



Notice of Public Meeting

The Board of Retirement

of the San Mateo County Employees' Retirement Association will meet on
Tuesday, May 23, 2023, at 10:00 A.M.

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

1. Call to Order, Roll Call and Miscellaneous Business

- 1.1 Appointment by Chair of Ad Hoc Nominating Committee for Board Officers

2. Oral Communications

- 2.1 Oral Communications from the Board
- 2.2 Oral Communications from the Public

3. Approval of the Minutes

- 3.1 Approval of Board Meeting Minutes from April 25, 2023

4. Approval of the Consent Agenda*

- 4.1 Disability Retirements (8)
 - Mark Cody
 - Victoria Galanter
 - Robert Introcaso
 - Kyle McDevitt
 - Robert Pronske
 - Alina Revilla
 - James Steaveson
 - Leah Wesley
- 4.2 Survivor Death Benefits (1)
 - Greta Floresca
- 4.3 Service Retirements
- 4.4 Continuances
- 4.5 Deferred Retirements
- 4.6 Member Account Refunds
- 4.7 Member Account Rollovers
- 4.8 Member Account Redeposits
- 4.9 Acceptance of Trustees' Reports of Educational Activities
- 4.10 Approval to Renew Fiduciary Liability Insurance Policy

5. Benefit & Actuarial Services

- 5.1 Consideration of Agenda Items, if any, Removed from the Consent Agenda
- 5.2 Review of Liability Dashboard
- 5.3 Approval of Economic Assumptions to be used in the June 30, 2023 Actuarial Valuation

6. Investment Services

- 6.1 Report on Preliminary Monthly Portfolio Performance for the Period Ended April 30, 2023
- 6.2 Report on Quarterly Investment Performance for the Period Ended March 31, 2023
- 6.3 Report on Real Estate Manager Annual Reviews
- 6.4 Approval of Long Treasury Portfolio Implementation Plan
- 6.5 Approval of Proposed Alternative Investments (to be heard in closed session)

7. Board & Management Support

- 7.1 Approval to Change the October Board Meeting Date

8. Management Reports

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

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, see item 6.5)

9. Report on Actions Taken in Closed Session

10. Adjournment in Memory of the Following Deceased Members:

Williams, Velma	March 22, 2023	Social Services
Jackson, Ophelia	March 25, 2023	Hospital
Stulgis, John	March 25, 2023	Probation
Martin, Madelyn	March 26, 2023	Human Services
Ellis, Judith	April 2, 2023	Aging & Adult Services
Evans, Hallie	April 3, 2023	Social Services
Cohan, Iris	April 8, 2023	Mental Health
Bloomingtondale, Althea	April 18, 2023	Library
Schaumkel, Emma	April 19, 2023	Medical Center - Health Coverage Unit
Boyd, Joan	April 22, 2023	Fair Oaks Clinic
Fullmer, Ruth	April 22, 2023	Hospital
Kline, Geoffrey	April 22, 2023	Public Works
Blair, Randall	April 28, 2023	Environmental Health
Mackey, Carol	April 30, 2023	Courts
Visperas, Rebecca	April 30, 2023	Hospital
Booker, Anita	May 5, 2023	San Mateo County Health
Gurza, Roberto	May 6, 2023	Mental Health
Youngdahl, Raynor	May 11, 2023	Probation

Scott Hood, Chief Executive Officer

Posted: May 17, 2023

(* 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
Board of Retirement

May 23, 2023

Agenda Item 1.1

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer 

SUBJECT: Appointment by Chair of Ad Hoc Nominating Committee for Board Officers

Recommendation

Accept the Chair's report on the appointment of an Ad Hoc Committee to nominate Board officers for the 2023-2024 fiscal year to be presented for election at the July meeting. The Chair has appointed Sandie Arnott, Alma Salas and Katherine O'Malley, Chair to the Ad Hoc Nominating Committee.

Background

In general, at or around the May meeting, the Chair appoints an Ad Hoc Committee to nominate Board officers for the next fiscal year. The election of Board officers takes place at the first meeting in July. Article 1 of the *Regulations of the Board of Retirement* provides for the election of three Board officers: Chair, Vice Chair and Secretary, as follows:

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

1.2. Election of Vice Chair: At the first regular meeting in July, the Board of Retirement shall elect one of its members vice chair for a term of one year or until his or her successor is duly elected and qualified. In the Chair's absence or inability to act, the Vice Chair shall take the place and perform the duties of that office.

1.3. Election of Secretary: At the first regular meeting in July, the Board of Retirement shall elect one of its members secretary for a term of one year or until his or her successor is duly elected and qualified. The Secretary shall attest to Resolutions and other such documents for the Board. In the Chair's and Vice Chair's absence or inability to act, the Secretary shall take the place and perform the duties of the Chair.

Board officers traditionally serve one-year terms. Also, by tradition, the Board attempts to alternate between appointed and elected trustees in each officer position. In general, the officers tend to move up "through the steps" to eventually become Chair. Exceptions have occurred when a trustee does not serve a full term or does not continue on the Board for an additional term. (See the table below.)

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

SamCERA Board Officer History

	<u>Chair</u>	<u>Vice-Chair</u>	<u>Secretary</u>
2001-02	Bill Cottle	Tom Bryan	Bette Stuart
2002-03	Tom Bryan	Donna Colson	Alma Salas
2003-04	Donna Colson	Alma Salas	Bette Stuart
2004-05	Alma Salas	Ken Lewis	Tom Bryan
2005-06	Ken Lewis	Tom Bryan	Emily Tashman
2006-07	Tom Bryan	Emily Tashman	Bette Stuart
2007-08	Tom Bryan	Emily Tashman	Jim Hooley
2008-09	Emily Tashman	David Wozniak	Sandie Arnott
2009-10	Margaret Jadallah	Al David	Sandie Arnott
2010-11*	Al David	Sandie Arnott	Natalie Kwan Lloyd
2011-12	Al David	Sandie Arnott	Natalie Kwan Lloyd
2012-13	Sandie Arnott	Natalie Kwan Lloyd	Lauryn Agnew
2013-14	Natalie Kwan Lloyd	Lauryn Agnew	Paul Hackleman
2014-15	Lauryn Agnew	Paul Hackleman	Michal Settles
2015-16	Paul Hackleman	Michael Settles	Natalie Kwan Lloyd
2016-17	Paul Hackleman	Mark Battey	Shirley Tourel
2017-18	Mark Battey	Shirley Tourel	David Spinello
2018-19	Sandie Arnott	Kurt Hoefler	Al David
2019-20	Kurt Hoefler	Al David	Robert Raw
2020-21	Al David	Robert Raw	Katherine O'Malley
2021-22	Robert Raw	Katherine O'Malley	Mark Battey
2022-23	Katherine O'Malley	Mark Battey	Alma Salas

*beginning October 2010

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
APRIL 25, 2023 – REGULAR BOARD MEETING MINUTES

2304.1 Call to Order, Roll Call and Miscellaneous Business

Call to Order: Ms. O'Malley, Chair, called the Regular Meeting of the Board of Retirement to order at 10:04 a.m.

Roll Call:

Present: Sandie Arnott, Mark Battey, April Decarsky (for Al David), Kurt Hoefer, Kimathi Marangu, Katherine O'Malley, Elaine Orr, Robert Raw, and Alma Salas.

Absent: Al David.

Alternates: Nicole McKay.

Staff: Tat-Ling Chow, Michael Coultrip, Lili Dames, Scott Hood, Elizabeth LeNguyen, JulieAnne Nagal, Doris Ng, Paul Okada and Gladys Smith.

Consultants: Joe Abdou, Matt Foppian and John Nicolini.

2304.2.1 Oral Communications from the Board: None.

2304.2.2 Oral Communications from the Public: The following was read by Mr. Okada during the Chief Legal Counsel Report due to the timing of when notified about a public comment email.

"Good morning, my name is K Agbebiyi, and I am with the Private Equity Stakeholder Project, a nonprofit organization that is a watchdog for the private equity industry. I'm here in support of African Communities Together, a nonprofit for the empowerment of African immigrants. ACT, has been organizing with tenants around serious issues at the Southern Towers apartment complex, which is located in Alexandria Virginia. The five-building apartment complex has been a long-time home to thousands of hardworking, blue-collar families, many of whom are African immigrants. However once the private equity firm the CIM group-which you are invested in- acquired the building, things began to change.

Tenants there have reported mass eviction filings, unaddressed repair issues, hostile treatment, and significant rent increases. ACT has filed a complaint with the Federal Housing Finance Agency and Freddie Mac, which provided financing for CIM's purchase of the apartment complex. CIM's predatory practices run contrary to Freddie Mac's purpose of providing and preserving affordable workforce housing. ACT's complaint states that CIM's eviction practices have violated the federal CARES Act, which requires landlords of properties financed by Freddie Mac to provide tenants a 30-day notice to vacate. Instead, CIM has given tenants just a 5-day notice.

ACT has asked the FHFA and Freddie Mac to conduct a full investigation into CIM's practices, and if the agency finds that CIM has violated federal law, ACT has asked that Freddie Mac make CIM's loan immediately payable and to refuse to fund any future CIM projects.

The situation at Southern Towers is unfortunately not unique, and CIM has a history of making headline with its controversial practices. In the interest of saving time, I encourage you all to review the articles and report that my colleague, Sosseh Prom, will send to your staff for more context. With all this in mind, it is now astounding to see that you have decided that CIM is dedicated to ESG, when their actions against vulnerable communities show the complete opposite.

According to our research, your pension fund has invested \$25 million into CIM since 2012. We are asking you conduct a proper investigation into CIM's commitment to ESG to talking directly with impacted communities, halt future investments until CIM addresses these issues, and call on CIM to stop evictions and pricing practices that are displacing vulnerable communities at Southern Towers."

Mr. Coultrip commented that SamCERA's investment with CIM is with infrastructure and not real estate.

2304.3.1 **Approval of Board Meeting Minutes from March 28, 2023:** Ms. O'Malley asked if there were any changes or corrections, or objections, to the minutes from the regular meeting held on March 28, 2023. There were no changes, corrections, or objections presented.

Action: Mr. Hoefler moved to approve the minutes from the March 28, 2023 regular Board meeting. The motion was seconded by Ms. Arnott and carried with a vote of 9-0, with trustees Arnott, Battey, DeCarsky, Hoefler, Marangu, O'Malley, Orr, Raw and Salas all in favor; none opposed.

2304.4.0 **Approval of the Consent Agenda:** Ms. O'Malley informed the Board that there will be three separate votes for the Consent Agenda with separate votes for Craig Cullen and Richard Daly, and that Victoria Galantar's application will be continued. In addition, LaDonna Shuttleworth's application will be heard in closed session. Ms. O'Malley asked if there were any additional items to be removed for discussion from the Consent Agenda. No additional items were removed.

Ms. O'Malley ask for a motion on the remaining items on the Consent Agenda.

Action: Mr. Hoefler moved to approve the remaining items on the Consent Agenda. The motion was seconded by Ms. Arnott and carried with a vote of 9-0, with trustees Arnott, Battey, DeCarsky, Hoefler, Marangu, O'Malley, Orr, Raw, and Salas all in favor; none opposed.

Ms. O'Malley asked for a motion with regards to Craig Cullen's disability application.

Action: Mr. Battey moved to approve staff's recommendation. The motion was seconded by Ms. Salas and carried with a vote of 8-0, with trustees Arnott, Battey, DeCarsky, Hoefler, Marangu, O'Malley, Orr and Salas all in favor; trustee Raw recused himself; none opposed.

Ms. O'Malley asked for a motion with regards to Richard Daly's disability application.

Action: Mr. Hoefler moved to approve staff's recommendation. The motion was seconded by Mr. Marangu and carried with a vote of 7-0, with trustees Arnott, Battey, Hoefler, Marangu, O'Malley, Orr and Salas all in favor; trustees DeCarsky and Raw recused themselves; none opposed.

2304.4.1 **Disability Retirements:**

- a) The Board found that Louise Alioto-Perez (1) is permanently incapacitated from the performance of her usual and customary duties as a Hospital Unit Coordinator, (2) found that her disability was the result of an injury arising out of and in the course of her employment and (3) granted her application for a service-connected disability retirement.

- b) The Board referred Janine Brewer’s application for a service-connected disability retirement to a hearing officer for proposed findings and recommendations.
- c) The Board found that Craig Cullen (1) is able to substantially perform his duties as a Deputy Sheriff and (2) denied his application for a service-connected disability retirement.
- d) The Board found that Richard Daly (1) is permanently incapacitated from the performance of his usual and customary duties as a Deputy Sheriff, (2) found that his disability was the result of an injury arising out of and in the course of his employment and (3) granted his application for a service-connected disability retirement.
- e) The Board found that Bradley Martin (1) is permanently incapacitated from the performance of his usual and customary duties as a Correctional Officer, (2) found that his disability was the result of an injury arising out of and in the course of his employment and (3) granted his application for a service-connected disability retirement.
- f) The Board found that Mark Perez (1) is permanently incapacitated from the performance of his usual and customary duties as a Stationary Engineer II, (2) found that his disability was the result of an injury arising out of and in the course of his employment and (3) granted his application for a service-connected disability retirement.
- g) The Board found that Jason Pfarr (1) is permanently incapacitated from the performance of his usual and customary duties as a Deputy Sheriff, (2) found that his disability was the result of an injury arising out of and in the course of his employment and (3) granted his application for a service-connected disability retirement.

2304.4.2 **Survivor Death Benefits:** None.

2304.4.3 **Service Retirements:**

Name	Effective Retirement Date	Department
Avalos, Emma	February 23, 2023	Probation
Bautista, Marianella	February 3, 2023	Child Support Services
Bokura, Jeffrey	February 4, 2023	Assessor Clerk Recorder Elections
Cabrera, Leticia	December 14, 2022	Def’ d - San Mateo County Health
DeMartini, Matthew	February 20, 2023	Sheriff’s Office
Desselle, Susan	March 1, 2023	Child Support Services
Feeney, Edward	February 19, 2023	Sheriff’s Office
Howton, Nana	February 21, 2023	Def’ d - San Mateo County Health
Johnson, Jane	February 4, 2023	Sheriff’s Office
Kellie, Alicia	February 26, 2023	Deferred - Human Resources
Ken, Matthew	February 2, 2023	Deferred - Sheriff’s Office
Kinsella, Michael	February 16, 2023	Sheriff’s Office
Moody, John	February 19, 2023	Sheriff’s Office
Moore, Britt	February 3, 2023	Deferred - Human Services Agency
Parra, Claudia	January 6, 2023	San Mateo County Health
Perez, Delfino	February 25, 2023	Public Works

Radisch, Matthew	February 28, 2023	Human Services Agency
Spiller-Crenshaw, Roena	February 19, 2023	Sheriff's Office
Sullivan, Elisa	February 18, 2023	Deferred - Controller's

2304.4.4 **Continuances:**

None.

2304.4.5 **Deferred Retirements:**

Name	Retirement Plan Type
Bissell, Elizabeth	G7, Vested
Canales, David	G7, Vested– Auto Defer – Code 31700
Cromosini, Eric	S7, Non-Vested - Reciprocity
Dimen, Dennis	G7, Vested
Guan, Harry	G7, Non-Vested - Reciprocity
Hill, Diana	G4, Vested - Auto Defer – Code 31700
Kenway, Jennie	G7, Vested - Auto Defer – Code 31700
Nunez, Jackie	G4, Vested - Auto Defer – Code 31700
Purtle, Allison	S7, Vested - Reciprocity
Rodriguez, Melissa	G7, Vested - Auto Defer – Code 31700
Trujillo, LadyAnne	G5, Vested - Reciprocity
Vujicevich, Michael	G4, Vested - Auto Defer – Code 31700
Wong, Kristine	G5, Vested - Reciprocity

2304.4.6 **Member Account Refunds:**

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

Name	Retirement Plan Type
Benavides, Benjamin (FBO: Benavides Quesada, Ayla)	G4, Vested
Diaz, Daniel B	S7, Vested
Oey, Tony S	G4, Non-vested
Watt, Kevin	G7, Non-vested

2304.4.7 **Member Account Rollovers:**

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

Name	Retirement Plan Type
Mork, Clifford	G7, Non-vested
Peermohamed, Zulfikar	G7, Non-vested
Schaff, Tina Marie	G7, Non-vested

2304.4.8 **Member Account Redeposits:** None.

2304.4.9 **Acceptance of Trustees' Reports of Educational Activities:** The Board accepted the submitted report for educational activity attended by Ms. Arnott.

2304.4.10 **Reaffirm CEO Authority to Take Action in a Declared Emergency:** The Board reaffirmed the CEO Authority to Take Action in a Declared Emergency Policy.

- 2304.4.11 **Reaffirm CEO Authority to Execute Investment Documentation:** The Board reaffirmed the CEO Authority to Execute Investment Documentation Policy.
- 2304.4.12 **Reaffirm Placement Agent Policy:** The Board reaffirmed the Placement Agent Policy.
- 2304.4.13 **Trustee Special Request to Attend an Educational Event:** The Board approved trustee Elaine Orr's request to attend the Milken Institute Global Conference.
- 2304.5.1 **Consideration of Agenda Items, if any, Removed from the Consent Agenda:** None.
- 2304.6.1 **Report on Preliminary Monthly Portfolio Performance Report for the Period Ended March 31, 2023:** Mr. Coultrip reported that SamCERA's net preliminary return for March was 1.3% bringing the preliminary trailing twelve month return ending March 2023 to -2.6% net, which is below SamCERA's assumed earnings rate of 6.25%. He reported turmoil in the banking sector resulted in extreme market volatility in both equity and fixed income markets. The Fed increased rates despite the tighter financial conditions brought about by the banking crisis. Despite all this, risk assets rallied into month-end based on the expectation that we are near (or at) peak interest rates and posted mostly positive returns for the month.
- 2304.6.2 **Approval of Asset Allocation Policy Implementation Plan:** The Board approved the implementation plan for the new asset allocation policy, which consists of two stages (interim and final). The interim policy will include all changes approved by the Board, except the 1% increase to private equity, which is expected to take multiple years to complete. Staff recommended taking the 1% and temporarily adding it to the domestic equity policy until the actual private equity allocation approaches the new 8% target. The final policy will have a 1% reduction to domestic equity and the corresponding 1% increase to private equity.
- Ms. O'Malley asked for a motion to approve the Asset Allocation Policy Implementation Plan.
- Action:** Mr. Battey moved to approve the Asset Allocation Policy Implementation Plan. The motion was seconded by Mr. Marangu and carried with a vote of 9-0, with trustees Arnott, Battey, DeCarsky, Hoefler, Marangu, O'Malley, Orr, Raw and Salas all in favor; none opposed.
- 2304.6.3 **Report on Cash Overlay (Parametric) Annual Review:** Ms. Ng reviewed the meeting notes of the annual review of SamCERA's overlay manager, Parametric. The meeting took place on March 2nd and included a firm/organizational update, investment process review, and performance review and attribution. Ms. Ng shared that the overlay program results were in line with long-term expectations and there were no major concerns identified during the review. This item was informational and for discussion only, no action was taken.
- 2304.6.4 **Report on Custodian (Northern Trust) Annual Review:** Ms. Ng reviewed the meeting notes of the annual review of SamCERA's Global Custodian, Northern Trust. The hybrid meeting took place on March 2nd and consisted of a firm/organizational update, global custody overview, securities lending review, and a service performance review. Northern Trust continues to provide consistent and reliable levels of service to staff. There were no major concerns identified during the review. This item was informational and for discussion only, no action was taken.
- 2304.6.5 **Approval of Proposed Alternative Investment (to be heard in closed session, Confidential Under Gov. Codes §54956.81 and §7928.710, see item C2):** This item was heard in Closed Session at 10:54 a.m. after agenda item 6.4. The Board reconvened in Open Session at 11:11 a.m. See Closed Session report under C2.

2304.7.1 **Approval of SamCERA's Fiscal Year 2023-24 Budget:** Ms. Chow presented SamCERA's proposed budget for fiscal year 2023-24, totaling \$46.8 million, which is 2% higher than the current year's adopted budget. Ms. Chow discussed the professional services, administrative, and information technology budgets in further detail with the Board.

Ms. O'Malley asked for a motion to approve SamCERA's Fiscal Year 2023-24 Budget.

Action: Mr. Hoefler moved to approve SamCERA's proposed budget for fiscal year 2023-24 totaling \$46.8 million. The motion was seconded by Ms. Arnott and carried by a vote of 9-0, with trustees Arnott, Battey, DeCarsky, Hoefler, Marangu, O'Malley, Orr, Raw and Salas, all in favor; none opposed.

2304.7.2 **Approval of Amendments to the Felony Forfeiture Policy:** Mr. Hood stated the changes to the Felony Forfeiture Policy were clarification on employee's actual job duties by the employer; clarification of the calculations performed by SamCERA to determine the correct amount of pension benefits, possible overpayment of benefits or offset of contributions to be returned; and certain verbiage changes to be inline with the statutory language with PEPRA.

Ms. O'Malley asked for a motion to approve the Amendments to the Felony Forfeiture Policy.

Action: Mr. Raw moved to approve the Amendments to the Felony Forfeiture Policy. The motion was seconded by Ms. Salas and carried with a vote of 9-0, with trustees Arnott, Battey, DeCarsky, Hoefler, Marangu, O'Malley, Orr, Raw and Salas all in favor; none opposed.

2304.7.3 **Approval of SamCERA's Strategic Plan:** Mr. Hood asked for the Board's approval after presenting the Board's Strategic Plan for 2023-2028 after incorporating the adjustments and updates to the Mission, Vision, Goals and Focus Priorities as directed by the Board.

Ms. O'Malley asked for a motion to approve SamCERA's Strategic Plan.

Action: Mr. Raw moved to approve SamCERA's Strategic Plan. The motion was seconded by Ms. DeCarsky and carried with a vote of 9-0, with trustees Arnott, Battey, DeCarsky, Hoefler, Marangu, O'Malley, Orr, Raw and Salas all in favor; none opposed.

2304.7.4 **Selection of and Direction for SamCERA Voting Delegates at the SACRS Spring Business Meeting:** Mr. Hood discussed the upcoming SACRS Spring Conference and shared that there were no Board members planning to attend the conference, therefore the CEO should be selected as the SamCERA Voting Delegate.

Ms. O'Malley asked for a motion to approve the Selection of and Direction for SamCERA Voting Delegates at the SACRS Spring Business Meeting.

Action: Mr. Battey moved to approve the Asset Allocation Policy Implementation Plan. The motion was seconded by Ms. Salas and carried with a vote of 9-0, with trustees Arnott, Battey, DeCarsky, Hoefler, Marangu, O'Malley, Orr, Raw and Salas all in favor; none opposed.

2304.7.5 **Presentation on the SamCERA Disability Process:** Ms. LeNguyen, Retirement Benefits Manager, provided the Board with a high overview of SamCERA's disability process and answered questions from the Board. This item was informational and for discussion only, no action was taken.

2304.8.1 **Chief Executive Officer's Report:** Mr. Hood informed the Board of plans by property owners to demolish Twin Dolphin 1 and 3 buildings and build a Life Science facility. He and Ms. Smith had an

initial conversation with the owners and will have a follow-up meeting with them regarding construction and lease options. Mr. Hood also reminded the Board about Paul Hackleman's Celebration of Life on Saturday, May 13 at 11:30 a.m. at Coyote Point Golf Club and the upcoming SACRS Spring Conference in San Diego. He also mentioned Wharton's upcoming Alternative Investment Strategies in July in San Francisco and previewed a few items on the May agenda which include Milliman discussing assumptions for the valuation, a look at SamCERA's liability dashboard and the appointment of an ad hoc nominating committee.

- 2304.8.2 **Assistant Executive Officer's Report:** Ms. Smith informed the Board that Jenny Lukan has been hired as SamCERA's Executive Secretary and will start on May 1st.
- 2304.8.3 **Chief Investment Officer's Report:** Mr. Coultrip reminded the Board that staff will be bringing a manager recommendation to manage the passive, long treasury mandate. He also informed the Board that staff and Verus will hold annual manager reviews on Thursday, May 4 with the two real estate managers. The first will be at 8:00 a.m. with Invesco and the second is with Stockbridge, which will be at 10:00 a.m.
- 2304.8.4 **Chief Legal Counsel's Report:** Mr. Okada directed the Board to their "Day Of" folder, which contained an updated contracts chart with the additional information previously requested by the Board at its March retreat. He also read a public comment, which can be found under Item 2.2.

- C1 **Consideration of Disability Items, if any, removed from the Consent Agenda:** The Board met in closed session at 10:07 a.m. regarding the service-connected disability application of LaDonna Shuttleworth. The member was present.

There was a motion and a second to accept staff's recommendation and the Board: (1) found that LaDonna Shuttleworth is permanently incapacitated from the performance of her usual and customary duties as a Legal Office Specialist; (2) found that her disability was not a result of an injury/illness arising out of and in the course of her employment; (3) denied her application for a service-connected disability retirement; and (4) granted her a non-service-connected disability retirement.

The motion was approved by a vote of 8-0-1 with trustees Arnott, Battey, DeCarsky, Hoefler, O'Malley, Orr, Raw and Salas voting to approve the motion; none opposed; and trustee Marangu abstaining. The Board reconvened in Open Session at 10:32 a.m.

- C2 **Approval of Proposed Alternative Investment (to be heard in closed session, Confidential Under Gov. Codes §54956.81 and §7928.710, see item C2):** The Board met in Closed Session for the approval of proposed alternative investments:

Regarding the re-up commitment of \$25 million to LS Power Equity Partners V, L.P., as part of SamCERA's infrastructure portfolio within Private Real Assets, there was a motion by Marangu, seconded by Battey to approve such commitment.

Ayes: Arnott, Battey, DeCarsky, Hoefler, Marangu, O'Malley, Orr, Raw and Salas.

Nos: None

Abstain: None

Motion carried 9-0-0

No other reportable action was taken.

- 2304.9.0 **Reports on Actions Taken in Closed Session:** No additional closed session items.

2304.10 **Adjournment:** Ms. O'Malley adjourned the meeting at 12:09 p.m. in memory of the deceased members listed below.

Souza, James	March 12, 2023	General Services
White, William	March 14, 2023	Library
Edmonds, Isabel	March 19, 2023	Social Services
Caceres, Elizabeth	March 23, 2023	Social Services
Charan, Daya	March 26, 2023	Hospital
Speierer, Beatrix	March 26, 2023	Public Health
Boklund, Eugene	March 27, 2023	Sheriff's
Witzel, Lynda	March 28, 2023	Health
Aquino, Amelia	March 31, 2023	Courts
Kofoed, Reese	April 1, 2023	Sheriff's
Gonzales, John	April 5, 2023	Probation
Kelly Parker	April 5, 2023	District Attorney's Office
Myers, Brenda Jo	April 11, 2023	Human Services

Katherine O'Malley
Chair

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

May 23, 2023

Agenda Items 4.1- 4.9

TO: Board of Retirement

FROM: Elizabeth LeNguyen, Retirement Benefits Manager



SUBJECT: Approval of Consent Agenda Items 4.1 – 4.9

4.1 Disability Retirements

- a) The Board finds that **Mark Cody** (1) is permanently incapacitated from the performance of his usual and customary duties as a Deputy Sheriff, (2) find that his disability was the result of an injury arising out of and in the course of his employment and (3) grant his application for a service-connected disability retirement.
- b) The Board finds that **Victoria Galanter** (1) is able to substantially perform her usual and customary duties as a Nurse Practitioner and (2) deny her application for a service-connected disability retirement.
- c) The Board finds that **Robert Introcaso** (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.
- d) The Board finds that **Kyle McDevitt** (1) is permanently incapacitated from the performance of his usual and customary duties as a Deputy Sheriff, (2) find that his disability was the result of an injury arising out of and in the course of his employment and (3) grant his application for a service-connected disability retirement.
- e) The Board finds that **Robert Pronske** (1) is permanently incapacitated from the performance of his usual and customary duties as a Sheriff's Sergeant, (2) find that his disability was the result of an injury arising out of and in the course of his employment and (3) grant his application for a service-connected disability retirement.
- f) Staff recommends that the Board terminate the disability retirement application submitted by the Public Health department on behalf of **Alina Revilla** per Article VI, section 6.5 and 6.6 of the Board Regulation regarding Disability Retirement.
- g) The Board finds that **James Steaveson** (1) is permanently incapacitated from the performance of his usual and customary duties as a Deputy Sheriff, (2) find that his disability was the result of an injury arising out of and in the course of his employment and (3) grant his application for a service-connected disability retirement.

- h) The Board finds that **Leah Wesley** (1) is permanently incapacitated from the performance of her usual and customary duties as a Medical Surgical Nurse, (2) find that her disability was the result of an injury arising out of and in the course of her employment and (3) grant her application for a service-connected disability retirement.

4.2 Survivor Death Benefits

- a) The Board find that **Greta Floresca**, would have been entitled to a non-service-connected disability but has died, and Charles Floresca, the surviving spouse, has elected to receive an optional death allowance pursuant to Government Code § 31781.3.

4.3 Service Retirements

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

Name	Effective Retirement Date	Department
Adcock, Joe	April 1, 2023	Def'd - San Mateo County Health
Aguilar, Ana	March 30, 2023	Sheriff's Office
Anderson, Marizela	April 1, 2023	San Mateo County Health
Anderson, Mark	March 18, 2023	Public Works
Aronson, Jacqueline	March 3, 2023	Probation
Bettencourt, Eric	April 1, 2023	Sheriff's Office
Bomgardner, Donna	April 1, 2023	Assessor Clerk Recorder Elections
Burke, Kathryn	April 1, 2023	Required Minimum Distribution
Bustos, Maria	March 11, 2023	Human Services Agency
Camposeco, Ana	March 25, 2023	Human Services Agency
Cerezo, Liberty	April 1, 2023	Environmental Health
Chandrasekaran, Ponnambalam	April 1, 2023	San Mateo County Health
Charles, Gregory	March 31, 2023	Probation
Chau, Jacqueline	April 1, 2023	San Mateo County Health
Chen-Lee, Jacqueline	March 4, 2023	Assessor Clerk Recorder Elections
Clark-Osby, Vickie	March 31, 2023	Human Services Agency
Cobb, Freda	April 1, 2023	Human Services Agency
Crisostomo, Juanchito	April 1, 2023	Behavioral Health
Daniele, Teresa	April 1, 2023	Human Services Agency
Dean, Roxanne	April 1, 2023	Behavioral Health
Dela Pena, Fe	April 1, 2023	San Mateo County Health

Delgado, Mary	March 24, 2023	Family Health
Evans, Susan	March 21, 2023	QDRO of Grado, Ronald
Fisher, Sandra	April 1, 2023	Probation
Fung, Doris	April 1, 2023	San Mateo County Health
Gallegos, Patricia	March 31, 2023	Family Health
Garcia, Carolina	March 31, 2023	Def'd - Human Services Agency
Hansen, Darlene	April 1, 2023	Probation
Hauschild, James	April 1, 2023	Human Services Agency
Into, Lorna	March 31, 2023	San Mateo County Health
Jensen, Margaret	April 1, 2023	County Executive Office
Kennealy, Nora	April 1, 2023	Sheriff's Office
Khan, Liaqat	March 18, 2023	Public Works
Lam, Sai-Hung	March 25, 2023	Human Services Agency
Livingston, Agnes	March 31, 2023	Deferred - Sheriff's Office
Luecke, Damon	March 3, 2023	Probation
Maharaj, Ravineeta	April 1, 2023	Human Services Agency
Marks, Sharon	April 1, 2023	Required Minimum Distribution
Martinson, Marisol	April 1, 2023	Human Services Agency
Meitz, Kenneth	April 1, 2023	Public Works
Navarrete, Maria	March 31, 2023	Sheriff's Office
Nguyen, Tran	April 1, 2023	Assessor Clerk Recorder Elections
Paniagua Esquivel, Irma	March 31, 2023	Family Health
Passmore, William	March 20, 2023	Sheriff's Office
Perrier, Stephanie	March 18, 2023	Human Services Agency
Platt, J Stephen	April 1, 2023	Sheriff's Office
Ramirez, Leticia	March 18, 2023	Human Services Agency
Reyes, Evelyn	March 3, 2023	Human Services Agency
Ricossa, Melinda	April 1, 2023	Mental Health
Robinson, Debra	April 1, 2023	Planning & Building
Rodriguez, Marcela	April 1, 2023	Human Services Agency
Romero, Claudia	April 1, 2023	Mental Health
Romero, Rolly	March 11, 2023	Deferred - Probation

Saulog, Nylette	March 31, 2023	Def'd - San Mateo County Health
Scherman, Ana	March 25, 2023	Superior Court
Somebang, Isabelo	April 1, 2023	San Mateo County Health
Stauffer, Melanie	April 1, 2023	Probation
Strickland, Kathryn	March 29, 2023	San Mateo County Health
Sun, Wen	March 31, 2023	Deferred - Sheriff's Office
Telis, Laura	April 1, 2023	San Mateo County Health
Tom, Diane	April 1, 2023	Mental Health
Torres, Laura	March 30, 2023	Def'd - District Attorney's Office
Vraast-Thomsen, Paula	April 1, 2023	Building/Planning
Whisman, David	April 1, 2023	Public Safety Communications
Wiley, Maria	April 1, 2023	San Mateo County Health
Wong, Sharon	April 1, 2023	Assessor Clerk Recorder Elections
Wright, Tatyana	April 1, 2023	Def'd - San Mateo County Health
Young, Leslie	April 1, 2023	Assessor Clerk Recorder Elections

4.4 Continuances

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

Survivor's Name	Beneficiary of:
Barlaan, Melanio	Barlaan, Imelda
Haseleu, Rebecca	Hackleman, Paul
Souza, Judy	Souza, James

4.5 Deferred Retirements

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

Name	Retirement Plan Type
Gardner, Robert	G7, Vested - Auto Defer – Code 31700
Goodman, Anikka	G7, Non-Vested - Reciprocity
Gonzalez, Bianca	G4, Vested - Reciprocity
Heiber, Darren	G7, Vested - Reciprocity
Londer, Rachael	G7, Vested - Auto Defer – Code 31700
Nosich, Matthew	G7, Vested - Auto Defer – Code 31700
Serbin, Brittany	G7, Non-Vested - Reciprocity

Yaghoubi, Alen	G7, Vested - Auto Defer – Code 31700
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4.6 Member Account Refunds

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

Name	Retirement Plan Type
Del Rio, Camerina	G7, Non-vested
Flesher, Gabriel	G7, Non-vested
Gonzalez, Tanya	G7, Non-vested
Picazo, Cristina	G4, Non-vested
Russell, Carthel	G2, Vested

4.7 Member Account Rollovers

Name	Retirement Plan Type
Fernandez, Andre Paul	G7, Non-vested
Marroletti, Dianne	G7, Non-vested
Sladek, Victoria	G7, Non-vested
St. Clair, Victoria	G2, Non-vested

4.8 Member Account Redeposits

Name	Retirement Plan Type
Rosado, Clara	General 4

4.9 Acceptance of Trustees’ Reports of Educational Activities

See attached.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

May 23, 2023

Agenda Item 4.9

TO: Board of Retirement

FROM: Jenny Lukan, Retirement Executive Secretary



SUBJECT: Trustee's Reports of Educational Activities

Recommendation

Accept the following report from a Board of Retirement trustee who has recently attended an educational event.

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:

Pension Bridge – The Annual 2023, April 17-19, 2023

- Katherine O'Malley
- Elaine Orr
- Robert Raw

IFEBCP – Portfolio Concepts and Management (Wharton), May 1-4, 2023

- Kimathi Marangu
- Nicole McKay
- Robert Raw

Attachments

Trustees' Education Proof of Participation Certificate and Summary

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



Trustee Name Katherine O'Malley		Date(s) of Event April 17-19, 2023
Education Event Name Pension Bridge - The Annual 2023		
Event Provider Win Intelligence		
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>12.5</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 type="checkbox"/> Fiduciary responsibilities | <input type="checkbox"/> Disability evaluation |
| <input type="checkbox"/> Ethics | <input type="checkbox"/> Fair hearings |
| <input type="checkbox"/> Benefits administration | <input type="checkbox"/> Pension fund governance |
| <input type="checkbox"/> Actuarial matters | <input type="checkbox"/> New board member orientation |
| <input 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?

Ed's efforts to tame inflation; Trustee Roundtable;
Trends in asset allocation, opportunities within asset classes
Washington infrastructure; Real Estate; Private Credit; ESG;
Risk Management; forecasting next 10 yrs.

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) Katherine O'Malley	Date 4/24/2023
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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 Elaine Orr		Date(s) of Event Apr. 17 11/18/22-11/19/22 19 2023
Education Event Name For Conference Annual		
Event Provider STARS PENSIONBRIDGE		
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>1.5 days</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 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 type="checkbox"/> Actuarial matters | <input type="checkbox"/> New board member orientation |
| <input checked="" type="checkbox"/> Pension funding | <input checked="" type="checkbox"/> Other: _____ |
| <input checked="" type="checkbox"/> Pension fund investments and investment program management | |

Summary Report

What concepts or information did you learn about?

Trustee roles, asset allocation
macro economics & inflation
private credit
Energy transition, ESG

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 11/17/22 April 20, 2023
---	---

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

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



Trustee Name ROBERT RAW		Date(s) of Event APRIL 17-19, 2023
Education Event Name PENSION BRIDGE - THE ANNUAL 2023		
Event Provider WITH INTELLIGENCE		
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>12.5</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 type="checkbox"/> Fiduciary responsibilities | <input type="checkbox"/> Disability evaluation |
| <input type="checkbox"/> Ethics | <input type="checkbox"/> Fair hearings |
| <input type="checkbox"/> Benefits administration | <input type="checkbox"/> Pension fund governance |
| <input type="checkbox"/> Actuarial matters | <input type="checkbox"/> New board member orientation |
| <input 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?

FEDERAL RESERVE EFFORTS TO CURB INFLATION,
 TRUSTEE ROUNDTABLE, TRENDS IN ASSET
 ALLOCATION, CAPITALIZING ON CREDIT OPPORTUNITIES,
 PRIVATE CREDIT OPPORTUNITIES, FORECASTING THE
 NEXT 10-YEARS, ISSUES WITH ESG, RISK MANAGEMENT, ETC

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 4/20/23
---	------------------------

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 Kimathi Marangu		Date(s) of Event
Education Event Name Wharton Executive Education: Portfolio Concepts and Management Program		
Event Provider International Federation of Employee Benefit Plans		
Type of Participation: Attended Event <input type="checkbox"/> Listened to Audio/Watched Video <input type="checkbox"/>	Eligible Credit: Total hours for sessions you participated in: <u>28</u> <i>(Staff may adjust hours if the provider issues an education certificate that reflects different hours.)</i>	

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

Topic: *(Check all that apply)*

- | | |
|--|---|
| <input checked="" type="checkbox"/> Fiduciary responsibilities | <input type="checkbox"/> Disability evaluation |
| <input type="checkbox"/> Ethics | <input type="checkbox"/> Fair hearings |
| <input type="checkbox"/> Benefits administration | <input checked="" type="checkbox"/> Pension fund governance |
| <input 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?

Overview of Financial Assets, Fundamentals of Portfolio Theory, Managing Pensions in a Risky Global Environment
Performance Evaluation, Fundamentals of Valuation, Macroeconomic Issues and Financial Markets
Asset Allocation

Would you recommend this event to other trustees?

- Yes No Maybe

You may provide additional comments to SamCERA’s CEO.

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

Trustee Signature <i>(print this form and sign)</i> <i>Kimathi Marangu</i>	Date 5/16/2023
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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 <i>Nicole McKay</i>	Date(s) of Event <i>May 1-4, 2023</i>
Education Event Name <i>Wharton Portfolio Concepts and Management Program</i>	
Event Provider <i>IFEBP</i>	
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><i>25.5</i></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 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?

Overview of Financial Concepts, Fundamentals of Portfolio Theory, Managing Pensions in a Risky Global Environment, Evaluating Performance, Fundamentals of Valuation, Macroeconomics Issues & Financial Markets, Asset Allocation & Impacts of Risk on Return, Case Analysis and worksheets

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>Nicole McKay</i>	Date <i>5/8/23</i>
--	------------------------------

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

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



Trustee Name ROBERT RAW		Date(s) of Event 5/1/23 - 5/4/23
Education Event Name WHARTON PORTFOLIO CONCEPTS AND MANAGEMENT		
Event Provider IFEBP		
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>25.25</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 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?

OVERVIEW OF FINANCIAL ASSETS, FUNDAMENTALS OF PORTFOLIO THEORY, MANAGING PENSIONS IN A RISKY GLOBAL ENVIRONMENT, FUNDAMENTALS OF VALUATION, MICROECONOMIC ISSUES AND FINANCIAL MARKETS.

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 5/6/23
--	-----------------------

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

May 23, 2023

Agenda Item 4.10

TO: Board of Retirement

FROM: Gladys Smith, Assistant Executive Officer



SUBJECT: Approval to Renew Fiduciary Liability Insurance Policy

Recommendation

Authorize the County's Risk Manager to renew fiduciary liability insurance coverage with RLI Insurance Services through May 27, 2024.

Background

The Government Code requires SamCERA to defend trustees and staff against claims and litigation which arise from the performance of their duties. Since 1998, the Board has purchased fiduciary liability insurance to help protect the assets of the fund from the expenses and any awards resulting from such litigation because the assets of the retirement fund would be used to provide such defense.

Discussion

Currently, the Board has a fiduciary policy with RLI Insurance Services for \$10 million in coverage, a retention of \$100,000, and an annual premium of \$95,150. Staff worked with the County Risk Manager and James and Gable Insurance Brokers, Inc. to obtain a continuation of this coverage for \$102,124, which is a 7.33% increase from last year's premium.


For the 18 covered fiduciaries (Board and certain staff), SamCERA will once again be able to pay for a Waiver of Nonrecourse endorsement. The cost is \$450 and will be divided equally by the 18 covered fiduciaries. By law, this cannot be paid by the fund and must be paid personally by each fiduciary. For convenience, SamCERA collects the money from each fiduciary and remits payment to the insurance broker.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

May 23, 2023

Agenda Item 5.2

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer 

SUBJECT: Report on Quarterly Funding Progress for the Period Ended March 31, 2023

Recommendation

Accept the quarterly funding update report for the period ended March 31, 2023.

Discussion

Milliman, Inc developed a funding dashboard by which two data points could be projected for the coming fiscal year based on the fund's assumptions, investment performance, and certain economic and demographic data for the period measured. The two data points that can be projected are the funded ratio and the employer contribution rate. Subsequent to the initial dashboard, Milliman added the ability to project out for the next nine years for the same data points.

Attached is the Q3 FY 22-23 dashboard showing the projected funded status and employer contribution rate utilizing current data and assuming all assumptions are met for the remainder of the fiscal year. The second page shows a ten-year projection utilizing the same data.

After the third quarter, the funded status is projected to drop by 1.1% and the employer contribution rate is projected to be 1.1% higher. The factor that impacts the funding ratio and employer rate the most is the investment return for the third quarter being lower than expected. However, the fund performance improved for the second straight quarter and the trend in these metrics reversed and moved closer to the original projections from the valuation. Two other factors impacting the projected funded status and employer rate are inflation and salary increases being higher than expected.

Below the graphs are charts of the factors that impact each of the data points and the amount each factor has on the projection.

Attachment

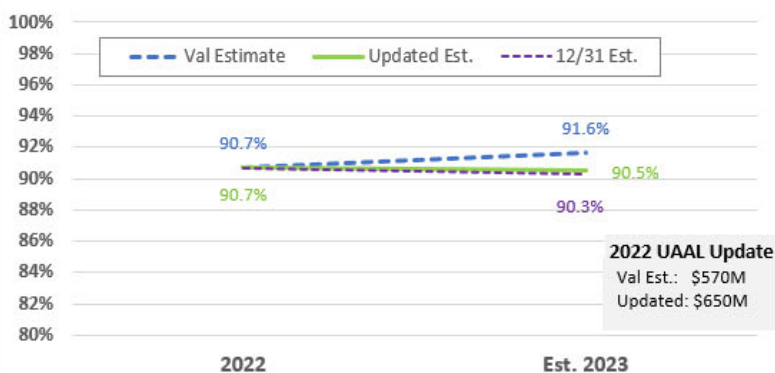
Funding Dashboard

SamCERA Funding Dashboard

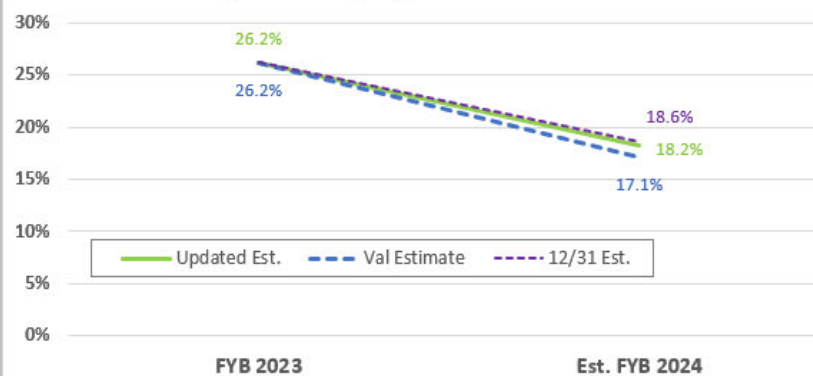
Update Graph Formats

SamCERA Projected Funding for June 30, 2023 Valuation (based on Information as of March 31, 2023)

Projected Funded Ratio



Projected Employer Contribution Rate



Estimates are subject to the variance of a regular projection; actual results will vary from those shown.

Input

Completed Quarter	3/31
Est. Return FYTD	3.40%
Est. Return (1st Half)	0.50%
Serve Retirements to Date	195
Active Member Count	5,257

CPI 2022

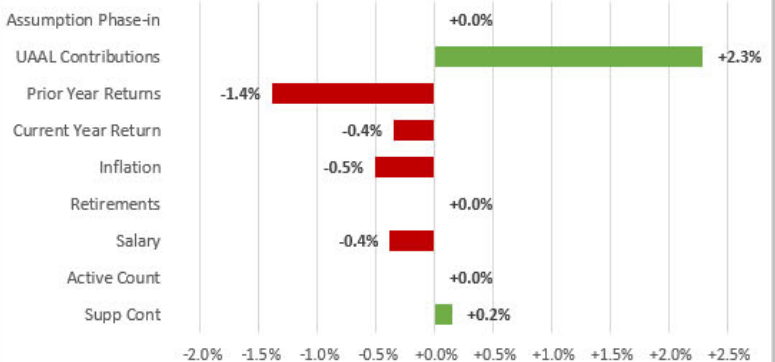
Aug	Oct	Dec	Annual
328.871	332.062	331.222	327.06

Investment Return Assumption	6.25%
Supplemental Contrib (\$mill)	10
Fresh Start 2023	No

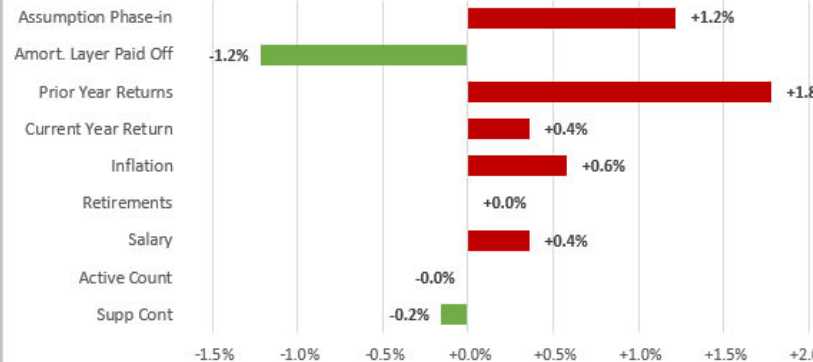
Post-Valuation Data

Return	
Fiscal Year - First Half	0.50%
Fiscal Year- Full Year (Est.)	4.98%
Inflation for 2022	
Assumed	2.50%
Actual	5.60%
Service Retirements in Fiscal Year	
Assumed	238
Est.	240
Salary Increase	
Assumed	3.00%
Est.	4.05%
Active Members	
Assumed	5,249
Est.	5,257

Factors Expected to Affect Funded Ratio



Factors Expected to Affect Employer Rate

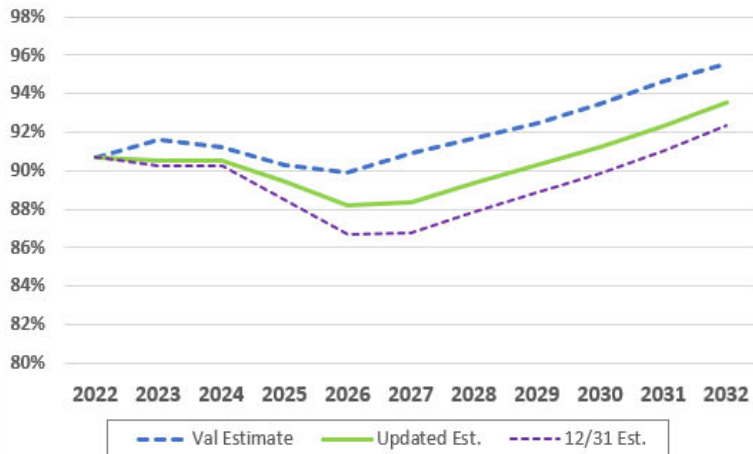


SamCERA Funding Dashboard, cont

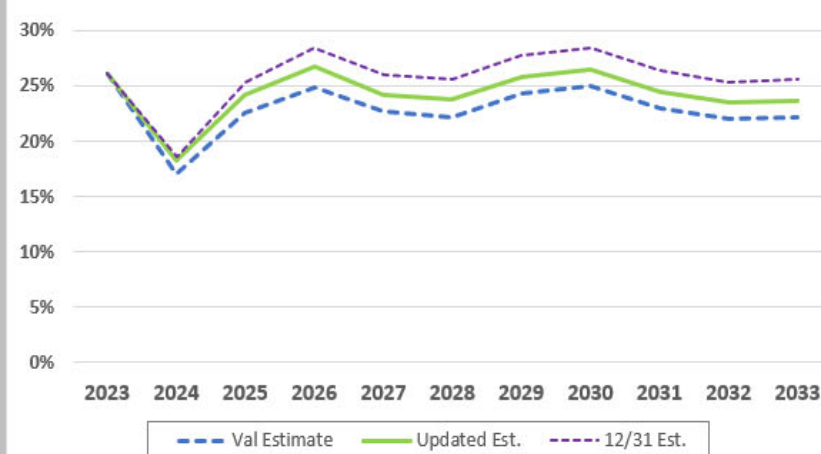
10-Year Projection

Show/Hide Fresh Start Line

Projected Funded Ratio



Projected Employer Contribution Rate



10-Year Projection Input

	Return	Ann. CPI
FYE2023	4.98%	5.60%
FYE2024	6.25%	2.50%
FYE2025	6.25%	2.50%
FYE2026	6.25%	2.50%
FYE2027	6.25%	2.50%

All estimates shown are based on the June 30, 2022 actuarial valuation and the post-valuation data shown below. Please see Milliman's June 30, 2022 actuarial valuation for SamCERA for additional caveats and limitations.

These estimates are subject to the variance of a regular projection and actual results will vary from those shown.

Year UAAL is projected to be fully paid off:
 Valuation Estimate: > 15 yrs
 Updated Estimate: > 15 yrs

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

May 23, 2023

Agenda Item 5.3

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer



SUBJECT: Consideration and Direction to Milliman Inc. Regarding Assumptions to be Used in the June 30, 2023 Actuarial Valuation

Recommendation

Provide direction to Milliman, Inc as to the economic actuarial assumptions to be used in the June 30, 2023 actuarial valuation. Staff concurs with the Milliman recommendation that no changes be made to the assumptions used for last year's valuation and the following assumptions be used:

- The economic assumptions be set at: investment return at 6.25%, inflation at 2.50%, wage at 3.00%, and payroll growth at 3.00%.
- The COLA assumption for Plans 1 and 2 be set in accordance with the inflation assumption.
- Employer contribution rates continue to be phased in for the final year of the three-year phase-in period.

Discussion

The Board will be asked to provide guidance to Milliman, Inc. regarding the economic assumptions to be used in its June 30, 2023, annual actuarial valuation of the system. Nick Collier, lead actuary, will provide a presentation on investment return, inflation, wage and payroll growth assumptions and how indicators have moved over the past year. Last year, the Board adopted a 6.25% assumed earnings rate and phased the employer rates in over a three-year period, which minimizes the short-term impact to employer contribution rate expenses.

For this coming valuation, Milliman has offered two recommendations regarding assumptions: the first is to make no assumption changes and the second is to raise the national inflation assumption by .25% and make corresponding .25% increases to the payroll and wage growth assumptions. Both recommendations are reasonable and supported by Cheiron, our auditing actuary. Staff concurs with the recommendation to make no changes to the economic assumptions.

Attachment

Milliman's May 2023 Presentation on Economic Assumptions for the 2023 Valuation

Economic Assumptions

Nick Collier

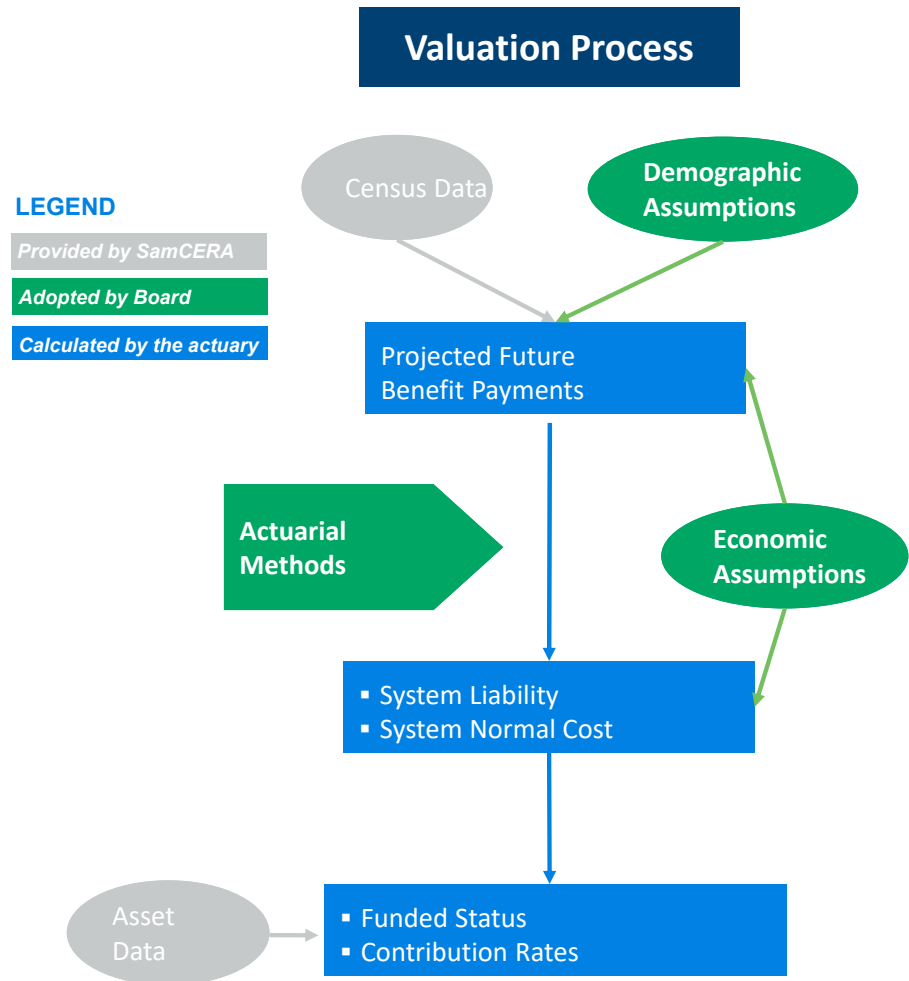
Craig Glyde

MAY 23, 2023



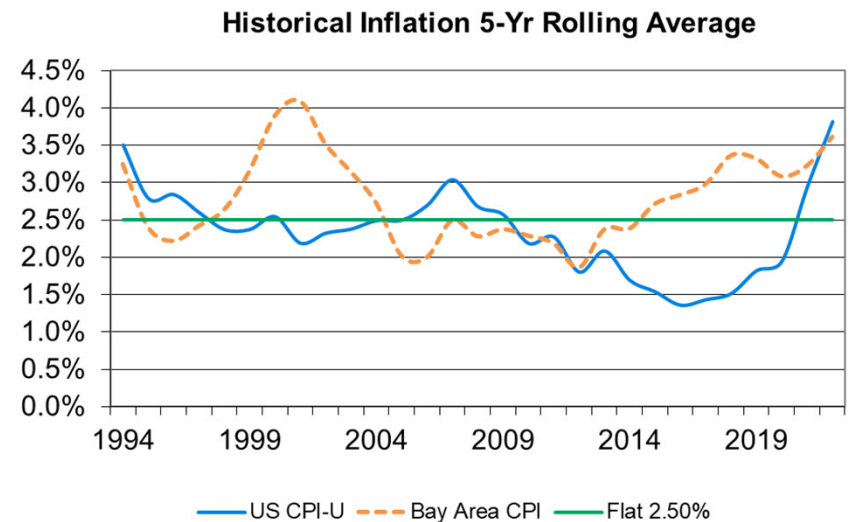
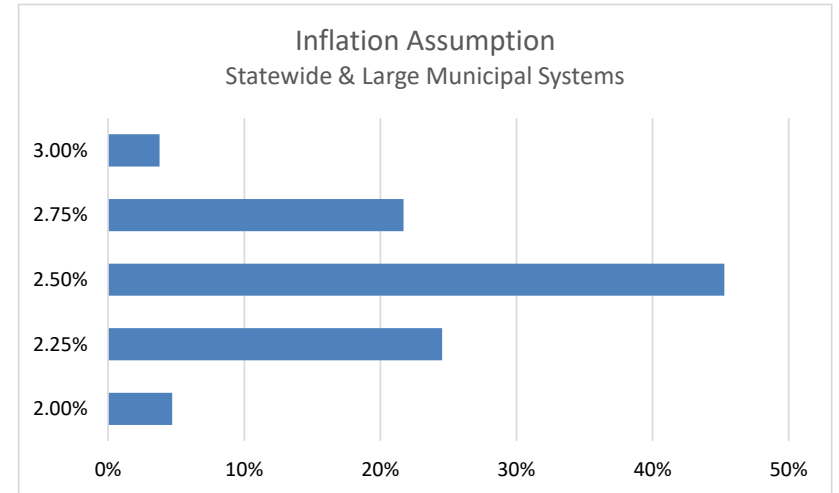
Schedule

- May 2023 meeting:
 - Adopt economic assumptions for use in 2023 valuation
- July 2023 meeting:
 - Adopt demographic assumptions for use in 2023 valuation
 - Final discussion of proposed change to amortization method and estimated impact
- September 2023 meeting
 - Valuation results
 - Adopt member and employer contribution rates for fiscal year beginning July 1, 2024



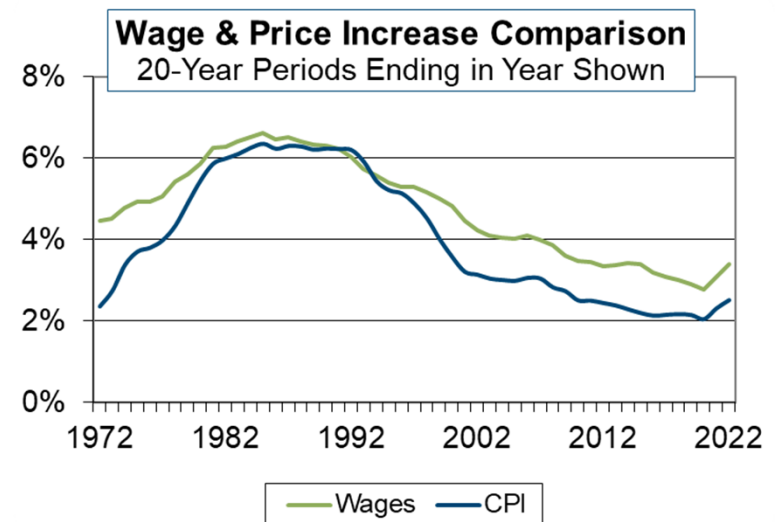
Price Inflation & COLA Assumption

- Current inflation assumption is 2.25% national and 2.50% local (Local affects wages & COLAs and national affects investment return and PEPR compensation limit)
 - CalPERS is 2.30% and CalSTRS is at 2.75%
 - 2.50% is median assumption for 100 largest systems
- Long-range Social Security projection is 2.4%
- Other forecasts for 20 years at March 1, 2023
 - Implied inflation from TIPS of 2.6%
 - Cleveland Fed = 2.35%
 - Milliman = 2.4%
- COLA assumption varies by Plan



General Wage Growth

- An individual member's assumed annual salary increase is composed of:
 - Local inflation
 - Real wage growth
 - Individual merit/longevity component (demographic assumption)
- Real wage growth represents the increase in wages in excess of inflation due to improvements in productivity and competitive market pressures
- National average real wage growth has been 0.6% over last 50 years
- Social Security projections have 1.2% average real wage growth over long term
- Estimated SamCERA-specific real wage growth has been at or above the current 0.5% assumption



Payroll Growth

- The system payroll growth assumption is used in the calculation to amortize the unfunded liability
- Fairly standard among public retirement systems to have payroll growth equal to general wage growth
- Historical SamCERA payroll has increased at a greater rate than the general wage increase due to increase in number of active members, but this has for the most part levelled off over the last few years

Expected Return – 2023 Capital Market Assumptions

- Significant changes in economic environment since beginning of 2022
- Median expected return for SamCERA’s target portfolio using both Milliman’s and Verus’ 2023 capital market outlook assumptions
 - Long-term expected return has increased by close to 1% since last year
 - Driven by significant increase in interest rates and declining P/E ratios

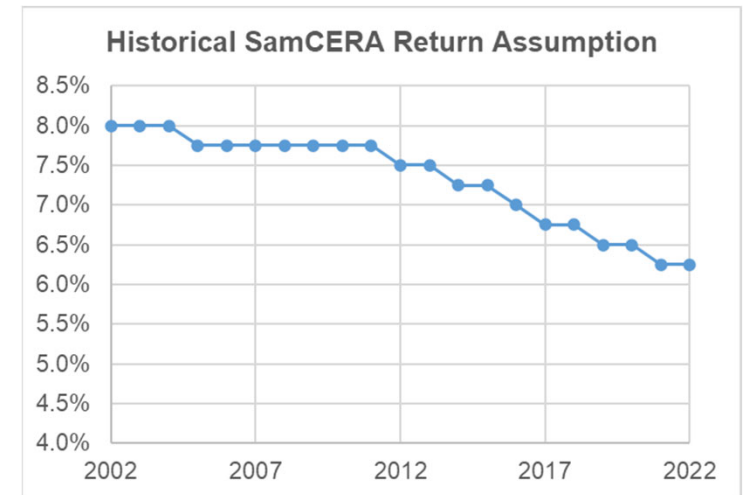
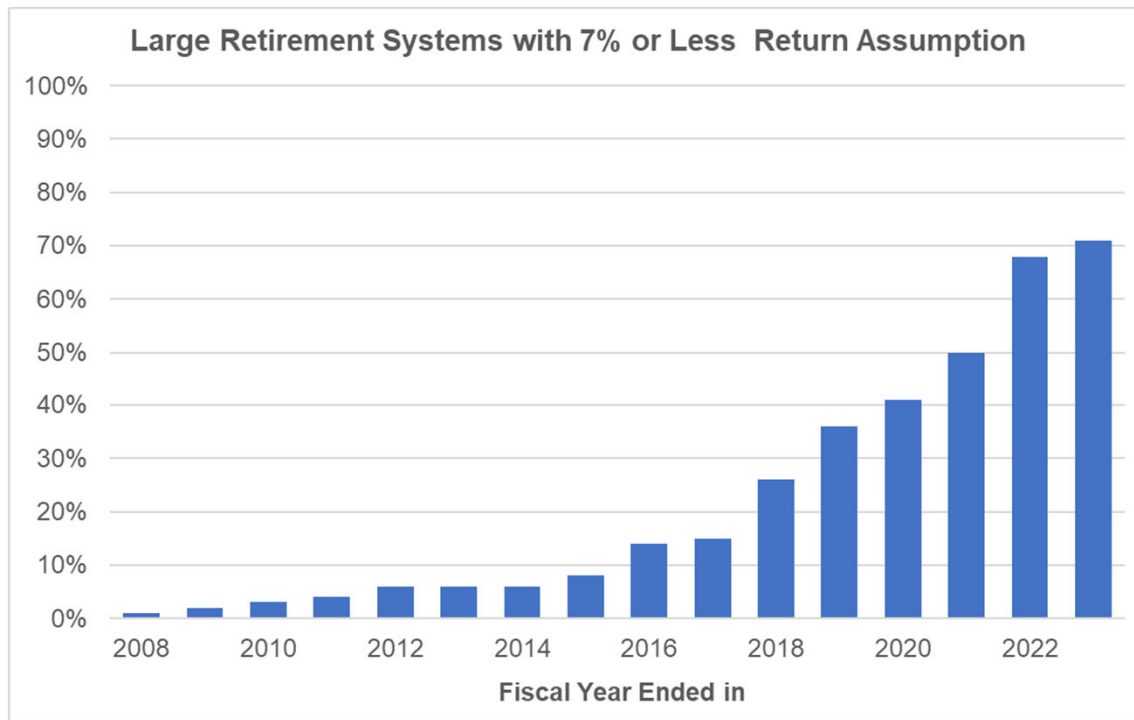
Expected Return Based on 2023 Capital Market Assump.	2022 Expected Return ¹	2023 Expected Return ¹	Change
Verus (30-Year Horizon)			
Median Annualized Return	5.6%	6.6%	1.0%
Assumed Inflation	2.3%	2.1%	-0.2%
Milliman (20-Year Horizon)			
Median Annualized Return	5.9%	6.7%	0.8%
Assumed Inflation	2.4%	2.4%	0.0%

Notes:

1. Returns are net of assumed expenses of 0.2% of assets. Capital market assumptions are as of the start of each year.

Investment Return Assumption Trend

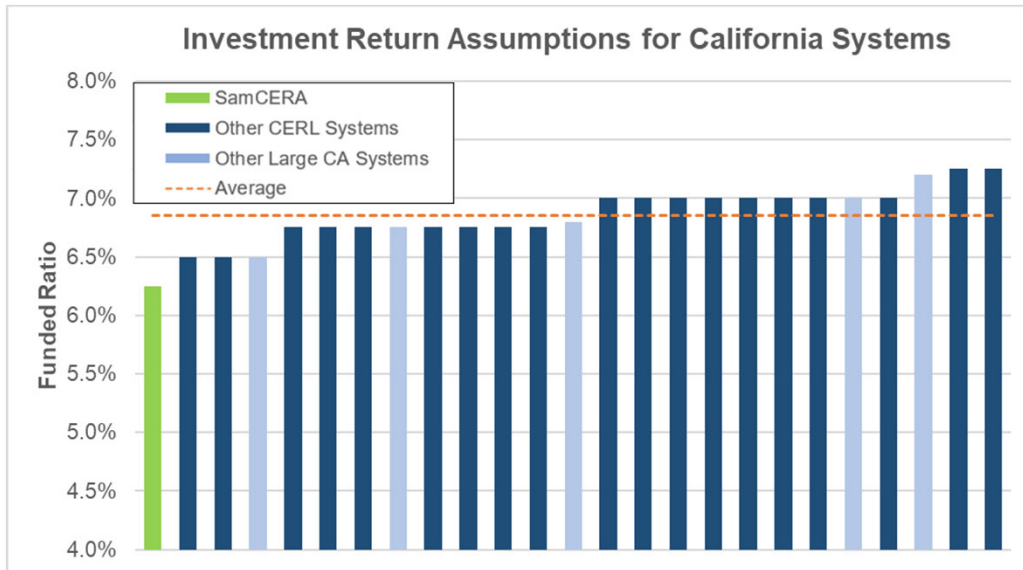
- Over 70% of large public retirement systems now have an investment return assumption of 7% or less



- SamCERA has been ahead of most systems in lowering their return assumption
- SamCERA's national price inflation assumption has decreased from 3.5% to 2.25% over that period.

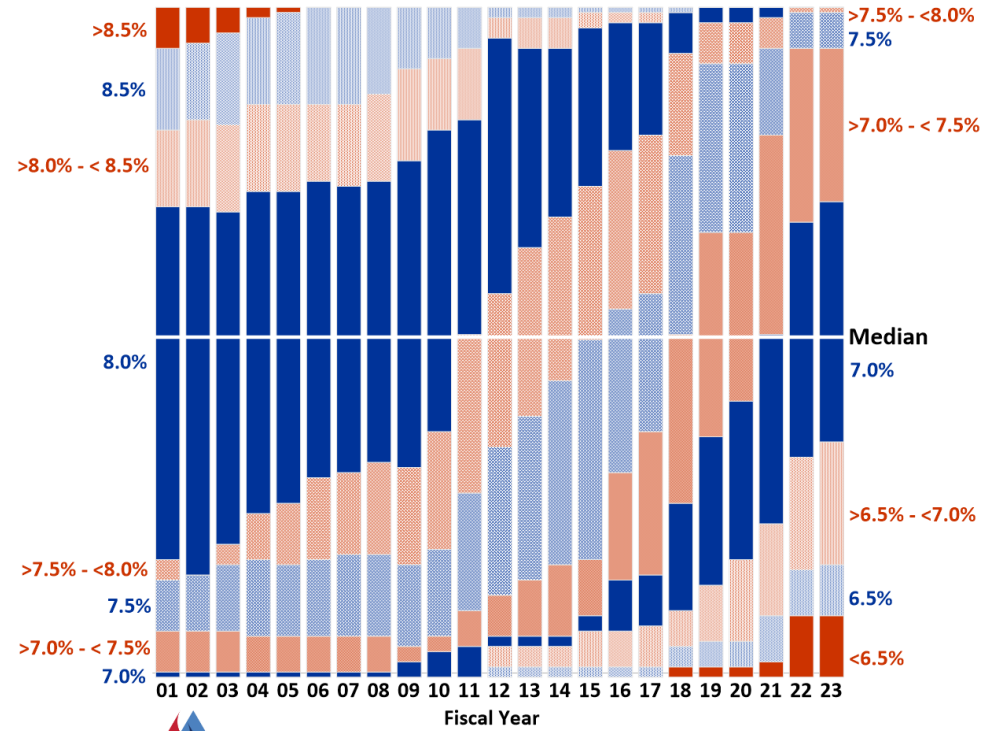
Investment Return Assumption – Other Systems

California



National

Distribution of Investment Return Assumptions, FY 01 to present



Economic Assumptions Summary

Economic Assumptions	Current	Alternate Scenario (with higher inflation assumption)	Comment
National Price Inflation	2.25%	2.50%	Current inflation levels are much higher than 2.25%, although most long-term forecasts are in the 2.25% to 2.60% range
Local Price Inflation	National Price Inflation + 0.25% (2.50%)	National Price Inflation + 0.25% (2.75%)	Currently set equal to national inflation +0.25%, as past Bay Area inflation has averaged above national
Future COLAs	Plan 1 = 2.5%; Plan 2 = 2.4%; Plan 3 = n/a; Other = 1.9%	Plan 1 = 2.75%; Plan 2 = 2.65%; Plan 3 = n/a; Other = 1.9%	Plan 1: Future impact of COLA bank is reflected; Other Plans: Modelling was done to reflect that COLAs are not symmetrical. For example, Plan 4 COLA can never be greater than 2% but can be less than 2%, so expect average will be less than 2%.
Real Wage Growth	0.50%	No Change	Long term national average has been 0.60%
Wage Growth	Local Price Inflation + Real Wage Growth (3.00%)	Local Price Inflation + Real Wage Growth (3.25%)	Historical SamCERA experience has been at or above current assumption
Payroll Growth	Equal to Wage Growth (3.00%)	Equal to Wage Growth (3.25%)	Assumes stable active population
Investment Return (Discount Rate)	6.25%	No Change	Long-term trend of decreasing expected returns continued through January of 2022; however, 2023 capital market expectations indicate some reversal of this trend, at least for now.

Actuarial Standards of Practice #4 – First Effective this Year

- Low Default-Risk Obligation Measure (LDROM)
 - What is LDROM?
 - Very preliminary estimate: liability disclosed will likely be one-third to one-half higher
 - How we expect to present in valuation report
- Amortization method guidance
 - Current method and options discussed today would meet this guidance
- Other changes
 - Calculation of reasonable actuarially determined contribution – Already being met
 - Assessment of contribution allocation procedure or funding policy – May add additional language to report to make sure we are fully complying with new guidance
 - Performance of a gain and loss analysis – Already being met
 - Consider impact of contribution lag – Already being met

Conclusion

- Expected returns based on 2023 capital market assumptions now exceed 6.25% investment return assumption
 - Reasonable to keep current assumption
- Short-term inflation has been high, although starting to moderate
 - Current assumption is reasonable, although an increase of 0.25% is also reasonable
 - A change to this assumption could also impact wage and payroll growth, and retiree COLA assumptions
- Slide 10 shows current and alternate assumptions, both of which we believe are reasonable
- Demographic assumptions will be reviewed in July



Questions



Caveats and Disclaimers

Milliman's work product was prepared exclusively for SamCERA for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning SamCERA's operations, and uses SamCERA's data, which Milliman has not audited. 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.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

May 23, 2023

Agenda Item 6.1

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer



SUBJECT: Preliminary Monthly Portfolio Performance Report for the Period Ended April 30, 2023

Recommendation

Accept the preliminary performance report dated April 30, 2023.

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. 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 fund's net preliminary return for April was 0.3%, bringing the preliminary trailing twelve-month net return ending April 2023 to 0.3%, which is below both our benchmark return of 1.8% and our assumed earnings rate of 6.25%.

SamCERA's estimated market value as of April was \$5.937 billion, while the actuarial funded ratio as of June 30, 2022 was 90.7%

Discussion

Risk assets generally were higher in April as relatively strong economic reports and better than expected earnings reports resulted in stronger investor sentiment. As expected, the Fed increased rates by 25 basis points (in their early May meeting) despite the tighter financial conditions brought about by the banking crisis. The Fed communicated a potential pause in rate hikes and market expectations are that we may have reached the peak in short-term interest rates.

The U.S. equity market (measured by the S&P 500 Index) was up 1.6%, while small-capitalization stocks were down 1.8% (partly due to exposure to smaller regional banks). Developed international equity (as measured by MSCI EAFE) was up 2.8% while emerging markets were down 1.1%.

Economic activity remained resilient in April. U.S. real GDP increased by an annual rate of 1.1% in the first quarter of 2023, according to the first estimate by the Bureau of Economic Analysis. Manufacturing strengthened but continues to be in contraction territory. The labor market continues to show strength, adding 253,000 jobs in April. The headline unemployment rate

decreased to 3.4%, tying it for the lowest level since 1969. Inflation (as measured by the Consumer Price Index - All Urban Consumers) continued to slow, although at a smaller rate than earlier in the year. CPI increased 4.9% for the twelve months ended April.

The general U.S. fixed income market was up 0.6% in April as interest rates fell slightly. The 10-year U.S. Treasury yield was lower by 3 basis points during the month and ended at 3.44% by month-end. High Yield returns were up 1.0% and the Bloomberg Commodity Index was down 0.8%.

Attachments

Verus Capital Market Update

Northern Trust Preliminary Monthly Performance Report

A decorative geometric pattern of overlapping triangles in shades of blue and green is overlaid on the left side of the image. A large white triangle is positioned to the left of the main title text.

**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

APRIL 2023
Capital Markets Update

Market commentary

U.S. ECONOMICS

- Year-over-year headline inflation (+4.9%) decelerated for a tenth consecutive month in April, as food and energy prices have eased, and large price moves of 2022 begin falling out of the inflation window. Core CPI came in at +5.5%, down -0.1% from March. Perhaps most notable in the April inflation report was a slowdown in shelter inflation. Shelter costs make up one-third of the overall inflation number and, until April, had been the largest support to high inflation.
- Nonfarm payrolls grew by 253,000, a surprise beat above an expected 180,000. This comes after March figures were revised down to 165,000 from an initial 236,000. Unemployment ticked lower to 3.4%, tied for the lowest level since 1969, and average hourly earnings kept pace with March growth at +0.5% month-over-month.
- The April ISM Manufacturing PMI moved up to 47.1 from 46.3 yet remained in contractionary territory for the fifth consecutive month. The Prices (53.2) and Employment Index (50.2) were the only subindices to move into expansionary territory. A reading above 50 is indicative of expansion, while below 50 signals contraction.

U.S. EQUITIES

- The S&P 500 advanced +1.6%, bringing the year-to-date return to +9.2%. Performance was buoyed by a strong rally from defensive sectors including Consumer Staples and Financials, while Industrials (-1.2%) and Consumer Discretionary (-1.2%) lagged.
- Per FactSet, as of May 5th, 85% of S&P 500 companies had reported Q1 earnings results. Of those, 79% reported positive EPS surprise and 75% reported positive revenue surprise. Blended earnings are estimated to decline by -2.2% for Q1, much better than the March 31st estimate of -6.7%.

U.S. FIXED INCOME

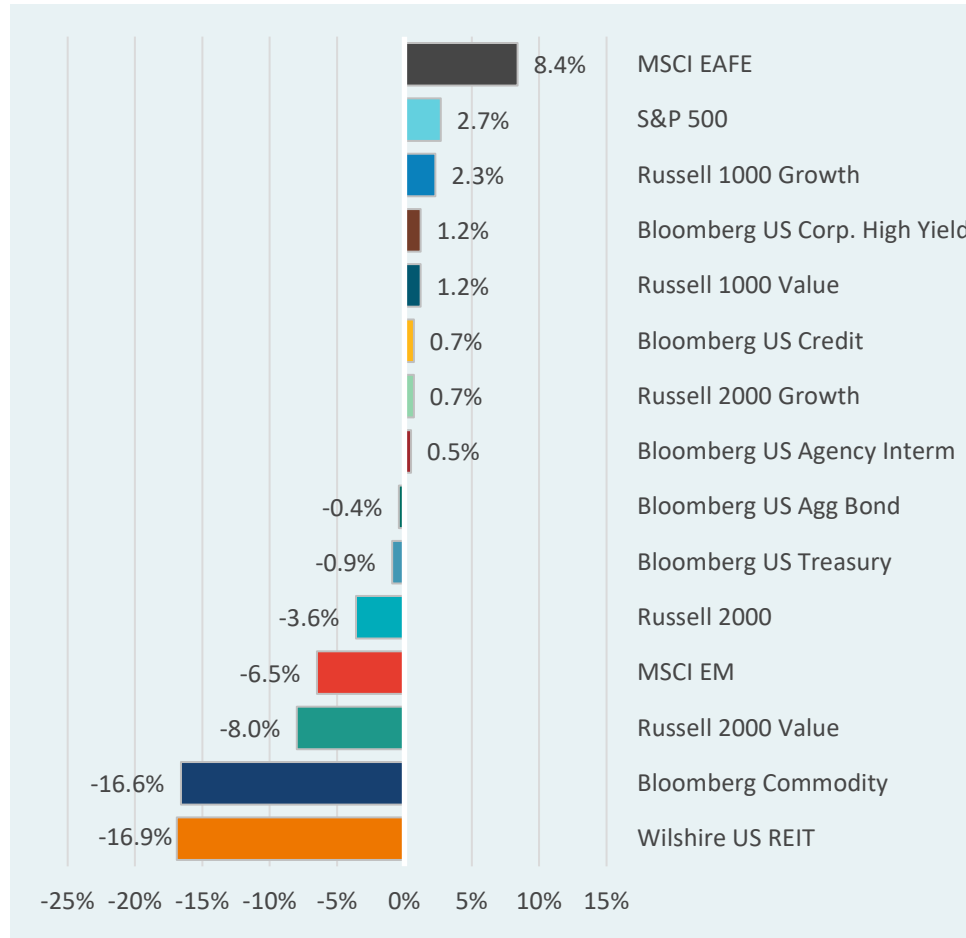
- A slew of strong economic data prints led market participants to extend expectations for the first rate cut to a later date. As of March 31st, investors expected a cut at the September 2023 FOMC meeting; however, fed futures at month end showed this expectation had shifted back to November.
- During the month, U.S. Treasury yields were mostly flat in the middle and long end of the curve but yields of short tenors saw large movement. The 3-month climbed +25bps while the 10-year fell -4bps. As a result, the 3-month-10-year yield curve inversion widened -29bps to -166bps, the widest in its history.
- Bond returns were positive across the credit spectrum, though only modestly. Long duration outperformed short duration while credit outperformed Treasuries.

INTERNATIONAL MARKETS

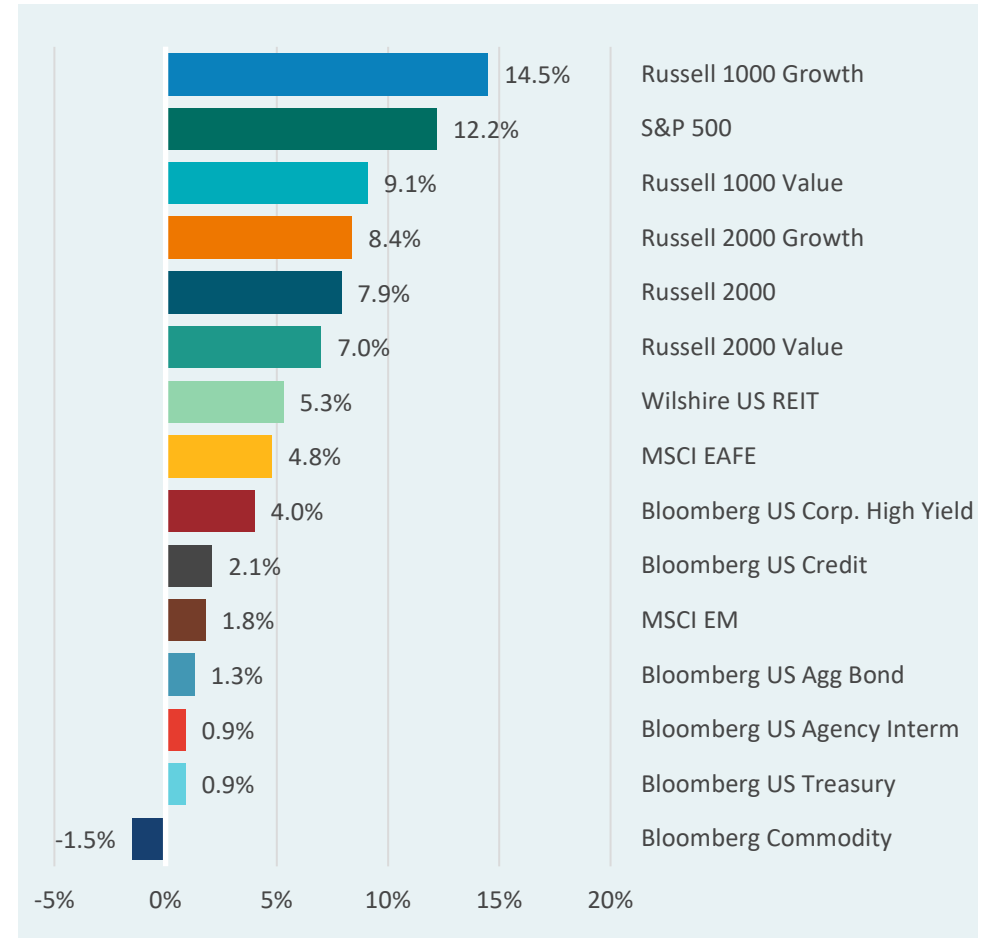
- The MSCI U.K. Index (+5.3%) was one of the top performing regional indices in April. The banking sector partially recovered as fears surrounding the health of U.S. banks subsided, which contributed to relative outperformance.
- The first BOJ policy meeting under Governor Ueda's new leadership was interpreted as dovish, which factored into the yen's (-2.3%) poor performance. However, Japanese securities rallied on expectations that Ueda would take time to review the policies of his predecessor Haruhiko Kuroda before making changes.
- Cooling energy prices helped headline Eurozone CPI fall sharply to +6.9% in April, down from +8.5% in the month prior. Despite the decline, investors still expect further tightening activity from the ECB but at a slower pace than previously anticipated.

Major asset class returns

ONE YEAR ENDING APRIL



TEN YEARS ENDING APRIL



*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 4/30/23

Source: Morningstar, as of 4/30/23

U.S. large cap equities

- The S&P 500 Index +1.6% delivered a second straight month of gains alongside strong economic data and signs of cooling inflation. The index lagged the Dow Jones Industrial Average (+2.6%) as value sectors were among the top performers.
- Eight of 11 S&P 500 GICS sectors ended higher, led by continued strength in Communications (+3.8%) and Staples (+3.6%), and modest recoveries from Energy (+3.3%) and Financials (+3.2%). Consumer Discretionary (-0.9%) and Industrials (-1.2%) were among the worst performers.
- Per FactSet, Amazon is expected to be the largest contributor to the year-over-year Q1 earnings growth rate for the S&P 500, due to a much smaller valuation loss relative to Q1 2022. If the company were excluded, the blended earnings growth rate for the index would be -1.4% lower.
- The Cboe VIX Index of implied volatility fell -2.9 points to 15.8, its lowest level since November 2021. Outsized single-day moves were few in April – the index moved +/- 1% on just 3 occasions, the smallest monthly total in more than a year.

S&P 500 PRICE INDEX



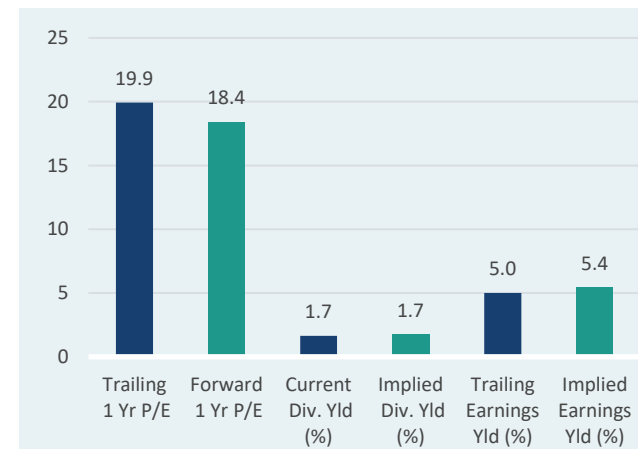
Source: Bloomberg, as of 4/30/23

IMPLIED VOLATILITY (VIX INDEX)



Source: Cboe, as of 4/30/23

S&P 500 VALUATION SNAPSHOT

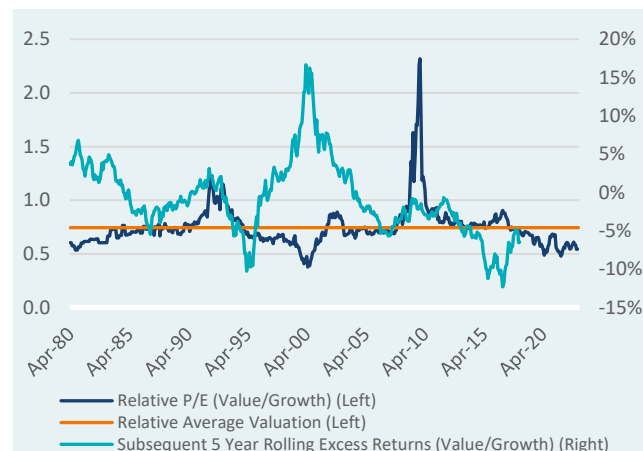


Source: Bloomberg, as of 4/30/23

Domestic equity size and style

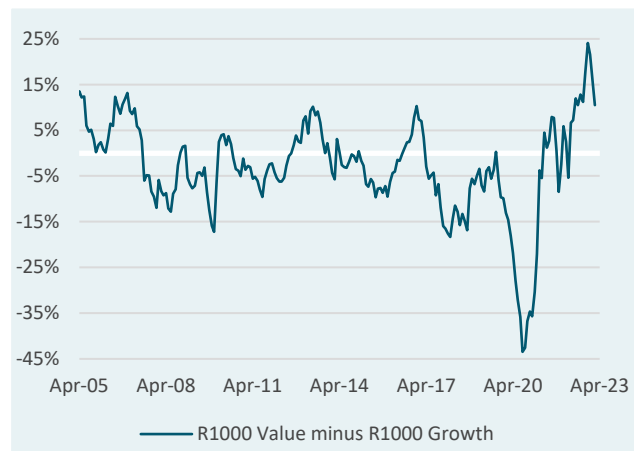
- Value stocks (+1.5%) modestly outperformed growth stocks (+1.0%) in a reversal of the prior quarter trend after large-cap financial stocks stabilized following a tumultuous March. Other value-oriented sectors, including Energy and Consumer Staples gained as well.
- The S&P 500 Equal Weighted Index (+0.3%) lagged the cap-weighted index for a third consecutive month. Recent underperformance is attributable to strength in mega-cap names including AAPL, MSFT, and META which accounted for more than half of the cap-weighted index's April return.
- Smaller-cap stocks underperformed again during the month (Russell 2000 Index -1.8%). Continued sell-offs among regional banks along with steep declines in small-cap telecom (-14.2%) and technology (-10.1%) pulled the index lower.
- Small-caps have gained just +0.9% year-to-date, underperforming large-cap stocks by -7.9%. Persistent weakness likely reflects investor fears that small company earnings may respond more negatively to an economic slowdown. Small stocks tend to be more heavily sold than large-caps leading into recession.

VALUE VS. GROWTH RELATIVE VALUATIONS



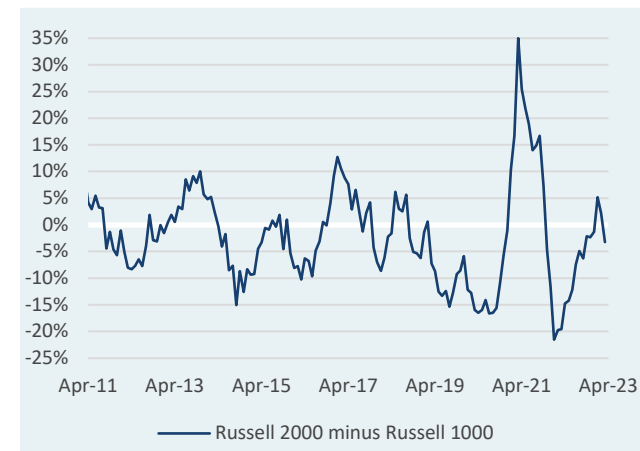
Source: FTSE, Bloomberg, as of 4/30/23

VALUE VS. GROWTH 1-YR ROLLING RELATIVE PERFORMANCE



Source: FTSE, Bloomberg, as of 4/30/23

SMALL VS. LARGE 1-YR ROLLING RELATIVE PERFORMANCE

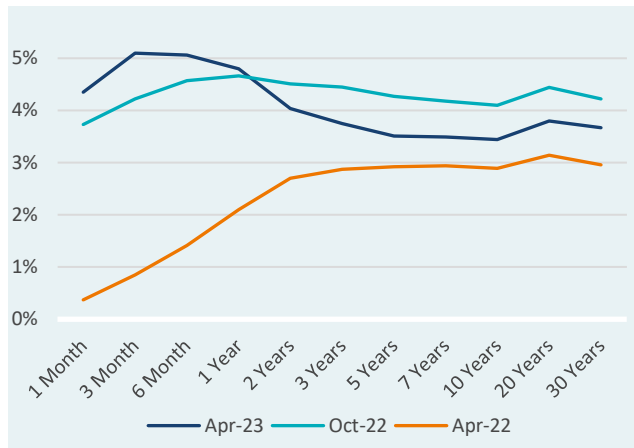


Source: FTSE, Bloomberg, as of 4/30/23

Fixed income

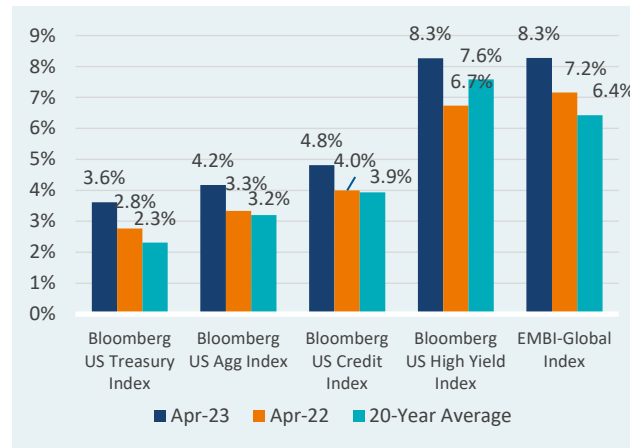
- Fixed income performance was positive across the spectrum, although higher yielding credit outperformed. The Bloomberg U.S. Corporate High Yield index rose +1.0% in April, outpacing the +0.6% gain seen from the Bloomberg U.S. Aggregate.
- Treasury yields ended April slightly lower. Yields fell sharply early in the month after a cooler-than-expected March jobs print which suggested a Fed pivot may come earlier than anticipated. However, further data releases throughout the month quelled such optimism.
- Credit spreads across high-yield and investment grade securities remained rangebound in the face of slower expected economic activity and a tightening in credit conditions. Spreads ended the month at 452 bps and 136 bps for high-yield and investment grade, respectively.
- The ICE BofA MOVE Index, a gauge of U.S. Treasury volatility, fell significantly from peaks seen in mid-March. Volatility briefly rose at the start of April before the index ended the month at 122. For context, the index peaked at 198 in March, the highest level seen since the 2008-2009 Financial Crisis.

U.S. TREASURY YIELD CURVE



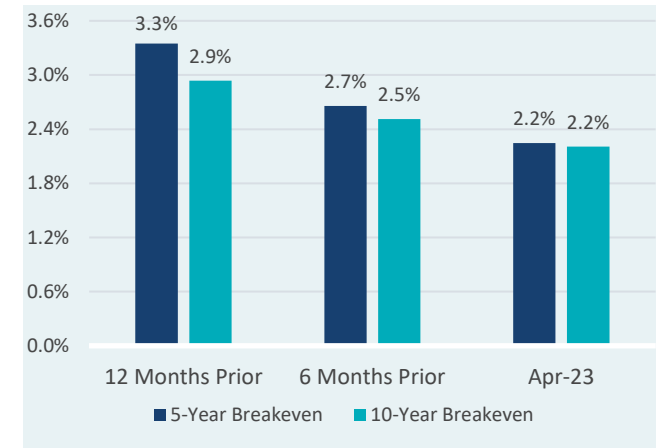
Source: Bloomberg, as of 4/30/23

NOMINAL YIELDS



Source: Morningstar, as of 4/30/23

BREAKEVEN INFLATION RATES

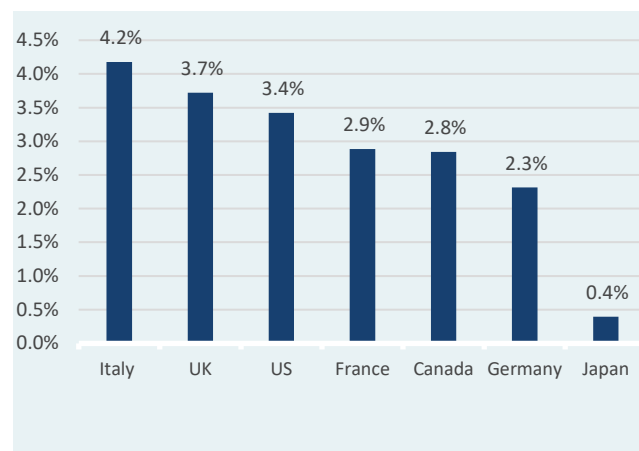


Source: Bloomberg, as of 4/30/23

Global markets

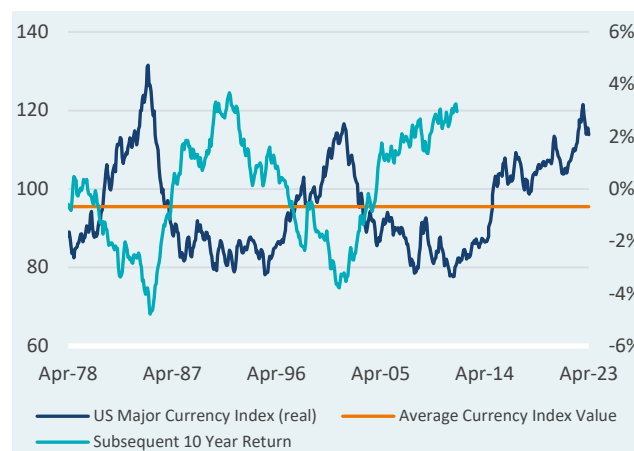
- International equities (MSCI ACWI ex US +1.7%) outperformed domestic equities in a reversal from the prior month. Cooling Eurozone inflation helped international developed performance which offset declines in emerging Asian equities.
- The MSCI AC Asia ex Japan Index (-2.1%) fell on sharp declines in China (-5.2%) and Taiwan (-4.3%). In contrast, Indonesian equities (+6.7%) gained on a resurgence in global EV supply chain activity and Indian equities (+3.7%) saw robust returns in the Real Estate and Information Technology sectors.
- The MSCI Europe Index (+4.2%) continued its ascent and remains the top performing region globally, now up +15.2% year-to-date. A sharp decline in Eurozone inflation along with a resurgence in demand from Chinese consumers helped the STOXX 50 Index – the region’s large cap index – to a 22-year high mid-month.
- The EAFE Small Cap Index (+2.0%) has held up better than the Russell 2000 Index (-1.8%) despite facing similar macroeconomic headwinds. International small-caps lead domestic peers by +6.1% on the year, gaining steam from the broad recovery in international developed market equities and currencies.

GLOBAL SOVEREIGN 10-YEAR YIELDS



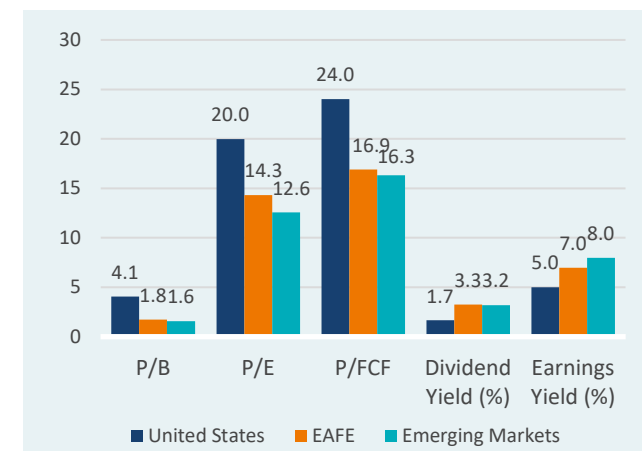
Source: Bloomberg, as of 4/30/23

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 4/30/23

MSCI VALUATION METRICS (3-MONTH AVG)



Source: Bloomberg, as of 4/30/23

Commodities

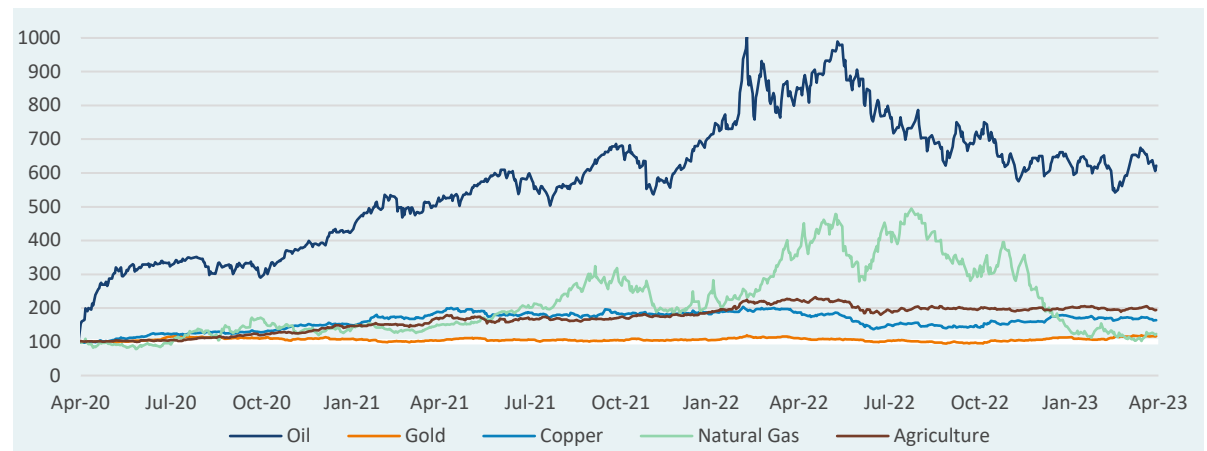
- Weakness in grains and industrial metals prices drove a fifth straight month of declines for the Bloomberg Commodity Index (-0.8%). Cooling global demand trends have weighed on commodities, which rank as the weakest performing asset class to date in 2023.
- Within the Softs Sub-Index (+12.5%), sugar (+18.4%) and coffee (+9.1%) led performance. Sugar prices continued to rise and are expected to remain elevated throughout the year due to unseasonal rainfall in India – the second largest producer of sugar. Output for 2023 is projected to be 9% lower compared to 2022.
- The Bloomberg Energy Sub-Index fell -0.5% on the month. Natural gas rallied +8.8% on expectations of cooler weather and increased demand in the short term but low sulfur gas oil (-8.9%), RBOB (unleaded) gasoline (-5.6%), and ultra low sulfur diesel (-9.3%) weighed on performance.
- The Bloomberg Precious Metals Sub-Index rose a modest 1.7%. Although silver gained +4.4% on the month, gold (+0.7%) – which makes up 15% of the index and roughly 75% of the sub-index – was a drag on performance.

INDEX AND SECTOR PERFORMANCE

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg Commodity	(0.8)	(0.8)	(6.1)	(16.6)	21.1	4.7	(1.5)
Bloomberg Agriculture	(1.7)	(1.7)	(1.6)	(10.3)	25.4	7.8	(0.6)
Bloomberg Energy	(0.5)	(0.5)	(19.1)	(34.3)	26.7	(2.6)	(9.1)
Bloomberg Grains	(6.5)	(6.5)	(8.8)	(19.3)	21.2	5.7	(2.7)
Bloomberg Industrial Metals	(3.4)	(3.4)	(5.5)	(19.7)	18.8	4.4	2.3
Bloomberg Livestock	1.7	1.7	(2.6)	6.1	8.5	(2.3)	(2.7)
Bloomberg Petroleum	(0.4)	(0.4)	(6.3)	(11.8)	57.5	5.1	(3.7)
Bloomberg Precious Metals	1.7	1.7	8.1	5.1	6.8	7.5	1.5
Bloomberg Softs	12.5	12.5	23.0	9.0	29.9	9.8	(0.3)

Source: Morningstar, as of 4/30/23

COMMODITY PERFORMANCE



Source: Bloomberg, as of 4/30/23

Appendix

Periodic table of returns

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	5-Year	10-Year
Large Cap Growth	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	38.5	28.3	16.1	15.5	13.8	14.5
International Equity	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	34.6	27.6	9.4	11.5	11.1	12.0
Large Cap Equity	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	21.0	27.1	1.5	8.8	7.7	9.1
60/40 Global Portfolio	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	20.0	26.5	-4.7	6.7	6.7	8.4
Small Cap Growth	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	18.3	25.2	-7.5	4.8	4.7	8.3
US Bonds	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	22.4	14.0	17.7	-13.0	3.6	4.2	7.9
Emerging Markets Equity	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	22.0	10.3	14.8	-14.5	2.8	4.1	7.0
Large Cap Value	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	7.8	11.3	-14.5	2.5	4.0	4.9
Hedge Funds of Funds	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	7.5	8.9	-17.3	1.4	3.7	4.8
Cash	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	4.6	6.5	-19.1	1.4	3.6	3.2
Small Cap Equity	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	2.8	2.8	-20.1	0.9	3.2	1.8
Real Estate	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	0.5	0.0	-20.4	-1.8	1.4	1.3
Small Cap Value	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	6.4	0.5	-1.5	-26.4	-3.1	1.2	0.9
Commodities	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	-3.1	-2.5	-29.1	-6.1	-1.0	-1.5

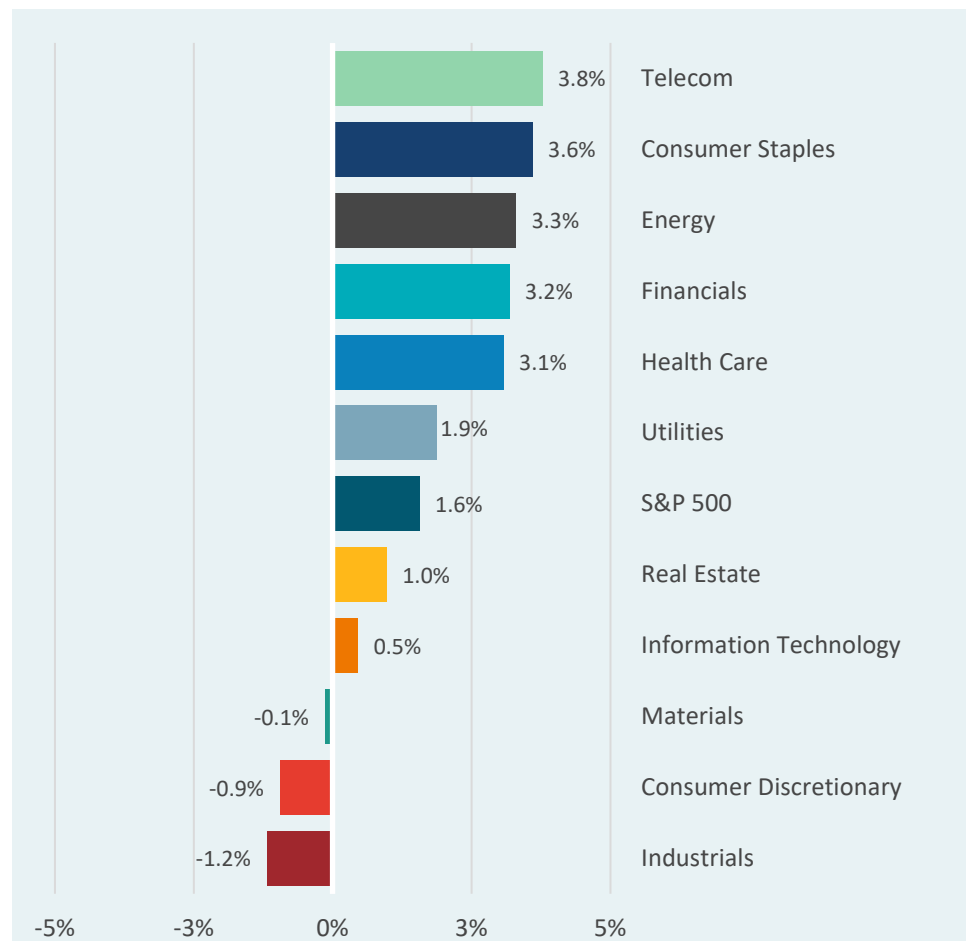
BEST
↑
↓
WORST

- Large Cap Equity
- Small Cap Growth
- Commodities
- Large Cap Value
- International Equity
- Real Estate
- Large Cap Growth
- Emerging Markets Equity
- Hedge Funds of Funds
- Small Cap Equity
- US Bonds
- 60% MSCI ACWI/40% Bloomberg Global Bond
- Small Cap Value
- 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, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 3/31/23.

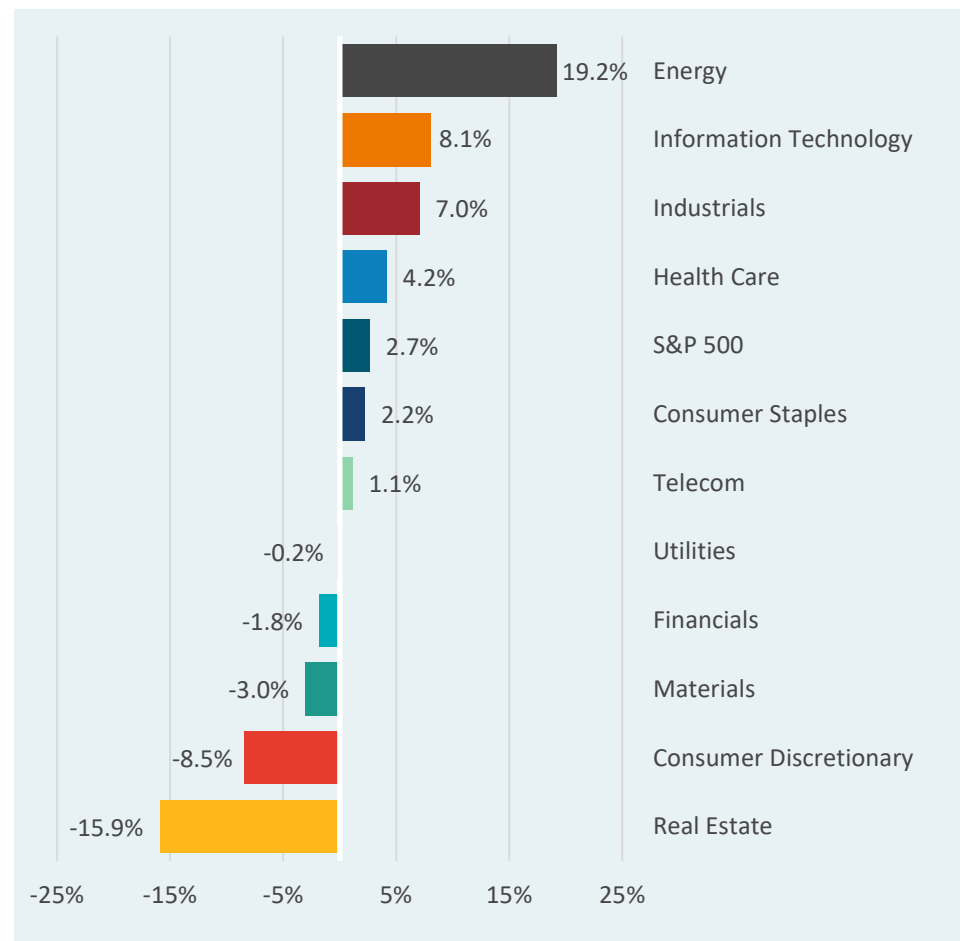
S&P 500 sector returns

QTD



Source: Morningstar, as of 4/30/23

ONE YEAR ENDING APRIL



Source: Morningstar, as of 4/30/23

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	1.6	1.6	9.2	2.7	14.5	11.4	12.2
S&P 500 Equal Weighted	0.3	0.3	3.3	0.4	16.8	9.9	11.3
DJ Industrial Average	2.6	2.6	3.5	5.6	14.2	9.5	11.2
Russell Top 200	1.8	1.8	10.7	3.0	14.4	12.2	12.7
Russell 1000	1.2	1.2	8.8	1.8	14.2	11.1	12.0
Russell 2000	(1.8)	(1.8)	0.9	(3.6)	11.9	4.2	7.9
Russell 3000	1.1	1.1	8.3	1.5	14.1	10.6	11.7
Russell Mid Cap	(0.5)	(0.5)	3.5	(1.7)	13.8	8.0	9.9
Style Index							
Russell 1000 Growth	1.0	1.0	15.5	2.3	13.6	13.8	14.5
Russell 1000 Value	1.5	1.5	2.5	1.2	14.4	7.7	9.1
Russell 2000 Growth	(1.2)	(1.2)	4.8	0.7	7.8	4.0	8.4
Russell 2000 Value	(2.5)	(2.5)	(3.1)	(8.0)	15.4	3.7	7.0

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	1.4	1.4	8.8	2.1	12.0	7.0	7.9
MSCI ACWI ex US	1.7	1.7	8.7	3.0	9.7	2.5	4.0
MSCI EAFE	2.8	2.8	11.5	8.4	11.7	3.6	4.8
MSCI EM	(1.1)	(1.1)	2.8	(6.5)	4.3	(1.0)	1.8
MSCI EAFE Small Cap	2.0	2.0	7.0	(1.2)	9.2	1.0	5.7
Style Index							
MSCI EAFE Growth	2.4	2.4	13.8	8.2	9.2	5.1	5.8
MSCI EAFE Value	3.2	3.2	9.3	8.4	13.8	1.8	3.4
Regional Index							
MSCI UK	5.3	5.3	11.7	8.4	14.7	3.1	3.6
MSCI Japan	0.4	0.4	6.6	4.3	5.7	1.2	4.2
MSCI Euro	3.2	3.2	19.4	19.9	16.2	3.9	5.7
MSCI EM Asia	(2.4)	(2.4)	2.3	(6.8)	3.2	(0.3)	3.8
MSCI EM Latin American	2.7	2.7	6.7	5.0	16.8	(1.1)	(1.6)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	0.1	0.1	3.5	(4.0)	0.9	3.0	1.4
Bloomberg US Treasury Bills	0.4	0.4	1.5	2.8	1.0	1.5	0.9
Bloomberg US Agg Bond	0.6	0.6	3.6	(0.4)	(3.1)	1.2	1.3
Bloomberg US Universal	0.6	0.6	3.6	(0.3)	(2.5)	1.3	1.6
Duration							
Bloomberg US Treasury 1-3 Yr	0.3	0.3	1.9	1.0	(0.8)	1.2	0.8
Bloomberg US Treasury Long	0.5	0.5	6.7	(7.3)	(11.8)	0.1	1.1
Bloomberg US Treasury	0.5	0.5	3.6	(0.9)	(4.2)	1.0	0.9
Issuer							
Bloomberg US MBS	0.5	0.5	3.1	(0.9)	(3.3)	0.4	1.0
Bloomberg US Corp. High Yield	1.0	1.0	4.6	1.2	4.7	3.3	4.0
Bloomberg US Agency Interm	0.4	0.4	2.3	0.5	(1.6)	1.0	0.9
Bloomberg US Credit	0.8	0.8	4.3	0.7	(1.9)	1.9	2.1
OTHER							
Index							
Bloomberg Commodity	(0.8)	(0.8)	(6.1)	(16.6)	21.1	4.7	(1.5)
Wilshire US REIT	0.8	0.8	4.1	(16.9)	8.4	5.5	5.3
CS Leveraged Loans	0.9	0.9	4.1	2.9	7.2	3.6	3.9
S&P Global Infrastructure	2.6	2.6	6.7	2.4	13.1	5.9	6.2
Alerian MLP	1.7	1.7	5.2	16.3	29.2	5.6	0.7
Regional Index							
JPM EMBI Global Div	0.5	0.5	2.4	(0.9)	(0.6)	(0.2)	1.8
JPM GBI-EM Global Div	0.9	0.9	6.1	6.6	(0.1)	(1.6)	(1.8)
Hedge Funds							
HFRI Composite	0.4	0.4	1.6	(0.3)	9.1	4.7	4.4
HFRI FOF Composite	0.7	0.7	1.4	(0.1)	6.2	3.2	3.2
Currency (Spot)							
Euro	1.6	1.6	3.4	4.7	0.3	(1.8)	(1.8)
Pound Sterling	1.7	1.7	4.5	0.1	(0.1)	(1.8)	(2.1)
Yen	(2.3)	(2.3)	(3.1)	(4.9)	(7.7)	(4.3)	(3.3)

Source: Morningstar, HFRI, as of 4/30/23.

Detailed private market returns

Comparison to public market index returns

Private Equity Pooled IRRs	1 Year	3 Year	5 Year	10 Year
Global Private Equity FoFs & Secondary Funds	(1.6)	21.3	17.3	14.0
Global Private Equity Direct Funds *	(5.0)	21.1	18.3	16.2
U.S. Private Equity Direct Funds *	(2.3)	24.2	20.9	17.9
Europe Private Equity Direct Funds *	(11.4)	17.3	15.2	14.1
Asia Private Equity Direct Funds *	(9.5)	11.9	11.2	12.9

Public Index Time-weighted Returns				
MSCI World	(19.6)	4.6	5.3	8.1
S&P 500	(15.5)	8.2	9.2	11.7
MSCI Europe	(24.8)	(1.7)	(1.2)	3.4
MSCI AC Asia Pacific	(27.7)	(1.7)	(0.6)	3.7

Private Real Estate Pooled IRRs	1 Year	3 Year	5 Year	10 Year
U.S. All Private Real Estate	15.7	13.5	11.9	13.3

Public Index Time-weighted Returns				
FTSE NAREIT Equity REIT	(16.4)	(2.0)	2.9	6.3

Private Credit Pooled IRRs	1 Year	3 Year	5 Year	10 Year
U.S. All Private Debt **	9.9	15.3	12.4	11.6

Public Index Time-weighted Returns				
S&P / LSTA U.S. Leveraged Loan 100 Index	(3.9)	1.4	2.5	3.0

Private Real Assets Pooled IRRs	1 Year	3 Year	5 Year	10 Year
Global Nature Resources ***	25.2	8.7	5.1	3.6
Global Infrastructure	9.4	10.8	10.3	10.7

Public Index Time-weighted Returns				
S&P Global Natural Resources	1.0	9.1	5.7	3.4
S&P Global Infrastructure	(6.0)	(0.1)	2.1	5.7

Source: Pooled IRRs are from Thompson Reuters CJA and Time-weighted Returns are from Investment Metrics, as of September 30th, 2022. All returns in U.S. dollars.

* Includes Buyout, Growth Equity and Venture Capital.

** Includes Control-Oriented Distressed, Credit Opportunities, Senior Debt and Subordinated Capital.

*** Includes Private Equity Energy, Timber and Upstream Energy & Royalties.

Notices & disclosures

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San Mateo County Composite Return Summary

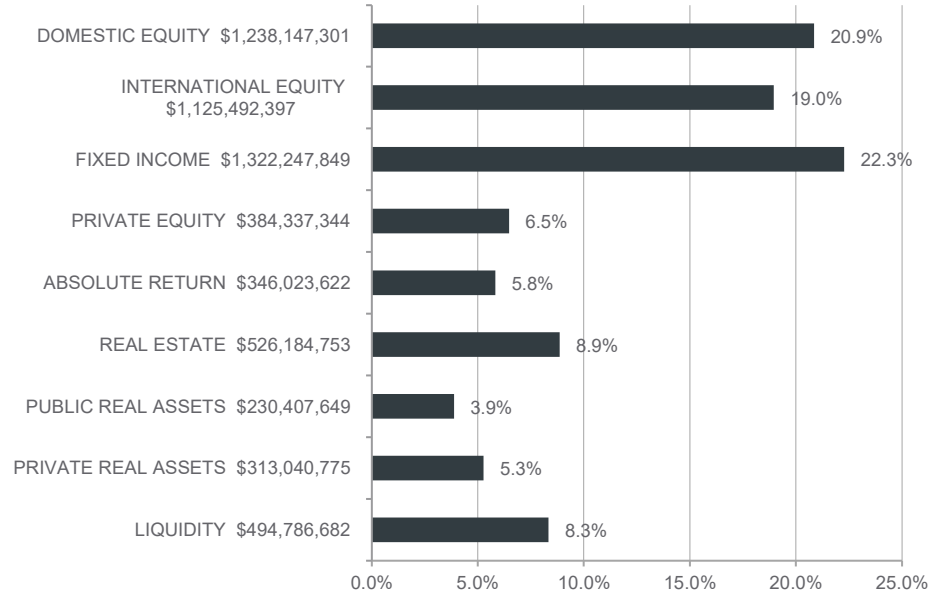
April 30, 2023



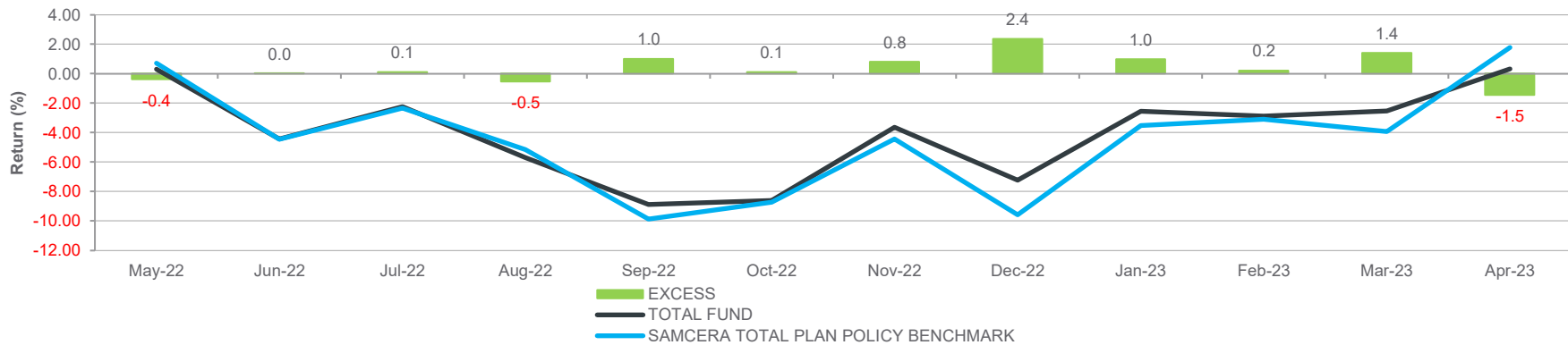
Total Fund Performance



Asset Allocation



Rolling Month End Annual Returns

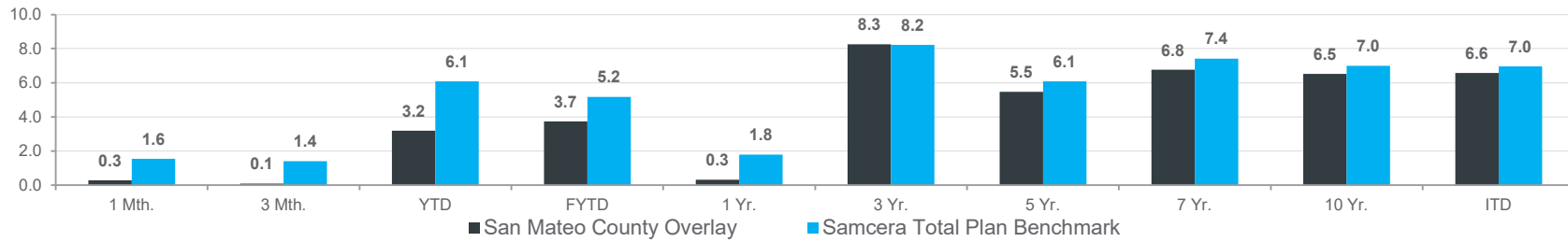


San Mateo County Composite Return Summary

April 30, 2023



Return Comparison



Composite Returns (Net of Manager Fees)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
San Mateo County Overlay	5,936,566,128	0.3	0.1	3.2	3.7	0.3	8.3	5.5	6.8	6.5	6.6
Samcera Total Plan Benchmark		1.6	1.4	6.1	5.2	1.8	8.2	6.1	7.4	7.0	7.0
Excess		-1.3	-1.3	-2.9	-1.4	-1.5	0.0	-0.6	-0.7	-0.5	-0.4
San Mateo Ex-Clifton Overlay	5,918,875,371	0.3	0.1	3.1	3.4	0.1	8.2	5.4	6.7	6.4	6.5
Samcera Total Plan Benchmark		1.6	1.4	6.1	5.2	1.8	8.2	6.1	7.4	7.0	7.0
Excess		-1.3	-1.3	-3.0	-1.7	-1.7	-0.0	-0.7	-0.7	-0.6	-0.5
Total Equity	2,363,639,697	1.1	0.5	7.4	11.1	3.5	12.3	6.9	9.2	8.6	7.7
Samcera Total Equity Benchmark		1.4	1.2	8.3	11.6	2.7	12.8	7.4	10.1	9.4	8.4
Excess		-0.3	-0.7	-0.9	-0.5	0.8	-0.5	-0.5	-0.9	-0.8	-0.6
Fixed Income	1,322,247,849	0.5	0.2	3.0	0.9	-1.2	0.1	1.8	2.6	2.4	4.8
Samcera Fixed Income Benchmark		0.6	0.7	3.8	3.4	1.1	-0.8	2.1	1.9	1.9	4.4
Excess		-0.1	-0.5	-0.8	-2.5	-2.3	0.9	-0.3	0.7	0.5	0.4
Alternatives	730,360,966	-0.5	0.4	-0.3	-5.3	-5.4	12.7	10.2	9.6	7.4	0.8
Samcera Alternatives Benchmark		3.9	4.5	9.2	0.6	1.6	9.0	9.0	10.5	8.9	8.2
Excess		-4.4	-4.0	-9.5	-5.9	-7.0	3.7	1.2	-0.8	-1.5	-7.4
Inflation Hedge	1,069,633,177	-1.3	-1.6	-2.5	-0.8	-1.0	9.4	4.2	5.4	--	5.8
SamCERA Inflation Hedge Index		1.6	0.6	2.8	-3.0	0.3	12.0	7.3	7.4	--	--
Excess		-3.0	-2.2	-5.3	2.2	-1.3	-2.6	-3.1	-2.0	--	--
Liquidity	494,786,682	0.5	1.1	1.7	2.7	--	--	--	--	--	2.7
Liquidity Composite Benchmark		0.3	1.1	1.8	1.9	--	--	--	--	--	1.9
Excess		0.2	0.1	-0.1	0.8	--	--	--	--	--	0.8



San Mateo County Composite Return Summary

April 30, 2023



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Equity	2,363,639,697	1.1	0.5	7.4	11.1	3.5	12.3	6.9	9.2	8.6	7.7
Samcera Total Equity Benchmark		1.4	1.2	8.3	11.6	2.7	12.8	7.4	10.1	9.4	8.4
Excess		-0.3	-0.7	-0.9	-0.5	0.8	-0.5	-0.5	-0.9	-0.8	-0.6
Domestic Equity	1,238,147,301	0.8	0.0	5.3	9.7	2.0	13.9	9.8	11.5	11.1	8.9
Samcera Dom. Equity Benchmark		1.1	1.3	8.3	10.9	1.5	14.1	10.6	12.1	11.6	9.3
Excess		-0.3	-1.3	-3.0	-1.2	0.5	-0.2	-0.8	-0.6	-0.5	-0.4
Large Cap Equity	1,131,747,972	1.0	0.8	5.7	9.6	1.9	13.5	10.2	11.9	11.7	9.5
Russell 1000		1.2	2.0	8.8	11.3	1.8	14.2	11.1	12.3	12.0	9.9
Excess		-0.2	-1.2	-3.1	-1.7	0.1	-0.8	-0.9	-0.5	-0.3	-0.4
Blackrock Russell 1000	488,080,404	1.2	2.0	8.8	11.3	1.8	14.4	11.2	--	--	12.0
Russell 1000		1.2	2.0	8.8	11.3	1.8	14.2	11.1	--	--	11.8
Excess		-0.0	0.0	0.0	0.0	0.0	0.2	0.1	--	--	0.1
DE Shaw Commingled Fund	203,343,509	-0.5	-1.6	5.5	9.1	-1.1	13.0	9.5	11.8	--	10.4
Russell 1000		1.2	2.0	8.8	11.3	1.8	14.2	11.1	12.3	--	10.6
Excess		-1.8	-3.6	-3.3	-2.2	-3.0	-1.2	-1.6	-0.6	--	-0.2
Acadian US MGD V-SL	210,050,884	1.7	2.5	4.4	9.5	3.3	10.5	--	--	--	9.8
Russell 1000		1.2	2.0	8.8	11.3	1.8	14.2	--	--	--	14.2
Excess		0.5	0.6	-4.4	-1.8	1.5	-3.7	--	--	--	-4.5
Panagora Defuseq -SL	230,273,175	1.3	-1.2	1.4	6.7	3.1	12.9	--	--	--	12.3
Russell 1000		1.2	2.0	8.8	11.3	1.8	14.2	--	--	--	14.2
Excess		0.1	-3.2	-7.4	-4.6	1.3	-1.3	--	--	--	-2.0
Small Cap Equity	106,399,329	-1.7	-7.5	1.2	8.4	-0.4	16.7	4.2	6.7	6.6	6.0
Russell 2000		-1.8	-8.1	0.9	4.8	-3.6	11.9	4.2	8.0	7.9	7.2
Excess		0.1	0.6	0.3	3.6	3.3	4.8	0.0	-1.4	-1.3	-1.2



San Mateo County Composite Return Summary

April 30, 2023



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
QMA US Small Cap	106,399,329	-1.7	-7.5	1.2	8.4	-0.4	16.7	4.2	--	--	6.8
Russell 2000		-1.8	-8.1	0.9	4.8	-3.6	11.9	4.2	--	--	6.9
Excess		0.1	0.6	0.3	3.6	3.3	4.8	0.0	--	--	-0.1
International Equity	1,125,492,397	1.4	1.0	9.9	12.6	5.0	10.6	3.7	6.3	4.8	5.4
SamCERA Custom Hedge Intl		1.7	1.0	8.3	12.2	3.8	11.2	3.6	6.6	4.7	5.1
Excess		-0.3	-0.0	1.6	0.4	1.2	-0.6	0.1	-0.2	0.1	0.3
Developed Markets Equity	1,081,390,154	1.4	0.7	9.9	12.2	3.8	9.4	3.4	6.1	4.8	4.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Excess		1.4	0.7	9.9	12.2	3.8	9.4	3.4	6.1	4.8	4.5
Dev Mrkts Equity Curr Hedge	756,497	--	--	--	--	--	--	--	--	--	--
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Excess		--	--	--	--	--	--	--	--	--	--
Dev Mrkts Equity Ex Curr Hedge	1,080,633,657	1.3	0.5	9.7	12.0	3.7	9.3	3.3	6.1	4.8	4.5
MS AC WIdxUS IMI Nt		1.7	0.4	8.4	11.7	2.2	9.9	2.4	5.7	4.1	4.7
Excess		-0.4	0.2	1.4	0.3	1.5	-0.6	0.9	0.4	0.7	-0.2
Baillie Gifford	344,343,964	-0.3	-1.4	9.5	13.5	3.4	6.0	3.2	6.2	5.3	6.4
MSCI ACWI ex USA Growth		1.1	1.3	9.9	12.5	2.6	7.2	3.8	6.8	5.2	--
Excess		-1.4	-2.6	-0.3	1.0	0.8	-1.1	-0.5	-0.6	0.1	--
Blackrock MSCI ACWI ex US IMI	364,574,690	1.7	0.5	8.5	12.0	2.6	--	--	--	--	6.3
MS AC WIdxUS IMI Nt		1.7	0.4	8.4	11.7	2.2	--	--	--	--	6.2
Excess		0.0	0.1	0.2	0.2	0.4	--	--	--	--	0.1
Mondrian Investment Partners	371,715,004	2.3	2.3	11.2	10.9	5.1	10.7	1.5	4.5	3.4	4.8
MSCI ACWI xUSA Value		2.6	0.2	8.0	12.3	4.5	13.1	1.9	5.5	3.5	4.9
Excess		-0.3	2.1	3.2	-1.3	0.6	-2.4	-0.4	-1.0	-0.1	-0.1
International Equity Overlay	44,102,242	1.5	-0.4	7.8	8.9	1.9	9.4	--	--	--	9.4
ICE BofAML US 3-Month Treasury Bill		0.3	1.1	1.4	2.7	2.8	1.0	--	--	--	1.0
Excess		1.2	-1.5	6.4	6.2	-0.9	8.4	--	--	--	8.4
Fixed Income	1,322,247,849	0.5	0.2	3.0	0.9	-1.2	0.1	1.8	2.6	2.4	4.8
Samcera Fixed Income Benchmark		0.6	0.7	3.8	3.4	1.1	-0.8	2.1	1.9	1.9	4.4
Excess		-0.1	-0.5	-0.8	-2.5	-2.3	0.9	-0.3	0.7	0.5	0.4



San Mateo County Composite Return Summary

April 30, 2023



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Core Fixed Income	726,208,695	0.7	0.7	3.9	0.6	-0.9	-2.3	1.0	1.3	1.7	4.3
BBG US Aggregate		0.6	0.5	3.6	0.5	-0.4	-3.1	1.2	0.9	1.3	4.0
Excess		0.1	0.2	0.3	0.1	-0.5	0.9	-0.2	0.4	0.4	0.3
FIAM B Core Bond	265,549,194	0.8	0.5	3.7	1.1	-0.4	-1.7	2.0	1.7	--	2.1
BBG US Aggregate		0.6	0.5	3.6	0.5	-0.4	-3.1	1.2	0.9	--	1.2
Excess		0.2	-0.0	0.1	0.6	0.1	1.4	0.8	0.8	--	1.0
DoubleLine	233,547,789	0.5	1.2	4.6	0.5	-1.5	-2.6	--	--	--	-2.0
BBG US Aggregate		0.6	0.5	3.6	0.5	-0.4	-3.1	--	--	--	-2.6
Excess		-0.1	0.7	1.0	-0.0	-1.1	0.5	--	--	--	0.6
NISA Core Bond	227,111,712	0.7	0.6	3.7	1.0	0.1	-2.7	--	--	--	-2.7
BBG US Aggregate		0.6	0.5	3.6	0.5	-0.4	-3.1	--	--	--	-3.1
Excess		0.1	0.1	0.1	0.5	0.5	0.5	--	--	--	0.5
Opportunistic Credit	596,039,154	0.4	-0.5	2.0	1.7	-1.4	4.8	3.4	5.2	5.0	7.2
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	3.5	3.8	4.2	4.0	5.9
Excess		-0.3	-1.4	-2.1	-6.3	-4.4	1.3	-0.4	1.0	1.0	1.2
Pimco Private Income	50,228,788	0.0	-0.6	-0.6	-1.5	-0.3	7.4	--	--	--	6.6
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	3.5	--	--	--	3.1
Excess		-0.7	-1.6	-4.8	-9.5	-3.2	3.9	--	--	--	3.5
AG CREDIT SOL FU LP	13,665,886	0.1	-0.2	-0.2	-6.1	-5.3	10.4	--	--	--	14.1
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	3.5	--	--	--	1.7
Excess		-0.6	-1.2	-4.3	-14.1	-8.2	6.8	--	--	--	12.5
AG CSF ADF II	4,517,426	0.0	0.8	0.8	--	--	--	--	--	--	--
BBG BA Intermediate HY Ind		0.7	0.9	4.1	--	--	--	--	--	--	1.8
Excess		-0.7	-0.1	-3.3	--	--	--	--	--	--	--
AG CSF II	14,529,276	0.1	-0.2	-0.2	-7.0	-5.6	--	--	--	--	-4.5
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	--	--	--	--	-2.4
Excess		-0.6	-1.2	-4.3	-15.0	-8.5	--	--	--	--	-2.1
AG Opportunistic Whole Loan	88,267	0.0	-2.2	-2.2	26.8	16.1	25.9	23.3	21.2	--	16.1
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	3.5	3.8	4.2	--	3.9
Excess		-0.7	-3.2	-6.4	18.8	13.2	22.3	19.5	17.0	--	12.1



San Mateo County Composite Return Summary

April 30, 2023



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Blackrock Direct Lending Feede	39,657,329	-0.3	1.2	1.2	4.0	4.8	6.5	--	--	--	3.1
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	3.5	--	--	--	3.1
Excess		-1.0	0.3	-2.9	-3.9	1.9	3.0	--	--	--	-0.1
Beach Point Select Fund	109,636,882	0.5	0.4	3.0	1.7	-1.9	11.3	6.6	7.7	--	7.5
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	3.5	3.8	4.2	--	4.0
Excess		-0.2	-0.6	-1.1	-6.2	-4.8	7.7	2.8	3.5	--	3.4
Brigade Cap Mngmt	108,137,959	1.3	0.3	3.9	-0.2	-5.9	9.5	3.2	5.3	3.8	5.4
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	3.5	3.8	4.2	4.0	5.4
Excess		0.6	-0.7	-0.3	-8.2	-8.8	6.0	-0.6	1.1	-0.2	-0.0
White Oak YSF V	27,330,345	0.0	-1.5	-1.5	-0.9	0.6	--	--	--	--	0.8
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	--	--	--	--	-0.3
Excess		-0.7	-2.4	-5.6	-8.8	-2.3	--	--	--	--	1.0
White Oak Yield Spec	29,924,349	0.0	-0.9	-0.9	1.5	3.2	4.7	5.4	--	--	--
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	3.5	3.8	--	--	3.6
Excess		-0.7	-1.9	-5.1	-6.5	0.3	1.1	1.6	--	--	--
PIMCO Div. Income Fund	129,860,318	0.4	-0.7	3.0	5.1	0.0	-0.1	1.3	--	--	1.3
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	3.5	3.8	--	--	3.2
Excess		-0.3	-1.7	-1.1	-2.9	-2.9	-3.6	-2.5	--	--	-1.9
TCP Direct Lending VIII	13,734,141	-0.1	1.2	0.5	1.0	2.3	6.6	5.0	--	--	--
BBG BA Intermediate HY Ind		0.7	0.9	4.1	8.0	2.9	3.5	3.8	--	--	4.2
Excess		-0.8	0.3	-3.6	-6.9	-0.6	3.0	1.2	--	--	--
Franklin Templeton	54,728,188	-0.2	-3.5	2.3	4.8	-4.1	-4.8	-4.3	-1.3	-1.3	0.8
Bloomberg Multiverse Index		0.4	0.1	3.5	1.0	-2.2	-3.6	-0.8	-0.2	0.1	0.9
Excess		-0.6	-3.7	-1.2	3.8	-1.9	-1.2	-3.5	-1.1	-1.4	-0.1
Alternatives	730,360,966	-0.5	0.4	-0.3	-5.3	-5.4	12.7	10.2	9.6	7.4	0.8
Samcera Alternatives Benchmark		3.9	4.5	9.2	0.6	1.6	9.0	9.0	10.5	8.9	8.2
Excess		-4.4	-4.0	-9.5	-5.9	-7.0	3.7	1.2	-0.8	-1.5	-7.4
Private Equity	384,337,344	-1.0	1.3	0.6	-8.3	-10.2	18.5	21.1	18.9	17.6	-5.9
Samcera PE Benchmark		7.1	6.6	15.6	-6.0	-5.0	12.6	12.2	14.9	14.6	15.4
Excess		-8.1	-5.3	-14.9	-2.3	-5.2	5.9	8.9	3.9	2.9	-21.3



San Mateo County Composite Return Summary

April 30, 2023



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Absolute Return	346,023,622	0.0	-0.4	-1.3	-3.3	-1.6	4.3	-2.5	-1.0	1.1	1.4
Samcera SOFR + 4%		0.7	2.1	2.8	6.4	7.2	5.1	5.5	5.4	5.0	4.9
Excess		-0.7	-2.6	-4.1	-9.6	-8.8	-0.8	-8.1	-6.4	-3.9	-3.5
Aberdeen Std GARS	0	--	--	--	--	--	--	--	--	--	--
Samcera SOFR + 4%		0.7	2.1	2.8	6.4	7.2	5.1	5.5	5.4	--	5.3
Excess		--	--	--	--	--	--	--	--	--	--
Graham Global Investment	90,105,040	0.0	-2.7	0.4	-5.4	-4.0	7.1	--	--	--	5.1
Samcera SOFR +4%		0.7	2.1	2.7	6.2	7.1	5.1	--	--	--	5.1
Excess		-0.7	-4.7	-2.3	-11.6	-11.1	2.0	--	--	--	0.0
PIMCO MAARS Fund L.P.	89,864,404	1.5	1.3	-0.9	0.1	2.3	8.1	--	--	--	7.9
Samcera SOFR +4%		0.7	2.1	2.9	6.4	7.3	5.2	--	--	--	5.2
Excess		0.8	-0.9	-3.7	-6.3	-5.0	2.9	--	--	--	2.7
Acadian MAAR Fund LLC	80,409,094	-1.2	-2.4	-2.1	-2.6	-3.3	--	--	--	--	0.5
Samcera SOFR +4%		0.7	2.1	2.9	6.4	7.3	--	--	--	--	5.3
Excess		-1.9	-4.6	-5.0	-9.1	-10.6	--	--	--	--	-4.8
CFM SYS Global Macro Fund	85,645,084	-0.3	2.2	-2.4	-1.6	3.3	--	--	--	--	9.2
Samcera SOFR +4%		0.7	2.1	2.9	6.4	7.3	--	--	--	--	5.3
Excess		-1.0	0.0	-5.3	-8.0	-4.0	--	--	--	--	3.9
Inflation Hedge	1,069,633,177	-1.3	-1.6	-2.5	-0.8	-1.0	9.4	4.2	5.4	--	5.8
SamCERA Inflation Hedge Index		1.6	0.6	2.8	-3.0	0.3	12.0	7.3	7.4	--	--
Excess		-3.0	-2.2	-5.3	2.2	-1.3	-2.6	-3.1	-2.0	--	--
Real Estate	526,184,753	-2.6	-2.5	-5.7	-3.5	0.1	6.5	6.8	7.3	--	7.4
Samcera NCREIF ODCE (gross)		0.0	-3.2	-3.2	-7.5	-3.1	8.4	7.5	7.7	--	7.6
Excess		-2.6	0.7	-2.5	4.0	3.1	-1.9	-0.7	-0.4	--	-0.2
Invesco Core Real Estate	278,921,569	-4.8	-4.8	-9.6	-7.7	-4.0	6.0	6.5	7.2	8.9	7.5
Samcera NCREIF ODCE (gross)		0.0	-3.2	-3.2	-7.5	-3.1	8.4	7.5	7.7	9.5	7.8
Excess		-4.8	-1.6	-6.5	-0.2	-0.9	-2.4	-1.0	-0.5	-0.5	-0.3



San Mateo County Composite Return Summary

April 30, 2023



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Invesco US Val IV	608,710	-30.6	-32.3	-32.3	-60.4	-60.4	-22.6	-9.7	-4.8	--	-3.2
Samcera NCREIF ODCE (gross)		0.0	-3.2	-3.2	-7.5	-3.1	8.4	7.5	7.7	--	8.1
Excess		-30.6	-29.1	-29.1	-52.9	-57.3	-31.0	-17.2	-12.5	--	-11.3
Invesco Value-Add Fund	19,321,125	0.0	-2.0	-2.0	--	--	--	--	--	--	1.8
Samcera NCREIF ODCE (gross)		0.0	-3.2	-3.2	--	--	--	--	--	--	-7.5
Excess		0.0	1.2	1.2	--	--	--	--	--	--	9.3
PGIM Real Estate US Debt Fund	74,911,882	0.4	1.7	2.3	5.4	6.4	5.5	5.8	--	--	5.2
Samcera NCREIF ODCE (gross)		0.0	-3.2	-3.2	-7.5	-3.1	8.4	7.5	--	--	7.5
Excess		0.4	4.9	5.4	12.9	9.4	-2.9	-1.8	--	--	-2.3
Invesco US VAL V	30,841,561	1.1	1.1	-5.1	-4.4	-4.4	9.1	--	--	--	8.2
Samcera NCREIF ODCE (gross)		0.0	-3.2	-3.2	-7.5	-3.1	8.4	--	--	--	--
Excess		1.1	4.2	-1.9	3.1	-1.4	0.7	--	--	--	--
Harrison Street Core Property	96,277,875	-0.2	-1.1	-1.8	-0.7	5.7	6.7	--	--	--	6.3
Samcera NCREIF ODCE (gross)		0.0	-3.2	-3.2	-7.5	-3.1	8.4	--	--	--	7.8
Excess		-0.2	2.0	1.4	6.8	8.8	-1.7	--	--	--	-1.5
Stockbridge Value IV	25,302,031	-0.0	2.3	2.3	15.1	24.3	--	--	--	--	11.1
Samcera NCREIF ODCE (gross)		0.0	-3.2	-3.2	-7.5	-3.1	--	--	--	--	11.6
Excess		-0.0	5.5	5.5	22.6	27.4	--	--	--	--	-0.5
Public Real Assets	230,407,649	0.7	-2.1	1.0	2.7	-4.6	14.0	0.9	--	--	--
SamCera Liquid Real Asset Inde		0.7	-2.2	0.8	2.3	-4.8	14.4	4.1	5.5	--	6.4
Excess		0.0	0.1	0.2	0.3	0.3	-0.3	-3.2	--	--	--
SSGA CST REAL ASSET NL	230,407,649	0.7	-2.1	1.0	2.7	-4.6	14.1	4.1	--	--	--
SamCera Liquid Real Asset Inde		0.7	-2.2	0.8	2.3	-4.8	14.4	4.1	--	--	5.6
Excess		0.0	0.1	0.2	0.3	0.3	-0.3	0.0	--	--	--
Private Real Assets	313,040,775	-0.7	1.1	0.8	2.2	5.3	13.9	6.4	7.7	--	9.7
SamCERA Private Real Asset Idx		5.4	11.1	18.1	-0.3	10.1	9.4	7.0	12.2	--	11.5
Excess		-6.0	-10.1	-17.3	2.5	-4.8	4.6	-0.6	-4.4	--	-1.7



San Mateo County Composite Return Summary

April 30, 2023



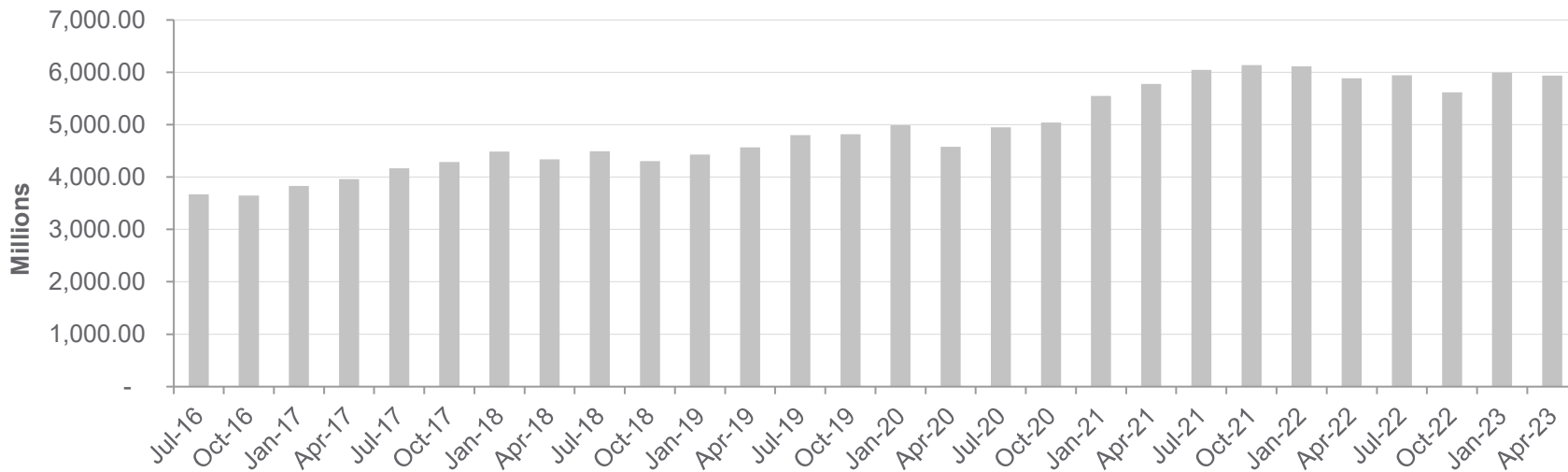
Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Liquidity	494,786,682	0.5	1.1	1.7	2.7	--	--	--	--	--	2.7
Liquidity Composite Benchmark		0.3	1.1	1.8	1.9	--	--	--	--	--	1.9
Excess		0.2	0.1	-0.1	0.8	--	--	--	--	--	0.8
Cash Flow - Match Liquidity	344,707,690	0.5	1.0	1.7	2.3	--	--	--	--	--	2.3
BBG US Agg Govt Credit 1-3		0.3	1.0	1.9	1.2	--	--	--	--	--	1.2
Excess		0.1	-0.0	-0.2	1.1	--	--	--	--	--	1.1
Insight Investment	335,551,974	0.4	0.9	1.8	1.6	--	--	--	--	--	1.6
BBG US Credit 1-3 Yrs		0.5	0.9	1.8	1.8	--	--	--	--	--	1.8
Excess		-0.1	0.1	-0.1	-0.2	--	--	--	--	--	-0.2
County Treasury Pool	9,155,716	2.4	2.4	2.7	3.2	3.2	1.9	1.9	1.7	1.4	2.6
91 Day T-Bill		0.3	1.1	1.4	2.7	2.8	1.0	1.4	1.3	--	--
Excess		2.1	1.3	1.3	0.5	0.4	0.9	0.5	0.4	--	--
Cash & Cash Overlay	150,078,991	0.4	1.1	1.5	2.9	--	--	--	--	--	--
ICE BofAML US 3-Month Treasury Bill		0.3	1.1	1.4	2.7	2.8	1.0	--	--	--	1.0
Excess		0.1	0.0	0.1	0.2	--	--	--	--	--	--
General Account	132,277,896	0.4	1.2	1.6	3.1	3.2	1.1	1.5	1.4	1.0	1.9
Transition Account	0	--	--	--	--	--	--	--	--	--	--
Cash Overlay	17,690,757	0.4	1.1	1.4	2.4	2.3	0.7	--	--	--	0.7
Currency Hedge Cash Overlay	110,338	--	--	--	--	--	--	--	--	--	--
San Mateo County Overlay	5,936,566,128	0.3	0.1	3.2	3.7	0.3	8.3	5.5	6.8	6.5	6.6
Samcera Total Plan Benchmark		1.6	1.4	6.1	5.2	1.8	8.2	6.1	7.4	7.0	7.0
Excess		-1.3	-1.3	-2.9	-1.4	-1.5	0.0	-0.6	-0.7	-0.5	-0.4



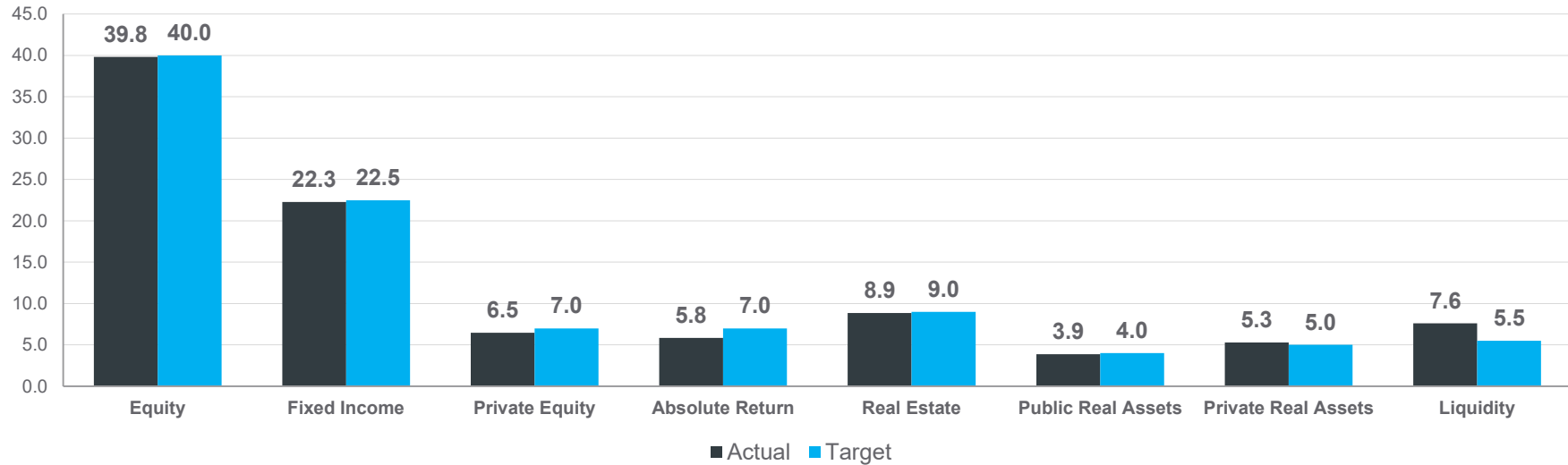
Record of Asset Growth

	Three Months	One Year
TOTAL FUND		
Beginning Market Value	5,992,422,697	5,885,069,681
Contributions	17,018,780	328,804,115
Withdrawals	-77,508,659	-304,970,962
Income Received	30,370,870	113,780,222
Gain/Loss	-24,411,635	-84,472,967
Ending Market Value	5,936,566,128	5,936,566,128

Net Asset Values Over Time (\$'000)

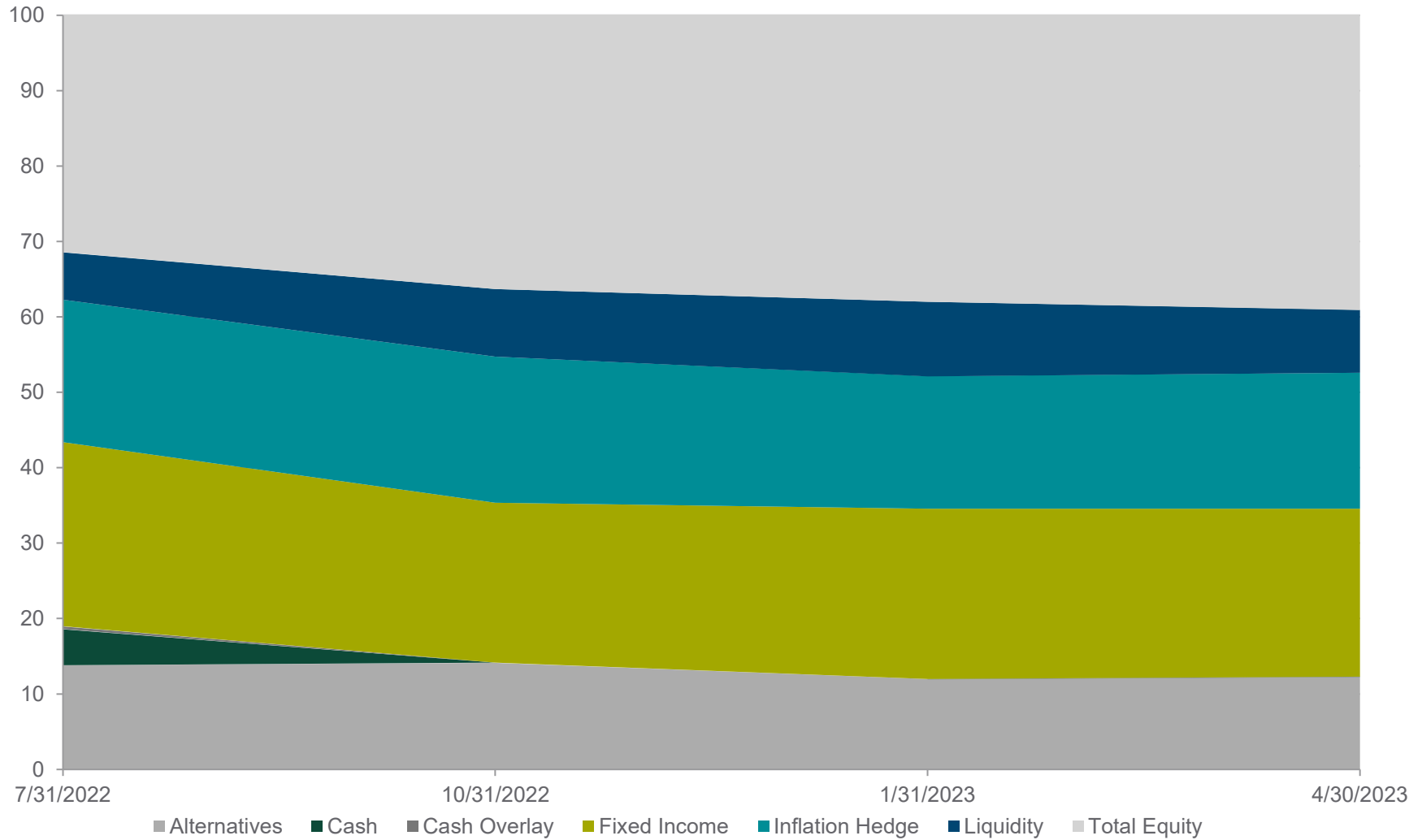


Actual vs Target Weights

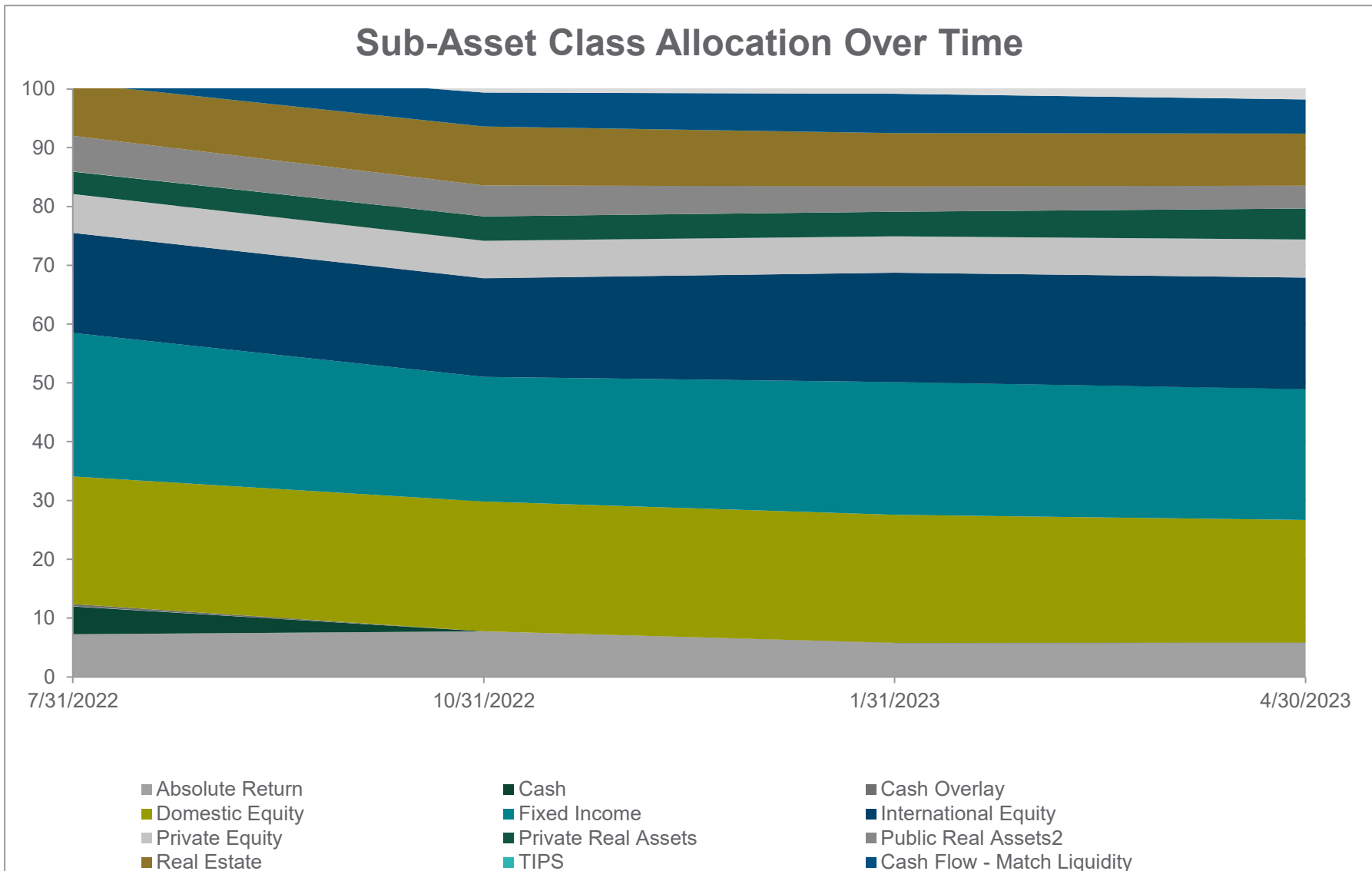


	Min	Actual	Target	Deviation	Max
Equity	37.0	39.8	40.0	-0.2	43.0
Fixed Income	20.5	22.3	22.5	-0.2	24.5
Private Equity	5.0	6.5	7.0	-0.5	9.0
Absolute Return	5.0	5.8	7.0	-1.2	9.0
Real Estate	7.0	8.9	9.0	-0.1	11.0
Public Real Assets	2.0	3.9	4.0	-0.1	6.0
Private Real Assets	3.0	5.3	5.0	0.3	7.0
Liquidity		7.6	5.5	2.1	

Asset Allocation over Time



Sub-Asset Class Allocation Over Time



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SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

May 23, 2023

Agenda Item 6.2

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer



SUBJECT: Report on Quarterly Investment Performance Report for the Period Ended
March 31, 2023

Recommendation

Accept Verus Advisory's quarterly performance report for the period ended March 31, 2023.

Discussion

The 1st quarter net total return for the SamCERA portfolio was 2.9%, which was 1.6% lower than the 4.5% policy benchmark return. As can be seen on pages 20 and 21, alternatives, U.S. equity, and private real assets were the main detractors to relative performance, while international equity and real estate contributed to performance.

John Nicolini and Joe Abdou will present the report to the Board and will be available for questions.

Attachment

Verus Quarterly Performance Report Ending 3/31/2023



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: MARCH 31, 2023

Investment Performance Review for

San Mateo County Employees' Retirement Association

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Market Environment

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US Equity

TAB III

Appendix

TAB VIII

International Equity

TAB IV

Fixed Income

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1st quarter summary

THE ECONOMIC CLIMATE

- Real GDP increased at a 2.7% rate in the fourth quarter (0.9% growth year-over-year). The U.S. economy was supported by mild but positive growth across most aspects of activity.
- Unemployment continued to suggest a strong labor market, unchanged at 3.5% in March. Widespread layoffs in the technology sector have captured headlines, though the sector makes up a rather small segment of overall jobs. The labor participation rate is showing positive signs as workers who had left the job market during the pandemic are once again seeking employment.

PORTFOLIO IMPACTS

- The U.S. inflation picture continued to improve. March headline CPI came in at 5.0% year-over-year—the lowest since Q2 2021. Core inflation remained stubbornly high at 5.6% year-over-year. Many of the goods and services that initially contributed to high inflation, such as used cars, food, and energy, have moderated in price.
- U.S. real (inflation-adjusted) personal consumption expenditures were modest in February at 2.5% growth year-over-year. Household purchases of services continued to climb, while goods purchases remained flat. During the pandemic, an unprecedented surge in spending on goods occurred to the detriment of services. It appears that trend has now normalized.

THE INVESTMENT CLIMATE

- U.S. yield curve inversion reached even more extreme levels during Q1. The 10-year 2-year yield spread (short-term interest rates being higher than long-term interest rates) reached ~107 bps on March 8th. Inversion has historically preceded recession.
- Silicon Valley Bank (SVB) failed and was transitioned to government ownership on March 10th. SVB is among the top 20 largest banks in the United States with approximately 1% of all U.S. domestic bank deposits. In the near-term, sentiment seems to have been shored up by backstops from the Federal Reserve, Treasury, and FDIC, though we are watching conditions closely.

ASSET ALLOCATION ISSUES

- Global equities delivered another strong quarter in Q1 (MSCI ACWI +7.3%). A variety of risks are stacking up that could weigh on additional gains, including potential recession in many markets, persistent inflation problems, and tightening credit conditions.
- U.S. growth stocks delivered strong outperformance in the first quarter (Russell 1000 Growth +14.4% vs. Russell 1000 Value +1.0%), effectively reversing value's rally in Q4 2022. This divergence in style behavior appears to be, once again, mostly a result of relative sector returns. Information technology led the index +21.8% over the quarter, while energy (-4.7%) and financials (-5.6%) were laggards.

Markets performed well in Q1, further recovering from the losses of 2022

Recession risk, banking stress, and stubborn inflation may create difficulties going forward

U.S. economics summary

- Real GDP increased at a 2.7% rate in the fourth quarter (0.9% year-over-year). The U.S. economy in Q4 was supported by mild but positive growth across most aspects of activity. First quarter GDP is expected to come in at 2.2%, according to the Atlanta Fed GDPNow forecast, as of April 10th.
- The inflation picture improved further. March headline inflation came in at 5.0% year-over-year—the lowest since Q2 2021. Core inflation has remained stubbornly high at 5.6% year-over-year. Many of the goods and services prices that initially contributed to high inflation have moderated or fallen.
- U.S. real personal consumption expenditures were modest in February at 2.5% year-over-year. Household purchases of services continued to climb, while goods purchases were flat. Purchasing trends around goods and services appear to have normalized for the first time since the pandemic.
- Although hiring activity may be slowing and layoffs are occurring in places, the labor participation rate is rebounding as workers who had left the job market during the pandemic are once again seeking employment.
- Consumer sentiment remained weak in Q1. According to the University of Michigan, households increasingly expect a recession in the near-term, especially lower income and younger Americans. Inflation fears have reportedly subsided, with expectations for 3.6% inflation over the next year.
- The U.S. housing market has faced a harsh winter season, as high prices and a significant jump in mortgage interest rates severely crimped demand. Existing home sales are as weak as during the lows of 2009-2011 following the U.S. housing bubble.

	Most Recent	12 Months Prior
Real GDP (YoY)	0.9% 12/31/22	5.7% 12/31/21
Inflation (CPI YoY, Core)	5.6% 3/31/23	8.5% 3/31/22
Expected Inflation (5yr-5yr forward)	2.2% 3/31/23	2.4% 3/31/22
Fed Funds Target Range	4.75% – 5.00% 3/31/23	0.25% – 0.50% 3/31/22
10-Year Rate	3.47% 3/31/23	2.34% 3/31/22
U-3 Unemployment	3.5% 3/31/23	3.6% 3/31/22
U-6 Unemployment	6.7% 3/31/23	6.9% 3/31/22

International economics summary

- Developed economies have experienced a sharp slowdown in growth. The IMF forecasts developed economy GDP to fall from 2.7% in 2022 to 1.3% in 2023. The deteriorating outlook was attributed to monetary tightening by central banks, as well as Russia's invasion of Ukraine. Meanwhile, emerging market economic growth is expected to accelerate in 2023, rising from 3.9% to 4.0%.
- Inflation trends varied by country during the quarter but seem to suggest broad moderation. European nations continue to cope with very high inflation rates—much of which have been driven by surging energy costs. In many countries, higher energy prices are contributing to half of official inflation figures.
- Developed central banks, in response to inflation, have carried on with their tightening cycles. Both the European Central Bank and Bank of England raised rates in March, with the ECB increasing their Deposit Facility Rate by 50 bps to 3.00%, while the BOE implemented a 25 bps hike, bringing their policy rate to 4.25%.
- February 24th marked the one-year anniversary of Russia's invasion of Ukraine. The war has created much uncertainty around Europe's economic outlook, and led Finland to apply, and to be accepted as, a NATO member.
- China made progress on its reopening in Q1, as the country aims to ramp up economic activity following nearly three-years of lockdowns. Mobility data has picked up, while gauges of manufacturing and non-manufacturing activity have moved into expansionary territory. March non-manufacturing PMIs came in at 58.2—the highest level since 2011.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	0.9% 12/31/22	5.0% 3/31/23	3.5% 3/31/23
Eurozone	1.8% 12/31/22	6.9% 3/31/23	6.6% 2/28/23
Japan	0.4% 12/31/22	3.3% 3/31/23	2.5% 2/28/23
BRICS Nations	2.5% 12/31/22	2.9% 3/31/23	5.2% 12/31/21
Brazil	1.9% 12/31/22	4.7% 3/31/23	8.5% 3/31/23
Russia	(2.7%) 12/31/22	3.5% 3/31/23	3.5% 2/28/23
India	4.4% 12/31/22	5.7% 3/31/23	7.8% 3/31/23
China	2.9% 12/31/22	0.7% 3/31/23	5.6% 2/28/23

NOTE: India lacks reliable government unemployment data. Unemployment rate shown above is estimated from the Centre for Monitoring Indian Economy. The Chinese unemployment rate represents the monthly surveyed urban unemployment rate in China.

Equity environment

- Global equities delivered another strong quarter in Q1 (MSCI ACWI +7.3%). A variety of risks are stacking up that could weigh on additional gains, including potential recession in many markets, persistent inflation problems, and tightening credit conditions.
- The outlook for domestic stocks remains challenged, especially against the backdrop of high inflation and expectations for slowing economic growth. Earnings growth has started to decline, with year-over-year S&P 500 earnings falling -4.9% in Q4 2022, the first decline seen since Q2 2020.
- The effects of currency volatility on portfolio performance was mixed during the first quarter. Over the past full year, currency movement led to a -8.5% loss for investors with unhedged exposure to international developed equity (MSCI EAFE unhedged -1.4%, MSCI

EAFE hedged +7.1%), led by a -12.6% loss in Japanese equities (TOPIX unhedged -3.1%, TOPIX hedged +9.5%). We continue to believe that a thoughtful currency program may allow investors to reduce their total portfolio risk while also increasing long-term expected returns.

- Growth stocks delivered strong outperformance in the first quarter (Russell 1000 Growth +14.4% vs. Russell 1000 Value +1.0%), effectively reversing value's rally in Q4 2022. This divergence in style behavior appears to be, once again, mostly a result of relative sector returns.
- The Cboe VIX implied volatility index surged in March on the news of Silicon Valley Bank's failure, and the possibility of contagion across the financial sector, but ended the quarter at 18.7%—near the longer-term average.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	7.5%		(7.7%)	
U.S. Small Cap (Russell 2000)	2.7%		(11.6%)	
U.S. Equity (Russell 3000)	7.2%		(8.6%)	
U.S. Large Value (Russell 1000 Value)	1.0%		(5.9%)	
US Large Growth (Russell 1000 Growth)	14.4%		(10.9%)	
Global Equity (MSCI ACWI)	7.3%	7.3%	(7.4%)	(4.8%)
International Large (MSCI EAFE)	8.5%	8.3%	(1.4%)	7.1%
Eurozone (EURO STOXX 50)	16.2%	15.0%	10.8%	17.1%
U.K. (FTSE 100)	6.4%	3.8%	(1.1%)	6.9%
Japan (TOPIX)	5.8%	8.5%	(3.1%)	9.5%
Emerging Markets (MSCI Emerging Markets)	4.0%	3.8%	(10.7%)	(6.6%)

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 3/31/23

Domestic equity

U.S. equities finished the first quarter up 7.5%, marking another positive quarter as the S&P 500 recovers from the losses of 2022. Much volatility persisted through recent months, with shares moving higher in January, before falling sharply in line with expectations for a more hawkish Federal Reserve. The fallout in the banking system challenged the financial sector, but ultimately proved to be a significant tailwind to the broader index, as investor expectations for the Federal Reserve's rate path were significantly cut down. This boosts equity market valuations because lower interest rates increase the present value of equities through the discounting of cash flows. Growth stocks tend to benefit the most from this effect, as businesses with larger earnings expected further into the future are more sensitive to interest rate changes.

Despite recent gains, the outlook for domestic stocks remains challenged, given the backdrop of high inflation and expectations for slowing economic growth. Corporate earnings have been weakening, with year-over-year S&P 500 earnings falling -4.9% in Q4 2022—the first decline seen since Q2 2020. Analysts believe this trend will continue—FactSet expects Q1 2023 earnings to slide -6.6%.

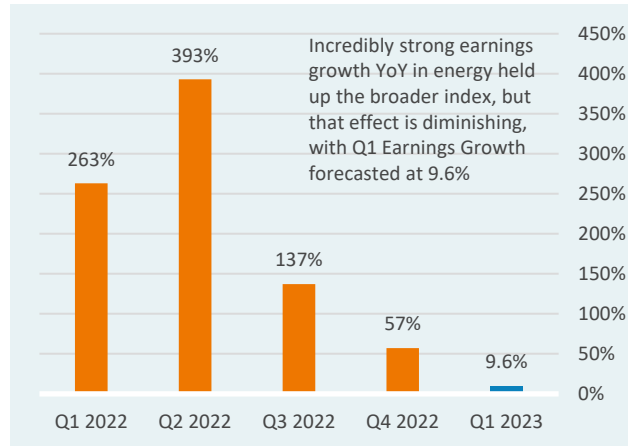
Domestic companies continue to face margin compression due to higher input prices and wages, although many companies are now implementing cost cutting measures—most visibly within the technology and financial sectors—to help retain earnings. The normalization of earnings growth within the energy sector, which had previously provided a large tailwind to broad earnings, has also been a drag.

S&P 500 PRICE INDEX



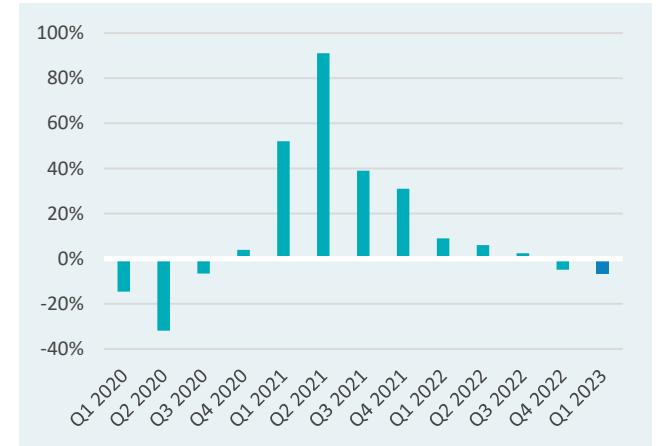
Source: Standard & Poor's, as of 3/31/23

ENERGY EARNINGS GROWTH (YEAR-OVER-YEAR)



Source: FactSet, as of 3/31/23

S&P 500 EARNINGS GROWTH (YEAR-OVER-YEAR)



Source: FactSet, as of 3/31/23

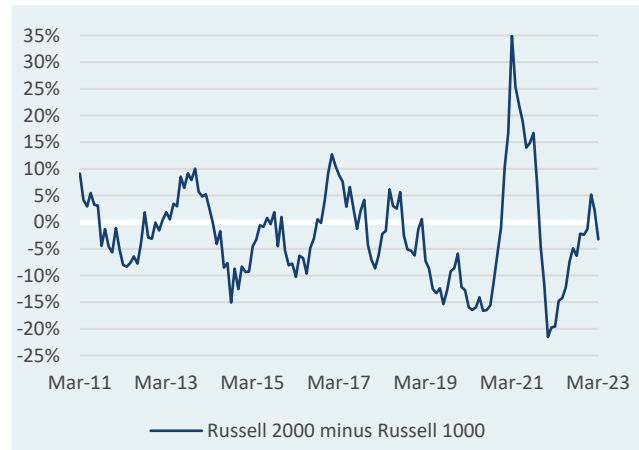
Domestic equity size & style

Growth stocks delivered strong outperformance in the first quarter (Russell 1000 Growth +14.4% vs. Russell 1000 Value +1.0%), effectively reversing the value rally of Q4 2022. This divergence in style behavior appears to be, once again, mostly a result of relative sector returns. Information technology led the index at +21.8% over the quarter, while energy (-4.7%) and financials (-5.6%) were laggards.

Small capitalization stocks underperformed large capitalization stocks during Q1 (Russell 2000 +2.7%, Russell 1000 +7.5%) and have also lagged over the past year (Russell 2000 -11.6%, Russell 1000 -8.4%).

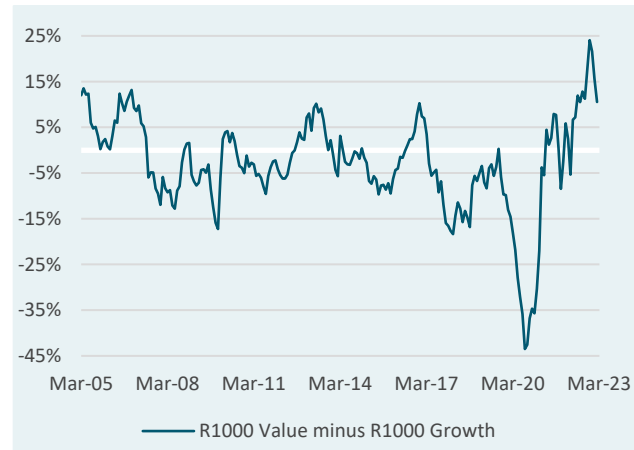
Large disparities in sector performance and the significant impact of this ongoing volatility on style factors supports our view that factor timing should rarely be pursued for most investors. There are occasions when market mispricing offers a compelling case to tilt into a style factor, though these occasions come along perhaps every few decades rather than every few years. We believe that style investing is most appropriately pursued in a strategic manner based on each individual investor's market beliefs and long-term goals.

SMALL CAP VS LARGE CAP (YOY)



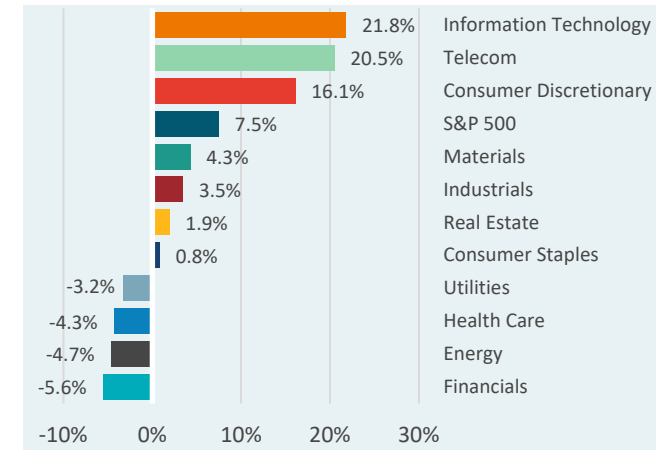
Source: FTSE, as of 3/31/23

VALUE VS GROWTH (YOY)



Source: FTSE, as of 3/31/23

Q1 2023 SECTOR PERFORMANCE



Source: Morningstar, as of 3/31/23

International developed equity

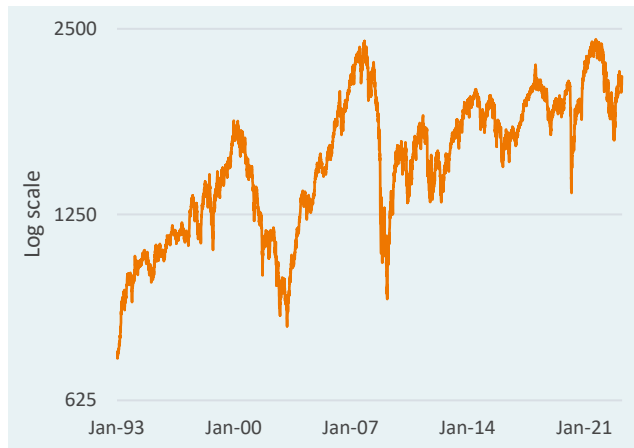
International developed equities outperformed global peers for a consecutive quarter, with the MSCI EAFE Index finishing up 8.3% in unhedged currency terms. Currency market movement was more muted, leading to a smaller 0.2% difference between currency hedged and unhedged index returns. This was likely a welcome change, given large and painful currency movements of the past year as the U.S. dollar appreciated.

European shares outperformed, due to larger European companies delivering positive earnings despite much economic uncertainty. The larger capitalization STOXX 50

Index returned 16.2%, compared to the broader STOXX 600 Index which finished the quarter up 10.3%. Japanese equities lagged most other markets in Q1.

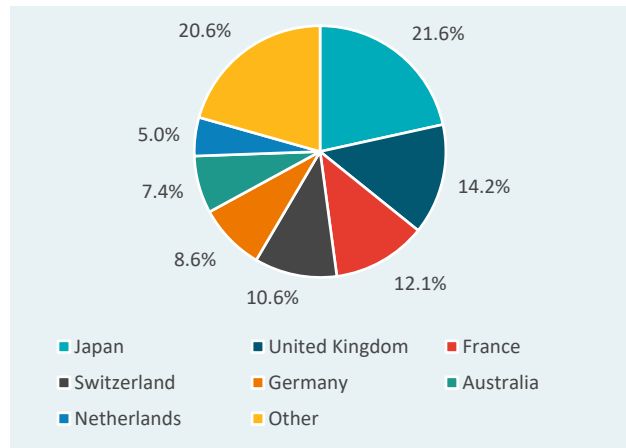
Inflation uncertainty has likely been a key contributor to the cheaper valuations of international developed equities, although inflation pressures have started to show some relief in the Eurozone, driven primarily by moderating energy prices. Despite these positive signs, both the European Central Bank and Bank of England have signaled that additional rate hikes are ahead. The drag presented by central bank hawkishness may be an ongoing theme of 2023.

INTERNATIONAL DEVELOPED EQUITY



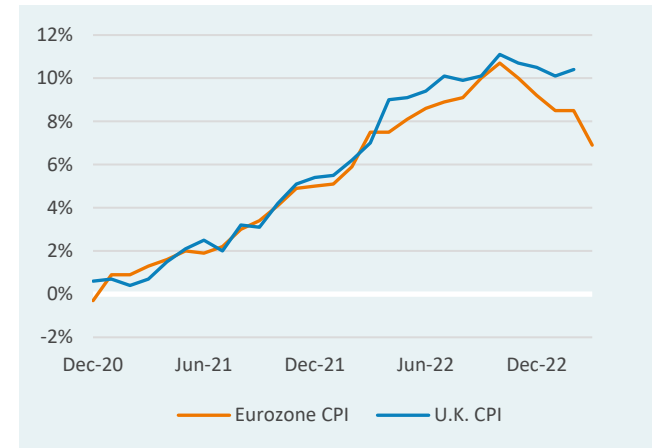
Source: MSCI, as of 3/31/23

MSCI EAFE INDEX COUNTRY DECOMPOSITION



Source: MSCI, as of 3/31/23

EUROPEAN INFLATION



Source: Bloomberg, as of 3/31/23. U.K. CPI as of 2/28/23

Emerging market equity

Emerging market equities lagged the global opportunity set during the quarter. The MSCI EM Index finished up 4.0%, relative to 8.5% from the MSCI EAFE Index and 7.5% from the S&P 500.

Chinese equities—the largest country weight in the index at thirty percent—saw a slowdown in economic momentum from the COVID-19 reopening, yet still finished the quarter +4.7%. China generated a drag on the overall emerging market index despite large gains from markets in Mexico, Taiwan, and South Korea.

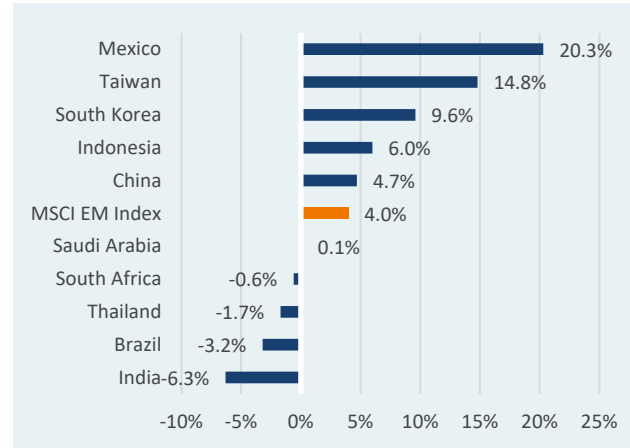
While slowing economic growth amongst developed economies provides a headwind to emerging markets, a lack of inflationary pressures amongst most emerging countries helps paint a more optimistic picture. Fewer inflation problems allows for looser central bank policies, which combined with a continuation of pandemic reopening in China, could allow for higher economic growth in the near-term. The IMF's World Economic Outlook sees emerging & developing economy growth at 3.9% in 2023—much higher than the expected 1.3% for advanced economies.

EMERGING MARKET EQUITY



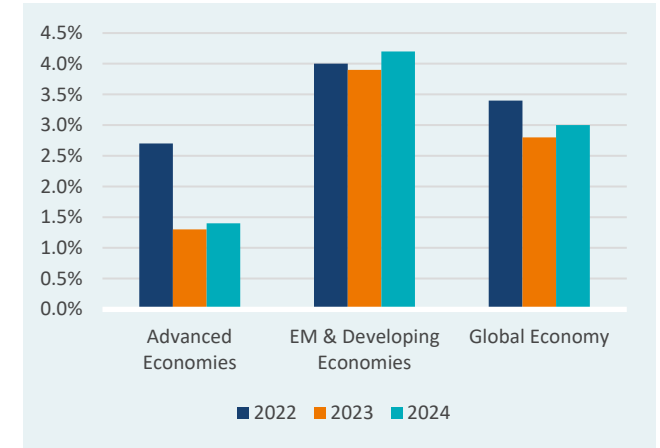
Source: MSCI, as of 3/31/23

Q1 2023 MSCI COUNTRY RETURNS (USD)



Source: Bloomberg, MSCI, as of 3/31/23

IMF'S APRIL REAL GDP GROWTH FORECASTS



Source: IMF April World Economic Outlook

Fixed income environment

- The 10-year U.S. Treasury yield fell during the quarter from 3.88% to 3.47%. It appears increasingly likely that the U.S. has already reached, and is beyond, *peak interest rates*. The looming possibility of recession, effects of banking stress, and implications from the Federal Reserve that only one interest rate hike may remain, suggests that bond yields may have more room to fall than to rise.
- Silicon Valley Bank (SVB) failed and was transitioned to government ownership on March 10th. SVB is among the top 20 largest banks in the United States, with approximately 1% of all U.S. domestic bank deposits. New York regulators closed Signature Bank shortly thereafter, and more failures may follow. Banking stress has implications for the future actions of the Federal Reserve and for the economy.
- During the first quarter, fixed income markets delivered strong

positive returns despite concerns related to the banking sector and the potential for additional Fed rate hikes. High yield credit performance led the way at 3.6%, followed by 3.5% from investment grade credit and 3.3% from bank loans.

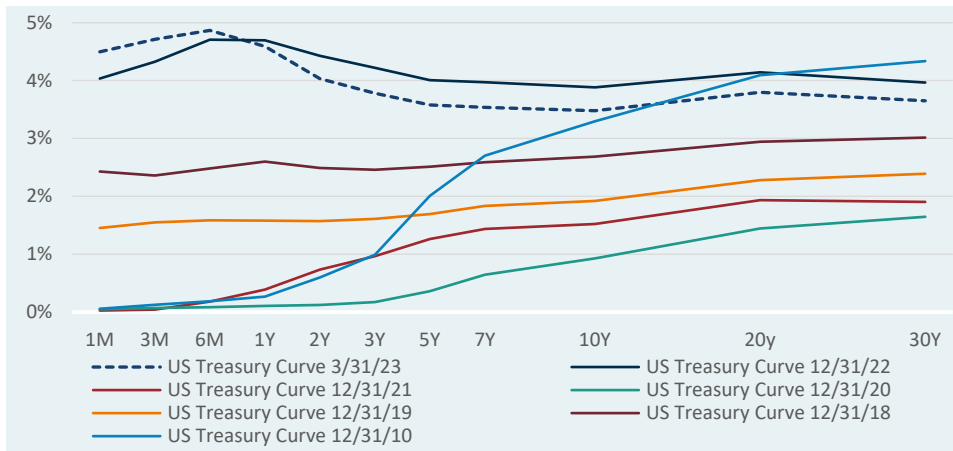
- U.S. yield curve inversion reached even more extreme levels during Q1. The 10-year 2-year yield spread (short-term interest rates being higher than long-term interest rates) reached ~107 bps on March 8th, suggesting an incoming recession.
- Uncertainty around the path of Federal Reserve rate hikes and whether inflation is under control has contributed to considerable volatility in bond markets. As indicated by the ICE BofA “MOVE” Index, which measures the volatility priced into U.S. Treasury bonds, domestic and international banking stress further added to fixed income market choppiness in the first quarter.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	3.0%	(4.8%)
Core Plus Fixed Income (Bloomberg U.S. Universal)	2.9%	(4.6%)
U.S. Treasuries (Bloomberg U.S. Treasury)	3.0%	(4.5%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	3.6%	(3.3%)
Bank Loans (S&P/LSTA Leveraged Loan)	3.3%	2.5%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	5.2%	(0.7%)
Emerging Market Debt Hard (JPM EMBI Global Diversified)	1.9%	(6.9%)
Mortgage-Backed Securities (Bloomberg MBS)	2.5%	(4.9%)

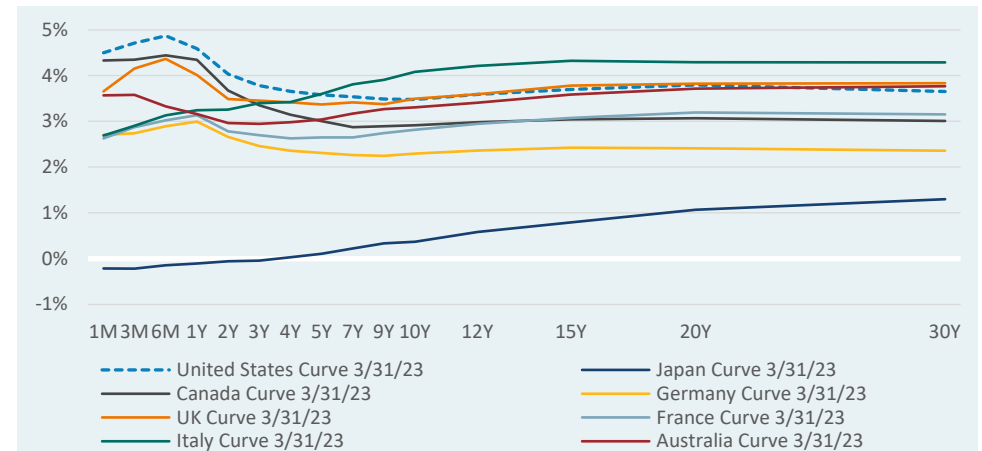
Source: Bloomberg, as of 3/31/23

Yield environment

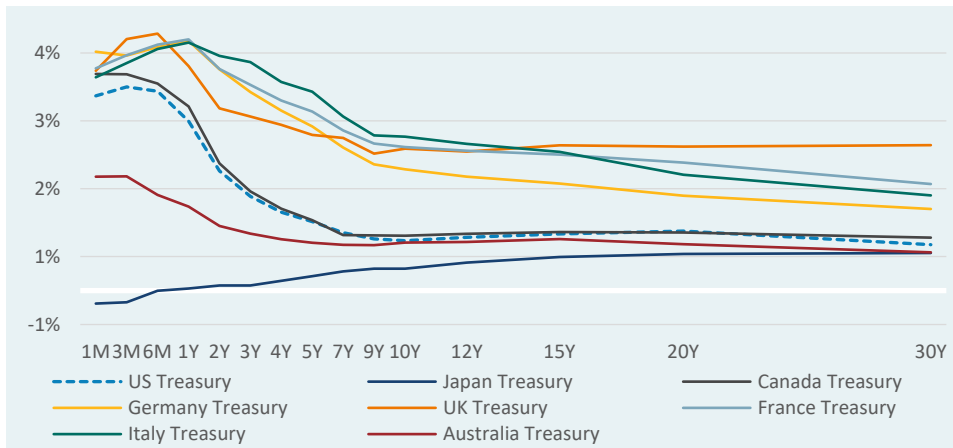
U.S. YIELD CURVE



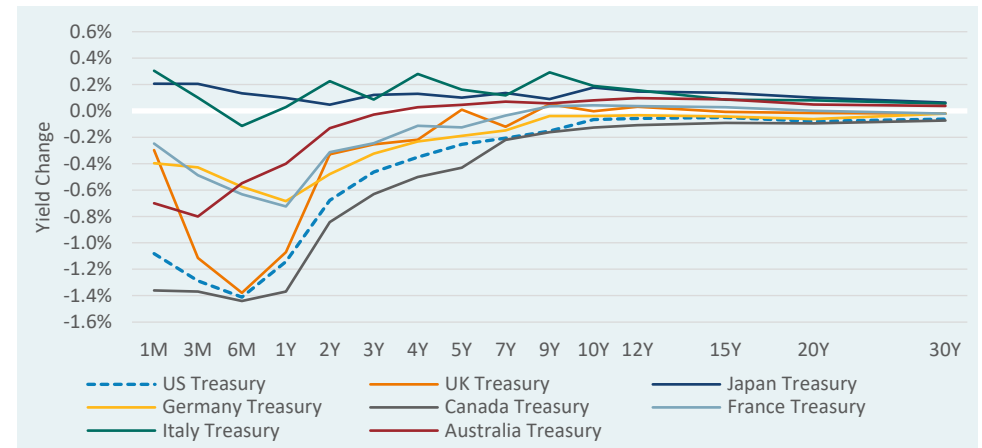
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 3/31/23

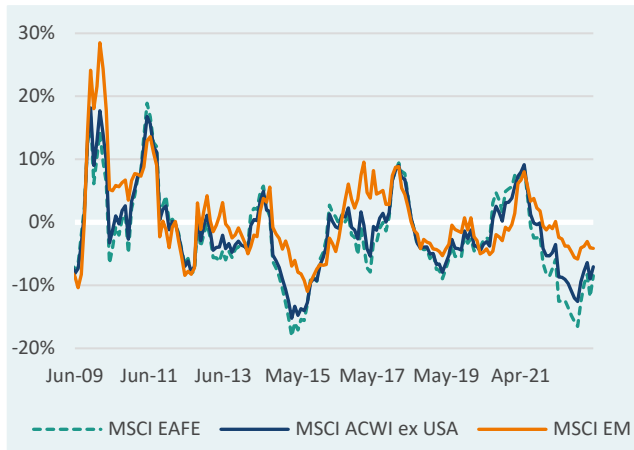
Currency

The effects of currency volatility on portfolio performance was mixed during the first quarter. Over the past full year, currency movement led to a -8.5% loss for investors with unhedged exposure to international developed equity (MSCI EAFE unhedged -1.4%, MSCI EAFE hedged +7.1%), fueled by a -12.6% currency loss from Japanese equities (TOPIX unhedged -3.1%, TOPIX hedged +9.5%). The U.S. dollar depreciated -1.6% during the quarter, according to the U.S. Trade Weighted Dollar Index, providing a tailwind to most unhedged international investments.

A thoughtful currency program may allow investors to reduce their total portfolio risk while also increasing long-term expected returns. The MSCI

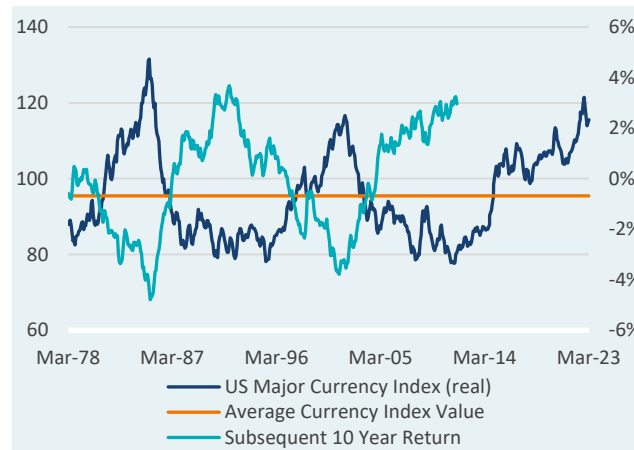
Currency Factor Mix Index—a representation of a passive investment in the currency market—has shown a positive one-year rolling return over most periods with very low volatility. This contrasts to the unhedged currency exposure (what we refer to as “embedded currency”) that most investors own, which has demonstrated high volatility and frequent losses. This currency program would have delivered cumulative outperformance of +22.5% over the past five years for an international developed equity portfolio, and +52.0% cumulative outperformance over the past ten years, while also reducing total risk in the portfolio.

EFFECT OF CURRENCY (1-YEAR ROLLING)



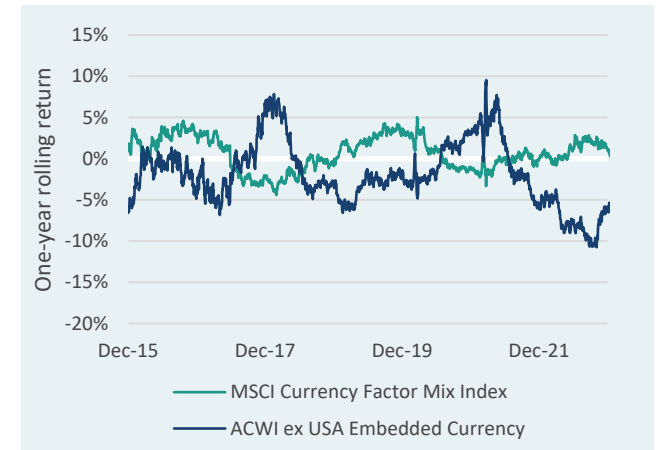
Source: MSCI, as of 3/31/23

BLOOMBERG DOLLAR SPOT INDEX



Source: Federal Reserve, as of 3/31/23

EMBEDDED CURRENCY VS CURRENCY FACTORS



Source: Bloomberg, MSCI, as of 3/31/23

- The Total Fund, net of manager fees, returned 2.9% in the first quarter of 2023 and in the ranked 88th percentile among other public plans greater than \$1 billion (median of 3.7%). It lagged the policy index return of 4.5%. The Total Fund ex Overlay returned 2.8% for the quarter. The Total Fund one-year return of -3.5% beat the policy index return of -3.9% and ranked in the 32nd percentile of its peer universe. The three-year return of 9.9% (88th percentile) lagged the median large public plan (11.1%) and beat the policy index (9.7%).

- First quarter results were enhanced by the following factors:
 1. Baillie Gifford gained 10% for the quarter as investors favored growth stocks during the quarter. For the 1-year time period Baillie Gifford is trailing the MSCI ACWI ex US Growth by 1.5%.
 2. Mondrian gained 8.7% beating the MSCI ACWI ex US Value which rose 5.3%. Mondrian's outperformance was due to the underweight in the Financials sector which was defensively positioned towards more stable retail banks.

- First quarter results were hindered by the following factors:
 1. In the first quarter growth outperformed value. Both PanAgora and Acadian underperformed gaining 0.0% and 2.8% respectively. Specifically, the structural underweight to the Technology sector hurt as IT came back in Q1.

Total Fund
Performance Summary (Net of Fees)

Period Ending: March 31, 2023

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Fund**	5,859,364,934	100.0	2.9	88	3.0	97	-3.4	32	1.7	48	9.9	88	5.3	81	6.6	67
<i>Policy Index¹</i>			4.5	13	3.5	83	-3.9	48	1.8	46	9.7	91	6.0	61	7.0	54
<i>InvMetrics Public DB > \$1B Net Median</i>			3.7		4.7		-4.2		1.6		11.1		6.3		7.2	
Total Fund ex Overlay	5,842,407,382	99.7	2.8	94	2.7	97	-3.5	33	1.7	48	9.8	90	5.3	83	6.5	75
<i>Policy Index</i>			4.5	13	3.5	83	-3.9	48	1.8	46	9.7	91	6.0	61	7.0	54
<i>InvMetrics Public DB > \$1B Net Median</i>			3.7		4.7		-4.2		1.6		11.1		6.3		7.2	
Public Equity	2,338,064,074	39.9	6.2	60	9.9	45	-4.1	2	0.1	42	15.5	76	6.7	73	8.5	71
<i>Blended Public Equity Index¹</i>			6.9	38	10.1	35	-5.5	16	0.3	35	16.2	52	7.3	53	8.9	57
<i>InvMetrics All DB Total Eq Net Median</i>			6.6		9.8		-6.6		-0.1		16.2		7.4		9.2	
US Equity	1,228,597,523	21.0	4.5	92	8.9	82	-5.9	6	2.9	10	17.9	75	9.4	59	10.9	50
<i>Blended US Equity Index</i>			7.2	17	9.7	39	-8.6	69	1.2	44	18.5	55	10.4	15	11.6	20
<i>Russell 3000</i>			7.2	17	9.7	39	-8.6	69	1.2	44	18.5	55	10.4	15	11.7	15
<i>InvMetrics All DB US Eq Net Median</i>			6.3		9.7		-8.1		1.0		18.6		9.6		10.9	
Large Cap Equity	1,120,397,947	19.1	4.6	52	8.5	54	-6.2	44	3.1	40	17.4	52	9.9	46	11.7	35
<i>Russell 1000</i>			7.5	32	9.9	37	-8.4	66	1.9	58	18.6	37	10.9	31	12.0	29
<i>eV US Large Cap Equity Net Median</i>			4.9		8.7		-6.8		2.5		17.5		9.6		11.0	
Acadian US MGD V	206,534,809	3.5	2.8	81	7.8	64	-3.9	18	3.8	29	13.6	90	--	--	--	--
BlackRock Russell 1000	482,096,265	8.2	7.5	21	9.9	31	-8.4	72	1.9	63	18.5	34	10.9	31	--	--
DE Shaw	204,468,083	3.5	6.1	45	9.9	32	-8.8	77	2.2	59	18.0	44	9.6	55	12.0	20
PanAgora Defuseq	227,298,790	3.9	0.0	95	5.3	89	-1.7	7	5.6	11	16.0	75	--	--	--	--
<i>Russell 1000</i>			7.5	22	9.9	31	-8.4	72	1.9	63	18.6	34	10.9	31	12.0	21
<i>eV US Large Cap Core Equity Net Median</i>			5.6		8.7		-6.9		2.7		17.5		9.9		11.2	

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

** Includes Parametric Minneapolis manager funded in August 2013.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: March 31, 2023

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Small Cap Equity	108,199,576	1.8	3.0	61	10.3	38	-6.4	38	-1.4	34	22.5	40	4.5	83	6.9	91
<i>Russell 2000</i>			2.7	64	6.7	69	-11.6	74	-8.7	80	17.5	73	4.7	80	8.0	71
<i>eV US Small Cap Equity Net Median</i>			3.8		8.9		-8.1		-3.0		21.1		6.7		9.2	
PGIM Quant Solutions	108,199,576	1.8	3.0	64	10.3	37	-6.4	40	-1.4	36	22.5	37	4.5	88	--	--
<i>Russell 2000</i>			2.7	69	6.7	74	-11.6	83	-8.7	92	17.5	84	4.7	86	8.0	80
<i>eV US Small Cap Core Equity Net Median</i>			3.7		9.1		-7.6		-3.0		21.1		7.0		9.5	
Domestic Equity Overlay	0	0.0	8.3	--	25.0	--	8.9	--	45.4	--	--	--	--	--	--	--
International Equity with Record	1,109,466,551	18.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Blended International Equity Index¹</i>			6.5	79	10.3	78	-2.2	49	-0.9	45	13.3	54	3.5	55	5.1	76
<i>Global xUS Equity Median</i>			8.3		13.6		-2.4		-1.4		13.5		3.7		5.9	
International Equity	1,109,466,551	18.9	8.4	18	11.1	43	-1.9	16	-2.9	33	12.7	53	3.7	13	5.0	23
<i>Blended International Equity Index¹</i>			6.5	78	10.3	53	-2.2	21	-0.9	10	13.3	33	3.5	14	5.1	22
<i>MSCI EAFE Gross</i>			8.6	12	15.7	1	-0.9	6	0.4	5	13.5	31	4.0	8	5.5	14
<i>InvMetrics All DB ex-US Eq Net Median</i>			7.3		10.5		-4.4		-3.7		12.7		2.4		4.4	
Baillie Gifford	345,383,862	5.9	10.0	39	13.9	43	-7.5	50	-11.5	86	9.4	79	3.3	61	5.7	60
<i>MSCI ACWI ex US¹</i>			7.0	78	10.4	69	-4.6	37	-2.8	21	12.3	43	3.0	65	5.1	87
<i>MSCI ACWI ex US Growth¹</i>			8.7	57	11.3	63	-6.0	45	-6.0	41	9.8	78	3.7	53	5.8	57
<i>eV ACWI ex-US Growth Equity Net Median</i>			9.3		13.2		-7.6		-6.7		11.9		3.8		6.4	
Mondrian	363,337,580	6.2	8.7	34	8.4	86	-2.2	67	-2.0	80	11.8	92	1.6	64	3.6	75
<i>MSCI ACWI ex USA Value Gross</i>			5.3	83	9.4	81	-3.3	78	0.3	44	14.5	66	1.9	55	3.7	75
<i>MSCI ACWI ex USA Gross</i>			7.0	54	10.4	70	-4.6	83	-2.8	88	12.3	87	3.0	44	4.7	40
<i>eV ACWI ex-US Value Equity Net Median</i>			8.1		11.9		-1.0		0.0		16.3		2.1		4.3	

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: March 31, 2023

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
BlackRock MSCI ACWI EX-US IMI	358,291,919	6.1	6.7	73	10.0	76	-5.5	68	-3.3	62	--	--	--	--	--	--
<i>MSCI ACWI ex USA IMI</i>			6.6	75	9.9	76	-5.8	70	-3.6	65	12.2	67	2.4	81	4.3	88
<i>eV ACWI ex-US All Cap Core Eq Net Median</i>			7.7		11.7		-4.5		-2.7		13.7		3.4		5.3	
Int'l Equity Currency Overlay	0	0.0														
International Equity Overlay	42,453,189	0.7	6.2	--	7.7	--	-5.4	--	-7.1	--	--	--	--	--	--	--
Fixed Income	1,317,752,739	22.5	2.5	80	0.7	63	-4.3	59	-3.1	39	0.7	32	1.6	28	2.4	21
<i>Blended Fixed Income Index¹</i>			3.1	39	2.8	16	-3.2	38	-3.2	45	0.0	43	1.8	19	1.9	45
<i>InvMetrics All DB Total Fix Inc Net Median</i>			3.0		1.1		-3.9		-3.5		-0.5		1.3		1.8	
Core Fixed	721,198,795	12.3	3.2	--	0.1	--	-4.7	--	-4.6	--	-1.9	--	0.7	--	1.6	--
<i>Bloomberg US Aggregate TR</i>			3.0	--	-0.1	--	-4.8	--	-4.5	--	-2.8	--	0.9	--	1.4	--
DoubleLine	232,285,268	4.0	4.0	4	-0.1	38	-5.3	80	-4.8	69	-2.5	65	--	--	--	--
<i>Bloomberg US Aggregate TR</i>			3.0	22	-0.1	38	-4.8	65	-4.5	59	-2.8	74	0.9	47	1.4	55
<i>eV US Securitized Fixed Inc Net Median</i>			2.5		-0.6		-4.2		-3.9		-1.0		0.7		1.5	
FIAM Bond	263,295,617	4.5	2.9	77	0.2	44	-5.0	69	-4.2	33	-1.1	15	1.6	8	2.0	8
NISA Core Bond	225,617,910	3.9	3.0	53	0.3	39	-4.4	28	-4.1	27	--	--	--	--	--	--
<i>Bloomberg US Aggregate TR</i>			3.0	65	-0.1	73	-4.8	53	-4.5	58	-2.8	89	0.9	76	1.4	74
<i>eV US Core Fixed Inc Net Median</i>			3.1		0.2		-4.7		-4.4		-2.0		1.1		1.6	
Core Fixed Income Overlay	0	0.0	2.2	--	-1.9	--	-5.9	--	-1.6	--	--	--	--	--	--	--
Opportunistic Credit	596,553,944	10.2	1.6	--	1.9	--	-3.7	--	-0.3	--	5.8	--	3.3	--	5.0	--
<i>Bloomberg BA Intermediate HY</i>			3.4	--	7.2	--	-1.2	--	-1.4	--	5.3	--	3.7	--	3.6	--
AG CSF ADF II*	3,889,506	0.1	3.9	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Bloomberg BA Intermediate HY</i>			3.4	--	7.2	--	-1.2	--	-1.4	--	5.3	--	3.7	--	3.6	--
AG CSF II*	15,216,839	0.3	2.3	--	-2.8	--	-8.6	--	--	--	--	--	--	--	--	--
<i>Bloomberg BA Intermediate HY</i>			3.4	--	7.2	--	-1.2	--	-1.4	--	5.3	--	3.7	--	3.6	--

* Preliminary return as of 3/31/2023.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: March 31, 2023

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Angelo Gordon Opportunistic*	88,267	0.0	0.0	--	3.3	--	6.7	--	9.4	--	17.2	--	9.5	--	--	--
<i>Bloomberg US Aggregate TR</i>			3.0	--	-0.1	--	-4.8	--	-4.5	--	-2.8	--	0.9	--	1.4	--
Angelo Gordon Credit Solutions*	14,402,310	0.2	2.0	94	0.2	99	-4.5	79	4.3	1	14.7	1	--	--	--	--
<i>Bloomberg BA Intermediate HY</i>			3.4	43	7.2	37	-1.2	23	-1.4	44	5.3	62	3.7	16	3.6	60
<i>eV US High Yield Fixed Inc Net Median</i>			3.3		6.8		-2.8		-1.5		5.7		3.0		3.8	
Beach Point Select	108,853,139	1.9	2.3	93	1.0	99	-4.9	87	2.0	4	11.6	2	6.4	1	--	--
<i>Bloomberg BA Intermediate HY</i>			3.4	43	7.2	37	-1.2	23	-1.4	44	5.3	62	3.7	16	3.6	60
<i>eV US High Yield Fixed Inc Net Median</i>			3.3		6.8		-2.8		-1.5		5.7		3.0		3.8	
Brigade Capital	106,814,579	1.8	2.6	86	-1.5	99	-8.0	99	-1.2	39	9.8	5	2.9	57	3.7	59
<i>Bloomberg BA Intermediate HY</i>			3.4	43	7.2	37	-1.2	23	-1.4	44	5.3	62	3.7	16	3.6	60
<i>50% Barclays HY/ 50% Bank Loan</i>			3.3	46	7.0	44	-0.5	17	0.4	16	7.2	18	3.4	31	4.0	34
<i>eV US High Yield Fixed Inc Net Median</i>			3.3		6.8		-2.8		-1.5		5.7		3.0		3.8	
PIMCO Diversified	129,367,276	2.2	2.6	85	4.7	91	-4.8	86	-4.6	99	0.7	99	1.2	99	--	--
<i>Blended PIMCO Diversified Index¹</i>			2.9	69	4.7	91	-4.5	79	-4.1	99	1.7	99	1.5	99	2.8	95
<i>Bloomberg BA Intermediate HY</i>			3.4	43	7.2	37	-1.2	23	-1.4	44	5.3	62	3.7	16	3.6	60
<i>eV US High Yield Fixed Inc Net Median</i>			3.3		6.8		-2.8		-1.5		5.7		3.0		3.8	
Franklin Templeton	54,810,404	0.9	0.7	95	4.0	34	-8.4	76	-5.1	54	-4.3	93	-3.9	98	-1.0	94
<i>Bloomberg Multiverse TR</i>			3.0	49	0.6	78	-7.9	73	-7.1	74	-3.1	88	-1.2	79	0.2	76
<i>eV All Global Fixed Inc Net Median</i>			3.0		2.3		-5.5		-4.7		1.3		1.0		1.8	
Private Credit	163,111,625	2.8	0.1	--	2.4	--	2.6	--	4.4	--	7.4	--	6.4	--	--	--
<i>Cliffwater Direct Lending Index</i>			2.0	--	6.0	--	6.6	--	8.8	--	10.7	--	8.3	--	8.8	--
Blackrock DL Feeder IX-U	37,884,295	0.6	0.1	99	2.9	96	3.5	1	4.9	1	8.4	9	--	--	--	--
<i>Cliffwater Direct Lending Index</i>			2.0	93	6.0	76	6.6	1	8.8	1	10.7	3	8.3	1	8.8	1
<i>eV US High Yield Fixed Inc Net Median</i>			3.3		6.8		-2.8		-1.5		5.7		3.0		3.8	

* Market value as of 12/31/2022.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: March 31, 2023

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
PIMCO Private Income**	50,228,788	0.9	0.0	99	-1.0	99	-1.5	27	3.6	2	9.9	4	--	--	--	--
<i>Bloomberg BA Intermediate HY</i>			3.4	43	7.2	37	-1.2	23	-1.4	44	5.3	62	3.7	16	3.6	60
<i>Cliffwater Direct Lending Index</i>			2.0	93	6.0	76	6.6	1	8.8	1	10.7	3	8.3	1	8.8	1
<i>eV US High Yield Fixed Inc Net Median</i>			3.3		6.8		-2.8		-1.5		5.7		3.0		3.8	
TCP Direct Lending VIII*	14,533,963	0.2	1.1	97	3.1	96	2.3	1	3.8	2	6.2	33	5.9	1	--	--
White Oak Yield**	29,924,349	0.5	0.0	99	0.1	99	1.5	3	3.6	2	4.9	72	5.3	2	--	--
White Oak YSF V**	30,540,230	0.5	0.0	99	10.4	1	10.6	1	6.8	1	--	--	--	--	--	--
<i>Cliffwater Direct Lending Index</i>			2.0	93	6.0	76	6.6	1	8.8	1	10.7	3	8.3	1	8.8	1
<i>eV US High Yield Fixed Inc Net Median</i>			3.3		6.8		-2.8		-1.5		5.7		3.0		3.8	
Alternatives	722,655,893	12.3	-0.2	--	-5.5	--	-4.0	--	5.2	--	14.5	--	10.0	--	8.1	--
<i>Blended Alternatives Index¹</i>			5.1	--	-3.3	--	-4.6	--	4.7	--	7.7	--	8.8	--	8.4	--
Private Equity**+++	376,695,218	6.4	0.9	44	-8.7	88	-11.8	88	5.6	75	21.6	23	20.5	7	18.5	4
<i>Blended Private Equity Index¹</i>			8.0	2	-12.5	94	-16.2	94	3.8	79	10.1	74	11.8	64	13.9	43
<i>InvMetrics All DB Private Eq Net Median</i>			0.5		-0.8		-1.3		10.3		17.2		13.6		13.3	
Hedge Fund/Absolute Return	345,960,676	5.9	-1.3	95	-3.2	97	3.4	10	3.9	26	4.7	87	-2.3	89	1.6	80
<i>Absolute Return Custom Index</i>			2.1	53	5.7	42	6.8	5	5.4	8	5.0	86	5.5	27	5.0	34
<i>InvMetrics All DB Hedge Funds Net Median</i>			2.4		5.2		-1.6		2.1		9.8		4.5		4.3	
Acadian MAAR Fund LLC	81,364,729	1.4	-0.9	74	-1.5	75	1.5	40	0.3	56	--	--	--	--	--	--
CFM Systematic Global Macro	85,894,175	1.5	-2.5	83	-1.6	76	10.5	7	7.3	23	--	--	--	--	--	--
Graham Quant Macro	90,104,309	1.5	0.4	61	-5.3	88	3.0	30	7.4	23	7.8	52	--	--	--	--
PIMCO MAARS Fund LP	88,597,463	1.5	-2.3	81	-1.4	74	6.8	15	9.5	17	--	--	--	--	--	--
<i>Absolute Return Custom Index</i>			2.1	38	5.7	28	6.8	15	5.4	27	5.0	73	5.5	38	5.0	52
<i>eV Alt All Multi-Strategy Median</i>			1.0		1.7		-1.0		1.4		8.4		4.3		5.4	

* Preliminary return as of 3/31/2023.

** Market value as of 12/31/2022.

** Returns are one-quarter lag.

+++ Excludes EnCap Energy Capital Fund and Sheridan Production Partners.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: March 31, 2023

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Inflation Hedge	1,009,802,051	17.2	-1.1	--	-1.7	--	-1.7	--	9.8	--	10.3	--	4.6	--	--	--
<i>Blended Inflation Hedge Index¹</i>			<i>1.1</i>	<i>--</i>	<i>-4.6</i>	<i>--</i>	<i>-1.6</i>	<i>--</i>	<i>11.0</i>	<i>--</i>	<i>12.3</i>	<i>--</i>	<i>7.2</i>	<i>--</i>	<i>--</i>	<i>--</i>
Real Estate	531,551,893	9.1	-2.0	47	-3.7	26	0.3	26	9.8	45	6.6	76	6.9	38	9.1	13
<i>NCREIF ODCE</i>			<i>-3.2</i>	<i>79</i>	<i>-7.5</i>	<i>81</i>	<i>-3.1</i>	<i>71</i>	<i>11.6</i>	<i>16</i>	<i>8.4</i>	<i>24</i>	<i>7.5</i>	<i>16</i>	<i>9.5</i>	<i>8</i>
<i>InvMetrics All DB Real Estate Pub Net Median</i>			<i>-2.2</i>		<i>-4.9</i>		<i>-1.4</i>		<i>9.6</i>		<i>7.4</i>		<i>6.7</i>		<i>8.3</i>	
Harrison Street Core Property	96,895,435	1.7	-0.5	--	0.9	--	7.1	--	9.0	--	7.1	--	--	--	--	--
Invesco*	285,382,497	4.9	-4.1	--	-7.6	--	-3.2	--	10.8	--	6.4	--	6.7	--	8.9	--
<i>NCREIF ODCE</i>			<i>-3.2</i>	<i>--</i>	<i>-7.5</i>	<i>--</i>	<i>-3.1</i>	<i>--</i>	<i>11.6</i>	<i>--</i>	<i>8.4</i>	<i>--</i>	<i>7.5</i>	<i>--</i>	<i>9.5</i>	<i>--</i>
Invesco US Val IV**	877,087	0.0	0.0	--	-39.1	--	-42.5	--	-19.5	--	-13.0	--	-3.9	--	--	--
Invesco US Val V	29,419,076	0.5	1.1	--	-5.0	--	-4.4	--	8.6	--	9.0	--	--	--	--	--
<i>NCREIF ODCE</i>			<i>-3.2</i>	<i>--</i>	<i>-7.5</i>	<i>--</i>	<i>-3.1</i>	<i>--</i>	<i>11.6</i>	<i>--</i>	<i>8.4</i>	<i>--</i>	<i>7.5</i>	<i>--</i>	<i>9.5</i>	<i>--</i>
<i>NCREIF ODCE + 2%</i>			<i>-2.7</i>	<i>--</i>	<i>-6.1</i>	<i>--</i>	<i>-1.1</i>	<i>--</i>	<i>13.8</i>	<i>--</i>	<i>10.6</i>	<i>--</i>	<i>9.7</i>	<i>--</i>	<i>11.6</i>	<i>--</i>
Invesco US Val VI**	18,234,450	0.3	0.0	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>NCREIF ODCE</i>			<i>-3.2</i>	<i>--</i>	<i>-7.5</i>	<i>--</i>	<i>-3.1</i>	<i>--</i>	<i>11.6</i>	<i>--</i>	<i>8.4</i>	<i>--</i>	<i>7.5</i>	<i>--</i>	<i>9.5</i>	<i>--</i>
PGIM RE US Debt Fund	75,441,317	1.3	1.7	--	5.0	--	6.2	--	5.8	--	5.5	--	5.7	--	--	--
Stockbridge Value IV**	25,302,031	0.4	0.0	--	5.6	--	15.1	--	--	--	--	--	--	--	--	--
<i>NCREIF ODCE</i>			<i>-3.2</i>	<i>--</i>	<i>-7.5</i>	<i>--</i>	<i>-3.1</i>	<i>--</i>	<i>11.6</i>	<i>--</i>	<i>8.4</i>	<i>--</i>	<i>7.5</i>	<i>--</i>	<i>9.5</i>	<i>--</i>
Private Real Asset**	249,408,623	4.3	-0.4	--	-0.1	--	5.9	--	14.1	--	13.4	--	6.9	--	--	--
<i>Blended Private Real Asset Index¹</i>			<i>11.9</i>	<i>--</i>	<i>-5.6</i>	<i>--</i>	<i>4.9</i>	<i>--</i>	<i>10.7</i>	<i>--</i>	<i>6.5</i>	<i>--</i>	<i>6.5</i>	<i>--</i>	<i>--</i>	<i>--</i>
<i>Blended Secondary CA Private RA Index¹</i>			<i>3.3</i>	<i>--</i>	<i>6.0</i>	<i>--</i>	<i>13.9</i>	<i>--</i>	<i>17.8</i>	<i>--</i>	<i>10.8</i>	<i>--</i>	<i>7.4</i>	<i>--</i>	<i>--</i>	<i>--</i>
Public Real Assets	228,841,535	3.9	0.2	--	1.6	--	-7.0	--	8.2	--	16.8	--	1.6	--	--	--
<i>Blended Public Real Asset Index¹</i>			<i>0.1</i>	<i>--</i>	<i>1.7</i>	<i>--</i>	<i>-6.9</i>	<i>--</i>	<i>8.1</i>	<i>--</i>	<i>17.1</i>	<i>--</i>	<i>4.6</i>	<i>--</i>	<i>--</i>	<i>--</i>
SSgA Custom Real Asset	228,841,535	3.9	0.2	--	1.6	--	-7.0	--	8.2	--	16.8	--	4.6	--	--	--
<i>SSgA Custom Real Asset Index¹</i>			<i>0.1</i>	<i>--</i>	<i>1.7</i>	<i>--</i>	<i>-6.9</i>	<i>--</i>	<i>8.1</i>	<i>--</i>	<i>17.1</i>	<i>--</i>	<i>4.6</i>	<i>--</i>	<i>--</i>	<i>--</i>

* Preliminary return as of 3/31/2023.

** Market value as of 12/31/2023.

** Returns are one-quarter lag.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: March 31, 2023

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Liquidity	513,543,366	8.8	1.2	--	2.2	--	--	--	--	--	--	--	--	--	--	--
<i>Blended Liquidity Index¹</i>			<i>1.4</i>	--	<i>1.6</i>	--	--	--	--	--	--	--	--	--	--	--
Cash Flow-Matched Liquidity	363,937,717	6.2	1.2	--	1.8	--	--	--	--	--	--	--	--	--	--	--
<i>Bloomberg US Govt/Credit 1-3 Yr. TR</i>			<i>1.5</i>	--	<i>0.9</i>	--	<i>0.3</i>	--	<i>-1.3</i>	--	<i>-0.4</i>	--	<i>1.3</i>	--	<i>1.0</i>	--
<i>Bloomberg US Credit 1-3 Yr TR</i>			<i>1.3</i>	--	<i>1.3</i>	--	<i>0.3</i>	--	<i>-1.1</i>	--	<i>0.7</i>	--	<i>1.6</i>	--	<i>1.5</i>	--
Insight Investment*	356,215,466	6.1	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Bloomberg US Credit 1-3 Yr TR</i>			<i>1.3</i>	--	<i>1.3</i>	--	<i>0.3</i>	--	<i>-1.1</i>	--	<i>0.7</i>	--	<i>1.6</i>	--	<i>1.5</i>	--
County Treasury Pool+	7,722,251	0.1	0.3	--	0.8	--	1.2	--	1.1	--	1.2	--	1.9	--	1.6	--
<i>91 Day T-Bills</i>			<i>1.1</i>	--	<i>2.4</i>	--	<i>2.5</i>	--	<i>1.3</i>	--	<i>0.9</i>	--	<i>1.3</i>	--	<i>0.8</i>	--
Cash & Cash Overlay	149,605,649	2.6	1.1	--	2.7	--	2.9	--	1.6	--	1.2	--	1.2	--	1.0	--
<i>91 Day T-Bills</i>			<i>1.1</i>	--	<i>2.4</i>	--	<i>2.5</i>	--	<i>1.3</i>	--	<i>0.9</i>	--	<i>1.3</i>	--	<i>0.8</i>	--
General Account	132,648,111	2.3	1.2	--	2.9	--	3.1	--	1.7	--	1.4	--	2.4	--	1.8	--
<i>91 Day T-Bills</i>			<i>1.1</i>	--	<i>2.4</i>	--	<i>2.5</i>	--	<i>1.3</i>	--	<i>0.9</i>	--	<i>1.3</i>	--	<i>0.8</i>	--
Currency Hedge Cash Overlay	-13	0.0	0.7	--	1.9	--	2.0	--	0.9	--	--	--	--	--	--	--

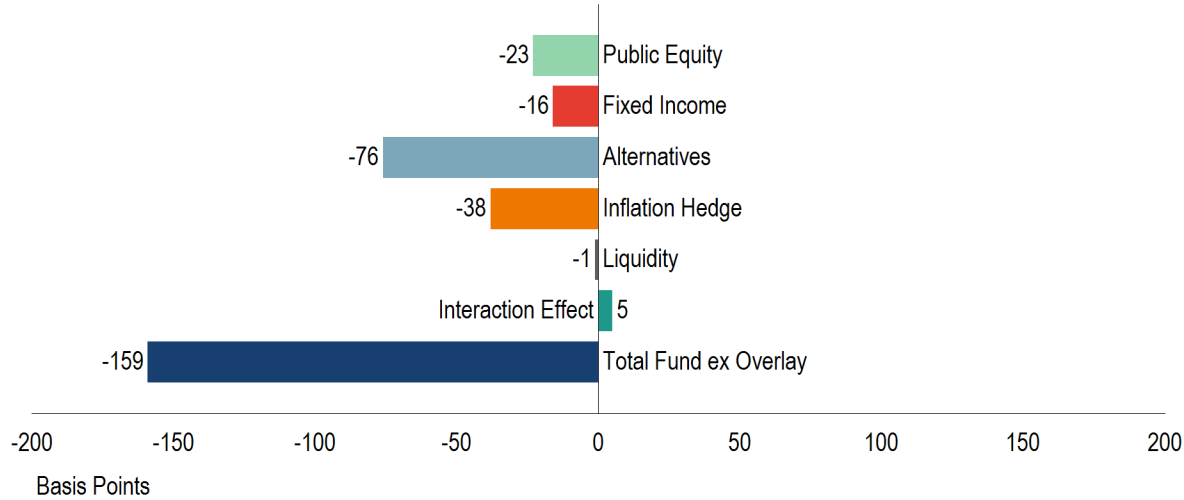
* Funded July 2022.

+ Moved from Cash & Cash Overlay to Cash Flow-Matched Liquidity in July 2022. Reflects linked historical returns up to June 2022.

1. See Appendix for Benchmark History.

Total Fund ex Overlay
Performance Attribution

Period Ending: March 31, 2023

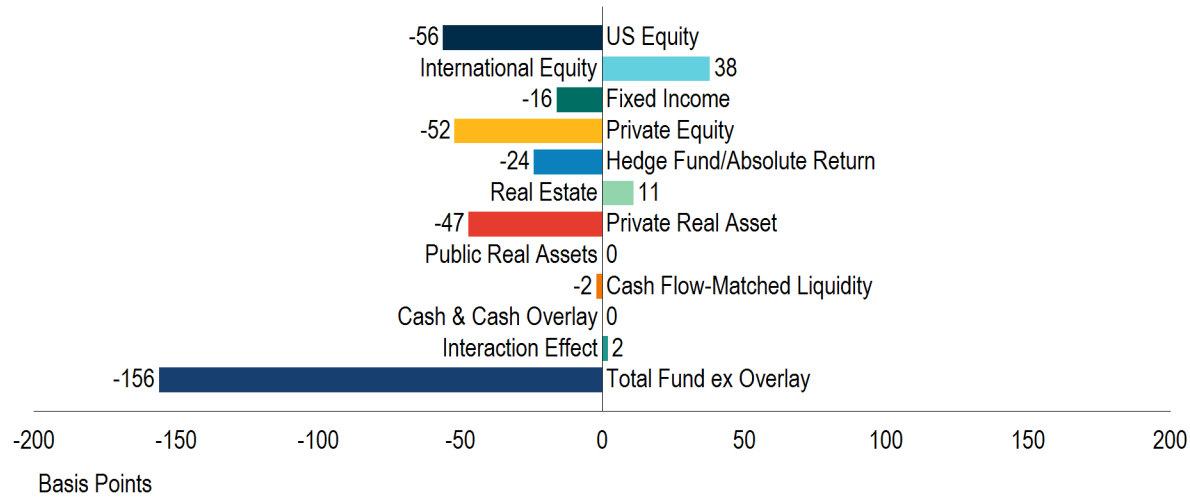


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Public Equity	6.24%	6.87%	-0.63%	-0.23%	-0.04%	0.00%	-0.27%
Fixed Income	2.48%	3.15%	-0.67%	-0.16%	0.03%	0.00%	-0.13%
Alternatives	-0.20%	5.14%	-5.35%	-0.76%	-0.03%	0.08%	-0.71%
Inflation Hedge	-1.12%	1.09%	-2.21%	-0.38%	-0.01%	-0.03%	-0.42%
Liquidity	1.21%	1.43%	-0.22%	-0.01%	-0.05%	-0.01%	-0.07%
Total	2.87%	4.46%	-1.59%	-1.54%	-0.10%	0.05%	-1.59%

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

Total Fund ex Overlay
Performance Attribution

Period Ending: March 31, 2023

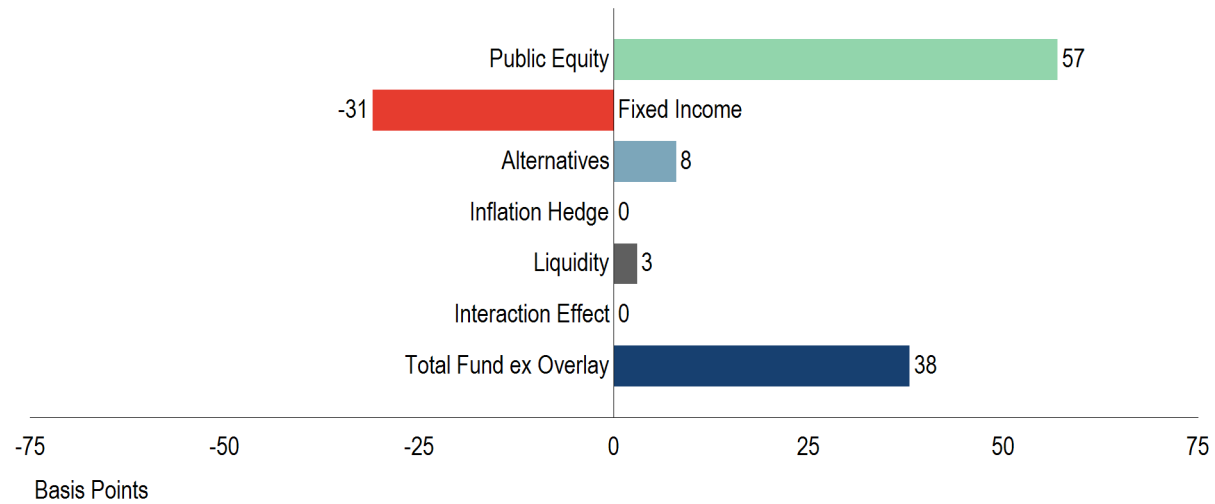


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	4.53%	7.18%	-2.65%	-0.56%	-0.01%	0.00%	-0.56%
International Equity	8.42%	6.52%	1.90%	0.38%	-0.03%	-0.02%	0.32%
Fixed Income	2.48%	3.15%	-0.67%	-0.16%	0.03%	0.00%	-0.13%
Private Equity	0.86%	7.96%	-7.10%	-0.52%	-0.03%	0.05%	-0.51%
Hedge Fund/Absolute Return	-1.33%	2.12%	-3.45%	-0.24%	0.01%	0.03%	-0.20%
Real Estate	-2.03%	-3.17%	1.14%	0.11%	-0.02%	0.00%	0.09%
Private Real Asset	-0.42%	11.91%	-12.33%	-0.47%	0.03%	-0.04%	-0.47%
Public Real Assets	0.20%	0.13%	0.07%	0.00%	-0.02%	0.00%	-0.02%
Cash Flow-Matched Liquidity	1.18%	1.51%	-0.33%	-0.02%	0.00%	0.00%	-0.02%
Cash & Cash Overlay	1.15%	1.07%	0.07%	0.00%	-0.05%	0.00%	-0.05%
Total	2.90%	4.46%	-1.56%	-1.48%	-0.10%	0.02%	-1.56%

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

Total Fund ex Overlay
Performance Attribution (1 Year)

Period Ending: March 31, 2023

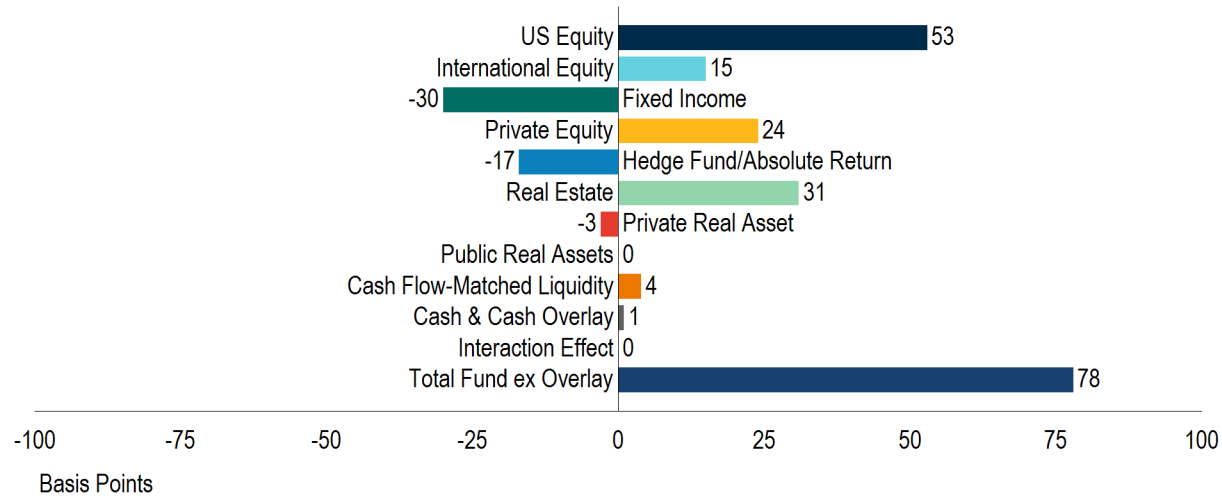


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Public Equity	-4.13%	-5.55%	1.41%	0.57%	0.00%	0.00%	0.57%
Fixed Income	-4.35%	-3.21%	-1.14%	-0.31%	0.00%	0.00%	-0.31%
Alternatives	-4.04%	-4.59%	0.55%	0.08%	0.00%	0.00%	0.08%
Inflation Hedge	-1.71%	-1.62%	-0.08%	0.00%	0.00%	0.00%	0.00%
Liquidity	2.25%	--	--	0.03%	0.00%	0.00%	0.03%
Total	-3.35%	-3.73%	0.39%	0.38%	0.00%	0.00%	0.38%

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

Total Fund ex Overlay
Performance Attribution (1 Year)

Period Ending: March 31, 2023



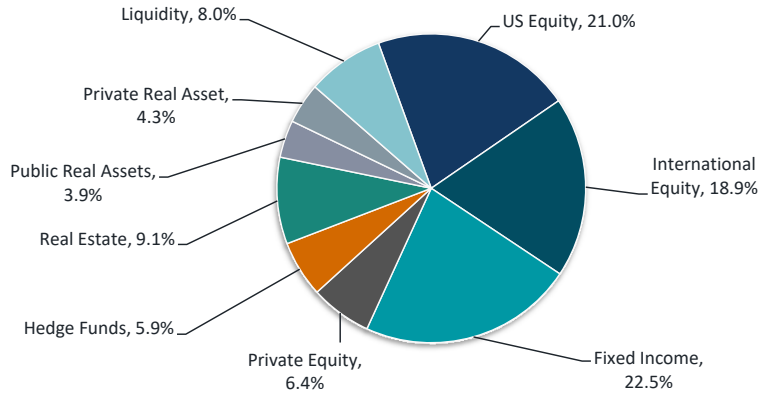
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	-5.94%	-8.58%	2.64%	0.53%	0.00%	0.00%	0.53%
International Equity	-1.90%	-2.23%	0.33%	0.15%	0.00%	0.00%	0.15%
Fixed Income	-4.35%	-3.21%	-1.14%	-0.30%	0.00%	0.00%	-0.30%
Private Equity	-11.84%	-16.21%	4.37%	0.24%	0.00%	0.00%	0.24%
Hedge Fund/Absolute Return	3.37%	6.81%	-3.44%	-0.17%	0.00%	0.00%	-0.17%
Real Estate	0.30%	-3.09%	3.39%	0.31%	0.00%	0.00%	0.31%
Private Real Asset	5.93%	4.91%	1.02%	-0.03%	0.00%	0.00%	-0.03%
Public Real Assets	-6.97%	-6.90%	-0.07%	0.00%	0.00%	0.00%	0.00%
Cash Flow-Matched Liquidity	--	0.90%	--	0.04%	0.00%	0.00%	0.04%
Cash & Cash Overlay	2.94%	2.50%	0.44%	0.01%	0.00%	0.00%	0.01%
Total	-3.36%	-4.14%	0.78%	0.78%	0.00%	0.00%	0.78%

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

Total Fund Asset Allocation Analysis

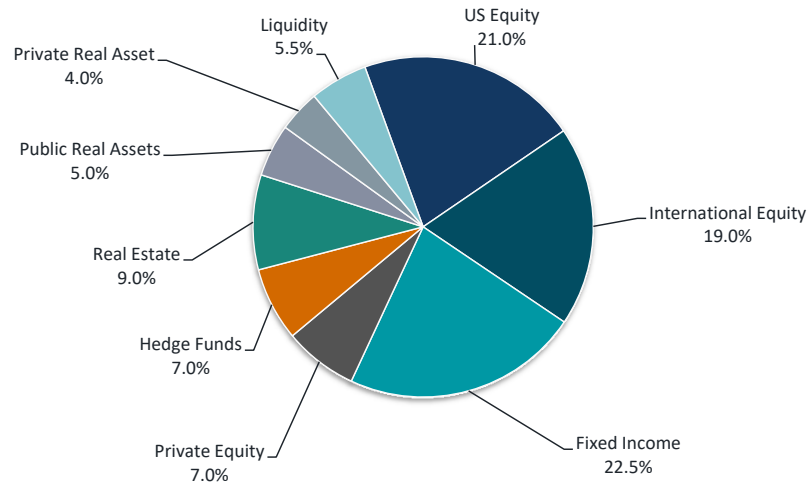
Period Ending: March 31, 2023

Current w/ Overlay



ASSET ALLOCATION	MARKET VALUE W/ OVERLAY	W/ OVERLAY	W/O OVERLAY
US Equity	1,228,597,523	21.0%	21.0%
International Equity	1,109,466,551	18.9%	18.2%
Fixed Income	1,317,752,739	22.5%	22.5%
Private Equity	376,695,218	6.4%	6.4%
Hedge Funds	345,960,676	5.9%	5.9%
Real Estate	531,551,893	9.1%	9.1%
Public Real Assets	228,841,535	3.9%	3.9%
Private Real Asset	249,408,623	4.3%	4.3%
Liquidity	471,090,177	8.0%	8.8%
TOTAL	5,859,364,934	100.0%	100.0%

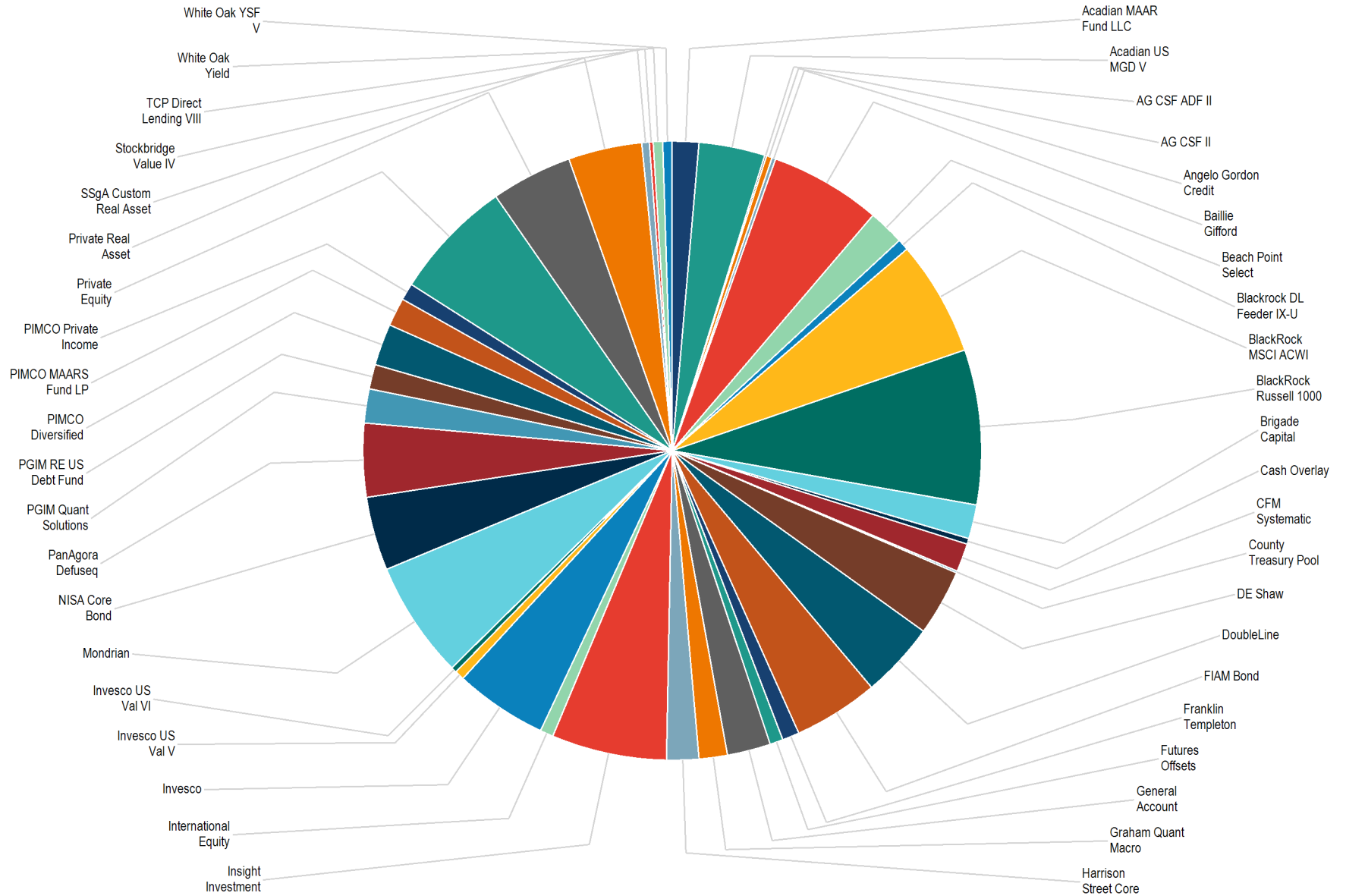
Target



ASSET ALLOCATION	W/ OVERLAY	TARGET	DIFF
US Equity	21.0%	21.0%	0.0%
International Equity	18.9%	19.0%	-0.1%
Fixed Income	22.5%	22.5%	0.0%
Private Equity	6.4%	7.0%	-0.6%
Hedge Funds	5.9%	7.0%	-1.1%
Real Estate	9.1%	9.0%	0.1%
Public Real Assets	3.9%	5.0%	-1.1%
Private Real Asset	4.3%	4.0%	0.3%
Liquidity	8.0%	5.5%	2.5%
TOTAL	100.0%	100.0%	0.0%

Total Fund Manager Allocation Analysis

Period Ending: March 31, 2023



Total Fund Manager Allocation Analysis

Period Ending: March 31, 2023

Name	Market Value	% of Portfolio
Acadian US MGD V	\$206,534,809	3.5%
BlackRock Russell 1000	\$482,096,265	8.2%
DE Shaw	\$204,468,083	3.5%
PanAgora Defuseq	\$227,298,790	3.9%
PGIM Quant Solutions	\$108,199,576	1.8%
Domestic Equity Overlay	\$0	0.0%
Baillie Gifford	\$345,383,862	5.9%
Mondrian	\$363,337,580	6.2%
BlackRock MSCI ACWI EX-US IMI	\$358,291,919	6.1%
International Equity Overlay	\$42,453,189	0.7%
DoubleLine	\$232,285,268	4.0%
FIAM Bond	\$263,295,617	4.5%
NISA Core Bond	\$225,617,910	3.9%
Core Fixed Income Overlay	\$0	0.0%
AG CSF ADF II	\$3,889,506	0.1%
AG CSF II	\$15,216,839	0.3%
Angelo Gordon Opportunistic	\$88,267	0.0%
Angelo Gordon Credit Solutions	\$14,402,310	0.2%
Beach Point Select	\$108,853,139	1.9%
Brigade Capital	\$106,814,579	1.8%
PIMCO Diversified	\$129,367,276	2.2%
Franklin Templeton	\$54,810,404	0.9%
Blackrock DL Feeder IX-U	\$37,884,295	0.6%
PIMCO Private Income	\$50,228,788	0.9%
TCP Direct Lending VIII	\$14,533,963	0.2%
White Oak Yield	\$29,924,349	0.5%
White Oak YSF V	\$30,540,230	0.5%
Private Equity	\$376,695,218	6.4%

Total Fund Manager Allocation Analysis

Period Ending: March 31, 2023

Name	Market Value	% of Portfolio
Acadian MAAR Fund LLC	\$81,364,729	1.4%
CFM Systematic Global Macro	\$85,894,175	1.5%
Graham Quant Macro	\$90,104,309	1.5%
PIMCO MAARS Fund LP	\$88,597,463	1.5%
Harrison Street Core Property	\$96,895,435	1.7%
Invesco	\$285,382,497	4.9%
Invesco US Val IV	\$877,087	0.0%
Invesco US Val V	\$29,419,076	0.5%
Invesco US Val VI	\$18,234,450	0.3%
PGIM RE US Debt Fund	\$75,441,317	1.3%
Stockbridge Value IV	\$25,302,031	0.4%
Private Real Asset	\$249,408,623	4.3%
SSgA Custom Real Asset	\$228,841,535	3.9%
Insight Investment	\$356,215,466	6.1%
County Treasury Pool	\$7,722,251	0.1%
General Account	\$132,648,111	2.3%
Currency Hedge Cash Overlay	-\$13	0.0%
Cash Overlay	\$16,957,551	0.3%
Transition Account	\$0	0.0%
Futures Offsets (SMCE02001)	-\$42,453,189	-0.7%
Total	\$5,859,364,934	100.0%

Statistics Summary

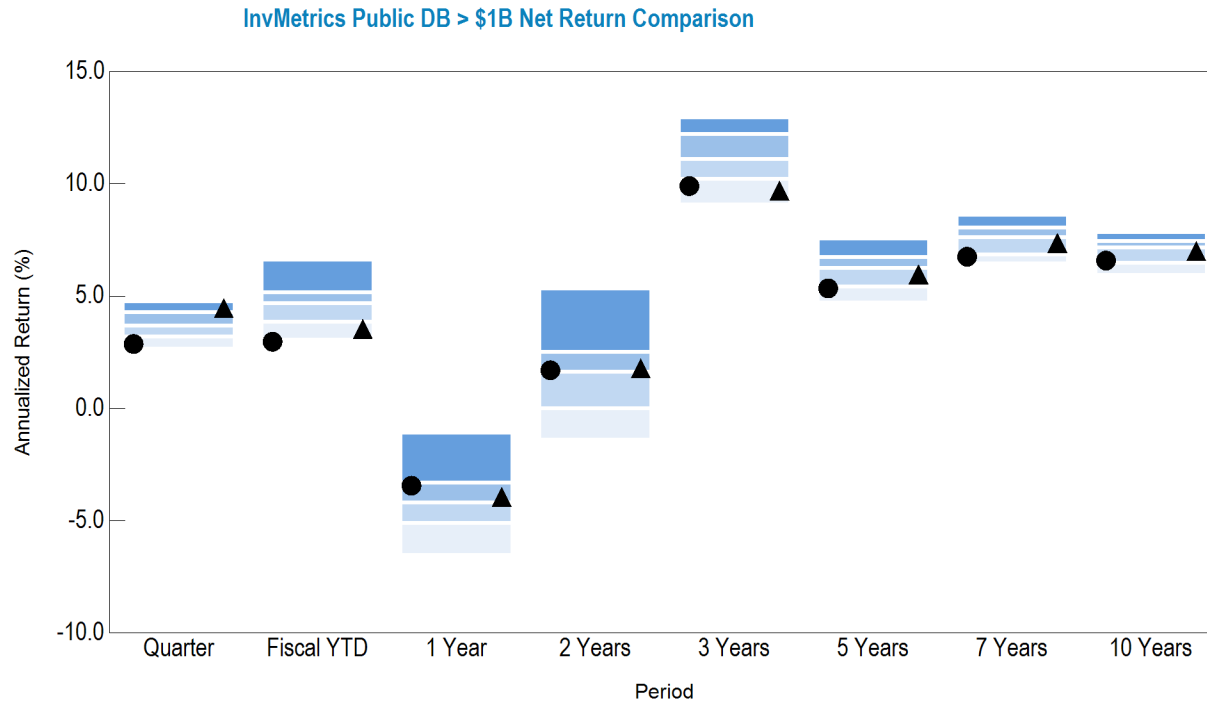
3 Years

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	9.9%	88	8.1%	12	1.1	33	0.1	71	2.6%	60
Policy Index	9.7%	91	9.3%	31	0.9	68	--	--	0.0%	1
InvMetrics Public DB > \$1B Net Median	11.1%	--	10.0%	--	1.0	--	0.4	--	2.0%	--

Statistics Summary

5 Years

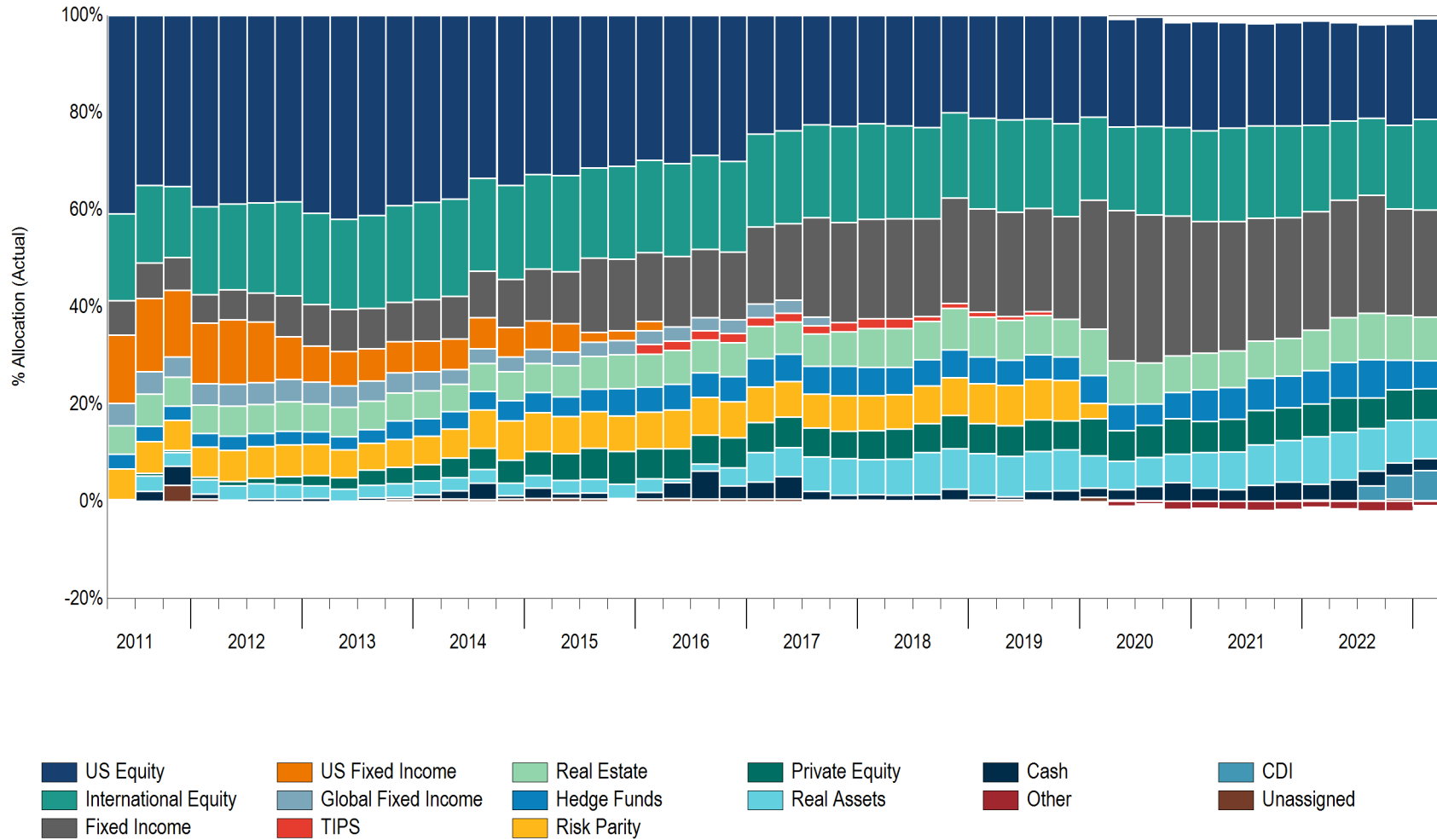
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	5.3%	81	8.8%	20	0.5	52	-0.3	87	2.2%	60
Policy Index	6.0%	61	9.2%	25	0.5	36	--	--	0.0%	1
InvMetrics Public DB > \$1B Net Median	6.3%	--	10.2%	--	0.5	--	0.0	--	1.8%	--



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	4.8	6.6	-1.1	5.3	13.0	7.6	8.6	7.9
25th Percentile	4.3	5.2	-3.3	2.5	12.2	6.8	8.1	7.5
Median	3.7	4.7	-4.2	1.6	11.1	6.3	7.6	7.2
75th Percentile	3.2	3.9	-5.1	0.0	10.2	5.4	6.9	6.5
95th Percentile	2.7	3.1	-6.5	-1.4	9.1	4.7	6.5	6.0
# of Portfolios	58	58	58	58	58	58	58	55
● Total Fund	2.9 (88)	3.0 (97)	-3.4 (32)	1.7 (48)	9.9 (88)	5.3 (81)	6.8 (83)	6.6 (67)
▲ Policy Index	4.5 (13)	3.5 (83)	-3.9 (48)	1.8 (46)	9.7 (91)	6.0 (61)	7.4 (60)	7.0 (54)

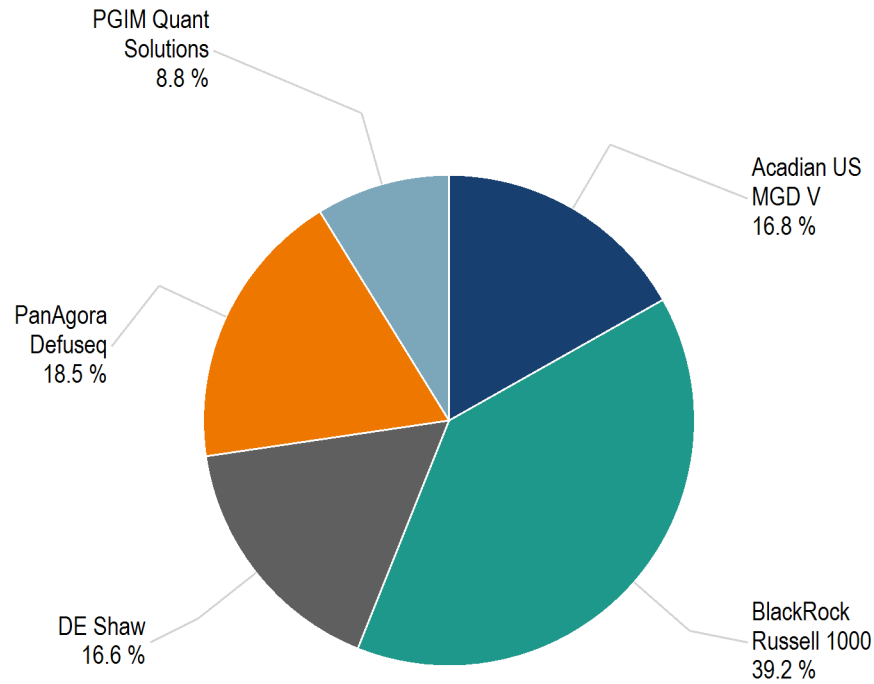
Total Fund
Asset Allocation History

Period Ending: March 31, 2023



US Equity
 Manager Allocation Analysis

Period Ending: March 31, 2023



	Actual \$	Actual %	Manager Contribution to Excess Return %
Acadian US MGD V	\$206,534,809	16.8%	-0.8%
BlackRock Russell 1000	\$482,096,265	39.2%	0.0%
DE Shaw	\$204,468,083	16.6%	-0.2%
PanAgora Defuseq	\$227,298,790	18.5%	-1.5%
PGIM Quant Solutions	\$108,199,576	8.8%	0.0%
Domestic Equity Overlay	\$0	0.0%	0.0%
Actual vs. Policy Weight Difference			-0.2%
Total	\$1,228,597,524	100.0%	-2.7%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	17.9%	17.9%	1.0	-0.2	2.8%
Blended US Equity Index	18.5%	19.6%	0.9	--	0.0%
Russell 3000	18.5%	19.6%	0.9	--	0.0%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	17.4%	17.8%	0.9	-0.4	2.8%
Russell 1000	18.6%	19.6%	0.9	--	0.0%
Acadian US MGD V	13.6%	16.2%	0.8	-0.7	6.7%
Russell 1000	18.6%	19.6%	0.9	--	0.0%
BlackRock Russell 1000	18.5%	19.6%	0.9	-0.3	0.0%
Russell 1000	18.6%	19.6%	0.9	--	0.0%
DE Shaw	18.0%	19.5%	0.9	-0.2	3.3%
Russell 1000	18.6%	19.6%	0.9	--	0.0%
PanAgora Defuseq	16.0%	15.5%	1.0	-0.3	8.3%
Russell 1000	18.6%	19.6%	0.9	--	0.0%
Small Cap Equity	22.5%	22.7%	0.9	0.9	5.4%
Russell 2000	17.5%	22.8%	0.7	--	0.0%
PGIM Quant Solutions	22.5%	22.7%	0.9	0.9	5.4%
Russell 2000	17.5%	22.8%	0.7	--	0.0%

Statistics Summary

5 Years

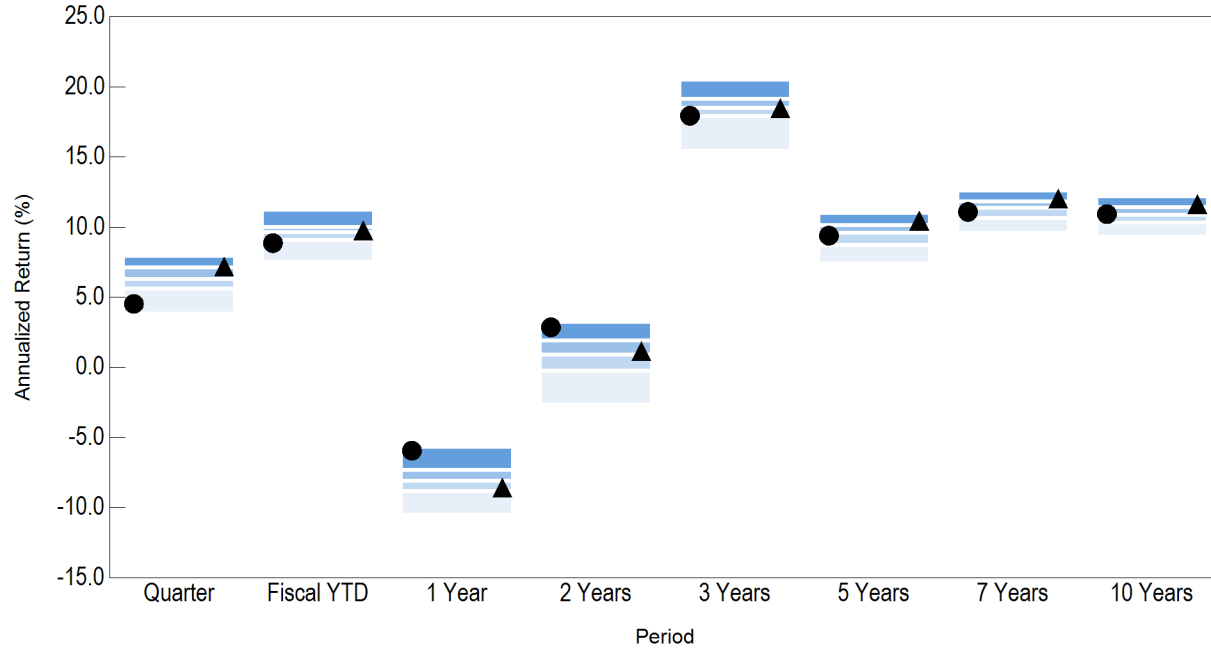
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	9.4%	18.2%	0.4	-0.5	2.3%
Blended US Equity Index	10.4%	19.2%	0.5	--	0.0%
Russell 3000	10.4%	19.2%	0.5	--	0.0%

Statistics Summary

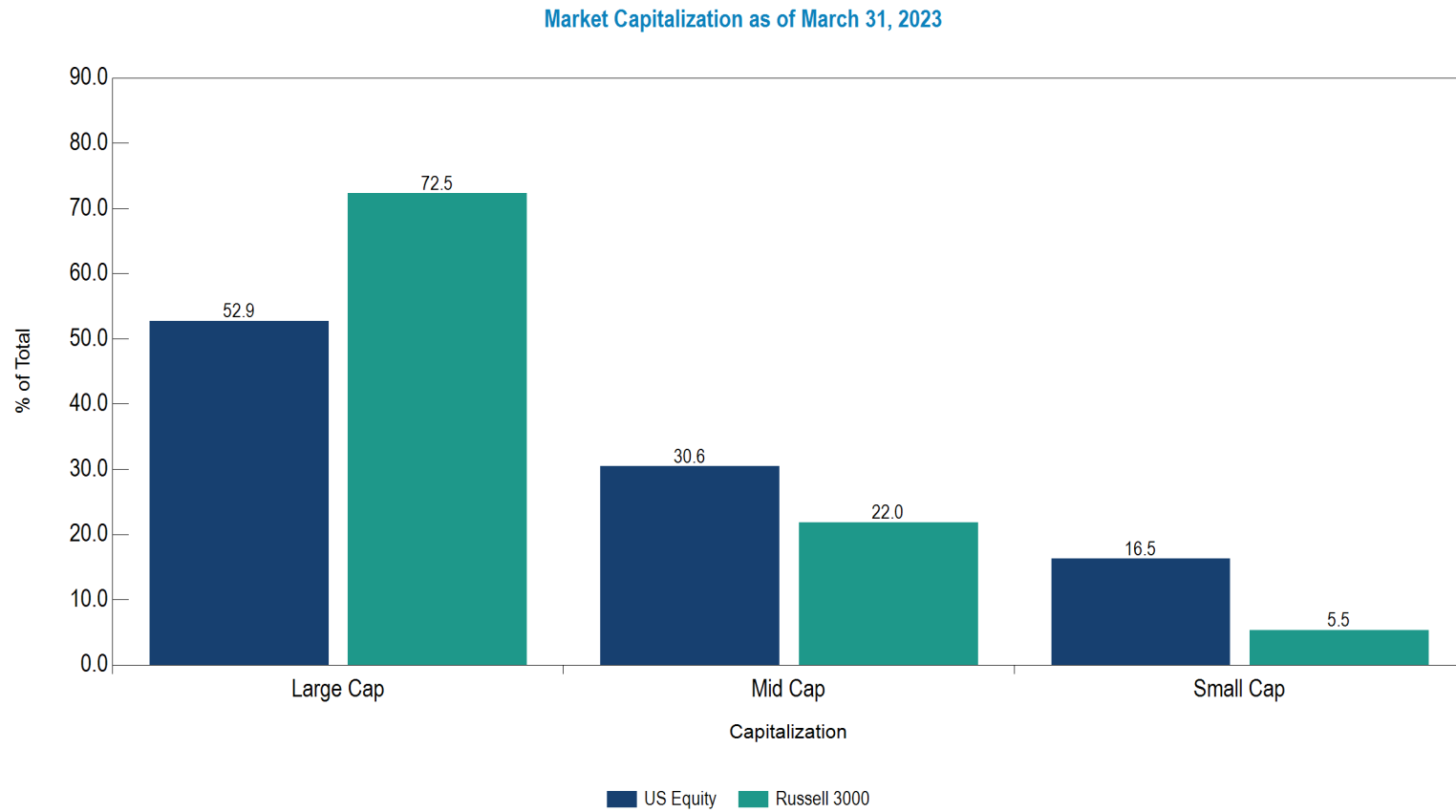
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	9.9%	17.7%	0.5	-0.4	2.3%
Russell 1000	10.9%	19.0%	0.5	--	0.0%
BlackRock Russell 1000	10.9%	19.0%	0.5	0.3	0.0%
Russell 1000	10.9%	19.0%	0.5	--	0.0%
DE Shaw	9.6%	19.0%	0.4	-0.4	2.9%
Russell 1000	10.9%	19.0%	0.5	--	0.0%
Small Cap Equity	4.5%	25.1%	0.1	0.0	5.2%
Russell 2000	4.7%	23.9%	0.1	--	0.0%
PGIM Quant Solutions	4.5%	25.1%	0.1	0.0	5.2%
Russell 2000	4.7%	23.9%	0.1	--	0.0%

InvMetrics All DB US Eq Net Return Comparison



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	7.9	11.2	-5.7	3.2	20.5	11.0	12.6	12.2
25th Percentile	7.1	10.1	-7.3	2.0	19.2	10.2	11.9	11.5
Median	6.3	9.7	-8.1	1.0	18.6	9.6	11.4	10.9
75th Percentile	5.6	9.1	-8.8	-0.2	17.9	8.8	10.7	10.4
95th Percentile	3.9	7.5	-10.5	-2.6	15.5	7.4	9.6	9.4
# of Portfolios	432	417	404	384	380	364	330	255
● US Equity	4.5 (92)	8.9 (82)	-5.9 (6)	2.9 (10)	17.9 (75)	9.4 (59)	11.1 (62)	10.9 (50)
▲ Blended US Equity Index	7.2 (17)	9.7 (39)	-8.6 (69)	1.2 (44)	18.5 (55)	10.4 (15)	12.0 (14)	11.6 (20)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	Russell 3000
Number of Holdings	2,516	2,923
Weighted Avg. Market Cap. (\$B)	278.8	470.5
Median Market Cap. (\$B)	5.5	2.5
Price To Earnings	18.1	20.2
Price To Book	3.3	3.9
Price To Sales	1.6	2.2
Return on Equity (%)	19.4	22.4
Yield (%)	1.9	1.6

Top Holdings

APPLE INC	3.3%
MICROSOFT CORP	2.8%
ARCONIC CORP	1.4%
AMAZON.COM INC	1.3%
ALPHABET INC	1.2%
MISTER CAR WASH INC COM	1.0%
BERKSHIRE HATHAWAY INC	0.9%
JOHNSON & JOHNSON	0.8%
VERIZON COMMUNICATIONS INC	0.7%
MCDONALD'S CORP	0.7%

Best Performers

	Return %
SELECTQUOTE INC (SLQT)	223.0%
OSCAR HEALTH INC	165.9%
RED ROBIN GOURMET BURGERS INC (RRGB)	156.6%
REATA PHARMACEUTICALS INC (RETA)	139.3%
VERRICA PHARMACEUTICALS INC (VRCA)	136.4%
PROVENTION BIO INC (PRVB)	128.0%
BRIDGEBIO PHARMA INC (BBIO)	117.6%
FASTLY INC (FSLY)	116.9%
SOTERA HEALTH CO (SHC)	115.0%
REDFIN CORP (RDFN)	113.7%

Worst Performers

	Return %
SIGNATURE BANK (SBNY)	-99.8%
SVB FINANCIAL GROUP (SIVBQ)	-99.6%
INVACARE CORP (IVCRQ)	-96.0%
FIRST REPUBLIC BANK (FRCB)	-88.5%
ORAMED PHARMACEUTICALS INC (ORMP)	-81.9%
VERU INC (VERU)	-78.0%
ESPERION THERAPEUTICS INC (ESPR)	-74.5%
ALTIMMUNE INC (ALT)	-74.3%
NEKTAR THERAPEUTICS (NKTR)	-68.9%
Vintage Wine Estates Inc (VWE)	-67.2%

US Equity Performance Attribution vs. Russell 3000

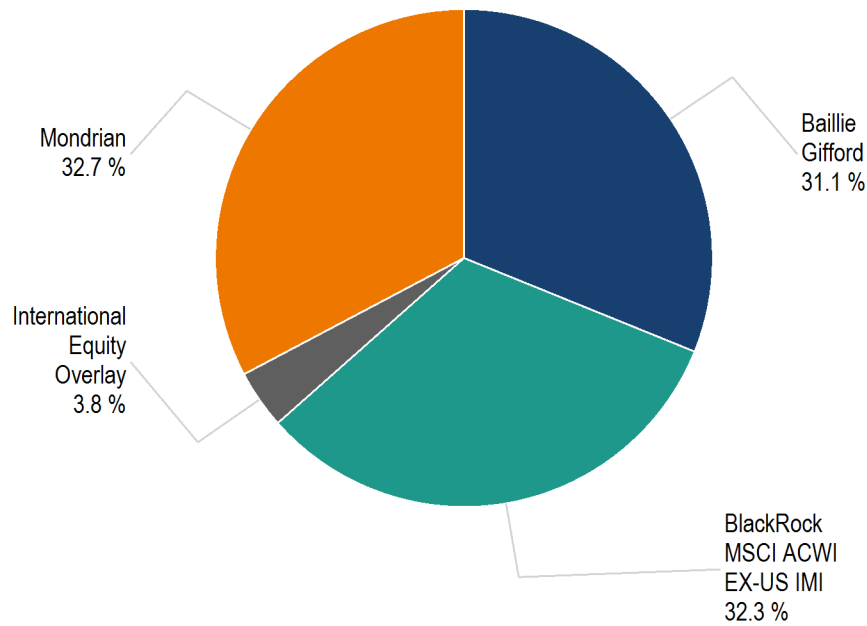
	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.2%	-0.1%	-0.1%	0.0%	-6.6%	-4.0%	5.3%	4.7%			
Materials	0.0%	0.0%	0.0%	0.0%	4.6%	5.0%	4.3%	3.0%			
Industrials	-0.1%	-0.1%	0.0%	0.0%	3.6%	4.9%	10.4%	9.8%			
Consumer Discretionary	-0.4%	-0.4%	0.0%	0.0%	11.6%	15.2%	9.3%	9.9%			
Consumer Staples	-0.3%	0.0%	-0.2%	0.0%	0.8%	1.2%	10.1%	6.6%			
Health Care	0.1%	0.1%	0.0%	0.0%	-3.2%	-3.8%	15.3%	15.7%			
Financials	0.2%	0.0%	0.2%	0.0%	-5.2%	-5.1%	10.7%	12.4%			
Information Technology	-1.3%	-0.9%	-0.5%	0.1%	17.4%	20.9%	20.6%	24.6%			
Communication Services	-0.6%	-0.6%	0.0%	0.0%	11.8%	20.0%	6.8%	6.8%			
Utilities	-0.1%	0.0%	-0.1%	0.0%	-2.3%	-2.9%	4.2%	3.1%			
Real Estate	0.0%	-0.1%	0.0%	0.0%	0.3%	1.9%	2.8%	3.3%			
Cash	0.0%	0.0%	0.0%	0.0%	1.1%	--	0.0%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	7.1%	--	0.1%	0.0%			
Portfolio	-2.6%	=	-2.0%	+	-0.7%	+	0.1%	4.7%	7.3%	100.0%	100.0%

U.S. Effective Style Map



International Equity
 Manager Allocation Analysis

Period Ending: March 31, 2023



	Actual \$	Actual %	Manager Contribution to Excess Return %
Baillie Gifford	\$345,383,862	31.1%	0.8%
Mondrian	\$363,337,580	32.7%	1.1%
BlackRock MSCI ACWI EX-US IMI	\$358,291,919	32.3%	0.0%
International Equity Overlay	\$42,453,189	3.8%	0.0%
Actual vs. Policy Weight Difference			-0.1%
Total	\$1,109,466,551	100.0%	1.9%

Statistics Summary

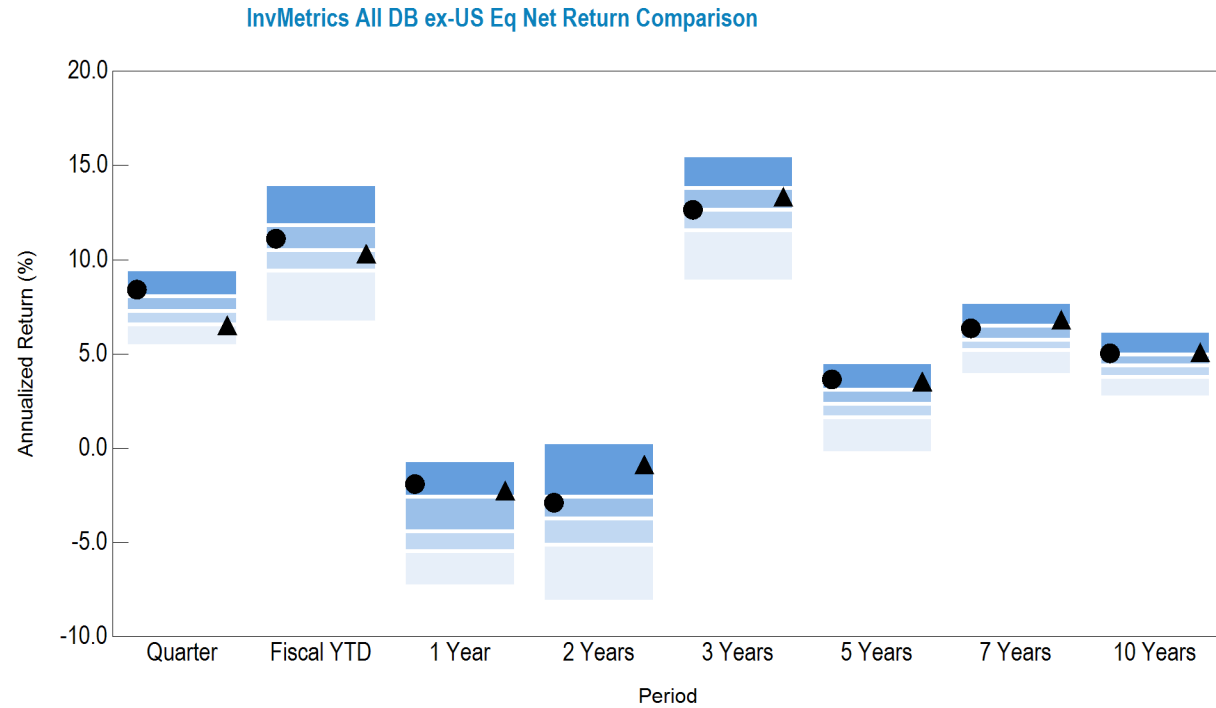
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	12.7%	16.8%	0.7	-0.2	3.1%
Blended International Equity Index	13.3%	15.1%	0.8	--	0.0%
Baillie Gifford	9.4%	22.8%	0.4	-0.3	9.6%
MSCI ACWI ex US	12.3%	17.3%	0.7	--	0.0%
Mondrian	11.8%	17.5%	0.6	-0.8	3.4%
MSCI ACWI ex USA Value Gross	14.5%	17.7%	0.8	--	0.0%

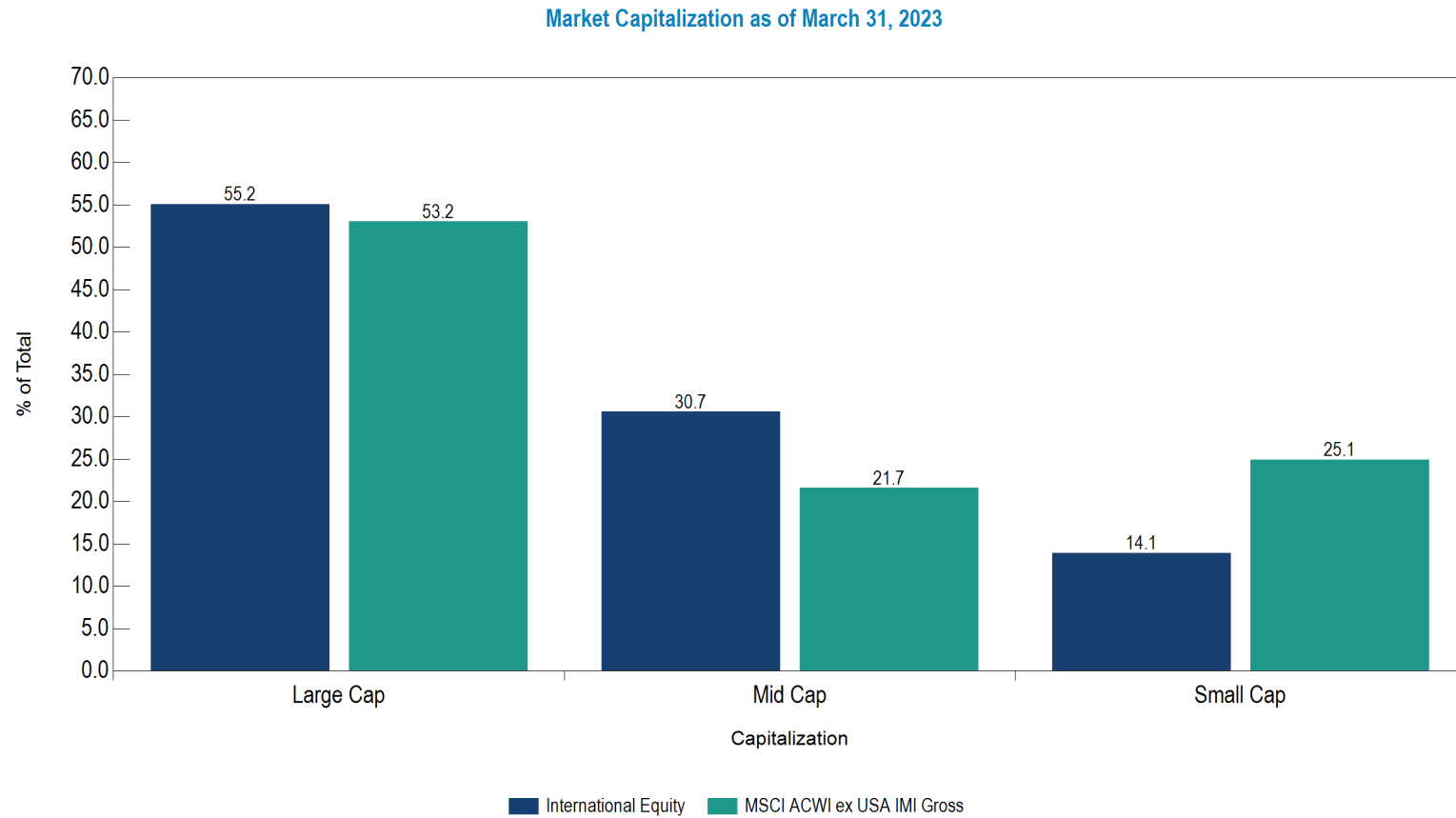
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	3.7%	16.7%	0.1	0.0	2.5%
Blended International Equity Index	3.5%	15.8%	0.1	--	0.0%
Baillie Gifford	3.3%	20.8%	0.1	0.0	8.2%
MSCI ACWI ex US	3.0%	17.4%	0.1	--	0.0%
Mondrian	1.6%	18.2%	0.0	-0.1	3.1%
MSCI ACWI ex USA Value Gross	1.9%	18.6%	0.0	--	0.0%



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	9.5	14.0	-0.7	0.3	15.5	4.6	7.7	6.2
25th Percentile	8.1	11.9	-2.6	-2.6	13.8	3.1	6.5	5.0
Median	7.3	10.5	-4.4	-3.7	12.7	2.4	5.8	4.4
75th Percentile	6.6	9.5	-5.4	-5.1	11.6	1.7	5.2	3.8
95th Percentile	5.4	6.7	-7.3	-8.1	8.9	-0.2	3.9	2.7
# of Portfolios	272	262	255	243	239	230	213	159
● International Equity	8.4 (18)	11.1 (43)	-1.9 (16)	-2.9 (33)	12.7 (53)	3.7 (13)	6.4 (29)	5.0 (23)
▲ Blended International Equity Index	6.5 (78)	10.3 (53)	-2.2 (21)	-0.9 (10)	13.3 (33)	3.5 (14)	6.8 (18)	5.1 (22)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	MSCI ACWI ex USA IMI Gross
Number of Holdings	6,672	6,584
Weighted Avg. Market Cap. (\$B)	75.4	78.0
Median Market Cap. (\$B)	1.7	1.7
Price To Earnings	14.7	13.4
Price To Book	2.5	2.4
Price To Sales	1.2	1.1
Return on Equity (%)	13.8	14.1
Yield (%)	3.0	3.3

Top Holdings

UNITED OVERSEAS BANK LTD	1.6%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.3%
ALIBABA GROUP HOLDING LTD	1.3%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.2%
HOUSING DEVELOPMENT FINANCE CORP LTD	1.2%
ASML HOLDING NV	1.2%
SANOFI	1.0%
CIE FINANCIERE RICHEMONT AG, ZUG	1.0%
BANCO SANTANDER SA	1.0%
ENEL ENTE NAZIONALE PER L'ENERGIA ELETTRICA SPA, ROMA	1.0%

Best Performers

	Return %
ECOPRO CO LTD	366.8%
KUM YANG CO LTD	216.8%
COSMO AM&T CO LTD	186.6%
HYUNDAI FEED INC	183.1%
360 SECURITY TECHNOLOGY INC	167.9%
ISU CHEMICAL CO LTD	153.0%
ECOPRO BM CO LTD	135.1%
COSMO CHEMICAL CO LTD	134.0%
ZHONGJI INNOLIGHT CO LTD	118.8%
HUT 8 MINING CORP (HUT.)	112.1%

Worst Performers

	Return %
AMERICANAS S A	-88.9%
DIFFER GROUP AUTO LIMITED	-87.9%
MIRZA INTERNATIONAL LTD	-85.8%
JERVOIS GLOBAL LIMITED	-76.3%
ADANI TOTAL GAS LTD	-76.3%
CREDIT SUISSE GROUP	-69.8%
Penta Teknoloji Urunleri Dagitim Ticaret A.S.	-68.8%
PC JEWELLER LIMITED	-67.7%
ORPEA SA	-67.6%
CINT GROUP AB COMMON STOCK SEK.1	-66.1%

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

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.1%	0.1%	0.1%	0.0%	1.6%	-0.2%	5.0%	5.8%			
Materials	0.1%	0.1%	0.0%	-0.1%	8.1%	6.5%	5.8%	8.8%			
Industrials	-0.2%	-0.2%	0.0%	0.0%	8.1%	9.7%	13.7%	13.4%			
Consumer Discretionary	0.6%	0.3%	0.1%	0.1%	13.7%	10.4%	14.3%	11.4%			
Consumer Staples	-0.1%	-0.1%	0.0%	0.0%	5.5%	6.2%	10.0%	8.5%			
Health Care	0.3%	0.3%	0.0%	0.0%	6.7%	4.0%	10.6%	9.5%			
Financials	0.3%	0.0%	0.2%	0.0%	1.8%	1.3%	16.1%	19.6%			
Information Technology	0.1%	0.0%	0.2%	0.0%	15.9%	16.6%	12.2%	10.7%			
Communication Services	0.3%	0.2%	0.1%	0.1%	14.7%	11.2%	6.7%	5.6%			
Utilities	0.2%	0.2%	0.0%	0.0%	9.9%	3.0%	3.5%	3.4%			
Real Estate	0.2%	0.0%	0.2%	0.0%	-1.4%	-1.6%	1.2%	3.3%			
Cash	0.0%	0.0%	0.0%	0.0%	1.1%	--	0.9%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	15.5%	--	0.0%	0.0%			
Portfolio	1.8%	=	1.0%	+	0.7%	+	0.2%	8.4%	6.6%	100.0%	100.0%

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

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	5.6%	5.3%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Belgium	9.3%	6.2%	0.6%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	32.9%	31.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Denmark	14.3%	12.1%	0.8%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Finland	2.9%	1.9%	0.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
France	15.1%	14.3%	6.1%	6.9%	0.1%	-0.1%	0.0%	0.0%	0.0%
Germany	18.3%	14.4%	3.1%	4.9%	0.2%	-0.1%	0.0%	-0.1%	0.0%
Greece*	15.5%	15.5%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Hungary*	4.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ireland	4.1%	20.9%	0.6%	0.4%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Italy	13.1%	14.6%	2.5%	1.6%	0.0%	0.1%	0.0%	0.0%	0.0%
Luxembourg	54.5%	6.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
Netherlands	14.9%	16.0%	4.9%	2.5%	0.0%	0.2%	0.1%	0.0%	0.2%
Norway	-5.4%	-4.5%	0.2%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	-1.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Portugal	8.6%	4.9%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Spain	20.5%	14.4%	1.5%	1.5%	0.1%	0.0%	0.0%	0.0%	0.1%
Sweden	8.5%	10.3%	1.5%	2.4%	0.0%	0.0%	0.0%	0.0%	-0.1%
Switzerland	10.9%	7.4%	4.1%	6.0%	0.2%	0.0%	0.0%	-0.1%	0.1%
United Kingdom	10.5%	5.8%	12.3%	9.8%	0.5%	-0.1%	0.1%	0.1%	0.6%

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

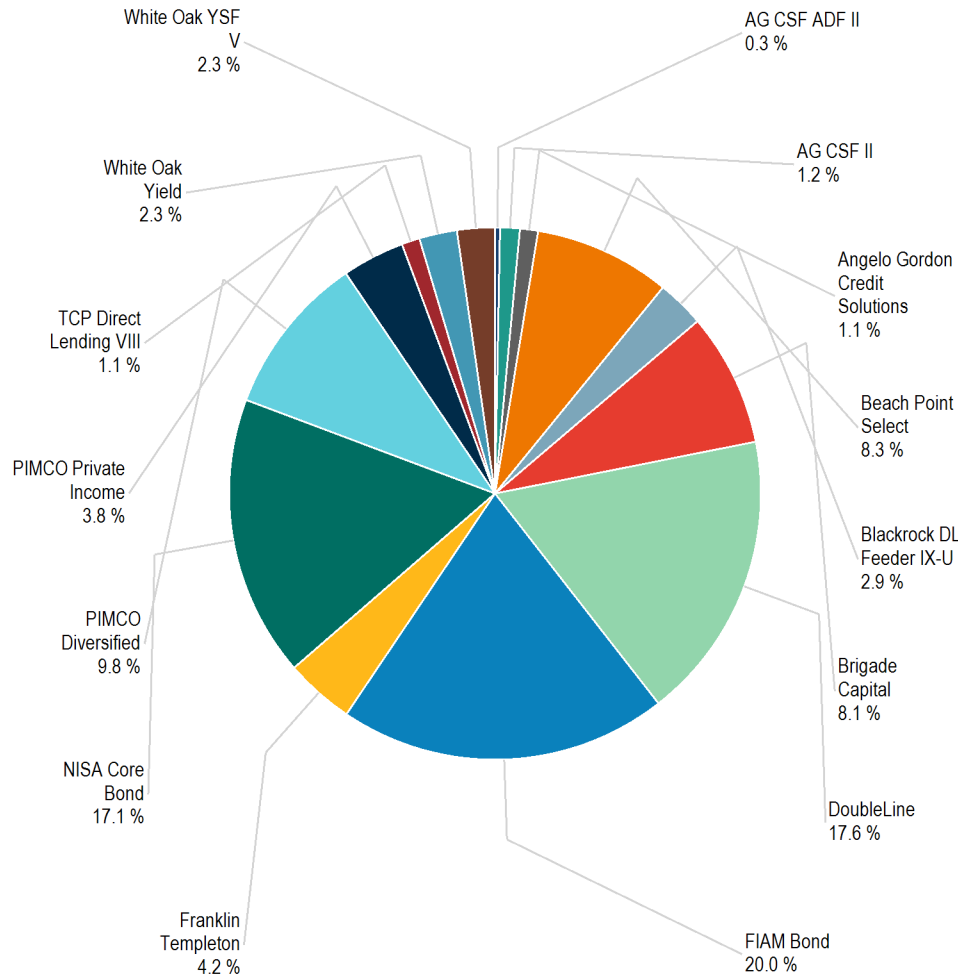
	Returns and Weights				Attribution Effects				Total Effects	
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect		
AsiaPacific										
Australia	2.5%	2.0%	2.7%	5.3%	0.0%	0.1%	0.0%	0.0%	0.1%	
China*	4.0%	4.5%	7.0%	8.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
Hong Kong	4.2%	-1.9%	4.7%	1.9%	0.1%	-0.2%	0.0%	0.2%	0.1%	
India*	-4.6%	-5.7%	4.6%	4.4%	0.0%	0.0%	0.0%	0.0%	0.0%	
Indonesia*	5.8%	5.7%	0.5%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
Japan	6.6%	5.9%	19.7%	15.0%	0.1%	0.0%	0.0%	0.0%	0.1%	
Korea*	8.1%	9.4%	2.7%	3.3%	0.0%	0.0%	0.0%	0.0%	-0.1%	
Malaysia*	-3.0%	-2.5%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
New Zealand	21.0%	4.1%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	
Philippines*	3.5%	3.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
Singapore	-0.8%	5.5%	2.2%	1.0%	-0.1%	0.0%	0.0%	-0.1%	-0.1%	
Taiwan*	17.5%	14.7%	4.1%	4.1%	0.1%	0.0%	0.0%	0.0%	0.1%	
Thailand*	-2.5%	-1.5%	0.4%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	
Americas										
Argentina*	55.8%	4.7%	0.5%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	
Brazil*	0.3%	-0.6%	1.8%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
Canada	7.3%	4.6%	4.0%	7.7%	0.2%	0.1%	0.0%	-0.1%	0.2%	
Chile*	5.9%	5.8%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
Colombia*	-11.1%	-11.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Mexico*	18.2%	21.8%	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
Peru*	-2.3%	8.3%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
United States	8.1%	7.6%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

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

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	-7.4%	-8.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Israel	-2.7%	-2.7%	0.2%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Kuwait*	-3.3%	-3.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	-1.3%	-1.3%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Saudi Arabia*	1.3%	1.4%	0.4%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	-1.6%	-1.4%	0.4%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Turkey*	-12.2%	-12.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	-7.0%	-7.1%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	9.0%	4.9%	8.9%	10.0%	0.4%	0.0%	0.0%	0.0%	0.4%
Europe	12.9%	10.3%	39.4%	40.6%	1.0%	0.0%	0.1%	0.0%	1.0%
Asia/Pacific	5.4%	4.5%	49.4%	45.4%	0.4%	0.0%	0.0%	0.0%	0.3%
Other	-2.3%	-2.1%	1.5%	4.0%	0.0%	0.2%	0.0%	0.0%	0.2%
Cash	1.1%	--	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Unclassified	--	--	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Total	8.5%	6.6%	100.0%	100.0%	1.7%	0.1%	0.1%	0.0%	1.9%
Totals									
Developed	9.5%	7.6%	74.7%	71.9%	1.3%	0.0%	0.1%	0.1%	1.5%
Emerging*	5.7%	4.1%	24.4%	28.1%	0.4%	0.1%	0.0%	-0.1%	0.5%
Cash	1.1%	--	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Fixed Income Manager Allocation Analysis

Period Ending: March 31, 2023



	Actual \$	Actual %	Manager Contribution to Excess Return %
AG CSF ADF II	\$3,889,506	0.3%	0.0%
AG CSF II	\$15,216,839	1.2%	-0.1%
Angelo Gordon Credit Solutions	\$14,402,310	1.1%	0.0%
Angelo Gordon Opportunistic	\$88,267	0.0%	0.0%
Beach Point Select	\$108,853,139	8.3%	-0.1%
Blackrock DL Feeder IX-U	\$37,884,295	2.9%	-0.1%
Brigade Capital	\$106,814,579	8.1%	-0.1%
DoubleLine	\$232,285,268	17.6%	0.2%
FIAM Bond	\$263,295,617	20.0%	0.0%
Franklin Templeton	\$54,810,404	4.2%	-0.1%
NISA Core Bond	\$225,617,910	17.1%	0.0%
PIMCO Diversified	\$129,367,276	9.8%	0.0%
PIMCO Private Income	\$50,228,788	3.8%	-0.1%
TCP Direct Lending VIII	\$14,533,963	1.1%	0.0%
White Oak Yield	\$29,924,349	2.3%	0.0%
White Oak YSF V	\$30,540,230	2.3%	0.0%
Core Fixed Income Overlay	\$0	0.0%	0.0%
Actual vs. Policy Weight Difference			-0.3%
Total	\$1,317,752,739	100.0%	-0.7%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	0.7%	5.1%	0.0	0.3	2.5%
Blended Fixed Income Index	0.0%	6.7%	-0.1	--	0.0%
Core Fixed	-1.9%	6.0%	-0.5	0.8	1.1%
Bloomberg US Aggregate TR	-2.8%	6.3%	-0.6	--	0.0%
FIAM Bond	-1.1%	6.5%	-0.3	1.6	1.1%
Bloomberg US Aggregate TR	-2.8%	6.3%	-0.6	--	0.0%
Opportunistic Credit	5.8%	4.8%	1.0	0.1	5.8%
Bloomberg BA Intermediate HY	5.3%	8.8%	0.5	--	0.0%
Angelo Gordon Opportunistic	17.2%	13.7%	1.2	1.3	15.0%
Bloomberg US Aggregate TR	-2.8%	6.3%	-0.6	--	0.0%
Beach Point Select	11.6%	6.3%	1.7	0.9	6.8%
Bloomberg BA Intermediate HY	5.3%	8.8%	0.5	--	0.0%
Brigade Capital	9.8%	7.0%	1.3	0.7	6.9%
Bloomberg BA Intermediate HY	5.3%	8.8%	0.5	--	0.0%
PIMCO Diversified	0.7%	8.3%	0.0	-1.0	1.0%
Blended PIMCO Diversified Index	1.7%	8.3%	0.1	--	0.0%
Franklin Templeton	-4.3%	10.2%	-0.5	-0.2	6.6%
Bloomberg Multiverse TR	-3.1%	8.1%	-0.5	--	0.0%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Private Credit	7.4%	3.3%	1.9	-1.4	2.4%
Cliffwater Direct Lending Index	10.7%	4.7%	2.1	--	0.0%
PIMCO Private Income	9.9%	6.7%	1.4	0.4	11.1%
Bloomberg BA Intermediate HY	5.3%	8.8%	0.5	--	0.0%
TCP Direct Lending VIII	6.2%	2.1%	2.5	-1.0	4.5%
Cliffwater Direct Lending Index	10.7%	4.7%	2.1	--	0.0%
White Oak Yield	4.9%	2.7%	1.5	-1.8	3.1%
Cliffwater Direct Lending Index	10.7%	4.7%	2.1	--	0.0%

Statistics Summary

5 Years

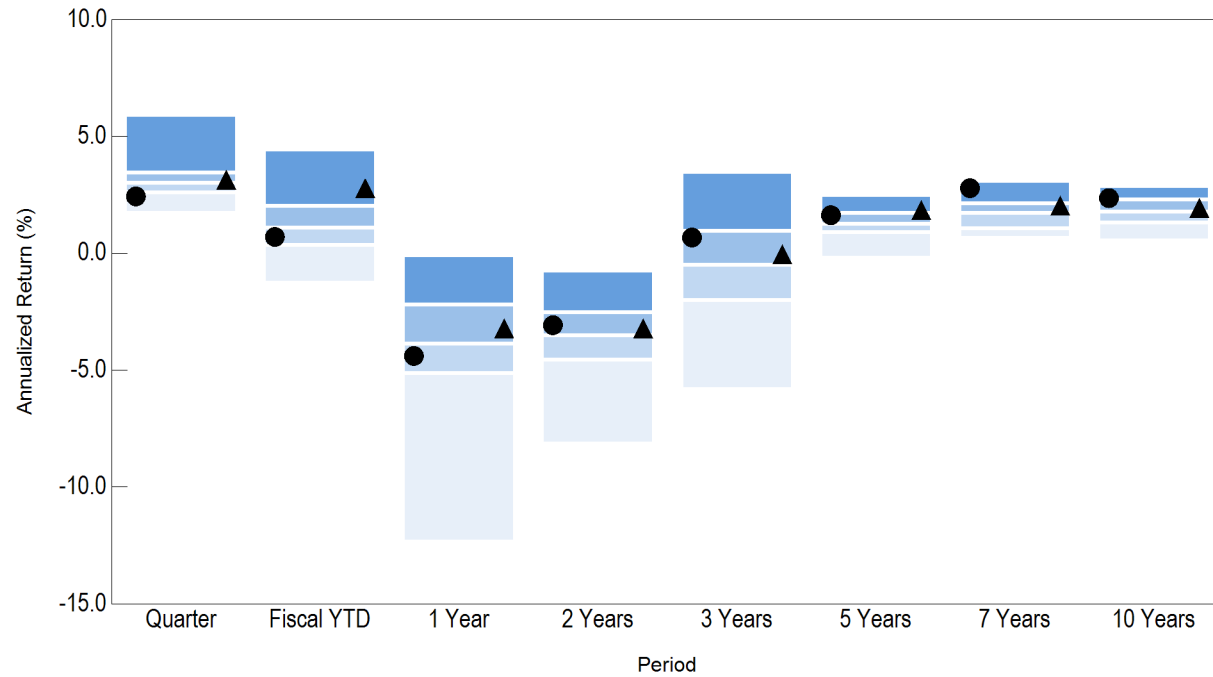
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	1.6%	4.6%	0.1	-0.1	2.2%
Blended Fixed Income Index	1.8%	5.8%	0.1	--	0.0%
Core Fixed	0.7%	5.0%	-0.1	-0.1	1.4%
Bloomberg US Aggregate TR	0.9%	5.5%	-0.1	--	0.0%
FIAM Bond	1.6%	5.6%	0.1	0.6	1.3%
Bloomberg US Aggregate TR	0.9%	5.5%	-0.1	--	0.0%
Opportunistic Credit	3.3%	6.1%	0.3	-0.1	4.8%
Bloomberg BA Intermediate HY	3.7%	8.4%	0.3	--	0.0%
Angelo Gordon Opportunistic	9.5%	16.4%	0.5	0.5	17.2%
Bloomberg US Aggregate TR	0.9%	5.5%	-0.1	--	0.0%
Beach Point Select	6.4%	7.8%	0.7	0.5	5.7%
Bloomberg BA Intermediate HY	3.7%	8.4%	0.3	--	0.0%
Brigade Capital	2.9%	10.1%	0.2	-0.1	7.0%
Bloomberg BA Intermediate HY	3.7%	8.4%	0.3	--	0.0%
PIMCO Diversified	1.2%	7.8%	0.0	-0.2	1.1%
Blended PIMCO Diversified Index	1.5%	8.2%	0.0	--	0.0%
Franklin Templeton	-3.9%	9.4%	-0.6	-0.4	7.6%
Bloomberg Multiverse TR	-1.2%	6.8%	-0.4	--	0.0%

Statistics Summary

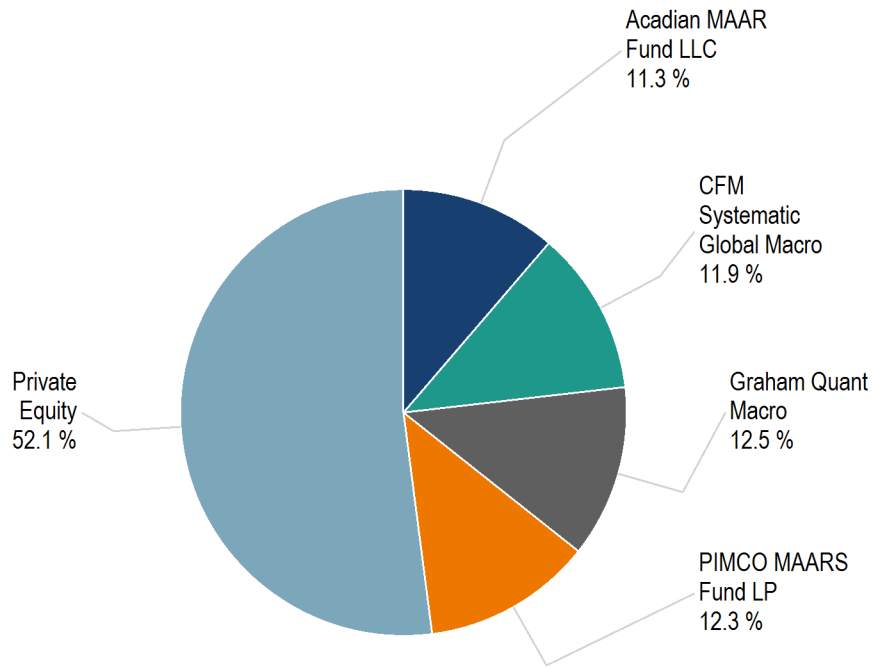
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Private Credit	6.4%	3.5%	1.4	-0.8	2.3%
Cliffwater Direct Lending Index	8.3%	4.9%	1.4	--	0.0%
TCP Direct Lending VIII	5.9%	2.7%	1.7	-0.6	4.3%
Cliffwater Direct Lending Index	8.3%	4.9%	1.4	--	0.0%
White Oak Yield	5.3%	2.9%	1.4	-0.9	3.2%
Cliffwater Direct Lending Index	8.3%	4.9%	1.4	--	0.0%

InvMetrics All DB Total Fix Inc Net Return Comparison



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	5.9	4.4	-0.1	-0.8	3.5	2.5	3.1	2.9
25th Percentile	3.5	2.1	-2.2	-2.5	1.0	1.7	2.2	2.3
Median	3.0	1.1	-3.9	-3.5	-0.5	1.3	1.7	1.8
75th Percentile	2.6	0.4	-5.1	-4.5	-2.0	0.9	1.1	1.3
95th Percentile	1.8	-1.3	-12.3	-8.1	-5.8	-0.2	0.7	0.6
# of Portfolios	239	229	212	202	201	192	176	143
● Fixed Income	2.4 (81)	0.7 (64)	-4.4 (60)	-3.1 (40)	0.7 (32)	1.6 (29)	2.8 (7)	2.4 (21)
▲ Blended Fixed Income Index	3.1 (39)	2.8 (16)	-3.2 (38)	-3.2 (45)	0.0 (43)	1.8 (19)	2.0 (33)	1.9 (45)



	Actual \$	Actual %	Manager Contribution to Excess Return %
Aberdeen Standard GARS	\$0	0.0%	0.0%
Acadian MAAR Fund LLC	\$81,364,729	11.3%	-0.3%
CFM Systematic Global Macro	\$85,894,175	11.9%	-0.6%
Graham Quant Macro	\$90,104,309	12.5%	-0.2%
PIMCO MAARS Fund LP	\$88,597,463	12.3%	-0.5%
Private Equity	\$376,695,218	52.1%	-3.6%
Actual vs. Policy Weight Difference			0.0%
Total	\$722,655,894	100.0%	-5.3%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	14.5%	14.3%	1.0	0.5	14.3%
Blended Alternatives Index	7.7%	10.4%	0.7	--	0.0%
Private Equity	21.6%	25.1%	0.8	0.4	26.0%
Blended Private Equity Index	10.1%	21.2%	0.4	--	0.0%
Hedge Fund/Absolute Return	4.7%	6.4%	0.6	-0.1	6.6%
Absolute Return Custom Index	5.0%	0.5%	8.9	--	0.0%

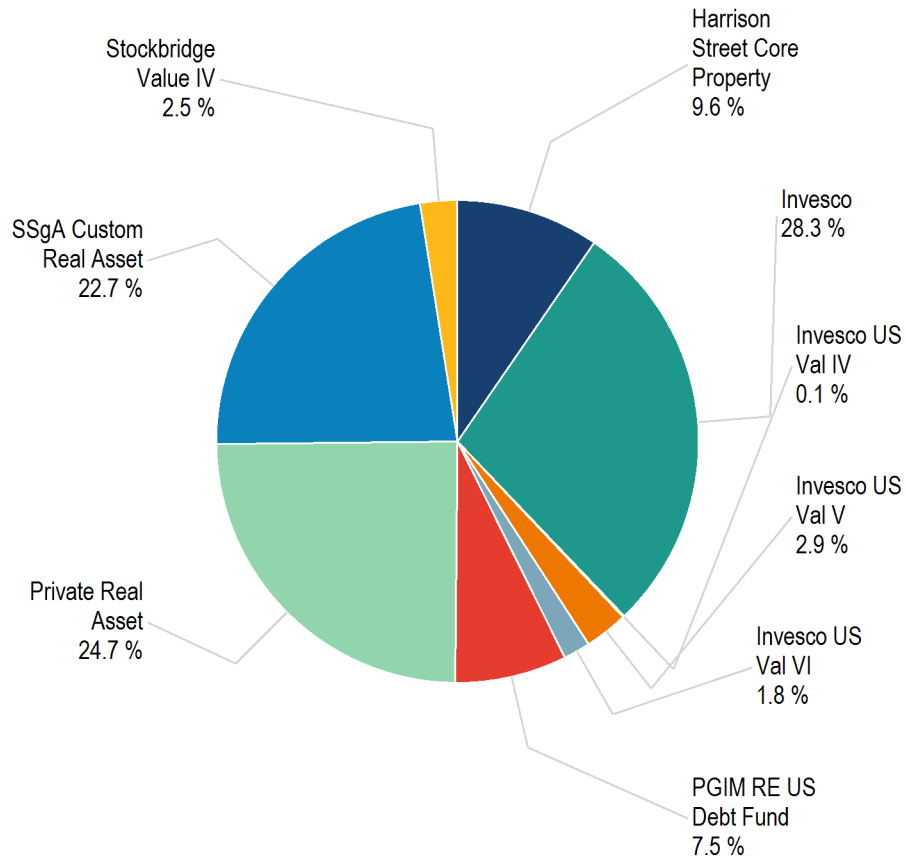
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	10.0%	12.4%	0.7	0.1	12.8%
Blended Alternatives Index	8.8%	9.2%	0.8	--	0.0%
Private Equity	20.5%	21.2%	0.9	0.4	22.6%
Blended Private Equity Index	11.8%	18.7%	0.6	--	0.0%
Hedge Fund/Absolute Return	-2.3%	7.1%	-0.5	-1.1	7.2%
Absolute Return Custom Index	5.5%	0.4%	10.4	--	0.0%

Inflation Hedge Manager Allocation Analysis

Period Ending: March 31, 2023



	Actual \$	Actual %	Manager Contribution to Excess Return %
Harrison Street Core Property	\$96,895,435	9.6%	0.2%
Invesco	\$285,382,497	28.3%	-0.3%
Invesco US Val IV	\$877,087	0.1%	0.0%
Invesco US Val V	\$29,419,076	2.9%	0.1%
Invesco US Val VI	\$18,234,450	1.8%	0.0%
PGIM RE US Debt Fund	\$75,441,317	7.5%	0.3%
Stockbridge Value IV	\$25,302,031	2.5%	0.1%
Private Real Asset	\$249,408,623	24.7%	-2.8%
SSgA Custom Real Asset	\$228,841,535	22.7%	0.0%
Actual vs. Policy Weight Difference			0.0%
Total	\$1,009,802,051	100.0%	-2.2%

Statistics Summary

3 Years

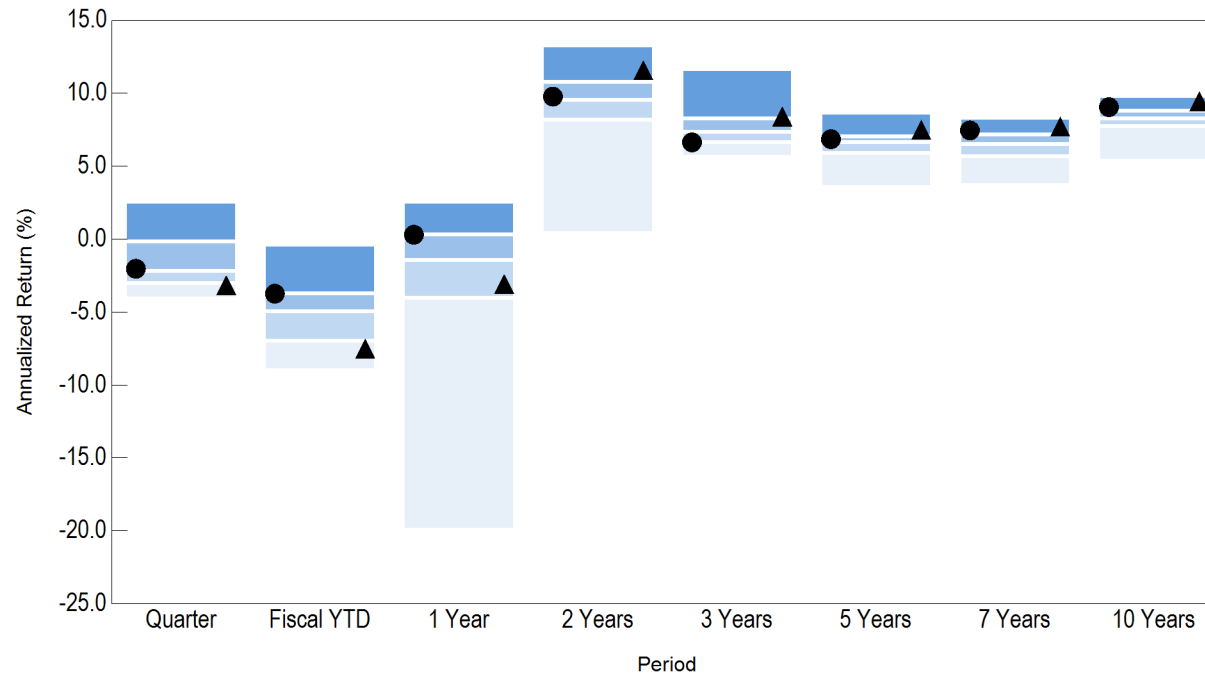
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Inflation Hedge	10.3%	5.4%	1.7	-0.4	5.0%
Blended Inflation Hedge Index	12.3%	7.9%	1.4	--	0.0%
Real Estate	6.6%	6.5%	0.9	-0.6	3.1%
NCREIF ODCE	8.4%	8.8%	0.9	--	0.0%
Invesco	6.4%	9.0%	0.6	-0.8	2.5%
NCREIF ODCE	8.4%	8.8%	0.9	--	0.0%
Invesco US Val IV	-13.0%	23.1%	-0.6	-0.9	23.6%
NCREIF ODCE	8.4%	8.8%	0.9	--	0.0%
Invesco US Val V	9.0%	10.0%	0.8	0.1	7.2%
NCREIF ODCE	8.4%	8.8%	0.9	--	0.0%
PGIM RE US Debt Fund	5.5%	1.0%	4.6	-0.3	8.8%
NCREIF ODCE	8.4%	8.8%	0.9	--	0.0%
Private Real Asset	13.4%	13.1%	1.0	0.3	23.8%
Blended Private Real Asset Index	6.5%	22.2%	0.3	--	0.0%
Public Real Assets	16.8%	13.3%	1.2	-0.4	0.8%
Blended Public Real Asset Index	17.1%	13.3%	1.2	--	0.0%
SSgA Custom Real Asset	16.8%	13.3%	1.2	-0.4	0.8%
SSgA Custom Real Asset Index	17.1%	13.3%	1.2	--	0.0%

Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error Rank
Inflation Hedge	4.6%	6.7%	0.5	-0.6	--
Blended Inflation Hedge Index	7.2%	7.4%	0.8	--	--
Real Estate	6.9%	5.3%	1.0	-0.3	40
NCREIF ODCE	7.5%	7.0%	0.9	--	1
Invesco	6.7%	7.2%	0.7	-0.4	--
NCREIF ODCE	7.5%	7.0%	0.9	--	--
Invesco US Val IV	-3.9%	18.4%	-0.3	-0.6	--
NCREIF ODCE	7.5%	7.0%	0.9	--	--
PGIM RE US Debt Fund	5.7%	1.8%	2.5	-0.3	--
NCREIF ODCE	7.5%	7.0%	0.9	--	--
Private Real Asset	6.9%	11.8%	0.5	0.0	--
Blended Private Real Asset Index	6.5%	18.9%	0.3	--	--
Public Real Assets	1.6%	17.5%	0.0	-0.9	--
Blended Public Real Asset Index	4.6%	15.4%	0.2	--	--
SSgA Custom Real Asset	4.6%	15.2%	0.2	0.0	--
SSgA Custom Real Asset Index	4.6%	15.4%	0.2	--	--

InvMetrics All DB Real Estate Pub Net Return Comparison



Return (Rank)

5th Percentile	2.5	-0.4	2.6	13.3	11.6	8.7	8.3	9.8
25th Percentile	-0.1	-3.7	0.4	10.8	8.3	7.1	7.2	8.8
Median	-2.2	-4.9	-1.4	9.6	7.4	6.7	6.5	8.3
75th Percentile	-3.0	-7.0	-4.0	8.2	6.7	5.9	5.7	7.8
95th Percentile	-4.0	-9.0	-19.9	0.4	5.7	3.6	3.7	5.4
# of Portfolios	76	75	75	73	72	71	67	63
● Real Estate	-2.0 (47)	-3.7 (26)	0.3 (26)	9.8 (45)	6.6 (76)	6.9 (38)	7.5 (15)	9.1 (13)
▲ NCREIF ODCE	-3.2 (79)	-7.5 (81)	-3.1 (71)	11.6 (16)	8.4 (24)	7.5 (16)	7.7 (12)	9.5 (8)

Acadian Asset Management – Acadian U.S. Managed Volatility

Acadian's goal is to build a portfolio focused on absolute return and risk with the aim of achieving an absolute return similar to or better than that of a domestic equity index but with lower volatility over the long term. Acadian targets absolute risk to be 25-35% less than a typical capitalization-weighted benchmark. That said, tracking error is not a major consideration and can appear relatively high due in part to Acadian's comfort with carrying large sector variations versus the benchmark. Acadian seeks to combine the values of all of the security-level factors to determine a peer-relative return forecast for each stock. Separately they make a top-down forecast for the stock's peer group, and then add that forecast to the stock's score. Acadian's managed volatility strategies utilize the same alpha forecasts as Acadian's active equity strategies but with risk being the initial consideration when constructing portfolios. Alpha forecasts play a modest role relative to the importance of risk estimates but are important to the goal of achieving a higher risk-adjusted return. Incorporation of alpha forecasts generally results in higher exposure to value, size and quality.

Acadian Asset Management – MAARS Fund

Acadian Multi-Asset Absolute Return (MAARS) strategy was inceptioned in November 2017. MAARS targets a volatility of 6%-8% and a return of cash plus 5%. This is a multi-factor strategy that aims to exploit behavioral inefficiencies within and across global markets and is designed to be diversifying, dynamic and defensive. It is market neutral, implemented using long and short positions across five primary asset classes (equity, fixed income, currency, commodities, and volatility) and over 100 underlying assets with a focus on liquid instruments. Return forecasts incorporate asset-specific and macroeconomic insights and are utilized to harvest active returns from within and across asset classes through market selection and directional positioning. The strategy integrates risk and return across asset classes. Avoidance of downside events is highlighted in the approach with a greater weighting in their models allocated to down market beneficiaries, such as quality factors, and asymmetric positioning which reduces positions when risk rises. Differentiated attributes of this approach are its approach and weighting to commodities and its volatility sleeve which can incorporate long volatility.

Angelo, Gordon & Co. – AG Opportunistic Whole Loan Fund

The Angelo Gordon Opportunistic Whole Loan (OWL) Fund was established to make investments primarily in a portfolio of non-performing loans (NPLs) and re-performing loans (RPLs). AG sees a lot of operational inefficiency in the market place. By acquiring these loans at a discounted price and replacing original servicers with better-focused special servicers, AG believes it can improve operational efficiency and generate attractive returns. In addition, OWL may also include investments in new residential mortgage loans and excess mortgage servicing rights. Opportunistic investments in commercial mortgage loans and other mortgage related investments may also be included in the Fund's portfolio. OWL is towards the end of its fund life and is continuing to sell down the fund's holdings and distribute proceeds to LPs.

Angelo, Gordon & Co. – Credit Solutions

The Angelo Gordon (AG) Credit Solutions Fund (CSF) expects to hold concentrated positions of 5-8% of NAV (averaging 30 positions over the life of the Fund with recycling). The Fund is targeting a net 15% IRR with a 5-7% current yield. The Fund should be 70% concentrated in the U.S. with the balance in Europe. Finally, while the opportunities can be sourced from both the public markets and the private markets, AG is finding compelling sources of return at this time through structuring new privately placed secured term loans out of public investments made by the firm. CSF will address corporate credit-based opportunities created in three main areas: 1) trading-based price dislocations that reduce creation multiples (price through the debt that must be repaid before value accrues to other stakeholders) while generating high current income; 2) opportunities in issuers tied to industries directly impacted by COVID-19 where the market's perception of the impact differs from the actual impact; and 3) corporate debt issuers that will be materially impacted by the pandemic and will need to restructure, but whose creation value is materially lower than the issuer's intrinsic value.

Angelo, Gordon & Co. – CSF (Annex) Dislocation II

The Angelo Gordon Annex Dislocation Fund II (ADFII)'s investment aim is to target senior securities of world-class businesses with irreplaceable assets and strong cash flow profiles which, because of market stress, can be purchased at a material discount to what they believe is a company's long-term intrinsic value. ADFII will invest opportunistically in securities or claims of companies in North America and Europe for which prices have, in Angelo Gordon's view, dislocated from long term fundamentals due to situational market volatility and stress.

Angelo, Gordon & Co. – Credit Solutions II

Like its predecessor funds, the Angelo Gordon (AG) Credit Solutions Fund II (CSF II) is an all-weather, solutions-based strategy that targets net returns of 14+% with 5-7% current yield. The Fund will invest in single-name opportunities where price movements and credit documents afford creative financing solutions. This could include companies with upcoming debt maturities, working capital issues, or inefficient capital structures that are inflating financing costs. In these cases, AG will seek to work with management and other creditors to structure a bespoke transaction that avoids bankruptcy and solves the issue for the company in exchange for debt securities with conservative attachment points and healthy yield. While the opportunities are likely to be sourced 75% from the public markets and 25% from the private markets, the "solutions" will likely be private products. During periods of dislocation, the Fund can pivot towards trading-oriented strategies where there is not a need for additional financing, such as sourcing debt in the secondary markets at discounts to intrinsic value. CSF II expects to hold concentrated positions of 5-8% of NAV (averaging 30 positions over the life of the Fund with recycling). The fund should be 70% concentrated in the U.S. with the balance in Europe.

Baillie Gifford – ACWI ex US Focus Equities

ACWI ex US Focus is a fundamental growth strategy. Research is organized primarily by regional teams, with each member of the ACWI ex US Focus Portfolio Construction Group representing a regional team. Four global sector groups also contribute research. Baillie Gifford conducts approximately 2000 company meetings annually both in Edinburgh and onsite. Companies are evaluated on their growth opportunity relative to the average company, their ability to execute on that opportunity, and the degree to which probability of future success is already valued by the market. Baillie Gifford's basic philosophy is that share prices ultimately follow earnings. They believe that the stock market has a recurring tendency to under-appreciate the value of long-term compound growth. The process seeks to add value through use of proprietary fundamental research to identify companies exhibiting some combination of sustained above average growth, and attractive financial characteristics. The portfolio generally holds 60-90 stocks, with country and sector weights +/-10% relative to the index and stock weights +/- 5% relative to the index.

Beach Point Capital Management, L.P. - Beach Point Select Fund

Beach Point Select Fund is a commingled fund vehicle within the firm's Opportunistic Credit strategy. This fund focuses on off-the-run, complex, and less-liquid securities. It is a best ideas portfolio of distressed debt, special situations, private/direct loans, catalyst-driven high yield bonds and bank loans, and credit-informed equities with a North American and European focus. The Select Fund differs from other funds and accounts in the Opportunistic Credit strategy by pursuing a more concentrated portfolio and emphasizing a higher percentage of less-liquid/private investments. Beach Point invests up and down the entire capital structure and it constructs portfolios with a bottom-up, research-driven approach that also takes into account top-down macro considerations. Its investment process includes idea generation, detailed credit analysis, relative value decision making and investment selection, portfolio construction and on-going monitoring. The ultimate goal of its investment process is to produce a well-diversified investment portfolio with limited downside risk and substantial upside potential.

BlackRock – MSCI ACWI ex US IMI Index

The ACWI ex US IMI Index Fund seeks to replicate the return of the MSCI ACWI ex US IMI Index. This index represents the developed equity markets outside of North America, including small cap equity. BlackRock monitors their funds daily to ensure that additions and deletions to the indexes, mergers and acquisitions, restructurings and other capitalization changes are made to the fund in such a way as to minimize tracking error and transactions costs.

BlackRock – Russell 1000 Index

The Russell 1000 Index Fund tracks large U.S. companies and achieve broad diversification with low costs by fully replicating the Russell 1000 Index. BlackRock monitors their funds daily to ensure that additions and deletions to the indexes, mergers and acquisitions, restructurings and other capitalization changes are made to the fund in such a way as to minimize tracking error and transactions costs.

BlackRock (formerly Tennenbaum Capital Partners) - Direct Lending Funds VIII and IX

TCP Direct Lending Fund VIII is a private investment fund managed by Tennenbaum Capital Partners ("TCP"). The Fund is designed to continue TCP's successful strategy of investing in privately-originated, performing senior secured debt primarily in North America-based companies with target enterprise values between \$100 million and \$1.5 billion. The Fund will include positions in 1st lien, 2nd lien and unitranche debt, with a preference for floating-rate debt, which TCP believes provides better flexibility to adapt to market conditions. TCP's direct lending strategy has generated attractive investment opportunities across market cycles, as evidenced by the Firm's prior direct lending track record. Fund VIII targets an unlevered annual yield of approximately 9-12%, with its return primarily driven by current income. SamCERA committed \$35 million to DLF VIII in June 2016 in its unlevered fund sleeve and \$35 million to the DLF IX in June 2019.

Brigade – Opportunistic Credit

Opportunistic Credit is a fundamental, bottom-up strategy focused on high yield corporate bonds and bank loans with tactical allocations to structured securities, convertibles, and other sectors of the bond markets as they become attractive on a relative value basis. While performing credits represent the majority, Brigade will invest up to 35% of the portfolio in distressed securities and restructuring situations if these types of opportunities are attractive on a risk-adjusted basis and the timing is right with respect to the credit cycle. The portfolio is comprised of mostly North American issuers, but they are not restricted geographically and expect to have a moderate allocation to Europe over time. Although the portfolio is generally long-only, Brigade has the ability to implement a limited amount of tactical macro hedges.

CFM - Systematic Global Macro

Capital Fund Management (CFM) Systematic Global Macro (SCM) is a directional strategy that takes long and short positions in liquid future and forwards across 130+ markets and across equities, bonds, currencies, and commodities. It is a new strategy that draws on model signals from existing strategies at the firm – Discus (diversified CTA), CFM ISTrends (trend following) and CFM ISTrend Equity Capped (defensive trend following) - and SamCERA is a seed investor with an attractive fee. SGM's objective is to provide absolute returns that are uncorrelated with traditional asset classes over a long time horizon with an annualized volatility target between 8% and 12%. SGM uses a diverse set of trading strategies that are based on factors (momentum, value, carry, macro and sentiment) across asset classes. These technical and fundamental factors operate at different time scales and can have varying degrees of influence on performance depending on market and economic conditions. An additional global macro defensive overlay is combined with these outputs in constructing the final portfolio. CFM uses a form of portfolio construction known as agnostic risk parity to ensure that the SGM portfolio is diversified on an out-of-sample basis. The goal of SGM is to generate consistent returns while limiting drawdowns.

DE Shaw – DE Shaw US Broad Market Core Alpha Extension Fund

The D. E. Shaw group believes that there exist some market inefficiencies that may be identified through quantitative analysis, advanced technology, and the insight of practitioners. Identifying these inefficiencies involves a process of hypothesis formulation, testing, and validation. Importantly, to avoid data-mining, the hypothesis formulation precedes the analysis of the historical data. D.E. Shaw's Structured Equity strategies rely largely on quantitative and computational investment techniques developed by the D. E. Shaw over the last two decades in the course of research conducted for purposes of managing the firm's hedge funds. D.E. Shaw's investment process involves a suite of quantitative models, each designed to capitalize on a distinct and uncorrelated set of market inefficiencies. Some of these models are technical in nature and involve price and volume inputs. Other models rely on fundamental data, such as figures gleaned from corporate balance sheets or income statements. Still others, again quantitative, anticipate or react to a particular corporate event or set of events. These models typically operate with forecast horizons of a few weeks to many months. The ability to trade on shorter-term signals distinguishes D.E. Shaw from many of its long only and 130/30 peers. Portfolio construction involves the use of a proprietary optimizer which runs dynamically throughout the trading day. The portfolio is broadly diversified with several hundred long and short positions. Over- and under-weighting of sectors and industries relative to the benchmark will be quite modest, with the intention that most of the alpha be generated by security selection. The US Broad Market Core Alpha Extension Fund is a 130/30 strategy which maintains a beta that is approximately neutral to the Russell 1000 Index.

DoubleLine – Securitized Income

The DoubleLine Securitized Income strategy is an actively managed, liquid, long only, intermediate-term fixed income product. The primary objective of the strategy is to seek and maximize current income and total return by utilizing a combination of Agency MBS and structured credit. The DoubleLine Structured Products team aims to offer clients investment grade exposure to both interest rate duration and credit spread to provide a more attractive total return profile compared to the benchmark. 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 takes a barbelled approach to investing in the securitized market, and they will separate rates from credit and will adjust the allocations to both at the based on the economic cycle and opportunities. Duration positioning is achieved through Agency MBS, Agency CMBS, and treasuries while credit exposure is attained through all areas of structured credit.

Fidelity (FIAM) – Broad Market Duration Commingled Pool

Pyramis' Broad Market Duration (BMD) investment strategy seeks to achieve absolute and risk-adjusted returns in excess of the BC U.S. Aggregate Index, focusing its investments in US Treasuries, agencies, investment grade corporate bonds, mortgage-backed and asset-backed securities. The BMD commingled pool can also hold small, opportunistic positions in out-of-benchmark securities, such as inflation-linked bonds. The investable universe includes all US dollar denominated, investment grade debt securities. The BMD investment approach emphasizes issuer and sector valuation and individual security selection. Through the integration of fundamental and quantitative research and trading, the BMD strategy is implemented in a team environment. Risk management technology is utilized to explicitly quantify benchmark exposures on a daily basis, and Pyramis uses the same analytical framework to assess both index and portfolio risk. Tracking error should range between 40 and 60 basis points per annum over the benchmark, and stringent portfolio construction risk control rules are strictly adhered to.

Franklin Templeton Investments – Global Fixed Income

Franklin Templeton manages the global bond mandate in an unconstrained fashion using a top-down, fundamental framework. In the short term and on a country-by-country basis there are often inefficiencies in global bond and currency markets, however, over the longer term the market will generally price to fundamentals. Thus, FT focuses on fundamental research to identify long-term opportunities and uses short-term market inefficiencies to build positions in such investments. The investment and portfolio construction process begin with the determination of the Fund's or institutional client's investment objectives, resulting in a set of risk-return parameters and exposure limits within which the portfolio is managed. Next the firm's global economic outlook for the industrialized countries is developed, with a focus on interest rate and exchange rate forecasts. The portfolio's interest rate outlook is a function of global general equilibrium macroeconomic analysis as well as country-specific research. Macroeconomic conditions in the G-3 economies are analyzed first, primarily with respect to how current and projected growth and inflation dynamics are expected to influence monetary policy. This analysis is then extended out to the rest of the industrialized countries (G-13) as well as emerging markets, which results in broad targets for cash, duration, currencies and the developed/emerging market mix. Using the firm's interest rate and exchange rate outlook, probability-weighted horizon returns for bonds of various countries are then calculated. This analysis is used to establish specific country weights and duration targets based on risk-adjusted expected total return measured in the portfolio's base currency. Analysis of emerging markets includes sovereign credit analysis along with greater emphasis on capital flows, inter-market dynamics and trends in the level of risk aversion in the market.

Graham – Quant Macro Fund

Graham Quant Macro ("GQM") is a directional, long and short strategy that utilizes fundamental and price-based indicators to establish return forecasts across global interest rates, foreign exchange, stock indices and commodities. The strategy incorporates a variety of submodels that generate macro fundamental forecasts, assess yield and earnings differentials, compare current valuations relative to historic fair value, and analyze directional price trends across markets. Quantitative risk management and portfolio construction techniques are used to diversify risk across the portfolio and enhance risk-adjusted returns. Historically, the average holding period has been approximately eight to ten weeks, although the sub-models will make daily adjustments to positions. The strategy is designed to have low correlation to traditional markets and other alternative strategies and has the potential to provide significant portfolio diversification benefits.

Harrison Street Core Property

Based in Chicago, Harrison Street's exclusive focus since inception in 2005 has been investing in non-core property sectors of the real estate market. The Harrison Street Core Fund is an open-end fund that invests primarily in stabilized education, healthcare, and self-storage real estate assets in the United States using modest leverage with an emphasis on generating current income. The focus on these alternative property types is intended to concentrate on areas of the real estate market that are less GDP sensitive with demand drivers that are more demographic driven such as aging populations, education growth and healthcare delivery. Each of these areas tend to be less tied to the business cycle, have fragmented ownership and more operationally intensive. The fund acts as a diversifier within real estate portfolios with sector exposures that are not a typical focus of other core ODCE funds.

INVESCO Realty Advisors – INVESCO Core Equity, LLC

SamCERA is a founding member of INVESCO's open-end Core Equity real estate fund and rolled its separate account properties into the fund. INVESCO Core Equity, LLC (the "Fund") is a perpetual life, open-end vehicle which invests in a diversified portfolio of institutional quality office, retail, industrial and multifamily residential real estate assets. The Fund buys core properties that are located within the United States, typically requiring an investment of \$10 million or more. The portfolio cannot be more than 30% leveraged.

INVESCO Realty Advisors – INVESCO US Val IV, V, & VI

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund. The Invesco real estate team manages around \$62B in assets with investments and offices around the globe. Invesco Value Fund's looks to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments are limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA's). Invesco Value Fund's provide a complement to the more conservative Invesco Core Fund and offers the potential of enhanced returns to the SamCERA Real Estate portfolio.

Insight Investments – Cash Flow Matched Liquidity

Insight is the fixed income sleeve of Mellon Capital. The strategy seeks to invest in short duration fixed income securities that match the negative cash flows of the Plan (similar to an LDI plan). Insight receives estimates of three years of cash flows from the actuarial report. Once a year, if market conditions allow, SamCERA will re-invest "year 3" net cash flows. Insight uses their credit analysis team for analyzing all credits or potential investments to the fund.

Mondrian Investment Partners – International Equity

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

NISA – Core Bond

NISA applies a risk-controlled approach to all of its fixed income portfolios. This approach does not permit large bets or positions that generate significant tracking error versus the benchmark. Instead, NISA invests in a large number of small, diversified, active positions which seek tight tracking error to the chosen benchmark. Benchmark weight is a significant consideration when constructing and managing portfolios. The investment strategy is comprised of strategic (top-down) and tactical (bottom-up) decisions. Strategic decisions include sector selection and yield curve positioning while tactical decisions include industry and security selection and trading activity. Review of both strategic and tactical decisions is continual. The amount of portfolio risk budget devoted to one aspect versus the other will change as market conditions warrant. In general, strategic decisions change relatively infrequently, while tactical decisions, especially security selection, will change fairly often as market conditions provide opportunities. Over a typical market cycle, the bottom-up is expected to contribute to 70% of value-added while top-down is roughly 30%.

PanAgora Asset Management – Defensive U.S. Equity Low Volatility

PanAgora's Defensive Equity strategy seeks to harness the 'low-volatility premium' through a systematic, factor-based investment approach focused on achieving market-like returns with less risk. This is accomplished by leveraging PanAgora's proprietary Risk Parity portfolio construction methodology, which seeks to efficiently capture the equity premium associated with low volatility, while taking minimal unintended risks. Since the firm's inception, PanAgora has been using quantitative techniques to integrate fundamental insights with large amounts of dynamic market data. They score individual securities on a factor basis and also on a diversification basis, in the context of a broadly diversified portfolio. The portfolio construction process optimizes the portfolio around the intended factor exposure (volatility) while maintaining equal risk contribution across sectors (ex., overweight utilities and consumer staples, underweight financials and technology). Shorter term volatility and longer term correlation analysis is combined in the approach. The result for the US Defensive Equity strategy is a portfolio expected to have lower volatility (beta around 0.65-0.75), and similar returns relative to the capitalization-weighted benchmark over a full market cycle. PanAgora expects the strategy to participate in approximately 75% of up markets and 55% in down markets.

Parametric Overlay – Cash Overlay and Currency Hedge

Parametric's cash overlay program is an efficient way for SamCERA to maintain its target asset allocation in a systematic fashion through cash securitization at the fund and manager level, transition/reallocation support and asset class rebalancing back to target within defined bands. The cash overlay program is invested synthetically using liquid futures with cash balances reviewed daily. A combination of large and small cap futures implementation is the proxy for private equity. SamCERA's investment guidelines initially allowed only for cash overlay. Rebalancing was added to the SamCERA program in January 2014. Cash overlay and rebalancing is expected to add 10-20 bps to the portfolio over time. An additional currency overlay hedge placed on half of the notional value of developed international equities. The addition of currency hedging started in September 2018 and was fully implemented on 10/1/2019. The purpose of the currency is first and foremost to lower portfolio risk and secondarily to add incremental performance.

PIMCO Diversified

PIMCO's Diversified Income (DI) Fund is a multi-sector strategy that invests across a broad spectrum of global credit market sectors, including investment grade and high yield corporate debt, as well as emerging markets. The allocation among these will vary based on PIMCO's assessment of global trends and relative valuations. This active and dynamic approach allows for increased responsiveness in asset allocation to changing economic and market conditions while remaining anchored by PIMCO's investment process and longer-term orientation. The ability to invest globally helps to improve diversification and may allow investors to benefit from differences in business cycles across regions and credit quality trends across credit sectors. PIMCO's DI investment strategy seeks to provide high yield-like returns with lower volatility against a blended index (1/3 Bloomberg Barclays Global Agg Credit ex-EM; 1/3 BofA Merrill Lynch BB-B rated Developed Markets High Yield; 1/3 JPMorgan EMBI Global). The fund allows for a duration band of 3-8 years. The team focuses its investments into these groups: credit strategies (investment grade, high yield, emerging markets and non-core credits including MBS, municipals and other govt-related sectors); duration strategies (U.S. and non-U.S. duration) and currencies (tactical non-USD exposure).

PIMCO – MAARS

PIMCO MAARS is an alternative risk premia strategy that looks for risks associated with: (1) Supply and Demand Constraints, (2) Behavioral Biases, and (3) Asymmetric Risks (event risk). As reflected in the design of the MAARS strategies, PIMCO believes that alternative risk premia strategies are best implemented using a systematic approach that minimizes the discretionary inputs in day-to-day portfolio management. MAARS places a greater emphasis and weighting on global interest rates, currencies and commodities and a lesser emphasis on equities than many of its Alt Beta peers. Relative to Alt Beta peers, the strategy's rates and currency (FX) models are particularly robust, reflective of PIMCO's core competency and long history managing these asset classes using derivative instruments.

PIMCO Private Income Fund

PIMCO Private Income Fund (PIF) uses an opportunistic and flexible approach to global private credit. PIF provides a total return oriented global credit exposure utilizing both top-down sector relative value and bottom up security selection. The strategy invests across private residential, commercial, corporate and specialty finance markets. PIMCO's Private Income Fund (PIF) is targeting 8-12% net returns with income providing most of the fund's returns. The Private Income Investment Committee (IC) identifies market themes and direction for their relative value framework, and sector specialists provide recommendations to the PM team within that construct. PIF has the ability to invest throughout the capitalization structure. The fund can use a moderate amount of leverage to enhance portfolio returns (1.5 times with a hard cap of 2 times).

PGIM RE Debt

PGIM Real Estate US Debt Fund (PREDS) focuses on a loan origination strategy with a mix of 20% senior long duration loans on stable assets, 60% senior short/medium duration loans on stable and transitional assets, and 20% mezzanine mid/long duration debt. SamCERA was a founding investor in the PREDS strategy which invests in US commercial real estate debt in an open-ended vehicle with a return target of 7-8% (gross) coming from stable current income. The fund makes investments in first lien mortgages and mezzanine debt. First lien mortgages can be floating rate or fixed rate, but only floating rate loans will use leverage. Subordinate investments (mezzanine debt and preferred equity) will be limited by design. The fund can source and invest in secondary loans through a variety of Prudential real estate professionals, but the primary focus will be on direct origination through the real estate finance team.

Quantitative Management Associates – QMA Small-Cap Core

Quantitative Management Associates (QMA) utilizes a bottom-up quantitative framework in order provide a diversified exposure to core U.S. small-cap stocks, while attempting to produce consistent outperformance versus the benchmark with moderate tracking error levels. QMA uses an adaptive, systematic investment process to exploit opportunities created by mispriced securities to consistently add value over long time periods. Bottom-up stock selection drives exposure to key sources of alpha (valuation, growth, and quality). The QMA stock selection model adapts to changes in company growth rates and market environments by putting more emphasis on valuation for slowly growing companies, and more emphasis on future growth projections for companies with higher projected growth rates.

State Street Global Advisors (SSgA) Custom Real Asset

SSgA Custom Real Asset portfolio uses a portfolio of liquid real assets to proxy private real assets. The portfolio is comprised of equal weightings of the Bloomberg Roll Select Commodity Index, S&P Global Mid-Large Cap Natural Resources Index, S&P Global Infrastructure Index, and Bloomberg Barclays TIPS Index. SSgA provides beta exposure through these underlying liquid components which can be customized to changing client needs (ex., TIPS was added in May 2020 with the other three parts of the portfolio reduced pro-rata). The portfolio is used to fund upcoming private real asset mandates.

Stockbridge Value IV

Stockbridge Value IV will implement a value-added strategy that will seek to own assets that are undervalued, underutilized, and/or not operating to their full potential. The manager will add value with their internal asset management team through active strategies including additional capital investment, leasing, recapitalization, renovation and/or development. The fund will target three to five year holding periods for investments, with disposition taking place after the completion of the value-add strategy. The fund will target 15 to 25 mid-sized investments, diversified by geography and property type. The strategy will target 21 markets in the United States in which the firm has boots on the ground coverage with dedicated acquisitions professionals and asset managers responsible for knowing each market extensively with a vast network of relationships.

White Oak - White Oak Yield Spectrum Fund

The White Oak Yield Spectrum Fund's objective is to earn substantial current income by originating, extending, and/or investing in a diversified portfolio of primarily senior secured corporate credit and debt instruments consisting of term loans, asset-based loans and equipment leases and loans issued by small to middle-market companies located primarily in the United States and Canada. It focuses on providing self-originated deals for predominantly non-sponsored, privately-held borrowers.

White Oak - White Oak Yield Spectrum Fund V

The White Oak Yield Spectrum Fund's objective is to earn substantial current income by originating, extending, and/or investing in a diversified portfolio of primarily senior secured corporate credit and debt instruments consisting of term loans, asset-based loans and equipment leases and loans issued by small to middle-market companies located primarily in the United States and Canada. It focuses on providing self-originated deals for predominantly non-sponsored, privately-held borrowers.

Policy Index and Benchmark History

Period Ending: March 31, 2023

Total Plan Policy Index	As of															
	3/1/23	10/1/22	7/1/22	2/1/21	1/1/21	7/1/20	4/1/20	10/1/19	7/1/19	4/1/19	1/1/19	10/1/18	4/1/18	10/1/17	2/1/17	
10 Year Treasury +2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
60/40 MSCI World/Bloomberg Global Aggregate (RP)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	
60/40 Russell 3000/Bloomberg US Aggregate (RP)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
91 Day T-Bills	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Bloomberg US Govt/Credit 1-3 Yr. TR	4.5%	4.5%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Bloomberg Aggregate	12.5%	13.5%	16.5%	18.0%	21.0%	21.0%	18.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	12.0%	
Bloomberg BA Intermediate HY	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	8.0%	8.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	6.0%	
Bloomberg BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Bloomberg Credit BAA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Bloomberg Multiverse	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	
Bloomberg TIPS	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	
Bloomberg Commodity	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Citigroup non-US WGBI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
CPI + 5% (RA)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Blended Public Real Asset	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	0.0%	0.0%	
Blended Private Real Asset	5.0%	4.0%	4.0%	4.0%	3.0%	3.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	8.0%	7.0%	
Libor +4% (HF)	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
SOFR +4% (HF)	7.0%	7.0%	7.0%	7.0%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
MSCI ACWI ex-US	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
MSCI ACWI ex US IMI 100% Hedged (Net)	9.5%	9.5%	9.5%	9.5%	9.0%	9.0%	9.0%	9.0%	7.6%	5.7%	3.8%	1.9%	0.0%	0.0%	0.0%	
MSCI ACWI ex-US IMI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	19.0%	
MSCI ACWI ex-US IMI (Net)	9.5%	9.5%	9.5%	9.5%	9.0%	9.0%	9.0%	9.0%	11.4%	13.3%	15.2%	17.1%	19.0%	19.0%	0.0%	
MSCI EAFE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
NCREIF ODCE	9.0%	9.0%	9.0%	9.0%	10.0%	10.0%	9.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	7.0%	
NCREIF Property	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Russell 1000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Russell 1000 Value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Russell 2000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Russell 3000	21.0%	21.0%	21.0%	22.0%	21.0%	21.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	21.0%	21.0%	23.0%	
Russell 3000 +3% (PE)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	7.0%	
Russell 3000 +3% 1Q Lag (PE)	7.0%	7.0%	7.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	7.0%	0.0%	0.0%	
S&P 500	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Policy Index and Benchmark History

Period Ending: March 31, 2023

Total Plan Policy Index	As of:														
	10/1/16	9/1/16	1/1/16	7/1/14	1/1/14	2/1/13	1/1/11	10/1/10	1/1/09	5/1/07	6/1/00	3/1/99	9/1/98	7/1/96	
10 Year Treasury +2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	10.0%	10.0%
60/40 MSCI World/Bloomberg Global Aggregate (RP)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
60/40 Russell 3000/Bloomberg US Aggregate (RP)	8.0%	8.0%	8.0%	8.0%	8.0%	6.0%	6.0%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
91 Day T-Bills	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bloomberg US Govt/Credit 1-3 Yr. TR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bloomberg Aggregate	10.0%	10.0%	10.0%	10.0%	9.3%	11.0%	11.0%	12.9%	27.0%	27.0%	29.0%	25.0%	21.0%	21.0%	21.0%
Bloomberg BA Intermediate HY	6.0%	5.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bloomberg BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bloomberg Credit BAA	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bloomberg Multiverse	3.0%	3.0%	3.0%	3.0%	3.8%	4.4%	4.4%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bloomberg TIPS	2.0%	2.0%	2.0%	2.0%	2.0%	3.1%	3.3%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bloomberg Commodity	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Citigroup non-US WGBI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	9.0%	9.0%	9.0%
CPI + 5% (RA)	0.0%	2.0%	2.0%	2.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Blended Public Real Asset	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Blended Private Real Asset	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Libor +4% (HF)	5.0%	5.0%	5.0%	4.0%	4.0%	3.0%	3.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SOFR +4% (HF)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US	0.0%	0.0%	0.0%	0.0%	0.0%	18.0%	18.0%	18.0%	21.0%	21.0%	15.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex US IMI 100% Hedged (Net)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI	19.0%	20.0%	20.0%	20.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI (Net)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI EAFE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	20.0%	20.0%	20.0%
NCREIF ODCE	7.0%	7.0%	7.0%	6.0%	6.0%	5.0%	5.0%	5.0%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NCREIF Property	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	6.0%	0.0%	0.0%	0.0%	0.0%
Russell 1000	0.0%	0.0%	24.0%	24.0%	24.0%	28.0%	28.0%	28.0%	37.0%	37.0%	40.0%	22.0%	20.0%	20.0%	20.0%
Russell 1000 Value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%	5.0%
Russell 2000	0.0%	0.0%	4.0%	6.0%	6.0%	7.0%	7.0%	7.0%	9.0%	9.0%	10.0%	15.0%	15.0%	15.0%	15.0%
Russell 3000	28.0%	28.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 3000 +3% (PE)	7.0%	7.0%	7.0%	7.0%	7.0%	8.0%	8.0%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 3000 +3% 1Q Lag (PE)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S&P 500	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Policy Index and Benchmark History

Period Ending: March 31, 2023

Public Equity Benchmark	As of:																			
	7/1/22	2/1/21	7/1/20	10/1/19	7/1/19	4/1/19	1/1/19	10/1/18	10/1/17	2/1/17	10/1/16	9/1/16	1/1/16	1/1/14	10/1/10	5/1/07	6/1/00	3/1/99	9/1/98	1/1/96
MSCI ACWI ex-US	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	34.0%	31.3%	23.1%	0.0%	0.0%	0.0%
MSCI ACWI ex US IMI 100% Hedged (Net)	23.8%	23.2%	23.1%	22.5%	18.5%	13.9%	9.3%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	47.5%	45.2%	40.4%	41.7%	41.7%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex US IMI (Net)	23.8%	23.2%	23.1%	22.5%	27.8%	32.4%	37.0%	41.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI EAFE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	32.3%	33.3%	33.3%
Russell 1000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	48.0%	52.8%	55.2%	61.5%	35.5%	33.3%	33.3%
Russell 1000 Value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.4%	0.0%
Russell 2000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%	12.0%	13.2%	13.5%	15.4%	24.2%	25.0%	25.0%
Russell 3000	52.5%	53.7%	53.9%	55.0%	53.7%	53.7%	53.7%	53.7%	52.5%	54.8%	59.6%	58.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S&P 500	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.4%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

US Equity Benchmark	As of:						
	9/1/16	1/1/16	6/1/00	3/1/99	9/1/98	7/1/96	1/1/95
Russell 1000	0.0%	85.7%	80.0%	52.0%	50.0%	50.0%	69.0%
Russell 1000 Value	0.0%	0.0%	0.0%	12.0%	12.5%	0.0%	0.0%
Russell 2000	0.0%	14.3%	20.0%	36.0%	37.5%	37.5%	14.0%
Russell 3000	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S & P 500	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	17.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

International Equity Benchmark	As of:								
	10/1/19	7/1/19	4/1/19	1/1/19	10/1/18	10/1/17	1/1/14	6/1/00	1/1/96
MSCI ACWI ex US	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
MSCI ACWI ex US IMI 100% Hedged (Net)	50.0%	40.0%	30.0%	20.0%	10.0%	0.0%	0.0%	100.0%	0.0%
MSCI ACWI ex US IMI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
MSCI ACWI ex US IMI (Net)	50.0%	60.0%	70.0%	80.0%	90.0%	100.0%	0.0%	0.0%	0.0%
MSCI EAFE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Fixed Income Benchmark	As of:																			
	3/1/23	10/1/22	7/1/22	2/1/21	7/1/20	4/1/20	10/1/19	10/1/17	2/1/17	10/1/16	4/1/16	7/1/14	1/1/14	2/1/13	1/1/11	10/1/10	6/1/00	3/1/99	7/1/96	
Bloomberg Aggregate	55.6%	57.5%	62.3%	64.3%	67.7%	69.2%	63.6%	66.7%	57.1%	52.6%	55.5%	50.0%	46.3%	50.0%	50.0%	58.6%	100.0%	83.3%	70.0%	
Bloomberg BA Intermediate HY	44.4%	42.6%	37.7%	35.7%	32.3%	30.8%	36.4%	33.3%	28.6%	31.6%	27.8%	25.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Bloomberg BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.3%	0.0%	0.0%	0.0%	
Bloomberg Credit BAA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	15.0%	0.0%	0.0%	0.0%	0.0%	
Bloomberg Multiverse	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	15.8%	16.7%	15.0%	18.8%	20.0%	20.5%	0.0%	0.0%	0.0%	0.0%	
Bloomberg TIPS	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	10.0%	14.0%	15.0%	13.6%	0.0%	0.0%	0.0%	
Citigroup non-US WGBI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.7%	30.0%	
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Opportunistic Credit Benchmark	As of:	
	1/1/14	12/1/09
Bloomberg BA Intermediate HY	100.0%	0.0%
Bloomberg Credit BAA	0.0%	100.0%
	100.0%	100.0%

Alternatives Benchmark	As of:									
	7/1/22	2/1/21	1/1/21	10/1/18	4/1/18	2/1/17	4/1/16	1/1/16	1/1/14	1/1/11
60/40 Russell 3000/Bloomberg US Aggregate (RP)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%
Bloomberg Commodity	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.7%	18.8%	15.0%
CPI + 5% (RA)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.8%	12.5%	0.0%
Libor +4% (HF)	0.0%	0.0%	0.0%	50.0%	46.2%	46.2%	41.7%	29.4%	25.0%	15.0%
SOFR +4% (HF)	50.0%	53.8%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 3000 +3% (PE)	0.0%	0.0%	0.0%	0.0%	0.0%	53.8%	58.3%	41.2%	43.8%	40.0%
Russell 3000 +3% 1Q Lag (PE)	50.0%	46.2%	50.0%	50.0%	53.8%	0.0%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Policy Index and Benchmark History

Period Ending: March 31, 2023

Private Equity Benchmark		As of:	
	4/1/18	10/1/10	
Russell 3000 +3% 1Q Lag	100.0%	0.0%	
Russell 3000 +3%	0.0%	100.0%	
	100.0%	100.0%	

Hedge Fund Benchmark		As of:	
	1/1/21	10/1/10	
Libor +4%	0.00%	100.00%	
SOFR +4%	100.0%	0.0%	
	100.0%	0.0%	

Inflation Hedge Benchmark		As of:								
	3/1/23	2/1/21	7/1/20	4/1/20	10/1/19	4/1/18	2/1/17	10/1/16	4/1/16	
Bloomberg TIPS	0.00%	0.00%	0.00%	0.00%	5.88%	11.1%	12.5%	14.3%	14.3%	
Bloomberg Commodity	0.00%	0.00%	0.00%	0.00%	0.00%	0.0%	0.0%	0.0%	21.4%	
CPI + 5% (RA)	0.00%	0.00%	0.00%	0.00%	0.00%	0.0%	0.0%	0.0%	14.3%	
Blended Public Real Asset	22.22%	23.53%	23.53%	35.29%	35.29%	33.3%	0.0%	0.0%	0.0%	
Blended Private Real Asset	27.78%	23.53%	17.65%	11.77%	11.77%	11.1%	43.8%	35.7%	0.0%	
NCREIF ODCE	50.00%	52.94%	58.82%	52.94%	47.06%	44.4%	43.8%	50.0%	50.0%	
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Public Real Asset Benchmark		As of:		
	5/1/20	10/1/16	1/1/14	
Bloomberg Roll Select Commodity	25.0%	34.0%	0.0%	
S&P Global Large-MidCap Commodity and Resources	25.0%	33.0%	0.0%	
S&P Global Infrastructure	25.0%	33.0%	0.0%	
CPI + 5%	0.0%	0.0%	100.0%	
Bloomberg TIPS	25.0%	0.0%	0.0%	
	100.0%	100.0%	100.0%	

Private Real Asset Benchmark		As of:			
	1/1/21	4/1/18	10/1/16	1/1/14	
Bloomberg Roll Select Commodity	0.00%	0.00%	34.00%	0.0%	
S&P Global Large-MidCap Commodity and Resources	0.00%	0.00%	33.00%	0.0%	
S&P Global Infrastructure	0.00%	0.00%	33.00%	0.0%	
50/50 S&P Global Infra & Lrg-MidCap Com & Resources +2% 1QL	0.00%	100.00%	0.00%	0.0%	
75/25 S&P Global Infra & Lrg-MidCap Com & Resources +2% 1QL	100.00%	0.00%	0.00%	0.0%	
CPI + 5%	0.00%	0.00%	0.00%	100.0%	
	100.0%	100.0%	100.0%	100.0%	

Private RA Secondary Benchmark		As of:
	9/1/14	
Cambridge Associates Private Natural Resources 1 Qtr Lag	50.0%	
Cambridge Associates Private Infrastructure 1 Qtr Lag	50.0%	
	100.0%	

Real Estate Benchmark		As of:		
	1/1/09	6/1/00	7/1/96	
10 Year Treasury +2%	0.0%	0.0%	100.0%	
NCREIF ODCE	100.0%	0.0%	0.0%	
NCREIF Property	0.0%	100.0%	0.0%	
	100.0%	100.0%	100.0%	

Liquidity Benchmark		As of:	
	10/1/22	7/1/22	
Bloomberg US Govt/Credit 1-3 Yr. TR	81.8%	60.0%	
91 Day T-Bills	18.2%	40.0%	
	100.0%	100.0%	

Policy Index and Benchmark History

Period Ending: March 31, 2023

Baillie Gifford Benchmark	As of:	
	1/1/14	5/1/12
MSCI ACWI ex-US	100.0%	0.0%
MSCI EAFE	0.0%	100.0%
	100.0%	100.0%

Baillie Gifford Secondary Benchmark	As of:	
	1/1/14	5/1/12
MSCI ACWI ex-US Growth	100.0%	0.0%
MSCI EAFE Growth	0.0%	100.0%
	100.0%	100.0%

Brigade Secondary Benchmark	As of:	
	8/1/10	
Bloomberg High Yield	50.0%	
Credit Suisse Leveraged Loans	50.0%	
	100.0%	

PIMCO Diversified	As of:	
	9/1/17	
JPMorgan EMBI Global	33.333%	
BofAMLBB-BRatedDvlpdMktsHYHdgdUSD	33.333%	
Global Agg Credit Ex EM USD hedged	33.334%	
	100.0%	

SSgA Custom Real Asset	As of:	
	5/1/20	11/1/16
Bloomberg Roll Select Commodity	25.00%	33.33%
S&P Global Large-MidCap Commodity and Resources	25.00%	33.33%
S&P Global Infrastructure	25.00%	33.34%
Bloomberg TIPS	25.00%	0.00%
	100.0%	100.0%

Fee Schedule

Period Ending: March 31, 2023

Acadian Asset Management

First \$50 million:	0.27% per annum
Next \$50 million:	0.225% per annum
Thereafter:	0.18% per annum

Baillie Gifford

First \$25 million:	0.60% per annum
Next \$75 million:	0.50% per annum
Next \$300 million:	0.40% per annum
Thereafter:	0.30% per annum

BlackRock-Russell 1000 Index Fund

On All Assets:	0.01% per annum
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BlackRock-MSCI ACWI ex US IMI Index Fund

On All Assets:	0.045% per annum
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DoubleLine

On All Assets:	0.30% per annum
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NISA

First \$500 million:	0.15% per annum
Next \$1 billion:	0.125% per annum
Next \$1 billion:	0.105% per annum
Next \$1.5 billion:	0.085% per annum
Thereafter:	0.065% per annum

Franklin Templeton Investment

First \$50 million:	0.40% per annum
Next \$50 million:	0.30% per annum
Thereafter:	0.25% per annum

FIAM Bond

First \$50 million:	0.25% per annum
Next \$50 million:	0.20% per annum
Next \$100 million:	0.125% per annum
Thereafter:	0.10% per annum

PanAgora Asset Management

First \$50 million:	0.25% per annum
Next \$50 million:	0.15% per annum
Thereafter:	0.10% per annum

Parametric Overlay

First \$50 million:	0.12% per annum
Next \$100 million:	0.10% per annum
Thereafter:	0.05% per annum
Plus monthly reporting fee of \$1500	

Parametric Currency Overlay

First \$250 million:	0.05% per annum
Thereafter:	0.03% per annum

PIMCO Diversified

On All Assets:	0.75% per annum
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QMA

First \$100 million:	0.55% per annum
Next \$100 million:	0.53% per annum
Thereafter:	0.49% per annum

Western Asset Management

On All Assets:	0.25% per annum
Performance Fee:	20.00%

Mondrian Investment Partners

First \$50 million:	1.00% per annum
Next \$150 million:	0.19% per annum
Thereafter:	0.33% per annum

Insight Investment

First \$200 million:	0.09% per annum
Next \$300 million:	0.08% per annum
Thereafter:	0.06% per annum

Manager Compliance (Net)

Period Ending: March 31, 2023

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
Acadian US MGD V	Russell 1000	--	--	--
DE Shaw	Russell 1000	R	R	R
PanAgora Defuseq	Russell 1000	--	--	--
PGIM Quant Solutions	Russell 2000	R	R	R
Baillie Gifford	MSCI ACWI ex US	✓	R	R
Mondrian	MSCI ACWI ex USA Value Gross	R	R	R
DoubleLine	Bloomberg US Aggregate TR	--	--	--
FIAM Bond	Bloomberg US Aggregate TR	✓	✓	✓
NISA Core Bond	Bloomberg US Aggregate TR	--	--	--
AG CSF ADF II	Bloomberg BA Intermediate HY	--	--	--
AG CSF II	Bloomberg BA Intermediate HY	--	--	--
Angelo Gordon Opportunistic	Bloomberg US Aggregate TR	✓	--	✓
Angelo Gordon Credit Solutions	Bloomberg BA Intermediate HY	--	--	--
Beach Point Select	Bloomberg BA Intermediate HY	✓	✓	✓
Brigade Capital	Bloomberg BA Intermediate HY	R	R	R
PIMCO Diversified	Blended PIMCO Diversified Index	R	R	R
Franklin Templeton	Bloomberg Multiverse TR	R	R	R
Blackrock DL Feeder IX-U	Cliffwater Direct Lending Index	--	--	--
PIMCO Private Income	Bloomberg BA Intermediate HY	--	--	--
TCP Direct Lending VIII	Cliffwater Direct Lending Index	R	✓	R
White Oak Yield	Cliffwater Direct Lending Index	R	✓	✓
White Oak YSF V	Cliffwater Direct Lending Index	--	--	--
Acadian MAAR Fund LLC	Absolute Return Custom Index	--	--	--
CFM Systematic Global Macro	Absolute Return Custom Index	--	--	--
Graham Quant Macro	Absolute Return Custom Index	--	--	--
PIMCO MAARS Fund LP	Absolute Return Custom Index	--	--	--

Rule 1 - Manager has underperformed the benchmark index for the five year period.

Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive

Manager Compliance (Gross)

Period Ending: March 31, 2023

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
Acadian US MGD V	Russell 1000	--	--	--
DE Shaw	Russell 1000	R	✓	R
PanAgora Defuseq	Russell 1000	--	--	--
PGIM Quant Solutions	Russell 2000	✓	R	✓
Baillie Gifford	MSCI ACWI ex US	✓	R	✓
Mondrian	MSCI ACWI ex USA Value Gross	✓	R	✓
DoubleLine	Bloomberg US Aggregate TR	--	--	--
FIAM Bond	Bloomberg US Aggregate TR	✓	✓	✓
NISA Core Bond	Bloomberg US Aggregate TR	--	--	--
AG CSF ADF II	Bloomberg BA Intermediate HY	--	--	--
AG CSF II	Bloomberg BA Intermediate HY	--	--	--
Angelo Gordon Opportunistic	Bloomberg US Aggregate TR	✓	--	✓
Angelo Gordon Credit Solutions	Bloomberg BA Intermediate HY	--	--	--
Beach Point Select	Bloomberg BA Intermediate HY	✓	✓	✓
Brigade Capital	Bloomberg BA Intermediate HY	R	R	R
PIMCO Diversified	Blended PIMCO Diversified Index	R	R	R
Franklin Templeton	Bloomberg Multiverse TR	R	R	R
Blackrock DL Feeder IX-U	Cliffwater Direct Lending Index	--	--	--
PIMCO Private Income	Bloomberg BA Intermediate HY	--	--	--
TCP Direct Lending VIII	Cliffwater Direct Lending Index	R	✓	R
White Oak Yield	Cliffwater Direct Lending Index	R	✓	✓
White Oak YSF V	Cliffwater Direct Lending Index	--	--	--
Acadian MAAR Fund LLC	Absolute Return Custom Index	--	--	--
CFM Systematic Global Macro	Absolute Return Custom Index	--	--	--
Graham Quant Macro	Absolute Return Custom Index	--	--	--
PIMCO MAARS Fund LP	Absolute Return Custom Index	--	--	--

Rule 1 - Manager has underperformed the benchmark index for the five year period.

Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$.

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

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

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

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

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

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

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

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

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

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

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

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

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

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

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

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

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

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The information presented may be deemed to contain forward-looking information. Examples of forward looking information include, but are not limited to, (a) projections of or statements regarding return on investment, future earnings, interest income, other income, growth prospects, capital structure and other financial terms, (b) statements of plans or objectives of management, (c) statements of future economic performance, and (d) statements of assumptions, such as economic conditions underlying other statements. Such forward-looking information can be identified by the use of forward looking terminology such as believes, expects, may, will, should, anticipates, or the negative of any of the foregoing or other variations thereon comparable terminology, or by discussion of strategy. No assurance can be given that the future results described by the forward-looking information will be achieved. Such statements are subject to risks, uncertainties, and other factors which could cause the actual results to differ materially from future results expressed or implied by such forward looking information. The findings, rankings, and opinions expressed herein are the intellectual property of Verus and are subject to change without notice. The information presented does not claim to be all-inclusive, nor does it contain all information that clients may desire for their purposes. The information presented should be read in conjunction with any other material provided by Verus, investment managers, and custodians.

Verus will make every reasonable effort to obtain and include accurate market values. However, if managers or custodians are unable to provide the reporting period's market values prior to the report issuance, Verus may use the last reported market value or make estimates based on the manager's stated or estimated returns and other information available at the time. These estimates may differ materially from the actual value. Hedge fund market values presented in this report are provided by the fund manager or custodian. Market values presented for private equity investments reflect the last reported NAV by the custodian or manager net of capital calls and distributions as of the end of the reporting period. These values are estimates and may differ materially from the investments actual value. Private equity managers report performance using an internal rate of return (IRR), which differs from the time-weighted rate of return (TWRR) calculation done by Verus. It is inappropriate to compare IRR and TWRR to each other. IRR figures reported in the illiquid alternative pages are provided by the respective managers, and Verus has not made any attempts to verify these returns. Until a partnership is liquidated (typically over 10-12 years), the IRR is only an interim estimated return. The actual IRR performance of any LP is not known until the final liquidation.


Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

May 23, 2023

Agenda Item 6.3

TO: Board of Retirement

FROM: Doris Ng, Investment Analyst 

SUBJECT: Report on Real Estate Annual Manager Reviews

Recommendation

Accept and review the report on the annual reviews of SamCERA's real estate managers, PGIM and Harrison Street.

Background

SamCERA staff and consultant held annual review meetings with our real estate managers, PGIM and Harrison Street on April 13th.

Each meeting lasted approximately 1 – 1.5 hours, and consisted of a firm/organizational update, investment process review, performance review and attribution, and current positioning/market outlook.

Discussion

On April 13th, we first reviewed PGIM's Real Estate U.S. Debt fund, which is an open-ended commingled fund that invests primarily in senior loans secured by U.S. commercial real estate.

Next, we reviewed Harrison Street's Core Property Fund, which is an open-ended commingled fund that invests in high quality real estate assets primarily across the education, healthcare, life sciences and storage sectors.

There were no major concerns identified during the review. Attached you will find meeting notes summarizing the findings and details from the annual reviews.

Attachments

PGIM Real Estate US Debt Annual Review Meeting Notes (confidential)
Harrison Street Core Property Fund Annual Review Meeting Notes

Research Meeting Notes

Investment Organization	Harrison Street
Business Type	Private
Firm Inception Date	2005
Firm \$AUM	\$55 billion
Investment Org Attendees	Kate Davis, Mia Dennis
Verus Attendees	John Nicolini
SamCERA Attendees	Michael Coultrip, Doris Ng, Scott Hood
Interview Date(s)	4/13/23
Meeting Type	In office
Meeting Purpose	Update
Strategy Name	Harrison Street Core Property Fund
Strategy Inception Date	2011
Asset Class (Style)	Real Estate
If other, please name	
Sub-Style	Equity
Strategy \$AUM	\$14.1 billion (gross asset value)
AIC Approved (Yes or No)	Yes

Notes and Analysis

Firm:

Harrison Street was founded in 2005 by Christopher Merrill in partnership with Chris Galvan and Mike Galvin. Based in Chicago, Harrison Street's exclusive focus since inception has been investing in education, healthcare, life sciences and self-storage sectors of the real estate market. The Firm has invested in over 1,533 transactions that comprise more than \$65 billion in investment activity. The Core Fund is their open-end flagship product with over \$14 billion in assets. They also manage a domestic opportunistic closed-end series and European opportunistic fund, all with the same alternative property type focus. In 2018, Harrison Street launched an open-end social infrastructure fund which will develop or buy infrastructure-related assets in partnership with universities, health systems and government users

In 2018, Colliers International Group purchased a 75% stake in Harrison Street, with the remaining 25% held by employees of Harrison Street.

Team/People:

Harrison Street Real Estate currently has 245 employees that support the Firm's various real estate & infrastructure strategies, including the Core Property Fund. This includes 23 in portfolio management, 53 in

transactions, 51 in asset management, 22 in client service, 11 in legal & compliance, 38 in portfolio accounting & reporting and 8 in research.

The Investment Committee, which consists of the six Senior Managing Directors of the Firm, have input into investment strategy, review portfolio construction, approve all acquisitions and dispositions and monitor performance. Further, significant capital expenditures, leasing and financing decisions requires review by members of the Committee.

Joey Lansing serves as lead PM on the Core Property Fund, a position he has held since launching the product in 2011. In addition to Joey, Kate Davis serves as a portfolio manager and Colleen McMillin as portfolio operations for the Core Fund. Mark Burkemper is head of transactions and a key contributor to the Core Fund where he is responsible for sourcing transactions and forming joint venture relationships. Ben Mohns is head of Asset Management North America and is responsible for directing the creation and execution of the Firm's investment level strategies and driving value-add initiatives.

Process/Philosophy

Incepted in 2011, the Harrison Street Core Fund is an open-end fund that invests primarily in stabilized education, healthcare, life sciences and self-storage real estate assets in the United States using modest leverage with an emphasis on generating current income.

The Fund executes its strategy through investments in student housing, other university market real estate, for-rent senior housing, healthcare-delivery real estate and other healthcare-related properties, as well as self-storage facilities. The Fund's LPA limits leverage to no more than 40% loan-to-value (LTV) at the portfolio level. However, the Fund targets leverage across the portfolio of 22% to 27% LTV with an emphasis on fixed-rate, interest only, long term debt.

The focus on these alternative property types is intended to concentrate on areas of the real estate market that are less GDP sensitive with demand drivers that are more demographic driven such as aging populations, education growth and healthcare delivery. Each of these areas tend to be less tied to the business cycle, have fragmented ownership and more operationally intensive.

Investment opportunities are sourced through relationships with universities, major national health systems, institutional and private owners, service providers, brokers, lenders, and other market contacts. Additionally, Harrison Street utilizes its operating partners to generate proprietary, off-market deal flow and much of the time, the firm has a Right of First Opportunity with its operating partners. The Firm has created a proprietary set of selection criteria for each asset class to be used as an initial screening tool for all potential acquisitions.

The team responsible for conducting due diligence of a potential acquisition consists of professionals from Harrison Street's various disciplines including acquisitions, asset management, portfolio management, internal counsel, risk management, compliance and accounting. The team is responsible for (i) touring the asset and submarket, (ii) underwriting the asset including rigorous stress test of assumptions (iii) analyzing the proposed acquisition impact on the fund's existing portfolio (iv) negotiating and completing final contracts and financing, if applicable (v) preparing initial business plan for the asset (vi) managing and completing closing check list.

Performance

Kate Davis provided an update on recent performance for the Core Fund. In 2022, Harrison Street Core Fund was up 11.4% (gross) vs. the NCREIF ODCE Index which was up 7.5% (gross). The Fund's performance was driven as much by what it owned as what it did NOT own relative to the Core Fund universe. On a relative basis, Harrison Street's lack of traditional office exposure has been beneficial on a relative basis as office market valuations have been hit hard. The fund's self-storage portfolio was up 19% in 2022 (unlevered) as


revenue growth was strong throughout the year. We would expect Harrison Street to continue to perform well in 2023, on a relative basis, as its more conservative investment approach should weather the downturn better.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

May 23, 2023

Agenda Item 6.4

TO: Board of Retirement

FROM: Doris Ng, Investment Analyst 

SUBJECT: Approval of Long Treasury Portfolio Implementation Plan

Recommendation

Approve the recommendation to invest 3% of plan assets (approximately \$177 million) in the NISA passive, long duration US Treasury strategy in a separate account structure.

Background

In February 2023, the Board approved an updated asset allocation policy. One of the changes within the updated policy is the addition of a long duration US Treasury allocation as part of the defensive fixed income portfolio and diversifying assets category. In April 2023, the Board approved an implementation plan to fund the long duration US Treasury allocation from the FIAM core fixed income strategy with the idea to leg into the long duration US Treasury portfolio over time. The long duration US Treasury allocation would be implemented through a cash bond portfolio, utilizing a passive approach given limited alpha available within government securities.

Discussion

Staff and Verus reviewed an initial list of six managers (Blackrock, State Street Global Advisors, NISA Investment Advisors, FIAM, Northern Trust, and Vanguard) with passive, long Treasury products in the eVestment database, which included some of the plan's existing fixed income managers as well as others. Some of the criteria staff and Verus looked for included: (1) a strategy with low tracking error relative to the Bloomberg Long Treasury Index (fixed income index that consists of US Treasury issues with maturity greater than 10 years), (2) a firm with a large presence in the fixed income markets, and specifically, in long duration Treasury securities (3) offer a separate account vehicle option, and (4) offer an attractive fee schedule.

While all six of the managers have relatively large scale in the fixed income markets, staff and Verus are recommending NISA's passive, long duration Treasury strategy for SamCERA's defensive fixed income portfolio. NISA is a risk-controlled strategy with tight tracking error relative to the benchmark and offers both separate account and commingled fund vehicle options with an attractive fee schedule. The firm managed a total of \$470 billion in assets as of March 31, 2023 with over \$290 billion in physical fixed income assets, and of that amount, \$100 billion in long duration Treasury/STRIPS assets (half managed with passive, investment style).


Due to the current yield curve environment and volatility in rates, staff and Verus recommend legging into the long duration US Treasury portfolio over time by dollar-cost averaging into the portfolio over the next two - three quarters in equal-sized increments. Funding of the US Treasury portfolio will coincide with periodic redemptions from the FIAM core bond strategy.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

May 23, 2023

Agenda Item 7.1

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer 

SUBJECT: Approval to Reschedule the October 24, 2023 Board Meeting

Recommendation

Approve a change to the date and time of the regularly scheduled October 24, 2023 meeting.

Background

The Board's regular meetings are scheduled on the fourth Tuesday of each month at 10:00 a.m. The Board is authorized by Article III, Section 3.4 of the Board's Regulations to change its meeting times and dates.

“Regular Meetings: Regular meetings of the Board shall be held on the Fourth Tuesday of each month. Meetings shall begin at 10:00 a.m. Meetings shall be held in SamCERA's offices. The Board may cancel and or approve a change in the date, time and/or location of meetings within the County, if the proposed change is included on the agenda of a regular meeting.”

Discussion

In September 2022, the Board approved the regular meeting schedule for 2023. That schedule provides that the Board would meet on October 24, 2023. With the additional workload required due to the triennial study and the audit by our auditing actuary, the extra week would be helpful to staff in preparing the Annual Comprehensive Financial Report.

Staff recommends that Board formally change the date and/or time of the meeting to October 31 or another appropriate date so that staff can publish the meeting notice and reflect the new information on SamCERA's website.