# Notice of Public Meeting

# The Board of Retirement

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

## Tuesday, August 23, 2022, at 10:00 A.M.

In accordance with Government Code § 54953 and § 54954, the Members of the Board will be participating via Zoom video conference and teleconference. Pursuant to Government Code § 54953 and § 54954.3, members of the public, to the extent required by law, will have the opportunity to directly address the Board concerning matters within the jurisdiction of the Board. The public can participate and provide comment using the instructions below:

**To Join the Meeting**

- To join the meeting via video conference, click here: https://us06web.zoom.us/j/82115376497
- To join the meeting via telephone, dial: (669) 900-9128, and enter Meeting ID: 821 1537 6497

**Public Comment During the Meeting**

Persons wishing to address the Board should follow the steps below:

- If joining via video conference, please use the "raise your hand" feature in Zoom during the Oral Communications from the Public period.
- If joining via teleconference dial in, please dial *9 to "raise your hand" during the Oral Communications from the Public period.

You will be called on at the appropriate time. At the beginning of your comment, please state your name.

**Public Comment Prior to the Meeting**

Persons who wish to address the Board may submit written comments via email to samcera@samcera.org at least 30 minutes before the start of the Board meeting. Please include your name, agenda item, and your comment. The Board will have the email read into the record and attached to the minutes.

For help joining a Zoom meeting, see: https://support.zoom.us/hc/enus/articles/201362193

**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 Announcement of Appointment of Board Committees

2. **Oral Communications**
   2.1 Oral Communications from the Board
   2.2 Oral Communications from the Public

3. **Approval of the Minutes**
   3.1 Approval of Special Board Meeting Minutes from July 26, 2022
   3.2 Approval of Board Meeting Minutes from July 26, 2022

**4. Approval of the Consent Agenda***

- 4.1 Disability Retirements (1)
  - Judith Ochoa
- 4.2 Survivor Death Benefits
- 4.3 Service Retirements
- 4.4 Continuances
- 4.5 Deferred Retirements
- 4.6 Member Account Refunds
- 4.7 Member Account Rollovers
- 4.8 Member Account Redeposits
- 4.9 Acceptance of Trustees' Reports of Educational Activities
- 4.10 Adopt a Resolution Finding that Conducting In-person Meetings Would Present an Imminent Risk to the Health and Safety of Attendees
- 4.11 Report on California Government Code Section 7514.7 Annual Disclosure For 2021
- 4.12 Acceptance of Semi-Annual Compliance Certification Statements for Period Ended June 30, 2022
- 4.13 Ratification of Legal Services Agreement
- 4.14 Report on Securities Lending Program
- 4.15 Report on Preliminary Financial Statements for the Fiscal Year Ended June 30, 2022
- 4.16 Report on Budget-to-Actual for the Fiscal Year Ended June 30, 2022
- 4.17 Reaffirm Policy and Procedures for Interest Crediting
- 4.18 Reaffirm Policy for Use of Electronic Signatures

**5. Benefit & Actuarial Services**

- 5.1 Consideration of Agenda Items, if any, Removed from the Consent Agenda
- 5.2 Approval of Resolution Adopting the Proposed Board Funding Policy

**6. Investment Services**

- 6.1 Report on Preliminary Monthly Portfolio Performance Report for the Period Ended July 31, 2022
- 6.2 Report on Quarterly Investment Performance Report for Period Ended June 30, 2022
- 6.3 Report on Core Fixed Income Manager Annual Reviews
- 6.4 Report on Opportunistic Credit Manager Annual Reviews
- 6.5 Approval of Proposed Alternative Investment *to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see item C2)*

**7. Board & Management Support**

- 7.1 Approval to Reschedule the October 25, 2022 Board Meeting

**8. Management Reports**

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

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

- C1 Consideration of Disability Items, if any, removed from the Consent Agenda
- C2 Approval of Proposed Alternative Investment (*to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see item 6.5)*

**9. Report on Actions Taken in Closed Session**

**10. Adjournment in Memory of the Following Deceased Members:**

| | | |
|---|---|---|
| Kirkpatrick, Sandra | June 28, 2022 | Assessor's Office |
| Muscio, Helen | July 6, 2022 | Probation |
| Turner, Leslie | July 8, 2022 | Hospital |
| Abbott, Barbara | July 14, 2022 | Courts |
| Damante, Lawrence | July 21, 2022 | General Services |
| Collaco, Angela | July 22, 2022 | Social Services |
| Lyle, Norma | July 24, 2022 | District Attorney's Office |
| Keegan, Virginia | July 25, 2022 | Information Services |
| Alsterlind, Keith | July 27, 2022 | Probation |
| Galleguillos, Roy | July 30, 2022 | Sheriff's |
| Byczkowski, Hedwiga | August 3, 2022 | Behavioral Health |
| Schroyer, Donald | August 3, 2022 | Controller's |

Scott Hood, Chief Executive Officer Posted: August 17, 2022

(* 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 NORMALLY 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

August 23, 2022 Agenda Item 1.1

**TO:** Board of Retirement

**FROM:** Scott Hood, Chief Executive Officer

**SUBJECT:** Announcement of Appointment of Board Committees

**Committee Appointments**
The Chair announces the following committee appointments:

Standing Committees:
- Audit Committee: Al David, Elaine Orr, Kimathi Marangu and Sandie Arnott, Chair
- Investment Committee: Mark Battey, Kurt Hoefer and Robert Raw, Chair

Ad Hoc Committee:
- CEO Evaluation Committee: Katherine O'Malley, Nicole McKay and Alma Salas, Chair

**Background**
The Board Chair, or the Vice-Chair in the Chair's absence, is authorized by the Regulations of the Board of Retirement to appoint all committees.

> **2.1 Election of Chair:** At the first regular meeting in July, the Board of Retirement shall elect one of its members Chair for a term of one year or until his or her successor is duly elected and qualified. The Chair shall preside at all meetings of the Board, **shall appoint all committees** *(emphasis added)* and shall perform all duties incidental to that office.
>
> **2.2 Election of Vice Chair:** At the regular meeting in July or August, the Board of Retirement shall elect one of its members Vice Chair for a term of one year or until his or her successor is duly elected and qualified. In the Chair's absence or inability to act, the Vice Chair shall take the place and perform the duties of that office.

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**
**JULY 26, 2022 – SPECIAL BOARD MEETING MINUTES**

2207SP.1 **Call to Order, Roll Call and Miscellaneous Business**

**Call to Order:** Mr. Raw, Chair, called the Special Meeting of the Board of Retirement to order at 9:55 a.m. via Zoom.

**Roll Call:**
Present: Sandie Arnott, Mark Battey, Al David, Kurt Hoefer, Kimathi Marangu, Elaine Orr, Robert Raw, and Alma Salas.
Absent: Katherine O'Malley.
Alternates: Nicole McKay.
Staff: Lili Dames, Scott Hood, Elizabeth LeNguyen, JulieAnne Nagal, Doris Ng, Paul Okada, Gladys Smith, and Anne Trujillo.
Consultants and speakers: Craig Glyde (Milliman, Inc.); Joe Abdou, Margaret Jadallah, and John Nicolini (Verus).

2207SP.2 **Oral Communications from the Public:** Mr. Raw asked if there was any public comment concerning items on the agenda from those individuals participating on the telephone or via Zoom. There were no public comments. Ms. Trujillo reported there were no written comments received ahead of the meeting.

2207SP.3 **Administration of the Oath of Office:** Ms. Arnott administered the Oath of Office to Mr. David (Third Member), Ms. Salas (Eighth Member), Mr. Hoefer (Ninth Member), and Ms. McKay (Retiree Alternate). Mr. Hood informed the Board that newly appointed member, Kimathi Marangu, was given the oath through the San Mateo County Executive Office on July 6th.

2207SP.4 **Approval of Resolution Authorizing the Use of Teleconferencing for the Board and Committee Meetings Pursuant to Government Code Section 54953(e):** Mr. Hood informed the Board that based on the County's findings along with state and federal health information, staff recommends that the Board of Retirement authorize the continued use of teleconferenced meetings pursuant to AB 361.

**Action:** Mr. Battey moved to approve the resolution authorizing the use of teleconferencing for Board and Committee meetings pursuant to Government Code Section 54953(e). The motion was seconded by Mr. David and carried with a vote of 8-0, with trustees Arnott, Battey, David, Hoefer, Marangu, Orr, Raw, and Salas all in favor; none opposed.

2207SP.5 **Adjournment:** Mr. Raw adjourned the Special Meeting at 9:59 a.m.

____________________________
Robert Raw
Board Chair

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**
**JULY 26, 2022 – REGULAR BOARD MEETING MINUTES**

2207.1 **Call to Order, Roll Call and Miscellaneous Business**

**Call to Order:** Mr. Raw, Chair, called the Regular Meeting of the Board of Retirement to order at 10:00 a.m.

**Roll Call:**
Present: Sandie Arnott, Mark Battey, Al David, Kurt Hoefer, Kimathi Marangu, Elaine Orr, Robert Raw, and Alma Salas.
Absent: Katherine O'Malley.
Alternates: Nicole McKay.
Staff: Michael Coultrip, Lili Dames, Scott Hood, Elizabeth LeNguyen, JulieAnne Nagal, Doris Ng, Paul Okada, Gladys Smith, and Anne Trujillo.
Consultants and speakers: Nick Collier and Craig Glyde (Milliman Inc.); Joe Abdou, Margaret Jadallah, John Nicolini, and Faraz Shooshani (Verus).

Mr. David temporarily left the meeting due to connection issues.

2207.1.1 **Election of Board Officers:** On behalf of Mr. David, Mr. Raw informed the Board that the Ad Hoc Nominating Committee met and recommended the following slate of officers for the 2022-2023 term: Katherine O'Malley, Chair; Mark Battey, Vice Chair; and Alma Salas, Secretary. There were no other nominations made.

**Action:** Ms. Arnott moved to approve the recommended slate of officer positions for the 2022-2023 term. The motion was seconded by Mr. Hoefer and carried a vote of 7-0, with trustees Arnott, Battey, Hoefer, Marangu, Orr, Raw, and Salas.

The remainder of the meeting was chaired by Ms. Salas. Mr. David rejoined the meeting.

2207.1.2 **Announcement of Appointment of Board Committees:** No committee appointments were announced.

2207.2.1 **Oral Communications from the Board:** On behalf of SamCERA and the Board of Retirement, Mr. Raw thanked Ms. Lee for her service and shared an honorary resolution. Ms. Lee thanked the committee for her time on the Board.

2207.2.2 **Oral Communications from the Public:** Ms. Salas asked if there was any public comment from those individuals participating on the telephone or via Zoom. There were no public comments. Ms. Trujillo reported there were no written comments received ahead of the meeting.

2207.3.1 **Approval of Regular Board Meeting Minutes from May 24, 2022:** Ms. Salas asked if there were any changes or corrections, or objections, to the meeting minutes from the regular Board meeting held on May 24, 2022. There were no changes, corrections, or objections presented.

**Action:** Mr. David moved to approve the minutes from the regular Board meeting on May 24, 2022. The motion was seconded by Ms. Arnott and carried with a vote of 8-0, with trustees Arnott, Battey, David, Hoefer, Marangu, Orr, Raw, and Salas all in favor; none opposed.

2207.4.0 **Approval of the Consent Agenda:** Ms. Salas asked if there were any items to be removed for discussion from the Consent Agenda. No items were removed.

**Action:** Mr. Hoefer moved to approve the items on the Consent Agenda. The motion was seconded by Mr. Raw and carried with a vote of 8-0, with trustees Arnott, Battey, David, Hoefer, Marangu, Orr, Raw, and Salas all in favor; none opposed.

2207.4.1 **Disability Retirements:**

a) The Board found that **Scott King** (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.

b) The Board found that **Lilian Montalvo** (1) is permanently incapacitated from the performance of her usual and customary duties as a Medical Records Coder II, (2) found that her disability was not the result of an illness arising out of and in the course of her employment and (3) granted her application for a non-service-connected disability retirement.

c) The Board terminated the disability retirement application submitted by the San Mateo Medical Center on behalf of **Crispin Rodriguez** per Article VI, section 6.5 and 6.6 of the Board Regulations regarding Disability Retirement.

2207.4.2 **Survivor Death Benefits:**

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

2207.4.3 **Service Retirements:**

| Name | Effective Retirement Date | Department |
|---|---|---|
| Alvarez, Elizabeth | April 22, 2022 | Correctional Health |
| Alvarez, Rhonda | June 1, 2022 | Deferred - San Mateo Co Health |
| Banks, Latarsha | May 1, 2022 | QDRO |
| Bozin, Kirk | May 28, 2022 | Probation |
| Cea Quillope, Dolores | May 13, 2022 | San Mateo County Health |
| Chalmers-Adams, Victoria | March 15, 2022 | Deferred - Probation |
| Chance, Theresa | May 28, 2022 | San Mateo County Health |
| Chatman, Chauncey | May 1, 2022 | Mental Health |
| Cordeiro, Jennifer | April 30, 2022 | Superior Court |
| Daily, Jacqueline | May 27, 2022 | Probation |
| Dela Pena, Marietes | May 11, 2022 | San Mateo County Health |
| Filgas, Jan | April 26, 2022 | Deferred - Human Services Agency |
| Fortin, Thomas | May 14, 2022 | Deferred - Library |
| Goeser, Sharon | April 1, 2022 | San Mateo County Health |
| Gullo, Therese | May 21, 2022 | District Attorney's Office |
| Heffelfinger, Bridget | April 17, 2022 | Sheriff's Office |
| Henriquez, Berta | May 7, 2022 | San Mateo County Health |
| Maldonado, Adrian | April 9, 2022 | Correctional Health |
| Martinson, Rosa | April 18, 2022 | QDRO |
| Maxey, Eric | April 27, 2022 | Probation |
| McEntee, James | April 30, 2022 | Information Services |
| McMillen, Diana | May 28, 2022 | Probation |
| Perron, David | June 1, 2022 | Deferred - Sheriff's |
| Perry, Kristin | May 16, 2022 | Def'd - Children and Family First |
| Quinonez, Ana | June 1, 2022 | Mental Health |
| Rosete, Eduardo | May 10, 2022 | QDRO |
| Ticzon, Herman | May 28, 2022 | San Mateo County Health |
| Turner, Alice | May 23, 2022 | Deferred - San Mateo Co Health |
| Ventura, Susan | April 29, 2022 | Deferred - Agriculture |
| Vieira, Jennifer | May 29, 2022 | Sheriff's Office |
| Wade, Felix | April 10, 2022 | Def'd - District Attorney's Office |

2207.4.4 **<u>Continuances:</u>**

| **Survivor's Name:** | **Beneficiary of:** |
|---|---|
| Alvarez, Miriam | Alvarez, Juan |
| Briones, Pinky | Briones, Danilo |
| Edmonds, Diana | Edmonds, John |
| Lund, Richard | Lund, Ruth |
| Phal, Angela | Gunn, Linda |

2207.4.5 **Deferred Retirements:**

| Name | Retirement Plan Type |
|---|---|
| Borovina Teetzel, R | G4, Vested |
| Buencamino, Francisco | G4, Vested |
| Del Rosario, Cindy | G4, Vested - Reciprocity |
| Dharamrup, Shivika | G7, Vested - Reciprocity |
| Gonzales, Ricardo | G7, Vested |
| Gonzalez, Heather Mulligan | G4, Vested - Reciprocity |
| Gorkhali, Madan | S7, Vested |
| Herbst, Erin | G4, Vested - Reciprocity |
| Marti, Greta | G7, Non-vested - Reciprocity |
| Quintero, Juanita | G4/P4, Vested |
| Santiago, Ronald | G7, Vested |
| Singh, Nimish | G4, Vested – Reciprocity |
| Sweeney, Dylan | G7, Non-Vested – Reciprocity |
| Taylor, Leah | G5, Vested - Reciprocity |
| Velazquez, Jose | G7, Non-Vested - Reciprocity |
| Villasenor, Brenda | G7, Non-Vested - Reciprocity |

2207.4.6 **Member Account Refunds:**

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

| Name | Retirement Plan Type |
|---|---|
| Berry, Ana | G7, Non-vested |
| Carino, Kimberlee | G7, Non-vested |
| Fabiani-Vargas, Anthony | G7, Non-vested |
| Fotu, Joseph | G7, Vested |
| Garcia, Gerardo S | G4, Non-vested |
| Granados, Moriah | G7, Vested |
| Guerrero, John (FBO: Guerrero, Paula) | G2, Vested |
| Lin, Ing-Ning | G7, Non-vested |
| Luft, John (DRO acct; FBO: Estate of John Luft) | G1, Vested |
| Paniagua, Carla | G4, Vested |
| Robles, Monica | G7, Non-vested |
| Romero, Jose | G7, Non-vested |
| Solis Garcia, Yesenia | G7, Non-vested |
| Suarez, Lynnette | G7, Non-vested |
| Tomasetti, Raquel | G7, Non-vested |
| Wess, Maurice | G4, Vested |

2207.4.7 **Member Account Rollovers:**

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

| Name | Retirement Plan Type |
|---|---|
| Hill, Candace | G7, Non-vested |
| Lin, Ing-Ning | G7, Non-vested |
| Perrone, Donna | G7, Non-vested |
| Wess, Maurice | G4, Vested |

2207.4.8 **Member Account Redeposits:** The Board approved the two-year payment period for a redeposit of retirement funds by Luis Vergara pursuant to Government Code section 31652.

2207.4.9 **Acceptance of Trustees' Reports of Educational Activities:** None.

2207.4.10 **Approval of Resolutions that Define Compensation Earnable and Pensionable Compensation:** The Board approved amendments to (1) the Resolution defining Compensation Earnable, pursuant to Government Code §31461 for members who are not subject to Government Code §7522.34 and (2) the Resolution defining Pensionable Compensation for members who are subject to Government Code §7522.34.

2207.4.11 **Acceptance of Semi-Annual Compliance Certification Statements for Period Ended June 30, 2022:** The Board accepted the semi-annual Compliance Certification Statements submitted by SamCERA's non-alternative investment managers and investment consultant, as of June 30, 2022.

2207.4.12 **Approval of Questions for Annual Review of Milliman, Inc.:** The Board approved the evaluation questions in the "Questions for Annual Actuarial Consultant Evaluation."

2207.4.13 **Reaffirmation of Conflict of Interest Code:** The Board reaffirmed SamCERA's Conflict of Interest Code.

2207.5.1 **Consideration of Agenda Items, if any, Removed from the Consent Agenda:** None.

2207.5.2 **Discussion of Draft Funding Policy:** Mr. Hood presented a brief overview of the draft funding policy to the Board. He highlighted sections such as goals, objectives, methods and assumptions, risk management, metrics/benchmarks, and governance. He thanked Mr. Collier and Mr. Glyde for reviewing the policy and obtained feedback from the Board. This item was informational and for discussion only, no action was taken.

Ms. Arnott requested to go back to agenda item 4.11 to ask a few questions and added that these questions do not affect her prior vote. Staff answered Ms. Arnott's questions.

2207.6.1 **Report on Preliminary Monthly Portfolio Performance Report for the Period Ended June 30, 2022:** Mr. Coultrip reported that SamCERA's net preliminary return for June was -4.0% bringing the preliminary trailing twelve month return ending June 2022 to -4.7% net. He reported most asset classes including commodities were lower as hawkish actions by central banks in response to high global inflation pressure increased global recession worries. This item was informational and for discussion only, no action was taken.

2207.6.2 **Presentation of Private Asset Semi-Annual Performance Reports as of December 31, 2021:** Mr. Coultrip reported that as of December 31, 2021, SamCERA's private equity portfolio had a total market value of $434.0 million (7.0% of SamCERA's total fund). The portfolio has a 22.33% net IRR since inception, 953 bps above the same cash flow invested in the Russell 3000 Total Return index. Mr. Coultrip also reported SamCERA's private real assets portfolio as of December 31st had a total market value of $152.4 million (2.7% of SamCERA's total fund) and that the portfolio has a 5.91% net IRR since inception. Mr. Nicolini presented the private real asset performance reports while Mr. Shooshani presented the private equity reports. This item was informational and for discussion only, no action was taken.

Ms. Orr left the meeting at 11:08 a.m.

2207.6.3 **Report on the Core Equity and Low Volatility Equity Manager Annual Reviews:** Ms. Ng reviewed the meeting notes of the May 19th annual reviews of SamCERA's core equity manager, D.E. Shaw, and low volatility equity managers, PanAgora and Acadian. Staff and consultant answered questions from the Board. This item was informational and for discussion only, no action was taken.

2207.6.4 **Report on International Equity Manager Annual Reviews:** Ms. Ng reported that staff and consultant held annual review meetings with international equity managers, Baillie Gifford and Mondrian on June 2nd. Each meeting consisted of a firm/organizational update, investment process review, performance review and attribution, and current positioning/market outlook. This item was informational and for discussion only, no action was taken.

2207.6.5 **Report on Real Estate Manager Annual Reviews:** Ms. Ng reported staff and consultant held annual review meetings with real estate managers, PGIM and Harrison Street on April 14th, and with INVESCO and Stockbridge on April 28th. She reviewed the meeting notes and answered questions from the Board. This item was informational and for discussion only, no action was taken.

The Board adjourned for a short break at 11:44 a.m. and reconvened at 11:52 a.m.

2207.6.6 **Approval of Resolution Amending SamCERA's Investment Policy Statement:** Mr. Coultrip reviewed the proposed updates to the Investment Policy Statement and answered questions from the Board.

**Action:** Mr. Battey moved to adopt a resolution amending SamCERA's Investment Policy Statement. The motion was seconded by Mr. Hoefer and carried with a vote of 7-0, with trustees Arnott, Battey, David, Hoefer, Marangu, Raw, and Salas all in favor; none opposed.

2207.6.7 **Approval for Reducing SamCERA's Currency Hedge:** Mr. Coultrip discussed staff and consultant's recommendation to temporarily lower the existing currency hedge until a dynamic hedging approach can be implemented.

**Action:** Mr. Battey moved to approve a recommendation to temporarily reduce SamCERA's existing currency hedge from 50% to 25% until a dynamic hedging approach can be implemented. The motion was seconded by Mr. Hoefer and carried with a vote of 7-0, with trustees Arnott, Battey, David, Hoefer, Marangu, Raw, and Salas all in favor; none opposed

2207.7.1 **Discussion and Direction to Staff of Strategic Plan Update Process:** Mr. Hood requested the Board's feedback on the process of updating the Board's Strategic Plan for the next five years. Board members commented and would like to keep and validate the current Mission, Vision, Goals and focus on identifying and validating the focus areas for the coming five years. This item was informational and for discussion only, no action was taken.

2207.7.2 **Approval of Special Election to Fill the Safety Alternate Seat:** Ms. Smith reported that with Ms. Lee's recent retirement, the Seventh Member Alternate seat has become vacant thus requiring a special election. She shared that she has been in contact with the Elections Office, and it was determined that Tuesday, September 6th would be the ideal date to hold the election.

**Action:** Ms. Arnott moved to authorize a special election on Tuesday, September 6, 2022, to fill the vacant Seventh Member Alternate seat. The motion was seconded by Mr. Raw and carried with a vote of 7-0, with trustees Arnott, Battey, David, Hoefer, Marangu, Raw, and Salas all in favor; none opposed.

2207.8.1 **Chief Executive Officer's Report:** Mr. Hood welcomed Mr. Marangu and Ms. McKay to the Board of Retirement. Mr. Hood updated the Board of recent retiree account attacks occurring among systems. He congratulated Mr. Coultrip on achieving his 10 years of service with SamCERA. Mr. Hood shared that there has been some interest in moving the October and December Board Meetings so a survey will be sent out to obtain feedback. He previewed a few items on next month's agenda which include the annual disclosure fees, funding policy, and review of interest crediting and electronic signatures policies.

2207.8.2 **Assistant Executive Officer's Report:** Ms. Smith reported that Brown Armstrong conducted their interim field work and shared that there have been no significant findings thus far. She also shared that SamCERA had recently completed the remaining tenant improvement work, making a few changes to the front desk area. Ms. Trujillo shared upcoming educational opportunities with the Board.

2207.8.3 **Chief Investment Officer's Report:** Mr. Coultrip provided an update on the funding of Insight Capital. He also reported that staff and Verus will hold annual manager reviews on Thursday, July 28th with PIMCO at 8:00 a.m., Beach Point at 10:00 a.m., and Brigade at 11:30 a.m.

2207.8.4 **Chief Legal Counsel's Report:** Mr. Okada updated the Board on the proposed legislative bills, AB 1944 and AB 2449. He also shared that he will be conducting an in-person ethics training on August 18th for interested Board members.

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

2207.10 **Adjournment:** Ms. Salas adjourned the meeting at 12:47 p.m. in memory of the deceased members listed below.

| | | |
|---|---|---|
| Spahn, Charlene | April 29, 2022 | Agriculture/Weights &Measures |
| Page, Dorothy | May 5, 2022 | Human Services |
| Duncan, Betisy | May 12, 2022 | General Services |
| Coder, Karen | May 16, 2022 | Probation |
| Mirosnkoff, Peter | May 17, 2022 | Sheriff's |
| Briones, Danilo | May 19, 2022 | Controller's |
| Marchisheck, Fe | May 23, 2022 | Hospital |
| Estes, Nellie | May 24, 2022 | Social Services |
| Schellenberg, Jean | May 30, 2022 | Crystal Springs Rehab Center |
| Phillips, Lovie | June 1, 2022 | General Services |
| Brosnan, Bonnie | June 7, 2022 | Controller's |
| Fotis, Alexandra | June 7, 2022 | Public Safety Communications |
| Letona, Bertha | June 10, 2022 | Social Services |
| Dekker-Davidson, Beverly | June 10, 2022 | Family Services |
| Prasad, Ramendra | June 12, 2022 | Controller's |
| Young, Jack | June 15, 2022 | Children and Families First |
| Fischer, Phyllis | June 30, 2022 | Hospital |
| Dames, Elizabeth | July 8, 2022 | Library |
| Griswold, Barney | July 8, 2022 | Probation |

____________________________

Alma Salas
Acting Chair

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
**Board of Retirement**

August 23, 2022 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) Staff recommends that the Board terminate the disability retirement application submitted by the Public Health department on behalf of **Judith Ochoa** per Article VI, section 6.5 and 6.6 of the Board Regulation regarding Disability Retirement.

**4.2 Survivor Death Benefits**

None.

**4.3 Service Retirements**

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

| Name | Effective Retirement Date | Department |
|---|---|---|
| Aguirre, Gail | June 11, 2022 | Mental Health |
| Apecechea, Rick | July 1, 2022 | Sheriff's Office |
| Arredondo, Rebecca | April 1, 2022 | Correctional Health |
| Asselin, Robert | July 1, 2022 | Probation |
| Booker, Anita | June 11, 2022 | Public Health |
| Brooks, Susan | June 30, 2022 | Deferred - Aging & Adult Services |
| Buada, Maria | June 10, 2022 | San Mateo County Health |
| Cheung, David | June 11, 2022 | San Mateo County Health |
| Furman, John | June 18, 2022 | Behavioral Health |
| Grant Mann, Laika | June 18, 2022 | Superior Court |
| Gurkovic, Jesse | June 11, 2022 | Sheriff's Office |
| Hegney, Julie | March 16, 2022 | Deferred – Environmental Health |
| Jiron, Carlos | July 1, 2022 | Sheriff's Office |
| Johnson, Linda S | June 14, 2022 | Mental Health |

| | | |
|---|---|---|
| Kim, Joyce | June 4, 2022 | San Mateo County Health |
| Kiner, Rochelle | June 3, 2022 | Public Works |
| Lake, Jane | July 1, 2022 | Human Services Agency |
| Lomax, Eric | June 14, 2022 | San Mateo County Health |
| Martinez Yano, Elizabeth | June 3, 2022 | Deferred - Sheriff's Office |
| Pavon, Ana-Elba | June 18, 2022 | Deferred - Library |
| Pena, Lorena | June 3, 2022 | Human Services Agency |
| Pidlaoan, Shirley | July 1, 2022 | Human Services Agency |
| Renderos, Edith | June 4, 2022 | Human Services Agency |
| Shirkhani, Alireza | June 2, 2022 | Human Services Agency |
| Smiley-Klingler, Lori | June 10, 2022 | Probation |
| Wood, Bernadette | June 15, 2022 | Human Services Agency |
| Yee, Karen | June 4, 2022 | Human Services Agency |

**4.4 Continuances**

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

| Survivor's Name | Beneficiary of: |
|---|---|
| Davidson, Lawrence | Bekker-Davidson, Beverly |
| Duncan, Ollie | Duncan, Betisy |
| Letona, Augusto | Letona, Bertha |
| Prasad, Nalini | Prasad, Ramendra |
| Pugliese, Linda | Pugliese, Michael |

**4.5 Deferred Retirements**

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

| Name | Retirement Plan Type |
|---|---|
| Aponte, Allan | G7, Vested – Auto Defer – Code 31700 |
| Carlos, Jessica | G7, Vested – Auto Defer – Code 31700 |
| Daly, Walter | S7, Vested – Auto Defer – Code 31700 |
| Engle, Theresa | G7, Vested - Reciprocity |
| Giangerelli, Janelle | G3/G4, Vested – Auto Defer – Code 31700 |

| | |
|---|---|
| Henry, Rose | G7, Vested |
| Higuera, Diana | G7, Vested – Auto Defer – Code 31700 |
| Johnson, Jack | G7, Non-Vested - Reciprocity |
| Kempel, Chad | G7, Vested – Auto Defer – Code 31700 |
| Kenevan, Bridget | G4, Vested – Auto Defer – Code 31700 |
| Kinsella, Ashlee | G7, Vested – Auto Defer – Code 31700 |
| Lei, Katie | G7, Non-Vested - Reciprocity |
| Ng, Bonny | G7, Non-Vested - Reciprocity |
| Ortiz, Marisa | G4, Vested |
| Ramos, Dulce | G7, Vested – Auto Defer – Code 31700 |
| Ross-Perkins, Melissa | G4, Vested |
| Sosa, Alexis | G5, Vested – Auto Defer – Code 31700 |
| Susa, Samantha Mae | G7, Non-Vested - Reciprocity |

**4.6 Member Account Refunds**

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

| Name | Retirement Plan Type |
|---|---|
| Daskam, Zaria | G7, Non-vested |
| Dingus, Sidney | G7, Non-vested |
| Jackson, Randi | G7, Non-vested |
| Pena, Ofelia | G7, Non-vested |
| Santos, Dennis | G4, Vested |

**4.7 Member Account Rollovers**

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

| Name | Retirement Plan Type |
|---|---|
| Afsar, Khalid | G7, Non-vested |
| Chavarria, Vilma | G4, Vested |
| Weiss, Elizabeth | G4, Non-vested |

**4.8 Member Account Redeposits**

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

| Name | Retirement Plan Type |
|---|---|
| Vergara, Luis | G4 |

**4.9 Acceptance of Trustees' Reports of Educational Activities**

None.

August 23, 2022 Agenda Item 4.10

**TO:** Board of Retirement

**FROM:** Scott Hood, Chief Executive Officer

**SUBJECT:** Authorization of Teleconferencing for Board and Committee Meetings Pursuant to Government Code Section 54953(e)

**Recommendation**

Approve a resolution finding that the COVID-19 pandemic state of emergency continues to present imminent risks to the health or safety of in-person attendees and authorizing the use of teleconferencing for Board and Committee meetings pursuant to Government Code Section 54953(e).

**Background**

Since the onset of the COVID-19 pandemic in March 2020, certain requirements of the Brown Act relating to teleconference/remote meetings by local agency legislative bodies have been waived by Executive Orders issued by the Governor. Among other things, such Executive Orders waived Brown Act provisions that required the physical presence of board members in order to constitute a quorum, and that the public be afforded physical access to all teleconference locations from which board members were participating.

On September 16, 2021, the Governor signed Assembly Bill 361 which codified certain of the teleconference procedures that local agencies had adopted in response to the Governor's Brown Act-related Executive Orders. Specifically, AB 361 allows local agencies to continue to use teleconferencing under certain prescribed circumstances to the extent certain findings have been made and adopted by the local agency legislative body. AB 361 also requires that, if the state of emergency lasts more than 30 days, the local agency must determine that there is a continuing need for teleconferencing due to dangers posed by the ongoing situation. Accordingly, in order to continue holding teleconferenced meetings pursuant to AB 361, local agencies will need to make certain prescribed findings related to the existing state of emergency at least every thirty days, or otherwise hold special meetings to make such findings.

**Discussion**

On September 28, 2021, the San Mateo County Board of Supervisors, on the recommendation of its County Manager, adopted a resolution finding that in light of current information regarding the transmissibility of the COVID-19 Delta variant, as well as best practices for controlling the spread of COVID-19, holding in person meetings would present an imminent risk to the health and safety of its attendees. The Board of Supervisors' resolution therefore authorized the continued use of teleconferenced board meetings and directed staff to continue to agendize such meetings only as online teleconference meetings. Thereafter, the Board of Supervisors has made a determination at least once every 30 days that circumstances remain materially the same as those in existence on September 28th and that holding in person meetings would present an imminent risk to the health and safety of its attendees. This same determination and findings were re-affirmed by the Board of Supervisors most recently on July 12, 2022.

Based on the County's findings, as well as other information from state and federal health authorities, staff recommends that the Board of Retirement authorize the continued use of teleconferenced meetings pursuant to AB 361. As noted by the County, public meetings pose high risks for COVID-19 spread for several reasons. These meetings may bring together people from throughout a geographic region, increasing the opportunity for COVID-19 transmission. Further, the open nature of public meetings makes it is difficult to enforce compliance with vaccination, physical distancing, masking, cough and sneeze etiquette, or other safety measures. Finally, it should be noted that the Board of Retirement's facilities are smaller than those of the County's, thereby making physical distancing more difficult.

In light of the aforementioned information, staff recommends that the Board adopt findings that conducting in-person meetings at the present time would present an imminent risk to the health and safety of attendees. A resolution to that effect and directing staff to return each 30 days to afford the Board the opportunity to reconsider such findings, or to present such updated information at a special meeting if there are more than 30 days between regular meetings, is included herewith.

**Attachment**

Resolution Authorizing the Use of Teleconferencing for Board and Committee Meetings pursuant to Government Code Section 54953(e)

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**

**RESOLUTION 2022-__**

RESOLUTION AUTHORIZING THE USE OF TELECONFERENCING FOR BOARD AND COMMITTEE MEETINGS PURSUANT TO GOVERNMENT CODE SECTION 54953(e)

**WHEREAS,** on March 4, 2020, pursuant to section 8550, et seq., of the California Government Code, Governor Newsom proclaimed a state of emergency related to the COVID-19 novel coronavirus and, subsequently, the County's Board of Supervisors declared a local emergency related to COVID-19, and both the proclamation by the Governor and the declaration by the Board of Supervisors remain in effect; and

**WHEREAS,** on March 17, 2020, Governor Newsom issued Executive Order N- 29-20, which suspended certain provisions in the California Open Meeting Law, codified at Government Code section 54950, et seq. (the "Brown Act"), concerning teleconferencing by local agency legislative bodies, provided that certain requirements were met and followed; and

**WHEREAS,** on June 11, 2021, the Governor issued Executive Order N-08-21, which extended certain provisions of Executive Order N-29-20 that waive otherwise-applicable Brown Act requirements related to remote/teleconference meetings by local agency legislative bodies through September 30, 2021; and

**WHEREAS,** on September 16, 2021, Governor Newsom signed AB 361, which provides that local agency legislative bodies may continue to meet remotely without complying with otherwise-applicable Brown Act requirements concerning remote/teleconference, provided that a state of emergency has been declared by the Governor and the local legislative body determines that meeting in person would present imminent risks to the health or safety of attendees, and provided that the legislative body makes such finding at least every thirty days during the term of the declared state of emergency, or at a special meeting called to determine whether such findings continue to be appropriate; and

**WHEREAS,** on September 28, 2021, the County's Board of Supervisors concluded, based on the recommendation of its County Manager, that there is a continuing threat of COVID-19 to the local community, and that in-person public meetings posed an imminent risk to the health and safety of attendees, and therefore authorized the continued use of teleconferenced meetings pursuant to AB 361; and

**WHEREAS,** since September 2021, the County's Board of Supervisors has revisited its determination and findings at least every 30 days and has concluded, based on the recommendation of its County Manager, that there is a continuing threat of COVID-19 to the local community, and that in-person public meetings continue to pose an imminent risk to the health and safety of attendees, and therefore has authorized the continued use of teleconferenced meetings pursuant to AB 361; and

**WHEREAS,** most recently on July 12, 2022, the Board of Supervisors determined that circumstances remain materially the same as those in existence on September 28, 2021 and the Board of Supervisors therefore re-approved its findings that holding in-person meetings would present an imminent risk to the health and safety of attendees; and

**WHEREAS,** at its July 26, 2022 special meeting, this Board approved a resolution authorizing such teleconferenced meetings pursuant to AB 361 and directing staff to return each 30 days to afford the Board the opportunity to reconsider such findings, or to present such updated information at a special meeting if there are more than 30 days between regular meetings; and

**WHEREAS,** this Board similarly finds that in-person public meetings have characteristics that give rise to risks to the health and safety of meeting participants (such as the increased mixing associated with bringing together people from across the community, the need to enable those who are immunocompromised or unvaccinated to be able to safely continue to participate fully in public governmental meetings, and the challenges with fully ascertaining and ensuring compliance with vaccination and other safety recommendations at such meetings) and that, at the present time, meetings of this Board, also pose an imminent risk to the health and safety of attendees;

**THEREFORE, IT IS HEREBY DETERMINED AND ORDERED,** that

1. The recitals set forth above are true and correct; and

2. The Board finds that meeting in person would present imminent risks to the health or safety of meeting attendees and directs staff to continue to agendize public meetings of the Board of Retirement only as online teleconference meetings; and

3. The Chief Executive Officer is hereby authorized and directed to take all actions necessary to carry out the intent and purpose of this Resolution, including conducting open and public meetings of this Board and any Board Committees subject to the Brown Act in accordance with Government Code Section 54953(e) and other applicable provisions of the Brown Act; and

4. Staff is directed to return to this Board at future meetings for the Board to determine whether in-person meetings continue to pose an imminent risk to the health and safety of attendees, and whether this Board should continue meeting remotely under the provisions of AB 361. The consideration of such item shall either be in a special meeting called for the purpose of making such determinations, or in a regular meeting of the Board to the extent such regular meeting is within 30 days of any prior determination by this Board regarding such matters.

* * * * *

*Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on August 23, 2022.*

*Ayes, Trustees:*

*Noes, Trustees:*

*Absent, Trustees:*

*Abstain, Trustees:*

________________________________________

*Alma Salas, Board Secretary*
*SamCERA*

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**
**Board of Retirement**

August 23, 2022 Agenda Item 4.11

**TO:** Board of Retirement

**FROM:** Lilibeth Dames, Investment Analyst Lilibeth Dames

**SUBJECT:** California Government Code Section 7514.7 Annual Disclosure For 2021

**Recommendation**
Accept the Report on California Government Code Section 7514.7 Annual Disclosure for 2021.

**Background**
California Government Code Section 7514.7 requires public pension funds in California to annually disclose certain information regarding their alternative investments. Staff has prepared SamCERA's required disclosure report which covers calendar year 2021.

**Discussion**
Since 2007, SamCERA has been required, if requested under the Public Records Act, to provide the following information regarding its alternative investments:

1. The name, address, and vintage year of each alternative investment vehicle.
2. The dollar amount of the commitment made to each alternative investment vehicle by the public investment fund since inception.
3. The dollar amount of cash contributions made by the public investment fund to each alternative investment vehicle since inception.
4. The dollar amount, on a fiscal yearend basis, of cash distributions received by the public investment fund from each alternative investment vehicle.
5. The dollar amount, on a fiscal yearend basis, of cash distributions received by the public investment fund plus remaining value of partnership assets attributable to the public investment fund's investment in each alternative investment vehicle.
6. The net internal rate of return of each alternative investment vehicle since inception.
7. The investment multiple of each alternative investment vehicle since inception.
8. The dollar amount of the total management fees and costs paid on an annual fiscal yearend basis, by the public investment fund to each alternative investment vehicle.
9. The dollar amount of cash profit received by public investment funds from each alternative investment vehicle on a fiscal year-end basis.

Under section 7514.7, effective January 1, 2018, SamCERA is required to disclose the above information annually to the Board at a public meeting. The attached report reflects this data for all of our alternative investments.

In addition, SamCERA is required to disclose the information that is listed below, if applicable, for the alternative investment contracts entered into between January 1, 2017 and December 31, 2021. We are also required to make disclosures for alternative investment contracts entered into before 2017 if an additional capital commitment was made to that investment after 2017. SamCERA made no such additional commitments to these investments.

The report will also reflect the following data for the applicable alternative investments:

1. The fees and expenses that the public investment fund pays directly to the alternative investment vehicle, the fund manager, or related parties.
2. The public investment fund's pro rata share of fees and expenses not included in paragraph 1 that are paid from the alternative investment vehicle to the fund manager or related parties. The public investment fund may independently calculate this information based on information contractually required to be provided by the alternative investment vehicle to the public investment fund. If the public investment fund independently calculates this information, then the alternative investment vehicle shall not be required to provide the information identified in this paragraph.
3. The public investment fund's pro rata share of carried interest distributed to the fund manager or related parties.
4. The public investment fund's pro rata share of aggregate fees and expenses paid by all of the portfolio companies held within the alternative investment vehicle to the fund manager or related parties.
5. The gross and net rate of return of each alternative investment vehicle, since inception, in which the public investment fund participates.

Similar to last year, not all of our funds had data to report for each of the listed categories due to the maturity of the specific fund. For example, our new funds did not have any carried interest to report at this early stage. We anticipate that future annual reports for these funds will contain more information as the funds mature.

**San Mateo County Employees' Retirement Association**
**Board of Retirement**

August 23, 2022 Agenda Item 4.12

**TO:** Board of Retirement

**FROM:** Doris Ng, Investment Analyst

**SUBJECT:** Semi-Annual Compliance Certification Statements for Period Ended June 30, 2022

**Recommendation**
Accept the semi-annual Compliance Certification Statements for SamCERA's non-alternative investment managers as of June 30, 2022.

**Background**
As part of SamCERA's ongoing due diligence process, the Compliance Certification Statement is completed by each of the association's public equity, fixed income, real estate, real asset and cash overlay investment managers and investment consultant on a semi-annual basis.

These statements are used to update SamCERA on any firm-wide compliance issues and to provide strategic-level information regarding such things as derivatives and portfolio positioning. For investment managers whose investments are considered "alternative investment vehicles" per the California Government Section Code §6254.26, the Compliance Certification Statements are not provided in the public board packet and will be sent separately to the Board.

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

**Discussion**
The attached Compliance Certification Statements report that SamCERA's investment managers (SSgA and PIMCO) are in compliance with SamCERA's Investment Policy as of June 30, 2022. There were no reported significant developments in portfolio construction, investment approach, firm ownership or organizational structure of concern relating to the association's public investments. There were no notable issues regarding industry or regulatory actions that impact SamCERA. The managers were also requested to provide data regarding the characteristics and composition of their portfolios. No prominent issues were identified during the review. Any items that raise concern will be brought to the manager's or investment consultant's attention and will be thoroughly vetted by staff.

**Attachments**
Compliance Certification Statement Matrix 06-2022
Compliance Certification Statements (2)

A. <u>Fixed Income</u>: PIMCO
B. <u>Real Assets</u>: SSgA

## Compliance Certification Statement Matrix – June 30, 2022

| Investment Manager | Mandate | General Compliance Issues | Derivative Instruments | Investment Manager Guidelines | Mandate Specific |
|---|---|---|---|---|---|
| **Fixed Income** | | | | | |
| **PIMCO**<br>**(Diversified Income Fund)** | | No Concerns | No Concerns | No Concerns | No Concerns |
| **Real Assets** | | | | | |
| **State Street Global Advisors**<br>**(Custom Real Asset Account)** | | No Concerns | • Largest single counterparty 19.2% of fund | No Concerns | • 1.87% ADRs<br>• 1.56% Rule 144A securities<br>• 1.78% largest single security weight<br>• 24.5% Derivatives |

**2** Total | **2** Completed | **0** Pending Information |**0** Confidential

## *PIMCO Diversified Income Fund – June 30, 2022*

*Compliance Certification Statement*
*San Mateo County*
*Employees' Retirement Association*

In accordance with SamCERA's Investment Policy Statement, the following compliance worksheet will be completed by each of *SamCERA's* investment managers on a semi-annual basis. These statements must be e-mailed to *SamCERA's* office (Investments@samcera.org) by **Tuesday, July 12, 2022**.

**General Compliance Issues**

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

   *Please refer to the attached Quarterly Firm Report.*

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

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

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

   *Please reference the attached compliance letter.*

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

   *Please reference the attached compliance letter.*

**Investment Management Fees**

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

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

**Derivative Investments**

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

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

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

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

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

   *Please refer to the attached Diversified Income Fund Annual Report.*

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

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

   *Please refer to the attached Diversified Income Fund Annual Report.*

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

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

   *Please refer to the attached Diversified Income Fund Annual Report.*

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

*Please refer to the attached PIMCO Pricing Policy.*

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

   *Please refer to the attached PIMCO Pricing Policy.*

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

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

**Investment Manager Guidelines**

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

   *Please refer to the attached Bond Statistics Report.*

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

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

**Fixed Income Portfolios**

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

| | |
|---|---|
| *Treasury* | % |
| *Agency* | % |
| *Inflation-Linked* | % |
| *Mortgage-Backed* | % |
| *Asset-Backed* | % |
| *Investment-Grade Credit* | % |
| *High-Yield Credit* | % |
| *Bank Loan* | % |
| *Non-US* | % |
| *EM Government* | % |
| *EM Local Currency* | % |
| *EM Corporate* | % |
| *Cash & Equivalents* | % |
| *Total* | % |

*Please reference the attached Bond Statistics Report.*

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

   *Please reference the attached Bond Statistics Report.*

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

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

   *Please reference the attached compliance letter.*

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

   *Please reference the attached Holdings Report.*

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

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

   *As of 6/30/2022, the Fund represented 0.23% of the Firm assets.*
   *As of 6/30/2022, SamCERA's investment represented 2.66% of Fund assets.*

Signed by:

Dated: 7/12/22

Name of Firm:
PIMCO

***State Street Global Advisors Custom Real Asset Account – June 30, 2022***

*Compliance Certification Statement*
*San Mateo County*
*Employees' Retirement Association*

In accordance with SamCERA's Investment Policy Statement, the following compliance worksheet will be completed by each of *SamCERA's* investment managers on a semi-annual basis. These statements must be e-mailed to *SamCERA's* office (Investments@samcera.org) by **Tuesday, July 12, 2022**.

**General Compliance Issues**

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

   There have been no significant portfolio developments, major changes in firm ownership of organizational structure. However, for information on material changes in personnel, please refer to the separately attached ***"Appendix A – SSGA Organizational Memo"***.

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

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

   SSGA Funds Management, Inc. (SSGA FM), State Street Global Advisors Trust Company, State Street Bank and Trust Company, and their ultimate parent, State Street Corporation (collectively "State Street") are subject to regulatory oversight by numerous federal agencies, including the U.S. Securities and Exchange Commission (SEC), the U.S. Federal Reserve Bank, and the U.S. Federal Deposit Insurance Corporation, as well as Massachusetts state banking and securities regulators. As with any similarly regulated financial institution, State Street is likely to be responding to multiple inquiries, both formal and informal, from various regulators at any given time. In the normal course, various regulators also conduct periodic reviews, exams and audits of SSGA FM. State Street's policy is that such communications are confidential.

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

   There have been no active investment guideline breaches for the products in scope.

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

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

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

Please refer to the separately attached ***"Appendix B – Memorandum of Insurance"***.

**Investment Management Fees**

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

**Derivative Investments**

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

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

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

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

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

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

5. Is individual counter-party exposure well diversified? ☒ **Yes/** ☐ **No: Please explain.**
   a) What is the largest exposure to a single counter-party within the portfolio?

      Approximately 19.20% of the fund, as of June 30, 2022.

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

      Societe Generale; approximately $73 million, as of June 30, 2022.

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

      Yes.

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

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

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

   The swap positions are based on a commodity index (Bloomberg Commodity Roll Select TR Index). The Index is comprised of a diversified basket of liquid (listed) commodity futures contracts. Please refer to the separately attached ***"Appendix C - Commodity Index Strategy Disclosure Document"***.

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

**Real Asset Portfolio**

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

| | |
|---|---|
| *Foreign Ordinary Shares* | 0.07% |
| *ADR's* | 1.87% |
| *Common Stock* | 47.74% |
| *MIP Limited Partnership* | 0.00% |
| *Derivatives: Futures/ Options* | 24.54% |
| *Cash & Equivalents (Domestic)* | 0.12% |
| *Cash & Equivalents (Foreign)* | 0.08% |
| *Other (TIPS)* | 25.58% |

As of June 30, 2022
Source: State Street Global Advisors

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

**S&P Global LargeMidCap Natural Resources Index NL Fund (ZVB5)**

| | |
|---|---|
| Large-Cap | 77.44% |
| Mid-Cap | 19.30% |
| Small-Cap | 3.26% |

As of June 30, 2022
Source: State Street Global Advisors

**S&P Global Infrastructure Index NL CTF (ZVPY)**

| | |
|---|---|
| Large-Cap | 67.33% |
| Mid-Cap | 26.22% |
| Small-Cap | 6.46% |

As of June 30, 2022
Source: State Street Global Advisors

**Bloomberg Roll Select Commodity Index SM NL FD (ZVME)**

| | |
|---|---|
| Large-Cap | N/A-Swaps % |
| Mid-Cap | N/A-Swaps % |
| Small-Cap | N/A-Swaps % |

As of June 30, 2022
Source: State Street Global Advisors

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

*1.56%*

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

   *Nutrien Ltd CAD – 1.78%*

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

   *Nutrien Ltd CAD – 1.78%*

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

   **Part I***

   Real Asset Strategy AUM – $7,574.31 million (0.22%)

   **Underlying Funds**
   S&P Global LargeMidCap Natural Resources Index NL Fund (ZVB5) – $1,246.01 million (0.04%)
   Bloomberg Roll Select Commodity Index SM NL FD (ZVME) – $343.95 million (0.01%)
   S&P Global Infrastructure Index NL CTF (ZVPY) – $1,227.48 million (0.04%)
   U.S. TIPS Index NL Fund (CMTP) – $2,910.72 million (0.08%)

   SSGA Firm AUM - 3,475,451.56 million**

   **Part II***

   SMCERA AUM - $ 348.87 million (4.61%)
   Real Asset Strategy AUM - $7,574.31 million (0.22%)

   **AUM data provided is unaudited and as of June 30, 2022.*
   *** This figure is presented as of June 30, 2022 and includes approximately $66,430.66 million USD of assets with respect to SPDR products for which State Street Global Advisors Funds Distributors, LLC (SSGA FD) acts solely as the marketing agent. SSGA FD and State Street Global Advisors are affiliated.*
   *Source: State Street Global Advisors*

**Signed by:** Christopher McNeillie, Managing Director, U.S. Institutional Client Group
**Dated:** July 19, 2022
**Name of Firm:** State Street Global Advisors

**Disclosures:**

This material is solely for the private use of **San Mateo County Employees Retirement Association** and is not intended for public dissemination.

Past performance is not a guarantee of future results. Performance returns for periods of less than one year are not annualized. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income.

All trademarks are the property of their respective owners.



All material has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. There is no representation or warranty as to the current accuracy, reliability or completeness of, nor liability for, decisions based on such information and it should not be relied on as such. Past performance is not a guarantee of future results.

Investing involves risk including the risk of loss of principal.

Companies with large market capitalizations go in and out of favor based on market and economic conditions. Larger companies tend to be less volatile than companies with smaller market capitalizations. In exchange for this potentially lower risk, the value of the security may not rise as much as companies with smaller market capitalizations.

Equity securities may fluctuate in value in response to the activities of individual companies and general market and economic conditions.

Characteristics presented are calculated using the month end market value of holdings, except for beta and standard deviation, if shown, which use month end return values. Averages reflect the market weight of securities in the portfolio.

State Street Global Advisors Trust Company, One Iron Street, Boston, MA 02210.
Web: www.ssga.com

August 23, 2022 Agenda Item 4.13

**TO:** Board of Retirement

**FROM:** Scott Hood, Chief Executive Officer

**SUBJECT:** Ratification of Legal Services Agreement with Mullen Coughlin, LLP

**Recommendation**
Approve a resolution ratifying a legal services agreement with Mullen Coughlin, LLP.

**Background**
In connection with updating member files, forms containing the personal information of thirty--two members were inadvertently uploaded to another member's account on July 7, 2022. On August 3, 2022, staff was alerted to this error and deleted the documents from the member's file. Staff subsequently confirmed that no other instances of this error occurred and has implemented procedures to help mitigate this occurrence in the future. Additionally, staff confirmed that the forms at issue were not downloaded, copied, or printed.

**Discussion**
Pursuant to California and other relevant states' law, notification of the incident has been sent to all affected individuals including any beneficiaries whose personal information was listed on the forms by the members. SamCERA has offered credit and identity monitoring services to all such individuals through Kroll Information Assurance (Kroll) for one year, without cost to them. In addition, if necessary, Kroll will provide the impacted individuals with fraud consultation and identity theft restoration services, again at no cost to them. Kroll is a global leader in risk mitigation and response, and their team has extensive experience helping people who have sustained an unintentional exposure of confidential data.

Mullen Coughlin specializes in assisting organizations in addressing data privacy and information security incidents. In light of the circumstances and desire to act quickly, and as authorized by Board policy, the Chief Executive Officer executed a legal services agreement with Mullen Coughlin and a resolution is now before the Board to ratify the agreement.

**Attachment**
Resolution Ratifying a Legal Services Agreement with Mullen Coughlin, LLP
Mullen Coughlin, LLP Engagement Letter

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**

**RESOLUTION 2022-__**

RESOLUTION RATIFYING LEGAL SERVICES AGREEMENT
WITH MULLEN COUGHLIN LLP

**WHEREAS,** pursuant to Article XVI, Section 17 of the California Constitution, the Board of Retirement (the "Board") has the exclusive authority and fiduciary responsibility for the investment of moneys and the administration of the system; and

**WHEREAS,** the Board adopted a resolution making Government Code section 31529.9 effective for SamCERA, and by such action, the Board is authorized to contract with attorneys in private practice; and

**WHEREAS**, the Chief Executive Officer determined that it was in the best interest of SamCERA to enter into an agreement with Mullen Coughlin LLP for legal services related to information security, and such agreement was needed prior to the next regular Board meeting; and

**WHEREAS**, the Board desires to ratify that agreement with Mullen Coughlin LLP for services in an amount not exceeding $10,000 and through June 30, 2023, therefore, be it

**RESOLVED,** that the Board of Retirement hereby ratifies the agreement with SamCERA and Mullen Coughlin, LLP for legal services as set forth therein.

* * * * *

Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on August 23, 2022.

Ayes, Trustees:

Noes, Trustees:

Abstain, Trustees:

Absent, Trustees:

_________________________________

Alma Salas, Board Secretary

Mullen Coughlin LLC
Attorneys at Law

John F. Mullen
Office: 267-930-4791
Fax: 267-930-4771
Email: jmullen@mullen.law

426 W. Lancaster Avenue, Suite 200
Devon, PA 19333

August 11, 2022

**VIA ELECTRONIC MAIL**

Paul Okada
Chief Legal Counsel
San Mateo County Employees' Retirement Association
100 Marine Parkway, Suite 125
Redwood City, CA 94065
E-mail: pokada@samcera.org

**Re: San Mateo County - Engagement**

Dear Paul Okada:

Thank you for your interest in retaining Mullen Coughlin LLC as your attorneys. The purpose of this correspondence is to, upon execution: 1) establish an attorney client relationship between Mullen Coughlin LLC ("Mullen Coughlin" or "the Firm") and the San Mateo County Employees' Retirement Association ("You"); 2) define the scope of the Firm's representation of You; and 3) establish other material terms and conditions of the representation, including but not limited to the financial terms. This correspondence may be referred to as "Engagement Letter" or the "Agreement."

The Insurance Policy provided through AXA XL provides that, among other things, You may be responsible for a Self-Insured Retention ("SIR").

Please read the Engagement Letter with care. By executing this Engagement Letter, You are entering into a contract that is binding on both the Firm and You, on the following terms and conditions.

1. PARTIES TO ENGAGEMENT LETTER

The parties to the Agreement are Mullen Coughlin and You. No other person or entity shall be entitled to claim an attorney-client relationship with the Firm with respect to the legal services to be provided pursuant to the Engagement Letter.

## 2. INCEPTION OF ATTORNEY CLIENT RELATIONSHIP

The information that was shared with us during our initial period of consultation with You was shared within a representation limited to the topics necessary to be explored up to this point. That attorney-client relationship was finite. It will not continue to exist, and Mullen Coughlin will not be obligated to provide legal services described in Schedule A, until You have returned a signed copy of this Agreement and paid any initial retainer called for under Section 8.

## 3. SCOPE OF REPRESENTATION: SCHEDULE A

Mullen Coughlin will perform only those legal services set forth in the Scope of Representation attached as Schedule A. You agree that you have no expectation that the Firm will provide legal services beyond those set forth in Schedule A, unless Mullen Coughlin and You amend the Engagement Letter in writing or execute a separate agreement with respect to any such additional legal services. The term of this agreement shall expire on June 30, 2023.

You are generally required by law to retain documents, including electronically stored information ("ESI"), which may be relevant to the matter which is the subject of the representation. Preservation of documents including ESI is Your responsibility, and it is important that You take all necessary and reasonable steps to preserve this information. The Firm is available to discuss the scope of Your obligations and to provide advice or recommendations in this regard. Nothing in this paragraph shall in any way limit Your obligation to pay for, or the Firm's right to, receive payment for any services provided by the Firm at Your request.

## 4. DUTIES OF CLIENT/YOU

You agree to provide Mullen Coughlin with complete and accurate information and documents, cooperate, keep us informed of relevant developments, abide by this Agreement, and pay our statements on time. In addition, You will advise us of any changes to Your address and telephone number.

## 5. LEGAL FEES

We will charge You for the services provided pursuant to the Agreement based on the amount of time (including travel) we devote to the matter at the hourly rates for the particular professionals involved as are set forth in Schedule B. These rates were previously agreed to for work under your insurance policy with AXA XL. We bill in minimum units of 6 minutes, or .1 hour. We reserve the right to reasonable annual rate increases, subject to Your consent, which shall not be unreasonably withheld. We reserve the right to staff the handling of the matter with the partners, associates, paralegals and/or other personnel of our choice, at the rate we establish for each such timekeeper, although we will discuss the staffing of Your matter with You at any time and consider Your input in the staffing of the matter.

The costs in this matter are not to exceed $10,000. When and if Mullen Coughlin's fees reach $4,000, Mullen Coughlin will stop all work unless instructed by You to continue. The $10,000 amount may be amended by either party.

6. <u>EXPENSES AND OTHER CHARGES</u>

a. <u>COSTS AND EXPENSES: SCHEDULE B</u>

We will incur on Your behalf various costs and expenses in performing legal services under the Agreement. You agree to pay for those costs and expenses in addition to the hourly fees. Schedule B, attached, includes a non-exhaustive list of costs we may incur on Your behalf.

b. <u>OUTSIDE CONSULTANTS/OTHER VENDORS</u>

In addition to the costs of the type set forth in Schedule B, it may become necessary to hire persons or entities outside Mullen Coughlin, including but not limited to consultants, forensics and other experts, investigators, or other professional service providers. We will select any consultants or investigators to be hired after notice to and consultation with You, and You agree to honor the terms and conditions of any agreement with any such outside person or entity that we enter into on Your behalf and with your consent.

c. <u>REIMBURSEMENT OR DIRECT PAY</u>

We reserve the right in our sole discretion to either pay directly any of the costs incurred such as those set forth in Schedule B, and/or for outside consultants or other vendors, or to ask You to pay any such expense directly. If we exercise our right to require You to pay an outside vendor invoice directly, and You fail to do so, You agree to defend and indemnify the Firm with respect to any claims, demands or suit brought against the Firm as a result of Your failure to pay such invoice. Payment directly by the Firm of any such expense shall not be construed as a waiver of our right to require You in the future to pay any similar expense directly.

7. <u>PERIODIC STATEMENTS AND BILLING TERMS</u>

Our practice is to send periodic statements for services rendered and for costs incurred during the previous month or months. The detail in the periodic statement will inform You of both the nature and progress of work and of the fees and costs being incurred.

Our fee structure is based upon Your promise to pay all statements no later than 30 days after receipt.

We do our best to see that our clients are satisfied not only with our services, but also with the reasonableness of the fees and costs. Therefore, while we urge You to raise any question about or objection to a fee statement, You must do so promptly. Such inquiry shall be timely only if made, in writing, within thirty (30) days after the date of the invoice. In the absence of a timely written inquiry, You will be deemed to have accepted the invoice and to have acknowledged that You are satisfied with it, in the absence of good cause for not having objected more timely.

In the event You fail to pay any invoice within thirty (30) days of the statement date, You agree to pay interest at the maximum rate allowed by law on the amount of such invoice, from the statement date until paid in full. If we accept late payment of any invoice without interest, we shall not be deemed to have waived any claim in the future for interest on other invoices. If You timely object in writing to a portion of a statement, You agree to pay the remainder of the statement which is not in dispute. We agree to accept such partial payment without claiming You have waived Your right to contest the unpaid portion of the bill.

Failure to pay the undisputed amount of any invoice in full within 30 days shall constitute grounds for termination of this Engagement Letter and withdrawal of the Firm from representation, as more fully discussed in Section 10.

## 8. RETAINER: SECURITY AND ADVANCE PAYMENT OF FINAL INVOICE

We are not requesting any retainer at this time, but we reserve the right, within the bounds of our ethical and legal duties, to cease work and request a retainer at any time for reasons such as, but not limited to, failure to pay Firm invoices and exhaustion of insurance policy limits.

The retainer is: 1) a sum to be held as security for the Firm with respect to Your obligations to pay the fees and costs incurred by the Firm pursuant to the Engagement Letter; and 2) an advance payment to be applied to the Firm's final invoice in this matter. We expect that You will live up to the terms and conditions of the Engagement Letter in full, in which case the full amount of the remaining retainer will be applied against the final invoice and any excess returned to You. However, should You become delinquent on the payment of any statement, we may in our discretion apply the retainer to the payment of that statement. In that event, You shall immediately restore the retainer to its full amount upon our request. Failure to deliver or restore the retainer upon our request shall constitute grounds for termination of this Engagement Letter and withdrawal from representation, as more fully discussed in Section 10.

We also reserve the right to require, and You agree to provide, increases to the retainer should the time and expense required to carry out the representation contemplated by this Engagement Letter increase beyond that reasonably anticipated at the beginning of the engagement. In the event that our representation of You encompasses litigation, we reserve the right to increase the retainer, based on estimated time and costs, in the event that we must engage in trial preparation or trial.

9. TERMINATION OF THE FIRM BY YOU

You shall have the right to terminate this Engagement Letter and discharge the Firm at any time. However, to be effective, termination or discharge of the Firm must be in writing. In such event, You authorize the Firm to make and retain a duplicate of Your file.

You shall bear all reasonable costs of transferring the new matter to counsel chosen by You.

The attorney/client relationship between the Firm and You shall end upon discharge of the Firm by You pursuant to this paragraph. However, such discharge shall not relieve You of any obligation to pay fees and costs incurred prior to the discharge, as well as any fees and costs expended after the discharge to the extent reasonably required in the Firm's sole discretion to protect Your interests prior to the discharge or in the event of litigation, until a court order is entered permitting the Firm to withdraw.

10. WITHDRAWAL FROM REPRESENTATION BY THE FIRM

The Firm shall be permitted to withdraw from representation whenever required or permitted to do so by law. In addition, the Firm may withdraw as counsel at any time if withdrawal can be accomplished without material adverse effects on the interests of You, or if: 1) You persist in a course of action involving a lawyer's services that the lawyer reasonably believes to be criminal or fraudulent; 2) You have used the lawyer's services to perpetrate a crime or fraud; 3) You insist upon pursuing an objective that the lawyer considers repugnant or imprudent; 4) You fail substantially to fulfill an obligation to Mullen Coughlin regarding the Firm's services (including, but not limited to, Your financial obligations under this Engagement Letter) after reasonable warning from the lawyer that the lawyer will withdraw unless the obligation is fulfilled; 5) the representation will result in an unreasonable financial burden on the lawyer or has been rendered unreasonably difficult by You; or 6) where other good cause for withdrawal exists.

11. DOCUMENT STORAGE POLICY

On termination of a matter, the Firm will maintain file documents for 5 years, or any alternate period as determined by the Commonwealth of Pennsylvania. Upon termination of the matter, You have the right to take possession of the file. If You choose to take possession of the file, the firm may copy all or any part of the file. If You choose not to take possession of the file, the firm will retain the file pursuant to its document storage policy stated above.

12. CHOICE OF LAW/FORUM SELECTION

This Agreement is deemed to have been executed, and is intended to be performed in the Commonwealth of Pennsylvania, subject to its laws, regardless of whether services are actually rendered outside of the Commonwealth. Any dispute arising from this agreement shall be governed by the laws of the Commonwealth of Pennsylvania. The venue for the judicial resolution of such dispute shall be proper only within the Commonwealth of Pennsylvania.

## 13. NO PROMISES OR GUARANTEES

You understand that Mullen Coughlin has made no representation or guarantee concerning the outcome of the matter set forth in the attached Schedule A.

## 14. RIGHT TO SEPARATE COUNSEL

You acknowledge having had the opportunity to seek the advice of separate counsel with respect to this Agreement.

## 15. LEGAL MALPRACTICE INSURANCE

As of the date of this letter, Mullen Coughlin has errors and omissions (legal malpractice) insurance applicable to the services to be rendered pursuant to this Agreement, subject to any applicable deductible or self-insured retention.

## 16. MODIFICATION IN WRITING ONLY

No change to this Agreement shall be effective unless and until confirmed in writing and signed and acknowledged by the Firm and You making express reference to this Agreement. This Engagement Letter embodies the whole agreement of the parties. There are no promises, terms, conditions or obligations other than those contained herein, and this contract shall supersede all previous communications, representations, or other agreements, either oral or written, between the Firm and You.

## 17. COUNTERPARTS AND FACSIMILES EFFECTIVE

This Agreement may be signed in counterpart. Facsimile or imaged signature pages executed by the Firm or You shall be effective as original signatures.

Thank You for choosing Mullen Coughlin as Your counsel with respect to the matter set forth in Schedule A.

We look forward to working with You and thank You once again for the opportunity to serve You, upon execution of this Engagement Letter.

Dated: AUGUST 11, 2022

Accepted and agreed to:

By: 

Name: SCOTT HOOD

Title: CEO

Company: SAMCERA

Address: 100 MARINE PARKWAY
SUITE 125
REDWOOD CITY, CA 94065

Phone: (650) 599-1234

Fax: (650) 591-1488

E-mail: shood@samcera.org

Very truly yours,

John F. Mullen of
MULLEN COUGHLIN LLC

JFM:mah

SCHEDULE "A":

SCOPE OF REPRESENTATION

San Mateo County

Investigate, provide legal advice and otherwise assist with response to a potential data security incident.

* * *

SCHEDULE "B":

RATE SCHEDULE AND COST/EXPENSE ITEMS SCHEDULE

**A. Identification**

Client(s): San Mateo County

Matter: San Mateo County — Privacy Event

**B. Hourly rates for legal personnel**

$395 Partner

$395 Associate

$150 Paralegal

**C. Standard charges**

We charge for our time in minimum units of .1 hours (6 minutes).

**D. Costs and expenses incurred on Your behalf may include but are not limited to:**

| | |
|---|---|
| Travel expenses including e.g., lodging, airfare, taxis, public transportation, car rental, parking and meals | At cost. All Travel expenses shall be approved by client in writing. |
| Deposition costs | At cost |
| Postage, messenger and other delivery fees | At cost |
| Mileage | At the Internal Revenue Service's business mileage reimbursement guidelines |
| Photocopying and other reproduction costs | In-house - $0.10 per page<br>Outside service - At cost |
| After hours building services (when dictated) | At cost by special client need |

**San Mateo County Employees' Retirement Association**
**Board of Retirement**

August 23, 2022 Agenda Item 4.14

**TO:** Board of Retirement

**FROM:** Lilibeth Dames, Investment Analyst Lilibeth Dames

**SUBJECT:** Report on SamCERA's Securities Lending Program

## Recommendation
Accept the report on SamCERA's Securities Lending Program as of June 30, 2022.

## Background
SamCERA commenced its securities lending program on July 1, 2007. The program was implemented by SamCERA's then custodian, State Street Bank & Trust, and then by The Northern Trust Company, effective July 1, 2014.

## Discussion
In the fifteen years since inception, the securities lending program has earned $7.2 million for SamCERA. During the fiscal year ended June 30, 2022, the program earned $73,290. This is a 46% increase from last fiscal year's earnings of $50,275. The majority of the earnings are mostly attributable to a few specific securities.

Securities lending utilization (on-loan amount divided by lendable assets) on June 30, 2022 was 0.82%, which was lower than the utilization rate of 1.01% as of June 30, 2021.

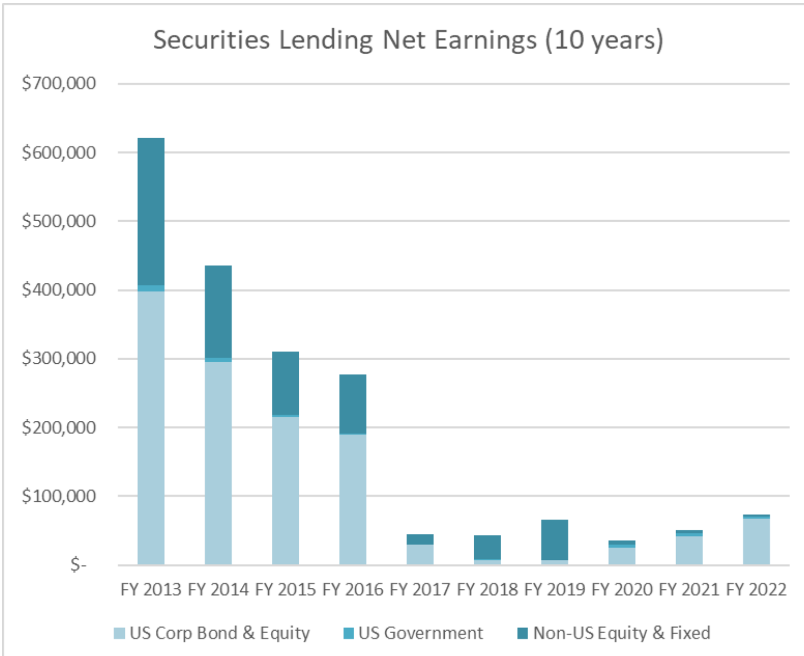
There were no violations of provisions and no borrower or lending agent default losses during the fiscal year.

## Attachment
Securities Lending Report for Fiscal Year Ended June 30, 2022

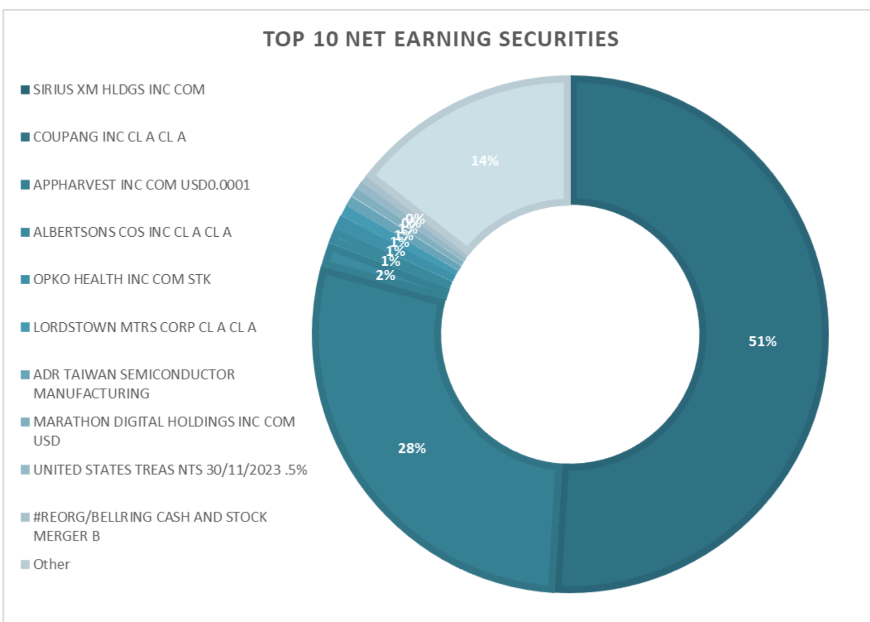
# SamCERA Securities Lending Report as of June 30, 2022

## Earnings

SamCERA's securities lending program earned $73,290 for the fiscal year ending June 30, 2022. This is a 46% increase over last year's fiscal year earnings of $50,275. As of June 30, 2022, the program has earned $7.2 million since its inception on July 1, 2007.

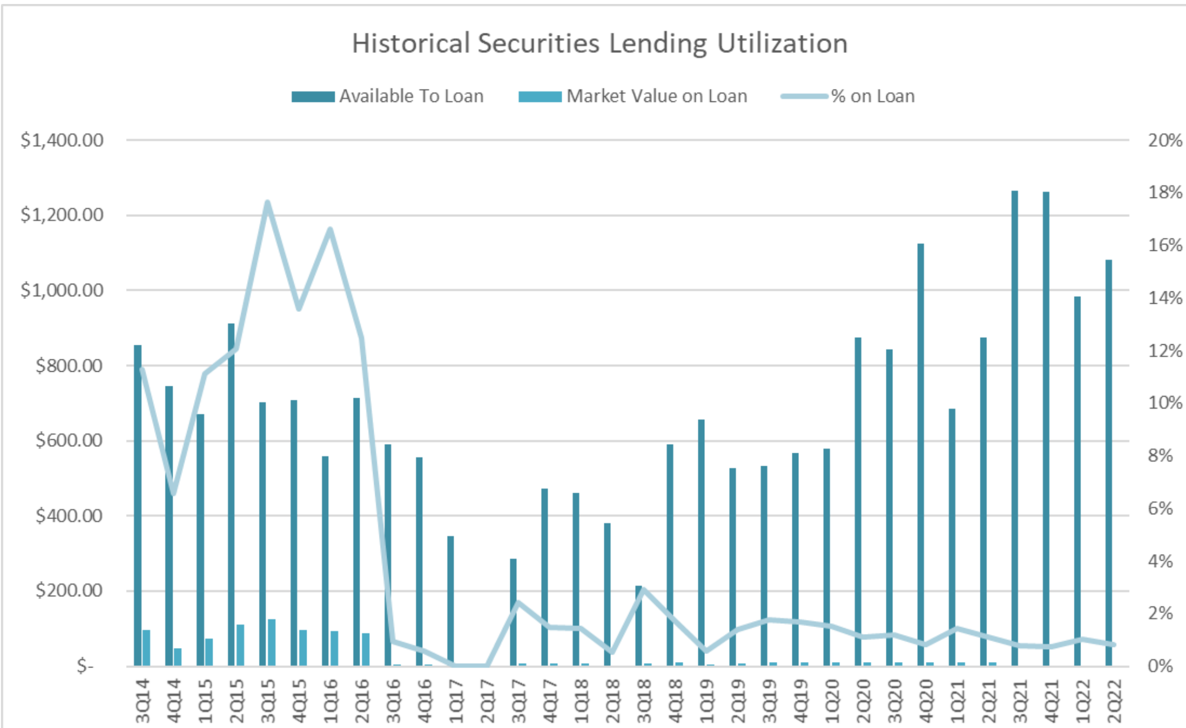



Fiscal year earnings was mainly attributable to two specific securities in particular, Sirius XM and Coupang Inc.



## Utilization

Utilization (securities on-loan amount divided by lendable assets) has ranged from 0% to 20% during the eight years that SamCERA has used Northern Trust as its securities lending provider. For fiscal year ended June 30, 2022, securities lending utilization was 0.82%, which was lower than the utilization rate of 1.01% the previous year. SamCERA had six separate accounts that had securities on loan as of June 30, 2022, the same number of accounts as of June 30, 2021.




Decreasing demand spreads and the conservative nature of the NILAP fund still has had a downward impact on both utilization and earning levels this fiscal year compared to previous years.

## Collateral

Securities are loaned versus collateral that may include cash, U.S. government securities and irrevocable letters of credit. U.S. securities are loaned versus collateral valued at 102% of the market value of the securities plus any accrued interest. Non-U.S. securities are loaned versus collateral valued at 105% of the market value of the securities plus any accrued interest. Non-cash collateral cannot be pledged or sold unless the borrower defaults.

All securities loans can be terminated on demand by either the lender or the borrower, although the average term of SamCERA's loans was approximately 184 days as of June 30, 2022. Cash open collateral is invested in a short-term investment pool, the NILAP fund, which had an interest sensitivity of 19 days at fiscal year-end.

There were no violations of legal or contractual provisions, and no borrower or lending agent default losses were known to SamCERA's custodian, Northern Trust.

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**
**Board of Retirement**

August 23, 2022 Agenda Item 4.15

**TO:** Board of Retirement

**FROM:** Tat-Ling Chow, Finance Officer Chowtatling
Chezelle Milan, Senior Accountant CBMilan
Lilibeth Dames, Investment Analyst Lilibeth Dames

**SUBJECT:** Preliminary Financial Statements for the Fiscal Year Ended June 30, 2022

**Recommendation**
Accept the Preliminary Financial Statements for the Fiscal Year Ended June 30, 2022.

**Background**
The preliminary financial statements provide information on SamCERA's financial position as of June 30, 2022, and its operating results for the fiscal year ended June 30, 2022.

The *Statement of Fiduciary Net Position* (balance sheet) provides a snapshot of the account balance as of June 30, 2022. This Statement indicates the amount of fiduciary net position (total assets minus total liabilities) available to pay future pension benefits. Over time, increases and decreases in net position may serve as a useful indicator of whether the financial health of the Retirement Fund is improving or declining. Other factors, such as market conditions, should also be considered in measuring SamCERA's overall financial health.

The *Statement of Changes in Fiduciary Net Position* (income statement) reports additions to, and deductions from, SamCERA's fiduciary net position for the fiscal year ended June 30, 2022. "Additions" consist of contributions from plan sponsors and members, investment income net of investment expenses, securities lending income net of related expenses, and other additions. "Deductions" include member benefits, member refunds as well as administrative, information technology, and other expenses.

**Summary**
SamCERA's financial position declined over the fiscal year just ended. Its net position decreased by $304.4 million, or 5%, to $5.68 billion, due predominantly to the volatile market environment that was highly sensitive to investor concerns such as the Russian invasion of Ukraine and growing fears of inflation and recession.

## Statement of Fiduciary Net Position

The following table shows SamCERA's preliminary Statement of Fiduciary Net Position as of June 30, 2022. Its assets and liabilities as of June 30, 2022, were compared to those as of June 30, 2021, to reflect changes over the fiscal year. Significant changes are discussed in the following pages.

**Statement of Fiduciary Net Position**

| | Preliminary | Actual | Increase (Decrease) | |
|---|---|---|---|---|
| | June 30, 2022 | June 30, 2021 | Amount | Percentage |
| **ASSETS:** | | | | |
| Cash and Cash Equivalents | $ 237,346,293 | $ 153,467,110 | $ 83,879,183 | 55% |
| Cash Management Overlay | 73,569,285 | 64,054,219 | 9,515,066 | 15% |
| Securities Lending Cash Collateral | 4,120,692 | 4,574,275 | (453,583) | -10% |
| Subtotal - Cash and Other Cash Related Activities | 315,036,270 | 222,095,604 | 92,940,666 | 42% |
| Receivables | | | | |
| Contributions | 14,690,743 | 15,060,101 | (369,358) | -2% |
| Due from Broker for Investment Transactions | 59,363,568 | 48,257,671 | 11,105,897 | 23% |
| Investment Income | 7,643,123 | 7,838,202 | (195,079) | -2% |
| Securities Lending Income | 16,435 | 3,029 | 13,406 | 443% |
| Other Receivable | 131,903 | 83,607 | 48,296 | 58% |
| Subtotal - Receivables | 81,845,772 | 71,242,610 | 10,603,162 | 15% |
| Prepaid Expenses | 352,333 | - | 352,333 | n/a |
| Investments at Fair Value | | | | |
| Fixed Income | 1,368,658,724 | 1,545,541,099 | (176,882,375) | -11% |
| Public Equity | 2,065,993,116 | 2,411,436,689 | (345,443,573) | -14% |
| Alternatives | 829,583,091 | 860,701,348 | (31,118,257) | -4% |
| Inflation Hedge | 1,110,678,994 | 942,703,531 | 167,975,463 | 18% |
| Subtotal - Investment at Fair Value | 5,374,913,925 | 5,760,382,667 | (385,468,742) | -7% |
| Lease Asset | 3,325,962 | - | 3,325,962 | n/a |
| Less: Accumulated Amortization | (511,692) | - | (511,692) | n/a |
| Subtotal - Lease Asset, Net of Amortization | 2,814,270 | - | 2,814,270 | n/a |
| Capital Assets | 8,462,303 | 8,324,720 | 137,583 | 2% |
| Less: Accumulated Depreciation | (4,586,899) | (3,737,459) | (849,440) | 23% |
| Subtotal - Capital Assets, Net of Depreciation | 3,875,404 | 4,587,261 | (711,857) | -16% |
| **TOTAL ASSETS** | **5,778,837,974** | **6,058,308,142** | **(279,470,168)** | **-5%** |
| **LIABILITIES:** | | | | |
| Investment Management Fees Payable | 2,443,332 | 3,151,269 | (707,937) | -22% |
| Due to Broker for Investments Purchased | 90,090,580 | 66,319,257 | 23,771,323 | 36% |
| Securities Lending Cash Collateral - Due to Borrowers | 4,120,692 | 4,574,275 | (453,583) | -10% |
| Other | 1,619,606 | 2,177,391 | (557,785) | -26% |
| Subtotal - Liabilities | 98,274,210 | 76,222,192 | 22,052,018 | 29% |
| Lease Liability | 2,890,295 | - | 2,890,295 | n/a |
| **TOTAL LIABILITIES** | **101,164,505** | **76,222,192** | **24,942,313** | 33% |
| **NET POSITION RESTRICTED FOR PENSIONS** | **$ 5,677,673,469** | **$ 5,982,085,950** | **$ (304,412,481)** | **-5%** |

**Assets.** SamCERA's total assets decreased by $279.5 million over the year, or 5%, due primarily to the mixed results of the following:

- *Cash and cash equivalents* increased by $83.9 million. In the 4th quarter ended June 30, 2022, SamCERA made redemptions from public real assets and fixed income funds in an aggregate amount of $90 million. Some of the redemption proceeds were earmarked for a $90 million initial funding of a new cash driven investing program that took place on July 5, 2022.

- *Cash management overlay* increased by $9.5 million. Under the cash overlay program, SamCERA is required to maintain an initial cash margin plus an additional variation margin. With high levels of cash in the general account, more cash was required to fund the operational needs.

- *Securities lending cash collateral* decreased by $0.5 million. The market value of securities on loan as of June 30, 2022, was $0.4 million lower than last year-end. Given that collateral must be valued at 102% of the market value of the securities on loan, the change caused a corresponding decrease in cash collateral from borrowers.

- *Receivables* overall increased by $10.6 million, primarily caused by a pending trade settlement of $10 million in an investment account.

- *Prepaid expenses* are future expenses that are paid in advance and hence recognized initially as an asset. In March 2022, Staff purchased 2,500 service hours from Vitech to support enhancements of the pension administration software through December 2024. The purchase cost was $462,500, and $352,333 of which remained intact and was reported as prepaid expenses.

- *Investment at fair value* decreased by $385.5 million. At the end of the fiscal year, nearly every asset class delivered negative performance. The market was overshadowed by growing concerns over the Russian invasion of Ukraine and fears of inflation and recession. These concerns caused trickle-down effects on investment performance, although SamCERA performed relatively well and ranked in the top quartile among its peers.

  - Fixed Income decreased by $176.9 million. Unrealized losses of $150 million were spread across the core fixed income portfolio. Additionally, during portfolio rebalancing, $25 million were moved from fixed income assets to other asset classes.

  - Public Equity decreased by $345.4 million. Unrealized losses of $480 million were seen throughout the entire public equity portfolio. Due to rebalancing, $140 million was added to this asset class, partially offsetting the overall decline in market value.

  - Alternatives decreased by $31.1 million. Net unrealized losses approximated to $63 million, with $98 million unrealized losses in private equity funds and $35 million unrealized gains in absolute return assets. Due to capital calls, $30 million was added into this asset class, partially offsetting the overall decline in market value.

- Inflation Hedge increased by $168.0 million. Overall unrealized gains from private real assets and real estate aggregated to $82 million, with $21 million from private real assets and $61 million from real estate. Additionally, a total of $82 million was added to private real assets due to capital calls.

- *Lease Asset, Net of Amortization* was $2.8 million as of June 30, 2022. SamCERA is required to implement the financial reporting standards prescribed by Government Accounting Standards Board (GASB) Statement No. 87 – Leases. To comply with these standards, new accounts have been added to reflect lease asset and lease liability arising from the office space rental agreement with 1 Twin Property Owner, LLC (property owner). The lease asset balance will be gradually depleted over time in accordance with the lease payments in the years to come.

**Liabilities.** SamCERA's total liabilities increased by $24.9 million over the year, or 33%. Significant changes are discussed below.

- *Due to broker for investments purchased* increased by $23.8 million, primarily due to the timing difference between trade date and settlement date. As of June 30, 2022, among other payables, there was a $17 million larger payable for a public real assets fund.

- *Securities lending cash collateral due to borrowers* decreased by $0.5 million. The decrease in liability was triggered by and in parallel with the decrease in securities lending cash collateral discussed earlier under the Assets section.

- *Lease Liability* was $2.9 million as of June 30, 2022, which was originated from the office space rental agreement discussed earlier. The lease asset liability will be gradually depleted over time in accordance with the lease payments in the years to come.

## Statement of Changes in Fiduciary Net Position

SamCERA's preliminary Statement of Changes in Fiduciary Net Position (income statement) for the fiscal year ended June 30, 2022, is presented below. Additions to and deductions from the Retirement Fund for the fiscal year were compared to those of the prior fiscal year.

**Statement of Changes in Fiduciary Net Position**

| | Preliminary | Actual | Increase (Decrease) | |
|---|---|---|---|---|
| | 2022 | 2021 | Amount | Percentage |
| **ADDITIONS:** | | | | |
| Contributions | | | | |
| Employer Contribution | $234,746,179 | $225,302,472 | $ 9,443,707 | 4% |
| Employee Contribution | 73,967,823 | 73,966,484 | 1,339 | 0% |
| Employer Supplementary Contribution | 15,200,000 | 39,700,000 | (24,500,000) | -62% |
| Subtotal - Contributions | 323,914,002 | 338,968,956 | (15,054,954) | -4% |
| Investment Income | | | | |
| Interest and Dividends | 96,738,537 | 87,240,822 | 9,497,715 | 11% |
| Net Appreciation (Depreciation) in fair value of investments | (386,139,275) | 1,110,924,843 | (1,497,064,118) | -135% |
| Less: Investment Expense | (49,299,684) | (65,039,394) | 15,739,710 | -24% |
| Subtotal - Net Investment Income | (338,700,422) | 1,133,126,271 | (1,471,826,693) | -130% |
| Securities Lending Income | | | | |
| Earnings | 32,658 | 12,916 | 19,742 | 153% |
| Rebate | 61,277 | 51,515 | 9,762 | 19% |
| Fees | (20,645) | (14,156) | (6,489) | 46% |
| Subtotal - Securities Lending Income | 73,290 | 50,275 | 23,015 | 46% |
| **Total Additions** | **(14,713,130)** | **1,472,145,502** | **(1,486,858,632)** | -101% |
| **DEDUCTIONS:** | | | | |
| Benefits | | | | |
| Service Retirement Benefits | 246,250,375 | 229,730,556 | 16,519,819 | 7% |
| Disability Retirement Benefits | 28,674,627 | 28,342,469 | 332,158 | 1% |
| Servivor, Death and Other Benefits | 1,577,228 | 1,282,749 | 294,479 | 23% |
| Subtotal - Benefits | 276,502,230 | 259,355,774 | 17,146,456 | 7% |
| Member Refunds | 4,407,297 | 2,796,160 | 1,611,137 | 58% |
| Administrative Expenses | 7,196,431 | 7,059,702 | 136,729 | 2% |
| Information Technology Expenses | 1,593,393 | 1,350,229 | 243,164 | 18% |
| **Total Deductions** | **289,699,351** | **270,561,865** | **19,137,486** | **7%** |
| **Net Income** | **(304,412,481)** | **1,201,583,637** | **(1,505,996,118)** | **-125%** |
| **NET POSITION RESTRICTED FOR PENSIONS:** | | | | |
| Beginning of year | 5,982,085,950 | 4,780,502,313 | 1,201,583,637 | 25% |
| **End of Year** | **5,677,673,469** | **5,982,085,950** | **(304,412,481)** | **-5%** |

**Additions.** Total additions to the Retirement Fund were negative $14.7 million as overall contributions of $323.9 million were insufficient to compensate overall investment losses of $338.6 million. Significant changes are discussed below.

- Employer contribution increased by $9.4 million, partly from the increase in required contribution (from 37.86% last fiscal year to 38.91% this fiscal year) and partly from the overall increase in pensionable income.

- Supplementary contributions from the County decreased by $24.5 million. In the prior fiscal year, the county transferred $29.7 million to catch up missing supplementary contributions slated for fiscal year 2019-20. Under a Memorandum of Understanding between the County and SamCERA, the County can make supplementary contributions at its discretion to accelerate the payoff of its unfunded liability.

- Interest and dividends increased by $9.5 million. The increase was mostly attributable to increased dividend income across the entire portfolio, particularly in one core fixed income fund.

- Net depreciation in fair value of investments was nearly $1.5 billion when compared to last fiscal year. The volatile market environment discussed earlier adversely impacted the investment return for the entire portfolio, causing a considerable decline in earnings from +24.3% last year to -4.4% this year.

- Investment expenses decreased by $15.7 million. The decline was predominantly seen in performance fees as some investment managers were unable to meet certain performance thresholds in the current market environment. Additionally, management fees decreased as the overall assets under management were lower.

**Deductions.** Total deductions from the Retirement Fund were $289.7 million, which was $19 million or 7% higher than last fiscal year. Significant changes are explained below:

- Service retirement benefits were $16.5 million, or 7% higher than last fiscal year. The increase was due mainly to the annual cost of living adjustment (3% in 2022 vs. 1.5% in 2021 for most retirees and beneficiaries) and a modest increase in the number of retirees receiving pension benefits.

- Member refunds were $1.6 million, or 58% higher than last fiscal year. The number of member refunds increased drastically from 84 last fiscal year to 140 this fiscal year.

- Information technology expenses went up by 18% compared to a year ago primarily due to certain one-time expenses. A consulting firm was hired to assist in migrating the hosting services provided by Vitech to a cloud-based environment. In addition, new servers were purchased to support critical software (e.g., VMware).

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**
**Board of Retirement**

August 23, 2022 Agenda Item 4.16

**TO:** Board of Retirement

**FROM:** Tat-Ling Chow, Finance Officer Chowdatling
Tariq Ali, Chief Technology Officer
Chezelle Milan, Senior Accountant
Lilibeth Dames, Investment Analyst Lilibeth Dames

**SUBJECT:** Preliminary Report on Budget-to-Actual for the Fiscal Year Ended June 30, 2022

## Recommendation

Accept the Preliminary Report on Budget-to-Actual for the fiscal year ended June 30, 2022.

## Background

SamCERA's budget consists of the following three budget units:

1. Professional Services Budget – covers costs for actuarial consulting services, custodial services, investment management, investment consulting services, and outside legal services. (Government Code §31596.1).

2. Administrative Budget – covers personnel expenses (salaries and benefits) and administrative overhead (services and supplies). The administrative budget cannot exceed the mandated limit of 0.21% of the accrued actuarial liability of the retirement fund (Government Code §31580.2(a)).

3. Technology Budget – covers expenses for computer software, computer hardware, and computer technology consulting services in support of these computer products and is not subject to the mandated limit of 0.21% discussed above (Government Code §31580.2(b)).

## Discussion

The budget-to-actual comparison in the following sections show that SamCERA's actual spending during the fiscal year 2021-22 was mostly on track except for the Professional Services budget which exceeded projections by a slight margin.

| | Budget FY 21-22 | Actual FY 21-22 | % of Budget Used | Under (Over) Budget |
|---|---|---|---|---|
| Professional Services | $ 34,621,348 | $ 36,534,846 | 106% | $ (1,913,498) |
| Administrative | 7,483,784 | 7,120,406 | 95% | 363,378 |
| Information Technology | 2,008,000 | 1,233,868 | 61% | 774,132 |
| Total | $ 44,113,132 | $ 44,889,120 | 102% | $ (775,988) |

***Professional Services Budget.*** For the fiscal year ended June 30, 2022, actual professional service expenses totaled $36.53 million, or 126.5 basis points (or one hundredth of one percent) of the total fund invested. Overall expenses were above projections. Below is a summary of professional services expenses incurred during the fiscal year.

**Investment Management & Other Professional Services**

| Service | Actual Fee (bps) | Projected Fee FY 21-22 | Actual Fee FY 21-22 | % of Projected Fee Used |
|---|---|---|---|---|
| Investment Management | 123.1 | $ 33,618,348 | $ 35,563,048 | 106% |
| Other Professional Services | 3.4 | 1,003,000 | 971,798 | 97% |
| TOTAL | 126.5 | $ 34,621,348 | $ 36,534,846 | 106% |

- *Investment management fees* are driven by contractual agreements and based on assets under management, the amount of capital committed, and/or investment performance.

**Investment Management Services**

| Investment | Actual Fee (bps) | Projected Fee FY 21-22 | Actual Fee FY 21-22 | % of Projected Fee Used |
|---|---|---|---|---|
| Total Public Equity | 76.8 | $ 6,559,901 | $ 3,967,734 | 60% |
| Total Fixed Income | 122.3 | 6,957,738 | 8,370,170 | 120% |
| Total Alternative Assets | 236.7 | 13,055,454 | 9,817,034 | 75% |
| Total Inflation Hedge | 237.4 | 6,785,255 | 13,184,463 | 194% |
| Total Cash Overlay | N/A | 260,000 | 223,647 | 86% |
| TOTAL | 123.1 | $ 33,618,348 | $ 35,563,048 | 106% |

The following are the areas where actual management fees significantly differ from projected.

- *Public Equity*. Total fees were substantially below budget, partly from the overestimation of performance fees for one particular U.S. equity fund. In addition, overall fees dwindled in parallel with the decline in assets under management, triggered by market depreciation.

- *Fixed Income*. Total fees were considerably over budget due to the underestimation of management fees for one private credit fund and one opportunistic credit fund.

- *Alternative Assets*. Total fees were significantly below budget due to the overestimation of performance fees for private equity funds.

- *Inflation Hedge*. Total fees exceeded budget by nearly double, partly due to underestimation of performance fees for two private real asset funds and one real estate fund. Additionally, three new funds were added to the portfolio after the budget was developed and subsequently approved.

- *Cash Overlay*. Total fees fell short of projections due to slight overestimation of cash overlay fees.

- *Other professional service fees,* based primarily on contractual agreements, were closely aligned with projections.

**Other Professional Services**

| Contractor | Service | Actual Fee (bps) | Projected Fee FY 21-22 | Actual Fee FY 21-22 | % of Projected Fee Used |
|---|---|---|---|---|---|
| Milliman Inc. | Actuarial Consulting | 0.3 | $ 108,000 | $ 101,075 | 94% |
| Verus Investments | Investment Consulting | 1.8 | 535,000 | 522,023 | 98% |
| Northern Trust | Custodian | 1.2 | 360,000 | 348,700 | 97% |
| | Total | 3.4 | $ 1,003,000 | $ 971,798 | 97% |

***Administrative Budget.*** About 95% of the administrative budget (or $7.12 million) was used during the fiscal year 2021-22. This was a good indicator that expenses were overall in line with projections. The table below summarizes all administrative expenses with explanations as to why actual results of certain items significantly differ from projected outcomes.

| | Budget FY 21-22 | Actual FY 21-22 | % of Budget Used | (Over)/Under Budget |
|---|---|---|---|---|
| **Salaries and Benefits** | | | | |
| Salaries | $ 3,805,642 | $ 3,684,174 | 97% | $ 121,468 |
| Benefits | 1,874,891 | 1,982,038 | 106% | (107,147) |
| Total Salaries and Benefits | 5,680,533 | 5,666,212 | 100% | 14,321 |
| **Services and Supplies** | | | | |
| Board Expenses | 8,000 | 5,300 | 66% | 2,700 |
| Insurance | 86,500 | 95,175 | 110% | (8,675) |
| Medical Record and Hearing Services | 75,000 | 34,733 | 46% | 40,267 |
| Member Education | 63,750 | 56,536 | 89% | 7,214 |
| Education and Conference | 121,252 | 45,896 | 38% | 75,356 |
| Transportation and Lodging | 85,700 | 26,084 | 30% | 59,616 |
| Property and Equipment | 23,000 | 42,702 | 186% | (19,702) |
| General Office Supplies | 41,000 | 32,095 | 78% | 8,905 |
| Postage and Printing | 25,000 | 17,048 | 68% | 7,952 |
| Leased Facilities | 667,040 | 655,210 | 98% | 11,830 |
| County Services | 422,009 | 361,545 | 86% | 60,464 |
| Audit Services | 60,000 | 69,021 | 115% | (9,021) |
| Other Administration | 125,000 | 12,849 | 10% | 112,151 |
| Total Services and Supplies | 1,803,251 | 1,454,194 | 81% | 349,057 |
| Total | $ 7,483,784 | $ 7,120,406 | 95% | $ 363,378 |

**Salaries and Benefits** – Actual expenses were $5.67 million, which overall was in alignment with projections.

- *Salaries* were slightly below the budget by 3%. The budget for salaries usually includes all authorized positions as Staff cannot precisely predict when vacant positions (if any) can be filled. During the fiscal year, a Retirement Accountant position was vacant for seven months until filled in February 2022. Additionally, a Retirement Support Specialist position was vacant for three months until filled in April 2022. The savings from these vacancies were partially offset by a 3% negotiated increase and a $2,000 COVID bonus payment to each full-time employee as an incentive to ratify a new labor agreement.

- *Benefits* were modestly above the budget by 6%. Pension contributions and medical benefits were both slightly above projections due to rate increases.

**Services and Supplies** – Total expenses were $1.45 million, considerably below budget by 19%.

Areas where actual expenses were significantly lower than anticipated are as follows:

- *Medical Record and Hearing Services.* As part of disability retirement determinations, Staff used services from an online platform (called MedLink) to schedule medical file reviews and disability evaluation appointments with board-certified physicians. As its network was relatively small, independent medical evaluations and additional hearings could not proceed as expected for a duration of six months. In March 2022, another service provider, Managed Medical Review Organization, was contracted to address the backlog simultaneously.

- Member Education. The surplus was primarily from "no show" registrants. Specific educational courses are consistently offered to help members enhance their financial knowledge in retirement planning. Departments are required to pay a pre-determined amount for "no show" after enrollment.

- *"Education and Conference" and "Transportation and Lodging".* The budgets for these items were developed with anticipation that social distancing measures were likely to end, and in-person conferences would resume. Unexpectedly, online training and conferences continued to thrive during the 1st half of the fiscal year with the outbreak of highly transmissible coronavirus variants.

- *General Office Supplies*. The need to replenish office essentials fell short of expectations, partly due to the adoption of hybrid work schedules.

- *Postage and Printing*. Staff continued to capitalize on new technologies in their communications with members through virtual environments. This resulted in a hefty savings in postage and printing.

- *County Services*. Expenses on filling the Board vacancies via election were modestly below projections. The level of automation services from the County Information Services

Department was also moderately below anticipated as needs dwindled. To support its operation, SamCERA employs services from various County departments such as Elections, Human Resources, the Health System, and Information Services.

- *Other Administration*. This budget item was mainly for legal services concerning disability and taxation. The need for such services was much less than anticipated.

Areas where actual expenses were modestly higher than anticipated are as follows:

- *Insurance.* In fiscal year 2020-21, the Retirement Fund grew considerably bigger due to phenomenal investment performance. This caused an unexpected increase in insurance premium for a one-year fiduciary liability policy.

- *Property and Equipment*. New furniture and equipment were purchased during the renovation of the reception area and part of the office occupied by the Benefits Team. These items were not included in the budget as it was uncertain when the contractor could start the project.

- *Audit Services*. The budget overrun was due to timing difference. The budget for the fiscal year 2022-23 covered both interim and final financial audits for the fiscal year ended June 30, 2022. The interim audit was completed before the new fiscal year began.

***Technology Budget.*** About 61% of the budget was used during the fiscal year. Below is a summary of all technology expenses incurred.

| | Budget FY 21-22 | Actual FY 21-22 | | % of Budget Used | Under Budget |
|---|---|---|---|---|---|
| Computer Equipment and Software | $ 25,000 | $ 25,721 | | 103% | $ (721) |
| IT Infrastructure - Software License Maintenance | 1,197,000 | 911,224 | a | 76% | 285,776 |
| IT Infrastructure - Tools & Equipment | 150,000 | 88,302 | b | 59% | 61,698 |
| IT Infrastructure - Contract IT Services | 606,000 | 208,621 | c | 34% | 397,379 |
| IT Infrastructure - Imaging | 25,000 | - | | 0% | 25,000 |
| Technology Research and Development | 5,000 | - | | 0% | 5,000 |
| Total | $ 2,008,000 | $ 1,233,868 | | 61% | $ 774,132 |

[a] Staff purchased 2,500 service hours at $462,500, which were intended to support enchancements of the pension administration system from March 2022 through December 2024. At year-end, service hours of $352,333 remained intact and were reported as prepaid expenses on the Statement of Fiduciary Net Position as of June 30, 2022.

[b] New servers were purchased to replace old ones for a total amount of $78,913, which was capitalized and reported as capital assets on the Statement of Fiduciary Net Position as of June 30, 2022.

[c] The audio/visual upgrade project was budgeted under "Contract IT Services." A total of $58,670 was spent on equipment, which was capitalized and reported as capital assets on the Statement of Fiduciary Net Position as of June 30, 2022.

Note: Depreciation of $849,440 was a non-cash expense and therefore not included in the adopted budget. This amount was reported on the Statement of Changes in Fiduciary Net Position for the fiscal year ended June 30, 2022.

Areas where actual expenses were significantly below budgets are as follows:

- *IT Infrastructure – Software License Maintenance*. Two major events accounted for spending below budget:

  - In response to Vitech's decision to terminate the hosting services of our Pension Administration System Software (also known as V3, a product of Vitech) effective July 1, 2022, $250,000 was allocated to support the transition to Amazon Web Services. This project was delayed and did not fully go live until June. As a result, actual expenses incurred were way below budget by nearly $200,000.

  - $500,000 was allocated to acquire 2,500 services hours from Vitech. The hours purchased was settled at $462,500 with a discount of $37,500 and should be sufficient to cover technical support through December 2024.

- *IT Infrastructure –Tools & Equipment*. To create a robust business environment in the face of emerging needs, funds were set aside to replace existing servers, laptops, and equipment. During the fiscal year, computers, monitors, and phones were either replaced or upgraded, which accounted for most expenses incurred. With priorities shifted to time-sensitive projects, certain projects (such as the audio/video upgrade project) have been deferred.

- *IT Infrastructure – Contract IT Services*. Certain projects, which required outside professional help, were not fully completed due to time constraints. These projects included implementing a new portal on website and enhancing the audio and video technologies in the conference room and boardroom.

- *IT Infrastructure – Imaging*. A plan was slated to convert paper documents held by Finance, Investment and Administration teams to digital by fiscal year-end using the County SharePoint software solution. This plan was temporarily put on hold as other projects took precedence.

- *Technology Research and Development (R&D)*. The R&D budget was setup to explore new technologies that may help improve operations and member services. Staff did not expend the resources allocated for R&D as priorities were given to time-sensitive projects.

August 23, 2022 Agenda Item 4.17

**TO:** Board of Retirement

**FROM:** Scott Hood, Chief Executive Officer

**SUBJECT:** Interest Crediting Policy

**Recommendation**
Reaffirm the Board's Interest Crediting Policy.

**Background**
Government Code §31591 provides that regular interest shall be credited semiannually on June 30th and December 31st to all contributions in the retirement fund which have been on deposit for six months immediately prior to that date. It further provides that the interest shall be at the rate of 2½ percent per annum, until otherwise determined by the Board, and compounded semiannually. The Board credits interest in accordance with its Interest Credit Policy (the Policy) at the rates set by the Policy.

The Policy was last amended in September of 2019 to clarify the Policy's verbiage for ease of administration and to update the Policy to reflect the current account structure.

**Discussion**
Interest is to be credited to all Valuation Reserves that have been on deposit for the prior six months. The Valuation reserves are those reserves that are counted as assets when the actuary performs its valuation of the fund in order to calculate the recommended statutory employer and employee contribution rates. The Non-Valuation reserves are not counted as assets by the actuary.

Staff has no recommended changes to the current methodology to credit interest or the use of the Contingency and Undistributed Earnings/Losses Reserves in the process. However, staff does recommend minor language edits for clarity and ease of administration.

**Attachment**
Interest Crediting Policy

# Interest Crediting Policy

*Approved by the Board of Retirement 7/29/2014*
*Last Amended 9/24/2019*
*Reaffirmed 8/23/2022*

## I. Overview

The San Mateo County Employees' Retirement Association (SamCERA) Board of Retirement (Board) establishes this policy to govern the crediting of interest to reserves under the County Employees' Retirement Law of 1937 (CERL) subject to the requirements specified in Article 5 of the CERL.

## II. Objectives

In the development and adoption of this policy, the Board has balanced the interests of the active members and the retired members and has determined that the policy set forth below best serves the interests of the membership as a whole. In addition, this policy has been developed with the following objectives:

- To comply with appropriate legal and regulatory requirements
- To assure the prompt delivery of benefits and related services to the participants and their beneficiaries
- To limit, to the extent possible, the volatility of interest crediting from period to period
- To help minimize the volatility of contribution rates
- To limit, to the extent possible, the charging of short-term losses to reserves
- To maintain consistency between the reserve structure and the actuarial funding of SamCERA
- To assure that the aggregate valuation reserve values track the market value of assets over the long term

## III. Definition of Reserves

For the purpose of allocating earnings, all SamCERA reserves will fall into one of two categories: Valuation Reserves or Non-Valuation Reserves.

A. **Valuation Reserves**. Valuation Reserves are used to determine the employers' and employees' statutory contribution rates.

   The following reserves are considered Valuation Reserves into which earnings are credited at certain limits:

   1. **Member Reserve**. This is the reserve for all member contributions.

   2. **Employer Advance Reserve**. This is the reserve for statutorily determined contributions from all employers.

3. **Retiree Reserve**. This is the reserve for retirees. Funds from the Member Reserve (aka Annuity Reserve) and the Employer Advance Reserve (aka Pension Reserve) are transferred to the Retiree Reserve when a member retires.

4. **Cost of Living Adjustment Reserve**. This is the reserve for employer Cost of Living Adjustment contributions.

5. **The County Supplementary Contributions Account (CSCA) Reserve**. This is a reserve for supplemental contributions from the County of San Mateo ("County") that exceed the County's required statutory contribution rates.

6. **The District Supplementary Contributions Account (DSCA) Reserve**. This is a reserve for supplemental contributions from the San Mateo County Mosquito and Vector Control District ("District") that exceed the District's required statutory contribution rates.

7. **Undistributed Earnings/Losses Reserve**. This reserve is for cumulative undistributed actuarial earnings and losses.

B. **Non-Valuation Reserves**. These reserves are not used to determine employers' statutory contribution rates.

1. **Contingency Reserve**. This is a statutorily defined reserve against deficiencies in earnings, losses on investments, or other contingencies which, pursuant to Sections 31592 and 31592.2 of the CERL, must not be less than 1% of the actuarial value of assets nor, pursuant to this policy, more than 3%.

2. **Other Specified Non-Valuation Reserves**. These are other reserves that may be created by the Board or designated by the Board for a specified purpose. Designation of these reserves does not create any vested rights for benefit payments. As of the date of this policy, there are no "Other Specified Non-Valuation Reserves" until such time as this policy may be amended and reserves are added by Board action.

## IV. Timing of Interest Crediting

SamCERA will credit reserves twice each year to all Valuation Reserves that have been on deposit for the prior six months, in accordance with Section 31591 of the CERL. The crediting will take effect as of June 30 and December 31 of each year.

## V. Crediting Process

### A. Crediting the Supplemental Contributions Accounts

#### 1. The County Supplementary Contributions Account (CSCA) Reserve.

a. Interest will be credited to this reserve in accordance with the "Memorandum of Understanding Between the County of San Mateo and the San Mateo County Employees' Retirement Association Regarding Retirement System Funding." The amounts in this reserve will only be recognized for contribution rate-setting purposes for the benefit of the County and will not be recognized for the benefit of any other employers.

b. Crediting to this account will have no upper or lower limit.

c. The assets of this account will be valued separately from all other reserves and will be credited separately from all other reserves.

#### 2. The District Supplementary Contributions Account (DSCA) Reserve.

a. Interest will be credited to this reserve in accordance with the "Memorandum of Understanding Between the San Mateo County Mosquito and Vector Control District and the San Mateo County Employees' Retirement Association Regarding Retirement System Funding." The amounts in this reserve will only be recognized for contribution rate-setting purposes for the benefit of the District and will not be recognized for the benefit of any other employers.

b. Crediting to this account will have no upper or lower limit.

c. The assets of this account will be valued separately from all other reserves and will be credited separately from all other reserves.

### B. Crediting the Other Valuation Reserves

1. **Definition of Available Earnings.** Available Earnings will be the sum of Net Earnings on Actuarial Value of Assets (after adjustment for amounts credited to the CSCA and DSCA) and Undistributed Earnings/Losses Reserve. If there are insufficient Available Earnings, refer to Section V.B.5. "*Insufficient Available Earnings to Credit the Reserves*" for the process to be used.

2. **Member Reserve.** Member Reserve accounts will be credited in amounts that are equal to the lesser of:

   a. one-half of the assumed investment earnings rate,[1] or

   b. the Actuarial Earnings Rate for the prior six-month period immediately preceding the period in which interest is being credited, but the rate credited shall not be less than zero.

3. **Balancing Credit to Employer Advance Reserve**. If the actuarial earnings rate for the period is less than one-half the assumed investment earnings rate, the difference between these two rates will be credited to the Employer Advance Reserve. The purpose of this additional allocation is to make the total amount credited to all Valuation Reserves as if all Valuation Reserves (except the CSCA Reserve, DSCA Reserve, and Undistributed Earnings/Losses Reserve) were credited with one-half of the assumed interest rate.

4. **Other Valuation Reserves**. The other Valuation Reserves (except the Member Reserve, the CSCA Reserve and the DSCA Reserve, and the Undistributed Earnings/Losses Reserve) will be credited with earnings at a rate of one-half of the assumed investment earnings rate. These reserves include: Employer Advance Reserve, Retiree Reserves, and Cost of Living Reserve.

5. **Insufficient Available Earnings to Credit the Reserves.**

   a. <u>Contingency Reserve:</u> If there are insufficient Available Earnings to credit the Reserves as set forth in Section B, the Contingency Reserve will be debited to the extent needed to complete the crediting and to the extent assets are available from such reserve. By statute, assets in the Contingency Reserve may not be debited if such action causes the reserve to go below 1% of the Fund's actuarial value of assets.

   b. <u>Undistributed Earnings/Losses Reserve:</u> If assets are not sufficiently available from the Contingency Reserve for the crediting requirements, the Undistributed Earnings/Losses Reserve will be debited by the amount required to complete the crediting, even if this causes the Undistributed Earnings/Losses Reserve to hold a negative balance.

[1] The "assumed investment earnings rate", as used throughout this policy, shall be the rate used to determine employer contribution rates for the Fiscal Year in which the allocation is taking place.

6. **Left Over Available Earnings**

   a. **Contingency Reserve**. If there are still Available Earnings remaining after the crediting of reserves in Section B has been completed, the Contingency Reserve will be allocated earnings until the value of the Contingency Reserve is equal to 3% of the Actuarial Value of Assets, or until all Available Earnings have been exhausted, whichever is less.

      i. If the Contingency Reserve falls below 3% of assets, earnings in future periods not needed to credit earnings to Valuation Reserves will be used to increase the Contingency Reserve to 3% of assets before amounts are credited to any other reserves.

      ii. By statute, the Contingency Reserve must <u>not</u> be less than 1% of the actuarial value of assets.

   b. **Undistributed Earnings/Losses Reserve.** If there are still Available Earnings after the crediting of reserves in Section B has been completed, and the value of the Contingency Reserve is equal to 3% of the Actuarial Value of Assets, all remaining Available Earnings will be credited to the Undistributed Earnings/Losses Reserve.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
**Board of Retirement**

August 23, 2022 Agenda Item 4.18

**TO:** Board of Retirement

**FROM:** Scott Hood, Chief Executive Officer

**SUBJECT:** Reaffirm Policy for Acceptance of Electronic Signatures

**Recommendation**
Reaffirm the "Policy Allowing for the Use and Acceptance of Electronic Signatures for Documents Submitted by a Member."

**Background**
Pursuant to Government Code section 31527(i), this Board recently adopted Regulation 5.13 which authorizes the use of electronic signatures and provides that:

> "The Board may use and accept a document requiring a signature that is submitted by a member using an electronic signature, if the document and electronic signature are submitted using technology the Board deems sufficient, as set forth in a policy adopted by the Board, to ensure its integrity, security, and authenticity. A document submitted pursuant to the Board-adopted policy shall be given the same force as a signed, valid original document."

Following the adoption of Regulation 5.13, staff created a "Policy Allowing for the Use and Acceptance of Electronic Signatures for Documents Submitted by a Member" (the "Policy") for the Board's consideration and adoption.

**Discussion**
The "MySamCERA" online portal and mobile app have capabilities for members to conduct certain actions electronically regarding their accounts, such as changing their federal and state tax withholdings and certain active member beneficiary designations. And, in the future, members may be able to submit interactive documents using electronic signatures.

The attached Policy provides that the Chief Executive Officer will determine that the software and processes used by SamCERA with regard to any electronic signature transaction shall validate and authenticate that it is the member who is submitting the document and satisfy the following criteria:

**Integrity**

- Discreet logging of electronic signature transactions
- Printable e-signed documents provided to the member
- E-signed documents stored as part of the member record

**Security**

- Encrypted communication utilizing Secure Sockets Layer (SSL), authentication certificates, or comparable cipher and secure data communication techniques
- Data security systems including firewalls, anti-hacking, anti-virus, intruder detection, and intruder prevention

**Authenticity**

- Multi-factor member authentication
- Extended Validation (EV) site certificate or comparable site authentication technique
- Confirmation communication

**Attachment**

Policy Allowing for the Use and Acceptance of Electronic Signatures for Documents Submitted by a Member

## POLICY ALLOWING FOR THE USE AND ACCEPTANCE OF ELECTRONIC SIGNATURES FOR DOCUMENTS SUBMITTED BY A MEMBER

1. For those transactions where the Chief Executive Officer (CEO) determines the use and acceptance of documents from a member containing an electronic signature is appropriate, the CEO shall oversee the development, maintenance and application technology designed and capable of ensuring the integrity, authenticity and security of such transactions.

2. The technology used by SamCERA shall remain proprietary and confidential in an effort to protect and enhance the security of such system. The Chief Executive Officer will determine that the software and processes used by SamCERA with regard to any electronic signature transaction shall satisfy the following criteria:

   a. <u>Integrity</u>

      - Discreet logging of electronic signature transactions
      - Printable e-signed documents provided to the member
      - E-signed documents stored as part of the member record

   b. <u>Security</u>

      - Encrypted communication utilizing Secure Sockets Layer (SSL), authentication certificates, or comparable cipher and secure data communication techniques
      - Data security systems including firewalls, anti-hacking, anti-virus, intruder detection, and intruder prevention

   c. <u>Authenticity</u>

      - Multi-factor member authentication
      - Extended Validation (EV) site certificate or comparable site authentication technique
      - Confirmation communication

3. Each transaction involving a document submitted to SamCERA containing an electronic signature shall be confirmed by a communication to the member.

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**
**Board of Retirement**

August 23, 2022 Agenda Item 5.2

**TO:** Board of Retirement

**FROM:** Scott Hood, Chief Executive Officer

**SUBJECT:** Discussion and Adoption of Proposed Funding Policy

**Recommendation**
Adopt the attached proposed funding policy.

**Background**
As part of the Board's governance of the fund, the Board relies on policies and regulations to guide its decision-making. The majority of pension funds do not have a funding policy as a matter of course. Most rely solely on an actuarial consultant to provide analysis and recommendations on funding-type decisions and this has been the case with SamCERA. Although funding policies are not required by pension funds it would be prudent and good governance to memorialize those principles that the Board follows in managing the fund.

**Discussion**
At the July meeting, staff presented the attached draft policy for discussion by the Board and at the direction of the Board has brought the policy back for formal adoption.

**Attachment**
Resolution Adopting SamCERA Funding Policy
SamCERA Funding Policy

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**

**RESOLUTION 2022-__**

RESOLUTION ADOPTING THE SAMCERA FUNDING POLICY

**WHEREAS**, pursuant to Article XVI, Section 17, of the California Constitution, the Board of Retirement (the "Board"), has the exclusive authority and fiduciary responsibility for the investment and administration of the assets of the retirement system (the "Fund"), and

**WHEREAS,** the pension benefits provided to SamCERA's members come from three sources: 1) Employee Contributions; 2) Employer Contributions; and 3) Net Investment Earnings; and

**WHEREAS,** the Board finds that it would be beneficial to develop and adopt a policy to describe the overall funding goal and objectives that SamCERA strives to achieve, and to set forth a detailed discussion of the methods, assumptions, and metrics employed by SamCERA to assess funding progress and requirements (the "Funding Policy"); and

**WHEREAS,** this Funding Policy will guide the Board in making decisions to attain its desired outcomes and will assist SamCERA in effectively supervising its assets in order to meet the requirements of the California Constitution, the County Employees Retirement Law of 1937, the Public Employees' Pension Reform Act, the Mission and Goals of SamCERA, and other requirements, and to encourage effective communication between SamCERA, its consultants, and stakeholders; and

**WHEREAS**, the Board will periodically review and amend the Funding Policy as necessary so as to remain up to date to reflect and guide actions of the Board; and

**WHEREAS**, the Board has reviewed and considered the proposed Funding Policy accompanying this resolution and desires to adopt the same; Now, therefore, be it

**RESOLVED**, that the Board hereby adopts the "Funding Policy" as set forth in the attached document.

* * * * *

Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on August 23, 2022.

Ayes, Trustees:

Noes, Trustees:

Absent, Trustees:

Abstain, Trustees:

________________________________

Alma Salas, Board Secretary

# SamCERA's
# Funding Policy

The funding policy describes the overall funding goal and objectives that the San Mateo County Employees' Retirement Association (SamCERA) strives to achieve, and it is designed to ensure pension benefits are adequately funded. The policy includes detailed discussion of the methods, assumptions, and metrics employed by SamCERA to assess funding progress and requirements, which will help the Board shape policies and make decisions to attain the desired outcomes.

## OVERVIEW

The California Constitution gives retirement boards plenary authority and fiduciary responsibility for the investment of moneys and administration of their retirement systems. Retirement boards have sole and exclusive responsibility to administer the system in a manner that will assure prompt delivery of benefits and related services to the participants and their beneficiaries.

SamCERA provides pension benefits for the employees of three employers: The County of San Mateo, the San Mateo County Superior Court, and the San Mateo County Mosquito and Vector Control District.

Pension benefits provided to SamCERA's members come from three sources: 1) Employee Contributions- Money employees pay for future benefits, 2) Employer Contributions- Money employers pay for members' future benefits, and 3) Net Investment Earnings- Earnings from stocks, bonds, alternative investments, and other investments, minus fees.

## FUNDING GOAL

SamCERA's funding goal is to achieve and maintain a funded ratio of 100%, ensuring assets are sufficient to pay promised benefits.

## OBJECTIVES

Funding objectives are the four fundamental convictions that are pivotal to meet the Board's long-term funding goal:

1. **Benefit Security** – This objective is achieved by adopting policies that involve greater funding upfront with a comparatively shorter amortization period, use of the Entry Age actuarial cost method, and using a discount rate that is more likely to be achieved. The guidelines to consider in reaching this objective are:

    - Funding policy decisions should be made in accordance with California State law under which the Board's duty to its participants and beneficiaries takes precedent over any other duty.

- Actuarial assumptions and methodologies should be reviewed periodically to ensure expected results are reasonably consistent with actual results and anticipated future long-term experience.

- Funding targets must be set to ensure a high level of benefit security.

- Unfunded Actuarial Accrued Liability (UAAL) amortization methods should avoid increasing the UAAL through negative amortization.

- Analysis should be performed periodically to evaluate how changes in market conditions could potentially affect future funding.

2. **Stable and Predictable Costs** - This objective is achieved through asset smoothing and periodic adjustments to amortization periods to minimize contribution volatility, including additional layering of previous balances. Contributions should be managed and controlled, consistent with other funding objectives and policies, so that costs remain relatively stable and predictable over time for both cash-flow and investing purposes. The guidelines to consider in reaching this objective are:

   - Contributions from employers and employees should be predictable to the extent possible.

   - Amortizing the UAAL in a systematic manner to create a stable and predictable payment plan for the employers.

   - UAAL amortization periods that create untenable contribution volatility should be avoided.

   - The use of asset or contribution rate smoothing is a valuable tool to reduce the impact of annual investment volatility on contributions.

3. **Intergenerational Equity** - The employee's pension should be funded by the generation of taxpayers that receives the employee's services. The guidelines to consider in reaching this objective are:

   - The plan's UAAL amortization period should approximate the active members' average years of service until retirement.

   - The normal cost requirement, as part of the annual contribution, is a core element leading to intergenerational equity.

4. **Cost Sustainability** - An effective funding model should provide employers the

ability to pay their actuarially determined contributions through various economic cycles. This objective is achieved by reducing the volatility of plan sponsor contributions, especially during challenging economic periods. Longer amortization periods help stabilize plan sponsor contributions but may also conflict with other objectives. The guidelines to consider in reaching this objective are:

- Economic and non-economic assumptions should be evaluated periodically, with a view toward long-term trends based upon actual historical experience and estimated future experience while avoiding a bias to current conditions.
- Actuarial assumptions and methods should be based on the premise that the Plan and the Plan Sponsors will continue to exist and fund their plans.
- Analysis should be done to evaluate the Plan's ability to withstand volatile economic conditions by scrutinizing key economic assumptions about the future under different economic scenarios.
- Prepayment of required contributions from employers should be encouraged.
- Supplemental contributions from employers should be encouraged and can be used to offset future contributions.

**METHODS AND ASSUMPTIONS**

The core elements listed below should be employed to meet the funding goal and objectives:

1. Economic Assumptions – include discount rate (investment return), Consumer Price Inflation (CPI), Cost of Living Adjustment (COLA), general wage increase rate, merit salary increase rates, payroll increase rate, Social Security Wage Base increase rate, and Public Employees' Pension Reform Act (PEPRA) compensation increase rate. These assumptions are reviewed annually prior to the actuary conducting the valuation.

2. Demographic Assumptions – include probabilities at which members terminate employment, become disabled, die, or retire. These assumptions are reviewed every three years in conjunction with the Triennial Investigation of Experience (Experience Study) and before that year's valuation.

3. Actuarial Cost Method – is an attribution method upon which liabilities are determined based on the present value of future benefits to past, current, and future periods of time. SamCERA uses the Entry Age actuarial cost method.

4. Asset Valuation Method – is a valuation tool used to assess the plan assets over time. SamCERA employs the "Asset Smoothing" method to dampen asset value volatility from market fluctuations by spreading the full gain/loss in the

year (in relation to the expected return), after offsetting against prior years' gain/loss, over a five-year horizon (or ten six-month periods).

5. Amortization Method – is aimed at mitigating contribution rate volatility while ensuring the unfunded liabilities are paid off in a reasonable time-period. SamCERA uses a 15-year layered approach to amortize the UAAL.

**RISK MANAGEMENT**

1. Investment risks can be managed with diversification of asset classes. Asset smoothing can be used to dampen the short-term effects of investment volatility.

2. Demographic and economic risks can be measured and managed by adopting reasonable assumptions based on recommendations from the Board's actuary responsible for the annual valuation and the Triennial Experience Study.

3. Periodic review of the retained actuary's work by an independent actuarial firm through an actuarial audit helps assure the accuracy of the valuation calculations and the reasonableness of the assumptions the valuation is based upon.

4. Governance risks can be managed with clear policies and controls over major administrative practices of the retirement system including audits of the actuarial processes.

**METRICS/BENCHMARKS**

Standardized metrics and benchmarks can be used to measure SamCERA's progress towards meeting its funding goals and objectives. The most typical ones are listed below. Other metrics can be considered when their utility become evident:

1. Funded Ratio: Actuarial Value of Assets (AVA)/Actuarial Accrued Liabilities (AAL) and Market Value of Assets (MVA)/AAL. Comparing the past and projected future progress of the funded ratio can indicate the financial health of the plan. Comparing the AVA to the MVA shows the impact of yet-to-be-realized deferred gains and/or losses in future valuations. Note that for valuation purposes certain non-valuation reserves are excluded from the Actuarial Value of Assets in the calculation of the funded ratio.

2. Employer Statutory Contribution Rate: composed of two portions, Employer Normal Cost Rate and the Unfunded Actuarial Accrued Liability (UAAL) amortization rate. Tracking the changes in employer contribution rates can help determine if the funding policy is producing relatively stable contribution rates.

3. Actuarily Determined Employer Contributions (ADEC): The actuarially

determined level of employer contribution that would be required on a sustained, ongoing basis to systematically fund the normal cost and to amortize the Unfunded Actuarial Accrued Liability (UAAL) attributed to past service over a pre-determined period. Comparing the ADEC with the actual contributions made can assess whether the contributions are being met (or exceeded).

**GOVERNANCE POLICY/PROCESS**

Below is a list of specific actuarial and funding-related studies where the frequency is determined by the Board:

1. Actuarial Valuation (performed annually) – The Board is responsible for the review of SamCERA's annual actuarial valuation report, which provides the annual funded ratio and the calculation of the employer and employee contribution rates.

2. Experience Study (performed triennially) –The Board is responsible for reviewing the results of the experience study and approving the actuarial assumptions and methodologies to be used for all actuarial valuations relating to the defined benefit pension plan.

3. Actuarial Audit (performed triennially and concurrently with the Experience Study and Valuation) – The Board is responsible for reviewing the audit report from a separate actuarial consulting firm regarding the reasonableness of the actuarial methods and assumptions in use and the resulting actuarially computed liabilities and contribution rates.

4. Asset/Liability Study – The Board is responsible for conducting Asset/Liability Modeling studies in accordance with the Investment Policy.

5. Funding Policy Review – The Board is responsible for the periodic review of this policy. The review is best performed prior to the time the actuary is making recommendations on what economic and demographic assumptions are to be used for the upcoming valuation.

## GLOSSARY OF FUNDING POLICY TERMS

**Actuarial Accrued Liability (AAL):** The AAL is the value at a particular point in time of all past normal costs. This is the amount of assets the plan would have today if the current plan provisions, actuarial assumptions, and participant data had always been in effect, contributions equal to the normal cost had been made, and all actuarial assumptions had been met.

**Actuarial Cost Method:** The actuarial cost method allocates a portion of the total cost (present value of benefits) to each year of service, both past service and future service.

**Actuarial Determined Employer Contribution (ADEC):** The amount actuarially calculated each year that is required to be contributed by an employer to a pension plan's pool of assets in order to ensure there will be enough funds to pay promised pension benefits. For SamCERA, this is equal to pensionable compensation multiplied by the Employer Statutory Contribution Rate.

**Asset Values:**

**Actuarial Value of Assets (AVA):** The AVA is the market value of assets less the deferred investment gains or losses not yet recognized by the asset smoothing method.

**Market Value of Assets (MVA):** The MVA is the fair value of assets of the plan as reported in the plan's audited financial statements.

**Entry Age Actuarial Cost Method:** The Entry Age actuarial cost method is a funding method that calculates the normal cost as a level percentage of pay or level dollar amount over the working lifetime of the plan's members.

**Funded Ratio:** The funded ratio is the ratio of the plan assets to the plan's actuarial accrued liabilities. Actuarial Value Funded Ratio is the ratio of the AVA- (net of certain non-valuation reserves) to the AAL.

**Normal Cost:** The normal cost is the cost allocated under the actuarial cost method to each year of active member service.

**Present Value of Benefits (PVB) or total cost:** The PVB is the value at a particular point in time of all projected future benefit payments for current plan members. The future benefit payments and the value of those payments are determined using actuarial assumptions regarding future events. Examples of these assumptions are estimates of retirement and termination patterns, salary increases, investment returns, etc.

**Unfunded Actuarial Accrued Liability (UAAL)**: The UAAL is the portion of the AAL that is not currently covered by the AVA. It is the positive difference between the AAL and the AVA.

**Valuation Assets:** Assets used in the calculation of the actuarial valuation.

**Valuation Date:** The valuation date is the annual date upon which an actuarial valuation is performed; meaning that the trust assets and liabilities of the plan are valued as of that date. SamCERA's annual valuation date is June 30.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
**Board of Retirement**

August 23, 2022 Agenda Item 6.1

**TO:** Board of Retirement

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

**SUBJECT:** Preliminary Monthly Portfolio Performance Report for the Period Ended July 31, 2022

**Recommendation**

Accept the preliminary performance report dated July 31, 2022.

**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.

Due to delays at Northern Trust, the performance report will not be ready in time for the Board mailing. It will be added to Dropbox before the meeting.

**Discussion**

The fund's net preliminary return for July was 2.9%, bringing the preliminary trailing twelve-month net return ending July 2022 to -2.2%, matching the return of the policy benchmark.

Most assets classes were higher in July as market participants bet that weaker economic growth and cooling inflation expectations would allow the U.S. Fed to pivot to a more dovish posture. As a result, longer-duration growth assets and risk assets in general appreciated during the month. The U.S. Federal Reserve raised short-term interest rates by 75 basis points in July (as expected by the markets), after raising by the same amount in June.

The U.S. equity market (measured by the S&P 500 Index) was up 9.2%, while small-capitalization stocks were up 10.4%. Developed international equity (as measured by MSCI EAFE) was up 5.0% while emerging markets were down slightly (-0.2%).

Economic activity generally softened in July. Real gross domestic product declined by an annualized -0.9% in the second quarter after falling -1.6% in the first quarter. Manufacturing worsened in July from previous months but was still in positive territory, while consumer sentiment continued to show weakness. The labor market surprised on the upside by adding 528,000 new jobs added in July, with the headline unemployment falling to 3.5%, matching a five-decade low. Inflation (as measured by the Consumer Price Index - All Urban Consumers) increased 8.5% for the twelve months ended July, slightly lower than expectations and fueling hope that peak inflation is behind us.

The general U.S. fixed income market was up 2.4% in July as interest rates fell across the yield curve. The 10-year U.S. Treasury yield was lower by 36 basis points during the month and ended at 2.65% by month-end. High Yield returns were up 5.9% and the Bloomberg Commodity Index was up 4.3%.

**Attachment**
Verus Capital Market Update

Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

# JULY 2022
# Capital Markets Update

# Market commentary

**U.S. ECONOMICS**

— U.S. GDP declined at a quarterly annualized rate of -0.9% in Q2 and marked a second consecutive quarter of negative GDP growth. Two consecutive quarters of negative real GDP growth is often viewed as a simple technical definition of recession. However, the official definition is more broad, and many believe the U.S. is not in recession due to continued strength in certain aspects of the economy such as the labor market. This debate will likely continue as investors watch for a positive Q3 GDP figure and monitor trends in employment.

— The U.S. July jobs report more than doubled expectations as non-farm payrolls rose 528,000 over the month and the unemployment rate fell to 3.5%. While payrolls climbed higher, the labor force participation rate (62.1%) weakened to the lowest level of the year.

— U.S. headline inflation registered +0.0% month-over-month in July as falling gasoline prices offset rising prices in the food and shelter components. Year-over-year headline inflation measured +8.5%, cooler than the expected +8.7% print, and represented a substantial decrease from June's +9.1% print. This surprisingly weak inflation print fueled optimism that inflation may have peaked and could begin falling from elevated levels.

**U.S. EQUITIES**

— The S&P 500 Index rallied +9.2% in July and reversed June losses as growth equities regained ground alongside falling bond yields.

— More than half of S&P 500 companies had released Q2 earnings by month end, 73% of which reported actual EPS in excess of estimates. Through July, all 11 GICS sectors had reported year-over-year revenue growth and six sectors reported year-over-year increases in EPS.

**U.S. FIXED INCOME**

— The Federal Reserve enacted a second consecutive 75-basis point rate hike – bringing the policy rate into what Fed Chair Powell noted as a neutral range – and reiterated its commitment to bring inflation back in line with the long-term 2% target. Powell noted that the Fed sees a period of growth below potential as necessary to successfully lower inflation.

— As market participants weighed the potential for a recession, investors priced in an increasing likelihood that the Fed would have to pivot its policy stance in 2023 and begin cutting rates. At month end, as implied by Fed Funds Futures, investors priced in a full rate cut by June 2023 and two cuts by year end 2023.

— The Bloomberg U.S. Treasury Index rose +1.6% as expectations for a future pivot in Fed policy helped the Index recoup some losses. The Index has declined -19.2% year-to-date.

**INTERNATIONAL MARKETS**

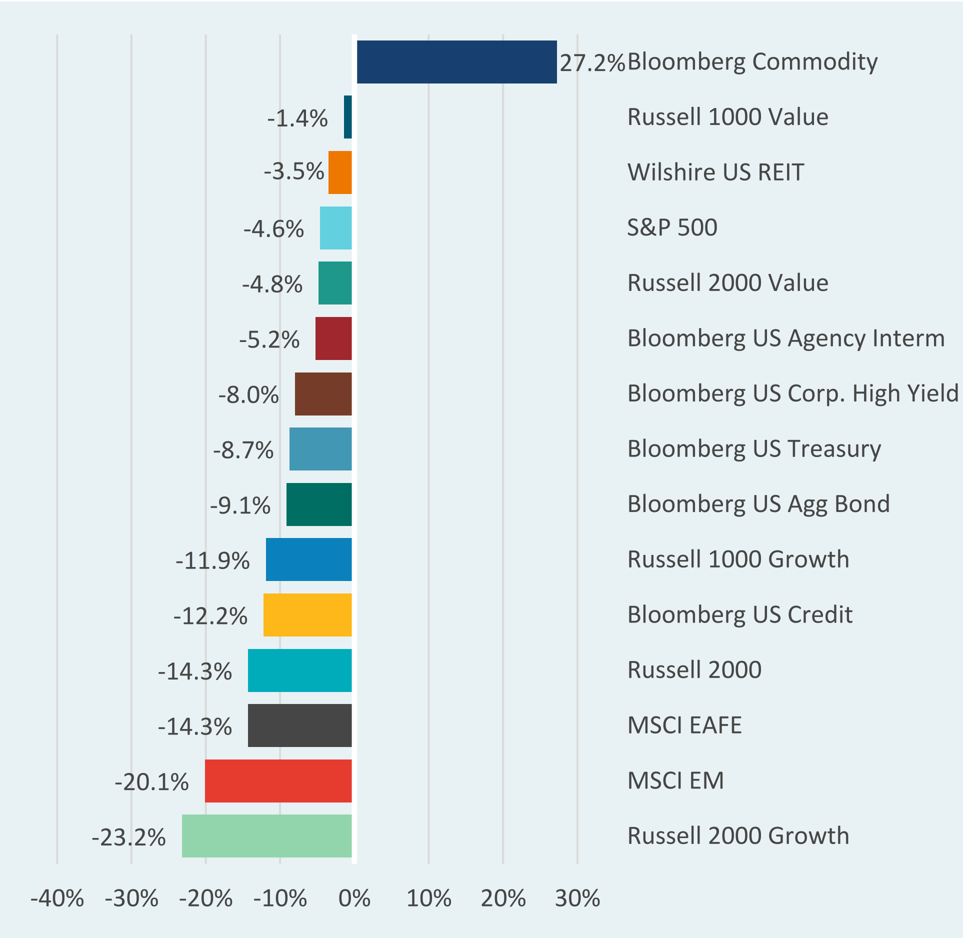
— Chinese GDP grew at a quarterly annualized real rate of +0.4%, missing analyst expectations of +1.0%, as 'zero-covid' lockdowns weighed heavily on economic activity. Shanghai's economy contracted at a quarterly annualized rate of -13.7%.

— The Yen (+1.6%) rallied to end the month after reaching intra-month lows not seen since 1998. The currency has seen weakness year-to-date (-13.8%) as the Bank of Japan remained committed to maintaining a low-rate environment.

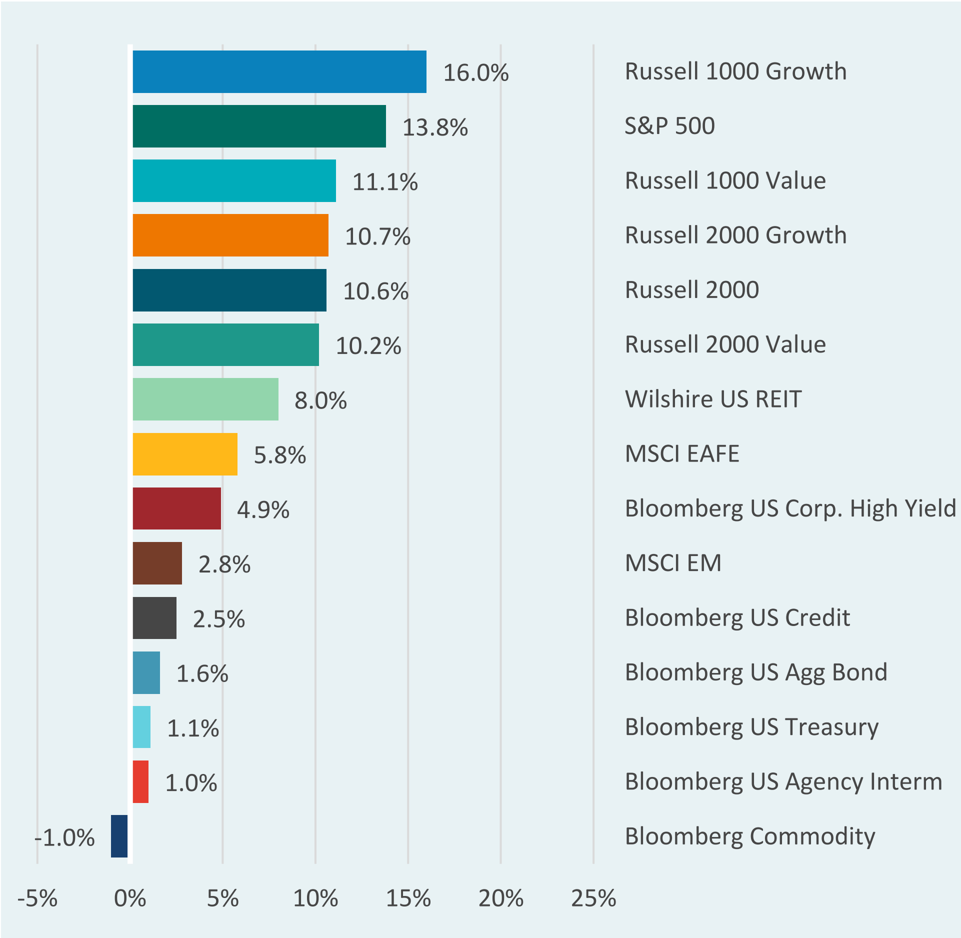
— Italian Sovereign Bonds sold off in July as Prime Minister Mario Draghi resigned in the wake of a no confidence vote. Draghi – the former president of the ECB – is a proponent of reforms widely seen as positive for the periphery eurozone country.

# Major asset class returns

**ONE YEAR ENDING JULY**




**TEN YEARS ENDING JULY**




**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 7/31/22*

*Source: Morningstar, as of 7/31/22*

# U.S. large cap equities

— The S&P 500 Index rallied +9.2% in July and pared year-to-date declines to -12.6%. Investors likely gained confidence from a slough of corporate earnings data which broadly beat expectations in addition to comments from Fed Chairman Jerome Powell which suggested a “data-dependent” rate hike in September.

— All 11 S&P GICS Sectors ended the month higher with Consumer Discretionary (+18.4%), Information Technology (+13.5%), and Energy (+9.7%) posting the largest gains. Defensive sectors including Health Care (+3.3%) and Consumer Staples (+3.3%) were the worst performers despite multiple recession indicators.

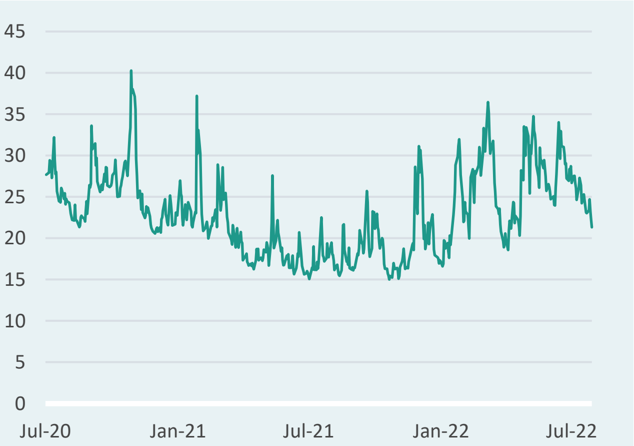
— Congress passed the CHIPS and Science Act late in the month. The bill is intended to support domestic semiconductor manufacturers by providing $52 billion in subsidies for research and domestic fabrication plant construction. The PHLX Semiconductor Sector Index (SOX) climbed +16.2% over the month.

— The Cboe VIX Index of implied S&P 500 volatility declined from 28.7 to 21.3 to end the month. While volatility has fallen from recent highs, it remains above the five-year average level of 20.1 as uncertainty lingers regarding the path of interest rates, inflation, and economic growth.

**S&P 500 PRICE INDEX**

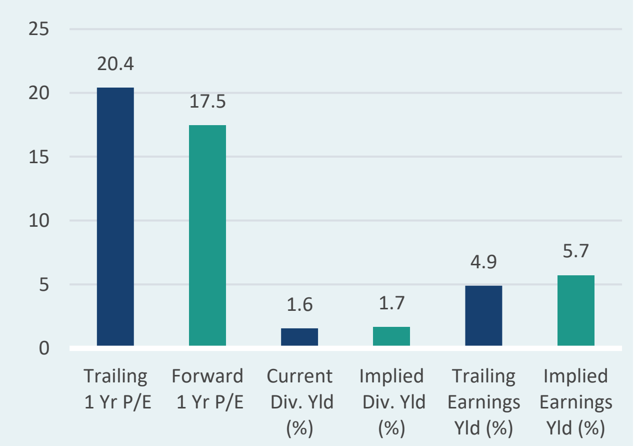

*Source: Bloomberg, as of 7/31/22*

**IMPLIED VOLATILITY (VIX INDEX)**




*Source: Cboe, as of 7/31/22*

**S&P 500 VALUATION SNAPSHOT**




*Source: Bloomberg, as of 7/31/22*

# Domestic equity size and style

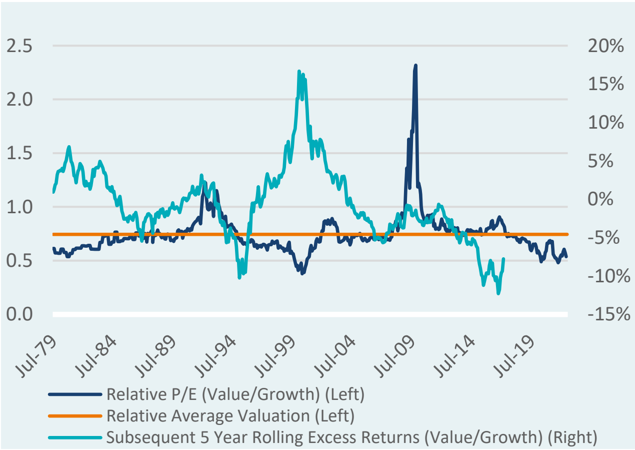
— Growth stocks (Russell 3000 Growth +12.0%) largely outperformed value stocks (Russell 3000 Value +6.8%) as market expectations for rate cuts in 2023 helped drive a sharp decline in yields. Growth stocks – whose earnings are anticipated further in the future than value peers – benefited from declining U.S. Treasury yields that pulled discount rates lower.

— Small-cap equities (Russell 2000 Index +10.4%) outperformed large-cap equities (Russell 1000 Index +9.3%) for a third consecutive month. Small-cap equities tend to utilize more debt, causing higher exposure to interest rates.

— Breadth was strong within the S&P 500 as 88% of members advanced over the month. On average, advancing members climbed +10.4% as markets partially bounced back from year-to-date declines.

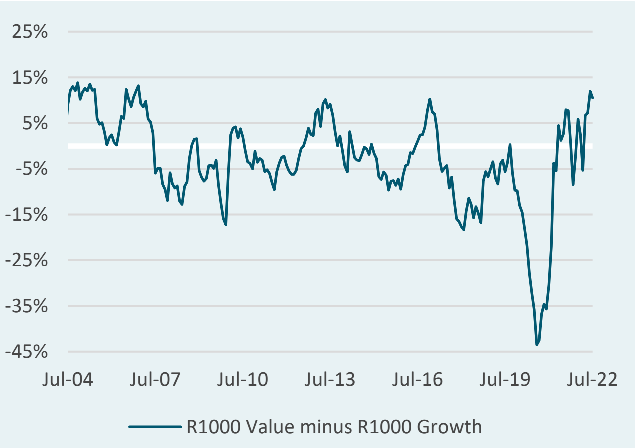
— Despite the backdrop of a rising rate environment, growth equities remain expensive relative to value peers. The Russell 1000 Growth Index traded at a P/E of 29.9 in July, which represents a P/E 1.9 times higher than that of the Russell 1000 Value. This relative P/E ranked in the 6th percentile over the past 40 years of measurement.

**VALUE VS. GROWTH RELATIVE VALUATIONS**



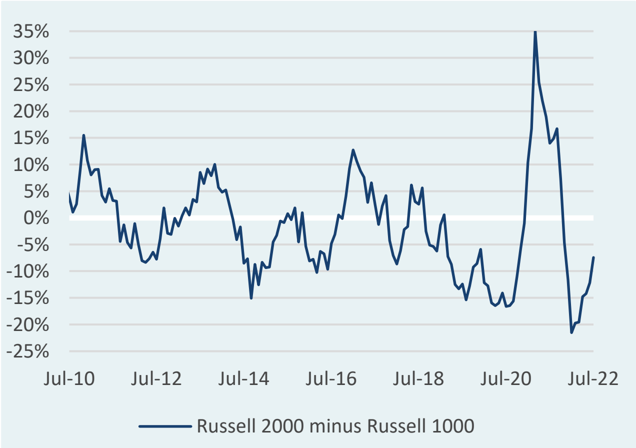

*Source: FTSE, Bloomberg, as of 7/31/22*

**VALUE VS. GROWTH 1-YR ROLLING RELATIVE PERFORMANCE**




*Source: FTSE, Bloomberg, as of 7/31/22*

**SMALL VS. LARGE 1-YR ROLLING RELATIVE PERFORMANCE**




*Source: FTSE, Bloomberg, as of 7/31/22*

# Fixed income

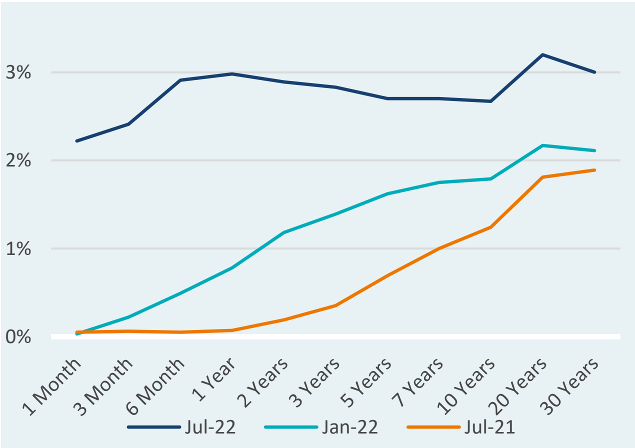
— The 10-Year Treasury yield fell -31 basis points over the month and the 10-2 spread inverted for the first time since April. The inverted 10-2 spread, which is widely recognized as a leading indicator of recession, widened to -22 basis points by month-end.

— The 10-Year Breakeven Inflation rate fell to 2.4% intra-month which marked the lowest level since September 2021. Despite the early month decline in the wake of hawkish Fed action, the measure of expected inflation ended the month 20 basis points higher, potentially indicating that investors anticipate inflation to be more persistent.

— U.S. high yield spreads fell more than -100 basis points over the month and ended at 4.8%. The Bloomberg U.S. Corp High Yield Index gained +5.9% over the month as yields fell sharply and reversed a trend of increases that had persisted since the beginning of the year.

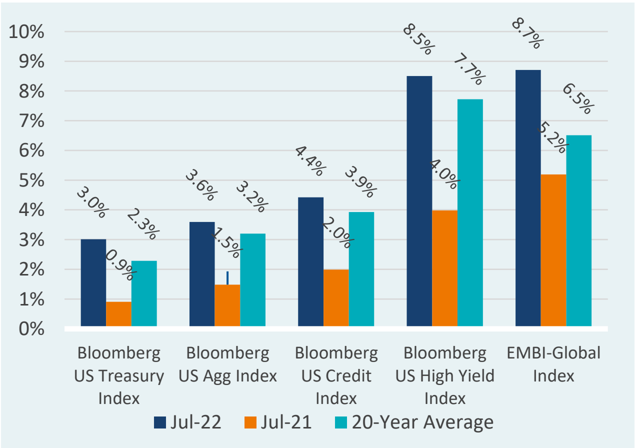
— The U.S. Dollar hit parity with the Euro for the first time since 2002 intra-month and remained strong against foreign peers in July. The U.S. Dollar has appreciated +11.4% against the Euro year-to-date as prompt central bank action in the U.S. combined with global recession fears has increased global demand for Dollar safety.

**U.S. TREASURY YIELD CURVE**



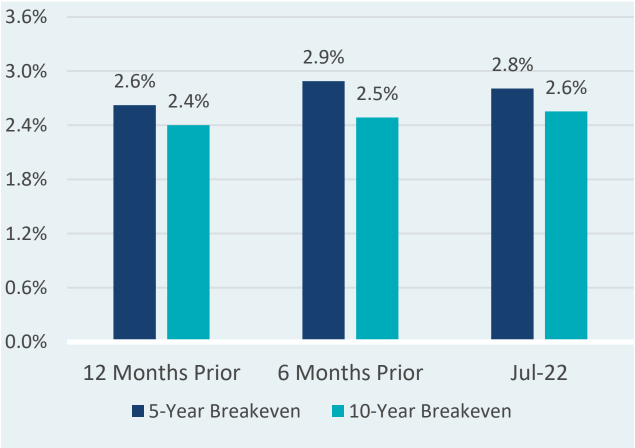

*Source: Bloomberg, as of 7/31/22*

**NOMINAL YIELDS**




*Source: Morningstar, as of 7/31/22*

**BREAKEVEN INFLATION RATES**




*Source: Bloomberg, as of 7/31/22*

# Global markets

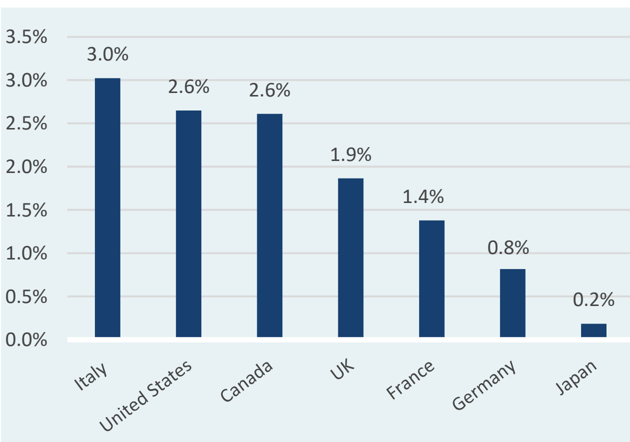
— International Equities (MSCI ACWI ex USA +3.4%) increased over the month as developed markets (MSCI EAFE +5.0%) helped buoy weak performance from emerging markets (MSCI EM -0.4%).

— Emerging market equities (MSCI EM Index -0.4%) fell over the month as declines in Chinese equities (MSCI China Index -9.4%) weighed heavily on the index. The Chinese Real Estate sector fell -19.6% as a growing number of Chinese homebuyers boycotted mortgage payments. Home sales and payments in China are often made in advance of construction and long backlogs have led to years of payment prior to completion.

— The European Central Bank raised its key policy rate by 50 basis points in the first rate hike in over a decade. The move – which followed an +8.6% eurozone inflation print for June – brought rates in the eurozone into positive territory for the first time in 8 years.

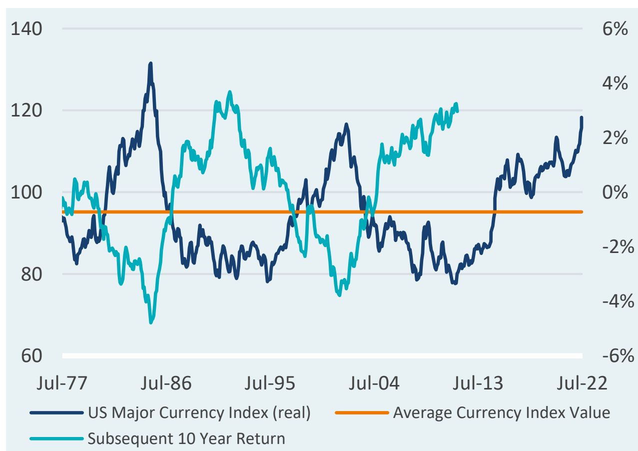
— In conjunction with the ECB rate announcement, the central bank released details on a new tool coined the Transmission Protection Instrument, or TPI. The TPI is designed to help the ECB maintain even transmission of policy to address price stability across all eurozone countries through purchases in secondary markets.

**GLOBAL SOVEREIGN 10-YEAR YIELDS**



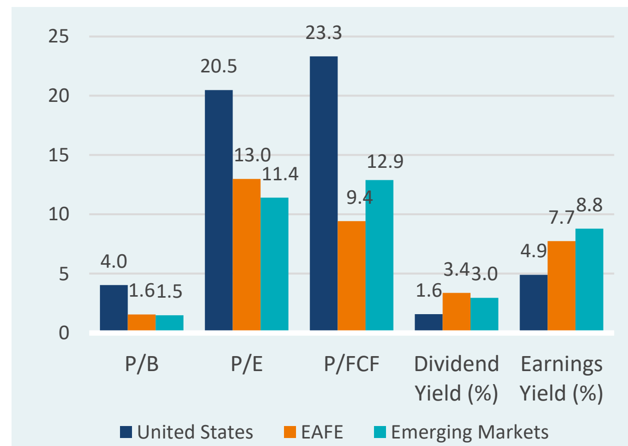

*Source: Bloomberg, as of 7/31/22*

**U.S. DOLLAR MAJOR CURRENCY INDEX**




*Source: Federal Reserve, as of 7/31/22*

**MSCI VALUATION METRICS (3-MONTH AVG)**




*Source: Bloomberg, as of 7/31/22*

# Commodities

— The Bloomberg Commodity Index (+4.3%) climbed higher in July following a steep decline in the prior month. Upward movements in the broad index were driven heavily by a sharp increase in the price of natural gas, which constitutes 8.0% of the overall Commodity Index.

— The Bloomberg Energy Sub-Index (+12.4%) rallied over the month as natural gas prices rose +51.7% to near record highs. Gazprom, Russia's state-owned energy corporation, decreased natural gas flows to Europe through the Nord Stream 1 pipeline mid-month which put further strains on global supply and sparked concerns that Russia may halt flows entirely.

— The Bloomberg Grains Sub-Index declined -2.9% in July. Ukraine and Russia reached an agreement to allow the export of grain through the Black Sea, though the pace of exports is expected to be choppy. More than 20 million tons of grain have accumulated in Ukrainian silos and the absence of Ukraine from the global marketplace has put upward pressure on grain prices globally.

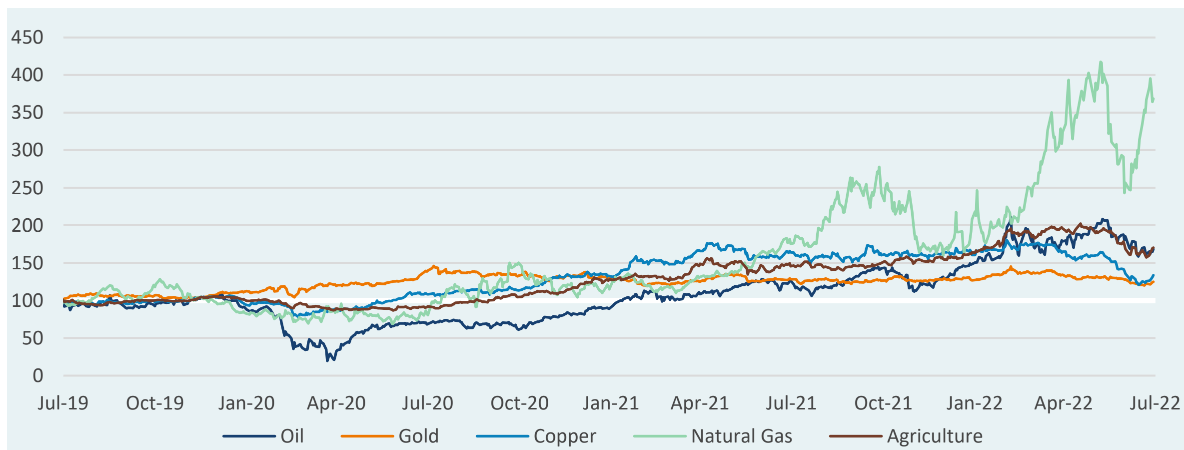
— The Bloomberg Livestock Sub-Index (+6.9%) recorded its highest monthly gain of the year as U.S. cattle inventories fell year-over-year. Extreme temperatures across the U.S. Midwest stoked fears of higher input costs which led producers to trim their herd sizes.

### INDEX AND SECTOR PERFORMANCE

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| Bloomberg Commodity | 4.3 | 4.3 | 23.5 | 27.2 | 16.2 | 8.8 | (1.0) |
| Bloomberg Agriculture | (2.1) | (2.1) | 10.7 | 17.6 | 20.1 | 6.2 | (2.7) |
| Bloomberg Energy | 12.4 | 12.4 | 77.9 | 80.3 | 16.1 | 11.6 | (4.3) |
| Bloomberg Grains | (2.9) | (2.9) | 12.8 | 17.6 | 18.7 | 6.0 | (4.1) |
| Bloomberg Industrial Metals | 1.6 | 1.6 | (8.1) | (2.1) | 12.0 | 7.0 | 1.6 |
| Bloomberg Livestock | 6.9 | 6.9 | 3.2 | 3.3 | (5.6) | (4.4) | (3.5) |
| Bloomberg Petroleum | (3.4) | (3.4) | 58.0 | 69.4 | 17.9 | 15.3 | (2.0) |
| Bloomberg Precious Metals | (2.0) | (2.0) | (6.3) | (7.8) | 5.7 | 4.8 | (1.1) |
| Bloomberg Softs | (4.6) | (4.6) | (1.5) | 14.2 | 17.1 | 2.9 | (4.0) |

*Source: Morningstar, as of 7/31/22*

### COMMODITY PERFORMANCE




*Source: Bloomberg, as of 7/31/22*

# Appendix

# Periodic table of returns

BEST ↑ … ↓ WORST

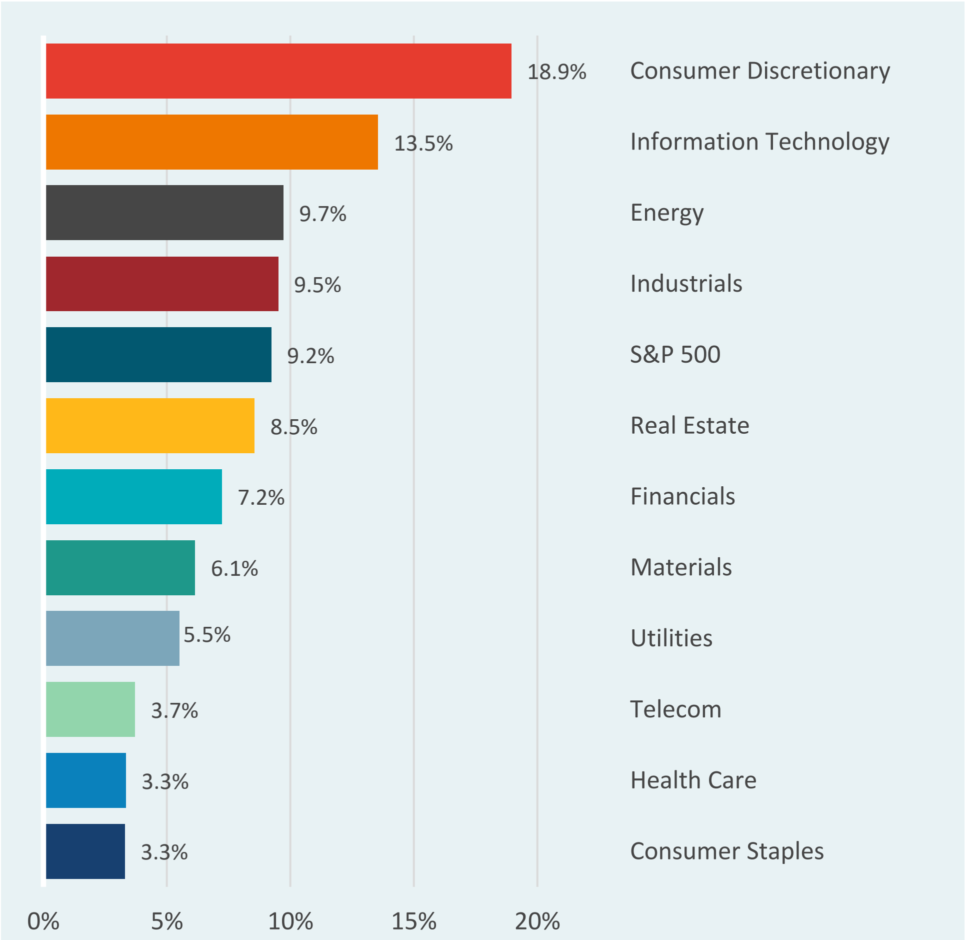
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | YTD | 5-Year | 10-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commodities | 31.8 | 14.0 | 25.9 | 56.3 | 26.0 | 34.5 | 32.6 | 39.8 | 5.2 | 79.0 | 29.1 | 14.3 | 18.6 | 43.3 | 13.5 | 13.3 | 31.7 | 37.3 | 6.7 | 36.4 | 38.5 | 28.3 | 23.5 | 16.3 | 16.0 |
| Real Estate | 22.8 | 8.4 | 10.3 | 48.5 | 22.2 | 21.4 | 26.9 | 16.2 | 1.4 | 37.2 | 26.9 | 7.8 | 18.1 | 38.8 | 13.2 | 5.7 | 21.3 | 30.2 | 1.9 | 31.4 | 34.6 | 27.6 | 8.7 | 12.6 | 13.7 |
| Cash | 12.2 | 7.3 | 6.7 | 47.3 | 20.7 | 20.1 | 23.5 | 15.8 | -6.5 | 34.5 | 24.5 | 2.6 | 17.9 | 34.5 | 13.0 | 0.9 | 17.3 | 25.0 | 0.0 | 28.5 | 21.0 | 27.1 | 0.2 | 8.9 | 11.1 |
| Hedge Funds of Funds | 11.6 | 3.3 | 1.6 | 46.0 | 18.3 | 14.0 | 22.2 | 11.8 | -21.4 | 32.5 | 19.2 | 1.5 | 17.5 | 33.5 | 11.8 | 0.6 | 12.1 | 22.2 | -1.5 | 26.5 | 20.0 | 26.5 | -6.1 | 8.8 | 10.7 |
| Large Cap Value | 7.0 | 2.8 | 1.0 | 39.2 | 16.5 | 7.5 | 18.4 | 11.6 | -25.9 | 28.4 | 16.8 | 0.4 | 16.4 | 33.1 | 6.0 | 0.0 | 11.8 | 21.7 | -3.5 | 25.5 | 18.3 | 25.2 | -7.1 | 8.3 | 10.6 |
| US Bonds | 4.1 | -2.4 | -6.0 | 29.9 | 14.3 | 6.3 | 15.5 | 10.3 | -33.8 | 23.3 | 16.1 | -2.1 | 15.3 | 23.3 | 4.9 | -0.8 | 11.2 | 14.6 | -6.0 | 22.4 | 14.0 | 17.7 | -8.2 | 7.1 | 10.2 |
| Small Cap Value | 6.0 | 2.5 | -5.9 | 30.0 | 14.5 | 7.1 | 16.6 | 10.9 | -28.9 | 27.2 | 16.7 | 0.1 | 16.3 | 32.5 | 5.6 | -0.4 | 11.3 | 17.1 | -4.8 | 22.0 | 10.3 | 14.8 | -9.3 | 6.9 | 9.7 |
| 60/40 Global Portfolio | -3.0 | -5.6 | -11.4 | 29.7 | 12.9 | 5.3 | 15.1 | 7.0 | -35.6 | 20.6 | 15.5 | -2.9 | 14.6 | 12.1 | 4.2 | -1.4 | 8.0 | 13.7 | -8.3 | 18.6 | 7.8 | 11.3 | -13.5 | 6.7 | 5.8 |
| Large Cap Equity | -7.3 | -9.1 | -15.5 | 25.2 | 11.4 | 4.7 | 13.3 | 7.0 | -36.8 | 19.7 | 13.1 | -4.2 | 11.5 | 11.0 | 3.4 | -2.5 | 7.1 | 7.8 | -9.3 | 18.4 | 7.5 | 8.9 | -13.6 | 4.8 | 5.8 |
| Small Cap Equity | -7.8 | -9.2 | -15.7 | 23.9 | 9.1 | 4.6 | 10.4 | 5.8 | -37.6 | 18.9 | 10.2 | -5.5 | 10.5 | 9.0 | 2.8 | -3.8 | 5.7 | 7.7 | -11.0 | 8.7 | 4.6 | 6.5 | -15.4 | 3.5 | 3.7 |
| International Equity | -14.0 | -12.4 | -20.5 | 11.6 | 6.9 | 4.6 | 9.1 | 4.4 | -38.4 | 11.5 | 8.2 | -5.7 | 4.8 | 0.1 | 0.0 | -4.4 | 2.6 | 7.0 | -11.2 | 7.8 | 2.8 | 2.8 | -15.6 | 2.6 | 2.8 |
| Emerging Markets Equity | -22.4 | -19.5 | -21.7 | 9.0 | 6.3 | 4.2 | 4.8 | -0.2 | -38.5 | 5.9 | 6.5 | -11.7 | 4.2 | -2.0 | -1.8 | -7.5 | 1.0 | 3.5 | -12.9 | 7.7 | 0.5 | 0.0 | -17.8 | 1.3 | 1.6 |
| Large Cap Growth | -22.4 | -20.4 | -27.9 | 4.1 | 4.3 | 3.2 | 4.3 | -1.6 | -43.1 | 0.2 | 5.7 | -13.3 | 0.1 | -2.3 | -4.5 | -14.9 | 0.5 | 1.7 | -13.8 | 6.4 | 0.5 | -1.5 | -19.4 | 1.0 | 0.6 |
| Small Cap Growth | -30.6 | -21.2 | -30.3 | 1.0 | 1.4 | 2.4 | 2.1 | -9.8 | -53.2 | -16.9 | 0.1 | -18.2 | -1.1 | -9.5 | -17.0 | -24.7 | 0.3 | 0.9 | -14.6 | 2.1 | -3.1 | -2.5 | -21.6 | 1.0 | -1.0 |

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

*Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, 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 6/30/22.*

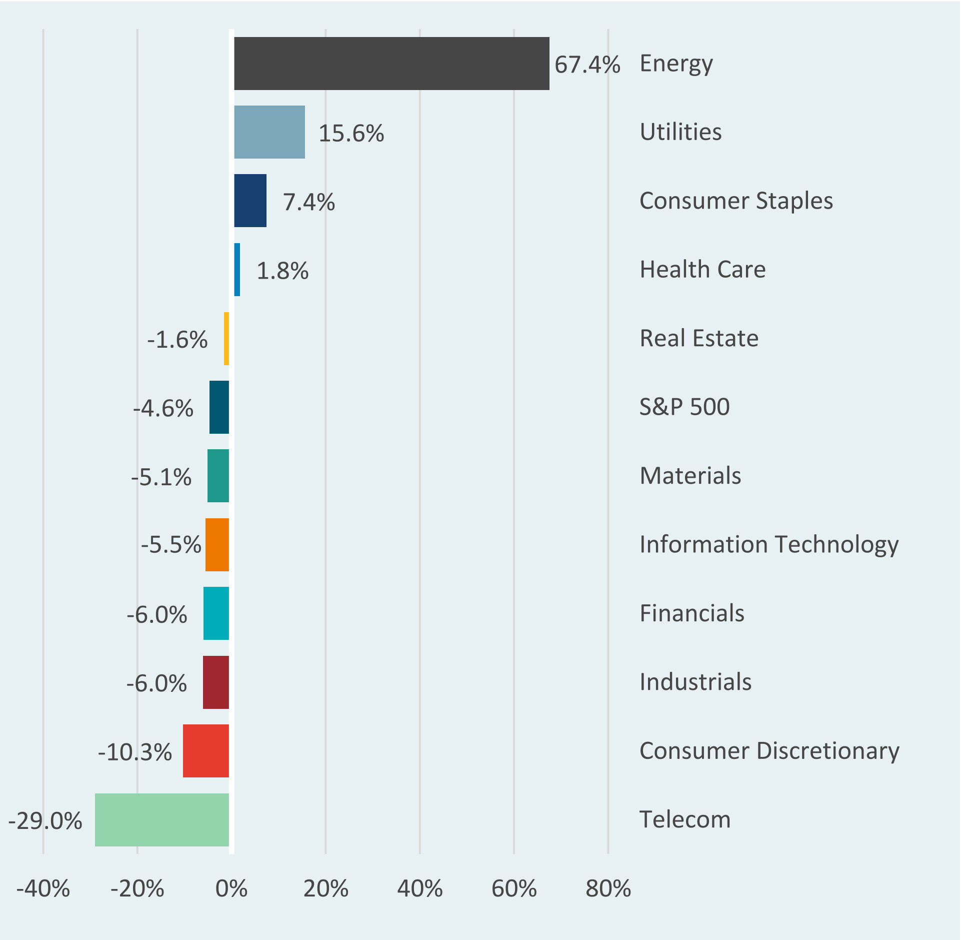
# S&P 500 sector returns

**QTD**




*Source: Morningstar, as of 7/31/22*

**ONE YEAR ENDING JULY**




*Source: Morningstar, as of 7/31/22*

# Detailed index returns

**DOMESTIC EQUITY**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Core Index** | | | | | | | |
| S&P 500 | 9.2 | 9.2 | (12.6) | (4.6) | 13.4 | 12.8 | 13.8 |
| S&P 500 Equal Weighted | 8.7 | 8.7 | (9.4) | (2.8) | 12.5 | 11.4 | 13.6 |
| DJ Industrial Average | 6.8 | 6.8 | (8.6) | (4.1) | 9.2 | 10.9 | 12.3 |
| Russell Top 200 | 9.1 | 9.1 | (13.5) | (5.8) | 14.2 | 13.6 | 14.2 |
| Russell 1000 | 9.3 | 9.3 | (13.6) | (6.9) | 12.9 | 12.6 | 13.7 |
| Russell 2000 | 10.4 | 10.4 | (15.4) | (14.3) | 7.5 | 7.1 | 10.6 |
| Russell 3000 | 9.4 | 9.4 | (13.7) | (7.4) | 12.6 | 12.2 | 13.5 |
| Russell Mid Cap | 9.9 | 9.9 | (13.8) | (9.8) | 9.5 | 9.7 | 12.3 |
| **Style Index** | | | | | | | |
| Russell 1000 Growth | 12.0 | 12.0 | (19.4) | (11.9) | 16.1 | 16.3 | 16.0 |
| Russell 1000 Value | 6.6 | 6.6 | (7.1) | (1.4) | 8.9 | 8.3 | 11.1 |
| Russell 2000 Growth | 11.2 | 11.2 | (21.6) | (23.2) | 4.7 | 6.9 | 10.7 |
| Russell 2000 Value | 9.7 | 9.7 | (9.3) | (4.8) | 9.4 | 6.7 | 10.2 |

**INTERNATIONAL EQUITY**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Broad Index** | | | | | | | |
| MSCI ACWI | 7.0 | 7.0 | (14.6) | (10.5) | 8.5 | 7.9 | 9.3 |
| MSCI ACWI ex US | 3.4 | 3.4 | (15.6) | (15.3) | 2.9 | 2.4 | 5.0 |
| MSCI EAFE | 5.0 | 5.0 | (15.6) | (14.3) | 3.2 | 2.6 | 5.8 |
| MSCI EM | (0.2) | (0.2) | (17.8) | (20.1) | 0.9 | 1.0 | 2.8 |
| MSCI EAFE Small Cap | 6.6 | 6.6 | (19.7) | (20.3) | 3.5 | 2.3 | 7.8 |
| **Style Index** | | | | | | | |
| MSCI EAFE Growth | 7.9 | 7.9 | (21.0) | (19.1) | 4.0 | 4.6 | 6.9 |
| MSCI EAFE Value | 2.1 | 2.1 | (10.3) | (9.9) | 1.6 | 0.3 | 4.4 |
| **Regional Index** | | | | | | | |
| MSCI UK | 3.7 | 3.7 | (5.4) | (1.3) | 3.1 | 2.5 | 4.0 |
| MSCI Japan | 5.7 | 5.7 | (15.7) | (14.3) | 2.8 | 2.5 | 6.4 |
| MSCI Euro | 4.8 | 4.8 | (21.6) | (21.0) | 1.3 | 0.6 | 5.8 |
| MSCI EM Asia | (1.3) | (1.3) | (18.3) | (20.4) | 3.2 | 2.0 | 5.2 |
| MSCI EM Latin American | 4.3 | 4.3 | 3.7 | (8.8) | (5.1) | (1.3) | (1.9) |

**FIXED INCOME**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Broad Index** | | | | | | | |
| Bloomberg US TIPS | 4.4 | 4.4 | (5.0) | (3.6) | 4.4 | 4.0 | 2.0 |
| Bloomberg US Treasury Bills | 0.1 | 0.1 | 0.1 | 0.1 | 0.6 | 1.1 | 0.7 |
| Bloomberg US Agg Bond | 2.4 | 2.4 | (8.2) | (9.1) | (0.2) | 1.3 | 1.6 |
| Bloomberg US Universal | 2.5 | 2.5 | (8.7) | (9.6) | (0.2) | 1.3 | 1.9 |
| **Duration** | | | | | | | |
| Bloomberg US Treasury 1-3 Yr | 0.4 | 0.4 | (2.6) | (3.3) | 0.4 | 0.9 | 0.8 |
| Bloomberg US Treasury Long | 2.7 | 2.7 | (19.2) | (19.2) | (2.1) | 1.2 | 1.6 |
| Bloomberg US Treasury | 1.6 | 1.6 | (7.7) | (8.7) | (0.3) | 1.0 | 1.1 |
| **Issuer** | | | | | | | |
| Bloomberg US MBS | 3.2 | 3.2 | (5.8) | (6.7) | (0.5) | 0.9 | 1.4 |
| Bloomberg US Corp. High Yield | 5.9 | 5.9 | (9.1) | (8.0) | 1.9 | 3.1 | 4.9 |
| Bloomberg US Agency Interm | 0.9 | 0.9 | (4.1) | (5.2) | (0.0) | 0.9 | 1.0 |
| Bloomberg US Credit | 3.0 | 3.0 | (11.2) | (12.2) | (0.2) | 1.7 | 2.5 |

**OTHER**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Index** | | | | | | | |
| Bloomberg Commodity | 4.3 | 4.3 | 23.5 | 27.2 | 16.2 | 8.8 | (1.0) |
| Wilshire US REIT | 8.7 | 8.7 | (14.8) | (3.5) | 6.4 | 6.8 | 8.0 |
| CS Leveraged Loans | 1.9 | 1.9 | (2.7) | (0.9) | 2.4 | 3.2 | 4.0 |
| S&P Global Infrastructure | 4.0 | 4.0 | 3.5 | 8.8 | 5.6 | 5.0 | 7.5 |
| Alerian MLP | 12.6 | 12.6 | 23.6 | 25.1 | 2.8 | 0.9 | 1.5 |
| **Regional Index** | | | | | | | |
| JPM EMBI Global Div | 2.9 | 2.9 | (18.0) | (19.3) | (4.7) | (0.8) | 2.1 |
| JPM GBI-EM Global Div | 0.3 | 0.3 | (14.3) | (18.7) | (6.0) | (2.6) | (1.7) |
| **Hedge Funds** | | | | | | | |
| HFRI Composite | 1.6 | 1.6 | (4.1) | (3.2) | 6.6 | 5.2 | 5.1 |
| HFRI FOF Composite | 0.5 | 0.5 | (6.1) | (4.4) | 4.0 | 3.5 | 3.7 |
| **Currency (Spot)** | | | | | | | |
| Euro | (2.5) | (2.5) | (10.3) | (14.0) | (2.9) | (2.9) | (1.9) |
| Pound Sterling | 0.2 | 0.2 | (10.2) | (12.5) | (0.2) | (1.6) | (2.5) |
| Yen | 1.6 | 1.6 | (13.8) | (17.9) | (6.7) | (3.7) | (5.2) |

*Source: Morningstar, HFRI, as of 7/31/22.*

# 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 | 38.9 | 26.4 | 20.7 | 14.7 |
| Global Private Equity Direct Funds * | 37.9 | 29.1 | 23.6 | 17.7 |
| U.S. Private Equity Direct Funds * | 45.0 | 32.1 | 25.2 | 19.1 |
| Europe Private Equity Direct Funds * | 33.1 | 27.6 | 24.8 | 16.2 |
| Asia Private Equity Direct Funds * | 15.7 | 18.4 | 16.6 | 14.7 |
| **Public Index Time-weighted Returns** | | | | |
| MSCI World | 21.8 | 21.7 | 15.0 | 12.7 |
| S&P 500 | 28.7 | 26.1 | 18.5 | 16.6 |
| MSCI Europe | 16.3 | 14.9 | 10.1 | 8.2 |
| MSCI AC Asia Pacific | (1.5) | 12.1 | 9.9 | 8.0 |

| Private Real Estate Pooled IRRs | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|
| U.S. All Private Real Estate | 30.0 | 13.0 | 11.8 | 13.0 |
| **Public Index Time-weighted Returns** | | | | |
| FTSE NAREIT Equity REIT | 43.2 | 18.4 | 10.8 | 11.4 |

| Private Credit Pooled IRRs | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|
| U.S. All Private Debt ** | 32.4 | 16.8 | 13.9 | 12.6 |
| **Public Index Time-weighted Returns** | | | | |
| S&P / LSTA U.S. Leveraged Loan 100 Index | 3.5 | 5.6 | 3.9 | 4.3 |

| Private Real Assets Pooled IRRs | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|
| Global Nature Resources *** | 31.3 | 1.9 | 2.5 | 2.1 |
| Global Infrastructure | 13.8 | 11.6 | 12.4 | 11.0 |
| **Public Index Time-weighted Returns** | | | | |
| S&P Global Natural Resources | 25.2 | 13.9 | 9.6 | 4.6 |
| S&P Global Infrastructure | 11.9 | 10.2 | 7.8 | 7.7 |

*Source: Pooled IRRs are from Thompson Reuters C|A and Time-weighted Returns are from Investment Metrics, as of December 31st, 2021. 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.*

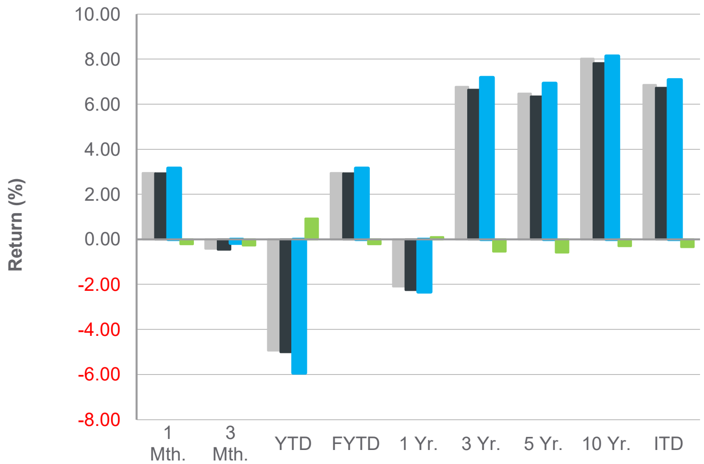
# Notices & disclosures

***Past performance is no guarantee of future results.*** *This document is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and is not intended for retail investors. Nothing herein constitutes investment, legal, accounting or tax advice, or a recommendation to buy, sell or hold a security or pursue a particular investment vehicle or any trading strategy. This document may include or imply estimates, outlooks, projections and other "forward-looking statements." No assurance can be given that future results described or implied by any forward looking information will be achieved. Investing entails risks, including possible loss of principal. Additional information about Verus Advisory, Inc. is available on the SEC's website at www.adviserinfo.sec.gov.*

*Verus – also known as Verus Advisory™.*

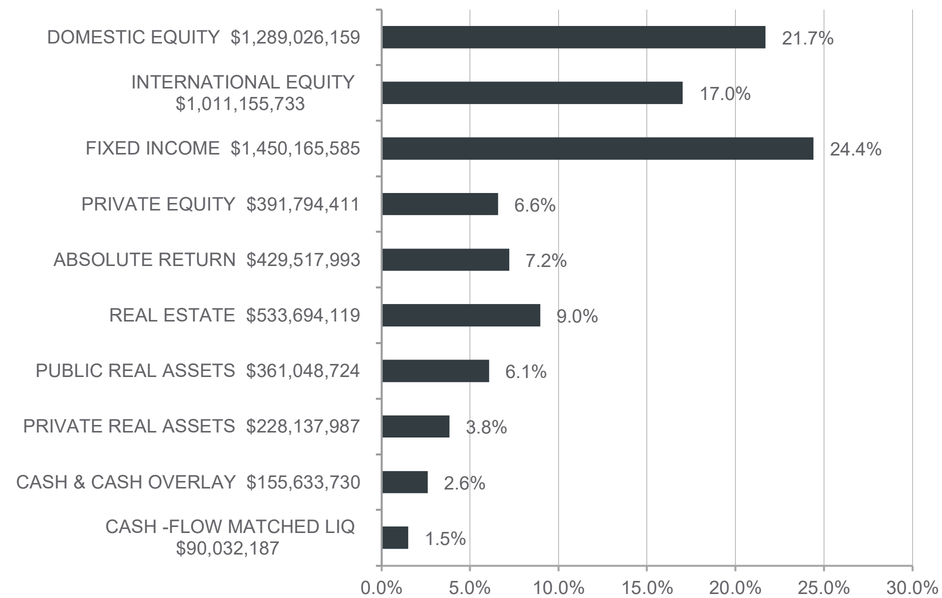
# San Mateo County
# Composite Return Summary
**July 31,2022**

## Total Fund Performance

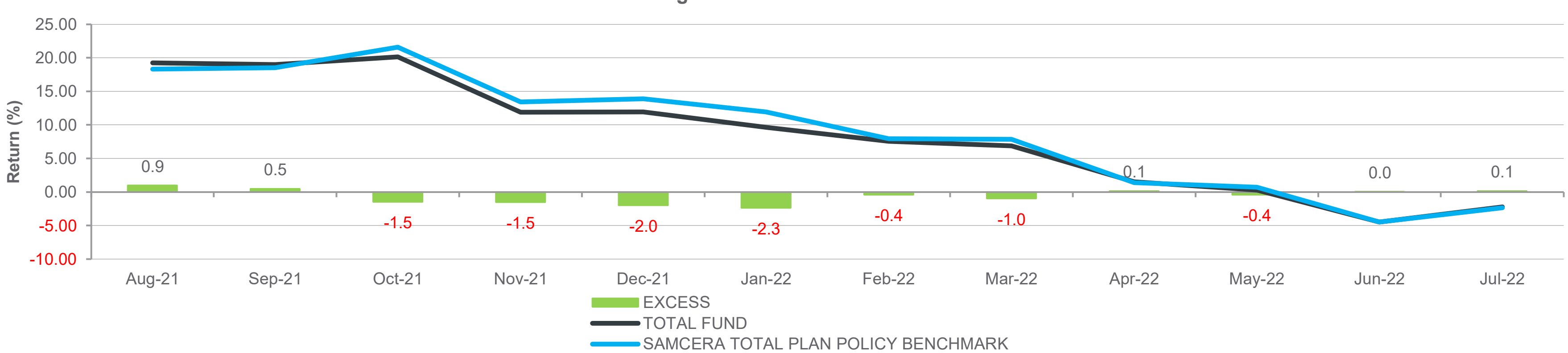



| | 1 Mth. | 3 Mth. | YTD | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 10 Yr. | ITD |
|---|---|---|---|---|---|---|---|---|---|
| TOTAL FUND - Gross | 2.9 | -0.4 | -4.9 | 2.9 | -2.1 | 6.8 | 6.5 | 8.0 | 6.9 |
| TOTAL FUND - Net | 2.9 | -0.5 | -5.0 | 2.9 | -2.2 | 6.6 | 6.3 | 7.8 | 6.7 |
| SAMCERA PLAN BENCHMARK | 3.2 | -0.2 | -5.9 | 3.2 | -2.3 | 7.2 | 6.9 | 8.1 | 7.1 |
| Excess (Net) | -0.2 | -0.3 | 0.9 | -0.2 | 0.1 | -0.5 | -0.6 | -0.3 | -0.3 |

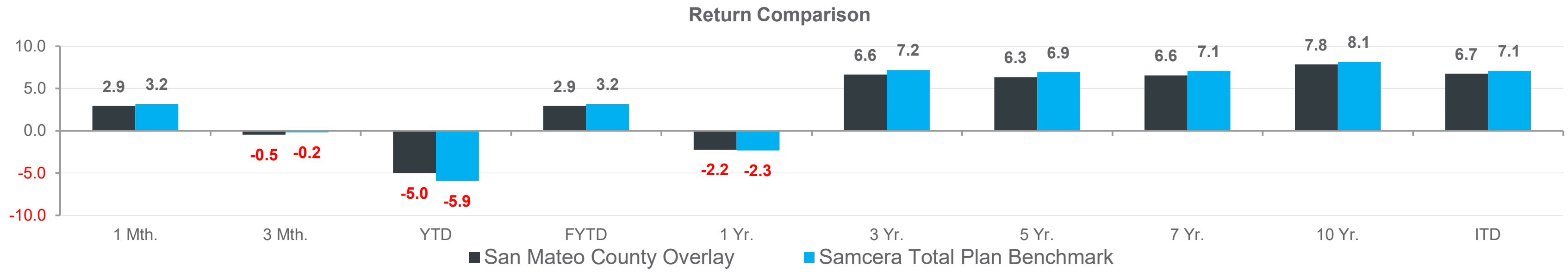
## Asset Allocation



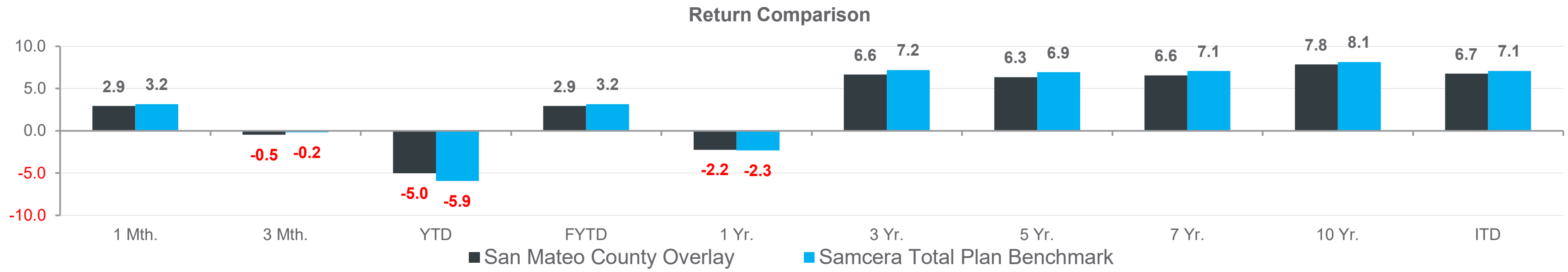

## Rolling Month End Annual Returns



# San Mateo County
# Composite Return Summary
July 31,2022




| 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 | 5,940,206,629 | 2.9 | -0.5 | -5.0 | 2.9 | -2.2 | 6.6 | 6.3 | 6.6 | 7.8 | 6.7 |
| Samcera Total Plan Benchmark | | 3.2 | -0.2 | -5.9 | 3.2 | -2.3 | 7.2 | 6.9 | 7.1 | 8.1 | 7.1 |
| Excess | | -0.2 | -0.3 | 0.9 | -0.2 | 0.1 | -0.5 | -0.6 | -0.5 | -0.3 | -0.3 |
| San Mateo Ex-Clifton Overlay | 5,827,346,350 | 2.9 | -0.4 | -4.9 | 2.9 | -2.1 | 6.7 | 6.3 | 6.5 | 7.8 | 6.7 |
| Samcera Total Plan Benchmark | | 3.2 | -0.2 | -5.9 | 3.2 | -2.3 | 7.2 | 6.9 | 7.1 | 8.1 | 7.1 |
| Excess | | -0.3 | -0.3 | 1.0 | -0.3 | 0.2 | -0.5 | -0.6 | -0.6 | -0.4 | -0.4 |
| Total Equity | 2,300,181,892 | 6.6 | -0.7 | -12.3 | 6.6 | -8.7 | 8.2 | 7.7 | 8.0 | 10.0 | 7.8 |
| Samcera Total Equity Benchmark | | 6.8 | -1.7 | -13.0 | 6.8 | -8.9 | 9.0 | 8.3 | 8.9 | 10.9 | 8.4 |
| Excess | | -0.2 | 1.0 | 0.8 | -0.2 | 0.3 | -0.8 | -0.6 | -0.9 | -0.9 | -0.6 |
| Fixed Income | 1,450,165,585 | 1.7 | -0.4 | -7.5 | 1.7 | -7.6 | 0.9 | 2.1 | 2.9 | 3.1 | 5.0 |
| Samcera Fixed Income Benchmark | | 3.6 | 1.3 | -8.0 | 3.6 | -8.2 | 0.5 | 1.9 | 2.5 | 2.1 | 4.5 |
| Excess | | -1.9 | -1.7 | 0.4 | -1.9 | 0.7 | 0.4 | 0.2 | 0.4 | 1.1 | 0.5 |
| Alternatives | 821,312,404 | -1.9 | -2.0 | 1.3 | -1.9 | 3.8 | 14.5 | 11.7 | 10.1 | 8.3 | 1.0 |
| Samcera Alternatives Benchmark | | -4.1 | -3.1 | -0.6 | -4.1 | 2.0 | 10.3 | 10.2 | 9.6 | 9.5 | 8.3 |
| Excess | | 2.2 | 1.1 | 1.9 | 2.2 | 1.7 | 4.3 | 1.5 | 0.5 | -1.2 | -7.3 |
| Inflation Hedge | 1,122,880,830 | 1.6 | 1.4 | 11.3 | 1.6 | 17.3 | 7.1 | 5.6 | -- | -- | 7.0 |
| SamCERA Inflation Hedge Index | | 0.0 | 3.4 | 11.5 | 0.0 | 21.8 | 11.9 | 9.2 | -- | -- | -- |
| Excess | | 1.6 | -2.0 | -0.2 | 1.6 | -4.5 | -4.8 | -3.6 | -- | -- | -- |
| Cash | 283,120,608 | 0.1 | 0.2 | 0.4 | 0.1 | 0.5 | 0.6 | 0.8 | 0.7 | 0.7 | 1.7 |
| Samcera Cash Benchmark | | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.6 | 1.1 | 0.9 | 0.6 | 1.7 |
| Excess | | 0.1 | 0.1 | 0.2 | 0.1 | 0.3 | 0.0 | -0.3 | -0.2 | 0.0 | 0.0 |




| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cash Flow Driven Investing | 90,032,187 | 0.0 | -- | -- | 0.0 | -- | -- | -- | -- | -- | 0.0 |
| BBG US Credit 1-3 Yrs | | 0.8 | -- | -- | 0.8 | -- | -- | -- | -- | -- | 0.8 |
| Excess | | -0.7 | -- | -- | -0.7 | -- | -- | -- | -- | -- | -0.7 |

| Composite Returns (NET) | Market Value ($) | 1 Mth. | 3 Mth. | YTD | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Equity | 2,300,181,892 | 6.6 | -0.7 | -12.3 | 6.6 | -8.7 | 8.2 | 7.7 | 8.0 | 10.0 | 7.8 |
| Samcera Total Equity Benchmark | | 6.8 | -1.7 | -13.0 | 6.8 | -8.9 | 9.0 | 8.3 | 8.9 | 10.9 | 8.4 |
| Excess | | -0.2 | 1.0 | 0.8 | -0.2 | 0.3 | -0.8 | -0.6 | -0.9 | -0.9 | -0.6 |
| Domestic Equity | 1,289,026,159 | 8.2 | 0.6 | -10.1 | 8.2 | -3.4 | 11.5 | 11.3 | 10.9 | 12.9 | 9.1 |
| Samcera Dom. Equity Benchmark | | 9.4 | 0.1 | -13.7 | 9.4 | -7.4 | 12.6 | 12.2 | 11.5 | 13.4 | 9.5 |
| Excess | | -1.2 | 0.5 | 3.6 | -1.2 | 4.0 | -1.0 | -0.8 | -0.6 | -0.6 | -0.4 |
| Large Cap Equity | 1,131,471,305 | 7.8 | 0.3 | -10.3 | 7.8 | -3.5 | 11.6 | 11.8 | 11.5 | 13.3 | 9.8 |
| Russell 1000 | | 9.3 | 0.0 | -13.6 | 9.3 | -6.9 | 12.9 | 12.6 | 11.9 | 13.7 | 10.2 |
| Excess | | -1.5 | 0.3 | 3.2 | -1.5 | 3.3 | -1.3 | -0.8 | -0.4 | -0.4 | -0.4 |
| Blackrock Russell 1000 | 488,388,369 | 9.3 | 0.0 | -13.5 | 9.3 | -6.8 | 13.1 | 12.7 | -- | -- | 13.3 |
| Russell 1000 | | 9.3 | 0.0 | -13.6 | 9.3 | -6.9 | 12.9 | 12.6 | -- | -- | 13.2 |
| Excess | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | -- | -- | 0.2 |
| DE Shaw Commingled Fund | 172,388,861 | 8.7 | -1.5 | -12.1 | 8.7 | -5.4 | 11.8 | 11.6 | 11.6 | -- | 11.4 |
| Russell 1000 | | 9.3 | 0.0 | -13.6 | 9.3 | -6.9 | 12.9 | 12.6 | 11.9 | -- | 11.5 |
| Excess | | -0.6 | -1.5 | 1.5 | -0.6 | 1.5 | -1.1 | -0.9 | -0.3 | -- | -0.0 |
| Acadian US MGD V-SL | 223,308,866 | 6.2 | 0.2 | -10.2 | 6.2 | -2.6 | 6.5 | -- | -- | -- | 11.0 |
| Russell 1000 | | 9.3 | 0.0 | -13.6 | 9.3 | -6.9 | 12.9 | -- | -- | -- | 16.9 |
| Excess | | -3.1 | 0.2 | 3.4 | -3.1 | 4.2 | -6.4 | -- | -- | -- | -5.9 |
| Panagora Defuseq -SL | 247,385,208 | 5.6 | 2.1 | -2.0 | 5.6 | 4.3 | 9.5 | -- | -- | -- | 14.7 |
| Russell 1000 | | 9.3 | 0.0 | -13.6 | 9.3 | -6.9 | 12.9 | -- | -- | -- | 16.9 |
| Excess | | -3.7 | 2.1 | 11.5 | -3.7 | 11.1 | -3.4 | -- | -- | -- | -2.2 |
| Domestic Equity Overlay | 48,437,625 | 9.5 | 4.3 | 165.5 | 9.5 | 179.5 | -- | -- | -- | -- | 162.5 |
| ICE BofAML US 3-Month Treasury Bill | | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | -- | -- | -- | -- | 0.1 |
| Excess | | 9.4 | 4.1 | 165.3 | 9.4 | 179.3 | -- | -- | -- | -- | 162.4 |
| Small Cap Equity | 109,117,230 | 11.6 | 2.6 | -9.2 | 11.6 | -3.3 | 8.3 | 6.1 | 6.0 | 9.1 | 6.4 |
| Russell 2000 | | 10.4 | 1.5 | -15.4 | 10.4 | -14.3 | 7.5 | 7.1 | 7.6 | 10.6 | 7.7 |
| Excess | | 1.2 | 1.1 | 6.2 | 1.2 | 11.0 | 0.8 | -1.0 | -1.6 | -1.5 | -1.4 |

# San Mateo County
# Composite Return Summary
July 31,2022

SamCERA

| 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 | 109,117,230 | 11.6 | 2.6 | -9.2 | 11.6 | -3.3 | 8.3 | 6.1 | -- | -- | 8.2 |
| Russell 2000 | | 10.4 | 1.5 | -15.4 | 10.4 | -14.3 | 7.5 | 7.1 | -- | -- | 8.7 |
| Excess | | 1.2 | 1.1 | 6.2 | 1.2 | 11.0 | 0.8 | -1.0 | -- | -- | -0.6 |
| International Equity | 1,011,155,733 | 4.7 | -2.3 | -14.9 | 4.7 | -14.4 | 4.5 | 3.6 | 4.4 | 6.0 | 5.3 |
| SamCERA Custom Hedge Intl | | 3.9 | -3.9 | -12.4 | 3.9 | -10.9 | 4.8 | 3.6 | 4.4 | 5.8 | 4.9 |
| Excess | | 0.9 | 1.6 | -2.4 | 0.9 | -3.5 | -0.4 | -0.0 | -0.0 | 0.2 | 0.4 |
| Baillie Gifford | 301,666,136 | 9.3 | -0.4 | -27.4 | 9.3 | -28.7 | 3.8 | 3.8 | 5.1 | 7.2 | 6.5 |
| MSCI ACWI ex USA Growth | | 5.5 | -3.8 | -20.5 | 5.5 | -20.3 | 3.8 | 4.2 | 5.0 | -- | -- |
| Excess | | 3.8 | 3.4 | -6.9 | 3.8 | -8.4 | -0.0 | -0.4 | 0.1 | -- | -- |
| Blackrock MSCI ACWI ex US IMI | 327,184,391 | 3.7 | -4.9 | -15.8 | 3.7 | -15.5 | -- | -- | -- | -- | 4.9 |
| MS AC WIdxUS IMI Nt | | 3.8 | -5.1 | -16.0 | 3.8 | -15.8 | -- | -- | -- | -- | 4.8 |
| Excess | | -0.0 | 0.2 | 0.2 | -0.0 | 0.3 | -- | -- | -- | -- | 0.1 |
| Mondrian Investment Partners | 336,845,914 | 0.8 | -4.5 | -11.5 | 0.8 | -12.4 | 1.3 | 1.0 | 2.0 | 4.2 | 4.4 |
| MSCI ACWI xUSA Value | | 1.4 | -5.6 | -10.2 | 1.4 | -9.3 | 2.4 | 1.3 | 2.7 | 4.4 | 4.5 |
| Excess | | -0.6 | 1.1 | -1.3 | -0.6 | -3.1 | -1.1 | -0.3 | -0.7 | -0.2 | -0.1 |
| Currency Hedge Futures | 179,072,903 | -1.1 | -3.1 | -9.8 | -1.1 | -12.8 | -- | -- | -- | -- | -3.5 |
| ICE BofAML US 3-Month Treasury Bill | | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | -- | -- | -- | -- | 0.1 |
| Excess | | -1.2 | -3.2 | -10.0 | -1.2 | -13.0 | -- | -- | -- | -- | -3.7 |
| Currency Hedge Futures Offsets | 179,072,903 | -0.0 | -0.0 | 0.0 | -0.0 | 0.0 | -- | -- | -- | -- | 0.0 |
| ICE BofAML US 3-Month Treasury Bill | | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | -- | -- | -- | -- | 0.1 |
| Excess | | -0.1 | -0.1 | -0.2 | -0.1 | -0.2 | -- | -- | -- | -- | -0.1 |
| International Equity Overlay | 45,459,292 | 3.9 | -2.8 | -13.1 | 3.9 | -12.7 | -- | -- | -- | -- | 10.4 |
| ICE BofAML US 3-Month Treasury Bill | | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | -- | -- | -- | -- | 0.1 |
| Excess | | 3.8 | -2.9 | -13.3 | 3.8 | -12.9 | -- | -- | -- | -- | 10.3 |
| Fixed Income | 1,450,165,585 | 1.7 | -0.4 | -7.5 | 1.7 | -7.6 | 0.9 | 2.1 | 2.9 | 3.1 | 5.0 |
| Samcera Fixed Income Benchmark | | 3.6 | 1.3 | -8.0 | 3.6 | -8.2 | 0.5 | 1.9 | 2.5 | 2.1 | 4.5 |
| Excess | | -1.9 | -1.7 | 0.4 | -1.9 | 0.7 | 0.4 | 0.2 | 0.4 | 1.1 | 0.5 |

San Mateo County
Composite Return Summary
July 31,2022

| 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 | 919,170,937 | 1.8 | 0.3 | -9.0 | 1.8 | -10.1 | -0.3 | 1.1 | 1.9 | 2.1 | 4.5 |
| BBG US Aggregate | | 2.4 | 1.5 | -8.2 | 2.4 | -9.1 | -0.2 | 1.3 | 1.7 | 1.6 | 4.2 |
| Excess | | -0.6 | -1.2 | -0.8 | -0.6 | -1.0 | -0.1 | -0.2 | 0.2 | 0.5 | 0.3 |
| FIAM B Core Bond | 247,620,083 | 2.4 | 1.0 | -8.4 | 2.4 | -9.2 | 0.8 | 2.0 | -- | -- | 2.6 |
| BBG US Aggregate | | 2.4 | 1.5 | -8.2 | 2.4 | -9.1 | -0.2 | 1.3 | -- | -- | 1.6 |
| Excess | | -0.0 | -0.5 | -0.3 | -0.0 | -0.1 | 1.0 | 0.7 | -- | -- | 1.0 |
| Western Total Return | 182,743,031 | 0.5 | -1.3 | -10.9 | 0.5 | -11.9 | -1.0 | 0.6 | 2.0 | -- | 2.0 |
| BBG US Aggregate | | 2.4 | 1.5 | -8.2 | 2.4 | -9.1 | -0.2 | 1.3 | 1.7 | -- | 1.7 |
| Excess | | -1.9 | -2.8 | -2.7 | -1.9 | -2.8 | -0.8 | -0.7 | 0.4 | -- | 0.4 |
| DoubleLine | 235,810,776 | 1.7 | -0.4 | -9.3 | 1.7 | -10.9 | -- | -- | -- | -- | -2.2 |
| BBG US Aggregate | | 2.4 | 1.5 | -8.2 | 2.4 | -9.1 | -- | -- | -- | -- | -2.7 |
| Excess | | -0.7 | -1.8 | -1.1 | -0.7 | -1.8 | -- | -- | -- | -- | 0.5 |
| NISA Core Bond | 219,407,087 | 2.5 | 1.5 | -7.9 | 2.5 | -8.9 | -- | -- | -- | -- | -2.9 |
| BBG US Aggregate | | 2.4 | 1.5 | -8.2 | 2.4 | -9.1 | -- | -- | -- | -- | -3.4 |
| Excess | | 0.0 | 0.0 | 0.3 | 0.0 | 0.2 | -- | -- | -- | -- | 0.4 |
| Core Fixed Income Overlay | 33,589,961 | 1.6 | 1.0 | -4.8 | 1.6 | -4.3 | -- | -- | -- | -- | -2.4 |
| ICE BofAML US 3-Month Treasury Bill | | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | -- | -- | -- | -- | 0.1 |
| Excess | | 1.6 | 0.8 | -5.0 | 1.6 | -4.5 | -- | -- | -- | -- | -2.6 |
| Opportunistic Credit | 530,994,648 | 1.5 | -1.6 | -4.9 | 1.5 | -3.0 | 3.2 | 4.1 | 5.2 | 6.4 | 7.6 |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | 2.4 | 3.3 | 4.3 | 4.7 | 6.1 |
| Excess | | -4.5 | -2.7 | 2.6 | -4.5 | 3.5 | 0.7 | 0.7 | 0.9 | 1.7 | 1.4 |
| Pimco Private Income | 54,024,727 | 0.0 | 1.3 | 2.6 | 0.0 | 8.5 | 9.7 | -- | -- | -- | 8.7 |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | 2.4 | -- | -- | -- | 3.2 |
| Excess | | -6.0 | 0.2 | 10.1 | -6.0 | 15.1 | 7.2 | -- | -- | -- | 5.4 |
| AG CREDIT SOL FU LP | 15,444,444 | 0.1 | 1.0 | 4.4 | 0.1 | 7.1 | -- | -- | -- | -- | 21.6 |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | -- | -- | -- | -- | 1.4 |
| Excess | | -5.9 | -0.0 | 11.8 | -5.9 | 13.6 | -- | -- | -- | -- | 20.2 |

| Composite Returns (NET) | Market Value ($) | 1 Mth. | 3 Mth. | YTD | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AG CSF ANX DISLOC FD | 360 | 0.0 | 0.0 | -39.2 | 0.0 | -35.7 | -- | -- | -- | -- | -5.8 |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | -- | -- | -- | -- | 6.3 |
| Excess | | -6.0 | -1.1 | -31.7 | -6.0 | -29.1 | -- | -- | -- | -- | -12.1 |
| AG CSF II | 6,336,343 | 0.0 | 1.6 | -- | 0.0 | -- | -- | -- | -- | -- | 1.6 |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -- | 6.0 | -- | -- | -- | -- | -- | -4.7 |
| Excess | | -6.0 | 0.5 | -- | -6.0 | -- | -- | -- | -- | -- | 6.3 |
| AG Opportunistic Whole Loan | 572,302 | 0.0 | -8.4 | 28.6 | 0.0 | 41.4 | 21.1 | 21.4 | 17.5 | -- | 14.3 |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | 2.4 | 3.3 | 4.3 | -- | 4.1 |
| Excess | | -6.0 | -9.5 | 36.1 | -6.0 | 48.0 | 18.6 | 18.1 | 13.2 | -- | 10.3 |
| Angelo Gordon | 0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | 2.4 | 3.3 | 4.3 | -- | 4.5 |
| Excess | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Blackrock Direct Lending Feede | 35,421,557 | 0.0 | 0.7 | 0.5 | 0.0 | 4.0 | 2.6 | -- | -- | -- | 2.5 |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | 2.4 | -- | -- | -- | 3.3 |
| Excess | | -6.0 | -0.4 | 8.0 | -6.0 | 10.6 | 0.2 | -- | -- | -- | -0.8 |
| Beach Point Select Fund | 84,205,693 | 1.6 | -2.0 | -4.0 | 1.6 | 0.9 | 8.6 | 7.6 | 8.0 | -- | 8.2 |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | 2.4 | 3.3 | 4.3 | -- | 4.2 |
| Excess | | -4.4 | -3.0 | 3.4 | -4.4 | 7.4 | 6.2 | 4.3 | 3.7 | -- | 4.0 |
| Brigade Cap Mngmt | 84,693,975 | 1.6 | -4.1 | -6.1 | 1.6 | -2.8 | 4.6 | 3.9 | 5.2 | 5.2 | 5.9 |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | 2.4 | 3.3 | 4.3 | 4.7 | 5.6 |
| Excess | | -4.4 | -5.2 | 1.4 | -4.4 | 3.8 | 2.2 | 0.6 | 0.9 | 0.5 | 0.3 |
| White Oak YSF V | 29,814,536 | 0.0 | 1.5 | 2.2 | 0.0 | 4.0 | -- | -- | -- | -- | 1.6 |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | -- | -- | -- | -- | -1.5 |
| Excess | | -6.0 | 0.4 | 9.7 | -6.0 | 10.5 | -- | -- | -- | -- | 3.1 |
| White Oak Yield Spec | 32,143,903 | 0.0 | 1.7 | 3.6 | 0.0 | 6.0 | 6.0 | 5.8 | -- | -- | -- |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | 2.4 | 3.3 | -- | -- | 3.8 |
| Excess | | -6.0 | 0.6 | 11.1 | -6.0 | 12.5 | 3.6 | 2.4 | -- | -- | -- |

# San Mateo County
# Composite Return Summary
July 31,2022

SamCERA

| Composite Returns (NET) | Market Value ($) | 1 Mth. | 3 Mth. | YTD | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PIMCO Div. Income Fund | 118,860,324 | 4.4 | -0.6 | -11.5 | 4.4 | -12.3 | -1.3 | 1.4 | -- | -- | 1.4 |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | 2.4 | 3.3 | -- | -- | 3.3 |
| Excess | | -1.6 | -1.7 | -4.0 | -1.6 | -5.7 | -3.7 | -2.0 | -- | -- | -2.0 |
| TCP Direct Lending VIII | 16,842,515 | -1.2 | 0.0 | 1.0 | -1.2 | 4.1 | 5.7 | 5.9 | -- | -- | -- |
| BBG BA Intermediate HY Ind | | 6.0 | 1.1 | -7.5 | 6.0 | -6.6 | 2.4 | 3.3 | -- | -- | 4.4 |
| Excess | | -7.2 | -1.0 | 8.5 | -7.2 | 10.6 | 3.2 | 2.5 | -- | -- | -- |
| Franklin Templeton | 52,633,970 | 0.8 | -7.8 | -11.5 | 0.8 | -13.1 | -9.0 | -4.5 | -2.2 | -0.2 | 0.5 |
| Bloomberg Multiverse Index | | 2.2 | -1.0 | -12.1 | 2.2 | -14.6 | -2.4 | -0.4 | 0.9 | 0.4 | 1.0 |
| Excess | | -1.4 | -6.7 | 0.6 | -1.4 | 1.4 | -6.5 | -4.1 | -3.1 | -0.5 | -0.5 |
| Alternatives | 821,312,404 | -1.9 | -2.0 | 1.3 | -1.9 | 3.8 | 14.5 | 11.7 | 10.1 | 8.3 | 1.0 |
| Samcera Alternatives Benchmark | | -4.1 | -3.1 | -0.6 | -4.1 | 2.0 | 10.3 | 10.2 | 9.6 | 9.5 | 8.3 |
| Excess | | 2.2 | 1.1 | 1.9 | 2.2 | 1.7 | 4.3 | 1.5 | 0.5 | -1.2 | -7.3 |
| Private Equity | 391,794,411 | -3.1 | -5.0 | -5.6 | -3.1 | -1.1 | 27.0 | 24.0 | 20.2 | 18.3 | -5.8 |
| Samcera PE Benchmark | | -8.6 | -7.6 | -4.0 | -8.6 | -0.4 | 16.1 | 15.1 | 14.6 | 16.6 | 16.2 |
| Excess | | 5.5 | 2.5 | -1.5 | 5.5 | -0.6 | 10.9 | 8.9 | 5.6 | 1.7 | -22.1 |
| Absolute Return | 429,517,993 | -0.7 | 0.9 | 8.4 | -0.7 | 8.6 | -0.3 | -2.0 | -0.1 | 1.8 | 1.8 |
| Samcera SOFR + 4% | | 0.5 | 1.3 | 2.6 | 0.5 | 4.4 | 4.6 | 5.2 | 5.0 | 4.8 | 4.7 |
| Excess | | -1.2 | -0.3 | 5.8 | -1.2 | 4.2 | -4.9 | -7.2 | -5.1 | -3.0 | -2.9 |
| Aberdeen Std GARS | 48,531,078 | -1.1 | -1.9 | -8.0 | -1.1 | -7.7 | -0.4 | 0.2 | -- | -- | 0.2 |
| Samcera SOFR + 4% | | 0.5 | 1.3 | 2.6 | 0.5 | 4.4 | 4.6 | 5.2 | -- | -- | 5.0 |
| Excess | | -1.6 | -3.1 | -10.6 | -1.6 | -12.0 | -5.0 | -4.9 | -- | -- | -4.9 |
| Graham Global Investment | 103,898,438 | -1.1 | 0.3 | 21.5 | -1.1 | 16.3 | -- | -- | -- | -- | 8.6 |
| Samcera SOFR +4% | | 0.5 | 1.3 | 2.6 | 0.5 | 4.3 | -- | -- | -- | -- | 4.4 |
| Excess | | -1.6 | -1.0 | 18.9 | -1.6 | 12.0 | -- | -- | -- | -- | 4.3 |
| PIMCO MAARS Fund L.P. | 99,995,280 | 1.3 | 3.4 | 12.1 | 1.3 | 19.8 | -- | -- | -- | -- | 11.1 |
| Samcera SOFR +4% | | 0.5 | 1.3 | 2.6 | 0.5 | 4.4 | -- | -- | -- | -- | 4.3 |
| Excess | | 0.8 | 2.2 | 9.5 | 0.8 | 15.5 | -- | -- | -- | -- | 6.8 |

Northern Trust

SamCERA

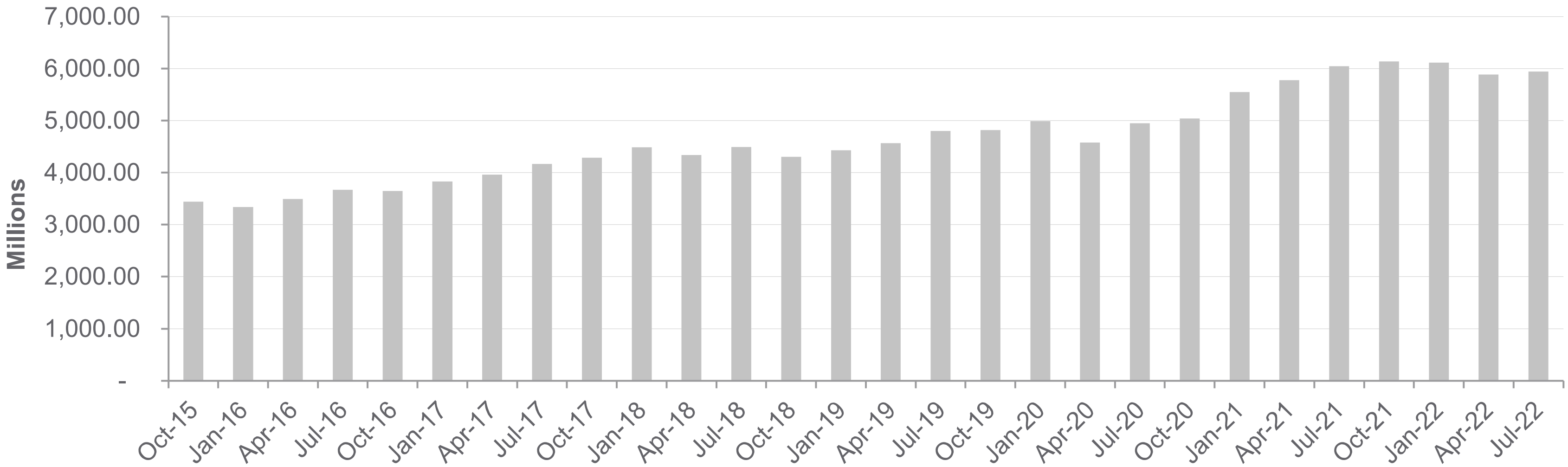
| Composite Returns (NET) | Market Value ($) | 1 Mth. | 3 Mth. | YTD | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acadian MAAR Fund LLC | 81,670,157 | -1.1 | -1.8 | -0.7 | -1.1 | -1.4 | -- | -- | -- | -- | 1.5 |
| Samcera SOFR +4% | | 0.5 | 1.3 | 2.6 | 0.5 | 4.4 | -- | -- | -- | -- | 4.2 |
| Excess | | -1.6 | -3.1 | -3.3 | -1.6 | -5.8 | -- | -- | -- | -- | -2.7 |
| CFM SYS Global Macro Fund | 95,423,040 | -1.8 | 3.0 | 13.4 | -1.8 | 12.2 | -- | -- | -- | -- | 13.1 |
| Samcera SOFR +4% | | 0.5 | 1.3 | 2.6 | 0.5 | 4.4 | -- | -- | -- | -- | 4.2 |
| Excess | | -2.3 | 1.7 | 10.7 | -2.3 | 7.9 | -- | -- | -- | -- | 8.9 |
| Inflation Hedge | 1,122,880,830 | 1.6 | 1.4 | 11.3 | 1.6 | 17.3 | 7.1 | 5.6 | -- | -- | 7.0 |
| SamCERA Inflation Hedge Index | | 0.0 | 3.4 | 11.5 | 0.0 | 21.8 | 11.9 | 9.2 | -- | -- | -- |
| Excess | | 1.6 | -2.0 | -0.2 | 1.6 | -4.5 | -4.8 | -3.6 | -- | -- | -- |
| Real Estate | 533,694,119 | 0.3 | 4.0 | 13.8 | 0.3 | 21.0 | 9.8 | 8.8 | -- | -- | 9.0 |
| Samcera NCREIF ODCE (gross) | | 0.0 | 4.8 | 12.5 | 0.0 | 29.5 | 12.7 | 10.5 | -- | -- | 9.9 |
| Excess | | 0.3 | -0.8 | 1.3 | 0.3 | -8.5 | -2.8 | -1.8 | -- | -- | -0.9 |
| Invesco Core Real Estate | 327,399,193 | 0.7 | 4.8 | 18.0 | 0.7 | 27.9 | 11.2 | 9.7 | 9.6 | 10.7 | 8.4 |
| Samcera NCREIF ODCE (gross) | | 0.0 | 4.8 | 12.5 | 0.0 | 29.5 | 12.7 | 10.5 | 10.3 | 11.2 | 8.7 |
| Excess | | 0.7 | 0.0 | 5.5 | 0.7 | -1.6 | -1.4 | -0.9 | -0.8 | -0.4 | -0.3 |
| Invesco US Val IV | 2,174,468 | -5.5 | -5.5 | 0.5 | -5.5 | 3.6 | 7.0 | 9.0 | -- | -- | 9.9 |
| Samcera NCREIF ODCE (gross) | | 0.0 | 4.8 | 12.5 | 0.0 | 29.5 | 12.7 | 10.5 | -- | -- | 10.3 |
| Excess | | -5.5 | -10.3 | -12.0 | -5.5 | -25.9 | -5.7 | -1.6 | -- | -- | -0.4 |
| PGIM Real Estate US Debt Fund | 85,493,469 | 0.2 | 1.1 | 2.8 | 0.2 | 5.1 | 5.2 | 5.1 | -- | -- | 5.0 |
| Samcera NCREIF ODCE (gross) | | 0.0 | 4.8 | 12.5 | 0.0 | 29.5 | 12.7 | 10.5 | -- | -- | 10.4 |
| Excess | | 0.2 | -3.7 | -9.6 | 0.2 | -24.4 | -7.5 | -5.5 | -- | -- | -5.4 |
| Invesco US VAL V | 31,109,956 | 0.6 | 0.6 | 8.8 | 0.6 | 18.4 | 15.3 | -- | -- | -- | 11.7 |
| Samcera NCREIF ODCE (gross) | | 0.0 | 4.8 | 12.5 | 0.0 | 29.5 | 12.7 | -- | -- | -- | -- |
| Excess | | 0.6 | -4.2 | -3.7 | 0.6 | -11.1 | 2.7 | -- | -- | -- | -- |
| Harrison Street Core Property | 70,989,209 | -1.0 | 5.3 | 10.7 | -1.0 | 13.8 | -- | -- | -- | -- | 8.1 |
| Samcera NCREIF ODCE (gross) | | 0.0 | 4.8 | 12.5 | 0.0 | 29.5 | -- | -- | -- | -- | 13.6 |
| Excess | | -1.0 | 0.5 | -1.8 | -1.0 | -15.7 | -- | -- | -- | -- | -5.5 |

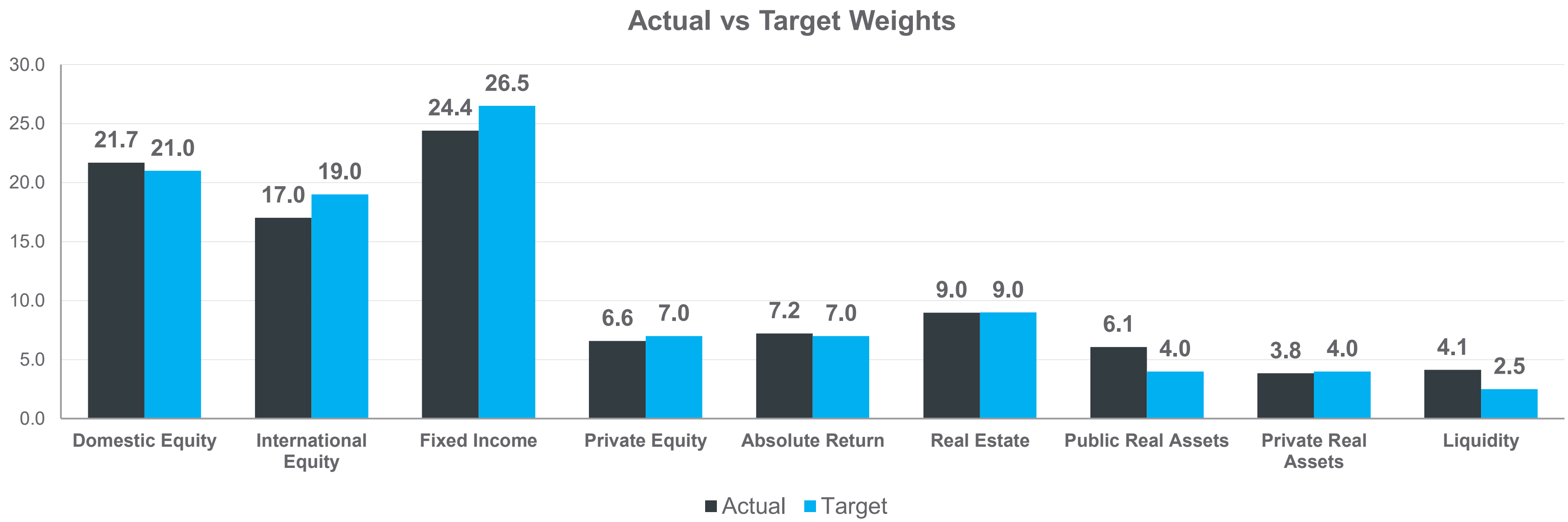
| Composite Returns (NET) | Market Value ($) | 1 Mth. | 3 Mth. | YTD | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Stockbridge Value IV | 16,527,824 | 0.0 | 8.0 | 18.4 | 0.0 | 18.4 | -- | -- | -- | -- | 5.8 |
| Samcera NCREIF ODCE (gross) | | 0.0 | 4.8 | 12.5 | 0.0 | 29.5 | -- | -- | -- | -- | 26.8 |
| Excess | | 0.0 | 3.2 | 5.9 | 0.0 | -11.1 | -- | -- | -- | -- | -21.0 |
| Public Real Assets | 361,048,724 | 3.5 | -3.8 | 6.6 | 3.5 | 11.1 | 2.8 | 2.4 | -- | -- | -- |
| SamCera Liquid Real Asset Inde | | 3.5 | -3.8 | 6.2 | 3.5 | 10.8 | 7.7 | 5.6 | -- | -- | 7.4 |
| Excess | | -0.0 | -0.0 | 0.4 | -0.0 | 0.3 | -4.9 | -3.2 | -- | -- | -- |
| SSGA CST REAL ASSET NL | 361,048,724 | 3.5 | -3.8 | 6.6 | 3.5 | 11.1 | 7.6 | 5.6 | -- | -- | -- |
| SamCera Liquid Real Asset Inde | | 3.5 | -3.8 | 6.2 | 3.5 | 10.8 | 7.7 | 5.6 | -- | -- | 6.5 |
| Excess | | -0.0 | -0.0 | 0.4 | -0.0 | 0.3 | -0.1 | 0.0 | -- | -- | -- |
| Private Real Assets | 228,137,987 | 1.6 | 4.7 | 12.4 | 1.6 | 19.4 | 12.9 | 5.1 | -- | -- | 10.8 |
| SamCERA Private Real Asset Idx | | -3.5 | 6.6 | 13.5 | -3.5 | 14.4 | 9.9 | 9.8 | -- | -- | 12.3 |
| Excess | | 5.1 | -1.9 | -1.0 | 5.1 | 4.9 | 2.9 | -4.7 | -- | -- | -1.5 |
| Cash Overlay | 22,828,092 | 0.1 | 0.0 | -0.1 | 0.1 | -0.5 | -- | -- | -- | -- | -0.1 |
| ICE BofAML US 3-Month Treasury Bill | | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | -- | -- | -- | -- | 0.1 |
| Excess | | 0.1 | -0.1 | -0.3 | 0.1 | -0.7 | -- | -- | -- | -- | -0.2 |
| General Account | 78,897,354 | 0.1 | 0.2 | 0.2 | 0.1 | 0.3 | 0.5 | 1.1 | 1.0 | 0.7 | 1.8 |
| County Treasury Pool | 122,467,060 | 0.1 | 0.1 | 0.5 | 0.1 | 1.3 | 1.3 | 1.5 | 1.3 | 1.1 | 2.5 |
| Currency Hedge Cash Overlay | 58,927,926 | 0.1 | 0.2 | 0.2 | 0.1 | 0.0 | -- | -- | -- | -- | 0.1 |
| Insight Investment | 90,032,187 | 0.0 | -- | -- | 0.0 | -- | -- | -- | -- | -- | 0.0 |
| BBG US Credit 1-3 Yrs | | 0.8 | -- | -- | 0.8 | -- | -- | -- | -- | -- | 0.8 |
| Excess | | -0.7 | -- | -- | -0.7 | -- | -- | -- | -- | -- | -0.7 |
| San Mateo County Overlay | 5,940,206,629 | 2.9 | -0.5 | -5.0 | 2.9 | -2.2 | 6.6 | 6.3 | 6.6 | 7.8 | 6.7 |
| Samcera Total Plan Benchmark | | 3.2 | -0.2 | -5.9 | 3.2 | -2.3 | 7.2 | 6.9 | 7.1 | 8.1 | 7.1 |
| Excess | | -0.2 | -0.3 | 0.9 | -0.2 | 0.1 | -0.5 | -0.6 | -0.5 | -0.3 | -0.3 |

### Record of Asset Growth

| | Three Months | One Year |
|---|---|---|
| TOTAL FUND | | |
| Beginning Market Value | 5,885,069,681 | 6,042,284,211 |
| Contributions | 151,033,931 | 309,428,929 |
| Withdrawals | -74,013,664 | -287,524,835 |
| Income Received | 27,252,916 | 91,870,989 |
| Gain/Loss | -49,026,880 | -215,415,248 |
| Ending Market Value | 5,940,206,629 | 5,940,206,629 |

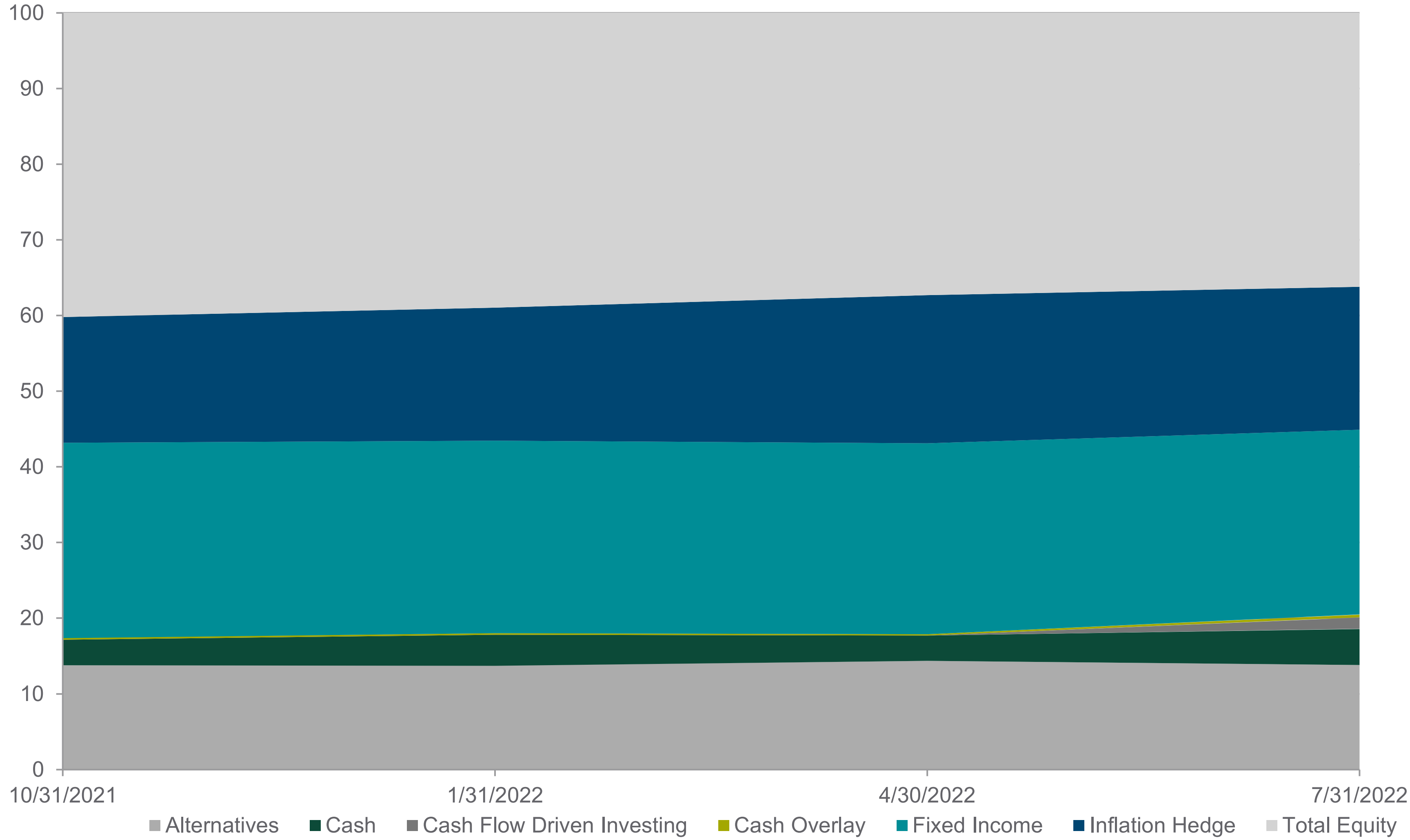
### Net Asset Values Over Time ($000)



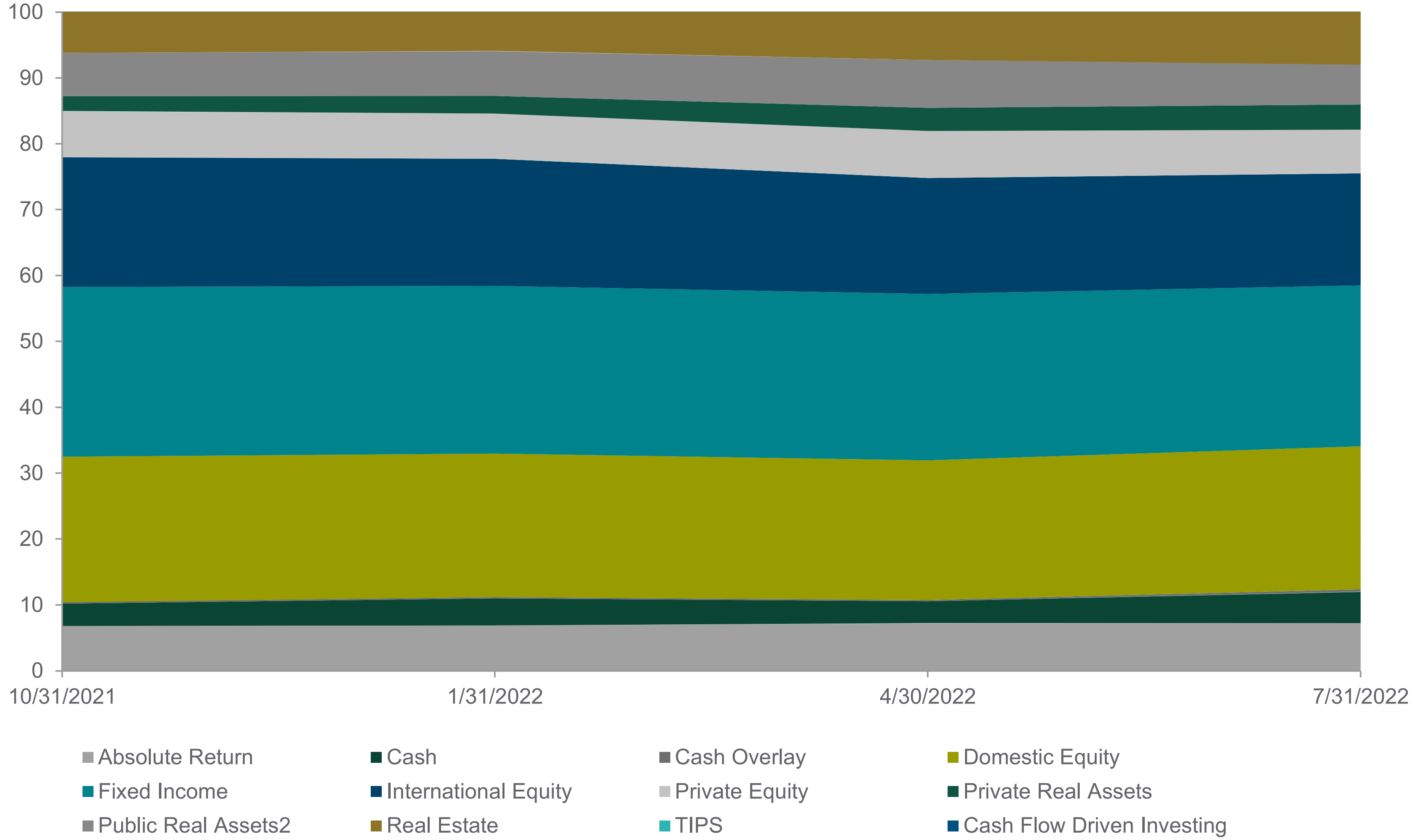



| | Min | Actual | Target | Deviation | Max |
|---|---|---|---|---|---|
| Domestic Equity | 19.0 | 21.7 | 21.0 | 0.7 | 23.0 |
| International Equity | 17.0 | 17.0 | 19.0 | -2.0 | 21.0 |
| Fixed Income | 24.5 | 24.4 | 26.5 | -2.1 | 28.5 |
| Private Equity | 5.0 | 6.6 | 7.0 | -0.4 | 9.0 |
| Absolute Return | 5.0 | 7.2 | 7.0 | 0.2 | 9.0 |
| Real Estate | 7.0 | 9.0 | 9.0 | 0.0 | 11.0 |
| Public Real Assets | 2.0 | 6.1 | 4.0 | 2.1 | 6.0 |
| Private Real Assets | 2.0 | 3.8 | 4.0 | -0.2 | 6.0 |
| Liquidity | | 4.1 | 2.5 | 1.6 | |

## Asset Allocation over Time



## Sub-Asset Class Allocation Over Time



**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**
**Board of Retirement**

August 23, 2022 Agenda Item 6.2

**TO:** Board of Retirement

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

**SUBJECT:** Report on Quarterly Investment Performance Report for the Period Ended June 30, 2022

**Recommendation**

Accept Verus Advisory's quarterly performance report for the period ended June 30, 2022.

**Discussion**

The 2nd quarter net total return for the SamCERA portfolio was -6.3%, which was 90 bps higher than the -7.2% policy benchmark return. As can be seen on Page 20 and 21, public equity (U.S. equity) and alternatives (absolute return) were the main contributors of relative performance, while inflation hedge was the main detractor.

For the Fiscal Year ended June 30, 2022, the net total return for the SamCERA portfolio was -4.4%, which matched the -4.4% policy benchmark return. Outperformance in U.S. equity was offset by underperformance in international equity, while outperformance in fixed income and absolute return were offset by underperformance in private equity and real estate.

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

**Attachment**

Verus Quarterly Performance Report Ending 6/30/2022

Verus

PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS

**PERIOD ENDING: JUNE 30, 2022**

Investment Performance Review for

# San Mateo County Employees' Retirement Association

# Table of Contents

VERUSINVESTMENTS.COM

SEATTLE 206.622.3700
CHICAGO 312.815.5228
PITTSBURGH 412.784.6678
LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484

# $2^{nd}$ quarter summary

### THE ECONOMIC CLIMATE

— U.S. real GDP fell again during Q2, down -0.9% annualized (+1.6% over the past full year). This stoked broad fears of recession, as two consecutive quarters of negative growth is a common definition of technical recession.

— U.S. real personal consumption slowed to pre-COVID rates of growth, coming in at 2.1% year-over-year in May. The buying habits of consumers appear to have transitioned back towards services and away from goods, reversing the unprecedented spending shift that had occurred during the pandemic. This trend should help mitigate strained supply chains, as fewer goods require shipping.

### PORTFOLIO IMPACTS

— U.S. core CPI slowed to 5.9% year-over-year in June. Headline inflation, which includes food and energy prices, came in surprisingly hot at 9.1% year-over-year, exceeding expectations. Higher energy prices were a major driver of the inflation print, with energy commodities and gasoline moving more than 10% higher from May to June.

— Credit markets sold off during Q2, impacted by concerns of a slowing economy and possibility of recession as the Fed signaled a willingness to raise rates until inflation slows. Bank loans performed the best at -4.4% and outperformed longer duration bonds such as investment grade and high yield (-7.3% and -9.8%, respectively).

### THE INVESTMENT CLIMATE

— Russia's invasion of Ukraine continued, resulting in heavy losses on both sides. Most fighting has taken place in the east, as Russia gradually advances. Both Finland and Sweden are in the process of joining NATO—a landmark move and result of war likely unforeseen by Russia.

— Early in 2022 many investors feared a potential global commodity shortage—a product of underinvestment in production capacity in recent years. Russia's invasion of Ukraine further amplified these concerns, pushing commodities higher. This trend appears to have reversed, as recession is a notable possibility, and many commodities have seen sharp losses.

### ASSET ALLOCATION ISSUES

— Nearly every asset class delivered moderate to deeply negative returns during Q2. Global equities saw a -15.7% pullback (MSCI ACWI), fixed income experienced losses as interest rates rose and credit spreads widened (BBG US Aggregate -4.7%, BBG US High Yield -9.8%), and commodities saw a reversal (BBG Commodity -5.7%).

— Value stocks outperformed Growth stocks by a wide margin again during Q2 (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations were hit by rising rates and risk-off sentiment. Large capitalization stocks slightly outperformed small cap stocks (Russell 1000 -16.7%, Russell 2000 -17.2%).

Most asset classes delivered further losses during Q2 over fears of inflation and recession

# U.S. economics summary

— U.S. real GDP fell -0.9% annualized during Q2 (+1.6% over the past full year). Most aspects of economic activity showed decline, including private investment (-2.7%), government spending (-0.3%), and imports (-0.5%). This stoked fears of recession, as two quarters of negative growth is a common definition of technical recession.

— The Federal Reserve's objective of a "soft landing" for the economy appears to have failed. An increasingly aggressive stance during the first half of the year contributed to a broad market selloff. The negative wealth effect of the market selloff, paired with a slowdown in big ticket purchases, has slowed the economy.

— U.S. core CPI, which excludes food & energy prices, slowed to 5.9% year-over-year in June. However, headline inflation which includes food and energy prices, came in surprisingly hot at 9.1% year-over-year, exceeding expectations. Higher energy prices were a major driver of the inflation print, with energy commodities and gasoline moving more than 10% higher just from May to June.

— Unemployment was unchanged at 3.6% during Q2. The broader U-6 unemployment rate tightened from 6.9% to 6.7%. A strong job market likely emboldens the Federal Reserve in its fight against high inflation, as the Fed holds a dual mandate to maximize employment and keep prices stable.

— Consumer sentiment collapsed to the lowest reading on record, according to the University of Michigan survey, which moved from 59.4 to 50.0. Survey respondents across all income, age, education, region, and political affiliation groups displayed deterioration in their outlook for the economy. Nearly half of respondents feel that inflation is damaging living standards.

| | **Most Recent** | **12 Months Prior** |
|---|---|---|
| Real GDP *(YoY)* | 1.6%<br>*6/30/22* | 12.2%<br>*6/30/21* |
| Inflation<br>*(CPI YoY, Core)* | 5.9%<br>*6/30/22* | 4.4%<br>*6/30/21* |
| Expected Inflation<br>*(5yr-5yr forward)* | 2.1%<br>*6/30/22* | 2.2%<br>*6/30/21* |
| Fed Funds Target Range | 1.50% – 1.75%<br>*6/30/22* | 0.00% – 0.25%<br>*6/30/21* |
| 10-Year Rate | 2.89%<br>*6/30/22* | 1.45%<br>*6/30/21* |
| U-3 Unemployment | 3.6%<br>*6/30/22* | 5.9%<br>*6/30/21* |
| U-6 Unemployment | 6.7%<br>*6/30/22* | 9.8%<br>*6/30/21* |

# International economics summary

— Economic growth has moderated in most countries, moving toward average levels. Higher inflation continues to erode growth figures as GDP is typically quoted as *inflation-adjusted* growth.

— Inflation trends continue to be disparate around the world. Japan and China are experiencing very low inflation and muted price pressures, while Europe and the United States are coping with multidecade-high inflation. Countries with low inflation and countries with high inflation all appear to have experienced an uptick during the second quarter.

— Labor markets have been relatively stable in developed markets, with conditions in the Eurozone strengthening. Unemployment in emerging markets were mixed—Brazil and Russia experienced improvement, while India and China saw slight weakening.

— Russia's invasion of Ukraine continued in the second quarter, leading to heavy loss of life on both sides. Most fighting has taken place in the east, as Russia generally gradually pushing forward. Concerns around food shortages in nearby countries that depend on Ukrainian agriculture persist, though many commodity prices that had shot higher in March and April have eased, falling closer to pre-invasion costs.

— During the first week of July, millions of Chinese citizens were put back into lockdown, and subjected to mass testing, as small outbreaks have led to renewed restrictions. China continues to stick to a "zero COVID" approach, which is increasingly at odds with the recognition by most nations that civilization will have to live *with* the virus for the long-term, while moving back to normal life.

| Area | GDP (Real, YoY) | Inflation (CPI, YoY) | Unemployment |
|---|---|---|---|
| United States | 1.6% *6/30/22* | 9.1% *6/30/22* | 3.6% *6/30/22* |
| Eurozone | 5.4% *3/31/22* | 8.6% *6/30/22* | 6.6% *5/31/22* |
| Japan | 0.4% *3/31/22* | 2.3% *6/30/22* | 2.6% *5/31/22* |
| BRICS Nations | 4.4% *3/31/22* | 4.6% *6/30/22* | 5.2% *12/31/21* |
| Brazil | 1.7% *3/31/22* | 11.9% *6/30/22* | 9.8% *5/31/22* |
| Russia | 3.5% *3/31/22* | 15.9% *6/30/22* | 3.9% *5/31/22* |
| India | 4.1% *3/31/22* | 7.0% *6/30/22* | 7.8% *6/30/22* |
| China | 4.8% *3/31/22* | 2.5% *6/30/22* | 5.9% *5/31/22* |

*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

— U.S. equities suffered large losses during the second quarter (S&P 500 -16.1%), as many highly priced growth stocks took an exceptionally large hit due to interest rate rises and risk-off sentiment. International developed equities (MSCI EAFE -14.5%) experienced similar losses, while emerging market equities (MSCI Emerging Markets -11.4%) outperformed materially, on an unhedged currency basis.

— As mentioned during Q2 earnings calls, a rising number of S&P 500 companies were concerned about material & commodity costs, COVID costs, and oil & gas prices. A decreasing number of companies were concerned about labor costs & shortages, supply chain disruptions, transport & freight costs, and Russia/Ukraine.

— Currency movement generated large losses for investors who do not hedge their foreign currency exposure. Investors in international developed markets would have seen a loss of approximately -7.3% with a currency hedging program, rather than the -14.5% loss of unhedged investors. Over the past full year, losses from currency movement were -12.4%.

— Value stocks outperformed Growth stocks by a wide margin again in Q2 (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations suffered due to rising interest rates and broader risk-off sentiment. Large capitalization stocks outperformed small cap stocks slightly (Russell 1000 -16.7%, Russell 2000 -17.2%).

— The Cboe VIX Index rose during the quarter from 20.6% to 28.7%, as risk assets sold-off and investors began focusing on potential recession. Investors remain acutely focused on the path of inflation, and market volatility may ease if inflation does in fact begin to moderate in future months.

| | QTD TOTAL RETURN | | 1 YEAR TOTAL RETURN | |
|---|---|---|---|---|
| | (unhedged) | (hedged) | (unhedged) | (hedged) |
| U.S. Large Cap (S&P 500) | (16.1%) | | (10.6%) | |
| U.S. Small Cap (Russell 2000) | (17.1%) | | (25.2%) | |
| U.S. Equity (Russell 3000) | (16.7%) | | (13.9%) | |
| U.S. Large Value (Russell 1000 Value) | (12.2%) | | (6.8%) | |
| US Large Growth (Russell 1000 Growth) | (20.9%) | | (18.8%) | |
| Global Equity (MSCI ACWI) | (15.7%) | (13.5%) | (15.8%) | (12.1%) |
| International Large (MSCI EAFE) | (14.5%) | (7.3%) | (17.8%) | (5.4%) |
| Eurozone (Euro Stoxx 50) | (15.3%) | (9.2%) | (23.1%) | (11.3%) |
| U.K. (FTSE 100) | (11.2%) | (3.6%) | (7.1%) | 6.2% |
| Japan (NIKKEI 225) | (14.8%) | (4.2%) | (23.8%) | (6.0%) |
| Emerging Markets (MSCI Emerging Markets) | (11.4%) | (8.2%) | (25.3%) | (21.5%) |

*Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 6/30/22*

# Domestic equity

U.S. equities saw sharp losses during the second quarter (S&P 500 -16.1%), underperforming global markets (MSCI ACWI ex-US -13.7%). U.S. sector dispersion was wide, with consumer discretionary stocks suffering the worst pain (-26.2%) and consumer staples faring the best (-4.6%).

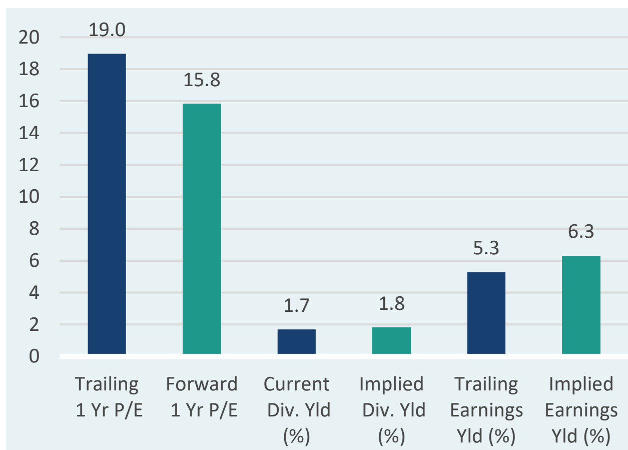
Calendar year 2022 bottom-up earnings estimates for the S&P 500 improved slightly during the quarter, despite the equity bear market. A rosier earnings outlook was fueled mostly by the energy and materials sectors, while consumer discretionary and communication services sectors saw worsening expectations. According to Factset, an increased number of companies issued negative earnings guidance during the quarter, though the balance of companies offering positive and negative guidance remains in a relatively normal range.

According to Q2 earnings calls, a rising number of S&P 500 companies were concerned about material & commodity costs, COVID costs, and oil & gas prices. A decreasing number of S&P 500 companies were concerned about labor costs & shortages, supply chain disruptions, transport & freight costs, and the economic impacts of Russia's invasion of Ukraine.

S&P 500 PRICE INDEX

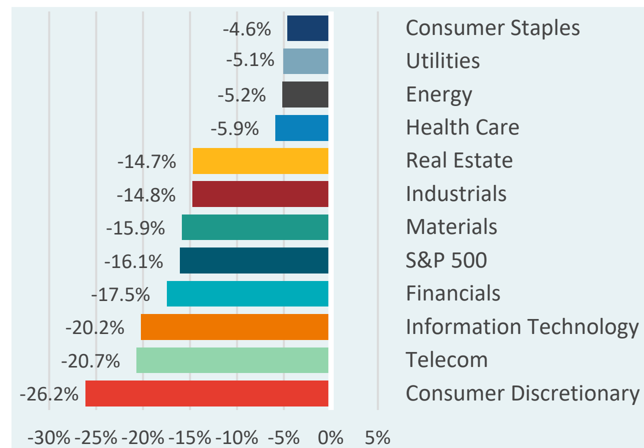

*Source: Standard & Poor's, as of 6/30/22*

S&P VALUATION SNAPSHOT




*Source: Bloomberg, as of 6/30/22*

Q2 SECTOR PERFORMANCE




*Source: Morningstar, as of 6/30/22*

# Domestic equity size & style

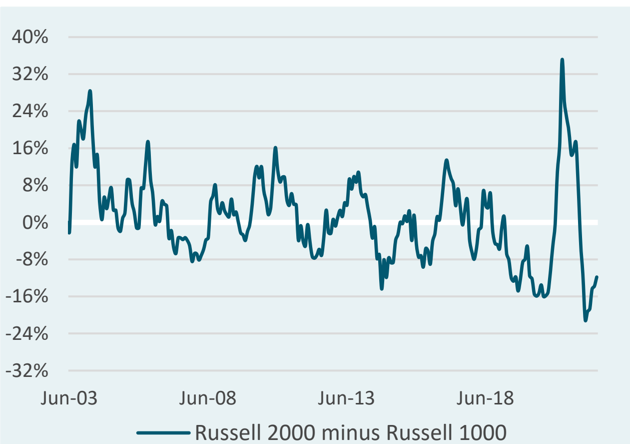
Value stocks outperformed Growth stocks by a wide margin once again in the second quarter (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations suffered due to rising interest rates and broader risk-off sentiment. Large capitalization stocks outperformed small capitalization stocks slightly (Russell 1000 -16.7%, Russell 2000 -17.2%).

The recent drawdown of Growth stocks has helped partially close the historically wide price gap between Value and Growth, as reflected in the bottom right chart. Sector trends contributed to style performance during the quarter. The energy sector outperformed, and information technology was a poor performer. Other Value-concentrated sectors such as financials and materials performed closely in line with the overall index.

In last quarter's research commentary we mentioned that further tightening of Fed policy and interest rate hikes would likely impact Value and Growth stock behavior. This foresight was valid and we believe will remain so. Further Fed hawkishness and market risk-off behavior may lead to additional Growth underperformance, but a reversal by the Federal Reserve and easing of interest rates may bolster the returns of Growth, all else equal.

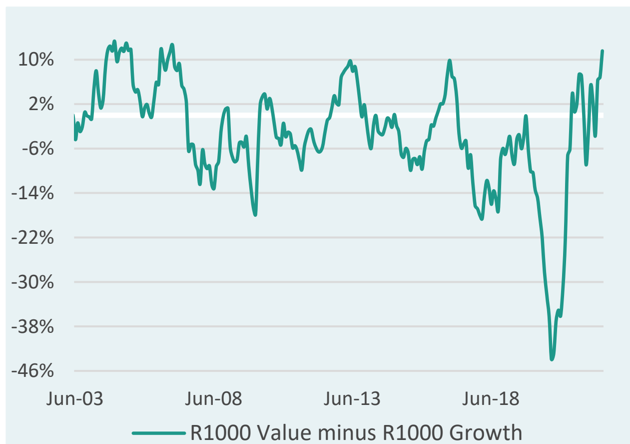
A rebound in Value continued during Q2

SMALL CAP VS LARGE CAP (YOY)



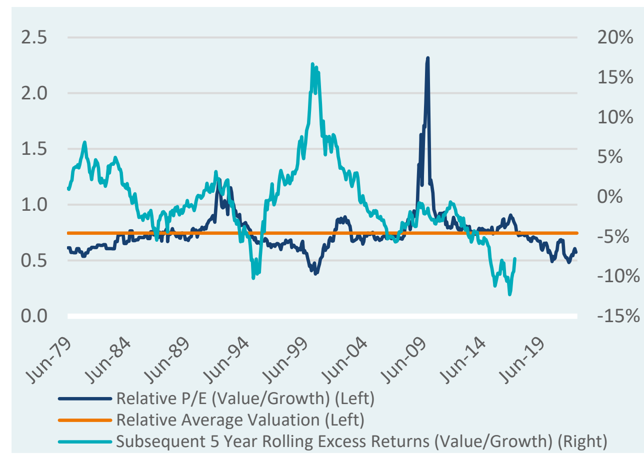

*Source: FTSE, as of 6/30/22*

VALUE VS GROWTH (YOY)




*Source: FTSE, as of 6/30/22*

VALUE VS. GROWTH RELATIVE VALUATIONS




*Source: Standard & Poor's, as of 6/30/22*

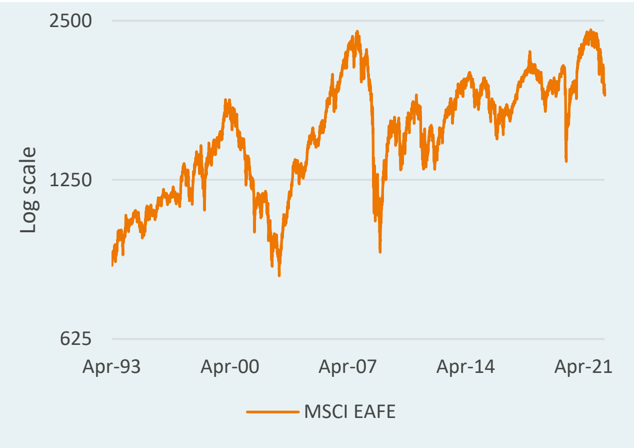
# International developed equity

International developed equities fell during the quarter (MSCI EAFE -14.5%), mildly outperforming U.S. equities (S&P 500 -16.1%) and materially underperforming emerging market equities (MSCI Emerging Markets -11.4%), on an unhedged currency basis.

Currency movement during the quarter generated large losses for investors who do not hedge foreign currency exposure. Investors in international developed markets would have seen a loss of approximately -7.3% with a currency hedging program, rather than the -14.5% loss if currency was left unhedged. Over the past year, investors in international equities with a currency hedging program would have experienced roughly a -5.4% return, compared to a return of -17.8% if currency was left unhedged.

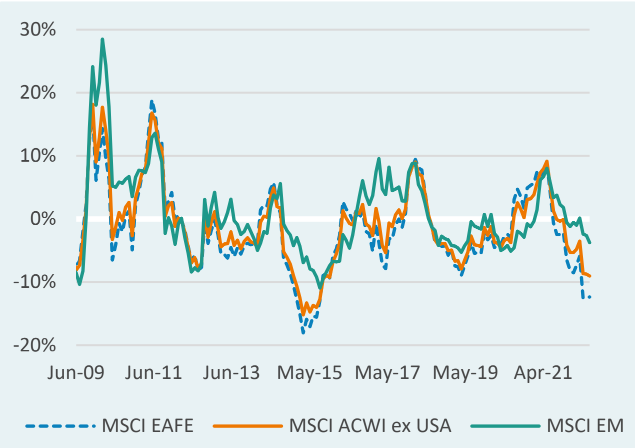
Eurozone equities provided the poorest performers during the quarter (MSCI Euro -11.1%), as EUR/USD reached parity for the first time in nearly 20 years. The United Kingdom market (MSCI UK 1.8%) and Japanese market (MSCI Japan -6.6%) lifted the overall MSCI EAFE Index.

### INTERNATIONAL DEVELOPED EQUITY



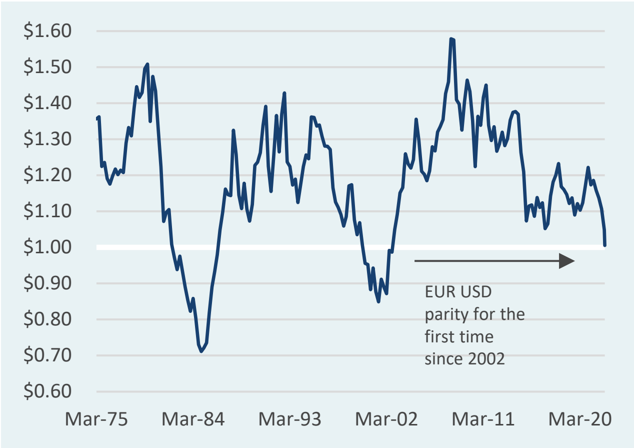

*Source: MSCI, as of 6/30/22*

### EFFECT OF CURRENCY (1-YEAR ROLLING)




*Source: MSCI, as of 6/30/22*

### PRICE OF 1 EUR IN USD




*Source: Bloomberg, as of 7/14/22*

# Emerging market equity

Emerging market equities have delivered broad outperformance throughout the global risk asset drawdown (MSCI EM -11.4%, MSCI ACWI -15.7%) on an unhedged currency basis. A bounce-back in Chinese equities over the quarter (MSCI China 3.5%) from their sharp recent losses helped lift overall performance of the asset class. Latin American markets lagged Asian markets (MSCI EM Latin America -21.9%%, MSCI EM Asia -9.3%), reversing last quarter's gains.

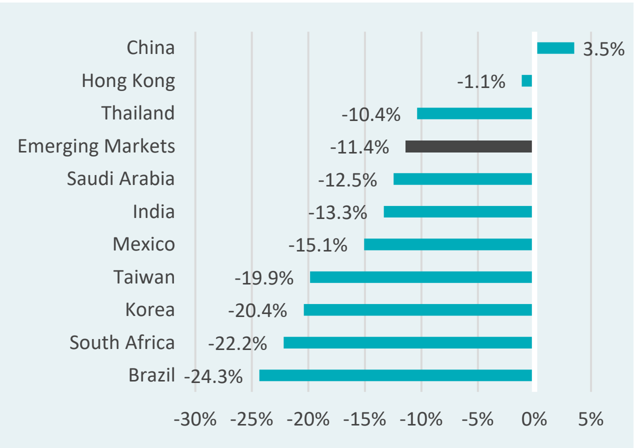
Strong returns from the consumer discretionary sector (12.9%)—the largest sector in the MSCI China Index—propelled Chinese equity performance forward. Outside of Chinese equities, emerging markets struggled, as central banks around the world tightened policy to fight inflation. Emerging market countries whose economies are reliant on raw goods exports were particularly impacted by tightening, as global commodity prices have drawn down from peaks seen earlier in the year.

The strong dollar also provided a headwind to emerging market equity returns, as currency movement resulted in a -3.2% loss. Emerging market currencies remain far weaker than the historical average, which may allow performance upside if mean reversion were to occur.

**EMERGING MARKET EQUITY**

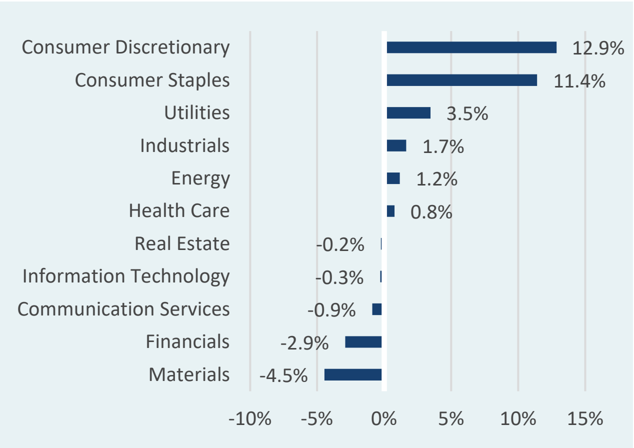

*Source: MSCI, as of 6/30/22*

**Q2 PERFORMANCE – TOP 10 EM CONSTITUENTS**




*Source: Bloomberg, MSCI as of 6/30/22, performance in USD terms*

**MSCI CHINA Q2 SECTOR PERFORMANCE**




*Source: Bloomberg, MSCI as of 6/30/22, performance in USD terms*

# Fixed income environment

— The 10-year U.S. Treasury yield jumped during Q2 from 2.34% to nearly 3.50%, ending the quarter at 2.89%. Yields have fallen from their highs as recession fears mount. The Federal Reserve has a history of cutting interest rates during recession. This implies a higher chance of rate cuts as it appears the U.S. may currently be in recession.

— Credit markets sold off during Q2, impacted by concerns of a slowing economy and recession as the Fed signaled a willingness to raise rates until inflation slows. Bank loans performed the best at -4.4% and outperformed longer duration bonds such as investment grade and high yield (-7.3% and -9.8%, respectively).

— Credit spreads jumped considerably alongside the broader market selloff. U.S. high yield spreads increased from 3.4% to 5.6% and U.S. investment grade spreads headed from 1.2% to 1.6%. In contrast to the recent low yield environment, fixed income now offers investors more robust yields.

— The U.S. yield curve remained fairly flat during the second quarter. The 10-year minus 2-year yield spread fluctuated between -0.05% and 0.4%. Markets continue to price a flat or inverted yield curve, which is generally recognized as a sign of incoming recession.

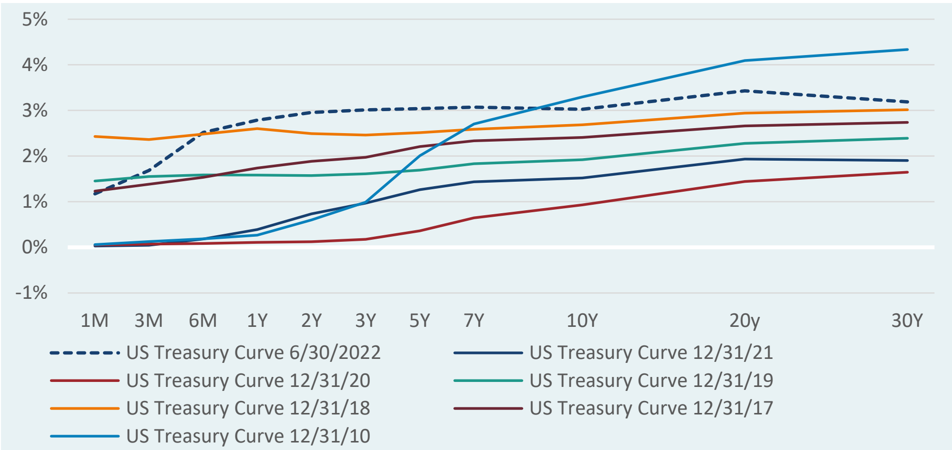
— In June, the U.S. Federal Reserve began to unwind its $9 trillion balance sheet. Initially this action involved *not purchasing new bonds* and letting existing bonds mature and roll off. The Fed signaled plans to allow $30 billion of U.S. Treasuries and $17.5 billion of mortgage-backed securities to fall off the balance sheet by end of month. Leadership has admitted that this size of divestment program is essentially the first of its kind and that the committee will be moving with caution.

| | **QTD Total Return** | **1 Year Total Return** |
|---|---|---|
| Core Fixed Income (Bloomberg U.S. Aggregate) | (4.7%) | (10.3%) |
| Core Plus Fixed Income (Bloomberg U.S. Universal) | (5.1%) | (10.9%) |
| U.S. Treasuries (Bloomberg U.S. Treasury) | (3.8%) | (8.9%) |
| U.S. High Yield (Bloomberg U.S. Corporate HY) | (9.8%) | (12.8%) |
| Bank Loans (S&P/LSTA Leveraged Loan) | (4.4%) | (2.7%) |
| Emerging Market Debt Local (JPM GBI-EM Global Diversified) | (8.6%) | (19.3%) |
| Emerging Market Debt Hard (JPM EMBI Global Diversified) | (11.4%) | (21.1%) |
| Mortgage-Backed Securities (Bloomberg MBS) | (4.0%) | (9.0%) |

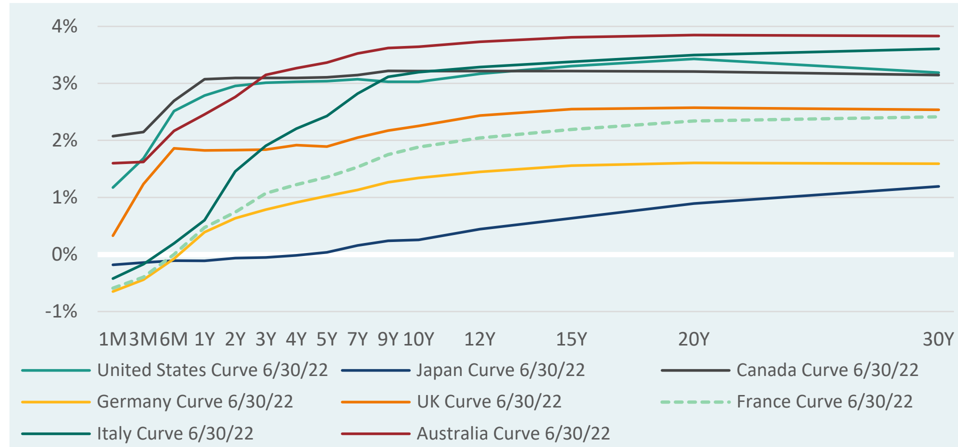
*Source: Bloomberg, as of 6/30/22*

# Yield environment

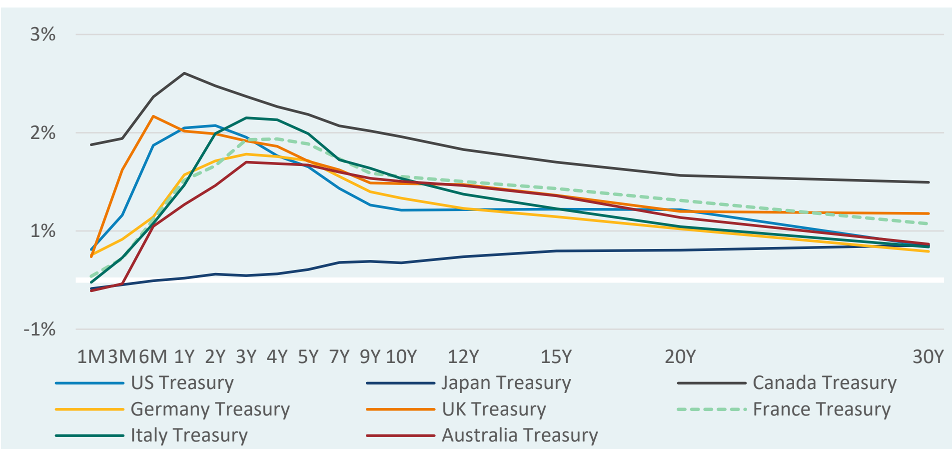
### U.S. YIELD CURVE



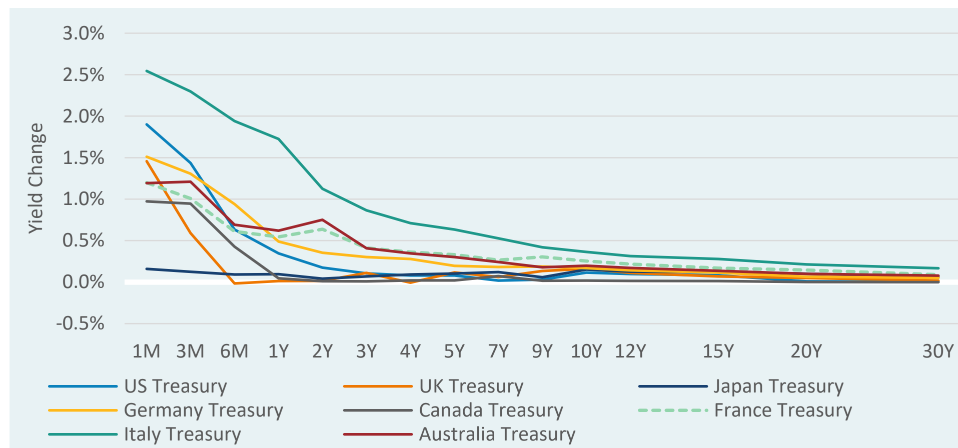

### GLOBAL GOVERNMENT YIELD CURVES




### YIELD CURVE CHANGES OVER LAST FIVE YEARS




### IMPLIED CHANGES OVER NEXT YEAR




*Source: Bloomberg, as of 6/30/22*

# Detailed index returns

**DOMESTIC EQUITY**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Core Index** | | | | | | | |
| S&P 500 | (8.3) | (16.1) | (20.0) | (10.6) | 10.6 | 11.3 | 13.0 |
| S&P 500 Equal Weighted | (9.4) | (14.4) | (16.7) | (9.4) | 9.7 | 9.9 | 12.7 |
| DJ Industrial Average | (6.6) | (10.8) | (14.4) | (9.1) | 7.2 | 10.0 | 11.7 |
| Russell Top 200 | (7.8) | (16.6) | (20.7) | (11.5) | 11.5 | 12.2 | 13.4 |
| Russell 1000 | (8.4) | (16.7) | (20.9) | (13.0) | 10.2 | 11.0 | 12.8 |
| Russell 2000 | (8.2) | (17.2) | (23.4) | (25.2) | 4.2 | 5.2 | 9.4 |
| Russell 3000 | (8.4) | (16.7) | (21.1) | (13.9) | 9.8 | 10.6 | 12.6 |
| Russell Mid Cap | (10.0) | (16.8) | (21.6) | (17.3) | 6.6 | 8.0 | 11.3 |
| **Style Index** | | | | | | | |
| Russell 1000 Growth | (7.9) | (20.9) | (28.1) | (18.8) | 12.6 | 14.3 | 14.8 |
| Russell 1000 Value | (8.7) | (12.2) | (12.9) | (6.8) | 6.9 | 7.2 | 10.5 |
| Russell 2000 Growth | (6.2) | (19.3) | (29.5) | (33.4) | 1.4 | 4.8 | 9.3 |
| Russell 2000 Value | (9.9) | (15.3) | (17.3) | (16.3) | 6.2 | 4.9 | 9.1 |

**INTERNATIONAL EQUITY**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Broad Index** | | | | | | | |
| MSCI ACWI | (8.4) | (15.7) | (20.2) | (15.8) | 6.2 | 7.0 | 8.8 |
| MSCI ACWI ex US | (8.6) | (13.7) | (18.4) | (19.4) | 1.4 | 2.5 | 4.8 |
| MSCI EAFE | (9.3) | (14.5) | (19.6) | (17.8) | 1.1 | 2.2 | 5.4 |
| MSCI EM | (6.6) | (11.4) | (17.6) | (25.3) | 0.6 | 2.2 | 3.1 |
| MSCI EAFE Small Cap | (11.0) | (17.7) | (24.7) | (24.0) | 1.1 | 1.7 | 7.2 |
| **Style Index** | | | | | | | |
| MSCI EAFE Growth | (8.6) | (16.9) | (26.8) | (23.8) | 1.3 | 3.5 | 6.3 |
| MSCI EAFE Value | (10.0) | (12.4) | (12.1) | (11.9) | 0.2 | 0.5 | 4.2 |
| **Regional Index** | | | | | | | |
| MSCI UK | (8.6) | (10.5) | (8.8) | (4.0) | 1.2 | 2.2 | 3.7 |
| MSCI Japan | (7.9) | (14.6) | (20.3) | (19.9) | 1.0 | 1.8 | 5.6 |
| MSCI Euro | (11.3) | (15.8) | (25.2) | (23.8) | (1.1) | 0.4 | 5.3 |
| MSCI EM Asia | (4.8) | (9.3) | (17.2) | (25.9) | 3.1 | 3.4 | 5.5 |
| MSCI EM Latin American | (17.0) | (21.9) | (0.6) | (16.1) | (6.3) | (0.6) | (2.2) |

**FIXED INCOME**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Broad Index** | | | | | | | |
| Bloomberg US TIPS | (3.2) | (6.1) | (8.9) | (5.1) | 3.0 | 3.2 | 1.7 |
| Bloomberg US Treasury Bills | (0.0) | 0.1 | 0.0 | 0.0 | 0.6 | 1.1 | 0.6 |
| Bloomberg US Agg Bond | (1.6) | (4.7) | (10.3) | (10.3) | (0.9) | 0.9 | 1.5 |
| Bloomberg US Universal | (2.0) | (5.1) | (10.9) | (10.9) | (0.9) | 0.9 | 1.8 |
| **Duration** | | | | | | | |
| Bloomberg US Treasury 1-3 Yr | (0.6) | (0.5) | (3.0) | (3.5) | 0.2 | 0.9 | 0.8 |
| Bloomberg US Treasury Long | (1.5) | (11.9) | (21.3) | (18.5) | (2.9) | 0.5 | 1.6 |
| Bloomberg US Treasury | (0.9) | (3.8) | (9.1) | (8.9) | (0.9) | 0.7 | 1.0 |
| **Issuer** | | | | | | | |
| Bloomberg US MBS | (1.6) | (4.0) | (8.8) | (9.0) | (1.4) | 0.4 | 1.2 |
| Bloomberg US Corp. High Yield | (6.7) | (9.8) | (14.2) | (12.8) | 0.2 | 2.1 | 4.5 |
| Bloomberg US Agency Interm | (0.6) | (1.3) | (5.0) | (5.6) | (0.3) | 0.8 | 0.9 |
| Bloomberg US Credit | (2.6) | (6.9) | (13.8) | (13.6) | (1.0) | 1.2 | 2.5 |

**OTHER**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Index** | | | | | | | |
| Bloomberg Commodity | (10.8) | (5.7) | 18.4 | 24.3 | 14.3 | 8.4 | (0.8) |
| Wilshire US REIT | (7.3) | (5.4) | (14.9) | 4.4 | 7.4 | 7.5 | 8.8 |
| CS Leveraged Loans | (2.1) | (4.4) | (4.4) | (2.7) | 2.0 | 3.0 | 3.9 |
| S&P Global Infrastructure | (7.7) | (7.4) | (0.5) | 5.6 | 3.5 | 4.8 | 7.2 |
| Alerian MLP | (14.0) | (7.4) | 10.1 | 4.1 | (1.2) | (1.2) | 0.8 |
| **Regional Index** | | | | | | | |
| JPM EMBI Global Div | (6.2) | (11.4) | (20.3) | (21.2) | (5.2) | (1.2) | 2.2 |
| JPM GBI-EM Global Div | (4.5) | (8.6) | (14.5) | (19.3) | (5.8) | (2.3) | (1.5) |
| **Hedge Funds** | | | | | | | |
| HFRI Composite | (3.1) | (4.9) | (5.9) | (5.8) | 6.1 | 5.0 | 5.0 |
| HFRI FOF Composite | (0.9) | (3.6) | (6.3) | (5.2) | 4.1 | 3.7 | 3.8 |
| **Currency (Spot)** | | | | | | | |
| Euro | (2.4) | (6.0) | (8.1) | (11.8) | (2.8) | (1.7) | (1.9) |
| Pound Sterling | (3.6) | (7.8) | (10.3) | (12.1) | (1.5) | (1.3) | (2.5) |
| Yen | (5.3) | (10.7) | (15.2) | (18.3) | (7.4) | (3.7) | (5.2) |

*Source: Morningstar, HFRI, as of 6/30/22.*

— The Total Fund, net of manager fees, returned -6.3% in the second quarter of 2022 and ranked in the 13th percentile among other public plans greater than $1 billion (median of -9.1%). It beat the policy index return of –7.2%. The Total Fund ex Overlay returned -6.1% for the quarter. The Total Fund one-year return of -4.4% matched the policy index return of -4.4% and ranked in the 22nd percentile of its peer universe. The three-year return of 5.9% (57th percentile) lagged the median large public plan (6.3%) and the policy index (6.3%).

— Second quarter results were enhanced by the following factors:

1. PanAgora Low Volatility and Acadian US Managed Vol outperformed the Russell 1000 losing -6.6% and -10.8% respectively vs the Russell 1000 which lost -16.7%. The low volatility strategies performed as designed, providing protection during a drawdown environment.

2. PGIM Quant Solutions (formerly QMA) continues to beat the Russell 2000 losing -15.1% vs. -17.2%. The strength of the value factor continues to contribute to outperformance leading to a 1-year outperformance of 10%.

3. Mondrian beat the MSCI ACWI ex US Value (-9.8% vs -11.7%.) Mondrian's deep value positioning paid off during the quarter.

— Second quarter results were hindered by the following factors:

1. Baillie Gifford lost -18.8% trailing the MSCI ACWI ex US Growth which lost -15.6. The current market environment where growth stocks are out of favor, high inflation and central banks raising rates is causing Baillie Gifford's growth strategy to be out of favor. The manager considers this to be a short term period, and still focuses on long-term growth.

| | 3 Mo (%) | Rank* | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Fund****| **-6.3** | **13** | **-8.0** | **10** | **-4.4** | **22** | **9.0** | **50** | **5.9** | **57** | **5.9** | **63** | **7.6** | **49** |
| *Policy Index[1]* | *-7.2* | *28* | *-8.8* | *13* | *-4.4* | *25* | *8.6* | *54* | *6.3* | *50* | *6.7* | *46* | *7.9* | *44* |
| *InvMetrics Public DB > $1B Net Median* | *-9.1* | | *-12.0* | | *-7.6* | | *9.0* | | *6.3* | | *6.3* | | *7.6* | |
| **Total Fund ex Overlay** | **-6.1** | **7** | **-7.8** | **8** | **-4.2** | **20** | **9.1** | **48** | **6.0** | **55** | **5.9** | **64** | **7.6** | **52** |
| *Policy Index[1]* | *-7.2* | *28* | *-8.8* | *13* | *-4.4* | *25* | *8.6* | *54* | *6.3* | *50* | *6.7* | *46* | *7.9* | *44* |
| *InvMetrics Public DB > $1B Net Median* | *-9.1* | | *-12.0* | | *-7.6* | | *9.0* | | *6.3* | | *6.3* | | *7.6* | |
| **Public Equity** | **-12.7** | **8** | **-17.7** | **14** | **-14.2** | **50** | **8.7** | **79** | **5.9** | **85** | **6.7** | **83** | **9.3** | **76** |
| *Blended Public Equity Index[1]* | *-14.2* | *28* | *-18.6* | *30* | *-14.5* | *56* | *9.3* | *73* | *6.8* | *49* | *7.4* | *66* | *9.7* | *67* |
| *InvMetrics All DB Total Eq Net Median* | *-14.7* | | *-19.0* | | *-14.2* | | *9.9* | | *6.8* | | *7.8* | | *10.1* | |
| **US Equity** | **-13.6** | **6** | **-16.9** | **5** | **-9.3** | **4** | **12.1** | **45** | **8.8** | **59** | **9.7** | **51** | **11.9** | **39** |
| *Blended US Equity Index[1]* | *-16.7* | *78* | *-21.1* | *66* | *-13.9* | *56* | *11.4* | *62* | *9.8* | *13* | *10.6* | *14* | *12.5* | *15* |
| *Russell 3000* | *-16.7* | *78* | *-21.1* | *66* | *-13.9* | *56* | *11.4* | *62* | *9.8* | *13* | *10.6* | *14* | *12.6* | *12* |
| *InvMetrics All DB US Eq Net Median* | *-15.9* | | *-20.5* | | *-13.5* | | *12.0* | | *8.9* | | *9.7* | | *11.7* | |
| **Large Cap Equity** | **-13.5** | **43** | **-16.9** | **43** | **-8.7** | **41** | **11.8** | **51** | **9.0** | **45** | **10.4** | **41** | **12.6** | **31** |
| *Russell 1000* | *-16.7* | *70* | *-20.9* | *64* | *-13.0* | *62* | *11.5* | *52* | *10.2* | *29* | *11.0* | *33* | *12.8* | *26* |
| *eV US Large Cap Equity Net Median* | *-14.4* | | *-18.5* | | *-10.7* | | *11.8* | | *8.8* | | *9.7* | | *11.7* | |
| Acadian US MGD V | -10.8 | 14 | -15.5 | 20 | -6.3 | 20 | 9.0 | 79 | 5.0 | 97 | -- | -- | -- | -- |
| BlackRock Russell 1000 | -16.7 | 87 | -21.0 | 74 | -13.1 | 71 | 11.5 | 48 | 10.2 | 30 | 11.0 | 29 | -- | -- |
| DE Shaw | -17.0 | 90 | -19.2 | 54 | -11.7 | 57 | 11.6 | 47 | 9.1 | 48 | 10.2 | 48 | 12.9 | 15 |
| PanAgora Defuseq | -6.6 | 2 | -7.3 | 3 | 0.7 | 3 | 13.3 | 21 | 7.7 | 76 | -- | -- | -- | -- |
| *Russell 1000* | *-16.7* | *87* | *-20.9* | *73* | *-13.0* | *70* | *11.5* | *48* | *10.2* | *30* | *11.0* | *29* | *12.8* | *18* |
| *eV US Large Cap Core Equity Net Median* | *-14.8* | | *-19.1* | | *-10.8* | | *11.4* | | *9.0* | | *10.1* | | *11.9* | |

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

** *Includes Parametric Minneapolis manager funded in August 2013.*

*1. See Appendix for Benchmark History.*

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Small Cap Equity** | **-15.1** | **47** | **-18.7** | **38** | **-15.2** | **43** | **15.7** | **44** | **4.5** | **71** | **3.9** | **87** | **8.0** | **90** |
| *Russell 2000* | *-17.2* | *68* | *-23.4* | *64* | *-25.2* | *75* | *10.1* | *70* | *4.2* | *74* | *5.2* | *72* | *9.4* | *71* |
| *eV US Small Cap Equity Net Median* | *-15.4* | | *-20.5* | | *-17.4* | | *14.3* | | *6.2* | | *6.7* | | *10.4* | |
| PGIM Quant Solutions | -15.1 | 45 | -18.7 | 22 | -15.2 | 32 | 15.7 | 35 | 4.5 | 78 | 3.9 | 90 | -- | -- |
| *Russell 2000* | *-17.2* | *77* | *-23.4* | *71* | *-25.2* | *91* | *10.1* | *85* | *4.2* | *82* | *5.2* | *76* | *9.4* | *73* |
| *eV US Small Cap Core Equity Net Median* | *-15.5* | | *-21.1* | | *-17.8* | | *14.0* | | *6.4* | | *6.9* | | *10.3* | |
| Domestic Equity Overlay | -12.9 | -- | 71.6 | -- | 68.8 | -- | 62.4 | -- | -- | -- | -- | -- | -- | -- |
| **International Equity** | **-11.7** | **9** | **-18.5** | **37** | **-19.5** | **42** | **5.0** | **50** | **2.7** | **24** | **3.2** | **16** | **5.6** | **30** |
| *Blended International Equity Index[1]* | *-11.4* | *6* | *-15.7* | *7* | *-15.3* | *8* | *6.7* | *13* | *3.3* | *15* | *3.6* | *10* | *5.8* | *24* |
| *MSCI EAFE Gross* | *-14.3* | *79* | *-19.3* | *46* | *-17.3* | *10* | *4.8* | *54* | *1.5* | *56* | *2.7* | *32* | *5.9* | *20* |
| *InvMetrics All DB ex-US Eq Net Median* | *-13.3* | | *-19.6* | | *-20.1* | | *4.9* | | *1.8* | | *2.4* | | *5.3* | |
| Baillie Gifford | -18.8 | 67 | -33.6 | 77 | -35.5 | 86 | -4.4 | 78 | 0.9 | 70 | 2.5 | 67 | 6.4 | 53 |
| *MSCI ACWI ex US[1]* | *-13.5* | *17* | *-18.2* | *7* | *-19.0* | *12* | *5.1* | *18* | *1.8* | *57* | *3.0* | *62* | *6.0* | *69* |
| *MSCI ACWI ex US Growth[1]* | *-15.6* | *30* | *-24.6* | *32* | *-25.6* | *41* | *-0.1* | *54* | *1.9* | *56* | *3.8* | *56* | *6.7* | *46* |
| *eV ACWI ex-US Growth Equity Net Median* | *-17.1* | | *-28.7* | | *-27.7* | | *0.4* | | *2.2* | | *4.1* | | *6.5* | |
| Mondrian | -9.8 | 18 | -12.1 | 15 | -15.3 | 30 | 7.7 | 64 | 0.4 | 73 | 1.4 | 55 | 4.2 | 85 |
| *MSCI ACWI ex USA Value Gross* | *-11.7* | *37* | *-11.4* | *14* | *-12.1* | *8* | *10.2* | *41* | *1.2* | *66* | *1.9* | *33* | *4.4* | *80* |
| *MSCI ACWI ex USA Gross* | *-13.5* | *75* | *-18.2* | *83* | *-19.0* | *74* | *5.1* | *93* | *1.8* | *52* | *3.0* | *24* | *5.3* | *51* |
| *eV ACWI ex-US Value Equity Net Median* | *-12.3* | | *-15.3* | | *-16.9* | | *9.6* | | *1.9* | | *1.6* | | *5.3* | |
| BlackRock MSCI ACWI EX-US IMI | -14.1 | 36 | -18.9 | 33 | -19.6 | 39 | 5.1 | 40 | -- | -- | -- | -- | -- | -- |
| *MSCI ACWI ex USA IMI* | *-14.3* | *40* | *-19.1* | *33* | *-19.9* | *40* | *4.9* | *44* | *1.6* | *71* | *2.5* | *68* | *5.0* | *77* |
| *eV ACWI ex-US All Cap Core Eq Net Median* | *-14.8* | | *-22.5* | | *-21.1* | | *4.4* | | *2.6* | | *3.2* | | *6.3* | |
| Int'l Equity Currency Overlay | | | | | | | | | | | | | | |
| International Equity Overlay | -12.1 | -- | -16.4 | -- | -16.4 | -- | 0.8 | -- | -- | -- | -- | -- | -- | -- |

*1. See Appendix for Benchmark History.*

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fixed Income** | **-5.1** | **61** | **-9.3** | **46** | **-8.8** | **40** | **-1.8** | **16** | **0.4** | **13** | **1.8** | **13** | **3.1** | **7** |
| *Blended Fixed Income Index* | *-5.8* | *77* | *-11.2* | *82* | *-10.7* | *73* | *-3.9* | *64* | *-0.5* | *57* | *1.3* | *40* | *1.9* | *58* |
| *InvMetrics All DB Total Fix Inc Net Median* | *-4.9* | | *-9.6* | | *-9.4* | | *-3.4* | | *-0.3* | | *1.2* | | *2.0* | |
| **Core Fixed** | **-4.8** | **--** | **-10.6** | **--** | **-10.9** | **--** | **-4.9** | **--** | **-0.9** | **--** | **0.8** | **--** | **2.0** | **--** |
| *Bloomberg US Aggregate TR* | *-4.7* | *--* | *-10.3* | *--* | *-10.3* | *--* | *-5.4* | *--* | *-0.9* | *--* | *0.9* | *--* | *1.5* | *--* |
| DoubleLine | -5.2 | 95 | -10.8 | 98 | -11.4 | 99 | -5.2 | 97 | -- | -- | -- | -- | -- | -- |
| *Bloomberg US Aggregate TR* | *-4.7* | *90* | *-10.3* | *97* | *-10.3* | *93* | *-5.4* | *98* | *-0.9* | *56* | *0.9* | *55* | *1.5* | *67* |
| *eV US Securitized Fixed Inc Net Median* | *-3.4* | | *-8.0* | | *-8.3* | | *-3.1* | | *-0.9* | | *1.0* | | *2.2* | |
| FIAM Bond | -5.2 | 76 | -10.5 | 55 | -10.3 | 40 | -4.5 | 25 | 0.1 | 7 | 1.6 | 7 | 2.3 | 14 |
| NISA Core Bond | -4.7 | 33 | -10.1 | 34 | -10.0 | 26 | -5.3 | 59 | -- | -- | -- | -- | -- | -- |
| *Bloomberg US Aggregate TR* | *-4.7* | *36* | *-10.3* | *45* | *-10.3* | *40* | *-5.4* | *76* | *-0.9* | *74* | *0.9* | *73* | *1.5* | *77* |
| *eV US Core Fixed Inc Net Median* | *-4.9* | | *-10.5* | | *-10.5* | | *-5.1* | | *-0.7* | | *1.1* | | *1.8* | |
| Western TRU | -3.8 | 13 | -11.4 | 91 | -12.4 | 98 | -3.6 | 7 | -1.3 | 92 | 0.2 | 98 | -- | -- |
| *3-Month Libor Total Return USD* | *0.4* | *1* | *0.6* | *1* | *0.7* | *1* | *0.4* | *1* | *0.8* | *2* | *1.4* | *20* | *0.9* | *99* |
| *Bloomberg US Aggregate TR* | *-4.7* | *36* | *-10.3* | *45* | *-10.3* | *40* | *-5.4* | *76* | *-0.9* | *74* | *0.9* | *73* | *1.5* | *77* |
| *eV US Core Fixed Inc Net Median* | *-4.9* | | *-10.5* | | *-10.5* | | *-5.1* | | *-0.7* | | *1.1* | | *1.8* | |
| Core Fixed Income Overlay | -4.2 | -- | -6.4 | -- | -3.4 | -- | -3.7 | -- | -- | -- | -- | -- | -- | -- |
| **Opportunistic Credit** | **-5.6** | **--** | **-7.0** | **--** | **-5.1** | **--** | **4.3** | **--** | **2.6** | **--** | **3.6** | **--** | **6.5** | **--** |
| *Bloomberg BA Intermediate HY* | *-7.9* | *--* | *-12.7* | *--* | *-11.4* | *--* | *-0.6* | *--* | *0.6* | *--* | *2.3* | *--* | *3.5* | *--* |
| AG CSF II* + | -9.6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *Bloomberg BA Intermediate HY* | *-7.9* | *--* | *-12.7* | *--* | *-11.4* | *--* | *-0.6* | *--* | *0.6* | *--* | *2.3* | *--* | *3.5* | *--* |
| Angelo Gordon Opportunistic+ | 3.3 | -- | -5.5 | -- | 11.0 | -- | 20.5 | -- | 7.7 | -- | 11.7 | -- | -- | -- |
| *Bloomberg US Aggregate TR* | *-4.7* | *--* | *-10.3* | *--* | *-10.3* | *--* | *-5.4* | *--* | *-0.9* | *--* | *0.9* | *--* | *1.5* | *--* |

* *Funded February 2022*
+ *Preliminary return as of 6/30/2022.*
*1. See Appendix for Benchmark History.*

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Angelo Gordon Credit Solutions+ | -4.7 | 5 | -3.5 | 3 | 1.8 | 1 | 17.5 | 1 | -- | -- | -- | -- | -- | -- |
| *Bloomberg BA Intermediate HY* | *-7.9* | *25* | *-12.7* | *43* | *-11.4* | *43* | *-0.6* | *85* | *0.6* | *41* | *2.3* | *33* | *3.5* | *85* |
| *eV US High Yield Fixed Inc Net Median* | *-9.4* | | *-13.2* | | *-11.9* | | *0.6* | | *0.4* | | *2.0* | | *4.2* | |
| Beach Point Select | -5.8 | 13 | -5.7 | 6 | -0.4 | 2 | 12.5 | 1 | 8.0 | 1 | 7.2 | 1 | -- | -- |
| *Bloomberg BA Intermediate HY* | *-7.9* | *25* | *-12.7* | *43* | *-11.4* | *43* | *-0.6* | *85* | *0.6* | *41* | *2.3* | *33* | *3.5* | *85* |
| *eV US High Yield Fixed Inc Net Median* | *-9.4* | | *-13.2* | | *-11.9* | | *0.6* | | *0.4* | | *2.0* | | *4.2* | |
| Brigade Capital | -6.6 | 17 | -7.5 | 12 | -4.5 | 6 | 10.2 | 1 | 4.0 | 3 | 3.8 | 4 | 5.0 | 17 |
| *Bloomberg BA Intermediate HY* | *-7.9* | *25* | *-12.7* | *43* | *-11.4* | *43* | *-0.6* | *85* | *0.6* | *41* | *2.3* | *33* | *3.5* | *85* |
| *50% Barclays HY/ 50% Bank Loan* | *-7.1* | *20* | *-9.4* | *21* | *-7.8* | *20* | *2.3* | *20* | *1.1* | *27* | *2.6* | *21* | *4.2* | *52* |
| *eV US High Yield Fixed Inc Net Median* | *-9.4* | | *-13.2* | | *-11.9* | | *0.6* | | *0.4* | | *2.0* | | *4.2* | |
| PIMCO Diversified | -9.1 | 44 | -15.6 | 95 | -15.4 | 97 | -4.6 | 99 | -2.4 | 99 | -- | -- | -- | -- |
| *Blended PIMCO Diversified Index[1]* | *-8.8* | *37* | *-14.9* | *88* | *-14.6* | *93* | *-4.2* | *99* | *-1.8* | *99* | *0.8* | *99* | *3.2* | *91* |
| *Bloomberg BA Intermediate HY* | *-7.9* | *25* | *-12.7* | *43* | *-11.4* | *43* | *-0.6* | *85* | *0.6* | *41* | *2.3* | *33* | *3.5* | *85* |
| *eV US High Yield Fixed Inc Net Median* | *-9.4* | | *-13.2* | | *-11.9* | | *0.6* | | *0.4* | | *2.0* | | *4.2* | |
| Franklin Templeton | -11.9 | 90 | -12.1 | 33 | -14.6 | 53 | -8.2 | 93 | -8.0 | 99 | -4.3 | 99 | 0.1 | 79 |
| *Bloomberg Multiverse TR* | *-8.4* | *45* | *-14.0* | *52* | *-15.4* | *60* | *-6.5* | *80* | *-3.2* | *80* | *-0.5* | *74* | *0.3* | *77* |
| *eV All Global Fixed Inc Net Median* | *-8.8* | | *-13.9* | | *-14.2* | | *-3.6* | | *-1.3* | | *0.8* | | *2.2* | |
| **Private Credit** | **0.1** | **--** | **1.3** | **--** | **4.1** | **--** | **7.3** | **--** | **6.5** | **--** | **6.8** | **--** | **--** | **--** |
| *Cliffwater Direct Lending Index+* | *1.8* | *--* | *3.5* | *--* | *8.8* | *--* | *12.0* | *--* | *8.5* | *--* | *8.6* | *--* | *9.4* | *--* |
| Blackrock DL Feeder IX-U+ | 0.3 | 1 | 1.1 | 1 | 4.8 | 1 | 6.7 | 5 | -- | -- | -- | -- | -- | -- |
| *Cliffwater Direct Lending Index* | *1.8* | *1* | *3.5* | *1* | *8.8* | *1* | *12.0* | *1* | *8.5* | *1* | *8.6* | *1* | *9.4* | *1* |
| *eV US High Yield Fixed Inc Net Median* | *-9.4* | | *-13.2* | | *-11.9* | | *0.6* | | *0.4* | | *2.0* | | *4.2* | |
| PIMCO Private Income+ | 0.0 | 1 | 1.3 | 1 | 4.8 | 1 | 11.9 | 1 | 9.1 | 1 | -- | -- | -- | -- |
| *Bloomberg BA Intermediate HY* | *-7.9* | *25* | *-12.7* | *43* | *-11.4* | *43* | *-0.6* | *85* | *0.6* | *41* | *2.3* | *33* | *3.5* | *85* |
| *Cliffwater Direct Lending Index* | *1.8* | *1* | *3.5* | *1* | *8.8* | *1* | *12.0* | *1* | *8.5* | *1* | *8.6* | *1* | *9.4* | *1* |
| *eV US High Yield Fixed Inc Net Median* | *-9.4* | | *-13.2* | | *-11.9* | | *0.6* | | *0.4* | | *2.0* | | *4.2* | |

+ *Preliminary return as of 6/30/2022.*

*1. See Appendix for Benchmark History.*

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCP Direct Lending VIII+ | -0.1 | 1 | 0.4 | 1 | 3.9 | 1 | 6.4 | 5 | 5.5 | 2 | 6.2 | 1 | -- | -- |
| White Oak Yield+ | 0.0 | 1 | 1.7 | 1 | 4.2 | 1 | 5.3 | 6 | 5.3 | 2 | 5.7 | 2 | -- | -- |
| White Oak YSF V+ | 0.0 | 1 | 1.5 | 1 | 2.6 | 1 | -- | -- | -- | -- | -- | -- | -- | -- |
| *Cliffwater Direct Lending Index* | *1.8* | *1* | *3.5* | *1* | *8.8* | *1* | *12.0* | *1* | *8.5* | *1* | *8.6* | *1* | *9.4* | *1* |
| *eV US High Yield Fixed Inc Net Median* | *-9.4* | | *-13.2* | | *-11.9* | | *0.6* | | *0.4* | | *2.0* | | *4.2* | |
| **Alternatives** | **1.3** | **--** | **3.6** | **--** | **8.7** | **--** | **26.7** | **--** | **18.1** | **--** | **12.1** | **--** | **9.6** | **--** |
| *Blended Alternatives Index1* | *-1.4* | *--* | *3.7* | *--* | *9.3* | *--* | *19.6* | *--* | *12.6* | *--* | *11.5* | *--* | *10.1* | *--* |
| **Private Equity+ ** ++** | **-4.0** | **99** | **-1.8** | **89** | **7.9** | **64** | **41.8** | **10** | **33.0** | **6** | **24.2** | **13** | **19.6** | **1** |
| *Blended Private Equity Index1* | *-4.2* | *99* | *5.4* | *18* | *14.9* | *43* | *37.9* | *15* | *21.3* | *55* | *17.8* | *53* | *17.7* | *23* |
| *InvMetrics All DB Private Eq Net Median* | *-0.2* | | *1.2* | | *12.2* | | *25.9* | | *22.5* | | *19.1* | | *14.8* | |
| **Hedge Fund/Absolute Return** | **6.8** | **6** | **9.2** | **1** | **8.9** | **2** | **8.4** | **51** | **0.9** | **81** | **-1.4** | **87** | **2.3** | **81** |
| *Absolute Return Custom Index1* | *1.0* | *10* | *2.1* | *8* | *4.2* | *5* | *4.1* | *93* | *4.6* | *59* | *5.1* | *31* | *4.7* | *54* |
| *InvMetrics All DB Hedge Funds Net Median* | *-5.4* | | *-9.2* | | *-4.8* | | *8.4* | | *5.0* | | *4.5* | | *4.9* | |
| Aberdeen Standard GARS | -2.1 | 41 | -7.1 | 62 | -8.0 | 67 | -1.3 | 90 | 0.1 | 82 | 0.5 | 79 | -- | -- |
| Acadian MAAR Fund LLC | 3.0 | 18 | 0.5 | 34 | 0.9 | 40 | -- | -- | -- | -- | -- | -- | -- | -- |
| CFM Systematic Global Macro | 12.3 | 3 | 15.5 | 9 | 10.1 | 20 | -- | -- | -- | -- | -- | -- | -- | -- |
| Graham Quant Macro | 8.7 | 5 | 22.9 | 5 | 16.7 | 14 | 13.4 | 28 | -- | -- | -- | -- | -- | -- |
| PIMCO MAARS Fund LP | 8.3 | 6 | 11.0 | 12 | 22.4 | 10 | 11.3 | 38 | -- | -- | -- | -- | -- | -- |
| *Absolute Return Custom Index* | *1.0* | *26* | *2.1* | *28* | *4.2* | *33* | *4.1* | *68* | *4.6* | *49* | *5.1* | *43* | *4.7* | *53* |
| *eV Alt All Multi-Strategy Median* | *-4.0* | | *-3.9* | | *-2.6* | | *7.8* | | *4.4* | | *4.3* | | *4.9* | |

*+ Preliminary return as of 6/30/2022.*

*** Returns are one-quarter lag.*

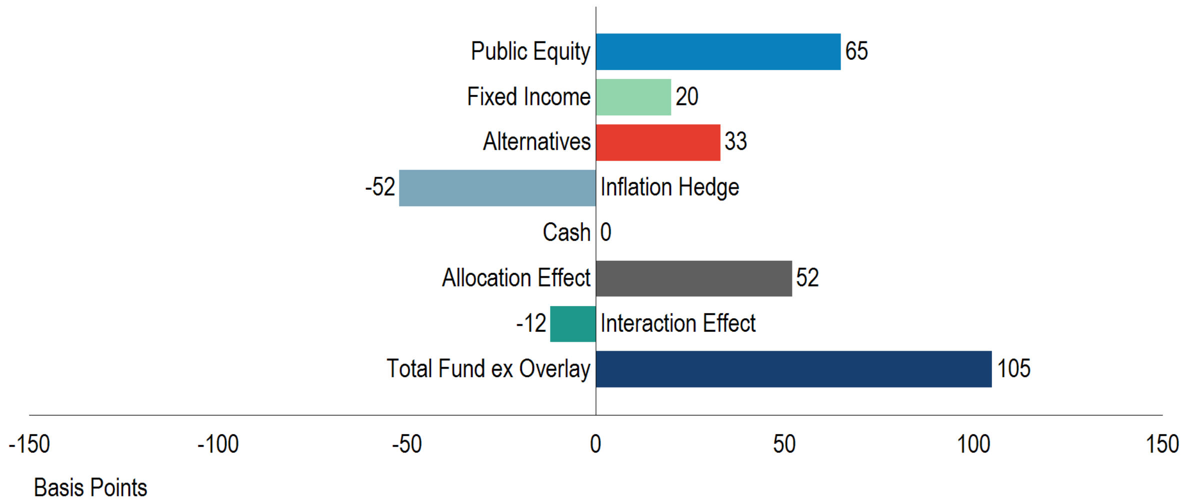
*++ Excludes EnCap Energy Capital Fund and Sheridan Production Partners.*

*1. See Appendix for Benchmark History.*

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Inflation Hedge** | **-0.1** | **--** | **8.1** | **--** | **16.9** | **--** | **16.7** | **--** | **6.8** | **--** | **5.9** | **--** | **--** | **--** |
| *Blended Inflation Hedge Index[1]* | *3.1* | -- | *11.5* | -- | *23.2* | -- | *22.0* | -- | *11.6* | -- | *9.4* | -- | -- | -- |
| **Real Estate** | **3.9** | **44** | **9.0** | **60** | **20.4** | **60** | **13.8** | **62** | **9.9** | **60** | **8.9** | **55** | **10.3** | **15** |
| *NCREIF ODCE* | *4.8* | *20* | *12.5* | *5* | *29.5* | *2* | *18.3* | *5* | *12.7* | *6* | *10.5* | *3* | *11.2* | *4* |
| *InvMetrics All DB Real Estate Pub Net Median* | *3.5* | | *9.8* | | *22.3* | | *14.3* | | *10.3* | | *9.0* | | *9.5* | |
| Harrison Street Core Property | 6.2 | -- | 8.8 | -- | 14.6 | -- | 10.6 | -- | -- | -- | -- | -- | -- | -- |
| Invesco | 4.8 | -- | 11.6 | -- | 26.9 | -- | 16.8 | -- | 11.3 | -- | 9.7 | -- | 10.7 | -- |
| *NCREIF ODCE* | *4.8* | -- | *12.5* | -- | *29.5* | -- | *18.3* | -- | *12.7* | -- | *10.5* | -- | *11.2* | -- |
| Invesco US Val IV | -5.5 | -- | -5.3 | -- | 2.2 | -- | 6.5 | -- | 5.8 | -- | 8.2 | -- | -- | -- |
| Invesco US Val V | 0.6 | -- | 3.9 | -- | 18.6 | -- | 19.3 | -- | 13.3 | -- | -- | -- | -- | -- |
| *NCREIF ODCE* | *4.8* | -- | *12.5* | -- | *29.5* | -- | *18.3* | -- | *12.7* | -- | *10.5* | -- | *11.2* | -- |
| *NCREIF ODCE + 2%* | *5.3* | -- | *13.6* | -- | *32.0* | -- | *20.6* | -- | *14.9* | -- | *12.7* | -- | *13.4* | -- |
| PGIM RE US Debt Fund | 1.2 | -- | 2.6 | -- | 5.2 | -- | 5.3 | -- | 5.2 | -- | -- | -- | -- | -- |
| Stockbridge Value IV[+] | 0.0 | -- | 8.0 | -- | 20.3 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *NCREIF ODCE* | *4.8* | -- | *12.5* | -- | *29.5* | -- | *18.3* | -- | *12.7* | -- | *10.5* | -- | *11.2* | -- |
| **Private Real Asset[**]** | **6.0** | **--** | **14.8** | **--** | **24.6** | **--** | **26.1** | **--** | **13.4** | **--** | **5.3** | **--** | **--** | **--** |
| *Blended Private Real Asset Index[1]* | *11.2* | -- | *17.6* | -- | *22.7* | -- | *35.0* | -- | *11.5* | -- | *9.0* | -- | -- | -- |
| *Blended Secondary CA Private RA Index[1]* | *7.4* | -- | *13.8* | -- | *25.0* | -- | *21.5* | -- | *8.4* | -- | *8.0* | -- | -- | -- |
| **Public Real Assets** | **-8.5** | **--** | **2.8** | **--** | **8.6** | **--** | **18.5** | **--** | **1.6** | **--** | **2.7** | **--** | **--** | **--** |
| *Blended Public Real Asset Index[1]* | *-8.4* | -- | *2.6* | -- | *8.5* | -- | *18.4* | -- | *5.9* | -- | *5.7* | -- | -- | -- |
| SSgA Custom Real Asset | -8.5 | -- | 2.8 | -- | 8.6 | -- | 18.5 | -- | 5.9 | -- | 5.8 | -- | -- | -- |
| *SSgA Custom Real Asset Index[1]* | *-8.4* | -- | *2.6* | -- | *8.5* | -- | *18.4* | -- | *5.9* | -- | *5.7* | -- | -- | -- |

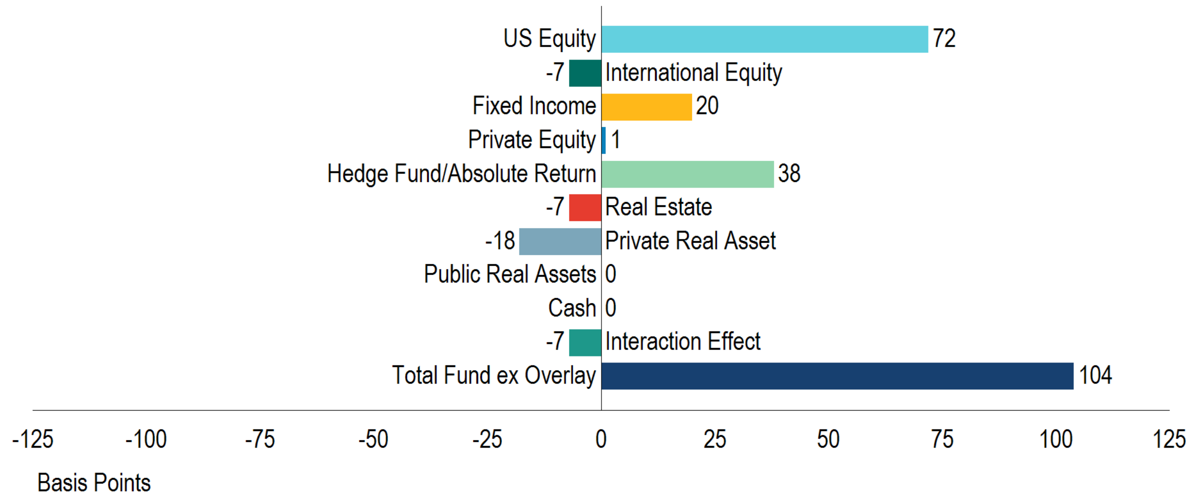
[+] *Preliminary return as of 6/30/2022.*
[**] *Returns are one-quarter lag.*
*1. See Appendix for Benchmark History.*

| | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cash** | **0.2** | **--** | **0.3** | **--** | **0.4** | **--** | **0.4** | **--** | **0.6** | **--** | **0.8** | **--** | **0.8** | **--** |
| *91 Day T-Bills* | *0.1* | -- | *0.1* | -- | *0.2* | -- | *0.1* | -- | *0.5* | -- | *1.0* | -- | *0.6* | -- |
| General Account | 0.2 | -- | 0.3 | -- | 0.5 | -- | 0.5 | -- | 1.0 | -- | 2.2 | -- | 1.5 | -- |
| Treasury & LAIF | 0.4 | -- | 0.5 | -- | 1.1 | -- | 1.2 | -- | 1.5 | -- | 2.3 | -- | 1.6 | -- |
| *91 Day T-Bills* | *0.1* | -- | *0.1* | -- | *0.2* | -- | *0.1* | -- | *0.5* | -- | *1.0* | -- | *0.6* | -- |
| Currency Hedge Cash Overlay | 0.1 | -- | 0.0 | -- | -0.1 | -- | -0.2 | -- | -- | -- | -- | -- | -- | -- |



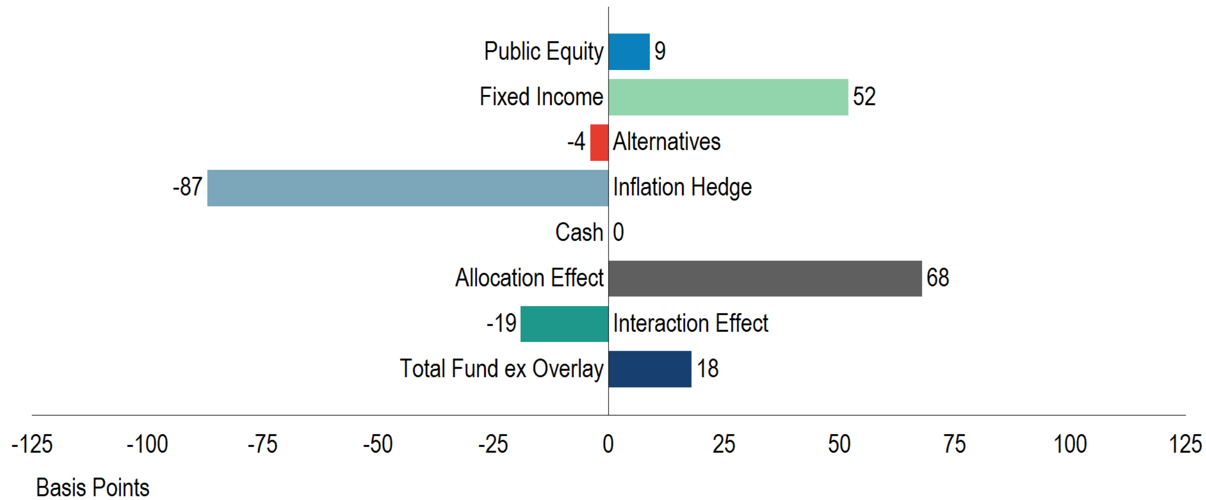

| | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction * Effects | Total Effects |
|---|---|---|---|---|---|---|---|
| Public Equity | -12.74% | -14.25% | 1.50% | 0.65% | 0.14% | -0.03% | 0.76% |
| Fixed Income | -5.08% | -5.82% | 0.75% | 0.20% | -0.05% | -0.03% | 0.12% |
| Alternatives | 1.28% | -1.36% | 2.64% | 0.33% | 0.06% | 0.02% | 0.41% |
| Inflation Hedge | -0.14% | 3.14% | -3.28% | -0.52% | 0.19% | -0.08% | -0.41% |
| Cash | 0.21% | 0.11% | 0.11% | 0.00% | 0.17% | 0.00% | 0.17% |
| **Total** | **-6.18%** | **-7.23%** | **1.05%** | **0.65%** | **0.52%** | **-0.12%** | **1.05%** |

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



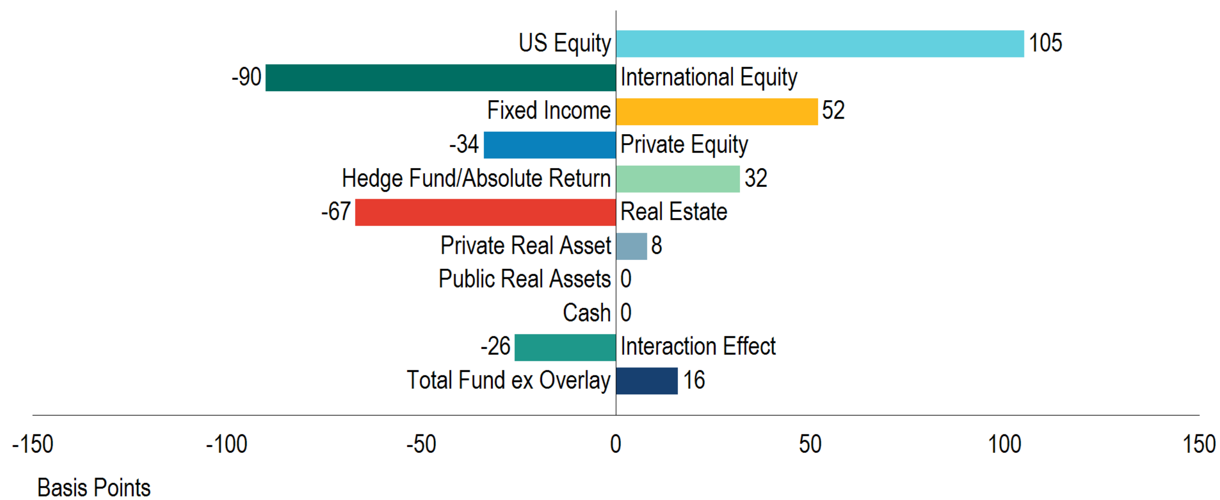

| | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction * Effects | Total Effects |
|---|---|---|---|---|---|---|---|
| US Equity | -13.60% | -16.70% | 3.10% | 0.72% | 0.05% | -0.02% | 0.76% |
| International Equity | -11.71% | -11.38% | -0.34% | -0.07% | 0.07% | 0.00% | 0.00% |
| Fixed Income | -5.08% | -5.82% | 0.75% | 0.20% | -0.05% | -0.03% | 0.12% |
| Private Equity | -3.98% | -4.21% | 0.23% | 0.01% | 0.03% | 0.00% | 0.04% |
| Hedge Fund/Absolute Return | 6.78% | 1.05% | 5.73% | 0.38% | 0.00% | 0.00% | 0.39% |
| Real Estate | 3.91% | 4.77% | -0.86% | -0.07% | -0.05% | 0.00% | -0.12% |
| Private Real Asset | 6.04% | 11.18% | -5.13% | -0.18% | -0.09% | -0.03% | -0.30% |
| Public Real Assets | -8.48% | -8.44% | -0.04% | 0.00% | -0.02% | 0.00% | -0.02% |
| Cash | 0.21% | 0.11% | 0.11% | 0.00% | 0.17% | 0.00% | 0.17% |
| **Total** | **-6.19%** | **-7.23%** | **1.04%** | **0.99%** | **0.12%** | **-0.07%** | **1.04%** |

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




| | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction * Effects | Total Effects |
|---|---|---|---|---|---|---|---|
| Public Equity | -14.23% | -14.47% | 0.24% | 0.09% | 0.11% | -0.03% | 0.17% |
| Fixed Income | -8.84% | -10.66% | 1.81% | 0.52% | 0.15% | -0.06% | 0.61% |
| Alternatives | 8.65% | 9.26% | -0.61% | -0.04% | 0.10% | -0.01% | 0.04% |
| Inflation Hedge | 16.90% | 23.18% | -6.28% | -0.87% | 0.19% | -0.09% | -0.77% |
| Cash | 0.39% | 0.17% | 0.22% | 0.00% | 0.13% | 0.01% | 0.14% |
| **Total** | **-4.27%** | **-4.45%** | **0.18%** | **-0.31%** | **0.68%** | **-0.19%** | **0.18%** |

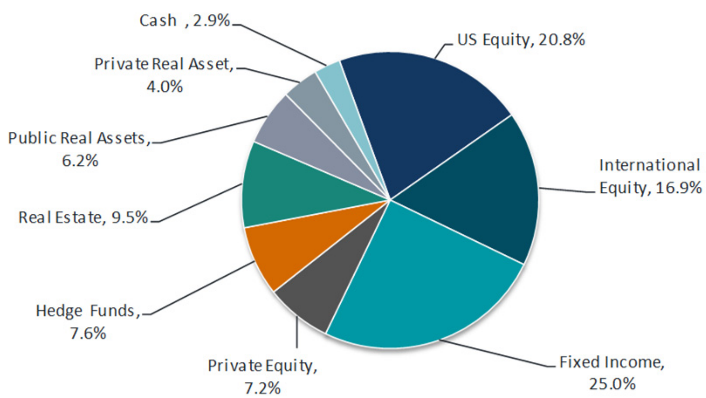
*Attribution does not include the impact of the Parametric Minneapolis strategy.*
** Interaction Effects include Residual Effects.*




| | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction * Effects | Total Effects |
|---|---|---|---|---|---|---|---|
| US Equity | -9.26% | -13.87% | 4.61% | 1.05% | 0.02% | -0.03% | 1.04% |
| International Equity | -19.51% | -15.35% | -4.16% | -0.90% | 0.04% | 0.00% | -0.87% |
| Fixed Income | -8.84% | -10.66% | 1.81% | 0.52% | 0.15% | -0.06% | 0.61% |
| Private Equity | 7.94% | 14.92% | -6.99% | -0.34% | 0.15% | -0.08% | -0.26% |
| Hedge Fund/Absolute Return | 8.89% | 4.23% | 4.66% | 0.32% | 0.00% | 0.00% | 0.32% |
| Real Estate | 20.43% | 29.51% | -9.08% | -0.67% | -0.29% | 0.08% | -0.87% |
| Private Real Asset | 24.57% | 22.72% | 1.85% | 0.08% | -0.21% | -0.18% | -0.31% |
| Public Real Assets | 8.56% | 8.46% | 0.10% | 0.00% | 0.36% | 0.00% | 0.37% |
| Cash | 0.39% | 0.17% | 0.22% | 0.00% | 0.13% | 0.01% | 0.14% |
| **Total** | **-4.29%** | **-4.45%** | **0.16%** | **0.06%** | **0.36%** | **-0.26%** | **0.16%** |

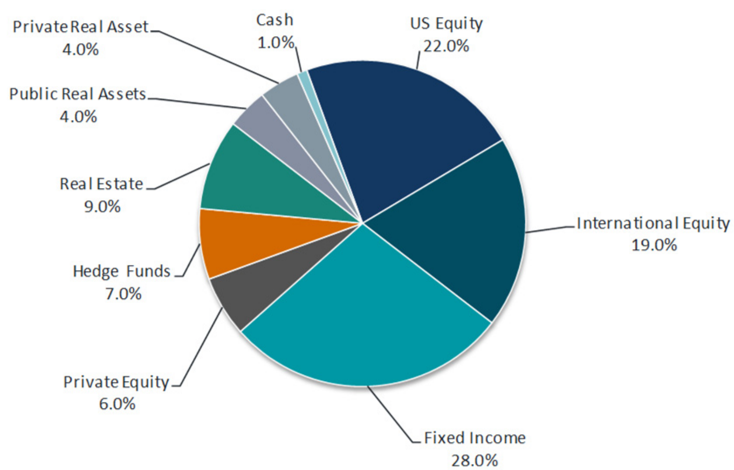
*Attribution does not include the impact of the Parametric Minneapolis strategy.*
** Interaction Effects include Residual Effects.*

Current w/ Overlay

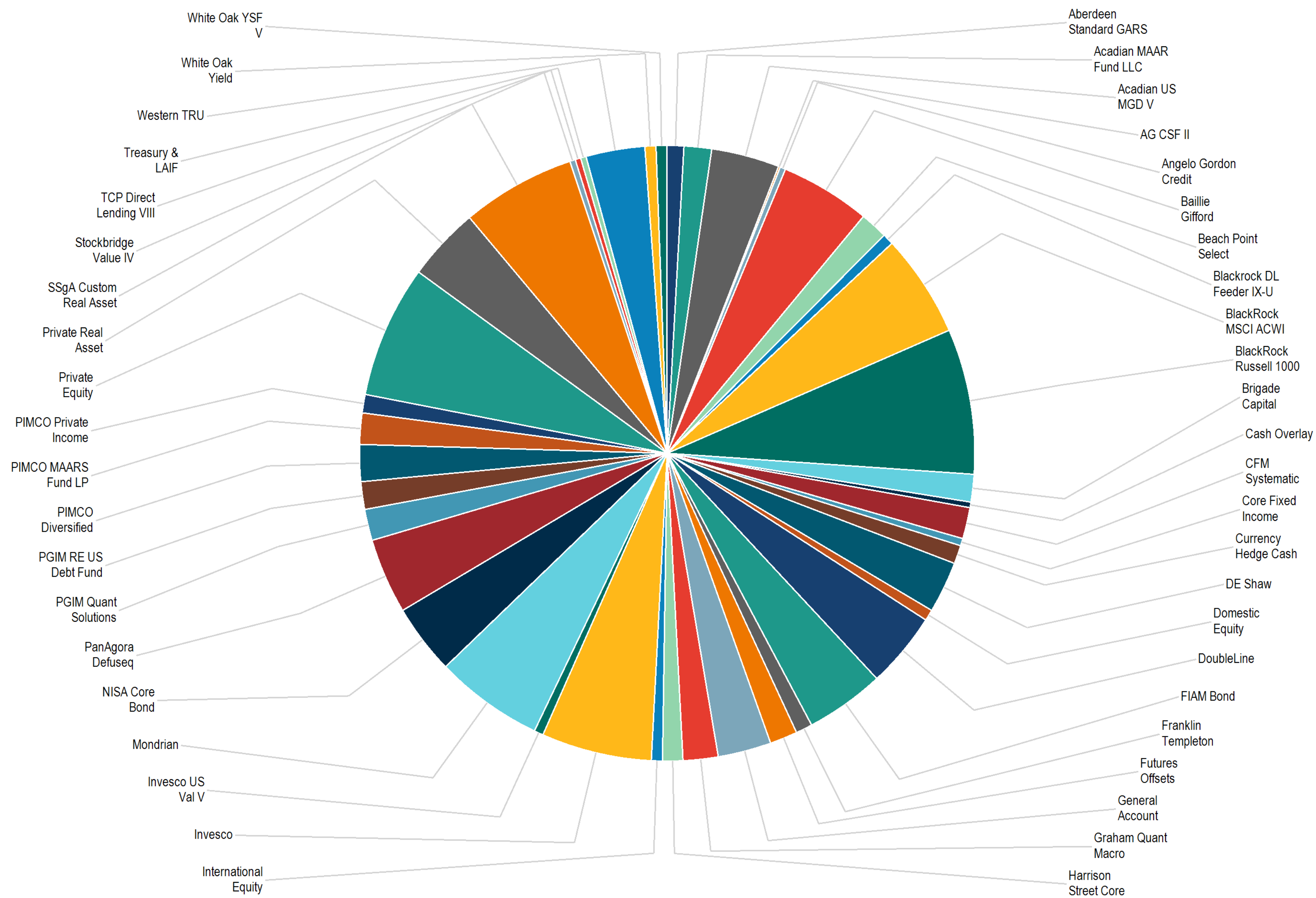



| ASSET ALLOCATION | MARKET VALUE W/ OVERLAY | W/ OVERLAY | W/O OVERLAY |
|---|---|---|---|
| US Equity | 1,180,250,108 | 20.8% | 20.2% |
| International Equity | 957,284,863 | 16.9% | 16.3% |
| Fixed Income | 1,416,305,299 | 25.0% | 24.6% |
| Private Equity | 408,182,534 | 7.2% | 7.2% |
| Hedge Funds | 432,733,830 | 7.6% | 7.6% |
| Real Estate | 535,986,624 | 9.5% | 9.5% |
| Public Real Assets | 348,874,790 | 6.2% | 6.2% |
| Private Real Asset | 224,961,495 | 4.0% | 4.0% |
| Cash | 162,552,894 | 2.9% | 4.4% |
| **TOTAL** | **5,667,132,437** | **100.0%** | **100.0%** |

Target




| ASSET ALLOCATION | W/ OVERLAY | TARGET | DIFF |
|---|---|---|---|
| US Equity | 20.8% | 22.0% | -1.2% |
| International Equity | 16.9% | 19.0% | -2.1% |
| Fixed Income | 25.0% | 28.0% | -3.0% |
| Private Equity | 7.2% | 6.0% | 1.2% |
| Hedge Funds | 7.6% | 7.0% | 0.6% |
| Real Estate | 9.5% | 9.0% | 0.5% |
| Public Real Assets | 6.2% | 4.0% | 2.2% |
| Private Real Asset | 4.0% | 4.0% | 0.0% |
| Cash | 2.9% | 1.0% | 1.9% |
| **TOTAL** | **100.0%** | **100.0%** | **0.0%** |


White Oak YSF V
White Oak Yield
Western TRU
Treasury & LAIF
TCP Direct Lending VIII
Stockbridge Value IV
SSgA Custom Real Asset
Private Real Asset
Private Equity
PIMCO Private Income
PIMCO MAARS Fund LP
PIMCO Diversified
PGIM RE US Debt Fund
PGIM Quant Solutions
PanAgora Defuseq
NISA Core Bond
Mondrian
Invesco US Val V
Invesco
International Equity
Aberdeen Standard GARS
Acadian MAAR Fund LLC
Acadian US MGD V
AG CSF II
Angelo Gordon Credit
Baillie Gifford
Beach Point Select
Blackrock DL Feeder IX-U
BlackRock MSCI ACWI
BlackRock Russell 1000
Brigade Capital
Cash Overlay
CFM Systematic
Core Fixed Income
Currency Hedge Cash
DE Shaw
Domestic Equity
DoubleLine
FIAM Bond
Franklin Templeton
Futures Offsets
General Account
Graham Quant Macro
Harrison Street Core

| Name | Market Value | % of Portfolio |
|---|---|---|
| Acadian US MGD V | $210,268,464 | 3.7% |
| BlackRock Russell 1000 | $446,756,472 | 7.9% |
| DE Shaw | $158,358,314 | 2.8% |
| PanAgora Defuseq | $234,181,224 | 4.1% |
| PGIM Quant Solutions | $97,738,184 | 1.7% |
| Domestic Equity Overlay | $32,947,450 | 0.6% |
| Baillie Gifford | $275,951,848 | 4.9% |
| Mondrian | $334,254,860 | 5.9% |
| BlackRock MSCI ACWI EX-US IMI | $315,409,645 | 5.6% |
| International Equity Overlay | $31,668,510 | 0.6% |
| DoubleLine | $231,879,985 | 4.1% |
| FIAM Bond | $241,742,771 | 4.3% |
| NISA Core Bond | $214,102,329 | 3.8% |
| Western TRU | $181,747,537 | 3.2% |
| Core Fixed Income Overlay | $21,968,734 | 0.4% |
| AG CSF Annex Dislocation Fund | $360 | 0.0% |
| AG CSF II | $6,382,449 | 0.1% |
| Angelo Gordon Opportunistic | $591,165 | 0.0% |
| Angelo Gordon Credit Solutions | $15,091,917 | 0.3% |
| Beach Point Select | $82,863,307 | 1.5% |
| Brigade Capital | $83,344,120 | 1.5% |
| PIMCO Diversified | $113,829,436 | 2.0% |
| Franklin Templeton | $52,698,572 | 0.9% |
| Blackrock DL Feeder IX-U | $35,845,149 | 0.6% |
| PIMCO Private Income | $54,026,389 | 1.0% |
| TCP Direct Lending VIII | $16,842,515 | 0.3% |
| White Oak Yield | $32,143,903 | 0.6% |
| White Oak YSF V | $31,204,662 | 0.6% |
| Private Equity | $408,182,534 | 7.2% |

| Name | Market Value | % of Portfolio |
|---|---|---|
| Aberdeen Standard GARS | $49,095,019 | 0.9% |
| Acadian MAAR Fund LLC | $82,593,530 | 1.5% |
| CFM Systematic Global Macro | $97,221,639 | 1.7% |
| Graham Quant Macro | $105,072,621 | 1.9% |
| PIMCO MAARS Fund LP | $98,751,020 | 1.7% |
| Harrison Street Core Property | $61,153,198 | 1.1% |
| Invesco | $339,129,671 | 6.0% |
| Invesco US Val IV | $2,174,468 | 0.0% |
| Invesco US Val V | $31,109,956 | 0.5% |
| PGIM RE US Debt Fund | $85,891,507 | 1.5% |
| Stockbridge Value IV | $16,527,824 | 0.3% |
| Private Real Asset | $224,961,495 | 4.0% |
| SSgA Custom Real Asset | $348,874,791 | 6.2% |
| General Account | $162,934,485 | 2.9% |
| Treasury & LAIF | $14,607,369 | 0.3% |
| Transition Account | $175 | 0.0% |
| Currency Hedge Cash Overlay | $55,186,049 | 1.0% |
| Cash Overlay | $16,409,510 | 0.3% |
| Futures Offsets (SMCE02001) | -$86,584,694 | -1.5% |
| **Total** | **$5,667,132,437** | **100.0%** |

## Statistics Summary

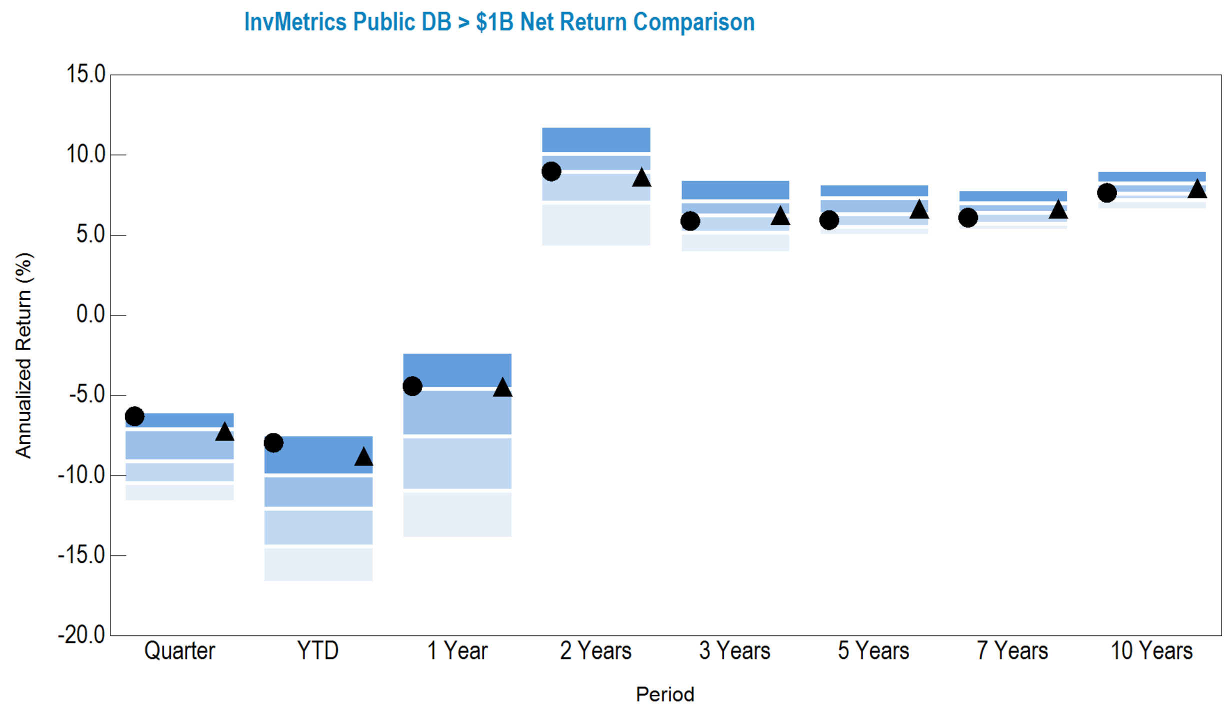
### 3 Years

| | 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 | 5.9% | 57 | 9.2% | 17 | 0.6 | 30 | -0.2 | 86 | 2.4% | 72 |
| Policy Index | 6.3% | 50 | 9.2% | 17 | 0.6 | 27 | -- | -- | 0.0% | 1 |
| InvMetrics Public DB > $1B Net Median | 6.3% | -- | 11.3% | -- | 0.5 | -- | 0.1 | -- | 1.7% | -- |

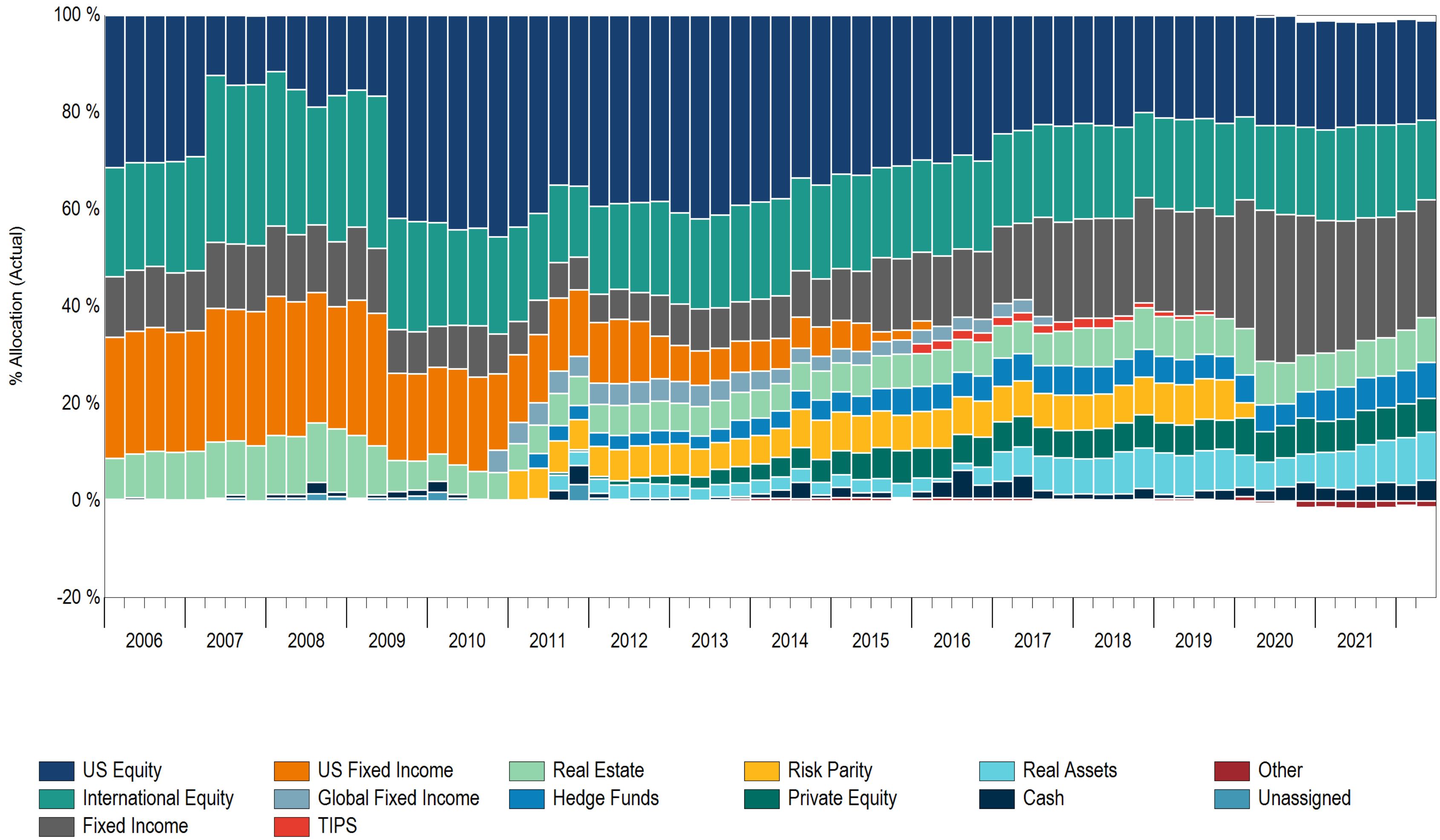
## Statistics Summary

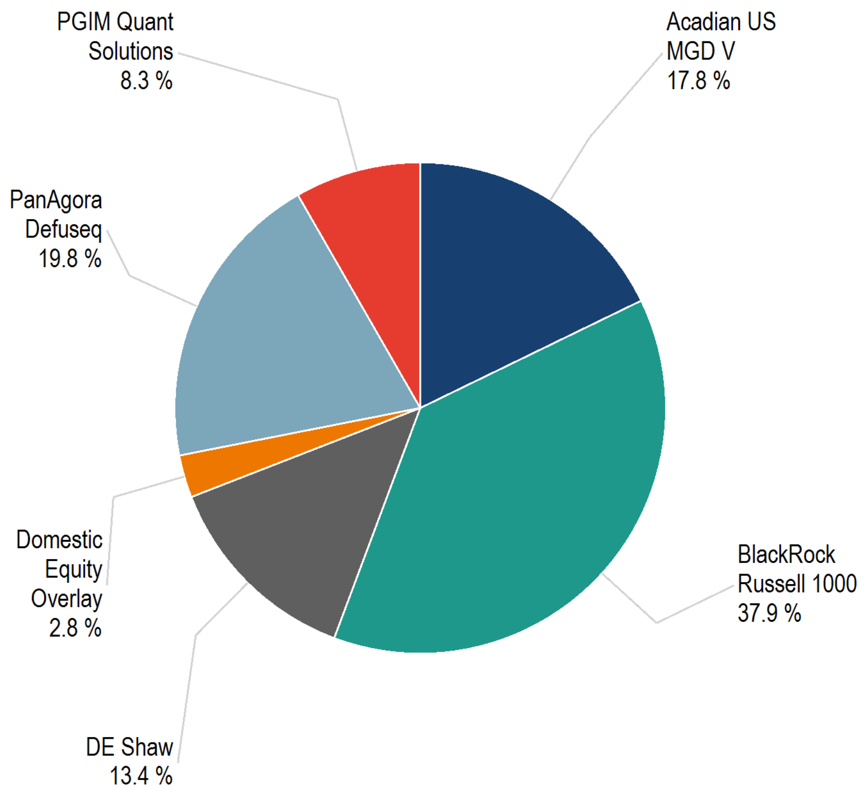
### 5 Years

| | 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 | 5.9% | 63 | 8.2% | 17 | 0.6 | 37 | -0.4 | 86 | 1.9% | 72 |
| Policy Index | 6.7% | 46 | 8.3% | 17 | 0.7 | 28 | -- | -- | 0.0% | 1 |
| InvMetrics Public DB > $1B Net Median | 6.3% | -- | 10.2% | -- | 0.5 | -- | 0.0 | -- | 1.4% | -- |




| | Return (Rank) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5th Percentile | -6.0 | | -7.4 | | -2.3 | | 11.8 | | 8.5 | | 8.2 | | 7.9 | | 9.1 | |
| 25th Percentile | -7.1 | | -10.0 | | -4.6 | | 10.1 | | 7.2 | | 7.3 | | 7.0 | | 8.2 | |
| Median | -9.1 | | -12.0 | | -7.6 | | 9.0 | | 6.3 | | 6.3 | | 6.4 | | 7.6 | |
| 75th Percentile | -10.5 | | -14.4 | | -10.9 | | 7.1 | | 5.2 | | 5.5 | | 5.7 | | 7.2 | |
| 95th Percentile | -11.7 | | -16.7 | | -13.9 | | 4.3 | | 3.9 | | 5.0 | | 5.3 | | 6.6 | |
| # of Portfolios | 34 | | 34 | | 34 | | 33 | | 33 | | 33 | | 33 | | 32 | |
| ● Total Fund | -6.3 | (13) | -8.0 | (10) | -4.4 | (22) | 9.0 | (50) | 5.9 | (57) | 5.9 | (63) | 6.1 | (60) | 7.6 | (49) |
| ▲ Policy Index | -7.2 | (28) | -8.8 | (13) | -4.4 | (25) | 8.6 | (54) | 6.3 | (50) | 6.7 | (46) | 6.7 | (40) | 7.9 | (44) |


100 %
80 %
60 %
40 %
20 %
0 %
-20 %
% Allocation (Actual)
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
US Equity
International Equity
Fixed Income
US Fixed Income
Global Fixed Income
TIPS
Real Estate
Hedge Funds
Risk Parity
Private Equity
Real Assets
Cash
Other
Unassigned




| | Actual $ | Actual % | Manager Contribution to Excess Return % |
|---|---|---|---|
| Acadian US MGD V | $210,268,464 | 17.8% | 1.0% |
| BlackRock Russell 1000 | $446,756,472 | 37.9% | 0.0% |
| DE Shaw | $158,358,314 | 13.4% | 0.0% |
| PanAgora Defuseq | $234,181,224 | 19.8% | 1.9% |
| PGIM Quant Solutions | $97,738,184 | 8.3% | 0.2% |
| Domestic Equity Overlay | $32,947,450 | 2.8% | 0.0% |
| Actual vs. Policy Weight Difference | | | 0.1% |
| **Total** | **$1,180,250,108** | **100.0%** | **3.1%** |

## Statistics Summary

### 3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| US Equity | 8.8% | 18.3% | 0.5 | -0.4 | 2.4% |
| Blended US Equity Index | 9.8% | 19.4% | 0.5 | -- | 0.0% |
| Russell 3000 | 9.8% | 19.4% | 0.5 | -- | 0.0% |

## Statistics Summary

### 3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| Large Cap Equity | 9.0% | 17.9% | 0.5 | -0.5 | 2.4% |
| Russell 1000 | 10.2% | 19.2% | 0.5 | -- | 0.0% |
| Acadian US MGD V | 5.0% | 16.7% | 0.3 | -0.9 | 5.9% |
| Russell 1000 | 10.2% | 19.2% | 0.5 | -- | 0.0% |
| BlackRock Russell 1000 | 10.2% | 19.2% | 0.5 | -0.2 | 0.0% |
| Russell 1000 | 10.2% | 19.2% | 0.5 | -- | 0.0% |
| DE Shaw | 9.1% | 19.5% | 0.4 | -0.3 | 3.1% |
| Russell 1000 | 10.2% | 19.2% | 0.5 | -- | 0.0% |
| PanAgora Defuseq | 7.7% | 16.3% | 0.4 | -0.3 | 7.8% |
| Russell 1000 | 10.2% | 19.2% | 0.5 | -- | 0.0% |
| Small Cap Equity | 4.5% | 25.2% | 0.2 | 0.1 | 5.8% |
| Russell 2000 | 4.2% | 24.3% | 0.2 | -- | 0.0% |
| PGIM Quant Solutions | 4.5% | 25.2% | 0.2 | 0.1 | 5.8% |
| Russell 2000 | 4.2% | 24.3% | 0.2 | -- | 0.0% |

## Statistics Summary

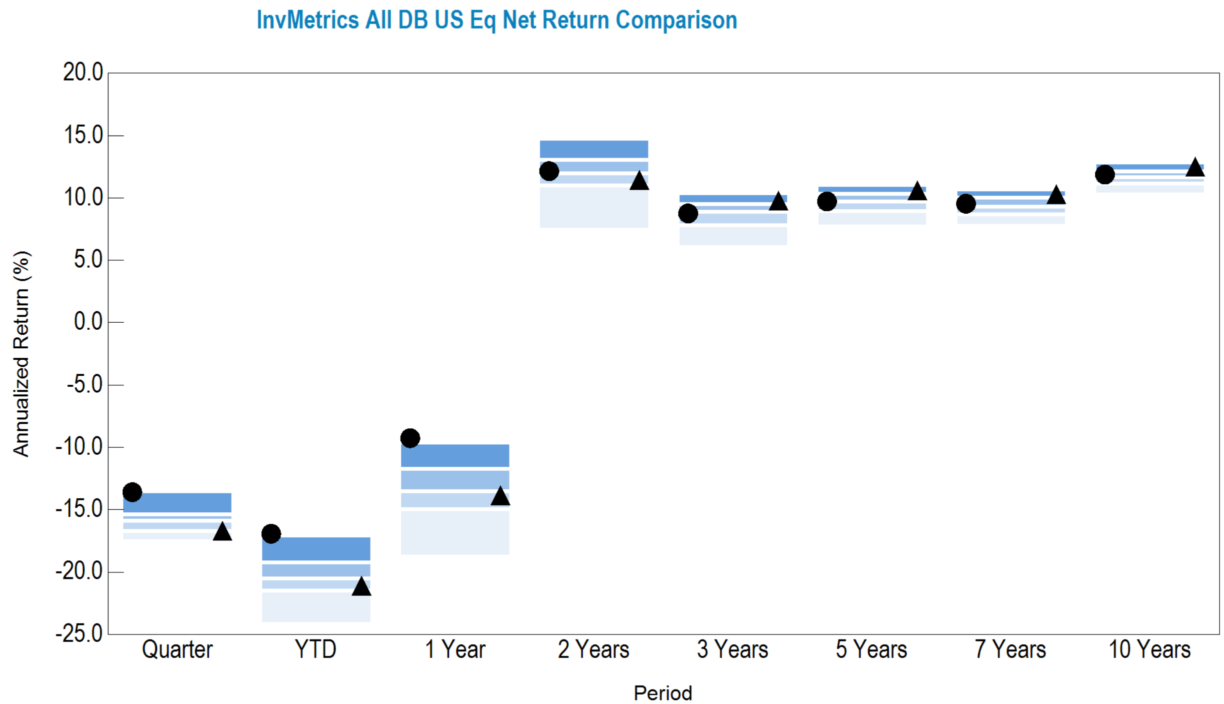
### 5 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| US Equity | 9.7% | 16.7% | 0.5 | -0.4 | 2.0% |
| Blended US Equity Index | 10.6% | 17.5% | 0.5 | -- | 0.0% |
| Russell 3000 | 10.6% | 17.5% | 0.5 | -- | 0.0% |

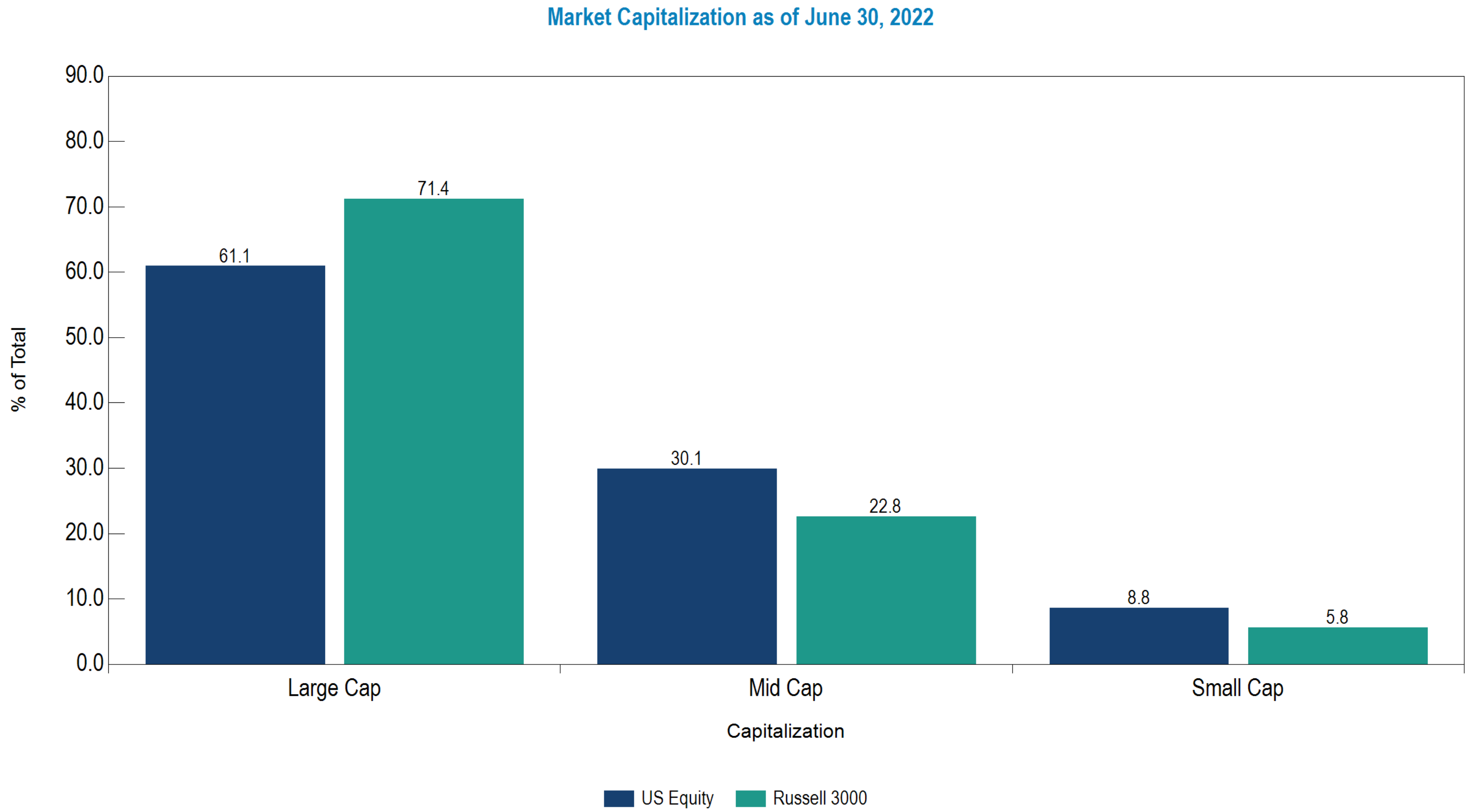
## Statistics Summary

### 5 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| Large Cap Equity | 10.4% | 16.3% | 0.6 | -0.3 | 2.0% |
| Russell 1000 | 11.0% | 17.4% | 0.6 | -- | 0.0% |
| BlackRock Russell 1000 | 11.0% | 17.3% | 0.6 | 0.1 | 0.0% |
| Russell 1000 | 11.0% | 17.4% | 0.6 | -- | 0.0% |
| DE Shaw | 10.2% | 17.4% | 0.5 | -0.3 | 2.9% |
| Russell 1000 | 11.0% | 17.4% | 0.6 | -- | 0.0% |
| Small Cap Equity | 3.9% | 22.7% | 0.1 | -0.3 | 4.8% |
| Russell 2000 | 5.2% | 22.0% | 0.2 | -- | 0.0% |
| PGIM Quant Solutions | 3.9% | 22.7% | 0.1 | -0.3 | 4.8% |
| Russell 2000 | 5.2% | 22.0% | 0.2 | -- | 0.0% |




| | Return (Rank) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5th Percentile | -13.5 | | -17.1 | | -9.6 | | 14.7 | | 10.3 | | 11.0 | | 10.7 | | 12.8 | |
| 25th Percentile | -15.4 | | -19.2 | | -11.7 | | 13.1 | | 9.5 | | 10.3 | | 10.1 | | 12.2 | |
| Median | -15.9 | | -20.5 | | -13.5 | | 12.0 | | 8.9 | | 9.7 | | 9.3 | | 11.7 | |
| 75th Percentile | -16.7 | | -21.5 | | -15.0 | | 11.0 | | 7.8 | | 9.0 | | 8.7 | | 11.2 | |
| 95th Percentile | -17.5 | | -24.1 | | -18.7 | | 7.5 | | 6.1 | | 7.8 | | 7.8 | | 10.3 | |
| # of Portfolios | 262 | | 262 | | 260 | | 259 | | 259 | | 247 | | 227 | | 184 | |
| ● US Equity | -13.6 | (6) | -16.9 | (5) | -9.3 | (4) | 12.1 | (45) | 8.8 | (59) | 9.7 | (51) | 9.5 | (44) | 11.9 | (39) |
| ▲ Blended US Equity Index | -16.7 | (78) | -21.1 | (66) | -13.9 | (56) | 11.4 | (62) | 9.8 | (13) | 10.6 | (14) | 10.3 | (18) | 12.5 | (15) |




See appendix for the market capitalization breakpoints.

# Equity Only Summary Statistics



## Characteristics

| | Portfolio | Russell 3000 |
|---|---|---|
| Number of Holdings | 3,035 | 2,960 |
| Weighted Avg. Market Cap. ($B) | 307.1 | 412.8 |
| Median Market Cap. ($B) | 3.9 | 2.4 |
| Price To Earnings | 17.0 | 18.1 |
| Price To Book | 3.4 | 3.6 |
| Price To Sales | 1.8 | 2.0 |
| Return on Equity (%) | 25.1 | 25.5 |
| Yield (%) | 1.8 | 1.7 |

## Top Holdings

| | |
|---|---|
| APPLE INC | 3.9% |
| MICROSOFT CORP | 3.8% |
| ALPHABET INC | 1.8% |
| AMAZON.COM INC | 1.3% |
| ALPHABET INC | 1.1% |
| TESLA INC | 1.1% |
| EXXON MOBIL CORP | 1.0% |
| JOHNSON & JOHNSON | 1.0% |
| AT&T INC | 1.0% |
| PROCTER & GAMBLE CO (THE) | 0.9% |

## Best Performers

| | Return % |
|---|---|
| TURNING POINT THERAPEUTICS INC (TPTX) | 180.3% |
| CATALYST BIOSCIENCES INC (CBIO) | 169.7% |
| VERU INC (VERU) | 134.0% |
| GTY TECHNOLOGY HOLDINGS INC (GTYH) | 93.8% |
| ALTIMMUNE INC (ALT) | 92.1% |
| ALAUNOS THERAPEUTICS INC (TCRT) | 90.1% |
| DAY ONE BIOPHARMACEUTICALS INC | 80.4% |
| SIGA TECHNOLOGIES INC (SIGA) | 73.3% |
| SIERRA ONCOLOGY INC (SRRA) | 71.6% |
| HEMISPHERE MEDIA GROUP INC (HMTV) | 67.0% |

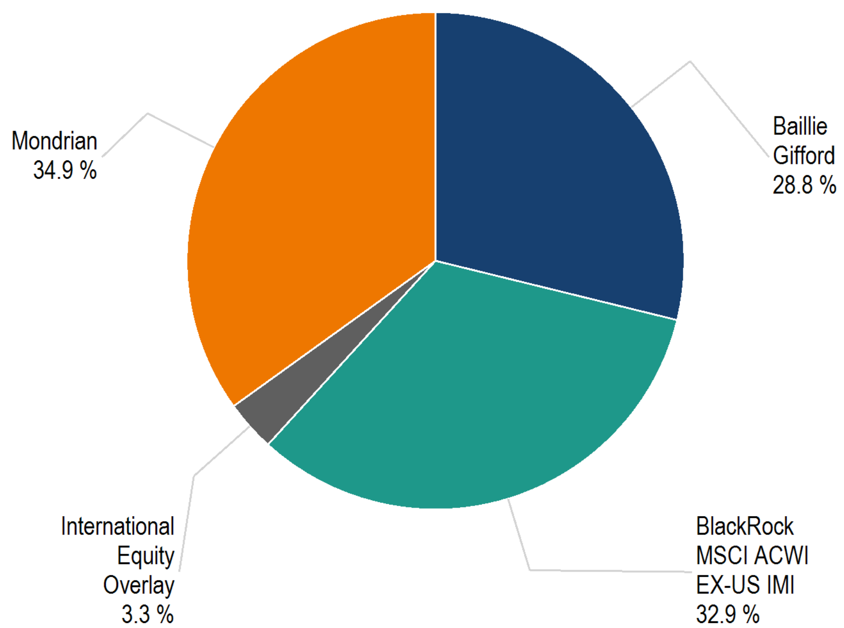
## Worst Performers

| | Return % |
|---|---|
| GENOCEA BIOSCIENCES INC (GNCA) | -98.6% |
| SPERO THERAPEUTICS INC (SPRO) | -91.5% |
| AKERNA CORP (KERN) | -87.9% |
| AGILE THERAPEUTICS INC (AGRX) | -86.1% |
| RUBIUS THERAPEUTICS INC (RUBY) | -84.6% |
| AUTOWEB INC (AUTO) | -83.5% |
| AVAYA HOLDINGS CORP (AVYA) | -82.3% |
| VAPOTHERM INC (VAPO) | -81.8% |
| CARVANA CO (CVNA) | -81.1% |
| MARATHON DIGITAL HOLDINGS INC (MARA) | -80.9% |

## 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 | 0.0% | | -0.1% | 0.1% | 0.0% | -7.5% | -5.7% | 4.5% | 3.4% |
| Materials | 0.2% | | 0.1% | 0.0% | 0.1% | -13.1% | -18.0% | 5.0% | 2.6% |
| Industrials | 0.1% | | 0.1% | 0.0% | 0.0% | -14.6% | -15.8% | 9.2% | 8.9% |
| Consumer Discretionary | 0.6% | | 0.6% | 0.0% | 0.0% | -20.6% | -25.6% | 11.4% | 11.7% |
| Consumer Staples | 0.4% | | 0.1% | 0.3% | 0.0% | -3.1% | -5.0% | 8.0% | 5.7% |
| Health Care | -0.1% | | -0.1% | 0.0% | 0.0% | -7.9% | -7.3% | 13.6% | 13.7% |
| Financials | 0.1% | | 0.1% | 0.0% | 0.0% | -15.9% | -17.0% | 10.4% | 11.8% |
| Information Technology | 0.5% | | 0.4% | 0.3% | -0.1% | -20.0% | -21.3% | 22.2% | 27.5% |
| Communication Services | 0.4% | | 0.4% | 0.0% | 0.0% | -15.2% | -20.2% | 8.8% | 8.5% |
| Utilities | 0.1% | | 0.0% | 0.1% | 0.0% | -4.6% | -5.2% | 3.7% | 2.7% |
| Real Estate | -0.1% | | -0.1% | 0.0% | 0.0% | -17.5% | -15.5% | 2.8% | 3.6% |
| Cash | 0.0% | | 0.0% | 0.0% | 0.0% | 0.1% | -- | 0.2% | 0.0% |
| Unclassified | 0.0% | | 0.0% | 0.0% | 0.0% | -15.7% | -- | 0.1% | 0.0% |
| **Portfolio** | **2.5%** | **=** | **1.6% +** | **0.8% +** | **0.1%** | **-14.1%** | **-16.6%** | **100.0%** | **100.0%** |

U.S. Effective Style Map




| | Actual $ | Actual % | Manager Contribution to Excess Return % |
|---|---|---|---|
| Baillie Gifford | $275,951,848 | 28.8% | -1.6% |
| Mondrian | $334,254,860 | 34.9% | 0.6% |
| BlackRock MSCI ACWI EX-US IMI | $315,409,645 | 32.9% | 0.1% |
| International Equity Overlay | $31,668,510 | 3.3% | 0.0% |
| Actual vs. Policy Weight Difference | | | 0.6% |
| **Total** | **$957,284,863** | **100.0%** | **-0.3%** |

## Statistics Summary

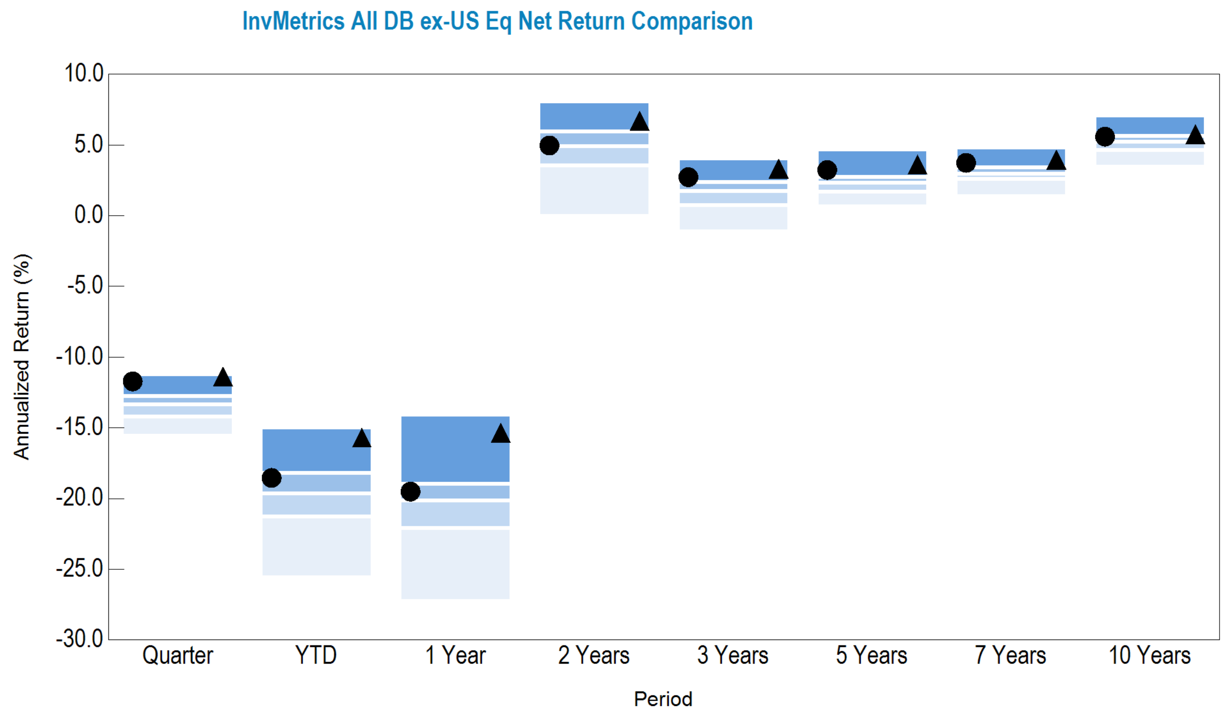
### 3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| International Equity | 2.7% | 16.3% | 0.1 | -0.3 | 2.0% |
| Blended International Equity Index | 3.3% | 16.0% | 0.2 | -- | 0.0% |
| Baillie Gifford | 0.9% | 19.9% | 0.0 | -0.1 | 8.6% |
| MSCI ACWI ex US | 1.8% | 17.5% | 0.1 | -- | 0.0% |
| Mondrian | 0.4% | 18.8% | 0.0 | -0.3 | 2.9% |
| MSCI ACWI ex USA Value Gross | 1.2% | 20.0% | 0.0 | -- | 0.0% |

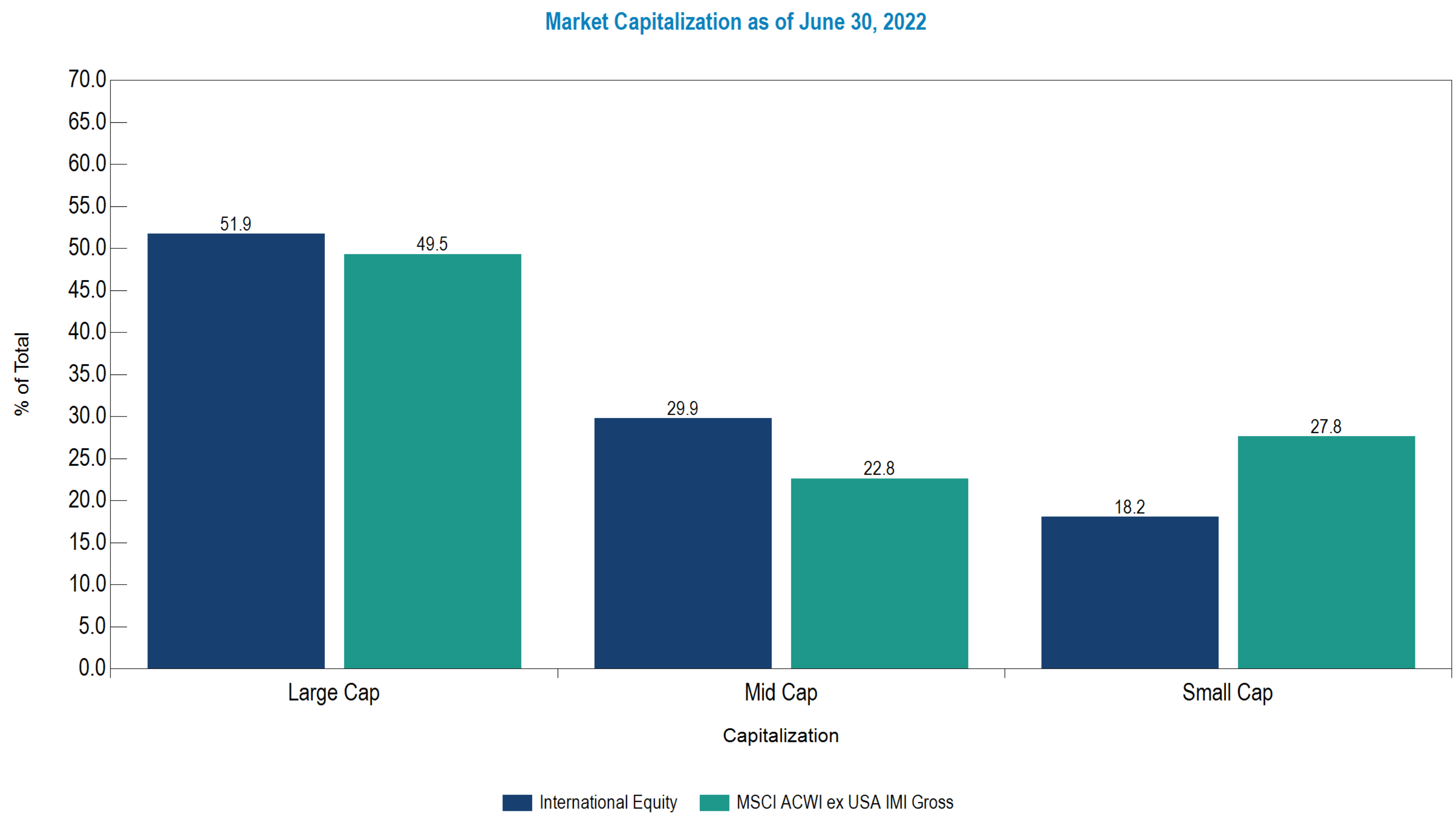
## Statistics Summary

### 5 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| International Equity | 3.2% | 14.8% | 0.1 | -0.2 | 1.7% |
| Blended International Equity Index | 3.6% | 14.7% | 0.2 | -- | 0.0% |
| Baillie Gifford | 2.5% | 17.8% | 0.1 | -0.1 | 7.4% |
| MSCI ACWI ex US | 3.0% | 15.7% | 0.1 | -- | 0.0% |
| Mondrian | 1.4% | 16.4% | 0.0 | -0.2 | 2.6% |
| MSCI ACWI ex USA Value Gross | 1.9% | 17.4% | 0.0 | -- | 0.0% |




| | Return (Rank) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5th Percentile | -11.2 | | -15.0 | | -14.1 | | 8.1 | | 4.0 | | 4.7 | | 4.8 | | 7.1 | |
| 25th Percentile | -12.7 | | -18.2 | | -18.9 | | 6.0 | | 2.4 | | 2.8 | | 3.4 | | 5.7 | |
| Median | -13.3 | | -19.6 | | -20.1 | | 4.9 | | 1.8 | | 2.4 | | 3.0 | | 5.3 | |
| 75th Percentile | -14.2 | | -21.2 | | -22.0 | | 3.6 | | 0.8 | | 1.7 | | 2.6 | | 4.7 | |
| 95th Percentile | -15.5 | | -25.5 | | -27.2 | | 0.0 | | -1.1 | | 0.7 | | 1.4 | | 3.5 | |
| # of Portfolios | 160 | | 160 | | 159 | | 157 | | 157 | | 146 | | 131 | | 106 | |
| ● International Equity | -11.7 | (9) | -18.5 | (37) | -19.5 | (42) | 5.0 | (50) | 2.7 | (24) | 3.2 | (16) | 3.7 | (17) | 5.6 | (30) |
| ▲ Blended International Equity Index | -11.4 | (6) | -15.7 | (7) | -15.3 | (8) | 6.7 | (13) | 3.3 | (15) | 3.6 | (10) | 4.0 | (12) | 5.8 | (24) |




See appendix for the market capitalization breakpoints.

### Characteristics

| | Portfolio | MSCI ACWI ex USA IMI Gross |
|---|---|---|
| Number of Holdings | 6,707 | 6,419 |
| Weighted Avg. Market Cap. ($B) | 68.7 | 70.6 |
| Median Market Cap. ($B) | 1.6 | 1.6 |
| Price To Earnings | 13.1 | 12.2 |
| Price To Book | 2.3 | 2.3 |
| Price To Sales | 1.2 | 1.2 |
| Return on Equity (%) | 14.2 | 14.2 |
| Yield (%) | 3.0 | 3.5 |

### Top Holdings

| | |
|---|---|
| ALIBABA GROUP HOLDING LTD | 1.6% |
| UNITED OVERSEAS BANK LTD | 1.5% |
| TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD | 1.3% |
| HOUSING DEVELOPMENT FINANCE CORP LTD | 1.2% |
| TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD | 1.1% |
| CK HUTCHISON HOLDINGS LTD | 1.1% |
| NOVARTIS AG | 1.1% |
| PING AN INSURANCE GROUP | 1.1% |
| SANOFI | 1.1% |
| TAKEDA PHARMACEUTICAL CO LTD | 1.0% |

### Best Performers

| | Return % |
|---|---|
| KOOLEARN TECHNOLOGY HOLDING LTD | 373.6% |
| PT PANIN FINANCIAL TBK | 139.1% |
| OGK-2 JSC | 135.7% |
| YATSEN HOLDING LTD ADR | 125.8% |
| HAICHANG OCEAN PARK HOLDINGS LTD | 103.7% |
| INTER RAO UES (RS:IRA) | 99.1% |
| KINTOR PHARMACEUTICAL LTD COMMON STOCK USD.0001 | 91.4% |
| CHONG QING CHANGAN AUTOMOBILE CO LTD | 89.9% |
| SARAS RAFFINERIE SARDE SPA | 87.0% |
| THE GO-AHEAD GROUP PLC | 77.2% |

### Worst Performers

| | Return % |
|---|---|
| CFE (B:CFE) | -93.9% |
| GOME RETAIL HOLDINGS LTD | -92.3% |
| DAFA PROPERTIES GROUP LTD | -88.8% |
| SKYFAME REALTY HOLDINGS | -85.9% |
| LEADING HOLDINGS GROUP LTD HK06999 | -85.0% |
| CORESTATE CAPITAL HOLDING SA | -85.0% |
| FIREFINCH LTD | -82.4% |
| ARGONAUT GOLD INC (AR.) | -82.2% |
| FUITURE RETAIL LTD | -79.5% |
| PETROPAVLOVSK PLC | -78.0% |

## 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% | | 0.0% | | -0.1% | 0.1% | -5.8% | -4.6% | 3.9% | 5.1% |
| Materials | 0.6% | | 0.1% | | 0.3% | 0.2% | -19.7% | -21.3% | 5.5% | 9.4% |
| Industrials | -0.1% | | 0.0% | | 0.0% | -0.1% | -16.7% | -16.6% | 14.9% | 13.4% |
| Consumer Discretionary | -0.3% | | -0.2% | | 0.1% | -0.2% | -11.5% | -9.4% | 14.1% | 11.1% |
| Consumer Staples | 0.0% | | 0.0% | | 0.0% | 0.0% | -7.5% | -7.6% | 8.2% | 8.0% |
| Health Care | 0.2% | | 0.2% | | 0.1% | -0.1% | -8.1% | -10.1% | 10.6% | 8.9% |
| Financials | 0.3% | | 0.0% | | 0.0% | 0.3% | -13.5% | -14.0% | 14.9% | 19.1% |
| Information Technology | -0.2% | | 0.1% | | -0.2% | -0.1% | -21.6% | -22.4% | 14.2% | 12.2% |
| Communication Services | -0.1% | | 0.0% | | 0.0% | -0.2% | -12.3% | -11.5% | 7.9% | 5.9% |
| Utilities | -0.1% | | -0.1% | | 0.0% | 0.0% | -12.0% | -9.1% | 3.5% | 3.2% |
| Real Estate | 0.2% | | 0.0% | | 0.0% | 0.1% | -14.6% | -14.9% | 1.3% | 3.7% |
| Cash | 0.1% | | 0.0% | | 0.1% | 0.0% | 0.1% | -- | 1.1% | 0.0% |
| Unclassified | 0.0% | | -- | | -- | -- | -- | -- | 0.0% | 0.0% |
| **Portfolio** | **0.4%** | **=** | **0.1%** | **+** | **0.4%** | **+ -0.1%** | **-13.5%** | **-13.9%** | **100.0%** | **100.0%** |

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

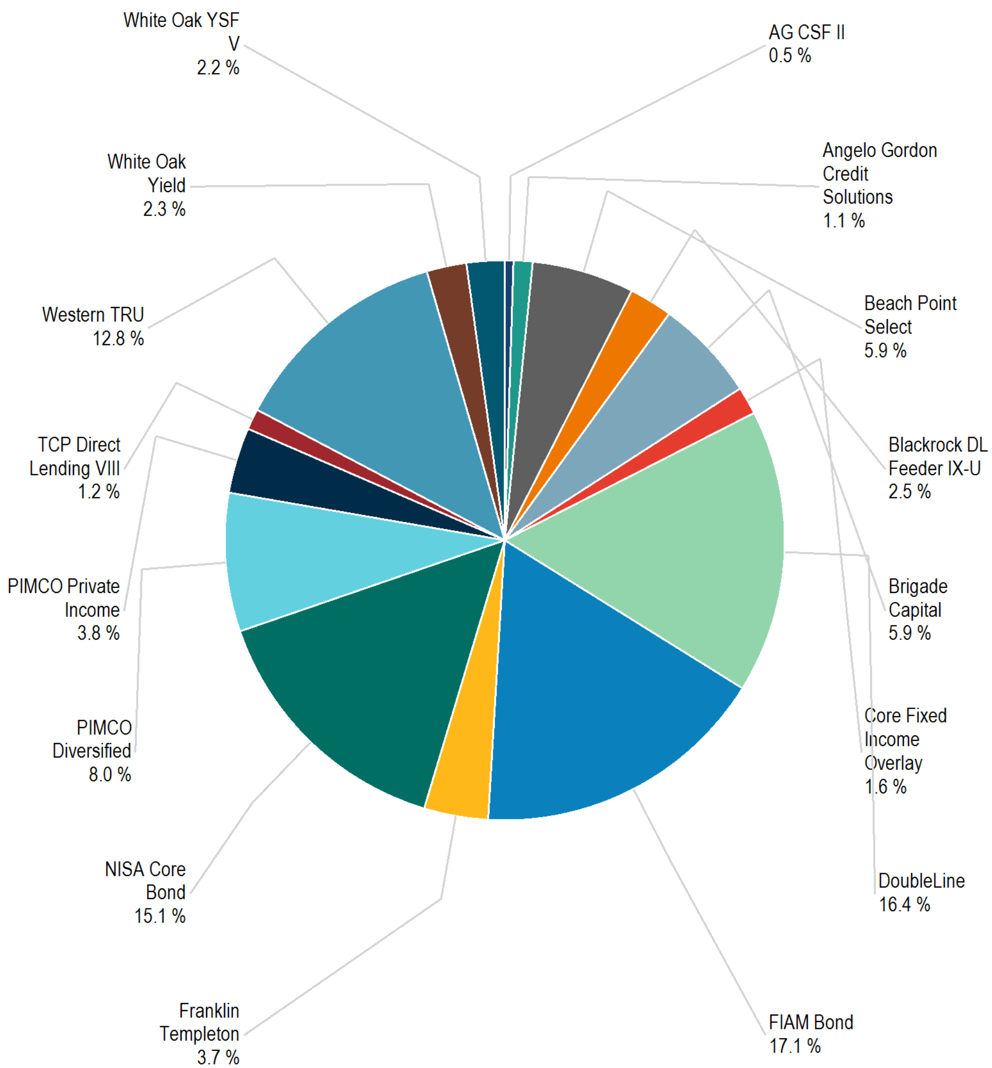
| | Returns and Weights | | | | Attribution Effects | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | Total Effects |
| **Europe** | | | | | | | | | |
| Austria | -17.5% | -15.6% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Belgium | -16.7% | -14.2% | 0.2% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Czech Republic* | -2.8% | -2.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Denmark | -12.1% | -11.8% | 0.8% | 1.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Finland | -12.5% | -11.9% | 0.3% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| France | -10.7% | -14.4% | 5.9% | 6.5% | 0.3% | 0.0% | 0.0% | 0.0% | 0.3% |
| Germany | -26.2% | -17.6% | 3.8% | 5.0% | -0.5% | 0.0% | 0.1% | 0.1% | -0.2% |
| Greece* | -14.4% | -14.3% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Hungary* | -26.1% | -26.1% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Ireland | -21.9% | -17.6% | 0.5% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Italy | -14.6% | -16.6% | 2.3% | 1.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Luxembourg | -35.8% | -13.9% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | -0.1% | -0.1% |
| Netherlands | -16.8% | -18.6% | 4.4% | 2.6% | 0.1% | -0.1% | -0.1% | 0.0% | -0.1% |
| Norway | -18.1% | -17.3% | 0.2% | 0.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Poland* | -24.1% | -24.6% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Portugal | -6.2% | -4.2% | 0.5% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Spain | -13.3% | -8.3% | 1.5% | 1.4% | -0.1% | 0.0% | 0.0% | 0.0% | -0.1% |
| Sweden | -22.9% | -22.4% | 2.9% | 2.6% | 0.0% | 0.0% | 0.0% | 0.0% | -0.1% |
| Switzerland | -12.5% | -14.2% | 3.7% | 6.1% | 0.1% | 0.1% | 0.1% | 0.0% | 0.2% |
| United Kingdom | -11.6% | -11.6% | 12.4% | 9.9% | 0.0% | 0.1% | -0.2% | 0.0% | -0.1% |

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

| | Returns and Weights | | | | Attribution Effects | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | Total Effects |
| **AsiaPacific** | | | | | | | | | |
| Australia | -18.1% | -19.3% | 2.5% | 5.4% | 0.1% | 0.1% | 0.2% | 0.0% | 0.3% |
| China* | 5.0% | 3.5% | 7.8% | 7.6% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| Hong Kong | -4.9% | -1.5% | 4.1% | 1.7% | -0.1% | 0.2% | 0.0% | -0.1% | 0.0% |
| India* | -13.7% | -13.8% | 4.3% | 4.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Indonesia* | -11.6% | -8.2% | 0.4% | 0.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Japan | -13.6% | -14.0% | 19.1% | 14.7% | 0.1% | 0.2% | -0.5% | 0.0% | -0.2% |
| Korea* | -21.8% | -21.1% | 3.0% | 3.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| Malaysia* | -13.0% | -12.3% | 0.2% | 0.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| New Zealand | -29.4% | -18.3% | 0.5% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | -0.1% |
| Philippines* | -19.4% | -19.2% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Singapore | -17.9% | -14.8% | 2.0% | 1.0% | 0.0% | 0.0% | 0.0% | 0.0% | -0.1% |
| Taiwan* | -19.8% | -19.4% | 4.8% | 4.8% | -0.1% | 0.0% | 0.0% | 0.0% | 0.0% |
| Thailand* | -10.8% | -10.6% | 0.3% | 0.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| **Americas** | | | | | | | | | |
| Argentina* | -46.5% | -28.1% | 0.6% | 0.0% | 0.0% | -0.1% | 0.0% | -0.1% | -0.2% |
| Brazil* | -21.5% | -23.9% | 1.7% | 1.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Canada | -21.4% | -16.0% | 3.5% | 8.2% | -0.5% | 0.2% | 0.1% | 0.3% | 0.2% |
| Chile* | -14.7% | -14.8% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Colombia* | -23.9% | -23.8% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Mexico* | -15.3% | -12.9% | 0.6% | 0.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Peru* | -28.3% | -30.2% | 0.2% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| United States | -18.5% | -16.9% | 1.1% | 0.0% | 0.0% | -0.1% | 0.0% | 0.0% | -0.1% |

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

| | Returns and Weights | | | | Attribution Effects | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Manager Return | Index Return | Manager Weight | Index Weight | Selection Effect | Allocation Effect | Currency Effect | Interaction Effect | Total Effects |
| **Other** | | | | | | | | | |
| Egypt* | -20.2% | -19.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Israel | -19.6% | -19.8% | 0.2% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| Kuwait* | -6.3% | -6.3% | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Qatar* | -10.4% | -10.4% | 0.1% | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Saudi Arabia* | -12.6% | -12.6% | 0.4% | 1.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| South Africa* | 0.1% | -22.0% | 0.7% | 1.1% | 0.3% | 0.0% | 0.0% | -0.1% | 0.2% |
| Turkey* | -6.2% | -6.5% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| United Arab Emirates* | -18.0% | -17.9% | 0.1% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| **Totals** | | | | | | | | | |
| Americas | -22.6% | -17.1% | 7.9% | 10.8% | -0.7% | 0.1% | 0.2% | 0.2% | -0.2% |
| Europe | -15.0% | -14.7% | 40.1% | 40.3% | 0.0% | 0.0% | -0.1% | 0.0% | -0.1% |
| Asia/Pacific | -11.6% | -12.2% | 49.2% | 44.9% | 0.3% | 0.1% | -0.2% | 0.0% | 0.2% |
| Other | -8.2% | -16.4% | 1.7% | 4.0% | 0.4% | 0.1% | 0.1% | -0.2% | 0.3% |
| Cash | 0.1% | -- | 1.1% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| **Total** | **-13.6%** | **-13.9%** | **100.0%** | **100.0%** | **0.0%** | **0.4%** | **-0.1%** | **0.0%** | **0.3%** |
| **Totals** | | | | | | | | | |
| Developed | -14.7% | -14.8% | 73.1% | 71.9% | 0.2% | 0.0% | -0.2% | 0.0% | 0.0% |
| Emerging* | -11.1% | -11.8% | 25.8% | 28.1% | 0.1% | 0.0% | 0.2% | 0.0% | 0.3% |
| Cash | 0.1% | -- | 1.1% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |




| | Actual $ | Actual % | Manager Contribution to Excess Return % |
|---|---|---|---|
| AG CSF Annex Dislocation Fund | $360 | 0.0% | 0.0% |
| AG CSF II | $6,382,449 | 0.5% | 0.0% |
| Angelo Gordon Credit Solutions | $15,091,917 | 1.1% | 0.0% |
| Angelo Gordon Opportunistic | $591,165 | 0.0% | 0.0% |
| Beach Point Select | $82,863,307 | 5.9% | 0.1% |
| Blackrock DL Feeder IX-U | $35,845,149 | 2.5% | 0.0% |
| Brigade Capital | $83,344,120 | 5.9% | 0.1% |
| DoubleLine | $231,879,985 | 16.4% | -0.1% |
| FIAM Bond | $241,742,771 | 17.1% | -0.1% |
| Franklin Templeton | $52,698,572 | 3.7% | -0.2% |
| NISA Core Bond | $214,102,329 | 15.1% | 0.0% |
| PIMCO Diversified | $113,829,436 | 8.0% | 0.0% |
| PIMCO Private Income | $54,026,389 | 3.8% | 0.3% |
| TCP Direct Lending VIII | $16,842,515 | 1.2% | 0.0% |
| Western TRU | $181,747,537 | 12.8% | -0.6% |
| White Oak Yield | $32,143,903 | 2.3% | 0.0% |
| White Oak YSF V | $31,204,662 | 2.2% | 0.0% |
| Core Fixed Income Overlay | $21,968,734 | 1.6% | 0.0% |
| Actual vs. Policy Weight Difference | | | 1.3% |
| **Total** | **$1,416,305,299** | **100.0%** | **0.8%** |

## Statistics Summary

### 3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| Fixed Income | 0.4% | 4.4% | 0.0 | 0.4 | 2.0% |
| Blended Fixed Income Index | -0.5% | 5.3% | -0.2 | -- | 0.0% |
| Core Fixed | -0.9% | 4.2% | -0.3 | 0.1 | 1.5% |
| Bloomberg US Aggregate TR | -0.9% | 4.6% | -0.3 | -- | 0.0% |
| FIAM Bond | 0.1% | 5.0% | -0.1 | 0.7 | 1.5% |
| Bloomberg US Aggregate TR | -0.9% | 4.6% | -0.3 | -- | 0.0% |
| Western TRU | -1.3% | 7.3% | -0.2 | -0.3 | 7.3% |
| 3-Month Libor Total Return USD | 0.8% | 0.2% | 1.3 | -- | 0.0% |
| Opportunistic Credit | 2.6% | 7.1% | 0.3 | 0.4 | 4.8% |
| Bloomberg BA Intermediate HY | 0.6% | 9.0% | 0.0 | -- | 0.0% |
| Angelo Gordon Opportunistic | 7.7% | 20.0% | 0.4 | 0.4 | 20.0% |
| Bloomberg US Aggregate TR | -0.9% | 4.6% | -0.3 | -- | 0.0% |
| Beach Point Select | 8.0% | 9.1% | 0.8 | 1.3 | 5.6% |
| Bloomberg BA Intermediate HY | 0.6% | 9.0% | 0.0 | -- | 0.0% |
| Brigade Capital | 4.0% | 12.3% | 0.3 | 0.5 | 7.5% |
| Bloomberg BA Intermediate HY | 0.6% | 9.0% | 0.0 | -- | 0.0% |
| PIMCO Diversified | -2.4% | 8.1% | -0.4 | -0.5 | 1.2% |
| Blended PIMCO Diversified Index | -1.8% | 8.7% | -0.3 | -- | 0.0% |
| Franklin Templeton | -8.0% | 7.4% | -1.2 | -0.7 | 7.1% |
| Bloomberg Multiverse TR | -3.2% | 6.0% | -0.6 | -- | 0.0% |

## Statistics Summary

### 3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| Private Credit | 6.5% | 4.3% | 1.4 | -0.8 | 2.5% |
| Cliffwater Direct Lending Index | 8.5% | 5.7% | 1.4 | -- | 0.0% |
| PIMCO Private Income | 9.1% | 8.7% | 1.0 | 0.9 | 9.9% |
| Bloomberg BA Intermediate HY | 0.6% | 9.0% | 0.0 | -- | 0.0% |
| TCP Direct Lending VIII | 5.5% | 3.1% | 1.6 | -0.6 | 5.0% |
| Cliffwater Direct Lending Index | 8.5% | 5.7% | 1.4 | -- | 0.0% |
| White Oak Yield | 5.3% | 2.9% | 1.7 | -0.9 | 3.6% |
| Cliffwater Direct Lending Index | 8.5% | 5.7% | 1.4 | -- | 0.0% |

## Statistics Summary

### 5 Years

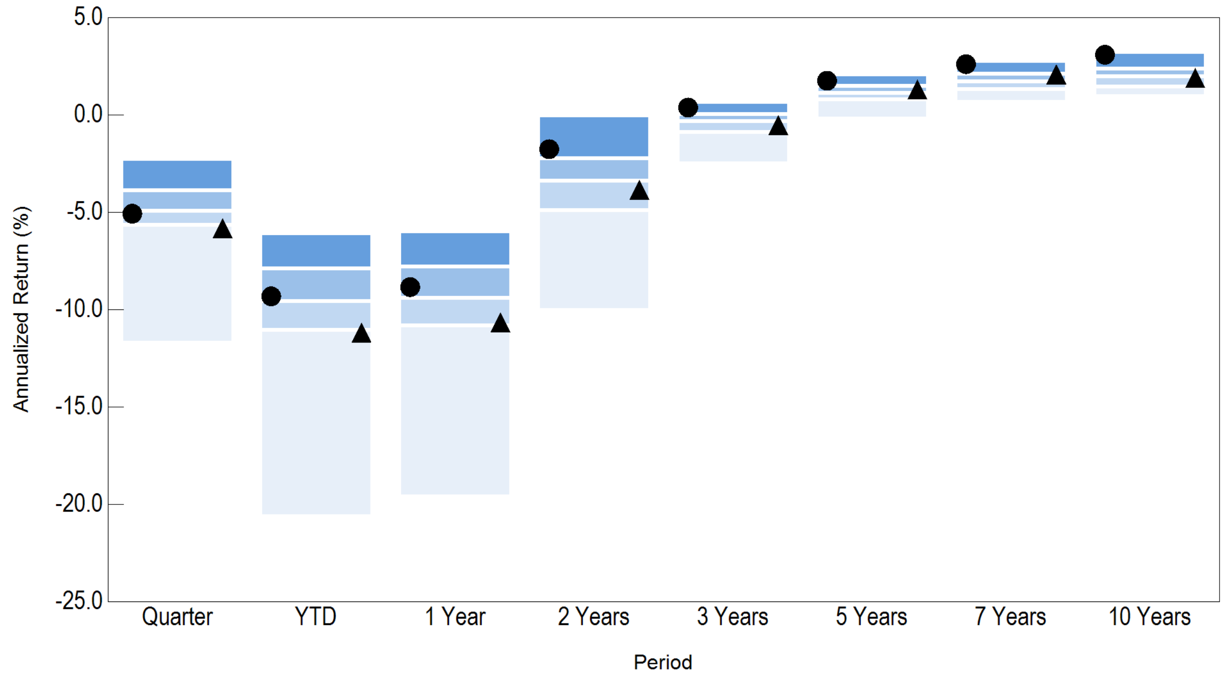
| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| Fixed Income | 1.8% | 3.7% | 0.2 | 0.3 | 1.8% |
| Blended Fixed Income Index | 1.3% | 4.5% | 0.1 | -- | 0.0% |
| Core Fixed | 0.8% | 3.6% | -0.1 | -0.1 | 1.3% |
| Bloomberg US Aggregate TR | 0.9% | 4.0% | 0.0 | -- | 0.0% |
| FIAM Bond | 1.6% | 4.3% | 0.1 | 0.6 | 1.2% |
| Bloomberg US Aggregate TR | 0.9% | 4.0% | 0.0 | -- | 0.0% |
| Western TRU | 0.2% | 6.1% | -0.1 | -0.2 | 6.1% |
| 3-Month Libor Total Return USD | 1.4% | 0.3% | 1.1 | -- | 0.0% |
| Opportunistic Credit | 3.6% | 5.7% | 0.5 | 0.3 | 4.0% |
| Bloomberg BA Intermediate HY | 2.3% | 7.4% | 0.2 | -- | 0.0% |
| Angelo Gordon Opportunistic | 11.7% | 16.7% | 0.6 | 0.6 | 16.7% |
| Bloomberg US Aggregate TR | 0.9% | 4.0% | 0.0 | -- | 0.0% |
| Beach Point Select | 7.2% | 7.4% | 0.8 | 1.1 | 4.7% |
| Bloomberg BA Intermediate HY | 2.3% | 7.4% | 0.2 | -- | 0.0% |
| Brigade Capital | 3.8% | 9.8% | 0.3 | 0.2 | 6.2% |
| Bloomberg BA Intermediate HY | 2.3% | 7.4% | 0.2 | -- | 0.0% |
| Franklin Templeton | -- | -- | -- | -- | -- |
| Bloomberg Multiverse TR | -0.5% | 5.3% | -0.3 | -- | 0.0% |

## Statistics Summary

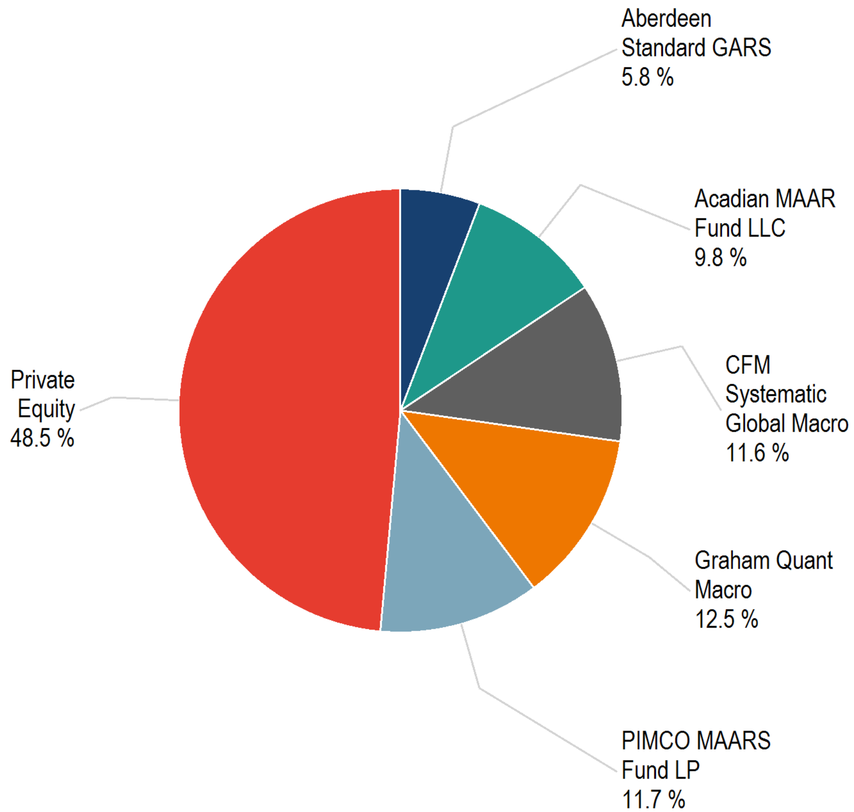
### 5 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| Private Credit | 6.8% | 3.5% | 1.6 | -0.7 | 2.7% |
| Cliffwater Direct Lending Index | 8.6% | 4.9% | 1.5 | -- | 0.0% |
| TCP Direct Lending VIII | 6.2% | 2.6% | 2.0 | -0.5 | 4.7% |
| Cliffwater Direct Lending Index | 8.6% | 4.9% | 1.5 | -- | 0.0% |
| White Oak Yield | 5.7% | 3.2% | 1.4 | -0.9 | 3.3% |
| Cliffwater Direct Lending Index | 8.6% | 4.9% | 1.5 | -- | 0.0% |

InvMetrics All DB  Total Fix Inc Net Return Comparison




| | Return (Rank) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5th Percentile | -2.3 | | -6.1 | | -6.0 | | 0.0 | | 0.6 | | 2.1 | | 2.8 | | 3.2 | |
| 25th Percentile | -3.9 | | -7.9 | | -7.8 | | -2.2 | | 0.1 | | 1.5 | | 2.1 | | 2.4 | |
| Median | -4.9 | | -9.6 | | -9.4 | | -3.4 | | -0.3 | | 1.2 | | 1.7 | | 2.0 | |
| 75th Percentile | -5.6 | | -11.0 | | -10.8 | | -4.9 | | -0.9 | | 0.8 | | 1.4 | | 1.5 | |
| 95th Percentile | -11.7 | | -20.6 | | -19.6 | | -10.0 | | -2.5 | | -0.2 | | 0.7 | | 1.0 | |
| # of Portfolios | 129 | | 129 | | 128 | | 128 | | 128 | | 119 | | 110 | | 88 | |
| ● Fixed Income | -5.1 | (61) | -9.3 | (46) | -8.8 | (40) | -1.8 | (16) | 0.4 | (13) | 1.8 | (13) | 2.6 | (7) | 3.1 | (7) |
| ▲ Blended Fixed Income Index | -5.8 | (77) | -11.2 | (82) | -10.7 | (73) | -3.9 | (64) | -0.5 | (57) | 1.3 | (40) | 2.1 | (27) | 1.9 | (58) |




| | Actual $ | Actual % | Manager Contribution to Excess Return % |
|---|---|---|---|
| Aberdeen Standard GARS | $49,095,019 | 5.8% | -0.3% |
| Acadian MAAR Fund LLC | $82,593,530 | 9.8% | 0.2% |
| CFM Systematic Global Macro | $97,221,639 | 11.6% | 1.1% |
| Graham Quant Macro | $105,072,621 | 12.5% | 0.9% |
| PIMCO MAARS Fund LP | $98,751,020 | 11.7% | 0.8% |
| Private Equity | $408,182,534 | 48.5% | 0.1% |
| Actual vs. Policy Weight Difference | | | -0.2% |
| **Total** | **$840,916,364** | **100.0%** | **2.6%** |

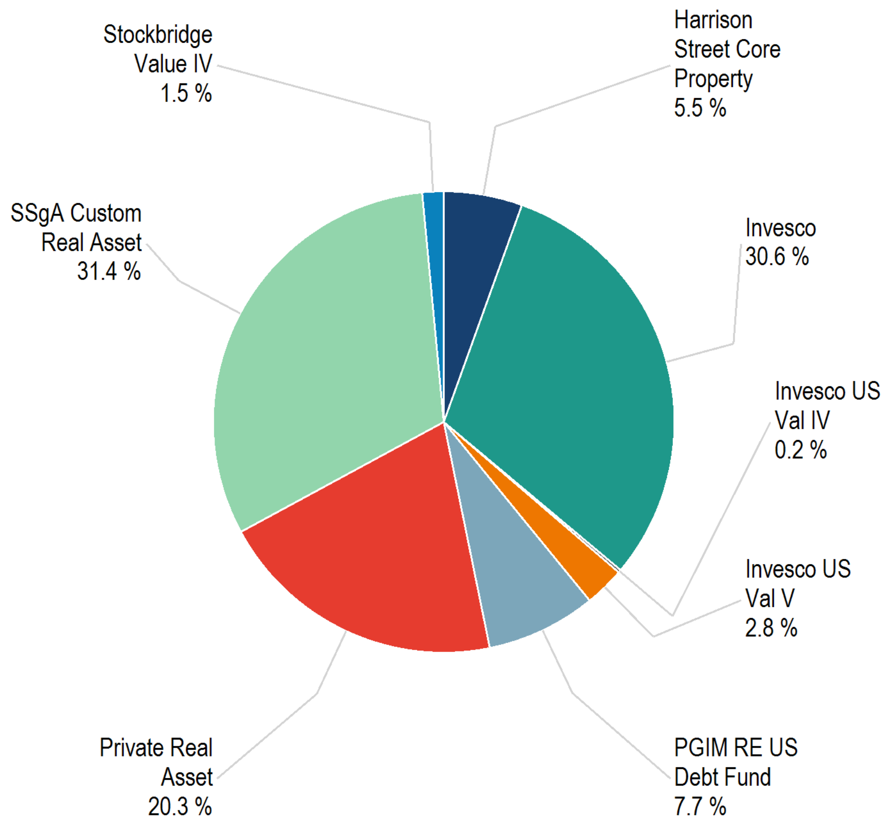
## Statistics Summary
### 3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| Alternatives | 18.1% | 15.0% | 1.2 | 0.4 | 14.7% |
| Blended Alternatives Index | 12.6% | 8.7% | 1.4 | -- | 0.0% |
| Private Equity | 33.0% | 26.0% | 1.3 | 0.5 | 25.7% |
| Blended Private Equity Index | 21.3% | 17.9% | 1.2 | -- | 0.0% |
| Hedge Fund/Absolute Return | 0.9% | 7.4% | 0.0 | -0.5 | 7.4% |
| Absolute Return Custom Index | 4.6% | 0.2% | 16.6 | -- | 0.0% |
| Aberdeen Standard GARS | 0.1% | 5.0% | -0.1 | -0.9 | 5.0% |
| Absolute Return Custom Index | 4.6% | 0.2% | 16.6 | -- | 0.0% |

## Statistics Summary

### 5 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| Alternatives | 12.1% | 12.1% | 0.9 | 0.1 | 12.0% |
| Blended Alternatives Index | 11.5% | 8.0% | 1.3 | -- | 0.0% |
| Private Equity | 24.2% | 20.7% | 1.1 | 0.3 | 21.1% |
| Blended Private Equity Index | 17.8% | 16.2% | 1.0 | -- | 0.0% |
| Hedge Fund/Absolute Return | -1.4% | 6.5% | -0.4 | -1.0 | 6.6% |
| Absolute Return Custom Index | 5.1% | 0.3% | 14.2 | -- | 0.0% |
| Aberdeen Standard GARS | 0.5% | 4.7% | -0.1 | -1.0 | 4.7% |
| Absolute Return Custom Index | 5.1% | 0.3% | 14.2 | -- | 0.0% |




| | Actual $ | Actual % | Manager Contribution to Excess Return % |
|---|---|---|---|
| Harrison Street Core Property | $61,153,198 | 5.5% | 0.1% |
| Invesco | $339,129,671 | 30.6% | 0.0% |
| Invesco US Val IV | $2,174,468 | 0.2% | 0.0% |
| Invesco US Val V | $31,109,956 | 2.8% | -0.1% |
| PGIM RE US Debt Fund | $85,891,507 | 7.7% | -0.3% |
| Stockbridge Value IV | $16,527,824 | 1.5% | -0.1% |
| Private Real Asset | $224,961,495 | 20.3% | -0.8% |
| SSgA Custom Real Asset | $348,874,791 | 31.4% | 0.0% |
| Actual vs. Policy Weight Difference | | | -2.1% |
| **Total** | **$1,109,822,910** | **100.0%** | **-3.3%** |

## Statistics Summary

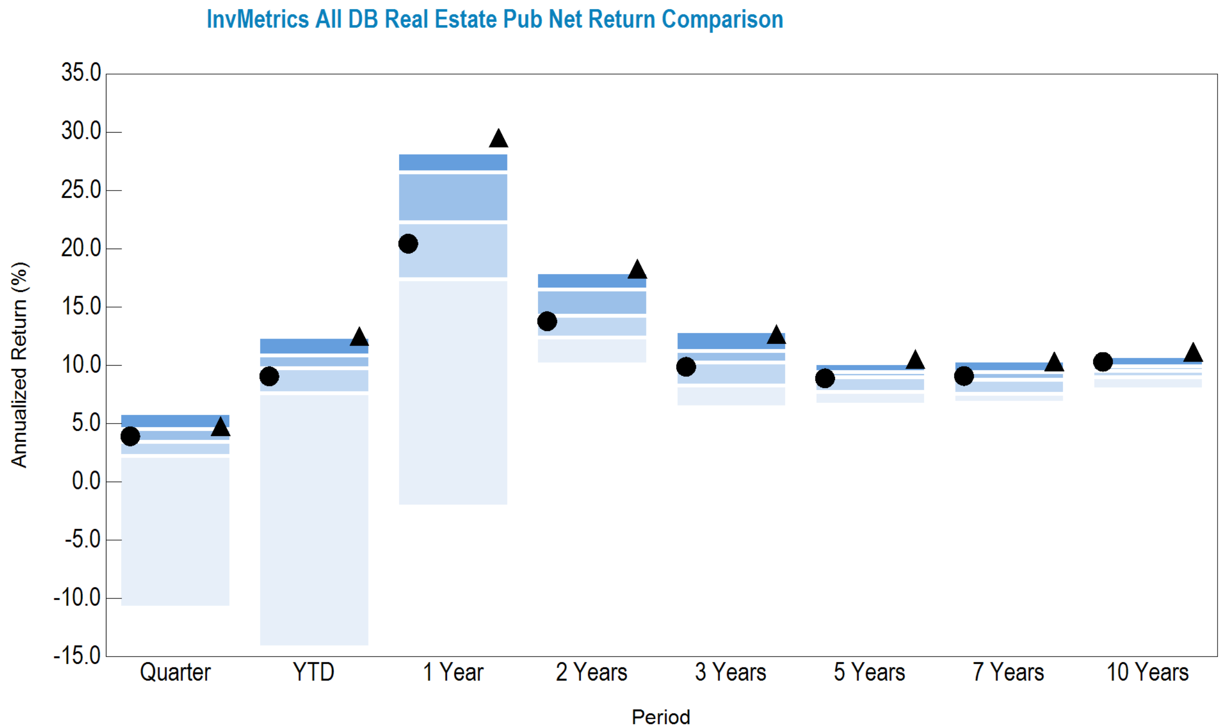
### 3 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---|---|---|---|---|---|
| Inflation Hedge | 6.8% | 7.7% | 0.8 | -1.1 | 4.4% |
| Blended Inflation Hedge Index | 11.6% | 7.7% | 1.4 | -- | 0.0% |
| Real Estate | 9.9% | 5.9% | 1.6 | -1.0 | 2.8% |
| NCREIF ODCE | 12.7% | 7.8% | 1.6 | -- | 0.0% |
| Invesco | 11.3% | 7.9% | 1.4 | -0.6 | 2.5% |
| NCREIF ODCE | 12.7% | 7.8% | 1.6 | -- | 0.0% |
| Invesco US Val IV | 5.8% | 7.5% | 0.7 | -0.8 | 8.7% |
| NCREIF ODCE | 12.7% | 7.8% | 1.6 | -- | 0.0% |
| Invesco US Val V | 13.3% | 9.4% | 1.4 | 0.1 | 7.0% |
| NCREIF ODCE | 12.7% | 7.8% | 1.6 | -- | 0.0% |
| PGIM RE US Debt Fund | 5.2% | 1.5% | 3.1 | -1.0 | 7.6% |
| NCREIF ODCE | 12.7% | 7.8% | 1.6 | -- | 0.0% |
| Private Real Asset | 13.4% | 13.0% | 1.0 | 0.1 | 22.3% |
| Blended Private Real Asset Index | 11.5% | 20.1% | 0.5 | -- | 0.0% |
| Public Real Assets | 1.6% | 19.8% | 0.1 | -1.0 | 4.2% |
| Blended Public Real Asset Index | 5.9% | 16.8% | 0.3 | -- | 0.0% |
| SSgA Custom Real Asset | 5.9% | 16.6% | 0.3 | 0.0 | 0.9% |
| SSgA Custom Real Asset Index | 5.9% | 16.8% | 0.3 | -- | 0.0% |

## Statistics Summary

### 5 Years

| | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error Rank |
|---|---|---|---|---|---|
| Inflation Hedge | 5.9% | 6.5% | 0.8 | -1.0 | -- |
| Blended Inflation Hedge Index | 9.4% | 6.5% | 1.3 | -- | -- |
| Real Estate | 8.9% | 5.0% | 1.6 | -0.7 | 36 |
| NCREIF ODCE | 10.5% | 6.3% | 1.5 | -- | 1 |
| Invesco | 9.7% | 6.4% | 1.3 | -0.4 | -- |
| NCREIF ODCE | 10.5% | 6.3% | 1.5 | -- | -- |
| Invesco US Val IV | 8.2% | 6.8% | 1.1 | -0.3 | -- |
| NCREIF ODCE | 10.5% | 6.3% | 1.5 | -- | -- |
| Private Real Asset | 5.3% | 12.0% | 0.4 | -0.2 | -- |
| Blended Private Real Asset Index | 9.0% | 17.1% | 0.5 | -- | -- |
| Public Real Assets | 2.7% | 16.9% | 0.1 | -0.9 | -- |
| Blended Public Real Asset Index | 5.7% | 14.6% | 0.3 | -- | -- |
| SSgA Custom Real Asset | 5.8% | 14.5% | 0.3 | 0.1 | -- |
| SSgA Custom Real Asset Index | 5.7% | 14.6% | 0.3 | -- | -- |




Return (Rank)

| | Quarter | | YTD | | 1 Year | | 2 Years | | 3 Years | | 5 Years | | 7 Years | | 10 Years | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5th Percentile | 5.9 | | 12.4 | | 28.2 | | 17.9 | | 12.9 | | 10.2 | | 10.4 | | 10.8 | |
| 25th Percentile | 4.5 | | 10.8 | | 26.6 | | 16.5 | | 11.3 | | 9.4 | | 9.4 | | 9.9 | |
| Median | 3.5 | | 9.8 | | 22.3 | | 14.3 | | 10.3 | | 9.0 | | 8.8 | | 9.5 | |
| 75th Percentile | 2.2 | | 7.6 | | 17.4 | | 12.4 | | 8.3 | | 7.8 | | 7.6 | | 9.0 | |
| 95th Percentile | -10.7 | | -14.2 | | -2.1 | | 10.1 | | 6.4 | | 6.6 | | 6.8 | | 8.0 | |
| # of Portfolios | 65 | | 65 | | 65 | | 65 | | 65 | | 61 | | 61 | | 55 | |
| ● Real Estate | 3.9 | (44) | 9.0 | (60) | 20.4 | (60) | 13.8 | (62) | 9.9 | (60) | 8.9 | (55) | 9.1 | (35) | 10.3 | (15) |
| ▲ NCREIF ODCE | 4.8 | (20) | 12.5 | (5) | 29.5 | (2) | 18.3 | (5) | 12.7 | (6) | 10.5 | (3) | 10.3 | (6) | 11.2 | (4) |

**Aberdeen Standard (ASI) Global Absolute Return Strategy (GARS)**

The Aberdeen Standard Global Absolute Return Strategy (GARS) was designed in 2005 to address the needs of Standard Life's own Defined Benefit pension plan, with an objective to generate absolute returns with significantly less volatility than equity investments. The GARS investment process is designed to capitalize on an array of research and investment techniques and draws together the team's three-year investment insights. The team then examines and reviews position proposals to approve a high conviction, short list of positions that should work well together. The GARS strategy is built using a broad range of return-seeking positions (i.e. multi-strategy) that incorporate multiple risk views when constructing the portfolio. The strategy will take some directional risk at times if the portfolio management team believes that it will earn positive returns over their three-year time horizon. Given the scale of the GARS portfolio, the team requires all investment positions to be both scalable and suitably liquid. In addition, the strategy's risk-based approach requires the team to be able to reliably model the risk behavior of each selected investment, so all assets used must be well-understood from a risk perspective before going into the portfolio.

**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 incepted 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**

Angelo Gordon completed syndication of its AG Credit Solutions Fund ("CSF") in December of 2019. CSF was designed to capture opportunities in a late-cycle credit market and the initial stages of a market dislocation. Angelo Gordon designed and documented CSF to allow the placement of an annex fund in times of dislocation and credit deterioration. Given the price movements in the credit markets in March of 2020, driven by the lack of liquidity, financing needs of investment grade and non-investment grade borrowers, and anticipated impacts (restructurings, rescue financings, liquidations, etc.), Angelo Gordon came to market with the $1.8 billion AG CSF Annex Dislocation Fund ("ADF"). ADF'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. ADF 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. – 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 60-90stocks, 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**

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund. The Invesco real estate team manages around $62B in assets with investments and offices around the globe. Invesco Value Fund IV 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 IV provides a complement to the more conservative Invesco Core Fund and offers the potential of enhanced returns to the SamCERA Real Estate portfolio.

**INVESCO Realty Advisors – INVESCO US Val V**

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund and through the Invesco US Value IV Fund since December 2015. The Invesco real estate team manages around $62B in assets with investments and offices around the globe. Invesco Value Fund V will be similar to the Value Add IV and look to acquire fundamentally sound but broken “core” assets that can be repositioned into institutional-quality, income producing properties. Investments will be limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA’s).

**Mondrian Investment Partners – International Equity**

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

**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.

**Western Asset Management – Total Return Unconstrained (TRU)**

Western Asset's Total Return Unconstrained strategy (TRU) seeks to provide bond-like risk and return over the long term but does not have a benchmark. This allows for asset allocation based on value rather than using the construction of a benchmark as baseline positioning. The investment approach is active with very broad latitude on duration (-3 to +8 years) and on asset allocation across all of the eligible sectors in a core plus mandate. The portfolio must have at least 50% of its holdings in investment-grade securities. The flexibility offered by this strategy allows for defensive positioning in rising rate environments and opportunistic deployment of capital when value opportunities arise. It also allows the portfolio managers to emphasize (or deemphasize) either credit or rates when one or the other appears to offer greater (or lesser) value.um non-US exposure.

**White Oak - White Oak Yield Spectrum Fund**

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

**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



| **Total Plan Policy Index** | **As of** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **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** | **1/1/17** |
| 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% |
| 60/40 MSCI World/Bloomberg Global Aggregate (RP) | 0.0% | 0.0% | 0.0% | 4.0% | 8.0% | 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% |
| 91 Day T-Bills | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Bloomberg Aggregate | 18.0% | 21.0% | 21.0% | 18.0% | 14.0% | 14.0% | 14.0% | 14.0% | 14.0% | 14.0% | 14.0% | 12.0% | 10.0% |
| Bloomberg BA Intermediate HY | 10.0% | 10.0% | 10.0% | 8.0% | 8.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 6.0% | 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% |
| 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% |
| Bloomberg Multiverse | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.0% | 3.0% |
| Bloomberg TIPS | 0.0% | 0.0% | 0.0% | 0.0% | 1.0% | 2.0% | 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% |
| 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% |
| 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% |
| Blended Public Real Asset | 4.0% | 4.0% | 4.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 0.0% | 0.0% | 0.0% |
| Blended Private Real Asset | 4.0% | 3.0% | 3.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 8.0% | 7.0% | 5.0% |
| Libor +4% (HF) | 0.0% | 0.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 5.0% |
| SOFR +4% (HF) | 7.0% | 6.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 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% |
| MSCI ACWI ex US IMI 100% Hedged (Net) | 9.5% | 9.0% | 9.0% | 9.0% | 9.0% | 7.6% | 5.7% | 3.8% | 1.9% | 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% | 0.0% | 0.0% | 0.0% | 19.0% | 19.0% |
| MSCI ACWI ex-US IMI (Net) | 9.5% | 9.0% | 9.0% | 9.0% | 9.0% | 11.4% | 13.3% | 15.2% | 17.1% | 19.0% | 19.0% | 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% |
| NCREIF ODCE | 9.0% | 10.0% | 10.0% | 9.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 7.0% | 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% |
| 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% |
| 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% |
| 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% |
| Russell 3000 | 22.0% | 21.0% | 21.0% | 22.0% | 22.0% | 22.0% | 22.0% | 22.0% | 22.0% | 21.0% | 21.0% | 23.0% | 28.0% |
| Russell 3000 +3% (PE) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 7.0% | 7.0% | 7.0% |
| Russell 3000 +3% 1Q Lag (PE) | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 7.0% | 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% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

# Policy Index and Benchmark History

Period Ending: June 30, 2022

| 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% | 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% | 0.0% |
| 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% |
| 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% |
| 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% |
| 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% |
| 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% | 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% |

| Public Equity Benchmark | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| As of: | | | | | | | | | | | | | | | | | | | |
| 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% | 34.0% | 31.3% | 23.1% | 0.0% | 0.0% | 0.0% |
| MSCI ACWI ex US IMI 100% Hedged (Net) | 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% | 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) | 23.2% | 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% | 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% | 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% | 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% | 8.3% | 12.0% | 13.2% | 13.5% | 15.4% | 24.2% | 25.0% | 25.0% |
| Russell 3000 | 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% | 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% |

| US Equity Benchmark | 9/1/16 | 1/1/16 | 6/1/00 | 3/1/99 | 9/1/98 | 7/1/96 | 1/1/95 |
|---|---|---|---|---|---|---|---|
| As of: | | | | | | | |
| 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 | 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 |
|---|---|---|---|---|---|---|---|---|---|
| As of: | | | | | | | | | |
| 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 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| As of: | | | | | | | | | | | | | | | | |
| Bloomberg Aggregate | 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 | 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% | 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% | 16.0% | 15.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Bloomberg Multiverse | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 14.3% | 15.8% | 16.7% | 15.0% | 18.8% | 20.0% | 20.0% | 20.5% | 0.0% | 0.0% | 0.0% |
| Bloomberg TIPS | 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% | 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% |

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

| Alternatives Benchmark | 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 |
|---|---|---|---|---|---|---|---|---|---|
| As of: | | | | | | | | | |
| 60/40 Russell 3000/Bloomberg US Aggregate (RP) | 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% | 17.7% | 18.8% | 15.0% |
| CPI + 5% (RA) | 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% | 50.0% | 46.2% | 46.2% | 41.7% | 29.4% | 25.0% | 15.0% |
| SOFR +4% (HF) | 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% | 53.8% | 58.3% | 41.2% | 43.8% | 40.0% |
| Russell 3000 +3% 1Q Lag (PE) | 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% |

| 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% | 100.0% |

| Inflation Hedge | As of: 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% | 5.88% | 11.1% | 12.5% | 14.3% | 14.3% |
| Bloomberg Commodity | 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% | 0.0% | 0.0% | 0.0% | 14.3% |
| Blended Public Real Asset | 23.53% | 23.53% | 35.29% | 35.29% | 33.3% | 0.0% | 0.0% | 0.0% |
| Blended Private Real Asset | 23.53% | 17.65% | 11.77% | 11.77% | 11.1% | 43.8% | 35.7% | 0.0% |
| NCREIF ODCE | 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% |

| 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% |

| 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% |

**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 |

**BlackRock-MSCI ACWI ex US IMI Index Fund**

| | |
|---|---|
| On All Assets: | 0.045% per annum |

**DoubleLine**

| | |
|---|---|
| On All Assets: | 0.30% per annum |

**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 |

**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 |

| Name | Primary Benchmark | Rule 1 | Rule 2 | Rule 3 |
|---|---|---|---|---|
| Acadian US MGD V | Russell 1000 | -- | -- | -- |
| DE Shaw | Russell 1000 | ⚐ | ✓ | ⚐ |
| PanAgora Defuseq | Russell 1000 | -- | -- | -- |
| PGIM Quant Solutions | Russell 2000 | ⚐ | ⚐ | ⚐ |
| Baillie Gifford | MSCI ACWI ex US | ⚐ | ⚐ | ⚐ |
| Mondrian | MSCI ACWI ex USA Value Gross | ⚐ | ⚐ | ⚐ |
| DoubleLine | Bloomberg US Aggregate TR | -- | -- | -- |
| FIAM Bond | Bloomberg US Aggregate TR | ✓ | ✓ | ✓ |
| NISA Core Bond | Bloomberg US Aggregate TR | -- | -- | -- |
| Western TRU | 3-Month Libor Total Return USD | ⚐ | ⚐ | ⚐ |
| 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 | ✓ | ✓ | ✓ |
| PIMCO Diversified | Blended PIMCO Diversified Index | -- | -- | -- |
| Franklin Templeton | Bloomberg Multiverse TR | -- | -- | -- |
| Blackrock DL Feeder IX-U | Cliffwater Direct Lending Index | -- | -- | -- |
| PIMCO Private Income | Bloomberg BA Intermediate HY | -- | -- | -- |
| TCP Direct Lending VIII | Cliffwater Direct Lending Index | ⚐ | ✓ | ✓ |
| White Oak Yield | Cliffwater Direct Lending Index | ⚐ | ✓ | ⚐ |
| White Oak YSF V | Cliffwater Direct Lending Index | -- | -- | -- |
| Aberdeen Standard GARS | Absolute Return Custom 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

| Name | Primary Benchmark | Rule 1 | Rule 2 | Rule 3 |
|---|---|---|---|---|
| Acadian US MGD V | Russell 1000 | -- | -- | -- |
| DE Shaw | Russell 1000 | ⚐ | ✓ | ⚐ |
| PanAgora Defuseq | Russell 1000 | -- | -- | -- |
| PGIM Quant Solutions | Russell 2000 | ⚐ | ⚐ | ⚐ |
| Baillie Gifford | MSCI ACWI ex US | ⚐ | ⚐ | ⚐ |
| Mondrian | MSCI ACWI ex USA Value Gross | ⚐ | ✓ | ⚐ |
| DoubleLine | Bloomberg US Aggregate TR | -- | -- | -- |
| FIAM Bond | Bloomberg US Aggregate TR | ✓ | ✓ | ✓ |
| NISA Core Bond | Bloomberg US Aggregate TR | -- | -- | -- |
| Western TRU | 3-Month Libor Total Return USD | ⚐ | ⚐ | ⚐ |
| 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 | ✓ | ✓ | ✓ |
| PIMCO Diversified | Blended PIMCO Diversified Index | -- | -- | -- |
| Franklin Templeton | Bloomberg Multiverse TR | -- | -- | -- |
| Blackrock DL Feeder IX-U | Cliffwater Direct Lending Index | -- | -- | -- |
| PIMCO Private Income | Bloomberg BA Intermediate HY | -- | -- | -- |
| TCP Direct Lending VIII | Cliffwater Direct Lending Index | ⚐ | ✓ | ✓ |
| White Oak Yield | Cliffwater Direct Lending Index | ⚐ | ✓ | ⚐ |
| White Oak YSF V | Cliffwater Direct Lending Index | -- | -- | -- |
| Aberdeen Standard GARS | Absolute Return Custom 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

# PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

## 3RD QUARTER 2022
## Investment Landscape

# Recent Verus research

## Visit: https://www.verusinvestments.com/insights/

### Topics of interest papers

**A CLOSER LOOK AT CHINA**

China's ascension over the past twenty years to the second largest economy in the world has changed the global landscape in a variety of ways. As China's economic size and market capitalization grows, many investors have reasonably been pondering how to treat their allocations to Chinese assets. In this Topic of Interest white paper, we offer some potential opportunities and threats around Chinese investment that should help provide context to investors in their decisions around this market.

**A PRIMER: TIMBERLAND & FARMLAND**

In this Topic of Interest white paper, we will aim to inform readers of the investment thesis for timberland and agriculture, detailing the return drivers and characteristics unique to each asset class. Next, we cover historical performance and how these asset classes might fit within institutional portfolios and contribute to portfolio return objectives. Here we touch on the commonly acknowledged issues around interpreting the volatility of private market assets, due to data lag and appraisal-smoothing effects. Last, we conclude with a Verus outlook on both Timberland and Agriculture in the current market environment.

### Annual research

**2022 REAL ASSETS OUTLOOK**

For the first time in decades, high inflation has emerged and is creating challenges for consumers and investors. We believe inflation will likely begin falling later in 2022, though notable inflationary and deflationary forces are in play, and it is difficult to gauge which of these forces will have greater impacts. While inflation remains the topic most discussed in the media, and among many investors, how the Fed responds and whether the tightening path overcorrects is an issue we are discussing more today. Learning from history and the actions of the Volker Fed, we would not rule out the possibility that this inflation cycle quickly turns into deflation as recessionary forces take hold.

# Verus business update

### Since our last Investment Landscape webinar:

— Verus hired several new employees. **John Santopadre, CFA**, Director | Portfolio Management; **Colleen Flannery,** Associate Director | Public Markets; **Lukas Seeley**, Performance Analyst; **James Wadner**, Performance Analyst; **Jonah Coffee**, Performance Analyst; and **Nicholas Pecache**, Performance Analyst.

— The firm continues to grow with new clients that stretch from Hawaii to South Carolina. We now proudly serve clients in 26 states in every domestic time zone.

— Recent research found at *verusinvestments.com/insights*

- In May, we released our ***2022 Real Assets Outlook***
- In June, we published a ***Primer on Mortgage Income*** and ***A Primer: Timberland & Farmland***
- Earlier this month, we released a *Topics of Interest* paper on ***A Closer Look at China***

# Table of contents

VERUSINVESTMENTS.COM

SEATTLE 206.622.3700
CHICAGO 312.815.5228
PITTSBURGH 412.784.6678
LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484

# 2nd quarter summary

### THE ECONOMIC CLIMATE

— U.S. real GDP fell again during Q2, down -0.9% annualized (+1.6% over the past full year). This stoked broad fears of recession, as two consecutive quarters of negative growth is a common definition of technical recession. ***p. 8***

— U.S. real personal consumption slowed to pre-COVID rates of growth, coming in at 2.1% year-over-year in May. The buying habits of consumers appear to have transitioned back towards services and away from goods, reversing the unprecedented spending shift that had occurred during the pandemic. This trend should help mitigate strained supply chains, as fewer goods require shipping. ***p. 13***

### PORTFOLIO IMPACTS

— U.S. core CPI slowed to 5.9% year-over-year in June. Headline inflation, which includes food and energy prices, came in surprisingly hot at 9.1% year-over-year, exceeding expectations. Higher energy prices were a major driver of the inflation print, with energy commodities and gasoline moving more than 10% higher from May to June. ***p. 10***

— Credit markets sold off during Q2, impacted by concerns of a slowing economy and possibility of recession as the Fed signaled a willingness to raise rates until inflation slows. Bank loans performed the best at -4.4% and outperformed longer duration bonds such as investment grade and high yield (-7.3% and -9.8%, respectively). ***p. 23***

### THE INVESTMENT CLIMATE

— Russia's invasion of Ukraine continued, resulting in heavy losses on both sides. Most fighting has taken place in the east, as Russia gradually advances. Both Finland and Sweden are in the process of joining NATO—a landmark move and result of war likely unforeseen by Russia. ***p. 16***

— Early in 2022 many investors feared a potential global commodity shortage—a product of underinvestment in production capacity in recent years. Russia's invasion of Ukraine further amplified these concerns, pushing commodities higher. This trend appears to have reversed, as recession is a notable possibility, and many commodities have seen sharp losses. ***p. 36***

### ASSET ALLOCATION ISSUES

— Nearly every asset class delivered moderate to deeply negative returns during Q2. Global equities saw a -15.7% pullback (MSCI ACWI), fixed income experienced losses as interest rates rose and credit spreads widened (BBG US Aggregate -4.7%, BBG US High Yield -9.8%), and commodities saw a reversal (BBG Commodity -5.7%). ***p. 46***

— Value stocks outperformed Growth stocks by a wide margin again during Q2 (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations were hit by rising rates and risk-off sentiment. Large capitalization stocks slightly outperformed small cap stocks (Russell 1000 -16.7%, Russell 2000 -17.2%). ***p. 29***

Most asset classes delivered further losses during Q2 over fears of inflation and recession

# What drove the market in Q2?

**"Inflation Surges Heap Pressure on Global Policy Makers"**

**HEADLINE CONSUMER PRICE INFLATION (YEAR-OVER-YEAR)**

| Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|
| 7.5% | 7.9% | 8.5% | 8.3% | 8.6% | 9.1% |

*Article Source: Financial Times, April 13th, 2022*

**"Fed Raises Rates by 0.75%, Largest Increase Since 1994"**

**FED FUNDS RATE EXPECTED AT YEAR-END 2022**

| Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|
| 1.4% | 1.4% | 2.4% | 2.9% | 2.7% | 3.4% |

*Article Source: Wall Street Journal, June 15th, 2022*

**"Risk of Global Recession by End of Year Rises on High Inflation"**

**IMF U.S. 2022 GDP GROWTH PROJECTIONS**

| Jul 21 | Oct 21 | Jan 22 | Apr 22 | Jun 22 | Jul 22 |
|---|---|---|---|---|---|
| 4.9% | 5.2% | 4.0% | 3.7% | 2.9% | 2.3% |

*Article Source: Bloomberg, April 11th, 2022*

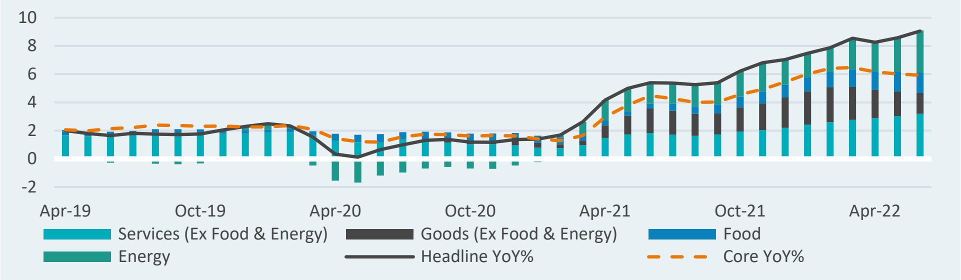
**"Consumer Sentiment Plunges to Record Low Amid Surging Inflation"**

**UNIVERSITY OF MICHIGAN CONSUMER SENTIMENT INDEX**

| Jan | Fed | Mar | Apr | May | Jun |
|---|---|---|---|---|---|
| 67.2 | 62.8 | 59.4 | 65.2 | 58.4 | 50.0 |

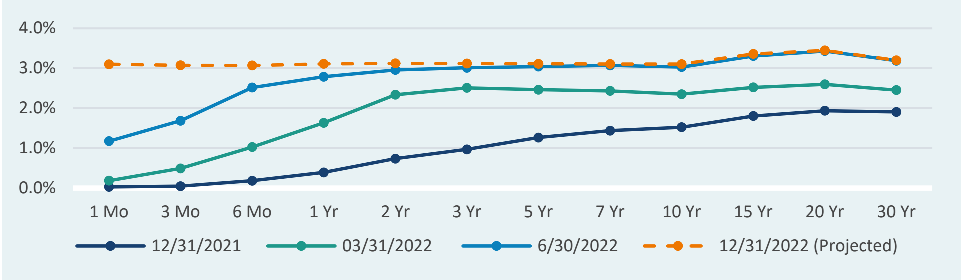
*Article Source: CNN, June 10th, 2022*

**CONTRIBUTION TO HEADLINE CONSUMER PRICE INFLATION**



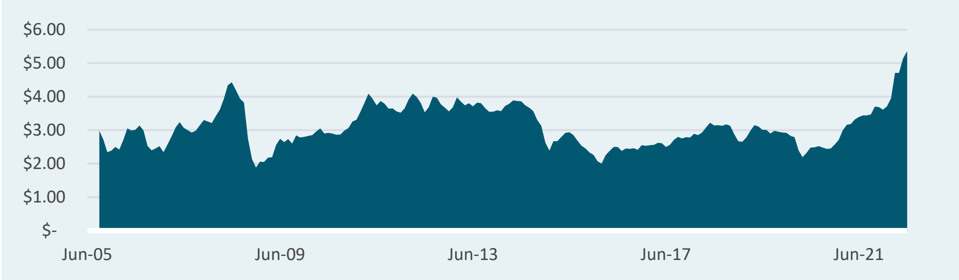

*Source: Bureau of Labor Statistics, as of 6/30/22*

**U.S. TREASURY CURVE MOVEMENT**




*Source: Bloomberg, as of 6/30/22*

**AVERAGE U.S. GASOLINE PRICES (PER GALLON)**




*Source: Bloomberg, as of 6/30/22*

# Economic environment

# U.S. economics summary

— U.S. real GDP fell -0.9% annualized during Q2 (+1.6% over the past full year). Most aspects of economic activity showed decline, including private investment (-2.7%), government spending (-0.3%), and imports (-0.5%). This stoked fears of recession, as two quarters of negative growth is a common definition of technical recession.

— The Federal Reserve's objective of a "soft landing" for the economy appears to have failed. An increasingly aggressive stance during the first half of the year contributed to a broad market selloff. The negative wealth effect of the market selloff, paired with a slowdown in big ticket purchases, has slowed the economy.

— U.S. core CPI, which excludes food & energy prices, slowed to 5.9% year-over-year in June. However, headline inflation which includes food and energy prices, came in surprisingly hot at 9.1% year-over-year, exceeding expectations. Higher energy prices were a major driver of the inflation print, with energy commodities and gasoline moving more than 10% higher just from May to June.

— Unemployment was unchanged at 3.6% during Q2. The broader U-6 unemployment rate tightened from 6.9% to 6.7%. A strong job market likely emboldens the Federal Reserve in its fight against high inflation, as the Fed holds a dual mandate to maximize employment and keep prices stable.

— Consumer sentiment collapsed to the lowest reading on record, according to the University of Michigan survey, which moved from 59.4 to 50.0. Survey respondents across all income, age, education, region, and political affiliation groups displayed deterioration in their outlook for the economy. Nearly half of respondents feel that inflation is damaging living standards.

| | **Most Recent** | **12 Months Prior** |
|---|---|---|
| Real GDP *(YoY)* | 1.6%<br>*6/30/22* | 12.2%<br>*6/30/21* |
| Inflation<br>*(CPI YoY, Core)* | 5.9%<br>*6/30/22* | 4.4%<br>*6/30/21* |
| Expected Inflation<br>*(5yr-5yr forward)* | 2.1%<br>*6/30/22* | 2.2%<br>*6/30/21* |
| Fed Funds Target Range | 1.50% – 1.75%<br>*6/30/22* | 0.00% – 0.25%<br>*6/30/21* |
| 10-Year Rate | 2.89%<br>*6/30/22* | 1.45%<br>*6/30/21* |
| U-3 Unemployment | 3.6%<br>*6/30/22* | 5.9%<br>*6/30/21* |
| U-6 Unemployment | 6.7%<br>*6/30/22* | 9.8%<br>*6/30/21* |

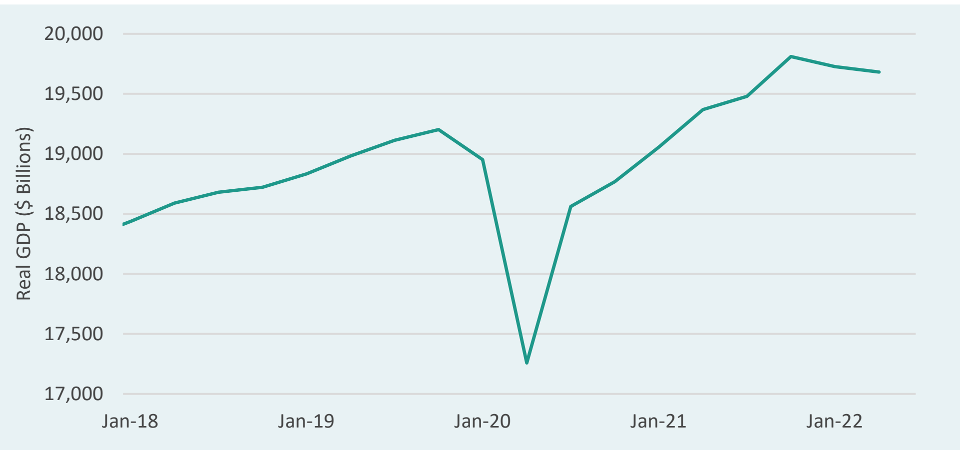
# GDP growth

U.S. real GDP fell again in Q2, down -0.9% annualized (+1.6% over the past full year). Most aspects of economic activity showed decline, including private investment (-2.7%), government spending (-0.3%), and imports (-0.5%). This stoked fears of recession, as two consecutive quarters of negative growth is a common definition of technical recession. Interestingly, the definition of "recession" has become hotly debated, with some arguing that the relatively strong labor market suggests no recession. However, every instance of two consecutive quarters of negative GDP growth in modern history has ultimately been classified as an official recession. In other words, it would be extremely unusual if 2022 was not eventually labeled as an official recession.

A variety of economic data indicates further deceleration, and sentiment remains very poor across citizens and businesses. In July, the IMF cut its U.S. 2022 GDP growth forecast from 2.9% to 2.3%. The Federal Reserve's objective of a "soft landing" for the economy appears to have failed. An increasingly aggressive stance throughout the first half of the year contributed to a bear market for equities and other risk assets, as well as sharp losses for bonds. The negative wealth effect of market losses, paired with a slowdown in bigger ticket purchases such as homes and automobiles has created a drop in economic activity.

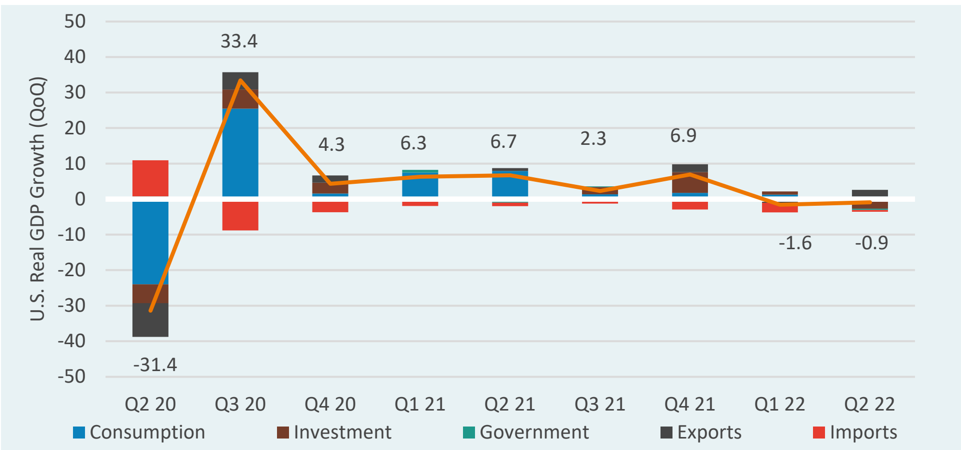
The U.S. has likely entered recession

**U.S. REAL GROSS DOMESTIC PRODUCT**




*Source: FRED, as of 6/30/22*

**U.S. REAL GDP COMPONENTS (QOQ)**



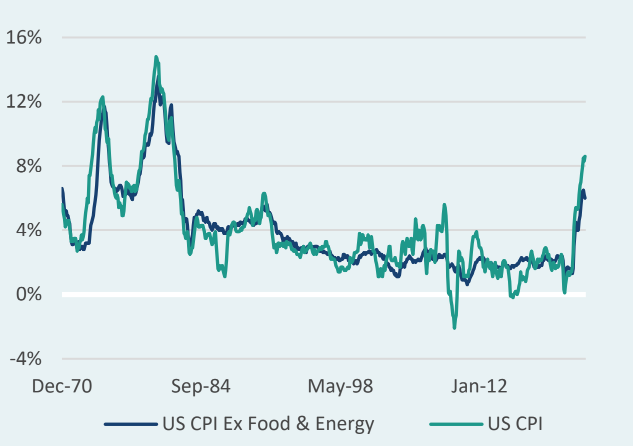

*Source: FRED, as of 6/30/22*

# Inflation

U.S. core CPI, which excludes food & energy prices, slowed to 5.9% year-over-year in June. However, headline inflation which includes food and energy prices, came in surprisingly hot at 9.1% year-over-year, exceeding expectations. Higher energy prices were a major driver of the inflation print, with energy commodities and gasoline moving more than 10% higher from May to June. Inflation has been mixed during the quarter, with April showing very moderate price growth, May showing a hot print across almost all price categories, and then June also surprising to the upside.

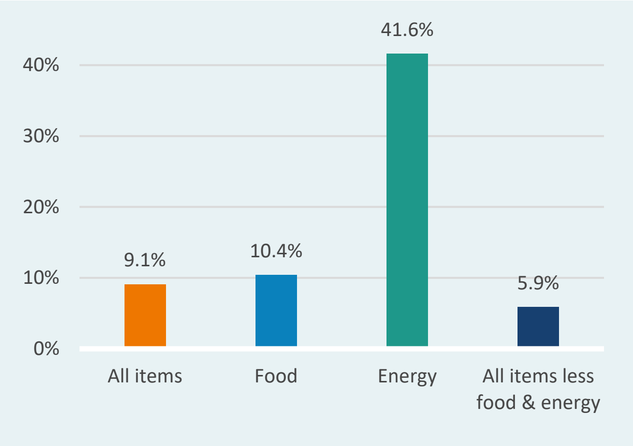
We believe there is a rising chance of economic deceleration coinciding with a drop in inflation. There appear to be a variety of forces that could contribute to this scenario, such as: the recent sharp fall in commodity prices, Federal Reserve tightening which has contributed to a slowdown in consumer demand, further easing of supply chain and shipping problems which reduces cost burdens on businesses, and reports that many businesses have *overbought* inventories which could lead to excesses and the need to offer more attractive pricing for quicker inventory liquidation.

**U.S. CPI (YOY)**



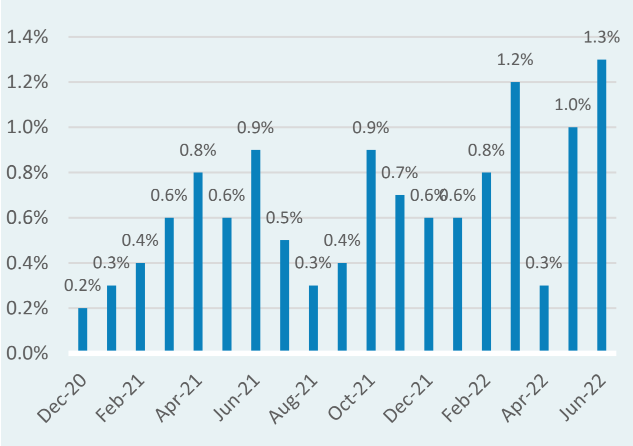

*Source: BLS, as of 6/30/22*

**U.S. CPI (YOY)**




*Source: BLS, as of 6/30/22*

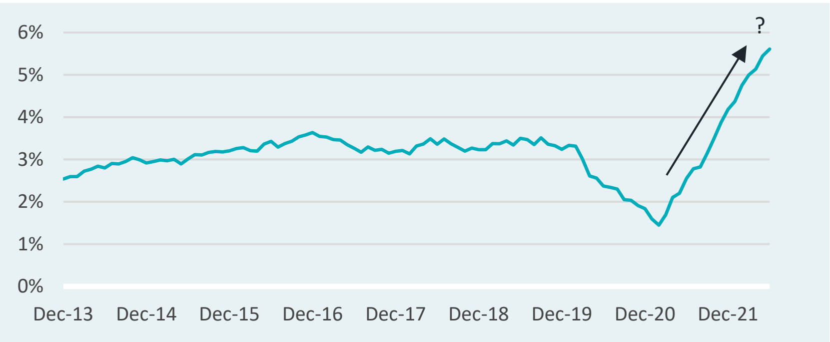
**MONTHLY PRICE MOVEMENT**




*Source: BLS, as of 6/30/22*

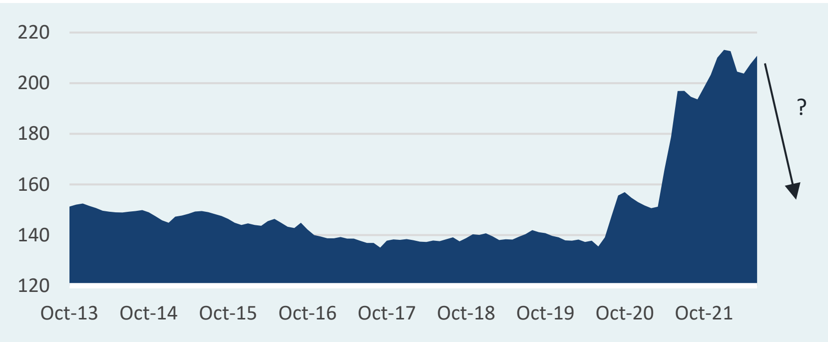
# How are inflation conditions evolving?

### CPI SHELTER COSTS (YEAR-OVER-YEAR)




Shelter costs, which account for 32% of CPI gauge, have moved considerably higher along with the broader real estate boom. The continuation of this trend could result in a higher floor for inflation near-term. This is possible since shelter CPI is survey-based and slow moving as consumers tend to anchor their survey responses on recent data.

### USED CAR & TRUCK PRICES




Used auto prices remain high as the shortage of cars continues. If this pandemic-related price rise reverses, it could bring inflation down materially.

Inflation dynamics are complex. On this slide we take a look at a few potentially *inflationary* forces and *deflationary* forces

### BLOOMBERG COMMODITY SPOT INDEX


Fears of a recession which would hinder the demand for commodities, and likely some easing of uncertainty around Ukraine, have contributed to a sharp drop in commodity prices. If weaker prices persist, the reversal in commodity markets should have a deflationary impact on broader consumer prices, though this effect may take time to flow through to broader prices.

*Source: FRED, as of 6/30/22 (upper), Bloomberg, as of 6/30/22 (lower)*

### FREIGHTOS SHIPPING CONTAINER COST INDEX


Pandemic-related supply and demand complexities contributed to many supply shortages and price spikes. These shipping costs are quickly falling back towards pre-pandemic levels. We would expect the mitigation of shipping problems to have a deflationary effect on prices, assuming businesses begin to pass these cost savings on to customers.

*Source: FRED, as of 6/30/22 (upper), Freightos, as of 7/10/22 (lower)*

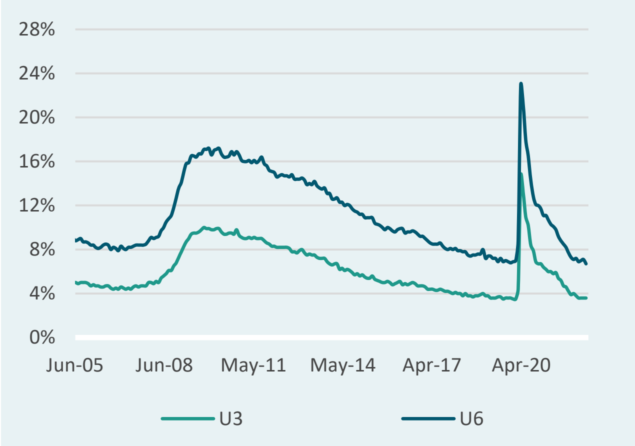
# Labor market

The U.S. labor market continues to be strong. Unemployment was unchanged at 3.6% during the quarter. Meanwhile, the broader U-6 unemployment rate, which includes workers who are underemployed and those who are unemployed but have given up looking for work, tightened from 6.9% to 6.7%. Weekly *initial jobless claims* —a measure of the number of workers who filed for unemployment during any given week —moved higher during the quarter from a low of 166,000 in mid-March to 244,000 in early July.

A strong job market likely emboldens the Federal Reserve in its fight against high inflation, as the Fed holds a *dual mandate* to maximize employment and keep prices stable.

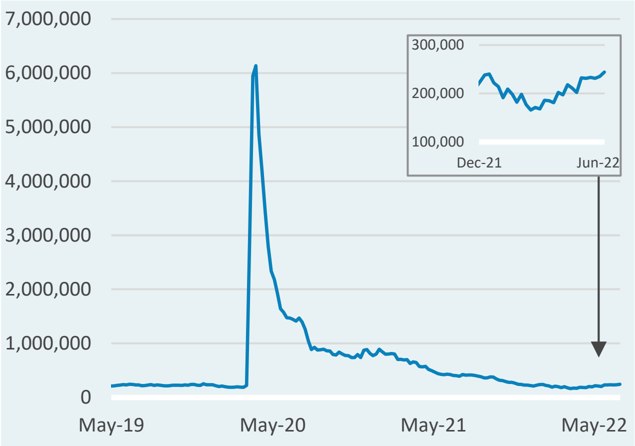
Abnormally early retirements of older workers during the pandemic had a large impact on the overall U.S. labor participation rate. While workers younger than age 55 have gradually gone back to work, much of the age 55+ cohort has not returned to the job market. In fact, more workers in the 55+ age cohort have dropped out of the labor force in 2022 than returned. Overall, there are materially fewer workers available nationwide now relative to pre-pandemic times.

**U.S. UNEMPLOYMENT**



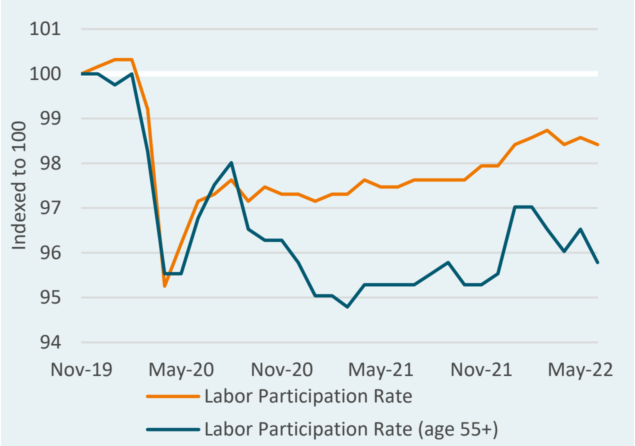

*Source: FRED, as of 6/30/22*

**INITIAL JOBLESS CLAIMS**




*Source: FRED, as of 7/9/22*

**U.S. LABOR PARTICIPATION RATE**




*Source: FRED, as of 6/30/22*

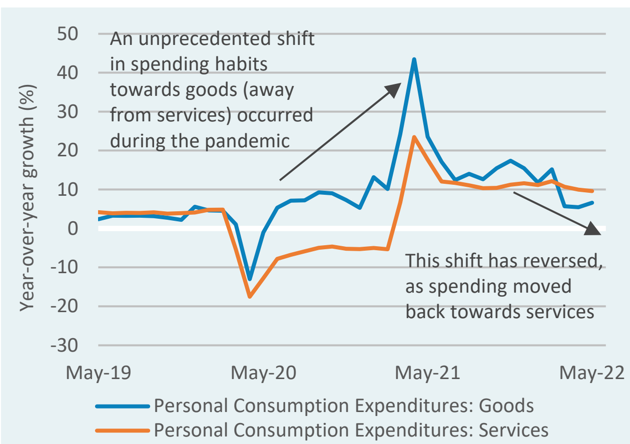
# The consumer

U.S. real (inflation-adjusted) personal consumption expenditures slowed to pre-COVID rates of growth, coming in at 2.1% year-over-year in May. The buying habits of consumers appear to have transitioned back towards services and away from goods, reversing the unprecedented spending shift that had occurred during the pandemic. This trend should help mitigate strained supply chains, as fewer goods require shipping.

At the same time overall spending has slowed, savings rates have also dropped to 5.4%—the lowest level since 2009. Less saving but also less spending (inflation-adjusted) may indicate that household budgets are being squeezed by the higher prices of goods and services.

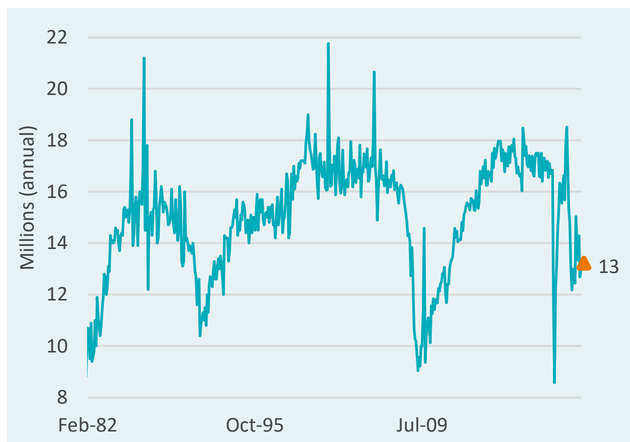
Auto sales activity remains very weak, at levels that have historically occurred during recession. The long-lasting semiconductor shortage has created widespread difficulties for auto manufacturers and has led to skyrocketing used vehicle prices. We also suspect that stimulus checks and heightened spending habits during the pandemic are contributing to the current slowdown, as this spending may have effectively *pulled forward* spending that would have otherwise occurred in years subsequent to the pandemic.

**PERSONAL CONSUMPTION EXPENDITURES**



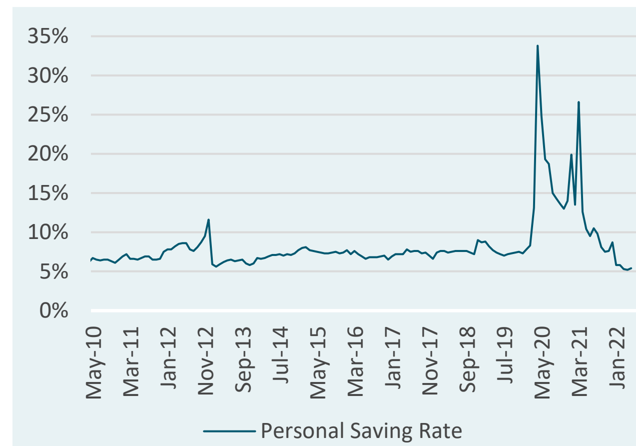

Source: FRED, as of 5/31/22

**AUTO SALES**




Source: Federal Reserve, as of 6/30/22

**PERSONAL SAVINGS RATE**




Source: FRED, as of 5/31/22

# Sentiment

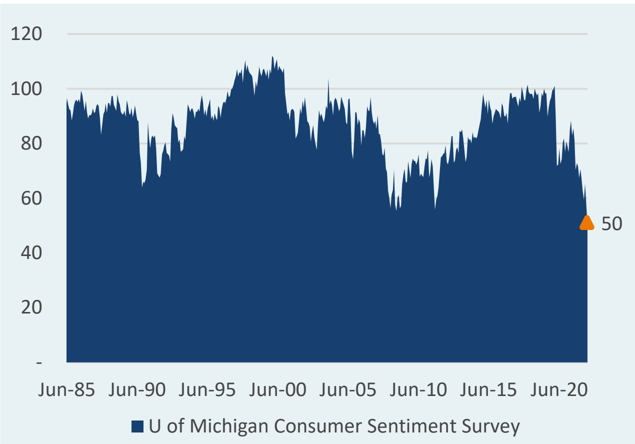
Consumer sentiment collapsed to the lowest reading on record, according to the University of Michigan survey, which fell from 59.4 to 50.0 during Q2. Survey respondents across all income, age, education, region, and political affiliation groups showed deterioration in their outlook for the economy. Nearly half of respondents pointed to inflation as damaging living standards. Around 79% of respondents expected bad times over the next year for business conditions, which was the highest reading since 2009.

In a June Economist/YouGov Poll, more than half of respondents said they believe the U.S. is in recession. Of those respondents, 43% called the recession moderate and 38% called it serious (only 19% called it mild). Interestingly, the survey suggested that most Americans view *the prices they pay for goods and services* as the most important indicator of recession. Much of the blame was generally placed on supply chain issues and COVID-19 for economic woes.

The NFIB Small Business Optimism index dropped substantially to the weakest level in 48 years. According to NFIB, expected business conditions have further weakened in every month of 2022. Twenty-eight percent of small businesses reported that inflation was the greatest problem to business operations. Owners remain pessimistic about the second half of 2022 and foresee supply chain issues, higher input prices, and labor shortages.

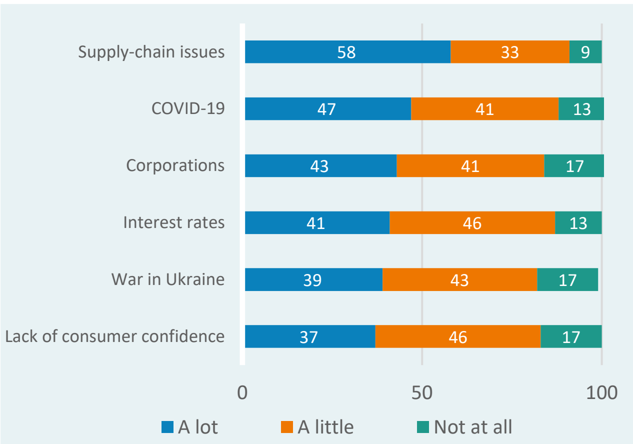
Sentiment, by most measures, is extremely poor

**CONSUMER SENTIMENT**




*Source: University of Michigan, as of 6/30/22*

**WHAT TO BLAME FOR ECONOMIC PROBLEMS?**




*Source: The Economist / YouGov, June 11-14, 2022*
*Survey asked "How much, if at all, do you attribute economic problems in the U.S. to the following"?*

**NFIB SMALL BUSINESS SENTIMENT**


*Source: NFIB, as of 5/31/22*

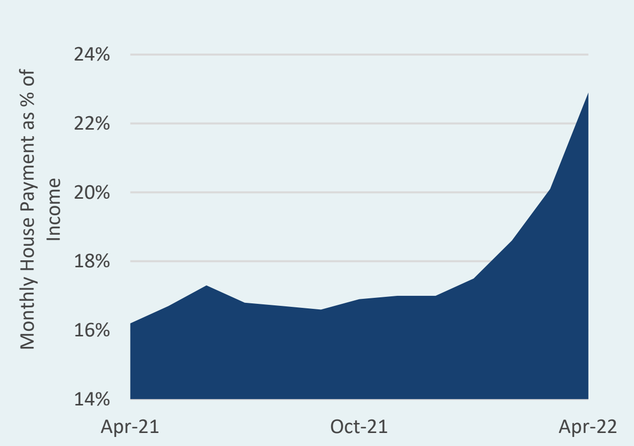
# Housing

U.S. home prices rose 2.1% from March to April, continuing steady appreciation. Home prices were 7.9% higher year-to-date, as of April, and 20.3% higher year-over-year. The average 30-year fixed rate mortgage began the year at 2.67% and ended June at 5.70%.

High home prices coupled with a material jump in mortgage interest rates has acted as a double whammy for potential homebuyers. According to the National Association of Realtors, the cost for a family with an average income to buy an average priced home jumped from around 16% of that family's income one year ago, to more than 22% of that family's income in April (a 38% increase in overall cost). Housing and rent prices have contributed to higher inflation.

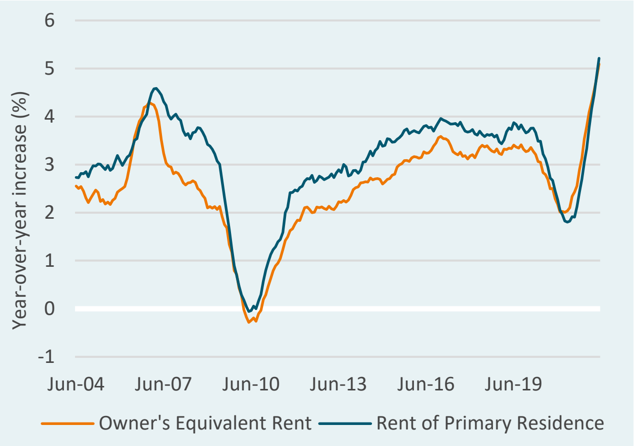
Historically, larger jumps in interest rates resulted in a softening of the real estate market and placed downward pressure on home values, all else equal. This effect appears to be occurring somewhat in recent months, as home sales have fallen to pre-pandemic levels and bidding wars have become less frequent. Conditions may result in a moderation of the real estate market, though continued tight inventory levels could act as an ongoing support to high prices.

### CHANGE IN HOUSING AFFORDABILITY



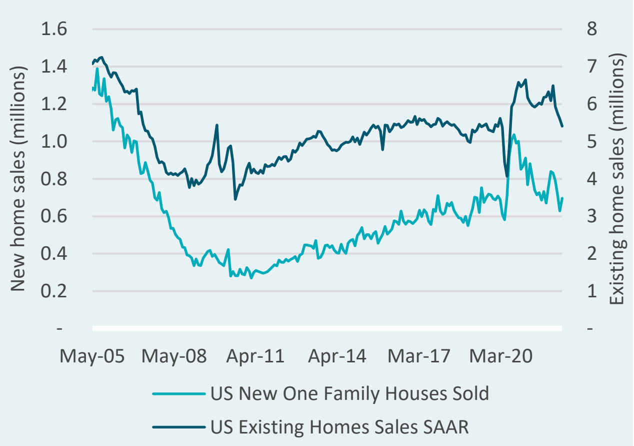

*Source: National Association of Realtors, as of 4/30/22*
*Census Bureau median family income is compared here to the monthly cost (principal + interest) of an average priced home*

### HOUSING & RENT COSTS




*Source: FRED, as of 5/31/22*

### HOME SALES ACTIVITY




*Source: Bloomberg, as of 5/31/22*

# International economics summary

— Economic growth has moderated in most countries, moving toward average levels. Higher inflation continues to erode growth figures as GDP is typically quoted as *inflation-adjusted* growth.

— Inflation trends continue to be disparate around the world. Japan and China are experiencing very low inflation and muted price pressures, while Europe and the United States are coping with multidecade-high inflation. Countries with low inflation and countries with high inflation all appear to have experienced an uptick during the second quarter.

— Labor markets have been relatively stable in developed markets, with conditions in the Eurozone strengthening. Unemployment in emerging markets were mixed—Brazil and Russia experienced improvement, while India and China saw slight weakening.

— Russia's invasion of Ukraine continued in the second quarter, leading to heavy loss of life on both sides. Most fighting has taken place in the east, as Russia generally gradually pushing forward. Concerns around food shortages in nearby countries that depend on Ukrainian agriculture persist, though many commodity prices that had shot higher in March and April have eased, falling closer to pre-invasion costs.

— During the first week of July, millions of Chinese citizens were put back into lockdown, and subjected to mass testing, as small outbreaks have led to renewed restrictions. China continues to stick to a "zero COVID" approach, which is increasingly at odds with the recognition by most nations that civilization will have to live *with* the virus for the long-term, while moving back to normal life.

| Area | GDP (Real, YoY) | Inflation (CPI, YoY) | Unemployment |
|---|---|---|---|
| United States | 1.6% *6/30/22* | 9.1% *6/30/22* | 3.6% *6/30/22* |
| Eurozone | 5.4% *3/31/22* | 8.6% *6/30/22* | 6.6% *5/31/22* |
| Japan | 0.4% *3/31/22* | 2.3% *6/30/22* | 2.6% *5/31/22* |
| BRICS Nations | 4.4% *3/31/22* | 4.6% *6/30/22* | 5.2% *12/31/21* |
| Brazil | 1.7% *3/31/22* | 11.9% *6/30/22* | 9.8% *5/31/22* |
| Russia | 3.5% *3/31/22* | 15.9% *6/30/22* | 3.9% *5/31/22* |
| India | 4.1% *3/31/22* | 7.0% *6/30/22* | 7.8% *6/30/22* |
| China | 4.8% *3/31/22* | 2.5% *6/30/22* | 5.9% *5/31/22* |

*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.*

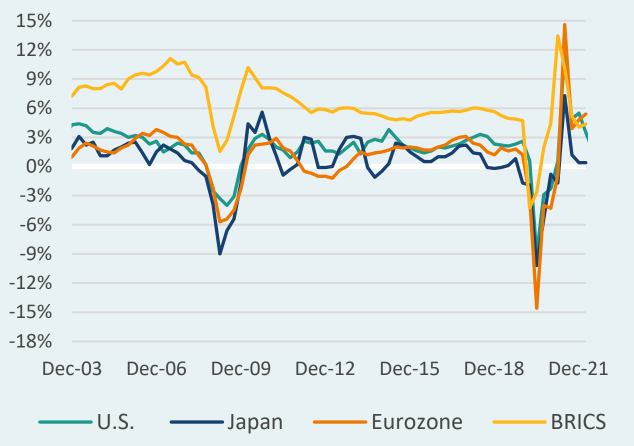
# International economics

Economic growth has moderated in most countries, moving toward average levels. Inflation trends remain disparate across geographies. Japan and China are experiencing very low inflation and muted price pressures, while Europe and the United States are coping with multidecade-high inflation. Countries with low inflation and countries with high inflation all appear to have experienced an uptick during Q2.

For some central banks, the issue of fighting inflation has been made more challenging given economic deceleration, as overly aggressive monetary policy might quickly send an economy into recession. Inflation has become a lightning rod for political leaders, as rising prices squeeze household budgets and standards of living.

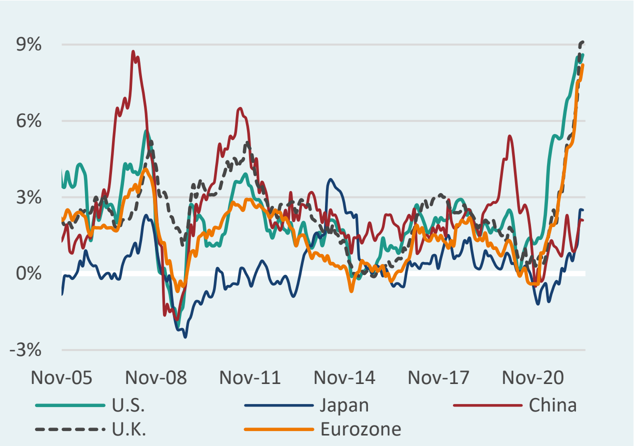
Unemployment rates were relatively stable in developed markets, with conditions in the Eurozone strengthening. Joblessness in emerging markets was mixed—Brazil and Russia experienced improvement, while India and China saw a slight weakening.

**REAL GDP GROWTH (YOY)**



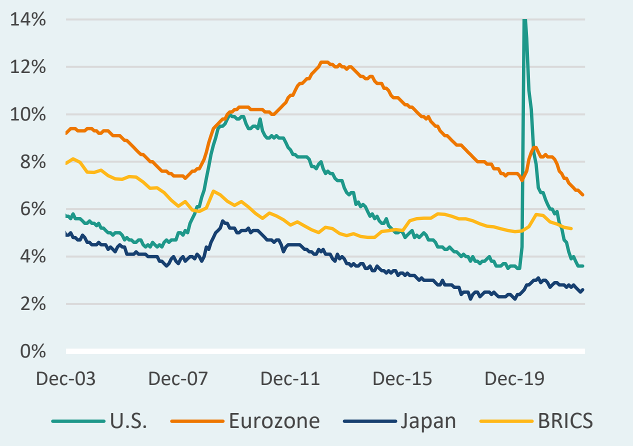

*Source: Bloomberg, as of 6/30/22*

**INFLATION (CPI YOY)**




*Source: Bloomberg, as of 5/31/22 – or most recent release*

**UNEMPLOYMENT**




*Source: Bloomberg, as of 6/30/22 – or most recent release*

# Fixed income rates & credit

# Fixed income environment

— The 10-year U.S. Treasury yield jumped during Q2 from 2.34% to nearly 3.50%, ending the quarter at 2.89%. Yields have fallen from their highs as recession fears mount. The Federal Reserve has a history of cutting interest rates during recession. This implies a higher chance of rate cuts as it appears the U.S. may currently be in recession.

— Credit markets sold off during Q2, impacted by concerns of a slowing economy and recession as the Fed signaled a willingness to raise rates until inflation slows. Bank loans performed the best at -4.4% and outperformed longer duration bonds such as investment grade and high yield (-7.3% and -9.8%, respectively).

— Credit spreads jumped considerably alongside the broader market selloff. U.S. high yield spreads increased from 3.4% to 5.6% and U.S. investment grade spreads headed from 1.2% to 1.6%. In contrast to the recent low yield environment, fixed income now offers investors more robust yields.

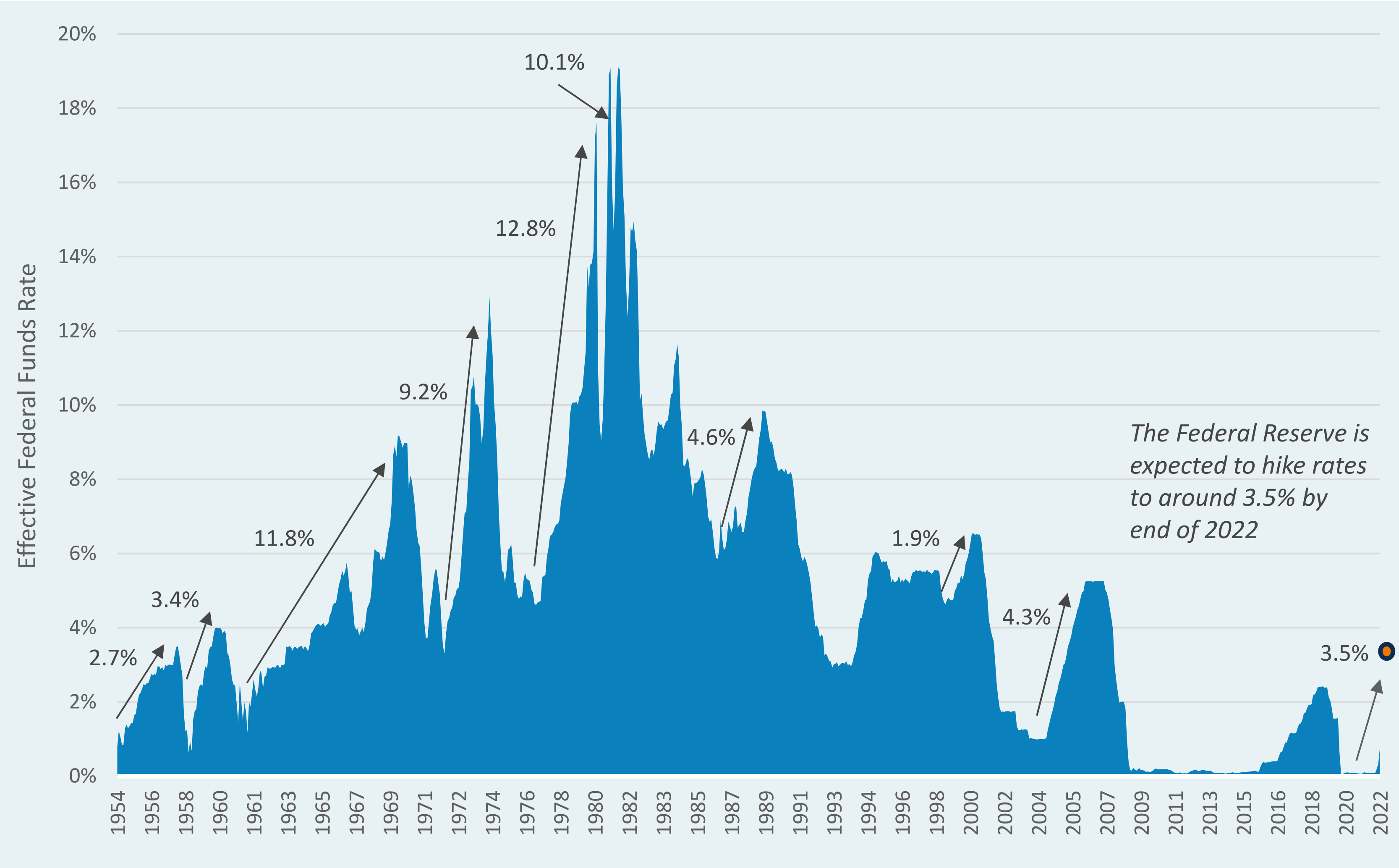
— The U.S. yield curve remained fairly flat during the second quarter. The 10-year minus 2-year yield spread fluctuated between -0.05% and 0.4%. Markets continue to price a flat or inverted yield curve, which is generally recognized as a sign of incoming recession.

— In June, the U.S. Federal Reserve began to unwind its $9 trillion balance sheet. Initially this action involved *not purchasing new bonds* and letting existing bonds mature and roll off. The Fed signaled plans to allow $30 billion of U.S. Treasuries and $17.5 billion of mortgage-backed securities to fall off the balance sheet by end of month. Leadership has admitted that this size of divestment program is essentially the first of its kind and that the committee will be moving with caution.

| | QTD Total Return | 1 Year Total Return |
|---|---|---|
| Core Fixed Income (Bloomberg U.S. Aggregate) | (4.7%) | (10.3%) |
| Core Plus Fixed Income (Bloomberg U.S. Universal) | (5.1%) | (10.9%) |
| U.S. Treasuries (Bloomberg U.S. Treasury) | (3.8%) | (8.9%) |
| U.S. High Yield (Bloomberg U.S. Corporate HY) | (9.8%) | (12.8%) |
| Bank Loans (S&P/LSTA Leveraged Loan) | (4.4%) | (2.7%) |
| Emerging Market Debt Local (JPM GBI-EM Global Diversified) | (8.6%) | (19.3%) |
| Emerging Market Debt Hard (JPM EMBI Global Diversified) | (11.4%) | (21.1%) |
| Mortgage-Backed Securities (Bloomberg MBS) | (4.0%) | (9.0%) |

*Source: Bloomberg, as of 6/30/22*

# How does this tightening cycle stack up?



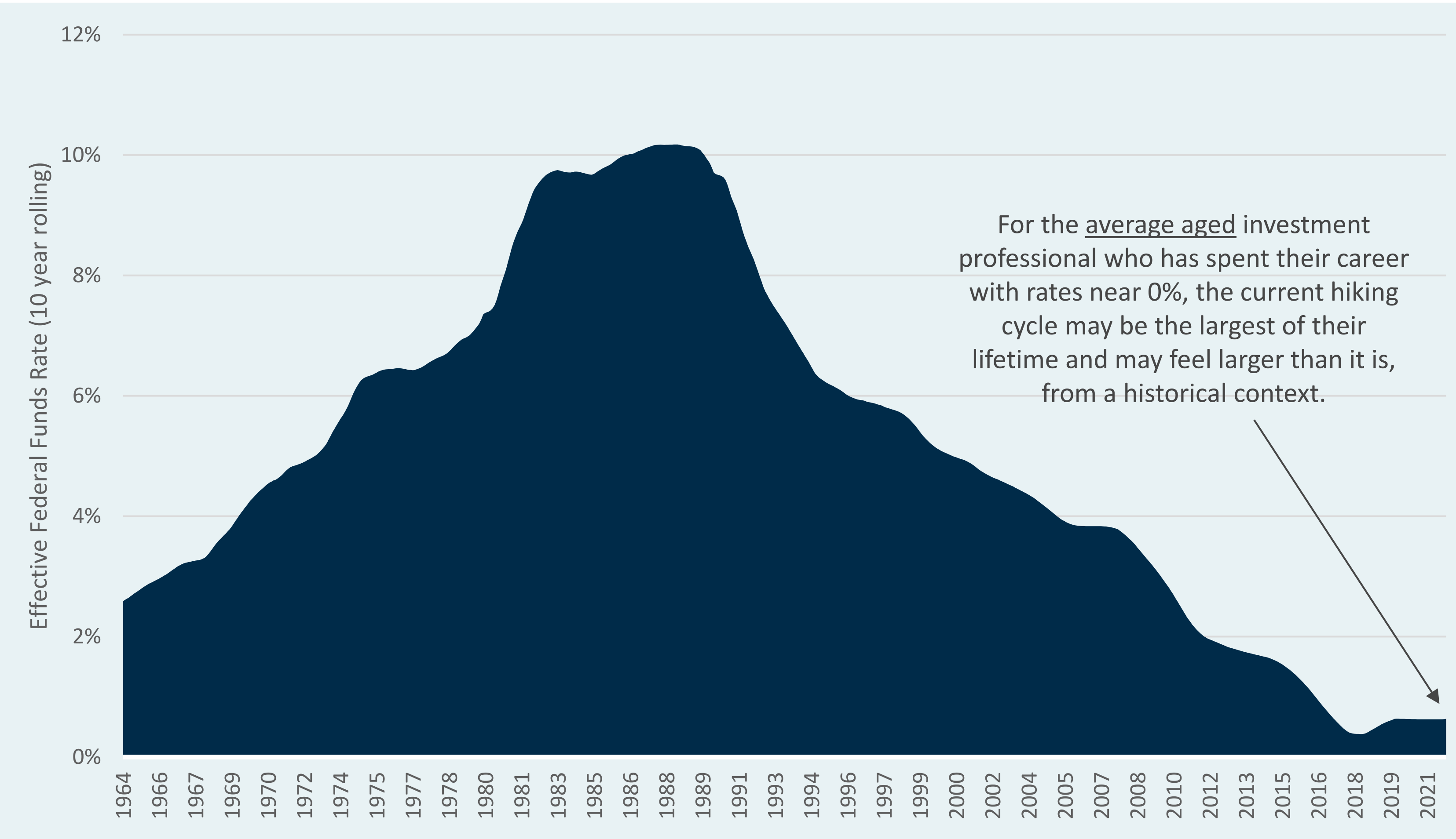

This tightening cycle is milder than most, in terms of total magnitude of hikes

The Fed's plans to reduce their large balance sheet does pose a unique challenge relative to past cycles, however

*Source: FRED, as of 6/30/22 - rate hiking cycle of each economic cycle shown*

# How does this tightening cycle stack up?

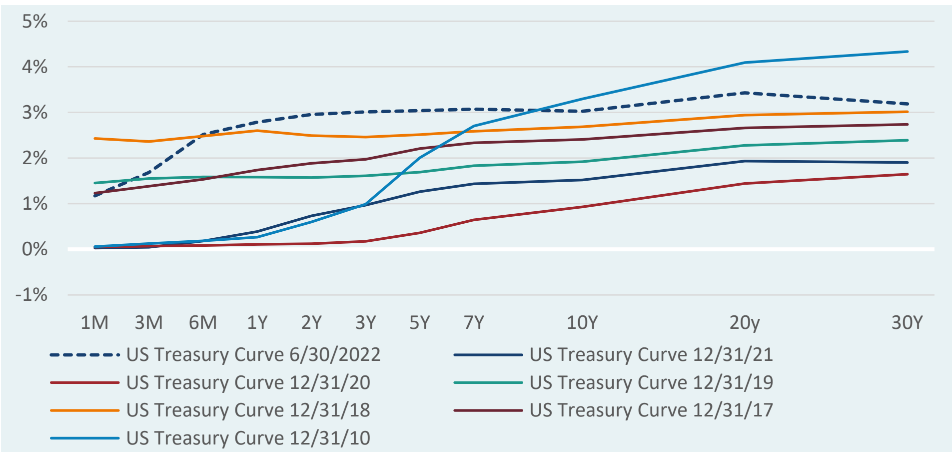
**10 YEAR ROLLING AVERAGE FED FUNDS LEVEL**



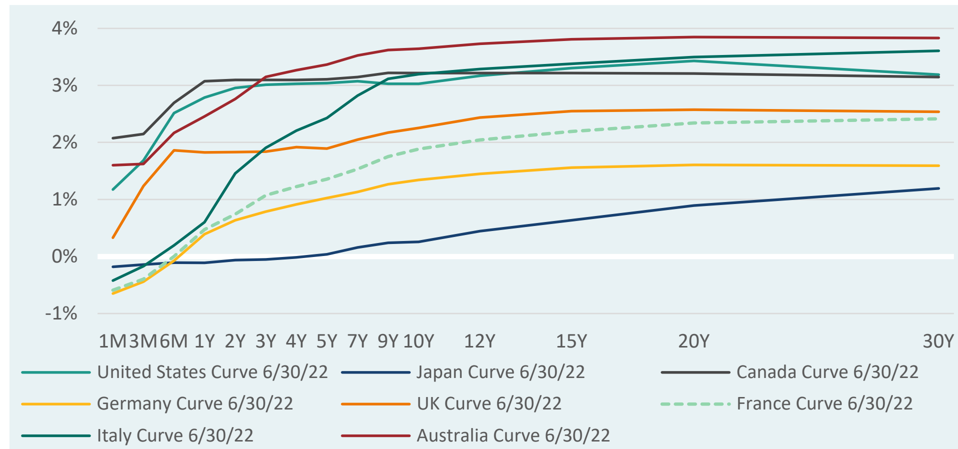

*Source: FRED, Verus, as of 6/30/22*

# Yield environment

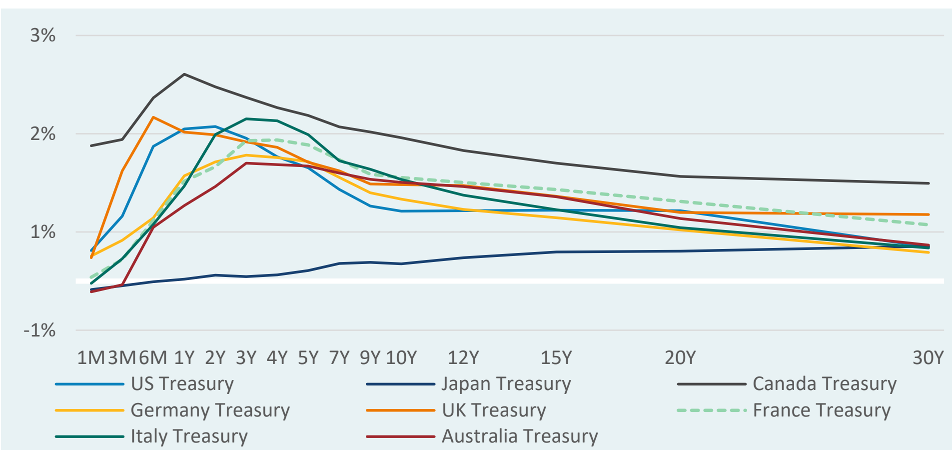
### U.S. YIELD CURVE



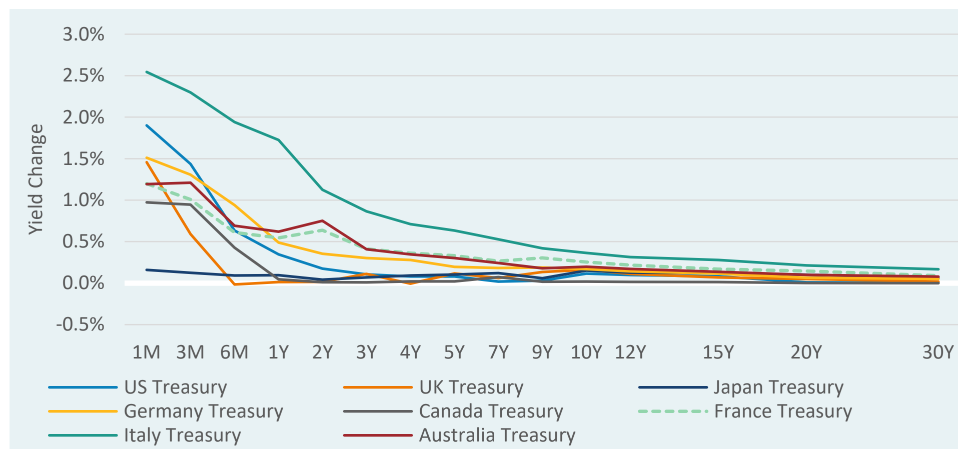

### GLOBAL GOVERNMENT YIELD CURVES




### YIELD CURVE CHANGES OVER LAST FIVE YEARS




### IMPLIED CHANGES OVER NEXT YEAR




*Source: Bloomberg, as of 6/30/22*

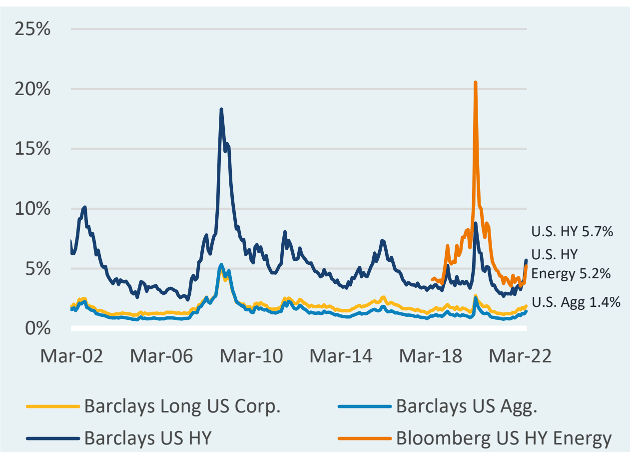
# Credit environment

Credit markets experienced a broad selloff over the quarter impacted by concerns of slowing economic growth and recession as the Fed signaled a willingness to raise rates until inflation slows. Bank loans performed the best, returning -4.4% and outperforming higher duration exposures such as investment grade and high yield corporate credit which returned -7.3% and -9.8%, respectively. The decline in high yield was the third worst quarterly decline since 2000, behind the 18% decline experienced during Q4 of 2008 and the 13% decline experienced during Q1 of 2020.

Risk-off sentiment and elevated concerns over economic growth prospects contributed to spread widening during the quarter. Investment grade credit spreads increased 39 basis points to end the quarter at 155 bps. High yield spreads increased 163 basis points to end the quarter and 569 bps which was above the long term non-recessionary average of 454 bps.

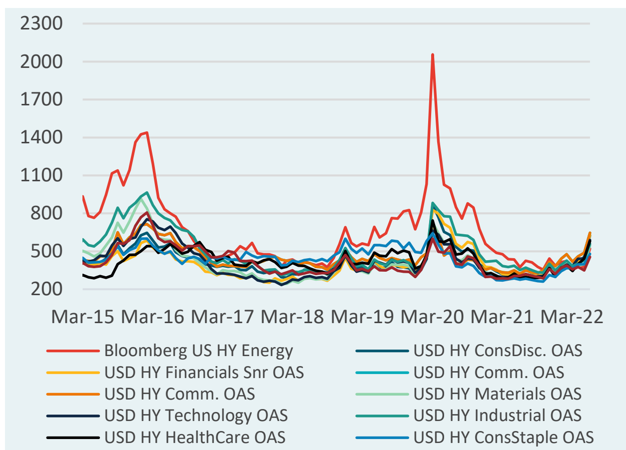
At the end of June, the Bloomberg US High Yield Index offered a yield just shy of 9%, up more than 4% from the beginning of the year. While these levels appear attractive in the context of the recent low yield environment, there is still potential for spreads to widen from these levels if recession concerns worsen.

**SPREADS**




*Source: Barclays, Bloomberg, as of 6/30/22*

**HIGH YIELD SECTOR SPREADS (BPS)**




*Source: Bloomberg, as of 6/30/22*

| | Credit Spread (OAS) | |
|---|---|---|
| **Market** | **6/30/22** | **6/30/21** |
| Long U.S. Corp | 1.9% | 1.2% |
| U.S. Inv Grade Corp | 1.6% | 0.8% |
| U.S. High Yield | 5.7% | 2.7% |
| U.S. Bank Loans* | 5.9% | 4.3% |

*Source: Barclays, Credit Suisse, Bloomberg, as of 6/30/22*
**Discount margin (4-year life)*

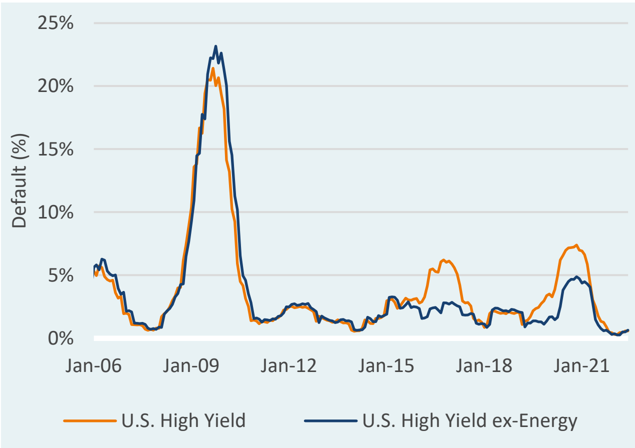
# Default & issuance

Default activity picked up in the second quarter with seven companies defaulting on loans and bonds, totaling $15.6 billion. While default volumes have increased from the $1.2 billion experienced last quarter and $9.8 billion experienced throughout 2021, the volumes are in line with the 5-year quarterly average of $16 billion.

Default rates for par-weighted US high yield and bank loans ended the quarter at 0.76% and 0.74%, respectively—well below the longer-term historical averages of 3.2% and 3.1%. The default rate is expected to rise modestly over the remainder of 2022 and throughout 2023, given the prospects for lower growth, more restrictive financing rates, and an expected surge in rising stars exiting the high yield index. While modest increases in default rates are expected, record bond and loan refinancing activity totaling over $1 trillion in 2020 and 2021 has led to relatively healthy issuer fundamentals and very limited near-term financing needs.

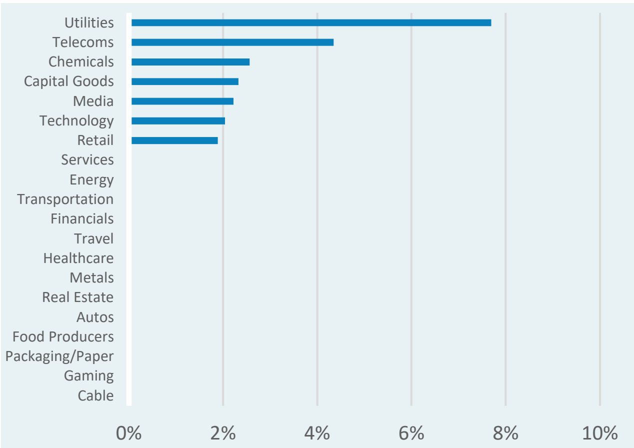
Leveraged credit issuance continued to be light amid high market volatility. The $24.6 billion of high yield bonds issued over the quarter was the lowest issuance since the fourth quarter of 2018 and second lowest total since 2009. Similarly, bank loan issuance totaled $60.6 billion, which was down from $120.5 billion issued in the first quarter. Notably, nearly all of the loans issued over the quarter were SOFR-linked deals as the discontinuation of LIBOR is expected to occur at the end of June 2023.

HY DEFAULT RATE (ROLLING 1-YEAR)



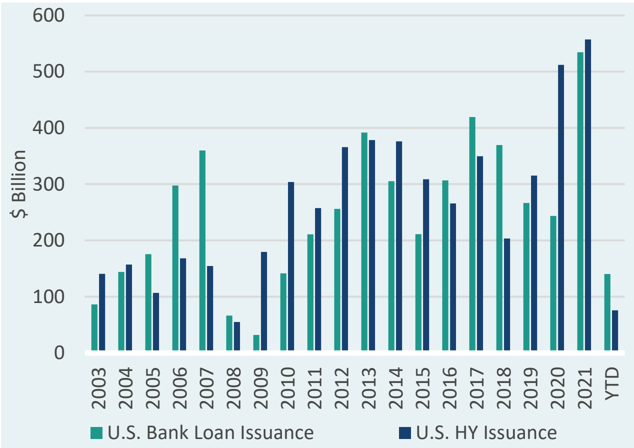

*Source: BofA Merrill Lynch, as of 6/30/22*

U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)




*Source: BofA Merrill Lynch, as of 6/30/22 – par weighted*

U.S. ISSUANCE ($ BILLIONS)




*Source: BofA Merrill Lynch, as of 6/30/22*

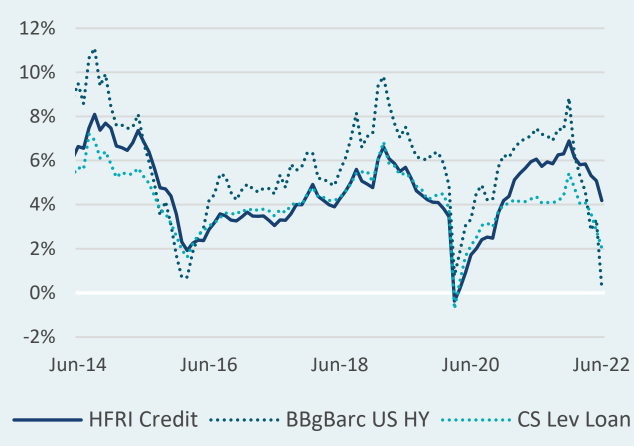
# Alternative credit

Credit hedge fund strategies succumbed to overwhelming risk-off moves in fixed income markets during the quarter. The HFRI Credit Index lost 3.2% for Q2, slightly outperforming loan markets as hedges helped offset spread widening. On a three-year rolling basis, alternative credit strategies outperformed high yield bonds by nearly 4% annualized. The only other time since 2008 (the inception of the index) that HFRI Credit outperformed high yield on a three-year basis was a brief period after the 2015 energy sector sell-off.

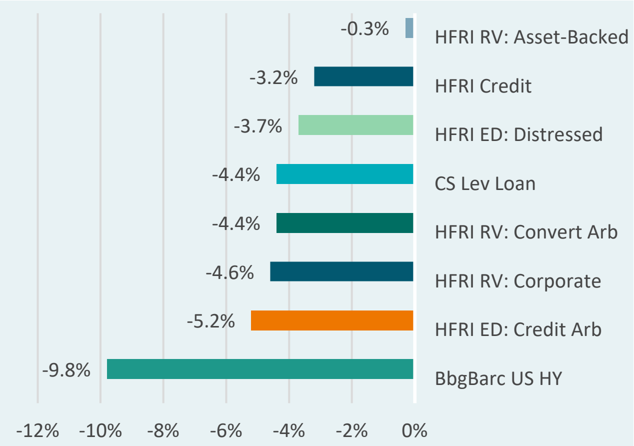
Looking closer within hedge fund credit, managers focused on structured credit remained the bright spot with only slightly negative returns for the quarter and continued outperformance relative to other credit strategies and fixed income markets.

The magnitude of losses in traditional credit markets began to impact even those strategies which try to minimize duration and credit spread risk, such as convertible arbitrage and credit arbitrage. These strategies typically involve substantial leverage or basis risk, and are susceptible to large down moves in extreme stress periods.

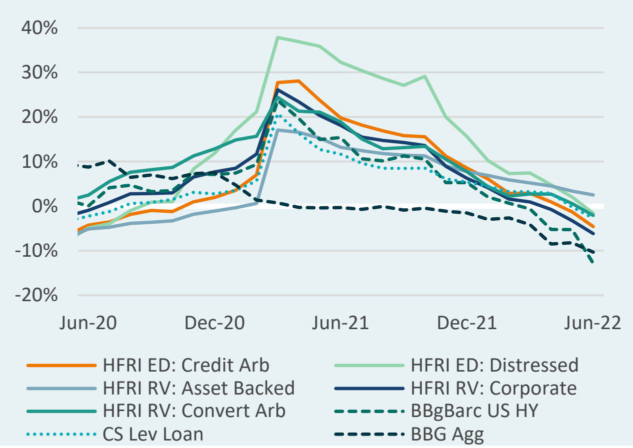
### 3 YEAR ROLLING ANNUALIZED RETURN




### 2Q 2022 QUARTERLY RETURN




### 1 YEAR ROLLING RETURN




*Source: HFR, MPI, Morningstar, as of 6/30/22*

# Equity

# Equity environment

— U.S. equities suffered large losses during the second quarter (S&P 500 -16.1%), as many highly priced growth stocks took an exceptionally large hit due to interest rate rises and risk-off sentiment. International developed equities (MSCI EAFE -14.5%) experienced similar losses, while emerging market equities (MSCI Emerging Markets -11.4%) outperformed materially, on an unhedged currency basis.

— As mentioned during Q2 earnings calls, a rising number of S&P 500 companies were concerned about material & commodity costs, COVID costs, and oil & gas prices. A decreasing number of companies were concerned about labor costs & shortages, supply chain disruptions, transport & freight costs, and Russia/Ukraine.

— Currency movement generated large losses for investors who do not hedge their foreign currency exposure. Investors in international developed markets would have seen a loss of approximately -7.3% with a currency hedging program, rather than the -14.5% loss of unhedged investors. Over the past full year, losses from currency movement were -12.4%.

— Value stocks outperformed Growth stocks by a wide margin again in Q2 (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations suffered due to rising interest rates and broader risk-off sentiment. Large capitalization stocks outperformed small cap stocks slightly (Russell 1000 -16.7%, Russell 2000 -17.2%).

— The Cboe VIX Index rose during the quarter from 20.6% to 28.7%, as risk assets sold-off and investors began focusing on potential recession. Investors remain acutely focused on the path of inflation, and market volatility may ease if inflation does in fact begin to moderate in future months.

| | QTD TOTAL RETURN | | 1 YEAR TOTAL RETURN | |
|---|---|---|---|---|
| | (unhedged) | (hedged) | (unhedged) | (hedged) |
| U.S. Large Cap (S&P 500) | (16.1%) | | (10.6%) | |
| U.S. Small Cap (Russell 2000) | (17.1%) | | (25.2%) | |
| U.S. Equity (Russell 3000) | (16.7%) | | (13.9%) | |
| U.S. Large Value (Russell 1000 Value) | (12.2%) | | (6.8%) | |
| US Large Growth (Russell 1000 Growth) | (20.9%) | | (18.8%) | |
| Global Equity (MSCI ACWI) | (15.7%) | (13.5%) | (15.8%) | (12.1%) |
| International Large (MSCI EAFE) | (14.5%) | (7.3%) | (17.8%) | (5.4%) |
| Eurozone (Euro Stoxx 50) | (15.3%) | (9.2%) | (23.1%) | (11.3%) |
| U.K. (FTSE 100) | (11.2%) | (3.6%) | (7.1%) | 6.2% |
| Japan (NIKKEI 225) | (14.8%) | (4.2%) | (23.8%) | (6.0%) |
| Emerging Markets (MSCI Emerging Markets) | (11.4%) | (8.2%) | (25.3%) | (21.5%) |

*Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 6/30/22*

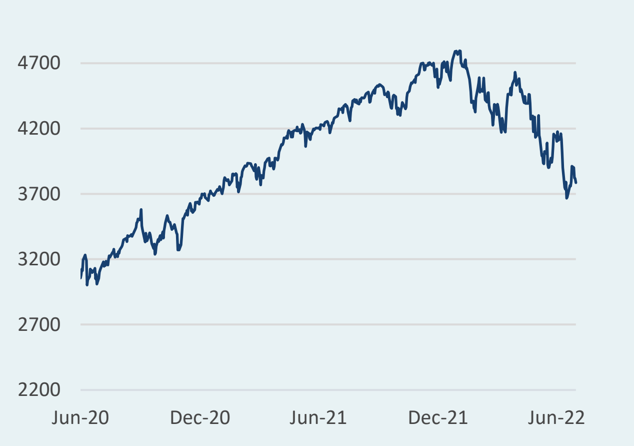
# Domestic equity

U.S. equities saw sharp losses during the second quarter (S&P 500 -16.1%), underperforming global markets (MSCI ACWI ex-US -13.7%). U.S. sector dispersion was wide, with consumer discretionary stocks suffering the worst pain (-26.2%) and consumer staples faring the best (-4.6%).

Calendar year 2022 bottom-up earnings estimates for the S&P 500 improved slightly during the quarter, despite the equity bear market. A rosier earnings outlook was fueled mostly by the energy and materials sectors, while consumer discretionary and communication services sectors saw worsening expectations. According to Factset, an increased number of companies issued negative earnings guidance during the quarter, though the balance of companies offering positive and negative guidance remains in a relatively normal range.

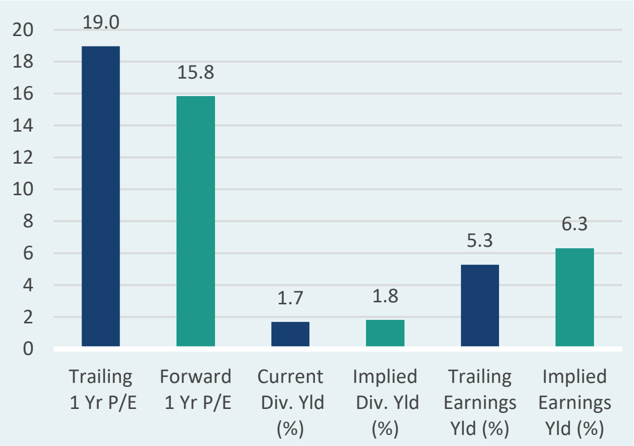
According to Q2 earnings calls, a rising number of S&P 500 companies were concerned about material & commodity costs, COVID costs, and oil & gas prices. A decreasing number of S&P 500 companies were concerned about labor costs & shortages, supply chain disruptions, transport & freight costs, and the economic impacts of Russia's invasion of Ukraine.

### S&P 500 PRICE INDEX



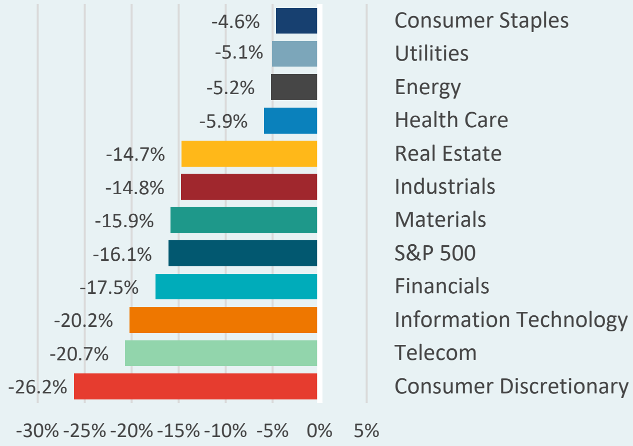

*Source: Standard & Poor's, as of 6/30/22*

### S&P VALUATION SNAPSHOT




*Source: Bloomberg, as of 6/30/22*

### Q2 SECTOR PERFORMANCE




*Source: Morningstar, as of 6/30/22*

# Domestic equity size & style

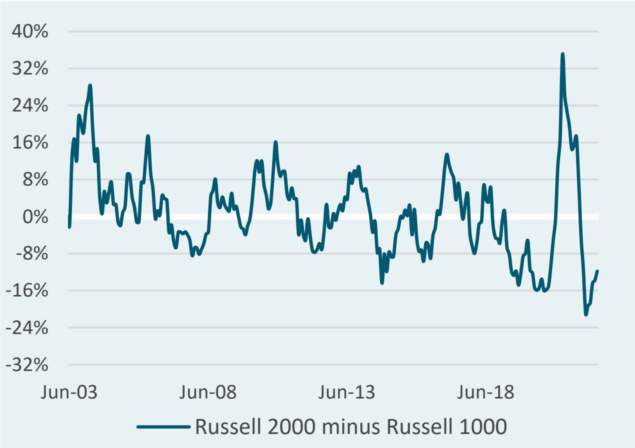
Value stocks outperformed Growth stocks by a wide margin once again in the second quarter (Russell 1000 Value -12.2% vs Russell 1000 Growth -20.9%) as many Growth stocks with lofty valuations suffered due to rising interest rates and broader risk-off sentiment. Large capitalization stocks outperformed small capitalization stocks slightly (Russell 1000 -16.7%, Russell 2000 -17.2%).

The recent drawdown of Growth stocks has helped partially close the historically wide price gap between Value and Growth, as reflected in the bottom right chart. Sector trends contributed to style performance during the quarter. The energy sector outperformed, and information technology was a poor performer. Other Value-concentrated sectors such as financials and materials performed closely in line with the overall index.

In last quarter's research commentary we mentioned that further tightening of Fed policy and interest rate hikes would likely impact Value and Growth stock behavior. This foresight was valid and we believe will remain so. Further Fed hawkishness and market risk-off behavior may lead to additional Growth underperformance, but a reversal by the Federal Reserve and easing of interest rates may bolster the returns of Growth, all else equal.

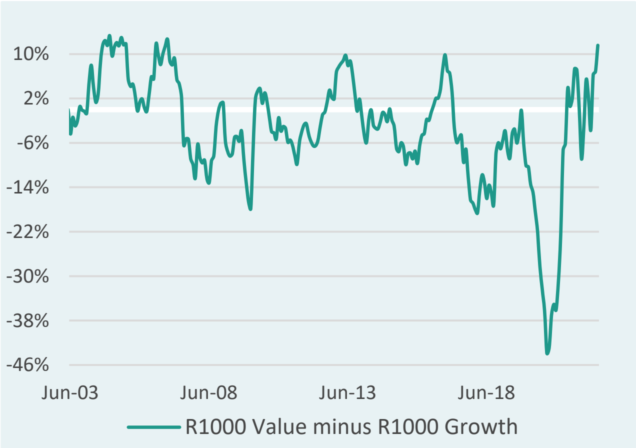
A rebound in Value continued during Q2

**SMALL CAP VS LARGE CAP (YOY)**



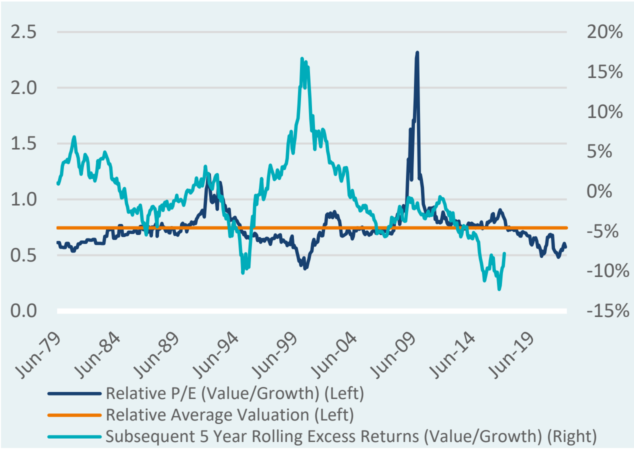

*Source: FTSE, as of 6/30/22*

**VALUE VS GROWTH (YOY)**




*Source: FTSE, as of 6/30/22*

**VALUE VS. GROWTH RELATIVE VALUATIONS**




*Source: Standard & Poor's, as of 6/30/22*

Verus

# International developed equity

International developed equities fell during the quarter (MSCI EAFE -14.5%), mildly outperforming U.S. equities (S&P 500 -16.1%) and materially underperforming emerging market equities (MSCI Emerging Markets -11.4%), on an unhedged currency basis.

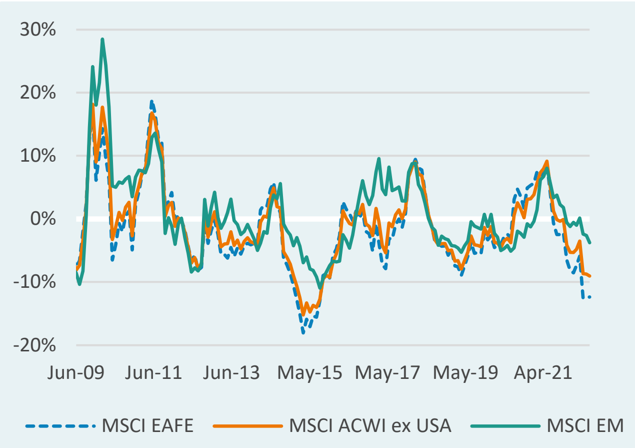
Currency movement during the quarter generated large losses for investors who do not hedge foreign currency exposure. Investors in international developed markets would have seen a loss of approximately -7.3% with a currency hedging program, rather than the -14.5% loss if currency was left unhedged. Over the past year, investors in international equities with a currency hedging program would have experienced roughly a -5.4% return, compared to a return of -17.8% if currency was left unhedged.

Eurozone equities provided the poorest performers during the quarter (MSCI Euro -11.1%), as EUR/USD reached parity for the first time in nearly 20 years. The United Kingdom market (MSCI UK 1.8%) and Japanese market (MSCI Japan -6.6%) lifted the overall MSCI EAFE Index.

**INTERNATIONAL DEVELOPED EQUITY**

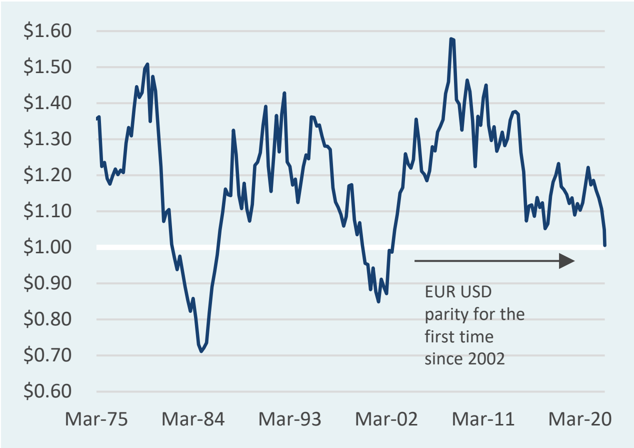

*Source: MSCI, as of 6/30/22*

**EFFECT OF CURRENCY (1-YEAR ROLLING)**




*Source: MSCI, as of 6/30/22*

**PRICE OF 1 EUR IN USD**




*Source: Bloomberg, as of 7/14/22*

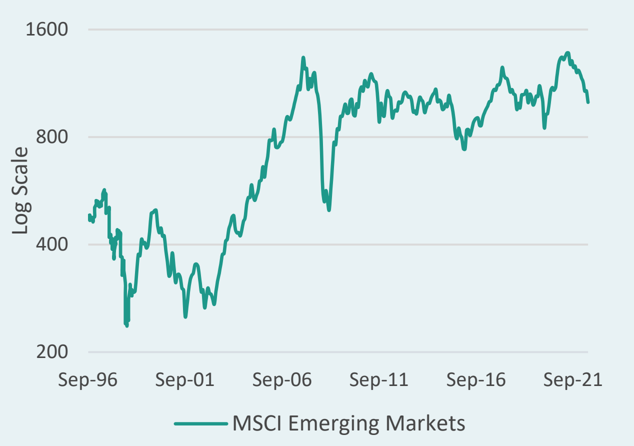
# Emerging market equity

Emerging market equities have delivered broad outperformance throughout the global risk asset drawdown (MSCI EM -11.4%, MSCI ACWI -15.7%) on an unhedged currency basis. A bounce-back in Chinese equities over the quarter (MSCI China 3.5%) from their sharp recent losses helped lift overall performance of the asset class. Latin American markets lagged Asian markets (MSCI EM Latin America -21.9%%, MSCI EM Asia -9.3%), reversing last quarter's gains.

Strong returns from the consumer discretionary sector (12.9%)—the largest sector in the MSCI China Index—propelled Chinese equity performance forward. Outside of Chinese equities, emerging markets struggled, as central banks around the world tightened policy to fight inflation. Emerging market countries whose economies are reliant on raw goods exports were particularly impacted by tightening, as global commodity prices have drawn down from peaks seen earlier in the year.

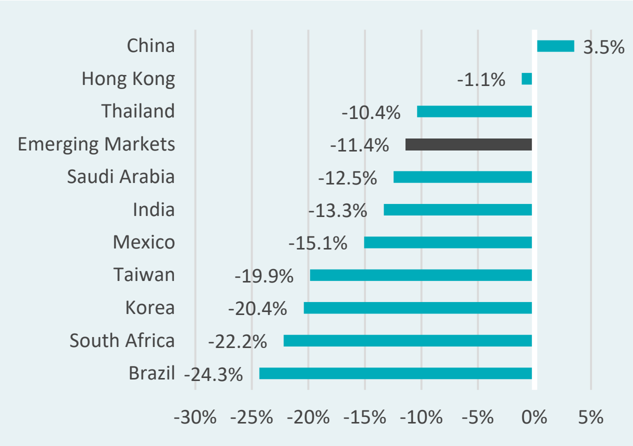
The strong dollar also provided a headwind to emerging market equity returns, as currency movement resulted in a -3.2% loss. Emerging market currencies remain far weaker than the historical average, which may allow performance upside if mean reversion were to occur.

**EMERGING MARKET EQUITY**



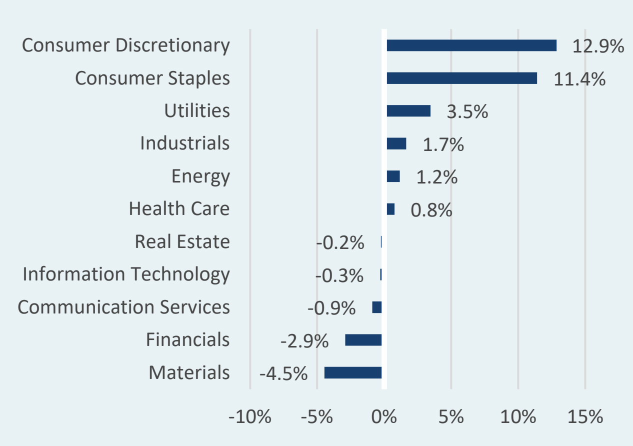

*Source: MSCI, as of 6/30/22*

**Q2 PERFORMANCE – TOP 10 EM CONSTITUENTS**




*Source: Bloomberg, MSCI as of 6/30/22, performance in USD terms*

**MSCI CHINA Q2 SECTOR PERFORMANCE**




*Source: Bloomberg, MSCI as of 6/30/22, performance in USD terms*

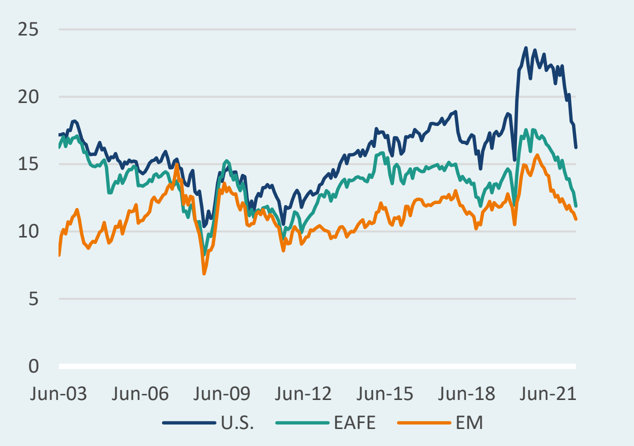
# Equity valuations

Valuations fell substantially during the market selloff, bringing multiples closer in line with long-term historical averages. U.S. earnings forecasts have held strong, and analysts expect 2022 calendar year earnings growth of 10.4%. However, these earnings forecasts arguably contain greater uncertainty, given higher interest rates, higher input prices, and weakening consumer demand. The path of corporate earnings in 2022 will be a key variable in determining whether equity markets recover, remain subdued, or fall further. The bottom-up S&P 500 12-month analyst price target was 4,987 as of June 23rd.

Domestic equity valuations remain elevated relative to international developed and emerging markets, which translates to U.S. equities offering a lower yield and likely lower prospective total performance over the longer-term. Domestic equities trade at roughly a 50% valuation premium over international developed equities on a trailing price/earnings basis, and a 75% valuation premium over emerging market equities. While we are more pessimistic around the outlook for international developed equities and believe cheaper prices are justified, we are bullish around emerging markets which appear to offer attractive returns in the current environment.

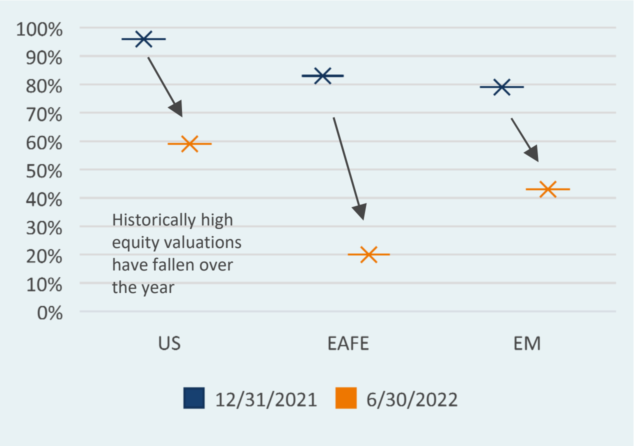
Most equity valuations have moved back towards normal levels, though U.S. prices remain rich

FORWARD P/E RATIOS



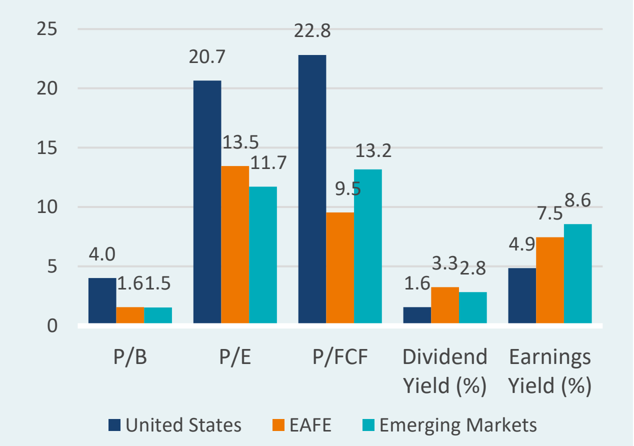

*Source: MSCI, 12m forward P/E, as of 6/30/22*

FORWARD P/E PERCENTILE RANKINGS




*Source: Bloomberg, MSCI, as of 6/30/22*

VALUATION METRICS (3-MONTH AVERAGE)




*Source: Bloomberg, MSCI as of 6/30/22 - trailing P/E*

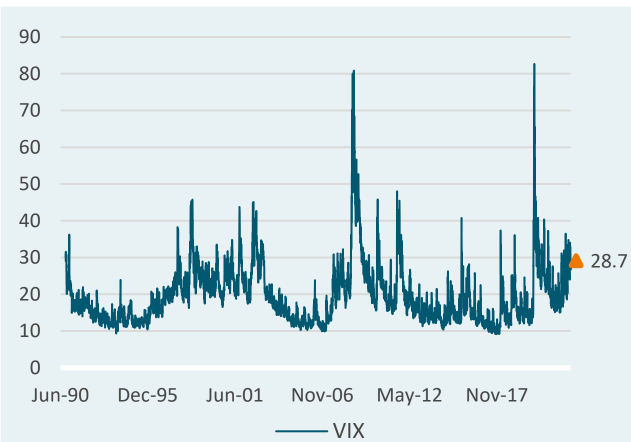
# Equity volatility

The Cboe VIX Index rose during the quarter from 20.6% to 28.7%, as risk assets sold-off and investors began focusing on potential recession. Investors have been acutely focused on the path of inflation, and market volatility may ease if inflation does in fact begin to moderate in future months.

Realized volatility of equity markets over the past year has remained within an average range. U.S. markets were the most volatile relative to developed and emerging markets. This dynamic has been rare historically, and is likely driven in part by inflation and recession risks that are especially high in the United States.

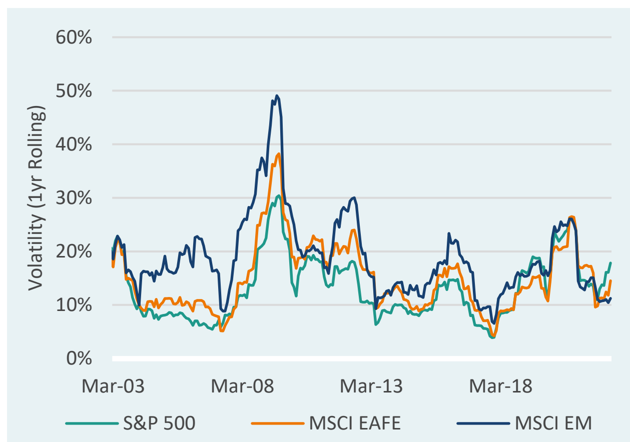
The 2022 equity bear market, while fairly moderate in speed and magnitude by historical standards, may justifiably feel severe for investors due to the broad-based nature of the selloff. Fixed income has delivered notable losses, failing to provide the diversification which investors expect. Commodities were a bright spot in Q1, but a sharp reversal in June led to quarterly Q2 loss of -5.7%. Currency markets also moved against investors, as U.S. dollar appreciation further compounded losses for unhedged international asset exposure. It seems there was nowhere to hide except for cash during the second quarter.

**U.S. IMPLIED VOLATILITY (VIX)**



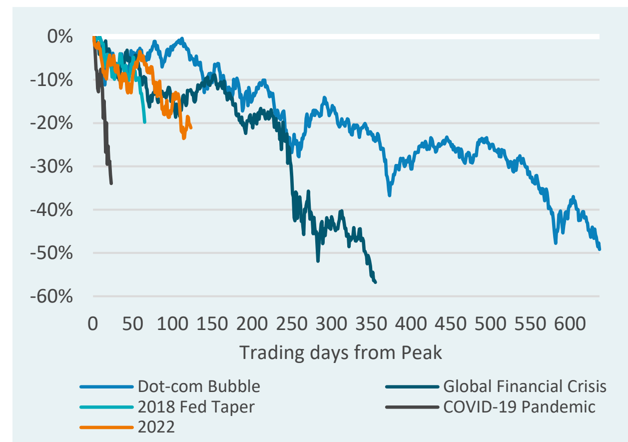

*Source: Cboe, as of 6/30/22*

**REALIZED VOLATILITY**



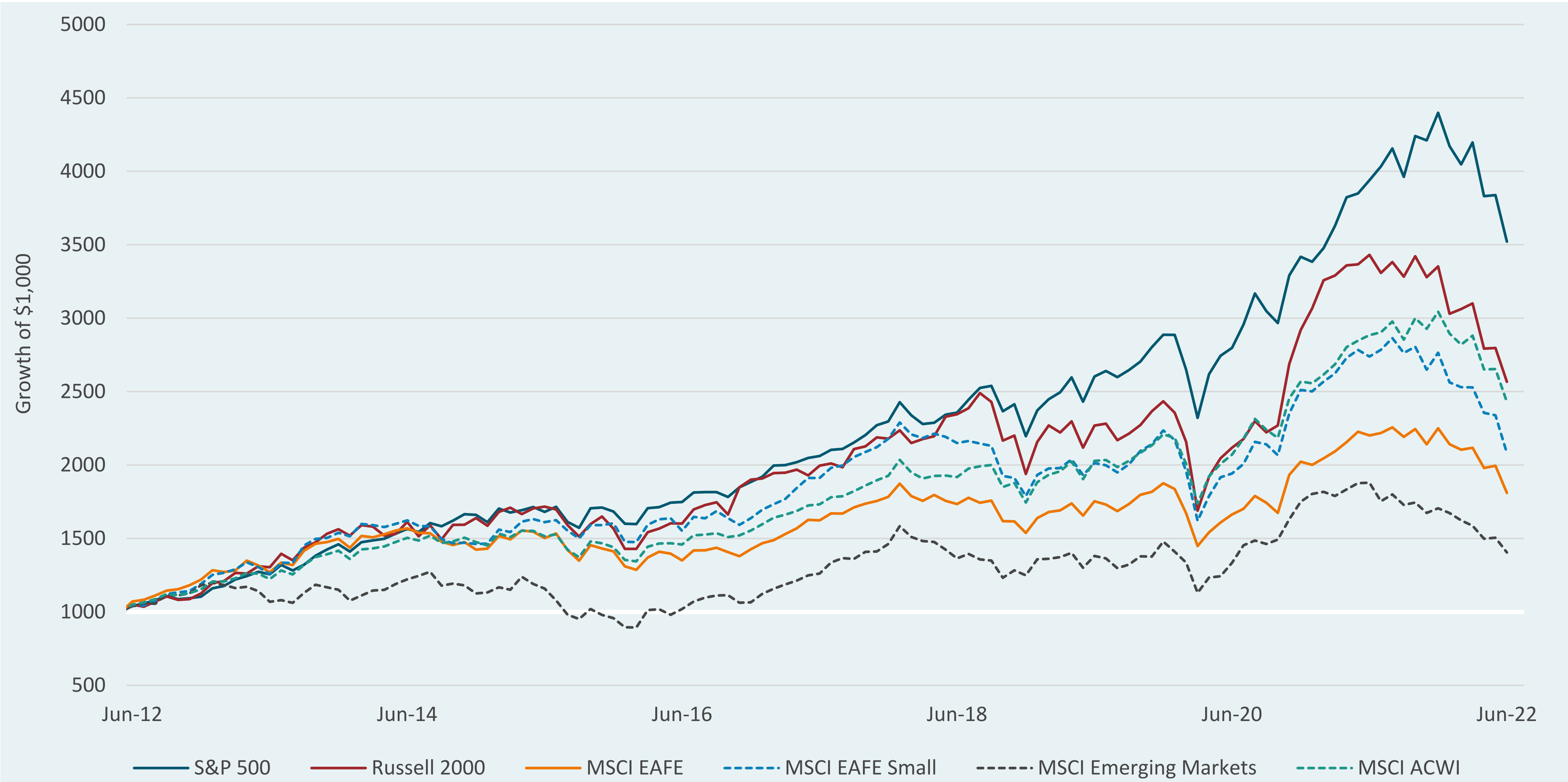

*Source: Standard & Poor's, MSCI, as of 6/30/22*

**S&P 500 PEAK DRAWDOWNS**




*Source: Bloomberg, as of 6/30/22*

# Long-term equity performance




*Source: Morningstar, as of 6/30/22*

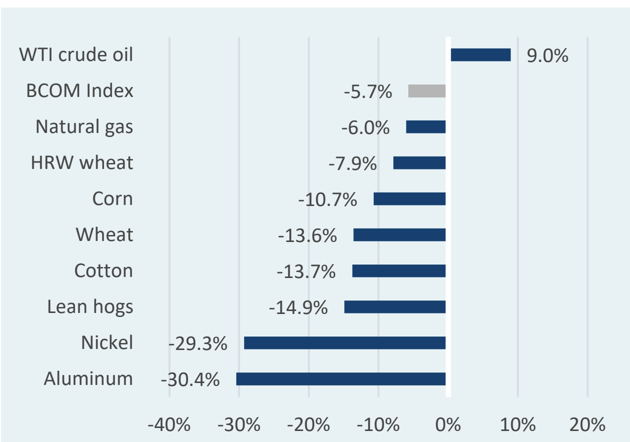
# Other assets

# Commodities

The Bloomberg Commodity Index fell -10.8% during June, bringing the second quarter return to -5.7%. Industrial metals (-26.4%) and precious metals (-10.5%) experienced the largest losses, while energy (7.0%) and petroleum (13.7%) marched higher around fears of a potential global energy shortage, though many prices reversed their gains in June.

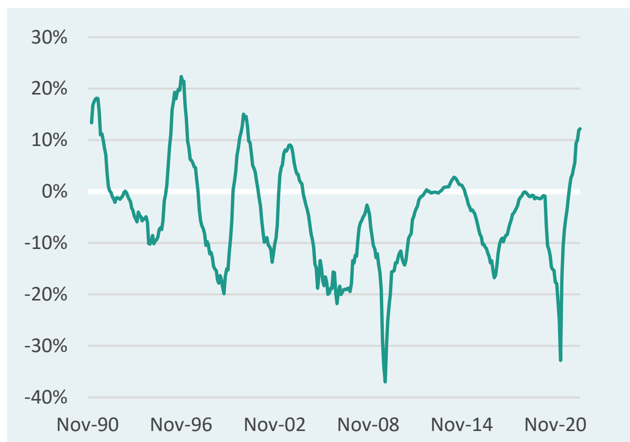
Early in 2022 many investors expressed fears about a potential global commodity supply shortage, perhaps fueled by underinvestment in production capacity preceding and throughout the COVID-19 recession. Russia's invasion of Ukraine further amplified these fears and commodity price growth accelerated further. Later in the second quarter this trend appears to have reversed. Fears of a recession which would hinder the demand for commodities, and likely some easing of uncertainty around Ukraine, have contributed to a sharp drop in commodity prices. If weaker prices persist, the reversal in commodity markets should have a deflationary impact on broader consumer prices, though this effect may take time to flow through to broader prices. For example, lower oil prices have far-reaching impacts on the U.S. economy, such as on the transportation of goods, ground transportation and taxis, air travel, and the production of plastics.

**BLOOMBERG COMMODITY INDEX – Q2 2022**




*Source: Bloomberg, as of 6/30/22*

**S&P GSCI INDEX ROLL YIELD (LAST 12 MONTHS)**




*Source: Standard & Poor's, Bloomberg, as of 6/30/22*

**INDEX AND SECTOR PERFORMANCE**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| Bloomberg Commodity | (10.8) | (5.7) | 18.4 | 24.3 | 14.3 | 8.4 | (0.8) |
| Bloomberg Agriculture | (9.1) | (5.7) | 13.0 | 18.9 | 18.8 | 6.9 | (1.2) |
| Bloomberg Energy | (14.6) | 7.0 | 58.3 | 66.6 | 11.7 | 10.0 | (4.7) |
| Bloomberg Grains | (11.7) | (7.1) | 16.1 | 16.6 | 17.5 | 6.2 | (2.1) |
| Bloomberg Industrial Metals | (16.0) | (26.4) | (9.6) | 0.2 | 11.9 | 7.5 | 1.2 |
| Bloomberg Livestock | (0.3) | (8.7) | (3.4) | (3.6) | (6.8) | (6.6) | (4.3) |
| Bloomberg Petroleum | (4.0) | 13.7 | 63.5 | 79.4 | 19.5 | 18.1 | (1.2) |
| Bloomberg Precious Metals | (3.1) | (10.5) | (4.4) | (4.8) | 7.2 | 5.6 | (0.8) |
| Bloomberg Softs | (5.9) | (4.3) | 3.3 | 27.2 | 16.8 | 5.3 | (3.2) |

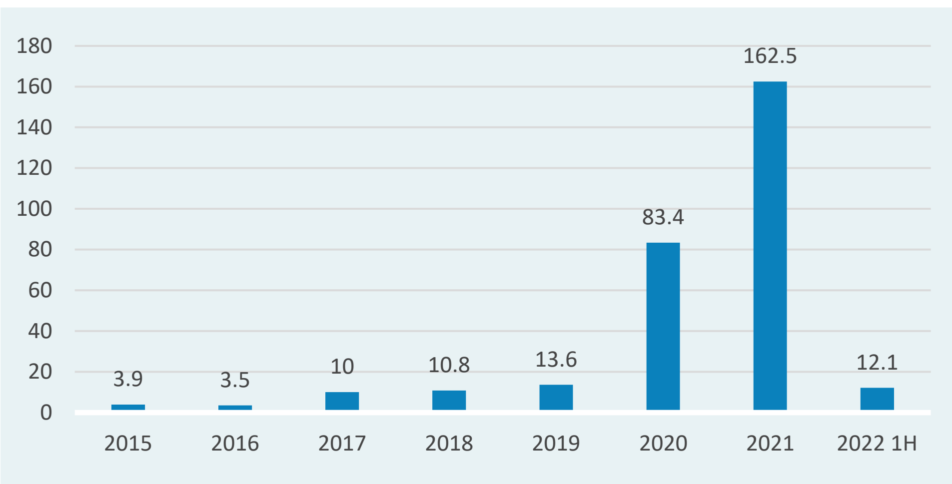
*Source: Morningstar, as of 6/30/22*

# SPACs development

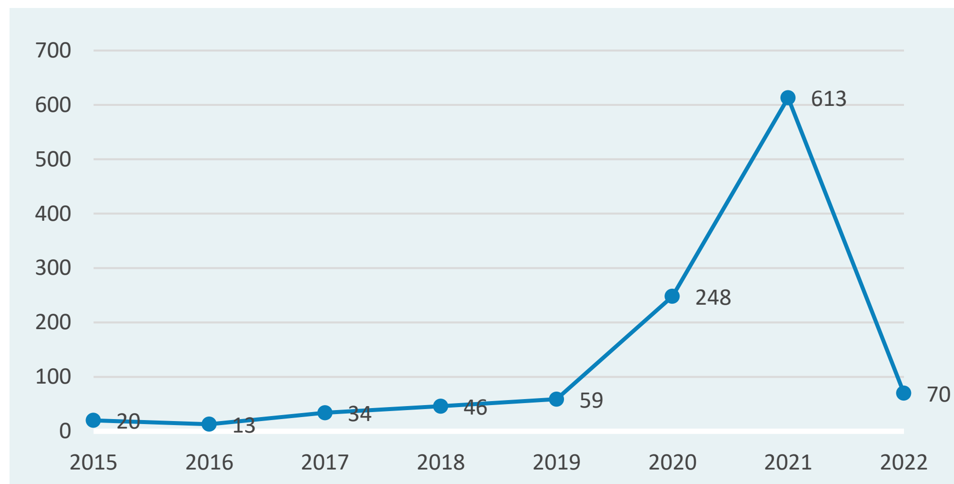
While SPACs proliferated between 2020 through 2021, coinciding with record retail investor trading volume, this activity has subsided notably in 2022.

Market volatility year-to-date and reduced market liquidity have rendered speculative areas of the markets, including SPACs, less attractive. Existing SPAC sponsors from 2020-2021 are struggling to source target deals for their mergers, rendering a large volume of SPAC sponsors at risk of returning their capital to investors without a successful deal executed. The required holding lock-up period after SPACs go public, as well as the impact of market volatility, have led many venture capital and private equity funds to reevaluate the viability of SPAC as an exit channel.

**U.S. SPAC AMOUNT RAISED ($BILLIONS)**




**NUMBER OF SPAC IPOS**




*Source: SPAC Research, as of 6/30/22*

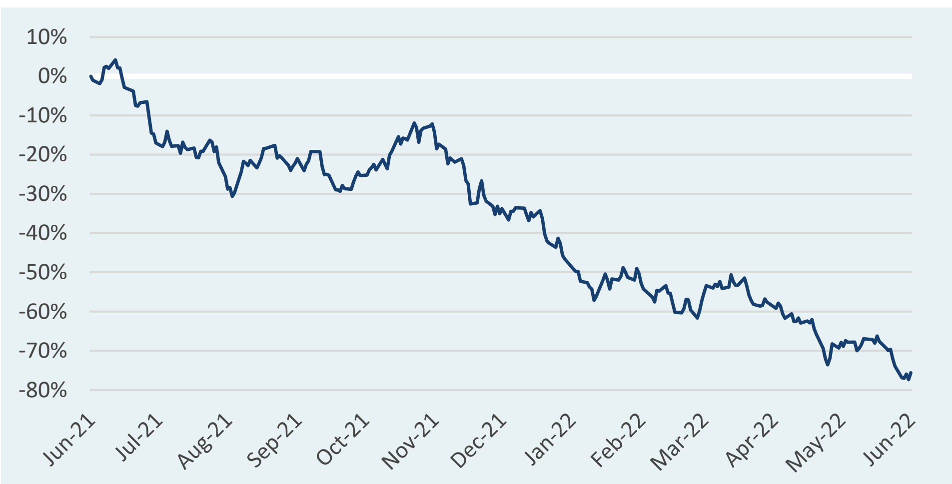
# SPACs return analysis

— For **institutional investors**: A number of companies that initially went public via a merger with a SPAC have seen very large share price declines and have since been acquired by a competitor at a far lower price.

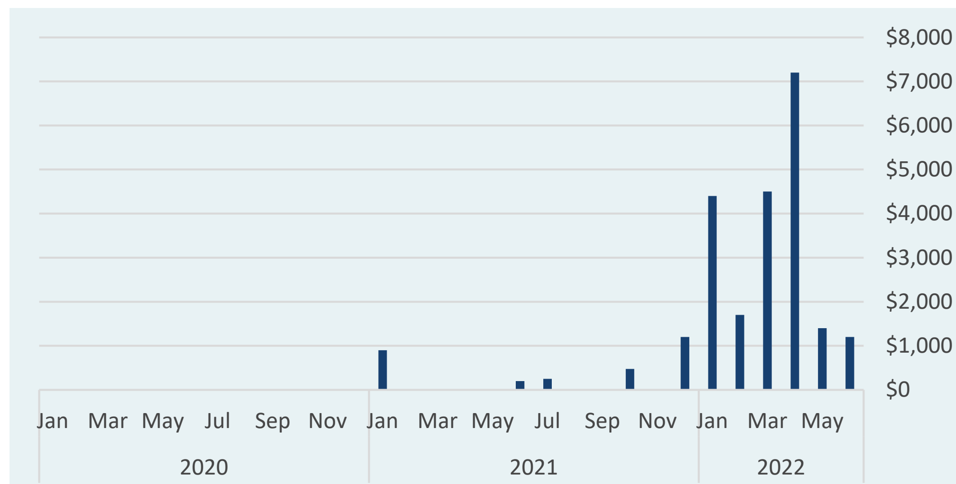
— For **retail investors**: Declining share prices of SPACs have eroded billions of dollars of value for shareholders who held SPACs after their acquisition deals.

— Blank check companies have a history of surging and subsiding. During the 1980s, SPACs had boomed, and many were eventually wiped out when Congress passed more stringent regulations. The Securities Exchange Commission is currently tightening regulations around SPACs amid the resurgence.

**DE-SPAC INDEX - CHANGE SINCE JUNE 17, 2021**




**WITHDRAWN SPACS - VALUE OF FILINGS PULLED BY SPONSORS ($M)**




*Source: Bloomberg, as of 6/30/22*

# Appendix

# Periodic table of returns

BEST ↑ … ↓ WORST

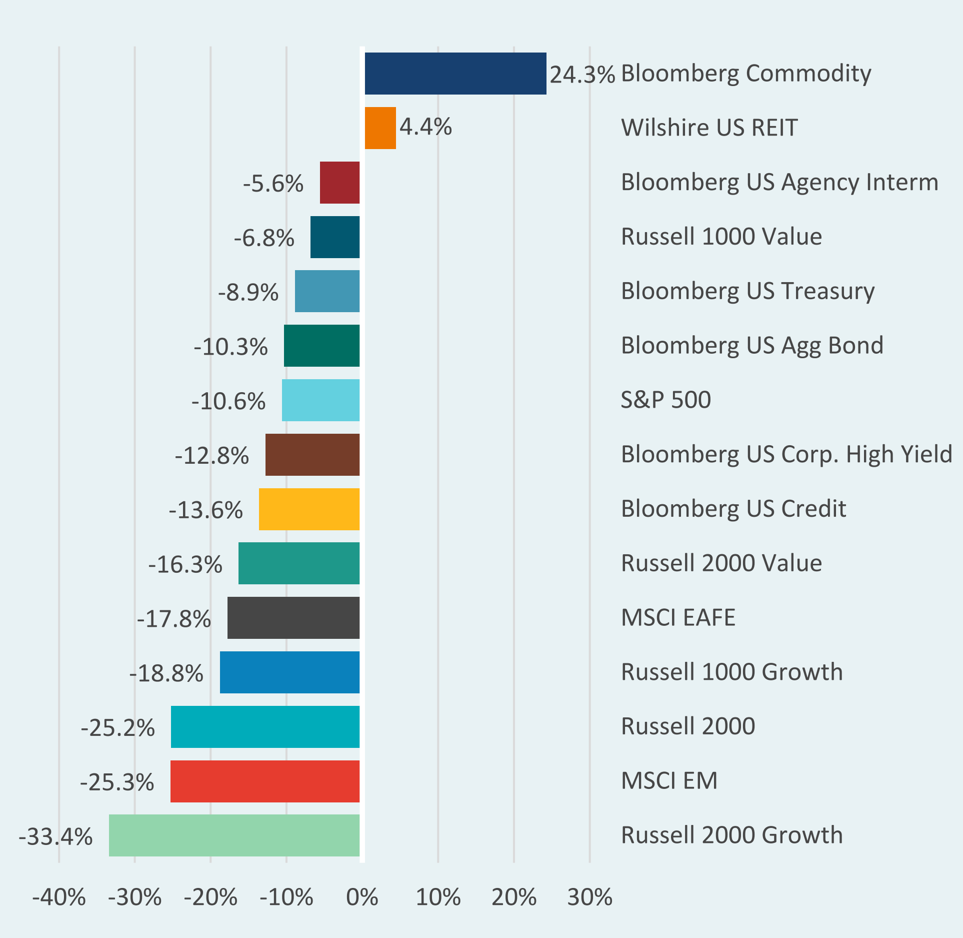
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | YTD | 5-Year | 10-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commodities | 31.8 | 14.0 | 25.9 | 56.3 | 26.0 | 34.5 | 32.6 | 39.8 | 5.2 | 79.0 | 29.1 | 14.3 | 18.6 | 43.3 | 13.5 | 13.3 | 31.7 | 37.3 | 6.7 | 36.4 | 38.5 | 28.3 | 18.4 | 14.3 | 14.8 |
| Real Estate | 22.8 | 8.4 | 10.3 | 48.5 | 22.2 | 21.4 | 26.9 | 16.2 | 1.4 | 37.2 | 26.9 | 7.8 | 18.1 | 38.8 | 13.2 | 5.7 | 21.3 | 30.2 | 1.9 | 31.4 | 34.6 | 27.6 | 5.3 | 11.0 | 12.8 |
| Cash | 12.2 | 7.3 | 6.7 | 47.3 | 20.7 | 20.1 | 23.5 | 15.8 | -6.5 | 34.5 | 24.5 | 2.6 | 17.9 | 34.5 | 13.0 | 0.9 | 17.3 | 25.0 | 0.0 | 28.5 | 21.0 | 27.1 | 0.1 | 8.5 | 10.5 |
| Hedge Funds of Funds | 11.6 | 3.3 | 1.6 | 46.0 | 18.3 | 14.0 | 22.2 | 11.8 | -21.4 | 32.5 | 19.2 | 1.5 | 17.5 | 33.5 | 11.8 | 0.6 | 12.1 | 22.2 | -1.5 | 26.5 | 20.0 | 26.5 | -6.3 | 8.4 | 9.6 |
| US Bonds | 7.0 | 2.8 | 1.0 | 39.2 | 16.5 | 7.5 | 18.4 | 11.6 | -25.9 | 28.4 | 16.8 | 0.4 | 16.4 | 33.1 | 6.0 | 0.0 | 11.8 | 21.7 | -3.5 | 25.5 | 18.3 | 25.2 | -10.3 | 7.2 | 9.4 |
| Large Cap Value | 4.1 | -2.4 | -6.0 | 29.9 | 14.3 | 6.3 | 15.5 | 10.3 | -33.8 | 23.3 | 16.1 | -2.1 | 15.3 | 23.3 | 4.9 | -0.8 | 11.2 | 14.6 | -6.0 | 22.4 | 14.0 | 17.7 | -12.9 | 5.2 | 9.3 |
| Small Cap Value | 6.0 | 2.5 | -5.9 | 30.0 | 14.5 | 7.1 | 16.6 | 10.9 | -28.9 | 27.2 | 16.7 | 0.1 | 16.3 | 32.5 | 5.6 | -0.4 | 11.3 | 17.1 | -4.8 | 22.0 | 10.3 | 14.8 | -17.3 | 4.9 | 9.1 |
| Emerging Markets Equity | -3.0 | -5.6 | -11.4 | 29.7 | 12.9 | 5.3 | 15.1 | 7.0 | -35.6 | 20.6 | 15.5 | -2.9 | 14.6 | 12.1 | 4.2 | -1.4 | 8.0 | 13.7 | -8.3 | 18.6 | 7.8 | 11.3 | -17.6 | 4.8 | 5.4 |
| 60/40 Global Portfolio | -7.3 | -9.1 | -15.5 | 25.2 | 11.4 | 4.7 | 13.3 | 7.0 | -36.8 | 19.7 | 13.1 | -4.2 | 11.5 | 11.0 | 3.4 | -2.5 | 7.1 | 7.8 | -9.3 | 18.4 | 7.5 | 8.9 | -17.7 | 4.2 | 5.4 |
| International Equity | -7.8 | -9.2 | -15.7 | 23.9 | 9.1 | 4.6 | 10.4 | 5.8 | -37.6 | 18.9 | 10.2 | -5.5 | 10.5 | 9.0 | 2.8 | -3.8 | 5.7 | 7.7 | -11.0 | 8.7 | 4.6 | 6.5 | -19.6 | 3.7 | 3.8 |
| Large Cap Equity | -14.0 | -12.4 | -20.5 | 11.6 | 6.9 | 4.6 | 9.1 | 4.4 | -38.4 | 11.5 | 8.2 | -5.7 | 4.8 | 0.1 | 0.0 | -4.4 | 2.6 | 7.0 | -11.2 | 7.8 | 2.8 | 2.8 | -20.9 | 2.2 | 3.1 |
| Small Cap Equity | -22.4 | -19.5 | -21.7 | 9.0 | 6.3 | 4.2 | 4.8 | -0.2 | -38.5 | 5.9 | 6.5 | -11.7 | 4.2 | -2.0 | -1.8 | -7.5 | 1.0 | 3.5 | -12.9 | 7.7 | 0.5 | 0.0 | -23.4 | 2.2 | 1.5 |
| Large Cap Growth | -22.4 | -20.4 | -27.9 | 4.1 | 4.3 | 3.2 | 4.3 | -1.6 | -43.1 | 0.2 | 5.7 | -13.3 | 0.1 | -2.3 | -4.5 | -14.9 | 0.5 | 1.7 | -13.8 | 6.4 | 0.5 | -1.5 | -28.1 | 1.0 | 0.6 |
| Small Cap Growth | -30.6 | -21.2 | -30.3 | 1.0 | 1.4 | 2.4 | 2.1 | -9.8 | -53.2 | -16.9 | 0.1 | -18.2 | -1.1 | -9.5 | -17.0 | -24.7 | 0.3 | 0.9 | -14.6 | 2.1 | -3.1 | -2.5 | -29.5 | 0.9 | -0.8 |

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

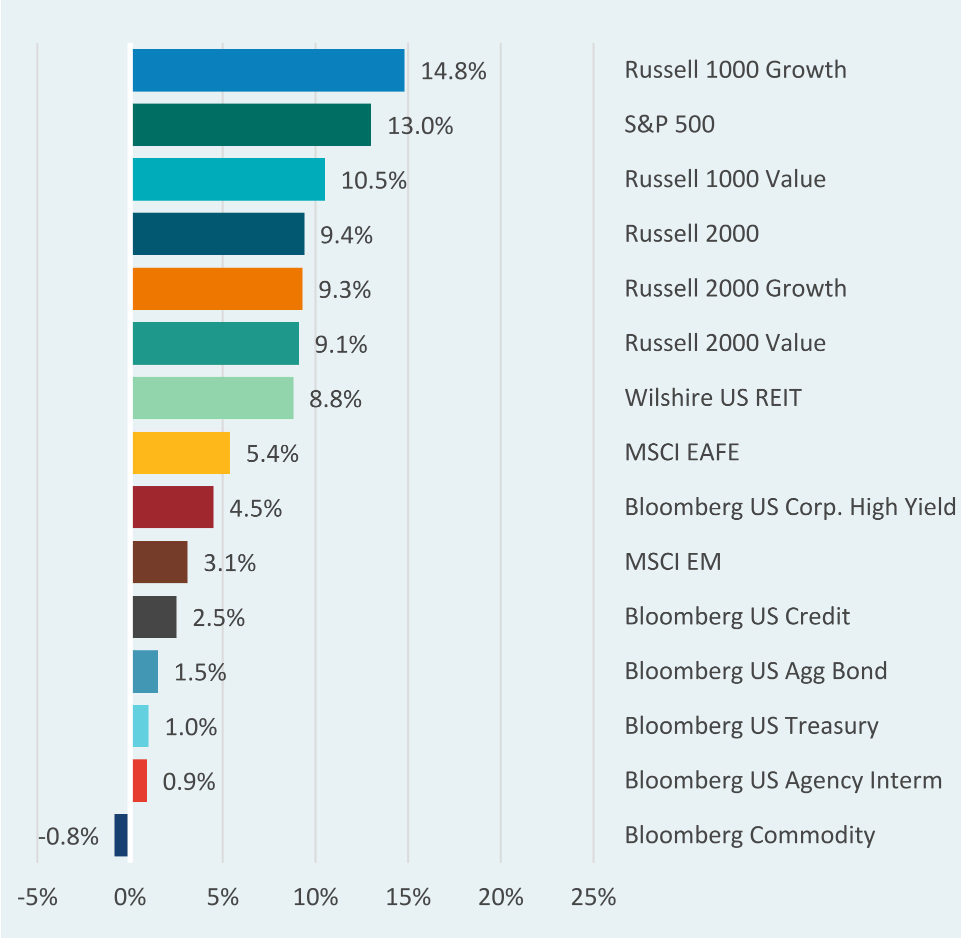
*Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 3/31/22.*

# Major asset class returns

ONE YEAR ENDING JUNE




TEN YEARS ENDING JUNE



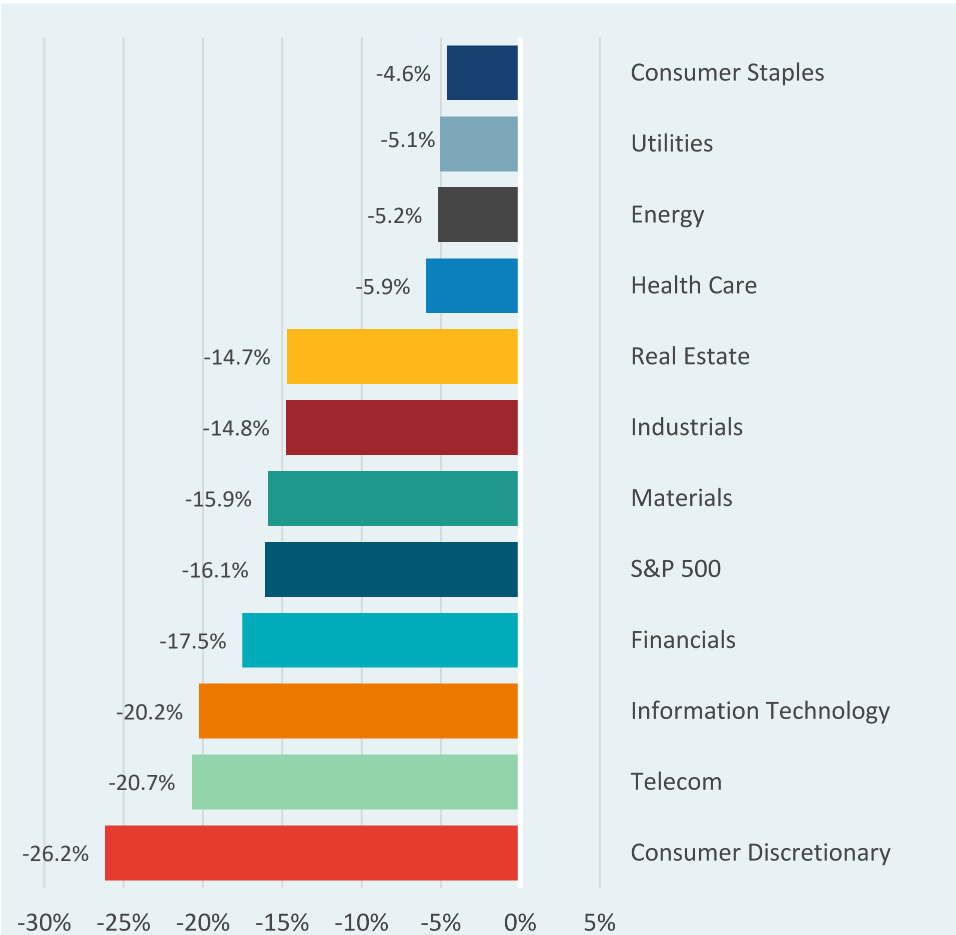

**Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.*

*Source: Morningstar, as of 6/30/22*

*Source: Morningstar, as of 6/30/22*

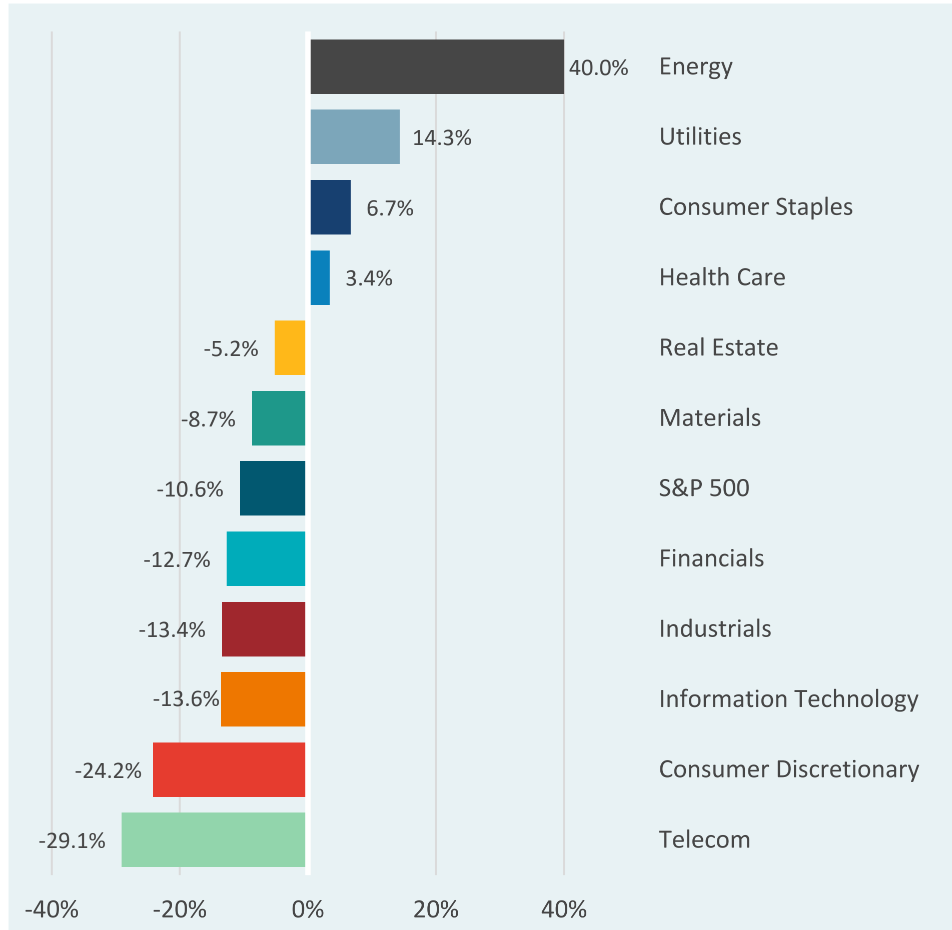
# S&P 500 sector returns

**QTD**




*Source: Morningstar, as of 6/30/22*

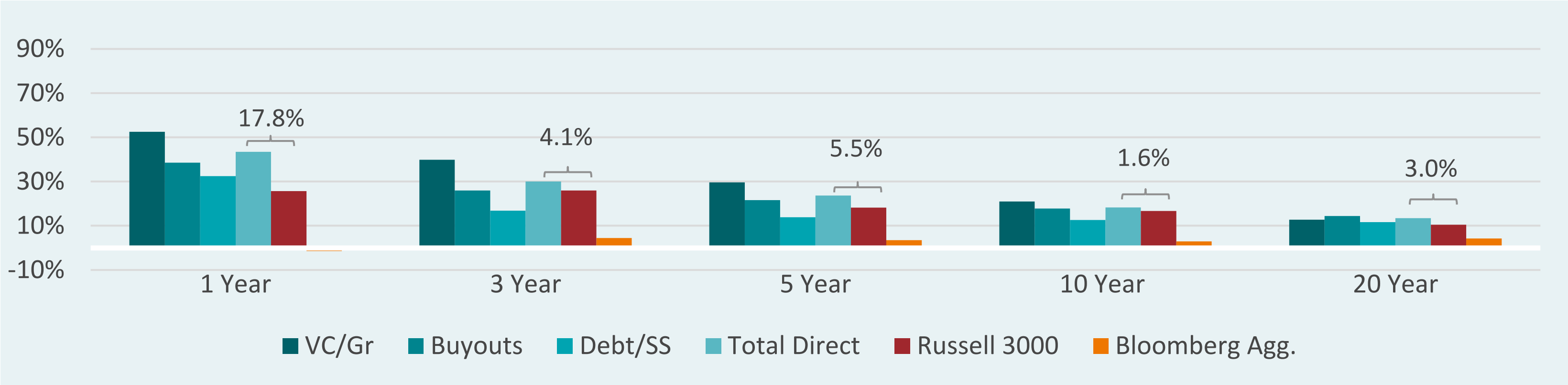
**ONE YEAR ENDING JUNE**




*Source: Morningstar, as of 6/30/22*

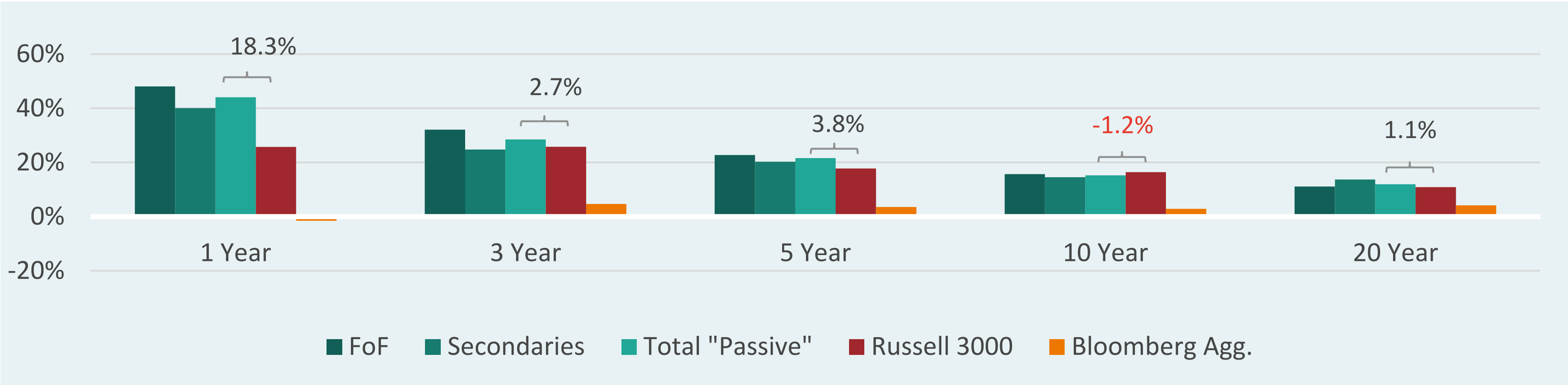
# Private equity vs. traditional assets performance

**DIRECT PRIVATE EQUITY FUND INVESTMENTS**




Direct P.E Fund Investments outperformed comparable public equites across all time periods.

**"PASSIVE" STRATEGIES**

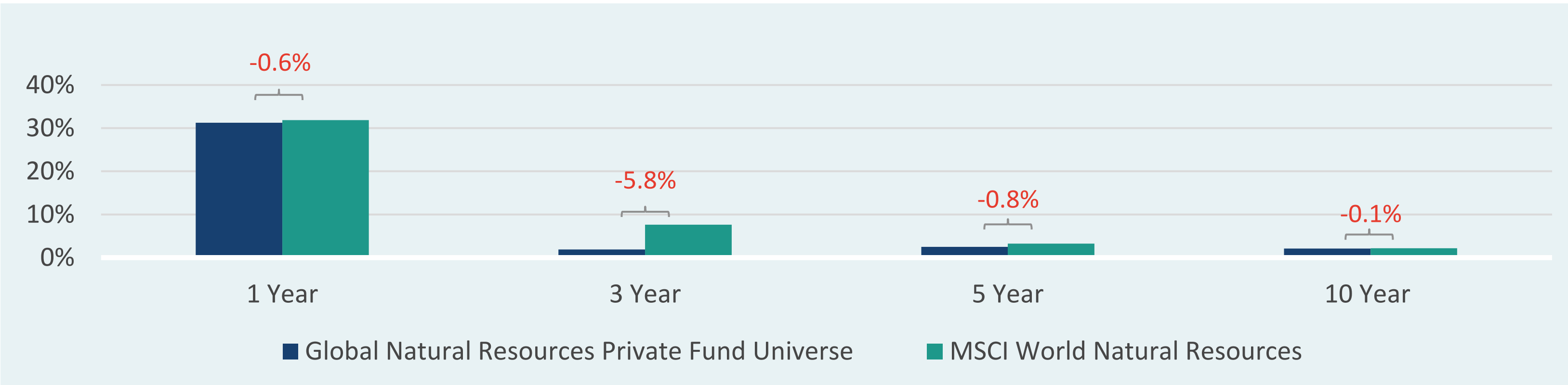



"Passive" strategies outperformed comparable public equities across all time periods, aside from the 10-year basis.

*Sources: Refinitiv PME: U.S. Private Equity Funds sub asset classes as of December 31 2021. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.*

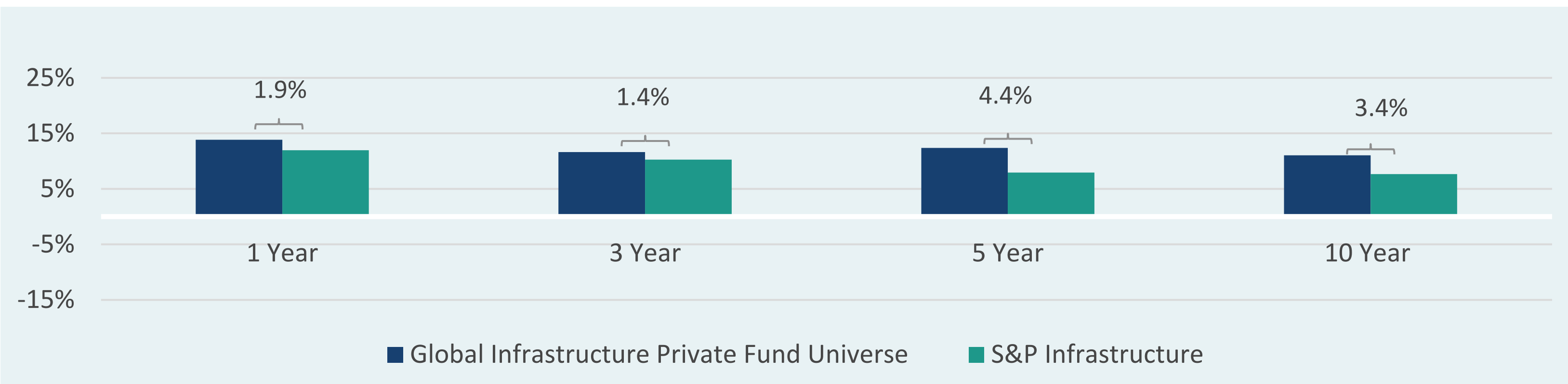
# Private vs. liquid real assets performance

**GLOBAL NATURAL RESOURCES FUNDS**




N.R. funds underperformed the MSCI World Natural Resources benchmark across all time periods.

**GLOBAL INFRASTRUCTURE FUNDS**

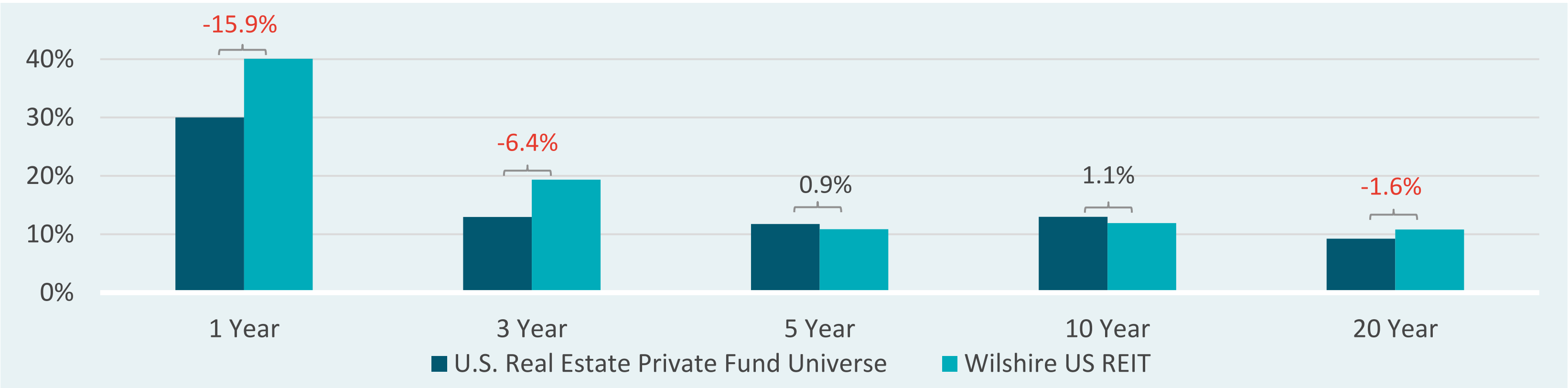



Infra. funds outperformed the S&P Infra. across all periods.

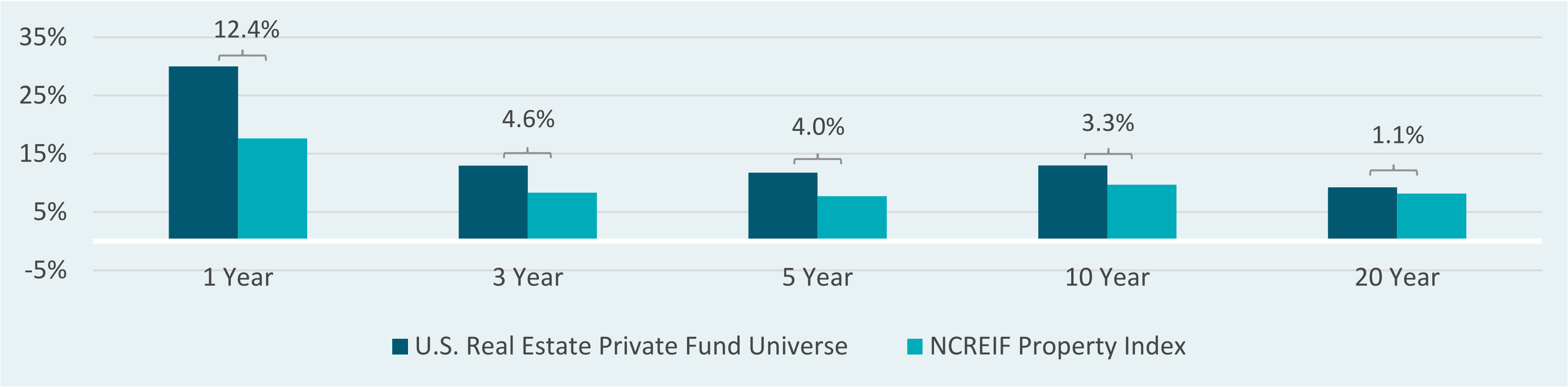
*Sources: Refinitiv PME: Global Natural Resources (vintage 1999 and later, inception of MSCI World Natural Resources benchmark) and Global Infrastructure (vintage 2002 and later, inception of S&P Infrastructure benchmark) universes as of December 31, 2021. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.*

# Private vs. liquid and core real estate performance

U.S. PRIVATE REAL ESTATE FUNDS VS. LIQUID UNIVERSE




U.S. PRIVATE REAL ESTATE FUNDS VS. CORE FUNDS




U.S. Private R.E. funds underperformed the Wilshire U.S. REIT Index across all time periods, aside on a 5 and 10 -year basis.

U.S. Private R.E. Funds outperformed the NCREIF Property Index across all time periods.

*Sources: Refinitiv PME: U.S. Real Estate universes as of December 31, 2021. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.*

# Detailed index returns

**DOMESTIC EQUITY**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Core Index** | | | | | | | |
| S&P 500 | (8.3) | (16.1) | (20.0) | (10.6) | 10.6 | 11.3 | 13.0 |
| S&P 500 Equal Weighted | (9.4) | (14.4) | (16.7) | (9.4) | 9.7 | 9.9 | 12.7 |
| DJ Industrial Average | (6.6) | (10.8) | (14.4) | (9.1) | 7.2 | 10.0 | 11.7 |
| Russell Top 200 | (7.8) | (16.6) | (20.7) | (11.5) | 11.5 | 12.2 | 13.4 |
| Russell 1000 | (8.4) | (16.7) | (20.9) | (13.0) | 10.2 | 11.0 | 12.8 |
| Russell 2000 | (8.2) | (17.2) | (23.4) | (25.2) | 4.2 | 5.2 | 9.4 |
| Russell 3000 | (8.4) | (16.7) | (21.1) | (13.9) | 9.8 | 10.6 | 12.6 |
| Russell Mid Cap | (10.0) | (16.8) | (21.6) | (17.3) | 6.6 | 8.0 | 11.3 |
| **Style Index** | | | | | | | |
| Russell 1000 Growth | (7.9) | (20.9) | (28.1) | (18.8) | 12.6 | 14.3 | 14.8 |
| Russell 1000 Value | (8.7) | (12.2) | (12.9) | (6.8) | 6.9 | 7.2 | 10.5 |
| Russell 2000 Growth | (6.2) | (19.3) | (29.5) | (33.4) | 1.4 | 4.8 | 9.3 |
| Russell 2000 Value | (9.9) | (15.3) | (17.3) | (16.3) | 6.2 | 4.9 | 9.1 |

**INTERNATIONAL EQUITY**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Broad Index** | | | | | | | |
| MSCI ACWI | (8.4) | (15.7) | (20.2) | (15.8) | 6.2 | 7.0 | 8.8 |
| MSCI ACWI ex US | (8.6) | (13.7) | (18.4) | (19.4) | 1.4 | 2.5 | 4.8 |
| MSCI EAFE | (9.3) | (14.5) | (19.6) | (17.8) | 1.1 | 2.2 | 5.4 |
| MSCI EM | (6.6) | (11.4) | (17.6) | (25.3) | 0.6 | 2.2 | 3.1 |
| MSCI EAFE Small Cap | (11.0) | (17.7) | (24.7) | (24.0) | 1.1 | 1.7 | 7.2 |
| **Style Index** | | | | | | | |
| MSCI EAFE Growth | (8.6) | (16.9) | (26.8) | (23.8) | 1.3 | 3.5 | 6.3 |
| MSCI EAFE Value | (10.0) | (12.4) | (12.1) | (11.9) | 0.2 | 0.5 | 4.2 |
| **Regional Index** | | | | | | | |
| MSCI UK | (8.6) | (10.5) | (8.8) | (4.0) | 1.2 | 2.2 | 3.7 |
| MSCI Japan | (7.9) | (14.6) | (20.3) | (19.9) | 1.0 | 1.8 | 5.6 |
| MSCI Euro | (11.3) | (15.8) | (25.2) | (23.8) | (1.1) | 0.4 | 5.3 |
| MSCI EM Asia | (4.8) | (9.3) | (17.2) | (25.9) | 3.1 | 3.4 | 5.5 |
| MSCI EM Latin American | (17.0) | (21.9) | (0.6) | (16.1) | (6.3) | (0.6) | (2.2) |

**FIXED INCOME**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Broad Index** | | | | | | | |
| Bloomberg US TIPS | (3.2) | (6.1) | (8.9) | (5.1) | 3.0 | 3.2 | 1.7 |
| Bloomberg US Treasury Bills | (0.0) | 0.1 | 0.0 | 0.0 | 0.6 | 1.1 | 0.6 |
| Bloomberg US Agg Bond | (1.6) | (4.7) | (10.3) | (10.3) | (0.9) | 0.9 | 1.5 |
| Bloomberg US Universal | (2.0) | (5.1) | (10.9) | (10.9) | (0.9) | 0.9 | 1.8 |
| **Duration** | | | | | | | |
| Bloomberg US Treasury 1-3 Yr | (0.6) | (0.5) | (3.0) | (3.5) | 0.2 | 0.9 | 0.8 |
| Bloomberg US Treasury Long | (1.5) | (11.9) | (21.3) | (18.5) | (2.9) | 0.5 | 1.6 |
| Bloomberg US Treasury | (0.9) | (3.8) | (9.1) | (8.9) | (0.9) | 0.7 | 1.0 |
| **Issuer** | | | | | | | |
| Bloomberg US MBS | (1.6) | (4.0) | (8.8) | (9.0) | (1.4) | 0.4 | 1.2 |
| Bloomberg US Corp. High Yield | (6.7) | (9.8) | (14.2) | (12.8) | 0.2 | 2.1 | 4.5 |
| Bloomberg US Agency Interm | (0.6) | (1.3) | (5.0) | (5.6) | (0.3) | 0.8 | 0.9 |
| Bloomberg US Credit | (2.6) | (6.9) | (13.8) | (13.6) | (1.0) | 1.2 | 2.5 |

**OTHER**

| | Month | QTD | YTD | 1 Year | 3 Year | 5 Year | 10 Year |
|---|---|---|---|---|---|---|---|
| **Index** | | | | | | | |
| Bloomberg Commodity | (10.8) | (5.7) | 18.4 | 24.3 | 14.3 | 8.4 | (0.8) |
| Wilshire US REIT | (7.3) | (5.4) | (14.9) | 4.4 | 7.4 | 7.5 | 8.8 |
| CS Leveraged Loans | (2.1) | (4.4) | (4.4) | (2.7) | 2.0 | 3.0 | 3.9 |
| S&P Global Infrastructure | (7.7) | (7.4) | (0.5) | 5.6 | 3.5 | 4.8 | 7.2 |
| Alerian MLP | (14.0) | (7.4) | 10.1 | 4.1 | (1.2) | (1.2) | 0.8 |
| **Regional Index** | | | | | | | |
| JPM EMBI Global Div | (6.2) | (11.4) | (20.3) | (21.2) | (5.2) | (1.2) | 2.2 |
| JPM GBI-EM Global Div | (4.5) | (8.6) | (14.5) | (19.3) | (5.8) | (2.3) | (1.5) |
| **Hedge Funds** | | | | | | | |
| HFRI Composite | (3.1) | (4.9) | (5.9) | (5.8) | 6.1 | 5.0 | 5.0 |
| HFRI FOF Composite | (0.9) | (3.6) | (6.3) | (5.2) | 4.1 | 3.7 | 3.8 |
| **Currency (Spot)** | | | | | | | |
| Euro | (2.4) | (6.0) | (8.1) | (11.8) | (2.8) | (1.7) | (1.9) |
| Pound Sterling | (3.6) | (7.8) | (10.3) | (12.1) | (1.5) | (1.3) | (2.5) |
| Yen | (5.3) | (10.7) | (15.2) | (18.3) | (7.4) | (3.7) | (5.2) |

*Source: Morningstar, HFRI, as of 6/30/22.*

# Definitions

***Bloomberg US Weekly Consumer Comfort Index*** *- tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. (www.langerresearch.com)*

***University of Michigan Consumer Sentiment Index*** *- A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. (www.Bloomberg.com)*

***NFIB Small Business Outlook*** *- Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (http://www.nfib-sbet.org/about/)*

***NAHB Housing Market Index –*** *the housing market index is a weighted average of separate diffusion induces for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula "(Good-Poor + 100)/2" to the present and future sales series and "(High/Very High-Low/Very Low + 100)/2" to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.*

# Notices & disclosures

# 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: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - 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: Portfolio Excess Return / 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.

# Disclaimer

This report contains confidential and proprietary information and is subject to the terms and conditions of the Consulting Agreement. It is being provided for use solely by the customer. The report may not be sold or otherwise provided, in whole or in part, to any other person or entity without written permission from Verus Advisory, Inc., (hereinafter Verus) or as required by law or any regulatory authority. The information presented does not constitute a recommendation by Verus and cannot be used for advertising or sales promotion purposes. This does not constitute an offer or a solicitation of an offer to buy or sell securities, commodities or any other financial instruments or products.

The information presented has been prepared using data from third party sources that Verus believes to be reliable. While Verus exercised reasonable professional care in preparing the report, it cannot guarantee the accuracy of the information provided by third party sources. Therefore, Verus makes no representations or warranties as to the accuracy of the information presented. Verus takes no responsibility or liability (including damages) for any error, omission, or inaccuracy in the data supplied by any third party. Nothing contained herein is, or should be relied on as a promise, representation, or guarantee as to future performance or a particular outcome. Even with portfolio diversification, asset allocation, and a long-term approach, investing involves risk of loss that the investor should be prepared to bear.

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**

August 23, 2022 Agenda Item 6.3

**TO:** Board of Retirement

**FROM:** Doris Ng, Investment Analyst

**SUBJECT:** Report on Core Fixed Income Manager Annual Reviews

**Recommendation**
Accept the reports on the annual reviews of SamCERA's core bond managers.

**Background**
SamCERA staff and consultant held annual review meetings with our core bond managers, NISA Investment Advisors, FIAM and DoubleLine LP, on June 23rd. On June 30th, SamCERA staff and consultant also held annual review meeting with our core bond manager, Western Asset.

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

**Discussion**
On June 23rd, the NISA Aggregate Bond strategy, which is an active strategy invested primarily in U.S. Treasuries, agencies, investment grade corporate bonds and structured securities, and managed with a tight tracking error relative to the Barclays Aggregate benchmark, was reviewed first. The firm noted one upcoming senior retirement planned for end of 2022.

Next, FIAM's Broad Market Duration strategy, which is also an active strategy invested primarily in U.S. Treasuries, agencies, investment grade corporate bonds, and structured securities, was reviewed.

Lastly, DoubleLine's Securitized Income strategy, which is an active strategy that utilizes a barbell approach of investing in interest-rate sensitive agencies and government securities and credit-sensitive structured securities, was reviewed.

On June 30th, Western Asset Management's Total Return Unconstrained (TRU) strategy, which is an unconstrained core product with broad latitude in duration (-3 to +8 years) and asset allocation, was reviewed.

There were no significant concerns identified during the portfolio reviews. Attached you will find meeting notes from Verus summarizing the findings from these annual reviews.

**Attachments**
NISA Annual Review Meeting Notes
FIAM Annual Review Meeting Notes
DoubleLine Annual Review Meeting Notes
Western Asset Annual Review Meeting Notes

*Date of meeting: 6/23/2022*

*Location: SamCERA's office*

*Manager Representative(s)*
Cheryl Hanson (Client Service)
Kevin Scholtz (Director, Markets and Portfolios)

*Verus Representative(s)*
Joseph Abdou

*Account Assets*
$214 million (6/30/22)

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

## Product Description

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%.

## Meeting Notes

### Organization

NISA registered with the SEC in November 1993 and began managing assets in April 1994. Prior to 1994, several of the firm's key employees were with National Investment Services of America, Inc. ("National"), which reorganized in 1994 to facilitate a change in ownership among employees. National split itself into three separately owned entities in 1994, one of which was NISA, focusing predominantly on fixed income asset management. NISA Investment Advisors, LLC is a wholly owned subsidiary of NISA, LLC which is 100% employee-owned. The firm managed $484 billion in total assets at 3/31/22, $292 billion of which was in investment grade fixed income across the maturity spectrum. From this, $36 billion was in Core Broad Market Fixed Income. Notional derivative overlay strategies are another core competency for the firm. Consistent themes across the firm's strategies include risk-controlled asset management, customized, separate accounts, frequent client interaction, and a team-oriented approach.

Effective 1/1/19, the firm's founders Jess Yawitz and Bill Marshall transferred their ownership interests to NISA's existing senior management team in exchange for a non-voting preferred stake in the firm. Direct LLC ownership among NISA's senior leadership was expanded at that time. Succession to the next generation was further augmented using NISA's Phantom Ownership Plan. NISA expects that its distribution of participation interests in the plan will continue to broaden. NISA has a "promote from within" culture, and many employees start out in the firm's internship program.

## Investment Team

All portfolios are managed with a team-approach. NISA's Investment Committee (Jess Yawitz, David Eichhorn, Biswajit Bhattacharya, Ken Lester, Joe Murphy, Anthony Pope, and Dan Scholz) meets monthly and develops strategic themes based on market and economic research including the analysis of monetary policy, expected economic and corporate profit growth, new issue activity, inflationary pressures, Treasury issuance and other macroeconomic factors. At these meetings, targets for sector overweights/underweights are developed and a yield curve strategy is determined. Joe Murphy announced his retirement which will be effective at the end of 2022. His position will not be backfilled, and his responsibilities will be distributed throughout the team. Tony Gould was hired as a director of investment strategies working on client solutions.

## Investment Strategy

The investment strategy is comprised of strategic (top-down) and tactical (bottom-up) decisions. The amount of the portfolio risk budget devoted to one aspect versus the other will change as market conditions warrant. Over a typical market cycle, the bottom-up is expected to contribute to 70% of value-added while top-down is roughly 30%.

NISA will look for opportunities to trade very similar bonds for small gains at little or no incremental risk. As active traders, they are in constant communication with the brokerage community and analyzing real-time data. NISA uses its risk management tools to monitor each portfolio's exposure relative to the benchmark. Each source of risk is evaluated net of the benchmark to determine active risks and these risks are compared with the expected excess performance associated with the positions. NISA will only implement positions which meet the active risk/reward threshold (either on an individual basis, or when viewed in the context of other active positions).

### Performance & Positioning

Performance will tend to be closely matched to the Aggregate benchmark, with the goal of having low tracking error and moderate excess return. They keep portfolios duration-neutral to their respective benchmark(s) (+/- 0.25 years). Low tracking error is a hallmark of the strategy and as such, NISA's fixed income universe is predominately comprised of securities included in the benchmark. This tends to result in high information ratios versus peers. Betas tend to be around 1.0 to the benchmark over time.

For the 1-year ending 3/31/2022, the NISA Core Broad Market Fixed Income composite beat the Benchmark (-3.8% vs -4.2%.) SamCERA's portfolio was funded 6/1/2020 and had a since inception gross return of -2.7% through March 31, 2022, beating the benchmark by 35 bps. There are limited opportunities in the market, as fewer issuers are coming to market due to higher yields. The strategy is neutral to credit and will tactically remain closer to neutral as the team sees the increase in volatility staying through the end of the year.

*Date of meeting: 6/23/2022*

*Location: Zoom meeting*

*Manager Representative(s)*

Celso Munoz (Portfolio Manager)

Ford O'Neil (Portfolio Manager)
Arthur Greenwood (Relationship Manager)

*Verus Representative(s)*

Joseph Abdou

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

*Account Assets*
$242 million (6/30/22)

**Product Description**

Fidelity's Broad Market Duration (BMD) investment strategy seeks to achieve absolute and risk-adjusted returns in excess of the Bloomberg Barclays U.S. Aggregate Index, focusing its investments in U.S. Treasuries, agencies, investment grade corporate bonds, mortgage-backed, and asset-backed securities. The BMD commingled pool can also hold small, opportunistic positions in out-of-benchmark securities, such as inflation-linked bonds. The investable universe includes all U.S. dollar denominated, investment grade debt securities. The BMD investment approach emphasizes issuer and sector valuation and individual security selection. Through the integration of fundamental and quantitative research and trading, the BMD strategy is implemented in a team environment. Risk management technology is utilized to explicitly quantify benchmark exposures on a daily basis, and Fidelity uses the same analytical framework to assess both index and portfolio risk. Tracking error should range between 1.00 - 1.50% per annum over the benchmark, and stringent portfolio construction risk control rules are strictly adhered to.

**Meeting Notes**

**Organization**

Over the past year, Fidelity has seen asset growth in fixed income, as well as global multi-sector fixed income and LDI. The organization has been stable over the last year with no material changes to the firm.

**Investment Team**

There were no investment team changes specific to BMD in the past year. Ford O'Neil, Jeff Moore, Celso Munoz and Michael Plage are the portfolio managers responsible for the Broad Market Duration strategy. Fidelity has a compensation structure within the team that allows analysts to maintain careers as analysts if they choose not to become portfolio managers. In this way, FIAM analysts can develop insights and differentiated viewpoints on industry credits.

## Investment Strategy

Fidelity' Broad Market Duration uses bottom-up issuer and sector selections as its primary sources of alpha. Because Fidelity recognizes that macroeconomic forces have often overwhelmed underlying fundamentals for extended period of time, the BMD team incorporates inputs from both global macro and quantitative analyst teams to guide decisions. Risk management is also a priority and is integrated into the framework in managing this strategy.

Credit analysts cover approximately 2–3 industries across 30–50 names, resulting in a high degree of specialization and focus. Analysts provide their own credit rating for each issuer they cover as well as a numerically ranked (1-strong buy, 6-strong sell) relative value rank for each issuer and sector they cover. This quantitative ranking is incorporated into the portfolio management and risk monitoring systems. Analysts also provide qualitative assessments to portfolio managers. In meetings with the portfolio manager and traders, analysts propose their security recommendations, discuss industry trends, and provide updates on company-specific situations. Outputs from these meetings can include formal ratings changes to both fundamental outlooks and relative value.

While the investment process is rooted in a bottom-up, fundamental approach, FIAM incorporates macroeconomic variables that can influence credit, liquidity and valuation perspectives into their bottom-up process. These global macro perspectives serve a twofold function: (1) they facilitate the risk management process and (2) they represent potential sources of alpha.

### Performance & Positioning

As of May 31, 2022, the SamCERA BMD account's trailing 12-month net return outperformed the Bloomberg Barclays U.S. Aggregate benchmark (-7.8% versus -8.2% for the Bloomberg Barclays U.S. Aggregate Index). The modest short duration position contributed to relative performance as rates increased during the period. The team had a 6% allocation to TIPS with concerns that the market would at some point feel inflationary pressures. That positioning was closed at when inflation hit the economy, and currently FIAM doesn't have TIPS in the portfolio.

Currently, FIAM is like BBB's, but they are conservatively positioned as there are macro factors that can affect the economy in favorable and unfavorable ways for the latter half of the year.

*Date of meeting: 6/23/2022*

*Location: SamCERA's office*

*<u>Manager Representative(s)</u>*
Andrew Hsu (Portfolio Manager)
Stephanie Luh (Consultant Relations)
Vitaliy Liberman (Portfolio Manager)

*<u>Verus Representative(s)</u>*
Joseph Abdou

*<u>Account Assets</u>*
$232 million (6/30/22)

*<u>Client Representative(s)</u>*
Mike Coultrip (CIO), Doris Ng (Analyst)

## Product Description

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 barbel 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.

## Meeting Notes

### Organization

DoubleLine is an independent, employee-owned asset management firm founded by Jeffrey Gundlach in 2009. Mr. Gundlach's departure from a previous firm prompted 45 employees to follow him to establish DoubleLine. DoubleLine's senior investment team has worked together for an average of 17 years, with its portfolio managers averaging 22 years of industry experience. The firm's shareholders include the senior securitized team members. The firm is based in Los Angeles with a small client service office in Tokyo. Oaktree owns a minority, non-controlling stake in the company.

### Investment Team

The Structured Product committee comprises of Ken Shinoda (chairman), Andrew Hsu, Vitaliy Liberman, Sam Garza, and Morris Chen. The committee reports up to the Fixed Income Asset Allocation Committee, chaired by Jeffrey Gundlach (CEO/CIO.) Doubleline has a deep research team of 114 investment professionals. There have been no changes to the team over the past year.

## Investment Strategy

DoubleLine has a Structured Products Committee that meets weekly to review all structured products, including Securitized Income. The committee discusses the securitized markets on a macroeconomic level and identifies structured products sectors with attractive risk/reward opportunities. The firm has specialized structured product sector teams that identify bottom up ideas in their sub sectors. Agency MBS typically comprises 50% of the portfolio with the other half in investment grade structured credit. Asset class exposures are shifted gradually based on sector fundamentals and relative valuation. The primary driver of security selection is scenario analysis. Importantly, future scenarios incorporate the market insights of the specialized team members based on their years of experience investing in the sectors, as opposed to relying on historical data regressions. DoubleLine research covers the full spectrum of securitized products.

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

## Performance & Positioning

The since inception (3/2020) net performance has outperformed the Bloomberg Barclays Aggregate (-2.5% vs -3.6%). YTD 2022, the portfolio was down -9.4%, lagging the benchmark by 50 bps. The strategy started the year roughly 50% Treasuries and 50% Agencies, since then they have lowered agencies by 10%. In May, the team de-risked the portfolio, with an eye towards capital preservation through the remainder of the year. Cash went from 3.5% to 6%, and the team was also shifting into Treasuries through the middle of the year. The strategy is currently ½ a year below the benchmark in terms of duration.

*Date of meeting: 6/30/2022*

*Location: Zoom Meeting*

*Manager Representative(s)*
Mark Lindbloom (Portfolio Manager)
Frances Coombes (Client Service)

*Verus Representative(s)*
Margaret Jadallah
Joseph Abdou

*Account Assets*
$182 million (6/30/22)

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

**Product Description**

Western Asset's Total Return Unconstrained (TRU) strategy seeks to provide bond-like risk and return over the long term within a benchmark agnostic framework. This allows for asset allocation based purely on fundamental, long term value. The investment approach is active with very broad latitude on duration (-3 to +8 years) and on asset allocation across all of the eligible sectors in an unconstrained bond mandate without having to adhere to the benchmark construction. The portfolio must have at least 50% of its holdings in investment-grade securities. This strategy can be appropriate in all market environments, but may be particularly attractive in rising rate environment, as the flexibility offered by this strategy allows for defensive positioning and opportunistic deployment of capital when value opportunities arise. It also allows the portfolio managers to emphasize (or deemphasize) either credit or rates when one or the other appears to offer greater (or lesser) value.

Western Asset uses a team approach to portfolio management with duration, term structure, and sector allocation decisions developed by U.S. Broad Strategy Committee. The TRU bond portfolio managers are members of this committee which meets weekly to formulate the firm's macroeconomic outlook and broad investment strategies in terms of the strength of the economy, direction of interest rates and shape of the yield curve. This top down viewpoint is then applied in constructing the TRU portfolio.

**Meeting Notes**

**Organization**

The Firm's total AUM was $476 billion as of March 31, 2022. Western Asset is going to be a wholly-owned subsidiary of Franklin Templeton, but maintains its organizational autonomy and investment independence.

**Investment Team**

There have been no leadership or investment team changes to the strategy since the last SamCERA review. Western TRU is led by Mark Lindbloom and S. Kenneth Leech, each with 40 years of experience. Mark Lindbloom leads the U.S. Broad Strategy team of five senior portfolio managers, and subsets of the senior PMs have been assigned to specific products to promote better client communication. All in, Western Asset has 131 investment professionals in seven offices who contribute to the investment outlook and process.

**Investment Strategy**

The investment philosophy of Western Asset is long-term fundamental value investing, using multiple diversified strategies. Western Asset combines a top-down macroeconomic view with bottom-up fundamental research and relative value analysis. Portfolio management is directed by the Unconstrained Asset Allocation Committee which sets macro and sector investment themes. The Committee meets weekly to establish a U.S. investment outlook over a 3-6 month time horizon, which provides guidance to the portfolio managers.

Western Asset believes it can identify and capitalize on markets and securities that are priced below fundamental fair value. The firm does this through disciplined and rigorous analysis, comparing prices to the fundamental fair values estimated by its macroeconomic and credit research teams around the globe. The TRU portfolio emphasizes the team's highest conviction ideas. The greater the difference between the firm's view of fair value and market pricing, the bigger the potential value opportunity. The greater the degree of confidence in its view of fundamentals, the greater the emphasis of the strategies in the portfolio.

Western Asset seeks diversified sources of returns. Western Asset's objective is to meet or exceed its investors' performance objectives within their tolerances for risk with TRU investing opportunistically in larger, more liquid sectors of the fixed income market. The firm seeks to diversify investments and add value across interest rate duration, yield curve, sector allocation, security selection, country and currency strategies.

**Performance & Positioning**

For the year ended May 31, 2022, the portfolio returned -9.5% vs. -8.2% for the Bloomberg Barclays U.S. Aggregate Index. Duration for the portfolio is around 3.1% and is yielding 5.8%. Approximately 3/4ths of absolute performance was attributed to the increase in interest rates.

While Western Asset has seen value in emerging markets previously, they have been reducing exposure. They substantially reduced EM by 11%, on slower global growth concerns. They also sold out of Chinese government bonds in the first quarter, and are rotating into investment grade credit.

**San Mateo County Employees' Retirement Association**
**Board of Retirement**

August 23, 2022 Agenda Item 6.4

**TO:** Board of Retirement

**FROM:** Doris Ng, Investment Analyst

**SUBJECT:** Report on Opportunistic Credit Manager Annual Reviews

## Recommendation

Accept the reports on the annual reviews of SamCERA's opportunistic credit bond managers.

## Background

On June 30th, SamCERA staff and consultant held annual review meeting with our opportunistic credit bond manager, Franklin Templeton. On July 28th, SamCERA staff and consultant also held annual review meetings with our other opportunistic credit bond managers, PIMCO, Beach Point and Brigade Capital Management.

Each meeting lasted approximately 1.5-2 hours, and consisted of a firm/organizational update, investment process review, performance review and attribution, and current positioning/market outlook.

## Discussion

On June 30th, we reviewed the Franklin Templeton Global Multi-Sector Plus bond strategy, which is a global unconstrained bond mandate managed in an opportunistic fashion using a top-down fundamental framework. There is some concern around the level of assets in the vehicle SamCERA is invested in, but we continue to monitor the situation.

On July 28th, we reviewed two investment strategies with PIMCO. First, we reviewed PIMCO's Diversified Income strategy, which is a multi-sector approach that diversifies globally across different public credit sectors based on relative value. The strategy has the flexibility to invest across a broad spectrum of public credit, including investment grade, high yield, emerging markets, other non-core credit sectors and currencies.

Second, we reviewed the PIMCO Private Income strategy, which is an opportunistic global private credit strategy that invests across private residential, commercial, corporate, and specialty finance markets. The strategy utilizes both top-down sector relative value and bottom-up security selection.

Next, we reviewed Beach Point's Select Fund strategy, which focuses on mid-market, off-the-run, complex and less-liquid securities. The strategy invests across the capital structure in distressed/opportunistic securities, event-driven bonds, bank debt and credit-informed equities with a North American and European focus.

Lastly, we reviewed Brigade Capital Management's Opportunistic Credit product, which 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.

Attached you will find meeting notes from Verus summarizing the findings from these annual reviews.

**Attachments**

A. Franklin Templeton Annual Review Meeting Notes
B. PIMCO Diversified Income Fund Annual Review Meeting Notes
C. PIMCO Private Income Fund Annual Review Meeting Notes (Confidential)
D. Beach Point Annual Review Meeting Notes (Confidential)
E. Brigade Annual Review Meeting Notes (Confidential)

*Date of meeting: 6/30/22*

*Location: Zoom meeting*

*Manager Representative(s)*

Bill Deakyne (Client Relations),
Michael Hasenstab (Portfolio manager),
Jason LaRocco (Head of Product Specialists)
Marnie Marciariello (Client Relations)

*Verus Representative(s)*

Joseph Abdou
Margaret Jadallah
John Nicolini

*Client Representative(s)*

Michael Coultrip (CIO), Doris Ng (Analyst)

*Account Assets*
$53 million (6/30/22)

## Product Description

Franklin Templeton (FT) manages the Global Multisector Plus global bond mandate in an unconstrained fashion using a top-down fundamental framework. FT believes that in the short-term and on a country-by-country basis there are often inefficiencies in global bond and currency markets; however, over the longer term, the market will ultimately price to fundamentals. Thus, FT focuses on fundamental research to identify long-term opportunities and uses short-term market inefficiencies to build positions in such investments. Through its research, FT seeks to identify specific interest rates, currencies and credit exposures that reflect the most attractive investment opportunities, independent of the benchmark. The contribution of the different sources of alpha can vary according to various market environments. However, in aggregate, the risk allocated to each of these areas has typically ranged from 20% to 60% of the risk budget. The Global Multisector Plus approach allows for meaningful amounts of emerging markets and active currency management. The portfolio must maintain at least 50% investment grade exposure.

The format of SamCERA's investment in this strategy was changed from a separate account to a commingled vehicle in June 2014. As a result of SamCERA's fixed income manager structure review in 2017, SamCERA moved FT to the Opportunistic category and redeemed $70 million from FT to reduce tracking error in the fixed income composite.

## Meeting Notes

## Organization

As of March 31, 2022, Franklin Templeton managed $1.5 trillion, of which approximately $618 billion was in fixed income mandates. The Global Macro team, led by Michael Hasenstab, managed $6.1 billion in the Global Multisector Plus style employed in the SamCERA portfolio at 3/31/22, which was another year over year decrease from $25 billion in 2020 and $11 billion in 2021.

In 2020, Franklin Templeton finalized its acquisition of Legg Mason and its affiliates. Franklin Templeton continues to run each investment sleeve independently, with no future plans to combine investment teams. Two years into this merger, there continues to be zero impact to the team on process and philosophy.

There was some concern with assets in the vehicle that SamCERA is invested in. AUM for the vehicle was $310 million at the end of March 2022; however, a large institutional investor redeemed and the AUM as of May 31, 2022 was $74 million. SamCERA is a significant portion of the remaining pool. A follow up call was set up to review this vehicle.

## Investment Team

Franklin Templeton's Global Macro team consists of 28 investment professionals, including 6 Ph.D.'s who comprise the senior investment management and research team. The Global Macro team is represented by a diverse set of professionals from 13 different countries who speak 16 different languages. The team utilizes additional inputs from FT's broader Fixed Income Group consisting of a team of more than 150 global fixed income investment professionals located in offices around the world.

Vivian Gao, who left the team in 2020, rejoined the team after leaving to get a master's degree. The team was stable over the past year with no significant departures.

The Global Macro group is structured into regional/country and sector research teams, quantitative analysts and separate and segregated risk analysts. Christine Zhu, Director of Portfolio Construction, is co-portfolio manager for Global Multisector Plus and plays an important role in separate account management.

## Investment Strategy

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

The investment process integrates inputs from multiple sources within the Global Macro team and the broader FT fixed income team. Global Macro research teams meet weekly and gather local market intelligence from fixed income colleagues from around the globe as part of their due diligence. Analysts pitch their ideas to the portfolio managers, and lead portfolio manager Michael Hasenstab must sign off on them before they are purchased. The risk team assesses the impact any trade will have on the risk of the portfolio. The portfolio is not managed to be similar to the benchmark, and there is little focus on tracking error. But the team is attentive to other multiple risks, such as political and liquidity risk. Franklin models the VaR of the portfolio as well as conditional VaR, which considers tail risks.

The investment philosophy focuses on getting the country selection decision right as the primary driver of portfolio performance. On average and over longer periods of time, risk allocation should be approximately equal across interest rate, currency and credit alpha sources.

## Performance & Positioning

The SamCERA portfolio outperformed the Bloomberg Barclays Multiverse Index 1-year ending 5/31/22 (-7.3% vs -13.1%) and YTD (-3.5% vs -10.9%). The portfolio benefited from a tailwind in Latin American currencies due to the commodity rally.

Currently, the strategy is underweight duration to protect capital. Asia ex China has potential opportunities for the team to invest. The team also sees opportunities in Latin America, Brazil, Chili, and Columbia.

*Date of meeting: 7/28/2022*
*Location: Zoom call*

*Manager Representative(s)*

Brian Leach (Senior Strategist)
Sonali Pier(Portfolio Manager)
Kevin Gray (Account Management)

*Verus Representative(s)*

Margaret Jadallah
Joe Abdou

*Account Assets*
$114 million (6/30/22)

*Client Representative(s)*

Mike Coultrip (CIO), Doris Ng (Analyst), Lili Dames (Analyst)

## Product Description

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).

## Meeting Notes

## Organization

The firm's total assets under management as of 6/30/22 were $1.4 trillion. As of June 30, 2022, Diversified Income strategy assets were approximately $26 billion which is large enough to be relevant but small enough for the team to be relatively nimble. DI fund assets were $3.8 billion.

## Investment Team

Diversified Income accounts are managed by a team of portfolio managers averaging 20 years of experience. The team includes senior portfolio managers Daniel Ivascyn, Alfred Murata, Eve Tournier, and Sonali Pier. Lead portfolio manager Dan Ivascyn ultimately has the final decision-making authority. There were no team departures over the past year. Portfolio managers are responsible for positioning and trades within their portfolios and work in conjunction with investment grade credit, emerging markets, high yield and mortgage-backed securities teams in constructing portfolios.

## Investment Strategy

PIMCO's approach to managing the Diversified Income strategy is driven by the same key principles that are applied to all credit portfolios managed at the firm. PIMCO's global approach to investing and top-down macroeconomic research gives the team insights into managing in a multi-sector credit framework. The team's philosophy is driven by three main principles: 1) flexible and tactical allocation across global credit sectors in an effort to identify dislocations in relative value, 2) adding value through the combination of bottom-up fundamental credit research with top-down macroeconomic analysis, and 3) diversifying sources of risk and return in an attempt to avoid large drawdowns, which can result in attractive risk-adjusted returns over a long-term investment horizon.

PIMCO's process is a combination of top-down macroeconomic insights coupled with bottom-up fundamental research. The DI portfolio management team, structured in a generalist/specialist model, is responsible for coordinating a global investment process to ensure consistency across portfolios. The team works closely with the investment grade credit, emerging markets, high yield and mortgage-backed securities teams in constructing portfolios. PIMCO's portfolio risk management team enforces internal investment committee-defined targets and limits and partners with portfolio managers to provide analysis and insights on portfolio construction, stress tests, potential drawdowns and other market risks. PIMCO uses an integrated approach to assessing ESG risks in the portfolio, striving to consider and model all possible variables that could potentially impact a bond's future value.

This is a best-ideas portfolio seeking the most attractive risk-adjusted returns globally and across asset classes while mitigating market volatility. Over time performance attribution should come 10-20% from macro decisions, 30-40% from sector decisions and 30-40% from bottom up decisions.

### Performance & Positioning

As of June 30, 2022, SamCERA's DI portfolio outperformed its custom benchmark since inception (0.32% net vs. 0.87% for the blended benchmark; inception date 8/2017). For the 1-tear ending June 30, 2022 the fund underperformed its benchmark by 14 bps. The PIMCO DI Index is comprised of 1/3 Bloomberg Barclays Global Agg Credit ex-EM; 1/3 BofA Merrill Lynch BB-B rated Developed Markets High Yield; 1/3 JPMorgan EMBI Global. The portfolio was underweight to EM, but they have been adding to EM since Q1. The portfolio did have exposure to Russian securities which were written down to zero. They are keeping these securities as there is no longer a downside to maintaining them, and there might be a payoff later. The exposure to Russia was 40bps of the total portfolio.

Currently PMs are cautious and investing in higher quality high yield. They also noted the high yield market is shrinking as new issuance of BB's are down due to the current rate environment. The strategy also has an underweight to emerging markets debt as they feel the global economy might cause a flight to quality.

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**
**Board of Retirement**

August 23, 2022 Agenda Item 7.1

**TO:** Board of Retirement

**FROM:** Scott Hood, Chief Executive Officer

**SUBJECT:** Approval to Reschedule the October 25, 2022 Board Meeting

**Recommendation**
Approve a change to the date and time of the regularly scheduled October 25, 2022 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 2021, the Board approved the regular meeting schedule for 2022. That schedule provides that the Board would meet on October 25, 2022. Subsequent to the scheduling of the meeting, two of the education providers, enumerated in the Board's Education Policy, have scheduled educational events that would conflict with the scheduled Board Meeting.

The International Foundation of Employee Benefit Programs (IFEBP) will be holding their annual conference, the Certificate of Achievement in Public Plan Policy (CAPPP) training and the Trustees Master Program (TMP) over the scheduled Board meeting. Additionally, NCPERS has also scheduled a conference for Safety Trustees during this time. Changing the meeting date will also allow senior staff to attend these and additional training conferences also held during this same time.

Staff recommends that Board formally change the date and/or time of the meeting to November 1 or another appropriate date so that staff can publish the meeting notice and reflect the new information on SamCERA's website.