



Notice of Public Meeting

The Board of Retirement of the San Mateo County Employees' Retirement Association will meet on **Tuesday, January 28, 2020, 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**
- 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 Regular Board Meeting Minutes from December 3, 2019
- 4. Approval of the Consent Agenda***

4.1 Disability Retirements (4) <ul style="list-style-type: none">• Marco Campos• Samantha Fireman• Krystal Gates• Anna Stock	4.3 Service Retirements
	4.4 Continuances
	4.5 Deferred Retirements
	4.6 Member Account Refunds
	4.7 Member Account Rollovers
4.2 Survivor Death Benefits (3) <ul style="list-style-type: none">• Gilbert Uban• Anand Ram• Lynsey Craig-Miller	4.8 Member Account Redeposit
	4.9 Acceptance of Trustees' Reports of Educational Activities Through Outside Provider
	4.10 Approval of Resolution to Execute Second Amendment to Contract with Digital Deployment Inc.
- 5. Benefit & Actuarial Services**
 - 5.1 Consideration of Agenda Items, if any, removed from the Consent Agenda
 - 5.2 Approval of a Resolution Adopting Cost of Living Adjustments (COLAs) for 2020
 - 5.3 Approval of Resolution to Execute Contract with Cheiron Inc. for Actuarial Audit Services
- 6. Investment Services**
 - 6.1 Report on Preliminary Monthly Portfolio Performance for the Period Ended December 31, 2019
 - 6.2 Report on Investment Consultant Annual Review
 - 6.3 Approval of Proposed Alternative Investments (to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see item C2)
 - 6.4 Approval of Securitized Core Fixed Income Manager
- 7. Board & Management Support**
 - 7.1 Report on March 24, 2020 Board-Staff Retreat Planning
- 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
- C2 Approval of Proposed Alternative Investments (to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26)
- C3 Public Employee Performance Evaluation, in accordance with Gov. Code § 54957, Title: Chief Executive Officer (to be heard in Closed Session Confidential Under Gov. Code §54957)

9. Report on Actions Taken in Closed Session

10. Adjournment in Memory of the Following Deceased Members:

Sumner, Robert	November 25, 2019	Assessor's
Jackson Sr, Lester	December 8, 2019	General Services
Anderson, Pamela	December 17, 2019	Probation
Hartman, Maureen	December 9, 2019	Courts
Koenig, Paul	December 10, 2019	Environmental Services
Lyman, Louise	December 19, 2019	Public Health
Golinsky, Nathalie	December 22, 2019	Courts
Derheim, Leroy	December 25, 2019	Sheriff's
Wilson, Pauline	December 29, 2019	Public Health
Young, Dale	January 1, 2020	County Manager's Office
Uban, Gilbert	November 26, 2019	Health Finance
Ram, Anand	November 25, 2019	Public Works
Craig-Miller, Lynsey	January 1, 2020	Probation



Scott Hood, Chief Executive Officer

Posted: January 22, 2020

(* 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.

IN COMPLIANCE WITH THE CALIFORNIA GOVERNMENT CODE AND THE AMERICANS WITH DISABILITIES ACT: SamCERA's facilities and board and committee meetings are accessible to individuals with disabilities. Contact SamCERA at (650) 599-1234 at least three business days prior to the meeting if (1) you need special assistance or a disability-related modification or accommodation, including auxiliary aids or services, in order to participate in this meeting; or (2) you have a disability and wish to receive the agenda, meeting notice, agenda packet or other writings that may be distributed at the meeting in an alternative format. Notification in advance of the meeting will enable SamCERA to make reasonable arrangements to ensure full accessibility to this meeting and the materials related to it.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
DECEMBER 3, 2019 – REGULAR BOARD MEETING MINUTES

2001.1 Call to Order, Roll Call and Miscellaneous Business

Call to Order: Mr. Hoefer, 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, Elizabeth LeNguyen, JulieAnne Nagal, Doris Ng, Gladys Smith and Anne Trujillo.

Consultants and speakers: Andy Paulden (Brown Armstrong), Margaret Jadallah, John Nicolini and Faraz Shooshani (Verus).

2001.2.1 Oral Communications from the Board: None.

2001.2.2 Oral Communications from the Public: None.

2001.3.1 Approval of Regular Board Meeting Minutes from October 29, 2019: Mr. Hoefer asked if there were any changes or corrections, or objections, to the meeting minutes from the Board meeting held on October 29, 2019.

Action: Ms. Arnott moved to approve the minutes from the Board meeting on October 29, 2019. The motion was seconded by Mr. Hackleman and carried with a vote of 6-0, with trustees Arnott, Battey, Hackleman, Hoefer, O'Malley and Raw all in favor; none opposed.

2001.3.2 Approval of Audit Committee Meeting Minutes from October 29, 2019: Mr. Hoefer asked if there were any changes or corrections, or objections, to the Audit Committee meeting minutes held on October 29, 2019.

Action: Mr. Battey moved to approve the minutes from the Audit Committee meeting on October 29, 2019. The motion was seconded by Mr. Hackleman and carried with a vote of 6-0, with trustees Arnott, Battey, Hackleman, Hoefer, O'Malley and Raw all in favor; none opposed.

2001.4.0 Approval of the Consent Agenda: Mr. Hoefer asked if there were any items to be removed for discussion from the Consent Agenda. No items were removed.

Action: Ms. O'Malley moved to approve the Consent Agenda, and the motion was seconded by Mr. Raw. The motion carried with a vote of 6-0, with trustees Arnott, Battey, Hackleman, Hoefer, O'Malley and Raw all in favor; none opposed.

2001.4.1 Disability Retirements:

a) The Board found that **Catherine Baker** (1) is permanently incapacitated from the performance of her usual and customary duties as a Social Worker III; (2) found that her disability was the result of an injury arising out of and in the course of her employment; 3) granted her application for a service-connected disability retirement; and 4) pursuant to Government Code section 31724, found that the filing of Ms. Baker's application was delayed by a combination of administrative oversight

and the resulting inability to ascertain the permanency of her incapacity until after the date following the day Ms. Baker last received regular compensation, which is January 21, 2016, and that such date will be deemed to be the date the application was filed making the effective date of her benefits to be January 22, 2016.

b) The Board further reviewed the application of **Gabriela Breton** based on a new October 30, 2019, IME report by Dr. Brian Jacks, a psychiatrist, received after the Board's initial review in September 26, 2017, along with the original information submitted to the Board and: (1) found that she is permanently incapacitated from the performance of her usual and customary duties as a Marriage and Family Therapist II, (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 **Christina Hernandez** (1) is permanently incapacitated from the performance of her usual and customary duties as a Court Reporter, (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.

d) The Board found that **Hector Robles Moncada** (1) is permanently incapacitated from the performance of his usual and customary duties as a Supervising Mental Health Clinician, (2) found that his disability was not the result of an illness arising out of and in the course of his employment and (3) granted his application for a non-service-connected disability retirement.

e) The Board found that **Lidia Sirotko** (1) is permanently incapacitated from the performance of her usual and customary duties as a Patient Services Assistant II, (2) found that her disability was not the result of an illness arising out of and in the course of her employment and (3) granted her application for a non-service-connected disability retirement.

f) The Board found that **Rosanna Torrejon** (1) is permanently incapacitated from the performance of her usual and customary duties as a Patient Services Specialist, (2) found that her disability was not the result of an illness arising out of and in the course of her employment and (3) granted her application for a non-service-connected disability retirement.

2001.4.2 **Survivor Death Benefits:** None.

2001.4.3 **Service Retirements:**

Name	Effective Retirement Date	Department
Biel, Thomas	September 28, 2019	Human Services Agency
Foster, Roxane	March 30, 2019	Def'd from Human Services Agency
Garcia-Fulle, Marnita	September 28, 2019	Human Services Agency
Gonzales, Celia	September 3, 2019	San Mateo Medical Center
Hayward, Christopher	September 19, 2019	Sheriff's Office
Khan, Abdul	September 25, 2019	Dept of Public Works
Lapolla, Nancy	September 14, 2019	Family Health
Lewis, Robert Lee	September 21, 2019	San Mateo Medical Center
Martinez, Rebecca	September 14, 2019	San Mateo Medical Center
Meredith, Michael	September 30, 2019	Probation
Munguia-Chang, Roger	September 28, 2019	San Mateo Medical Center
O'Malley-Riley, Marsi	October 1, 2019	Deferred from Library
Puls, Cheryl	September 25, 2019	Def'd from Dept of Public Works
Rihm, Michael	September 18, 2019	Aging & Adult Services

Rosenberger, Jeffrey
Warner, Ana
Yambling, Socorro

October 1, 2019
September 14, 2019
September 21, 2019

Deferred from Controller's
Family Health
Courts

2001.4.4 **Continuances:**

Survivor's Name

Gomez, Alexander
Hansen, Marilyn
Ochi, Tad

Beneficiary of:

Gomez, Herlin
Hansen, Carl
Ochi, Mae

2001.4.5 **Deferred Retirements:**

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

Name

Bonanno, Leandro
Castellanos, Pauline
Ekhaus, Ruth
Haro, Alejandra
Khadra, Sara
Lau, Lilliam
Salas, Adrienne
Tassone, Gina

Retirement Plan Type

S7, Non-vested - Reciprocity
G7, Non-vested - Reciprocity
G7, Non-vested - Reciprocity
G4, Vested - Reciprocity
G7, Non-vested - Reciprocity
G7, Non-vested - Reciprocity
G5, Vested - Reciprocity
G7, Non-vested - Reciprocity

2001.4.6 **Member Account Refunds:**

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

Name

Anderson, Jennifer L (QDRO)
Bastidas, Leticia (FBO: Orlando Bastidas)
Beavers-Silva, Priscilla
Bendana, Guiselle
Coll, Eleana
Concordia, Raymund
Craig, Jason
Gutierrez, Joseph
Lavaki, Halamako (FBO: Epeli Lavaki)
Lunsford, Monique
Martin, Dominic
Minsky, Sarah
Miranda, Jazmine
Moore, Anthony
Newsome, Jessica
Sagrado, John
Scott, Aaron
Tonumailau, Tutulu

Retirement Plan Type

S4, Non-vested
G4, Non-vested
G7, Non-vested
G7, Non-vested
G7, Non-vested
G7, Non-vested
S7, Non-vested
G7, Non-vested
G4, Vested
G5, Non-vested
G7, Non-vested
G7, Non-vested
G7, Non-vested
G7, Non-vested
G7, Vested
G7, Non-vested
G7, Non-vested
G7, Non-vested

Villalobos Lopez, Mayte	G7, Non-vested
Ware, Trevor	G7, Non-vested
Wright, Ayanna	G7, Non-vested
Young, Zachery	G4, Vested

2001.4.7 **Member Account Rollovers:**

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

Name	Retirement Plan Type
Delmonico, Anthony	G5, Vested
Jamison, Christopher	G7, Non-vested
Lin, Szu-Yu	G7, Non-vested
Manuel, Freda	G7, Non-vested
Maplestone, Rodney	G7, Non-vested
Rangel, Christopher	G7, Non-vested
Sanders, Matthew	G7, Non-vested
Shepard, Derek	G7, Non-vested

2001.4.8 **Member Account Redeposits:** None.

2001.4.9 **Acceptance of Trustees' Reports of Educational Activities:** The Board accepted the submitted reports for educational activities attended by Ms. Arnott, Mr. Hackleman, Ms. Lee and Ms. Salas.

2001.5.1 **Consideration of Agenda Items, if any, removed from the Consent Agenda:** None.

2001.6.1 **Report on Preliminary Monthly Portfolio Performance Report for the Period Ended October 31, 2019:** Mr. Coultrip discussed the preliminary monthly performance report with the Board. He reported that SamCERA's net preliminary return for October was 1.0%, bringing the preliminary trailing twelve-month return ending October 2019 to 10.3% net. October saw reduced volatility as equity returns were positive. This item was informational and for discussion only, no action was taken.

Mr. David arrived at 10:06 a.m. and took his seat at the dais. Mr. Tashman arrived at 10:11 a.m. and also took his seat at the dais.

2001.6.2 **Report on Quarterly Investment Performance for the Period Ended 09/30/19:** Mr. Coultrip informed the Board that the 3rd quarter net total return for SamCERA's portfolio was +1.5% which was 40 bps higher than the +1.1% policy benchmark return. Private equity was the primary source of outperformance this quarter. Ms. Jadallah further discussed the performance report and answered questions from the Board. This item was informational and for discussion only, no action was taken.

2001.6.3 **Report on Absolute Return and Risk Parity Annual Manager Reviews:** Ms. Ng reported that staff met with SamCERA's absolute return managers, Aberdeen Standard and AQR as well as one of their risk parity managers, AQR, on October 10th. Ms. Ng reviewed the meeting notes from the annual reviews and reported there were no significant concerns during each portfolio review. Mr. Coultrip, Ms. Jadallah and Ms. Ng answered questions from the Board. This item was informational only, no action was taken.

- 2001.6.4 **Presentation of Private Asset Semi-Annual Performance Reports as of June 30, 2019:** Ms. Dames informed the Board that as of June 30, 2019, SamCERA's private equity portfolio had a total market value of \$336.0 million (7.2% of SamCERA's total fund). She also informed the Board that SamCERA's private real assets portfolio had a total market value of \$63.6 million (1.4% of SamCERA's total fund). Mr. Nicolini and Mr. Shooshani, of Verus, reviewed the private equity and private real assets performance reports with the Board and answered their questions. This item was informational only, no action was taken.
- 2001.6.5 **Approval of Real Estate Manager Structure:** Mr. Coultrip discussed the details of the proposed long-term real estate structure. He mentioned the 10% allocation to real estate would be achieved over several years.
- Action:** Mr. Tashman moved to approve the proposed real estate manager structure. The motion was seconded by Mr. Raw. The motion carried with a vote of 8-0, with trustees Arnott, Battey, David, Hackleman, Hoefler, O'Malley, Raw and Tashman all in favor; none opposed.
- 2001.6.6 **Report on Securitized Fixed Income and Absolute Return Short-List Managers:** Mr. Coultrip updated the Board on the two searches that are underway. The first search is for a securitized core fixed income strategy. Staff and consultant will perform on-site due diligence visits on two potential short-listed managers. The second search is to further diversify the manager risk within the absolute return program by adding up to two additional strategies. Staff and consultant will perform on-site due diligence visits for two absolute return short-listed managers. Ms. Jadallah reviewed the absolute return short-list manager search memo with the Board. This item was informational only, no action was taken.
- 2001.6.7 **Approval of Proposed Alternative Investment (to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see C2):** This item was taken out of order and heard after item 6.4. The Board adjourned into Closed Session at 11:11 a.m. to hear item 6.7 then reconvened in Open Session at 11:30 a.m. See Closed Session report under C2.
- 2001.7.1 **Annual Review of Board's Independent Auditor:** Ms. Smith presented the results of Brown Armstrong's annual performance report with Mr. Paulden available via phone. Ms. Smith reported that Brown Armstrong received high marks from the Board and staff and thanked him and his team for their service. Mr. Paulden highlighted several areas of the survey and responded to questions from the Board. This item was informational only, no action was taken.

The meeting was adjourned for lunch at 12:15 p.m. and reconvened at 12:54 p.m.

- 2001.7.2 **Discussion of Board/Staff Retreat Topics:** Ms. Smith went over a list of topics to discuss for the 2020 Board/Staff Retreat. The Board provided their feedback and agreed to maintain the one-day format. This item was informational and for discussion only, no action was taken.
- 2001.8.1 **Chief Executive Officer's Report:** None.
- 2001.8.2 **Assistant Executive Officer's Report:** Ms. Smith called to attention the SamCERA 2020 Workplan found in the Board's Day of folder. She also provided an update on the construction in SamCERA's offices.

Ms. Trujillo informed Board members about upcoming educational events.

2001.8.3 **Chief Investment Officer's Report:** Mr. Coultrip informed the Board that staff plans to send out the survey regarding Verus' annual review.

2001.8.4 **Chief Legal Counsel's Report:** Ms. Carlson provided the Board with a report on a CalPERS disability retirement case addressing reasonable accommodation.

C1 **Consideration of Disability Items, if any, removed from the Consent Agenda:** None.

C2 **Approval of Proposed Alternative Investment (to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26):** Ms. Carlson reported that the Board approved a motion to make a capital commitment of \$15 million for the AG Credit Solutions LP, with a vote of 8-0, with trustees Arnott, Battey, David, Hackleman, Hoefer, O'Malley, Raw and Tashman all in favor; none opposed.

No other reportable action was taken.

2001.10 **Adjournment:** Mr. Hoefer adjourned the meeting at 1:17 p.m. in memory of the deceased members listed below.

Rutley, Ralph	October 14, 2019	Probation
Kennedy, Timothy	October 24, 2019	Human Services
Da Roza, Daniel	October 25, 2019	Public Health
Hamaguchi, Bette	October 21, 2019	Health Services
Killin, Betty	October 21, 2019	Mental Health
Cuadra, Manuel	November 4, 2019	Public Health
Caverly, Charles	November 5, 2019	Sheriff's
Du, Nang	November 12, 2019	Mental Health

Kurt Hoefer
Board Chair

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

January 28, 2020

Agenda Items 4.1- 4.8

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 **Marco Campos** (1) is permanently incapacitated from the performance of his usual and customary duties as a Sheriff's Correctional Officer, (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 (1) accept the proposed findings and recommendations of the Hearing Officer, George Camerlengo, (2) find that **Samantha Fireman** is permanently disabled and unable to perform her job duties as a Deputy Probation Officer III, (3) find that her disability was the result of an injury arising out of and in the course of her employment and (4) grant her application for a service-connected disability retirement.

- c) The Board find that **Krystal Gates** (1) is permanently incapacitated from the performance of her usual and customary duties as a Revenue Officer II; (2) find that her disability was the result of an injury arising out of and in the course of her employment; (3) grant her application for a service-connected disability retirement; and 4) pursuant to Government Code section 31724, find that the filing of Ms. Gates application was delayed by a combination of administrative oversight and the resulting inability to ascertain the permanency of her incapacity until after the date following the day Ms. Gates last received regular compensation, which is October 17, 2017 and that such date will be deemed to be the date the application was filed making the effective date of her benefits to be October 18, 2017.

- d) 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

- a) The Board find that **Gilbert Uban**, would have been entitled to a non-service-connected disability but has died, and Blesilda Uban, the surviving spouse, has elected to receive an optional death allowance pursuant to Government Code § 31781.1.

- b) The Board find that **Anand Ram**, would have been entitled to a non-service-connected disability but has died, and Rajeshni Ram, the surviving spouse, has elected to receive an optional death allowance pursuant to Government Code § 31781.1.
- c) The Board find that **Lynsey Craig-Miller**, would have been entitled to a non-service-connected disability but has died, and Dan Miller, the surviving spouse, has elected to receive an optional death allowance pursuant to Government Code § 31781.1.

4.3 Service Retirements

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

Name	Effective Retirement Date	Department
Adams, Nancy	October 26, 2019	Deferred from Superior Court
Anicete, Maria	October 4, 2019	Deferred from Superior Court
Belson, Janise	September 28, 2019	Library
Bemis-Albertson, Wendy	October 15, 2019	QDRO
Bishop, Dianne	October 20, 2019	San Mateo Medical Center
Bruins, Eileen	November 1, 2019	Human Services Agency
Cronin, Kelly	November 30, 2019	Sheriff's Office
Gibson, Kenneth	November 2, 2019	Sheriff's Office
Grygiel, Gloria	November 30, 2019	Public Health
Lane, Paul	October 15, 2019	Def'd from Assessor Recorder's Office
Lashkoff, Terry	December 1, 2019	Assessor Recorder's Office
Lynn, Rebecca	October 4, 2019	Deferred from Library
Maclaren, Peter	November 9, 2019	Superior Court
Monzon, Leonel	October 26, 2019	Dept. of Public Works
Moody, Stacey	October 18, 2019	Sheriff's Office
Mortenson, Ronald	October 26, 2019	Superior Court
Nakata, Joy	December 1, 2019	Deferred from Controller's
Naser, Norma	November 30, 2019	Mental Health
Pedersen, Brenda	November 26, 2019	Def'd from San Mateo Medical Cntr
Peralta, Noemi	October 19, 2019	Human Services Agency
Pettit, Stephen	November 25, 2019	Sheriff's Office
Provost, Mark	October 22, 2019	Deferred from Sheriff's Office
Purcell, Daniel	October 19, 2019	Assessor Recorder's Office

Ramos, Daniel	October 22, 2019	Child Support Services
Reich, Kelly	November 30, 2019	Public Safety Communications
Rogers, Kathryn	October 28, 2019	Def'd from San Mateo Medical Cntr
Ruiz, Gladys	October 8, 2019	Correctional Health
Sharma, Mohini	October 19, 2019	San Mateo Medical Center
Taylor, Annette	November 30, 2019	Deferred from Behavioral Health
Tica, Florencia	November 1, 2019	San Mateo Medical Center
Torres, Marty	December 1, 2019	Information Services Dept
Uribe, Thelma	December 3, 2019	Plan 3 Only
Valamanesh, Fereshteh	November 1, 2019	San Mateo Medical Center
Vides, Angel	November 16, 2019	San Mateo Medical Center
Wolff, Cecilia	October 31, 2019	Deferred from Sheriff's Office
Wolgast, Johanna	November 2, 2019	San Mateo Medical Center
Wright, Timothy	October 22, 2019	Deferred from Sheriff's Office
Yun, Han	October 1, 2019	Human Services Agency
Zago, Steven	October 31, 2019	Public Health

4.4 Continuances

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

Survivor's Name	Beneficiary of:
Caverly, Judith	Caverly, Charles
Guillory, Celeste	Guillory, Anthony
Kennedy, Sheila	Kennedy, Timothy
McClanahan, Dorothy	McClanahan, Donald

4.5 Deferred Retirements

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

Name	Retirement Plan Type
Aguilar, Maria	G7, Non-vested - Reciprocity
Aquino, Alvin	G4, Vested
Bamberger, Nicole	G7, Vested
Bechler, Sofia	S7, Vested - Reciprocity
Bergren, Jessica	G4, Vested - Auto Defer - Code 31700

Blumenthal, Benjamin	G7, Non-vested - Reciprocity
Flores, Juvenal	G4, Vested - Reciprocity
Huang, Irene	G7, Non-vested - Reciprocity
Hulten, Alicia	G7, Non-vested - Reciprocity
Lam, Cathy	G7, Non-vested - Reciprocity
Lind, Sarah	G4, Vested - Reciprocity
Lycett, Blake	S5, Vested
Mangin, Olivia	G7, Non-vested - Reciprocity
Martin, Barbara	G7, Vested
Montenero, John	G5, Vested
Panyalertrat, Ratchaneekorn	G4, Vested - Auto Defer - Code 31700
Soletti, Virginia	G2/G3, Vested - Reciprocity
St. Peter, Christopher	G4, Vested
Torres, Irving	G5, Vested
Zhang, Bitian	G7, Non-vested - Reciprocity

4.6 Member Account Refunds

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

Name	Retirement Plan Type
Collins, Ronald	G7, Non-vested
Harrison, Tannis (QDRO)	G4, Non-vested
Pena, Donna	G7, Non-vested

4.7 Member Account Rollovers

None.

4.8 Member Account Redeposits

None.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

January 28, 2020

Agenda Item 4.9

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



Recommendation

Accept the attached 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 Annual Fall Conference, Monterey

Sandie Arnott
Al David
Susan Lee
Katherine O'Malley
Alma Salas

Attachments

Trustee's Education Proof of Participation Certificates and Summaries

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



Trustee Name Sandie Arnott		Date(s) of Event 11/12/19-11/15/19
Education Event Name Annual Fall Conference		
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>14.45</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 checked="" type="checkbox"/> Ethics | <input type="checkbox"/> Fair hearings |
| <input type="checkbox"/> Benefits administration | <input checked="" 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?

Especially leadership skills, the impact of AI on demographics, technology, blockchain & futures, Cannabis industry, creating opportunities for members, Executive for State Dept, but also a challenge, Economic Outlook - Current Regulation

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 11/20/19
---	-------------------------

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 Al David		Date(s) of Event 11/12/19-11/15/19
Education Event Name Annual Fall Conference		
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: 16 (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 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 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?

Great presentation on Real Estate

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) Albert David	Date 11/20/19
---	-------------------------

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 Susan Lee		Date(s) of Event 11/12/19-11/15/19
Education Event Name Annual Fall Conference		
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>18</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 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?

Building a stronger board culture, Frontier Markets
Disruptive Technology, ESG, Safety Breakfast,
what makes a person a basketballer
changing consumer patterns, Risk & Mortality

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 11/20/19
---	-------------------------

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 11/12/19-11/15/19
Education Event Name Annual Fall Conference		
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: _____ (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 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 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?

Real estate in Pension Portfolio, diversity-inclusion, 130130 strategies, private credit,

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 11/20/19
--	-------------------------

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 Alma Salas		Date(s) of Event 11/12/19-11/15/19	
Education Event Name Annual Fall Conference			
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: _____ (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 checked="" type="checkbox"/> Ethics | <input type="checkbox"/> Fair hearings |
| <input type="checkbox"/> Benefits administration | <input checked="" type="checkbox"/> Pension fund governance |
| <input type="checkbox"/> Actuarial matters | <input type="checkbox"/> New board member orientation |
| <input checked="" type="checkbox"/> Pension funding | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Pension fund investments and investment program management | |

Summary Report

What concepts or information did you learn about?

TEAM WORK important on A Retirement Status of SAMCERA against other 37 Act Systems

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>Alma R. Salas</i>	Date 11/20/19
---	-------------------------

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

January 28, 2020

Agenda Item 4.10

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer 
Tariq Ali, Chief Technology Officer 

SUBJECT: Resolution Authorizing the Chief Executive Officer to Execute a Second Amendment to the Agreement with Digital Deployment for Mobile App Services

Recommendation

Approve a resolution authorizing the Chief Executive Officer to execute a Second Amendment to the Agreement with Digital Deployment, Inc. for mobile application development and extending the term to March 1, 2021 and increasing the fiscal cap to \$150,000.

Background

SamCERA has a “MySamCERA” mobile application that enables active members to perform retirement estimates, download forms, and check beneficiary information. Retirees can view deductions and withholdings, check beneficiary information, and more. Since its launch in March of 2017, over 500 members have downloaded the app.

Discussion

In 2015, Digital Deployment Inc. designed SamCERA’s public website and have been maintaining it since its launch. Staff and members have found our website to be helpful and easy to navigate with a modern feel. During the last five years, Digital Deployment has been very responsive and helpful to staff. Several other 37 act systems have subsequently hired Digital Deployment to re-design their websites. Digital Deployment is now interested in expanding into designing mobile applications (apps) for member self-service.

SamCERA’s current app, which was created by Vitech as part of the PASS project, is three years old and in need of updating. As more and more members turn to apps to transact routine business within all facets of daily living, they expect the latest functionality. To that end, staff and Vitech have discussed updating the app. In the interim, Digital Deployment has developed a prototype of an app that would integrate with our V3 system data. With Vitech’s support and permission, Digital Deployment will utilize the Vitech application program interfaces (APIs) to interact with our V3 system.

In March of 2019, staff entered into an agreement for \$32,000 with Digital Deployment to: (1) determine the need for a change in SamCERA’s existing mobile application and the goals of a new mobile application; (2) provide a recommended approach to creating sustainable user-focused mobile application for the Vitech V3 pension administration system software; and (3)

to provide a prototype mobile app for SamCERA. Under this agreement, Digital Deployment can invoice SamCERA only after SamCERA approves the deliverables of the product design sprint and if the Board directs staff to move forward with their full development of the mobile application.

Digital Deployment has presented the deliverables of the product design sprint which reflects a mobile application with a modern and fresh user interface design with more intuitive usability. Staff recommends taking the next step with Digital Deployment and engage them to move forward with the full development of the application.

Staff recommends that the Board approve the attached resolution directing the Chief Executive Officer to execute an amendment to the existing contract with Digital Deployment to extend the term to March 1, 2021 and to add \$118,000 to be used for the full development of the app, bringing the aggregate cap to \$150,000. Funds for development of the app have been included in the approved FY 19-20 budget.

To address any unknown requirements or other additional required services, the attached resolution authorizes the Chief Executive Officer to execute subsequent amendments up to an aggregate of \$10,000 above the contract cap through the term of the agreement.

Attachment

Resolution Authorizing Chief Executive Officer to Execute a Second Amendment to the Agreement with the Digital Deployment, Inc. for Development of a Mobile Application.

**RESOLUTION AUTHORIZING THE CHIEF EXECUTIVE OFFICER TO EXECUTE A SECOND
AMENDMENT TO AGREEMENT WITH THE DIGITAL DEPLOYMENT, INC.
FOR DEVELOPMENT OF A MOBILE APPLICATION**

RESOLUTION 2020-_____

WHEREAS, In March of 2019, SamCERA entered into an agreement for \$32,000 with Digital Deployment to: (1) determine the need for a change in SamCERA's existing mobile application and the goals of a new application; (2) provide a recommended approach to creating mobile application for the Vitech V3 pension administration system software; and (3) and to provide a prototype mobile app for SamCERA; and

WHEREAS, the Board desires amended the existing contract with Digital Deployment to extend the term to March 1, 2021 and to add \$118,000 to be used for the full development of the app, bringing the aggregate cap to \$150,000; therefore, be it

RESOLVED, that the Board of Retirement authorizes the Chief Executive Officer to execute an amendment to the existing contract with Digital Deployment to extend the term to March 1, 2021 and to add \$118,000 to be used for the full development of a mobile application, bringing the aggregate cap to \$150,000; therefore, be it

FURTHER RESOLVED, that to address any unknown requirements or other additional required services, the Chief Executive Officer is authorized to execute subsequent amendments up to an aggregate of \$10,000 throughout the term of the agreement.

* * * * *

Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on January 28, 2020.

Ayes, Trustees:

Noes, Trustees:

Absent, Trustees:

Abstain, Trustees:


Robert Raw
Board Secretary

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

January 28, 2020

Agenda Item 5.2

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer 

SUBJECT: Adoption of Cost of Living Adjustments (COLAs) for 2020

Recommendation

Approve resolution adopting the Cost of Living Adjustments as recommended by Milliman, Inc.

Discussion

Annual COLAs to SamCERA benefits are calculated pursuant to the County Employees Retirement Law (CERL) which requires that COLAs be based on the change in the Consumer Price Index for the Bay Area provided by the U.S. Bureau of Labor Statistics and rounded to the nearest one half of one percent.

Milliman, Inc. has calculated the annual COLAs for each retirement tier and plan for approval by the Board. As reflected in the attached letter, Milliman reports that the CPI increased 3.31% during 2019. Rounded to the nearest one half of one percent, this yields a COLA of 3.5% for Plan 1 General and Safety members, a COLA of 3.0% for Plan 1 Probation and Plan 2 members and a COLA of 2% for Plan 4, 5, 6 and 7 if they retire before April 2, 2020.

Probation Plan 1 members will have .5% deposited into their COLA bank.

All COLAs will be paid beginning with the April 2020 benefit payments.

Attachments

January 17, 2020 Letter from Milliman, Inc.
Resolution Adopting Cost of Living Adjustments Effective April 1, 2020 as Recommended by Milliman, Inc.



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

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

milliman.com

January 17, 2020

Scott Hood
Chief Executive Officer
San Mateo County Employees' Retirement Association
100 Marine Parkway, Suite 125
Redwood Shores, CA 94065-5208

Re: Annual COLA Payable in 2020

Dear Scott:

The San Mateo County Employees' Retirement Association (SamCERA) provides a Cost-of-Living Adjustment (COLA) to retirees and beneficiaries who retired on or before April 1 of each year in accordance with Article 16.5 of the County Employees' Retirement Law of 1937 (CERL). This letter outlines the COLA percentage and changes to the COLA Bank to be adopted by the Board and effective in April of 2020.

Inflation Index

The first step in the calculation process is the measurement of inflation. The calculation of the annual COLA is specified in the CERL. For Plan 1 General and Safety members, the COLA is governed by Section 31870.2. For Plan 1 Probation and all Plan 2 members, the details of the COLA are provided under Section 31870.1. For Plan 4-7 members, the COLA is governed by Section 31870. Plan 3 members do not receive any COLA under Article 16.5 of the CERL.

Section 31870.2 says that the COLA should be calculated using...

...the cost of living as of January 1st of each year as shown by the then current Bureau of Labor Statistics Consumer Price Index for All Urban Consumers for the area in which the county seat is situated...

Identical language appears in Sections 31870 and 31870.1 of the CERL. The Retirement Board has adopted the Annual Average Consumer Price Index for All Urban Consumers (CPI-U) for the San Francisco-Oakland-San Jose area (Base Period: 1982-84=100) as the basis for making the annual adjustments. This index increased by 3.31% during the 2019 calendar year, from an index value of 285.550 in 2018 to an index value of 295.004 in 2019.

COLA and COLA Bank

The annual COLA that SamCERA retirees and beneficiaries are eligible to receive is based on the change in the consumer price index rounded to the nearest one-half of one percent (subject to the maximum COLAs specified in relevant sections of the CERL). We recommend that the SamCERA Board adopt the following items to take effect in April 2020:

- COLA percentage

- Plan 1. Each retiree and beneficiary who retired on or before April 1, 2020 will receive a Cost-of-Living Adjustment in accordance with the following table.

Date of Retirement	General	Safety	Probation
All Dates	3.5%	3.5%	3.0%

- Plan 2. Each retiree and beneficiary who retired on or before April 1, 2020 will receive a Cost-of-Living Adjustment of 3.0%.
- Plan 3. No Cost-of-Living Adjustment is provided to Plan 3 retirees and beneficiaries.
- All Other Plans. Each retiree and beneficiary who retired on or before April 1, 2020 will receive a Cost-of-Living Adjustment of 2.0%, the maximum increase under CERL 31870.

- COLA Bank

- Plan 1. Each retiree and beneficiary who retired on or before April 1, 2020 will have his or her COLA Bank increased in accordance with the following table:

Date of Retirement	General	Safety	Probation
All Dates	0.0%	0.0%	0.5%

COLA Bank accumulations for Plan 1 retirees and beneficiaries are shown in the attached exhibits.

- All Other Plans. In accordance with Section 31874.4 of the CERL, retirees and beneficiaries of plans 2 through 7 do not accumulate COLA Banks.

Certification

Milliman's work product was prepared exclusively for the use or benefit of SamCERA for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning SamCERA's operations. It is not for the use or benefit of any third party for any purpose. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

This work product was prepared solely for SamCERA for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal, investment, or accounting counsel.

The signing actuaries are independent of the plan sponsors. We are not aware of any relationship that would impair the objectivity of our work.

We are members of the American Academy of Actuaries and Associates of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Please let us know if you have any questions or need any additional information.

Sincerely,

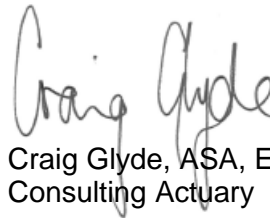


Nick Collier, ASA, EA, MAAA
Consulting Actuary

NC/CG/nlo

Attachments

cc: Gladys Smith



Craig Glyde, ASA, EA, MAAA
Consulting Actuary

**San Mateo County Employees' Retirement Association
Plan 1 COLA Bank Accumulations
General and Safety**

Based on the Consumer Price Index for All Urban Consumers (CPI-U) for the San Francisco-Oakland-San Jose area (Base Period: 1982-84=100)

Retirement during 12-month period ended April 1 2020 or earlier	Accumulated COLA Bank April 1, 2020 0.0%	Accumulated COLA Bank April 1, 2019 0.0%	2020 Annual COLA 3.5%
--	---	---	--

**San Mateo County Employees' Retirement Association
Plan 1 COLA Bank Accumulations
Probation**

Based on the Consumer Price Index for All Urban Consumers (CPI-U) for the
San Francisco-Oakland-San Jose area (Base Period: 1982-84=100)

Retirement during 12-month period ended April 1	Accumulated COLA Bank April 1, 2020	Accumulated COLA Bank April 1, 2019	2020 Annual COLA
2019 or earlier	1.5%	1.0%	3.0%
2020	0.5%	0.0%	3.0%

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Board of Retirement

**RESOLUTION ADOPTING COST OF LIVING ADJUSTMENTS EFFECTIVE APRIL 1, 2020
AS RECOMMENDED BY MILLIMAN, INC.**

RESOLUTION 2020-__

WHEREAS, Government Code Sections 31870, 31870.1, 31870.2 and 31874.4 authorize the Board to grant cost of living adjustments on an annual basis to recipients of SamCERA benefits; and

WHEREAS, the Board has retained Milliman, Inc. to provide actuarial services to the Board; and

WHEREAS, Milliman, Inc., by its letter dated January 17, 2020, has provided the appropriate annual cost of living adjustments for benefits based on the member's retirement tier, date of retirement; and applicable County Employees Retirement Law (CERL) statute, therefore, be it

RESOLVED, that the Board adopts the schedules of cost of living adjustments set forth in the attached January 17, 2020, letter from Nick J. Collier and Craig Glyde, Consulting Actuaries, Milliman, Inc., to Chief Executive Officer Scott Hood, therefore, be it

FURTHER RESOLVED, that the Board hereby adopts said cost of living adjustments effective April 1, 2020, therefore be it

FURTHER RESOLVED, that the Chief Executive Officer is hereby authorized and directed to take all actions necessary to provide for the payment of cost of living adjustments in accordance with the adopted schedules.

* * * * *

Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on January 28, 2020.

Ayes, Trustees:

Noes, Trustees:

Absent, Trustees:


Abstain, Trustees:

Robert Raw
Board Secretary

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

January 28, 2020

Agenda Item 5.3

TO: Board of Retirement
FROM: Scott Hood, Chief Executive Officer 
SUBJECT: Agreement with Cheiron Inc. for Actuarial Audit Services

Recommendation

Adopt a resolution authorizing the Chief Executive Officer to execute an agreement with Cheiron Inc. for actuarial audit services.

Background

Government Code §31453 requires periodic valuations of SamCERA's actuarial soundness. It is prudent to have an actuarial audit performed at least every three years to determine if there are any issues or concerns with the work performed by the Board's actuary. This additional oversight places SamCERA in a better position to catch an actuarial error before it can have significant detrimental effect to the soundness of the fund.

Discussion

Since 2004, SamCERA has used three different firms to perform the audit to validate the appropriateness of the actuarial assumptions and methodologies employed the actuary. The most recent firm was Segal Consulting, who audited Milliman's Triennial Experience Studies and Actuarial Valuation Reports for 2011, 2014, and 2017.

As Milliman Inc. was recently reselected to be the Board's actuary and as Segal has been our auditing actuary since 2011, staff determined that it would be in the best interest of SamCERA to use a different auditing actuarial firm. Cheiron Inc., is an actuarial firm with significant experience within the county retirement systems either as the actuary or auditing actuary and has the requisite skills to conduct the audit.

The attached resolution authorizes the Chief Executive Officer to execute an agreement with Cheiron Inc., for actuarial auditing services that covers the period from April 1 - December 31, 2020, at a cost not to exceed \$90,000. As this is the first time Cheiron has provided services for SamCERA, there may be unanticipated costs for certain services. The resolution provides that the Chief Executive Officer can make subsequent amendments and minor modifications up to a total of \$10,000.

Attachment

Resolution Authorizing the Chief Executive Officer to Execute an Agreement with Cheiron Inc. for Actuarial Auditing

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Board of Retirement

RESOLUTION AUTHORIZING THE CHIEF EXECUTIVE OFFICER TO EXECUTE AN AGREEMENT WITH CHEIRON INC. FOR ACTUARIAL AUDIT SERVICES

RESOLUTION 2020-__

WHEREAS, Article XVI, §17 (e) of the Constitution of the State of California vests the Board with “The sole and exclusive power to provide for actuarial services in order to assure the competency of the assets of the...system” and Government Code §31453 requires periodic valuations of SamCERA’s actuarial soundness; and

WHEREAS, this Board has determined that it is prudent to have periodic actuarial audits of the work performed by the Board’s actuary to better ensure the financial soundness of the fund; and

WHEREAS, in 2018, after conducting a competitive Request for Proposal process, SamCERA reselected Milliman Inc. as its actuary and Segal Consulting has been the auditing actuary since 2011; and

WHEREAS, and it is in the best interest of SamCERA to employ a different actuarial firm to conduct an independent audit to validate the appropriateness of the actuarial assumptions and methodologies employed by the actuary; and

WHEREAS, Cheiron Inc. is an actuarial firm with significant experience with County retirement systems as either the actuary or auditing actuary; and

WHEREAS, this Board has determined that it is in the best interests of SamCERA to contract with Cheiron Inc. to perform actuarial audit services for the 2020 triennial experience study and 2020 valuation; therefore, be it

RESOLVED, the Chief Executive Officer to execute an agreement with for Cheiron Inc. for actuarial audit services that covers the period from April 1, 2020, through December 31, 2020, at a cost not to exceed \$90,000; therefore, be it

FURTHER RESOLVED, that the Chief Executive Officer is hereby authorized and directed to execute subsequent amendments and minor modifications in an amount not to exceed \$10,000 in the aggregate throughout the term of the agreement.

* * * * *

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on January 28, 2020.

Ayes, Trustees:

Noes, Trustees:

Absent, Trustees:

Abstain, Trustees:

Robert Raw
Board Secretary

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

January 28, 2020

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
December 31, 2019

Recommendation

Accept the preliminary performance report dated December 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 4-11) also shown.

Discussion

The fund's net preliminary return for December was 2.0%, bringing the preliminary trailing twelve-month return ending December 2019 to 16.4% net. The preliminary twelve-month net return is below SamCERA's Plan Benchmark return of 16.9% but above SamCERA's Actuarial Assumed Earnings Rate of 6.5%.

Equity markets continued their torrid run, with the U.S. equity markets hitting record highs during the month. The broad U.S. equity market (as measured by the Russell 3000 Index) was up 2.9% in December (31% for calendar year 2019). International markets were also higher on the month. Developed international equity (as measured by MSCI EAFE) was up 3.2% (22% for calendar year 2019), while emerging markets were up 7.5% (18.4% for calendar year 2019).

Economic data was muted in December. Manufacturing activity contracted again in December, while consumer confidence was mixed (the Conference Board's Consumer Confidence Index fell, while the University of Michigan's Consumer Sentiment Index rose).

The general U.S. fixed income market fell slightly by 0.1% during the month, as lower credit spreads were offset the higher interest rates amid a steepening yield curve. The 10-year U.S. Treasury yield increased during the month, with the yield increasing 14 basis points and ending at 1.92% by month-end.

Attachments

Verus Capital Markets Update

Northern Trust Performance Report



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

DECEMBER 2019
Capital Markets Update

Market commentary

U.S. ECONOMICS

- The NAHB Homebuilder Confidence Index advanced 5 points to 76, well above the neutral level of 50 and its highest level since 1999. A low supply of homes, combined with low interest rates and a strong labor market have all contributed to the 20-point gain in the sentiment indicator since last December.
- The ISM Manufacturing PMI remains under the neutral level of 50.0 and fell to 47.2 from 48.1 despite expectations for a slight improvement. The indicator is sitting at its lowest point since June 2009 and “global trade” concerns between the U.S. and China have been cited as the reason for the continued contraction in activity.
- Consumer confidence indicators ticked up in December. The University of Michigan’s Consumer Sentiment Index rose from 96.8 to 99.3, narrowly beating expectations of 99.2.

U.S. EQUITIES

- The S&P 500 Index climbed 3.0% in December, bringing the 2019 total return to 31.5%, the highest annual figure since 2013. Accommodative Fed policy as well as beliefs that U.S. – Chinese relations were improving helped to move the index higher.
- The CBOE VIX Index of implied volatility ticked up from 12.6 to 13.8, indicating an increase in expectations for 30-day forward S&P 500 Index volatility. The trailing 30-day realized volatility of the S&P 500 Index increased to 7.3%.
- Per FactSet, the bottom-up 12-month target price for the S&P 500 Index is 3441, which represents a 6.5% increase over December’s close of 3231. Expectations are for the Energy (+11.2%) sector to see the largest increase and Information Technology (+2.3%) the smallest.

U.S. FIXED INCOME

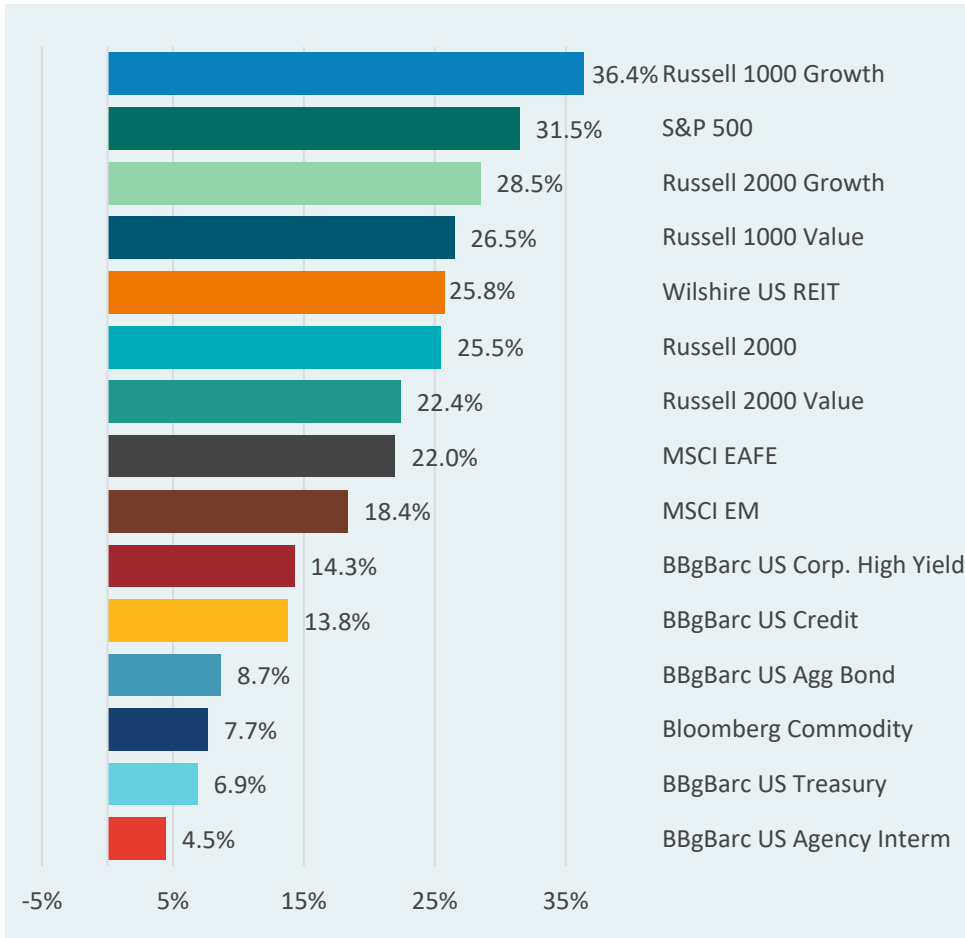
- The Federal Open Market Committee held the fed funds range steady at 1.50% to 1.75%. Participants indicated that rate increases were unlikely, as long as “economic data remains consistent”. A few members expressed concern that leaving rates low for too long might encourage excessively-risky bank behavior.
- The New York Fed’s intervention in overnight funding markets prevented overnight liquidity from drying up during the year-end turn as some had feared might happen. The Fed, which has been injecting liquidity into markets through its repo facility since September, is hoping to conclude repo operations by February.
- The difference between the 10-and 2-year Treasury yields widened to 34 bps in December, the widest since 2018. Longer-dated Treasury yields picked up more than shorter-dated yields as expectations for growth and inflation in 2020 ticked higher.

INTERNATIONAL MARKETS

- The recent general election in the U.K. resulted in Prime Minister Boris Johnson’s Conservative Party winning a decisive majority in Parliament. It remains likely that the U.K. will leave the EU on January 31st, but tensions will remain high as both sides try to negotiate a trade agreement by the end of next year.
- German exports fell -2.9% year-over-year in November. Germany’s relatively manufacturing-reliant economy has struggled in the face of slower global trade and more mercantilist trade policies.
- For the second consecutive calendar year, the S&P 500 Index (+31.5%) delivered a total return greater than both the MSCI EAFE (+22.0%) and MSCI EM (+18.4%) indices.

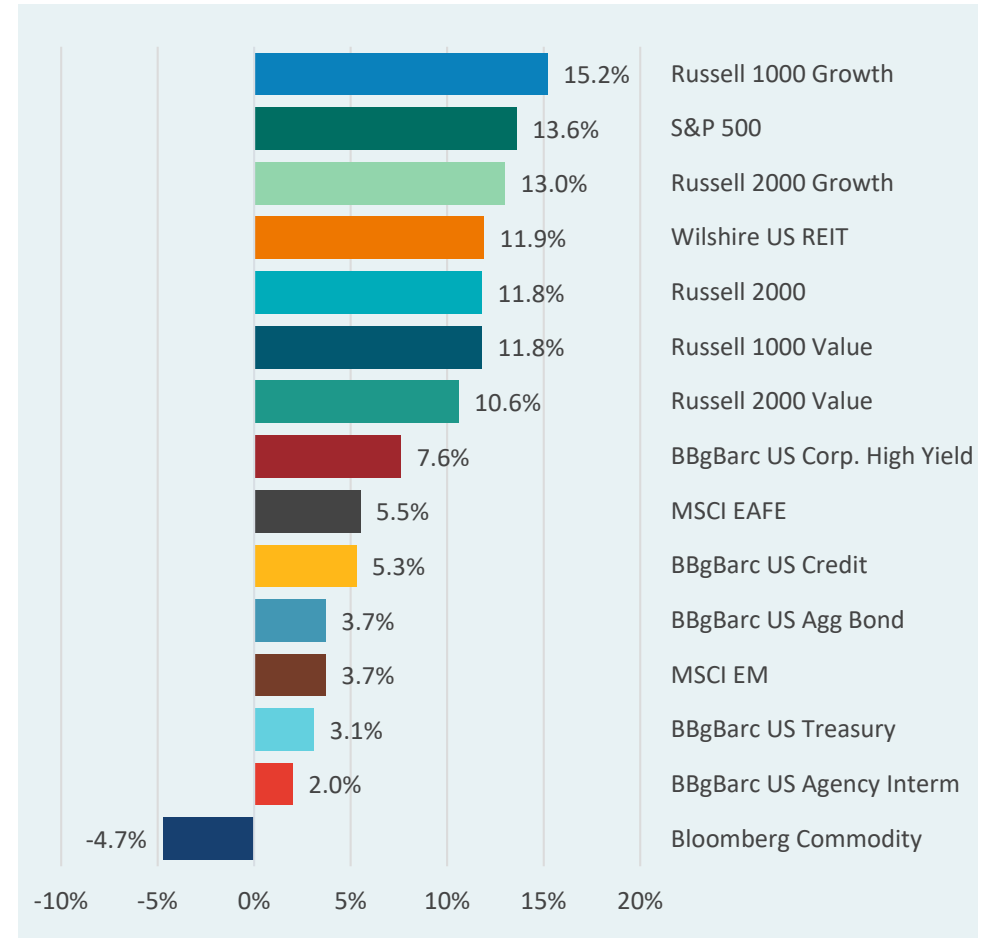
Major asset class returns

ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/19

TEN YEARS ENDING DECEMBER



Source: Morningstar, as of 12/31/19

U.S. large cap equities

- The S&P 500 Index gained 3.0% in December and finished the year up 31.5%. The Energy (+6.0%), Information Technology (+4.5%) and Health Care (+3.6%) sectors were the biggest movers within the overall index and the Industrials (-0.1%) sector was the only sector to post negative performance.
- At month-end the one-year forward P/E ratio of the S&P 500 Index was 18.3, above its 5- and 10-year averages of 16.7 and 14.9. Per FactSet, the Consumer Discretionary (22.5x) sector was priced the highest relative to one-year forward expected earnings.
- The Information Technology sector gained 4.5% over the month, bringing its 1-year return to 50.3%. At a weight of roughly 22% the sector was the largest contributor (+10.0%) to the advance of the S&P 500 Index. Mega-cap tech names such as Apple and Microsoft led the way for most of the year.
- Energy sector stocks advanced 6.0% likely due to news that U.S. crude oil stockpiles fell more than expected. Further, encouraging economic data may have boosted speculation on higher crude oil demand in the future.

S&P 500 PRICE INDEX



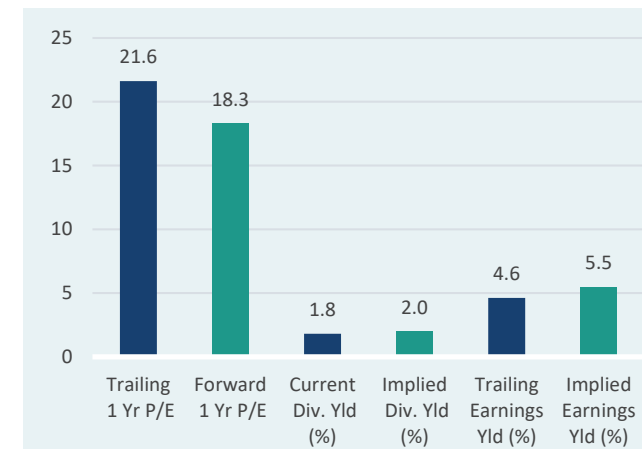
Source: Bloomberg, as of 12/31/19

IMPLIED VOLATILITY (VIX INDEX)



Source: CBOE, as of 12/31/19

S&P 500 VALUATION SNAPSHOT

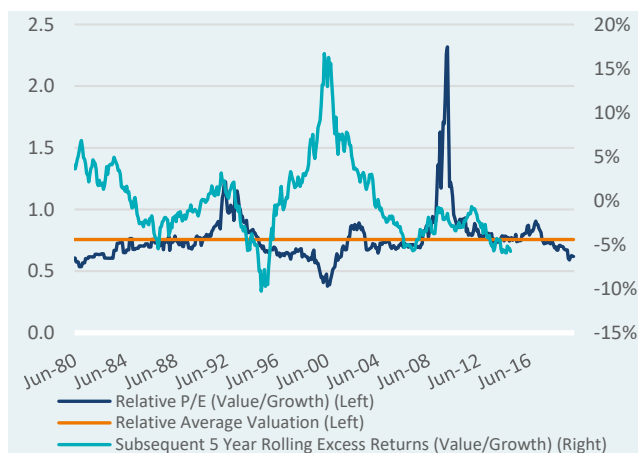


Source: Bloomberg, as of 12/31/19

Domestic equity size and style

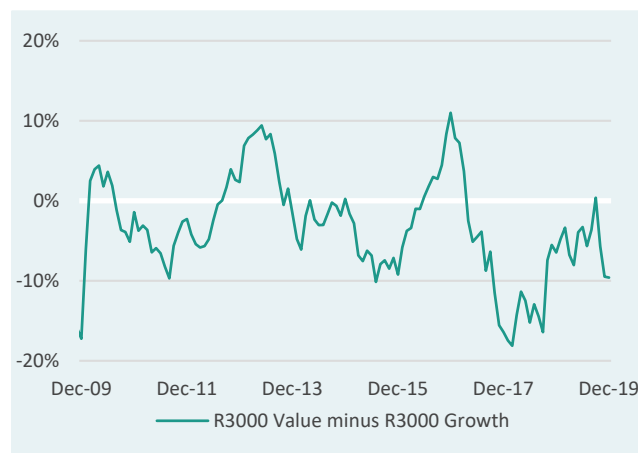
- Growth stocks edged out value stocks to end the year with the Russell 3000 Growth Index up 3.0% versus 2.8% for the Russell 3000 Value Index. In 2019, growth-style equities returned 35.9%, easily outpacing value-style equities (+26.2%).
- Large-cap equities and small-cap equities performed in line with one another as the Russell 1000 Index and the Russell 2000 Index both advanced 2.9%. In 2019, large-cap equities (+31.4%) outperformed their small-cap peers (+25.5%) by a significant margin.
- Large-cap equities' largest outperformance relative to small-cap was within the Information Technology sub-index, where the Russell 1000 Index was up 4.1% to the Russell 2000 Index's 2.0%. The most significant underperformance was within the Energy sector, where large-cap returned 6.5% and small-cap 16.7%.
- Within the large-cap universe, growth-oriented equities outperformed their value counterparts by 0.2%. Conversely, within the small-cap universe, value-oriented equities outpaced growth equities by 1.2%.

VALUE VS. GROWTH RELATIVE VALUATIONS



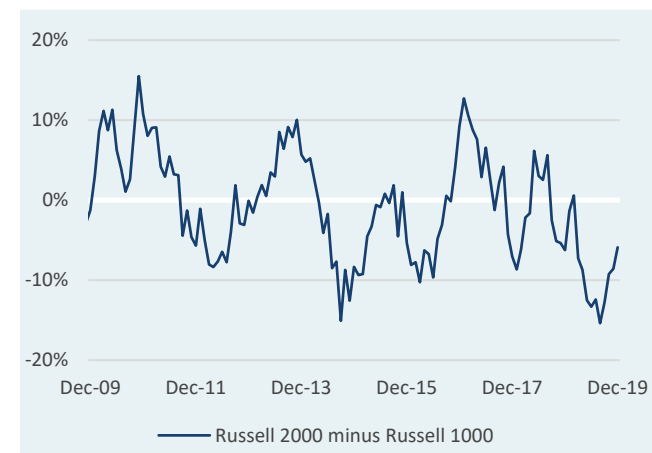
Source: Russell, Bloomberg, as of 12/31/19

VALUE VS. GROWTH 1-YR ROLLING RELATIVE PERFORMANCE



Source: FTSE, Bloomberg, as of 12/31/19

SMALL VS. LARGE 1-YR ROLLING RELATIVE PERFORMANCE

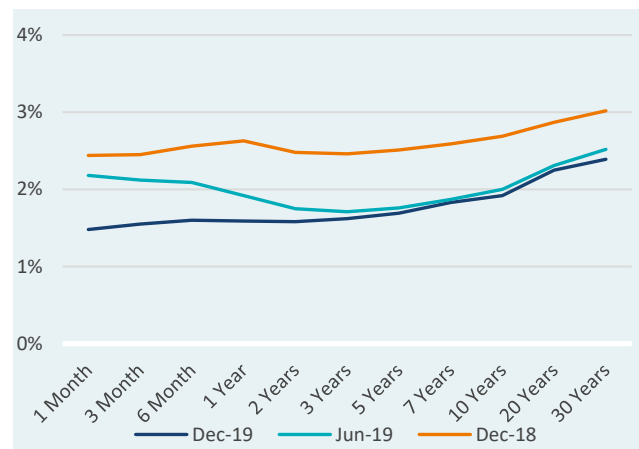


Source: FTSE, Bloomberg, as of 12/31/19

Fixed income

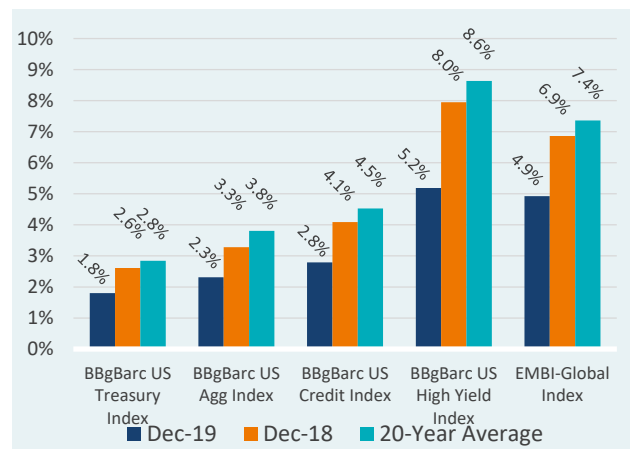
- The JPM GBI-EM Global Diversified Index advanced 4.1% compared to the JPM EMBI Global Diversified Index's 2.0%. U.S. dollar weakness vs. emerging market currency pairs increased returns for unhedged investors in local-currency denominated emerging markets debt over the month.
- At the end of the period, the futures implied probability of the fed funds rate being cut by at least 0.25% by the end of the 2020 sat at 51%. There was a 17% probability of 0.50% in cuts by year-end.
- The European Central Bank held rates steady for the new President Christine Lagarde's first meeting. The Governing Council voted to keep the deposit rate at its all-time low level of -0.50%, in line with expectations.
- Euro-area core inflation remains stubbornly low at 1.3% year-over-year and the ECB has pledged to keep its current stimulus in place until inflation is firmly back near its target of just below 2%. Some officials argue more aggressive stimulus may be needed as inflation has undershot its target for most of the last decade.

U.S. TREASURY YIELD CURVE



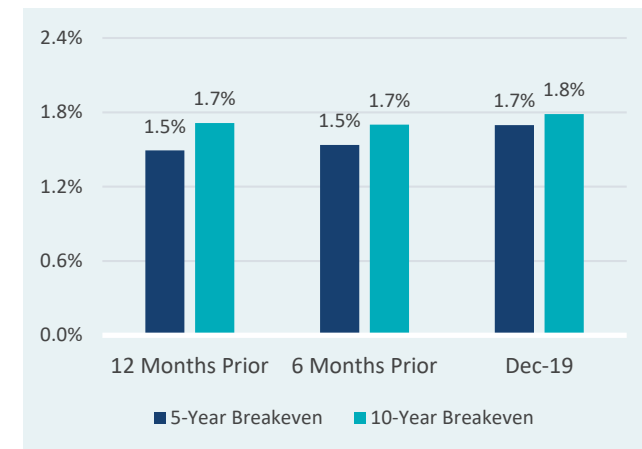
Source: Bloomberg, as of 12/31/19

NOMINAL YIELDS



Source: Morningstar, as of 12/31/19

BREAKEVEN INFLATION RATES

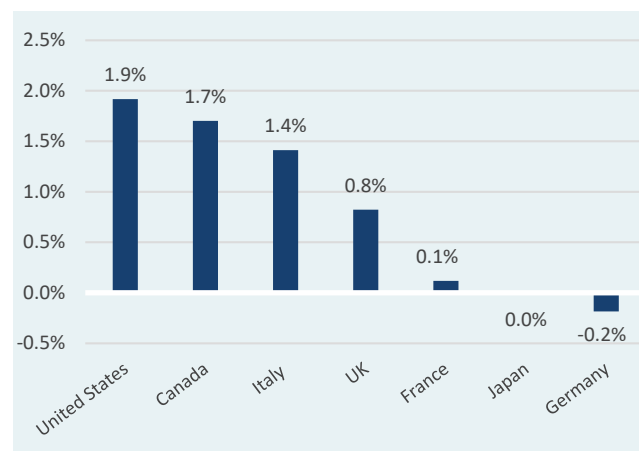


Source: Bloomberg, as of 12/31/19

Global markets

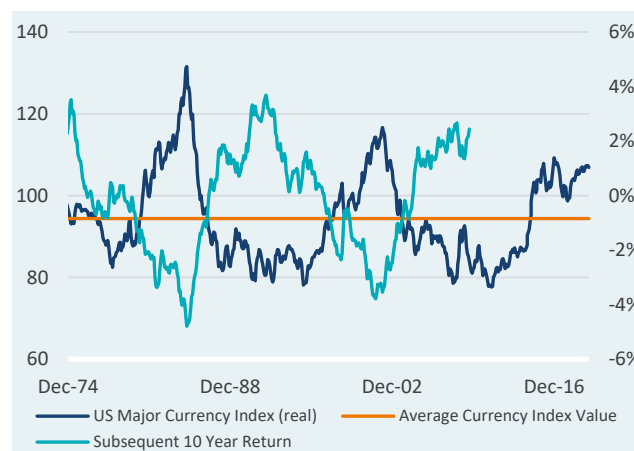
- The J.P. Morgan Emerging Market Currency Index advanced 2.7% in December. Broad emerging market currency strength likely resulted in the MSCI EM Index (+7.5%) outperforming the MSCI EM Local Index (5.7%) in U.S.-dollar terms, to the benefit of unhedged U.S. investors in emerging markets equity.
- Japanese Prime Minister Shinzo Abe announced Japan's first stimulus package since 2016, worth \$121B. The package will be used to repair typhoon damage, upgrade infrastructure and invest in technologies. Officials expect it to boost economic growth by 1.4%.
- Global market participants breathed a collective sigh of relief as U.S. and Chinese negotiators ironed out the plan for inking a phase one trade agreement. Chinese Vice Premier Liu He will travel to Washington for a signing ceremony at the White House on January 15th.
- The phase one deal will cut existing tariffs on \$120B in Chinese imports to 7.5% from 15.0%. U.S. tariffs of 25.0% on \$250B worth of Chinese imports will remain unchanged. In return the Chinese have agreed to bolster purchases of U.S. agricultural goods and offer more protections for businesses operating in China.

GLOBAL SOVEREIGN 10-YEAR YIELDS



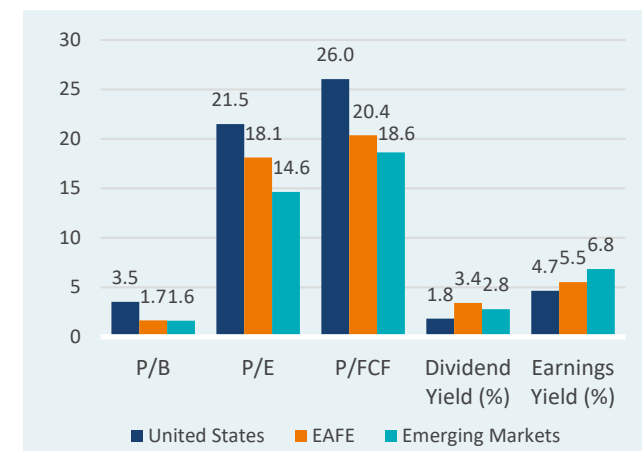
Source: Bloomberg, as of 12/31/19

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 12/31/19

MSCI VALUATION METRICS (3-MONTH AVG)



Source: Bloomberg, as of 12/31/19

Commodities

- The Bloomberg Commodity Index gained 5.0%, bringing its 2019 return to 7.7%. All major components of the commodities basket saw positive returns and Petroleum (+9.5%), Energy (+6.9%) and Softs (+6.2%) led the way.
- The Petroleum component of the commodities basket advanced 9.5% over the month led by increasing oil prices. Brent crude oil returned 10.4%, due to U.S. crude inventories falling further than expected, U.S. – China trade optimism, and confirmation of extended OPEC production cuts.

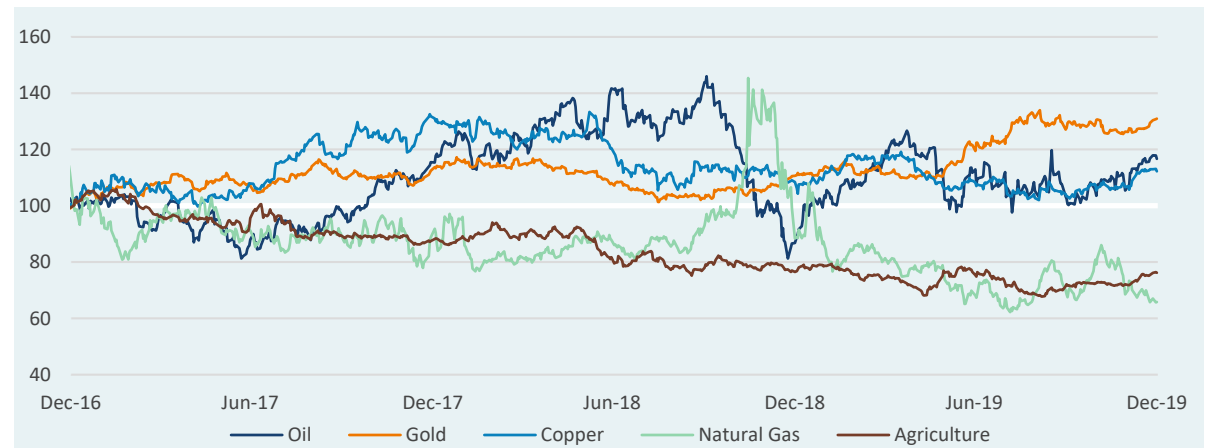
- The Softs Sub-Index rose 6.2% driven primarily by increasing coffee prices (+9.1%). Unfavorable weather in Brazil, the top producer and exporter of coffee, has pushed green bean stockpiles near 50-year lows, and will likely lead to tighter supply dynamics in 2020.
- Gold continued its strong yearly performance and gained 3.6% in December. A favorable interest rate environment characterized by low rates, which decrease the opportunity cost of holding gold, likely attributed to gold returning 18.0% in 2019, it's largest yearly gain since 2010.

INDEX AND SECTOR PERFORMANCE

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg Commodity	5.0	4.4	7.7	7.7	(0.9)	(3.9)	(4.7)
Bloomberg Agriculture	5.8	7.1	1.7	1.7	(6.9)	(7.0)	(4.0)
Bloomberg Energy	6.9	5.8	11.8	11.8	(2.3)	(7.9)	(11.7)
Bloomberg Grains	4.6	3.6	(1.1)	(1.1)	(6.1)	(8.9)	(4.6)
Bloomberg Industrial Metals	3.1	(0.2)	7.0	7.0	3.7	(0.5)	(3.5)
Bloomberg Livestock	1.6	0.1	(6.0)	(6.0)	(0.6)	(5.5)	(1.8)
Bloomberg Petroleum	9.6	13.4	33.8	33.8	5.8	(3.4)	(5.9)
Bloomberg Precious Metals	3.9	3.7	17.0	17.0	7.4	3.7	2.1
Bloomberg Softs	6.2	13.9	4.3	4.3	(11.6)	(6.8)	(5.6)

Source: Morningstar, as of 12/31/19

COMMODITY PERFORMANCE



Source: Bloomberg, as of 12/31/19

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	2019	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	36.4	14.6	15.2
Large Cap Equity	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	31.4	11.5	13.5
Small Cap Growth	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	28.5	9.3	13.0
Large Cap Value	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	26.5	8.6	11.8
Small Cap Equity	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	25.5	8.3	11.8
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	22.4	8.2	10.6
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	22.0	7.0	9.8
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	18.6	6.1	6.4
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	18.4	5.7	5.5
US Bonds	-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	8.7	5.6	3.7
Hedge Funds of Funds	-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	7.8	3.0	3.7
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	7.7	2.2	2.8
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	4.8	1.1	0.6
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	2.1	-3.9	-4.7

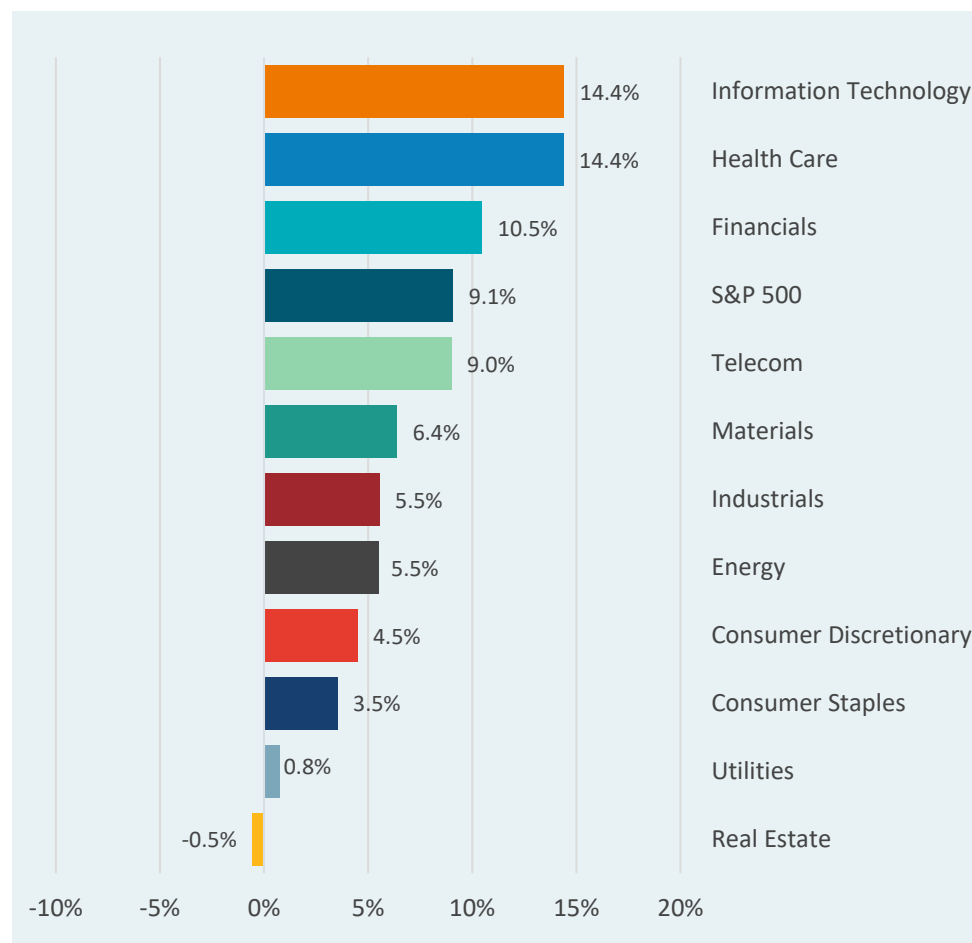
BEST
↑
↓
WORST

- Large Cap Equity
- Small Cap Growth
- Commodities
- Large Cap Value
- International Equity
- Real Estate
- Small Cap Value
- Emerging Markets Equity
- US Bonds
- Hedge Funds of Funds
- 60% MSCI ACWI/40% BBgBarc Global Bond
- 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 9/30/19.

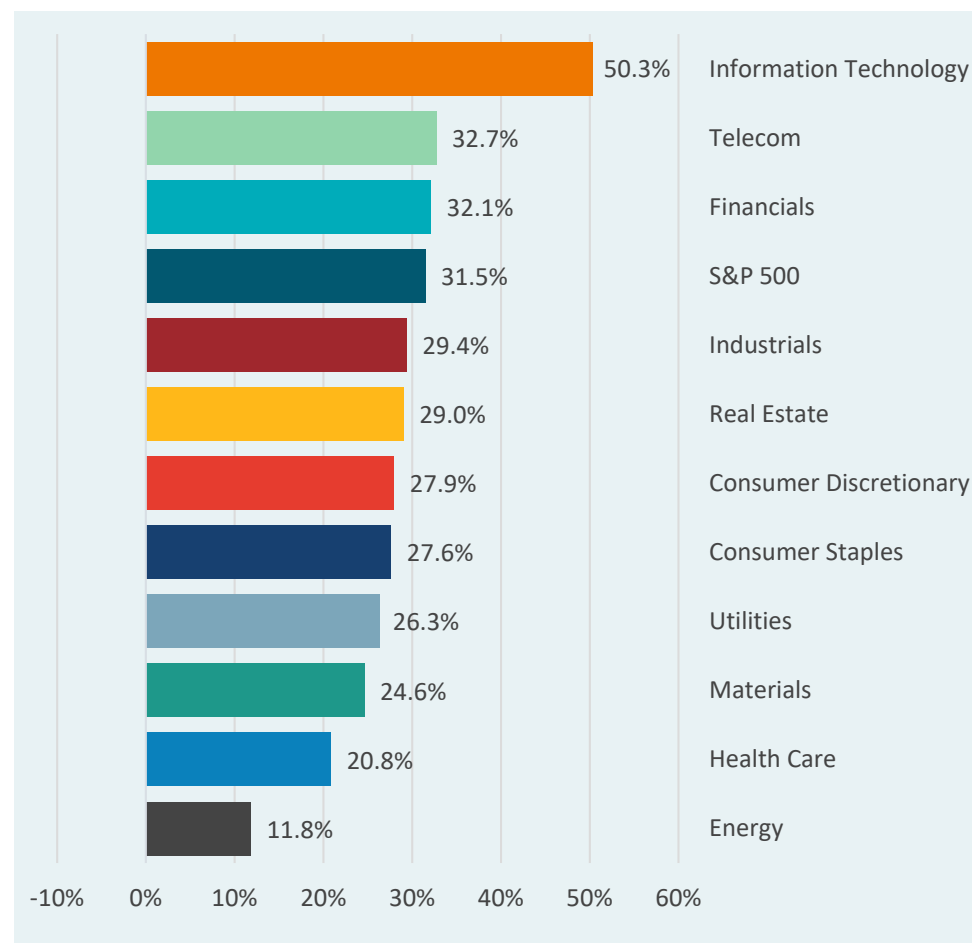
S&P 500 sector returns

Q4 2019



Source: Morningstar, as of 12/31/19

ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/19

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	3.0	9.1	31.5	31.5	15.3	11.7	13.6
S&P 500 Equal Weighted	2.8	7.6	29.2	29.2	12.4	9.8	13.5
DJ Industrial Average	1.9	6.7	25.3	25.3	15.7	12.6	13.4
Russell Top 200	3.1	9.8	31.8	31.8	16.2	12.3	13.7
Russell 1000	2.9	9.0	31.4	31.4	15.0	11.5	13.5
Russell 2000	2.9	9.9	25.5	25.5	8.6	8.2	11.8
Russell 3000	2.9	9.1	31.0	31.0	14.6	11.2	13.4
Russell Mid Cap	2.3	7.1	30.5	30.5	12.1	9.3	13.2
Style Index							
Russell 1000 Growth	3.0	10.6	36.4	36.4	20.5	14.6	15.2
Russell 1000 Value	2.8	7.4	26.5	26.5	9.7	8.3	11.8
Russell 2000 Growth	2.3	11.4	28.5	28.5	12.5	9.3	13.0
Russell 2000 Value	3.5	8.5	22.4	22.4	4.8	7.0	10.6

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	3.5	9.0	26.6	26.6	12.4	8.4	8.8
MSCI ACWI ex US	4.3	8.9	21.5	21.5	9.9	5.5	5.0
MSCI EAFE	3.2	8.2	22.0	22.0	9.6	5.7	5.5
MSCI EM	7.5	11.8	18.4	18.4	11.6	5.6	3.7
MSCI EAFE Small Cap	4.4	11.5	25.0	25.0	10.9	8.9	8.7
Style Index							
MSCI EAFE Growth	2.9	8.4	27.9	27.9	12.8	7.7	6.9
MSCI EAFE Value	3.7	7.8	16.1	16.1	6.3	3.5	4.0
Regional Index							
MSCI UK	5.2	10.0	21.0	21.0	8.3	3.3	5.0
MSCI Japan	2.1	7.6	19.6	19.6	8.9	7.7	6.6
MSCI Euro	2.9	7.9	22.9	22.9	9.1	5.1	3.7
MSCI EM Asia	7.1	12.5	19.2	19.2	12.9	6.6	5.8
MSCI EM Latin American	10.3	10.5	17.5	17.5	10.7	4.2	(0.6)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
BBgBarc US TIPS	0.4	0.8	8.4	8.4	3.3	2.6	3.4
BBgBarc US Treasury Bills	0.1	0.5	2.3	2.3	1.7	1.1	0.6
BBgBarc US Agg Bond	(0.1)	0.2	8.7	8.7	4.0	3.0	3.7
Duration							
BBgBarc US Treasury 1-3 Yr	0.2	0.5	3.6	3.6	1.9	1.4	1.2
BBgBarc US Treasury Long	(2.8)	(4.1)	14.8	14.8	6.9	4.1	7.0
BBgBarc US Treasury	(0.6)	(0.8)	6.9	6.9	3.3	2.4	3.1
Issuer							
BBgBarc US MBS	0.3	0.7	6.4	6.4	3.2	2.6	3.2
BBgBarc US Corp. High Yield	2.0	2.6	14.3	14.3	6.4	6.1	7.6
BBgBarc US Agency Interim	0.1	0.3	4.5	4.5	2.4	1.9	2.0
BBgBarc US Credit	0.3	1.1	13.8	13.8	5.8	4.4	5.3

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	5.0	4.4	7.7	7.7	(0.9)	(3.9)	(4.7)
Wilshire US REIT	(0.7)	(1.1)	25.8	25.8	7.6	6.9	11.9
CS Leveraged Loans	1.6	1.7	8.2	8.2	4.5	4.5	5.2
Alerian MLP	8.9	(4.6)	6.7	6.7	(5.0)	(7.0)	4.8
Regional Index							
JPM EMBI Global Div	2.0	1.8	15.0	15.0	6.7	6.2	6.9
JPM GBI-EM Global Div	4.1	5.2	13.5	13.5	7.0	2.8	2.7
Hedge Funds							
HFR Composite	1.8	3.5	10.4	10.4	4.5	3.5	4.0
HFR FOF Composite	1.3	2.5	7.8	7.8	3.7	2.2	2.8
Currency (Spot)							
Euro	1.8	3.0	(1.8)	(1.8)	2.1	(1.5)	(2.4)
Pound	2.4	7.5	4.0	4.0	2.3	(3.2)	(2.0)
Yen	0.8	(0.6)	1.0	1.0	2.4	2.0	(1.5)

Source: Morningstar, HFR, as of 12/31/19

Notices & disclosures

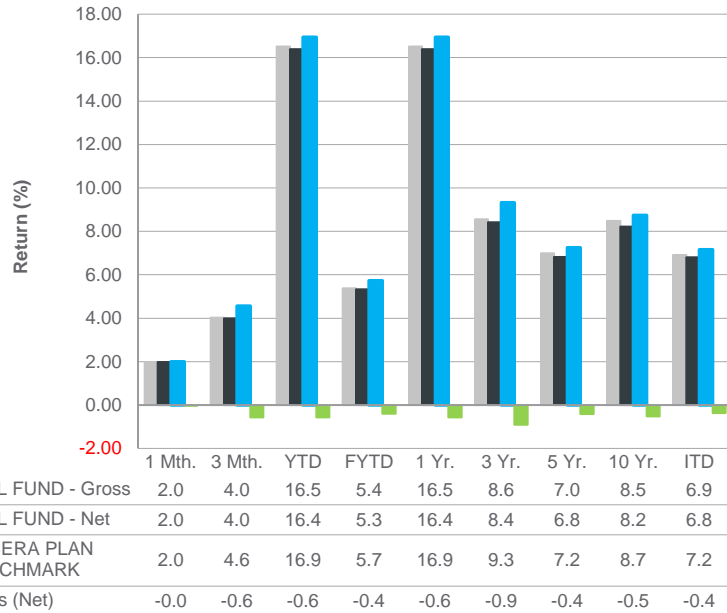
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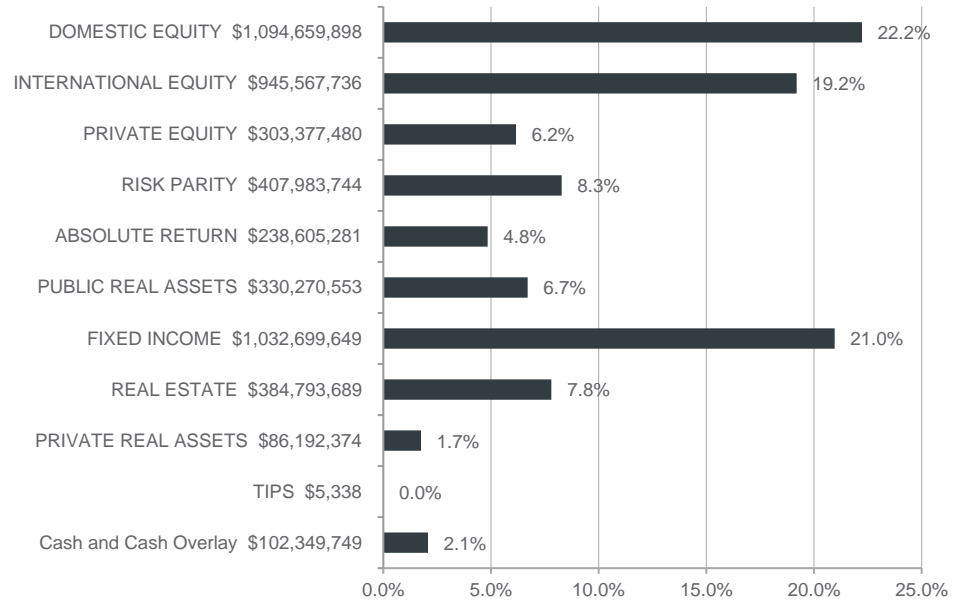
San Mateo County Composite Return Summary 12/31/2019



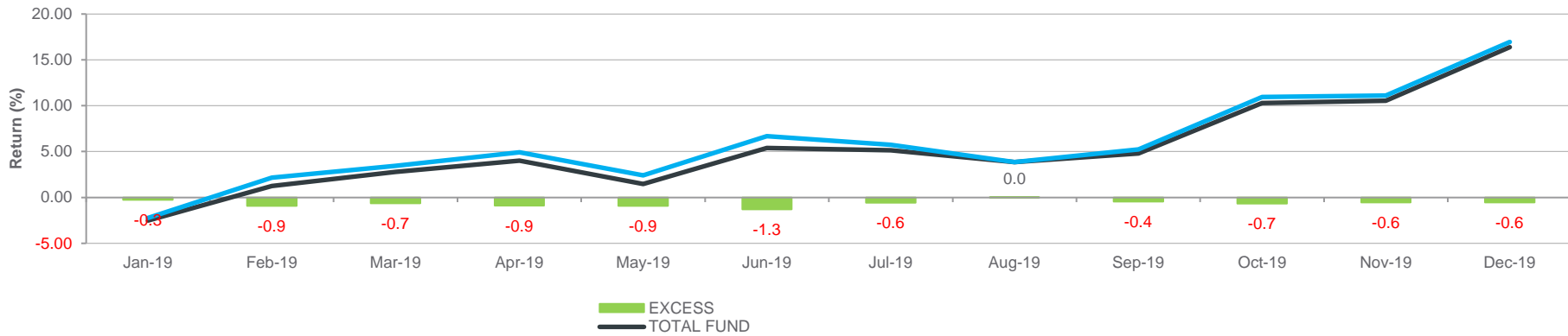
Total Fund Performance



Asset Allocation

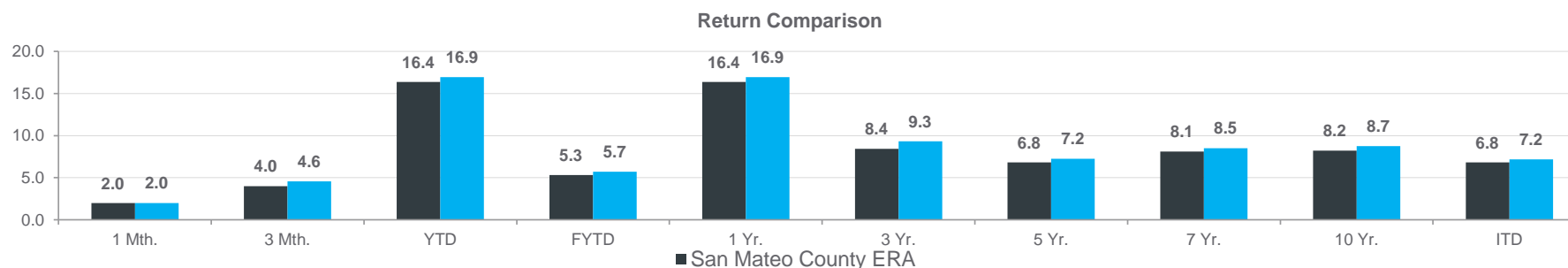


Rolling Month End Annual Returns



San Mateo County Composite Return Summary

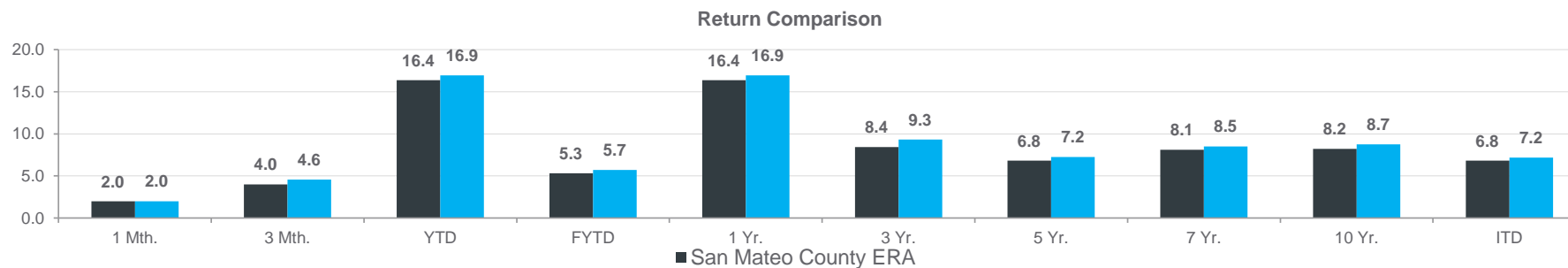
December 31, 2019



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	4,926,505,492	2.0	4.0	16.4	5.3	16.4	8.4	6.8	8.1	8.2	6.8
Samcera Total Plan Benchmark		2.0	4.6	16.9	5.7	16.9	9.3	7.2	8.5	8.7	7.2
Excess		-0.0	-0.6	-0.6	-0.4	-0.6	-0.9	-0.4	-0.4	-0.5	-0.4
San Mateo Ex-Clifton Overlay	4,919,220,294	2.0	4.0	16.1	5.3	16.1	8.3	6.7	8.0	8.2	6.7
Samcera Total Plan Benchmark		2.0	4.6	16.9	5.7	16.9	9.3	7.2	8.5	8.7	7.2
Excess		-0.0	-0.6	-0.9	-0.4	-0.9	-1.0	-0.6	-0.5	-0.6	-0.4
Total Equity	2,040,227,634	3.2	8.2	26.2	8.8	26.2	12.5	8.9	10.9	10.0	8.0
Samcera Total Equity Benchmark		3.2	8.6	26.8	9.0	26.8	12.5	9.5	11.8	11.0	8.5
Excess		-0.0	-0.4	-0.6	-0.3	-0.6	0.0	-0.6	-0.9	-1.0	-0.6
Fixed Income	1,032,699,649	0.5	1.2	7.9	2.2	7.9	4.8	4.2	3.8	5.5	5.5
Samcera Fixed Income Benchmark		0.3	0.9	10.7	3.0	10.7	4.9	3.8	3.0	4.2	5.1
Excess		0.2	0.3	-2.8	-0.8	-2.8	-0.0	0.3	0.8	1.3	0.5
Risk Parity	407,983,744	1.8	2.1	22.4	4.9	22.4	9.5	6.6	6.0	--	6.9
Samcera Risk Parity Benchmark		2.0	5.3	19.1	6.0	19.1	9.4	7.5	9.3	--	8.7
Excess		-0.3	-3.2	3.2	-1.1	3.2	0.1	-0.9	-3.3	--	-1.8

San Mateo County Composite Return Summary

December 31, 2019



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	541,982,761	0.2	-1.8	9.2	6.1	9.2	6.4	5.9	5.2	-2.9	-1.6
Samcera Alternatives Benchmark		1.3	1.7	6.6	5.1	6.6	10.5	8.0	9.1	9.2	7.8
Excess		-1.0	-3.5	2.7	1.0	2.7	-4.1	-2.1	-3.9	-12.1	-9.4
Inflation Hedge	801,261,955	2.3	2.8	8.1	1.4	8.1	4.6	--	--	--	6.7
SamCERA Inflation Hedge Index		2.0	1.9	8.8	2.1	8.8	6.1	--	--	--	6.6
Excess		0.3	0.8	-0.7	-0.7	-0.7	-1.5	--	--	--	0.0
Cash	95,064,551	0.1	0.2	1.1	0.5	1.1	0.9	0.8	0.7	0.7	1.9
Samcera Cash Benchmark		0.1	0.5	2.3	1.0	2.3	1.7	1.1	0.8	0.6	1.9
Excess		-0.1	-0.2	-1.1	-0.5	-1.1	-0.8	-0.3	-0.1	0.2	0.0

San Mateo County Composite Return Summary

December 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	2,040,227,634	3.2	8.2	26.2	8.8	26.2	12.5	8.9	10.9	10.0	8.0
Samcera Total Equity Benchmark		3.2	8.6	26.8	9.0	26.8	12.5	9.5	11.8	11.0	8.5
Excess		-0.0	-0.4	-0.6	-0.3	-0.6	0.0	-0.6	-0.9	-1.0	-0.6
Domestic Equity	1,094,659,898	2.7	7.6	28.9	9.5	28.9	14.3	10.9	13.7	12.7	8.9
Samcera Dom. Equity Benchmark		2.9	9.1	31.0	10.4	31.0	14.6	11.1	14.3	13.4	9.3
Excess		-0.2	-1.5	-2.2	-0.9	-2.2	-0.3	-0.3	-0.6	-0.7	-0.4
Large Cap Equity	1,002,681,681	2.8	7.5	29.5	9.6	29.5	15.3	11.7	14.5	13.0	9.7
Russell 1000		2.9	9.0	31.4	10.6	31.4	15.0	11.5	14.6	13.5	10.0
Excess		-0.1	-1.6	-1.9	-1.0	-1.9	0.3	0.2	-0.1	-0.5	-0.3
Blackrock Russell 1000	532,966,024	2.9	9.0	31.4	10.6	31.4	--	--	--	--	14.8
Russell 1000		2.9	9.0	31.4	10.6	31.4	--	--	--	--	14.7
Excess		0.0	0.0	-0.1	0.0	-0.1	--	--	--	--	0.1
DE Shaw Commingled Fund	160,381,057	2.5	8.8	27.6	10.4	27.6	14.9	12.2	--	--	12.2
Russell 1000		2.9	9.0	31.4	10.6	31.4	15.0	11.5	--	--	11.5
Excess		-0.4	-0.2	-3.8	-0.2	-3.8	-0.2	0.7	--	--	0.7
Acadian US MGD V-SL	152,706,390	2.9	5.2	25.4	8.2	25.4	--	--	--	--	27.1
Russell 1000		2.9	9.0	31.4	10.6	31.4	--	--	--	--	32.1
Excess		-0.0	-3.8	-6.0	-2.4	-6.0	--	--	--	--	-4.9
Panagora Defuseq -SL	156,628,211	2.6	3.3	29.4	6.6	29.4	--	--	--	--	31.2
Russell 1000		2.9	9.0	31.4	10.6	31.4	--	--	--	--	32.1
Excess		-0.3	-5.7	-2.0	-4.0	-2.0	--	--	--	--	-0.9
Small Cap Equity	91,978,216	2.2	9.4	22.1	8.4	22.1	6.2	5.2	9.0	10.5	6.4
Russell 2000		2.9	9.9	25.5	7.3	25.5	8.6	8.2	11.6	11.8	7.9
Excess		-0.7	-0.6	-3.4	1.1	-3.4	-2.4	-3.1	-2.6	-1.4	-1.6
QMA US Small Cap	91,978,216	2.2	9.4	22.1	8.4	22.1	6.2	--	--	--	9.4
Russell 2000		2.9	9.9	25.5	7.3	25.5	8.6	--	--	--	10.8
Excess		-0.7	-0.6	-3.4	1.1	-3.4	-2.4	--	--	--	-1.4

San Mateo County Composite Return Summary

December 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	945,567,736	3.7	8.9	23.2	8.0	23.2	10.5	6.3	6.3	5.0	5.6
SamCERA Custom Hedge Intl		3.5	8.0	21.8	7.4	21.8	9.9	5.8	5.7	5.2	5.2
Excess		0.2	0.9	1.4	0.6	1.4	0.5	0.5	0.6	-0.2	0.5
Developed Markets Equity	851,051,939	3.5	9.0	24.4	8.5	24.4	10.8	6.6	6.8	5.4	4.7
MS AC WIdxUS IMI Nt		4.4	9.2	21.6	7.3	21.6	9.8	5.7	5.7	5.2	5.0
Excess		-1.0	-0.2	2.7	1.2	2.7	0.9	0.8	1.1	0.2	-0.3
Baillie Gifford	276,173,666	5.2	12.5	33.6	11.3	33.6	13.6	8.4	8.6	--	8.6
MSCI ACWI ex USA Growth		4.2	9.6	27.8	8.8	27.8	13.3	7.7	7.3	--	--
Excess		1.0	2.8	5.7	2.6	5.7	0.2	0.7	1.3	--	--
Blackrock EAFE Index Fund	268,646,219	3.3	8.2	22.4	7.1	22.4	9.9	6.0	--	--	4.2
MSCI EAFE ND		3.2	8.2	22.0	7.0	22.0	9.6	5.7	--	--	3.8
Excess		0.0	0.0	0.4	0.1	0.4	0.4	0.3	--	--	0.3
Mondrian Investment Partners	272,195,593	4.8	10.7	19.1	7.7	19.1	8.8	5.0	5.5	4.9	5.5
MSCI ACWI xUSA Value		4.6	8.3	16.4	5.4	16.4	7.5	4.3	4.5	4.2	5.3
Excess		0.2	2.4	2.6	2.3	2.6	1.3	0.7	1.0	0.7	0.3
Parametriccurr Ovrla	34,036,460	-15.6	-18.5	13.8	7.0	13.8	--	--	--	--	28.0
--		--	--	--	--	--	--	--	--	--	--
Excess		--	--	--	--	--	--	--	--	--	--
Emerging Markets Equity	94,515,798	6.0	8.1	13.7	3.4	13.7	7.9	3.5	2.1	--	2.3
MSCI Emerging Markets ND		7.5	11.8	18.4	7.1	18.4	11.6	5.6	3.3	--	3.4
Excess		-1.5	-3.7	-4.8	-3.6	-4.8	-3.7	-2.1	-1.2	--	-1.1
EV Parametric EM	94,515,798	6.0	8.1	13.7	3.4	13.7	7.9	--	--	--	5.4
MSCI Emerging Markets GD		7.5	11.9	18.9	7.3	18.9	12.0	--	--	--	7.8
Excess		-1.5	-3.8	-5.2	-3.9	-5.2	-4.1	--	--	--	-2.4
Fixed Income	1,032,699,649	0.5	1.2	7.9	2.2	7.9	4.8	4.2	3.8	5.5	5.5
Samcera Fixed Income Benchmark		0.3	0.9	10.7	3.0	10.7	4.9	3.8	3.0	4.2	5.1
Excess		0.2	0.3	-2.8	-0.8	-2.8	-0.0	0.3	0.8	1.3	0.5
Core Fixed Income	667,975,740	0.5	0.9	8.1	2.5	8.1	4.2	3.5	3.3	4.8	5.3



San Mateo County Composite Return Summary

December 31, 2019



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
BBG Barclays US Aggregate		-0.1	0.2	8.7	2.5	8.7	4.0	3.0	2.7	3.7	4.9
Excess		0.5	0.7	-0.6	0.1	-0.6	0.1	0.4	0.6	1.1	0.4

San Mateo County Composite Return Summary

December 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	289,118,024	0.1	0.6	9.7	2.8	9.7	4.4	3.6	3.2	4.5	4.8
BBG Barclays US Aggregate		-0.1	0.2	8.7	2.5	8.7	4.0	3.0	2.7	3.7	4.3
Excess		0.1	0.4	0.9	0.3	0.9	0.4	0.5	0.5	0.8	0.4
Western Total Return	142,219,101	2.1	3.1	9.7	4.1	9.7	5.4	--	--	--	4.8
BBG Barclays US Aggregate		-0.1	0.2	8.7	2.5	8.7	4.0	--	--	--	3.3
Excess		2.2	2.9	1.0	1.7	1.0	1.3	--	--	--	1.4
Blackrock Inter Gov	236,638,615	-0.0	0.0	5.3	1.2	5.3	--	--	--	--	2.7
BBG Barclays US Aggregate		-0.1	0.2	8.7	2.5	8.7	--	--	--	--	4.1
Excess		0.0	-0.2	-3.4	-1.2	-3.4	--	--	--	--	-1.4
Opportunistic Credit	364,723,909	0.6	1.7	7.7	1.6	7.7	6.7	6.3	6.7	9.0	8.7
BB Barc BA Intermediate HY Ind		1.1	2.3	14.7	4.2	14.7	6.1	5.8	5.5	7.2	7.4
Excess		-0.5	-0.6	-7.0	-2.5	-7.0	0.6	0.5	1.1	1.9	1.4
Pimco Private Income	27,291,328	0.0	2.5	--	3.0	--	--	--	--	--	3.0
BB Barc BA Intermediate HY Ind		1.1	2.3	--	4.2	--	--	--	--	--	7.2
Excess		-1.1	0.2	--	-1.1	--	--	--	--	--	-4.1
AG Opportunistic Whole Loan	4,247,064	0.0	3.6	11.7	10.0	11.7	20.9	13.9	--	--	11.7
BB Barc BA Intermediate HY Ind		1.1	2.3	14.7	4.2	14.7	6.1	5.8	--	--	5.3
Excess		-1.1	1.3	-3.0	5.8	-3.0	14.8	8.1	--	--	6.4
Angelo Gordon	3,598,858	0.0	2.2	20.7	10.4	20.7	24.2	16.7	15.4	--	15.2
BB Barc BA Intermediate HY Ind		1.1	2.3	14.7	4.2	14.7	6.1	5.8	5.5	--	5.6
Excess		-1.1	-0.0	6.0	6.2	6.0	18.0	10.9	9.8	--	9.5
Beach Point Select Fund	53,854,104	1.2	2.5	7.8	2.5	7.8	7.2	--	--	--	7.8
BB Barc BA Intermediate HY Ind		1.1	2.3	14.7	4.2	14.7	6.1	--	--	--	5.7
Excess		0.0	0.2	-6.9	-1.7	-6.9	1.1	--	--	--	2.1
Brigade Cap Mngmt	78,949,304	-0.2	0.7	5.7	-0.4	5.7	4.8	4.6	4.4	--	6.0
BB Barc BA Intermediate HY Ind		1.1	2.3	14.7	4.2	14.7	6.1	5.8	5.5	--	6.8
Excess		-1.3	-1.6	-8.9	-4.6	-8.9	-1.3	-1.2	-1.1	--	-0.7

San Mateo County Composite Return Summary

December 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	32,692,859	0.0	1.3	5.6	3.0	5.6	--	--	--	--	--
BB Barc BA Intermediate HY Ind		1.1	2.3	14.7	4.2	14.7	--	--	--	--	6.0
Excess		-1.1	-1.0	-9.1	-1.2	-9.1	--	--	--	--	--
PIMCO Div. Income Fund	90,318,923	0.8	1.7	12.8	2.9	12.8	--	--	--	--	5.4
BB Barc BA Intermediate HY Ind		1.1	2.3	14.7	4.2	14.7	--	--	--	--	5.4
Excess		-0.3	-0.6	-1.9	-1.3	-1.9	--	--	--	--	0.0
TCP Direct Lending VIII	32,298,904	0.6	2.1	6.9	2.1	6.9	6.7	--	--	--	--
BB Barc BA Intermediate HY Ind		1.1	2.3	14.7	4.2	14.7	6.1	--	--	--	6.6
Excess		-0.5	-0.2	-7.7	-2.0	-7.7	0.5	--	--	--	--
Franklin Templeton	41,472,564	1.9	2.0	1.1	-2.1	1.1	1.7	1.7	1.9	--	3.4
BB Barclays Multiverse Index		0.7	0.6	7.1	1.3	7.1	4.4	2.5	1.5	--	2.3
Excess		1.2	1.4	-6.1	-3.4	-6.1	-2.7	-0.8	0.4	--	1.1
Risk Parity	407,983,744	1.8	2.1	22.4	4.9	22.4	9.5	6.6	6.0	--	6.9
Samcera Risk Parity Benchmark		2.0	5.3	19.1	6.0	19.1	9.4	7.5	9.3	--	8.7
Excess		-0.3	-3.2	3.2	-1.1	3.2	0.1	-0.9	-3.3	--	-1.8
AQR Global Risk III	207,741,992	3.1	4.5	22.6	5.8	22.6	10.4	6.1	5.1	--	6.2
Samcera Risk Parity Benchmark		2.0	5.3	19.1	6.0	19.1	9.4	7.5	9.3	--	8.7
Excess		1.1	-0.8	3.5	-0.2	3.5	1.0	-1.3	-4.2	--	-2.5
Panagora	200,241,752	0.4	-0.2	22.1	4.0	22.1	8.7	6.9	--	--	7.0
Samcera Risk Parity Benchmark		2.0	5.3	19.1	6.0	19.1	9.4	7.5	--	--	7.5
Excess		-1.6	-5.5	3.0	-2.0	3.0	-0.7	-0.5	--	--	-0.5
Alternatives	541,982,761	0.2	-1.8	9.2	6.1	9.2	6.4	5.9	5.2	-2.9	-1.6
Samcera Alternatives Benchmark		1.3	1.7	6.6	5.1	6.6	10.5	8.0	9.1	9.2	7.8
Excess		-1.0	-3.5	2.7	1.0	2.7	-4.1	-2.1	-3.9	-12.1	-9.4
Private Equity	303,377,480	-0.1	-1.8	20.8	13.0	20.8	16.2	15.0	14.8	--	-14.4
Samcera PE Benchmark		3.1	9.9	34.9	12.0	34.9	18.0	14.5	17.7	--	17.0
Excess		-3.2	-11.6	-14.0	1.0	-14.0	-1.8	0.5	-2.9	--	-31.4

San Mateo County Composite Return Summary

December 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	238,605,281	0.7	-1.8	-3.3	-1.8	-3.3	-3.6	-0.0	2.3	--	2.1
Samcera LIBOR + 4%		0.5	1.4	6.3	3.0	6.3	5.8	5.2	4.9	--	4.8
Excess		0.2	-3.2	-9.7	-4.8	-9.7	-9.4	-5.3	-2.6	--	-2.7
AQR Delta XN	133,219,478	0.0	-4.1	-11.3	-5.2	-11.3	-7.4	-2.3	0.6	--	0.7
Samcera LIBOR + 4%		0.5	1.4	6.3	3.0	6.3	5.8	5.2	4.9	--	4.8
Excess		-0.5	-5.5	-17.7	-8.2	-17.7	-13.2	-7.5	-4.3	--	-4.0
Aberdeen Std GARS	105,385,803	1.5	1.3	9.1	2.9	9.1	2.2	--	--	--	1.0
Samcera LIBOR + 4%		0.5	1.4	6.3	3.0	6.3	5.8	--	--	--	5.4
Excess		1.1	-0.2	2.8	-0.1	2.8	-3.6	--	--	--	-4.4
Inflation Hedge	801,261,955	2.3	2.8	8.1	1.4	8.1	4.6	--	--	--	6.7
SamCERA Inflation Hedge Index		2.0	1.9	8.8	2.1	8.8	6.1	--	--	--	6.6
Excess		0.3	0.8	-0.7	-0.7	-0.7	-1.5	--	--	--	0.0
TIPS	5,338	0.6	0.9	7.2	1.5	7.2	2.9	--	--	--	2.7
BBG Barclays US TIPS		0.4	0.8	8.4	2.1	8.4	3.3	--	--	--	2.7
Excess		0.2	0.1	-1.3	-0.7	-1.3	-0.4	--	--	--	-0.0
BBH Inflation Indexed	5,332	--	--	--	--	--	--	--	--	--	--
BBG Barclays US TIPS		--	--	--	--	--	--	--	--	--	--
Excess		--	--	--	--	--	--	--	--	--	--
Real Estate	384,793,689	0.0	2.0	6.6	2.1	6.6	7.0	--	--	--	7.9
Samcera NCREIF ODCE EW (gross)		0.0	0.0	4.5	1.4	4.5	6.8	--	--	--	7.3
Excess		0.0	2.0	2.1	0.7	2.1	0.1	--	--	--	0.7
Invesco Core Real Estate	272,016,050	0.0	1.9	6.1	1.8	6.1	7.0	9.5	10.1	11.1	7.7
Samcera NCREIF ODCE EW (gross)		0.0	0.0	4.5	1.4	4.5	6.8	8.9	10.0	11.3	7.6
Excess		0.0	1.9	1.6	0.4	1.6	0.1	0.6	0.0	-0.2	0.1
Invesco US Val IV	19,451,089	0.0	5.0	15.4	6.2	15.4	11.5	--	--	--	12.3
Samcera NCREIF ODCE EW (gross)		0.0	0.0	4.5	1.4	4.5	6.8	--	--	--	8.2
Excess		0.0	5.0	10.9	4.8	10.9	4.6	--	--	--	4.1

San Mateo County Composite Return Summary

December 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	84,069,875	0.0	1.6	6.3	1.6	6.3	--	--	--	--	4.5
Samcera NCREIF ODCE EW (gross)		0.0	0.0	4.5	1.4	4.5	--	--	--	--	6.7
Excess		0.0	1.6	1.9	0.2	1.9	--	--	--	--	-2.2
Invesco US VAL V	9,256,675	0.0	0.7	--	6.1	--	--	--	--	--	1.3
Samcera NCREIF ODCE EW (gross)		0.0	0.0	--	1.4	--	--	--	--	--	--
Excess		0.0	0.7	--	4.8	--	--	--	--	--	--
Public Real Assets	330,270,553	5.9	4.3	14.9	1.3	14.9	4.4	--	--	--	--
SamCera Liquid Real Asset Inde		5.5	5.9	16.3	3.2	16.3	6.1	--	--	--	8.1
Excess		0.4	-1.6	-1.4	-1.9	-1.4	-1.7	--	--	--	--
CUSHING MLP ALPHA TR	71,126,240	7.9	-0.9	11.2	-4.6	11.2	--	--	--	--	-7.5
50% BC US TIPS/50% SamCERA CRA		2.9	3.4	12.6	2.8	12.6	--	--	--	--	4.1
Excess		5.0	-4.3	-1.4	-7.4	-1.4	--	--	--	--	-11.7
SSGA CST REAL ASSET NL	259,144,313	5.4	5.8	15.9	3.1	15.9	5.6	--	--	--	--
SamCera Liquid Real Asset Inde		5.5	5.9	16.3	3.2	16.3	6.1	--	--	--	6.6
Excess		-0.1	-0.1	-0.4	-0.2	-0.4	-0.5	--	--	--	--
Private Real Assets	86,192,374	-0.2	1.3	-12.0	-1.7	-12.0	-3.0	--	--	--	7.8
SamCERA Private Real Asset Idx		1.2	-1.1	3.1	1.0	3.1	4.8	--	--	--	6.9
Excess		-1.4	2.4	-15.1	-2.7	-15.1	-7.8	--	--	--	0.9
Cash	95,064,551	0.1	0.2	1.1	0.5	1.1	0.9	0.8	0.7	0.7	1.9
Samcera Cash Benchmark		0.1	0.5	2.3	1.0	2.3	1.7	1.1	0.8	0.6	1.9
Excess		-0.1	-0.2	-1.1	-0.5	-1.1	-0.8	-0.3	-0.1	0.2	0.0
General Account	77,227,433	0.2	0.5	2.3	1.1	2.3	1.8	1.3	0.9	0.7	2.0
Transition Account	6	--	--	--	--	--	--	--	--	--	--
County Treasury Pool	17,837,111	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	2.4
Ex-Parametric MN Overlay	7,285,198	9.4	17.2	97.6	11.0	97.6	34.8	34.6	--	--	26.1
San Mateo County ERA	4,926,505,492	2.0	4.0	16.4	5.3	16.4	8.4	6.8	8.1	8.2	6.8

San Mateo County Composite Return Summary

December 31, 2019

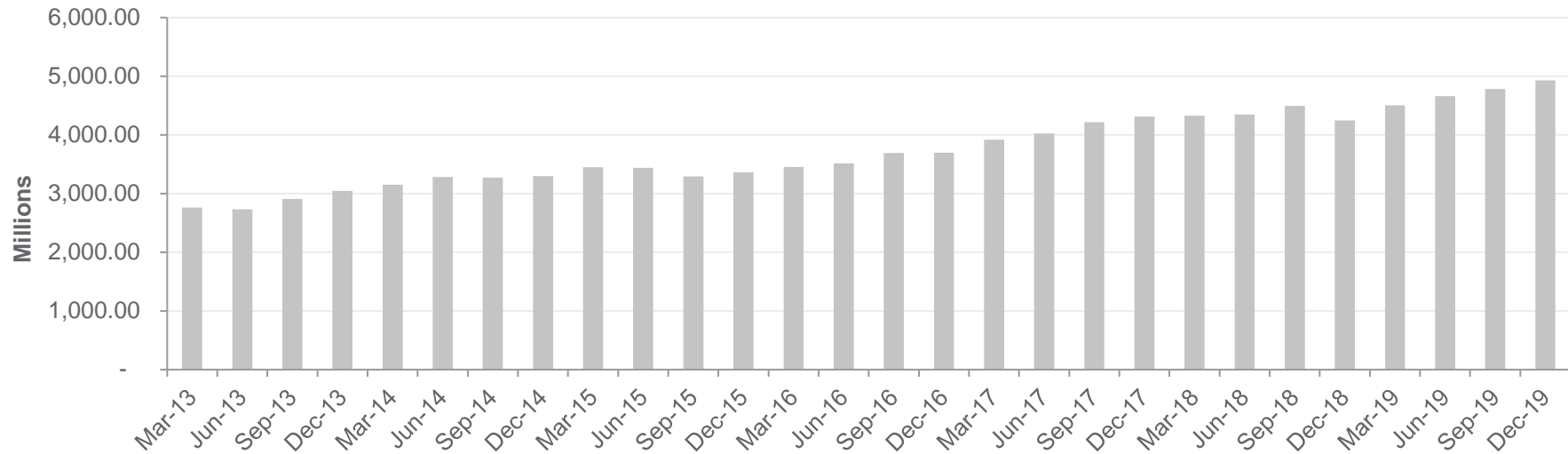


Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Samcera Total Plan Benchmark		2.0	4.6	16.9	5.7	16.9	9.3	7.2	8.5	8.7	7.2
Excess		-0.0	-0.6	-0.6	-0.4	-0.6	-0.9	-0.4	-0.4	-0.5	-0.4

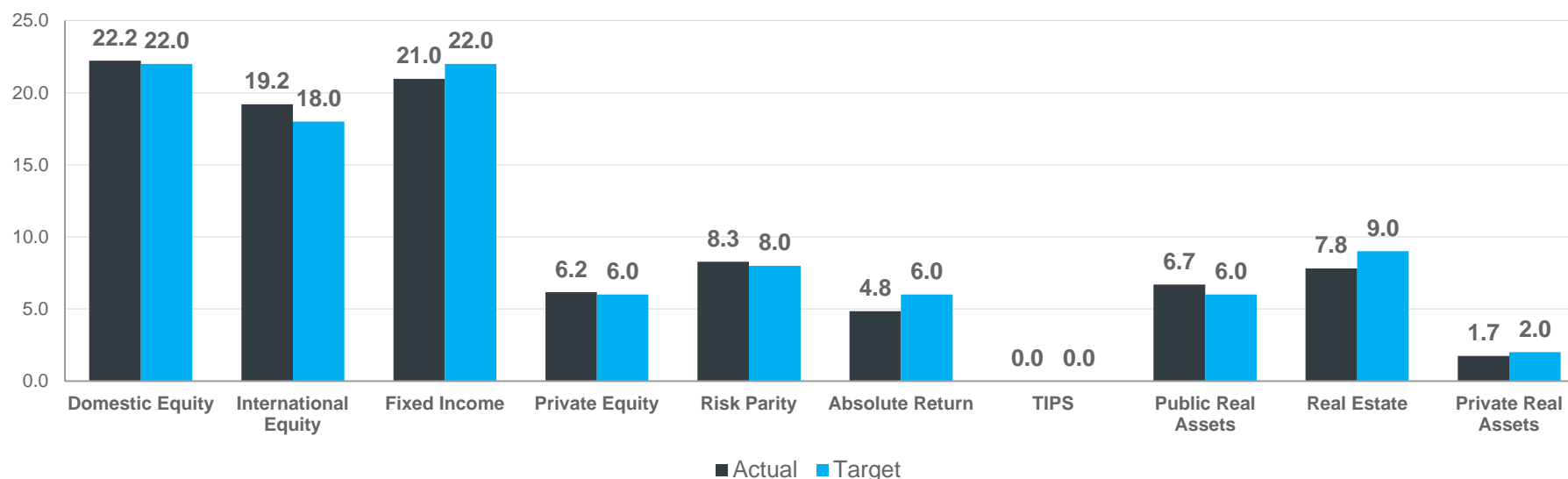
Record of Asset Growth

	Three Months	One Year
TOTAL FUND		
Beginning Market Value	4,782,295,114	4,248,472,970
Contributions	20,794,189	234,168,985
Withdrawals	-67,819,004	-255,839,072
Income Received	13,909,076	57,432,791
Gain/Loss	177,649,177	644,200,523
Ending Market Value	4,926,505,492	4,926,505,492

Net Asset Values Over Time (\$000)

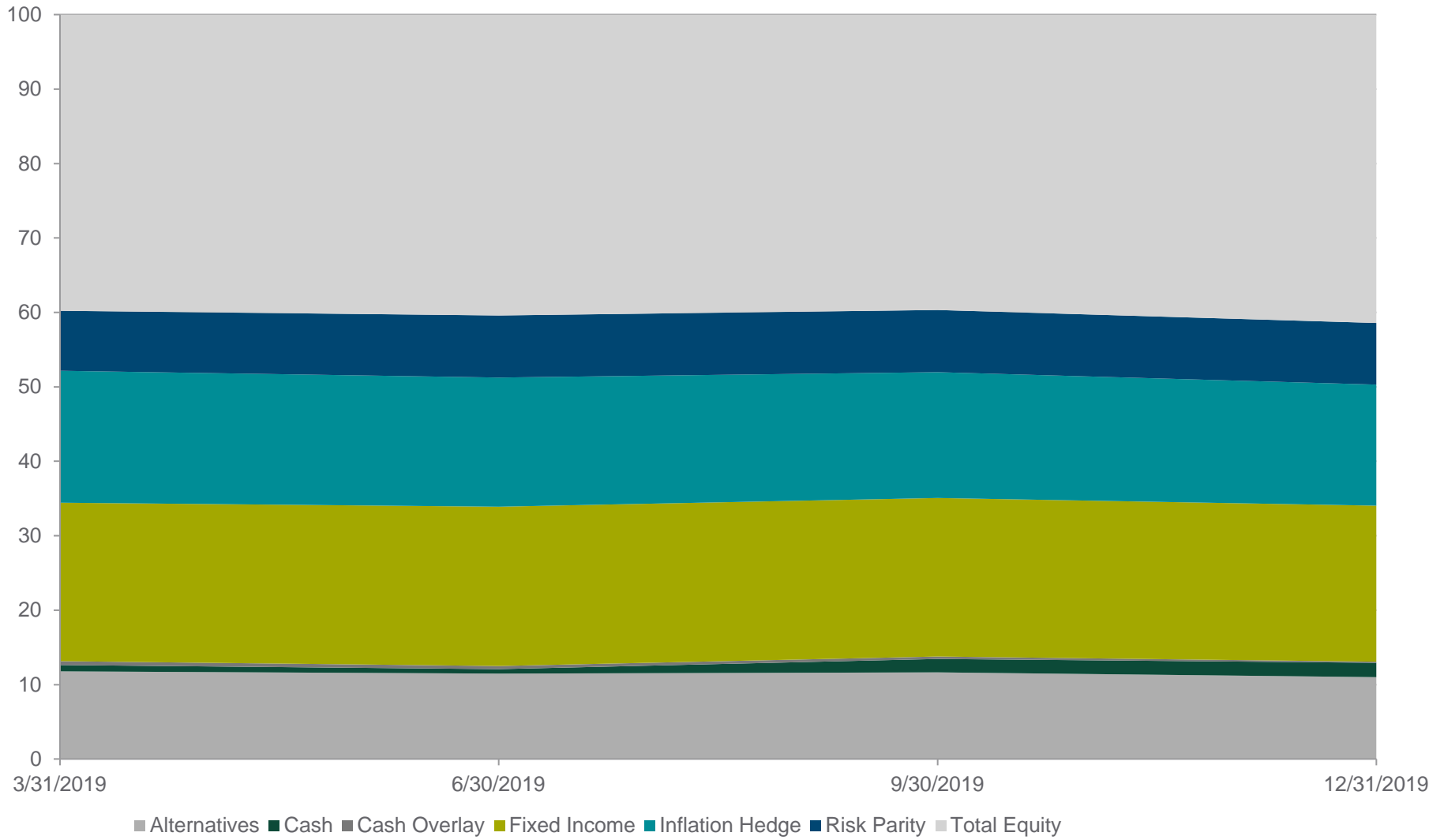


Actual vs Target Weights

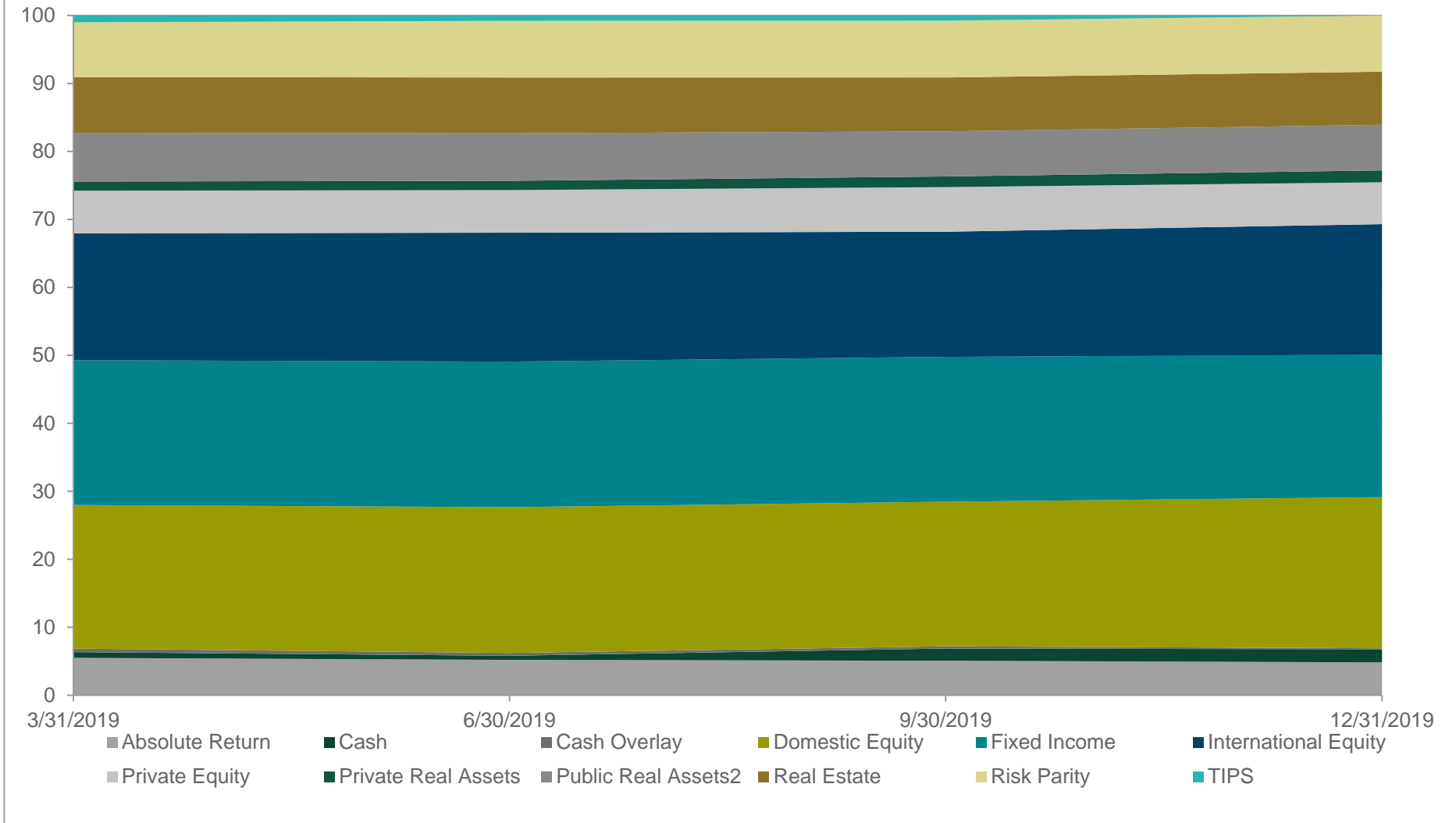


	Min	Actual	Target	Deviation	Max
Domestic Equity	20.0	22.2	22.0	0.2	24.0
International Equity	16.0	19.2	18.0	1.2	20.0
Fixed Income	20.0	21.0	22.0	-1.0	24.0
Private Equity	4.0	6.2	6.0	0.2	8.0
Risk Parity	6.0	8.3	8.0	0.3	10.0
Absolute Return	4.0	4.8	6.0	-1.2	8.0
TIPS	0.0	0.0	0.0	0.0	3.0
Public Real Assets	4.0	6.7	6.0	0.7	8.0
Real Estate	6.0	7.8	9.0	-1.2	10.0
Private Real Assets	0.0	1.7	2.0	-0.3	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

January 28, 2020

Agenda Item 6.2

TO: Board of Retirement

FROM: Doris Ng, Investment Analyst 

SUBJECT: Report on Investment Consultant Annual Review

Recommendation

Review the information below summarizing Verus' annual performance evaluation and comment accordingly during the agenda item.

Background

The annual evaluation of SamCERA's investment consultant has three parts:

1. A survey completed by trustees and staff
2. Responses to an annual questionnaire completed by consultant
3. A discussion at the Board meeting to present the findings of the survey and questionnaire responses

The survey was provided online, and results were collected from six trustees and four staff members. There was a total of 19 questions in the survey with each question scored on a range of 1 to 5, with 5 being the highest rating (High). Questions were asked about the general consulting team, the private equity consulting team, and the real assets consulting team. In addition, the survey prompted the Board to provide strategic and educational topics that they would like Jeff MacLean / Verus to cover in 2020.

Discussion

Please refer to the summary of the survey scores below. For each question the responses are broken out and grouped by trustee and staff scores. The minimum, maximum, and average scores are presented for each question as well. Both the Board and staff generally marked the components of the evaluation as above average/high, with the Board marking the effectiveness of strategic advice a bit higher than staff.

In addition, the Board and Staff provided the following strategic and educational topics they would like Jeff MacLean/Verus to cover with the Board this upcoming year:

1. "Plan maturity update/issues, progress towards becoming fully funded and/or dry powder issues surrounding private equity (are PE managers going to be making risky investments as the large amount of money in their possession sits, waiting to be spent)"
2. "Managing complexity in the portfolio. How can a board of part-time, noninvestment professionals monitor a complex portfolio? What are some best practices that Verus has seen across their clients?"

3. "Are there any macro trends - aging population, geo-political, conflicts, etc. that we should be considering for long term strategy?"
4. "I believe we still need to have more and deeper discussions about change in asset allocation strategy related to funded status in the early-middle 2020s."
5. "Alpha opportunities within a risk-controlled program. Investment Governance Review".

2019 Survey Question		Trustees			Staff		
		Min	Avg	Max	Min	Avg	Max
General Consulting							
2	How would you rate the general consulting team's ability to effectively convey concise and useful information during Board meetings?	3	4.7	5	4	4.5	5
3	How would you rate the general consulting team's responsiveness to questions and requests?	3	4.5	5	4	4.3	5
4	How would you rate the general consulting team's analytical sophistication?	3	4.7	5	4	4.3	5
5	How would you rate the effectiveness of the general consulting team's ability to lead strategic initiatives/projects and provide strategic advice (e.g. Asset-Liability Studies, Asset Allocation Reviews, Risk Management)?	4	4.8	5	3	3.9	5
6	How would you rate the effectiveness of the general consulting team's ability to assist and guide the Board on "big-picture" total Fund investment policy and structure on an on-going basis?	3	4.5	5	4	4.3	5
7	How would you rate the quality and/or clarity of the general consulting team's reports (e.g. Monthly Capital Markets Updates, Quarterly Performance Reports, Manager Review Notes, New Manager Investment Recommendations, etc.)?	3	4.7	5	4	4.5	5
8	How would you rate the effectiveness of the general consulting team's educational presentations (e.g. Investment Leverage, Liquidity Analysis, etc.)?	3	4.3	5	3	4.0	5
9	How would you rate the general consulting team's knowledge of institutional investment practices?	4	4.8	5	4	4.5	5
Private Equity							
11	How would you rate the private equity consulting team's ability to effectively convey concise and useful information during Board meetings?	3	4.7	5	4	4.8	5
12	How would you rate the quality and/or clarity of the private equity program's reports (e.g. Semi- Annual Private Equity Performance Reports, Private Equity Investment Recommendations, Educational Presentations)?	3	4.5	5	4	4.8	5
13	How would you rate the private equity consulting team's analytical sophistication?	3	4.7	5	4	4.8	5
14	How would you rate the overall effectiveness of the firm's private equity program?	3	4.7	5	4	4.8	5
Real Assets							
15	How would you rate the real asset consulting team's ability to effectively convey concise and useful information during Board meetings?	3	4.5	5	4	4.5	5
16	How would you rate the quality and/or clarity of the real asset program's reports (e.g. Semi-Annual Private Real Asset Performance Reports, Real Asset Investment Recommendations, Educational Presentations)?	3	4.5	5	4	4.8	5
17	How would you rate the real asset consulting team's analytical sophistication?	3	4.5	5	4	4.8	5
18	How would you rate the overall effectiveness of the firm's real assets program?	3	4.5	5	3	4.0	5

Attachment

Verus Annual Review Questionnaire



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

2019 Annual Review Questionnaire

San Mateo County Employees' Retirement Association

VERUSINVESTMENTS.COM
SEATTLE 206-622-3700
LOS ANGELES 310-297-1777
SAN FRANCISCO 415-362-3484

Ms. Margaret Jadallah
Managing Director and Senior Consultant

Mr. Joseph Abdou, CFA
Consultant

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Organizational Update

1) Provide an update on Verus' organization, with particular emphasis on

(a) changes to your structure

We do not anticipate significant changes in the next twelve months, except for the possibility of modest changes to ownership as we add new employee shareholders or increase the shareholdings of current owners. The history of our firm has been a steady movement towards broadening the breadth of ownership among our key employees, with the number of shareholders increasing from seven in 2006 to 16 today. We will continue to use equity ownership as a means for attracting and retaining talent and, more importantly, for aligning the interests of our employees with those of our clients.

(b) growth of assets/accounts under consultation

Since our last due diligence submission in 2018, assets under consultation have increased by 7.10%.

(c) breakdown by client type, and

	Number	Assets (\$M)	Average (\$M)	Median (\$M)
Public	21	\$358,510	\$17,072	\$8,165
Not-for-Profits	44	\$40,904	\$929,644	\$124,259
Corporate	23	\$10,111	\$439,633	\$208,782
Taft-Hartley	60	\$19,923	\$332,064	\$134,768
Private Wealth Trusts	6	\$1,852	\$308,788	\$100,375
Total	154	\$431,300	\$19,083	\$8,733

(d) clients gained or lost in the past year

Verus gained 2 clients and lost 3 clients from January 2019 through December 2019 as shown in the tables below. Client confidentiality policies prohibits us from disclosing the names of non-governmental clients.

Client gained	Assets (\$000)	Date hired
Taft-Hartley	\$12,645	7/19
Taft-Hartley	\$134,709	12/19

Following is a list of clients that were lost during the same period:

Year	Client Type	Assets \$M	Reason
2019	Corporate	\$10,929	Chose another provider in RFP process
2019	Taft-Hartley	\$5,14	Chose another provider
2019	Taft-Hartley	\$117,825	Chose another provider in RFP process

- 2) Please provide a breakdown of the number of clients (and \$AUM) for the past 5 years by the type of service provided (i.e., general consulting, special consulting, OCIO, or other). If any clients have increased or narrowed scope of services, please explain.

	2015	2016*	2017**	2018	2019
Non-Discretionary (\$M)	\$97,707	\$333,083	\$403,395	\$439,032	\$427,313
Number	123	142	148	150	145
Discretionary (\$M)	\$19,870	\$22,016	\$3,177	\$3,536	3,487
Number	4	5	7	10	11

* The Verus merger with Strategic Investment Solutions, which closed on 12/31/2015, combined the non-discretionary client base and AUA of both firms.

** The loss of discretionary AUM is attributable to the sale of the Strategic Partnership Program, a segment of our discretionary business, to Goldman Sachs Asset Management.

- 3) What services does your firm offer in addition to pension fund investment consulting?

Verus offers the full range of consulting services to pension plans in the DB and DC arenas. The large majority of our business is in non-discretionary investment consulting as shown in the table in question 2, and our AUA for public pension plans is significant. Three specialty services offered by Verus, which are backed by dedicated resources, specialists and research teams, are not offered by some of our competitors, and are distinguishing capabilities of our firm. These include:

- Private markets consulting
- Risk advisory and monitoring
- Outsourced CIO discretionary services

- 4) How does your firm manage these services, such as discretionary management (OCIO), to avoid conflicts of interest with its consulting business?

While Verus' OCIO business may present perceived and potential conflicts to our non-discretionary clients, we believe through the application of appropriate policies, they can be managed. Below, we list what we believe to be two key potential or perceived conflicts and how we manage them.

A potential conflict exists because OCIO services generate higher fees than general consulting services. The OCIO model involves a substantial change in scope of services that materially affects how a Board conducts business. The decision to employ an OCIO provider is fundamentally a governance decision, one that is outside the scope of our advice to clients. Therefore, we would never recommend to a client to change from one form of service to another. This view is codified as firm policy.

Additionally, it may be perceived that our OCIO relationships could receive preference over our traditional non-discretionary clients with regards to capacity-constrained investment opportunities. OCIO clients, by the nature of the model, are nimbler than traditional non-discretionary clients and can act faster on investment opportunities than Trustees governing a non-discretionary investment program. Our opinion is that such opportunities rarely occur. Furthermore, this potential conflict exists even within consulting firms that do not have OCIO services as their clients maintain

different meeting cycles and investment policies. That said, we have implemented an allocation procedure for limited capacity opportunities to ensure all clients are treated fairly. Following is our process for allocating capacity:

Approval Process

Verus maintains a formal process for review and approval of external investment managers and their investment opportunities related to traditional asset classes and alternative asset classes. Only approved external managers and their particular investment opportunities may be recommended by Verus Consultants or utilized by Verus Portfolio Managers for non-discretionary and discretionary client's respectively. Verus has expanded its roster of approved managers in recent years, with a particular focus on ensuring that all client external managers have been fully vetted using our approval process.

External investment managers are approved by the Verus Investment Committee (IC) for traditional asset classes or the Alternatives Investment Committee (AIC) for alternative asset classes. Detailed information regarding operational due diligence and investment due diligence with recommendations for consideration is provided to the IC and the AIC by the manager research team and due diligence professionals within Verus.

Capacity Allocation

We follow a multi-step process for allocating capacity in oversubscribed funds:

1. Verus informs the external investment manager (typically a general partner) that Verus does not allocate fund capacity between Verus clients and confirms that the GP has its own processes and procedures for allocating limited investment opportunities (typically an investment committee).
2. Verus determines from the external investment manager any limitations on client types it is accepting (public or corporate pensions, endowments/foundations, or other); size of client legal limitations; and the investor due diligence processes.
3. The approved external manager/product is disseminated to Verus consultants and portfolio managers for clients whose investment policies permit the type of investment presented. The information provided includes, among other items: (a) the fund/GP name, size (target and cap), (b) a brief description (c) fundraising update including amounts closed to date, planned closing dates, and open date for current available allocation (d) target date to inform external investment manager with indications of interest and levels.
4. Client feedback is solicited, and based on such feedback clients interest levels/ranges, together with client profiles, size, key steps of investment process, and other pertinent issues such as specific FOIA requirements is summarized internally for presentation to the external investment manager.
5. If the total desire/claimed capacity is within the total amount of capacity, the Verus consultants and portfolio managers are informed that the claims are within capacity and that these claims for capacity will be presented to the external investment manager for consideration.

- 5) What percentage of your firm's income comes from pension fund investment consulting (provide breakdown between general, discretionary/OCIO and specialty)?

% of Total Revenue	
Non-Discretionary	85%
Discretionary	15%

- 6) Describe your plans for managing the future growth of your firm. Do you have limitations on the number of clients you intend to accept?

With respect to client loads, the assignment of new client responsibilities is determined primarily by the fit of the client with the consultant and the consultant's capacity to take on new relationships. Firm leadership manages consultant workload and maintains excess capacity for new relationships. We do not set limits on consultants' books of business but assess capacity individually. On average, consultants maintain about seven to ten client relationships. Consultants servicing large, sophisticated clients with complex portfolios and monthly meetings tend to have fewer relationships.

What is the number of clients for the lead and secondary general consultant?

Margaret Jadallah has five clients as lead consultant, and Joseph Abdou has one client as lead consultant and four clients as secondary consultant.

Provide the number of clients for the specialty consultants, Faraz Shooshani and John Nicolini, for the past 5 years. Describe your policies for controlling the workload of the investment consultants (and in particular Faraz Shooshani)? Please specify the individuals (up to five) who you feel are key to the success of your firm.

During the past five years, Faraz Shooshani has served as private markets consultant to seven clients, five of which are currently active. He has recently taken a lead general consulting role for one client where he was already private markets consultant. John Nicolini serves as lead and/or real assets consultant to five clients. Verus added another analyst to the real assets team since SamCERA's last review.

Firm leadership is primarily responsible for managing consultants' workloads. Although we do not set limits on a consultant's book of business, workload is managed by factors that include (1) a consultant's seniority and level of experience, (2) the complexity of services required by his or her client accounts, and (3) overall capacity for new relationships. The current client-to-consultant ratio is 7-to-1. Verus' firm infrastructure supports the firm's consultants and consulting clients with resources across all asset classes. Faraz Shooshani heads the firm's private markets consulting practice and has a team of eight assisting him with research resources across the private market spectrum (venture, buyout, debt-related, real assets, private credit). The private markets team also has dedicated reporting analysts to assist in performance reporting.

Please specify the individuals (up to five) who you feel are key to the success of your firm.

The success of the firm in general and client relationships in particular depends on the efforts of every participant working as a team to achieve the firm's strategic goals. In this context, every employee is important and has a role to play in engendering success. From a client's perspective, the lead

consultant would be the key to a successful relationship, coordinating and deploying resources and serving as the face of our firm to its organization. The firm’s Management Committee is primarily responsible for setting strategic goals and the future direction of the firm. In view of this high level role, we are naming five of its members as key to the firm’s success. It is worth noting that Faraz Shooshani was added to the Management Committee in 2019.

Jeffrey MacLean (CEO)
 Shelly Heier, CFA, CAIA (President and COO)
 Ian Toner, CFA (CIO)
 Kraig McCoy, CFA (CFO)
 Max Giolitti (Chief Risk Officer)

7) Please specify the individuals (up to five) who you feel are key to the success of Verus’ account relationship with SamCERA.

Margaret Jadallah - Lead consultant
 Faraz Shooshani - Private markets consultant
 John Nicolini, CFA - Real assets consultant
 Joe Abdou, CFA - Backup Consultant
 Marc Gesell, CFA - Risk specialist/Backup Consultant

8) Has your firm been involved in any regulatory or litigation events in the past year?
 No.

9) Summarize the coverage for errors and omissions, professional liability, fiduciary insurance or fidelity bonds held by your firm (i.e., amounts and respective carriers) and e-mail the certificates of insurance to investments@samcera.org.

Type of Insurance	Coverage Amount	Description of Insurance	Company	Rating
E & O (Investment Advisor Professional Liability)	\$10m (\$500k deductible)	Insurances against losses caused by breaches of fiduciary responsibilities; protects those that give advice, educated recommendations when doing something they should not have done (error), or neglecting something they should have done (omission).	Allianz Underwriters Insurance Company	A+ by A.M Best
D & O (Investment Advisor Management Liability)	\$10m (\$500k deductible)	Provides insurance for negligent acts, omissions or misleading statements by directors and officers of company that result in lawsuits against the company. It reimburses the company when they indemnify Officers and Directors or to reimburse company for claim paid.	Allianz Underwriters Insurance Company	A+ by A.M Best
Cyber Policy	\$2m (100k deductible)	Network and information security liability, regulatory defense, multimedia content liability, breach	Coalition Insurance Solutions	A+ by A.M. Best

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Type of Insurance	Coverage Amount	Description of Insurance	Company	Rating
		response, crisis management, cyber extortion, business interruption, digital asset restoration, funds transfer fraud.		
Employment Practices Liability	\$7.5m (100k deductible)	Covers against claims by workers that their legal rights as employees of the company have been violated.	Allianz Underwriters Insurance Company	A+ by A.M Best
Financial Institution / Crime Bond	\$1m (\$50k deductible)	Protects against loss from employee, trade, loan, or partner dishonesty, forgery, counterfeit, or loss of property.	Chubb-Federal Insurance Company	A++ by A.M Best
ERISA Fidelity Bond	10% plan assets or \$500k (\$1m if plan holds employer securities per ERISA 407(d)(1))	Protects against loss from theft or fraud	Hartford Insurance Company	A+ by A.M. Best
Commercial General Liability	\$1m per occurrence	Protects from financial loss if liable for property damage or personal and advertising injury caused by our services, business operations, or employees	Travelers	A++ by A.M. Best

- 10) Update all personnel changes to the Verus team. Indicate the turnover of professional staff (senior management and key professionals) over the past two years.

Employee gained	Title	Date hired	Reason
Matt Foppiano	Private Markets Performance Analyst	01/2019	Joined Performance
Fateha Uddin	Performance Analyst	02/2019	Joined Performance
Claudia Schloss	Senior Consulting Associate	04/2019	Joined Consult. Assoc. Team
Brock Foster, CFA	Consulting Associate	04/2019	Joined Consult. Assoc. Team
Marcel Gesell	Senior Associate Director Risk	05/2019	Joined Risk Team
Lauren Thompson	Operations Analyst	06/2019	Joined Operations
Abhijeet Singh	Performance Analyst	06/2019	Joined Performance
Alex Russo	Consulting Associate	08/2019	Joined Consult. Assoc. Team
Kristi Kanadi	Performance Analyst	09/2019	Joined Performance
Carmen Zhuo	Performance Analyst	09/2019	Joined Performance

Employee gained	Title	Date hired	Reason
Dan Quilico	Senior Consulting Associate	10/2019	Joined Consult. Assoc. Team

Employee lost	Title	Date lost	Reason
Stephen Quirk	Consultant	02/2019	Pursued another opportunity
Riley Dinnison	Senior Consulting Associate	03/2019	Pursued another opportunity
Herbie Nishii	Consultant	9/2018	Pursued another opportunity
Austin Smith	Senior Portfolio Mgmt Analyst	05/2019	Pursued another opportunity
Dylan Salay	Operations Analyst	05/2019	Pursued another opportunity
Florentina Furtuna	Associate Director Private Markets	06/2019	Relocation to San Diego
Alisa Saporava	Consulting Associate	06/2019	Pursued another opportunity
Ronak Doshi	Consulting Associate	07/2019	Involuntary – low performance
Ed Hoffman	Managing Director Senior Consultant	07/2019	Pursued another opportunity
Mydung Do	Senior Private Markets Performance Analyst	08/2019	Pursued another opportunity
Angela Swensen	Director of HR	12/2019	Pursued another opportunity

- 11) Describe any new potential services/improvements to your existing services being considered.

We are not recommending any services/improvements to SamCERA at this time. Should SamCERA determine that holdings-based risk advisory services or building a direct hedge fund program are of interest, these are core competencies of Verus’ that we can discuss at a future time. We are, of course, open to any improvements that can be made to our working relationship.

- 12) Describe the relative strength and longevity of your back-office (performance and risk analytics) staff. Please provide a list of the Support Personnel for general consulting and specialty consulting services.

Verus’ 13-person Performance Analytics Group is dedicated to data calculation, reconciliation, and performance evaluation. The group is supervised by Mr. Justin Hatley, Director of Performance Analytics, who reports to the President of the firm. Mr. Hatley has 14 years of experience. SamCERA’s performance analyst, Augienette Castillo, has 21 years of investment experience and has been with Verus for five years.

The risk advisory team, led by the chief risk officer Max Giolitti, provides risk analytics, monitoring and education, and delivers end-to-end services to help clients develop a comprehensive framework for risk management that analyzes and communicates risk in every aspect of their investment program. Mr. Giolitti has over 22 years of industry experience and sits on the Verus investment committee and management committee. Danny Sullivan, FRM, CAIA began his career with Verus in 2011 and Vance Creekpaum, ASA was an actuarial analyst for 4 years prior to joining Verus in 2016.

Verus' senior consultants are supported by consulting associates. Joe Abdou was promoted from consulting associate to Consultant in 2019 but continues to support the SamCERA relationship.

- 13) **What are the current technologies utilized in supporting the back-office processes? What performance measurement system do you use? Also what risk systems do you utilize in producing ex-post and ex-ante risk reports for clients? Please summarize your maintenance and upgrade policy/plan.**

Performance measurement resources

Our main tool for performance measurement and reporting is the InvestorForce Performance Reporting Network (iPRN). InvestorForce clients represent roughly \$1.7 trillion in assets under advisement with over 6,000 institutional plans and 3,000 investment managers. The InvestorForce universe aggregates data submitted by institutional investment consulting organizations using institutional and custodial statements for separate accounts, and investment managers for privately-held or commingled funds. The databases contain at least twenty-five years of performance data on each of the major asset classes. The database is updated monthly. Following is the composition of the InvestorForce performance measurement database:

Plan Type	Number of Observations	Total Market Value
All Plans	3,850	\$1.6 Trillion
All DB Plans	1,806	\$1.2 Trillion
Corporate DB Plans	491	\$315.7 Billion
Public DB Plans	562	\$597.5 Billion
Taft-Hartley DB Plans	485	\$212.8 Billion
Endowments & Foundations	1,179	\$152.4 Billion

The InvestorForce platform is distinguished by how it drives greater operational efficiencies in data aggregation, performance calculation, real-time analysis into client, manager and market movement, and timely, automated production of performance reports.

We supplement the InvestorForce with the following tools that we use for alternative investments, style analysis, risk analysis, and other types of portfolio analytics:

eVestment Alliance	Public markets database
MPI Stylus	Returns-based style analysis, regression analysis
MSCI BarraOne	Risk analysis
Morningstar Direct	Mutual fund information, analytics, index information
Aksia	Hedge fund database
Solovis	Private markets analytics and performance platform
Preqin	Private markets database
Thomson Reuter Cambridge Associates	Private markets database
Thomson One VentureXpert	Private equity database
Private Informant	Private equity database
Preqin	Private equity database

Risk monitoring and analysis

We evaluate risk/return characteristics of the total portfolio using our proprietary risk allocation system, which interacts with MSCI BarraOne, and the Risk modules built into the InvestorForce platform. Our standard performance reporting delivers deep returns-based risk analytics, which includes ex-post risk metrics at the total fund, asset class composite, and individual manager level, such as standard deviation, tracking error, up-side/down-side capture, alpha, beta, r-squared, information ratio, and Sharpe ratio. In addition, we can offer a full suite of ex-ante, holdings-based risk analytics through our Risk Team.

InvestorForce is continually maintaining its system and upgrading its platform to respond to clients' needs. InvestorForce has a Consultant's Collaborative where InvestorForce's clients get together and agree on initiatives to help guide the platform's improvements and development. This is mutually beneficial in that it saves InvestorForce time tapping each client individually to learn about needs; instead they receive the information from the collaborative. For clients it allows us to streamline requests, allowing InvestorForce to focus on a handful of improvements and enabling positive change more quickly. Verus is an active participant in the Consultant Collaborative.

- 14) **What are your mission critical systems? Has your firm experienced any problems with these systems in the past eighteen months? When were these systems implemented and when were they last upgraded? Do you anticipate any changes to these systems in the next eighteen months?**

Technology is an integral part of our consulting practice. We have an in-house IT group composed of three technology specialists who assist our consulting staff in monitoring, testing and evaluating the tools of our trade. We have spent, on average, 10% of revenue on systems and technology in the last three years and anticipate technology investments to stay roughly between 9-12% of revenue over the next three years. We evaluate all IT systems on an annual basis for feature deficiency. We use automated software to apply operating system security patches as soon as they are available from the manufacturer, and continuously upgrade all internal IT systems to insure we maintain long-term support availability with our various vendors and partners. During the past 12 months we successfully migrated our data center to a new location with improved physical security and environmental controls. In addition to improving our physical server presence, we will be moving several systems to Microsoft Cloud solutions to mitigate our physical on-site disaster footprint.

Our technology infrastructure is a Linux and Windows-based network that allows for secure centralized management of all firewalls, switches and IPS devices as well as endpoint protection. It includes built-in fail over clustering as well as redundant data replication to safeguard data sets as well as the overall infrastructure that personnel utilize to accomplish necessary business tasks.

- Infrastructure Items
- Redundant Internet Service Providers
- Centrally managed Cisco Firewalls
- Intrusion Prevention System at all points of entry
- Centrally-managed Network Switches
- Centrally-managed Video Security Cameras
- Application and Management Servers
- Linux and Windows based operating system (OS)
- Virtual environment with built in clustering for fail over redundancy

- Fully replicated data sets for additional fail over redundancy
- Fully encrypted cloud-based storage for additional layer of redundancy
- Network Attached Storage (NAS)

We currently employ the following software and databases in aid of our consulting practice:

InvestorForce	Performance measurement platform
Portfolio Risk Dashboard	Internally developed risk management system
Asset allocation modeling tools	Proprietary stochastic model, scenario, stress test and risk factor evaluation tools
eVestment Alliance	Public markets database
MPI Stylus	Returns-based style analysis, regression analysis
MSCI BarraOne	Risk analysis
Morningstar Direct	Mutual fund information, analytics, index information
Aksia	Hedge funds database
Solovis	Private markets analytics and performance
Preqin	Private markets database
Cambridge Associates	Private markets database
Thomson One VentureXpert	Private equity database
Private Informant	Private equity database
Preqin	Private equity database
Winklevoss Technologies ProVal	Liability simulation software

We maintain a secured web portal that allows retrieval of our performance reports and research documents. The portal includes access to daily market value information (if the client’s custodian bank participates) and the ability for clients to run some basic on-the-fly reporting such as performance-to-date at the total fund or individual manager level. This portal will also provide an archive of reports and presentations.

With respect to leveraging information resources across the firm and with our clients, Verus employs several key technologies to drive communication capabilities which include but are not limited to the following:

Skype for Business	Utilized largely for its capabilities which include recording meetings, the sharing of co-worker’s screens and ability to annotate PowerPoint for real-time collaboration among Verus employees. The Skype for Business technologies also include whiteboarding, polling, and built in Instant Messaging for fast and efficient instant collaboration capabilities across all offices. This technology is also largely utilized for its ability to support HD quality video/audio feeds for fast and efficient communications amongst teams and co-workers.
Microsoft Teams	Integrated directly into Office 365 applications, Teams allows for a robust platform which includes many communications features for a team. The Teams platform runs as an “always on” application on Verus employees’ computers and allows for connectivity across multiple hardware device platforms. Committee work and many departments utilize Teams for more efficient collaboration on work products, reducing the use of email.

Email	Industry standard email housed in the Office 365 platform is utilized for many day to day communications between Verus Investment employees as well as for outside company communications.
SharePoint	Various internal company SharePoint portals are utilized for the collection and distribution of company related content, including finalized marketing and research materials.
VPN	Verus has incorporated key security technology that allows for both point-to-point VPN connectivity between all offices and further allows for client VPN connectivity to all offices. The Virtual Private Network protocols allow for an always available secure communications between all offices. This also allows approved employees to securely connect to any/all offices via a secure communications channel.
VOIP	Voice over IP has been implemented through all Verus Investments offices to allow for instant and seamless voice communications via 3-digit dial and directory lookup. Although offices are geographically dispersed the integrated VOIP technology allows internal phone calls to route and handle as though all offices act as a single office.
CRM	Microsoft Dynamics CRM is utilized as a robust tool for managing client, prospect and manager communications amongst other available tooling. Verus Investments utilizes CRM Online which is a secure cloud-based offering where all backend processes are managed by Microsoft. This also allows for greater flexibility for remote availability and support of multiple hardware devices such as different mobile devices and tablets.
Conference Rooms	Each Verus office has multiple conference rooms of varying sizes that support video conferencing, audio conferencing, Skype, Zoom.us as well as GoToMeeting. Each conference room is outfitted with large format HDTVs, high quality external microphones as well as VOIP enabled conference phones.

Has your firm experienced any problems with these systems in the past eighteen months?

Outside of normal maintenance and sporadic and minimal vendor outages, no significant problems have occurred in the last 18 months.

When were these systems implemented and when were they last upgraded?

Microsoft’s Office 365 is the technology driving most of our communication resources. We implemented O365 in the spring of 2014, since then Microsoft has upgraded these systems on a consistent and reliable basis.

Our internal database system was implemented in the summer of 2013 and has been upgraded to stay current with the vendors long term support release.

Our server infrastructure has gone through a complete overhaul that was completed in the fall of 2015. All internal systems are hosted and run on a virtual machine and clustered system with local and offsite redundancy. The specific hardware stack is built upon Dell’s VRTX framework.

Do you anticipate any changes to these systems in the next eighteen months?

No.

15) Provide an overview of your firm's business continuity plan.

Verus maintains a written "Business Continuity and Disaster Recovery Plan" that is distributed to all employees. We participated in a comprehensive disaster recovery/business continuity audit in November of 2014. The audit was completed by an independent third party firm and included scenario testing and cyber security response readiness. In the event of business interruption, the current BCDR plan provides for alternative work sites, geographic and service provider diversity, remote access to critical systems, secure laptops with VPN access, and data retention enforcement for data recovery. Verus will continue to conduct DR/BCP testing exercises on a regularly scheduled basis to ensure that this plan is still valid, viable, and can be executed in a timely manner. We were able to live-test certain elements of our BCDR plan during a power failure in downtown Seattle. The BCDR plan worked exactly as expected, allowing minimal disruption immediate resumption of our business operations.

Performance

16) Detail your perspective of SamCERA's performance expectations, as spelled out in the contract and SamCERA's Investment Policy Statement, and how your firm is doing relative to those expectations.

The actuarial rate for SamCERA is 6.5%. Based on our current expectations and risk level of the portfolio, Verus forecasts a 6.3% return for the SamCERA portfolio. (Note that this is a market, or beta, expectation and excludes any excess return driven by active management in the SamCERA portfolio.) We believe that this return, based on the Plan's strategic asset allocation, incorporates asset allocation that properly reflects the Board and Staff's risk tolerance for the portfolio based on our most recent asset/liability study conducted last year.

We believe that we are meeting SamCERA's performance expectations as spelled out in the Verus contract and SamCERA's IPS. Since our last review, we confirm that we have provided all of the services described in the contract with participation from SamCERA's broad consulting team as described in the Verus contract. We also believe that we are meeting performance expectations for SamCERA as spelled out in the IPS on a risk-adjusted basis. Consistent with SamCERA's IPS, we are assisting the Plan in prudently managing assets in a manner that is consistent with funding the actuarial liability. SamCERA has actively been working towards reducing volatility in the portfolio with the goal of mitigating downside risk and increasing diversification, while still enabling the Plan to fund its liabilities. We have worked with SamCERA in this evolution with asset allocation and asset-liability analyses, enhanced risk analysis, and due diligence across a number of diversifying asset classes (private credit, opportunistic credit, real assets, absolute return). In the coming year, we will be working with SamCERA on increasing and diversifying exposure within the defensive fixed income portion of the portfolio.

While the SamCERA portfolio has underperformed its policy index over the one-year period since our last review (4.9% v. 5.3% with a 7th percent peer ranking), we are comfortable with the structure of the portfolio and most of its asset classes. Of note, private equity returns are particularly strong. Absolute return has been disappointing, and we will be recommending some changes and enhancements to that part of the portfolio.

Overall, we believe that SamCERA is well-structured to meet its performance expectations over the long-run with regard to absolute and risk-adjusted returns v. policy within the framework of a well-diversified portfolio which should provide consistency and mute drawdowns.

17) Discuss the domestic equity, international equity, fixed income, alternatives, and real estate markets and SamCERA's relative success or failure in the current market.

U.S. EQUITIES

- U.S. equities outperformed international in Q3 (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter. We expect further declines in U.S. yields to be supportive of stocks, as low rates bolster earnings and reduce the attractiveness of fixed income.
- The S&P 500 has delivered moderate returns of 4.3% over the past year. Returns have likely been limited by flat earnings growth of 1.7%, and relatively high valuations. In the third quarter, S&P 500 YoY earnings growth is expected to be -4.1%, which would put U.S. equities on track for three consecutive quarters of earnings loss.
- Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have continued their run of underperformance.

U.S. FIXED INCOME

- The Federal Open Market Committee cut the range for its benchmark interest rate by 0.25% in both its July and September meetings, bringing the new range for federal funds to 1.75-2.00%.
- Global sovereign yields continued to plummet. In Germany, 10-year bond yields touched fresh all-time lows, and the entire German sovereign curve moved below 0%. In Italy, 10-year bond yields fell 1.28% to 0.82%, boosted by the formation of a new coalition government between the Democratic Party and the Five-Star Movement.
- The European Central Bank delivered a fresh stimulus package in September, in line with expectations. The ECB cut its main deposit rate from -0.40% to -0.50% and announced it would restart asset purchases of €20 billion per month, beginning November 1st.

INTERNATIONAL MARKETS

- International equity performance was impacted heavily by currency movements in the third quarter. In local terms, the MSCI EAFE Index delivered a total return of 1.8%, bringing year-to-date performance to 15.7%. For unhedged U.S. investors however, the MSCI EAFE Index generated a quarterly return of -1.1%, dragging the year-to-date figure to 12.8%. Dollar strength reemerged as a powerful force driving returns due in part to widening interest rate differentials between the U.S. and the rest of the world.

- Equity multiples have expanded year-to-date, recovering to the levels of September 2018. Developed and emerging markets continue to appear cheap relative to domestic equity valuations.
- We see two opposing forces impacting emerging markets in the current environment. The first force is decelerating global growth and a rising probability of recession, which likely bodes poorly for emerging market performance. However, the second force of widespread central bank dovishness may boost emerging market performance in the near term. Specifically, if global growth levels out while central banks unleash another round of easing, there may be material upside to emerging market equities. On balance, we remain moderately bullish on emerging markets, though we are watching developments closely.

U.S. REAL ESTATE

- Real estate fundamentals have remained fairly stable with overall declining vacancies and increasing NOI. Valuations continue to climb, and cap rate spreads have returned to average levels. New supply has been moderate with some pockets of excess. Our outlook has changed to neutral as returns have continued to moderate to “normal” levels. Appreciation continues to slow with income becoming a larger portion of overall returns. We favor more conservative strategies with strong cash flows and hands-on asset management. We remain cautious with leverage, illiquidity, quality and long duration value creation strategies.

PRIVATE EQUITY

- As companies remain private for longer and as investors increase emphasis on growth, startups are taking a strategic approach more commonly taken by public companies and looking externally to fuel expansion
- Amid heavy pressure to do deals, the PE industry observed another surge in investment value in 2018; competition and rising asset prices continued to constrain deal count worldwide
- Against a backdrop of unprecedented growth, the secondary market continues to evolve and encompass increasingly complex transactions across both the sponsor-led and LP-led segments of the market. Transaction structures varied by sponsor with the three most common transaction structures; fund recapitalizations, tender offers and spin-outs. ‘Club-deals’ also became much more prevalent, particularly at the larger end of the market.

In the current market, SamCERA has ranked in the first quartile of its peer group for International Equity for the 1-year time period ending 9/30/2019. SamCERA ranked in the second quartile in US equity for the 1-year period, and fixed income ranked in the third quartile for the 1-year period ending 9/30/2019. Equity managers with value leanings generally have underperformed during this time frame as have fixed income managers that have been conservatively postured versus their investable universes. In the alternatives asset classes, we view the Plan’s private equity and real estate returns for the past year to be competitive, whereas absolute return and private real asset returns have lagged over that time period.

At the total plan level, we believe SamCERA is performing in line with expectations in the current market environment and given its relatively conservative strategic asset allocation.

Investment Consulting Philosophy

- 18) Describe your investment consulting philosophy, including (a) what are your firm's consulting specialties, strengths and limitations (b) your assessment of the value added by your investment philosophy and (c) what sets your services apart from other pension consultants' services?

Our investment advice follows a consistent and research-driven approach that is governed by the following principles:

- Enterprise objectives and risk tolerance guide all decisions.
- Asset allocation and risk exposures drive portfolio results.
- Economic factors and valuations drive long-term asset class returns. This is the rationale behind the tremendous resources that we invest in scenario analyses, macroeconomic research, capital market valuations, and risk and trend analysis.
- Risk and diversification must be viewed through multiple lenses. We view strategic allocation beyond mean variance analysis, and account for the many facets of portfolio risk in our asset allocation modeling.
- Fees and costs impact on long-term performance and must be minimized and justified.
- We act as a true extension of our clients' staff and an advocate for their interests.

We serve as an ERISA §3(21) fiduciary to our non-discretionary clients and an ERISA §3(38) fiduciary to our discretionary clients. We view our role as an extension of our client's staff in the service of the Board or Investment Committee. With respect to investment managers, brokers and other third-party providers, we act as an advocate on behalf of our clients ensuring that providers perform in accordance with guidelines and charge competitive fees.

Risk-based services permeate our entire service offering, an approach that differentiates us from the rest of the industry. Our professional teams have decades of experience applying risk management techniques to create thoughtful, targeted, and customized results. We believe that risk management is a culture, not a system. We, therefore, emphasize education, improved communication, enterprise risk tolerance, policy development; and seek a level of commitment from all parties to enhance the traditional returns seeking approach with a risk-aware mindset.

Lastly, we believe that among independently-owned, generalist consulting firms, Verus has an especially experienced and tenured private markets team which has been in place since 1994. Current Verus clients who incorporate private markets into their retainer relationships work closely and directly with senior professionals on the private markets team.

- 19) Describe and explain your firm's brokerage relationships, money management activities, fee relationships and soft dollar relationships. Include the amount of income derived in the last calendar year from investment managers.

Verus does not have any brokerage arrangement and does not accept soft dollars.

20) Provide your assessment of the risks associated with SamCERA's portfolio and describe your firm's risk management capabilities and the tools employed in risk assessment.

The most important risk to pension funds is unfunded liability. The plan's number one priority is to ensure future obligations are met. The two levers that can be pulled to reduce the unfunded liability are: increasing contributions and changing the risk/return profile of the investment portfolio. Comprehensive risk management and a careful determination of an appropriate risk level is especially important in the current low return environment. Chasing returns can result in a risk level that is beyond a Plan's enterprise risk tolerance.

SamCERA's portfolio is structured in alignment with its risk tolerance and considers important factors such as the MOU (County's overfunding) and the financial strength of San Mateo County which enables the Plan to have 6.5% actuarial expected return and a relatively conservative strategic asset allocation compared with many peers. We view the biggest risk in the SamCERA portfolio as peer risk or the risk of being different from peers. Verus is comfortable with this difference and believes that the portfolio is prudently structured, well diversified and well positioned for the future. Moreover, Verus believes that SamCERA would not capitulate and abandon a well-conceived plan at an inopportune time.

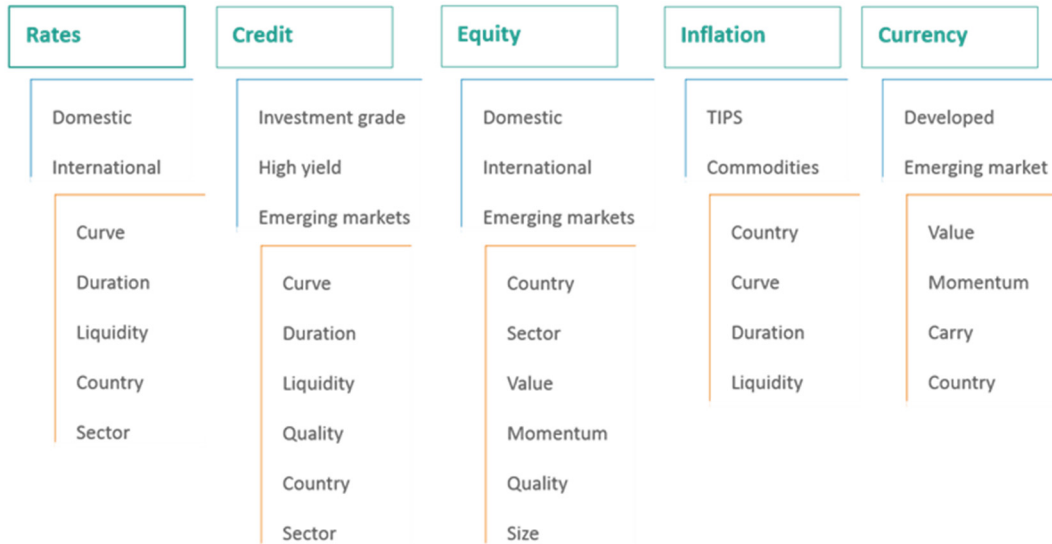
Verus has a risk advisory team that is dedicated to research and delivery of risk advisory services and portfolio analytics. The Risk Advisory Group is headed by Chief Risk Officer Max Giolitti and composed of three professionals who dedicate 100% of their time to risk analysis and monitoring activities. We use MSCI BarraOne software as the backbone of our risk platform and deliver risk analysis through Verus' proprietary Risk Dashboards. This is combined with tools that we have developed to accurately load daily holdings into BarraOne, and efficiently pull risk analytics out of BarraOne for our reporting. The risk team has also developed tools for trend line analysis and daily portfolio risk monitoring. We also use RiskManager, FINCAD, and MPI Stylus Pro. Portfolio construction is driven by our Risk Allocation system, which interacts with MSCI BarraOne, to construct index-based portfolios and download risk data to evaluate the risk and return characteristics of various asset allocation decisions. We can also employ R scripts to power risk-based rebalancing and optimization algorithms.

Verus' Risk Advisory Service has the capability to consolidate all underlying positions and quantify where concentrated risks lie in the portfolio. Our risk advisory service pulls data from custodians and loads it into MSCI BarraOne's risk system. We work directly with MSCI to monitor and direct the implementation and ongoing maintenance of data in the risk system, and provide monthly Risk Dashboard reports, if desired by the client. At this time, SamCERA has opted for index-based analysis which is a cost effective means of disaggregating risk across the portfolio.

Risk assessment in portfolio construction

Risk factor evaluation is an integral part of our asset allocation methodology to incorporate the impact of absolute and relative risk in portfolio construction. Risk factor evaluation tools allow us to gain deeper insight into portfolio risks. We examine the asset allocation structure relative to five prominent risk factors found in most all asset classes – equity risk, interest rate risk, credit risk, inflation risk, and currency risk – and attribute anticipated volatility, active risk, value at risk, and scenario profit and loss.

Risk premia encompass *primary*, *secondary*, and *tertiary* factors that need to be managed



Risk advisory services

Verus’ Portfolio Risk Dashboard was designed to communicate risk metrics simply and meaningfully. The dashboard provides clients with a thoughtful risk monitoring framework for oversight of the following:

- Risk allocation – Allocations by risk buckets and asset class analysis
- Risk diversification – Diversification risk factors, geographic, economic sensitivity and ex-ante returns
- Active risk budgeting – What and where are the active risks?
- Primary risk factor analysis – Attributes of rates, credit, equity, inflation and currency risk buckets
- Performance review – Did the portfolio meet the objectives?
- Performance attribution – Positive and negative contributions to absolute and relative returns

Specific to SamCERA, the portfolio has less risk at the total fund level than its policy benchmark and the average public pension plan. Equity beta is also less than policy and that of the average public fund peer. Credit risk is on par with that of the SamCERA benchmark and that of peers. Interest rate risk was greater as of the 9/30 Risk Dashboard report but will be lessened with the gradual unwinding of Risk Parity. A noteworthy risk metric is currency risk; SamCERA has hedged half of its currency exposure over the past year which has resulted in less significantly less currency risk than its policy

benchmark. Stress testing of the portfolio shows that, under most negative scenarios, the SamCERA portfolio should lose less than other public fund peers. In summary, SamCERA's portfolio is diversified and conservative by design, and risk exposures are aligned with its goals and objectives.

21) **What are your recommendation(s) regarding categories of managers appropriate to implement SamCERA's Investment Policy Statement?**

We believe the categories of managers currently in the portfolio, both public and private, are appropriate and capable of implementing objectives and expectations outlined in SamCERA's Investment Policy Statement. SamCERA has added categories of managers as appropriate as market conditions have evolved.

We plan to further diversify the absolute return category by adding complementary managers to each sub-strategy. In addition, we will be working with Staff on expanding the diversifying fixed income portfolio per SamCERA's new asset allocation.

22) **Please provide your philosophy around incorporating ESG issues in the management of the pension plan. Do any of your clients currently incorporate ESG issues in their investment process? If so, how?**

In recognition of the growing client and prospect demand for ESG mandates, Verus has committed resources to following and evaluating these mandates. Verus currently consults to several clients that incorporate ESG, SRI and/or labor-friendly goals within their investment programs. To assist these clients, Verus utilizes an integrated approach to following ESG strategies which encompasses designated consultants and consulting associates, and research professionals. Using an integrated approach harnesses the maximum resources available to build expertise in this area. In addition, an integrated approach broadens the firm's proactive outreach and individual networks to create a more robust pipeline of ESG strategies to consider in our due diligence process. All of the firm's resources are employed in ESG strategy identification and monitoring. Thus, we tap into our manager research group and our performance analytics group in addition to the focused ESG resources.

Verus helps clients accomplish their ESG objectives through the following process:

1. Strategic planning: clarification of ESG beliefs, values and objectives through discussion with and/or survey of committee/board members and staff with goal of building consensus view
2. ESG policy development
 - a. clarification of roles and responsibilities related to ESG implementation
 - b. ESG benchmarking
 - c. ESG implementation approach (i.e., specific asset classes vs. total portfolio level; funding sources, exposure limits, etc.)
 - d. ESG risk tolerance (i.e., tracking error vs. traditional market benchmarks, risk of shortfall vs. objectives, etc.)
3. Identification and implementation of ESG managers and strategies (will focus on highly rated strategies via MSCI ratings) appropriate for client given their objectives
4. Negotiation and establishment of ESG manager guidelines

5. Performance and risk measurement/monitoring of ESG exposures
6. Ad hoc activities which may incorporate the unique objectives and risk tolerance of clients implementing ESG

Verus' role is as facilitator, educator and resource to clients to enable them to identify and establish their strategic objectives and approach to ESG investing. Additionally, Verus will assist clients in defining specific ESG metrics that are relevant with their respective implementation of ESG investing. Verus supports clients in implementing their respective ESG objectives in several key areas as follow.

1. Positive/negative screening
2. Themed investing (e.g., climate change (reduced carbon footprint), diversity (pay/opportunity equality), etc.)
3. Impact investing

Verus subscribes to the MSCI ESG Ratings, which is considered a best practices standard for rating ESG mandates. We can employ these ratings in our ESG mandate selection and monitoring activities on clients' behalf. Verus can identify ESG strategies across both public and private markets and multiple asset classes given the tools we regularly employ. In 2020, expansion of our ESG capabilities is a top research priority at Verus.

23) [Please discuss any enhancements currently under research or contemplation, such as in the areas of asset liability studies or risk management.](#)

We are currently in the process of setting our research agenda for 2020. A series of TOIs (topics of interest papers) on risk management is a likely addition to the 2020 research agenda. Further research into LDI is another research topic that may be prioritized for the coming year. Verus' actuary is continuing to expand scenario testing on the liability side which can be incorporated into future asset-liability studies. Listed below is Verus' upcoming TOI's for 2020 to date.

- Principle-Based Manager Assessment. Why Vowels Beat Ps
- Integrating ESG into Active Portfolios
- What Diversity Looks Like: Expanding Beyond Ownership
- Is There Extra Alpha Available from Emerging & Diverse Managers
- ESG & Asset Allocation
- What Are Your ESG Risk Models Really Telling You?
- Building Board Consensus Around ESG When Agreement Is Hard To Find
- Risk Mitigation: From Tools to Total Portfolio Approaches
- What's Inside the Box: How to Take Advantage of the Private Credit Market

- 24) Given SamCERA's current plan governance structure, do you recommend any changes in the way the Board/staff/consultant work together in managing and overseeing the plan assets?

We do not recommend any changes to the current governance structure.

Outlook

- 25) What is Verus' outlook for the capital markets? Provide your firm's Capital Market Assumptions.

Our current 10-year risk return assumptions are as follows:

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%	-	-	-	-	-	-

Our correlation assumptions are as follows:

	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	-0.2	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	0.5	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	0.5	1.0										
Real Estate	-0.1	0.5	0.5	0.4	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	0.4	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	0.6	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	0.1	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	0.0	1.0		

Include an explanation of how Verus arrives at its Capital Market Assumptions.

Verus’ 10-year capital market assumptions use long-term premiums adjusted for recent market dynamics and consensus financial forecasts and expectations. The assumptions are developed internally by our Strategic Research Group and serve as the foundation of our asset allocation modeling approach. We use a 10-year outlook instead of a shorter time frame for two reasons: (1) capital markets tend to exhibit volatility and irrational investor behavior over the short-term as prices diverge from fair value; and (2) mean reversion may occur over the long-run as prices converge to underlying fundamentals due to long-term investor rationality. The building blocks of our inputs include those elements that historically have been central to performance such as inflation, earnings growth, and cash flow, among others. Within each asset class, the selection of building blocks is made to reflect the appropriate market.

The building blocks of our inputs to the asset allocation model include those elements that historically have been central to performance such as inflation, earnings growth, and cash flow, among others. Within each asset class, the selection of building blocks is made to reflect the appropriate market.

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	Current yield	Long-term volatility
Credit	Current option-adjusted spread + U.S. 10-year Treasury – effective default	Long-term volatility
International	Current option-adjusted spread + foreign 10-year Treasury – effective	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	Long-term volatility
Hedge Funds	Return coming from traditional betas + 15-year historical idiosyncratic	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
Opportunistic Real Estate	Core real estate + 4%	Volatility to produce Sharpe Ratio (g) equal to
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

Non-traditional assets are incorporated into our asset allocation model in an analogous way to traditional asset classes. Expected returns are modeled in the asset allocation process using a “building blocks” approach, meaning we identify the fundamental drivers of return for each asset class and forecast the return for each building block based on data from the current market environment relative to historical movements. Forecasting volatility across these assets is less straightforward due to lack of transparency regarding pricing (appraisal-based, and infrequent valuation). Forecasting correlations of these assets is difficult, due also to infrequent and less dependable pricing. Verus uses the correlation forecasts of BarraOne when forecasting Private Equity and Private Real Estate. Other asset class correlations are forecast using the experienced annualized volatility of the past 10 years as the expected volatility of the coming 10 years.

26) **What is Verus’ outlook with regards to trends, challenges, and opportunities in the investment consulting industry? Please include in your response the trend of consolidation among consulting firms.**

Consolidation remains the most prominent theme in the consulting industry. During the last two years we have seen several major merger and acquisition deals take place (e.g., GSAM-Rocaton, Mercer’s acquisition of Pavilion and Summit Strategies Group, Aon’s acquisition of Townsend Group, Meketa-PCA). These deals have allowed the industry’s biggest consultants to expand their capabilities within certain types of assets (e.g., alternative investments for Mercer and real estate for Aon). The trend continues today as seen in this week’s acquisition by hedge funds consultant Aksia of TorreyCove

Capital Partners, a private markets shop. This acquisition underscores the growing importance of alternatives in our industry and the rush to gain or expand expertise in this space. Verus views this trend as further evidence of growing homogenization and, at its worst, commoditization of certain consulting services as large firms try to reap the benefits of scale. It allows Verus to differentiate ourselves even more clearly from larger firms with our long-standing approach of customizing client services and deliverables, and tailoring portfolio construction according to each client's unique enterprise objectives and appetite for risk.

The growth of OCIO managed assets is another theme in the industry, which has increased by more than 20% worldwide to \$1.74 trillion according to P&I's 2018 money manager survey. Acquisition of OCIO businesses (e.g., Mercer's acquisition of Summit's OCIO business) have deepened the concentration of managed outsourced assets among the largest firms, with the top 25 managing about 89% of assets worldwide. Verus has a modest OCIO business that accounts for about 1% of our total assets under advisement (about \$425 billion). Our investment process and philosophy for OCIO are drawn from the same research-driven approach that we use for traditional consulting. The only difference is governance, a decision that resides within our clients' trustees. Verus itself is indifferent to the governance model preferred by our clients, and we could provide education on the pros and cons of both models if desired.

As the consulting industry continues to mature and its pioneers contemplate retirement, succession planning has become a real issue and has driven the transfer of ownership interests to younger generations within the firm or to a competing organization. Verus completed the transition of ownership from founder Bill Wurts in 2013 to the younger generation of consultants and has pursued a policy of expanding ownership among its active employees. We expect this process to continue as the firm is currently working with The Rainier Group to develop a plan that would gradually reduce Jeff MacLean's majority interest over time by increasing shareholdings of minority owners and offering ownership to more employees across the firm. The firm maintains an open dialogue with its more senior staff about their retirement to plan for transitioning client duties. Finally, to prepare the next generation of consultants, we actively promote a mentoring and apprenticeship program within the firm.

Emerging and diverse manager programs continue to attract attention, most recently with the move by CalPERS to reduce its public markets emerging manager program by \$3 billion and the closure of Progress Investment Management Company, a leading emerging manager-of-managers. In sharp contrast to these recent events, Verus remains committed to expanding the universe of alpha-generating managers by taking a serious look at institutional quality emerging and diverse managers. The integration of emerging and diverse managers into our overall manager research process for public and private markets is a main theme of our main goals for 2020. For the second consecutive year, we are inviting qualified emerging and diverse managers to participate in one-on-one meetings with our senior consulting and research staff that will be held in March 2020 in our offices in Seattle, San Francisco, and Los Angeles.

27) **What other issues or concerns have been brought up by your other clients in regards to products, markets, risk management, education and governance?**

There have been ongoing concerns about the impact of trade wars on the economy. So far, Verus believes trade is being used as a negotiation tactic as much of the over \$800 billion in tariffs have not been implemented yet.

Currency hedging, low volatility, 130/30 and alt beta strategies are approaches that have been explored for several Verus clients.

Robust risk management and liquidity analyses are other noteworthy concerns and needs of clients where we are conducting more studies.

Governance trends are generally aligned with SamCERA's governance structure whereby the Board focuses more of its effort on setting policy and risk objectives, and monitoring to ensure that investment policies and procedures are properly adhered to. Day-to-day portfolio decisions, including manager due diligence and recommendations, are increasingly being outsourced to Staff and consultant.

Conclusion

28) **Is there any information that would be timely per SamCERA's Investment Policy Statement or relative to this review?**

We have little to add that is not addressed in the body of the questionnaire. SamCERA's consulting team will be helping another client develop an ESG policy should SamCERA wish to expand its current ESG effort.

29) **Are your clients making significant changes in their asset mixes? Please describe these changes. Do you see any trends in asset allocation?**

Verus' has a diverse client base that are all long-term investors. As such, clients maintain their asset mixes for an extended period of time with incremental changes. Recent trends include further diversification, adding treasuries, and having a separate cash allocation to increase liquidity. A subset of clients is increasing the use of privates.

30) **What market opportunities should SamCERA be considering?**

SamCERA has been implementing all recommended market opportunities as they have been presented. Examples of this include investments in MLPs and hedging currencies. We currently do not have any specific market opportunities, but we will share them as they arise.

31) **Please provide a preliminary recommendation of what your work plan for the next 12 months should look like given SamCERA's current plan structure and long-term policy targets.**


Over the next 12 months, we have a comprehensive workplan in place in which we will review and enhance the defensive fixed income structure, review liquidity implementation, further diversify absolute return, diversify emerging markets equity, and continue to build out real assets, private credit and opportunistic credit. A full workplan has been developed in coordination with Staff. We are happy to provide the month by month agenda to the Board upon request.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

January 28, 2020

Agenda Item 6.4

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer 

SUBJECT: Approval of Securitized Core Fixed Income Manager

Recommendation

Approve an investment of 4% of plan assets (approximately \$200 million) in the DoubleLine Securitized Income strategy to be placed in the Diversifying risk category (Fixed Income asset class composite) within the Core Fixed Income portfolio, that is exempt from the restrictions contained in SamCERA's Investment Policy Statement Appendix B, Derivatives Investment Policy. The policy relates to derivative investments with allocation limits, and the restriction on use of inverse floating rate notes and bonds.

Background

In September the Board approved an updated asset allocation policy, with the largest changes being the removal of risk parity and a resulting increase in the allocation of core fixed income from 14% to 21%. In October the Board approved an implementation plan that adds this core fixed income exposure in multiple stages.

Discussion

Staff and consultant propose adding two new strategies to implement this increased core fixed income exposure in two stages. In the first stage, staff proposes implementing a securitized core fixed income strategy. A securitized core strategy is expected to provide a higher yield with a slightly lower interest rate sensitivity compared to the Bloomberg Barclays Aggregate Index, along with diversification to SamCERA's existing core fixed income managers.

SamCERA staff and consultant conducted analysis on the securitized core fixed income universe and identified an initial subset of four managers to send due diligence questionnaires. After reviewing the questionnaire responses, two potential strategies were selected as shortlist managers to conduct onsite due diligence visits.

In December 2019, staff and Verus performed onsite due diligence visits with DoubleLine and Loomis Sayles. While both firms are appropriate candidates for the mandate, DoubleLine's depth of resources and experience in securitized markets, coupled with securitized assets being a core competency of the firm, lead staff and Verus to recommend the DoubleLine Securitized Income strategy for the mandate. Margaret Jadallah and Joe Abdou of Verus will review the securitized core fixed income manager search recommendation with the Board.

Attachments

DoubleLine Securitized Income Staff Recommendation
Verus Securitized Fixed Income Manager Search Recommendation

DOUBLELINE SECURITIZED INCOME INVESTMENT RECOMMENDATION

January 28, 2020



1) Product Name	DoubleLine Securitized Income
2) Contact Person	Barbara Ziegler Relationship Manager 213-633-8274
3) Manager Benchmark	Bloomberg Barclays Aggregate Index
4) Asset Class	Core Fixed Income
5) Consolidation	Diversifying
6) Role in Portfolio	The core fixed income portfolio is intended to dampen portfolio volatility and protect the portfolio in times of economic duress. The DoubleLine Securitized Income strategy is expected to provide a higher yield with a slightly lower interest rate sensitivity compared to the aggregate index, along with diversification to SamCERA's existing core fixed income managers.
7) Ex-Ante Return Target	The strategy is expected to outperform the Bloomberg Barclays U.S. Aggregate Index by approximately 50-100 basis points over a full market cycle (3 to 5 years).
8) Ex-Ante Volatility Target	DoubleLine expects the portfolio to typically have a lower volatility, lower duration and yield advantage relative to the Bloomberg Barclays U.S. Aggregate Index.
9) Number of positions	Usually between 50 and 150 positions, depending on market conditions.
10) Firm Ownership Structure	DoubleLine is an independent money management firm headquartered in Los Angeles. It was founded by Jeffrey Gundlach in 2009, who left Trust Company of the West (TCW) to start his own firm, and forty-five employees followed him to establish DoubleLine. The firm is employee-owned (Gundlach owns between 25-50% of the firm) and has 263 employees, with over 150 being investment professionals. Employees own 80% of the firm, with Oaktree Capital Management owning the other 20%. It is predominantly a fixed income shop, with over \$140 billion in assets under management. Of this, over \$120 billion consist of securitized assets, making them a large and well-respected manager in this space.
11) Key Personnel	The lead portfolio managers for the strategy are Jeffrey Gundlach, Philip Barach, and Andrew Hsu. They have worked together for an average of 16 years going back to their days at TCW. They are supported on this strategy by 41 additional investment professionals, including sector portfolio managers, research analysts, risk management, and trading professionals.
12) Investment Process Summary	The Securitized Income strategy is a constrained version of the firm's flagship Total Return strategy. The primary difference between the two is there is an investment

	<p>grade requirement for the Securitized Income strategy (although staff envisions a 10%-15% below-investment grade opportunistic bucket to take advantage of extreme buying opportunities).</p> <p>The Securitized Income strategy utilizes a mix of structured products with an emphasis on mortgage backed securities (MBS). The strategy typically holds approximately 50% of the portfolio in agency-related MBS, and 50% in credit-related securitized products, including non-agency MBS, asset-backed securities (ABS), and to a lesser extent, collateralized loan obligations (CLOs). The team's credit exposure focuses on structured products and generally avoids corporate bonds.</p> <p>The Global Asset Allocation meeting is a monthly meeting involving 30-40 people in which top-down duration, credit, and curve positioning (sets the overall risk positioning) are discussed for the firm's products. The Multi Asset Growth (MAG) is a weekly meeting with a smaller number of participants (usually 10, with Philip Barach leading) which sets the tone for more in-depth duration/credit positioning. The Structured Products Committee, which consists of portfolio managers, analysts, and risk management, is used to discuss the structured products sectors and bottom-up relative value opportunities. The sector portfolio managers are ultimately responsible for all buy/sell decisions within their respective sectors.</p> <p>The primary driver of security selection is scenario analysis, in which the team tries to outperform under a range of future scenarios, not just one-directional forecasts. The team calculates a rising and falling rate duration for every security and attempts to outperform through buying securities that have better convexity (i.e. securities that have more upside for a given level of downside) than the index.</p>
13) Strategy Fees	0.30% management fee
14) Annual Turnover	Typical range is 5 to 15% range annually
15) List of Investment Instruments Used	Physical bonds are used in the portfolio. Typically, half of the portfolio consists of rates exposure, which is comprised of U.S. Treasuries, Agency passthroughs, Agency CMO's, and mortgage derivatives (Interest-Only STRIPS (IOs), Principal-Only STRIPS (POs), Inverse Floaters, and Inverse IOs.), while the other half of the portfolio consists of securitized credit positions, which consist of non-Agency MBS, CMBS, ABS, and CLOs.
16) Derivatives Usage	Financial derivatives (futures, swaps, options) are typically not utilized in the strategy. However, mortgage derivatives are utilized, and include Interest-Only STRIPS (IOs), Principal-Only STRIPS (POs), Inverse Floaters, and Inverse IOs.
17) Leverage	None
18) Liquidity	Portfolio holdings are generally very liquid. DoubleLine monitors the liquidity of its holdings via its Liquidity Risk Management Program. Risk management monitors liquidity scores on a CUSIP basis, with their model incorporating bid/ask spreads, size of the market, and number of price vendors. The most liquid securities generally have a weighting between 2-5%, while less liquid securities generally have a weighting of approximately 1.5%

19) Performance Expectations	<p>The team has historically managed its portfolios with a shorter duration than the Bloomberg Barclays U.S. Aggregate Bond Index. Therefore, it is generally expected to outperform in rising rate periods and to underperform during falling rate periods. The portfolio is constructed with better convexity profiles, which should generally help off-set some of the underperformance during a falling rate environment. In addition, since generally the strategy holds minimal corporate bond exposure, the strategy would underperform in periods when corporate bonds outperform securitized assets.</p>
20) Risk management process	<p>Chris Santa Ana is DoubleLine’s Chief Risk Officer and oversees a team of 13 risk analysts. They are responsible for the oversight and surveillance of portfolios, which include running scenario analyses, generating surveillance reports, and conducting prepayment analysis, and return attribution. The risk analysts are embedded within the portfolio management teams, and risk management takes part in the weekly Structured Products Committee meetings.</p>
21) Strategy Assets	<p>Total stand-alone securitized strategy AUM is approximately \$75 billion as of September 30, 2019. The Total Return strategy comprises \$65 billion of this total. The Securitized Income strategy was launched in 2018 based on a client wanting an investment grade-only product. There is currently \$490 million in the Securitized Income strategy.</p>
22) Clients in Strategy	<p>For Total Return, the client breakdown is approximately 50% institutional, and 50% retail. For Securitized Income, there are currently two clients (a corporate pension plan and a commingled LLC vehicle).</p>
23) Perceived Risks	<p>1) New Strategy The Securitized Income strategy was launched in June of 2018, resulting in a short track record. However, this strategy is managed by the same team and process as the firm’s flagship strategy (Total Return), with the primary difference being purchases are limited to investment grade ratings for Securitized Income.</p> <p>2) Retail exposure in Total Return Approximately 50% of Total Return assets are retail clients invested via a mutual fund. Retail investors tend to be more tactical and sensitive to recent performance. A prolonged period of strategy underperformance could result in selling pressure on the fund holdings if retail investors redeem en masse. This could put pricing pressure on the fund’s less liquid holdings, which generally tend to be lower-rated issues. This risk is mitigated given that the Securitized Income product will consist of mostly investment grade securities or higher, which tend to be very liquid securities.</p> <p>3) Use of Mortgage Derivatives will Require Exemption from SamCERA Derivatives Policy SamCERA’s Derivatives Policy within its Investment Policy Statement has a 5% limit on mortgage derivatives and restricts inverse floating rate and structured notes. These limits are in place for core fixed income accounts where these securities are not necessary for achieving performance objectives. DoubleLine is a specialist manager of mortgage-backed securities with decades of experience in successfully utilizing mortgage derivatives, inverse floating rate securities, and structured notes. It is part of their investment DNA and a primary part of their investment process.</p>
24) Sizing	<p>4% of total plan assets or approximately \$200 million</p>

25) Due Diligence Summary	Due diligence was conducted over various phone calls and an on-site meeting on December 5, 2019.
26) Implementation Vehicle	Separate Account

Recommendation:

Staff and Consultant recommend an initial investment of \$200 million in the DoubleLine Securitized Income strategy for benefit of the San Mateo County Employees' Retirement Association portfolio to be placed in the Diversifying risk category (Fixed Income asset class composite) within the Core Fixed Income portfolio.

Memorandum

To: SamCERA
From: Verus
Date: January 28, 2020
RE: Securitized Credit manager search recommendation

Executive Summary

The purpose of this memorandum is to recommend DoubleLine for a Securitized Credit mandate in order to increase SamCERA's core bond/defensive fixed income allocation as a result of the allocation changes following the Plan's recently completed asset-liability study. Specifically, the recommendation is for DoubleLine's Securitized Income strategy which is an investment grade only version of the firm's securitized capabilities. We are recommending an allocation of approximately \$190 million to DoubleLine's Securitized Income strategy or 4% of Plan assets.

Verus and Staff are working towards adding 4% more to defensive fixed income for a total of 18% of the total portfolio by April 2020 given the increase resulting from SamCERA's asset-liability study and adding specialized mandates that will provide further diversification to the portfolio. Verus and Staff have determined that securitized assets offer an attractive risk-adjusted return versus investment grade credit from a relative value standpoint at this point in the cycle and would make a prudent addition to the defensive part of the SamCERA fixed income portfolio. We are in the process of completing a defensive fixed income structure review which will be presented in February 2020 with DoubleLine Securitized Income included.

Securitized overview

Securitized assets are created through pooling financial assets, such as loans and mortgages, into a structure that is then divided into multiple tranches which represent different risk, yield, maturity and cash flow characteristics. The benefit of securitization for issuers is to be able to move certain assets off of their balance sheets and reduce financing costs. The benefits for investors in securitized credit is to potentially earn higher returns, diversify their portfolio and tailor exposures to serve their investment goals. Senior tranches offer the lowest risk and highest level of protection in the securitized market. We propose adding a securitized manager to SamCERA's defensive fixed income manager line up that has a higher quality focus and possesses a deep skill set in analyzing securitized products and their underlying collateral. (Please see attached glossary for definitions specific to the securitized credit market.)

The securitization process typically includes structural protections for the investor such as subordination into tranches with prioritized payments and claims, and overcollateralization and

excess spread over liabilities owed to create a cushion for investors. Post GFC, regulatory requirements and structural provisions and protections have become more stringent. Underwriters must now maintain at least a 5% economic interest in deals to ensure “skin in the game” since Dodd-Frank legislation was passed. The securitized credit market has grown as well and is now approximately \$4.4 trillion in size across a range of asset types and underlying fundamental drivers – consumer (ABS), commercial real estate (CMBS), housing market (RMBS) and corporate credit (CLO). Maturities, as measured by weighted average life, are at or less than 10 years, and many underlying loans are floating rate. Complexity and credit tend to be bigger risks than interest rate risk, although prepayment risk must also be assessed when analyzing securitized credit. Manager candidates for SamCERA must exhibit the depth and resources to properly analyze these securities across asset types; DoubleLine stood out in its depth and experience in these areas.

Due Diligence Process

Verus’ San Francisco consulting team, with input from our fixed income research professionals, identified four possible securitized managers for SamCERA to conduct detailed due diligence on. Using the eVestment Alliance Securitized manager universe as a starting point, Verus screened for managers that invested across the securitized universe, were institutionally focused, have established breadth and depth of fixed income research and, lastly, utilized strategies that emphasized higher quality securitized investments. We sent comprehensive RFIs to four managers who met these criteria, evaluated the responses independently, and discussed pros/cons of the managers with SamCERA Staff. Reasons for elimination for two of the four managers at this stage were based on 1) having a less robust securitized business relative to the other managers and 2) fees much higher relative to the other managers.

SamCERA Staff and Verus conducted onsite to the remaining two Securitized managers in December 2019– DoubleLine and Loomis Sayles, focusing on their investment grade securitized capabilities. Both firms were appropriate candidates for the mandate, but Verus and SamCERA Staff were especially impressed with the DoubleLine’s depth of resources and experience in securitized markets coupled with securitized assets being a core competency of the firm with a large percent of firm assets in securitized mandates. The firm has a suite of securitized products managed by highly regarded portfolio manager Jeff Gundlach. Within this suite, our due diligence determined that DoubleLine’s Securitized Income was the most conservative and appropriate product for SamCERA’s mandate as securities must be investment grade both at purchase and in order to remain in the portfolio. A more detailed description of DoubleLine Securitized Income and our onsite due diligence is described below:

DoubleLine Securitized Income

On December 5, 2019, Margaret Jadallah of Verus and Mike Coultrip from SamCERA visited DoubleLine at their Los Angeles headquarters and met with the following investment professionals:

Participants from DoubleLine were:

Ryan Hart – Director of Consultant Relations

Barbara Ziegler – Institutional West Coast Relationship Manager

Sam Garza – Portfolio Manager, Macro Asset Allocation and CLOs

Andre Hsu – Portfolio Manager, Fixed Income Asset Allocation and ABS

Vitaly Liberman, CFA – Portfolio Manager, Fixed Income Asset Allocation and MBS

Steven Wald – Trader, Non-Agency MBS

Nikhil Rajgopal – Trader, Agency MBS and Risk specialist

Kunal Patel, CFA – Trader, Agency MBS

DoubleLine is an independent, employee-owned asset management firm founded by Jeffrey Gundlach in 2009. Mr. Gundlach's departure from a previous firm prompted 45 employees to follow him to establish DoubleLine. DoubleLine's senior investment team has worked together for an average of 15 years, with its portfolio managers averaging 22 years of industry experience. The firm's shareholders include the senior securitized team members. The firm is based in Los Angeles with a small client service office in Tokyo. Oaktree owns a minority, non-controlling stake in the company.

In January 2013, the organizational structure of DoubleLine was modified to a multi-vehicle holding company. DoubleLine's fixed income business (DoubleLine Capital LP) and operations were expanded to add equity and commodity investment management services, which included the creation of DoubleLine Equity LP and DoubleLine Commodity LP, now DoubleLine Alternatives LP, in January 2013 and April 2015, respectively. Total assets under management were \$149 million as of 12/31/19 with the lion's share in fixed income. As mentioned above, securitized product strategies are a core competency for the firm and comprise about \$75 billion in AUM. Total Return is the largest of these securitized strategies with \$65 billion in AUM. Total Return has the widest guidelines which allows for non-investment grade securities if risk/reward analysis deems them to be attractive opportunities. Pursuant to our due diligence trip, SamCERA Staff and Verus identified Securitized Income, a smaller, newer product in the suite of securitized offerings, to be more appropriate because its guidelines require all holdings to be investment grade at all times. This product was incepted approximately 18 months ago at the request of an insurance client and has expanded its client base since then with assets of approximately \$488 million.

Securitized Income seeks to maximize income and total return by investing across the structured products universe, focusing on agency mortgage-backed securities (MBS) and investment grade securitized credit. DoubleLine has a Structured Products Committee that meets weekly to review all structured products, including Securitized Income. The committee discusses the securitized markets on a macroeconomic level and identifies structured products sectors with attractive risk/reward opportunities. The firm has specialized structured product sector teams that identify bottom up ideas in their sub sectors. Agency MBS typically comprises 50% of the portfolio with the other half in investment grade structured credit. Asset class exposures are shifted gradually based on sector fundamentals and relative valuation. The primary driver of

security selection is scenario analysis. Importantly, future scenarios incorporate the market insights of the specialized team members based on their years of experience investing in the sectors, as opposed to relying on historical data regressions. DoubleLine research covers the full spectrum of securitized products. As of 12/31/19, the securitized team had 30 analysts in the following areas – residential MBS, commercial MBS, ABS, CLOs, U.S. government bonds and risk management. The risk management team provides support to portfolio managers and traders concerning broad oversight over portfolios, sectors and security types, return attribution, scenario analysis and assistance with ad hoc research.

The majority of research is internally produced. However, DoubleLine purchases collateral and loan level data and portfolio systems from a number of third parties. The team seeks to “buy convexity” which means that all investments must have an attractive risk/reward profile whereby securities have more upside for a given level of downside. Scenario analyses are run considering numerous interest rate and credit environments and with a view on the current market environment. Within portfolio construction guidelines, the most attractive discounted securities are purchased using their convexity methodology. At the portfolio level, average credit quality can range between AA and AAA. The investment process focuses on purchasing discounted securities and does not hedge portfolio duration which can result in a range between 5 and 10 years depending on their macro outlook and the bottom up opportunity set.

During the onsite visit, we met with DoubleLine’s senior portfolio managers and sector specialists and discussed DoubleLine’s current macroeconomic outlook and the nuances of each securitized sector. The firm has a weekly macro meeting (called Multi Asset Growth) that is integral to developing their outlook and is chaired by Jeff Gundlach. They use a 12-month time horizon and look at a number of macroeconomic factors, some of which are proprietary. At this time, DoubleLine’s forecast does not anticipate a recession and views credit risk as more concerning than mortgage risk. There are also monthly global asset allocation and fixed income allocation meetings that set baseline views for portfolios. Despite Jeff Gundlach’s frequent market predictions to the press, the portfolio managers we met with stressed that house views are developed by the firm’s senior professionals broadly. Views are formally ranked as -2 to +2 (very negative to very positive), and portfolios change incrementally. Heat maps of their macroeconomic views are ranked and then converted into baseline positioning which provides guidance for risk/reward analysis. Within the Structured Products Committee framework, the team determines relative value across its sectors and where attractive convexity (best upside v. downside risk) is. As stated above, interest rates and credit spreads are both carefully considered. At this time, the team believes that longer dated MBS are offering better convexity. The agency RMBS sector offers much better protection than before the GFC and, RMBS is currently emphasized in the Securitized Income portfolio. ABS has a large weight within the structured credit component of the portfolio at this time.

Verus and SamCERA Staff recommend investment through a separate account which would result in a management fee of 30 basis points. While this is a securitized mandate, we are proposing the Bloomberg Barclays Aggregate Index as the performance benchmark for

DoubleLine and expect the manager to be able to outperform this benchmark over a market cycle.

Recommendation

Verus and SamCERA Staff recommend that the Board hire DoubleLine Securitized Income for its investment grade securitized mandate with an allocation of \$190 million. DoubleLine offers extensive experience managing securitized mandates in a variety of market environments and as a cohesive team. The firm's employee-owned structure incentivizes continued stability by directly rewarding its key principals. DoubleLine's methodology of integrating MBS and structured credit provides broad securitized exposure and its approach to scenario analysis imbeds the market insights of its securitized sector experts.

Attached are statistics for all Securitized managers considered in our search analysis, including DoubleLine Securitized Income.



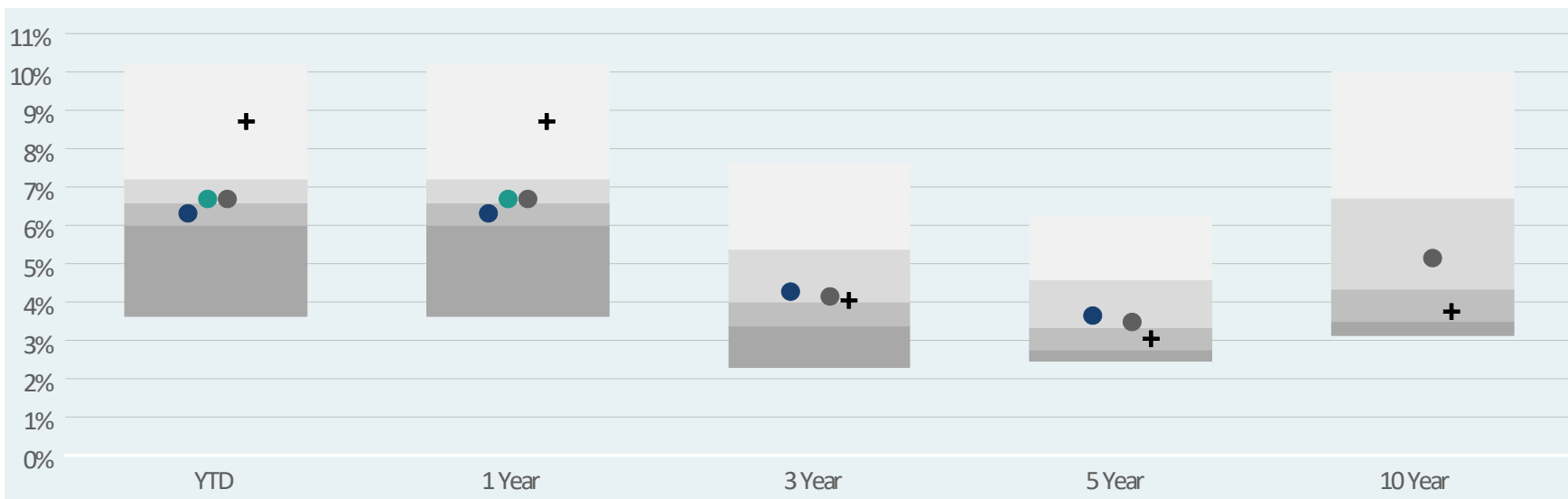
PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



January 2020
Securitized Fixed Income Search
San Mateo County Employees' Retirement Association

Performance comparison - as of December 2019

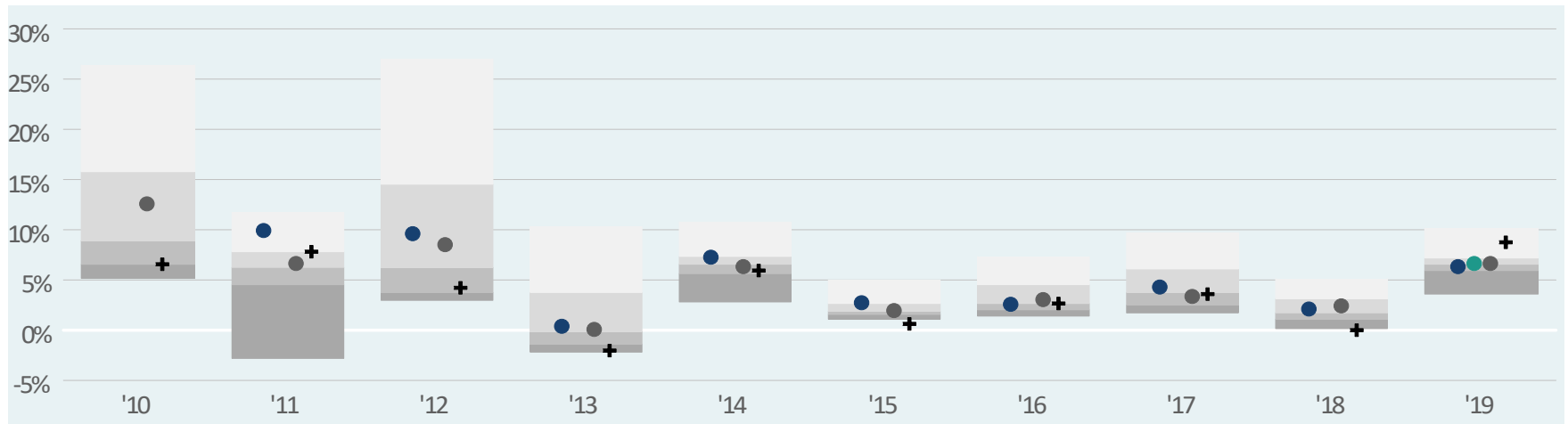
● DoubleLine Total Return ● Doubleline Securitized Income ● Loomis + BBgBarc US Agg Bond



ESS ANNUALIZED RETURN TO DATE, %	YTD	1 Year	3 Year	5 Year	10 Year
DoubleLine Total Return	-2.4	-2.4	0.3	0.6	—
Doubleline Securitized Income	-2.0	-2.0	—	—	—
Loomis	-2.0	-2.0	0.2	0.5	1.4

Calendar year performance

● DoubleLine Total Return ● Doubleline Securitized Income ● Loomis + BBgBarc US Agg Bond



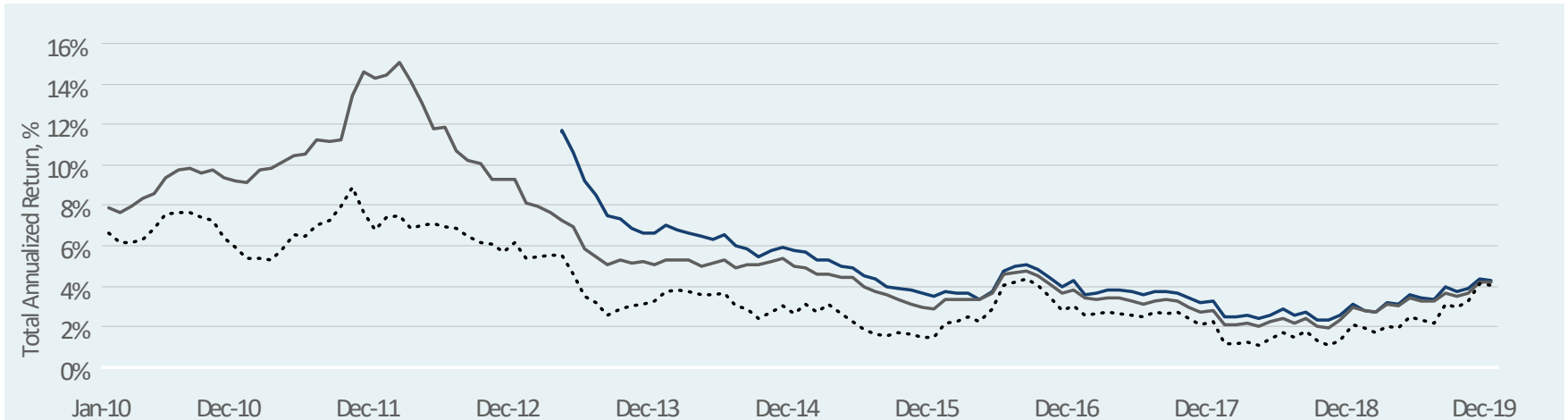
QUAL PERFORMANCE AND RANKING	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
DoubleLine Total Return		10.1	9.7	0.5	7.3	2.8	2.7	4.3	2.2	6.3
Rank		12	36	44	27	23	50	42	41	71
Doubleline Securitized Income										6.7
Rank										44
Loomis	12.6	6.7	8.5	0.2	6.4	2.0	3.1	3.4	2.5	6.7
Rank	37	36	42	48	53	47	46	57	38	42
BBgBarc US Agg Bond	6.5	7.8	4.2	-2.0	6.0	0.5	2.6	3.5	0.0	8.7
Rank	77	25	65	93	69	97	51	54	96	11

Performance summary - as of December 2019

	DoubleLine Total Return	Doubleline Securitized Income	Loomis	BBgBarc US Agg Bond
PERFORMANCE ANALYSIS - (3 Years)				
Alpha %	0.9	—	0.8	0.0
Beta	0.7	—	0.7	1.0
R-squared %	93.0	—	89.3	100.0
Sharpe Ratio	1.3	—	1.2	0.8
Treynor Ratio	0.0	—	0.0	0.0
Tracking Error %	1.0	—	1.1	0.0
Annualized Std Dev %	2.1	—	2.2	2.9
Information Ratio	0.3	—	0.1	—
Max Drawdown %	-1.0	—	-1.2	-2.5
Calmar Ratio	4.2	—	3.4	1.6
Excess Ann. Return %	0.3	—	0.2	0.0
PERFORMANCE TO DATE				
1 Year	6.3	6.7	6.7	8.7
3 Year	4.3	—	4.2	4.0
5 Year	3.7	—	3.5	3.0
7 Year	3.7	—	3.4	2.7
10 Year	—	—	5.2	3.7
Common Inception (Oct-18)	6.6	7.3	7.4	8.3
CALENDAR YEAR RETURNS				
2019	6.3	6.7	6.7	8.7
2018	2.2	—	2.5	0.0
2017	4.3	—	3.4	3.5
2016	2.7	—	3.1	2.6
2015	2.8	—	2.0	0.5
2014	7.3	—	6.4	6.0
2013	0.5	—	0.2	-2.0
2012	9.7	—	8.5	4.2
2011	10.1	—	6.7	7.8
2010	—	—	12.6	6.5

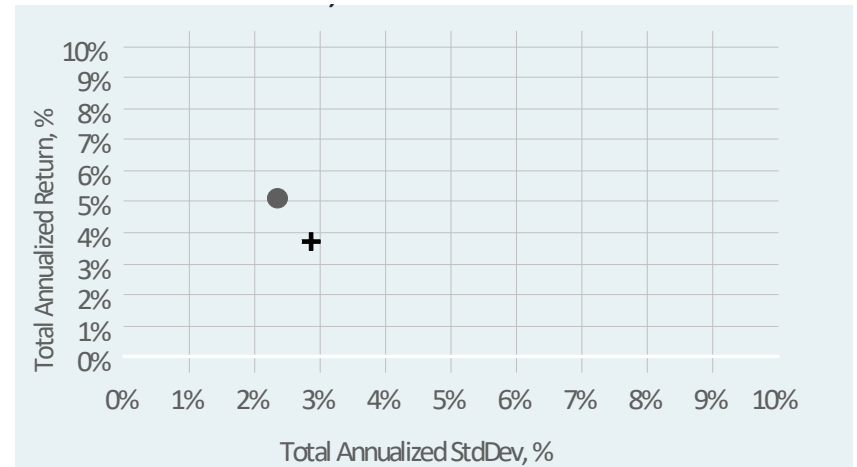
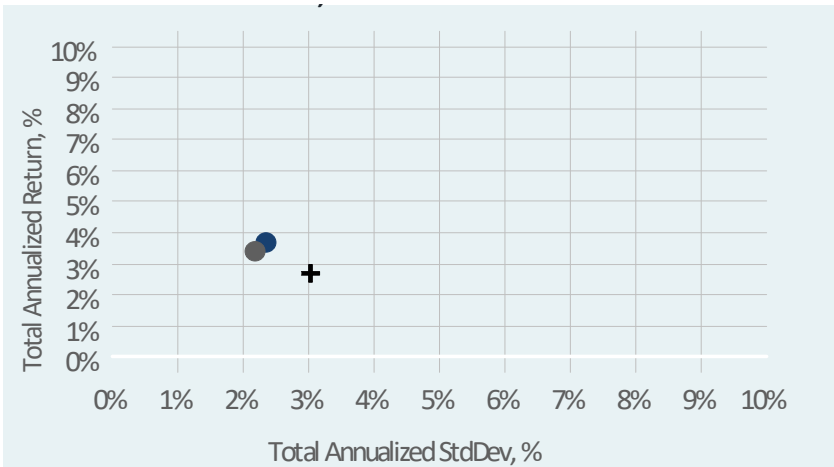
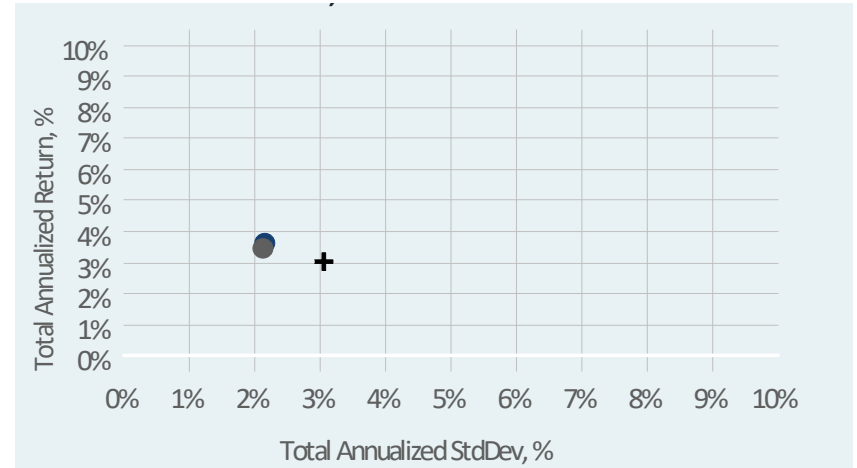
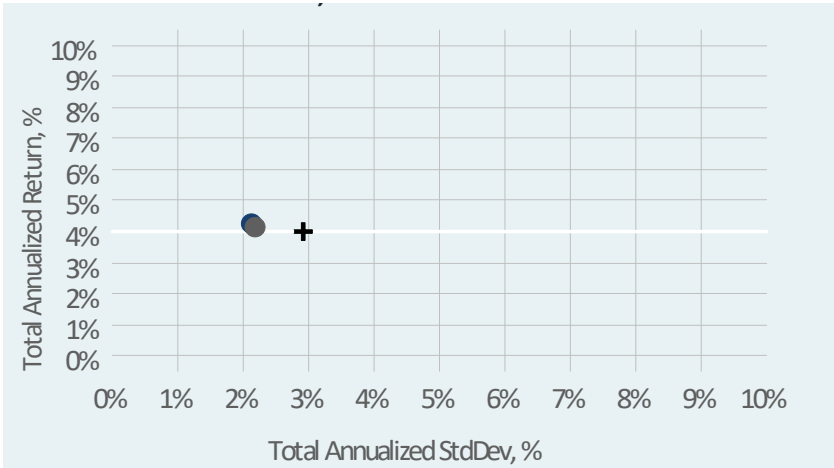
Rolling performance

● DoubleLine Total Return ● Doubleline Securitized Income ● Loomis + BBgBarc US Agg Bond



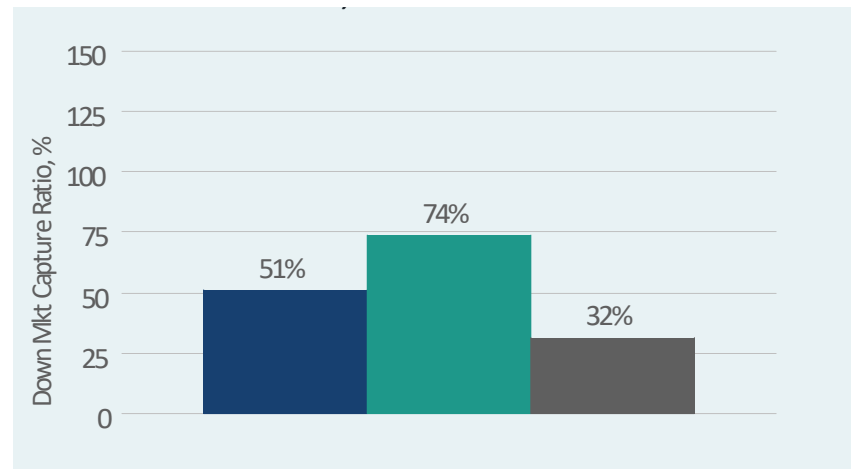
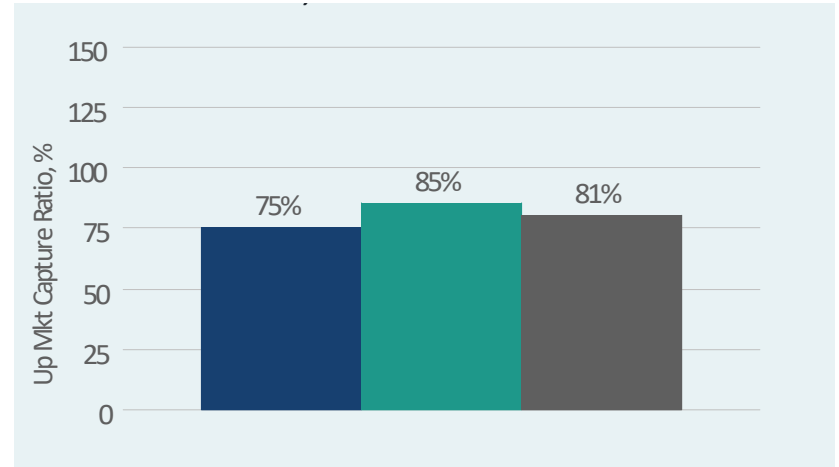
Risk vs. return

● DoubleLine Total Return ● Doubleline Securitized Income ● Loomis + BBgBarc US Agg Bond



Up & down market analysis

● DoubleLine Total Return ● Doubleline Securitized Income ● Loomis + BBgBarc US Agg Bond



IV. Glossary of terms

Glossary

Alpha (a): The excess return of a portfolio after adjusting for market risk, usually attributable to the selection skill of the portfolio manager. $\text{Alpha} = \text{Excess Return} - (\text{Beta} \times \text{Excess Market Return})$.

Annualized Return: Converts the Total Return to an annual basis for comparison purposes. Periods shorter than one year are not annualized.

Benchmark: Investment index used as a standard by which to measure the relative performance of an overall portfolio or an individual money manager. Appropriate benchmarks are selected based on their similarity to a portfolio or to the style of the individual money manager being measured.

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta (b): A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Calmar Ratio - The Calmar Ratio is a risk/return ratio that calculates return on a downside risk adjusted basis. Similar to other efficiency ratios it balances return in the numerator per unit risk in the denominator. In this case risk is characterized by the Maximum Drawdown.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen/fallen. The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation Coefficient (r): A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Hurst Exponent: quantifies the relative tendency of a time series either to regress the mean. A value H in the range $0.5 < H < 1$ indicates a time series with long-term positive autocorrelation, meaning a high value in the series will probably be followed by another high value. A value in the range $0 < H < 0.5$ indicates a time series with long-term switching between high and low values in adjacent pairs, meaning that a single high value will probably be followed by a low value. A value of $H=0.5$ can indicate a completely uncorrelated series.

Excess Correlation: Correlation of the excess returns (above the benchmark).

GARP: Growth-At-A-Reasonable-Price. Equity strategy that combines tenets of both growth and value investing, looking for companies with above average earnings growth but excluding those with high valuations.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: alpha divided by tracking error.

Glossary

Kurtosis (excess returns)- Kurtosis describes whether the series distribution is peaked or flat and how thick the tails are as compared to a normal distribution. Positive kurtosis indicates a relatively peaked distribution near the mean and tends to decline rapidly and have fat tails. Negative kurtosis indicates a relatively flat distribution near the mean.

Long Term Reversal Factor: Risk premium associated with buying past losers and selling past winners (five year time horizon).

Low Volatility: Risk premium generated by picking low volatility stocks, measured by the MSCI USA Minimum Volatility Index.

Momentum Factor: Risk premium associated with buying past winners and selling past losers.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Predicted Style R-squared: Measures how well the manager's predicted style fits the manager's return series. Adding many unnecessary indices will not improve the Predicted Style R-Squared. The methodology essentially predicts the manager's style at each point in time without the data at that point with the rationale being that if the style estimates obtained so far are good, then they can be used to predict the style at the estimation point.

Price-to-Earnings Ratio: Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

Quality: The quality factors measured the manager's exposure to high quality stocks versus low quality stocks as defined by S&P. The factor is constructed by combining a long position in the S&P 500 High Quality index and short position S&P 500 Low Quality index.

Regression Based Asset Loadings: Represents the exposure period of an investment product (called a Manager, Fund, or Index in Stylus) to various explanatory variables. It is also referred to as Style Indices or Asset Classes. These Indices can be interpreted as the Manager Betas or risk factors at a given point in time.

Risk Premium: An expected return in excess of the risk-free rate. The premium provides compensation for the assumption of risk.

Risk-Free Rate: The rate of interest that one can earn on an investment with no default risk. It is generally assumed to be the interest rate on a 91 day T-Bill.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection return: The difference between the Manager and the Manager's Style Return.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

Short Term Reversal Factor: Risk premium associated with buying past losers and selling past winners (two month time horizon).

Significance Level (Excess Returns) - The Significance Level of a test is the probability that the test statistic will reject the null hypothesis when the hypothesis is true. Significance is a property of the distribution of a test statistic, not of any particular draw of the statistic.

Glossary

Size Factor: Risk premium associated with buying small companies.

Skewness (Excess Returns)- Skewness describes the degree of asymmetry of a distribution around its mean. A distribution is said to be symmetric if it has the same shape to both the left and right of the mean. A perfectly symmetrical distribution has a Skewness of 0. A positively skewed distribution has larger gains than losses, while a negatively skewed distribution has a longer tail of losses.

Standard Deviation (s): A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds.

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

Style Returns: The sum of the Return of each Style Asset multiplied by its weight for the time period.

Style R-squared: Measures how well the estimated Manager's style return series fits the manager's return series. The higher the Style R-squared, the better the fit between the manager's style and return series.

Total Return: Total Return geometrically compounds the Returns in the series from one period to the next.

Tracking Error/Excess Standard Deviation: The standard deviation of the difference between the rate of return of a portfolio and its benchmark.

Treynor Ratio - The Treynor Ratio is defined as the ratio of the manager's excess geometrically annualized return over the portfolio Beta. Excess returns are computed versus the cash index.

Universe: Also called a peer group, a universe is a large number of portfolios of a similar style. These portfolios can be divided into deciles or quartiles and then used for performance measurement and comparative purposes. Portfolios are ranked within the universe, which tells the investor how well a manager has done relative to his or her peers.

Value: Refers to the style of an equity manager. A value manager seeks to create returns by purchasing stocks selling at a discount to their true or intrinsic value. Typical portfolio characteristics of this strategy include a low price-to-earnings ratio, high book-to-market ratio, and high dividend yield.

Valuation Factor: Risk premium associated with buying companies trading at a low price/book multiple.

VIX : VIX is a trademark ticker symbol for the Chicago Board Options Exchange Market Volatility Index, a popular measure of the implied volatility of S&P 500 index options. Often referred to as the fear index or the fear gauge, it represents one measure of the market's expectation of stock market volatility over the next 30 day period.

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SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

January 28, 2020

Agenda Item 7.1

TO: Board of Retirement
FROM: Scott Hood, Chief Executive Officer 
SUBJECT: March 2020 Board-Staff Retreat Topics

Recommendation

Provide direction to staff regarding the topics and schedule for the March 2020 Board-Staff Retreat.

Background

This item is to give trustees another opportunity to discuss the upcoming retreat in March. The Board assists with setting the topics to be addressed and provides input regarding the proposed presenters. Following this meeting, staff will finalize the schedule and the presenters.

Discussion

To confirm speakers, staff requests direction from the Board as to the topics, speakers and length of the retreat. Attached are proposed topic options, not in any particular order, for the Board. The retreat will start with a short Board meeting consisting mainly of consent agenda items. This should take 45 minutes at most.

The retreat portion of the meeting will be comprised of five separate sessions with time allotted for discussion. One of the time slots includes ethics training. The attached draft list of topics also includes suggested topics for Verus to address during the retreat made by the Board in the Verus annual review survey. If you have additional topics to suggest, please mention them during this agenda item.

Attachment

Draft Topic List for March 2020 Retreat

TOPICS FOR MARCH 2020 RETREAT

8:30 AM-4:00 PM

Board meeting- (consent agenda only)
A Look at the Economic Forecast and Monetary Policy Presenter: TBD
Deep Dive Led by Mike Coultrip
Strategic Topic(s) Presenter: Jeff MacLean, Verus
A Look at SamCERA's Historical Data Presenter: Scott Hood
Ethics Training Trainer: Brenda Carlson

Trustee Suggestions for Verus Strategic Topic:

1. Plan maturity update/issues, progress towards becoming fully funded and/or dry powder issues surrounding private equity (are PE managers going to be making risky investments as the large amount of money in their possession sits, waiting to be spent)
2. Managing complexity in the portfolio. How can a board of part-time, noninvestment professionals monitor a complex portfolio? What are some best practices that Verus has seen across their clients?
3. Are there any macro trends - aging population, geo-political, conflicts, etc. that we should be considering for long term strategy?
4. I believe we still need to have more and deeper discussions about change in asset allocation strategy related to funded status in the early-middle 2020s.
5. Alpha opportunities within a risk-controlled program. Investment Governance Review.

Other topics:

Actuarial Topic
Disability Discussion