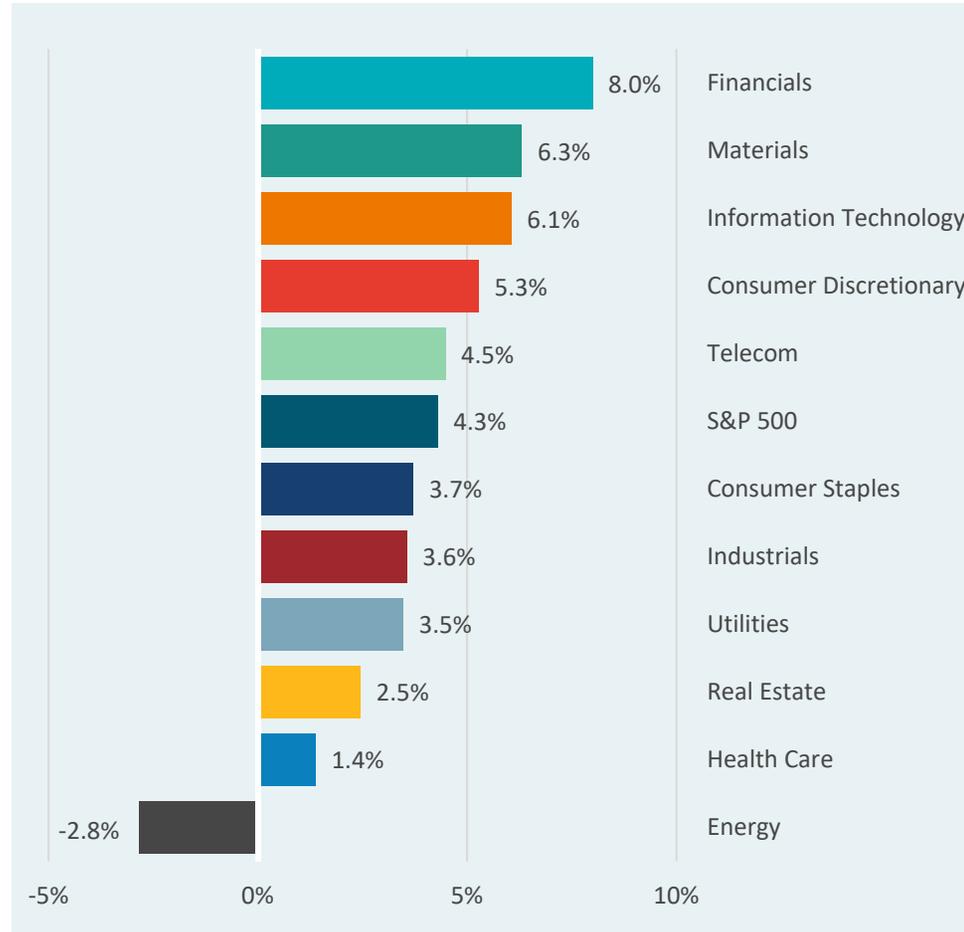
TEN YEARS ENDING JUNE



Source: Morningstar, as of 6/30/19

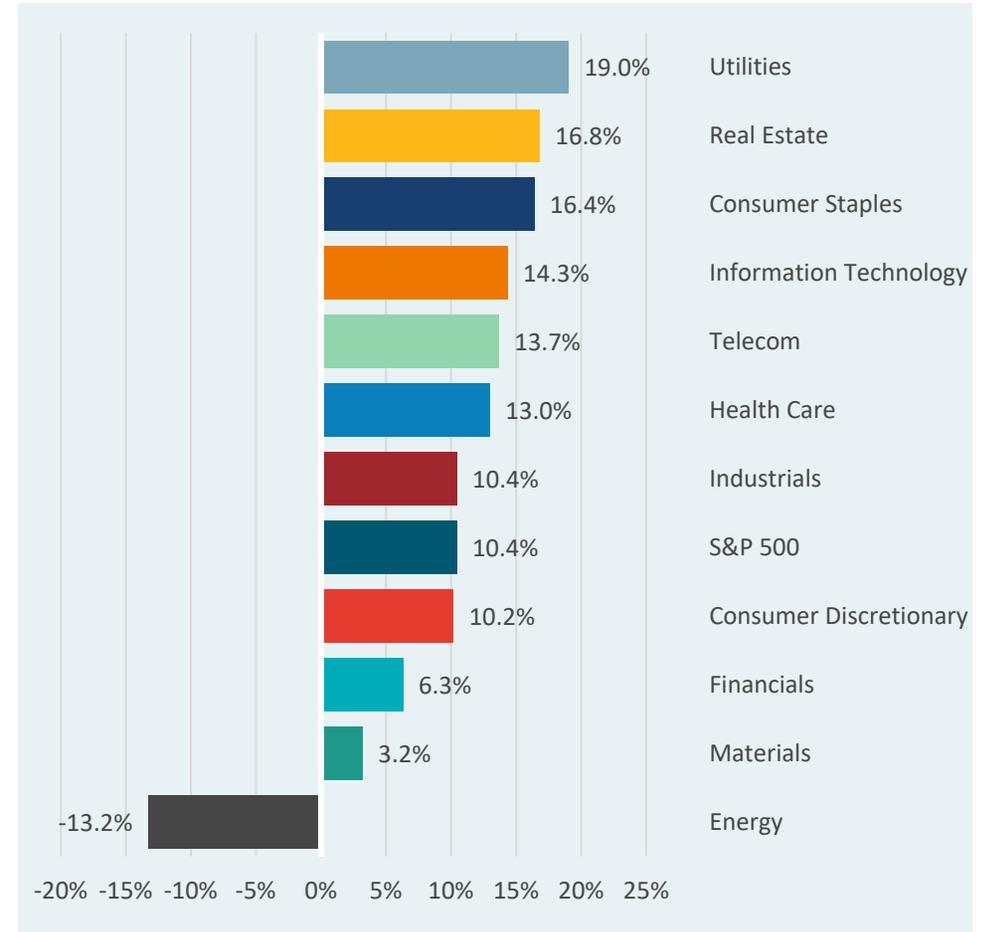
S&P 500 sector returns

Q2



Source: Morningstar, as of 6/30/19

ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/19

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	7.0	4.3	18.5	10.4	14.2	10.7	14.7
S&P 500 Equal Weighted	7.5	3.7	19.2	8.2	12.4	9.1	15.6
DJ Industrial Average	7.3	3.2	15.4	12.2	16.8	12.3	15.0
Russell Top 200	7.1	4.3	17.9	10.9	14.9	11.2	14.6
Russell 1000	7.0	4.2	18.8	10.0	14.1	10.5	14.8
Russell 2000	7.1	2.1	17.0	(3.3)	12.3	7.1	13.4
Russell 3000	7.0	4.1	18.7	9.0	14.0	10.2	14.7
Russell Mid Cap	6.9	4.1	21.3	7.8	12.2	8.6	15.2
Style Index							
Russell 1000 Growth	6.9	4.6	21.5	11.6	18.1	13.4	16.3
Russell 1000 Value	7.2	3.8	16.2	8.5	10.2	7.5	13.2
Russell 2000 Growth	7.7	2.7	20.4	(0.5)	14.7	8.6	14.4
Russell 2000 Value	6.4	1.4	13.5	(6.2)	9.8	5.4	12.4

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	6.5	3.6	16.2	5.7	11.6	6.2	10.1
MSCI ACWI ex US	6.0	3.0	13.6	1.3	9.4	2.2	6.5
MSCI EAFE	5.9	3.7	14.0	1.1	9.1	2.2	6.9
MSCI EM	6.2	0.6	10.6	1.2	10.7	2.5	5.8
MSCI EAFE Small Cap	4.2	1.7	12.5	(6.3)	9.1	4.4	9.7
Style Index							
MSCI EAFE Growth	6.5	5.7	18.5	4.2	9.7	4.4	8.2
MSCI EAFE Value	5.3	1.5	9.6	(2.1)	8.5	0.1	5.5
Regional Index							
MSCI UK	5.0	0.9	12.9	(2.0)	6.9	(0.3)	6.8
MSCI Japan	3.7	1.0	7.7	(4.2)	8.1	4.5	5.8
MSCI Euro	7.6	5.9	16.2	0.5	10.4	1.1	5.6
MSCI EM Asia	6.4	(1.2)	9.7	(2.3)	11.2	4.5	7.5
MSCI EM Latin American	6.2	4.4	12.6	18.4	10.8	(0.8)	2.3

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
BBgBarc US TIPS	0.9	2.9	6.2	4.8	2.1	1.8	3.6
BBgBarc US Treasury Bills	0.2	0.7	1.3	2.4	1.4	0.9	0.5
BBgBarc US Agg Bond	1.3	3.1	6.1	7.9	2.3	2.9	3.9
Duration							
BBgBarc US Treasury 1-3 Yr	0.5	1.5	2.5	4.0	1.3	1.2	1.2
BBgBarc US Treasury Long	1.3	6.0	11.0	12.3	1.3	5.7	6.5
BBgBarc US Treasury	0.9	3.0	5.2	7.2	1.3	2.5	3.0
Issuer							
BBgBarc US MBS	0.7	2.0	4.2	6.2	2.1	2.6	3.2
BBgBarc US Corp. High Yield	2.3	2.5	9.9	7.5	7.5	4.7	9.2
BBgBarc US Agency Interm	0.6	1.7	3.1	5.0	1.6	1.8	2.1
BBgBarc US Credit	2.3	4.3	9.4	10.3	3.7	3.9	5.8

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	2.7	(1.2)	5.1	(6.8)	(2.2)	(9.1)	(3.7)
Wilshire US REIT	1.4	1.6	17.9	10.5	4.1	7.8	15.7
CS Leveraged Loans	0.2	1.6	5.4	4.1	5.4	3.9	6.3
Alerian MLP	2.6	0.3	17.8	5.5	(0.4)	(6.5)	9.1
Regional Index							
JPM EMBI Global Div	3.4	4.1	11.3	12.4	5.5	5.3	7.8
JPM GBI-EM Global Div	5.5	5.6	8.7	9.0	4.2	(0.5)	3.4
Hedge Funds							
HFRI Composite	2.6	2.0	7.6	1.6	5.1	3.0	4.7
HFRI FOF Composite	1.7	1.6	6.3	1.3	4.3	2.2	3.2
Currency (Spot)							
Euro	2.2	1.4	(0.4)	(2.5)	0.8	(3.6)	(2.1)
Pound	1.0	(2.3)	(0.1)	(3.6)	(1.6)	(5.7)	(2.5)
Yen	0.8	2.7	1.8	2.8	(1.6)	(1.2)	(1.1)

Source: Morningstar, HFR, as of 6/30/19

Definitions

Bloomberg US Weekly Consumer Comfort Index - tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. (www.lanqerresearch.com)

University of Michigan Consumer Sentiment Index - A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. (www.Bloomberg.com)

NFIB Small Business Outlook - Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (<http://www.nfib-sbet.org/about/>)

NAHB Housing Market Index - the housing market index is a weighted average of separate diffusion indices for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula $(\text{Good-Poor} + 100)/2$ to the present and future sales series and $(\text{High/Very High-Low/Very Low} + 100)/2$ to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.

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Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$.

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: 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.

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 (up market) or fallen (down market). 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: 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.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

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.

Price-to-Earnings Ratio (P/E): 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.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. 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 Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

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: $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: 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.

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SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Item 6.3

TO: Board of Retirement

FROM: Doris Ng, Investment Analyst 

SUBJECT: Report on Fixed Income Manager Annual Reviews

Recommendation

Accept the reports on the annual reviews of SamCERA's global, core and opportunistic credit bond managers.

Background

On August 1st and August 6th, SamCERA staff and consultant held annual review meetings in SamCERA's office for our global bond manager, Franklin Templeton, two core bond managers, Fidelity Institutional Asset Management and Western Asset Management, and two opportunistic credit bond managers, PIMCO and Beach Point.

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

On August 1st, the Franklin Templeton Global Multi-Sector Plus bond strategy, which is a global unconstrained bond mandate managed in an opportunistic fashion using a top-down fundamental framework, was reviewed first. In late 2018, the firm announced a personnel change in the Director of Research role for the Global Macro team and the acquisition of Benefit Street Partners, a private debt firm. Fidelity Institutional Asset Management's Broad Market Duration product, which is a commingled pool that focuses on U.S. Treasuries, agencies, investment grade corporate bonds, mortgage-backed and asset-backed securities, was reviewed next. Lastly, Western Asset Management's Total Return Unconstrained (TRU) strategy, which is an unconstrained core product with broad latitude in duration (-3 to +8 years) and asset allocation and may hold up to 50% in high yield, was reviewed.

On August 6th, PIMCO's diversified income strategy, which is a multi-sector approach that diversifies globally across different credit sectors based on relative value, was reviewed. The strategy has the flexibility to invest across a broad spectrum, including investment grade, high yield, emerging markets, other non-core credit sectors and currencies. In June 2019, PIMCO made a new hire as Head of Corporate Special Situations. Next, we reviewed Beach Point's Select Fund strategy, which focuses on mid-market, off-the-run, complex and less-liquid securities. The strategy invests across the capital structure in distressed/opportunistic securities, event-driven bonds, bank debt and credit-informed equities with a North American and European focus.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

There were no significant concerns identified during the portfolio reviews. Attached you will find meeting notes from Verus summarizing the findings from these annual reviews.

Attachments

- A. Franklin Templeton Annual Review Meeting Notes
- B. Fidelity Institutional Asset Management Core Bond Annual Review Meeting Notes
- C. Western Asset Management Annual Review Meeting Notes
- D. PIMCO Annual Review Meeting Notes
- E. Beach Point Annual Review Meeting Notes (Confidential)

Date of meeting: 8/1/19

Location: SamCERA

Manager Representative(s)

Bill Deakyne (Client Relations),
Richard Herbert (Institutional PM Global Macro)

Verus Representative(s)

Joseph Abdou

Account Assets

\$42 million (6/30/19)

Client Representative(s)

Scott Hood (CEO), Doris Ng (Analyst), Susan Lee (Trustee)

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. Through its research, FT seeks to identify specific interest rates, currencies and credit exposures that reflect the most attractive investment opportunities, independent of the benchmark. The contribution of the different sources of alpha can vary according to various market environments. However, in aggregate, the risk allocated to each of these areas has typically ranged from 20% to 60% of the risk budget. The Global Multisector Plus approach allows for meaningful amounts of emerging markets and active currency management. The portfolio must maintain at least 50% investment grade exposure.

The format of SamCERA's investment in this strategy was changed from a separate account to a commingled vehicle in June 2014. As a result of SamCERA's fixed income manager structure review in 2017, SamCERA moved FT to the Opportunistic category and redeemed \$70 million from FT to reduce tracking error in the fixed income composite.

Meeting Notes

Organization

As of June 30, 2019, Franklin Templeton managed \$715 billion, of which approximately \$115 billion was in global bond mandates. The Global Macro team, led by Michael Hasenstab, managed \$37 billion in the Global Multisector Plus style employed in the SamCERA portfolio at 6/30/19.

In 2019, Franklin Templeton finalized its acquisition of Benefit Street Partners (BSP). Benefit Street Partners was acquired to enhance Franklin Templeton's alternative/private credit capabilities. Tom Gahan, founder and CEO of BSP, became head of Franklin Templeton's alternative business and joined Franklin Templeton's executive committee.

Investment Team

Franklin Templeton's Global Macro team consists of 20 investment professionals, including 6 Ph.D.'s who comprise the senior investment management and research team. The Global Macro team is represented by a diverse set of professionals from 13 different countries who speak 15 different languages. The team utilizes additional inputs from

FT's broader Fixed Income Group consisting of a team of more than 150 global fixed income investment professionals located in offices around the world.

The Team lost Sonal Desai, who was the Director of Research for the Global Macro team. She was promoted to EVP and CIO of the broader Franklin Templeton Fixed Income Group. Calvin Ho, deputy Director of Research took her place as Director of Research. Despite Sonal's departure, she still works closely with Michael and freely share ideas on an informal basis.

The Global Macro group is structured into regional/country and sector research teams, quantitative analysts and separate and segregated risk analysts. Christine Zhu, Director of Portfolio Construction, is co-portfolio manager for Global Multisector Plus and plays an important role in separate account management. One of the newer analysts to the team, Vivian Guo left to pursue her MBA and is expected to rejoin the team after completing the program.

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 process integrates inputs from multiple sources within the Global Macro team and the broader FT fixed income team. Global Macro research teams meet weekly and gather local market intelligence from fixed income colleagues from around the globe as part of their due diligence. 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 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.

The investment philosophy focuses on getting the country selection decision right as the primary driver of portfolio performance. On average and over longer periods of time, risk allocation should be approximately equal across interest rate, currency and credit alpha sources. However, currency decisions continue to dominate the current portfolio's risk allocation with about 2/3 of the portfolio's risk coming from currency decisions. The portfolio is sized such that liquid positions (Mexico) offset illiquid positions (Argentina).

Performance & Positioning

The SamCERA portfolio has outperformed the Bloomberg Barclays Multiverse Index YTD 2019 as of 6/30/19 (3.2% vs 5.8%) and the year ended 6/30/19 (5.8% vs 6%). The portfolio maintains a short duration due to the long end of the curve being quite volatile in the current market. They believe core inflation isn't being properly priced in the market. With 2% inflation and 2% long term rates, it is going to be hard to keep rates low. They are currently de-risking the portfolio (they gave an example of lowering their Peso exposure from 20% a year ago to 13%.) They are also increasing their allocation to the Yen, currently at a 20% long position from a short position last year. They see the Yen as a safe haven currency, should global growth stall. The risk profile of the strategy is still tilted towards

currencies with 55%-60% of risk from currency with the balance from rates. They are currently short the Australian Dollar which they are using as a hedge to EM currency, as they are typically commodity related currencies.

Franklin Templeton noted Brexit isn't good for the UK in the short term. They don't have any positioning based on Brexit since there is a lot of speculation and volatility timed to it. They are short the Euro because of the political risks in Europe. Many countries are nationalizing including Germany, as a result Germany may not be able to bail out countries in need (Italy or Greece).

In the second quarter, Franklin Templeton's short position in the Euro has worked well while their interest rate positioning has been a headwind.

Date of meeting: 8/1/2019

Location: SamCERA Office

Manager Representative(s)

Beau Coash (Institutional PM)
Arthur Greenwood (Relationship Manager)

Verus Representative(s)

Joseph Abdou

Account Assets

\$281 million (6/30/19)

Client Representative(s)

Scott Hood (CEO), Doris Ng (Analyst), Susan Lee (Trustee)

Product Description

Fidelity's Broad Market Duration (BMD) investment strategy seeks to achieve absolute and risk-adjusted returns in excess of the Bloomberg Barclays U.S. Aggregate Index, focusing its investments in U.S. Treasuries, agencies, investment grade corporate bonds, mortgage-backed, and asset-backed securities. The BMD commingled pool can also hold small, opportunistic positions in out-of-benchmark securities, such as inflation-linked bonds. The investable universe includes all U.S. dollar denominated, investment grade debt securities. The BMD investment approach emphasizes issuer and sector valuation and individual security selection. Through the integration of fundamental and quantitative research and trading, the BMD strategy is implemented in a team environment. Risk management technology is utilized to explicitly quantify benchmark exposures on a daily basis, and Fidelity uses the same analytical framework to assess both index and portfolio risk. Tracking error should range between 1.00 - 1.50% per annum over the benchmark, and stringent portfolio construction risk control rules are strictly adhered to.

Meeting Notes

Organization

Since Fidelity's last review, Charlie Morrison, president of Asset Management retired. Steve Neff, a 22-year Fidelity veteran, succeeded him. Joe Nedder, previously Chief Operating Officer, moved to human resources to drive learning strategies and the learning culture across fidelity.

Investment Team

There were no investment team changes specific to BMD in the past year. Ford O'Neil, Jeff Moore, Celso Munoz and Michael Plage are the portfolio managers responsible for the Broad Market Duration strategy. Fidelity has a compensation structure within the team that allows analysts to maintain careers as analysts if they choose not to become portfolio managers. In this way, FIAM analysts can develop insights and differentiated viewpoints on industry credits.

Investment Strategy

Fidelity' Broad Market Duration uses bottom-up issuer and sector selections as its primary sources of alpha. Because Fidelity recognizes that macroeconomic forces have often overwhelmed underlying fundamentals for extended period of time, the BMD team incorporates inputs from both global macro and quantitative analyst teams to guide decisions. Risk management is also a priority and is integrated into the framework in managing this strategy.

Credit analysts cover approximately 2–3 industries across 30–50 names, resulting in a high degree of specialization and focus. Analysts provide their own credit rating for each issuer they cover as well as a numerically ranked (1-strong buy, 6-strong sell) relative value rank for each issuer and sector they cover. This quantitative ranking is incorporated into the portfolio management and risk monitoring systems. Analysts also provide qualitative assessments to portfolio managers. In meetings with the portfolio manager and traders, analysts propose their security recommendations, discuss industry trends, and provide updates on company-specific situations. Outputs from these meetings can include formal ratings changes to both fundamental outlooks and relative value.

While the investment process is rooted in a bottom-up, fundamental approach, FIAM incorporates macroeconomic variables that can influence credit, liquidity and valuation perspectives into their bottom-up process. These global macro perspectives serve a twofold function: (1) they facilitate the risk management process and (2) they represent potential sources of alpha.

Performance & Positioning

As of June 30, 2019, the SamCERA BMD account's trailing 12-month gross return outperformed the Bloomberg Barclays U.S. Aggregate benchmark by 4 bps (7.91% versus 7.87% for the Bloomberg Barclays U.S. Aggregate Index). They are taking minimal duration risk with a duration of 5.4 years versus 5.5 for the index. A year ago, Fidelity had an 8% overweight to TIPS, which they are reducing. They found TIPS are highly correlated to credit. They reduced their TIPS overweight to 3.8% as of June 30, 2019. Beau also mentioned there is a lot of competition for CMBS, so they are underweight as prices have been driven higher.

They expect the treasury curve to steepen and expect flat performance through the end of the year. They are persistently underweight in the technology sector as spreads are so thin it's not a worthwhile investment.

Date of meeting:
8/1/2019

*Location: SamCERA
Office*

Manager Representative(s)

Mark Lindbloom (Portfolio Manager)
Frances Coombes (Client Service)

Verus Representative(s)

Joseph Abdou

Account Assets

\$137 million (6/30/19)

Client Representative(s)

Scott Hood (CEO), Doris Ng
(Analyst)

Product Description

Western Asset's Total Return Unconstrained (TRU) strategy seeks to provide bond-like risk and return over the long term within a benchmark agnostic framework. This allows for asset allocation based purely on fundamental, long term value. The investment approach is active with very broad latitude on duration (-3 to +8 years) and on asset allocation across all of the eligible sectors in an unconstrained bond mandate without having to adhere to the benchmark construction. The portfolio must have at least 50% of its holdings in investment-grade securities. This strategy can be appropriate in all market environments, but may be particularly attractive in rising rate environment, as the flexibility offered by this strategy allows for defensive positioning and opportunistic deployment of capital when value opportunities arise. It also allows the portfolio managers to emphasize (or deemphasize) either credit or rates when one or the other appears to offer greater (or lesser) value.

Western Asset uses a team approach to portfolio management with duration, term structure, and sector allocation decisions developed by U.S. Broad Strategy Committee. The TRU bond portfolio managers are members of this committee which meets weekly to formulate the firm's macroeconomic outlook and broad investment strategies in terms of the strength of the economy, direction of interest rates and shape of the yield curve. This top down viewpoint is then applied in constructing the TRU portfolio.

Meeting Notes

Organization

The Firm's total AUM were \$450 billion as of June 30, 2019. There have been no major organizational changes at Western since the last SamCERA review.

Investment Team

There have been no leadership or investment team changes to the strategy since the last SamCERA review. Western TRU is led by Mark Lindbloom and S. Kenneth Leech, each with 40 years of experience. Mark Lindbloom leads the U.S. Broad Strategy team of five senior portfolio managers, and subsets of the senior PMs have been assigned to specific products to promote better client communication. All in, Western Asset has 126 investment professionals in seven offices who contribute to the investment outlook and process.

Investment Strategy

The investment philosophy of Western Asset is long-term fundamental value investing, using multiple diversified strategies. Western Asset combines a top-down macroeconomic view with bottom-up fundamental research and relative value analysis. Portfolio management is directed by the U.S. Broad Strategy Committee which sets macro and sector investment themes. The Committee meets weekly to establish a U.S. investment outlook over a 6-9 month time horizon, which provides guidance to the portfolio managers.

Western Asset believes it can identify and capitalize on markets and securities that are priced below fundamental fair value. The firm does this through disciplined and rigorous analysis, comparing prices to the fundamental fair values estimated by its macroeconomic and credit research teams around the globe. The TRU portfolio emphasizes the team's highest conviction ideas. The greater the difference between the firm's view of fair value and market pricing, the bigger the potential value opportunity. The greater the degree of confidence in its view of fundamentals, the greater the emphasis of the strategies in the portfolio.

Western Asset seeks diversified sources of returns. Western Asset's objective is to meet or exceed its investors' performance objectives within their tolerances for risk with TRU investing opportunistically in larger, more liquid sectors of the fixed income market. The firm seeks to diversify investments and add value across interest rate duration, yield curve, sector allocation, security selection, country and currency strategies.

Performance & Positioning

For the year ended June 30, 2019, the portfolio returned 6.0% vs. 7.9% for the Bloomberg Barclays U.S. Aggregate Index and 2.6% for 3-month LIBOR. Duration for the portfolio is around 2%. Duration helped performance, while yield curve positioning hurt for the year ended June 30, 2019. They expect easing to continue but not necessarily two more cuts that the market is pricing in. As a result, they own more short-term securities and long-term securities with lower weights to intermediate term ones. Western Asset expects 2/3rd of returns to come from sector spreads and 1/3rd to come from macro views. 2018 was a tough year with low turnover as they waited for their views on emerging markets and duration to come to fruition. Their biggest bet is still on emerging markets. The Fed's easing policy has helped emerging markets currencies. The strategy is also reducing its exposure to high yield and investment grade corporate bonds because the team doesn't feel they are getting compensated at the current spreads.

Date of meeting: 8/6/2019

Location: SamCERA Office

Manager Representative(s)

Brian Leach (Senior Strategist)
Sasha Talcott (Account Management)

Verus Representative(s)

Joseph Abdou

Account Assets

\$88 million (6/30/19)

Client Representative(s)

Scott Hood (CEO), Mike Coultrip (CIO), Doris Ng (Analyst),
Lilibeth Dames (Analyst), Susan Lee (Trustee)

Product Description

PIMCO's Diversified Income (DI) Strategy is a multi-sector strategy that invests across a broad spectrum of global credit market sectors, including investment grade and high yield corporate debt, as well as emerging markets. The allocation among these will vary based on PIMCO's assessment of global trends and relative valuations. This active and dynamic approach allows for increased responsiveness in asset allocation to changing economic and market conditions while remaining anchored by PIMCO's investment process and longer-term orientation. The ability to invest globally helps to improve diversification and may allow investors to benefit from differences in business cycles across regions and credit quality trends across credit sectors. PIMCO's DI investment strategy seeks to provide high yield-like returns with lower volatility against a blended index (1/3 Bloomberg Barclays Global Agg Credit ex-EM; 1/3 BofA Merrill Lynch BB-B rated Developed Markets High Yield; 1/3 JPMorgan EMBI Global). The strategy can invest up to 100% in emerging markets and 100% in high yield with a duration band of 3-8 years. The team focuses its investments into these groups: credit strategies (investment grade, high yield, emerging markets and non-core credits including MBS, municipals and other govt-related sectors); duration strategies (U.S. and non-U.S. duration) and currencies (tactical non-USD exposure).

Meeting Notes

Organization

The firm's AUM is now at \$1.8 trillion. The CEO Manny Roman has been working on opening a new Austin office over the past year. The Austin office currently has 100 people, and is quickly heading to 200. The primary function of the office will be on technology and quantitative model development but will also include global wealth management and institutional client support. In January 2019, PIMCO's former CEO Bill Thompson will be rejoining the firm in an advisory capacity.

Investment Team

There were no investment team departures specific to this strategy in the past year. The fund is jointly managed by Dan Ivascyn, Alfred Murata, Eve Tournier and Sonali Pier. The team added Jamie Weinstein from KKR to help run the strategy.

Investment Strategy

PIMCO's approach to managing the Diversified Income strategy is driven by the same key principles that are applied to all credit portfolios managed at the firm. PIMCO's global approach to investing and top-down macroeconomic research gives the team insights into managing in a multi-sector credit framework. The team's philosophy is driven by three key principles: 1) flexible and tactical allocation across global credit sectors in an effort to identify dislocations in relative value, 2) adding value through the combination of bottom-up fundamental credit research with top-down macroeconomic analysis, and 3) diversifying sources of risk and return in an attempt to avoid large drawdowns, which can result in attractive risk-adjusted returns over a long-term investment horizon.

PIMCO's process is a combination of top-down macroeconomic insights coupled with bottom-up fundamental research. The DI portfolio management team, structured in a generalist/specialist model, is responsible for coordinating a global investment process to ensure consistency across portfolios. The team works closely with the investment grade credit, emerging markets, high yield and mortgage-backed securities teams in constructing portfolios. PIMCO's portfolio risk management team enforces internal investment committee-defined targets and limits and partners with portfolio managers to provide analysis and insights on portfolio construction, stress tests, potential drawdowns and other market risks.

This is a best-ideas portfolio seeking the most attractive risk-adjusted returns globally and across asset classes while mitigating market volatility.

Performance & Positioning

As of June 30, 2019, SamCERA's Diversified Income strategy's 1-year net return outperformed the Blended PIMCO DI Index by 20 bps (10.0% versus 9.8% for the Index which is 1/3 Bloomberg Barclays Global Agg Credit ex-EM; 1/3 BofA Merrill Lynch BB-B rated Developed Markets High Yield; 1/3 JPMorgan EMBI Global). The portfolio's overweight to investment grade banks helped performance. Last year most of the alpha came in the fourth quarter due to the defensive positioning of the strategy.

Financials are a big theme in the portfolio. They are trading at BBB spreads but have higher quality balance sheets and higher reserves than before. The portfolio has also been leaning towards high yield loans versus bank loans. The bank loan market has tight spreads and is light on covenants.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Item 6.4

TO: Board of Retirement

FROM: Lilibeth Dames, Investment Analyst *Lilibeth Dames*

SUBJECT: Report on SamCERA's Securities Lending Program

Recommendation

Review the report on SamCERA's Securities Lending Program as of June 30, 2019.

Background

SamCERA commenced its securities lending program on July 1, 2007. The program was implemented by SamCERA's then custodian, State Street Bank & Trust, and then by The Northern Trust Company, effective July 1, 2014.

Discussion

In the twelve years since inception, the securities lending program has earned \$7.0 million for SamCERA. During the fiscal year ended June 30, 2019, the program earned \$65,992. This is a 52% increase from last fiscal year's earnings of \$43,329. The earnings are mostly attributable to lending non-U.S. securities.

Securities lending utilization (on-loan amount divided by lendable assets) on June 30, 2019 was 1.4%, which was a slight increase from 0.6% on June 30, 2018. The year over year increase is mainly due to the addition of three new separate accounts eligible for securities lending: (1) Acadian US Managed Volatility Equity, (2) Cushing MLP Alpha Total Return Strategy and (3) PanAgora Defensive US Large Cap Low-Vol.

There were no violations of provisions and no borrower or lending agent default losses during the fiscal year.

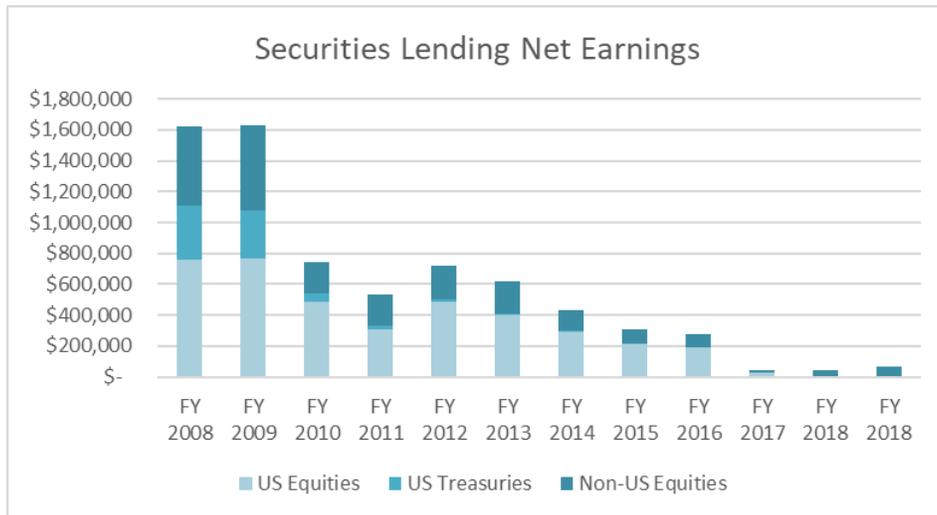
Attachment

Securities Lending Report for Fiscal Year Ended June 30, 2019

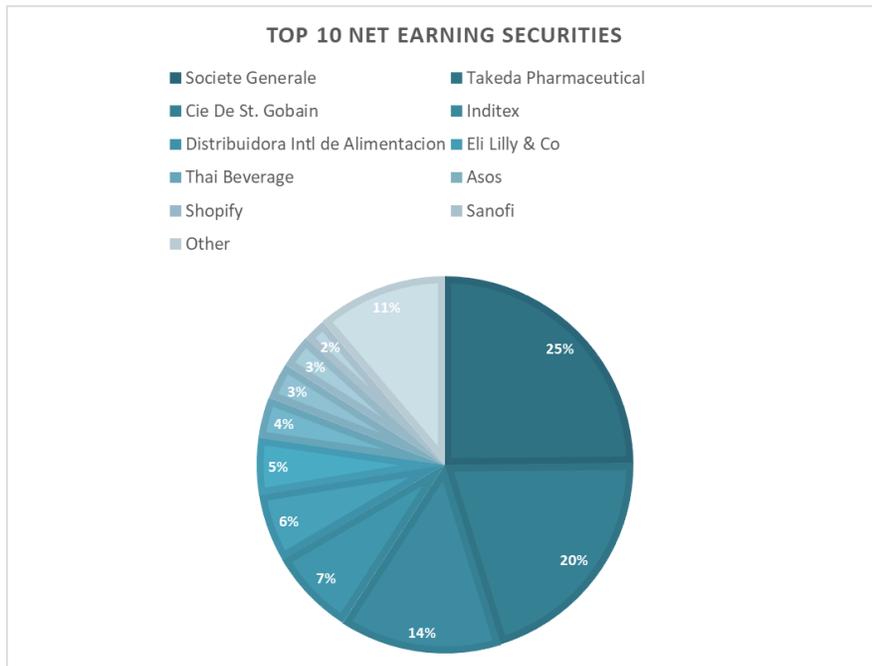
SamCERA Securities Lending Report as of June 30, 2019

Earnings

SamCERA’s securities lending program earned \$65,992 for the fiscal year ending June 30, 2019. This is a 52% increase over last year’s fiscal year earnings of \$43,329. As of June 30, 2019, the program has earned \$7.0 million since its inception on July 1, 2007.



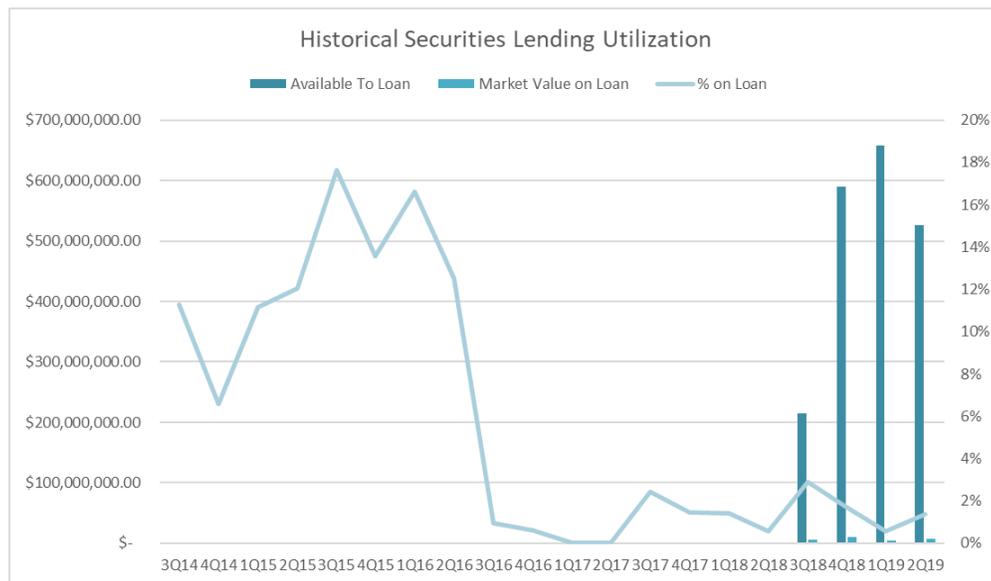
Fiscal year earnings were mainly attributable to non-US equities. Nine of the top ten earning securities were non-US equities.



Utilization

Utilization (securities on-loan amount divided by lendable assets) has ranged from 0% to 20% during the five years that SamCERA has used Northern Trust as its securities lending provider. For fiscal year ended June 30, 2019, securities lending utilization was 1.4%, which was a slight increase from 0.6% the previous year.

The increase in year over year utilization is mainly attributable to adding three new separate accounts eligible for securities lending during the fiscal year. Acadian US Managed Volatility Equity, Cushing MLP Alpha Total Return Strategy and PanAgora Defensive US Large Cap Low-Vol were added during the fiscal year.



The decline in utilization in 3Q 2016 was due to two factors: (1) the conversion of SamCERA’s collateral reinvestment pool from a money market fund to a more conservative government money market fund, and (2) the removal of two small cap equity managers eligible for securities lending. SamCERA then made changes to its securities lending guidelines in 3Q 2017, which removed previous restrictions that had hampered securities from being borrowed. There was a slight uptick in utilization in 3Q 2018 when SamCERA added the three new separate accounts.

Despite the increase in earnings and utilization, the relatively low number of separate accounts eligible for securities lending and the conservative nature of the NILAP fund still has had a downward impact on both utilization and earning levels compared to previous years.

Collateral

Securities are loaned versus collateral that may include cash, U.S. government securities and irrevocable letters of credit. U.S. securities are loaned versus collateral valued at 102% of the market value of the securities plus any accrued interest. Non-U.S. securities are loaned versus

collateral valued at 105% of the market value of the securities plus any accrued interest. Non-cash collateral cannot be pledged or sold unless the borrower defaults.

All securities loans can be terminated on demand by either the lender or the borrower, although the average term of SamCERA's loans was approximately 66 days as of June 30, 2019. Cash open collateral is invested in a short-term investment pool, the NILAP fund, which had an interest sensitivity of 26 days as of June 30, 2019.

There were no violations of legal or contractual provisions, and no borrower or lending agent default losses were known to SamCERA's custodian, Northern Trust.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Item 6.5

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer *Michael R. Coultrip*

SUBJECT: Educational Presentation on Investment Leverage

Recommendation

Review the educational presentation on investment leverage and provide direction to staff as needed.

Background

Last month Verus introduced the asset liability study process, reviewed the liability and asset modeling processes, and began the discussion on portfolio complexity. This month Verus will continue the discussion on portfolio complexity by reviewing portfolio leverage.

Discussion

Margaret Jadallah from Verus will present the leverage education. She will review the types of leverage, review the sources of leverage by asset class, and evaluate the leverage in SamCERA's current policy and potential alternative asset allocation portfolios.

Attachment

Verus Educational Presentation on Leverage



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



AUGUST 2019

Leverage Education

SamCERA

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SAN FRANCISCO 415-362-3484

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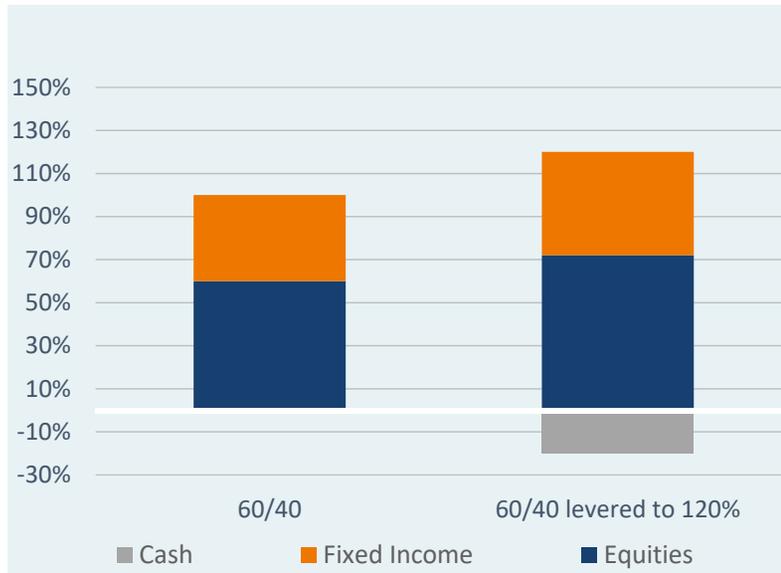
Introduction

- Leverage can be used by investors and consumers alike. Although it's thought of as complex, every day people use leverage via mortgages, credit cards, auto loans, and student loans.
- Leverage is typically seen as a return enhancer, but can also be used to control risks for investors
- This presentation will talk about the types of leverage utilized in institutional portfolios.
- Following the types of leverage, we will review how leverage is used in various asset classes in SamCERA's portfolio.

Types of Leverage

Types of Leverage – Portfolio level

- Increasing the risk return of the portfolio by adding leverage at the total portfolio level
- Increases both the risk and return of the portfolio
- Will need to borrow funds (at cash or at a premium to cash rates)



10 Year Forecast

	60/40	60/40 Levered
Risk (Std Dev)	10.79	12.97
Sharpe Ratio	0.38	0.38
50th Percentile Return	5.76	6.36
1st Percentile Return	-19.4	-23.7

Types of Leverage – Individual investment level

- Investments can borrow funds to invest the borrowed capital in the fund's strategy
- Increases both the risk and return of the strategy
- Will need to borrow funds (at cash or at a premium to cash rates)
- Typically done for debt investments
- 130/30 strategies will go short up to 30% stocks they feel are overvalued and use the cash they receive from lending those securities to purchase up to a 30% additional position in stocks they favor
- Guidelines will typically restrict how much leverage is allowed in an individual investment
- Derivatives typically require minimal upfront payments with exposures and variability tied to an underlying asset

Types of Leverage – Corporate

- Companies use leverage in many ways.
- Most companies issue debt in their capital structure to fund higher ROI projects than the cost of the debt
- Higher Debt/Equity companies are generally viewed as riskier.
- The average D/E ratio for S&P 500 companies is 1.5; in other words, for each share of stock a company issues it is taking on 1.5x as much leverage.
- Debt in the corporate environment also weakens equity holder's stake to company assets should the company go bankrupt. Equity owners require higher returns to compensate for this risk.

Leverage affecting SamCERA

Private Markets & Alt Beta

Private Equity funds typically take out a line of credit for each investment

— Venture Capital

- Takes out a LoC for 20%-30% of committed capital. This is used to smooth capital calls instead of calling for each investment. The LoC is usually paid off quarterly.
- In Late Stage VC, the portfolio companies can borrow from specialized banks to increase capital available for their projects.

— Buyout/Growth Equity

- Fund level leverage is 25%-75%, they typically use the LoC during the investment stage of the investment and will lean on the LoC instead of issuing capital calls. They typically do this for a 12-month period to smooth the J-Curve effect.

— Debt Related

- Direct lending can be levered 200-300%. This is done to increase the strategies returns. Typically Debt Related vehicles are diversified with over 75 holdings to dampen the leverage risk

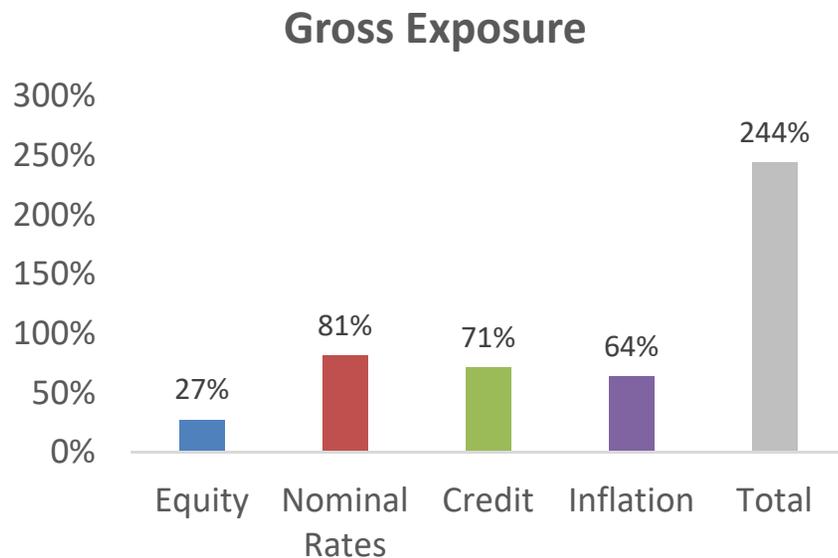
— Alt. Beta

- Gross and net exposure are taken on long assets and balanced with short assets which results in low beta exposure to equities. SamCERA gross exposures are currently at seven times net exposure of up to 0.5.

Risk Parity

- Risk Parity uses leverage to increase the risk contribution of debt/inflation assets
- With the goal of tailoring its investment portfolio based on risks coming from equities, inflation, and fixed income, Risk Parity managers use leverage to offset the risks coming from equities.

Sample Example



Leverage in asset classes – Real Estate/Real Assets

— Commodities/Real Assets

- Fund level leverage is typically not used in publicly traded commodities or Real Assets managers
- There can be leverage at the company level; for example, mining companies issuing debt to purchase equipment/land

— Real Estate

- Typical Real Estate core funds can have 25% leverage at the fund level.
- Real Estate debt funds go up to 50-60% since the assets are typically first lien loans.

SamCERA's Portfolio & Options

Leverage in current Policy

	12/31/2018 Policy		
	Allocation %	Gross	Net
Total Equity			
Domestic Equity Aggregate			
130/30 manager	4	1.3	1
Small-Cap Equity Aggregate			
International Equity Aggregate			
Developed Markets Aggregate			
Emerging Markets Aggregate			
Total Fixed Income			
Domestic Fixed Income Aggregate			
Core Fixed Aggregate			
TIPS Aggregate			
Opp Credit Aggregate			
Opp Credit 1	0.5	2	2
Opp Credit 2	0.5	1.25	1.25
Opp Credit 3	2	1	1
Opp Credit 4			
Opp Credit 5			
Opp Credit 6			
Opp Credit 7	1	1.5	1.5
Total Alternatives			
Private Equity Aggregate	6	1.25	1.25
Risk Parity Aggregate	8	3.5	3.5
Hedge Fund Aggregate	6	7	0.5
Private Real Asset Aggregate	2	1.25	1.25
Total Real Estate	8	1.3	1.3
Total Cash Equivalents			
	66	1	1
	100	167	127

Leverage in potential alternatives

	No AR			No RP			No RP or AR			20% RP		
	Alloc %	Gross	Net	Alloc %	Gross	Net	Alloc %	Gross	Net	Alloc %	Gross	Net
Total Equity												
Domestic Equity Aggregate												
130/30 manager	4	1.3	1	4	1.3	1	4	1.3	1	4	1.3	1
Small-Cap Equity Aggregate												
International Equity Aggregate												
Developed Markets Aggregate												
Emerging Markets Aggregate												
Total Fixed Income												
Domestic Fixed Income Aggregate												
Core Fixed Aggregate												
TIPS Aggregate												
Opp Credit Aggregate												
Opp Credit 1	0.5	2	2	0.5	2	2	0.5	2	2	0.5	2	2
Opp Credit 2	0.5	1.25	1.25	0.5	1.25	1.25	0.5	1.25	1.25	0.5	1.25	1.25
Opp Credit 3	2	1	1	2	1	1	2	1	1	2	1	1
Opp Credit 4												
Opp Credit 5												
Opp Credit 6												
Opp Credit 7	1	1.5	1.5	1	1.5	1.5	1	1.5	1.5	1	1.5	1.5
Total Alternatives												
Private Equity Aggregate	6	1.25	1.25	6	1.25	1.25	6	1.25	1.25	6	1.25	1.25
Risk Parity Aggregate	10	3.5	3.5	0	3.5	3.5	0	3.5	3.5	20	3.5	3.5
Hedge Fund Aggregate	0	7	0.5	6	7	0.5	0	7	0.5	5	7	0.5
Private Real Asset Aggregate	3	1.25	1.25	3	1.25	1.25	3	1.25	1.25	3	1.25	1.25
Total Real Estate	10	1.3	1.3	10	1.3	1.3	10	1.3	1.3	10	1.3	1.3
Total Cash Equivalents												
	66	1	1	71	1	1	77	1	1	52	1	1
	100	140	140	100	150	110	100	110	110	100	190	160

Notices & disclosures

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SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

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

Recommendation

Provide direction to staff and consultant regarding the results of SamCERA's asset liability study.

Background

Last month Verus summarized the Board's risk tolerance survey results, introduced the asset liability study process, reviewed the liability and asset modeling processes, and discussed portfolio complexity.

Discussion

Margaret Jadallah and Marc Gessell from Verus will lead the discussion in presenting the results of the asset liability study and answer any questions that the Board may have.

Attachment

Asset Liability Study: Asset Allocation Mixes



PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



AUGUST 2019

Asset/Liability Study

SamCERA

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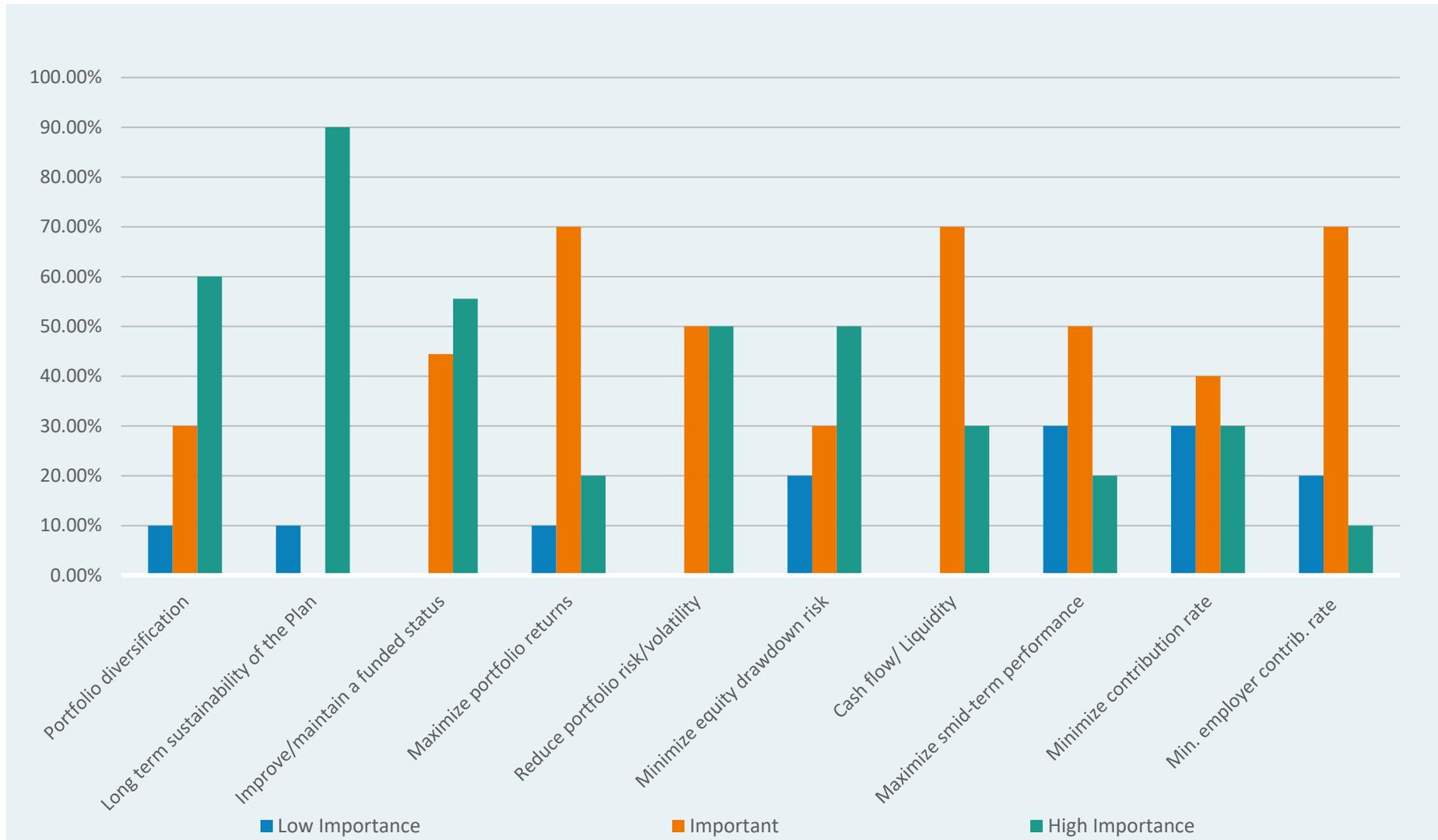
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Executive Summary

- Evaluate how different investment strategies impact the Plan's key metrics
 - Funded Ratio
 - Contribution rates
- Review inflation impacts to the Plan
- Review impact of a significant drawdown
- Evaluate risks of different investment strategies
- Evaluate scenario analysis and stress tests of the sample portfolios

Overview

Long-term objectives



Long-term objectives – Observations

- The most important objectives have not changed from the previous ERT survey
 - Long-term sustainability of the Plan
 - Improve funded status
- Cash flows was the least important objective in 2016, but today it didn't receive any “low importance” responses
- Diversification, reducing volatility, and minimize drawdown risk are all relatively important
- On a weighted average minimizing employer contribution rate fluctuations, overall contribution rates, and maximizing short/mid term outperformance were the least important

Defining risk - Observations

- Nine out of ten people responded that loss of capital was the biggest risk to the Plan
- Volatility and tracking error were the next two most important risks
- Only a handful of people were worried about high manager fees or alternatives were a significant risk to the portfolio
- 70% of the Board thought we should target a desired risk as opposed to targeting an expected portfolio return
- Illiquidity/cash flow was the second highest risk factor the Board wants to prioritize, second to concerns about deterioration of the Plan's funded ratio. Importance of cash flows were much higher in this survey than the last one.
- Complexity and leverage are of concern to multiple Trustees.

Historical plan data

Rolling returns and plan value

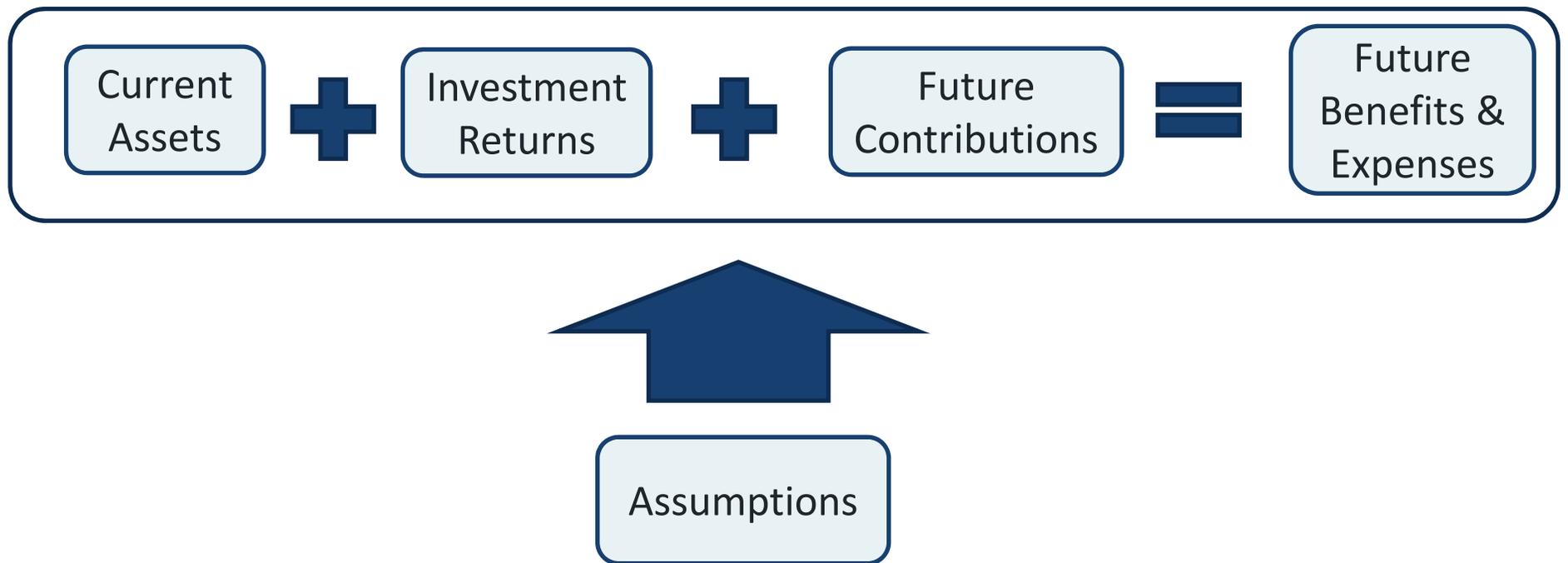


Assets have recovered since the Global Financial Crisis.



Dates represented as Fiscal Year ending June 30th. Data taken from historical SamCERA CAFRs and actuarial valuations.

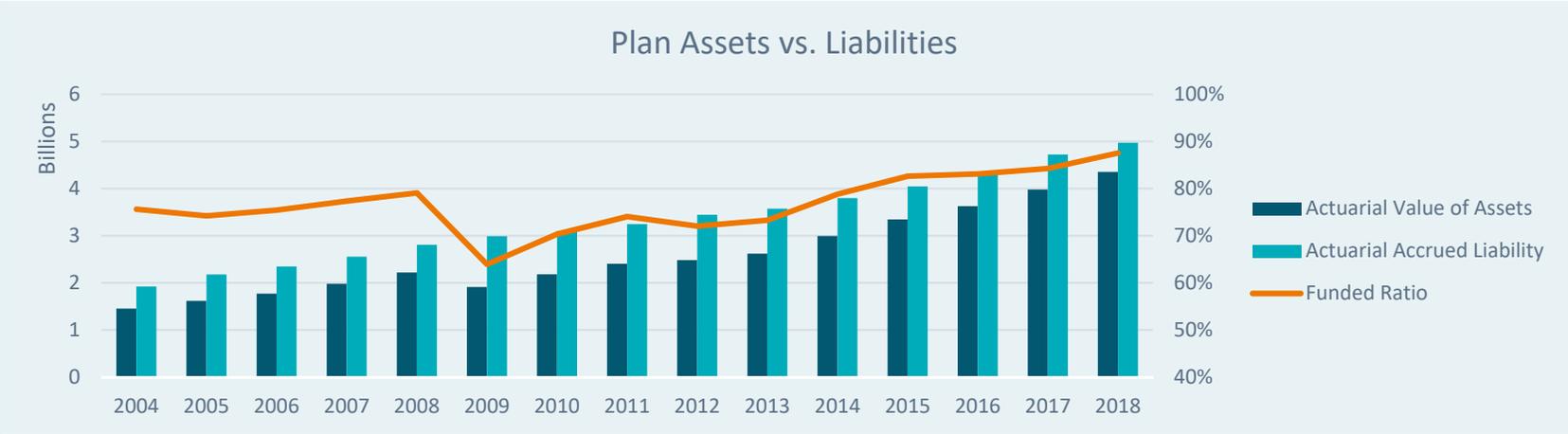
The pension equation



Benefit payments and contributions



Historically, net plan outflow has been driven by investment earnings.

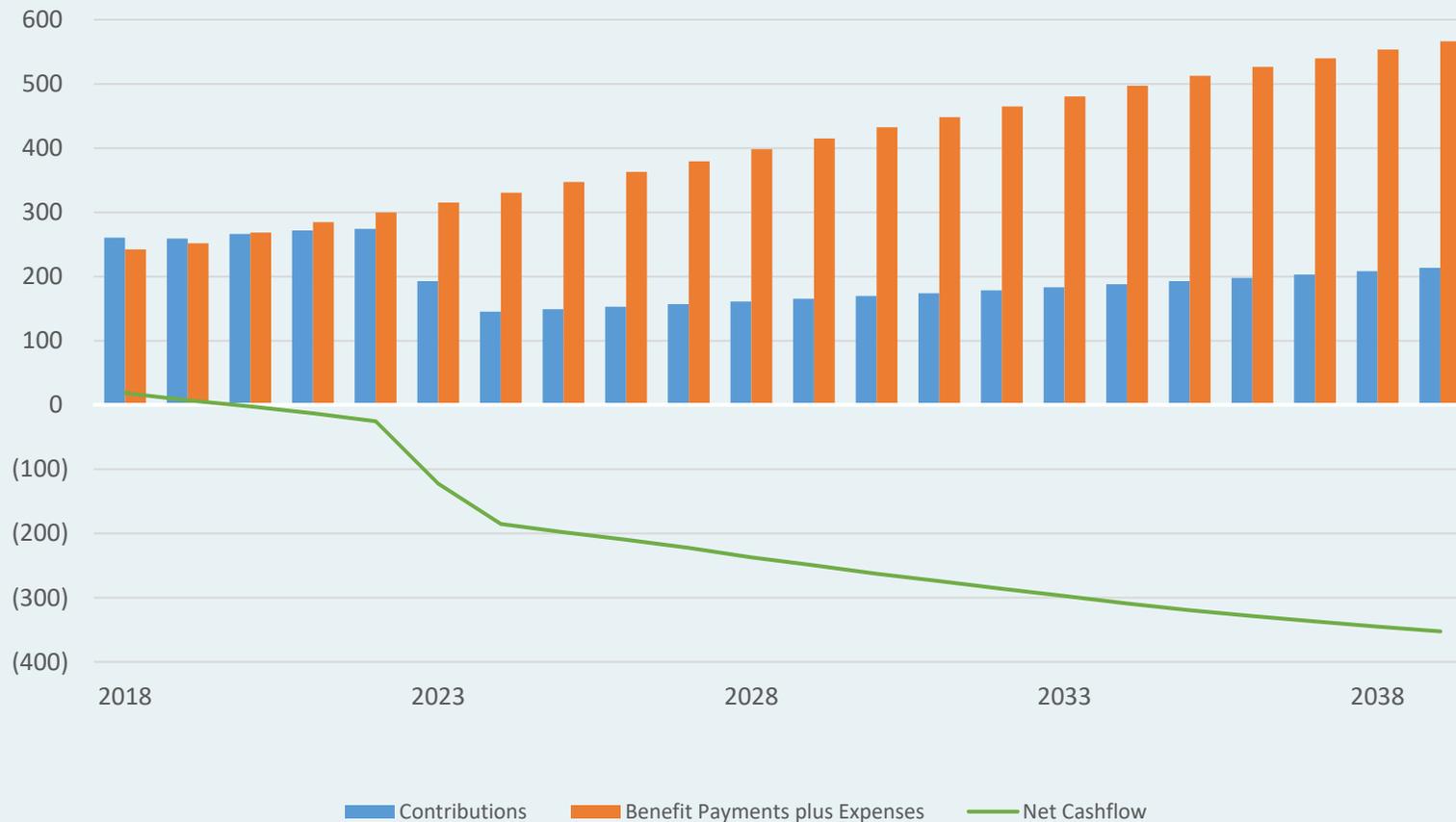


The plan's assets have recovered since 2009, growing faster than liabilities

Dates represented as Fiscal Year ending June 30th. Data taken from historical SamCERA CAFRs and actuarial valuations.

Long-term cash flow projections

**PROJECTION OF CONTRIBUTIONS VS BENEFIT PAYMENTS
(IN \$MILLIONS)**



Significant decrease in employer contributions projected in fiscal year 2023

Contributions and benefit payments trajectory projected to result in negative net cash flow spike in fiscal year 2023

A comment on projections



To become fully funded by 2038, the plan will require roughly 9.8b in assets.

Discrepancies in our projections will occur when plan experience differs from our assumptions.

Projection from current Asset Liability study done for SamCERA by Verus. Data taken from historical SamCERA CAFRs and actuarial valuations

Deterministic projections

The pension equation in action

BASELINE PROJECTION: 6.50% INVESTMENT RETURN



Assuming plan meets return target of 6.5% and contributes to the current funding policy, the Plan sponsor will become 99% funded in roughly 8 years.



As the plan matures it becomes increasingly dependent on investment performance to meet cashflow needs.

Assumes discount rate changes from 6.75% in 2018 to 6.50% in 2019. Assumes investment return is 6.75% for first year and 6.50% thereafter. In addition, assumes plan growth is approximately 0.6% annually and all other assumptions (mortality, termination, disability, etc.) are met exactly.

Cost of de-risking

THE COST OF FUNDING AND DE-RISKING, 10 YEAR HORIZON



Plan is expected to achieve full funding within 10 years assuming plan performance remains strong.

Contributions reflected in this graph are displayed as an annual cost in real terms via the inflation assumption of 2.5%. Data displayed in this chart assumes investment returns equal the discount rate for the entire modeling period and all other assumptions (mortality, disability, plan growth, etc.) are met exactly and plan grows at 0.6% annually.

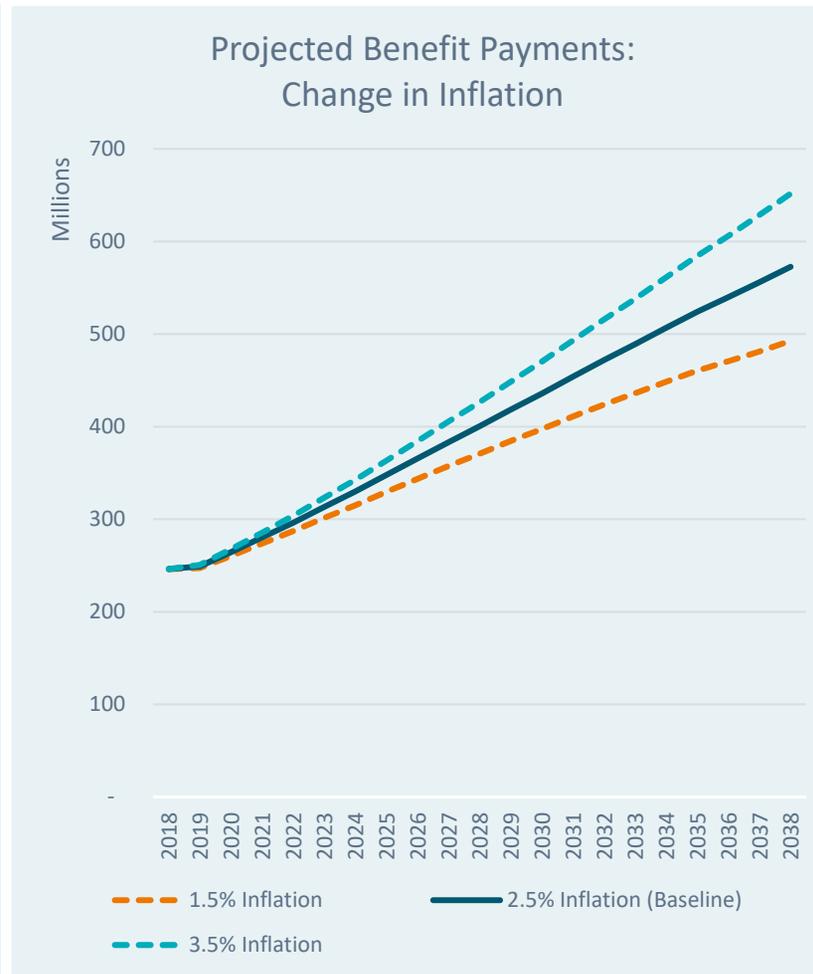
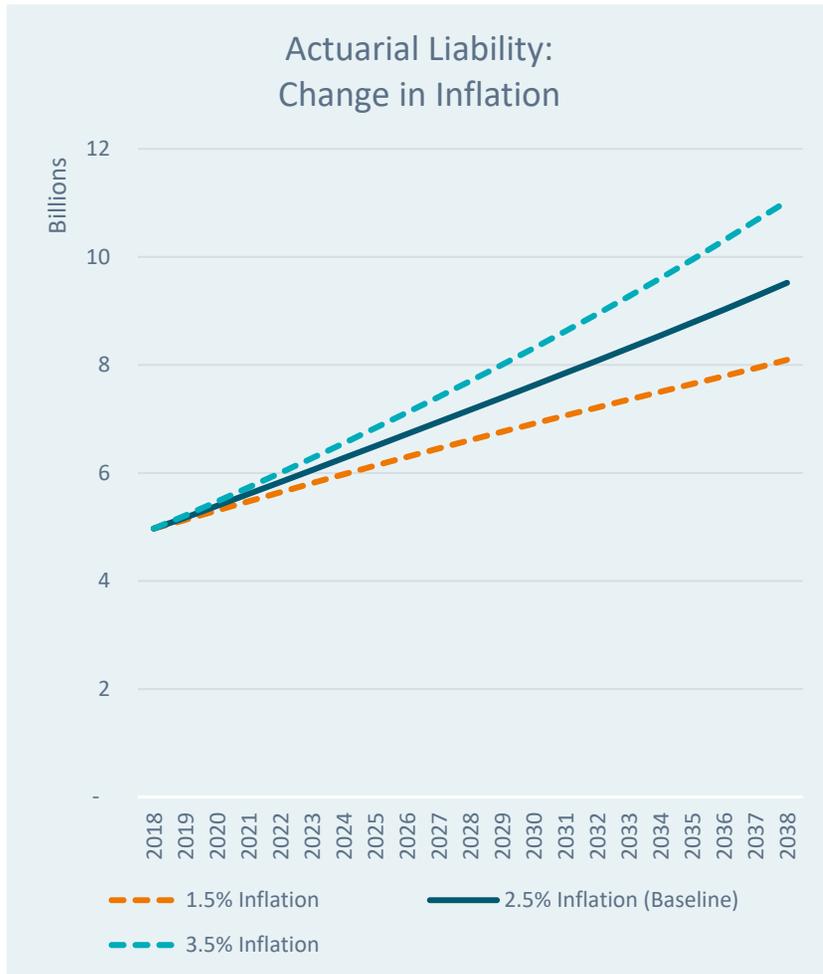
Cost of a drawdown



A significant drawdown may require an adjustment to the current funding projections.

Baseline: 6.75% return in year 1, 6.50% return in every other year.
 Scenario 1: -15% Return in year 1, 6.50% return in every other year.
 Scenario 2: -20% return in year 1, 6.50% return in every other year.

Inflation impacts



After 20 years, a 1% change in inflation results in a 16% movement in actuarial liability and 14% movement in projected benefit payments.

Impacts lessen over shorter time horizons.

Inflation assumption scenarios assume inflation is as listed for each year over the entire projection period.

Stochastic projections

10-year return & risk assumptions

Asset Class	Index Proxy	Ten Year Return Forecast		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)	10-Year Historical Sharpe Ratio (g)	10-Year Historical Sharpe Ratio (a)
		Geometric	Arithmetic					
Equities								
U.S. Large	S&P 500	5.8%	6.9%	15.6%	0.24	0.31	0.94	0.95
U.S. Small	Russell 2000	5.4%	7.5%	21.3%	0.15	0.25	0.63	0.69
International Developed	MSCI EAFE	7.7%	9.1%	17.8%	0.31	0.39	0.37	0.43
International Small	MSCI EAFE Small Cap	6.5%	8.8%	22.4%	0.20	0.30	0.61	0.66
Emerging Markets	MSCI EM	8.6%	11.6%	26.1%	0.25	0.36	0.40	0.48
Global Equity	MSCI ACWI	6.8%	8.2%	17.1%	0.27	0.36	0.62	0.67
Private Equity*	Cambridge Private Equity	8.8%	11.7%	25.6%	0.26	0.37	-	-
Fixed Income								
Cash	30 Day T-Bills	2.1%	2.1%	1.2%	-	-	-	-
U.S. TIPS	BBgBarc U.S. TIPS 5-10	3.0%	3.1%	5.5%	0.16	0.18	0.67	0.68
U.S. Treasury	BBgBarc Treasury 7-10 Year	2.7%	2.9%	6.7%	0.09	0.12	0.46	0.48
Global Sovereign ex U.S.	BBgBarc Global Treasury ex U.S.	0.8%	1.3%	9.8%	-0.13	-0.08	0.14	0.18
Core Fixed Income	BBgBarc U.S. Aggregate Bond	3.3%	3.5%	6.4%	0.19	0.22	1.09	1.08
Core Plus Fixed Income	BBgBarc U.S. Corporate IG	4.1%	4.4%	8.4%	0.24	0.27	1.23	1.22
Short-Term Gov't/Credit	BBgBarc U.S. Gov't/Credit 1-3 Year	2.8%	2.9%	3.6%	0.19	0.22	1.38	1.37
Short-Term Credit	BBgBarc Credit 1-3 Year	3.2%	3.2%	3.7%	0.30	0.30	1.66	1.64
Long-Term Credit	BBgBarc Long U.S. Corporate	4.3%	4.7%	9.4%	0.23	0.28	0.88	0.89
High Yield Corp. Credit	BBgBarc U.S. Corporate High Yield	5.7%	6.3%	11.5%	0.31	0.37	1.39	1.36
Bank Loans	S&P/LSTA Leveraged Loan	5.9%	6.4%	10.2%	0.37	0.42	1.50	1.47
Global Credit	BBgBarc Global Credit	2.1%	2.4%	7.5%	0.00	0.04	0.88	0.89
Emerging Markets Debt (Hard)	JPM EMBI Global Diversified	6.7%	7.4%	12.6%	0.37	0.42	1.19	1.18
Emerging Markets Debt (Local)	JPM GBI-EM Global Diversified	6.9%	7.6%	12.1%	0.40	0.45	0.26	0.31
Private Credit	Bank Loans + 175bps	7.7%	8.2%	10.2%	0.55	0.60	-	-
Other								
Commodities	Bloomberg Commodity	4.2%	5.3%	15.7%	0.13	0.20	-0.29	-0.22
Hedge Funds*	HFRI Fund Weighted Composite	4.4%	4.7%	7.8%	0.29	0.33	0.76	0.76
Core Real Estate	NCREIF Property	6.1%	6.9%	12.9%	0.31	0.37	1.28	1.26
Value-Add Real Estate	NCREIF Property + 200bps	8.1%	9.8%	19.4%	0.31	0.40	-	-
Opportunistic Real Estate	NCREIF Property + 400bps	10.1%	13.0%	25.9%	0.31	0.42	-	-
REITs	Wilshire REIT	6.1%	7.8%	19.3%	0.21	0.30	0.55	0.63
Global Infrastructure	S&P Global Infrastructure	7.9%	9.3%	18.2%	0.32	0.40	0.52	0.57
Risk Parity	Risk Parity	7.1%	7.6%	10.0%	0.50	0.55	-	-
Currency Beta	Russell Conscious Currency	2.1%	2.2%	4.1%	0.02	0.02	0.25	0.26
Inflation		2.0%	-	-	-	-	-	-

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.

*Return expectations differ depending on method of implementation

Range of likely 10 year outcomes

10-YEAR RETURN 90% CONFIDENCE INTERVAL



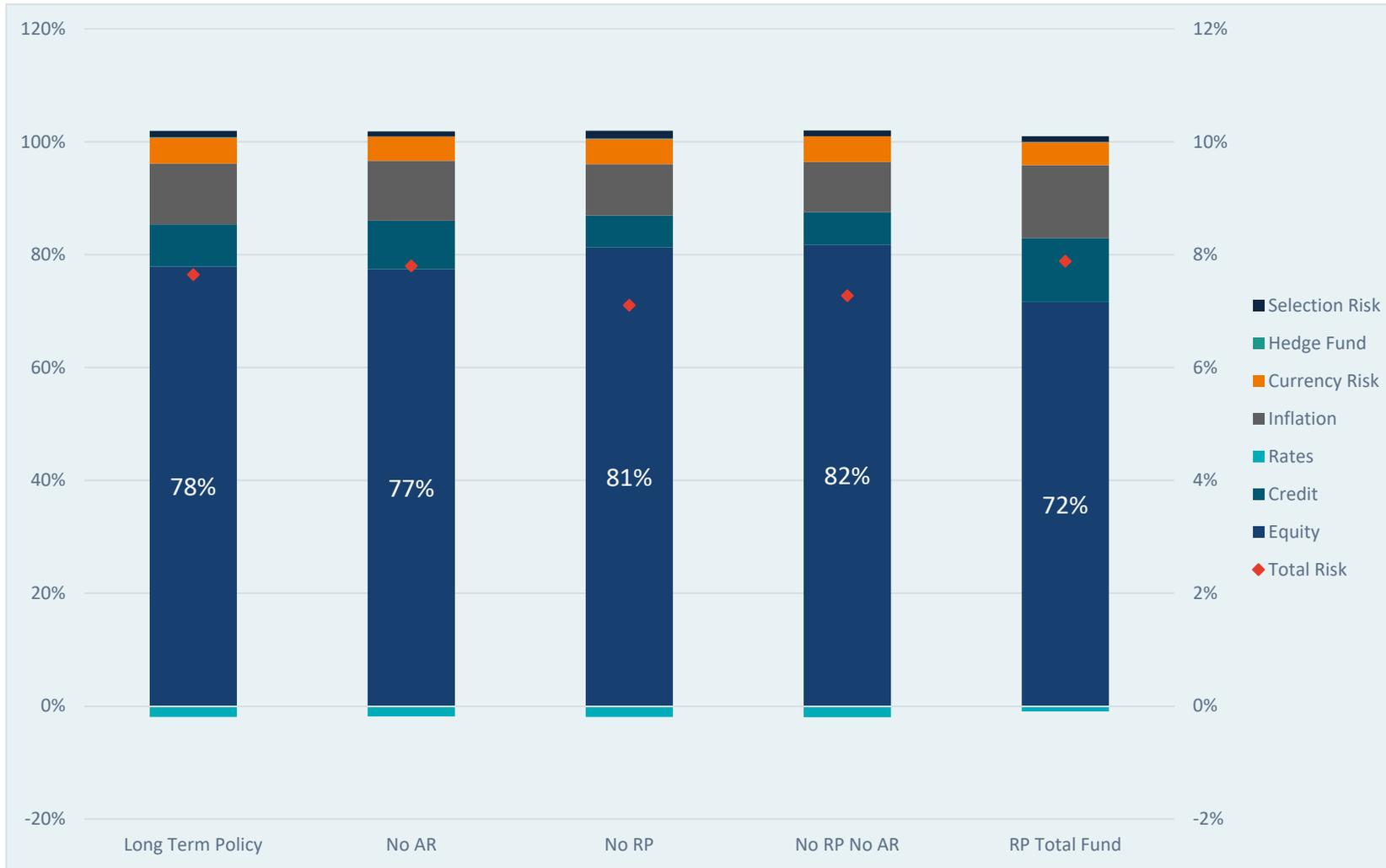
Mean-variance analysis

	LT Policy	No AR	No RP	No RP AR	RP Total Fund
US Large	11.0	12.0	12.0	13.0	10.0
Low Vol	6.0	8.0	8.0	8.0	6.0
US Small	2.0	2.0	2.0	2.0	2.0
International Developed	7.5	7.0	7.0	7.5	6.0
Intl Developed Hedged	7.5	7.0	7.0	7.5	6.0
Emerging Markets	3.0	4.0	4.0	4.0	4.0
High Yield Corp. Credit	7.0	7.0	7.0	7.0	6.0
Bank Loans	0.0	0.0	0.0	0.0	0.0
Private Equity	6.0	6.0	6.0	6.0	6.0
Private Credit	2.0	3.0	3.0	3.0	3.0
Total Growth	52	56	56	58	49
Core Fixed Income	14.0	17.0	21.0	25.0	10.0
Absolute Return	6.0	0.0	6.0	0.0	5.0
Total Diversifying	20	17	27	25	15
Commodities	5.0	3.5	3.5	3.5	3.0
Core Real Estate	10.0	10.0	10.0	10.0	10.0
Infrastructure	5.0	3.5	3.5	3.5	3.0
Total Real Return	20	17	17	17	16
Risk Parity	8.0	10.0	0.0	0.0	20.0
Total Allocation	100	100	100	100	100

Source: MPI

	LT Policy	No AR	No RP	No RP AR	RP Total Fund
Mean Variance Analysis					
Forecast 10 Year					
Return	6.6	6.7	6.4	6.4	6.9
Standard Deviation	9.9	10.0	9.6	9.8	9.7
Return/Std. Deviation	0.7	0.7	0.7	0.7	0.7
1st percentile ret. 1 year	-11.9	-11.1	-10.9	-11.1	-10.2
Sharpe Ratio	0.49	0.49	0.48	0.47	0.52

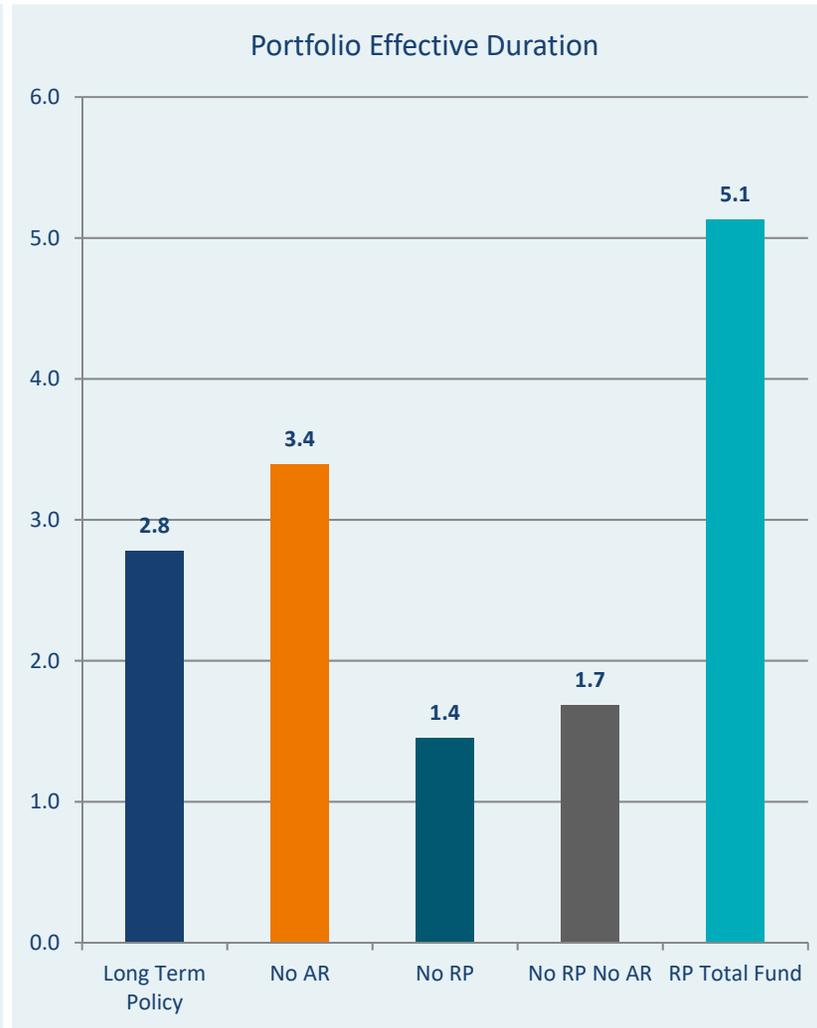
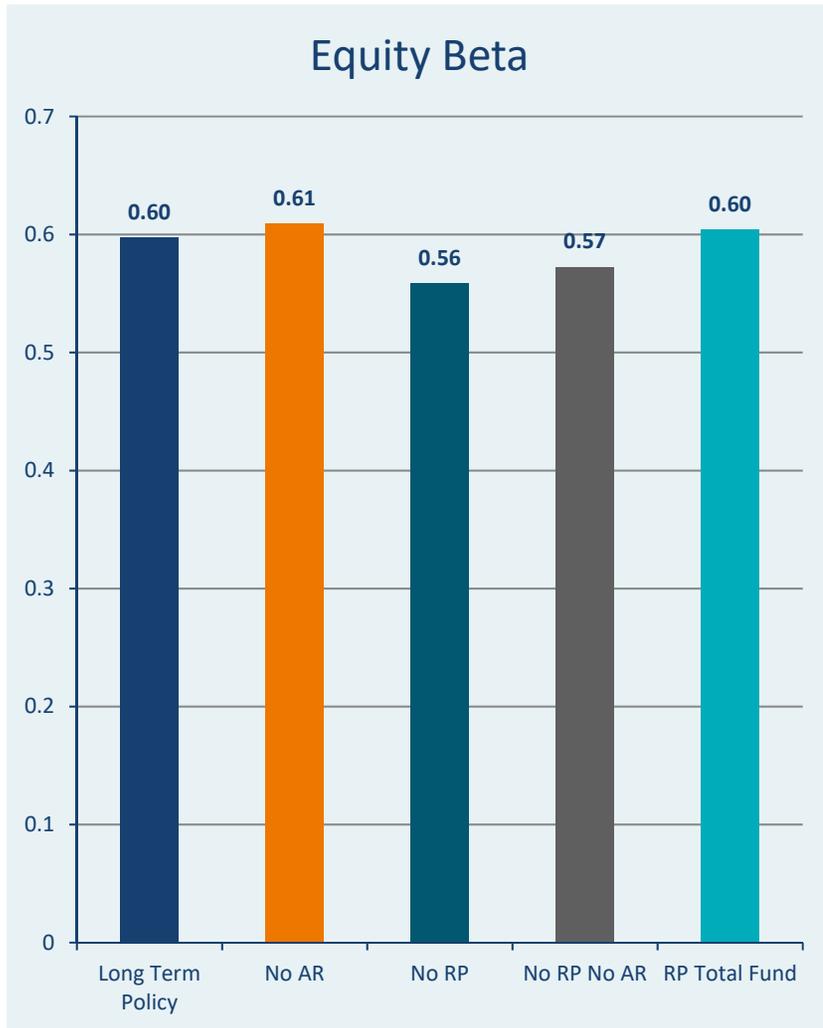
Risk decomposition



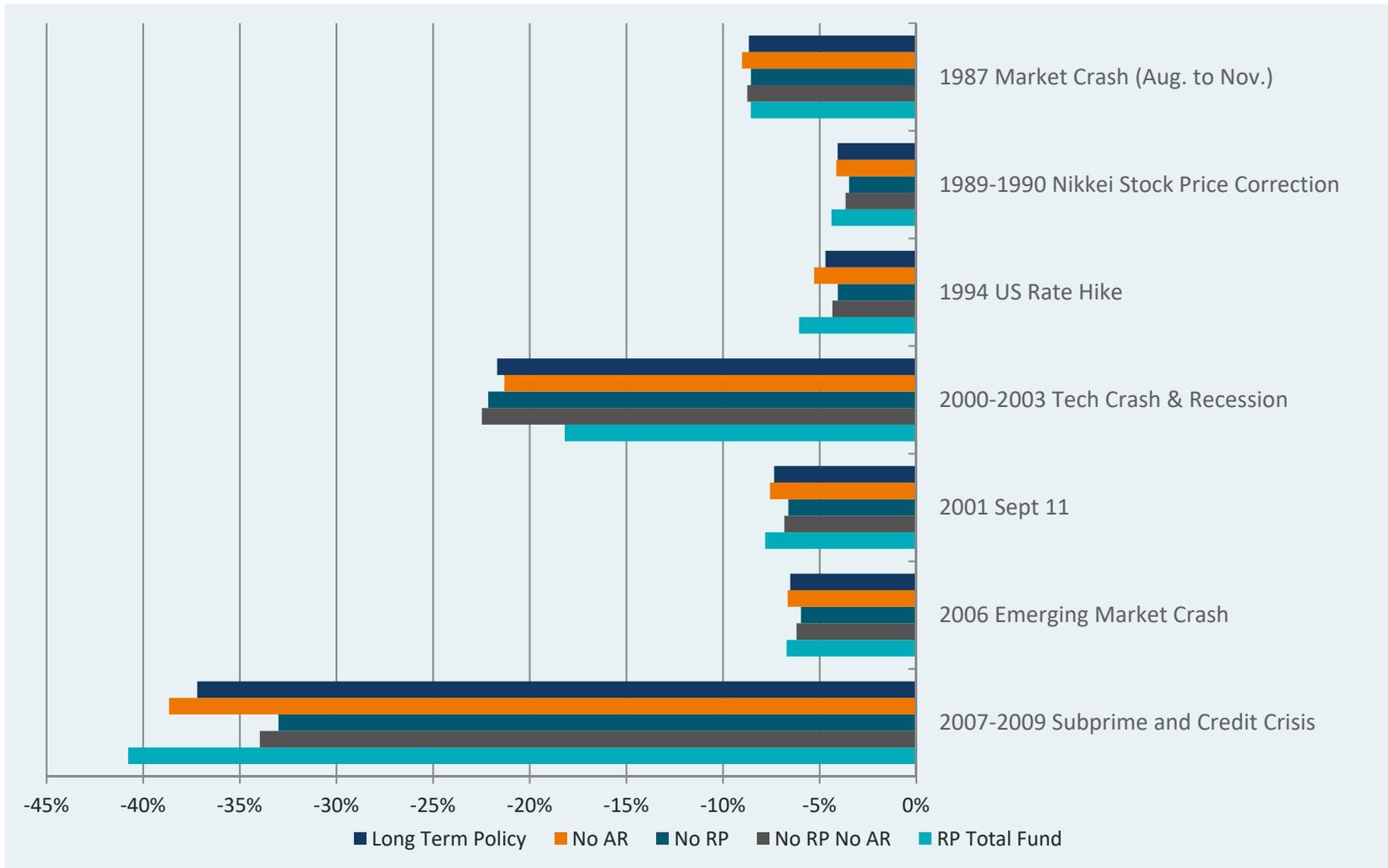
The equity risk factor dominates most portfolios.

Source: Barra, Ex-Ante Volatility

Risk metrics

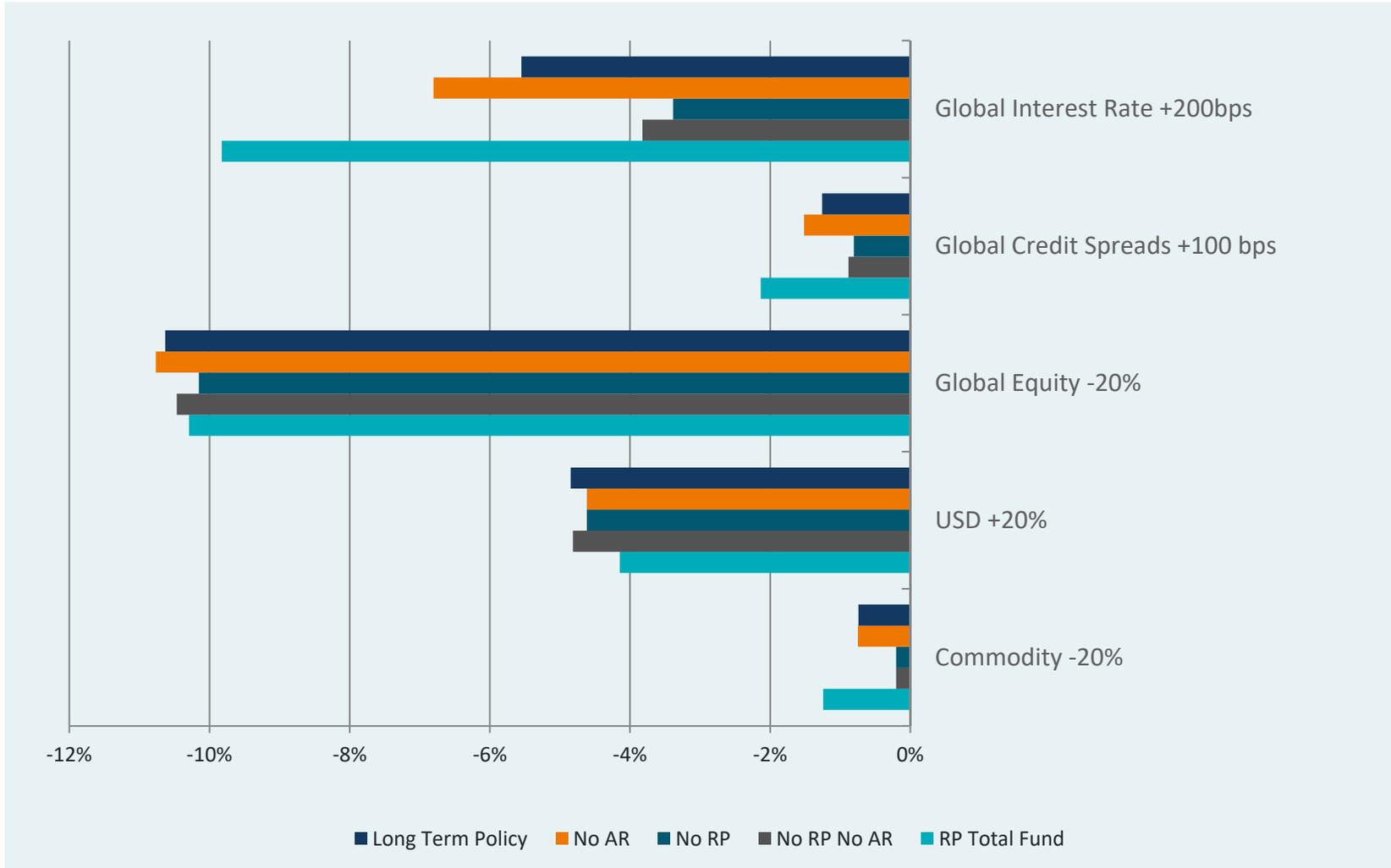


Scenario analysis



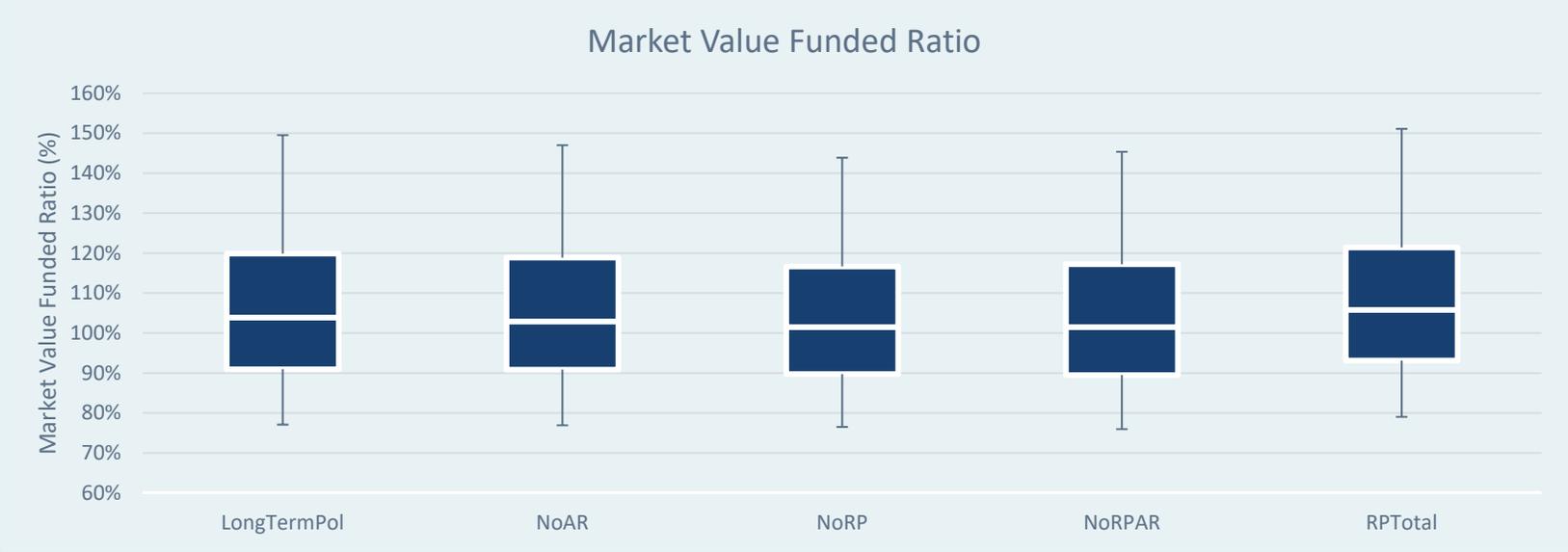
Source: Barra

Stress tests



Source: Barra

Funded status: 10 year forecast

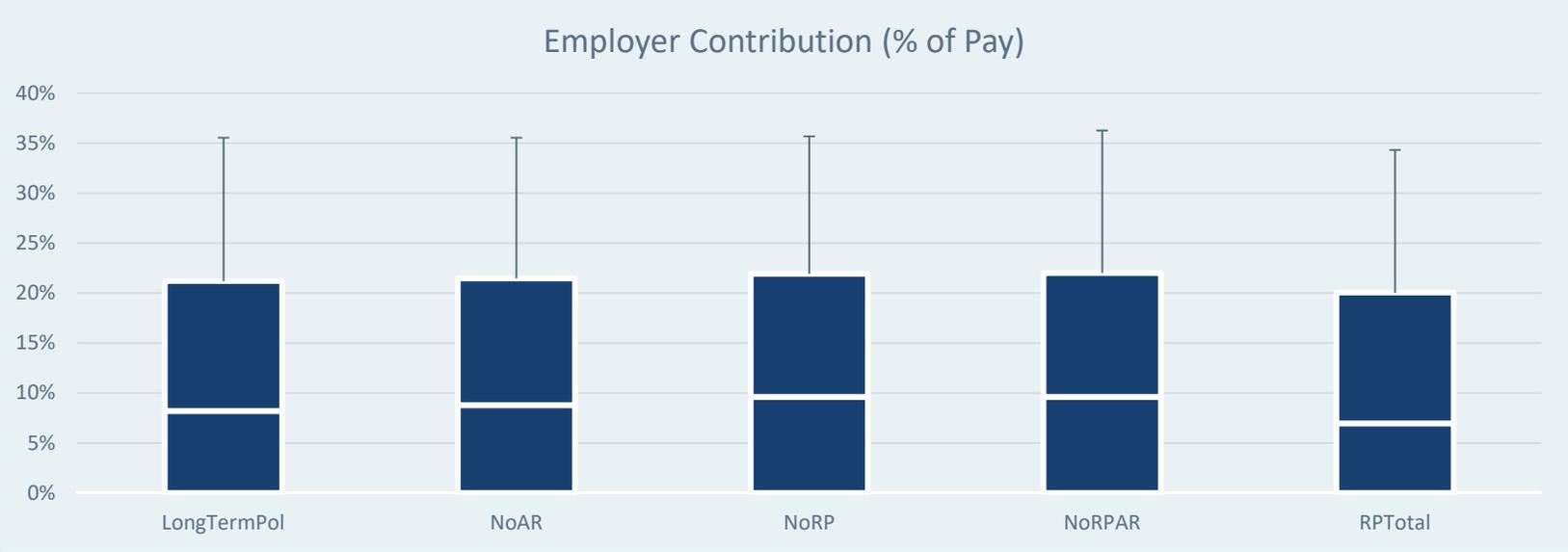


FUNDED STATUS – STOCHASTIC OUTCOMES IN 10 YEARS

	LongTermPol	NoAR	NoRP	NoRPAR	RPTotal
Best Case (95%)	149.5%	147.0%	143.9%	145.3%	151.1%
Median Outcome (50%)	103.9%	102.9%	101.5%	101.5%	105.8%
Worst Case (5%)	77.1%	76.9%	76.5%	75.9%	79.0%

Source: ProVal, Verus

Employer contributions: 10 year forecast

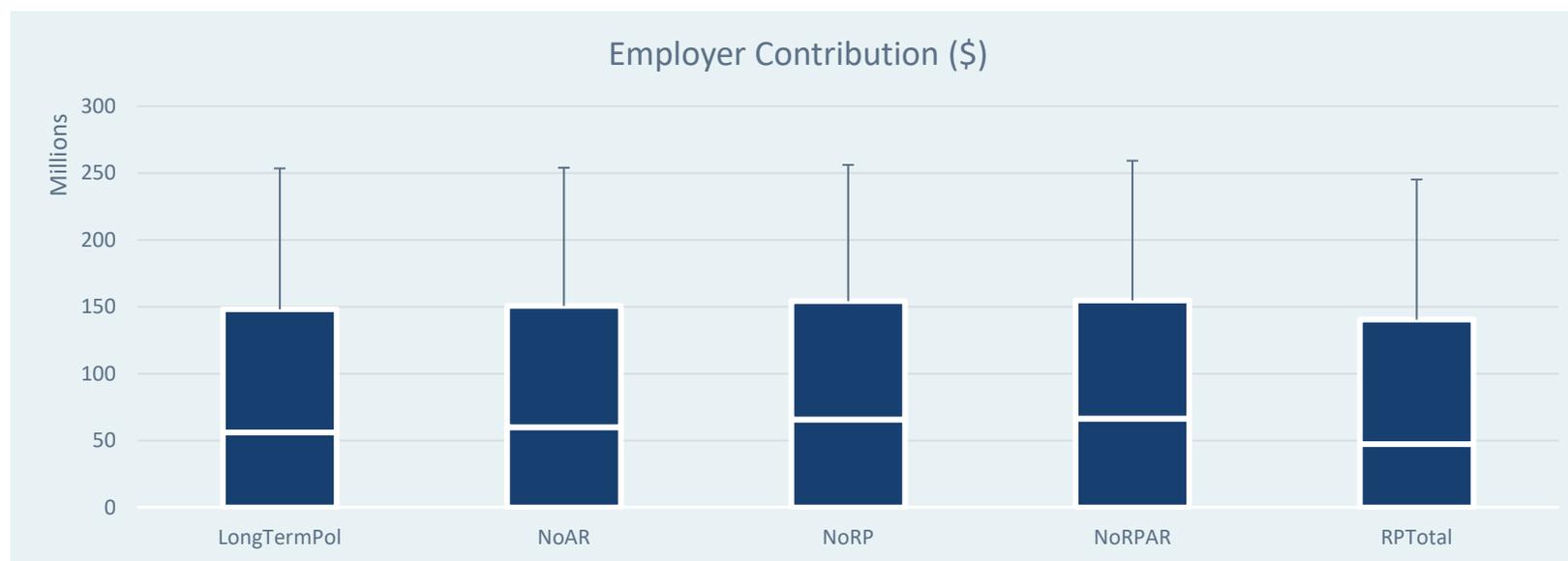


EMPLOYER CONTRIBUTIONS – STOCHASTIC OUTCOMES IN 10 YEARS

	LongTermPol	NoAR	NoRP	NoRPAR	RPTotal
Worst Case (95%)	35.6%	35.6%	35.7%	36.3%	34.3%
Median Outcome (50%)	8.2%	8.8%	9.6%	9.6%	7.0%
Best Case (5%)	0.0%	0.0%	0%	0%	0%

Source: ProVal, Verus

Employer contributions: 10 year forecast



EMPLOYER CONTRIBUTIONS – STOCHASTIC OUTCOMES IN 10 YEARS

	LongTermPol	NoAR	NoRP	NoRPAR	RPTotal
Worst Case (95%)	253.52M	254.04M	256.14M	259.24M	245.24M
Median Outcome (50%)	56.16M	60.06M	65.81M	66.46M	47.38M
Best Case (5%)	0M	0M	0M	0M	0M

Source: ProVal, Verus

Conclusions

- Pace of improvement since global financial crisis better than most Plans
 - Fully funded status should occur in eight years assuming a 6.5% return target and maintenance of the current funding policy
- 6.5% actuarial rate is among the lowest in public plans
- Risks from equities decreases with an increased risk parity allocation, but portfolio duration almost doubles from the current policy
 - It is important to consider this duration increase as seen in the global interest rates +200 bps stress test where this portfolio would lose 10%
- A portfolio with no Absolute Return or Risk Parity increases equity risk

Appendix

Methodology

CORE INPUTS

- We use a fundamental building block approach based on several inputs, including historical data and academic research to create asset class return forecasts.
- For most asset classes, we use the long-term historical volatility after adjusting for autocorrelation.
- Correlations between asset classes are calculated based on the last 10 years. For illiquid assets, such as private equity and private real estate, we use BarraOne correlation estimates.

Asset	Return Methodology	Volatility Methodology*
Inflation	25% weight to the University of Michigan Survey 5-10 year ahead inflation expectation and the Survey of Professional Forecasters (Fed Survey), and the remaining 50% to the market's expectation for inflation as observed through the 10-year TIPS breakeven rate	-
Cash	Real yield estimate + inflation forecast	Long-term volatility
Bonds	Nominal bonds: current yield; Real bonds: real yield + inflation forecast	Long-term volatility
International Bonds	Current yield	Long-term volatility
Credit	Current option-adjusted spread + U.S. 10-year Treasury – effective default rate	Long-term volatility
International Credit	Current option-adjusted spread + foreign 10-year Treasury – effective default rate	Long-term volatility
Private Credit	Bank loan forecast + 1.75% private credit premium**	Long-term volatility
Equity	Current yield + real earnings growth (historical average) + inflation on earnings (inflation forecast) + expected P/E change	Long-term volatility
Intl Developed Equity	Current yield + real earnings growth (historical average) + inflation on earnings (intl. inflation forecast) + expected P/E change	Long-term volatility
Private Equity	US large cap domestic equity forecast * 1.85 beta adjustment	1.2 * Long-term volatility of U.S. small cap
Commodities	Collateral return (cash) + spot return (inflation forecast) + roll return (assumed to be zero)	Long-term volatility
Hedge Funds	Return coming from traditional betas + 15-year historical idiosyncratic return	Long-term volatility
Core Real Estate	Cap rate + real income growth – capex + inflation forecast	65% of REIT volatility
REITs	Core real estate	Long-term volatility
Value-Add Real Estate	Core real estate + 2%	Volatility to produce Sharpe Ratio (g) equal to core real estate
Opportunistic Real Estate	Core real estate + 4%	Volatility to produce Sharpe Ratio (g) equal to core real estate
Infrastructure	Current yield + real income growth + inflation on earnings (inflation forecast)	Long-term volatility
Risk Parity	Expected Sharpe Ratio * target volatility + cash rate	Target volatility

*Long-term historical volatility data is adjusted for autocorrelation (see Appendix)

**The private credit premium is generated by illiquidity, issuer size, and lack of credit rating

Correlation assumptions

	Cash	US Large	US Small	Intl Large	Intl Large Hdg	Intl Small	Intl Small Hdg	EM	Global Equity	PE	US TIPS	US Treasury	Global Sovereign ex US	Global Sovereign ex US Hdg	US Core	US Core Plus	ST Govt/Credit	Short-Term Credit	Long-Term Credit	US HY	Bank Loans	Global Credit	Global Credit Hdg	EMD USD	EMD Local	Commodities	Hedge Funds	Real Estate	REITs	Global Infra	Risk Parity	Currency Beta	Inflation			
Cash	1.0																																			
US Large	-0.1	1.0																																		
US Small	-0.1	0.9	1.0																																	
Intl Large	-0.1	0.9	0.7	1.0																																
Intl Large Hdg	-0.1	0.8	0.8	0.9	1.0																															
Intl Small	-0.1	0.8	0.7	1.0	0.8	1.0																														
Intl Small Hdg	-0.1	0.8	0.8	0.9	0.9	0.9	1.0																													
EM	0.0	0.8	0.7	0.8	0.7	0.8	0.7	1.0																												
Global Equity	-0.1	1.0	0.8	1.0	0.9	0.9	0.9	0.9	1.0																											
PE	-0.2	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	1.0																										
US TIPS	-0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.3	0.2	0.1	1.0																									
US Treasury	0.0	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.2	-0.3	0.7	1.0																									
Global Sovereign ex US	0.1	0.3	0.1	0.4	0.1	0.5	0.1	0.5	0.4	0.0	0.5	0.4	1.0																							
Global Sovereign ex US Hdg	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	0.0	0.5	0.7	0.3	1.0																						
US Core	-0.1	-0.1	-0.1	0.0	-0.1	0.0	-0.1	0.1	0.0	-0.1	0.7	0.9	0.5	0.7	1.0																					
US Core Plus	-0.1	0.2	0.1	0.4	0.3	0.4	0.3	0.4	0.3	0.0	0.6	0.5	0.5	0.5	0.8	1.0																				
ST Govt/Credit	0.1	0.0	0.0	0.2	0.0	0.2	0.0	0.3	0.1	-0.1	0.6	0.5	0.6	0.3	0.8	0.7	1.0																			
Short-Term Credit	0.0	0.3	0.2	0.4	0.3	0.5	0.4	0.5	0.4	0.0	0.4	0.0	0.4	0.0	0.4	0.7	0.8	1.0																		
Long-Term Credit	-0.1	0.2	0.1	0.3	0.2	0.3	0.2	0.3	0.2	0.0	0.5	0.5	0.5	0.5	0.8	0.9	0.5	0.5	1.0																	
US HY	-0.1	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.4	0.3	-0.2	0.3	-0.1	0.1	0.6	0.4	0.7	0.4	1.0																
Bank Loans	-0.2	0.4	0.4	0.5	0.5	0.6	0.6	0.5	0.5	0.4	0.1	-0.4	0.1	-0.2	0.0	0.4	0.2	0.7	0.2	0.9	1.0															
Global Credit	0.0	0.6	0.4	0.8	0.5	0.7	0.5	0.8	0.7	0.2	0.5	0.1	0.8	0.2	0.5	0.8	0.6	0.7	0.7	0.7	0.5	1.0														
Global Credit Hdg	-0.1	0.4	0.3	0.5	0.4	0.5	0.4	0.6	0.5	0.2	0.5	0.3	0.5	0.4	0.7	0.9	0.6	0.7	0.9	0.7	0.7	0.5	0.8	1.0												
EMD USD	-0.1	0.5	0.3	0.6	0.5	0.6	0.4	0.7	0.6	0.2	0.5	0.2	0.6	0.3	0.5	0.7	0.5	0.6	0.6	0.7	0.4	0.8	0.8	1.0												
EMD Local	0.0	0.6	0.4	0.7	0.5	0.7	0.5	0.8	0.7	0.3	0.4	0.1	0.7	0.1	0.3	0.5	0.4	0.5	0.4	0.6	0.3	0.8	0.6	0.8	1.0											
Commodities	0.0	0.5	0.5	0.6	0.4	0.6	0.4	0.6	0.6	0.2	0.2	-0.2	0.5	-0.2	0.0	0.2	0.2	0.3	0.1	0.5	0.3	0.6	0.3	0.4	0.6	1.0										
Hedge Funds	-0.1	0.7	0.7	0.8	0.8	0.8	0.8	0.7	0.8	0.6	0.1	-0.3	0.2	-0.2	-0.1	0.3	0.0	0.3	0.2	0.6	0.5	0.5	0.4	0.4	0.4	0.5	1.0									
Real Estate	-0.1	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.5	0.4	0.1	0.0	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.4	1.0								
REITs	-0.1	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.4	0.2	0.1	0.3	0.2	0.3	0.5	0.3	0.4	0.4	0.6	0.4	0.5	0.6	0.5	0.5	0.3	0.4	0.7	1.0							
Global Infra	0.0	0.8	0.6	0.9	0.8	0.8	0.7	0.8	0.8	0.2	0.3	-0.1	0.6	0.0	0.2	0.5	0.3	0.5	0.4	0.7	0.4	0.8	0.6	0.7	0.8	0.6	0.6	0.3	0.7	1.0						
Risk Parity	-0.1	0.5	0.4	0.5	0.4	0.5	0.4	0.6	0.5	0.3	0.5	0.3	0.6	0.3	0.5	0.6	0.5	0.4	0.5	0.5	0.2	0.7	0.7	0.6	0.6	0.5	0.4	-0.1	0.4	0.6	1.0					
Currency Beta	0.0	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	-0.1	-0.2	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	-0.1	0.1	0.1	0.1	0.1	1.0			
Inflation	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	-0.1	0.1	-0.2	-0.1	-0.1	0.0	0.1	-0.1	0.1	0.2	0.1	0.0	0.0	0.1	0.2	0.1	-0.1	-0.1	0.0	0.1	0.0	0.1	0.0	1.0	

Note: Correlation assumptions are based on the last ten years. Private Equity and Real Estate correlations are especially difficult to model – we have therefore used BarraOne correlation data to strengthen these correlation estimates.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Item 7.1

TO: Board of Retirement

FROM: Tat-Ling Chow, Finance Officer 
Chezelle Milan, Senior Accountant 
Lilibeth Dames, Investment Analyst 

SUBJECT: Preliminary Financial Statements for the Fiscal Year Ended June 30, 2019

Recommendation

Accept the Preliminary Financial Statements for the Fiscal Year Ended June 30, 2019.

Background

The preliminary financial statements provide information on SamCERA's financial position as of June 30, 2019, and its operating results for the fiscal year ended June 30, 2019.

The *Statement of Fiduciary Net Position* (balance sheet) provides a snapshot of the account balance as of June 30, 2019. This Statement indicates the amount of fiduciary net position (total assets minus total liabilities) available to pay future pension benefits. Over time, increases and decreases in net position may serve as a useful indicator of whether the financial health of SamCERA is improving or declining. Other factors, such as market conditions, should also be considered in measuring SamCERA's overall financial health.

The *Statement of Changes in Fiduciary Net Position* (income statement) reports additions to, and deductions from, SamCERA's fiduciary net position for the fiscal year ended June 30, 2019. "Additions" consist of contributions from plan sponsors and members, investment income net of investment expenses, securities lending income net of related expenses, and other additions. "Deductions" include member benefits, member refunds, and administrative, information technology and other expenses.

Summary

SamCERA's financial position improved modestly over the fiscal year just ended. Its net position increased by \$348 million, or 8%, to \$4.7 billion, fueled mainly by employer contributions and investment income.

Statement of Fiduciary Net Position

The following table shows SamCERA's preliminary Statement of Fiduciary Net Position as of June 30, 2019. Its assets and liabilities as of June 30, 2019, were compared to those as of June 30, 2018, to reflect changes over the fiscal year. Significant changes are discussed on the following pages.

Statement of Fiduciary Net Position

	Preliminary	Actual	Increase (Decrease)	
	June 30, 2019	June 30, 2018	Amount	Percentage
ASSETS:				
Cash and Cash Equivalents	\$ 33,102,412	\$ 53,125,429	\$ (20,023,017)	-38%
Cash Management Overlay	48,011,505	12,984,127	35,027,378	270%
Securities Lending Cash Collateral	403,093	1,486,415	(1,083,322)	-73%
Subtotal - Cash and Other Cash Related Activities	<u>81,517,010</u>	<u>67,595,971</u>	<u>13,921,039</u>	21%
Receivables				
Contributions	10,300,001	9,422,510	877,491	9%
Due from Broker for Investments Sold	6,640,025	4,152,242	2,487,783	60%
Investment Income	6,347,746	5,930,254	417,492	7%
Securities Lending Income	12,614	10,453	2,161	21%
Other Receivable	93,369	95,057	(1,688)	-2%
Subtotal - Receivables	<u>23,393,755</u>	<u>19,610,516</u>	<u>3,783,239</u>	19%
Prepaid Expense	7,669	7,669	-	0%
Investments at Fair Value				
Equity	1,847,846,620	1,809,329,959	38,516,661	2%
Fixed Income	999,197,566	892,923,149	106,274,417	12%
Alternatives	579,633,968	514,972,248	64,661,720	13%
Risk Parity	389,039,081	311,126,425	77,912,656	25%
Inflation Hedge	808,793,196	761,393,517	47,399,679	6%
Subtotal - Investment at Fair Value	<u>4,624,510,431</u>	<u>4,289,745,298</u>	<u>334,765,133</u>	8%
Fixed Assets, Net	5,979,197	6,803,553	(824,356)	-12%
TOTAL ASSETS	<u>4,735,408,062</u>	<u>4,383,763,007</u>	<u>351,645,055</u>	8%
LIABILITIES:				
Payable - Investment Management Fees	2,213,008	1,663,178	549,830	33%
Due to Broker for Investments Purchased	9,060,936	5,408,607	3,652,329	68%
Securities Lending Cash Collateral - Due to Borrowers	405,367	1,488,689	(1,083,322)	-73%
Other	1,335,263	1,241,019	94,244	8%
TOTAL LIABILITIES	<u>13,014,574</u>	<u>9,801,493</u>	<u>3,213,081</u>	33%
NET POSITION RESTRICTED FOR PENSIONS	<u>\$ 4,722,393,488</u>	<u>\$ 4,373,961,514</u>	<u>\$ 348,431,974</u>	8%

Assets. SamCERA's total assets increased by \$352 million, or 8%, due primarily to the following:

- Cash and cash equivalents decreased by \$20 million, or 38%. Before the fiscal year ended June 30, 2019, SamCERA transferred most of its cash from the County supplemental contributions to fund investments. In contrast, last fiscal year-end, SamCERA deferred transferring cash contributions to investments until the beginning of next fiscal year.
- Cash management overlay increased by \$35 million, or 270%. In fiscal year 2018-19, the Board approved a 50% developed international equity currency-hedging strategy as a measure to protect against anticipated changes in currency exchange rates. As a result, about \$28 million was placed into a newly implemented currency overlay to dampen expected volatility to the investment portfolio. In addition, staff increased the cash position in the general cash overlay by \$7 million to meet foreseeable operational needs.

- Receivables overall increased by \$4 million, or 19%. Outstanding receivables were considerably higher than last year due to the timing difference between trade and settlement date.
- Investments overall increased by \$335 million, or 8%. SamCERA continued its efforts to build out an investment structure in accordance with its new asset allocation policy. New capital of \$165 million was placed in various investment vehicles. The remaining increase of \$170 million was due to market appreciation of investments.

Liabilities. SamCERA's total liabilities increased by \$3 million, or 33%. The total amount due to investment brokers increased due to the timing difference between trade and settlement date.

Statement of Changes in Fiduciary Net Position

SamCERA's preliminary Statement of Changes in Fiduciary Net Position (income statement) for the fiscal year ended June 30, 2019, is presented on page 4. Additions to and deductions from the Retirement Fund for the fiscal year were compared to those of the prior fiscal year.

Additions. Total additions to the Retirement Fund during the year were \$584 million, which was \$33 million higher than last year. Significant changes are discussed below.

- Employer contributions were \$15 million, or 8%, higher than last year. Coupled with Countywide negotiated increases in payroll, the employer statutory contribution rate for all plans increased by 1.55% (from 33.76% for fiscal year 17-18. to 35.31% for fiscal year 18-19). The key drivers of the increase in employer contribution rate included lowering the assumed investment return from 7.00% to 6.75% and adapting generational mortality assumptions.
- Employer Supplemental Contribution was \$23 million, or 83%, higher than last year. The County escalated its efforts to pay off its unfunded liabilities by increasing the supplemental contributions from \$28 million last year to \$51 million.
- Interest and dividends were \$26 million, or 59%, higher than last year. The increase was mainly caused by new or additional investments in Equity, Fixed Income and Inflation Hedge; providing a steady flow of income into the retirement fund.
- Net appreciation in investments was \$33 million, or 12%, less than last year. The net return from investment dropped to 5.4% this year from 6.7% last year. This result came mainly from the underperformance in fixed income, alternatives, and inflation hedge investments.

Deductions. Total deductions from the Retirement Fund during the fiscal year was approximately \$236 million, which was \$19 million, or 9%, higher than last year. The increase was due mainly to the annual cost of living adjustment and an increase in the number of retirees receiving pension benefits.

Statement of Changes in Fiduciary Net Position

	<u>Preliminary</u> <u>2019</u>	<u>Actual</u> <u>2018</u>	<u>Increase (Decrease)</u>	
			<u>Amount</u>	<u>Percentage</u>
ADDITIONS:				
Contributions				
Employee Contribution	\$ 67,695,627	\$ 64,204,278	\$ 3,491,349	5%
Employer Contribution	194,830,054	179,626,584	15,203,470	8%
Employer Supplemental Contribution - CSCA	50,668,357	27,630,129	23,038,228	83%
Subtotal - Contributions	<u>313,194,038</u>	<u>271,460,991</u>	<u>41,733,047</u>	15%
Investment Income				
Interest and Dividends	71,424,772	45,060,738	26,364,034	59%
Net Appreciation (Depreciation) in fair value of investments	242,077,701	275,224,883	(33,147,182)	-12%
Less: Investment Expense	<u>(42,677,844)</u>	<u>(40,210,092)</u>	<u>(2,467,752)</u>	6%
Subtotal - Investment Income	<u>270,824,629</u>	<u>280,075,529</u>	<u>(9,250,900)</u>	-3%
Securities Lending Income				
Earnings	88,955	52,886	36,069	68%
Rebate	13,108	8,141	4,967	61%
Fees	<u>(36,070)</u>	<u>(17,698)</u>	<u>(18,372)</u>	104%
Subtotal - Securities Lending Income	<u>65,993</u>	<u>43,329</u>	<u>22,664</u>	52%
Other Additions	<u>33,309</u>	<u>27,540</u>	<u>5,769</u>	21%
Total Additions	<u>584,117,969</u>	<u>551,607,389</u>	<u>32,510,580</u>	6%
DEDUCTIONS:				
Benefits				
Service Retirement Allowance	196,874,097	179,880,342	16,993,755	9%
Disability Retirement Allowance	25,211,881	23,872,145	1,339,736	6%
Survivor, Death and Other Benefits	<u>1,528,066</u>	<u>976,386</u>	<u>551,680</u>	57%
Subtotal - Benefits	<u>223,614,044</u>	<u>204,728,873</u>	<u>18,885,171</u>	9%
Refund of Member Contributions	3,571,079	4,325,730	(754,651)	-17%
Administrative Expenses	6,005,608	5,849,252	156,356	3%
Information Technology Expenses	<u>2,495,264</u>	<u>1,444,010</u>	<u>1,051,254</u>	73%
Total Deductions	<u>235,685,995</u>	<u>216,347,865</u>	<u>19,338,130</u>	9%
Net Income	<u>348,431,974</u>	<u>335,259,524</u>	<u>13,172,450</u>	4%
NET POSITION RESTRICTED FOR PENSIONS:				
Beginning of year	<u>4,373,961,514</u>	<u>4,038,701,990</u>	<u>335,259,524</u>	8%
End of Year	<u>4,722,393,488</u>	<u>4,373,961,514</u>	<u>348,431,974</u>	8%

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Item 7.2

TO: Board of Retirement

FROM: Tat-Ling Chow, Finance Officer *T. Chow*
Chezelle Milan, Senior Accountant *CMilan*
Lilibeth Dames, Investment Analyst *Lilibeth Dames*
Tariq Ali, Chief Technology Officer *T. Ali*

SUBJECT: Preliminary Report on Budget-to-Actual for the Fiscal Year Ended June 30, 2019

Recommendation

Accept the Preliminary Report on Budget-to-Actual for the fiscal year ended June 30, 2019.

Background

SamCERA's budget covers three different areas as follows:

1. Administrative Budget – covers personnel expenses (salaries and benefits) and administrative overhead (services and supplies). The administrative budget cannot exceed the mandated limit of 0.21% of the accrued actuarial liability of the retirement fund (Government Code §31580.2(a)).
2. Technology Budget – covers expenses for computer software, computer hardware, and computer technology consulting services in support of these computer products and is not subject to the mandated limit of 0.21% discussed above (Government Code §31580.2(b)).
3. Professional Services Budget – covers costs for actuarial consulting services, custodial services, investment management, investment consulting services, and outside legal services. (Government Code §31596.1).

Discussion

The annual actual versus budget comparison indicated that SamCERA's actual spending during fiscal year 2018-19 were well managed.

Administrative Budget. About 86% of the administrative budget (or \$6.0 million) was used during the fiscal year 2018-19. This was a good indicator that expenses were properly managed and controlled. The following table summarizes all administrative expenses with explanations as to why the actual results of certain items significantly differ from the projected outcomes.

Salaries and Benefits – Total expenses were \$4.7 million. This amount is about 13% below budget, mainly from the elimination of one management position due to an internal reorganization and two unfilled positions in the Benefits Division.

Services and Supplies – Total expenses were \$1.3 million, which was 19% below budget. Significant variances were identified and explained in the following:

	<u>Budget</u> <u>FY 2018-19</u>	<u>Actual</u> <u>FY 2018-19</u>	<u>% of Budget</u> <u>Used</u>	<u>Under (Above)</u> <u>Budget</u>	<u>% of Budget</u> <u>Remaining</u>
Salaries and Benefits					
Salaries	\$ 3,516,800	\$ 3,087,464	88%	\$ 429,336	12%
Benefits	1,871,900	1,619,211	87%	252,689	13%
Total Salaries and Benefits	<u>5,388,700</u>	<u>4,706,675</u>	87%	<u>682,025</u>	13%
Services and Supplies					
Board Expenses	10,000	4,800	48%	5,200	52%
Insurance	80,000	62,075	78%	17,925	22%
Medical Record and Hearing Service	75,000	21,215	28%	53,785	72%
Member Education	63,800	55,927	88%	7,873	12%
Education and Conference	143,115	128,529	90%	14,586	10%
Transportation and Lodging	160,230	91,851	57%	68,379	43%
Property and Equipment	36,000	15,865	44%	20,135	56%
General Office Supplies	49,000	30,210	62%	18,790	38%
Postage and Printing	40,000	18,801	47%	21,199	53%
Leased Facilities	533,000	535,120	100%	(2,120)	0%
County Services	378,750	297,556	79%	81,194	21%
Audit Services	52,500	54,914	105%	(2,414)	-5%
Other Administration	15,000	6,926	46%	8,074	54%
Total Services and Supplies	<u>1,636,395</u>	<u>1,323,789</u>	81%	<u>312,606</u>	19%
Total	<u>\$ 7,025,095</u>	<u>\$ 6,030,464</u>	86%	<u>\$ 994,631</u>	14%

- Insurance expenses were modestly lower than projected. SamCERA engaged a new insurance provider for the required fiduciary insurance. The annual premium paid to the new insurance provider was less expensive than the former provider.
- Medical records and hearing service expenses were significantly lower than anticipated. Among all the members applying for disability retirement, only three members required an independent medical evaluation per SamCERA’s medical advisor’s recommendation. In addition, only one member pursued a formal hearing for his disability case.
- “Education and Conference” and “Transportation and Lodging” expenses were considerably below projection. Board members and Staff did not attend certain conferences as initially expected, which reduced spending on conference and associated traveling expenses.
- Property and Equipment expenses were substantially below estimation. This budget item included an estimate to cover unforeseen needs for office furniture and equipment. The need to replace existing items was less than expected.
- General office supplies expenses continued to decline as the actual demand for office supplies was lower than anticipated.

- Postage and Printing expenses continued to decline. The reduction in expenses was attributed to SamCERA's persistent efforts to communicate with its members and business partners electronically, whenever possible. In addition, most of the printing and mailing jobs were performed in-house rather than relying on outside service providers as a measure of keeping operating costs down.
- County Services expenses were modestly lowered than estimated. A private counsel was hired to handle disability cases in lieu of the County Counsel effective January 2019. This switch caused a modest decline in the County Counsel service fees. Moreover, three elected Retirement Board positions were open for election in June 2019. All three incumbents ran unopposed, leaving the entire budget for election setup fee nearly intact.
- Other Administration expenses were significantly lower than expected. This budget item mainly put aside funding for outsourced legal services. During the 2nd half of the fiscal year, a private counsel was hired to handle disability cases. SamCERA's in-house legal counsel was able to address all other legal matters, keeping the outsourced services to a minimum.

As a side note, there are minor budget overruns in two areas, Leased Facilities and Audit Services. The overruns were triggered by the following events that were not budgeted.

- In February 2019, Staff hired KRJ Design Group to provide professional advice on space planning and design of the current premises. Part of this cost will be recouped through the new lease agreement.
- In April 2019, SamCERA entered into a new contract with Brown Armstrong for audit services. The annual fee has been adjusted upwards to incorporate the cost of living adjustment.

Technology Expenses. About 78% of the budgeted expenses were used during the fiscal year. Below is a summary of all technology expenses along with explanations for the significant variances.

	<u>Budget</u> <u>FY 2018-19</u>	<u>Actual</u> <u>FY 2018-19</u>	<u>% of Budget</u> <u>Used</u>	<u>Under</u> <u>Budget</u>	<u>% of Budget</u> <u>Remaining</u>
Computer Equipment and Software	\$ 85,000	\$ 20,047	24%	\$ 64,953	76%
Software License Maintenance - IT Infrastructure	1,736,340	1,632,332	94%	104,008	6%
Server - IT Infrastructure	100,000	995	1%	99,005	99%
Contract IT Services - IT Infrastructure	53,000	7,650	14%	45,350	86%
County's ISD Support	150,000	5,060	3%	144,940	97%
Technology Research and Development	14,000	4,824	34%	9,176	66%
Total	<u>\$ 2,138,340</u>	<u>\$ 1,670,908</u>	78%	<u>\$ 467,432</u>	22%

Note: Depreciation expense in an amount of \$824,357 is a noncash expense and therefore not included in the adopted budget. This amount is reported on the income statement of the reporting period.

- Computer Equipment and Software expenses were significantly below budget as the need for acquisition or replacement of computer equipment fell short of expectations.

- Technology Research and Development (R&D) expenses were substantially below projections. This budget item provided funding for exploring new technologies that may help improve the daily operation and member services. Due to time constraints, Staff did not fully utilize the resources allocated for R&D purposes.
- Expenses for the remaining budget items (including Server, Contract IT Services, and County’s ISD Support) were relatively small, a reflection of the diminishing needs for additional servers and external support.

Professional Services Expenses. For the year ended June 30, 2019, the actual professional service expenses totaled \$25.9 million, or 95.0 basis points (or one hundredth of one percent) of the total fund. Overall expenses were below projection. Below is a summary of professional services expenses incurred during the fiscal year.

Investment Management & Other Professional Services				
Service	Actual Fee (bps)	Projected Fee FY 18-19	Actual Fee FY 18-19	% of Projected Fee Remaining
Investment Management	92.2	\$ 24,958,707	\$21,531,711	14%
Other Professional Services	3.9	941,500	910,495	3%
TOTAL	95.0	\$ 25,900,207	\$22,442,206	13%

Investment management fees are driven by contractual agreements and based on assets under management, the amount of capital committed, and/or investment performance.

Investment Management Services				
Investment	Actual Fee (bps)	Projected Fee FY 18-19	Actual Fee FY 18-19	% of Projected Fee Remaining
Total Public Equity	41.3	\$ 5,304,985	\$ 3,812,278	28%
Total Fixed Income	90.1	3,596,932	4,502,239	-25%
Total Risk Parity	67.4	1,370,182	1,310,293	4%
Total Alternative Assets	194.2	10,465,182	5,627,610	46%
Total Inflation Hedge	150.9	4,036,425	6,103,678	-51%
Total Cash Overlay	N/A	185,000	175,612	5%
TOTAL	92.2	\$ 24,958,707	\$21,531,711	14%

Key variances include the following:

- The management fees for “Public Equity” and “Alternative Assets” were below budget by 28% and 46%, respectively. The value of assets under management was expected to grow at a higher rate. The underperformance led to a corresponding overestimation of management fees.
- The management fees for “Fixed Income” were above budget by 25%. SamCERA added two new private credit managers, whose management fees were not included in the adopted budget.

- The management fees for “Inflation Hedge” exceeded the budget by 51%. The budget overrun resulted from multiple forces. Firstly, staff implemented a new public real assets strategy that was not budgeted. Secondly, the pace of capital calls for a real estate fund moved faster than projected, causing an unexpected increase in management fees that was based on dollars invested. Thirdly, the overperformance of two real asset funds triggered an unexpected increase in performance fees.

Other professional service fees, which are primarily based on contractual agreements, were closely in line with expectation.

Other Professional Services					
Contractor	Service	Actual Fee (bps)	Projected Fee FY 18-19	Actual Fee FY 18-19	% of Projected Fee Remaining
Milliman Inc.	Actuarial Consulting	0.4	\$ 91,500	\$ 96,698	-6%
Verus Investments	Investment Consulting	2.0	500,000	483,797	3%
Northern Trust	Custodian	1.4	350,000	330,000	6%
	TOTAL	3.9	\$ 941,500	\$ 910,495	3%

- The consulting fees for Milliman, Inc. slightly exceeded projections by 6%. The budget overrun was due to unplanned non-routine actuarial services that were needed this year.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

August 27, 2019

Agenda Item 7.3

TO: Board of Retirement
FROM: Scott Hood, Chief Executive Officer 
SUBJECT: Amendments to Board of Retirement Regulations

Recommendation

Approve a resolution amending Regulations 2.1, 2.2, 2.3 of Article II Board Officers and Chief Executive Officer; Regulations 3.4 and 3.9 of Article III Meetings; Regulations 4.8, 4.16, 4.18, 4.22 of Article IV Election of Trustees; Regulations 5.5, 5.7, 5.10, 5.11 and adding Regulation 5.13 to Article V Membership Duties & Rights; and Regulations 6.1, 6.2, 6.5 of Article VI Disability Retirement.

Background

From time to time, staff reviews the Board's regulations to determine if modifications should be recommended to the Board. At the July meeting, staff presented proposed changes, requested Board input and now is presenting them for the Board's adoption at today's meeting. Staff shared the proposed changes with all three participating employers and have not received any questions or comments.

After any amendment is approved by the Board of Retirement, the change will be submitted to the Board of Supervisors for its approval.

Discussion

A summary of the recommended changes is below and the proposed language change to each regulation is reflected in the attached resolution.

Article II
BOARD OFFICERS AND CHIEF EXECUTIVE OFFICER

Regulations 2.1, 2.2, and 2.3 currently read as follows:

2.1 Election of Chair: At the first regular meeting in July, the Board of Retirement shall elect one of its members chair for a term of one year or until his or her successor is duly elected and qualified. The Chair shall preside at all meetings of the Board, shall appoint all committees and shall perform all duties incidental to that office.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

2.2 Election of Vice Chair: At the first regular meeting in July, the Board of Retirement shall elect one of its members vice chair for a term of one year or until his or her successor is duly elected and qualified. In the Chair's absence or inability to act, the Vice Chair shall take the place and perform the duties of that office.

2.3 Election of Secretary: At the first regular meeting in July, the Board of Retirement shall elect one of its member's secretary for a term of one year or until his or her successor is duly elected and qualified. The Secretary shall attest to Resolutions and other such documents for the Board. In the Chair's and Vice Chair's absence or inability to act, the Secretary shall take the place and perform the duties of the Chair.

Currently, the terms of the Board's office holders line up with the trustees' terms which commence in July. However, unless there are unopposed candidates for the elected member's seats, due to the election schedule, there is minimal time in June to determine which trustee can be on the nominating committee and/or be submitted to the nominating committee as a proposed office holder. The proposed regulation change would allow for the election for these Board offices to occur in either July or August. For those that occur in August, the incumbent office holder would hold over for that month. If the incumbent is no longer in office, the regulations direct who would act.

Article III MEETINGS

Regulation 3.4 currently reads as follows:

3.4 Regular Meetings: Regular meetings of the Board shall be held on the Fourth Tuesday of each month. Meetings shall begin at 10:00 a.m. Meetings shall be held in SamCERA's offices. The Board may cancel and/or approve a change in the date, time and/or location of meetings within the County, if the proposed change is included on the agenda of a regular meeting.

Due to the timing of the Thanksgiving and Christmas holidays, and certain educational conferences, when the Board annually sets the meeting schedule, it reflects several changes in the regular meeting dates. The proposed amendment clarifies that these changes are done by resolution and expressly states that an additional regular meeting can be added.

Regulation 3.9 currently reads as follows:

3.9 Meeting Minutes: The minutes of the Board's meetings shall reflect the time and place of each meeting of the Board, the names of trustees present, all official acts of the Board, the votes cast by trustees when by roll call vote, a trustee's dissent or approval and reasons when requested. The minutes will be presented for

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approval at the next regular meeting. When called upon by the Chair, the Chief Executive Officer shall take a formal roll call vote in alphabetical order, with the Chair voting last. The minutes as approved, signed by the Chair, shall form part of the permanent records of the Board.

Sometimes a roll call vote is taken in seating order and sometimes is taken by someone other than the Chief Executive Officer (CEO). The proposed amendment eliminates the requirement for the CEO to take the roll call vote and it does not mandate the order of the vote.

Article IV ELECTION OF TRUSTEES

Regulation 4.8 currently reads as follows:

4.8 Fewer than Two Qualified Candidates: If the Elections Officer determines that there is one qualified candidate, the Elections Officer shall cancel the election and certify the single candidate elected. If there are no qualified candidates, the Elections Officer shall notify the Board who shall reschedule the election. The Chief Executive Officer shall re-notice the Election. Any election that has been re-noticed shall be held in accordance with the provision for Special Elections.

Existing Regulation 4.8 is consistent with Regulation 4.1, which provides that the County's Elections Officer is responsible for the conduct of the election and shall report directly to the Board of Retirement (Board). Government Code section 31523 provides that the Board of Supervisors cancels elections where there is only one candidate for a trustee election. However, through its past approval of Regulations 4.1 and 4.8, the Board of Supervisors has delegated the running of trustee elections to the Board. The proposed change to Regulation 4.8 expressly reflects this delegation and confirms the current process of the Board calling the election and the Elections Officer canceling elections when there are less than two candidates. Due to the timing of the election and the Board's meeting schedule, there is not enough time to bring the cancellation of the election to the Board prior to election day.

Regulation 4.16 currently reads as follows:

4.16 Alternate Safety Member: If there are two or more safety member candidates for the seventh member position, the candidate receiving the highest number of votes shall be elected to the seventh member position. The safety member candidate who is of a different safety membership group and who received the next highest number of votes, shall be elected to the Alternate Safety Member per Government Code section 31520.1. If there is no eligible candidate who is of a different safety membership group there will not be an Alternate Safety Member.

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The proposed change adds a sentence confirming that if there is no eligible candidate for the Alternate Safety Member a vacancy has occurred effective at the commencement of the new term which, in turn, would trigger a special election.

Regulation 4.18 currently reads as follows:

4.18 Receipt & Safekeeping of Ballots Cast: The Elections Officer shall accept and provide for the safekeeping of all ballots cast. Ballots must be retained for 180 days after Election Day, and, in the absence of litigation, may be discarded thereafter.

The proposed change clarifies that all election materials, not just ballots, must be retained for 180 days and in the absence of litigation may be discarded.

Regulation 4.22 currently reads as follows:

4.22 Special Elections: The Chief Executive Officer shall advise the Board when a vacancy occurs and shall recommend a date for a Special Election to fill the vacancy. If the vacancy occurs within nine months of the end of the term of the seat that has been vacated, there shall be no Special Election. If the vacancy occurs more than nine months prior to the end of the term, the Board shall call a Special Election, which shall be held not less than 60 nor more than 120 days from the effective date of the vacancy. Special Elections shall be conducted in conformance with the provisions of this Article for Regular Elections, except that the schedule shall be adjusted by the Elections Officer to comply with the date of the Special Election set by the Board.

The proposed regulation deletes the difference in processes for vacancies that occur near the end of the term. It also states that the Board has determined that the earliest possible date for the special election is not less than 60 nor more than 120 days from the effective date of the vacancy. This timing is due to the notice period, nomination period and the election itself.

Article V MEMBERSHIP DUTIES & RIGHTS

Regulation 5.5 currently reads, in pertinent part, as follows:

5.5 Required Documents for Retirement: Prior to the effective date of retirement, in addition to the fully executed and completed application for retirement, each member shall provide to the retirement system the following documents:

A. Proof of birth of the member filed in one of the following manners: copy of a birth Certificate, or passport.

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To comply with the upcoming airport security rules, many members will be getting the new the "REAL ID" card which requires a presentation to the DMV of certain identification documents, such as birth certification or passport. The proposed change would permit the REAL ID card to be allowed as proof of birthdate and would clarify that a passport or a passport card is acceptable.

Regulation 5.7 currently reads as follows:

5.7 Effective Date of Retirement: The effective date of retirement shall be the later of the day following the member's last day on the County payroll or the day the member filed the retirement application with the Chief Executive Officer.

The above section addresses active members but not deferred members who retire. The proposed change clarifies that for deferred members, the effective date of retirement shall be the later of the day the member elects on the application or the date the application is filed. It also deletes "the County" to reflect that SamCERA has three participating employers.

Regulation 5.10 currently reads as follows:

5.10 Statement of Retirement Allowance Time of Retirement: Prior to the ratification by the Board of an application for service retirement, the member shall be furnished with a statement indicating the amount of his or her retirement allowance calculated in accordance with the unmodified and various optional modes of settlement. Such statement shall be in duplicate and provide a place for the signature of the member and the member's spouse or registered domestic partner, if any, indicating the choice as to the type of retirement allowance selected. The completed statement shall constitute the annuity certificate provided for in Government Code section 31526.

In addition to estimates provided by staff at various times before retirement, many members are obtaining estimates for unmodified and various optional modes of retirement through the online MySamCERA portal. To be accurate on the dollar amount, staff waits until the last payroll has been processed to issue the final amount of a member's retirement allowance. The proposed change would simply provide that at retirement, the member is given a statement showing the effective date of retirement, the retirement allowance, and any other information that the CEO or designee determines is appropriate.

Regulation 5.11 currently reads as follows:

5.11 Statement of Deferred Retirement: When a member leaves the County service and applies for and is granted deferred retirement, such member shall be

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furnished with a statement indicating deferred retirement has been granted and setting forth the years of service credited to said member.

All members who leave employment and leave their funds on deposit, with five years of service credit either with SamCERA or a reciprocal agency, can elect to be a deferred member. And, under CERL, if they made no election, they will be automatically placed in a deferred status. Thereafter, all such members whether they applied for or were automatically deferred are placed on the Board's agenda for ratification of their deferred retirement. The proposed regulation deletes the phrase "applies for" and also reflects the current process of members receiving a statement indicating the deferred status and the date of retirement eligibility.

Regulation 5.13, a new regulation, would read as follows:

5.13 Electronic Signatures. The Board of Retirement may use and accept a document requiring a signature that is submitted by a member using an electronic signature, if the document and electronic signature are submitted using technology the Board deems sufficient, as set forth in a policy adopted by the Board, to ensure its integrity, security, and authenticity. A document submitted pursuant to the Board-adopted policy shall be given the same force as a signed, valid original document.

Government Code section 31527 (i) authorizes the Board to adopt a regulation for the use of electronic signatures on member documents if the document and electronic signature are submitted using technology that the Board deems sufficient to ensure integrity, security, and authenticity. As SamCERA is getting closer to using DocuSign or some other e-signature system, it would be prudent to add this authority in our regulations now. The regulation provides that before any system is used, the Board would adopt a policy to ensure that any such system would provide integrity, security, and authenticity.

Article VI DISABILITY RETIREMENT

Regulation 6.1 (A) reads as follows:

6.1 Application Process: The application process for service connected and non-service connected disabilities shall be as follows:

A. Submission of Completed Application: Either the member or the employer, on behalf of the member, can apply for a disability retirement by filing with SamCERA: (1) a completed SamCERA application for disability retirement form and (2) authorizations signed by the member permitting SamCERA and its legal counsel to obtain all medical information relating to the applicant's physical or mental illness or injury and permitting access to records relating to applicant's current and prior

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employment. Applicant's employer shall complete forms provided by SamCERA and provide information as deemed necessary. All information received by SamCERA or its agents and counsel shall be treated as confidential and not released to anyone except insofar as may be necessary for the administration of the retirement system or upon an order of a court of competent jurisdiction, as provided by Government Code section 31532.

D. Medical and Investigatory Services: The Chief Executive Officer is authorized and directed to secure such medical, investigatory and other services and advice in connection with applications for disability retirement as the Board may require in order to make its decision.

Currently the application form requests the member's address which, in turn, is used by staff to send important notices regarding the application process. The proposed amendment would confirm this practice and requires the member to update SamCERA with any address changes. It also clarifies that medical information is gathered to make a decision on the application without having the Board specifically "require" the information.

Regulation 6.2 (C) currently reads as follows:

6.2. Submission of Application Information to the Board:

(C) Request for a Formal Hearing: If the applicant or employer is dissatisfied with the Board's action, the applicant or employer may request a formal hearing. The request for formal hearing must be made in writing, and filed with the Chief Executive Officer, if by the member, within 60 days of the date of the notice of the Board's action; if by the employer, within 30 days of the date of notice of the Board's action. If no request for a formal hearing is filed within the applicable period, the Board's action shall be deemed final and binding.

After the Board has made its initial review of the application, the member may request a hearing before a hearing officer, who will make recommendations to the Board. Sometimes, there has been extensive and repeated delays by the member in having the matter heard by the hearing officer. To avoid this, the proposed change provides that if there is a failure to cooperate or any other act by or on behalf of a member which prevents the hearing officer's hearing to occur within one year of the hearing request, the hearing request shall be considered null and void by the Board. If this occurs, the Board's initial review decision is deemed final and binding. Before the Board can take such action, however, the applicant or applicant's representative shall be given at least 15 days written notice of the proposed action with the date and time of the Board meeting to appear and address the Board regarding the proposed action.

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Regulation 6.5 currently reads as follows:

6.5 Grounds for Termination of an Application for Disability Retirement: An application for disability retirement may be terminated and considered null and void by the Board one year after the date of its filing for one or more of the following reasons:

- A. Failure of the member to submit to a medical examination at the request of the Board; or
- B. Any failure to cooperate by the member or applicant or any other act or omission by the member or applicant or member or applicant's representative which prevents the Board from hearing and adjudicating the application for disability retirement within one year of its filing.

The proposed change clarifies that a disability application could be terminated for a member's failure to submit to a requested medical examination regardless of whether a year has passed from the date of filing. As for terminations due to delays caused by a member's failure to cooperate, rather than measuring the delay from the filing of the application, the measuring period would start when the member commences the delay. The unwarranted period of delay(s) would be for a period of 6 or more months. There are no changes to Regulation 6.6 which, among other items, requires staff to provide the applicant at least 15 days written notice of the proposed action to terminate the application and that the applicant can appear and address the Board.

Attachment

Resolution Approving Amendments to the Board of Retirement Regulations.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

RESOLUTION 2019-___

RESOLUTION AMENDING REGULATIONS 2.1,2.2, 2.3 OF ARTICLE II BOARD OFFICERS AND CHIEF EXECUTIVE OFFICER; REGULATIONS 3.4 AND 3.9 OF ARTICLE III MEETINGS; REGULATIONS 4.8, 4.16, 4.18, 4.22 OF ARTICLE IV ELECTION OF TRUSTEES; REGULATIONS 5.5, 5.7, 5.10, 5.11 OF ARTICLE V AND ADDING REGULATION 5.13 TO ARTICLE V MEMBERSHIP DUTIES & RIGHTS; AND REGULATIONS 6.1, 6.2, 6.5 OF ARTICLE VI DISABILITY RETIREMENT

WHEREAS, Government Code section 31525 provides that this Board, with the approval of the Board of Supervisors, may establish regulations that govern the operation of SamCERA that are not inconsistent with the California Employees' Retirement Law of 1937;

WHEREAS, the proposed amendments to the Board's regulations reaffirm and clarify the existing SamCERA practices and confirm that SamCERA's practices shall be in accordance with the California Employees' Retirement Law of 1937; and

WHEREAS, Government Code section 31527(i) authorizes the Board to adopt a regulation for the use of electronic signatures on member documents if the document and electronic signature are submitted using technology that the Board deems sufficient to ensure integrity, security, and authenticity; and

WHEREAS, the provisions contained in proposed regulation 5.13 authorize the use and acceptance of electronic signatures if the document and electronic signature if the document and electronic signature are submitted using technology the Board deems sufficient, as set forth in a policy to be adopted by the Board, to ensure its integrity, security, and authenticity; and

WHEREAS, the Board has reviewed proposed amendments and the addition to the regulations and desires to adopt such amendments;

NOW THEREFORE, IT IS HEREBY DETERMINED AND ORDERED that the Regulations of the Board of Retirement are amended to read as set forth below; and

BE IT FURTHER RESOLVED that the amendments shall become effective after their approval by the Board of Supervisors and the amendments to Article VI Disability Retirement sections 6.1, 6.2 and 6.5 shall only apply to applications for disability retirement filed after the effective date of the amendment.

Regulation 2.1 of Article II is amended to read:

2.1 Election of Chair: At the regular meeting in July or August, the Board of Retirement shall elect one of its members chair for a term of one year or until his or her successor is duly elected and qualified. The Chair shall preside at all meetings of the Board, shall appoint all committees and shall perform all duties incidental to that office.

Regulation 2.2 of Article II is amended to read:

2.2 Election of Vice Chair: At the regular meeting in July or August, the Board of Retirement shall elect one of its members vice chair for a term of one year or until his or her successor is duly elected and qualified. In the Chair's absence or inability to act, the Vice Chair shall take the place and perform the duties of that office.

Regulation 2.3 of Article II is amended to read:

2.3 Election of Secretary: At the regular meeting in July or August, the Board of Retirement shall elect one of its member's secretary for a term of one year or until his or her successor is duly elected and qualified. The Secretary shall attest to Resolutions and other such documents for the Board. In the Chair's and Vice Chair's absence or inability to act, the Secretary shall take the place and perform the duties of the Chair.

Regulation 3.4 of Article III is amended to read:

3.4 Regular Meetings: Regular meetings of the Board shall be held on the Fourth Tuesday of each month. Meetings shall begin at 10:00 a.m. Meetings shall be held in SamCERA's offices. By resolution, the Board may add, cancel and/or change the date, time and/or location of meetings within the County, if the proposed change is included on the agenda of a regular meeting.

Regulation 3.9 of Article III is amended to read:

3.9 Meeting Minutes: The minutes of the Board's meetings shall reflect the time and place of each meeting of the Board, the names of trustees present, all official acts of the Board, the votes cast by trustees when by roll call vote, a trustee's dissent or approval and reasons when requested. The minutes will be presented for approval at the next regular meeting. The minutes as approved, signed by the Chair, shall form part of the permanent records of the Board.

Regulation 4.8 of Article IV is amended to read:

4.8 Fewer than Two Qualified Candidates: If the Elections Officer determines that there is one qualified candidate, the Board of Supervisors has delegated its authority to cancel the election to the Elections Officer who shall cancel the election and certify the single candidate elected. If there are no qualified candidates, the Elections Officer shall notify the Board of Retirement who shall reschedule the election. The Chief Executive Officer shall re-notice the Election. Any election that has been re-noticed shall be held in accordance with the provision for Special Elections.

Regulation 4.8 of Article IV is amended to read:

4.16 Alternate Safety Member: If there are two or more safety member candidates for the seventh member position, the candidate receiving the highest number of votes shall be elected to the seventh member position. The safety member candidate who is of a different safety membership group and who received the next highest number of votes, shall be elected to the Alternate Safety Member per Government Code section 31520.1. If there is no eligible candidate who is of a different safety membership group, there will be a vacancy in the Alternate Safety Member seat effective the first day of the commencement of the new term.

Regulation 4.18 of Article IV is amended to read:

4.18 Receipt & Safekeeping of Ballots Cast and other Election Materials: The Elections Officer shall accept and provide for the safekeeping of all ballots cast. Ballots must be retained for 180 days after Election Day, and, in the absence of litigation, may be discarded thereafter. All other Election related materials and documents must be retained for 180 days after Election Day, and, in the absence of litigation, may be discarded thereafter.

Regulation 4.22 of Article IV is amended to read:

4.22 Special Elections: The Chief Executive Officer shall advise the Board when a vacancy occurs. The Board has determined that the earliest possible date for the Special Election be not less than 60 nor more than 120 days from the effective date of the vacancy and shall call a Special Election to be held during that period. Special Elections shall be conducted in conformance with the provisions of Government Code section 31523 and this Article for Regular Elections, except that the schedule shall be adjusted by the Elections Officer to comply with the date of the Special Election set by the Board.

Regulation 5.5 (A) of Article V is amended to read:

5.5 Required Documents for Retirement: Prior to the effective date of retirement, in addition to the fully executed and completed application for retirement, each member shall provide to the retirement system the following documents:

A. Proof of birth of the member filed in one of the following manners: copy of a birth certificate, or passport or passport card, or Federal Compliant REAL ID driver license or Federal Compliant REAL ID card.

Regulation 5.7 of Article V is amended to read:

5.7 Effective Date of Retirement: The effective date of retirement shall be the later of the day following the member's last day on payroll or the day the member filed the retirement application with the Chief Executive Officer. For members retiring from a deferred status, the effective date of retirement shall be the later of the day the member elects on the application or the date the application is filed.

Regulation 5.10 of Article V is amended to read:

5.10 Statement of Retirement Allowance Time of Retirement: Prior to the ratification by the Board of an application for service retirement, the member shall be furnished with a statement that shall indicate the effective date of retirement, the retirement allowance, and any other information that the Chief Executive Officer or designee determines is appropriate and in the member's best interest. This statement shall serve as an annuity certificate provided for in Government Code section 31526.

Regulation 5.11 of Article V is amended to read:

5.11 Statement of Deferred Retirement: When a member leaves the County service and applies for and is granted deferred retirement, such member shall be furnished with a statement indicating deferred retirement has been granted and setting forth the years of service credited to said member.

Regulation 6.1 (A) of Article VI is amended to read:

6.1 Application Process: The application process for service connected and non-service connected disabilities shall be as follows:

A. Submission of Completed Application: Either the member or the employer, on behalf of the member, can apply for a disability retirement by filing with SamCERA: (1) a completed SamCERA application for disability retirement form reflecting the member's current mailing address to receive all notices provided for in this Article VI which the member shall update as applicable during the process and (2) authorizations signed by the member permitting SamCERA and its legal counsel to obtain all medical information relating to the applicant's physical or mental illness or injury and permitting access to records relating to applicant's current and prior employment. Applicant's employer shall complete forms provided by SamCERA and provide information as deemed necessary. All information received by SamCERA or its agents and counsel shall be treated as confidential and not released to anyone except insofar as may be necessary for the administration of the retirement system or upon an order of a court of competent jurisdiction, as provided by Government Code section 31532.

Regulation 6.2 (C) of Article VI is amended to read:

6.2. Submission of Application Information to the Board: Staff, in consultation with the medical advisor, shall prepare a memorandum summarizing the application and information received from medical, employment and other records. Staff shall make a recommendation to the Board regarding the approval of the application.

C. Request for a Formal Hearing: If the applicant or employer is dissatisfied with the Board's action, the applicant or employer may request a formal hearing. The request for formal hearing must be made in writing, and filed with the Chief Executive Officer, if by the member, within 60 days of the date of the notice of the Board's action; if by the employer, within 30 days of the date of notice of the Board's action. If no request for a formal hearing is filed within the applicable period, the Board's action shall be deemed final and binding. If there is a failure to cooperate or any other act or omission by the member or applicant or their representative which prevents the hearing officer from being able to hear and make recommendations and findings on the application within one year of the request for a hearing, the hearing request shall be considered null and void by the Board and the Board's decision on the application shall be deemed final and binding. Before the Board determines whether to null and void a hearing request, the member or applicant or their representative shall be sent, at least 15 days prior, a written notice of the proposed action with the date and time of the Board meeting and shall be granted the opportunity to appear and address the Board regarding the proposed action.

Regulation 6.5 of Article VI is amended to read:

6.5 Grounds for Termination of an Application for Disability Retirement: An application for disability retirement may be terminated and considered null and void by the Board for one or more of the following reasons:

- A. Failure of the member to submit to a medical examination at the request of the Board; or
- B. Any failure to cooperate by the member or applicant or any other act or omission by the member or applicant or their representative which causes an unwarranted period of delay of 6 or more months and prevents staff's ability to submit the application to the Board for hearing and adjudicating because the review and/or investigation of the application cannot be completed.

BE IT FURTHER RESOLVED that the Board hereby adds regulation 5.13 to Article V of the Regulations of the Board of Retirement which shall read as follows:

5.13 Electronic Signatures: The Board may use and accept a document requiring a signature that is submitted by a member using an electronic signature, if the document and electronic signature are submitted using technology the Board deems sufficient, as set forth in a policy adopted by the Board, to ensure its integrity, security, and authenticity. A document submitted pursuant to the Board-adopted policy shall be given the same force as a signed, valid original document.

* * * * *

Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on August 27, 2019.

Ayes, Trustees:

Noes, Trustees:

Absent, Trustees:

Abstain, Trustees:

Board Secretary