



Notice of Public Meeting

The Board of Retirement of the San Mateo County Employees' Retirement Association will meet on **Tuesday, December 6, 2022 at 10:00 A.M.**

In accordance with Government Code §54954, the Members of the Board will be participating via Zoom video conference and teleconference. Pursuant to Government Code §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/82689514127>
- To join the meeting via telephone, dial: (669) 900-9128, and enter Meeting ID: 826 8951 4127

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**
- 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 Audit Committee Minutes from November 1, 2022
 - 3.2 Approval of Board Meeting Minutes from November 1, 2022

4. Approval of the Consent Agenda*

- 4.1 Disability Retirements (2)
 - Coonrod, Anne
 - Fox, Harriet
- 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 Reaffirm Education Policy
- 4.11 Approval of Resolution Extending the Contract for Investment Consulting Services
- 4.12 Amendment of Resolutions that Define Compensation Earnable and Pensionable Compensation

5. Benefit & Actuarial Services

- 5.1 Consideration of Agenda Items, if any, Removed from the Consent Agenda

6. Investment Services

- 6.1 Report on Preliminary Monthly Portfolio Performance Report for the Period Ended October 31, 2022
- 6.2 Report on Quarterly Investment Performance for the Period Ended September 30, 2022
- 6.3 Report on Phase One of ALM Study - Enterprise Risk Tolerance Results and Review of Current Policy Characteristics
- 6.4 Presentation of Private Asset Semi-Annual Performance Reports as of June 30, 2022
- 6.5 Report on Investment Consultant Annual Review

7. Board & Management Support

- 7.1 Annual Review of Brown Armstrong
- 7.2 Review of Funding Dashboard
- 7.3 Discussion of Board-Staff Retreat Topics

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 Public Employee Performance Evaluation, in accordance with Gov. Code § 54957, Title: Chief Executive Officer (to be heard in Closed Session Confidential Under Gov. Code §54957)

9. Report on Actions Taken in Closed Session

Notice of Public Meeting

Page 3 of 3

10. Adjournment in Memory of the Following Deceased Members:

Toomer, Melvin	October 2, 2022	Courts
Carter, Beverly	October 14, 2022	Probation
McCreadie, Donald	October 18, 2022	Probation
Kucich, Mario	October 21, 2022	General Services
Corpus, Teodoro	October 25, 2022	Controller's
Buckley, Eileen	October 26, 2022	Sheriff's
Doman, Jane	October 26, 2022	Controller's
Walker, Edith	October 26, 2022	Hospital
Gan, Margaret	October 28, 2022	Human Services
Wood, Kenneth	November 4, 2022	Courts
Makhlouf, Eleanor	November 7, 2022	Aging and Adult Services
Yee, Warren	November 11, 2022	Sheriff's
Iorio, Michael	November 17, 2022	Sheriff's
Neufeld, Albert	November 17, 2022	Public Works



Scott Hood, Chief Executive Officer

Posted: November 30, 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 CONSENT AGENDA MAY BE TRANSFERRED TO THE REGULAR 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
Minutes of the Audit Committee Meeting of the Board of Retirement

November 1, 2022 – Audit Committee Meeting Minutes

1. **Call to Order:** Ms. Arnott, Chair, called the meeting of the Audit Committee to order at 9:00 a.m.

Roll Call: *Present:* Sandie Arnott (Chair), Kimathi Marangu, and Elaine Orr.

Not Present: Al David.

Staff: Tat-Ling Chow, Scott Hood, Paul Okada, Gladys Smith, and Anne Trujillo.

Consultants: Ashley Green, from Brown Armstrong.

- 2.1 **Oral Communications from the Committee:** None.

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

- 3.1 **Recommendation to the Board of Retirement to Accept Financial Audit Management Reports and Findings:** Ms. Green reviewed the audit process and presented the financial audit reports and findings. She reported that SamCERA received an unmodified (clean) opinion and that there were no issues performing the audit. She also reported that there were no material weaknesses, significant deficiencies, or control deficiencies identified.

Action: Mr. Marangu moved to recommend that Board of Retirement accept the financial audit management reports and findings, as prepared by Brown Armstrong. The motion was seconded by Ms. Orr and carried with a vote of 3-0, with trustees Arnott, Marangu, and Orr, all in favor; and none opposed.

- 3.2 **Recommendation to the Board of Retirement to Approve SamCERA's 2021 Annual Comprehensive Financial Report:** Ms. Chow provided a summary of the Annual Comprehensive Financial Report (ACFR) for the fiscal year ended June 30, 2022. She discussed SamCERA's net position at fiscal year end, the operating results for the fiscal year just ended, and the funding status as of June 30, 2022. Ms. Chow thanked Ms. Green and her audit team, Milliman, Inc., as well as SamCERA staff for their contributions in putting the ACFR together.

Action: Ms. Orr moved to recommend that Board of Retirement approve SamCERA's 2022 Annual Comprehensive Financial Report. The motion was seconded by Mr. Marangu and carried with a vote of 3-0, with trustees Arnott, Marangu, and Orr, all in favor; and none opposed.

4. **Adjournment:** With no further business, Ms. adjourned the meeting at 9:17 a.m.

Sandie Arnott
Audit Committee Chair

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
NOVEMBER 1, 2022 – REGULAR BOARD MEETING MINUTES

2211.1 Call to Order, Roll Call and Miscellaneous Business

Call to Order: Ms. O'Malley, Chair, called the Regular Meeting of the Board of Retirement to order at 10:01 a.m.

Roll Call:

Present: Sandie Arnott, Mark Battey, Kurt Hoefer, Kimathi Marangu, Katherine O'Malley, Elaine Orr, Robert Raw, and Alma Salas.

Absent: Al David.

Alternates: Nicole McKay (joined at 11:12 a.m.)

Staff: Tat-Ling Chow, 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, and John Nicolini (Verus); and Ashley Greene (Brown Armstrong).

2211.2.1 Oral Communications from the Board: None.

2211.2.2 Oral Communications from the Public: Ms. O'Malley 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.

2211.3.1 Approval of Special Board Meeting Minutes from September 27, 2022: Ms. O'Malley asked if there were any changes or corrections, or objections, to the meeting minutes from the special meeting held on September 27, 2022. There were no changes, corrections, or objections presented.

Action: Mr. Raw moved to approve the minutes from the special Board meeting on September 27, 2022. The motion was seconded by Mr. Battey and carried with a vote of 7-0, with trustees Arnott, Battey, Hoefer, Marangu, Orr, Raw, and Salas all in favor; O'Malley abstained, none opposed.

2211.3.2 Approval of Board Meeting Minutes from September 27, 2022: Ms. O'Malley asked if there were any changes or corrections, or objections, to the meeting minutes from the regular meeting held on September 27, 2022. There were no changes, corrections, or objections presented.

Action: Mr. Hoefer moved to approve the minutes from the regular Board meeting on September 27, 2022. The motion was seconded by Ms. Arnott and carried with a vote of 7-0, with trustees Arnott, Battey, Hoefer, Marangu, Orr, Raw, and Salas all in favor; O'Malley abstained, none opposed.

2211.3.3 Approval of Special Board Meeting Minutes from October 13, 2022: Ms. O'Malley asked if there were any changes or corrections, or objections, to the meeting minutes from the special meeting held on October 13, 2022. There were no changes, corrections, or objections presented.

Action: Ms. Salas moved to approve the minutes from the special Board meeting on October 13, 2022. The motion was seconded by Mr. Marangu and carried with a vote of 6-0, with trustees Arnott, Hoefer, O'Malley, Marangu, Raw, and Salas all in favor; Battey and Orr abstained, none opposed.

2211.4.0 Approval of the Consent Agenda: Ms. O'Malley asked if there were any items to be removed for discussion from the Consent Agenda. No items were removed.

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

2211.4.1 **Disability Retirements:**

- a) The Board found that **Antonino Costa** (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, regarding **Patrina Sudano**, (1) accepted the proposed decision of the Hearing Officer, Juliet Cox, (2) found that she is permanently disabled and unable to perform her job duties as a Deputy Sheriff, (3) found that her disability was the result of an injury arising out of and in the course of her employment and (4) granted her application for a service-connected disability retirement.

2211.4.2 **Survivor Death Benefits:** None.

2211.4.3 **Service Retirements:**

Name	Effective Retirement Date	Department
Arakaki-Barbanica, Roderick	August 11, 2022	Sheriff's Office
Armando, Andrew	August 31, 2022	Sheriff's Office
Bursten, Juliana	August 15, 2022	Deferred - Behavioral Health
Caso, Michael	August 16, 2022	Deferred - Environmental Health
DeBattista, Cory	September 1, 2022	Deferred - Probation
Gorkhali, Madan	August 15, 2022	Deferred - Sheriff's Office
Gujer, Tina	June 21, 2022	Family Health Services
Hunt, Delores	August 13, 2022	Probation
Kanakis, Nikki	August 6, 2022	Behavioral Health
Larkin, Noris	September 1, 2022	San Mateo County Health
Leong, Ligi	September 1, 2022	Probation
Lucett, Lisa	August 31, 2022	Public Safety Communications
McClure, Michelle	August 16, 2022	Deferred - Probation
Minor, Duane	August 18, 2022	Public Works
O'Connor, Patrick	September 1, 2022	Human Services Agency
Pagsanjan, Nicanor	August 13, 2022	Probation
Proctor, Lester	August 20, 2022	Public Works
Quon, Herman	August 6, 2022	Deferred - Sheriff's Office
Silva, Jenny	August 13, 2022	Behavioral Health
Smith, Patricia P	August 21, 2022	Deferred - San Mateo Co Health

2211.4.4 **Continuances:**

Survivor's Name:	Beneficiary of:
Alsterlind, Mardece	Alsterlind, Keith
Hunnell, Vanessa	Galleguillos, Roy

2211.4.5 Deferred Retirements:

Name	Retirement Plan Type
Balance, Christian	G7, Vested - Auto Defer – Code 31700
Britton, Erica	G7, Vested - Auto Defer – Code 31700
Burgess, Stacy	G7, Vested - Reciprocity
Chan, Christina	G7, Vested - Reciprocity
Dunham, Daniela	G7, Non-vested - Reciprocity
Espino, Uriel	G7, Non-vested - Reciprocity
Felise, Zachary	S7, Vested
Fu, Sylvia	G4, Vested - Auto Defer – Code 31700
Hernandez, Eduardo	G5, Vested - Auto Defer – Code 31700
McTaggart, Mairtin	G7, Non-vested - Reciprocity
Medina, Rey Allen	G7, Vested
Mercado, Wesley	G4, Vested - Auto Defer – Code 31700
Payumo, Madeleine	G4, Vested - Reciprocity
Perdomo, Le'Rusyan	G7, Vested - Auto Defer – Code 31700
Pitre, Elaina	S7, Vested - Reciprocity
Prado Farias, Lorena	G7, Vested - Auto Defer – Code 31700
Raga, Roland	G7, Vested - Auto Defer – Code 31700
Rodriguez, Ivan	S7, Vested - Reciprocity
Sheth, Monali	G7, Vested - Auto Defer – Code 31700
Torres, Zaira	G7, Vested
Tourel, Shirley	G4, Vested

2211.4.6 Member Account Refunds:

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

Name	Retirement Plan Type
Barela, Frank (FBO: Pulliam, Robert)	G7, Non-vested
Chambers, Priscilla E	G4, Vested
Dellamonica, Laura (FBO:Dellamonica, Brian)	G4, Vested
Dellamonica, Laura (FBO:Dellemonica, Daniel)	G4, Vested
Gong, Shiyang	G7, Non-vested
Lenane, Zachary	G7, Non-vested
Letana, Karla (FBO: Letana, Omega)	G4, Vested
Letana, Karla (FBO: Letana, Reynaldo)	G4, Vested
Williams, Danielle (FBO: Wysinger, Dana)	G4, Vested

2211.4.7 Member Account Rollovers:

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

Name	Retirement Plan Type
Fahey, Lisa (DRO)	S5, Non-vested
Fellows, Sheila	G2, Vested
Hughey, Stanley	G4, Non-vested

- 2211.4.8 **Member Account Redeposits:** None.
- 2211.4.9 **Acceptance of Trustees' Reports of Educational Activities:** None.
- 2211.5.1 **Consideration of Agenda Items, if any, Removed from the Consent Agenda:** None.
- 2211.5.2 **Annual Review of SamCERA's Actuarial Services Firm, Milliman, Inc.:** Ms. Smith shared the results of Milliman, Inc.'s annual review which included perfect ratings from Board and staff. She and Mr. Hood thanked Mr. Collier and Mr. Glyde for their knowledge, professionalism, and partnership all these years. This item was informational and for discussion only, no action was taken.
- 2211.6.1 **Report on Preliminary Monthly Portfolio Performance Report for the Period Ended September 30, 2022:** Mr. Coultrip reported that SamCERA's net preliminary return for September was -4.8% bringing the preliminary trailing twelve month return ending September 2022 to -8.9% net, higher than the policy benchmark return of -9.9% but below our assumed earnings rate of 6.25%. He reported most assets classes were lower in September as investor sentiment plummeted and as tighter financial conditions contributed to higher volatility across both equity and fixed income markets. Persistently high inflation reports, U.S. dollar strength, and political upheaval in the U.K. contributed to the global risk-off environment. U.S. interest rates rose across the yield curve as the Fed raised interest rates by 75 basis points for the third straight meeting. Mr. Coultrip answered questions from the Board. This item was informational and for discussion only, no action was taken.
- 2211.6.2 **Report on Inflation Hedge Manager Annual Review:** Ms. Ng reviewed the meeting notes from the annual review meeting with inflation hedge manager, State Street Global Advisors (SSgA). The review occurred on September 15th and there were no significant concerns identified during the portfolio review. This item was informational and for discussion only, no action was taken.
- 2211.6.3 **Report on Opportunistic Credit Manager Annual Review:** Ms. Ng reported that staff and consultant held an annual review meeting on October 4th with opportunistic credit manager, Angelo Gordon. She also reported that there were no significant concerns during the review. This item was informational and for discussion only, no action was taken.
- 2211.6.4 **Report on Absolute Return Manager Annual Review:** Ms. Ng reported that staff and consultant met with Graham Capital Management on September 15th and absolute return managers, CFM's Systematic Global Macro (SGM), PIMCO's Multi-Asset Alternative Risk Premia (MAARS), and Acadian's Multi-Asset Absolute Return (MAAR), on October 6th. She discussed highlights of each review and reported that there were no significant concerns identified. Staff and Verus answered questions from the Board. This item was informational and for discussion only, no action was taken.
- 2211.6.5 **Approval of Proposed Alternative Investment (to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see item C2):** The item was taken out of order and heard in Closed Session at 11:04 a.m. after agenda item 7.4. The Board reconvened in Open Session at 11:21 a.m. See Closed Session report under C2.
- 2211.7.1 **Presentation by Brown Armstrong of 2022 Financial Audit Management Reports:** Ms. Green presented the results of the independent financial audit for fiscal year ended June 30, 2022. She reported that SamCERA received an unmodified (clean) opinion. Ms. Arnott reported that the Audit Committee met and reviewed the financial audit report and recommended that the Board accept the report and findings. With no objection, the financial audit report was accepted by the Board.
- 2211.7.2 **Approval of SamCERA's 2022 Annual Comprehensive Financial Report (ACFR):** Ms. Chow provided a summary of the Annual Comprehensive Financial Report for the fiscal year ended June 30, 2022. She

discussed SamCERA's net position at fiscal year end, the operating results for the fiscal year just ended, and the funding status as of June 30, 2022. Ms. Chow thanked Ms. Green and her audit team, Milliman, Inc., as well as SamCERA staff for their contributions in putting the ACFR together.

Action: Mr. Hoefler moved to approve SamCERA's 2022 Annual Comprehensive Financial Report. The motion was seconded by Mr. Marangu and carried with a vote of 8-0, with trustees Arnott, Battey, Hoefler, Marangu, O'Malley, Orr, Raw, and Salas all in favor; none opposed.

2211.7.3 **Approval of Voting Delegates and Direction to Delegates for Fall 2022 SACRS Business Meeting:** Mr. Hood discussed staff's recommendation to designate him as the Voting Delegate to cast SamCERA's votes at the SACRS business meeting on November 11, 2022.

Action: Ms. Orr moved to approve staff's recommendation to designate Scott Hood, CEO as the Voting Delegate to cast SamCERA's votes at the SACRS Fall 2022 Conference. The motion was seconded by Mr. Raw and carried with a vote of 8-0, with trustees Arnott, Battey, Hoefler, Marangu, O'Malley, Orr, Raw, and Salas all in favor; none opposed.

2211.7.4 **Presentation on the Strategic Plan Update Process:** Mr. Letcher, President and CEO of BridgeGroup, presented the process and timeline for updating the Strategic Plan and answered questions from the Board. This item was informational and for discussion only, no action was taken.

2211.8.1 **Chief Executive Officer's Report:** Mr. Hood reported that the Governor recently announced that the COVID-19 State of Emergency will end on February 28, 2023. Staff anticipates holding the March Regular Board meeting/Board-Staff Retreat in-person and will continue to monitor the situation in case anything changes. He congratulated Mr. Ali on his 20 years of service as well as Ms. Fong for her 10 years of service with SamCERA. He read a card received from the Schroyer family expressing their appreciation in the Board's remembrance of their late father, Donald. Mr. Hood shared information regarding the CALAPRS General Assembly in March. He informed the Board that a Special Meeting will take place before the December Regular Meeting and previewed a few items on the regular meeting agenda such as the education policy, an updated funding dashboard, the annual review of Brown Armstrong, a discussion of Board-Staff retreat topics, and CEO review.

2211.8.2 **Assistant Executive Officer's Report:** Ms. Smith informed the Board that she will be sending out a survey for the annual review of Brown Armstrong. She reported that staff has reviewed the comments received from the in-person survey and reassured that safety protocols will be in place for in-person Board meetings. Ms. Smith informed the Board that she will be sending out the link to the Harassment Prevention training. She mentioned that County employees were sent the link and requested that County Board members submit a copy of their certificate upon completion. Ms. Trujillo shared upcoming educational opportunities with the Board.

2211.8.3 **Chief Investment Officer's Report:** Mr. Coultrip informed the Board that a survey will be sent out for the annual review of Verus. He reported that Verus plans to present the results of the Enterprise Risk Tolerance interviews at the December meeting. Mr. Coultrip shared an update on the Insight investment cash flow match account.

2211.8.4 **Chief Legal Counsel's Report:** Mr. Okada mentioned that he had sent out the CEO review survey yesterday and thanked those that had already completed it. He encouraged Board members to reach out if there were any questions.

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

C2 **Approval of Proposed Purchase and Sale of Alternative Investments (to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see item 6.5):** The Board met in Closed Session regarding the approval of proposed alternative investments:

Regarding a commitment of \$25 million to Davidson Kempner Opportunities Fund VI LP, as part of SamCERA's Debt/Special Situations portfolio within Private Equity, there was a motion by Orr, seconded by Hoefer, to approve such commitment by a vote of 8-0-0.

Ayes: Arnott, Battey, Hoefer, Marangu, O'Malley, Orr, Raw, and Salas

Nos: None

Abstain: None

Absent: David

Motion carried 8-0-0

No other reportable action was taken.

2211.10 **Adjournment:** Ms. O'Malley adjourned the meeting at 11:32 a.m. in memory of the deceased members listed below.

Gamber, Joyce	June 2, 2022	District Attorney's Office
Constantz, Mark	June 23, 2022	Library
Blankenship, James	September 7, 2022	Probation
Correa, Juana	September 8, 2022	Hospital
Foreman, Marilyn	September 21, 2022	Social Services
Potente, Macario	September 23, 2022	Health Services
Goodier, Benjamin	September 29, 2022	Assessor's
Scoville, Evelyn	October 6, 2022	Sheriff's
Nielson, Phil	October 11, 2022	Sheriff's

Katherine O'Malley
Chair

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 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) The Board find that **Anne Coonrod** (1) is permanently incapacitated from the performance of her usual and customary duties as a Benefits Analyst II, (2) find that her disability was the result of an injury arising out of and in the course of her employment and (3) grant her application for a service-connected disability retirement.

- b) The Board find that **Harriet Fox** (1) is permanently incapacitated from the performance of her usual and customary duties as a Sheriff's Correctional Officer, (2) find that her disability was the result of an injury arising out of and in the course of her employment and (3) grant her application for a service-connected disability retirement.

4.2 Survivor Death Benefits

None.

4.3 Service Retirements

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

Name	Effective Retirement Date	Department
Aficial, Teresita	September 22, 2022	San Mateo County Health
Albagli, Minna	October 3, 2022	Library
Carlson, Vera	October 29, 2022	Public Works
Chavarria, Sabamaria	October 29, 2022	San Mateo County Health
De Paula, Cynthia	October 29, 2022	Human Services Agency
Donovan, Rosemarie	October 26, 2022	Sheriff's Office
Duri, Mark	September 24, 2022	Sheriff's Office
Eckstein, Mitchell	October 15, 2022	Family Health Services
Green, Kelly	September 5, 2022	Deferred - Human Services Agency
Khelawan, Praveen	October 4, 2022	Deferred - San Mateo Co Health

Kilgore, Elizabeth	September 14, 2022	Deferred - Health Services
Kness, Cara	October 1, 2022	Deferred – Superior Court
Kong, Sherry	September 17, 2022	Aging & Adult Services
Lin, David	October 22, 2022	Deferred - San Mateo Co Health
Montoya, Mayra	October 1, 2022	Probation
Moore, Iveta	October 12, 2022	Deferred - Public Works
Munson, Steven	October 29, 2022	Behavioral Health
Nielepko, Wiktor	October 1, 2022	Information Services
Otterman, Glenn	October 1, 2022	San Mateo County Health
Press, Michael	October 15, 2022	Information Services
Reddy, Savitri	September 15, 2022	Deferred - San Mateo Co Health
Shelton, Michael	October 1, 2022	Deferred - Probation
Sugars, Manuela	October 31, 2022	Human Services Agency
Tachis, Gerard	October 22, 2022	Superior Court
Watanabe, Diana	September 23, 2022	Def'd - District Attorney's Office
Wilcox, Andrea	October 1, 2022	San Mateo County Health

4.4 Continuances

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

Survivor's Name	Beneficiary of:
Barton, Utahana	Barton, James
Blankenship, Angelina	Blankenship, James
Goodier, Wanda	Goodier, Benjamin
Johnson, Margaret	Johnson, Vernon
Masini, Mary	Masini, Louis
Nielson, Ann	Nielson, Phil

4.5 Deferred Retirements

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

Name	Retirement Plan Type
Au, Tina	G5, Vested
Choi, Tracy	G7, Vested - Auto Defer – Code 31700

Dominguez, Isela	G7, Reciprocity
Leonardo, Christopher	S7, Vested - Auto Defer – Code 31700
Leung, Henry	G7, Vested - Auto Defer – Code 31700
Liang, Can	G7, Vested
Mendez, Giselle	G7, Vested
Ng, Michelle	G7, Vested - Auto Defer – Code 31700
Raymundo Cordoba, Marisol	G7, Vested - Auto Defer – Code 31700
Ruiz, Lidia	G7, Vested - Auto Defer – Code 31700
Silverio, Paul	G7, Vested - Auto Defer – Code 31700
Torres Hernandez, Eric	G7, Vested
Yu, Jackie	G7, Vested

4.6 Member Account Refunds

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

Name	Retirement Plan Type
Byczkowski, Hedwiga (FBO:Byczkowski, Nora)	G4, Vested
Chacon, Armando	S7, Non-vested
Finau, Atilua	G4, Vested
Guerrero, Jose	G7, Non-vested
Jacobo-Evans, Monique	G7, Non-vested
Johnson, Lauren (FBO:Johnson, Stephen)	S4, Vested
Lee, Jin Joo	G7, Non-vested
Lua, Sergio	G7, Non-vested
Mancilla, Daniel	G7, Non-vested
Marquez, Carla	G7, Non-vested
Pineda, Adriana	G7, Non-vested
Recinos Lopez, Maricriz	G7, Non-vested
Reynoso, Erica	G7, Non-vested
Robinson, John	G7, Non-vested
Urbietta, Janice	G7, Non-vested

4.7 Member Account Rollovers

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

Name	Retirement Plan Type
Byczkowski, Hedwiga (FBO: Byczkowski, Nora)	G4, Vested
Sheth, Monali	G7, Vested

4.8 Member Account Redeposits

Name	Retirement Plan Type
Foley, Rebeca	G2, Vested

4.9 Acceptance of Trustees' Reports of Educational Activities

See attached.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 4.9

TO: Board of Retirement

FROM: Anne Trujillo, Retirement Executive Secretary



SUBJECT: Trustee's Reports of Educational Activities

Recommendation

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

Background

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

Discussion

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

IFEBP Annual Conference, October 23-26, 2022

- Kimathi Marangu
- Robert Raw

SACRS Fall Conference, November 8-11, 2022

- Al David
- Elaine Orr

Attachments

Trustees' Education Proof of Participation Certificates and Summaries

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



Trustee Name Kimathi Marangu		Date(s) of Event 10/22/22 - 10/26/22
Education Event Name IFEBP		
Event Provider New Trustees Institute Level I and Annual Conference		
Type of Participation: Attended Event <input checked="" type="checkbox"/> Listened to Audio/Watched Video <input type="checkbox"/>		Eligible Credit: Total hours for sessions you participated in: <u>4.5 DAYS</u> (Staff may adjust hours if the provider issues an education certificate that reflects different hours.)

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

Topic: (Check all that apply)

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

Summary Report

What concepts or information did you learn about?

TWO DAYS OF NEW TRUSTEE TRAINING. FOCUS ON LEARNING MY ROLE AS A FIDUCIARY. INTRODUCTION TO ACTUARIAL APPROACHES. TRENDS IN CYBERSECURITY AND VENDOR MANAGEMENT IN A BREACH. PRIVATE EQUITY AND PRIVATE CREDIT MARKETS. 4.5 DAYS TOTAL.

Would you recommend this event to other trustees?

- Yes No Maybe

You may provide additional comments to SamCERA's CEO.

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

Trustee Signature (print this form and sign) <i>Kimathi Marangu</i>	Date 10/27/22
---	-------------------------

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

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



Trustee Name Robert Raw		Date(s) of Event 10/22/22 - 10/26/22	
Education Event Name Trustees Masters Program and Annual Conference			
Event Provider IFEBP			
Type of Participation: Attended Event <input checked="" type="checkbox"/> Listened to Audio/Watched Video <input type="checkbox"/>		Eligible Credit: Total hours for sessions you participated in: <u>28.75</u> <i>(Staff may adjust hours if the provider issues an education certificate that reflects different hours.)</i>	

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

Topic: (Check all that apply)

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

Summary Report

What concepts or information did you learn about?

TRUSTEES MASTERS PROGRAM (TMP) (2-DAY PRE-CONFERENCE COURSE), BOARD GOVERNANCE, MENTAL HEALTH SUPPORT, ADVANCED FIDUCIARY RESPONSIBILITY, STATE OF THE ECONOMY, LEGISLATIVE UPDATE, ADVOCATING WITH ELECTED OFFICIALS, RFP PROCESS, AND INSURANCE FOR FIDUCIARIES.

Would you recommend this event to other trustees?

- Yes No Maybe

You may provide additional comments to SamCERA's CEO.

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

Trustee Signature (print this form and sign) 	Date 10/27/22
---	-------------------------

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

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



Trustee Name Al David		Date(s) of Event 11/8/22 - 11/11/22	
Education Event Name Fall Conference			
Event Provider SACRS			
Type of Participation: Attended Event <input type="checkbox"/> Listened to Audio/Watched Video <input type="checkbox"/>		Eligible Credit: Total hours for sessions you participated in: <u>13 hours</u> (Staff may adjust hours if the provider issues an education certificate that reflects different hours.)	

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

Topic: (Check all that apply)

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

Summary Report

What concepts or information did you learn about?

Discussed rising interest, market volatility, inflation and risk management. Asset Allocation

Would you recommend this event to other trustees?

- Yes No Maybe

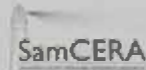
You may provide additional comments to SamCERA's CEO.

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

Trustee Signature (print this form and sign) 	Date 11/12/22
--	------------------

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

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



Trustee Name Elaine Orr	Date(s) of Event 11/8/22 - 11/11/22
Education Event Name Fall Conference	
Event Provider SACRS	
Type of Participation: Attended Event <input checked="" type="checkbox"/> Listened to Audio/Watched Video <input type="checkbox"/>	Eligible Credit: Total hours for sessions you participated in: <u>8.5</u> <i>(Staff may adjust hours if the provider issues an education certificate that reflects different hours.)</i>

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

Topic (Check all that apply)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Fiduciary responsibilities | <input type="checkbox"/> Disability evaluation |
| <input type="checkbox"/> Ethics | <input type="checkbox"/> Fair hearings |
| <input type="checkbox"/> Benefits administration | <input checked="" type="checkbox"/> Pension fund governance |
| <input type="checkbox"/> Actuarial matters | <input type="checkbox"/> New board member orientation |
| <input type="checkbox"/> Pension funding | <input checked="" type="checkbox"/> Other: <u>Completed M31661</u> |
| <input checked="" type="checkbox"/> Pension fund investments and investment program management | <u>TRAINING with NORSCORP LP.</u> |

Summary Report

What concepts or information did you learn about?

investor resources, climate change impacts & opportunities for investing, liabilities and currency management.
Trustee breakout offered a good macro markets overview.

Would you recommend this event to other trustees?

- Yes No Maybe

You may provide additional comments to SamCERA's CEO.

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


Trustee Signature (print this form and sign) 	Date 11/12/22
---	-------------------------

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

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 4.10

TO: Board of Retirement
FROM: Scott Hood, Chief Executive Officer 
SUBJECT: Review of the Board's Education Policy

Recommendation

Reaffirm the Board's Education Policy.

Background

The Board approved the current Education Policy in December 2016, with revisions in December 2017 to reference the Board's ethics and anti-harassment training requirements. Since December 2017, the Board has reviewed the education policy each year, but no further substantive revisions have been adopted. The policy before the Board today is substantially the same as the policy reaffirmed in December 2021 with minor modifications for clarity and readability. A redlined copy of the revised policy showing the proposed revisions is attached. The policy continues to reflect the following core principles as stated by the Board's Ad Hoc Education Policy Committee in 2016:

- **Fiduciary:** Education must be consistent with the Board's fiduciary responsibilities.
- **Prudent:** Exercising good judgment/decision making; understanding that the Board is entrusted with the Retirement Fund.
- **Relevant:** Education must be relevant to Trustees' responsibilities and to individual experience and background.
- **Focus:** Training/conference should focus on education not marketing
- **Cost Effective:** Board should apply the same discipline to Board travel/education as it does to all SamCERA expenses. Each Board member shall make every effort to obtain his or her education within California.
- **Optics/Perception:** Location and perception of luxury are important. Board member education should be obtained in a cost-efficient manner in order to minimize costs wherever possible, recognizing that multiple education providers provide similar educational opportunities.

Discussion

The Policy authorizes each Trustee to attend all of the following each fiscal year:

- Unlimited number of conferences and education programs within the Bay Area; and

- Any program sponsored by the State Association of County Retirement Systems (SACRS) and the California Association of Public Retirement Systems (CALAPRS) wherever located; and
- Up to two (2) approved out-of-Bay Area educational events requiring overnight stays.

The two approved out-of-Bay Area educational events requiring overnight stays can be from the following list of providers:

- International Foundation of Employee Benefit Plans (IFEBP)
- Wharton investment management programs
- Chartered Financial Analyst (CFA) Institute
- National Conference on Public Employee Retirement Systems (NCPERS)
- Institutional Limited Partner Association (ILPA) Institute (Educational Programs)

This list is subject to annual review and revision by the Board. Requests to attend an event not on the above list can be made by a Trustee by completing a form that is placed on the regular agenda for approval. Since the adoption of this policy in 2016, only two event requests have been made and both were granted by the Board.

Attachments

Education Policy (Redlined)

Education Policy (Clean)

San Mateo County Employees' Retirement Association

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BOARD OF RETIREMENT
EDUCATION POLICY

SECTION 1. BOARD MEMBER EDUCATION IS REQUIRED

- A. **Fiduciary Duty.** Consistent with the Board's fiduciary responsibility to discharge its duties with respect to the system with care, skill, prudence, and diligence, the Board acknowledges the vital importance of making informed judgments on all matters which come before it and has determined that educational activities help provide the Board with knowledge and skills to make such informed decisions. Board members come to the Board with differing backgrounds, knowledge, and expertise and have a duty to receive the education that best fits their needs. Board member education should develop the individual knowledge of the Board members and, in turn, improve the knowledge of the Board as whole so that it may discharge its fiduciary duties.
- B. **Minimum Required Hours of Training.** Each Board member shall receive a minimum of 24 hours of Board member education in the topics listed in Section 3(A) within the first two years of assuming office and for every subsequent two-year period the Board member continues to hold membership, in accordance with Government Code §31522.8.
- C. **Posting of Policy and Board Member Compliance.** Staff shall maintain a record of Board member compliance with this policy, and both this policy and an annual report on Board member compliance will be posted on the Board's website which shall reflect the education completed for the prior fiscal year or calendar, depending upon when the Board member's term commences, in accordance with Government Code §31522.8.
- D. **Timely Report by Board Member of Educational Participation.** Following a Board member's participation in an educational activity, such Board member shall submit a summary written report on the content of that educational activity for inclusion on the Consent Agenda at the next regularly scheduled Board meeting. The written summary shall substantially reflect the information contained in the attached sample report.

SECTION 2 COST EFFECTIVE EDUCATION

- A. **Limit for Attendance at Overnight Out-Of-Bay Area Educational Events.** Board member education should be obtained in a cost-efficient manner, minimizing costs wherever possible. Every Board member is authorized to attend conferences and education programs within the Bay Area, as well as programs sponsored by the State Association of County Retirement Systems (SACRS) and the California Association of Public Retirement Systems (CALAPRS). In addition, every Board member is authorized to attend up to two (2) approved out-of-Bay Area educational events requiring overnight stays per fiscal year. Board members shall make every effort to obtain their education within California in light of the fact that multiple education providers provide similar educational opportunities. As a general matter, Board members should not attend educational activities that conflict with regularly scheduled Board meetings.
- B. **Travel Expenses.** Travel expenses incurred by a Board member for education are subject to reimbursement by SamCERA in accordance with this policy and the Board's "Policy For Reimbursement of Travel and Other Official Expenses For Trustees and Staff." Any international travel by a Board member must be placed on the Board's regular agenda for the Board's pre-approval. Costs for attendance at educational events that are not consistent with both policies will not be subject to reimbursement without Board approval.
- C. **Education through Electronic Means.** The Board further encourages members to participate to the fullest extent possible in approved taped and/or electronically-delivered educational opportunities.
- D. **Education Given by SamCERA Staff and Consultants.** Training provided by or arranged by the Chief Executive Officer, Chief Investment Officer, Chief Legal Counsel, and other SamCERA staff, the Board's Medical Advisor, Actuary, Investment Consultant, and Investment Managers shall satisfy the required education for the subject matters presented at such training and the required educational hours for the length of the training.
- E. **Education from Publications.** Board members may count up to three hours towards their biannual education requirement by reading Pensions & Investments, the Public Retirement Journal, and/or the Wall Street Journal.
- F. **Education from Onsite Visits.** Board members may count up to three hours towards their biannual education requirement by accompanying staff on onsite visits to potential or existing investment consultants, managers, or other SamCERA providers. Visits outside of the Bay Area requiring an overnight stay will count as an approved trip in accordance with Section 2(A).

SECTION 3. APPROVED EDUCATIONAL TOPIC AREAS AND PROGRAMS

A. **Educational Topic Areas.** Appropriate topics for Board member education shall include two hours of Ethics Training consistent with Government Code §53234, and two hours of ~~Sexual—Anti-Harassment Prevention—~~Training consistent with Government Code §53237.1 in a manner approved by the Chief Legal Counsel and, in accordance with Government Code §31522.8, and may include but is not limited to, the following topics:

- (1) Fiduciary responsibilities
- (2) Ethics
- (3) Pension fund investments and investment program management
- (4) Actuarial matters
- (5) Pension funding
- (6) Benefits administration
- (7) Disability evaluation
- (8) Fair hearings
- (9) Pension fund governance
- (10) New board member orientation

B. **Approved Educational Programs and Activities.** In addition to the SACRS and CALAPRS conferences and educational programs referenced in Section 2(A), a Board member's attendance at and/or viewing or listening of recordings of one or more programs listed below shall satisfy the required education for the subject matters presented at such programs and the required educational hours for the length of the program. This list of programs is subject to annual review by the Board and shall be revised as determined by the Board.

- (1) International Foundation of Employee Benefit Plans (IFEBP)
- (2) Wharton investment management programs
- (3) Chartered Financial Analyst (CFA) Institute
- (4) National Conference on Public Employee Retirement Systems (NCPERS)
- (5) Institutional Limited Partner Association (ILPA) Institute (Educational Programs)

C. **Recommended Education for New Board members.** As part of a new Board member's orientation, staff will provide a recommended educational plan that best suits the Board member's educational needs for the member's first term.

D. **Special Request to attend Education Event.** In considering each request to attend a specified educational activity that is not listed in Section 2(B), the Board will consider if the overnight travel is appropriate and consistent with the intent of this policy and shall consider items such as:

- (1) Are the conference topics of current interest and importance and related to issues facing SamCERA?
- (2) Have reports from previous attendees been favorable regarding the content of the conference and the continuing value of future attendance?
- (3) Will the conference meet the educational needs of the attendee?
- (4) Can similar education be received from an already approved provider or that provider's on-line resources?
- (5) Does the cost of the event and overnight travel justify the benefits particularly if the conference is out of California?
- (6) How many overnight trips has the Board member attended and/or is planning on attending this fiscal year?

SECTION 4. EDUCATIONAL EXPENSES FOR STAFF

The Chief Executive Officer is authorized to approve the participation and associated travel of the Chief Executive Officer and staff in educational activities to the extent that the Chief Executive Officer finds that such participation will contribute to the staff member's ability to perform the staff member's duties and the budget provides funds for such activities.

San Mateo County Employees' Retirement Association

BOARD OF RETIREMENT EDUCATION POLICY

SECTION 1. BOARD MEMBER EDUCATION IS REQUIRED

- A. **Fiduciary Duty.** Consistent with the Board's fiduciary responsibility to discharge its duties with respect to the system with care, skill, prudence, and diligence, the Board acknowledges the vital importance of making informed judgments on all matters which come before it and has determined that educational activities help provide the Board with knowledge and skills to make such informed decisions. Board members come to the Board with differing backgrounds, knowledge, and expertise and have a duty to receive the education that best fits their needs. Board member education should develop the individual knowledge of the Board members and, in turn, improve the knowledge of the Board as whole so that it may discharge its fiduciary duties.
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- D. **Timely Report by Board Member of Educational Participation.** Following a Board member's participation in an educational activity, such Board member shall submit a summary written report on the content of that educational activity for inclusion on the Consent Agenda at the next regularly scheduled Board meeting. The written summary shall substantially reflect the information contained in the attached sample report.

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- C. **Education through Electronic Means.** The Board further encourages members to participate to the fullest extent possible in approved taped and/or electronically-delivered educational opportunities.
- D. **Education Given by SamCERA Staff and Consultants.** Training provided by or arranged by the Chief Executive Officer, Chief Investment Officer, Chief Legal Counsel, and other SamCERA staff, the Board's Medical Advisor, Actuary, Investment Consultant, and Investment Managers shall satisfy the required education for the subject matters presented at such training and the required educational hours for the length of the training.
- E. **Education from Publications.** Board members may count up to three hours towards their biannual education requirement by reading Pensions & Investments, the Public Retirement Journal, and/or the Wall Street Journal.
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- (1) Fiduciary responsibilities
- (2) Ethics
- (3) Pension fund investments and investment program management
- (4) Actuarial matters
- (5) Pension funding
- (6) Benefits administration
- (7) Disability evaluation
- (8) Fair hearings
- (9) Pension fund governance
- (10) New board member orientation

B. **Approved Educational Programs and Activities.** In addition to the SACRS and CALAPRS conferences and educational programs referenced in Section 2(A), a Board member's attendance at and/or viewing or listening of recordings of one or more programs listed below shall satisfy the required education for the subject matters presented at such programs and the required educational hours for the length of the program. This list of programs is subject to annual review by the Board and shall be revised as determined by the Board.

- (1) International Foundation of Employee Benefit Plans (IFEBP)
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- (5) Institutional Limited Partner Association (ILPA) Institute (Educational Programs)

C. **Recommended Education for New Board members.** As part of a new Board member's orientation, staff will provide a recommended educational plan that best suits the Board member's educational needs for the member's first term.

D. **Special Request to attend Education Event.** In considering each request to attend a specified educational activity that is not listed in Section 2(B), the Board will consider if the overnight travel is appropriate and consistent with the intent of this policy and shall consider items such as:

- (1) Are the conference topics of current interest and importance and related to issues facing SamCERA?
- (2) Have reports from previous attendees been favorable regarding the content of the conference and the continuing value of future attendance?
- (3) Will the conference meet the educational needs of the attendee?
- (4) Can similar education be received from an already approved provider or that provider's on-line resources?
- (5) Does the cost of the event and overnight travel justify the benefits particularly if the conference is out of California?
- (6) How many overnight trips has the Board member attended and/or is planning on attending this fiscal year?

SECTION 4. EDUCATIONAL EXPENSES FOR STAFF


The Chief Executive Officer is authorized to approve the participation and associated travel of the Chief Executive Officer and staff in educational activities to the extent that the Chief Executive Officer finds that such participation will contribute to the staff member's ability to perform the staff member's duties and the budget provides funds for such activities.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 4.11

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer 

SUBJECT: Amendment to Agreement with Verus Advisory, Inc.

Recommendation

Approve a resolution authorizing the Chief Executive Officer to execute an Amendment to the Agreement with Verus Advisory, Inc. for investment consulting services.

Background

Following a Request for Proposal (RFP) process, the Board selected Verus Advisory, Inc. ("Verus") to provide investment consulting services in September 2017 and entered into agreement with Verus to provide such services for the term of October 1, 2017 through December 31, 2022.

Discussion

In the most recent investment consultant survey (November 2022), Trustees' and staff's reviews of Verus were positive, with six of the seven Trustee respondents and four out of four staff respondents indicating their preference to renew the agreement with Verus for an additional three years.

As noted above, the current agreement with Verus terminates on December 31st. Staff would like to extend the existing agreement by three months to cover the negotiations and to give flexibility as to setting the commencement date for the new agreement. The amended agreement will be at the existing fee rate and can be terminated upon written notice in accordance with existing provisions in the agreement. Based on the existing fee rate, the new not-to-exceed amount for the agreement, as amended, will be increased by \$30,000 to a new aggregate amount of \$2,800,000.

Attachments

Resolution Authorizing the Chief Executive Officer to Execute an Amendment to Agreement with Verus Advisory, Inc. for Investment Consulting Services
Amendment to Agreement with Verus Advisory, Inc. for Investment Consulting Services

**RESOLUTION AUTHORIZING THE CHIEF EXECUTIVE OFFICER TO EXECUTE AN
AMENDMENT TO THE AGREEMENT WITH VERUS ADVISORY, INC. FOR
INVESTMENT CONSULTING SERVICES**

RESOLUTION __

WHEREAS, Article XVI, §17 of the Constitution of the State of California and Government Code §31595 vests the Board of Retirement ("Board") with "plenary authority and fiduciary responsibility for the investment of moneys and the administration of the system"; and

WHEREAS, Government Code §31596.1(d) authorizes the Board to retain investment consultants "in connection with administration of the Board's investment program"; and

WHEREAS, following a Request for Proposal process, the Board selected Verus Advisory, Inc. ("Verus") to provide Investment Consulting Services and subsequently entered into an agreement with Verus on October 1, 2017, for a term expiring on December 31, 2022; and

WHEREAS, the Board has determined that it is in the best interests of SamCERA to extend the agreement with Verus Advisory, Inc. by three months through March 31, 2023, with a new not-to-exceed amount of \$2,800,000, while the parties negotiate a further extension to the agreement;

THEREFORE, BE IT RESOLVED, that the Chief Executive Officer is hereby authorized and directed to execute said Amendment to the Agreement with Verus Advisory, Inc. for investment consulting services through March 31, 2023, in an amount not to exceed \$2,800,000 and in substantially the form attached hereto.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

AMENDMENT TO THE AGREEMENT FOR INVESTMENT CONSULTING SERVICES BETWEEN THE SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION AND VERUS ADVISORY, INC.

THIS AMENDMENT is entered into this 6th day of December 2022, by and between the San Mateo County Employees' Retirement Association (hereinafter "SamCERA") and Verus Advisory, Inc. (herein after "Consultant"),

W I T N E S S E T H

WHEREAS, in December 2016, the Board approved the issuance of a Request for Proposals ("RFP") for Investment Consulting Services and, in response to such RFP, evaluated responses from seven firms; and

WHEREAS, Consultant is a registered Investment Advisor that provides investment analytics and investment consulting services to various institutional clients which responded to the RFP and which was selected by the Board to provide such Investment Consulting Services; and

WHEREAS, on October 1, 2017, SamCERA and Consultant entered into an agreement (hereinafter referred to as the "Original Agreement"), for the furnishing of the services described therein for a term of October 1, 2017, through December 31, 2022; and

WHEREAS, the Board has determined that it is in the best interests of SamCERA to extend this agreement with Consultant by three months through March 31, 2023, while the parties negotiate a potential multi-year extension to their agreement; and

WHEREAS, it is now the mutual desire and intent of the parties hereto to amend that Original Agreement as set forth herein;

NOW, THEREFORE, IT IS HEREBY AGREED between the parties that the Original Agreement is amended as follows:

4. Term. Subject to compliance with all terms and conditions, the term of this Agreement shall be from October 1, 2017 through March 31, 2023.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

NOW, THEREFORE, IT IS AGREED BY THE PARTIES that:

1. This Amendment is hereby incorporated and made a part of the Original Agreement and subject to all provisions therein.
2. All other provisions of the Original Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto, by their duly authorized representatives, have affixed their hand on the day and year first above written.

Verus Advisory, Inc.

By: _____ Date: _____
Shelly Heier
President & Chief Operating Officer

San Mateo County Employees' Retirement Association

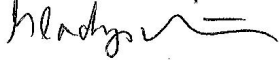
By: _____ Date: _____
Scott Hood
Chief Executive Officer

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 4.12

TO: Board of Retirement

FROM: Gladys Smith, Assistant Executive Officer 

SUBJECT: Amending Resolutions Defining Compensation Earnable and Pensionable Compensation

Recommendation

Approve amendments to (1) the Resolutions defining Compensation Earnable, pursuant to Government Code §31461 for members who are not subject to Government Code §7522.34; and (2) the Resolutions defining Pensionable Compensation for members who are subject to Government Code §7522.34 in order to include in such resolutions certain pay codes which were inadvertently removed in connection with prior revisions.

Background

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

Discussion

Upon review of the Resolution Defining Compensation Earnable, it was discovered that the current resolution was missing information regarding on-call pay and the *Alameda* court decision, along with the following pay codes:

- 024 – Voluntary or Ad Hoc On-Call hours (Compensation Earnable resolution only)
- 027 – Required and Regular On-Call hours (Compensation Earnable resolution only)
- 042 – Mandatory Time Off Unpaid

Additionally, the following pay codes, which were previously deleted, were inadvertently included:

- 637M – Emergency FMLA Unpaid Memo Note
- 640M/642M – Essential Worker Onsite Memo Note

The proposed resolution contains the missing verbiage and corrects the listing of the pay codes.

Attachments

Resolution Defining Compensation Earnable pursuant to Government Code §31461
Resolution Defining Pensionable Compensation pursuant to Government Code 7522.34

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

RESOLUTION 2022-__

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

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

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

WHEREAS, Government Code §31461 provides that this Board determine which items of remuneration earned by members shall constitute “Compensation Earnable”; and

WHEREAS, the Board has reviewed the current pay items and has determined which of those items are to be included in “Compensation Earnable” and which items are not to be included; and

WHEREAS, it is necessary for this Board from time to time to amend its determinations of compensation earnable due to changes made by SamCERA employers in their compensation schedules as well as changes in the law, and the creation of new earning codes resulting from labor negotiations, the Board finds that new pay codes designations should be added; Therefore, be it;

RESOLVED, that Resolution number 2022-16 is rescinded, and pursuant to Government Code §31461 as interpreted by the courts, the Board hereby makes the following determinations to be effective September 18, 2022, as to what is included in “Compensation Earnable” and items of remuneration that are not included:

1. Compensation earnable shall include:

Pay Code	Description
001	Regular hours worked
001-G	Regular hours worked (grace paid)
001-M	Regular hours worked (mandatory meeting)
001-T	Regular hours worked (training)
001-TW	Regular hours worked (telecom)
006	Sheriff’s 84/12 Plan
00680	84/12 Plan (Sheriff)
010	Release time with pay

Pay Code	Description
011	Training/Officer of the Day/Courtroom Clerk Electronic Recording Pay
013	Night shift differential
014	Special night shift differential
015	Special duty hours
016	Inspection/Testing/Repair with a Certification
019	Charge pay differential
020	Split shift
021-L1	Bilingual pay
021-L2	Bilingual pay
022	Staffing differential
023	Weekend pay
027	Required and Regular On-call hours
035	Sick leave with pay
035B	Sick Leave Supplemental Pay
035-R	Reserve Sick Hours
036	Sick leave with pay (work-related injury)
036-R	Reserve Sick – work related injury
041	Vacation hours with pay
041-A	X-Vacation hours with pay
041B	Vacation Supplemental pay
041H	Vacation hours with pay on holiday
043	Holiday hours regular pay
043CNA	Holiday premium for PT CNA
044	Holiday worked at 1.5
045	Holiday hours worked at straight time
045-P	Holiday hours worked at straight time
045O	Holiday hours worked at straight time-overflow
048	Accumulated holiday hours taken
048-A	X-Accumulated holiday hours taken
048B	Accumulated Holiday Supplemental pay
048H	Holiday hours taken on holiday
052	Comp time hours used
052-A	X-Comp/Admin Leave Hours Used
052B	Comp Time Supplemental pay
052H	Comp time hours used on holiday
054	Administrative leave
055	Jury duty with pay
056	Military-leave with pay
057	Education leave with pay
058	Other leave with pay
059	Disability leave with pay

Pay Code	Description
064	Management overtime used
080	Uniform/tool allowance
080A	Uniform/tool allowance annual
081	Transportation allowance
087	Bi-weekly special pay
088	Miscellaneous special pay
090	Voluntary time off used
093	Furlough w/o pay used with payment of contributions
1TW	Regular hours teleworked
102	Admin leave cash out
104	LTC shift differential
104B	LTC shift differential adjustment
110	Compulsory time off
112	Bereavement leave
113	Paid leave for donor
130	Lactation Pay
131	Winter Recess HRs Regular Pay
133	Accum Winter Recess Hrs Taken
313	LC4850 night shift differential
315	LC4850 special duty
359	LC4850 disability with pay
502	Admin leave cash out w/1-time deferred comp
557	Educational lv with pay
635	Emergency Sick Leave
636	Emergency FMLA Paid
638	Supplemental COVID-19 Emergency Sick Leave
641	Essential Worker COVID19 Leave
306	LC4850WC 84/12 plan shf
30680	LC4850WC 84/12 plan shf

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

A. The following pay codes are not included:

Pay Code	Description
007	EH relief nurse pm shift differential
009	EH relief nurse night shift differential
024	Voluntary or Ad Hoc On-Call hours
025	Call back pay
025-P	Call back pay (premium)
025S	Call back pay SART nurses
025-S	Call back pay SART nurses
026	Part-time double shift differential
028	On call EH. relief nurse

Pay Code	Description
029	Part-time double shift differential
037	Layoff sick leave
040	Terminal vacation
042	Mandatory Time Off Unpaid
046	Holiday hours accrued
046CNA	Holiday premium hours accrued for PT CNA
046-P	Holiday hours accumulated at straight time
047	Holiday hours accrued at 1.5
049	Terminal holiday pay
050	Terminal compensatory pay
051	Comp Time Earned at 1.5
051-P	Premium portion for call back
053	Comp time earned at straight time
060	Absent without leave
061	Leave without pay
061-A	X-Leave without pay
062	Disability leave without pay
063	Terminal MOT Pay
065	Overtime training hours
066	Overtime at time and one-half
069	Overtime special duty desk officer
069-P	Overtime special duty desk officer
070	Overtime special duty
073	Overtime special duty night shift
075	Overtime night shift premium hours
076	Rest period/Court CART differential
079	Overtime special shift differential
083	Worker's compensation payment
084	Employee incentives
085	Disability payment
086	Taxable benefits-DP
089	Relocation Allowance
091	Terminal VTO pay
096	County Deferred Comp Contribution
097	Miscellaneous terminal pay
101	LTD payments
103	FMLA earnings
105	Miscellaneous subsidies
106	FSLA adjustments
106 80	FSLA adjustment for 84/12
106 980-P1	FSLA adjustment 9/80 period 1
106 980-P2	FSLA adjustment 9/80 period 2

Pay Code	Description
107	Overtime at straight time
108	Comp hours earned at straight time (OT)
111	Terminal compulsory time off
125	Call back pay st.
132	Winter Recess Hours Accrued
134	Terminal Winter Recess Pay
203	Wellness Dividend
225	Call back pay flat rate
383	LC4850 worker's compensation payment
637	Emergency FMLA Unpaid
640	Terminal EW COVID19 Leave
642	Essential Worker Onsite
803	SART nurses meeting/service-flat rate
804	SART nurses training and education-flat rate
P25	Call in phone

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

C. Payments by a SamCERA employer of member-required contributions to the retirement system under Government Code sections 31581.1, 31630, 31639.85 or under a memorandum of understanding (MOU) between members (or their representatives) and the SamCERA employer.

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

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

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

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

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

B. Payments for unused vacation, annual leave, personal leave, sick leave, or compensatory time off, however denominated, whether paid in a lump sum or otherwise, in an amount that exceeds that

which may be earned and payable in each 12-month period during the final average salary period, regardless of when reported or paid.

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

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

4. To be included as pay code 027, the time for on-call hours which compensation is received must be within the working hours set forth in the applicable employment agreement, resolution, and/or departmental policies which should reflect that on-call is ordinarily worked by others in the same grade or classification or organizational unit at the same rate of pay; is a part of the regular work assignment (as distinguished from ad hoc or voluntarily worked) for all members in the organizational unit; reflect the amount of assigned and scheduled on-call hours (or method of regular rotation of assignment of scheduled on-call among all members of the organizational unit); and reflect that the method of filling vacancies or absences in such a schedule is accomplished through a rotational basis as distinguished from ad hoc or volunteering.

5. Pursuant to Government Code §31641(c), the terms listed above in paragraph 3 and 4 are intended to be consistent with and not in conflict with the holdings in *Salus v. San Diego County Employees Retirement Association* (2004) 117 Cal.App.4th 734 and *In re Retirement Cases* (2003)110 Cal.App.4th 426 and *Alameda County Deputy Sheriffs' Assoc. v. Alameda County Employees' Retirement Association* (2020) 9 Cal.5th 1032.

BE IT FURTHER RESOLVED, that the above-listed determinations by the Board of what is included or not included in compensation earnable, shall be in effect until such time as action taken by the Board or action by the Legislature or the Courts as a matter of law requires a different determination, and it is hereby clarified that, to the extent pay codes were inadvertently omitted or included from the pay code charts in prior resolutions, but such omissions or inclusions were contrary to the narrative of such resolutions or prior resolutions, the narrative language of such resolutions shall control.

* * * * *

Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on December 6, 2022.

Ayes, Trustees:

Noes, Trustees:

Absent, Trustees:

Abstain, Trustees:

Alma Salas, Board Secretary
SamCERA

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

RESOLUTION 2022-__

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

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

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

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

WHEREAS, it is necessary for this Board, from time to time, to amend its determinations of pensionable compensation due to changes made by SamCERA employers in their compensation schedules as well as changes in the law, and the creation of new earning codes resulting from labor negotiations, the Board finds that new pay codes designations should be added; Therefore, be it;

RESOLVED, Resolution number 2022-17 is rescinded, and pursuant to Government Code §7522.34 as interpreted by the courts, the Board hereby makes the following determinations to be effective September 18, 2022, as to what is included in "Pensionable Compensation" and items of remuneration that are not included:

1. Pensionable compensation shall include:

Pay Code	Description
001	Regular hours worked
001-G	Regular hours worked (grace paid)
001-M	Regular hours work (mandatory meeting)
001-T	Regular hours worked (training)
001-TW	Regular hours worked (telecom)
006	Sheriff's 84/12 Plan
00680	84/12 Plan (Sheriff)
010	Release time with pay
011	Training/Officer of the Day/Courtroom Clerk Electronic Recording Pay
013	Night shift differential
014	Special night shift differential
015	Special duty hours

Pay Code	Description
016	Inspection/Testing/Repair with a Certification
019	Charge pay differential
020	Split shift
021-L1	Bilingual pay
021-L2	Bilingual pay
022	Staffing differential
023	Weekend pay
035	Sick leave with pay
035B	Sick Leave Supplemental Pay
035-R	Reserve Sick Hours
036	Sick leave with pay (work-related injury)
036-R	Reserve Sick – work related injury
041	Vacation hours with pay
041-A	X-Vacation hours with pay
041B	Vacation Supplemental pay
041H	Vacation hours with pay on holiday
043	Holiday hours regular pay
043CNA	Holiday premium for PT CNA
044	Holiday worked at 1.5
045	Holiday hours worked at straight time
045-P	Holiday hours worked at straight time
048	Accumulated holiday hours taken
048-A	X-Accumulated holiday hours taken
048B	Accumulated Holiday Supplemental pay
048H	Holiday hours taken on holiday
052	Comp time hours used
052-A	X-Comp/Admin leave hours used
052B	Comp Time Supplemental pay
052H	Comp time hours used on holiday
054	Administrative leave
055	Jury duty with pay
056	Military leave with pay
057	Educational leave with pay
058	Other leave with pay
059	Disability leave with pay
064	Management overtime used
087	Bi-weekly special pay
090	Voluntary time off used
093	Furlough w/o pay used with payment of contributions
1TW	Regular Hours Teleworked
104	LTC shift differential
104B	LTC shift differential adjustment
110	Compulsory time off
112	Bereavement leave
113	Paid leave for donor

Pay Code	Description
130	Lactation Pay
131	Winter Recess HRs Regular Pay
133	Accum Winter Recess Hrs Taken
313	LC4850 night shift differential
315	LC4850 special duty
359	LC4850 disability with pay
557	Educational lv with pay
635	Emergency Sick Leave
636	Emergency FMLA Paid
638	Supplemental COVID-19 Emergency Sick Leave
641	Essential Worker COVID19 Leave
30680	LC4850WC 84/12 plan shf

2. Pensionable compensation, at a minimum, shall not include, in any case, the following pay items.
A. The following pay codes are not included:

Pay Code	Description
007	EH relief nurse pm shift differential
009	EH relief nurse night shift differential
025	Call back pay
025-P	Call back pay (premium)
025S	Call back pay SART nurses
025-S	Call back pay SART nurses
026	Part-time double shift differential
027	On-call hours
028	On call E.H. relief nurse
029	Part-time double shift differential
037	Layoff sick leave
040	Terminal vacation
042	Mandatory Time Off Unpaid
0450	Holiday hours worked at straight time-overflow
046	Holiday hours accrued
046CNA	Holiday premium hours accrued for PT CNA
046-P	Holiday hours accumulated at straight time
047	Holiday hours accrued at 1.5
049	Terminal holiday pay
050	Terminal compensatory pay
051	Comp Time Earned at 1.5
051-P	Premium portion for call back
053	Comp time earned at straight time
060	Absent without leave
061	Leave without pay
061-A	X-Leave without pay
062	Disability leave without pay
063	Terminal MOT Pay

Pay Code	Description
065	Overtime training hours
066	Overtime at time and one-half
069	Overtime special duty desk officer
069-P	Overtime for mandatory meeting
070	Overtime special duty
073	Overtime special duty night shift
075	Overtime night shift premium hours
076	Rest period/Court CART differential
079	Overtime special shift differential
080	Uniform/tool allowance
080A	Uniform/tool allowance annual
081	Transportation allowance
083	Worker's compensation payment
084	Employee incentives
085	Disability payment
086	Taxable benefits-DP
088	Miscellaneous special pay
089	Relocation Allowance
091	Terminal VTO pay
096	County Deferred Comp Contribution
097	Miscellaneous terminal pay
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106	FSLA adjustments
106 80	FSLA adjustment for 84/12
106 980-P1	FSLA adjustment 9/80 period 1
106 980-P2	FSLA adjustment 9/80 period 2
107	Overtime at straight time
108	Comp hours earned at straight time (OT)
111	Terminal compulsory time off
125	Call back pay st.
127	On-call days/hours – Post 2012
132	Winter Recess Hours Accrued
134	Terminal Winter Recess Pay
203	Wellness Dividend
225	Call back pay flat rate
383	LC4850 worker's compensation payment
502	Admin leave cash out w/1-time deferred comp
637	Emergency FMLA Unpaid
640	Terminal EW COVID19 Leave
642	Essential Worker Onsite
803	SART nurses meeting/service flat rate
804	SART nurses training and education flat rate

Pay Code	Description
P25	Call in phone

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

BE IT FURTHER RESOLVED, that the above listed determinations by the Board of what is included or not included in pensionable compensation, shall be in effect until such time as this Board, the Legislature, or the Courts take action that as a matter of law requires a different determination, and it is hereby clarified that, to the extent pay codes were inadvertently omitted or included from the pay code charts in prior resolutions, but such omissions or inclusions were contrary to the narrative of such resolutions or prior resolutions, the narrative language of such resolutions shall control.

* * * * *

Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on December 6, 2022.

Ayes, Trustees:

Noes, Trustees:

Absent, Trustees:

Abstain, Trustees:

Alma Salas, Board Secretary

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 6.1

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer 

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

Recommendation

Accept the preliminary performance report dated October 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.

The attached performance report shows both net and gross of fee returns for the total plan on page one, with net composite returns on page two, and net manager returns (pages 3-10) also shown.

Discussion

The fund's net preliminary return for October was 2.3%, bringing the preliminary trailing twelve-month net return ending October 2022 to -8.6%, higher than the policy benchmark return of -8.8% but below our assumed earnings rate of 6.25%.

Most risk asset classes were higher in October as investor sentiment was helped by better-than-expected earnings growth announcements. U.S. interest rates rose across the yield curve as markets expected the Fed to continue raising interest rates. The Fed did raise rates by 75 basis points (for the fourth straight meeting) at their November meeting.

The U.S. equity market (measured by the S&P 500 Index) was up 8.1%, while small-capitalization stocks were up 11.0%. Developed international equity (as measured by MSCI EAFE) was up 5.4% while emerging markets were down 3.1%.

Economic activity continued to be mixed in October. Real Gross Domestic Product rose by an annualized 2.6% in the third quarter, higher than expectations and higher than the negative 0.6% report last quarter. Manufacturing softened in October, but was still in positive territory (barely), while consumer sentiment softened. The labor market remained strong, adding 261,000 new jobs in October, while the headline unemployment rate increased to 3.7%. Inflation (as measured by

the Consumer Price Index - All Urban Consumers) increased 7.7% for the twelve months ended October (which was lower than expectations), and the smallest 12-month increase since the period ended in January 2022.

The general U.S. fixed income market was down 1.3% in October as interest rates rose across the yield curve. The 10-year U.S. Treasury yield was higher by 22 basis points during the month and ended at 4.05% by month-end. High Yield returns were up 2.6% and the Bloomberg Commodity Index was up 2.0%.

Attachments

Verus Capital Market Update

Northern Trust Monthly Performance Report



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

OCTOBER 2022
Capital Markets Update

Market commentary

U.S. ECONOMICS

- U.S. GDP grew at a quarterly annualized rate of +2.6% in Q3, higher than expectations (+2.4%) and the -0.6% decline registered in Q2. Net exports, which contributed +2.8% to the headline figure, drove Q3 growth. Changes in consumer spending remained positive (+1.4%) but decelerated compared to Q2.
- The October jobs report showed continued labor market strength as U.S. nonfarm payrolls increased by 261,000 and exceeded expectations. The unemployment rate moved +0.2% higher to 3.7%, and the labor force participation rate (62.2%) declined by just -0.1%.
- Consumer Price Index measures for headline and core inflation each came in -0.2% below expectations. Headline CPI increased +0.4% for the month and +7.7% year-over-year while core CPI, which excludes more volatile energy and food components, climbed +0.3% on the month and +6.3% year-over-year.

U.S. EQUITIES

- The Dow Jones Industrial Average (+14.1%) led major U.S. equity indices and posted its largest October gain on record. The S&P 500 index notched an +8.1% gain with support from widespread Q3 earnings beats.
- Record bottom-line results in the Energy sector continued to drive S&P 500 earnings. Through month end, three energy sub-industries had reported triple-digit year-over-year EPS increases. Gains were led by Oil & Gas Refining & Marketing whose Q3 blended earnings increased +269.0%.
- As of 11/1, the blended Q3 earnings growth rate for the S&P totaled +2.2%, compared to -5.1% when measured on an ex-Energy basis, per FactSet.

U.S. FIXED INCOME

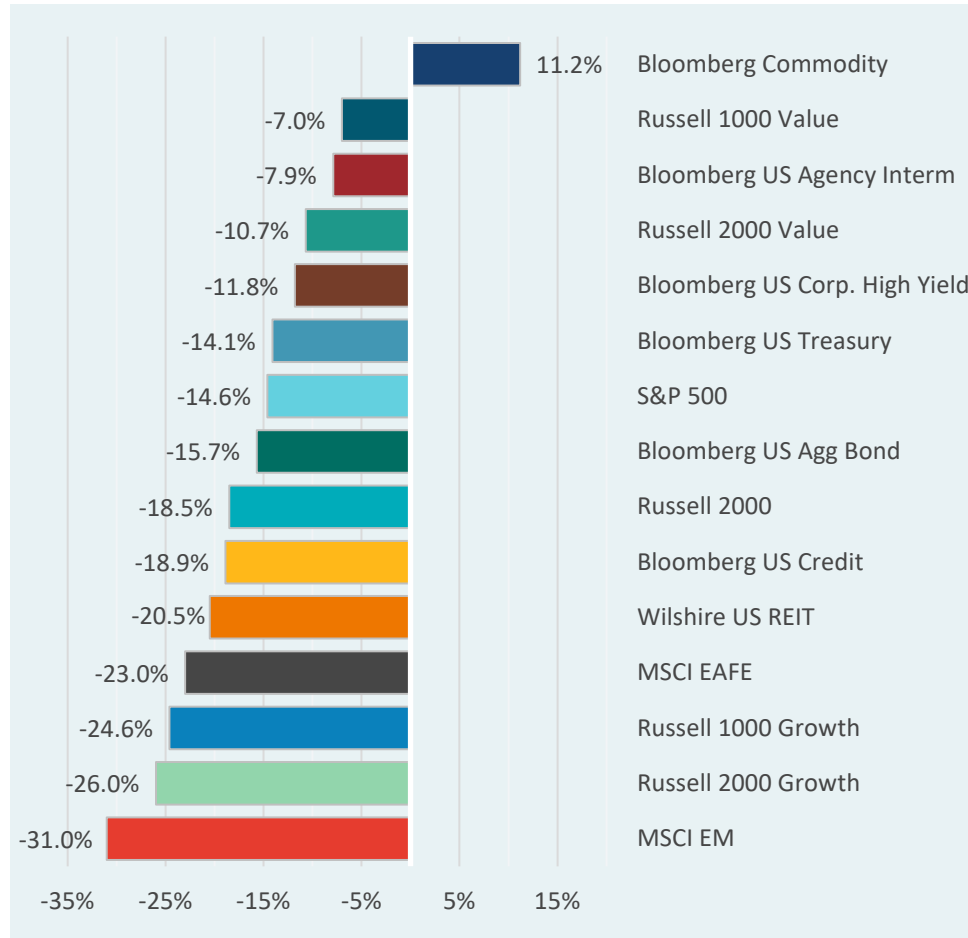
- Minutes from the September FOMC meeting highlighted Fed officials' reiteration that tighter monetary policy will be necessary to contain inflation in the wake of strong economic data. Meeting participants suggested that a restrictive policy rate may need to be maintained to avoid the costs of a premature reversal in its current policy objectives.
- In response to the recent Fed speak, investors fully priced in an additional 75-basis point hike for the November Fed meeting along with subsequent hikes of 50 bps and 25 bps in December and January.
- The Bloomberg U.S. Aggregate Index dropped -1.3% and extended its year-to-date decline to -15.7%. Yields continued to rise, and all Treasury instruments finished the month above 4.0% aside from the 1-month T-bill.

INTERNATIONAL MARKETS

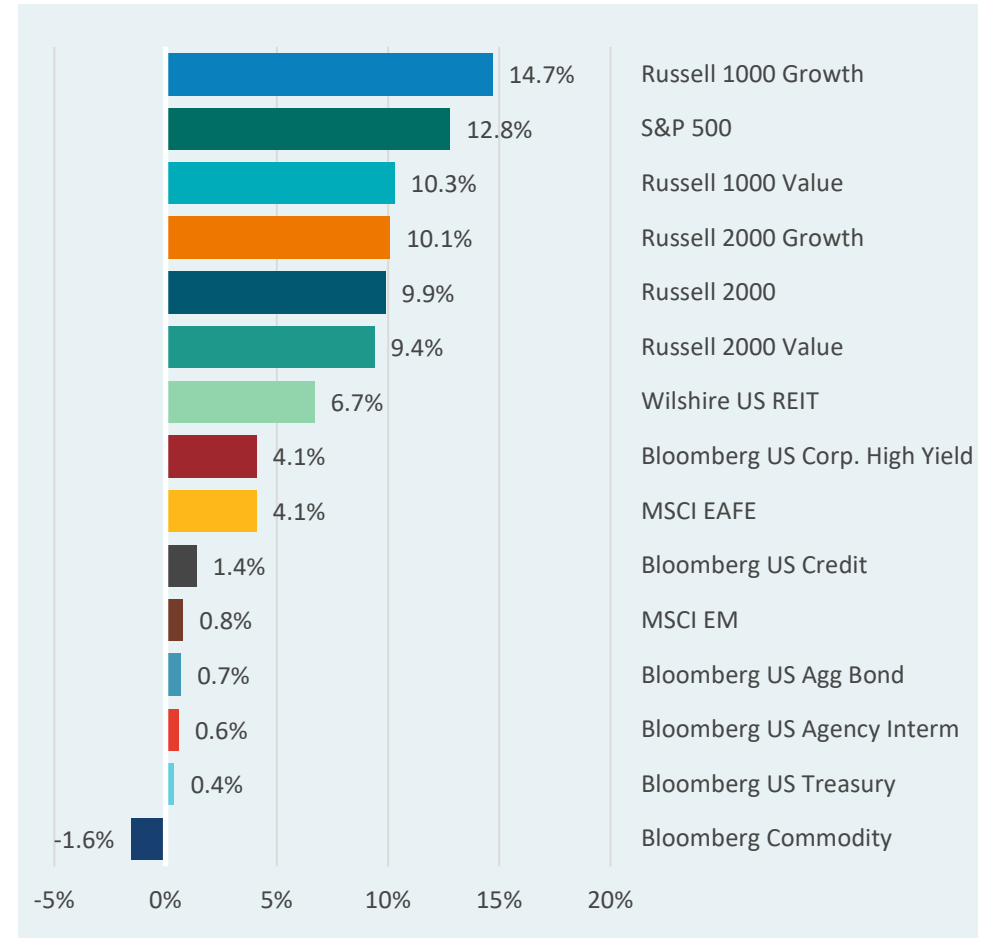
- The ECB delivered a second consecutive set of 75-basis point hikes to its three key interest rates. Members of the Governing Council alluded to additional rate increases in future meetings as the bank attempts to lower eurozone inflation which rose to +10.7%.
- Sovereign bond yield movement was mostly flat in developed markets outside the U.S. and Canada. U.K. gilt yields saw a drastic reversal compared to the prior month, with 10-year gilts falling -60 bps, the largest decline among developed peers.
- Continued volatility in the Japanese Yen (-2.6%) prompted further intervention from the BOJ. The bank purchased 6.3 trillion Yen near month end after the currency sunk to its lowest level against the U.S. Dollar since 1990.

Major asset class returns

ONE YEAR ENDING SEPTEMBER



TEN YEARS ENDING SEPTEMBER



*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 10/31/22

Source: Morningstar, as of 10/31/22

U.S. large cap equities

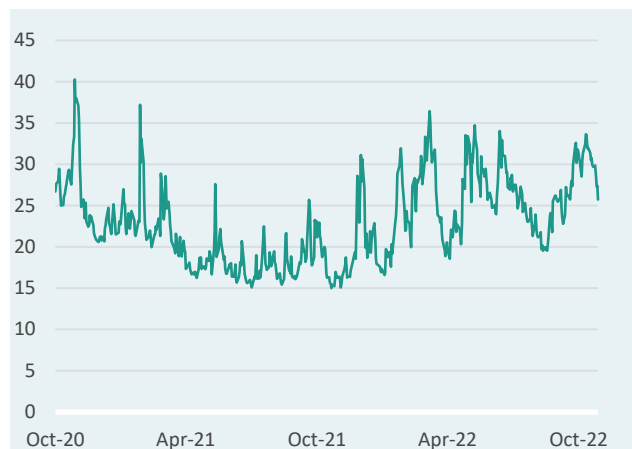
- The S&P 500 Index reversed course and rallied +8.1% despite hotter-than-expected September CPI and PPI prints. Positive investor sentiment was likely a product of earnings beats among index members. At month end, 276 constituents had reported Q3 results, 69.2% of which exceeded bottom-line expectations.
- All 11 S&P 500 GICS sectors gained in October. Energy (+25.0%) increased the most alongside triple-digit blended Q3 earnings growth. Industrials (+13.9%) and Financials (+12.0%) were the next biggest gainers while Real Estate (+2.0%), Consumer Discretionary (+0.2%), and Communications (+0.1%) gained the least.
- The Dow Jones Industrial Average soared +14.1% and posted its largest monthly gain since January 1976. Of the 30 index members, 28 gained, each by an average of +14.7%. Monthly losses were limited to Verizon (-1.6%) and Microsoft (-0.3%). The Dow has fallen -8.4% year-to-date compared to a -17.7% decline in the S&P.
- The Cboe Index of Implied Volatility retreated -5.7 points to 25.9, below its year-to-date daily average of 26.3%. Despite the fall, the index remains elevated above its 1-year (25.3%), 3-year (22.7%), and 5-year (24.4%) daily averages.

S&P 500 PRICE INDEX



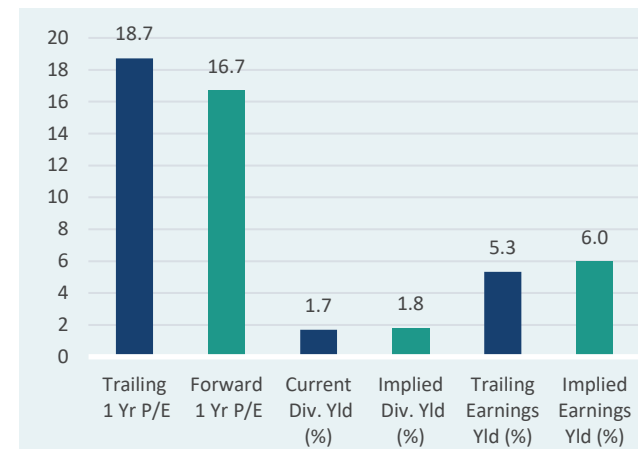
Source: Bloomberg, as of 10/31/22

IMPLIED VOLATILITY (VIX INDEX)



Source: Cboe, as of 10/31/22

S&P 500 VALUATION SNAPSHOT

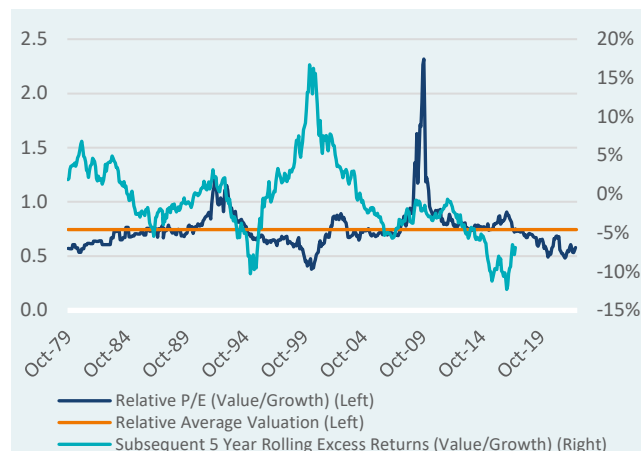


Source: Bloomberg, as of 10/31/22

Domestic equity size and style

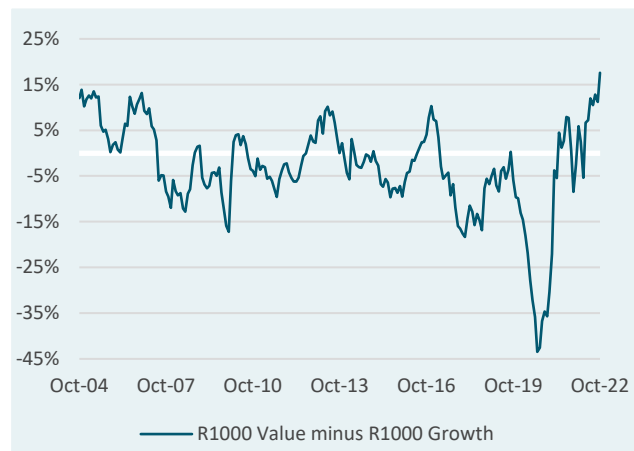
- In a continuation of recent trends, small-cap equities (Russell 2000 Index +11.0%) largely outperformed large-cap equities (Russell 1000 Index +8.0%). Small company overperformance was driven by outsized gains in the Industrials, Basic Materials, and Consumer Discretionary sectors.
- Value stocks (Russell 1000 Value +10.3%) across equity sizes continued to outperform growth stocks (Russell 1000 Growth +5.8%). On a 1-year relative basis, value outperformed growth by +17.3%, its greatest margin of 1-year overperformance since June 2002.
- Gains were wide-spanning across the S&P 500 as 84.9% of index members moved higher. Index breadth was also visible in the S&P 500 Equal Weighted Index which jumped +9.8% and delivered its highest monthly outperformance of the cap-weighted index since April.
- 12-month trailing profit margins for value companies held up better than growth companies on a year-over-year basis. As of Q3, the profit margin for the Russell 1000 Value Index declined to 9.4% from 10.0%, while the Russell 1000 Growth Index profit margin fell to 10.7% from 14.5%.

VALUE VS. GROWTH RELATIVE VALUATIONS



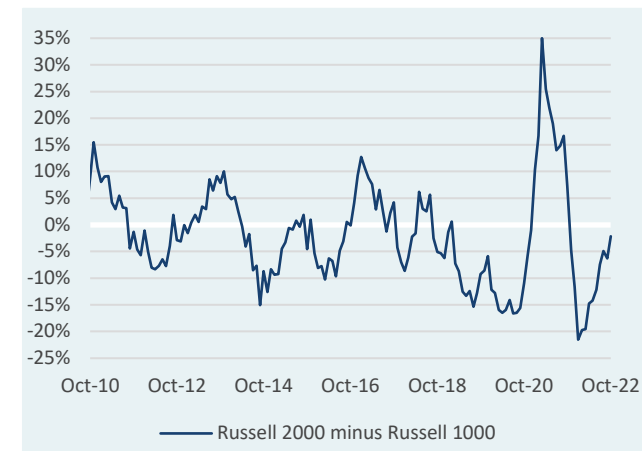
Source: FTSE, Bloomberg, as of 10/31/22

VALUE VS. GROWTH 1-YR ROLLING RELATIVE PERFORMANCE



Source: FTSE, Bloomberg, as of 10/31/22

SMALL VS. LARGE 1-YR ROLLING RELATIVE PERFORMANCE

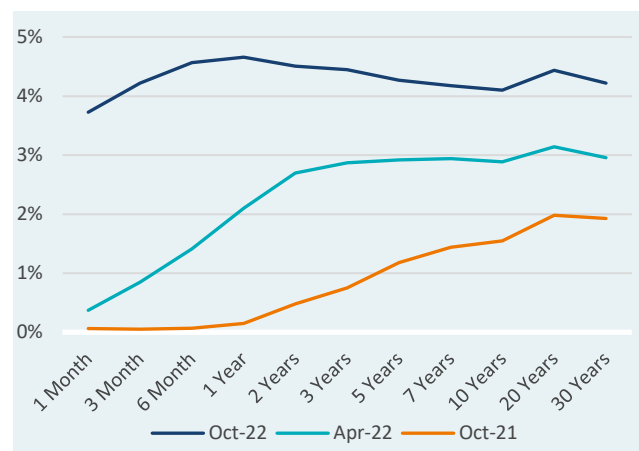


Source: FTSE, Bloomberg, as of 10/31/22

Fixed income

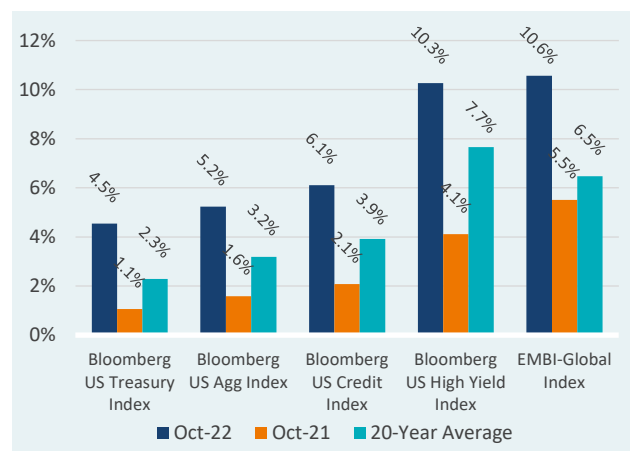
- U.S. Treasury yields rose across the curve alongside a hot September CPI print and expectations of another 75-basis point rate hike at the Fed’s November meeting. Yields on all tenors notched fresh highs on the year with help from a hawkish Fed and new market expectations that the fed funds rate may peak near 5.0%.
- Spreads on U.S. high yield debt narrowed by -80 bps to end the month at 4.6%. High yield spreads have now fallen -136 bps from their year-to-date peaks observed in July. The Bloomberg U.S. Corp High Yield Index (+2.6%) moved higher in a reversal of the prior two-month trend.
- The Bloomberg U.S. Long Treasury Index (-5.5%) declined for a third consecutive month as yields on long-dated Treasuries climbed to levels not seen in more than a decade. 10-year and 30-year yields surpassed 4.0% for the first time since 2008 and 2010, respectively.
- The average U.S. 30-year fixed mortgage rate continued its ascent and closed at 7.1%, the highest since 2002. Similarly, the 15-year hit 6.4%, the highest level since 2007. Amplified rate hike expectations and waning mortgage demand likely pushed rates higher. The Bloomberg MBS Index has declined -14.9% year-to-date.

U.S. TREASURY YIELD CURVE



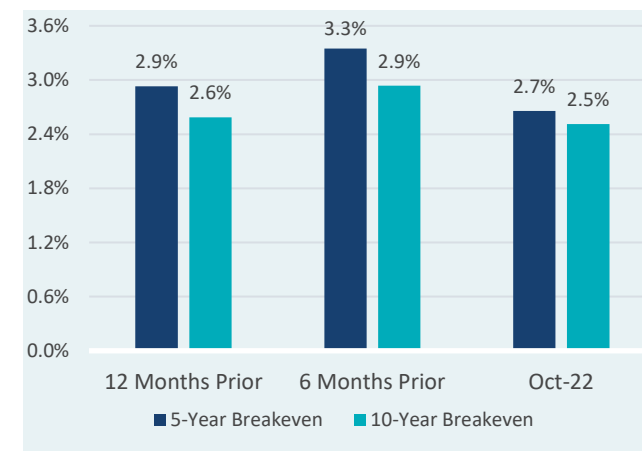
Source: Bloomberg, as of 10/31/22

NOMINAL YIELDS



Source: Morningstar, as of 10/31/22

BREAKEVEN INFLATION RATES

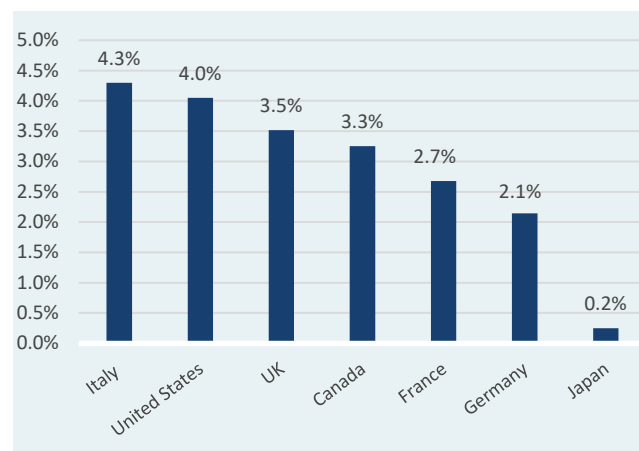


Source: Bloomberg, as of 10/31/22

Global markets

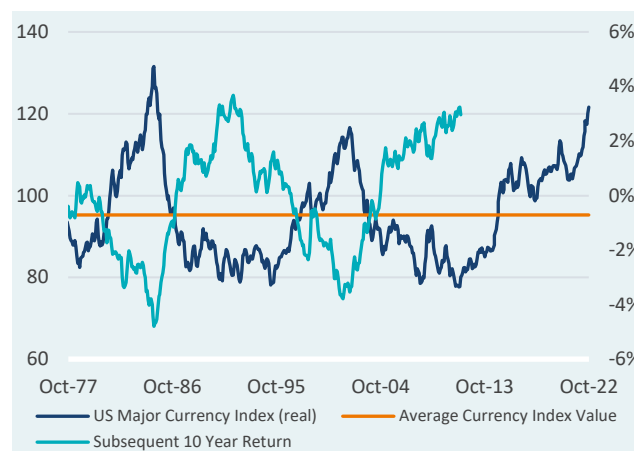
- International equities (MSCI ACWI ex US +3.0%) increased moderately but lagged U.S. counterparts. Gains in developed market equities (MSCI EAFE +5.4%) were offset by declines in emerging Asian equities (MSCI EM Asia -3.9%) which pulled the broader EM index lower (MSCI EM -3.1%).
- Chinese equities (MSCI China Index -16.8%) fell sharply amid fears of slowing economic growth and tightened political control. These factors likely contributed to high volatility and a record single-session sell-off in the Nasdaq Golden Dragon China Index (-14.4%), which closed the month at its lowest level since 2013.
- The MSCI U.K. Index jumped +6.0%, the largest monthly gain for U.K. equities since December. Sentiment turned positive following the termination of Exchequer Chancellor Kwasi Kwarteng and the subsequent resignation of Prime Minister Liz Truss, advocates for the country's short-lived September mini-budget.
- The MSCI EM Latin American Index rallied +9.7% and led regional indices for a third consecutive month. Brazilian stocks, which constitute 60.1% of the index, rose +8.6% alongside the election of former President Lula da Silva while Mexican stocks soared +13.9% on peso strength and outsized Financials performance.

GLOBAL SOVEREIGN 10-YEAR YIELDS



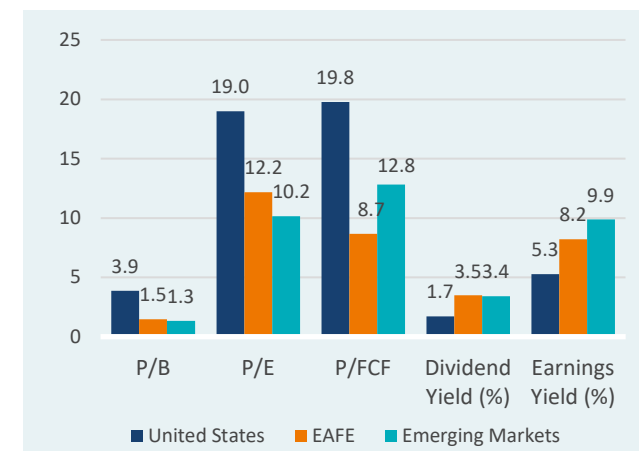
Source: Bloomberg, as of 10/31/22

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 10/31/22

MSCI VALUATION METRICS (3-MONTH AVG)



Source: Bloomberg, as of 10/31/22

Commodities

- The Bloomberg Commodity Index (+2.0%) increased marginally as swelling energy prices (Bloomberg Energy Sub-Index +4.4%) were moderated by declines in precious metals (Bloomberg Precious Metals Sub-Index -1.0%) and narrow gains in agriculture (Bloomberg Agriculture Sub-Index +1.1%).
- The Organization of the Petroleum Exporting Countries (OPEC) announced plans to curtail oil output by 2 million barrels per day. The move adds further pressure to global energy prices which have skyrocketed year-to-date as a result of tight supply. The Bloomberg Petroleum Sub-Index gained +13.0%.

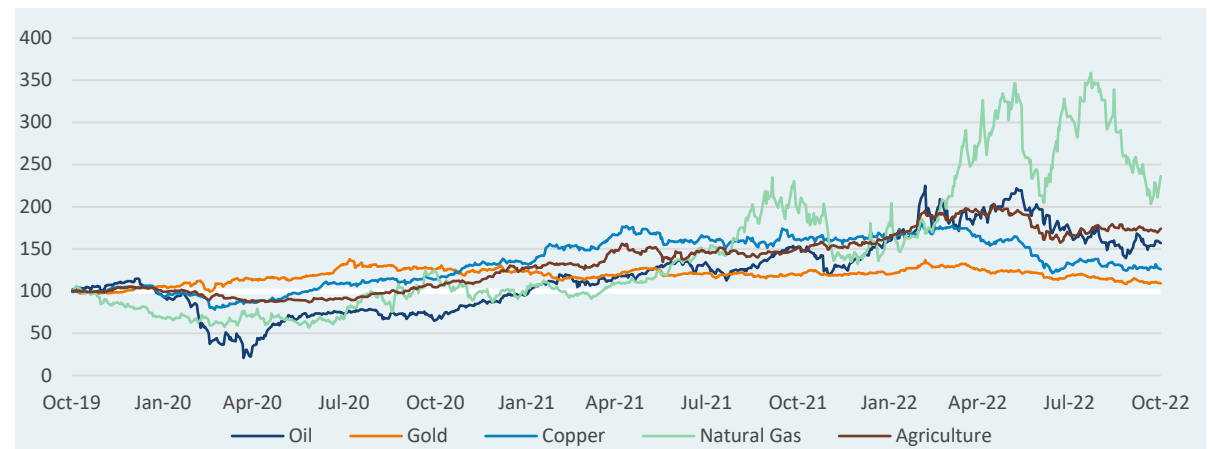
- The Bloomberg Softs Sub-Index (-9.3%) fell on steep downward movement in coffee prices (-19.8%) which declined amid expectations of an increased shift toward at-home consumption due to high inflation. Cotton prices (-15.6%) also contributed to the downturn and sunk after reductions in forward-looking consumption estimates.
- Industrials metals prices (Bloomberg Industrial Metals Sub-Index -0.6%) declined as global recession fears and lower trading volumes on major exchanges hurt prices. Copper prices fell -1.1%, and zinc – which is often used in conjunction with steel – dropped -9.7% largely due to the release of weaker-than-expected Chinese factory data.

INDEX AND SECTOR PERFORMANCE

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg Commodity	2.0	2.0	15.8	11.2	13.4	6.9	(1.6)
Bloomberg Agriculture	1.1	1.1	14.0	17.7	21.0	8.6	(1.7)
Bloomberg Energy	4.4	4.4	56.4	33.3	12.4	7.2	(5.6)
Bloomberg Grains	1.1	1.1	19.7	23.1	20.8	9.5	(3.0)
Bloomberg Industrial Metals	(0.6)	(0.6)	(16.6)	(13.4)	7.4	2.6	0.5
Bloomberg Livestock	6.3	6.3	5.3	9.2	(4.5)	(5.4)	(3.2)
Bloomberg Petroleum	13.0	13.0	52.9	43.9	18.5	11.9	(2.6)
Bloomberg Precious Metals	(1.0)	(1.0)	(12.6)	(11.5)	1.0	3.4	(2.6)
Bloomberg Softs	(9.8)	(9.8)	(10.4)	(7.1)	14.5	2.3	(3.6)

Source: Morningstar, as of 10/31/22

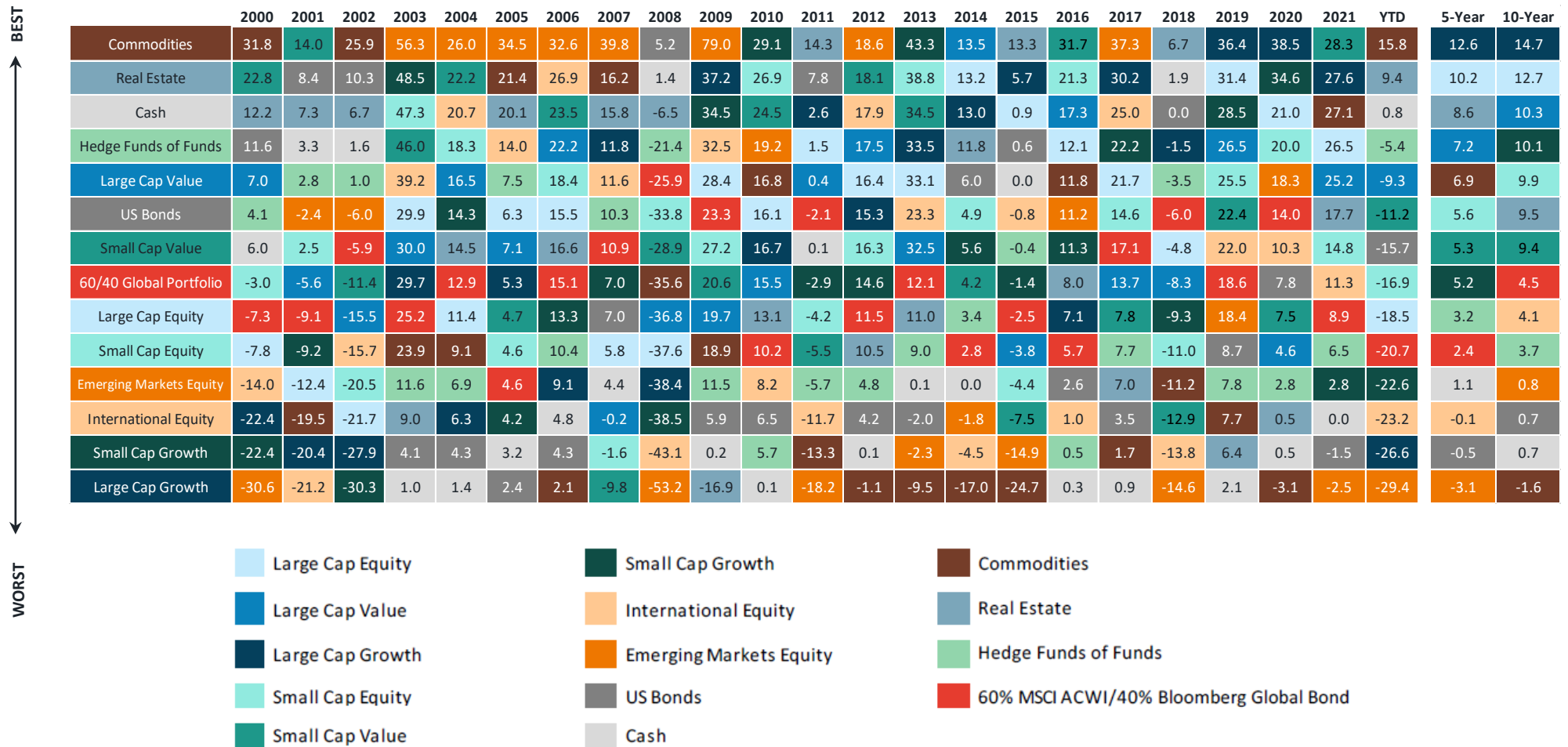
COMMODITY PERFORMANCE



Source: Bloomberg, as of 10/31/22

Appendix

Periodic table of returns



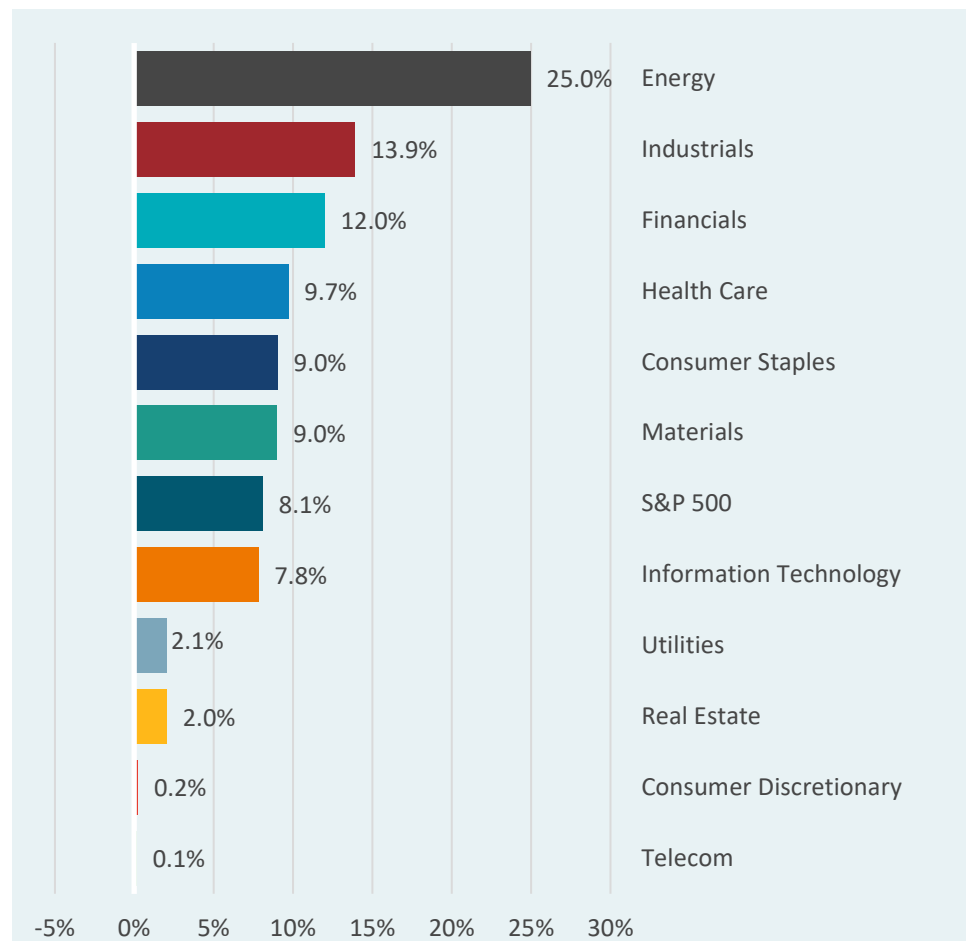
BEST
↑
↓
WORST



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 9/30/22.

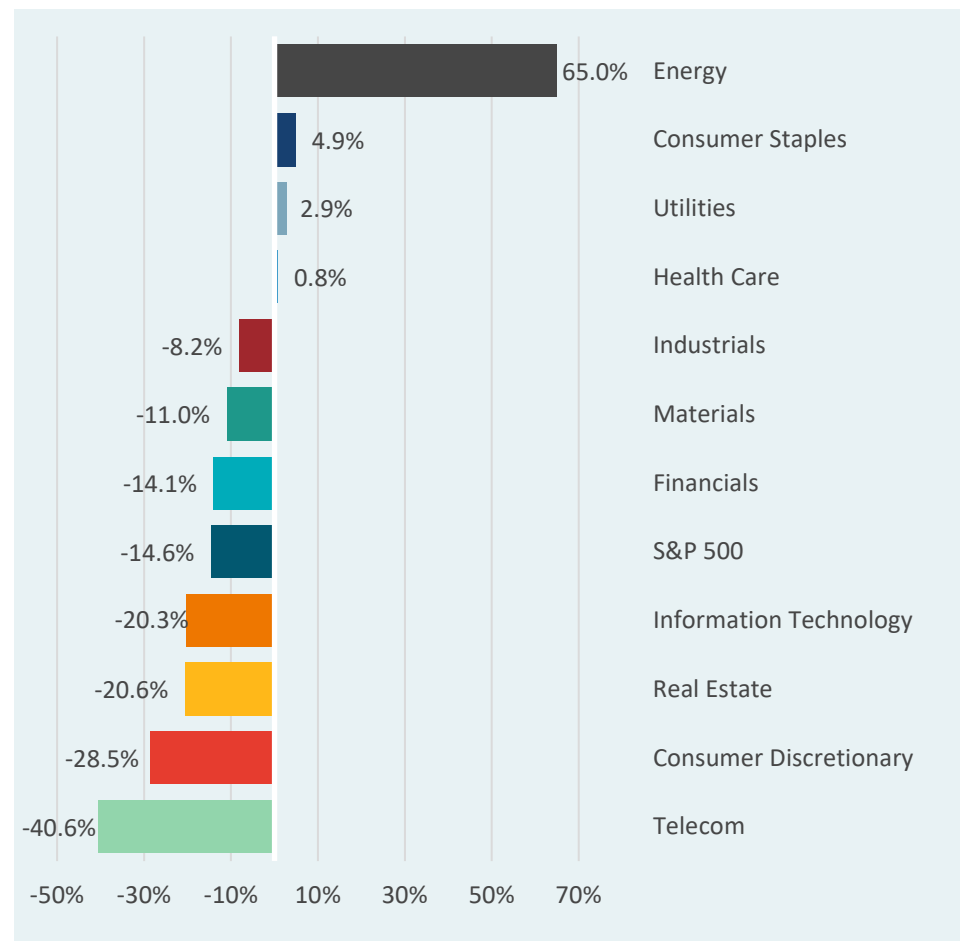
S&P 500 sector returns

QTD



Source: Morningstar, as of 10/31/22

ONE YEAR ENDING SEPTEMBER



Source: Morningstar, as of 10/31/22

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	8.1	8.1	(17.7)	(14.6)	10.2	10.4	12.8
S&P 500 Equal Weighted	9.8	9.8	(12.9)	(9.9)	10.6	9.8	12.6
DJ Industrial Average	14.1	14.1	(8.4)	(6.7)	8.8	9.3	12.2
Russell Top 200	7.7	7.7	(18.9)	(16.1)	10.8	11.0	13.1
Russell 1000	8.0	8.0	(18.5)	(16.4)	10.0	10.2	12.7
Russell 2000	11.0	11.0	(16.9)	(18.5)	7.0	5.6	9.9
Russell 3000	8.2	8.2	(18.4)	(16.5)	9.8	9.9	12.5
Russell Mid Cap	8.9	8.9	(17.5)	(17.2)	7.8	7.9	11.4
Style Index							
Russell 1000 Growth	5.8	5.8	(26.6)	(24.6)	11.7	12.6	14.7
Russell 1000 Value	10.3	10.3	(9.3)	(7.0)	7.3	7.2	10.3
Russell 2000 Growth	9.5	9.5	(22.6)	(26.0)	5.1	5.2	10.1
Russell 2000 Value	12.6	12.6	(11.2)	(10.7)	8.1	5.3	9.4

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	6.0	6.0	(21.1)	(20.0)	4.8	5.2	8.0
MSCI ACWI ex US	3.0	3.0	(24.3)	(24.7)	(1.7)	(0.6)	3.3
MSCI EAFE	5.4	5.4	(23.2)	(23.0)	(1.3)	(0.1)	4.1
MSCI EM	(3.1)	(3.1)	(29.4)	(31.0)	(4.4)	(3.1)	0.8
MSCI EAFE Small Cap	4.2	4.2	(29.2)	(30.3)	(2.3)	(1.3)	5.6
Style Index							
MSCI EAFE Growth	4.3	4.3	(30.1)	(29.6)	(1.3)	1.1	5.1
MSCI EAFE Value	6.5	6.5	(16.0)	(16.3)	(1.9)	(1.7)	2.9
Regional Index							
MSCI UK	6.0	6.0	(13.7)	(12.4)	(0.7)	(0.0)	2.4
MSCI Japan	3.0	3.0	(24.2)	(24.7)	(3.2)	(0.9)	5.3
MSCI Euro	8.9	8.9	(26.7)	(27.1)	(2.2)	(1.7)	3.8
MSCI EM Asia	(5.9)	(5.9)	(33.0)	(34.5)	(4.2)	(3.3)	2.5
MSCI EM Latin American	9.7	9.7	13.0	16.1	(1.8)	(0.1)	(1.3)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	1.2	1.2	(12.5)	(11.5)	1.1	2.2	1.0
Bloomberg US Treasury Bills	0.2	0.2	0.6	0.6	0.5	1.1	0.7
Bloomberg US Agg Bond	(1.3)	(1.3)	(15.7)	(15.7)	(3.8)	(0.5)	0.7
Bloomberg US Universal	(4.3)	(4.3)	(14.9)	(14.9)	(3.1)	(0.2)	1.2
Duration							
Bloomberg US Treasury 1-3 Yr	(0.1)	(0.1)	(4.6)	(4.8)	(0.7)	0.5	0.6
Bloomberg US Treasury Long	(5.5)	(5.5)	(32.8)	(32.0)	(10.0)	(2.7)	0.0
Bloomberg US Treasury	(1.4)	(1.4)	(14.3)	(14.1)	(3.6)	(0.5)	0.4
Issuer							
Bloomberg US MBS	(1.4)	(1.4)	(14.9)	(15.0)	(4.2)	(1.2)	0.4
Bloomberg US Corp. High Yield	2.6	2.6	(12.5)	(11.8)	0.3	2.0	4.1
Bloomberg US Agency Interm	(0.5)	(0.5)	(7.7)	(7.9)	(1.7)	0.1	0.6
Bloomberg US Credit	(1.0)	(1.0)	(18.9)	(18.9)	(4.1)	(0.3)	1.4
OTHER							
Index							
Bloomberg Commodity	2.0	2.0	15.8	11.2	13.4	6.9	(1.6)
Wilshire US REIT	4.1	4.1	(26.8)	(20.5)	(1.2)	3.9	6.7
CS Leveraged Loans	0.8	0.8	(2.5)	(2.0)	2.6	3.0	3.7
S&P Global Infrastructure	(11.8)	(11.8)	(10.1)	(6.0)	(0.1)	2.1	5.7
Alerian MLP	14.4	14.4	36.1	30.3	10.3	4.9	2.1
Regional Index							
JPM EMBI Global Div	0.2	0.2	(23.8)	(24.2)	(7.2)	(2.7)	1.0
JPM GBI-EM Global Div	(0.9)	(0.9)	(19.3)	(20.3)	(8.2)	(3.5)	(2.6)
Hedge Funds							
HFRI Composite	2.0	2.0	(4.4)	(5.3)	6.6	4.7	4.8
HFRI FOF Composite	1.5	1.5	(5.4)	(6.5)	4.5	3.2	3.7
Currency (Spot)							
Euro	0.9	0.9	(13.1)	(14.6)	(4.0)	(3.2)	(2.7)
Pound Sterling	3.1	3.1	(15.0)	(16.0)	(3.8)	(2.8)	(3.3)
Yen	(2.6)	(2.6)	(22.5)	(23.3)	(10.1)	(5.2)	(6.0)

Source: Morningstar, HFRI, as of 10/31/22.

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	7.9	22.5	18.7	14.3
Global Private Equity Direct Funds *	2.5	22.2	19.7	16.6
U.S. Private Equity Direct Funds *	5.5	24.9	21.9	18.2
Europe Private Equity Direct Funds *	(0.5)	19.4	18.2	14.9
Asia Private Equity Direct Funds *	(6.9)	13.9	13.3	13.7

Public Index Time-weighted Returns	1 Year	3 Year	5 Year	10 Year
MSCI World	(14.3)	7.0	7.7	9.5
S&P 500	(10.6)	10.6	11.3	13.0
MSCI Europe	(17.6)	1.2	2.2	5.4
MSCI AC Asia Pacific	(22.2)	1.8	2.8	5.5

Private Real Estate Pooled IRRs	1 Year	3 Year	5 Year	10 Year
U.S. All Private Real Estate	25.7	14.0	12.2	13.4

Public Index Time-weighted Returns	1 Year	3 Year	5 Year	10 Year
FTSE NAREIT Equity REIT	(6.3)	4.0	5.3	7.4

Private Credit Pooled IRRs	1 Year	3 Year	5 Year	10 Year
U.S. All Private Debt **	15.9	15.6	12.9	12.0

Public Index Time-weighted Returns	1 Year	3 Year	5 Year	10 Year
S&P / LSTA U.S. Leveraged Loan 100 Index	(4.2)	1.4	2.4	3.3

Private Real Assets Pooled IRRs	1 Year	3 Year	5 Year	10 Year
Global Nature Resources ***	27.1	6.6	4.9	3.5
Global Infrastructure	12.7	11.4	11.4	11.1

Public Index Time-weighted Returns	1 Year	3 Year	5 Year	10 Year
S&P Global Natural Resources	2.9	8.6	8.9	4.6
S&P Global Infrastructure	5.6	3.5	4.8	7.2

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

* Includes Buyout, Growth Equity and Venture Capital.

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

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

Notices & disclosures

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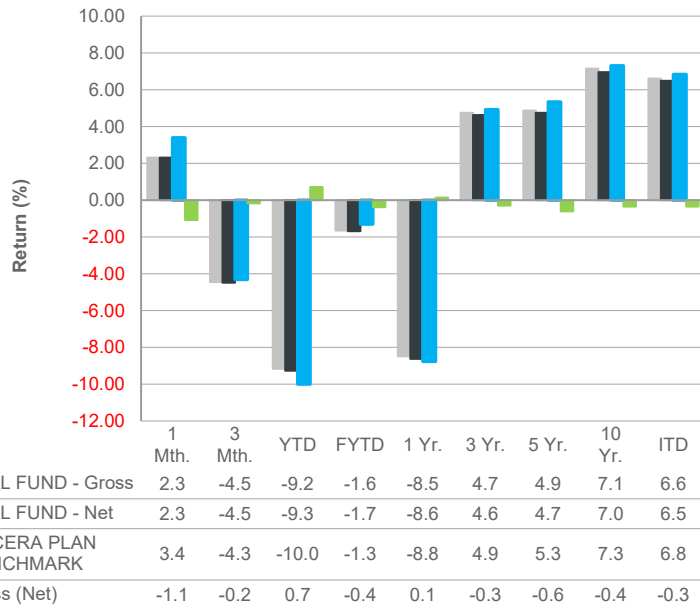
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San Mateo County Composite Return Summary

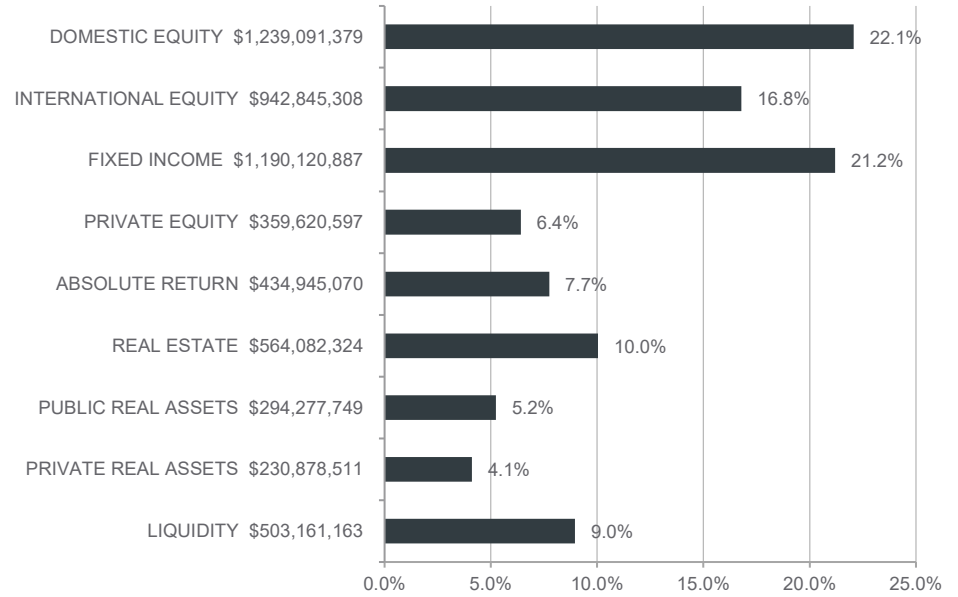
October 31, 2022



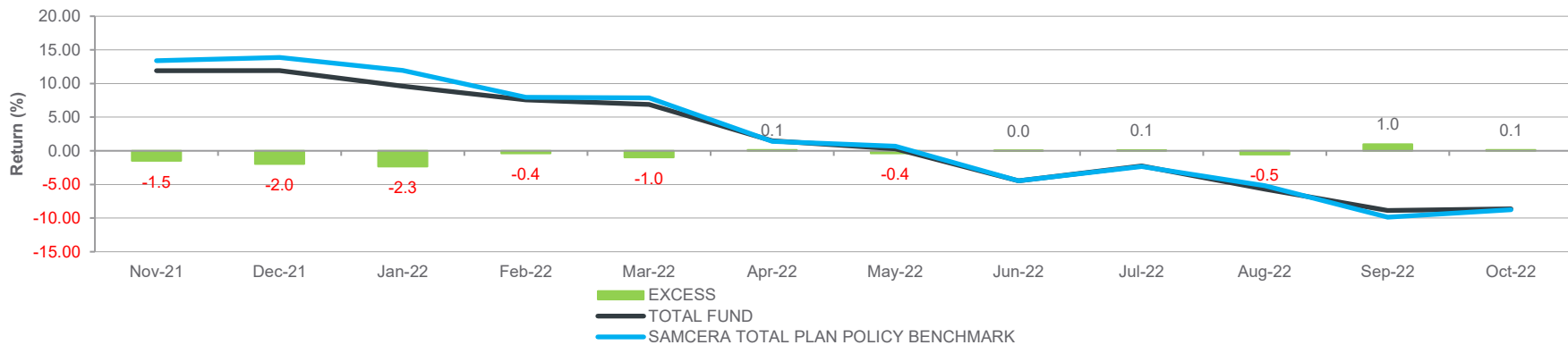
Total Fund Performance



Asset Allocation



Rolling Month End Annual Returns

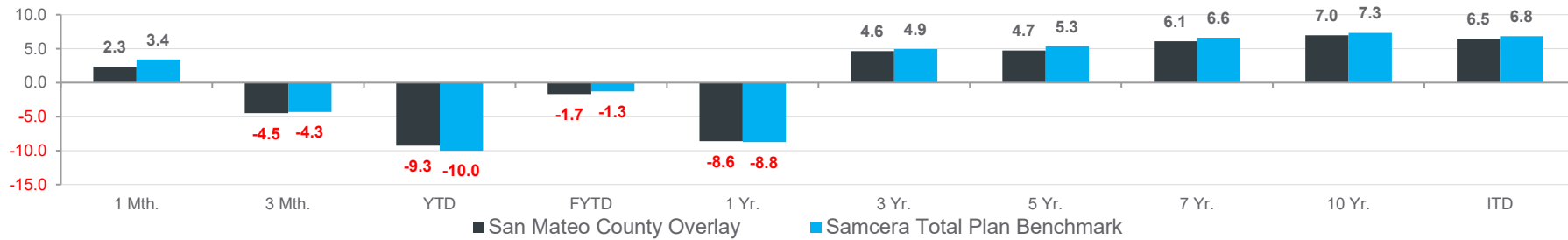


San Mateo County Composite Return Summary

October 31, 2022



Return Comparison



Composite Returns (Net of Manager Fees)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
San Mateo County Overlay	5,615,050,832	2.3	-4.5	-9.3	-1.7	-8.6	4.6	4.7	6.1	7.0	6.5
Samcera Total Plan Benchmark		3.4	-4.3	-10.0	-1.3	-8.8	4.9	5.3	6.6	7.3	6.8
Excess		-1.1	-0.2	0.7	-0.4	0.1	-0.3	-0.6	-0.5	-0.4	-0.3
San Mateo Ex-Clifton Overlay	5,334,452,926	2.3	-4.4	-9.1	-1.7	-8.4	4.7	4.7	6.0	6.9	6.4
Samcera Total Plan Benchmark		3.4	-4.3	-10.0	-1.3	-8.8	4.9	5.3	6.6	7.3	6.8
Excess		-1.1	-0.1	0.9	-0.4	0.3	-0.2	-0.6	-0.6	-0.4	-0.4
Total Equity	2,181,936,687	6.3	-7.1	-18.5	-0.9	-17.2	4.8	5.2	7.3	8.7	7.4
Samcera Total Equity Benchmark		5.8	-6.4	-18.6	-0.0	-17.6	5.9	5.9	8.3	9.7	8.1
Excess		0.4	-0.7	0.1	-0.9	0.3	-1.0	-0.7	-1.0	-1.0	-0.6
Fixed Income	1,190,120,887	-1.0	-6.2	-13.2	-4.6	-13.1	-1.6	0.6	2.1	2.2	4.7
Samcera Fixed Income Benchmark		0.1	-6.6	-13.9	-3.1	-13.6	-2.4	0.4	1.5	1.3	4.2
Excess		-1.1	0.4	0.7	-1.5	0.5	0.8	0.2	0.6	0.9	0.5
Alternatives	794,565,667	-0.8	-0.5	0.8	-2.3	1.3	15.0	10.9	9.8	8.2	1.0
Samcera Alternatives Benchmark		5.0	1.4	0.8	-2.7	0.6	10.1	9.8	9.9	9.4	8.2
Excess		-5.8	-1.9	-0.0	0.4	0.8	5.0	1.2	-0.2	-1.2	-7.3
Inflation Hedge	1,089,238,584	1.8	-1.1	10.0	0.4	9.8	6.6	5.1	--	--	6.5
SamCERA Inflation Hedge Index		2.0	-1.1	10.3	-1.1	15.1	11.1	8.5	--	--	--
Excess		-0.2	-0.0	-0.3	1.5	-5.4	-4.5	-3.4	--	--	--
Liquidity	503,161,163	0.2	-0.0	--	0.1	--	--	--	--	--	0.1
Liquidity Composite Benchmark		-0.0	-1.0	--	-0.7	--	--	--	--	--	-0.7
Excess		0.2	1.0	--	0.8	--	--	--	--	--	0.8



San Mateo County Composite Return Summary

October 31, 2022



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Equity	2,181,936,687	6.3	-7.1	-18.5	-0.9	-17.2	4.8	5.2	7.3	8.7	7.4
Samcera Total Equity Benchmark		5.8	-6.4	-18.6	-0.0	-17.6	5.9	5.9	8.3	9.7	8.1
Excess		0.4	-0.7	0.1	-0.9	0.3	-1.0	-0.7	-1.0	-1.0	-0.6
Domestic Equity	1,239,091,379	9.1	-3.6	-13.4	4.2	-10.2	9.5	9.4	10.6	12.0	8.8
Samcera Dom. Equity Benchmark		8.2	-5.5	-18.4	3.4	-16.5	9.8	9.9	11.0	12.4	9.2
Excess		0.9	1.9	5.1	0.9	6.3	-0.3	-0.5	-0.4	-0.4	-0.4
Large Cap Equity	1,083,674,377	8.5	-4.2	-14.2	3.2	-10.8	9.4	9.7	10.9	12.5	9.5
Russell 1000		8.0	-5.7	-18.5	3.0	-16.4	10.0	10.2	11.1	12.7	9.8
Excess		0.5	1.5	4.4	0.2	5.6	-0.6	-0.5	-0.2	-0.2	-0.3
Blackrock Russell 1000	460,362,784	8.0	-5.7	-18.5	3.0	-16.3	10.2	10.3	--	--	11.6
Russell 1000		8.0	-5.7	-18.5	3.0	-16.4	10.0	10.2	--	--	11.4
Excess		0.0	-0.0	0.0	0.0	0.1	0.2	0.1	--	--	0.1
DE Shaw Commingled Fund	166,753,169	8.4	-3.3	-15.0	5.2	-12.0	9.6	9.3	11.1	--	10.6
Russell 1000		8.0	-5.7	-18.5	3.0	-16.4	10.0	10.2	11.1	--	10.2
Excess		0.4	2.5	3.6	2.1	4.4	-0.4	-0.9	-0.0	--	0.3
Acadian US MGD V-SL	216,816,932	9.0	-3.0	-12.8	3.1	-7.5	5.3	--	--	--	9.3
Russell 1000		8.0	-5.7	-18.5	3.0	-16.4	10.0	--	--	--	13.9
Excess		1.0	2.8	5.7	0.0	8.8	-4.7	--	--	--	-4.6
Panagora Defuseq -SL	239,741,492	8.9	-3.1	-5.1	2.3	-0.3	7.8	--	--	--	12.7
Russell 1000		8.0	-5.7	-18.5	3.0	-16.4	10.0	--	--	--	13.9
Excess		0.9	2.6	13.4	-0.7	16.0	-2.2	--	--	--	-1.2
Domestic Equity Overlay	45,805,300	11.9	7.2	184.5	17.3	196.5	--	--	--	--	145.0
ICE BofAML US 3-Month Treasury Bill		0.2	0.6	0.8	0.6	0.8	--	--	--	--	0.4
Excess		11.8	6.6	183.7	16.7	195.7	--	--	--	--	144.7
Small Cap Equity	109,611,702	14.7	0.3	-9.0	12.0	-8.2	7.9	5.0	6.9	8.5	6.3
Russell 2000		11.0	-1.7	-16.9	8.6	-18.5	7.0	5.6	8.3	9.9	7.6
Excess		3.7	2.0	7.9	3.4	10.4	0.8	-0.5	-1.4	-1.4	-1.2



San Mateo County Composite Return Summary

October 31, 2022



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	109,611,702	14.7	0.3	-9.0	12.0	-8.2	7.9	5.0	--	--	7.9
Russell 2000		11.0	-1.7	-16.9	8.6	-18.5	7.0	5.6	--	--	8.1
Excess		3.7	2.0	7.9	3.4	10.4	0.8	-0.5	--	--	-0.2
International Equity	942,845,308	2.7	-11.2	-24.4	-7.0	-25.0	-0.5	0.4	3.4	4.1	4.7
SamCERA Custom Hedge Intl		3.1	-7.5	-19.0	-4.0	-19.0	1.2	1.1	4.1	4.3	4.6
Excess		-0.4	-3.7	-5.4	-3.1	-6.0	-1.7	-0.7	-0.7	-0.3	0.2
Baillie Gifford	255,165,622	1.4	-15.5	-38.6	-7.6	-39.9	-2.8	-0.6	3.0	4.7	4.7
MSCI ACWI ex USA Growth		2.0	-12.4	-30.3	-7.5	-30.8	-1.6	0.4	3.6	--	--
Excess		-0.6	-3.1	-8.3	-0.1	-9.2	-1.2	-1.0	-0.6	--	--
Blackrock MSCI ACWI ex US IMI	293,621,784	3.0	-10.3	-24.5	-6.9	-24.9	--	--	--	--	-0.3
MS AC WIdxUS IMI Nt		3.0	-10.3	-24.7	-7.0	-25.2	--	--	--	--	-0.4
Excess		0.0	0.1	0.2	0.0	0.2	--	--	--	--	0.1
Mondrian Investment Partners	297,137,694	3.2	-11.9	-22.0	-11.2	-23.0	-4.1	-2.2	1.0	2.4	3.6
MSCI ACWI xUSA Value		4.1	-7.9	-17.3	-6.6	-17.6	-1.3	-1.0	2.4	2.8	3.9
Excess		-0.9	-3.9	-4.7	-4.5	-5.4	-2.8	-1.2	-1.4	-0.5	-0.3
Currency Hedge Futures	170,128,028	-0.0	-6.6	-15.7	-7.6	-17.0	--	--	--	--	-5.8
ICE BofAML US 3-Month Treasury Bill		0.2	0.6	0.8	0.6	0.8	--	--	--	--	0.4
Excess		-0.2	-7.1	-16.5	-8.2	-17.8	--	--	--	--	-6.1
Currency Hedge Futures Offsets	170,128,028	0.0	0.0	0.0	0.0	0.0	--	--	--	--	0.0
ICE BofAML US 3-Month Treasury Bill		0.2	0.6	0.8	0.6	0.8	--	--	--	--	0.4
Excess		-0.2	-0.6	-0.8	-0.6	-0.8	--	--	--	--	-0.4
International Equity Overlay	96,920,208	4.2	-11.5	-23.1	-8.1	-23.8	--	--	--	--	4.1
ICE BofAML US 3-Month Treasury Bill		0.2	0.6	0.8	0.6	0.8	--	--	--	--	0.4
Excess		4.0	-12.1	-23.9	-8.7	-24.6	--	--	--	--	3.7
Fixed Income	1,190,120,887	-1.0	-6.2	-13.2	-4.6	-13.1	-1.6	0.6	2.1	2.2	4.7
Samcera Fixed Income Benchmark		0.1	-6.6	-13.9	-3.1	-13.6	-2.4	0.4	1.5	1.3	4.2
Excess		-1.1	0.4	0.7	-1.5	0.5	0.8	0.2	0.6	0.9	0.5



San Mateo County Composite Return Summary

October 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	647,830,991	-1.8	-7.9	-16.1	-6.2	-16.3	-3.6	-0.7	0.7	1.2	4.1
BBG US Aggregate		-1.3	-8.2	-15.7	-6.0	-15.7	-3.8	-0.5	0.4	0.7	3.8
Excess		-0.5	0.4	-0.4	-0.2	-0.6	0.2	-0.1	0.3	0.4	0.3
FIAM B Core Bond	228,159,364	-1.3	-7.9	-15.7	-5.7	-15.5	-2.7	0.2	--	--	1.2
BBG US Aggregate		-1.3	-8.2	-15.7	-6.0	-15.7	-3.8	-0.5	--	--	0.2
Excess		0.0	0.3	0.0	0.3	0.1	1.1	0.8	--	--	1.0
Western Total Return	0	--	--	--	--	--	--	--	--	--	--
BBG US Aggregate		--	--	--	--	--	--	--	--	--	--
Excess		--	--	--	--	--	--	--	--	--	--
DoubleLine	216,558,151	-2.3	-8.2	-16.7	-6.7	-17.0	--	--	--	--	-5.1
BBG US Aggregate		-1.3	-8.2	-15.7	-6.0	-15.7	--	--	--	--	-5.5
Excess		-1.0	-0.0	-1.0	-0.7	-1.3	--	--	--	--	0.4
NISA Core Bond	201,866,828	-1.3	-8.0	-15.3	-5.7	-15.3	--	--	--	--	-5.8
BBG US Aggregate		-1.3	-8.2	-15.7	-6.0	-15.7	--	--	--	--	-6.3
Excess		0.0	0.2	0.4	0.2	0.4	--	--	--	--	0.5
Core Fixed Income Overlay	1,246,648	-1.3	-8.8	-13.2	-7.4	-12.0	--	--	--	--	-5.7
ICE BofAML US 3-Month Treasury Bill		0.2	0.6	0.8	0.6	0.8	--	--	--	--	0.4
Excess		-1.5	-9.4	-14.0	-8.0	-12.8	--	--	--	--	-6.1
Opportunistic Credit	542,289,895	0.2	-3.6	-8.3	-2.1	-7.6	1.9	3.0	4.7	5.4	7.1
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	0.5	2.3	3.7	4.0	5.7
Excess		-2.3	0.4	2.8	-4.0	2.7	1.4	0.7	1.0	1.4	1.4
Pimco Private Income	52,789,264	0.0	-0.5	2.1	-0.5	4.3	9.3	--	--	--	7.9
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	0.5	--	--	--	1.9
Excess		-2.5	3.4	13.2	-2.4	14.7	8.8	--	--	--	6.0
AG CREDIT SOL FU LP	15,244,927	0.1	-4.6	-0.4	-4.5	2.1	--	--	--	--	17.6
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	--	--	--	--	-0.1
Excess		-2.4	-0.7	10.7	-6.3	12.5	--	--	--	--	17.7



San Mateo County Composite Return Summary

October 31, 2022



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	0	--	--	--	--	--	--	--	--	--	--
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	--	--	--	--	4.0
Excess		--	--	--	--	--	--	--	--	--	--
AG CSF II	11,721,924	0.1	-5.2	--	-5.2	--	--	--	--	--	-3.7
BBG BA Intermediate HY Ind		2.5	-3.9	--	1.9	--	--	--	--	--	-8.5
Excess		-2.4	-1.3	--	-7.1	--	--	--	--	--	4.7
AG Opportunistic Whole Loan	227,459	0.0	9.0	40.2	9.0	45.2	22.1	22.3	18.7	--	15.0
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	0.5	2.3	3.7	--	3.5
Excess		-2.5	13.0	51.4	7.2	55.6	21.7	20.1	15.0	--	11.6
Angelo Gordon	0	--	--	--	--	--	--	--	--	--	--
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	0.5	2.3	3.7	--	3.9
Excess		--	--	--	--	--	--	--	--	--	--
Blackrock Direct Lending Feede	35,251,278	0.0	1.2	1.8	1.2	4.0	3.1	--	--	--	2.7
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	0.5	--	--	--	1.8
Excess		-2.5	5.2	12.9	-0.6	14.4	2.6	--	--	--	0.8
Beach Point Select Fund	95,426,260	0.7	-3.8	-7.7	-2.2	-6.2	6.9	6.4	7.2	--	7.4
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	0.5	2.3	3.7	--	3.5
Excess		-1.9	0.1	3.4	-4.1	4.1	6.5	4.1	3.5	--	3.9
Brigade Cap Mngmt	95,219,903	-0.2	-4.5	-10.3	-2.9	-9.6	3.2	2.9	5.1	4.3	5.4
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	0.5	2.3	3.7	4.0	5.1
Excess		-2.7	-0.6	0.8	-4.8	0.8	2.7	0.6	1.4	0.3	0.3
White Oak YSF V	28,706,384	0.0	0.2	2.3	0.2	2.8	--	--	--	--	1.5
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	--	--	--	--	-3.3
Excess		-2.5	4.1	13.5	-1.7	13.1	--	--	--	--	4.8
White Oak Yield Spec	31,580,817	-0.0	1.4	5.0	1.4	5.7	5.9	6.9	--	--	--
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	0.5	2.3	--	--	2.9
Excess		-2.5	5.3	16.1	-0.5	16.1	5.5	4.6	--	--	--
PIMCO Div. Income Fund	111,854,892	0.8	-5.9	-16.7	-1.7	-16.7	-3.6	-0.1	--	--	0.1
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	0.5	2.3	--	--	2.4



San Mateo County Composite Return Summary

October 31, 2022



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Excess		-1.7	-2.0	-5.6	-3.6	-6.4	-4.1	-2.4	--	--	-2.3
TCP Direct Lending VIII	15,902,003	-0.5	-0.7	0.3	-1.9	2.3	4.9	5.5	--	--	--
BBG BA Intermediate HY Ind		2.5	-3.9	-11.1	1.9	-10.3	0.5	2.3	--	--	3.6
Excess		-3.0	3.2	11.4	-3.8	12.7	4.4	3.2	--	--	--
Franklin Templeton	48,364,784	-0.3	-8.1	-18.7	-7.4	-19.4	-10.0	-6.3	-3.1	-1.6	-0.2
Bloomberg Multiverse Index		-0.6	-9.3	-20.2	-7.3	-20.6	-6.0	-2.3	-0.6	-0.8	0.2
Excess		0.2	1.2	1.6	-0.1	1.1	-3.9	-4.0	-2.5	-0.8	-0.4
Alternatives	794,565,667	-0.8	-0.5	0.8	-2.3	1.3	15.0	10.9	9.8	8.2	1.0
Samcera Alternatives Benchmark		5.0	1.4	0.8	-2.7	0.6	10.1	9.8	9.9	9.4	8.2
Excess		-5.8	-1.9	-0.0	0.4	0.8	5.0	1.2	-0.2	-1.2	-7.3
Private Equity	359,620,597	-2.3	-7.6	-12.8	-10.5	-12.3	24.6	21.2	18.5	17.4	-6.3
Samcera PE Benchmark		9.4	0.9	-3.2	-7.8	-4.5	15.6	14.0	14.9	16.2	16.0
Excess		-11.7	-8.5	-9.6	-2.7	-7.8	9.0	7.2	3.6	1.2	-22.3
Absolute Return	434,945,070	0.5	5.9	14.8	5.1	15.4	2.0	-1.5	-0.2	2.5	2.2
Samcera SOFR + 4%		0.6	1.6	4.3	2.1	5.0	4.7	5.2	5.1	4.8	4.7
Excess		-0.1	4.3	10.5	3.0	10.4	-2.6	-6.7	-5.2	-2.3	-2.5
Aberdeen Std GARS	47,632,177	-0.0	-1.9	-9.7	-3.0	-8.0	-1.2	-0.2	-0.1	--	-0.1
Samcera SOFR + 4%		0.6	1.6	4.3	2.1	5.0	4.7	5.2	5.1	--	5.1
Excess		-0.6	-3.5	-14.0	-5.1	-13.0	-5.8	-5.4	-5.2	--	-5.2
Graham Global Investment	98,166,418	2.6	4.2	26.7	3.1	23.2	--	--	--	--	9.5
Samcera SOFR +4%		0.6	1.6	4.3	2.1	5.0	--	--	--	--	4.6
Excess		2.1	2.6	22.4	1.0	18.2	--	--	--	--	4.9
PIMCO MAARS Fund L.P.	99,995,378	1.8	10.0	23.4	11.4	29.7	--	--	--	--	14.1
Samcera SOFR +4%		0.6	1.7	4.3	2.1	5.0	--	--	--	--	4.5
Excess		1.2	8.4	19.0	9.3	24.6	--	--	--	--	9.6
Acadian MAAR Fund LLC	83,954,097	-1.4	2.8	2.1	1.6	3.5	--	--	--	--	2.7
Samcera SOFR +4%		0.6	1.7	4.3	2.1	5.0	--	--	--	--	4.5
Excess		-2.0	1.1	-2.2	-0.5	-1.5	--	--	--	--	-1.8



San Mateo County Composite Return Summary

October 31, 2022



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
CFM SYS Global Macro Fund	105,197,000	-1.0	10.2	25.0	8.2	21.8	--	--	--	--	16.8
Samcera SOFR +4%		0.6	1.7	4.3	2.1	5.0	--	--	--	--	4.5
Excess		-1.6	8.6	20.6	6.1	16.7	--	--	--	--	12.2
Inflation Hedge	1,089,238,584	1.8	-1.1	10.0	0.4	9.8	6.6	5.1	--	--	6.5
SamCERA Inflation Hedge Index		2.0	-1.1	10.3	-1.1	15.1	11.1	8.5	--	--	--
Excess		-0.2	-0.0	-0.3	1.5	-5.4	-4.5	-3.4	--	--	--
Real Estate	564,082,324	1.1	1.5	15.5	1.9	15.7	9.7	8.9	--	--	8.9
Samcera NCREIF ODCE (gross)		0.0	0.5	13.1	0.5	22.1	12.4	10.2	--	--	9.6
Excess		1.1	1.0	2.4	1.4	-6.4	-2.7	-1.4	--	--	-0.7
Invesco Core Real Estate	318,286,498	1.4	1.4	19.7	2.1	19.7	11.1	9.7	9.3	10.6	8.3
Samcera NCREIF ODCE (gross)		0.0	0.5	13.1	0.5	22.1	12.4	10.2	9.8	10.9	8.6
Excess		1.4	0.9	6.6	1.6	-2.4	-1.3	-0.6	-0.5	-0.3	-0.2
Invesco US Val IV	1,347,468	-38.0	-38.0	-37.7	-41.4	-37.7	-10.3	-1.0	--	--	2.2
Samcera NCREIF ODCE (gross)		0.0	0.5	13.1	0.5	22.1	12.4	10.2	--	--	10.0
Excess		-38.0	-38.6	-50.8	-42.0	-59.8	-22.7	-11.2	--	--	-7.8
Invesco Value-Add Fund	16,563,296	0.0	--	--	--	--	--	--	--	--	0.0
Samcera NCREIF ODCE (gross)		0.0	--	--	--	--	--	--	--	--	0.5
Excess		0.0	--	--	--	--	--	--	--	--	-0.5
PGIM Real Estate US Debt Fund	75,577,467	0.5	1.7	4.6	2.0	5.4	5.2	5.4	--	--	5.1
Samcera NCREIF ODCE (gross)		0.0	0.5	13.1	0.5	22.1	12.4	10.2	--	--	10.0
Excess		0.5	1.2	-8.5	1.4	-16.7	-7.1	-4.8	--	--	-4.9
Invesco US VAL V	30,297,027	0.1	0.1	8.9	0.7	8.9	13.1	--	--	--	10.9
Samcera NCREIF ODCE (gross)		0.0	0.5	13.1	0.5	22.1	12.4	--	--	--	--
Excess		0.1	-0.4	-4.2	0.2	-13.2	0.7	--	--	--	--
Harrison Street Core Property	98,037,910	2.2	2.2	13.1	1.1	13.1	--	--	--	--	8.2
Samcera NCREIF ODCE (gross)		0.0	0.5	13.1	0.5	22.1	--	--	--	--	12.5
Excess		2.2	1.7	0.0	0.6	-9.0	--	--	--	--	-4.4
Stockbridge Value IV	23,972,658	-0.1	9.0	29.0	9.0	31.1	--	--	--	--	11.0



San Mateo County Composite Return Summary

October 31, 2022



Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Samcera NCREIF ODCE (gross)		0.0	0.5	13.1	0.5	22.1	--	--	--	--	22.3
Excess		-0.1	8.4	15.9	8.4	9.1	--	--	--	--	-11.3
Public Real Assets	294,277,749	4.5	-4.3	2.0	-1.0	2.2	1.8	0.8	--	--	--
SamCera Liquid Real Asset Inde		4.5	-4.5	1.4	-1.2	1.8	6.0	4.0	--	--	6.4
Excess		0.0	0.2	0.6	0.2	0.5	-4.2	-3.2	--	--	--
SSGA CST REAL ASSET NL	294,277,749	4.5	-4.3	2.0	-1.0	2.2	6.0	4.0	--	--	--
SamCera Liquid Real Asset Inde		4.5	-4.5	1.4	-1.2	1.8	6.0	4.0	--	--	5.5
Excess		0.0	0.2	0.6	0.2	0.5	-0.0	0.0	--	--	--
Private Real Assets	230,878,511	0.1	-2.0	10.2	-0.4	6.9	13.3	5.4	--	--	10.1
SamCERA Private Real Asset Idx		4.0	-2.0	11.2	-5.4	11.6	8.8	8.0	--	--	11.5
Excess		-3.9	0.0	-1.0	5.0	-4.7	4.5	-2.6	--	--	-1.4
Liquidity	503,161,163	0.2	-0.0	--	0.1	--	--	--	--	--	0.1
Liquidity Composite Benchmark		-0.0	-1.0	--	-0.7	--	--	--	--	--	-0.7
Excess		0.2	1.0	--	0.8	--	--	--	--	--	0.8
Cash Flow - Match Liquidity	323,517,618	0.2	-0.5	--	-0.4	--	--	--	--	--	-0.4
BBG US Agg Govt Credit 1-3		-0.1	-2.1	--	-1.6	--	--	--	--	--	-1.6
Excess		0.3	1.6	--	1.2	--	--	--	--	--	1.2
Insight Investment	258,669,374	-0.0	-1.6	--	-1.6	--	--	--	--	--	-1.6
BBG US Credit 1-3 Yrs		-0.2	-2.3	--	-1.5	--	--	--	--	--	-1.5
Excess		0.2	0.7	--	-0.1	--	--	--	--	--	-0.1
County Treasury Pool	64,848,243	0.5	0.5	1.0	0.5	1.0	1.2	1.5	1.3	1.2	2.5
91 Day T-Bill		0.2	0.6	0.8	0.6	0.8	0.6	1.2	1.0	--	--
Excess		0.3	-0.1	0.2	-0.1	0.2	0.6	0.4	0.4	--	--
Cash & Cash Overlay	179,643,545	0.3	0.6	--	0.8	--	--	--	--	--	--
ICE BofAML US 3-Month Treasury Bill		0.2	0.6	0.8	0.6	0.8	--	--	--	--	0.4
Excess		0.1	0.1	--	0.2	--	--	--	--	--	--



San Mateo County Composite Return Summary

October 31, 2022



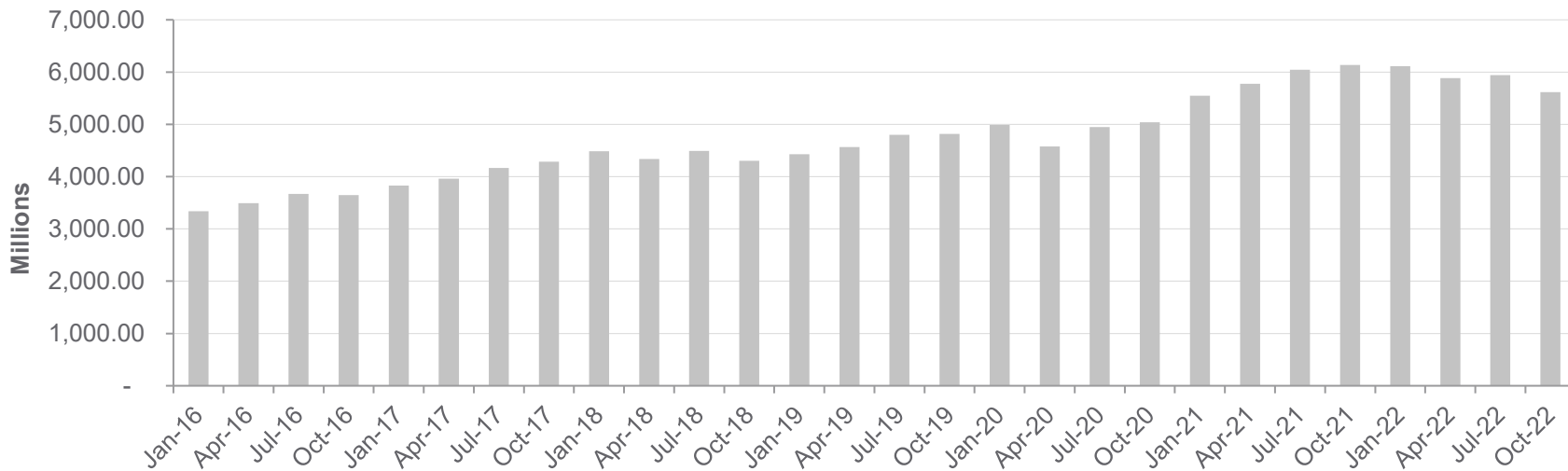
Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
General Account	126,490,408	0.3	0.7	0.9	0.8	0.9	0.6	1.2	1.1	0.8	1.8
Transition Account	13,139	--	--	--	--	--	--	--	--	--	--
Cash Overlay	21,928,531	0.2	0.3	0.2	0.5	-0.0	--	--	--	--	0.1
Currency Hedge Cash Overlay	31,211,467	0.3	0.6	0.7	0.7	0.7	--	--	--	--	0.3
<hr/>											
San Mateo County Overlay	5,615,050,832	2.3	-4.5	-9.3	-1.7	-8.6	4.6	4.7	6.1	7.0	6.5
Samcera Total Plan Benchmark		3.4	-4.3	-10.0	-1.3	-8.8	4.9	5.3	6.6	7.3	6.8
Excess		-1.1	-0.2	0.7	-0.4	0.1	-0.3	-0.6	-0.5	-0.4	-0.3



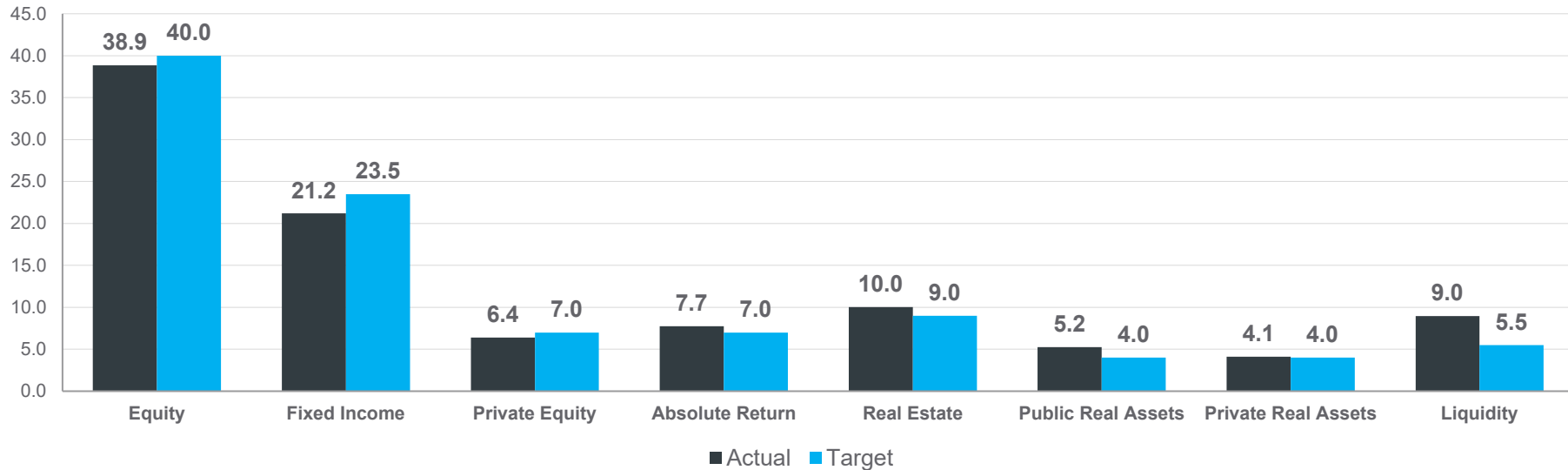
Record of Asset Growth

	Three Months	One Year
TOTAL FUND		
Beginning Market Value	5,940,206,629	6,133,995,482
Contributions	17,420,421	297,835,624
Withdrawals	-77,983,152	-294,321,241
Income Received	26,720,313	96,501,544
Gain/Loss	-291,205,818	-618,488,725
Ending Market Value	5,615,050,832	5,615,050,832

Net Asset Values Over Time (\$000)

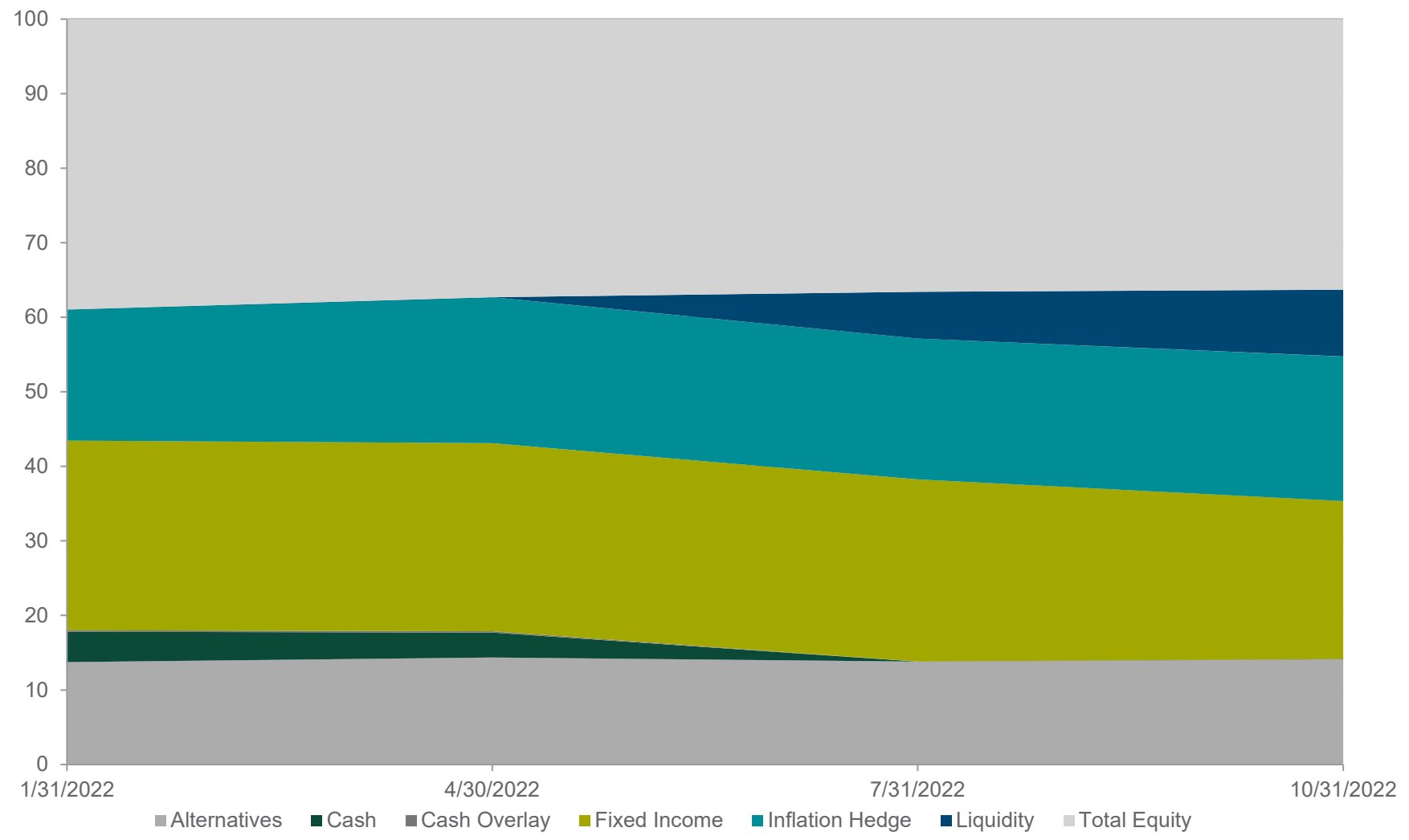


Actual vs Target Weights

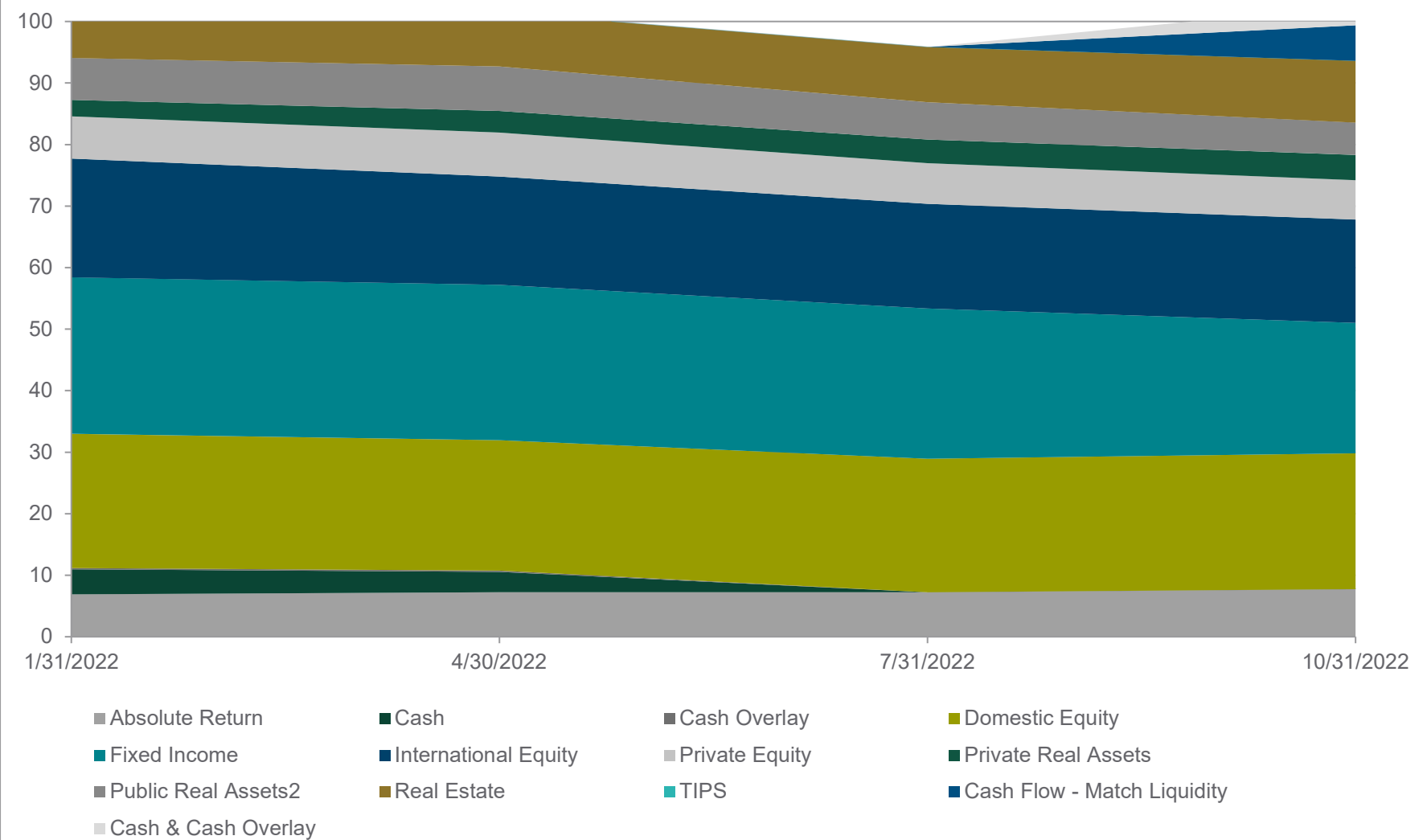


	Min	Actual	Target	Deviation	Max
Equity	37.0	38.9	40.0	-1.1	43.0
Fixed Income	21.5	21.2	23.5	-2.3	25.5
Private Equity	5.0	6.4	7.0	-0.6	9.0
Absolute Return	5.0	7.7	7.0	0.7	9.0
Real Estate	7.0	10.0	9.0	1.0	11.0
Public Real Assets	2.0	5.2	4.0	1.2	6.0
Private Real Assets	2.0	4.1	4.0	0.1	6.0
Liquidity		9.0	5.5	3.5	

Asset Allocation over Time



Sub-Asset Class Allocation Over Time



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SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 6.2

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer



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

Recommendation

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

Discussion

The 3rd quarter net total return for the SamCERA portfolio was -4.0%, which was higher than the policy benchmark return of -4.6%. As can be seen on Page 20 and 21, alternatives (private equity and absolute return) and private real assets were the main contributors of performance, while public equity (international equity) was the main detractor.

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

Attachment

Verus Quarterly Performance Report Ending 9/30/2022



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: SEPTEMBER 30, 2022

Investment Performance Review for

San Mateo County Employees' Retirement Association

Table of Contents



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CHICAGO 312.815.5228

PITTSBURGH 412.784.6678

LOS ANGELES 310.297.1777

SAN FRANCISCO 415.362.3484

Market Environment

TAB I

Alternatives

TAB VI

Total Fund

TAB II

Inflation Hedge

TAB VII

US Equity

TAB III

Appendix

TAB VIII

International Equity

TAB IV

Fixed Income

TAB V

3rd quarter summary

THE ECONOMIC CLIMATE

- U.S. real GDP fell in Q2 for a second consecutive quarter, down -0.6% annualized (+1.6% over the past full year). Forecasts suggest a potential growth turnaround in the third quarter; the Atlanta Fed GDPNow forecast indicated a growth rate of 2.8% and economists expected 0.9% as of October 14th.
- The U.S. dollar delivered an impressive rally year-to-date, appreciating approximately 15% relative to major currencies. A stronger dollar may result in slowing U.S. exports as domestic goods become more expensive to foreign buyers, and lower inflation as American businesses and households are able to purchase foreign goods at cheaper prices.

PORTFOLIO IMPACTS

- September inflation figures conveyed two stories: first, U.S. core CPI (excludes food & energy) remained elevated, rising 0.6% during the month to a new 40-year high of 6.6% year-over-year; second, headline inflation (includes all prices) continued to show another more moderate monthly print of 0.4% but remained high at 8.2% year-over-year.
- Credit performance was mixed during Q3, with lower duration exposures faring better than higher duration. Fears of a looming recession remained as the Fed's 75 basis point rate hikes in both July and September reinforced its intention to fight inflation until the "job is done."

THE INVESTMENT CLIMATE

- The Russia Ukraine war may be taking a turn, as Ukraine's counteroffensive gains steam. In a rare admission, Russia's Defense Ministry spokesman Igor Konashenkov acknowledged recent defeats: "With numerically superior tank units in the direction of Zolota Balka and Oleksandrivka, the enemy managed to forge deep into our defenses."
- The broad market selloff increased in intensity as global central banks hiked interest rates, effectively withdrawing liquidity from the financial system. Higher interest rates and central bank balance sheet winddowns mark a major change from the liquidity-driven environment of the past decade.

ASSET ALLOCATION ISSUES

- Markets year-to-date have delivered sharp losses across nearly every asset class, including double digit losses of core fixed income (Bloomberg US Aggregate Bond -10.8%). Historically speaking, these moves have been highly unusual and reflect an environment where diversification has not served investors well.
- Growth stocks outperformed value stocks during the quarter (Russell 1000 Growth -3.6% vs Russell 1000 Value - 5.6%), and small capitalization stocks outperformed large capitalization stocks (Russell 2000 -2.2%, Russell 1000 -4.7%).

The broad market selloff has increased in severity, as central banks remove liquidity from the global financial system

U.S. economics summary

- U.S. real GDP fell in Q2 for a second consecutive quarter, down -0.6% annualized (+1.6% over the past full year). Forecasts suggest a potential growth turnaround in the third quarter; the Atlanta Fed GDPNow forecast indicated a growth rate of 2.8% and economists expected 0.9% as of October 14th.
- U.S. core CPI remained elevated in September, rising 0.6% during the month to a new 40-year high of 6.6% year-over-year. Headline inflation continued to show another more moderate monthly print of 0.4% but remained high at 8.2% year-over-year.
- Unemployment fell slightly from 3.6% in June to 3.5% in September, which did not reflect an increase in employment but rather the departure of some Americans from the job market altogether. Weekly initial jobless claims—a measure of the number of workers who filed for unemployment during any given week—moved higher during Q2 to 244,000 in early July but has since fallen to 193,000 in late September.
- The U.S. dollar has appreciated roughly 15% relative to major currencies. A stronger dollar may result in slowing U.S. exports as domestic goods become more expensive to foreign buyers, and lower inflation as American businesses and households are able to purchase foreign goods at cheaper prices.
- Coverage of COVID-19 has tended to focus on the health impacts in a binary way: either the infected individual recovers (and lives) or does not recover (and is deceased). There is a growing body of research by medical experts that suggests a significant portion of survivors face longer-term, often severe, health problems. These issues are known as “long COVID” and may be the primary cause for a severe shrinking of the U.S. labor force.

	Most Recent	12 Months Prior
Real GDP (YoY)	1.6% 6/30/22	12.5% 6/30/21
Inflation (CPI YoY, Core)	6.6% 9/30/22	4.0% 9/30/21
Expected Inflation (5yr-5yr forward)	2.1% 9/30/22	2.2% 9/30/21
Fed Funds Target Range	3.00% – 3.25% 9/30/22	0.00% – 0.25% 9/30/21
10-Year Rate	3.83% 9/30/22	1.49% 9/30/21
U-3 Unemployment	3.5% 9/30/22	4.7% 9/30/21
U-6 Unemployment	6.7% 9/30/22	8.5% 9/30/21

International economics summary

- Economic growth expectations continue to weaken around the world, and recession appears possible in some developed countries. High inflation has placed central banks in a corner, requiring a choice between tightening (lower inflation with possible recession) or accommodation (stronger economic activity with possibly continued high inflation).
- Multi-decade high inflation continues to spread across Europe, as consumer prices in September rose 10% from the prior year. Food and energy were major drivers, although the core inflation number is also elevated at 4.8%. Inflation remains a challenge in Europe and the U.S., as prices have been relatively stable in the Asia-pacific region.
- Unemployment rates have been stable and tight in most markets, though this may now be seen as a problem as central bankers work to slow economies and weaken labor markets in order to fight inflation.
- The Russia Ukraine war may be taking a turn, as Ukraine’s counteroffensive gains steam. In a rare admission, Russia’s Defense Ministry spokesman Igor Konashenkov acknowledged recent defeats: “With numerically superior tank units in the direction of Zolata Balka and Oleksandrivka, the enemy managed to forge deep into our defenses.”
- Still dealing with the highest inflation seen in four-decades, the U.K. economy continues to struggle, especially as the Bank of England tightens economic conditions in the face of a recession. The situation worsened following newly elected Prime Minister Liz Truss’ new growth plan announcement, which introduced a large tax cut initiatives without additional funding sources secured.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	1.8% 6/30/22	8.2% 9/30/22	3.5% 9/30/22
Eurozone	4.1% 6/30/22	10.0% 9/30/22	6.6% 8/31/22
Japan	1.6% 6/30/22	2.8% 9/30/22	2.5% 8/31/22
BRICS Nations	1.9% 6/30/22	4.5% 9/30/22	5.2% 12/31/21
Brazil	3.2% 6/30/22	7.2% 9/30/22	8.9% 8/31/22
Russia	(4.1)% 6/30/22	13.7% 9/30/22	3.8% 8/31/22
India	13.5% 6/30/22	7.4% 9/30/22	6.4% 9/30/22
China	0.4% 6/30/22	2.8% 9/30/22	5.3% 8/31/22

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

- Equity markets saw further losses during Q3, extending the selloff deeper into bear market territory. Emerging market equities (MSCI Emerging Markets -11.6%) experienced the greatest drawdown, on an unhedged currency basis, followed by international developed (MSCI EAFE -9.4%) and domestic equities (S&P 500 -4.9%).
- Many markets now trade at valuation levels below their historical average. According to FactSet, the S&P 500 sat at a forward price/earnings of 15.4 as of September 30th, below the five-year average of 18.6 and 10-year average of 17.1. Interestingly, earnings expectations have been fairly resilient at 7.4% for calendar year 2022 and 7.9% for 2023.
- Investors with unhedged foreign currency exposure have seen extreme losses recently. A U.S. investor with an international developed equity investment

(MSCI EAFE) suffered a loss of -15.7% over the past year from currency movements. Investors in non-US equity (MSCI ACWI ex-US) saw a -12.0% loss. Currency risk is typically the second largest risk in institutional portfolios and is not expected to be compensated over the long term. We continue to believe that more forward-thinking currency solutions can materially improve portfolio outcomes.

- Value stocks underperformed growth stocks mildly during the quarter (Russell 1000 Value -5.6% vs Russell 1000 Growth -3.6%), and small capitalization stocks outperformed large capitalization stocks (Russell 2000 -2.2%, Russell 1000 -4.7%).
- Volatility remained elevated as the Cboe VIX Index rose further from 28.7% to 31.6%. Risk assets sold-off on concerns of Federal Reserve tightening and liquidity being broadly removed from the global financial system.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	(4.9%)		(15.5%)	
U.S. Small Cap (Russell 2000)	(2.2%)		(23.5%)	
U.S. Equity (Russell 3000)	(4.5%)		(17.6%)	
U.S. Large Value (Russell 1000 Value)	(5.6%)		(11.4%)	
US Large Growth (Russell 1000 Growth)	(3.6%)		(22.6%)	
Global Equity (MSCI ACWI)	(6.8%)	(4.6%)	(20.7%)	(15.9%)
International Large (MSCI EAFE)	(9.4%)	(2.8%)	(25.1%)	(9.4%)
Eurozone (Euro Stoxx 50)	(9.8%)	(3.1%)	(28.9%)	(14.1%)
U.K. (FTSE 100)	(10.6%)	(2.3%)	(16.5%)	1.8%
Japan (NIKKEI 225)	(7.2%)	0.2%	(31.0%)	(8.5%)
Emerging Markets (MSCI Emerging Markets)	(11.6%)	(8.2%)	(28.1%)	(22.5%)

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 9/30/22

Domestic equity

U.S. equities experienced further losses during the quarter (S&P 500 -4.9%), while outperforming international (MSCI EAFE -9.4%) and emerging markets (MSCI Emerging Markets -11.6%).

Earnings expectations have been fairly resilient at 7.4% for calendar year 2022 and 7.9% for 2023, though these forecasts have been consistently revised lower for three consecutive quarters. The energy sector continues to lift the earnings growth of the S&P 500, as overall growth would have been negative in recent quarters if energy sector profits were excluded. According to corporate earnings calls, an increasing number of

businesses reported labor costs & shortages as a significant issue, followed by supply chain disruptions & costs, and FX movement. During Q2, businesses with more than 50% of revenues from outside of the U.S. generated 13.3% earnings growth, while those with less than 50% of revenues from outside the U.S. saw only a 2.1% growth rate.

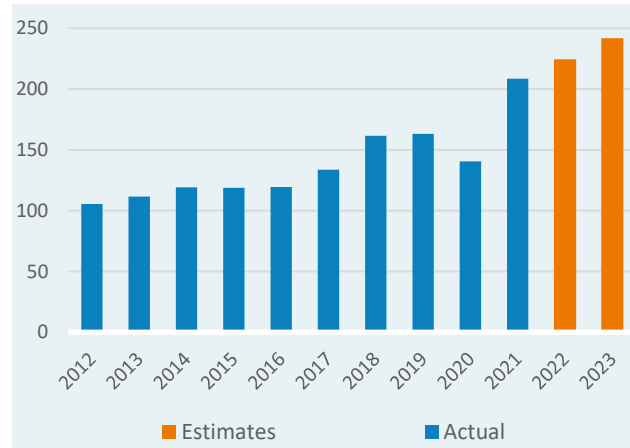
Sector performance during Q3 was disparate. Consumer discretionary (4.4%) and energy (2.3%) sectors lifted the overall index while all other sectors were in the red.

S&P 500 PRICE INDEX



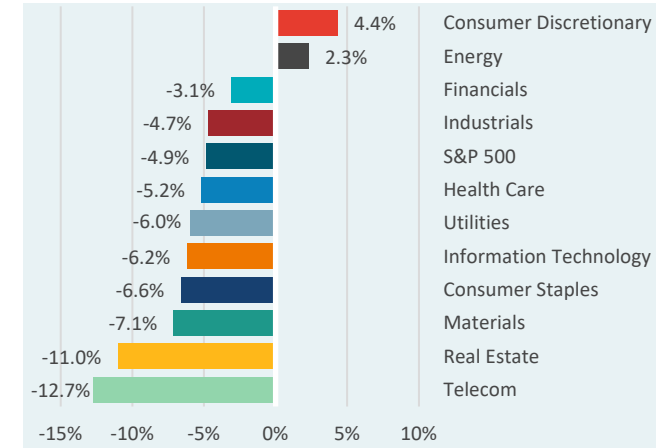
Source: Standard & Poor's, as of 9/30/22

S&P BOTTOM-UP EARNINGS & ESTIMATES



Source: FactSet, as of 9/30/22

Q3 SECTOR PERFORMANCE



Source: Morningstar, as of 9/30/22

Domestic equity size & style

Reversing the trend from last quarter, growth stocks outperformed value stocks, although the divergence was relatively mild (Russell 1000 Growth -3.6% vs. Russell 1000 Value -5.6%). Growth outperformed despite struggles within the Telecommunications and Information Technology sectors (-12.7% and -6.2%), fueled by positive returns from Consumer Discretionary +4.4% (with Amazon and Tesla being the largest weights).

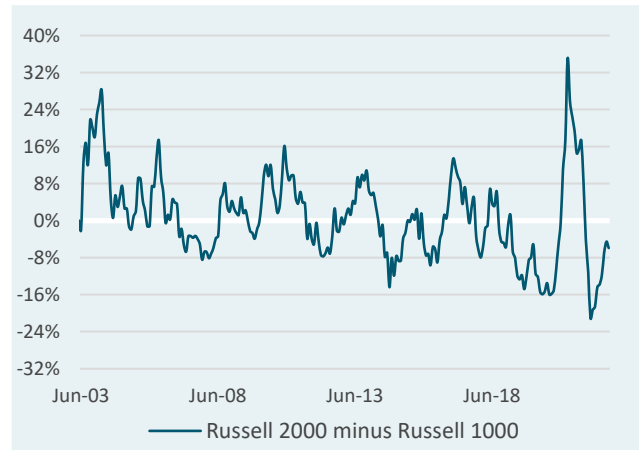
Despite this quarter, value has outperformed significantly over the past year. The Russell 1000 Value Index is down -17.8%, while the growth equivalent has lost -30.7%. With the Federal

Reserve continuing to tighten conditions and hike rates, companies with cash flows further out in the future (those with higher durations) have seen larger negative impacts to their multiples.

Looking at size, small capitalization stocks outperformed large capitalization stocks (Russell 2000 -2.2%, Russell 1000 -4.7%), diverging from the trend seen in the second quarter of 2022.

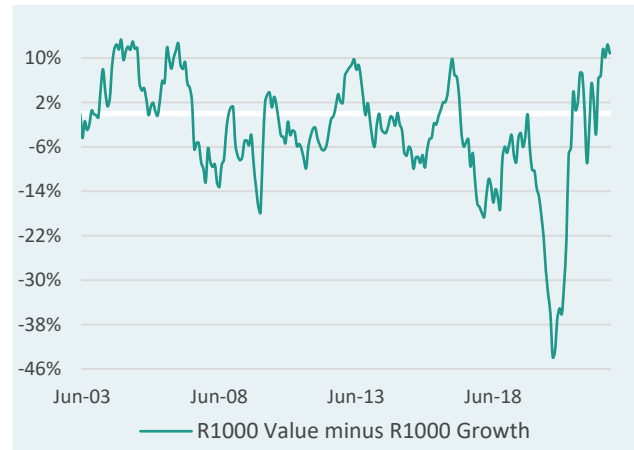
Domestic equities have continued to be challenged regardless of size and style, as investors weigh the impacts of a tighter economic environment on company earnings.

SMALL CAP VS LARGE CAP (YOY)



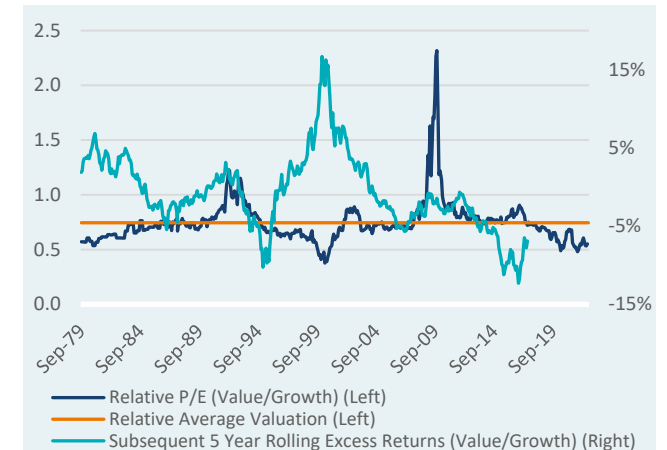
Source: FTSE, as of 9/30/22

VALUE VS GROWTH (YOY)



Source: FTSE, as of 9/30/22

VALUE VS. GROWTH RELATIVE VALUATIONS



Source: Standard & Poor's, as of 9/30/22

International developed equity

International developed equities fell alongside the global opportunity set in the third quarter. The MSCI EAFE Index dropped -9.4% in U.S. dollar terms, although most of those losses can be attributed to currency impacts, with hedged returns only experiencing a -2.8% loss. The Federal Reserve continues to set the tone for global central bank rate hikes, which has pushed the dollar higher.

Looking at sub-regional performance, Japanese equities were the best performing markets in local terms, being one of the few asset classes with positive Q3 return (+0.2%). Despite strong local returns, diverging rate policy between the BOJ

and Federal Reserve has crushed the Japanese yen, resulting in a seven percent spread between hedged and unhedged equity outcomes.

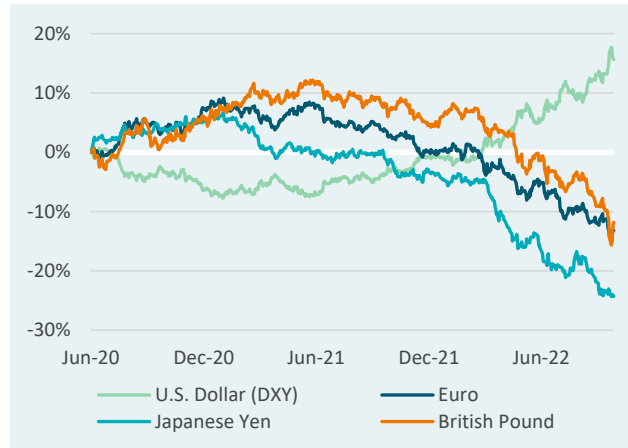
European equities also saw losses over the quarter, although local returns were strong relative to U.S. and Emerging market equities. The flash crash of the British pound had a material impact on FTSE 100 performance in U.S. dollar terms, with U.K. equities closing the quarter down -10.6%, lagging the broader European benchmark (Euro Stoxx 50 - 9.8%)

INTERNATIONAL DEVELOPED EQUITY



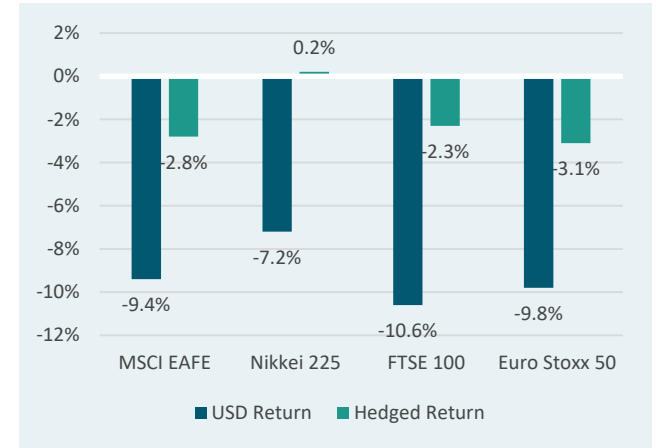
Source: MSCI, as of 9/30/22

FX MOVEMENTS RELATIVE TO THE U.S. DOLLAR



Source: Bloomberg, as of 9/30/22

Q3 2022 SUBREGIONAL INDEX RETURNS



Source: MSCI, STOXX, FTSE, Nikkei, as of 9/30/22

Emerging market equity

Emerging market equities fell during the third quarter, dragged lower by a steep Chinese equity bear market (-22.5%). The MSCI EM index ended the quarter down -11.6% in U.S. dollar terms, bringing one-year total losses to -28.1%. A strong dollar had a -3.4% impact in the third quarter; significant, but not to the same extent seen in the International developed space.

Growing risks of a global recession hit equities across the board, though emerging markets have suffered more than their developed counterparts. China faces its own set of

unique problems, including the continuation of its zero-COVID policy, a property crisis, and geopolitical risks with Taiwan (though we view an invasion as highly unlikely). Despite these headwinds, the People's Bank of China is one of the few central banks implementing accommodative policy, which should provide a tailwind to the local economy.

Performance variability has significantly changed some country weights. China's weight in the index fell by 3.7%, while India moved up 2.6%, replacing Taiwan as the second largest weight.

EMERGING MARKET EQUITY



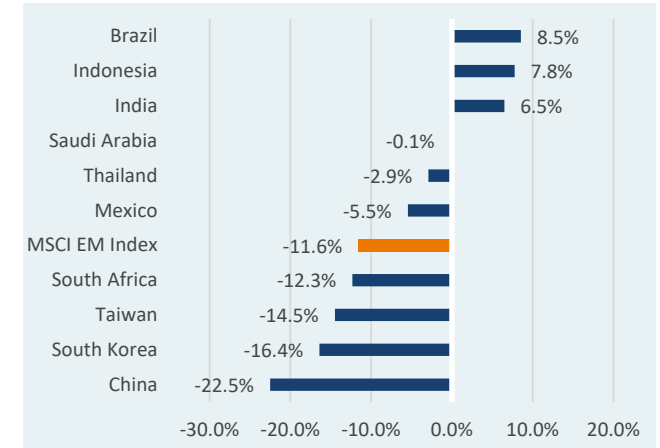
Source: MSCI, as of 9/30/22

MSCI EM INDEX TOP 10 COUNTRY WEIGHTS

Country	9/30/2022	6/30/2022	Rank Change
1. China	29.5%	33.2%	
2. India	15.3%	12.7%	↑
3. Taiwan	13.7%	14.3%	↓
4. South Korea	10.6%	11.3%	
5. Brazil	5.8%	4.9%	
6. Saudi Arabia	4.8%	4.3%	
7. South Africa	3.4%	3.5%	
8. Mexico	2.2%	2.1%	
9. Indonesia	2.2%	1.8%	
10. Thailand	2.1%	1.9%	

Source: Bloomberg, MSCI as of 9/30/22

Q3 2022 MSCI COUNTRY RETURNS (USD)



Source: Bloomberg, MSCI as of 9/30/22, performance in USD terms

Fixed income environment

- The 10-year U.S. Treasury yield rose materially from 2.89% to 3.83% as the Federal Reserve reaffirmed its aggressive stance and markets questioned whether interest rates might be held at higher levels for longer than previously anticipated.
- Credit performance was mixed over Q3 with lower duration exposures faring better than higher duration exposures. Fears of a looming recession remained as the Fed’s 75 basis point rate hikes in July and September reinforced its intention to fight inflation until the “job is done.” Leveraged loans performed the best, returning 1.2%, followed by high yield credit and investment grade credit which returned -0.6% and -4.9%, respectively.
- Default activity continued to pick up in the third quarter with seven companies defaulting on loans and bonds totaling \$16.5 billion. This was the highest quarterly total seen since the second quarter of 2020.

Activity represented a significant jump from the \$1.6 billion and \$10.4 billion shown in Q1 and Q2, respectively.

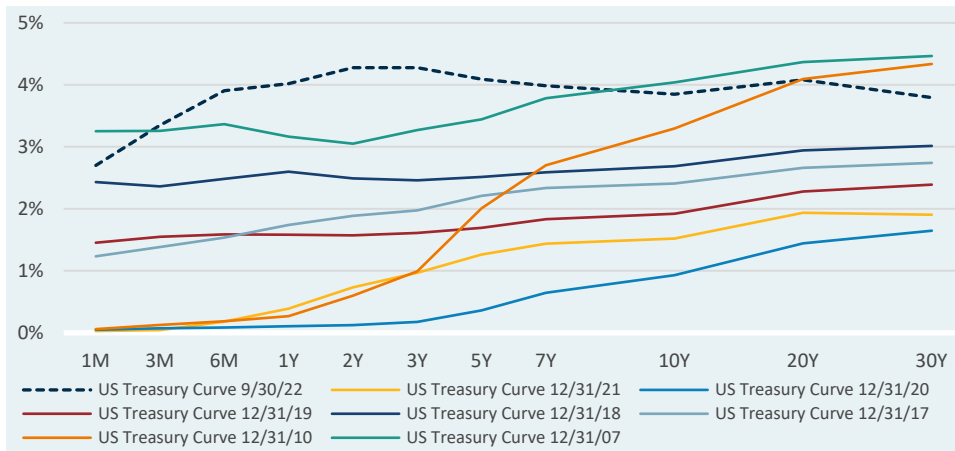
- The U.S. Yield Curve inverted during the quarter, with the 10-year 2-year spread falling from 0.1% to -0.4%. An inverted curve has historically suggested recession within two years or so.
- Throughout the third quarter, the Federal Reserve continued its path to reduce the balance sheet, beginning in June with the paced redemption of maturing securities. The initial June monthly redemption caps of \$30 billion for Treasuries and \$17.5 billion for agency MBS were increased to \$60 billion and \$35 billion in September. Markets have seemingly digested the reduction well, although the total drawdown has been relatively small so far, around \$200 billion against the peak size of \$8.97 trillion in April 2022.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	(4.8%)	(14.6%)
Core Plus Fixed Income (Bloomberg U.S. Universal)	(4.5%)	(14.9%)
U.S. Treasuries (Bloomberg U.S. Treasury)	(4.3%)	(12.9%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	(0.6%)	(14.1%)
Bank Loans (S&P/LSTA Leveraged Loan)	(1.4%)	(2.5%)
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	(4.7%)	(20.6%)
Emerging Market Debt Hard (JPM EMBI Global Diversified)	(4.6%)	(24.3%)
Mortgage-Backed Securities (Bloomberg MBS)	(5.3%)	(9.0%)

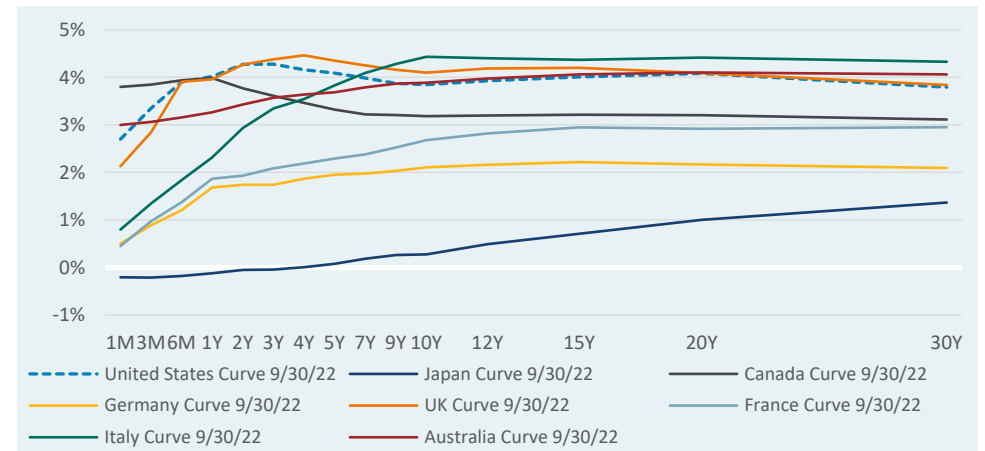
Source: Bloomberg, as of 9/30/22

Yield environment

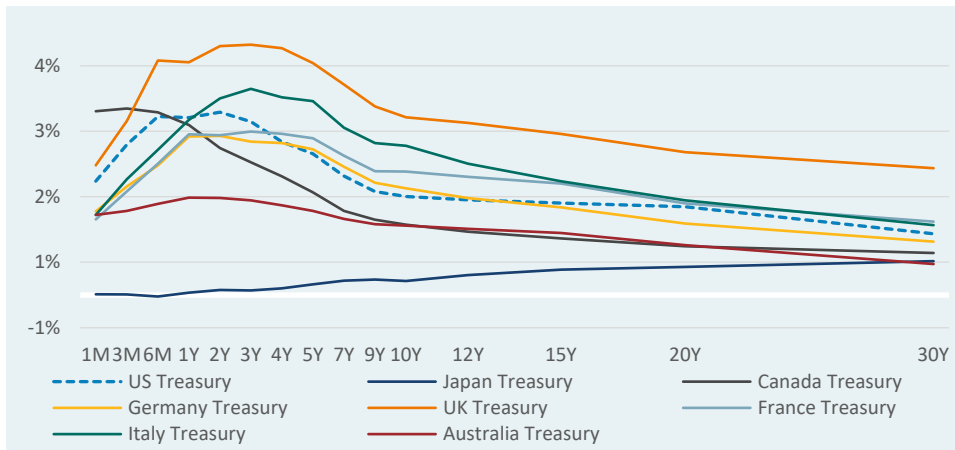
U.S. YIELD CURVE



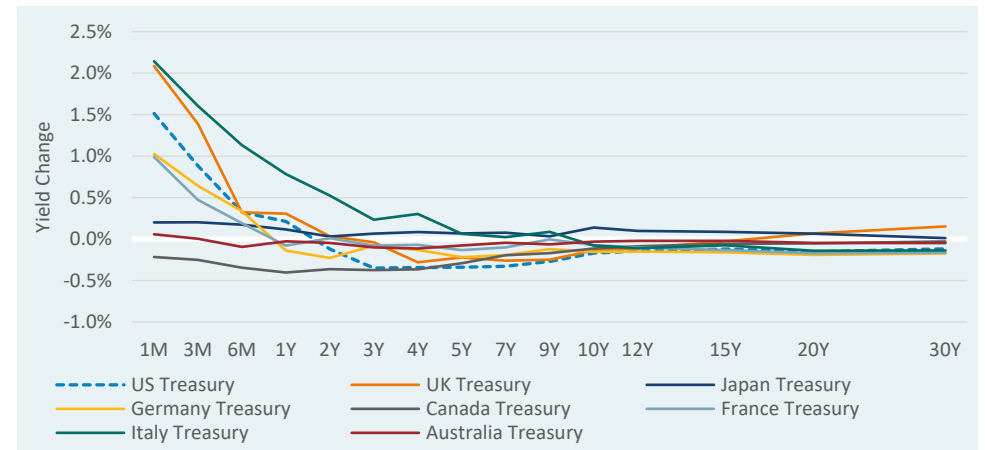
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/22

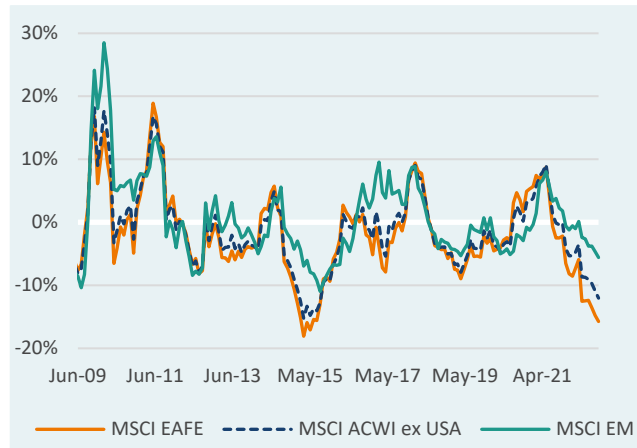
Currency

Investors with unhedged foreign currency exposure have seen extreme losses over recent periods. For example, a U.S. investor with an international developed equity investment (MSCI EAFE) suffered a loss of -15.7% over the past year *just from currency movements*. An investor in non-US equity (MSCI ACWI ex-US) would have seen a -12.0% loss. Currency risk is typically the second largest risk in institutional portfolios, and is not expected to be compensated over the long term.

We continue to believe that forward-thinking currency solutions can materially improve portfolio outcomes. Specifically, a currency program may allow an investor to reduce their portfolio risk while also increasing the

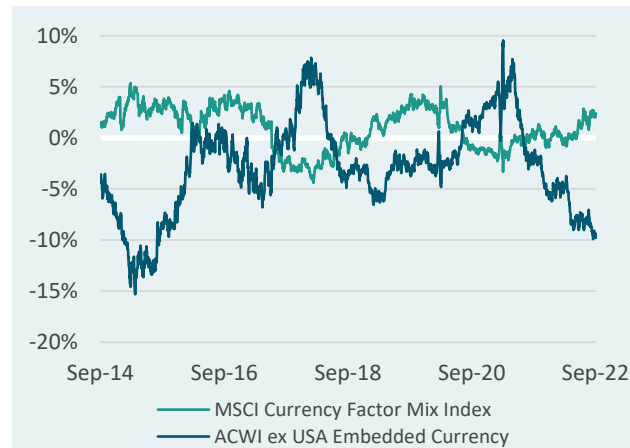
expected return of the portfolio. These characteristics are demonstrated below by comparing the unhedged currency exposure that most investors own (we refer to this as “embedded” currency) to the MSCI Currency Factor Mix Index which represents a passive investment in the currency market. This program aims to systematically capture the *return premia* within currency markets. Over the past 10 years, an unhedged exposure to foreign currencies has resulted in 5.8% portfolio volatility and a return of -4.4% per year. Meanwhile, a passive allocation the MSCI Currency Factor Mix Index has resulted in less than half of that volatility (2.5%) and with an average return of +1.2% per year.

EFFECT OF CURRENCY (1-YEAR ROLLING)



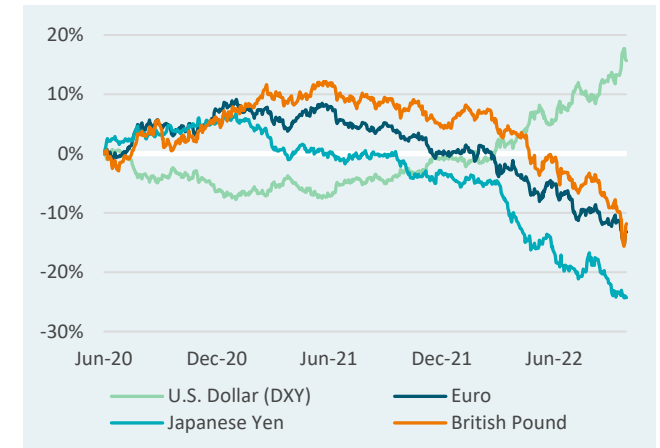
Source: MSCI, as of 9/30/22

UNHEDGED CURRENCY VS CURRENCY FACTOR MIX



Source: MSCI, as of 9/30/22

FOREIGN CURRENCY MOVEMENT



Source: Bloomberg, as of 9/30/22

- The Total Fund, net of manager fees, returned -4.0% in the third quarter of 2022 and ranked in the 49th percentile among other public plans greater than \$1 billion (median of -4.0%). It beat the policy index return of -4.6%. The Total Fund ex Overlay returned -3.9% for the quarter. The Total Fund one-year return of -9.2% beat the policy index return of -9.9% and ranked in the 31st percentile of its peer universe. The three-year return of 4.0% (68th percentile) lagged the median large public plan (4.7%) and the policy index (4.2%).

- Third quarter results were enhanced by the following factors:
 1. The absolute return portfolio continues to produce uncorrelated alpha adding 4.6% as an asset class in Q3 during a time where equities and fixed income were both down sharply.
 2. Western TRU lost -3.8% beating the Bloomberg Aggregate which lost -4.8%. The strategy's TIPS exposure and yield curve positioning both contributed to outperformance versus the benchmark.

- Third quarter results were hindered by the following factors:
 1. Mondrian lost -13.9% trailing the MSCI ACWI ex US Value (-10.3%). An overweight to China hurt relative returns versus the MSCI ACWI ex US Value during Q3 as China was down 22.5% for the quarter (the worst performing EM country.)

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2022

	3 Mo (%)	Rank	YTD (%)	Rank*	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Fund**	-4.0	49	-11.5	16	-9.2	31	4.1	55	4.0	68	4.4	70	6.6	57
<i>Policy Index¹</i>	-4.6	66	-13.0	31	-9.9	40	3.3	61	4.2	62	4.9	59	6.9	53
<i>InvMetrics Public DB > \$1B Net Median</i>	-4.0		-14.4		-10.7		4.3		4.7		5.1		7.0	
Total Fund ex Overlay	-3.9	46	-11.3	15	-8.9	27	4.3	51	4.1	66	4.5	69	6.6	58
<i>Policy Index¹</i>	-4.6	66	-13.0	31	-9.9	40	3.3	61	4.2	62	4.9	59	6.9	53
<i>InvMetrics Public DB > \$1B Net Median</i>	-4.0		-14.4		-10.7		4.3		4.7		5.1		7.0	
Public Equity	-6.7	71	-23.2	13	-18.8	29	1.5	60	3.3	78	4.2	76	7.9	69
<i>Blended Public Equity Index¹</i>	-5.6	16	-23.1	12	-18.6	26	2.4	38	4.7	30	5.1	49	8.4	53
<i>InvMetrics All DB Total Eq Net Median</i>	-6.4		-25.1		-20.0		2.1		4.1		5.0		8.5	
US Equity	-4.5	44	-20.6	5	-13.0	4	5.9	31	6.5	67	7.7	59	10.7	51
<i>Blended US Equity Index¹</i>	-4.5	48	-24.6	60	-17.6	52	4.2	64	7.7	23	8.6	17	11.3	22
<i>Russell 3000</i>	-4.5	48	-24.6	60	-17.6	52	4.2	64	7.7	23	8.6	17	11.4	19
<i>InvMetrics All DB US Eq Net Median</i>	-4.5		-24.3		-17.6		5.0		7.1		7.9		10.7	
Large Cap Equity	-4.8	44	-20.9	44	-12.9	42	5.2	50	6.6	50	8.3	44	11.3	32
<i>Russell 1000</i>	-4.6	38	-24.6	62	-17.2	63	4.1	57	7.9	31	9.0	35	11.6	27
<i>eV US Large Cap Equity Net Median</i>	-5.1		-22.3		-15.0		5.1		6.5		7.9		10.5	
<i>Acadian US MGD V</i>	-5.5	62	-20.1	22	-10.7	19	3.8	60	2.1	97	--	--	--	--
<i>BlackRock Russell 1000</i>	-4.6	35	-24.6	67	-17.2	70	4.1	57	7.9	30	9.0	33	--	--
<i>DE Shaw</i>	-2.9	8	-21.5	34	-13.2	34	5.7	35	7.6	36	8.1	52	11.9	12
<i>PanAgora Defuseq</i>	-6.0	79	-12.9	3	-5.0	4	7.5	14	4.4	88	--	--	--	--
<i>Russell 1000</i>	-4.6	35	-24.6	67	-17.2	70	4.1	57	7.9	30	9.0	33	11.6	20
<i>eV US Large Cap Core Equity Net Median</i>	-5.1		-23.1		-15.5		4.6		7.0		8.2		10.7	

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

** Includes Parametric Minneapolis manager funded in August 2013.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2022

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Small Cap Equity	-2.3	34	-20.6	28	-16.7	37	13.1	36	4.0	71	2.3	85	7.2	88
<i>Russell 2000</i>	-2.2	31	-25.1	57	-23.5	67	6.3	67	4.3	67	3.6	67	8.6	67
<i>eV US Small Cap Equity Net Median</i>	-3.5		-23.8		-19.3		10.0		5.6		4.8		9.4	
PGIM Quant Solutions	-2.3	32	-20.6	18	-16.7	28	13.1	26	4.0	78	2.3	90	--	--
<i>Russell 2000</i>	-2.2	26	-25.1	61	-23.5	81	6.3	83	4.3	73	3.6	76	8.6	70
<i>eV US Small Cap Core Equity Net Median</i>	-3.3		-23.8		-19.3		9.7		6.2		5.4		9.5	
Domestic Equity Overlay	4.6	--	79.5	--	82.1	--	59.5	--	--	--	--	--	--	--
International Equity	-9.5	30	-26.3	25	-25.1	27	-3.3	36	-0.3	31	0.2	17	3.8	28
<i>Blended International Equity Index¹</i>	-6.9	5	-21.5	5	-19.8	4	0.3	8	1.1	8	0.9	10	4.3	18
<i>MSCI EAFE Gross</i>	-9.3	25	-26.8	36	-24.7	19	-2.5	26	-1.4	59	-0.4	27	4.2	19
<i>InvMetrics All DB ex-US Eq Net Median</i>	-10.0		-27.5		-26.5		-3.9		-1.2		-0.8		3.4	
Baillie Gifford	-8.9	53	-39.5	79	-38.8	79	-14.3	82	-1.9	67	-0.4	67	4.6	57
<i>MSCI ACWI ex US¹</i>	-9.8	78	-26.2	8	-24.8	11	-3.3	7	-1.1	60	-0.3	65	4.2	72
<i>MSCI ACWI ex US Growth¹</i>	-9.3	69	-31.6	34	-30.0	34	-9.4	47	-1.1	61	0.5	55	5.0	50
<i>eV ACWI ex-US Growth Equity Net Median</i>	-8.7		-35.3		-34.0		-9.7		-0.2		0.8		4.9	
Mondrian	-13.9	95	-24.4	65	-24.3	67	-1.8	79	-3.6	80	-2.5	55	2.1	78
<i>MSCI ACWI ex USA Value Gross</i>	-10.3	38	-20.5	17	-19.5	10	3.2	26	-1.5	55	-1.5	35	2.5	62
<i>MSCI ACWI ex USA Gross</i>	-9.8	29	-26.2	83	-24.8	70	-3.3	83	-1.1	48	-0.3	25	3.5	37
<i>eV ACWI ex-US Value Equity Net Median</i>	-11.0		-24.0		-23.6		1.0		-1.3		-2.1		3.0	
BlackRock MSCI ACWI EX-US IMI	-9.7	61	-26.7	36	-25.5	40	-3.3	36	--	--	--	--	--	--
<i>MSCI ACWI ex USA IMI</i>	-9.7	61	-26.9	39	-25.7	49	-3.6	39	-1.3	73	-0.8	75	3.2	83
<i>eV ACWI ex-US All Cap Core Eq Net Median</i>	-9.3		-28.6		-26.0		-3.8		-0.1		-0.1		4.3	
Int'l Equity Currency Overlay	-11.7	--	-26.1	--	-24.6	--	-10.8	--	--	--	--	--	--	--
International Equity Overlay	-11.7	--	-26.1	--	-24.6	--	-10.8	--	--	--	--	--	--	--

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2022

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Fixed Income	-3.6	47	-12.6	38	-12.3	36	-4.6	25	-1.2	22	0.8	20	2.3	12
<i>Blended Fixed Income Index¹</i>	-3.2	36	-14.0	55	-13.8	53	-6.2	53	-2.3	51	0.4	38	1.3	57
<i>InvMetrics All DB Total Fix Inc Net Median</i>	-3.7		-13.5		-13.6		-6.0		-2.3		0.1		1.4	
Core Fixed	-4.4	--	-14.6	--	-14.8	--	-7.6	--	-2.8	--	-0.3	--	1.3	--
<i>Bloomberg US Aggregate TR</i>	-4.8	--	-14.6	--	-14.6	--	-8.0	--	-3.3	--	-0.3	--	0.9	--
DoubleLine	-4.5	57	-14.8	94	-15.1	94	-8.2	97	--	--	--	--	--	--
<i>Bloomberg US Aggregate TR</i>	-4.8	63	-14.6	93	-14.6	90	-8.0	96	-3.3	66	-0.3	57	0.9	65
<i>eV US Securitized Fixed Inc Net Median</i>	-3.9		-11.3		-11.6		-5.2		-2.5		0.1		1.4	
FIAM Bond	-4.4	32	-14.5	46	-14.4	38	-7.2	25	-2.1	11	0.5	9	1.6	12
NISA Core Bond	-4.5	48	-14.2	33	-14.2	30	-7.8	50	--	--	--	--	--	--
<i>Bloomberg US Aggregate TR</i>	-4.8	73	-14.6	53	-14.6	52	-8.0	66	-3.3	74	-0.3	76	0.9	78
<i>eV US Core Fixed Inc Net Median</i>	-4.6		-14.6		-14.6		-7.8		-3.0		0.0		1.1	
Western TRU	-3.8	10	-14.7	61	-15.7	88	-6.6	9	-2.9	39	-0.9	99	--	--
<i>3-Month Libor Total Return USD</i>	0.8	1	1.4	1	1.5	1	0.8	1	0.9	1	1.5	1	1.0	66
<i>Bloomberg US Aggregate TR</i>	-4.8	73	-14.6	53	-14.6	52	-8.0	66	-3.3	74	-0.3	76	0.9	78
<i>eV US Core Fixed Inc Net Median</i>	-4.6		-14.6		-14.6		-7.8		-3.0		0.0		1.1	
Core Fixed Income Overlay	-6.2	--	-12.2	--	-11.0	--	-6.6	--	--	--	--	--	--	--
Opportunistic Credit	-2.3	--	-9.1	--	-7.9	--	1.2	--	1.6	--	2.8	--	5.5	--
<i>Bloomberg BA Intermediate HY</i>	-0.6	--	-13.3	--	-12.7	--	-2.7	--	-0.2	--	1.8	--	3.0	--
AG CSF II ⁺	-2.4	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Bloomberg BA Intermediate HY</i>	-0.6	--	-13.3	--	-12.7	--	-2.7	--	-0.2	--	1.8	--	3.0	--
Angelo Gordon Opportunistic ⁺	6.9	--	1.0	--	15.5	--	20.8	--	8.9	--	13.3	--	--	--
<i>Bloomberg US Aggregate TR</i>	-4.8	--	-14.6	--	-14.6	--	-8.0	--	-3.3	--	-0.3	--	0.9	--

* Funded February 2022

⁺ Preliminary return as of 9/30/2022.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2022

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Angelo Gordon Credit Solutions+	-1.8	98	-5.2	4	-2.6	3	13.0	1	--	--	--	--	--	--
<i>Bloomberg BA Intermediate HY</i>	-0.6	59	-13.3	44	-12.7	47	-2.7	73	-0.2	46	1.8	36	3.0	86
<i>eV US High Yield Fixed Inc Net Median</i>	-0.5		-13.5		-12.9		-1.9		-0.3		1.5		3.6	
Beach Point Select	-2.8	99	-8.4	19	-4.5	5	7.3	2	6.4	1	6.2	1	--	--
<i>Bloomberg BA Intermediate HY</i>	-0.6	59	-13.3	44	-12.7	47	-2.7	73	-0.2	46	1.8	36	3.0	86
<i>eV US High Yield Fixed Inc Net Median</i>	-0.5		-13.5		-12.9		-1.9		-0.3		1.5		3.6	
Brigade Capital	-2.7	99	-10.0	25	-8.7	21	5.5	3	3.2	3	3.0	8	4.2	16
<i>Bloomberg BA Intermediate HY</i>	-0.6	59	-13.3	44	-12.7	47	-2.7	73	-0.2	46	1.8	36	3.0	86
<i>50% Barclays HY/ 50% Bank Loan</i>	0.3	16	-9.1	21	-8.5	20	0.3	19	0.9	23	2.3	17	3.8	31
<i>eV US High Yield Fixed Inc Net Median</i>	-0.5		-13.5		-12.9		-1.9		-0.3		1.5		3.6	
PIMCO Diversified	-2.5	99	-17.7	99	-17.6	99	-7.1	99	-3.6	99	-0.2	99	--	--
<i>Blended PIMCO Diversified Index¹</i>	-3.0	99	-17.5	99	-17.3	99	-6.9	99	-3.4	99	-0.2	99	2.4	98
<i>Bloomberg BA Intermediate HY</i>	-0.6	59	-13.3	44	-12.7	47	-2.7	73	-0.2	46	1.8	36	3.0	86
<i>eV US High Yield Fixed Inc Net Median</i>	-0.5		-13.5		-12.9		-1.9		-0.3		1.5		3.6	
Franklin Templeton	-7.9	87	-19.0	64	-19.9	66	-11.7	83	-9.5	99	-6.1	99	-1.4	87
<i>Bloomberg Multiverse TR</i>	-6.8	75	-19.8	68	-20.4	68	-11.0	78	-5.6	80	-2.3	75	-0.8	77
<i>eV All Global Fixed Inc Net Median</i>	-3.7		-17.0		-17.3		-6.6		-3.0		-0.2		1.5	
Private Credit	0.1	--	1.5	--	2.9	--	5.7	--	5.9	--	6.6	--	--	--
<i>Cliffwater Direct Lending Index*</i>	0.5	--	2.8	--	5.2	--	9.7	--	7.6	--	8.0	--	8.9	--
Blackrock DL Feeder IX-U+	1.5	1	2.9	1	4.0	1	5.8	2	--	--	--	--	--	--
<i>Cliffwater Direct Lending Index</i>	0.5	13	2.8	1	5.2	1	9.7	1	7.6	1	8.0	1	8.9	1
<i>eV US High Yield Fixed Inc Net Median</i>	-0.5		-13.5		-12.9		-1.9		-0.3		1.5		3.6	
PIMCO Private Income	-0.3	40	0.4	1	1.7	1	8.6	1	7.5	1	--	--	--	--
<i>Bloomberg BA Intermediate HY</i>	-0.6	59	-13.3	44	-12.7	47	-2.7	73	-0.2	46	1.8	36	3.0	86
<i>Cliffwater Direct Lending Index</i>	0.5	13	2.8	1	5.2	1	9.7	1	7.6	1	8.0	1	8.9	1
<i>eV US High Yield Fixed Inc Net Median</i>	-0.5		-13.5		-12.9		-1.9		-0.3		1.5		3.6	

+ Preliminary return as of 9/30/2022.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2022

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
TCP Direct Lending VIII*	-0.7	66	-1.1	2	1.0	1	4.2	4	4.5	3	5.5	2	--	--
White Oak Yield*	0.0	29	3.1	1	5.0	1	5.2	3	5.4	1	6.3	1	--	--
White Oak YSF V*	0.0	29	1.7	1	2.4	1	--	--	--	--	--	--	--	--
<i>Cliffwater Direct Lending Index</i>	0.5	13	2.8	1	5.2	1	9.7	1	7.6	1	8.0	1	8.9	1
<i>eV US High Yield Fixed Inc Net Median</i>	-0.5		-13.5		-12.9		-1.9		-0.3		1.5		3.6	
Alternatives	-1.7	--	2.1	--	0.2	--	17.5	--	14.4	--	11.4	--	8.7	--
<i>Blended Alternatives Index¹</i>	-7.6	--	-4.1	--	-3.1	--	9.1	--	8.7	--	9.0	--	8.6	--
Private Equity** **	-8.5	96	-9.6	93	-12.4	91	21.5	55	23.2	15	22.0	4	18.7	4
<i>Blended Private Equity Index¹</i>	-16.2	99	-11.7	93	-10.9	91	14.5	83	12.8	81	12.4	69	14.8	24
<i>InvMetrics All DB Private Eq Net Median</i>	-0.2		0.5		5.4		22.4		19.0		15.4		12.2	
Hedge Fund/Absolute Return	4.6	4	14.2	2	13.6	2	9.7	7	2.4	75	-1.1	83	2.8	75
<i>Absolute Return Custom Index¹</i>	1.6	21	3.7	10	4.8	6	4.4	48	4.6	38	5.2	11	4.8	38
<i>InvMetrics All DB Hedge Funds Net Median</i>	-0.4		-9.3		-7.7		4.4		3.7		3.6		4.3	
Aberdeen Standard GARS	-2.9	64	-9.8	65	-8.4	63	-4.6	88	-1.4	82	-0.2	79	--	--
Acadian MAAR Fund LLC	3.1	16	3.6	27	2.5	34	--	--	--	--	--	--	--	--
CFM Systematic Global Macro	9.2	2	26.2	6	19.0	8	--	--	--	--	--	--	--	--
Graham Quant Macro	0.4	36	23.4	6	20.6	7	12.2	25	--	--	--	--	--	--
PIMCO MAARS Fund LP	9.4	2	21.4	6	27.8	5	16.4	16	--	--	--	--	--	--
<i>Absolute Return Custom Index</i>	1.6	24	3.7	27	4.8	29	4.4	56	4.6	48	5.2	43	4.8	56
<i>eV Alt All Multi-Strategy Median</i>	-1.0		-5.6		-3.3		5.1		4.2		4.4		5.0	

* Preliminary return as of 9/30/2022.

** Returns are one-quarter lag.

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

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2022

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Inflation Hedge	-1.5	--	6.7	--	10.0	--	14.8	--	6.4	--	5.1	--	--	--
<i>Blended Inflation Hedge Index¹</i>	-3.0	--	8.2	--	13.9	--	17.7	--	10.4	--	8.0	--	--	--
Real Estate	1.4	35	10.9	58	15.9	65	14.6	53	9.8	63	8.9	44	10.2	13
<i>NCREIF ODCE</i>	0.5	65	13.1	17	22.1	10	18.3	5	12.4	5	10.2	3	10.9	4
<i>InvMetrics All DB Real Estate Pub Net Median</i>	1.0	--	11.1	--	17.9	--	14.8	--	10.3	--	8.8	--	9.5	--
Harrison Street Core Property	2.0	--	11.0	--	13.8	--	11.1	--	--	--	--	--	--	--
Invesco	1.4	--	13.2	--	19.7	--	17.8	--	11.1	--	9.7	--	10.5	--
<i>NCREIF ODCE</i>	0.5	--	13.1	--	22.1	--	18.3	--	12.4	--	10.2	--	10.9	--
Invesco US Val IV	-38.0	--	-41.3	--	-37.9	--	-16.5	--	-11.2	--	-2.7	--	--	--
Invesco US Val V	0.1	--	4.0	--	8.8	--	19.7	--	13.0	--	--	--	--	--
<i>NCREIF ODCE</i>	0.5	--	13.1	--	22.1	--	18.3	--	12.4	--	10.2	--	10.9	--
<i>NCREIF ODCE + 2%</i>	1.0	--	14.8	--	24.5	--	20.6	--	14.6	--	12.4	--	13.1	--
Invesco US Val VI*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>NCREIF ODCE</i>	0.5	--	13.1	--	22.1	--	18.3	--	12.4	--	10.2	--	10.9	--
PGIM RE US Debt Fund	1.6	--	4.2	--	5.4	--	5.4	--	5.2	--	5.7	--	--	--
Stockbridge Value IV	3.2	--	21.5	--	33.2	--	--	--	--	--	--	--	--	--
<i>NCREIF ODCE</i>	0.5	--	13.1	--	22.1	--	18.3	--	12.4	--	10.2	--	10.9	--
Private Real Asset**	-2.5	--	11.9	--	9.5	--	20.8	--	12.8	--	5.4	--	--	--
<i>Blended Private Real Asset Index¹</i>	-9.0	--	7.0	--	8.1	--	18.7	--	6.7	--	5.9	--	--	--
<i>Blended Secondary CA Private RA Index¹</i>	1.8	--	15.8	--	19.5	--	20.5	--	9.0	--	8.0	--	--	--
Public Real Assets	-5.4	--	-2.7	--	0.6	--	13.0	--	0.7	--	0.5	--	--	--
<i>Blended Public Real Asset Index¹</i>	-5.4	--	-2.9	--	0.5	--	13.0	--	4.9	--	3.4	--	--	--
SSgA Custom Real Asset	-5.4	--	-2.7	--	0.6	--	13.0	--	4.9	--	3.5	--	--	--
<i>SSgA Custom Real Asset Index¹</i>	-5.4	--	-2.9	--	0.5	--	13.0	--	4.9	--	3.4	--	--	--

* Funded September 2022

** Returns are one-quarter lag.

1. See Appendix for Benchmark History

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2022

	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Liquidity	-0.1	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Blended Liquidity Index¹</i>	-0.7	--	--	--	--	--	--	--	--	--	--	--	--	--
Cash Flow-Matched Liquidity	-0.6	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Bloomberg US Govt/Credit 1-3 Yr. TR</i>	-1.5	--	-4.5	--	-5.1	--	-2.4	--	-0.4	--	0.7	--	0.8	--
<i>Bloomberg US Credit 1-3 Yr TR</i>	-1.3	--	-4.6	--	-5.1	--	-2.1	--	-0.2	--	1.0	--	1.3	--
Insight Investment*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Bloomberg US Credit 1-3 Yr TR</i>	-1.3	--	-4.6	--	-5.1	--	-2.1	--	-0.2	--	1.0	--	1.3	--
County Treasury Pool+	0.1	--	0.5	--	0.9	--	1.1	--	1.3	--	2.2	--	1.5	--
<i>91 Day T-Bills</i>	0.5	--	0.6	--	0.6	--	0.3	--	0.5	--	1.1	--	0.6	--
Cash & Cash Overlay	0.5	--	0.8	--	0.8	--	0.6	--	0.7	--	0.9	--	0.8	--
<i>91 Day T-Bills</i>	0.5	--	0.6	--	0.6	--	0.3	--	0.5	--	1.1	--	0.6	--
General Account	0.6	--	1.0	--	1.0	--	0.7	--	1.0	--	2.2	--	1.6	--
<i>91 Day T-Bills</i>	0.5	--	0.6	--	0.6	--	0.3	--	0.5	--	1.1	--	0.6	--
Currency Hedge Cash Overlay	0.4	--	0.5	--	0.4	--	0.1	--	--	--	--	--	--	--

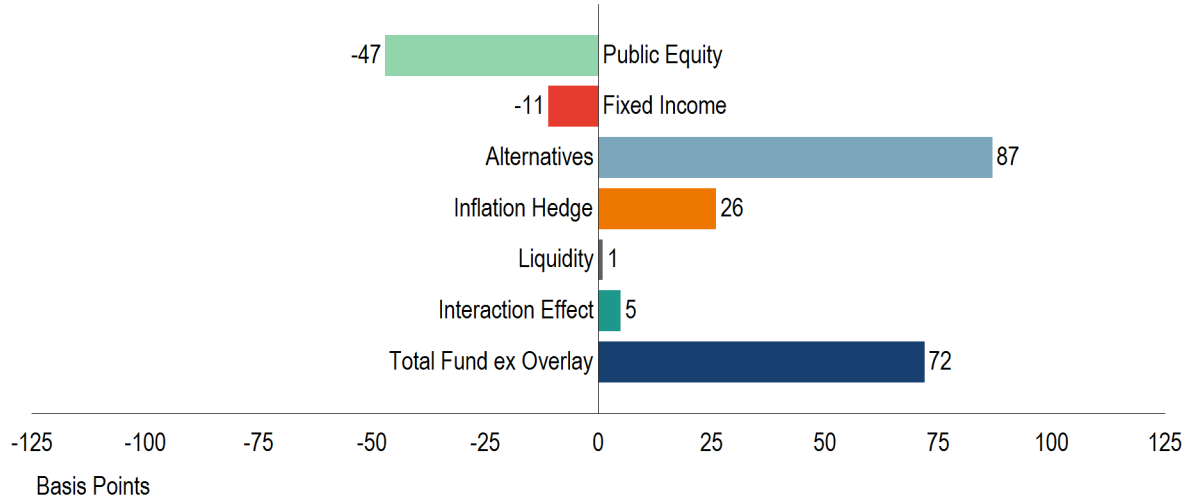
* Funded July 2022.

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

1. See Appendix for Benchmark History.

Total Fund ex Overlay
Performance Attribution

Period Ending: September 30, 2022

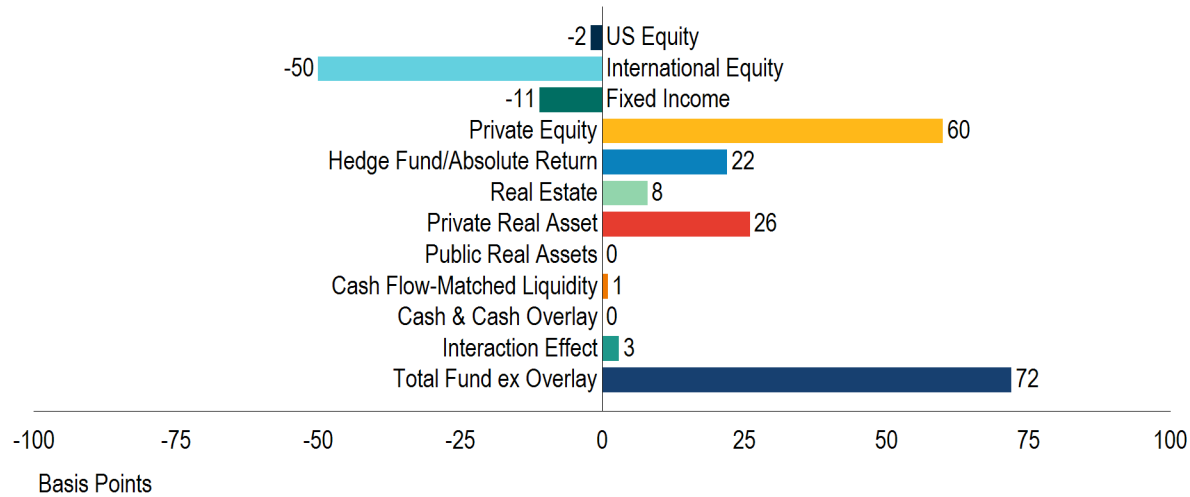


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction*	Total Effects
Public Equity	-6.74%	-5.57%	-1.16%	-0.47%	0.01%	0.03%	-0.43%
Fixed Income	-3.60%	-3.20%	-0.40%	-0.11%	-0.02%	0.00%	-0.13%
Alternatives	-1.73%	-7.57%	5.84%	0.87%	-0.07%	-0.03%	0.76%
Inflation Hedge	-1.49%	-3.04%	1.55%	0.26%	0.01%	0.03%	0.30%
Liquidity	-0.15%	-0.70%	0.56%	0.01%	0.17%	0.02%	0.21%
Total	-3.85%	-4.57%	0.72%	0.56%	0.11%	0.05%	0.72%

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

Total Fund ex Overlay
Performance Attribution

Period Ending: September 30, 2022

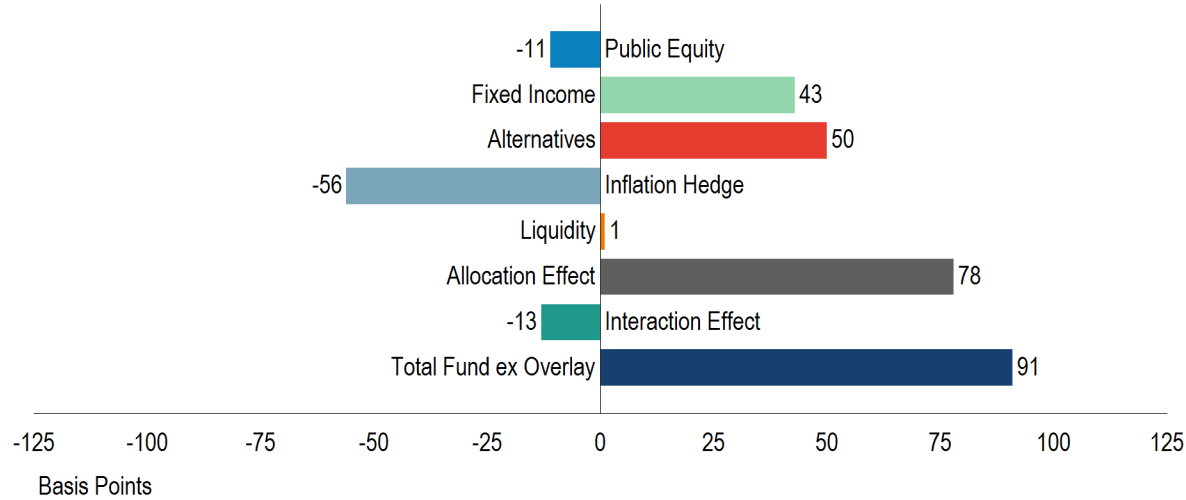


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction* Effects	Total Effects
US Equity	-4.45%	-4.46%	0.01%	-0.02%	-0.02%	0.01%	-0.04%
International Equity	-9.49%	-6.86%	-2.63%	-0.50%	0.06%	0.06%	-0.38%
Fixed Income	-3.60%	-3.20%	-0.40%	-0.11%	-0.02%	0.00%	-0.13%
Private Equity	-8.49%	-16.24%	7.75%	0.60%	-0.01%	-0.07%	0.52%
Hedge Fund/Absolute Return	4.57%	1.55%	3.02%	0.22%	0.02%	0.01%	0.24%
Real Estate	1.38%	0.52%	0.86%	0.08%	-0.02%	0.00%	0.06%
Private Real Asset	-2.49%	-9.04%	6.55%	0.26%	0.00%	-0.01%	0.25%
Public Real Assets	-5.41%	-5.38%	-0.03%	0.00%	-0.02%	0.00%	-0.02%
Cash Flow-Matched Liquidity	-0.65%	-1.48%	0.83%	0.01%	0.14%	0.03%	0.18%
Cash & Cash Overlay	0.53%	0.46%	0.06%	0.00%	0.02%	0.00%	0.03%
Total	-3.85%	-4.57%	0.72%	0.54%	0.15%	0.03%	0.72%

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

Total Fund ex Overlay
Performance Attribution (1 Year)

Period Ending: September 30, 2022

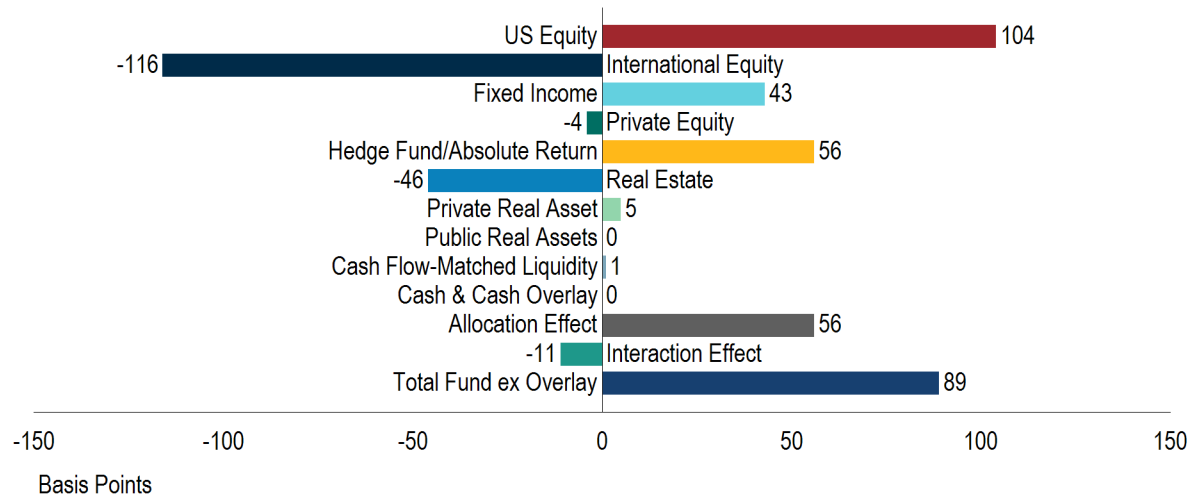


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction*	Total Effects
Public Equity	-18.82%	-18.57%	-0.25%	-0.11%	0.33%	0.00%	0.22%
Fixed Income	-12.31%	-13.82%	1.51%	0.43%	0.40%	-0.06%	0.77%
Alternatives	0.22%	-3.10%	3.33%	0.50%	0.02%	-0.05%	0.47%
Inflation Hedge	9.96%	13.93%	-3.97%	-0.56%	0.06%	-0.05%	-0.56%
Liquidity	-0.15%	--	--	0.01%	-0.03%	0.02%	0.01%
Total	-8.94%	-9.85%	0.91%	0.26%	0.78%	-0.13%	0.91%

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

Total Fund ex Overlay
Performance Attribution (1 Year)

Period Ending: September 30, 2022



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction *	Total Effects
US Equity	-12.97%	-17.63%	4.66%	1.04%	0.00%	-0.02%	1.02%
International Equity	-25.13%	-19.79%	-5.33%	-1.16%	0.11%	0.06%	-0.99%
Fixed Income	-12.31%	-13.82%	1.51%	0.43%	0.11%	-0.06%	0.48%
Private Equity	-12.39%	-10.87%	-1.52%	-0.04%	0.08%	-0.16%	-0.12%
Hedge Fund/Absolute Return	13.63%	4.76%	8.87%	0.56%	0.02%	0.01%	0.58%
Real Estate	15.89%	22.09%	-6.20%	-0.46%	-0.20%	0.06%	-0.60%
Private Real Asset	9.48%	8.10%	1.38%	0.05%	-0.16%	-0.04%	-0.15%
Public Real Assets	0.55%	0.50%	0.05%	0.00%	0.31%	0.00%	0.31%
Cash Flow-Matched Liquidity	--	-1.48%	--	0.01%	0.13%	0.03%	0.17%
Cash & Cash Overlay	0.84%	0.62%	0.23%	0.00%	0.17%	0.01%	0.18%
Total	-8.96%	-9.85%	0.89%	0.44%	0.56%	-0.11%	0.89%

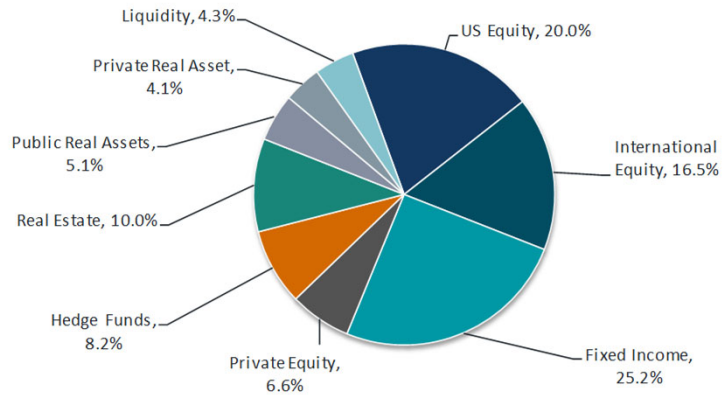
Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund

Asset Allocation Analysis

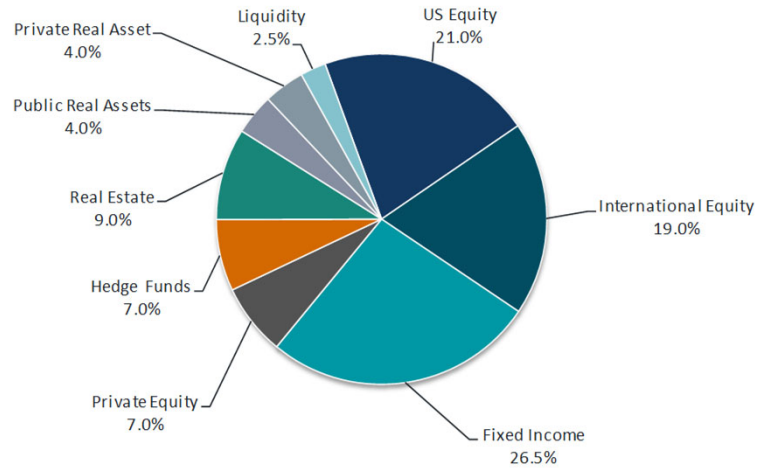
Period Ending: September 30, 2022

Current w/ Overlay



ASSET ALLOCATION	MARKET VALUE W/ OVERLAY	W/ OVERLAY	W/O OVERLAY
US Equity	1,100,513,142	20.0%	19.9%
International Equity	911,956,826	16.5%	15.0%
Fixed Income	1,391,507,940	25.2%	24.9%
Private Equity	363,387,123	6.6%	6.6%
Hedge Funds	452,530,497	8.2%	8.2%
Real Estate	551,271,893	10.0%	10.0%
Public Real Assets	281,700,897	5.1%	5.1%
Private Real Asset	223,902,087	4.1%	4.1%
Liquidity	235,295,845	4.3%	6.3%
TOTAL	5,512,066,250	100.0%	100.0%

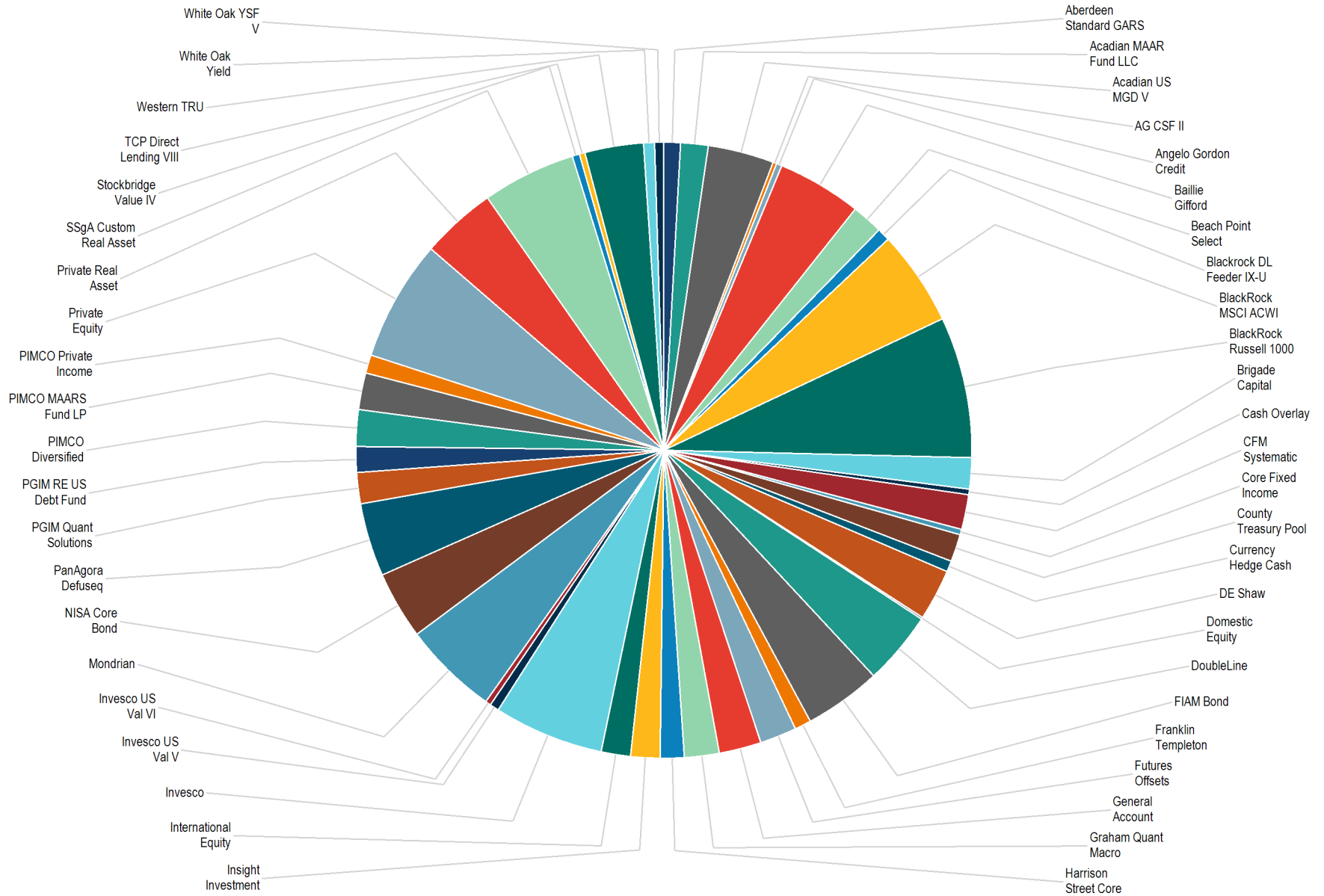
Target



ASSET ALLOCATION	W/ OVERLAY	TARGET	DIFF
US Equity	20.0%	21.0%	-1.0%
International Equity	16.5%	19.0%	-2.5%
Fixed Income	25.2%	26.5%	-1.3%
Private Equity	6.6%	7.0%	-0.4%
Hedge Funds	8.2%	7.0%	1.2%
Real Estate	10.0%	9.0%	1.0%
Public Real Assets	5.1%	4.0%	1.1%
Private Real Asset	4.1%	4.0%	0.1%
Liquidity	4.3%	2.5%	1.8%
TOTAL	100.0%	100.0%	0.0%

Total Fund Manager Allocation Analysis

Period Ending: September 30, 2022



Total Fund Manager Allocation Analysis

Period Ending: September 30, 2022

Name	Market Value	% of Portfolio
Acadian US MGD V	\$198,868,718	3.6%
BlackRock Russell 1000	\$426,175,027	7.7%
DE Shaw	\$153,817,147	2.8%
PanAgora Defuseq	\$220,117,740	4.0%
PGIM Quant Solutions	\$95,574,020	1.7%
Domestic Equity Overlay	\$5,960,490	0.1%
Baillie Gifford	\$251,609,374	4.6%
Mondrian	\$288,013,059	5.2%
BlackRock MSCI ACWI EX-US IMI	\$284,969,809	5.2%
International Equity Overlay	\$87,364,584	1.6%
DoubleLine	\$221,557,175	4.0%
FIAM Bond	\$231,153,009	4.2%
NISA Core Bond	\$204,436,929	3.7%
Western TRU	\$174,962,458	3.2%
Core Fixed Income Overlay	\$16,439,633	0.3%
AG CSF Annex Dislocation Fund	\$360	0.0%
AG CSF II	\$11,700,000	0.2%
Angelo Gordon Opportunistic	\$243,044	0.0%
Angelo Gordon Credit Solutions	\$15,200,000	0.3%
Beach Point Select	\$94,847,689	1.7%
Brigade Capital	\$95,448,801	1.7%
PIMCO Diversified	\$110,968,582	2.0%
Franklin Templeton	\$48,534,655	0.9%
Blackrock DL Feeder IX-U	\$35,886,150	0.7%
PIMCO Private Income	\$52,605,798	1.0%
TCP Direct Lending VIII	\$15,902,003	0.3%
White Oak Yield	\$32,081,157	0.6%
White Oak YSF V	\$29,540,498	0.5%
Private Equity	\$363,387,123	6.6%

Total Fund Manager Allocation Analysis

Period Ending: September 30, 2022

Name	Market Value	% of Portfolio
Aberdeen Standard GARS	\$47,653,109	0.9%
Acadian MAAR Fund LLC	\$85,165,510	1.5%
CFM Systematic Global Macro	\$106,182,154	1.9%
Graham Quant Macro	\$105,511,190	1.9%
PIMCO MAARS Fund LP	\$108,018,535	2.0%
Harrison Street Core Property	\$72,606,874	1.3%
Invesco	\$329,726,685	6.0%
Invesco US Val IV	\$1,347,468	0.0%
Invesco US Val V	\$30,297,027	0.5%
Invesco US Val VI	\$16,563,296	0.3%
PGIM RE US Debt Fund	\$75,990,888	1.4%
Stockbridge Value IV	\$24,739,655	0.4%
Private Real Asset	\$223,902,087	4.1%
SSgA Custom Real Asset	\$281,700,897	5.1%
Insight Investment	\$88,625,570	1.6%
County Treasury Pool	\$83,841,395	1.5%
General Account	\$126,665,050	2.3%
Currency Hedge Cash Overlay	\$31,077,125	0.6%
Cash Overlay	\$14,838,272	0.3%
Transition Account	\$13,139	0.0%
Futures Offsets (SMCE02001)	-\$109,764,707	-2.0%
Total	\$5,512,066,250	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	4.0%	68	9.7%	24	0.4	55	-0.1	88	2.5%	53
Policy Index	4.2%	62	10.0%	25	0.4	50	--	--	0.0%	1
Policy Index II	3.8%	72	10.4%	35	0.3	64	-0.8	99	0.5%	1
InvMetrics Public DB > \$1B Net Median	4.7%	--	11.4%	--	0.4	--	0.3	--	2.3%	--

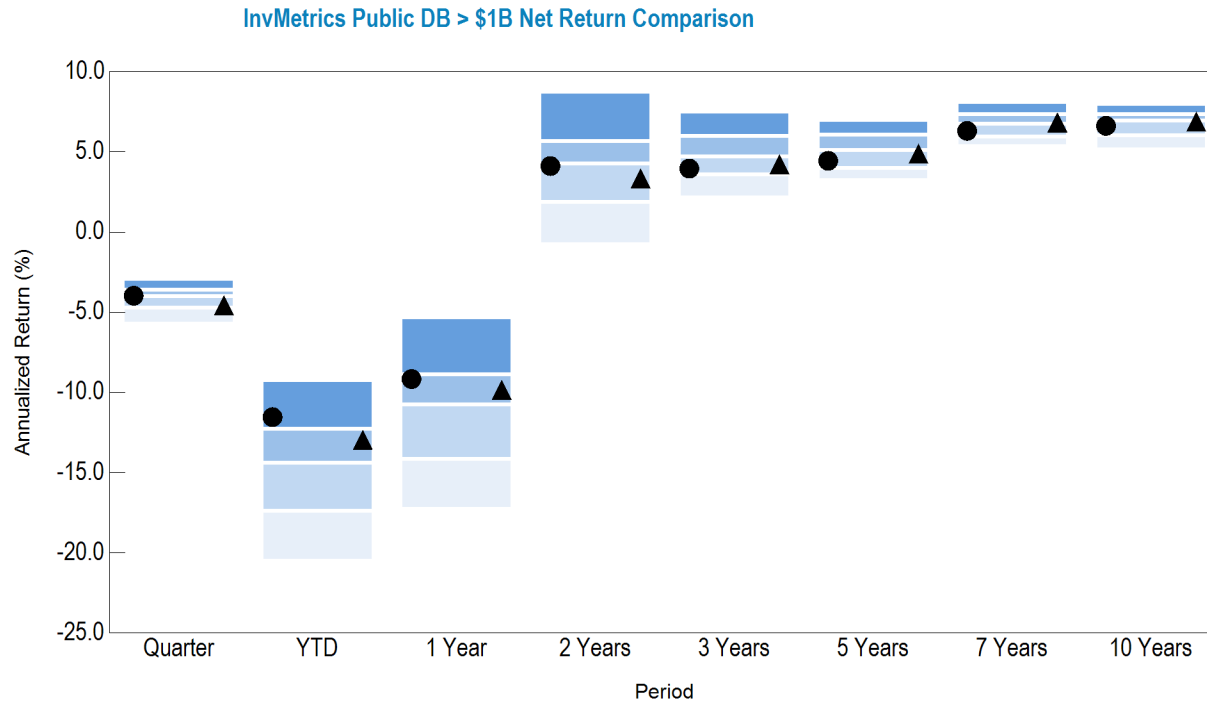
Statistics Summary

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	4.4%	70	8.6%	24	0.4	51	-0.2	86	2.0%	53
Policy Index	4.9%	59	8.9%	26	0.4	45	--	--	0.0%	1
Policy Index II	--	--	--	--	--	--	--	--	--	--
InvMetrics Public DB > \$1B Net Median	5.1%	--	10.0%	--	0.4	--	0.1	--	1.9%	--

Total Fund
Peer Universe Comparison

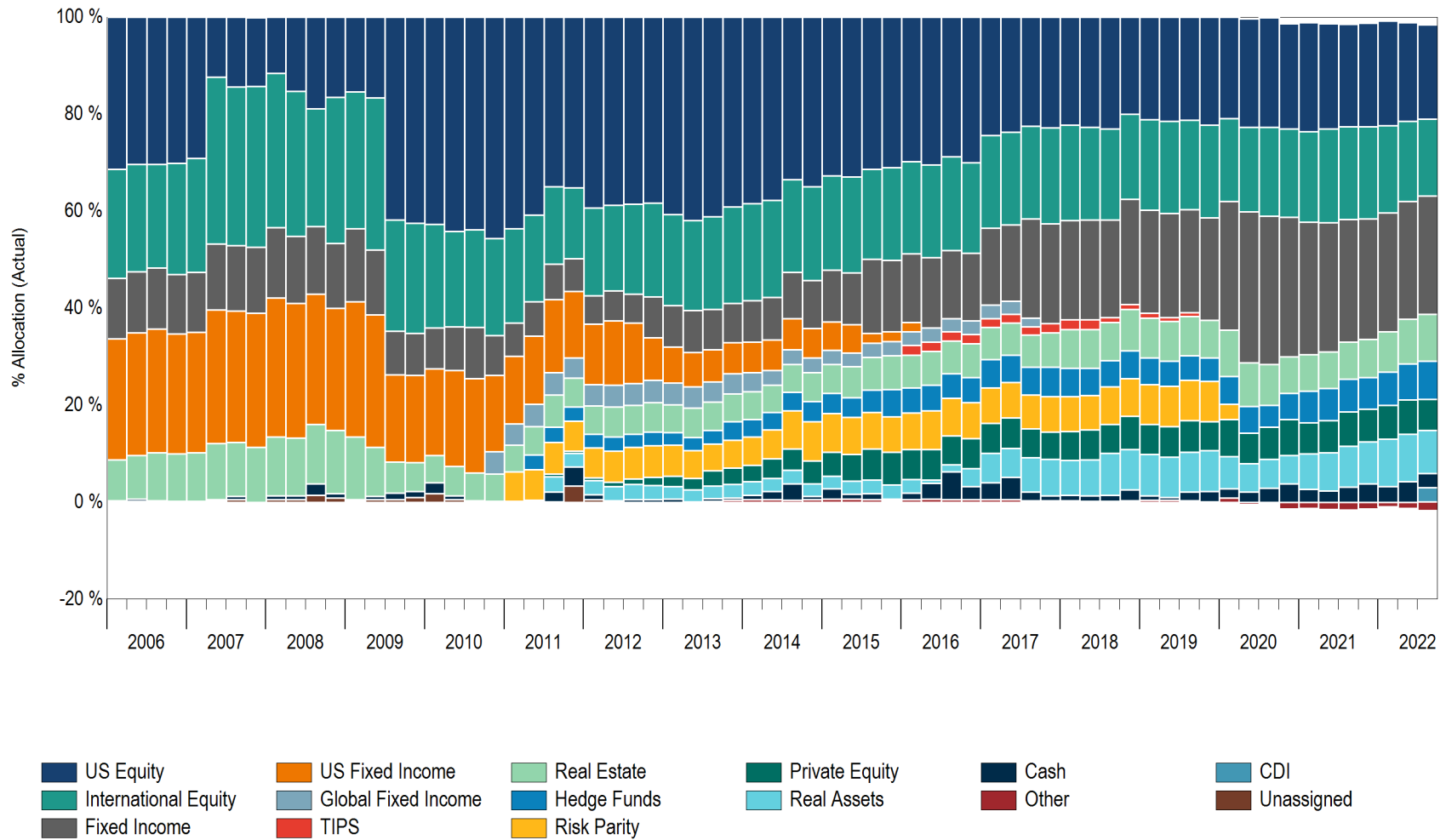
Period Ending: September 30, 2022

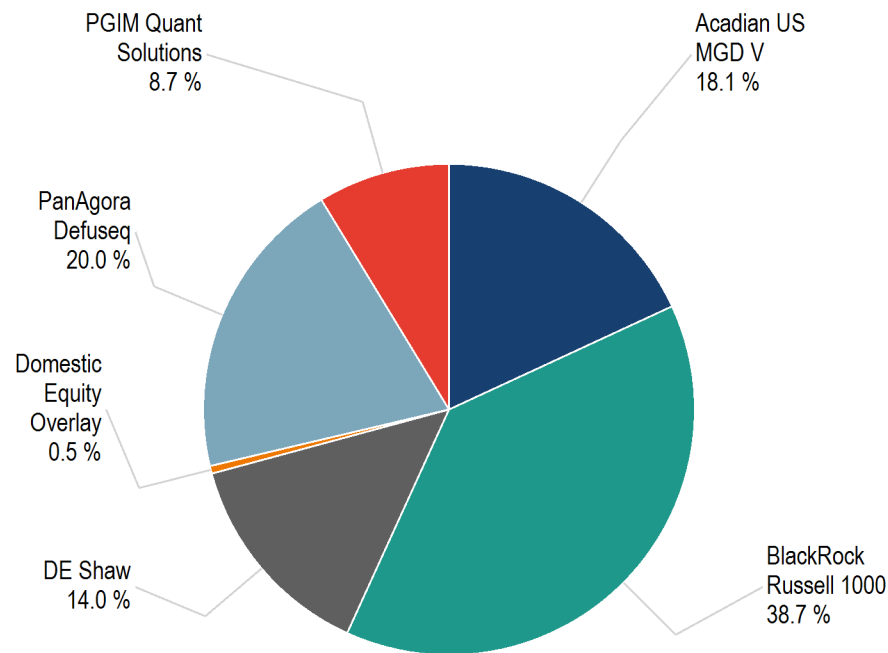


	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	-2.9	-9.3	-5.3	8.7	7.5	7.0	8.1	8.0
25th Percentile	-3.6	-12.2	-8.8	5.7	6.0	6.1	7.4	7.4
Median	-4.0	-14.4	-10.7	4.3	4.7	5.1	6.8	7.0
75th Percentile	-4.7	-17.4	-14.1	1.9	3.6	4.0	6.0	6.1
95th Percentile	-5.7	-20.5	-17.3	-0.7	2.2	3.2	5.4	5.2
# of Portfolios	59	59	59	58	57	57	57	54
● Total Fund	-4.0 (49)	-11.5 (16)	-9.2 (31)	4.1 (55)	4.0 (68)	4.4 (70)	6.3 (65)	6.6 (57)
▲ Policy Index	-4.6 (66)	-13.0 (31)	-9.9 (40)	3.3 (61)	4.2 (62)	4.9 (59)	6.8 (48)	6.9 (53)

Total Fund
Asset Allocation History

Period Ending: September 30, 2022





	Actual \$	Actual %	Manager Contribution to Excess Return %
Acadian US MGD V	\$198,868,718	18.1%	-0.2%
BlackRock Russell 1000	\$426,175,027	38.7%	0.0%
DE Shaw	\$153,817,147	14.0%	0.2%
PanAgora Defuseq	\$220,117,740	20.0%	-0.3%
PGIM Quant Solutions	\$95,574,020	8.7%	0.0%
Domestic Equity Overlay	\$5,960,490	0.5%	0.0%
Actual vs. Policy Weight Difference			0.2%
Total	\$1,100,513,142	100.0%	0.0%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	6.5%	19.7%	0.3	-0.5	2.6%
Blended US Equity Index	7.7%	21.0%	0.3	--	0.0%
Russell 3000	7.7%	21.0%	0.3	--	0.0%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	6.6%	19.3%	0.3	-0.5	2.6%
Russell 1000	7.9%	20.8%	0.4	--	0.0%
Acadian US MGD V	2.1%	17.8%	0.1	-0.9	6.2%
Russell 1000	7.9%	20.8%	0.4	--	0.0%
BlackRock Russell 1000	7.9%	20.8%	0.4	-0.3	0.0%
Russell 1000	7.9%	20.8%	0.4	--	0.0%
DE Shaw	7.6%	20.7%	0.3	-0.1	3.2%
Russell 1000	7.9%	20.8%	0.4	--	0.0%
PanAgora Defuseq	4.4%	17.5%	0.2	-0.4	8.0%
Russell 1000	7.9%	20.8%	0.4	--	0.0%
Small Cap Equity	4.0%	26.7%	0.1	0.0	5.8%
Russell 2000	4.3%	25.5%	0.1	--	0.0%
PGIM Quant Solutions	4.0%	26.7%	0.1	0.0	5.8%
Russell 2000	4.3%	25.5%	0.1	--	0.0%

Statistics Summary

5 Years

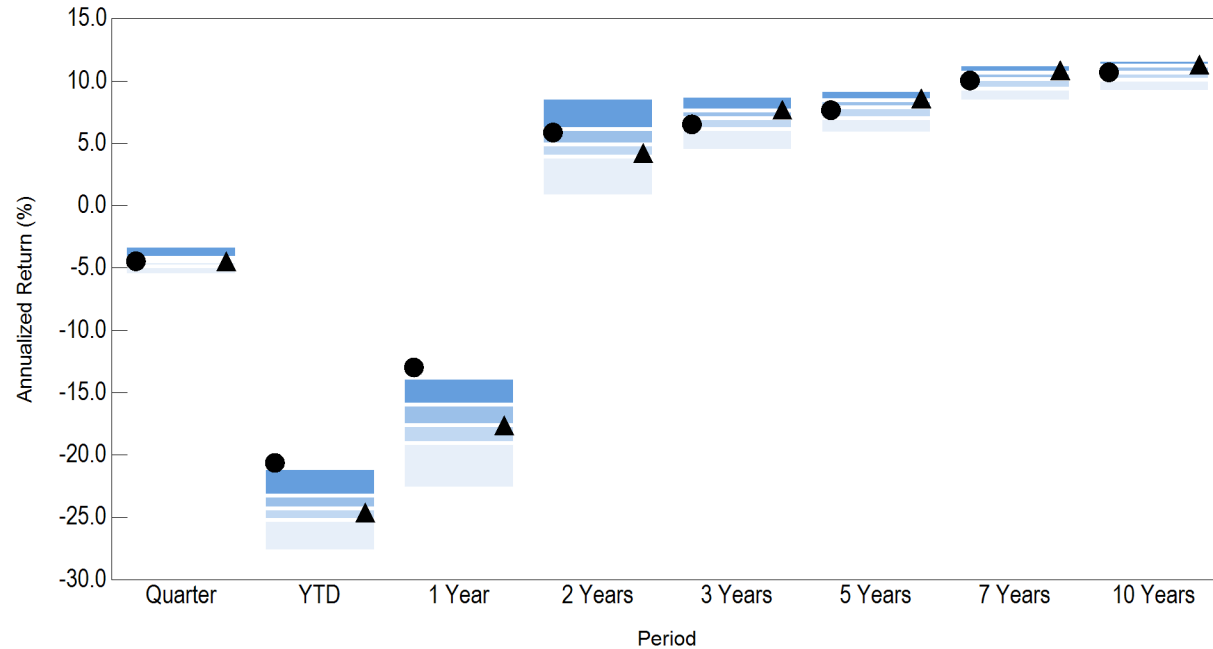
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	7.7%	17.6%	0.4	-0.5	2.1%
Blended US Equity Index	8.6%	18.6%	0.4	--	0.0%
Russell 3000	8.6%	18.6%	0.4	--	0.0%

Statistics Summary

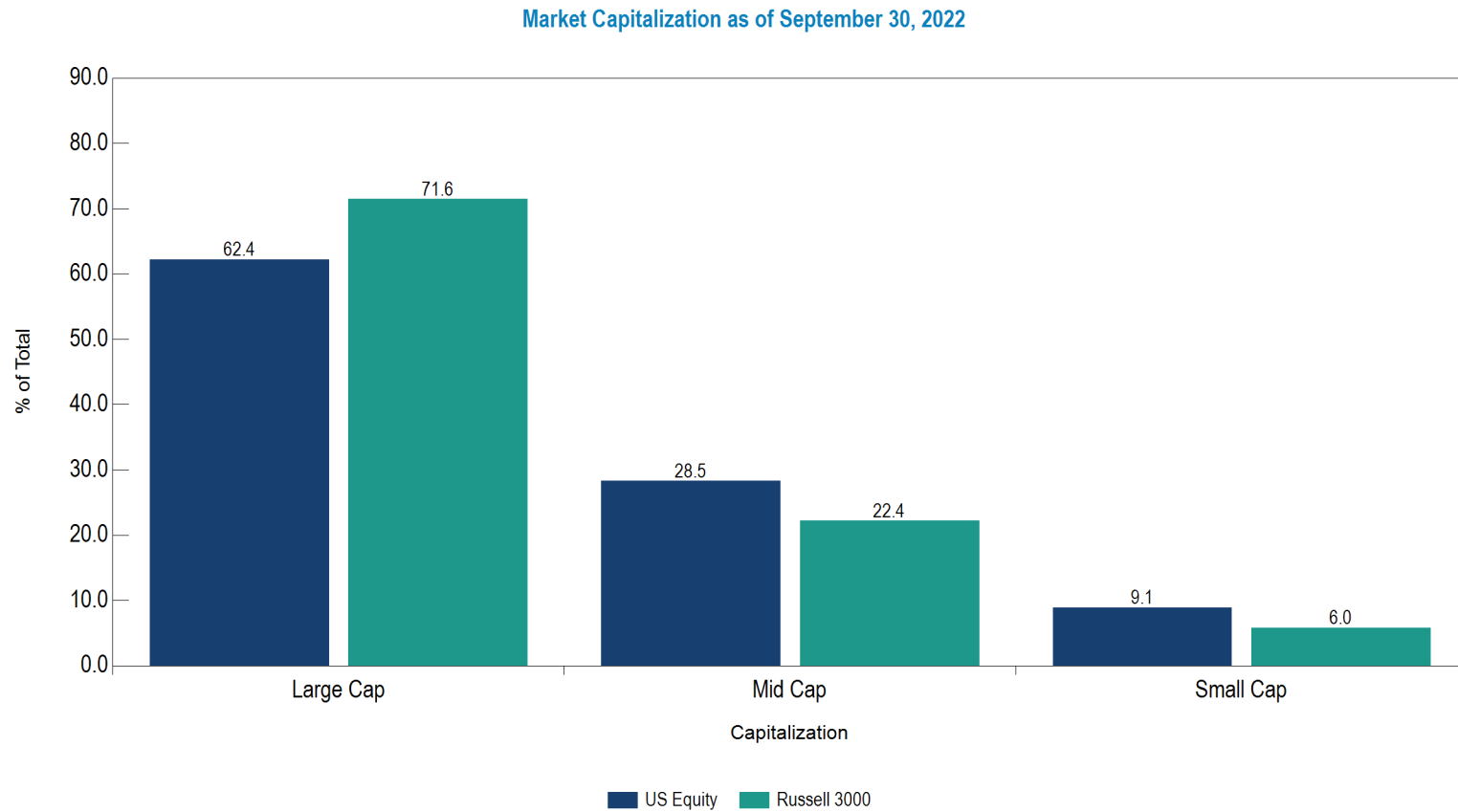
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	8.3%	17.2%	0.4	-0.3	2.1%
Russell 1000	9.0%	18.5%	0.4	--	0.0%
BlackRock Russell 1000	9.0%	18.4%	0.4	0.1	0.0%
Russell 1000	9.0%	18.5%	0.4	--	0.0%
DE Shaw	8.1%	18.2%	0.4	-0.3	2.8%
Russell 1000	9.0%	18.5%	0.4	--	0.0%
Small Cap Equity	2.3%	23.7%	0.1	-0.3	4.8%
Russell 2000	3.6%	22.8%	0.1	--	0.0%
PGIM Quant Solutions	2.3%	23.7%	0.1	-0.3	4.8%
Russell 2000	3.6%	22.8%	0.1	--	0.0%

InvMetrics All DB US Eq Net Return Comparison



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	-3.2	-21.0	-13.8	8.6	8.8	9.3	11.3	11.7
25th Percentile	-4.2	-23.2	-15.9	6.2	7.7	8.5	10.7	11.2
Median	-4.5	-24.3	-17.6	5.0	7.1	7.9	10.2	10.7
75th Percentile	-4.8	-25.2	-19.0	4.0	6.2	7.1	9.4	10.1
95th Percentile	-5.6	-27.7	-22.7	0.8	4.4	5.8	8.4	9.2
# of Portfolios	463	441	434	425	424	410	365	282
● US Equity	-4.5 (44)	-20.6 (5)	-13.0 (4)	5.9 (31)	6.5 (67)	7.7 (59)	10.0 (56)	10.7 (51)
▲ Blended US Equity Index	-4.5 (48)	-24.6 (60)	-17.6 (52)	4.2 (64)	7.7 (23)	8.6 (17)	10.9 (17)	11.3 (22)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	Russell 3000
Number of Holdings	2,870	2,986
Weighted Avg. Market Cap. (\$B)	295.4	402.3
Median Market Cap. (\$B)	4.0	2.3
Price To Earnings	16.4	17.5
Price To Book	3.3	3.5
Price To Sales	1.5	1.7
Return on Equity (%)	24.3	24.7
Yield (%)	2.0	1.8

Top Holdings

APPLE INC	4.0%
MICROSOFT CORP	3.6%
ALPHABET INC	1.7%
AMAZON.COM INC	1.6%
TESLA INC	1.3%
JOHNSON & JOHNSON	1.2%
BERKSHIRE HATHAWAY INC	0.9%
CHEVRON CORP	0.9%
ALPHABET INC	0.9%
PROCTER & GAMBLE CO (THE)	0.8%

Best Performers

	Return %
RHYTHM PHARMACEUTICALS INC (RYTM)	490.4%
AKERO THERAPEUTICS INC (AKRO)	260.3%
FORMA THERAPEUTICS HOLDINGS INC (FMTX)	189.6%
MINERVA NEUROSCIENCES INC (NERV)	178.9%
SPERO THERAPEUTICS INC (SPRO)	169.9%
PLIANT THERAPEUTICS INC (PLRX)	160.8%
G1 THERAPEUTICS INC (GTHX)	152.8%
AVENUE THERAPEUTICS INC (ATXI)	149.5%
PROTHENA CORP PLC (PRTA)	123.3%
TARGET HOSPITALITY CORP (TH)	121.0%

Worst Performers

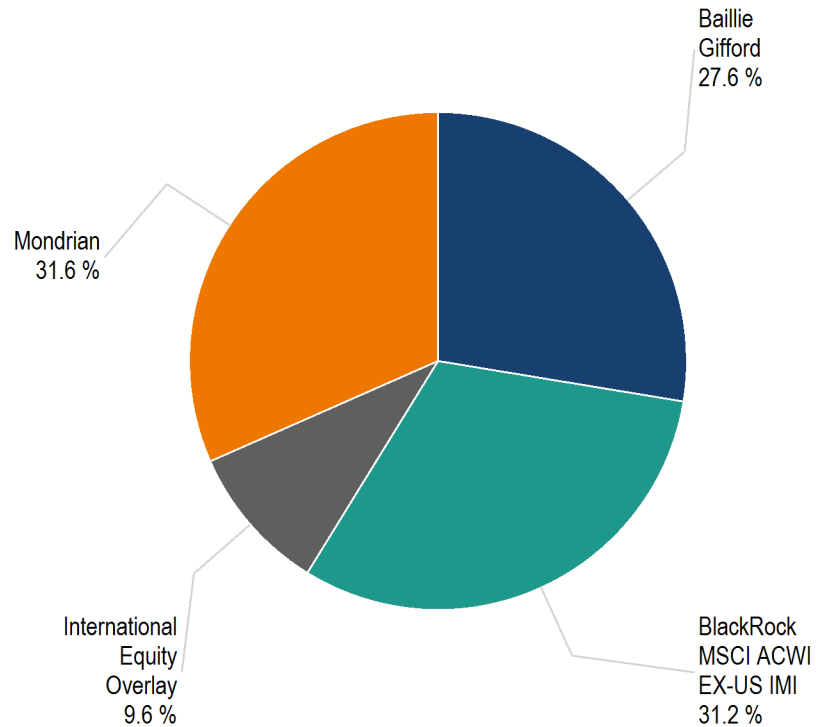
	Return %
CONTRAFECT CORP (CFRX)	-94.5%
HUMANIGEN INC (HGEN)	-89.8%
ALLENA PHARMACEUTICALS INC (ALNAQ)	-89.5%
VISTAGEN THERAPEUTICS INC (VTGN)	-82.7%
EXELA TECHNOLOGIES INC (XELA)	-80.2%
AGILE THERAPEUTICS INC (AGRX)	-74.5%
AYTU BIOPHARMA INC (AYTU)	-73.2%
ATHERSYS INC (ATHX)	-71.5%
PHASEBIO PHARMACEUTICALS INC (PHASQ)	-70.7%
SELECTQUOTE INC (SLQT)	-70.6%

US Equity Performance Attribution vs. Russell 3000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.1%	0.0%	0.1%	0.0%	2.2%	2.5%	4.8%	3.9%			
Materials	0.0%	0.0%	-0.1%	0.0%	-5.8%	-7.0%	5.1%	2.9%			
Industrials	0.0%	0.0%	0.0%	0.0%	-2.9%	-3.3%	9.7%	8.9%			
Consumer Discretionary	-0.3%	-0.3%	0.0%	0.0%	1.0%	3.5%	10.4%	10.5%			
Consumer Staples	0.0%	0.0%	-0.1%	0.0%	-6.4%	-6.5%	9.1%	6.4%			
Health Care	0.1%	0.1%	0.0%	0.0%	-4.0%	-4.5%	14.0%	15.0%			
Financials	0.0%	0.0%	0.0%	0.0%	-2.7%	-2.9%	10.1%	11.7%			
Information Technology	0.3%	0.3%	0.1%	-0.1%	-4.4%	-5.7%	21.1%	25.7%			
Communication Services	-0.1%	-0.1%	0.0%	0.0%	-13.4%	-12.4%	8.5%	8.2%			
Utilities	-0.1%	-0.1%	0.0%	0.0%	-8.1%	-5.8%	4.4%	3.1%			
Real Estate	0.1%	0.0%	0.1%	0.0%	-11.0%	-10.9%	2.7%	3.6%			
Cash	0.0%	--	--	--	--	--	0.0%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	-5.1%	--	0.1%	0.0%			
Portfolio	0.0%	=	0.1%	+	0.0%	+	-0.1%	-4.5%	-4.5%	100.0%	100.0%

U.S. Effective Style Map





	Actual \$	Actual %	Manager Contribution to Excess Return %
Baillie Gifford	\$251,609,374	27.6%	0.3%
Mondrian	\$288,013,059	31.6%	-1.3%
BlackRock MSCI ACWI EX-US IMI	\$284,969,809	31.2%	0.0%
International Equity Overlay	\$87,364,584	9.6%	0.0%
Actual vs. Policy Weight Difference			-1.6%
Total	\$911,956,826	100.0%	-2.6%

Statistics Summary

3 Years

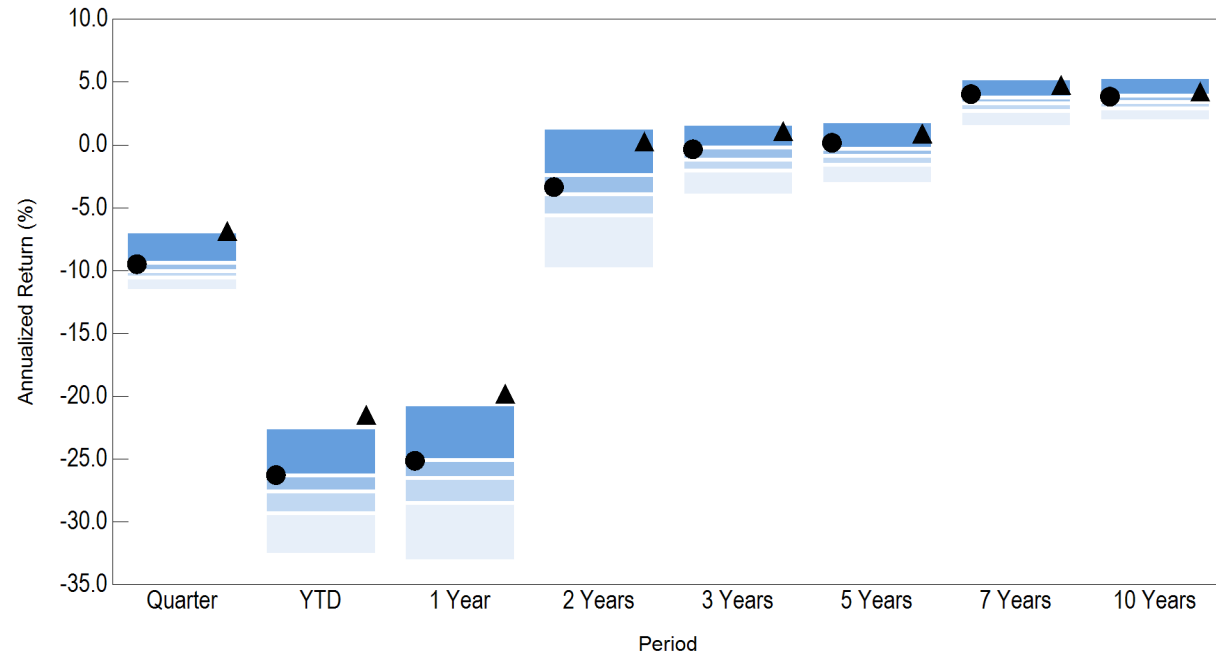
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	-0.3%	17.6%	0.0	-0.6	2.4%
Blended International Equity Index	1.1%	16.9%	0.0	--	0.0%
Baillie Gifford	-1.9%	22.0%	-0.1	-0.1	9.3%
MSCI ACWI ex US	-1.1%	18.5%	-0.1	--	0.0%
Mondrian	-3.6%	19.6%	-0.2	-0.6	3.2%
MSCI ACWI ex USA Value Gross	-1.5%	20.4%	-0.1	--	0.0%

Statistics Summary

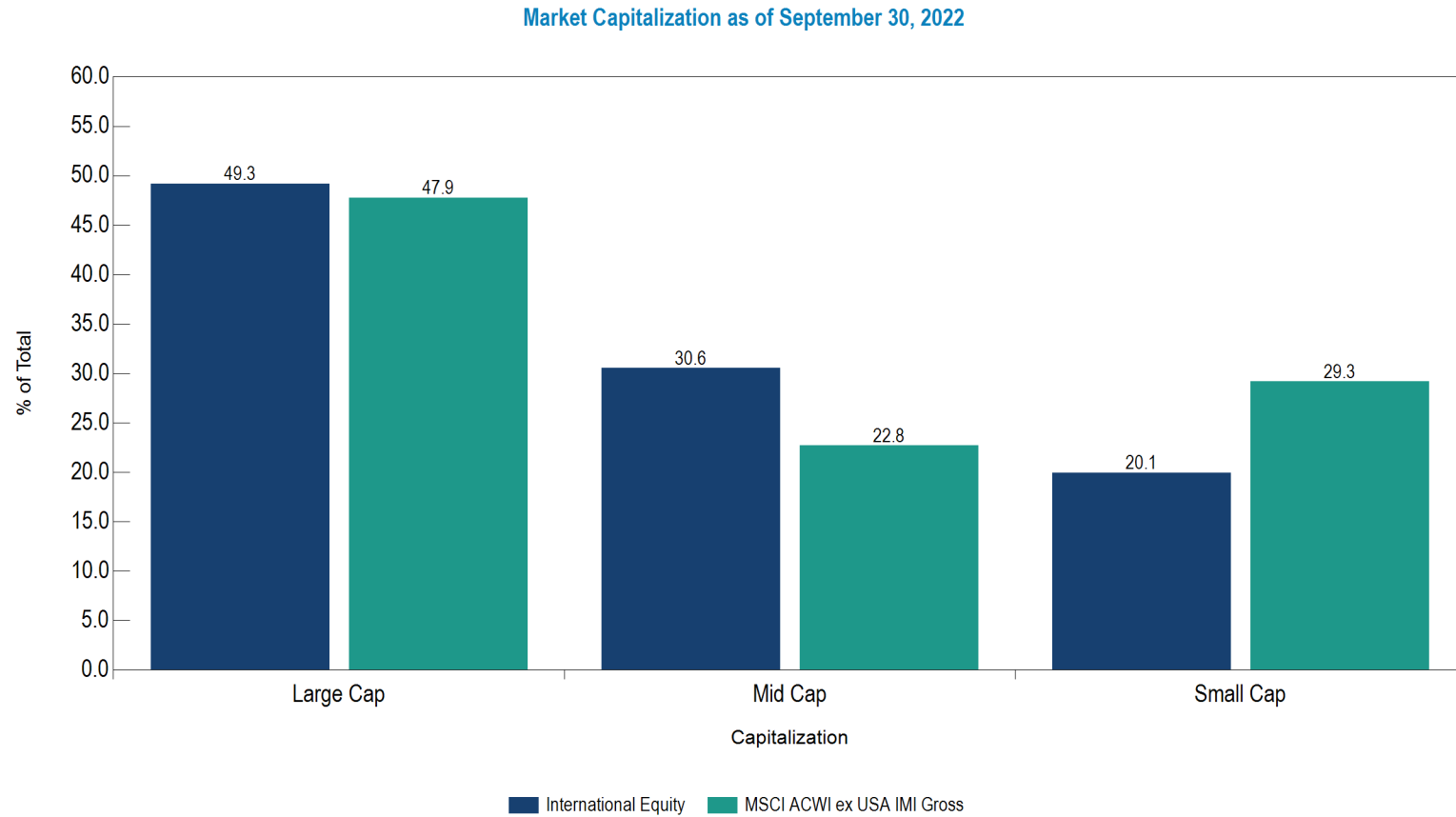
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	0.2%	15.6%	-0.1	-0.4	2.0%
Blended International Equity Index	0.9%	15.2%	0.0	--	0.0%
Baillie Gifford	-0.4%	19.2%	-0.1	0.0	7.9%
MSCI ACWI ex US	-0.3%	16.4%	-0.1	--	0.0%
Mondrian	-2.5%	17.1%	-0.2	-0.4	2.8%
MSCI ACWI ex USA Value Gross	-1.5%	17.9%	-0.1	--	0.0%

InvMetrics All DB ex-US Eq Net Return Comparison



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	-6.9	-22.5	-20.6	1.4	1.7	1.8	5.3	5.4
25th Percentile	-9.3	-26.3	-25.0	-2.4	-0.2	-0.3	3.8	4.0
Median	-10.0	-27.5	-26.5	-3.9	-1.2	-0.8	3.4	3.4
75th Percentile	-10.5	-29.3	-28.5	-5.6	-2.0	-1.5	2.7	2.9
95th Percentile	-11.6	-32.6	-33.1	-9.8	-4.0	-3.1	1.5	1.9
# of Portfolios	312	299	293	287	286	276	253	187
● International Equity	-9.5 (30)	-26.3 (25)	-25.1 (27)	-3.3 (36)	-0.3 (31)	0.2 (17)	4.0 (20)	3.8 (28)
▲ Blended International Equity Index	-6.9 (5)	-21.5 (5)	-19.8 (4)	0.3 (8)	1.1 (8)	0.9 (10)	4.8 (10)	4.3 (18)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	MSCI ACWI ex USA IMI Gross
Number of Holdings	6,679	6,650
Weighted Avg. Market Cap. (\$B)	57.1	61.5
Median Market Cap. (\$B)	1.5	1.4
Price To Earnings	12.3	11.2
Price To Book	2.3	2.3
Price To Sales	1.1	1.1
Return on Equity (%)	14.3	14.4
Yield (%)	3.3	3.7

Top Holdings

UNITED OVERSEAS BANK LTD	1.6%
HOUSING DEVELOPMENT FINANCE CORP LTD	1.3%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.2%
ALIBABA GROUP HOLDING LTD	1.2%
TAKEDA PHARMACEUTICAL CO LTD	1.1%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.1%
CK HUTCHISON HOLDINGS LTD	1.0%
NOVARTIS AG	1.0%
BP PLC	1.0%
ASML HOLDING NV	0.9%

Best Performers

	Return %
BIOARCTIC AB (PUBL)	223.6%
TYRO PAYMENTS LTD	102.6%
MIGROS TICARET AS	90.0%
GRUPO MATEUS S.A COM NPV	88.7%
PILBARA MINERALS LTD	86.2%
MAGAZINE LUIZA S/A	85.1%
DELTA ELECTRONICS (THAILAND) PUBLIC CO LTD	84.0%
WHITEHAVEN COAL (A:WHCX)	82.9%
NEARMAP LTD	82.5%
KARUR VYSYA BANK LTD	82.1%

Worst Performers

	Return %
HUIJING HOLDINGS CO LTD	-95.6%
SUNKWAN PROPERTIES GROUP LTD	-94.8%
CINEWORLD GROUP (UKIR:CINE)	-87.2%
CIFI HOLDINGS GROUP CO LTD	-79.7%
SAIPEM SPA	-76.6%
LOGAN GROUP COMPANY LTD	-74.8%
UNIPER SE	-74.1%
Kizilbuk Gayrimenkul Yatirim Ortakligi Anonim Sirketi	-72.7%
CIFI EVER SUNSHINE SERVICES GROUP LTD	-70.4%
BICO GROUP AB (PUBL)	-69.2%

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

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.1%	0.1%	-0.1%	0.0%	-3.7%	-5.5%	3.9%	5.7%			
Materials	0.2%	0.1%	-0.1%	0.2%	-6.0%	-7.2%	5.0%	8.5%			
Industrials	-0.3%	-0.4%	0.0%	0.0%	-10.4%	-8.0%	13.7%	12.9%			
Consumer Discretionary	-0.2%	-0.1%	-0.1%	-0.1%	-12.5%	-12.3%	14.4%	11.6%			
Consumer Staples	-0.2%	-0.1%	0.0%	-0.1%	-8.1%	-6.6%	9.4%	8.6%			
Health Care	-0.3%	-0.2%	0.0%	-0.1%	-12.1%	-11.1%	11.4%	9.4%			
Financials	0.2%	-0.1%	-0.1%	0.3%	-7.6%	-7.8%	15.1%	19.0%			
Information Technology	-0.4%	-0.2%	0.0%	-0.1%	-13.2%	-11.8%	13.3%	11.0%			
Communication Services	-0.3%	-0.1%	-0.1%	-0.1%	-17.6%	-16.1%	7.8%	6.1%			
Utilities	-0.2%	-0.2%	0.0%	0.0%	-15.6%	-10.5%	3.4%	3.4%			
Real Estate	0.2%	0.0%	0.1%	0.1%	-13.6%	-13.8%	1.2%	3.6%			
Cash	0.1%	0.0%	0.1%	0.0%	0.5%	--	1.3%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	-72.7%	--	0.0%	0.0%			
Portfolio	-1.2%	=	-1.0%	+	-0.3%	+	0.2%	-10.8%	-9.6%	100.0%	100.0%

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

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	-12.5%	-11.4%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Belgium	-14.8%	-13.6%	0.2%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	-18.3%	-17.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Denmark	-9.9%	-12.0%	0.7%	1.6%	0.0%	0.0%	0.1%	0.0%	0.1%
Finland	-7.7%	-8.6%	0.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
France	-13.3%	-9.1%	5.8%	6.3%	-0.3%	0.0%	0.0%	0.0%	-0.2%
Germany	-18.4%	-13.1%	3.3%	4.6%	-0.3%	0.0%	0.1%	0.1%	-0.1%
Greece*	-7.5%	-7.5%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Hungary*	-15.2%	-15.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ireland	-0.9%	-4.6%	0.5%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Italy	-17.5%	-9.4%	2.3%	1.5%	-0.1%	0.0%	0.0%	-0.1%	-0.2%
Luxembourg	-9.0%	-9.6%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	-11.8%	-10.7%	4.6%	2.4%	0.0%	0.0%	-0.2%	0.0%	-0.2%
Norway	-15.2%	-14.5%	0.2%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	-24.7%	-24.2%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Portugal	-13.8%	-12.9%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Spain	-15.5%	-14.2%	1.4%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Sweden	-6.3%	-10.2%	1.9%	2.3%	0.1%	0.0%	0.0%	0.0%	0.1%
Switzerland	-7.4%	-7.4%	4.1%	6.0%	0.0%	0.0%	0.0%	0.0%	0.1%
United Kingdom	-13.7%	-11.8%	12.5%	10.1%	-0.2%	0.0%	-0.2%	-0.1%	-0.4%

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

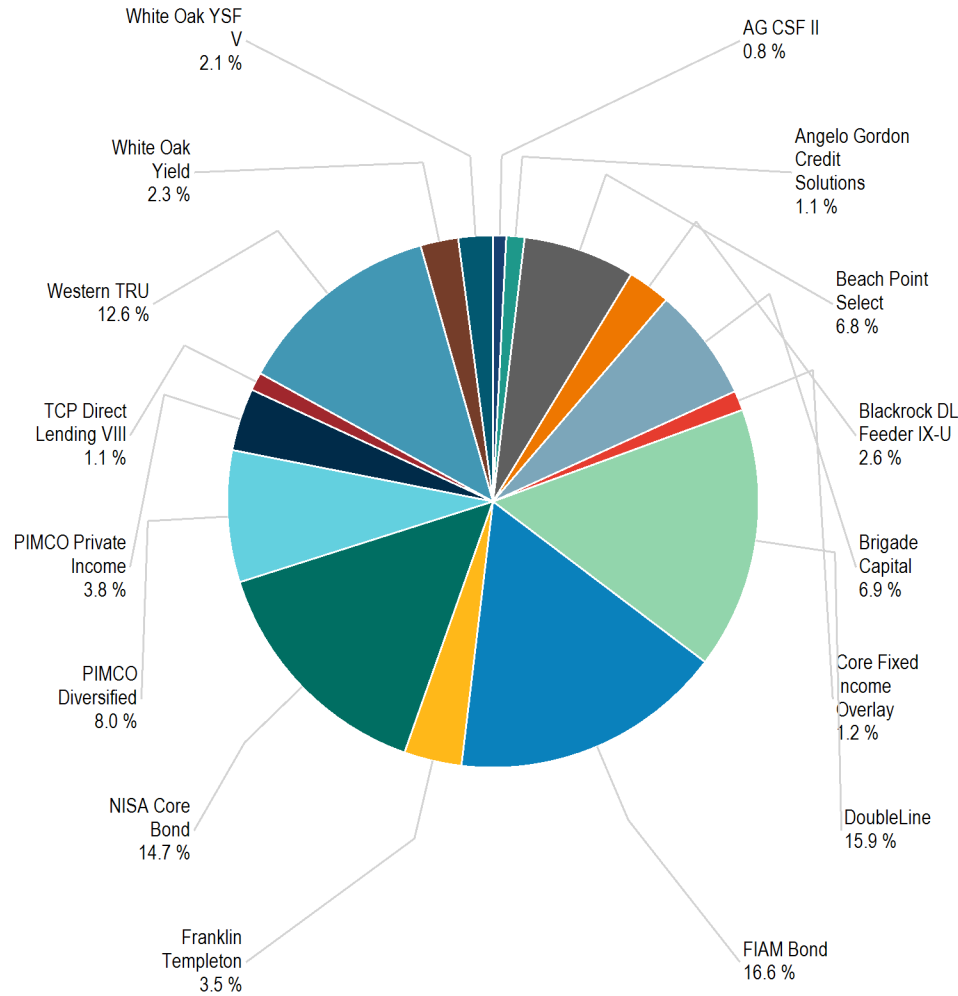
	Returns and Weights				Attribution Effects				Total Effects	
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect		
AsiaPacific										
Australia	-6.7%	-5.9%	2.5%	5.1%	0.0%	-0.1%	0.2%	0.0%	0.0%	0.0%
China*	-21.2%	-22.6%	8.5%	9.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.3%
Hong Kong	-21.3%	-16.9%	5.3%	2.0%	-0.1%	-0.4%	0.0%	-0.1%	-0.1%	-0.6%
India*	6.7%	7.6%	4.2%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Indonesia*	6.6%	6.4%	0.5%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Japan	-8.6%	-7.0%	19.4%	14.8%	-0.3%	0.2%	-0.3%	-0.1%	-0.1%	-0.4%
Korea*	-17.0%	-17.2%	3.0%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Malaysia*	-7.4%	-6.9%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	-9.9%	-5.8%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Philippines*	-11.8%	-12.4%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	-1.6%	-3.1%	1.9%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Taiwan*	-12.9%	-13.1%	4.7%	4.5%	-0.1%	0.0%	0.1%	0.0%	0.0%	0.0%
Thailand*	-6.2%	-4.2%	0.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Americas										
Argentina*	30.0%	19.9%	0.4%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
Brazil*	7.3%	8.4%	1.6%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Canada	-8.4%	-7.6%	3.4%	8.0%	-0.1%	-0.1%	0.3%	0.1%	0.1%	0.1%
Chile*	3.1%	3.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Colombia*	-20.6%	-21.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mexico*	3.8%	-4.8%	0.6%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%
Peru*	2.4%	-1.6%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
United States	-0.4%	-4.8%	1.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%

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

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	-2.0%	-0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Israel	-3.0%	-3.0%	0.2%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Kuwait*	-6.5%	-6.5%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	0.7%	0.7%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Saudi Arabia*	-0.2%	-0.2%	0.4%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	-11.6%	-11.3%	0.4%	1.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Turkey*	17.4%	17.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	-2.4%	-2.4%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	-0.5%	-5.0%	7.3%	10.3%	0.2%	-0.1%	0.3%	-0.1%	0.4%
Europe	-12.8%	-10.7%	38.9%	39.5%	-0.8%	0.0%	0.0%	0.0%	-0.8%
Asia/Pacific	-11.2%	-10.3%	51.0%	46.2%	-0.6%	-0.1%	0.0%	-0.1%	-0.7%
Other	-3.7%	-3.7%	1.4%	4.0%	0.0%	-0.1%	0.1%	0.0%	0.0%
Cash	0.5%	--	1.3%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%
Unclassified	--	--	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Total	-10.8%	-9.6%	100.0%	100.0%	-1.1%	-0.2%	0.4%	-0.1%	-1.1%
Totals									
Developed	-11.4%	-9.2%	73.0%	70.9%	-1.8%	0.0%	0.1%	-0.1%	-1.7%
Emerging*	-9.6%	-10.8%	25.7%	29.1%	0.2%	0.1%	0.2%	0.0%	0.5%
Cash	0.5%	--	1.3%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%

Fixed Income Manager Allocation Analysis

Period Ending: September 30, 2022



	Actual \$	Actual %	Manager Contribution to Excess Return %
AG CSF Annex Dislocation Fund	\$360	0.0%	0.0%
AG CSF II	\$11,700,000	0.8%	0.0%
Angelo Gordon Credit Solutions	\$15,200,000	1.1%	0.0%
Angelo Gordon Opportunistic	\$243,044	0.0%	0.0%
Beach Point Select	\$94,847,689	6.8%	-0.1%
Blackrock DL Feeder IX-U	\$35,886,150	2.6%	0.0%
Brigade Capital	\$95,448,801	6.9%	-0.1%
DoubleLine	\$221,557,175	15.9%	0.0%
FIAM Bond	\$231,153,009	16.6%	0.1%
Franklin Templeton	\$48,534,655	3.5%	0.0%
NISA Core Bond	\$204,436,929	14.7%	0.0%
PIMCO Diversified	\$110,968,582	8.0%	0.0%
PIMCO Private Income	\$52,605,798	3.8%	0.0%
TCP Direct Lending VIII	\$15,902,003	1.1%	0.0%
Western TRU	\$174,962,458	12.6%	-0.6%
White Oak Yield	\$32,081,157	2.3%	0.0%
White Oak YSF V	\$29,540,498	2.1%	0.0%
Core Fixed Income Overlay	\$16,439,633	1.2%	0.0%
Actual vs. Policy Weight Difference			0.3%
Total	\$1,391,507,940	100.0%	-0.4%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	-1.2%	5.1%	-0.3	0.5	2.3%
Blended Fixed Income Index	-2.3%	6.3%	-0.4	--	0.0%
Core Fixed	-2.8%	5.0%	-0.7	0.3	1.4%
Bloomberg US Aggregate TR	-3.3%	5.4%	-0.7	--	0.0%
FIAM Bond	-2.1%	5.8%	-0.5	0.7	1.5%
Bloomberg US Aggregate TR	-3.3%	5.4%	-0.7	--	0.0%
Western TRU	-2.9%	7.5%	-0.4	-0.5	7.6%
3-Month Libor Total Return USD	0.9%	0.3%	1.4	--	0.0%
Opportunistic Credit	1.6%	7.4%	0.2	0.3	5.5%
Bloomberg BA Intermediate HY	-0.2%	10.0%	-0.1	--	0.0%
Angelo Gordon Opportunistic	8.9%	20.2%	0.4	0.6	20.8%
Bloomberg US Aggregate TR	-3.3%	5.4%	-0.7	--	0.0%
Beach Point Select	6.4%	9.5%	0.6	1.0	6.3%
Bloomberg BA Intermediate HY	-0.2%	10.0%	-0.1	--	0.0%
Brigade Capital	3.2%	12.5%	0.2	0.4	7.9%
Bloomberg BA Intermediate HY	-0.2%	10.0%	-0.1	--	0.0%
PIMCO Diversified	-3.6%	8.9%	-0.5	-0.2	1.2%
Blended PIMCO Diversified Index	-3.4%	9.5%	-0.4	--	0.0%
Franklin Templeton	-9.5%	7.5%	-1.3	-0.7	5.7%
Bloomberg Multiverse TR	-5.6%	7.0%	-0.9	--	0.0%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Private Credit	5.9%	4.2%	1.3	-0.8	2.3%
Cliffwater Direct Lending Index	7.6%	5.6%	1.3	--	0.0%
PIMCO Private Income	7.5%	8.6%	0.8	0.7	10.5%
Bloomberg BA Intermediate HY	-0.2%	10.0%	-0.1	--	0.0%
TCP Direct Lending VIII	4.5%	3.4%	1.2	-0.6	4.8%
Cliffwater Direct Lending Index	7.6%	5.6%	1.3	--	0.0%
White Oak Yield	5.4%	2.9%	1.7	-0.6	3.6%
Cliffwater Direct Lending Index	7.6%	5.6%	1.3	--	0.0%

Statistics Summary

5 Years

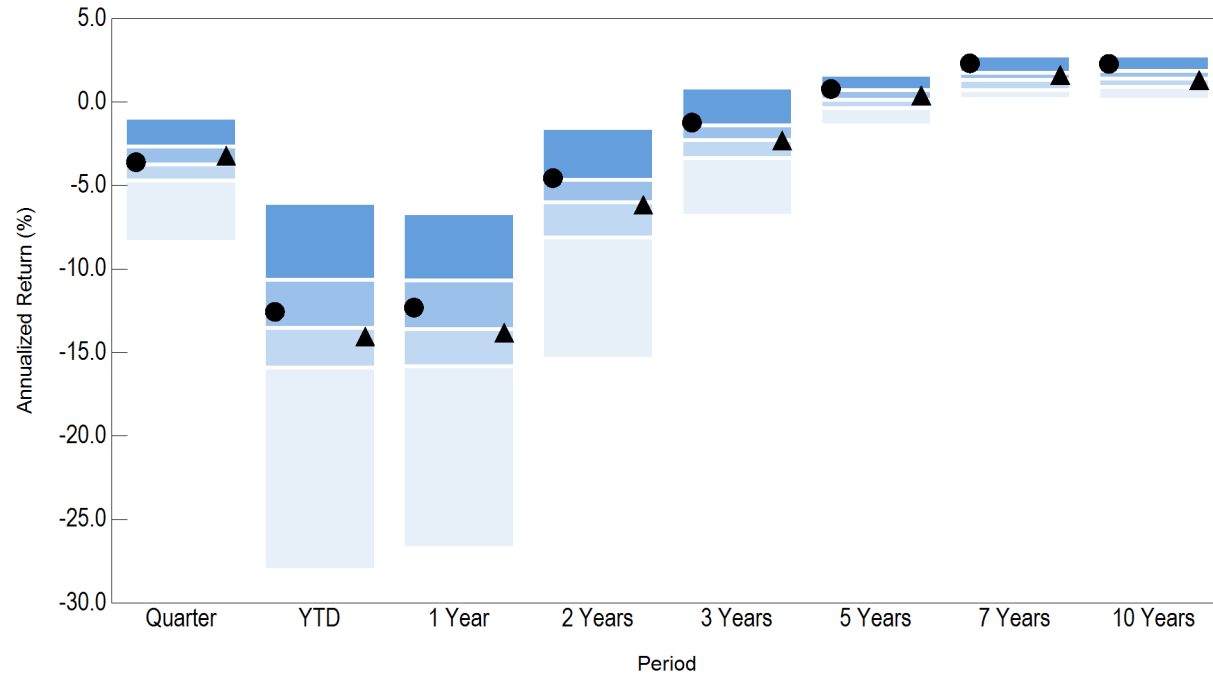
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	0.8%	4.2%	-0.1	0.2	2.1%
Blended Fixed Income Index	0.4%	5.3%	-0.1	--	0.0%
Core Fixed	-0.3%	4.3%	-0.3	0.0	1.4%
Bloomberg US Aggregate TR	-0.3%	4.8%	-0.3	--	0.0%
FIAM Bond	0.5%	5.0%	-0.1	0.6	1.2%
Bloomberg US Aggregate TR	-0.3%	4.8%	-0.3	--	0.0%
Western TRU	-0.9%	6.3%	-0.3	-0.4	6.3%
3-Month Libor Total Return USD	1.5%	0.3%	1.2	--	0.0%
Opportunistic Credit	2.8%	6.0%	0.3	0.2	4.6%
Bloomberg BA Intermediate HY	1.8%	8.1%	0.1	--	0.0%
Angelo Gordon Opportunistic	13.3%	16.8%	0.7	0.8	17.4%
Bloomberg US Aggregate TR	-0.3%	4.8%	-0.3	--	0.0%
Beach Point Select	6.2%	7.6%	0.7	0.8	5.2%
Bloomberg BA Intermediate HY	1.8%	8.1%	0.1	--	0.0%
Brigade Capital	3.0%	10.0%	0.2	0.2	6.5%
Bloomberg BA Intermediate HY	1.8%	8.1%	0.1	--	0.0%
PIMCO Diversified	-0.2%	7.3%	-0.2	0.0	1.1%
Blended PIMCO Diversified Index	-0.2%	7.8%	-0.2	--	0.0%
Franklin Templeton	-6.1%	7.6%	-0.9	-0.5	7.1%
Bloomberg Multiverse TR	-2.3%	6.0%	-0.6	--	0.0%

Statistics Summary

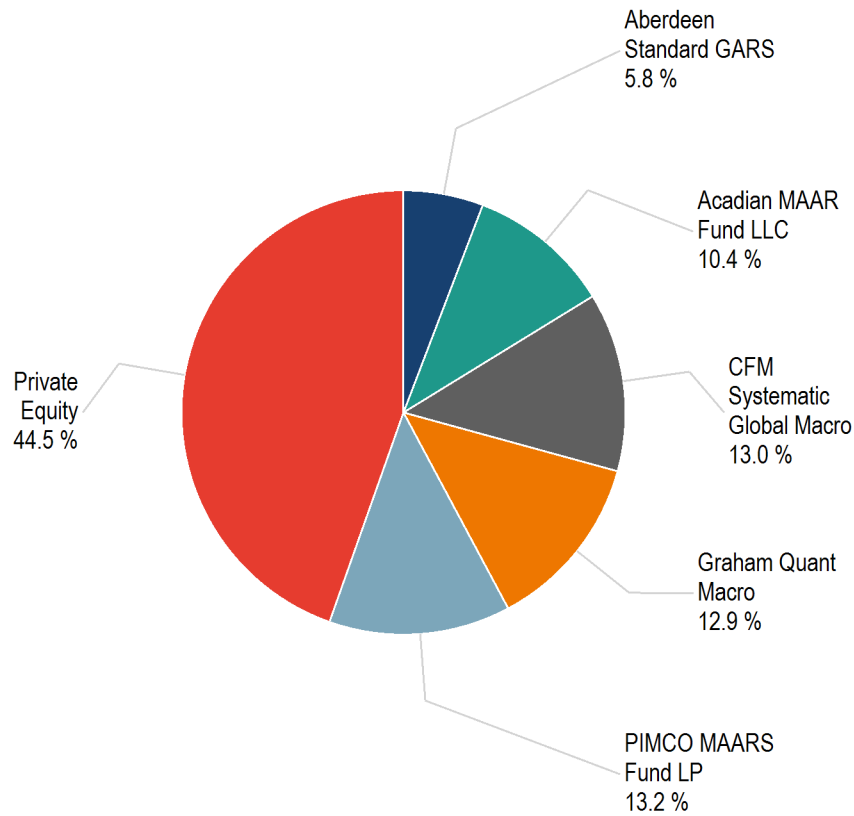
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Private Credit	6.6%	3.5%	1.6	-0.6	2.3%
Cliffwater Direct Lending Index	8.0%	4.9%	1.4	--	0.0%
TCP Direct Lending VIII	5.5%	2.8%	1.6	-0.6	4.5%
Cliffwater Direct Lending Index	8.0%	4.9%	1.4	--	0.0%
White Oak Yield	6.3%	3.1%	1.7	-0.6	2.9%
Cliffwater Direct Lending Index	8.0%	4.9%	1.4	--	0.0%

InvMetrics All DB Total Fix Inc Net Return Comparison



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	-1.0	-6.1	-6.7	-1.6	0.8	1.6	2.8	2.8
25th Percentile	-2.7	-10.6	-10.7	-4.7	-1.4	0.7	1.8	1.9
Median	-3.7	-13.5	-13.6	-6.0	-2.3	0.1	1.3	1.4
75th Percentile	-4.7	-15.9	-15.8	-8.1	-3.3	-0.3	0.7	0.9
95th Percentile	-8.4	-28.0	-26.7	-15.4	-6.8	-1.4	0.2	0.2
# of Portfolios	245	230	221	219	217	205	185	147
● Fixed Income	-3.6 (47)	-12.6 (38)	-12.3 (36)	-4.6 (25)	-1.2 (22)	0.8 (20)	2.3 (8)	2.3 (12)
▲ Blended Fixed Income Index	-3.2 (36)	-14.0 (55)	-13.8 (53)	-6.2 (53)	-2.3 (51)	0.4 (38)	1.6 (33)	1.3 (57)



	Actual \$	Actual %	Manager Contribution to Excess Return %
Aberdeen Standard GARS	\$47,653,109	5.8%	-0.3%
Acadian MAAR Fund LLC	\$85,165,510	10.4%	0.2%
CFM Systematic Global Macro	\$106,182,154	13.0%	0.9%
Graham Quant Macro	\$105,511,190	12.9%	-0.1%
PIMCO MAARS Fund LP	\$108,018,535	13.2%	0.9%
Private Equity	\$363,387,123	44.5%	3.8%
Actual vs. Policy Weight Difference			0.5%
Total	\$815,917,620	100.0%	5.8%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	14.4%	14.7%	0.9	0.4	14.3%
Blended Alternatives Index	8.7%	9.2%	0.9	--	0.0%
Private Equity	23.2%	25.5%	0.9	0.4	24.6%
Blended Private Equity Index	12.8%	18.9%	0.7	--	0.0%
Hedge Fund/Absolute Return	2.4%	7.6%	0.2	-0.3	7.7%
Absolute Return Custom Index	4.6%	0.2%	16.4	--	0.0%
Aberdeen Standard GARS	-1.4%	5.1%	-0.4	-1.2	5.1%
Absolute Return Custom Index	4.6%	0.2%	16.4	--	0.0%

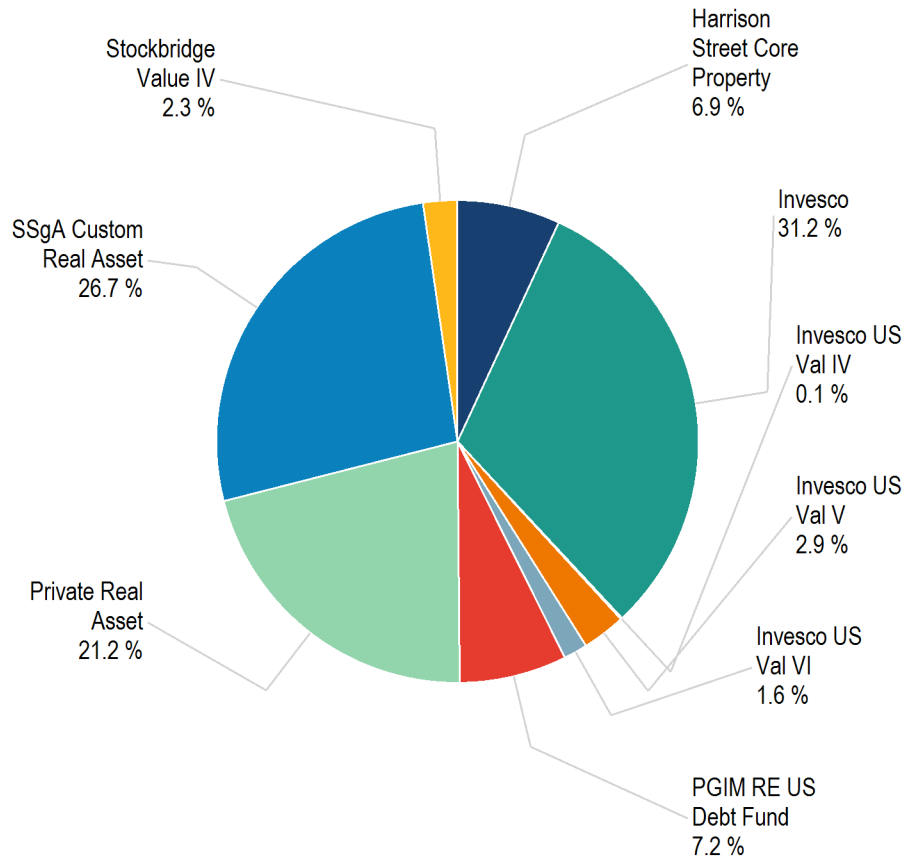
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	11.4%	12.3%	0.8	0.2	12.3%
Blended Alternatives Index	9.0%	8.5%	0.9	--	0.0%
Private Equity	22.0%	21.2%	1.0	0.4	21.3%
Blended Private Equity Index	12.4%	17.3%	0.7	--	0.0%
Hedge Fund/Absolute Return	-1.1%	6.7%	-0.3	-0.9	6.8%
Absolute Return Custom Index	5.2%	0.3%	13.8	--	0.0%
Aberdeen Standard GARS	-0.2%	4.7%	-0.3	-1.1	4.7%
Absolute Return Custom Index	5.2%	0.3%	13.8	--	0.0%

Inflation Hedge Manager Allocation Analysis

Period Ending: September 30, 2022



	Actual \$	Actual %	Manager Contribution to Excess Return %
Harrison Street Core Property	\$72,606,874	6.9%	0.1%
Invesco	\$329,726,685	31.2%	0.3%
Invesco US Val IV	\$1,347,468	0.1%	-0.1%
Invesco US Val V	\$30,297,027	2.9%	0.0%
Invesco US Val VI	\$16,563,296	1.6%	0.0%
PGIM RE US Debt Fund	\$75,990,888	7.2%	0.1%
Stockbridge Value IV	\$24,739,655	2.3%	0.0%
Private Real Asset	\$223,902,087	21.2%	1.3%
SSGA Custom Real Asset	\$281,700,897	26.7%	0.0%
Actual vs. Policy Weight Difference			-0.2%
Total	\$1,056,874,877	100.0%	1.5%

Statistics Summary

3 Years

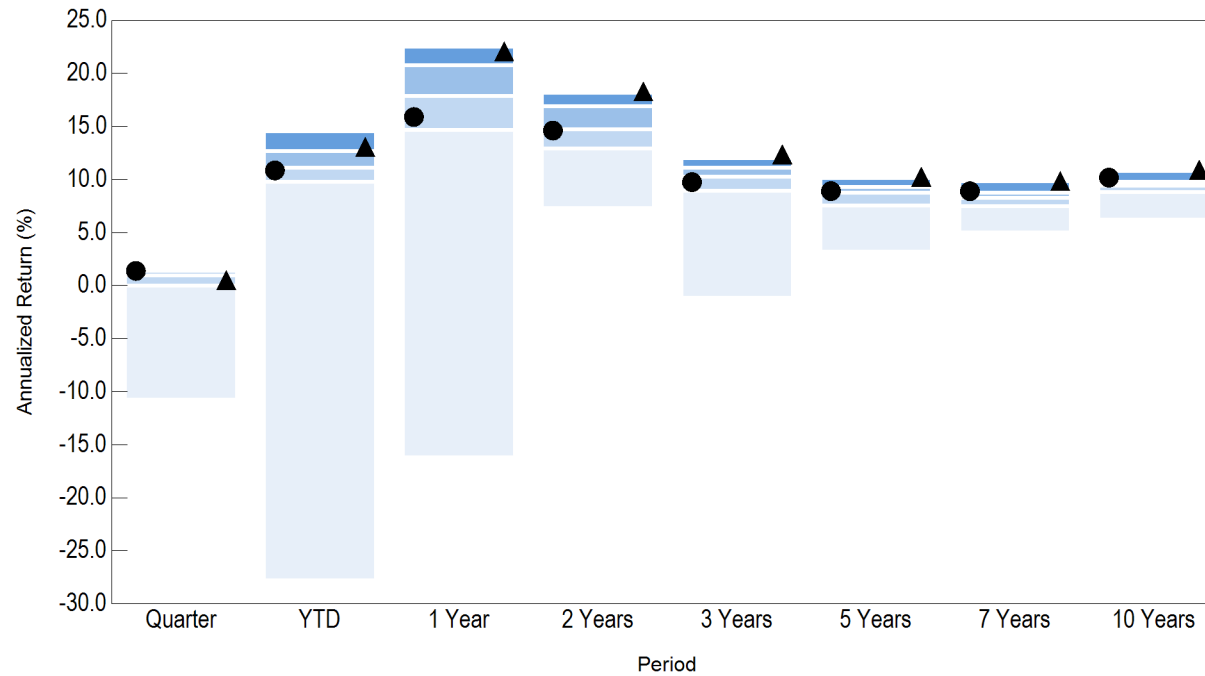
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Inflation Hedge	6.4%	7.7%	0.8	-0.9	4.6%
Blended Inflation Hedge Index	10.4%	8.0%	1.2	--	0.0%
Real Estate	9.8%	5.9%	1.6	-0.9	2.8%
NCREIF ODCE	12.4%	7.8%	1.5	--	0.0%
Invesco	11.1%	7.9%	1.3	-0.5	2.5%
NCREIF ODCE	12.4%	7.8%	1.5	--	0.0%
Invesco US Val IV	-11.2%	23.3%	-0.5	-1.0	23.4%
NCREIF ODCE	12.4%	7.8%	1.5	--	0.0%
Invesco US Val V	13.0%	9.4%	1.3	0.1	7.0%
NCREIF ODCE	12.4%	7.8%	1.5	--	0.0%
PGIM RE US Debt Fund	5.2%	1.3%	3.6	-0.9	7.6%
NCREIF ODCE	12.4%	7.8%	1.5	--	0.0%
Private Real Asset	12.8%	13.1%	0.9	0.3	22.5%
Blended Private Real Asset Index	6.7%	20.7%	0.3	--	0.0%
Public Real Assets	0.7%	20.4%	0.0	-1.0	4.2%
Blended Public Real Asset Index	4.9%	17.5%	0.3	--	0.0%
SSgA Custom Real Asset	4.9%	17.3%	0.3	0.0	0.9%
SSgA Custom Real Asset Index	4.9%	17.5%	0.3	--	0.0%

Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error Rank
Inflation Hedge	5.1%	6.6%	0.6	-0.8	--
Blended Inflation Hedge Index	8.0%	6.8%	1.0	--	--
Real Estate	8.9%	5.0%	1.6	-0.6	38
NCREIF ODCE	10.2%	6.3%	1.5	--	1
Invesco	9.7%	6.4%	1.3	-0.3	--
NCREIF ODCE	10.2%	6.3%	1.5	--	--
Invesco US Val IV	-2.7%	18.4%	-0.2	-0.7	--
NCREIF ODCE	10.2%	6.3%	1.5	--	--
PGIM RE US Debt Fund	5.7%	2.0%	2.3	-0.8	--
NCREIF ODCE	10.2%	6.3%	1.5	--	--
Private Real Asset	5.4%	11.9%	0.4	0.0	--
Blended Private Real Asset Index	5.9%	17.8%	0.3	--	--
Public Real Assets	0.5%	17.3%	0.0	-0.9	--
Blended Public Real Asset Index	3.4%	15.1%	0.2	--	--
SSgA Custom Real Asset	3.5%	15.0%	0.2	0.0	--
SSgA Custom Real Asset Index	3.4%	15.1%	0.2	--	--

InvMetrics All DB Real Estate Pub Net Return Comparison



Return (Rank)

5th Percentile	1.7	14.5	22.5	18.2	12.0	10.1	9.8	10.8
25th Percentile	1.4	12.7	20.8	17.0	11.1	9.3	8.8	9.8
Median	1.0	11.1	17.9	14.8	10.3	8.8	8.3	9.5
75th Percentile	0.0	9.8	14.7	12.9	8.9	7.6	7.5	8.9
95th Percentile	-10.7	-27.8	-16.1	7.3	-1.1	3.2	5.1	6.2
# of Portfolios	73	71	71	69	69	68	63	59
● Real Estate	1.4 (35)	10.9 (58)	15.9 (65)	14.6 (53)	9.8 (63)	8.9 (44)	8.9 (24)	10.2 (13)
▲ NCREIF ODCE	0.5 (65)	13.1 (17)	22.1 (10)	18.3 (5)	12.4 (5)	10.2 (3)	9.8 (4)	10.9 (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 inceptioned in November 2017. MAARS targets a volatility of 6%-8% and a return of cash plus 5%. This is a multi-factor strategy that aims to exploit behavioral inefficiencies within and across global markets and is designed to be diversifying, dynamic and defensive. It is market neutral, implemented using long and short positions across five primary asset classes (equity, fixed income, currency, commodities, and volatility) and over 100 underlying assets with a focus on liquid instruments. Return forecasts incorporate asset-specific and macroeconomic insights and are utilized to harvest active returns from within and across asset classes through market selection and directional positioning. The strategy integrates risk and return across asset classes. Avoidance of downside events is highlighted in the approach with a greater weighting in their models allocated to down market beneficiaries, such as quality factors, and asymmetric positioning which reduces positions when risk rises. Differentiated attributes of this approach are its approach and weighting to commodities and its volatility sleeve which can incorporate long volatility.

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

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

Angelo, Gordon & Co. – Credit Solutions

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

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

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 60-90 stocks, with country and sector weights +/-10% relative to the index and stock weights +/- 5% relative to the index.

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

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

BlackRock – MSCI ACWI ex US IMI Index

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

BlackRock – Russell 1000 Index

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

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

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

Brigade – Opportunistic Credit

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

CFM - Systematic Global Macro

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

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

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

DoubleLine – Securitized Income

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

Fidelity (FIAM) – Broad Market Duration Commingled Pool

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

Franklin Templeton Investments – Global Fixed Income

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

Graham – Quant Macro Fund

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

Harrison Street Core Property

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

INVESCO Realty Advisors – INVESCO Core Equity, LLC

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

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

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

Insight Investments – Cash Flow Matched Liquidity

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

Mondrian Investment Partners – International Equity

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

NISA – Core Bond

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

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

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

Parametric Overlay – Cash Overlay and Currency Hedge

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

PIMCO Diversified

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

PIMCO – MAARS

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

PIMCO Private Income Fund

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

PGIM RE Debt

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

Quantitative Management Associates – QMA Small-Cap Core

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

State Street Global Advisors (SSgA) Custom Real Asset

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

Stockbridge Value IV

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

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

Period Ending: September 30, 2022

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

Policy Index and Benchmark History

Period Ending: September 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 US Govt/Credit 1-3 Yr. TR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
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%

Policy Index and Benchmark History

Period Ending: September 30, 2022

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

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

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

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

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

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

Policy Index and Benchmark History

Period Ending: September 30, 2022

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

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

Inflation Hedge Benchmark		As of:							
	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%	

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

Policy Index and Benchmark History

Period Ending: September 30, 2022

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

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

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

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

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

Fee Schedule

Period Ending: September 30, 2022

Acadian Asset Management

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

Baillie Gifford

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

BlackRock-Russell 1000 Index Fund

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

On All Assets:	0.045% per annum
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DoubleLine

On All Assets:	0.30% per annum
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NISA

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

Franklin Templeton Investment

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

FIAM Bond

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

PanAgora Asset Management

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

Parametric Overlay

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

Parametric Currency Overlay

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

PIMCO Diversified

On All Assets:	0.75% per annum
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QMA

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

Western Asset Management

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

Mondrian Investment Partners

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

Insight Investment

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

Manager Compliance (Net)

Period Ending: September 30, 2022

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
Acadian US MGD V	Russell 1000	--	--	--
DE Shaw	Russell 1000	R	R	R
PanAgora Defuseq	Russell 1000	--	--	--
PGIM Quant Solutions	Russell 2000	R	R	R
Baillie Gifford	MSCI ACWI ex US	R	R	✓
Mondrian	MSCI ACWI ex USA Value Gross	R	R	R
DoubleLine	Bloomberg US Aggregate TR	--	--	--
FIAM Bond	Bloomberg US Aggregate TR	✓	✓	✓
NISA Core Bond	Bloomberg US Aggregate TR	--	--	--
Western TRU	3-Month Libor Total Return USD	R	R	R
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	R	R	R
Franklin Templeton	Bloomberg Multiverse TR	R	R	R
Blackrock DL Feeder IX-U	Cliffwater Direct Lending Index	--	--	--
PIMCO Private Income	Bloomberg BA Intermediate HY	--	--	--
TCP Direct Lending VIII	Cliffwater Direct Lending Index	R	✓	R
White Oak Yield	Cliffwater Direct Lending Index	R	✓	✓
White Oak YSF V	Cliffwater Direct Lending Index	--	--	--
Aberdeen Standard GARS	Absolute Return Custom Index	R	R	R
Acadian MAAR Fund LLC	Absolute Return Custom Index	--	--	--
CFM Systematic Global Macro	Absolute Return Custom Index	--	--	--
Graham Quant Macro	Absolute Return Custom Index	--	--	--
PIMCO MAARS Fund LP	Absolute Return Custom Index	--	--	--

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

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

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

Manager Compliance (Gross)

Period Ending: September 30, 2022

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
Acadian US MGD V	Russell 1000	--	--	--
DE Shaw	Russell 1000	R	✓	R
PanAgora Defuseq	Russell 1000	--	--	--
PGIM Quant Solutions	Russell 2000	R	R	R
Baillie Gifford	MSCI ACWI ex US	✓	R	✓
Mondrian	MSCI ACWI ex USA Value Gross	R	R	R
DoubleLine	Bloomberg US Aggregate TR	--	--	--
FIAM Bond	Bloomberg US Aggregate TR	✓	✓	✓
NISA Core Bond	Bloomberg US Aggregate TR	--	--	--
Western TRU	3-Month Libor Total Return USD	R	R	R
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	R	R	R
Franklin Templeton	Bloomberg Multiverse TR	R	R	R
Blackrock DL Feeder IX-U	Cliffwater Direct Lending Index	--	--	--
PIMCO Private Income	Bloomberg BA Intermediate HY	--	--	--
TCP Direct Lending VIII	Cliffwater Direct Lending Index	R	✓	R
White Oak Yield	Cliffwater Direct Lending Index	R	✓	✓
White Oak YSF V	Cliffwater Direct Lending Index	--	--	--
Aberdeen Standard GARS	Absolute Return Custom Index	R	R	R
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**

4TH QUARTER 2022
Investment Landscape

Verus business update

Since our last Investment Landscape webinar:

- *Chief Investment Officer* has nominated Verus for its **2022 Innovation Awards** in the Diversity category, recognizing Verus President, Shelly Heier's work to progress the [Institutional Investing Diversity Cooperative \(iidcoop.org\)](https://iidcoop.org) mission promote greater diversity in the institutional asset management industry.
- The firm continues to grow with two new clients, located on the West Coast and in the Midwest.
- Verus has hired several new employees. **Colleen Flannery**, Associate Director | Public Markets; **Jason Fajardo**, Performance Analyst; **Sam Geschickter**, Portfolio Management Associate; **Linda Wu, CFA**, Senior Consulting Associate; and **Amanda Schroeder**, Director of Marketing.
- Recent research, found at verusinvestments.com/insights
 - In August, we put out a short video on our *Perspectives on the recession and the economy*
 - In September, we released a whitepaper on *Opportunities in small caps*
 - This month, we shared our **2022 Private Equity Outlook** and a paper called, *Minding the gap: Insights into actuarial assumed rate of return*

Recent Verus research

Visit: <https://www.verusinvestments.com/insights/>

Topics of interest papers

OPPORTUNITIES IN SMALL CAPS

In this Topic of Interest white paper, we first briefly walk through the original small cap premium thesis and research that led to its industry-wide recognition. Forty years have passed since much of this analysis was conducted, so in this section we take a look at whether the small cap effect has remained statistically significant. Next, we discuss active management opportunities in small caps, as these businesses are smaller and less covered by analysts. Last, many U.S. companies are staying private for longer. We cover this trend and its implications for the small cap market, which is directly impacted by the private/public decisions of younger businesses.

MINDING THE GAP: INSIGHTS INTO ACTUARIAL ASSUMED RATE OF RETURN

As consultants, we are often asked “how can we support a strategic asset allocation with an expected return (ER) that is different from the actuarial assumed rate of return (AARR)?” We believe Plan sponsors with a gap between these two metrics should work to bring the ER and AARR in line. Boards may face modest differences for three distinct reasons – each have countervailing reasons for closing the gap they cause. First, it might be argued that these forecasts are built for different purposes. Second, there is variability in ER forecasts as markets fluctuate year-to-year. Third, the timeframe over which the forecasts are used differs. In this paper, we further explain this reasoning and conclude by offering approaches for Plans to reduce any mismatch between ER and AARR to a reasonable level, which we generally believe to be less than 0.5%.

Annual research

2022 PRIVATE EQUITY OUTLOOK

In the 2022 Private Equity Outlook, we focus attention on the rise of GP-led continuation funds and what investors should consider when evaluating such opportunities. The outlook also addresses the following observations:

- Late-stage venture valuations have increased, and involvement of nontraditional investors has shifted
- Private equity deal activity has slowed in the face of rising interest rates and falling public markets
- Venture capital activity has slowed while fundraising remains strong
- Direct lending continues to drive investor interest while distressed debt and special situations credit have received more attention
- As many factors continue to impact the public markets and create volatility, the secondary market continues to grow

Table of contents



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Economic environment 7

Fixed income rates & credit 20

Equity 27

Other assets 36

Appendix 39

3rd quarter summary

THE ECONOMIC CLIMATE

- U.S. real GDP fell in Q2 for a second consecutive quarter, down -0.6% annualized (+1.6% over the past full year). Forecasts suggest a potential growth turnaround in the third quarter; the Atlanta Fed GDPNow forecast indicated a growth rate of 2.8% and economists expected 0.9% as of October 14th. **p. 9**
- The U.S. dollar delivered an impressive rally year-to-date, appreciating approximately 15% relative to major currencies. A stronger dollar may result in slowing U.S. exports as domestic goods become more expensive to foreign buyers, and lower inflation as American businesses and households are able to purchase foreign goods at cheaper prices. **p. 9**

PORTFOLIO IMPACTS

- September inflation figures conveyed two stories: first, U.S. core CPI (excludes food & energy) remained elevated, rising 0.6% during the month to a new 40-year high of 6.6% year-over-year; second, headline inflation (includes all prices) continued to show another more moderate monthly print of 0.4% but remained high at 8.2% year-over-year. **p. 10**
- Credit performance was mixed during Q3, with lower duration exposures faring better than higher duration. Fears of a looming recession remained as the Fed's 75 basis point rate hikes in both July and September reinforced its intention to fight inflation until the "job is done." **p. 25**

THE INVESTMENT CLIMATE

- The Russia Ukraine war may be taking a turn, as Ukraine's counteroffensive gains steam. In a rare admission, Russia's Defense Ministry spokesman Igor Konashenkov acknowledged recent defeats: "With numerically superior tank units in the direction of Zolota Balka and Oleksandrivka, the enemy managed to forge deep into our defenses." **p. 17**
- The broad market selloff increased in intensity as global central banks hiked interest rates, effectively withdrawing liquidity from the financial system. Higher interest rates and central bank balance sheet winddowns mark a major change from the liquidity-driven environment of the past decade. **p. 22 & 23**

ASSET ALLOCATION ISSUES

- Markets year-to-date have delivered sharp losses across nearly every asset class, including double digit losses of core fixed income (Bloomberg US Aggregate Bond -10.8%). Historically speaking, these moves have been highly unusual and reflect an environment where diversification has not served investors well. **p. 34**
- Growth stocks outperformed value stocks during the quarter (Russell 1000 Growth -3.6% vs Russell 1000 Value -5.6%), and small capitalization stocks outperformed large capitalization stocks (Russell 2000 -2.2%, Russell 1000 -4.7%). **p. 30**

The broad market selloff has increased in severity, as central banks remove liquidity from the global financial system

What drove the market in Q3?

“U.S. Consumer Prices Rise Sharply Despite Fed Rate Increases”

HEADLINE CONSUMER PRICE INFLATION (YEAR-OVER-YEAR)

Apr	May	Jun	Jul	Aug	Sep
8.3%	8.6%	9.1%	8.5%	8.3%	8.2%

Article Source: Financial Times, October 13th, 2022

“U.S. Job Growth Eases, but Is Too Strong to Suit Investors”

CHANGE IN NON-FARM PAYROLLS

Apr	May	Jun	Jul	Aug	Sep
+368k	+386k	+293k	+526k	+315k	+263k

Article Source: New York Times, October 7th, 2022

“Dollar’s Rise Spells Trouble for Global Economies”

U.S. DOLLAR INDEX PRICE LEVEL

Apr	May	Jun	Jul	Aug	Sep
103.0	101.8	104.7	105.9	108.8	112.1

Article Source: Wall Street Journal, September 19th, 2022

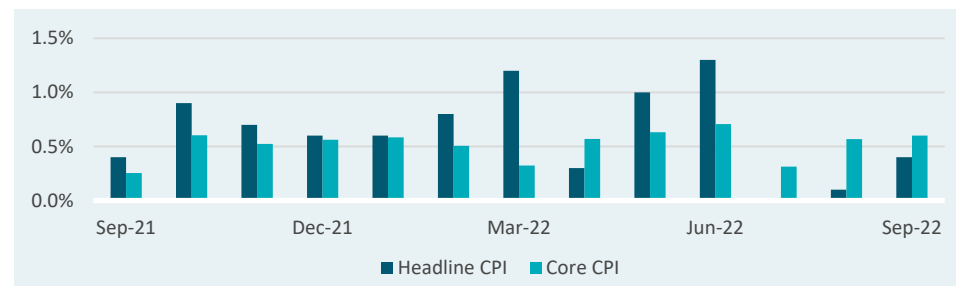
“Mortgage Demand Drops as Rates Top 6%”

FREDDIE MAC U.S. 30-YEAR FIXED RATE MORTGAGE RATE

Sep 2021	May	Jun	Jul	Aug	Sep
3.01%	5.10%	5.70%	5.30%	5.66%	6.70%

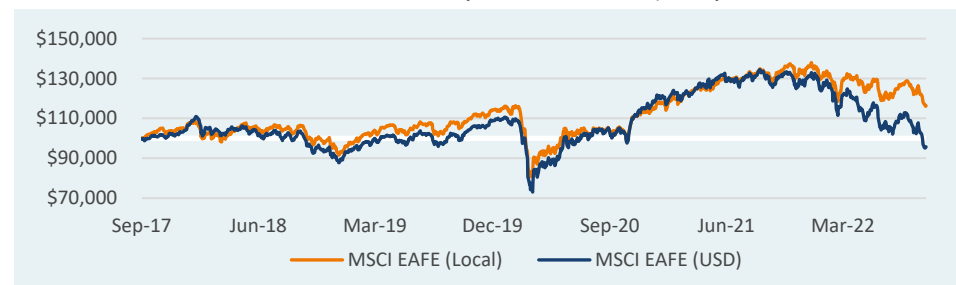
Article Source: CNBC, September 14th, 2022

U.S. HEADLINE & CORE CPI (MONTH-OVER-MONTH)



Source: Bureau of Labor Statistics, as of 9/30/22

MSCI EAFE LOCAL VS USD RETURNS, GROWTH OF \$100,000



Source: MSCI, Bloomberg, as of 9/30/22

U.S. EXISTING HOME SALES (YEAR-OVER-YEAR % CHANGE)



Source: National Association of Realtors, as of 8/31/22

Economic environment

U.S. economics summary

- U.S. real GDP fell in Q2 for a second consecutive quarter, down -0.6% annualized (+1.6% over the past full year). Forecasts suggest a potential growth turnaround in the third quarter; the Atlanta Fed GDPNow forecast indicated a growth rate of 2.8% and economists expected 0.9% as of October 14th.
- U.S. core CPI remained elevated in September, rising 0.6% during the month to a new 40-year high of 6.6% year-over-year. Headline inflation continued to show another more moderate monthly print of 0.4% but remained high at 8.2% year-over-year.
- Unemployment fell slightly from 3.6% in June to 3.5% in September, which did not reflect an increase in employment but rather the departure of some Americans from the job market altogether. Weekly initial jobless claims—a measure of the number of workers who filed for unemployment during any given week—moved higher during Q2 to 244,000 in early July but has since fallen to 193,000 in late September.
- The U.S. dollar has appreciated roughly 15% relative to major currencies. A stronger dollar may result in slowing U.S. exports as domestic goods become more expensive to foreign buyers, and lower inflation as American businesses and households are able to purchase foreign goods at cheaper prices.
- Coverage of COVID-19 has tended to focus on the health impacts in a binary way: either the infected individual recovers (and lives) or does not recover (and is deceased). There is a growing body of research by medical experts that suggests a significant portion of survivors face longer-term, often severe, health problems. These issues are known as “long COVID” and may be the primary cause for a severe shrinking of the U.S. labor force.

	Most Recent	12 Months Prior
Real GDP (YoY)	1.6% 6/30/22	12.5% 6/30/21
Inflation (CPI YoY, Core)	6.6% 9/30/22	4.0% 9/30/21
Expected Inflation (5yr-5yr forward)	2.1% 9/30/22	2.2% 9/30/21
Fed Funds Target Range	3.00% – 3.25% 9/30/22	0.00% – 0.25% 9/30/21
10-Year Rate	3.83% 9/30/22	1.49% 9/30/21
U-3 Unemployment	3.5% 9/30/22	4.7% 9/30/21
U-6 Unemployment	6.7% 9/30/22	8.5% 9/30/21

GDP growth

U.S. real GDP fell in Q2 for a second consecutive quarter, down -0.6% 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%). Forecasts suggest a potential growth turnaround in the third quarter; the Atlanta Fed GDPNow forecast indicated a growth rate of 2.8% and economists expected 0.9% as of October 14th.

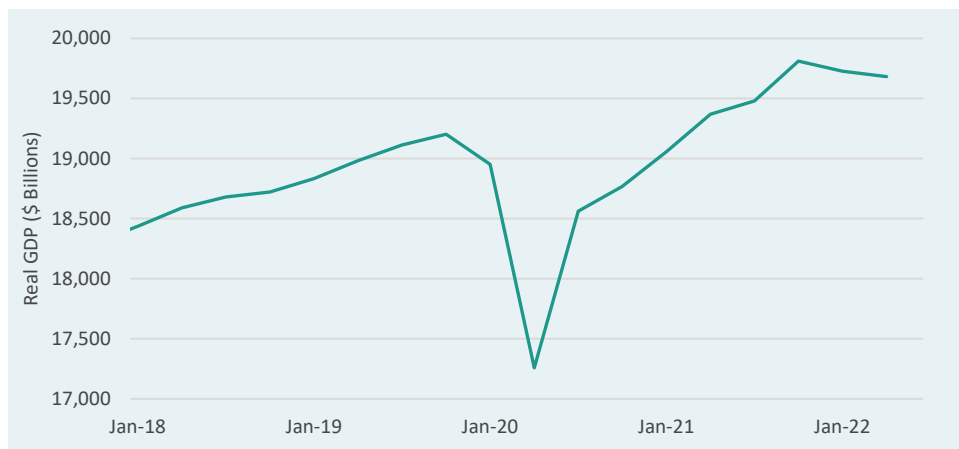
It is possible that the U.S. has avoided technical recession, for now, especially if third quarter GDP growth shows a positive figure. Pundits remain primarily focused on the relatively strong labor market to justify their claims that the U.S. is not in fact

experiencing recession, and slightly positive consumer spending growth during 2022 also adds to their argument.

The U.S. dollar has delivered an impressive rally year-to-date, appreciating approximately 15% relative to other major currencies. Two expected economic impacts of a rising U.S. dollar, all else equal, include: a slowdown in U.S. exports as domestic goods become more expensive to foreign buyers; and lower inflation as American businesses and households are able to purchase foreign goods at cheaper prices. Other countries such as the U.K. may be seeing the opposite of these effects as their domestic currencies fall in value.

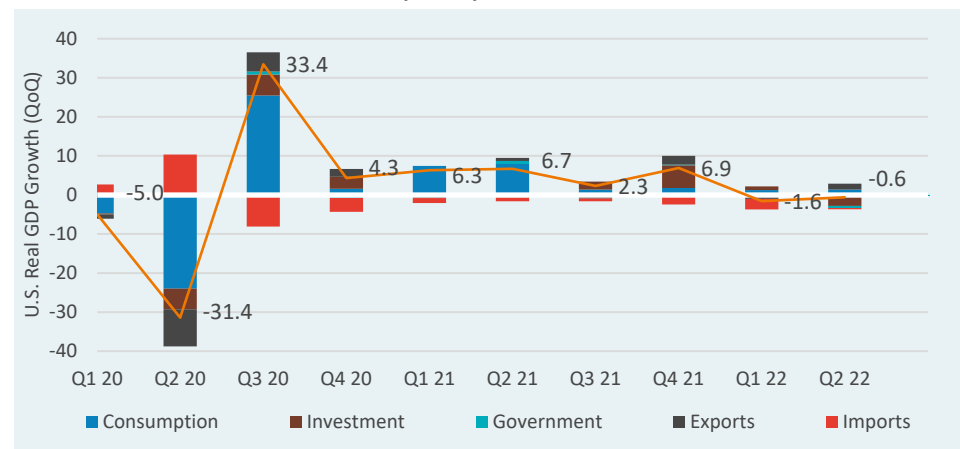
It remains unclear whether the U.S. has entered recession

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

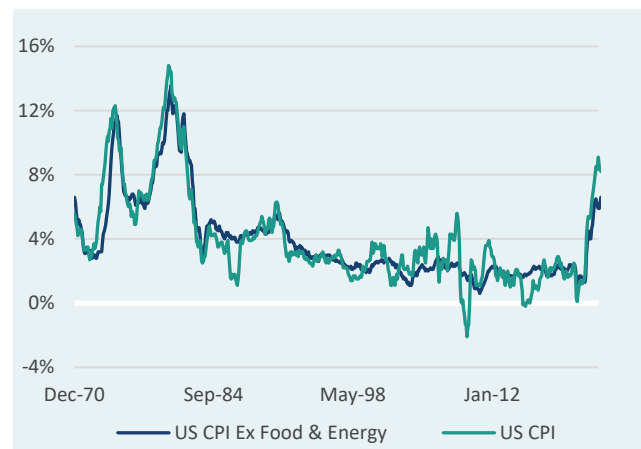
The September inflation print conveyed two separate stories: first, that U.S. core CPI (excludes food & energy) remained elevated, rising 0.6% during the month to a new 40-year high of 6.6% year-over-year; second, headline inflation (includes all prices) continued to show another more moderate monthly print of 0.4%, but remains high at 8.2% year-over-year.

We see a variety of economic developments that suggest inflation is abating, although the level of inflation may not fall to pre-pandemic levels due to the breadth of price movement. These developments include: lower commodity prices,

dramatically lower international shipping costs, and the general slowdown of economic activity on the back of Federal Reserve tightening.

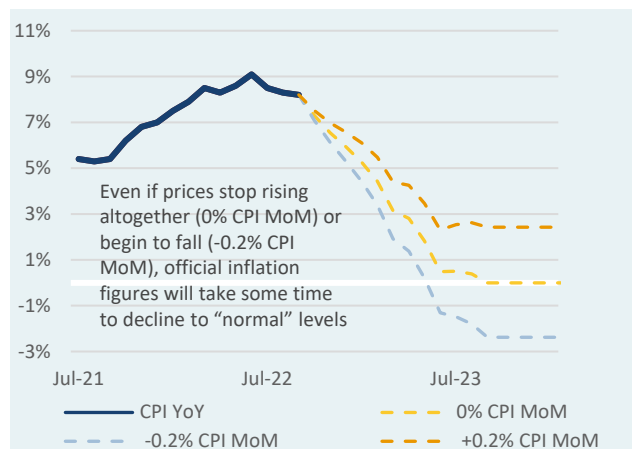
Inflation will take some time to fall back to normal levels, even if *monthly* inflation is 0% in the future. Below we illustrate a few scenarios of *monthly* future price movement. Even if prices stop rising completely (a monthly inflation rate of 0%), the U.S. inflation rate will still likely take until spring of 2023 to fall back to 2%.

U.S. CPI (YOY)



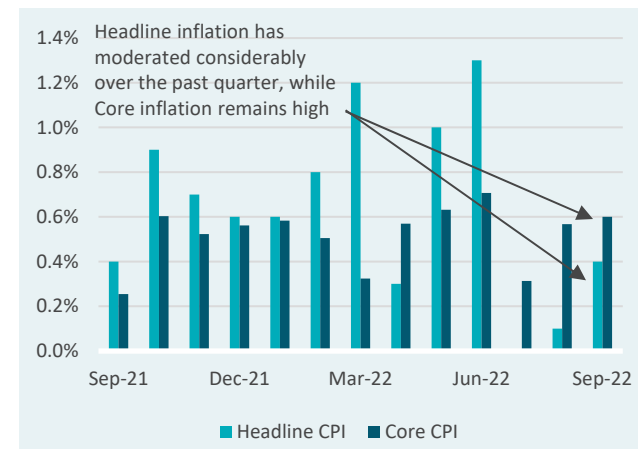
Source: BLS, as of 9/30/22

INFLATION IS A SLOW-MOVING METRIC



Source: Verus, BLS, as of 9/30/22

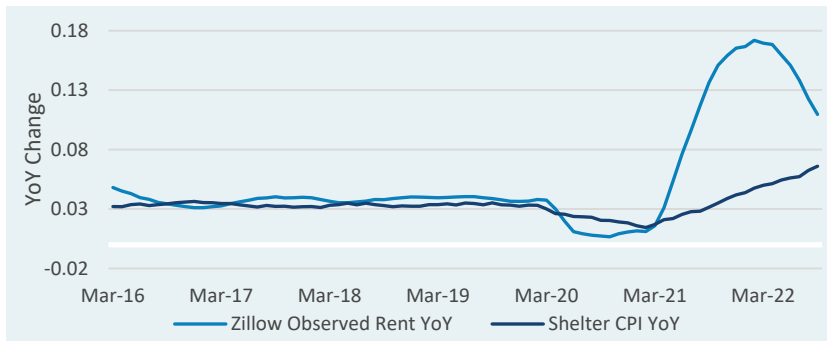
MONTHLY PRICE MOVEMENT



Source: BLS, as of 9/30/22

How are inflation conditions evolving?

CPI SHELTER COSTS (YEAR-OVER-YEAR)



Shelter costs account for approx. 32% of the CPI gauge and have moved considerably higher along with the broader real estate boom. However, only a small portion of these costs have been captured in official data, so far. While there is evidence that home prices and rents have stopped rising, it is not yet clear whether/when the jump in costs of recent years will flow into official CPI data.

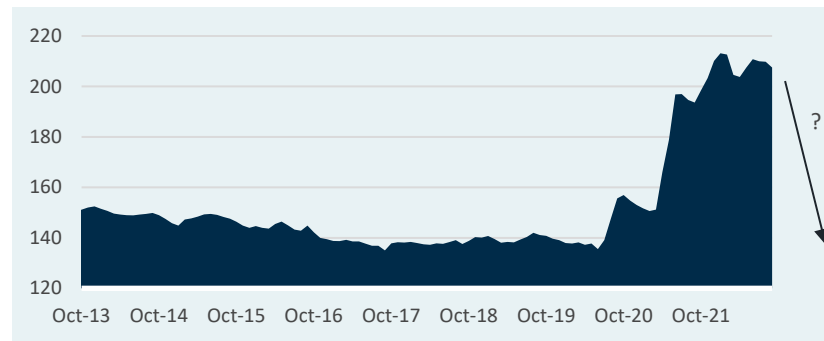
BLOOMBERG COMMODITY SPOT INDEX



Fears of recession and its impact on commodity demand, as well as some potential easing of uncertainty around Ukraine, have likely contributed to a sharp drop in commodity prices. If weaker conditions 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 goods and services prices.

Source: Zillow, FRED, as of 9/30/22 (upper), Bloomberg, as of 9/30/22 (lower)

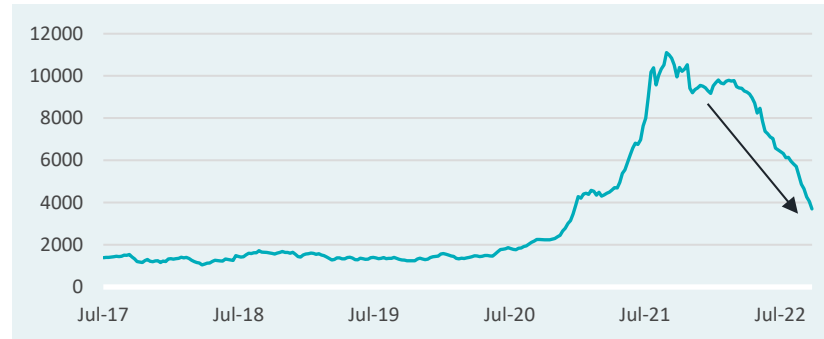
CPI USED CAR & TRUCK PRICES



Used auto prices have been dropping materially according to the Mannheim Used Auto Value Index, down more than 13% from highs. If falling prices soon are reflected in official CPI statistics, this would place downward pressure on official inflation figures.

Inflation dynamics are complex. This slide shows a few potentially *inflationary* forces and *deflationary* forces

FREIGHTOS SHIPPING CONTAINER COST INDEX



Pandemic-related supply and demand complexities initially 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 9/30/22 (upper), Freightos, as of 10/7/22 (lower)

Labor market

The U.S. labor market continues to be strong, which is arguably the biggest factor empowering the Federal Reserve’s aggressive policy stance. However, while employment is strong, high inflation has eaten away at household purchasing power, as demonstrated by the consistent decline in inflation-adjusted weekly earnings since mid-2020.

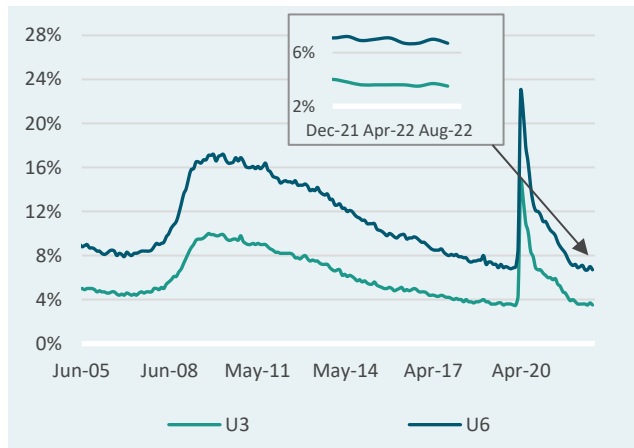
Unemployment fell slightly from 3.6% in June to 3.5% in September, which did not reflect an increase in employment but rather the departure of some Americans from the job market altogether. Weekly *initial jobless claims*—a measure of

the number of workers who filed for unemployment on any given week—moved higher during Q2 to 244,000 in early July but has since fallen to 193,000 in late September.

The gap in labor force participation rates across different age cohorts remains notable, with the age 55+ cohort failing to recover. Previously we had assumed that abnormally early retirements of older workers during the pandemic was likely the main cause for this effect. However, as we propose on the next page, the apparently very widespread health effects of “Long COVID” may be playing a role in this story.

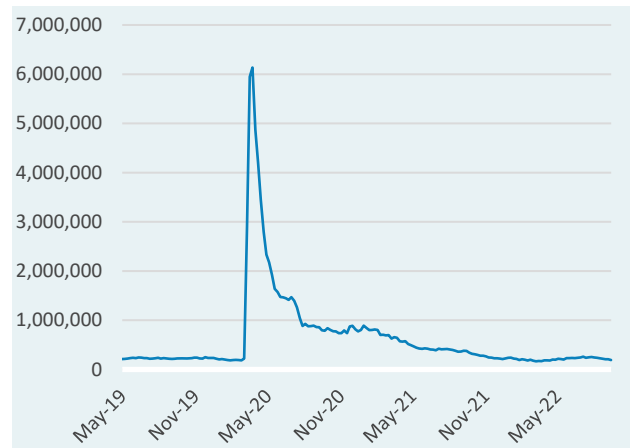
The labor market appears tight according to most metrics, but workers’ wages are falling on an inflation-adjusted basis

U.S. UNEMPLOYMENT



Source: FRED, as of 9/30/22

INITIAL JOBLESS CLAIMS



Source: FRED, as of 9/25/22

U.S. AVERAGE WEEKLY REAL WAGES

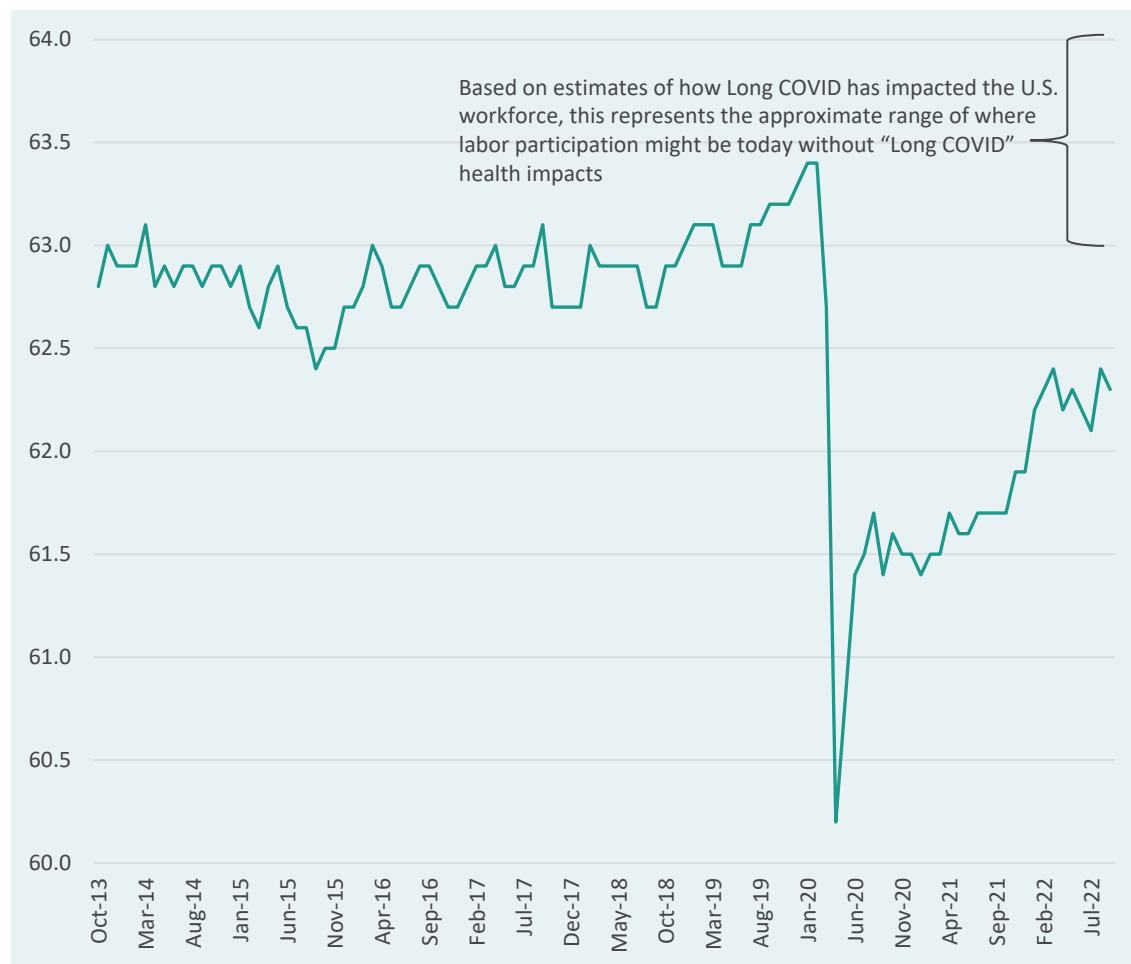


Source: FRED, as of 6/30/22

Labor dynamics: Long COVID-19

- Most coverage of COVID-19 has focused on the health impacts of COVID-19 in a binary way: either the infected individual recovers (and lives) or they do not recover (and is deceased). There is a growing body of research by medical experts that suggests a significant portion of COVID-19 survivors face longer-term, often severe, health problems. These issues are known as “Long COVID”.
- COVID-19 is broadly thought of as a virus that affects the lungs. However, it can severely impact the brain and heart as well. Studies vary in their projections regarding the number of Americans who are unable to work due to Long COVID health issues. We have observed estimates between half a million and 4 million workers. This chart illustrates that Long COVID could in fact be the primary reason for a shrunken American workforce and the unusual number of unfilled job openings.
- This topic should be seen as important to investors, because: a) the size of the U.S. labor force determines the productive capacity of the country and therefore the rate of economic growth, the direction of wage pressures, and likely also the actions of the Federal Reserve (as decided by metrics such as labor market tightness and household income/spending).
- We are continuing to closely follow these dynamics. Depending on the persistence of Long COVID, future expectations could vary from *permanently reduced U.S. workforce and commensurately reduced U.S. growth prospects* to *continued inflow of previously ill workers back into the workforce*.

LABOR PARTICIPATION RATE (%)



Source: FRED, Verus, as of 9/30/22

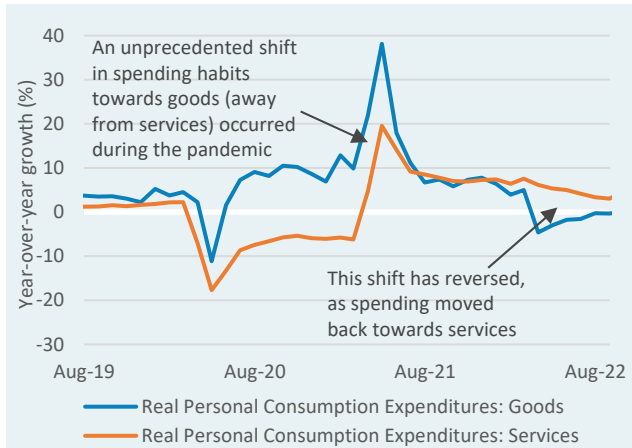
The consumer

U.S. real (inflation-adjusted) personal consumption expenditures slowed further to 1.8% year-over-year in August. The purchases of goods have fallen as consumers move back towards pre-pandemic spending habits (sales of goods have been consistently falling year-to-date, after adjusting for inflation). A moderation of goods purchased means less shipping volume and has likely helped mitigate overburdened supply chains and high international shipping costs, which have been easing materially.

Spending has slowed while savings rates have dropped to 3.5%—a level not seen since 2008—which seems to imply that household budgets are being hit hard by inflation and higher living costs.

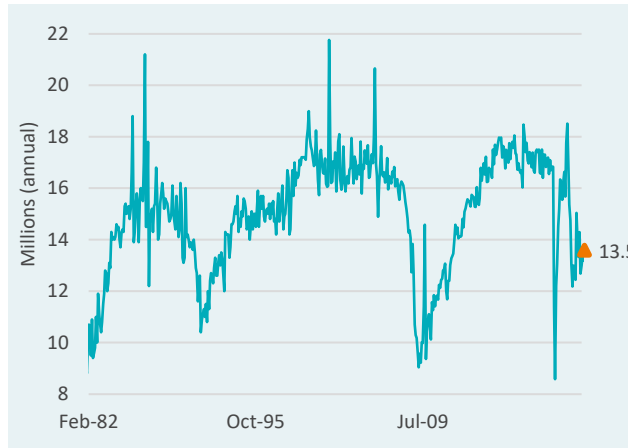
Auto sales activity remains very weak, although automakers have reported improvements in computer chip supplies that will allow production to rise. On the other hand, higher interest rates, diminished household budgets, and high car prices may constrain a recovery in auto sales activity despite new inventory coming online.

REAL PERSONAL CONSUMPTION EXPENDITURES



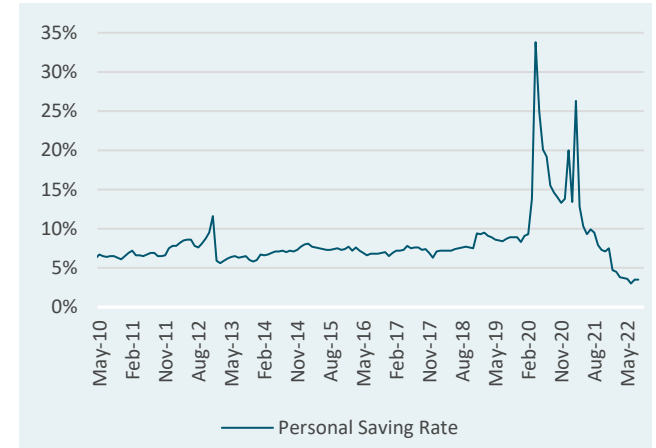
Source: FRED, as of 8/31/22

AUTO SALES



Source: Federal Reserve, as of 9/30/22

PERSONAL SAVINGS RATE



Source: FRED, as of 8/31/22

Sentiment

Consumer sentiment improved slightly from extremely depressed levels, according to the University of Michigan survey. In this survey, respondents mentioned better buying conditions for durable goods and a more optimistic one-year outlook, though this brighter sentiment was generally offset by a deteriorating outlook for business conditions.

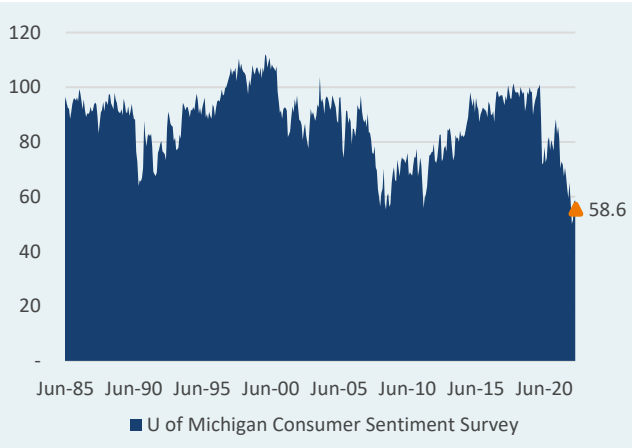
Consumer confidence measured by the Conference Board ticked up in the third quarter, as inflation expectations lessened, and more specifically as households saw prices at the pump materially contract. Consumers' assessments of current conditions and the short-term outlook improved, although

recession risks remain material. While improved confidence could bode well for spending in the fourth quarter of 2022, continued higher prices and global economic slowdowns will likely act as major headwinds.

The NFIB Small Business Optimism index improved slightly from very depressed levels. According to NFIB's Chief Economist Bill Dunkelberg, "inflation and worker shortages continue to be the hardest challenges facing small business owners". Slightly more businesses expect healthier business conditions six months in the future (though overall sentiment is very negative on this topic), and more expect difficulties in filling open job postings.

Sentiment, by most measures, is extremely poor

CONSUMER SENTIMENT



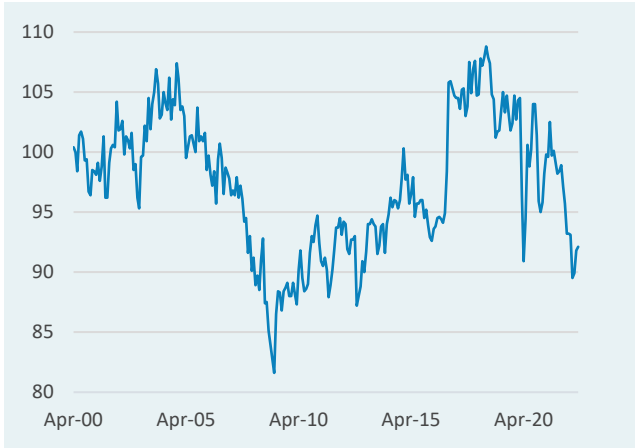
Source: University of Michigan, as of 9/30/22

CONFERENCE BOARD CONSUMER CONFIDENCE



Source: Conference Board, as of 9/30/22

NFIB SMALL BUSINESS SENTIMENT



Source: NFIB, as of 9/30/22

Housing

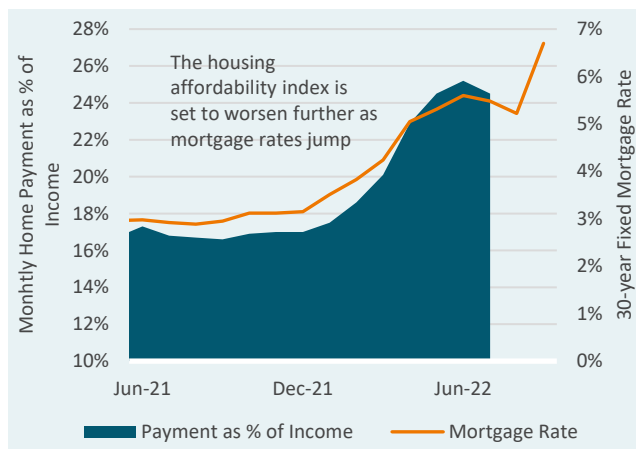
U.S. home prices fell -0.3% from June to July, according to the S&P CoreLogic Case-Shiller U.S. National Index, which might signal a reversal of the remarkable upward march in real estate values. The index suggested home prices were 15.8% higher over the past full year. Sales volumes have dropped precipitously since the beginning of 2022 which has coincided with a notable jump in monthly inventory levels.

Higher home prices and much higher mortgage interest rates have translated to the average monthly home payment rising from 16% of an average family's income to more than 24% in July, according to the National Association of Realtors. Further

increases in mortgage rates since July suggest that affordability has likely deteriorated further.

The housing market may be in the midst of a material slowdown as mortgage rates have more than doubled during 2022, from 3.1% at the beginning of the year to 6.7% at the end of the third quarter. Spiking mortgage rates in the past have coincided with a softening of the real estate market and placed downward pressure on home values. In recent years, low home inventories have been a support to markets, but this may be receding as inventories are now above average.

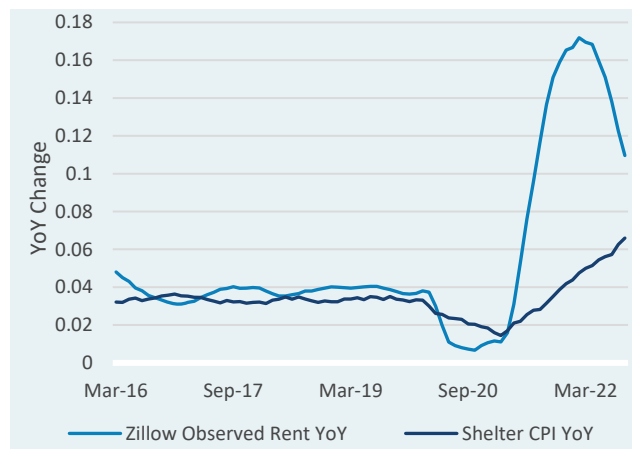
CHANGE IN HOUSING AFFORDABILITY



Source: NAR, as of 7/31/22, FRED as of 9/30/22

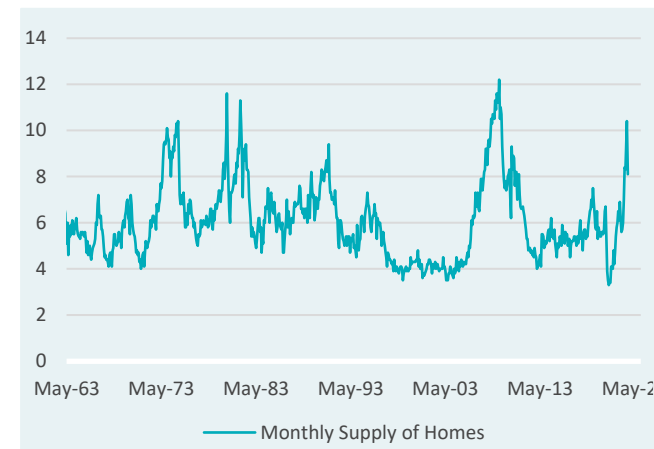
Census Bureau median family income is compared here to the monthly cost (principal + interest) of an average priced home

HOUSING & RENT COSTS



Source: Zillow, FRED, as of 9/30/22

SUPPLY OF HOMES



Source: FRED, as of 8/31/22

International economics summary

- Economic growth expectations continue to weaken around the world, and recession appears possible in some developed countries. High inflation has placed central banks in a corner, requiring a choice between tightening (lower inflation with possible recession) or accommodation (stronger economic activity with possibly continued high inflation).
 - Multi-decade high inflation continues to spread across Europe, as consumer prices in September rose 10% from the prior year. Food and energy were major drivers, although the core inflation number is also elevated at 4.8%. Inflation remains a challenge in Europe and the U.S., as prices have been relatively stable in the Asia-pacific region.
 - Unemployment rates have been stable and tight in most markets, though this may now be seen as a problem as central bankers work to
- slow economies and weaken labor markets in order to fight inflation.
- The Russia Ukraine war may be taking a turn, as Ukraine’s counteroffensive gains steam. In a rare admission, Russia’s Defense Ministry spokesman Igor Konashenkov acknowledged recent defeats: “With numerically superior tank units in the direction of Zolata Balka and Oleksandrivka, the enemy managed to forge deep into our defenses.”
 - Still dealing with the highest inflation seen in four-decades, the U.K. economy continues to struggle, especially as the Bank of England tightens economic conditions in the face of a recession. The situation worsened following newly elected Prime Minister Liz Truss’ new growth plan announcement, which introduced a large tax cut initiatives without additional funding sources secured.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	1.8% 6/30/22	8.2% 9/30/22	3.5% 9/30/22
Eurozone	4.1% 6/30/22	10.0% 9/30/22	6.6% 8/31/22
Japan	1.6% 6/30/22	2.8% 9/30/22	2.5% 8/31/22
BRICS Nations	1.9% 6/30/22	4.5% 9/30/22	5.2% 12/31/21
Brazil	3.2% 6/30/22	7.2% 9/30/22	8.9% 8/31/22
Russia	(4.1)% 6/30/22	13.7% 9/30/22	3.8% 8/31/22
India	13.5% 6/30/22	7.4% 9/30/22	6.4% 9/30/22
China	0.4% 6/30/22	2.8% 9/30/22	5.3% 8/31/22

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

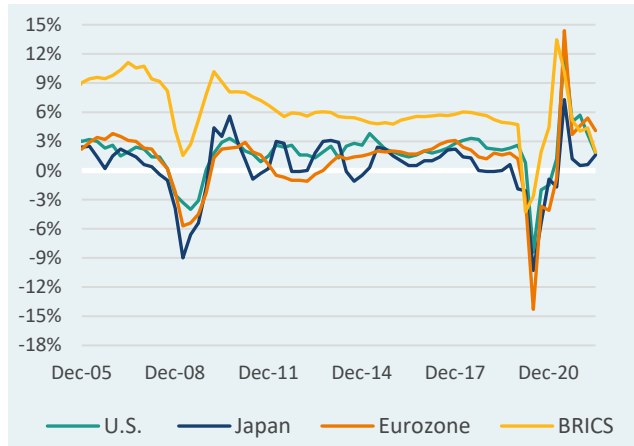
Growth expectations have further weakened around the world, and recession appears possible in some developed countries. Throughout 2022, headline inflation remained stubbornly high in many places such as the United States and Europe. Other areas, such as Japan, had avoided the initial wave of inflation but are now seeing larger price rises in recent months.

Many central banks are walking a tightrope in their fight against inflation since overly aggressive monetary policy could 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. This is perhaps evident most recently in the U.K., where Prime Minister Liz Truss came under harsh scrutiny for a proposal to cut tax rates and spend which seemed to conflict with Bank of England efforts to combat inflation.

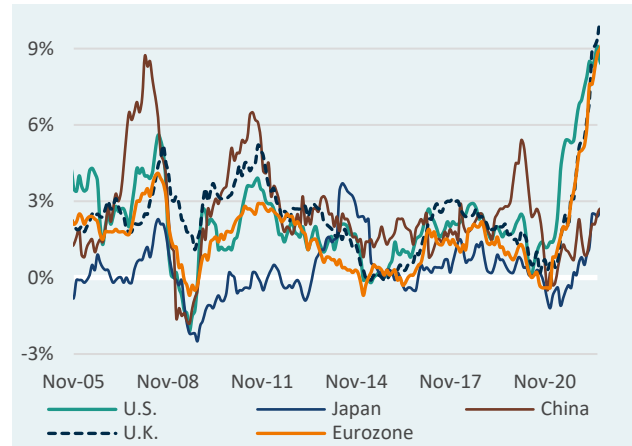
Unemployment rates are stable and tight in most markets, though central bankers may now see this as a problem standing in the way of efforts to slow economies and fight rising prices.

REAL GDP GROWTH (YOY)



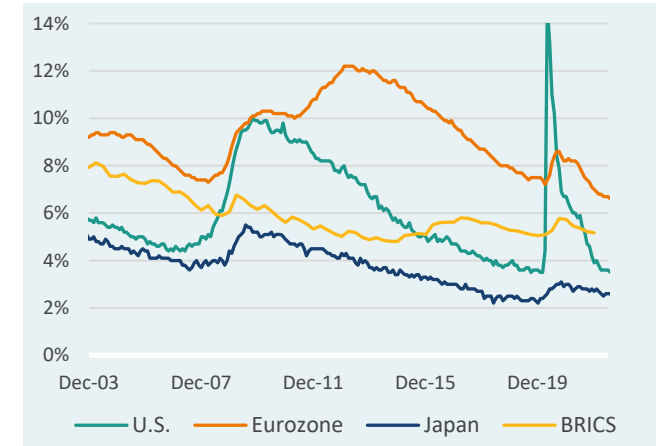
Source: Bloomberg, as of 6/30/22

INFLATION (CPI YOY)



Source: Bloomberg, as of 9/30/22 – or most recent release

UNEMPLOYMENT



Source: Bloomberg, as of 9/30/22 – or most recent release

U.K. flash crash

Inflationary pressures have continued within the broader European complex, as a dependence on imported energy has pushed up local energy prices dramatically. Within the U.K., the Bank of England has been forced into a difficult position. The central bank increased rates at every meeting since December 2021, but headline inflation still sits at 9.9% year-over-year.

More recently, newly elected Prime Minister Liz Truss and the Chancellor of the Exchequer Kwasi Kwarteng unveiled a plan with to reignite growth and spur economic productivity through tax cuts, guarantees regarding household energy prices, and supply side reforms including infrastructure projects.

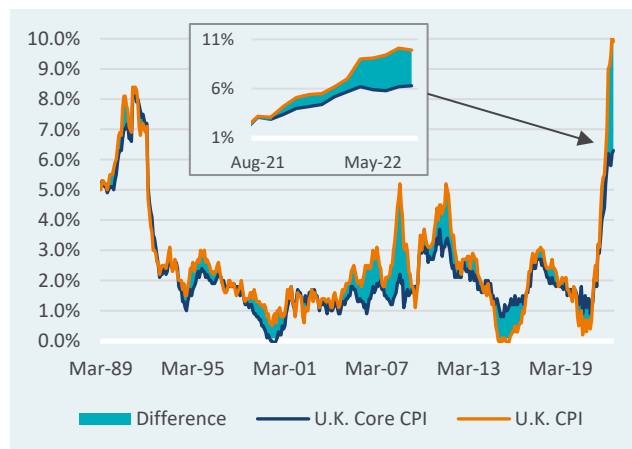
Markets reacted very poorly to the announcement. U.K. Gilt (U.K. treasury bond) yields soared, and the British pound sold off to its lowest level against the dollar in history. Markets stabilized following a commitment from the Bank of England to purchase long-dated bonds, given that many U.K. pension funds were facing margin calls on their liability-driven investment (LDI) derivative positions. The Bank of England also suspended its plans to reduce the balance sheet by selling Gilt holdings. The U.K. government then announced it would scrap its original plan to cut the top income tax rate, leading to increased volatility for the pound and U.K. sovereign debt.

U.K. BASELOAD ELECTRICITY FORWARD PRICES



Source: Bloomberg, as of 10/4/22

U.K. INFLATION (CPI YOY)



Source: U.K. Office for National Statistics, as of 8/31/22

VALUE OF 1 GBP IN USD



Source: Bloomberg, as of 9/30/22

Fixed income rates & credit

Fixed income environment

- The 10-year U.S. Treasury yield rose materially from 2.89% to 3.83% as the Federal Reserve reaffirmed its aggressive stance and markets questioned whether interest rates might be held at higher levels for longer than previously anticipated.
- Credit performance was mixed over Q3 with lower duration exposures faring better than higher duration exposures. Fears of a looming recession remained as the Fed’s 75 basis point rate hikes in July and September reinforced its intention to fight inflation until the “job is done.” Leveraged loans performed the best, returning 1.2%, followed by high yield credit and investment grade credit which returned -0.6% and -4.9%, respectively.
- Default activity continued to pick up in the third quarter with seven companies defaulting on loans and bonds totaling \$16.5 billion. This was the highest quarterly total seen since the second quarter of 2020.

Activity represented a significant jump from the \$1.6 billion and \$10.4 billion shown in Q1 and Q2, respectively.

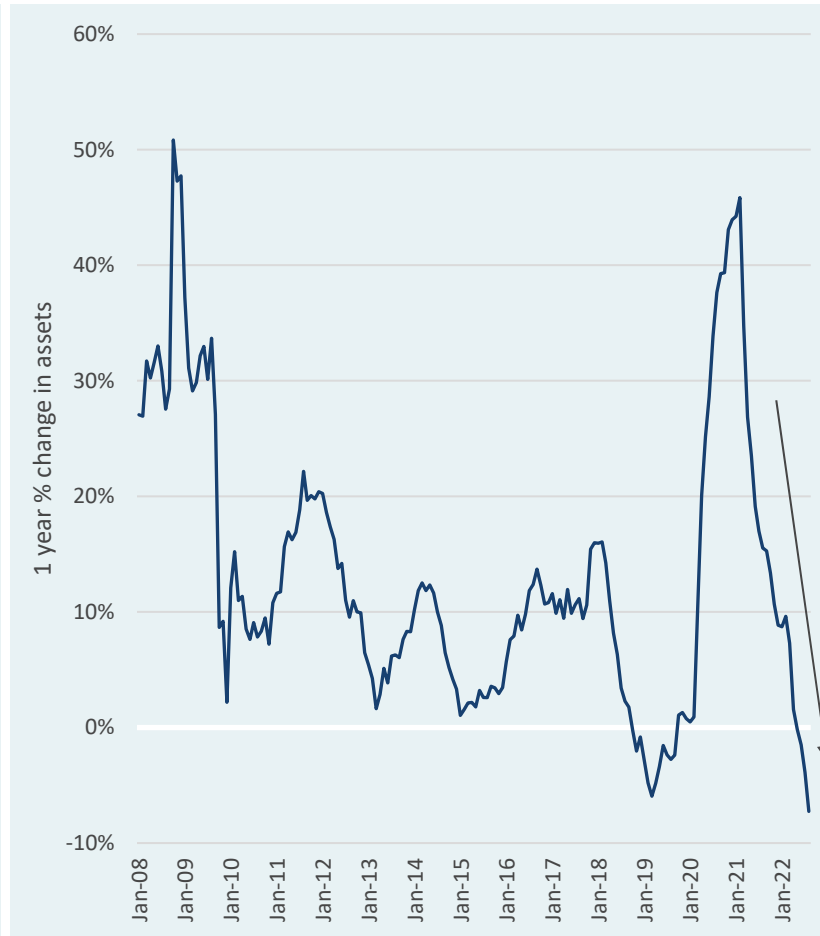
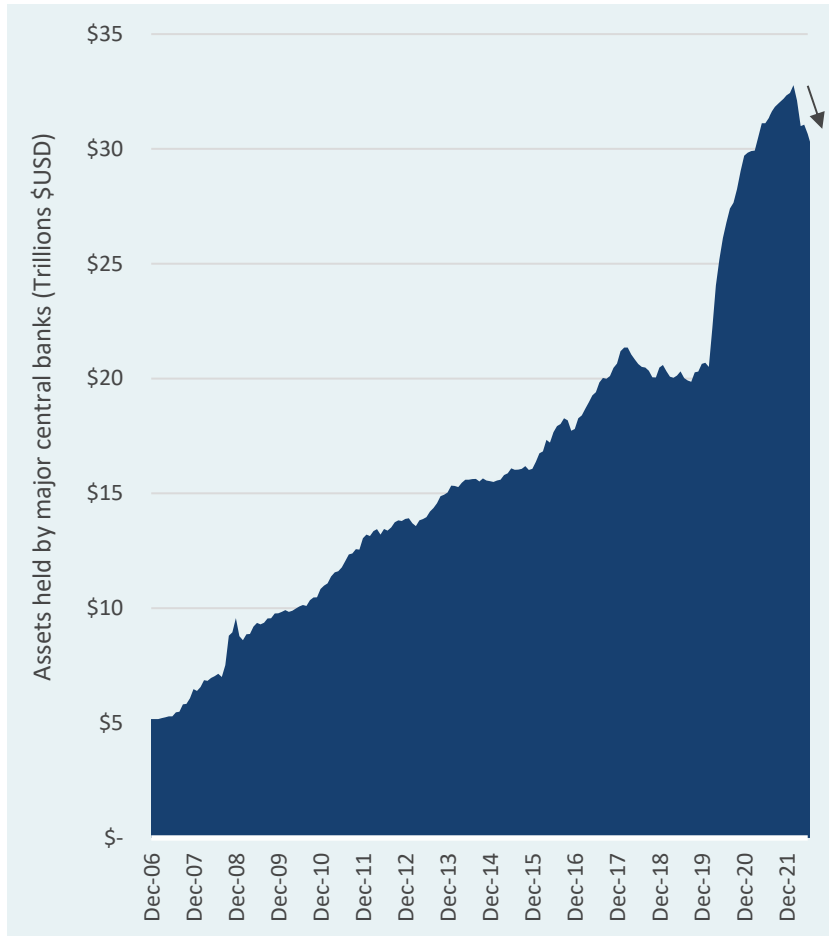
- The U.S. Yield Curve inverted during the quarter, with the 10-year 2-year spread falling from 0.1% to -0.4%. An inverted curve has historically suggested recession within two years or so.
- Throughout the third quarter, the Federal Reserve continued its path to reduce the balance sheet, beginning in June with the paced redemption of maturing securities. The initial June monthly redemption caps of \$30 billion for Treasuries and \$17.5 billion for agency MBS were increased to \$60 billion and \$35 billion in September. Markets have seemingly digested the reduction well, although the total drawdown has been relatively small so far, around \$200 billion against the peak size of \$8.97 trillion in April 2022.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	(4.8%)	(14.6%)
Core Plus Fixed Income (Bloomberg U.S. Universal)	(4.5%)	(14.9%)
U.S. Treasuries (Bloomberg U.S. Treasury)	(4.3%)	(12.9%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	(0.6%)	(14.1%)
Bank Loans (S&P/LSTA Leveraged Loan)	(1.4%)	(2.5%)
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	(4.7%)	(20.6%)
Emerging Market Debt Hard (JPM EMBI Global Diversified)	(4.6%)	(24.3%)
Mortgage-Backed Securities (Bloomberg MBS)	(5.3%)	(9.0%)

Source: Bloomberg, as of 9/30/22

The great liquidity withdrawal

Central banks are planning to remove substantial liquidity from the global financial system



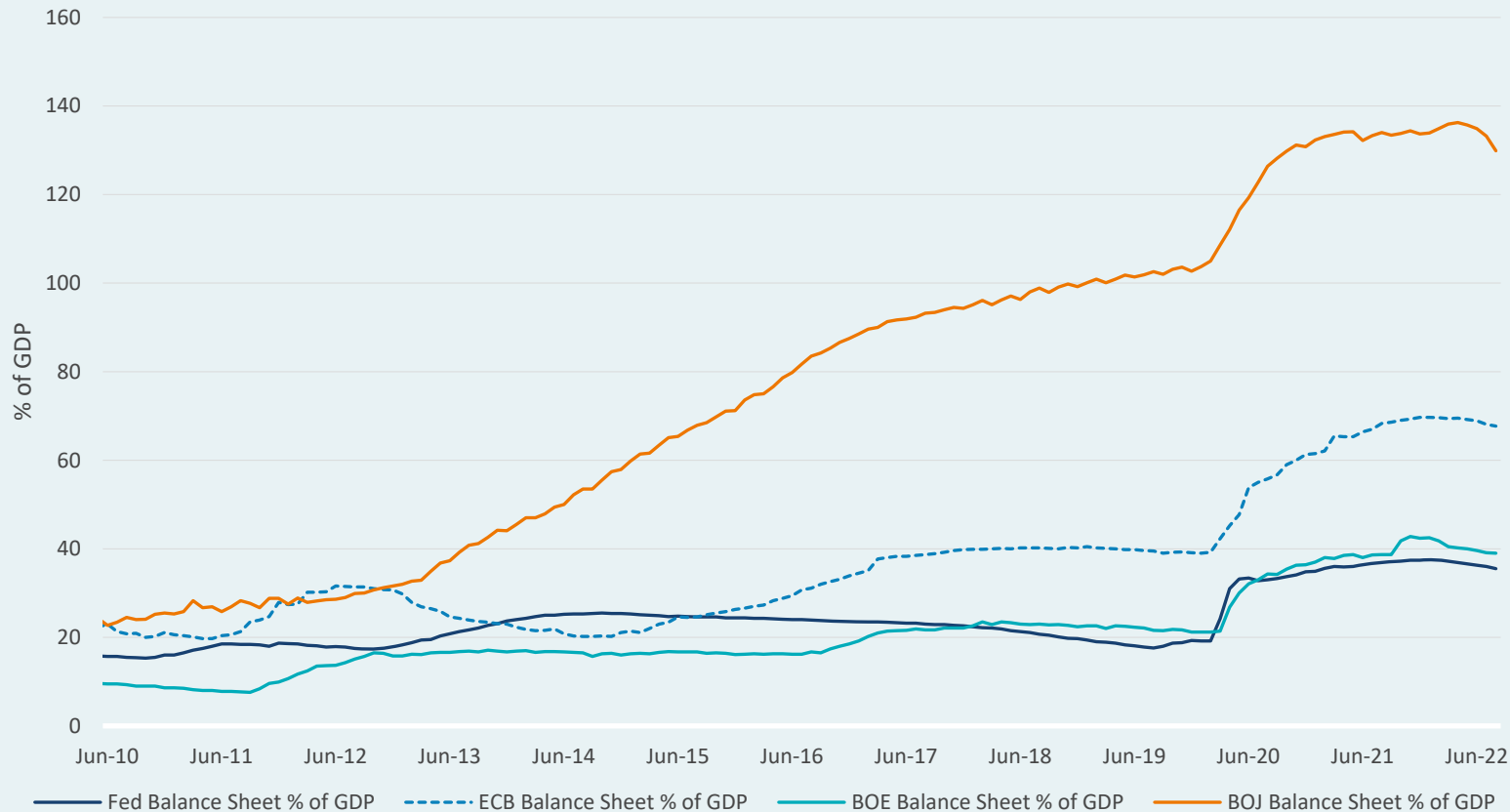
Markets are entering an unusual time of mass central bank asset roll-off

Source: Bloomberg, Verus, as of 9/30/22 – includes Fed, BOE, ECB, BoJ, PBOC

The great liquidity withdrawal (continued)

CENTRAL BANK ASSETS AS % OF GDP

U.S. DOLLAR DENOMINATED



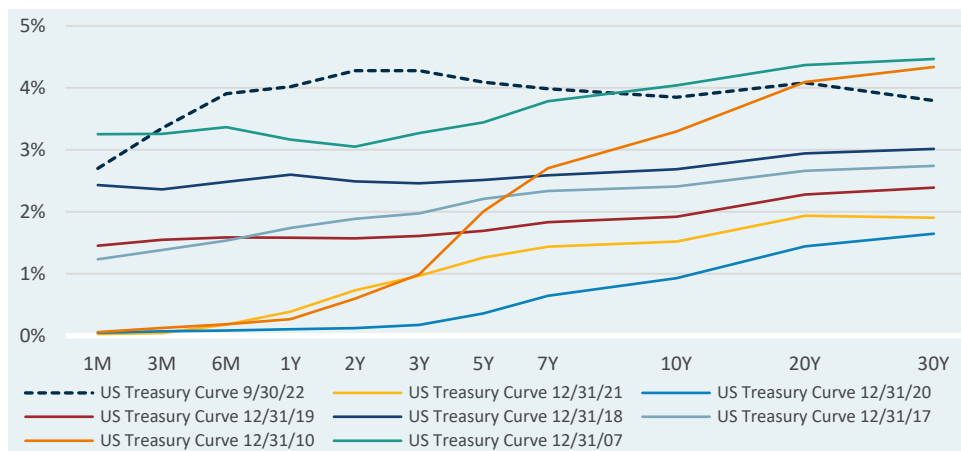
Central banks have accumulated very large balance sheets

Surprisingly, the U.S. Federal Reserve balance sheet is more moderate in size, relative to GDP

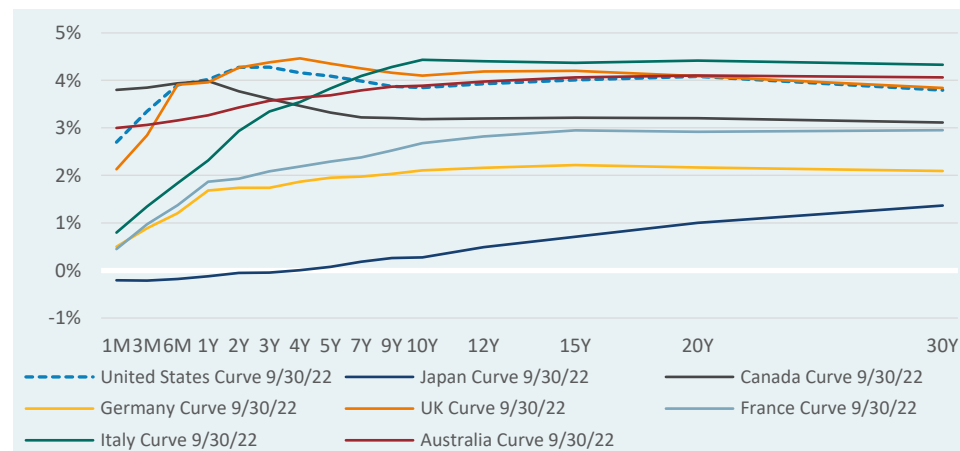
Source: Bloomberg, Verus, as of 9/30/22

Yield environment

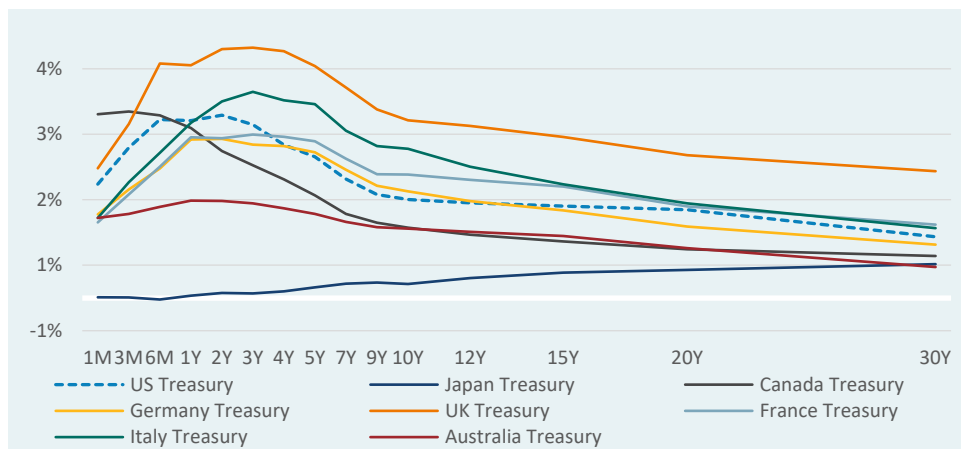
U.S. YIELD CURVE



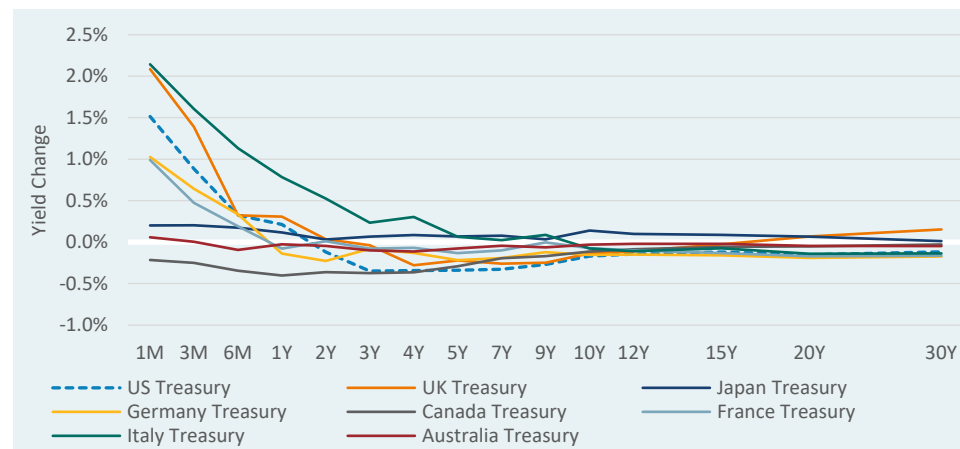
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/22

Credit environment

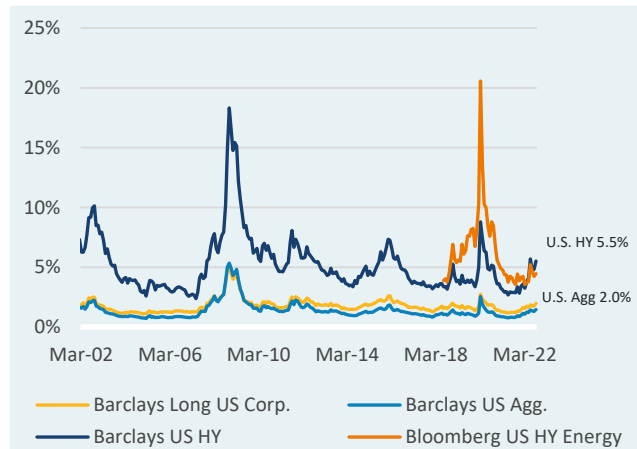
Credit market performance was mixed over the third quarter, with lower duration exposures faring better than higher duration exposures. Fears of a looming recession remained as the Fed's 75 basis point rate hikes in July and September reinforced its intention to fight inflation until the "job is done." Leveraged loans performed the best, returning 1.2%, followed by high yield corporate credit and investment grade credit which returned -0.6% and -4.9%, respectively.

Volatility and outflows contributed to investment grade credit spreads widening during the quarter. After reaching a 2022 high of 164 basis points in mid-September, investment grade credit spreads finished the third quarter at 159 basis points, an increase of 4 basis points from the

previous quarter's end. High yield spreads decreased by 17 basis points throughout the quarter to 552 basis points, though remaining above the long term non-recessionary average of 454 bps. Despite this recent decline, high yield spreads remain up 269 basis points year-to-date.

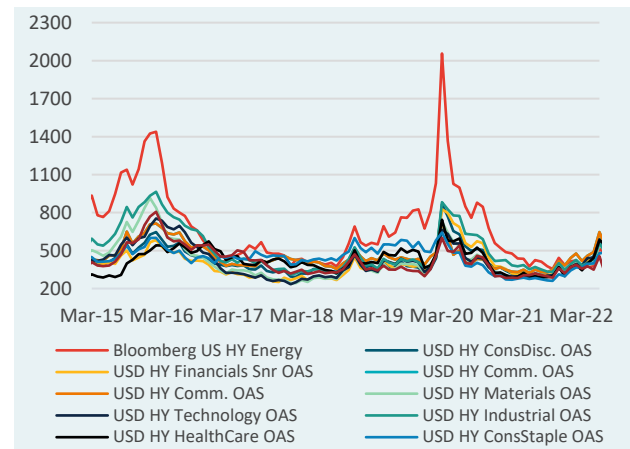
Over the course of the year, total yields have risen significantly within credit markets with the Bloomberg US High Yield Index now at 9.7%—almost double the levels of 4.9% seen at the start the year. Similarly, the yield of the Bloomberg US Corporate Investment Grade Index was 5.7%, up from 2.4% at the start of the year.

SPREADS



Source: Barclays, Bloomberg, as of 9/30/22

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 9/30/22

Market	Credit Spread (OAS)	
	9/30/22	9/30/21
Long U.S. Corp	2.0%	1.2%
U.S. Inv Grade Corp	1.6%	0.8%
U.S. High Yield	5.5%	2.9%
U.S. Bank Loans*	6.0%	4.3%

Source: Barclays, Credit Suisse, Bloomberg, as of 9/30/22

*Discount margin (4-year life)

Default & issuance

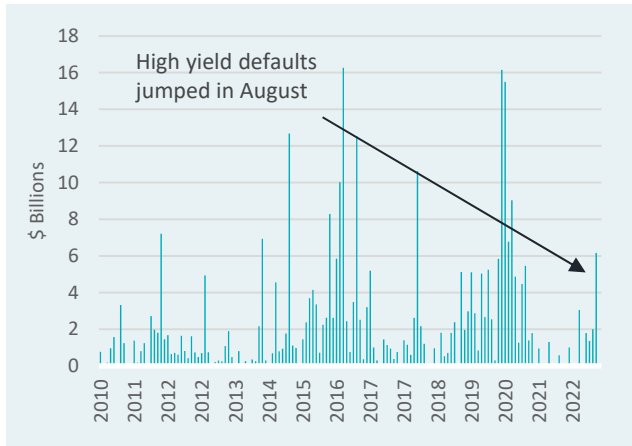
Default activity continued to pick up in the third quarter with seven companies defaulting on loans and bonds totaling \$16.5 billion. This was the highest quarterly total seen since the second quarter of 2020. Activity represented a significant jump from the \$1.6 billion and \$10.4 billion shown in Q1 and Q2, respectively.

Default rates for par-weighted US high yield and bank loans ended the quarter at 0.8% and 1.0%, respectively. While default rates reached a 15-month high, both values were well below the long-term historical averages of 3.2% and 3.1% for the high yield and loan markets. Given the prospects of tighter financial conditions and lower growth, default rates are expected to rise over the remainder of the year and into 2023 while

remaining well below the previously stated long-term historical averages.

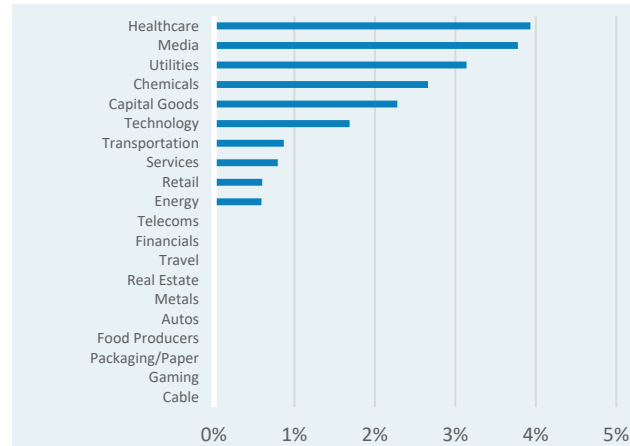
Leveraged credit issuance remained very light, which was consistent with the weaker trend of 2022. The third quarter total of \$18.9 billion issued in high yield bonds marked the lightest issuance since the first quarter of 2009. A similar effect was observed in the bank loans market, which totaled \$24 billion over the third quarter, down from \$120.5 billion and \$60.6 billion in the first and second quarters of this year. Additionally, the 2022 year-to-date loan issuance total of \$205.0 billion was down 69% on a year-over-year basis.

U.S. HY MONTHLY DEFAULTS (PAR WEIGHTED)



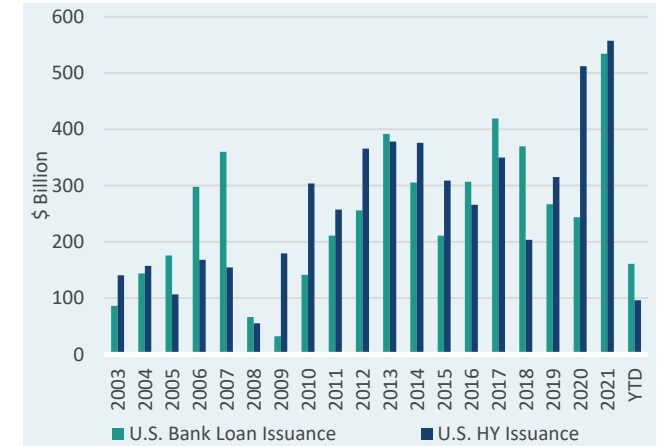
Source: BofA Merrill Lynch, as of 9/30/22

U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)



Source: BofA Merrill Lynch, as of 9/30/22 – par weighted

U.S. ISSUANCE (\$ BILLIONS)



Source: BofA Merrill Lynch, as of 9/30/22

Equity

Equity environment

— Equity markets saw further losses during Q3, extending the selloff deeper into bear market territory. Emerging market equities (MSCI Emerging Markets -11.6%) experienced the greatest drawdown, on an unhedged currency basis, followed by international developed (MSCI EAFE -9.4%) and domestic equities (S&P 500 -4.9%).

— Many markets now trade at valuation levels below their historical average. According to FactSet, the S&P 500 sat at a forward price/earnings of 15.4 as of September 30th, below the five-year average of 18.6 and 10-year average of 17.1. Interestingly, earnings expectations have been fairly resilient at 7.4% for calendar year 2022 and 7.9% for 2023.

— Investors with unhedged foreign currency exposure have seen extreme losses recently. A U.S. investor with an international developed equity investment

(MSCI EAFE) suffered a loss of -15.7% over the past year from currency movements. Investors in non-US equity (MSCI ACWI ex-US) saw a -12.0% loss. Currency risk is typically the second largest risk in institutional portfolios and is not expected to be compensated over the long term. We continue to believe that more forward-thinking currency solutions can materially improve portfolio outcomes.

— Value stocks underperformed growth stocks mildly during the quarter (Russell 1000 Value -5.6% vs Russell 1000 Growth -3.6%), and small capitalization stocks outperformed large capitalization stocks (Russell 2000 -2.2%, Russell 1000 -4.7%).

— Volatility remained elevated as the Cboe VIX Index rose further from 28.7% to 31.6%. Risk assets sold-off on concerns of Federal Reserve tightening and liquidity being broadly removed from the global financial system.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	(4.9%)		(15.5%)	
U.S. Small Cap (Russell 2000)	(2.2%)		(23.5%)	
U.S. Equity (Russell 3000)	(4.5%)		(17.6%)	
U.S. Large Value (Russell 1000 Value)	(5.6%)		(11.4%)	
US Large Growth (Russell 1000 Growth)	(3.6%)		(22.6%)	
Global Equity (MSCI ACWI)	(6.8%)	(4.6%)	(20.7%)	(15.9%)
International Large (MSCI EAFE)	(9.4%)	(2.8%)	(25.1%)	(9.4%)
Eurozone (Euro Stoxx 50)	(9.8%)	(3.1%)	(28.9%)	(14.1%)
U.K. (FTSE 100)	(10.6%)	(2.3%)	(16.5%)	1.8%
Japan (NIKKEI 225)	(7.2%)	0.2%	(31.0%)	(8.5%)
Emerging Markets (MSCI Emerging Markets)	(11.6%)	(8.2%)	(28.1%)	(22.5%)

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 9/30/22

Domestic equity

U.S. equities experienced further losses during the quarter (S&P 500 -4.9%), while outperforming international (MSCI EAFE -9.4%) and emerging markets (MSCI Emerging Markets -11.6%).

Earnings expectations have been fairly resilient at 7.4% for calendar year 2022 and 7.9% for 2023, though these forecasts have been consistently revised lower for three consecutive quarters. The energy sector continues to lift the earnings growth of the S&P 500, as overall growth would have been negative in recent quarters if energy sector profits were excluded. According to corporate earnings calls, an increasing number of

businesses reported labor costs & shortages as a significant issue, followed by supply chain disruptions & costs, and FX movement. During Q2, businesses with more than 50% of revenues from outside of the U.S. generated 13.3% earnings growth, while those with less than 50% of revenues from outside the U.S. saw only a 2.1% growth rate.

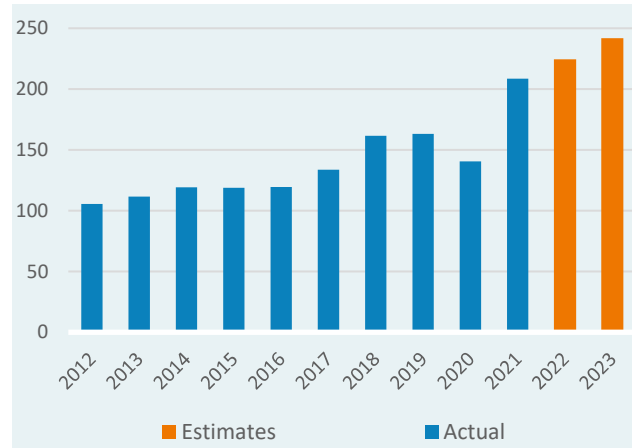
Sector performance during Q3 was disparate. Consumer discretionary (4.4%) and energy (2.3%) sectors lifted the overall index while all other sectors were in the red.

S&P 500 PRICE INDEX



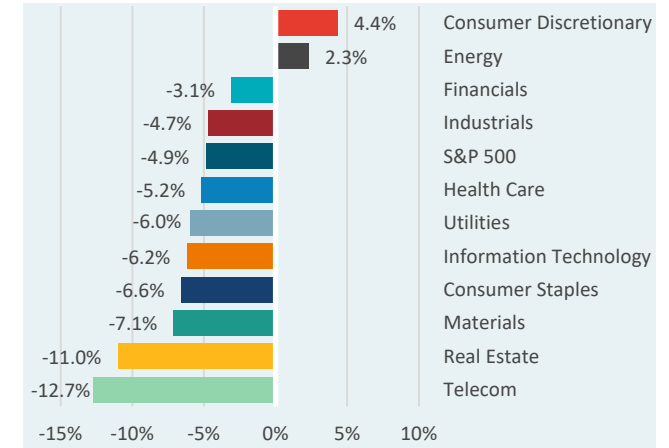
Source: Standard & Poor's, as of 9/30/22

S&P BOTTOM-UP EARNINGS & ESTIMATES



Source: FactSet, as of 9/30/22

Q3 SECTOR PERFORMANCE



Source: Morningstar, as of 9/30/22

Domestic equity size & style

Reversing the trend from last quarter, growth stocks outperformed value stocks, although the divergence was relatively mild (Russell 1000 Growth -3.6% vs. Russell 1000 Value -5.6%). Growth outperformed despite struggles within the Telecommunications and Information Technology sectors (-12.7% and -6.2%), fueled by positive returns from Consumer Discretionary +4.4% (with Amazon and Tesla being the largest weights).

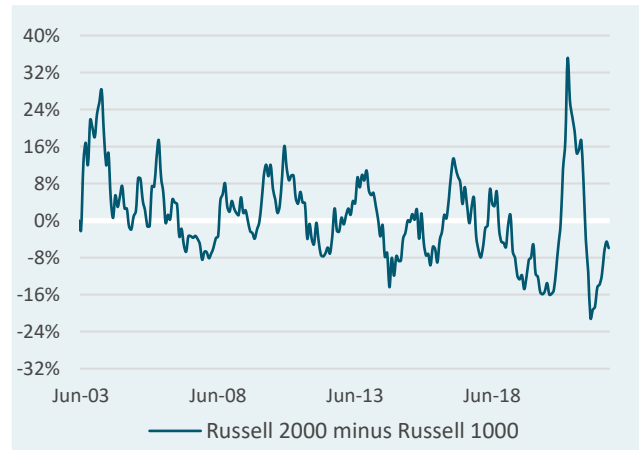
Despite this quarter, value has outperformed significantly over the past year. The Russell 1000 Value Index is down -17.8%, while the growth equivalent has lost -30.7%. With the Federal

Reserve continuing to tighten conditions and hike rates, companies with cash flows further out in the future (those with higher durations) have seen larger negative impacts to their multiples.

Looking at size, small capitalization stocks outperformed large capitalization stocks (Russell 2000 -2.2%, Russell 1000 -4.7%), diverging from the trend seen in the second quarter of 2022.

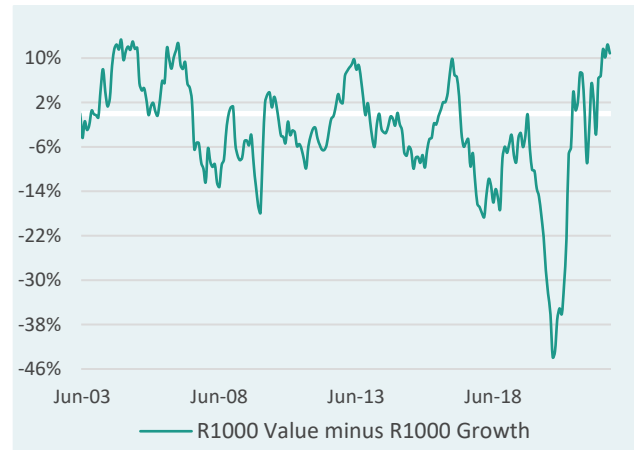
Domestic equities have continued to be challenged regardless of size and style, as investors weigh the impacts of a tighter economic environment on company earnings.

SMALL CAP VS LARGE CAP (YOY)



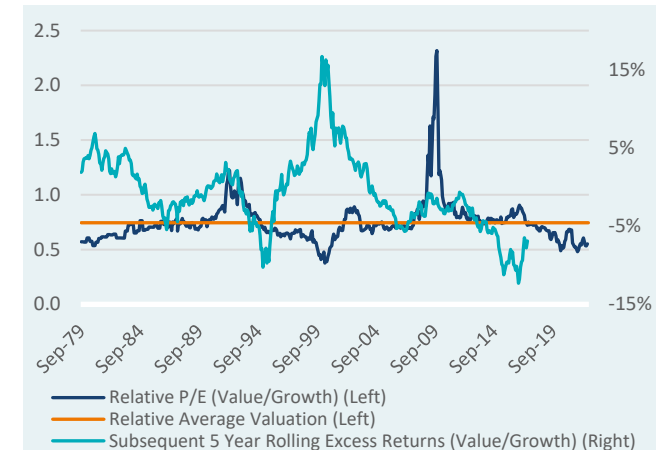
Source: FTSE, as of 9/30/22

VALUE VS GROWTH (YOY)



Source: FTSE, as of 9/30/22

VALUE VS. GROWTH RELATIVE VALUATIONS



Source: Standard & Poor's, as of 9/30/22

International developed equity

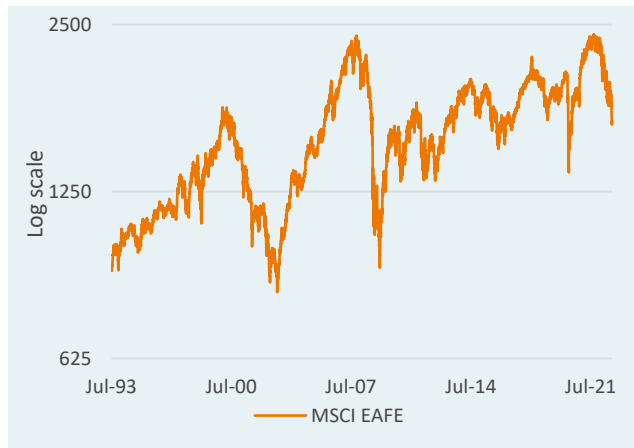
International developed equities fell alongside the global opportunity set in the third quarter. The MSCI EAFE Index dropped -9.4% in U.S. dollar terms, although most of those losses can be attributed to currency impacts, with hedged returns only experiencing a -2.8% loss. The Federal Reserve continues to set the tone for global central bank rate hikes, which has pushed the dollar higher.

Looking at sub-regional performance, Japanese equities were the best performing markets in local terms, being one of the few asset classes with positive Q3 return (+0.2%). Despite strong local returns, diverging rate policy between the BOJ

and Federal Reserve has crushed the Japanese yen, resulting in a seven percent spread between hedged and unhedged equity outcomes.

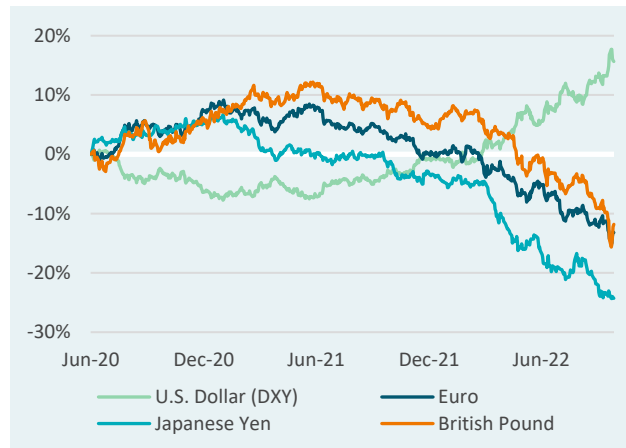
European equities also saw losses over the quarter, although local returns were strong relative to U.S. and Emerging market equities. The flash crash of the British pound had a material impact on FTSE 100 performance in U.S. dollar terms, with U.K. equities closing the quarter down -10.6%, lagging the broader European benchmark (Euro Stoxx 50 - 9.8%)

INTERNATIONAL DEVELOPED EQUITY



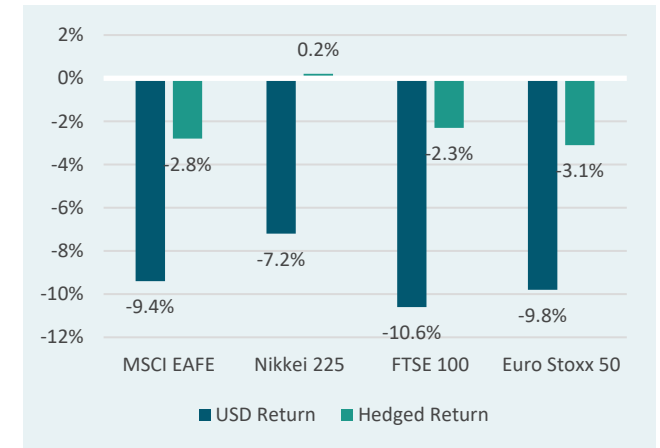
Source: MSCI, as of 9/30/22

FX MOVEMENTS RELATIVE TO THE U.S. DOLLAR



Source: Bloomberg, as of 9/30/22

Q3 2022 SUBREGIONAL INDEX RETURNS



Source: MSCI, STOXX, FTSE, Nikkei, as of 9/30/22

Emerging market equity

Emerging market equities fell during the third quarter, dragged lower by a steep Chinese equity bear market (-22.5%). The MSCI EM index ended the quarter down -11.6% in U.S. dollar terms, bringing one-year total losses to -28.1%. A strong dollar had a -3.4% impact in the third quarter; significant, but not to the same extent seen in the International developed space.

Growing risks of a global recession hit equities across the board, though emerging markets have suffered more than their developed counterparts. China faces its own set of

unique problems, including the continuation of its zero-COVID policy, a property crisis, and geopolitical risks with Taiwan (though we view an invasion as highly unlikely). Despite these headwinds, the People's Bank of China is one of the few central banks implementing accommodative policy, which should provide a tailwind to the local economy.

Performance variability has significantly changed some country weights. China's weight in the index fell by 3.7%, while India moved up 2.6%, replacing Taiwan as the second largest weight.

EMERGING MARKET EQUITY



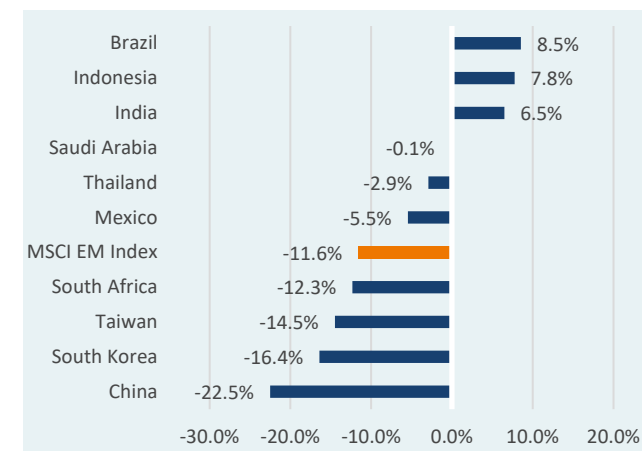
Source: MSCI, as of 9/30/22

MSCI EM INDEX TOP 10 COUNTRY WEIGHTS

Country	9/30/2022	6/30/2022	Rank Change
1. China	29.5%	33.2%	
2. India	15.3%	12.7%	↑
3. Taiwan	13.7%	14.3%	↓
4. South Korea	10.6%	11.3%	
5. Brazil	5.8%	4.9%	
6. Saudi Arabia	4.8%	4.3%	
7. South Africa	3.4%	3.5%	
8. Mexico	2.2%	2.1%	
9. Indonesia	2.2%	1.8%	
10. Thailand	2.1%	1.9%	

Source: Bloomberg, MSCI as of 9/30/22

Q3 2022 MSCI COUNTRY RETURNS (USD)



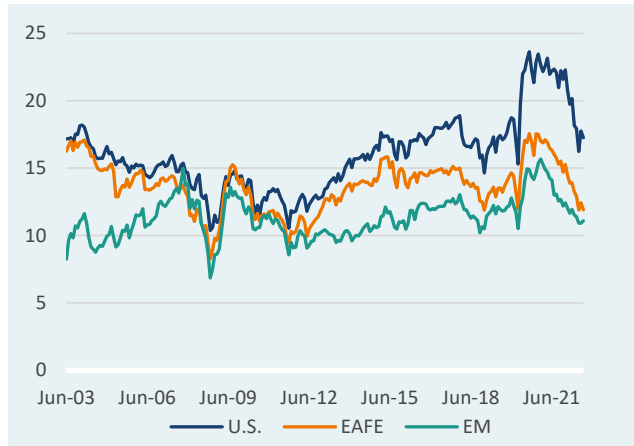
Source: Bloomberg, MSCI as of 9/30/22, performance in USD terms

Equity valuations

Many markets now trade at valuation levels below their historical average as inflation and rising rate concerns have translated to more attractive pricing. According to FactSet, the S&P 500 traded at a forward price/earnings of 15.4 as of September 30th, which was below the five-year average of 18.6 and 10-year average of 17.1. Valuations have continued to drop within the International and Emerging market space as well, although we believe International developed equities may have further to fall, given more acute inflation and energy issues in Europe. Emerging market valuations have reached very low levels, which may act as a floor to further losses, assuming healthy earnings.

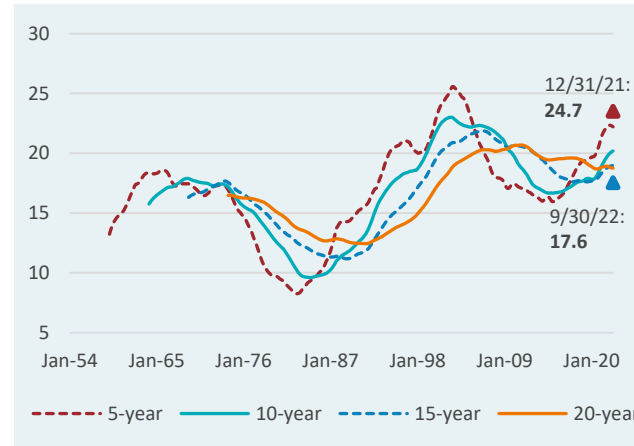
Domestic earnings were challenged in the second quarter. Businesses faced higher costs, large currency impacts, and a more budget-constrained consumer. While blended earnings grew at a 6.7% clip from the previous year, excluding the energy sector would bring that earnings figure down to -3.7%, per FactSet. While valuations have moved more in line with historical averages, all eyes are on third quarter earnings, which will likely help determine the market's direction from this point.

FORWARD P/E RATIOS



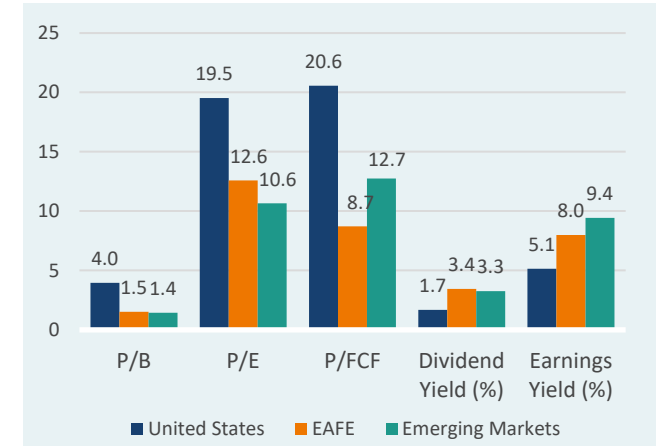
Source: MSCI, 12m forward P/E, as of 8/31/22

S&P 500 AVERAGE TRAILING P/E RATIOS



Source: Bloomberg, as of 9/30/22

VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI as of 9/30/22 - trailing P/E

Equity volatility

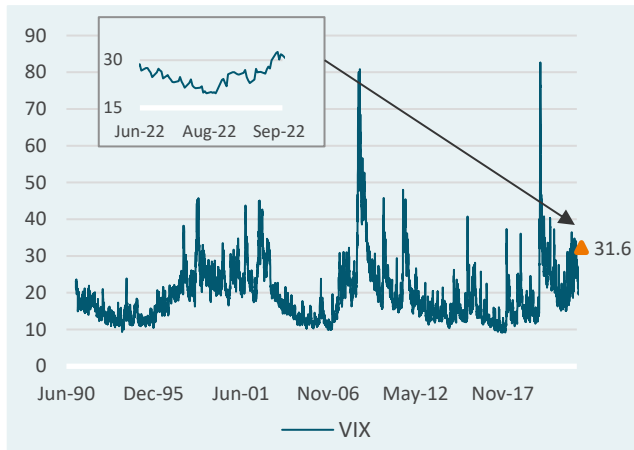
Volatility remained elevated through the quarter as the Cboe VIX Index rose further from 28.7% to 31.6%. Risk assets sold-off into a deeper bear market and concerns focused on Federal Reserve tightening and liquidity being removed from the global financial system. Inflation and Fed actions seem to exist as the greatest risk to markets, although potential for recession or a corporate earnings drawdown are also likely contributing to choppiness.

Realized volatility of equity markets over the past year has picked up from low levels. U.S. markets have shown

materially more volatility than developed or emerging markets, which has been rare historically.

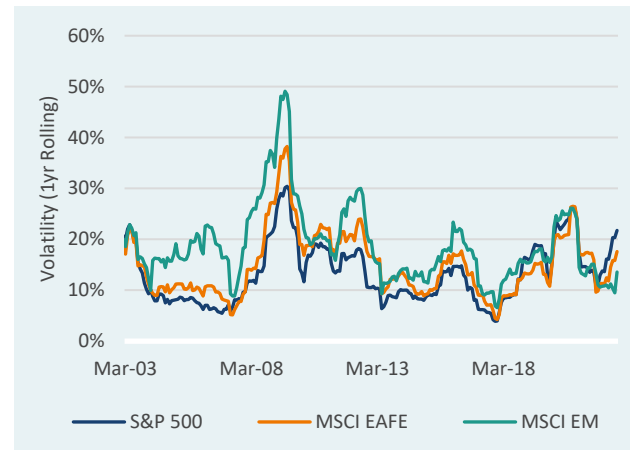
The current bear market has been particularly painful given the broadness of the selloff across equity fixed income, and real assets. Currency markets also moved against investors, with U.S. dollar appreciation delivering large losses for those with unhedged international asset exposure. Commodities remain a lone bright spot regarding 2022 year-to-date performance.

U.S. IMPLIED VOLATILITY (VIX)



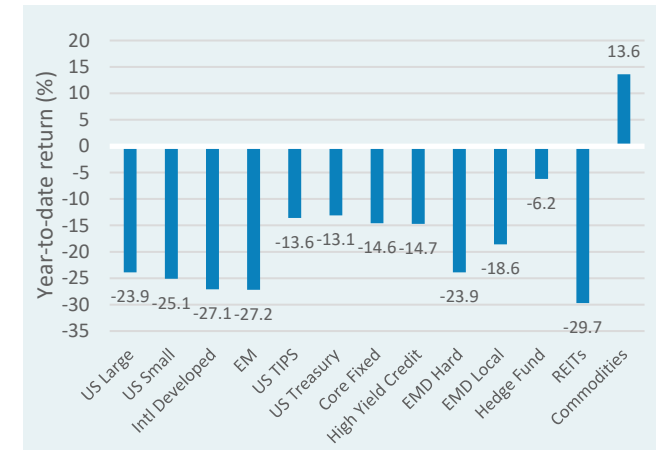
Source: Cboe, as of 9/30/22

REALIZED VOLATILITY



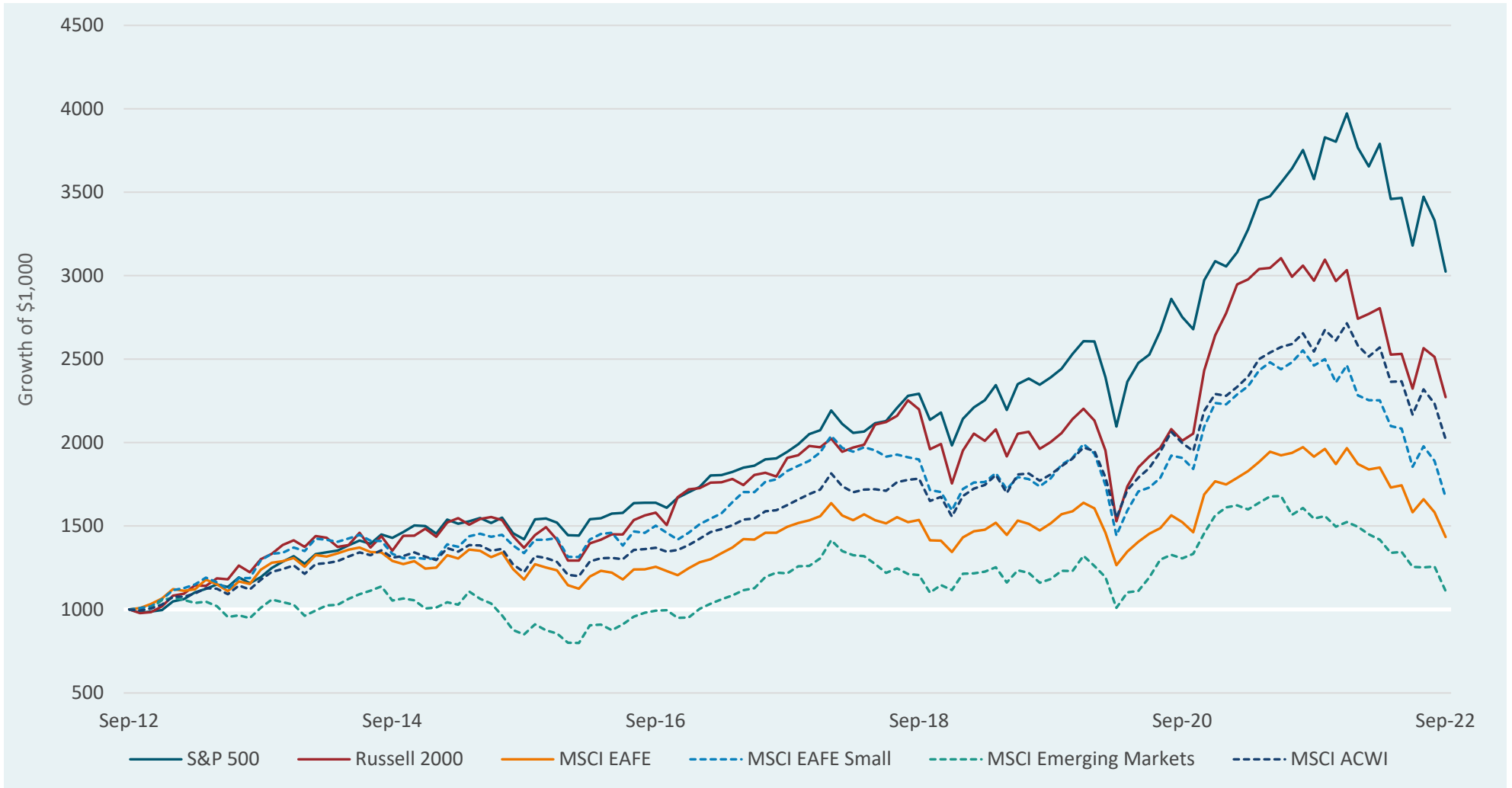
Source: Standard & Poor's, MSCI, as of 9/30/22

BROAD SELLOFF



Source: MPI, as of 9/30/22

Long-term equity performance



Source: Morningstar, as of 9/30/22

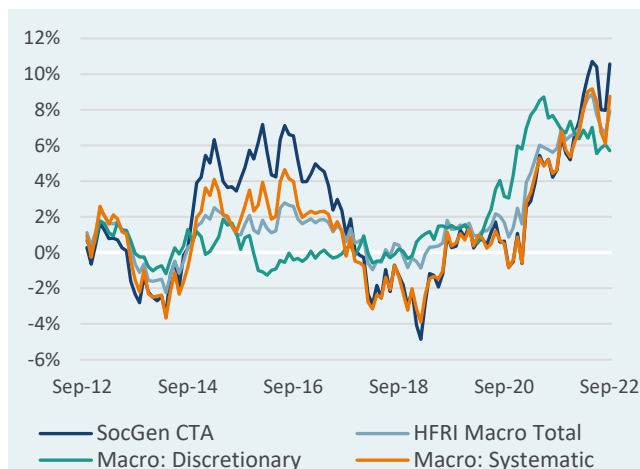
Other assets

Asymmetric macro strategies

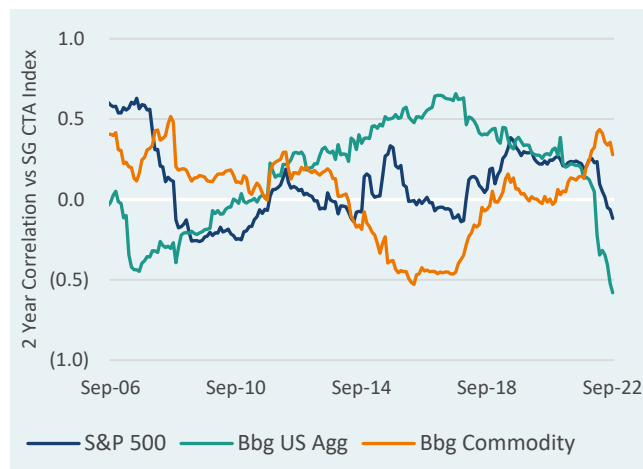
Macro strategies have been the top performing hedge fund strategy since 2021. Both parts of the Macro universe—Discretionary and Systematic—have done extremely well over the last 12-18 months. Systematic strategies have benefitted from strong trend following performance, which has returned to favor after a period of mediocre returns from 2016 to 2020. This periodicity is typical of trend following/CTA type strategies. Discretionary macro strategies have done well to capture the move in interest rates by shorting bonds as central banks reacted to high inflation by consistently hiking interest rates from ultra-low post-COVID levels.

Trend following funds can and have offered significant diversification from traditional asset classes due to their ability to go long or short markets depending on the current trends. As evidenced in the middle chart below, CTA funds had maintained long bond, short commodity positions for several years following the global financial crisis, though that changed significantly over the past year. Discretionary funds struggled when interest rates were zero-bound in the mid-2010s but have shown once again that they can perform well when central banks are taking action—either hiking or cutting rates—by taking positions based on fundamental economic data.

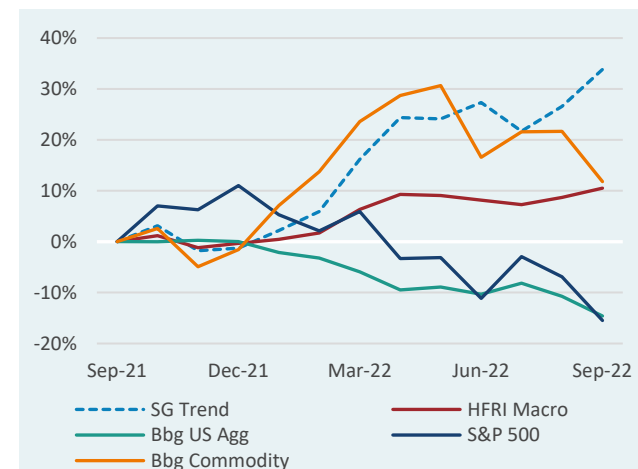
3 YEAR ROLLING RETURN FOR MACRO FUNDS



CTA FUNDS CORRELATION TO MARKETS



CUMULATIVE RETURN LAST 12 MONTHS



Source: HFR, MPI, Morningstar, SocGen, data as of 9/30/22

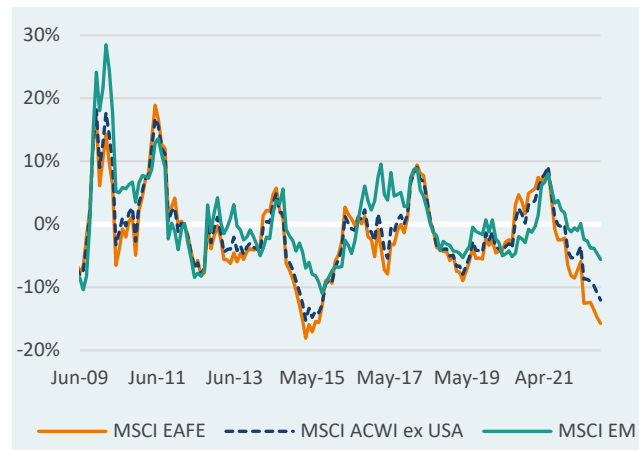
Currency

Investors with unhedged foreign currency exposure have seen extreme losses over recent periods. For example, a U.S. investor with an international developed equity investment (MSCI EAFE) suffered a loss of -15.7% over the past year *just from currency movements*. An investor in non-US equity (MSCI ACWI ex-US) would have seen a -12.0% loss. Currency risk is typically the second largest risk in institutional portfolios, and is not expected to be compensated over the long term.

We continue to believe that forward-thinking currency solutions can materially improve portfolio outcomes. Specifically, a currency program may allow an investor to reduce their portfolio risk while also increasing the

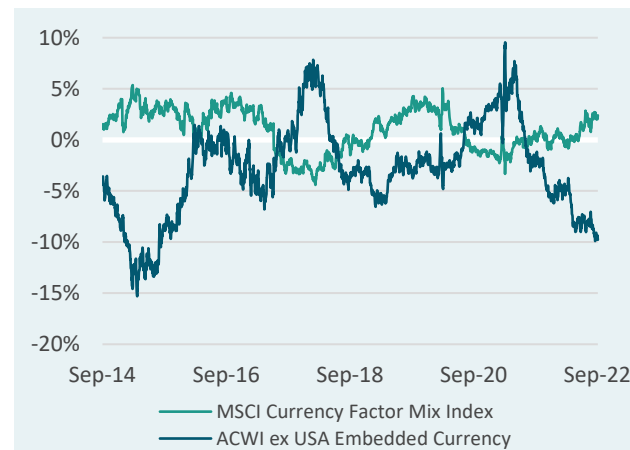
expected return of the portfolio. These characteristics are demonstrated below by comparing the unhedged currency exposure that most investors own (we refer to this as “embedded” currency) to the MSCI Currency Factor Mix Index which represents a passive investment in the currency market. This program aims to systematically capture the *return premia* within currency markets. Over the past 10 years, an unhedged exposure to foreign currencies has resulted in 5.8% portfolio volatility and a return of -4.4% per year. Meanwhile, a passive allocation the MSCI Currency Factor Mix Index has resulted in less than half of that volatility (2.5%) and with an average return of +1.2% per year.

EFFECT OF CURRENCY (1-YEAR ROLLING)



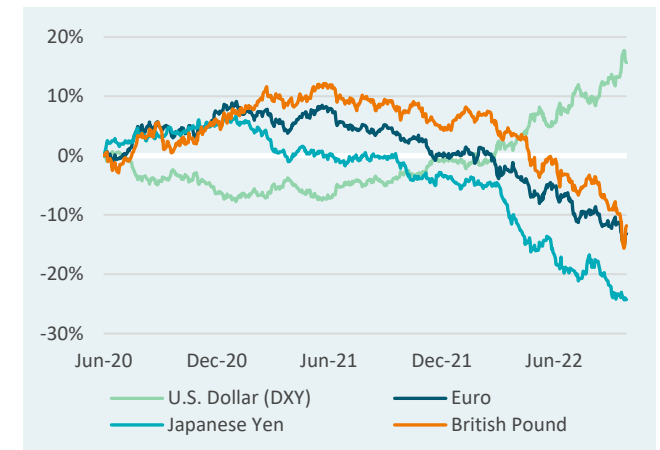
Source: MSCI, as of 9/30/22

UNHEDGED CURRENCY VS CURRENCY FACTOR MIX



Source: MSCI, as of 9/30/22

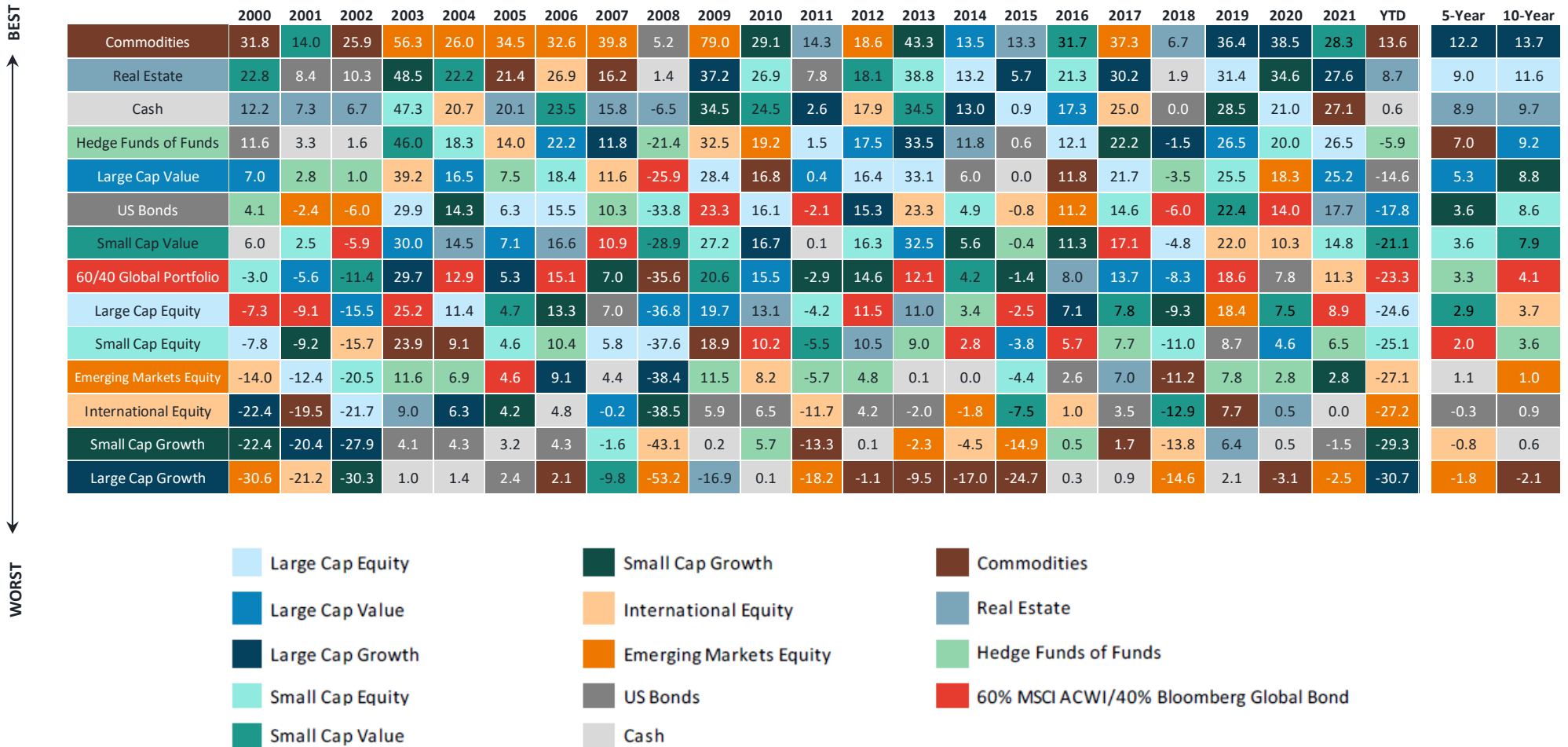
FOREIGN CURRENCY MOVEMENT



Source: Bloomberg, as of 9/30/22

Appendix

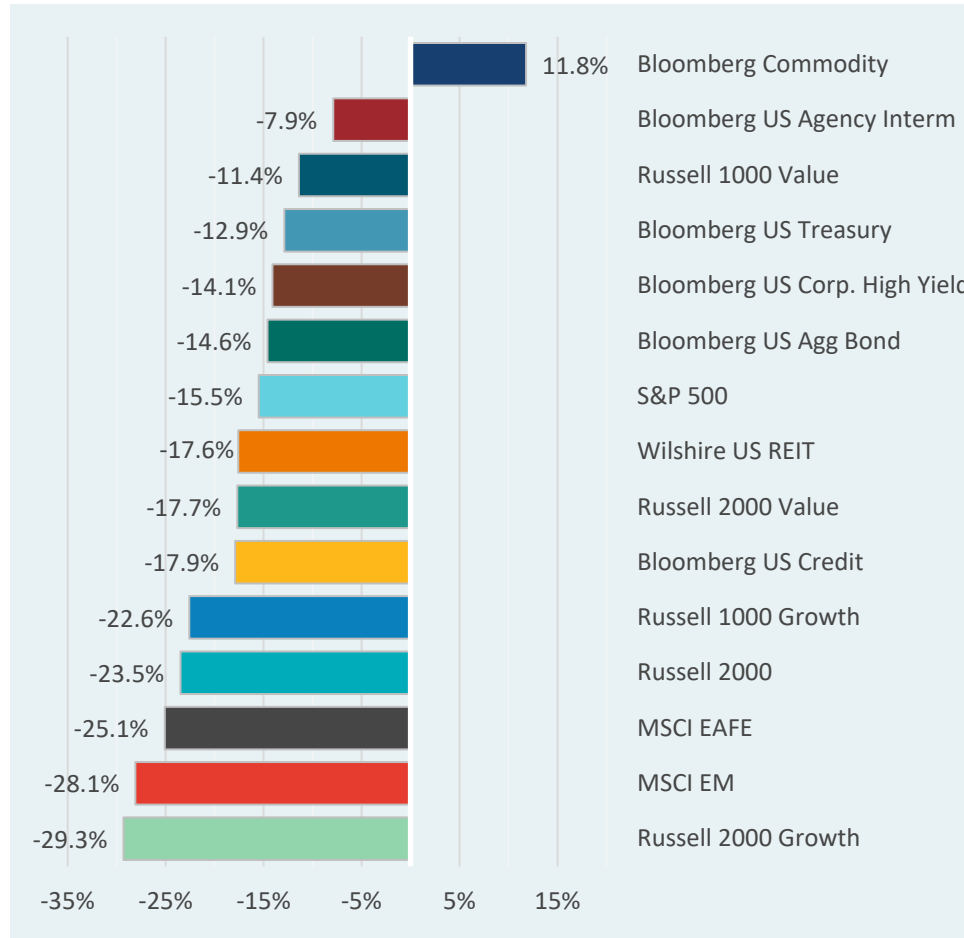
Periodic table of returns



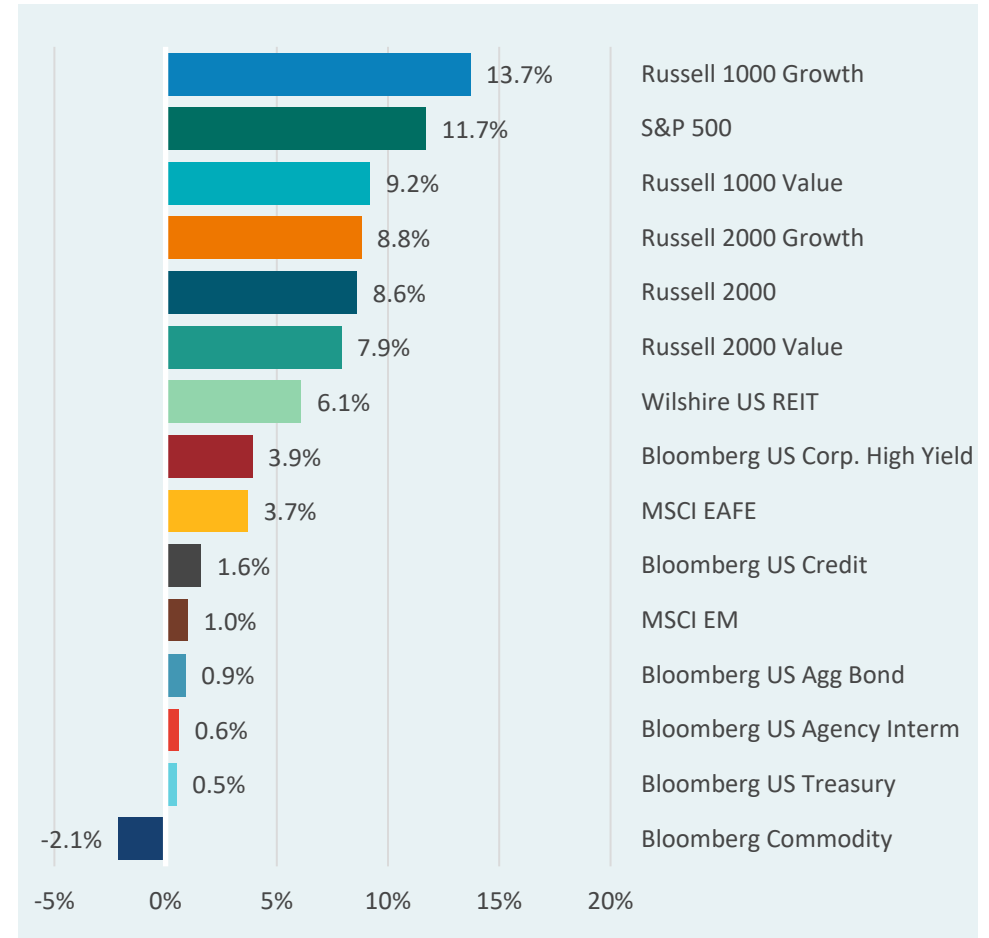
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 6/30/22.

Major asset class returns

ONE YEAR ENDING SEPTEMBER



TEN YEARS ENDING SEPTEMBER



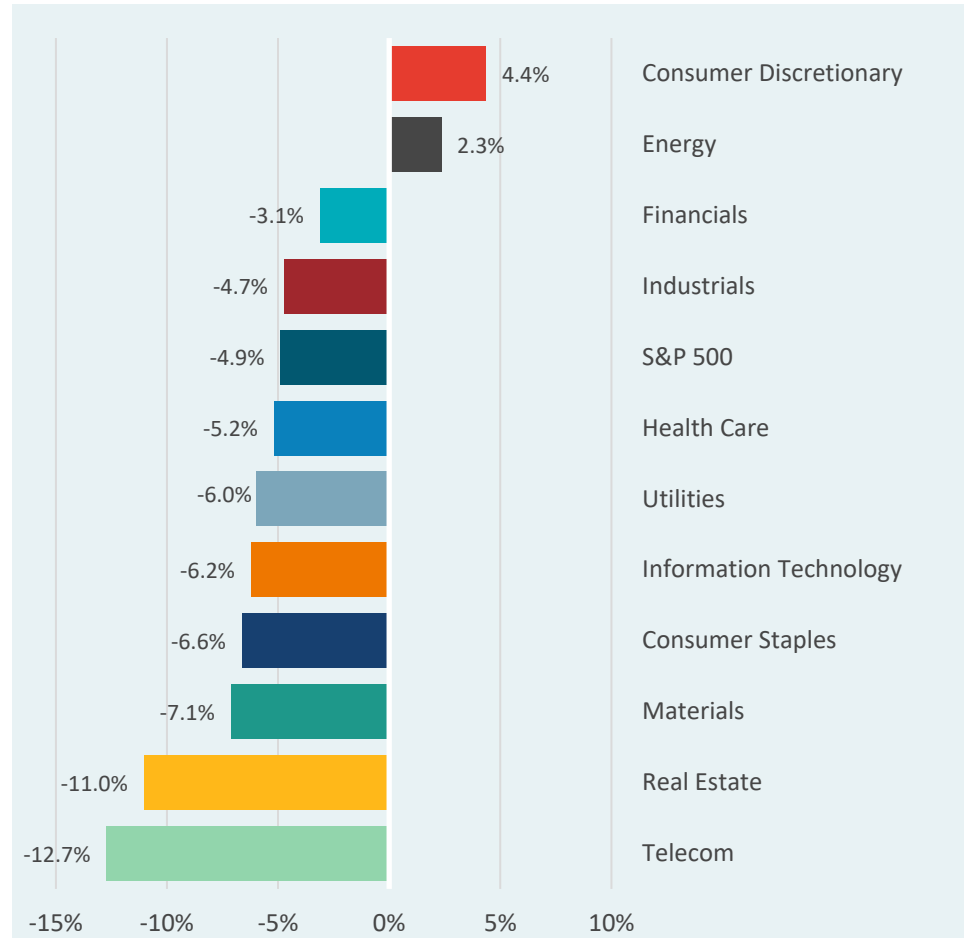
*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 9/30/22

Source: Morningstar, as of 9/30/22

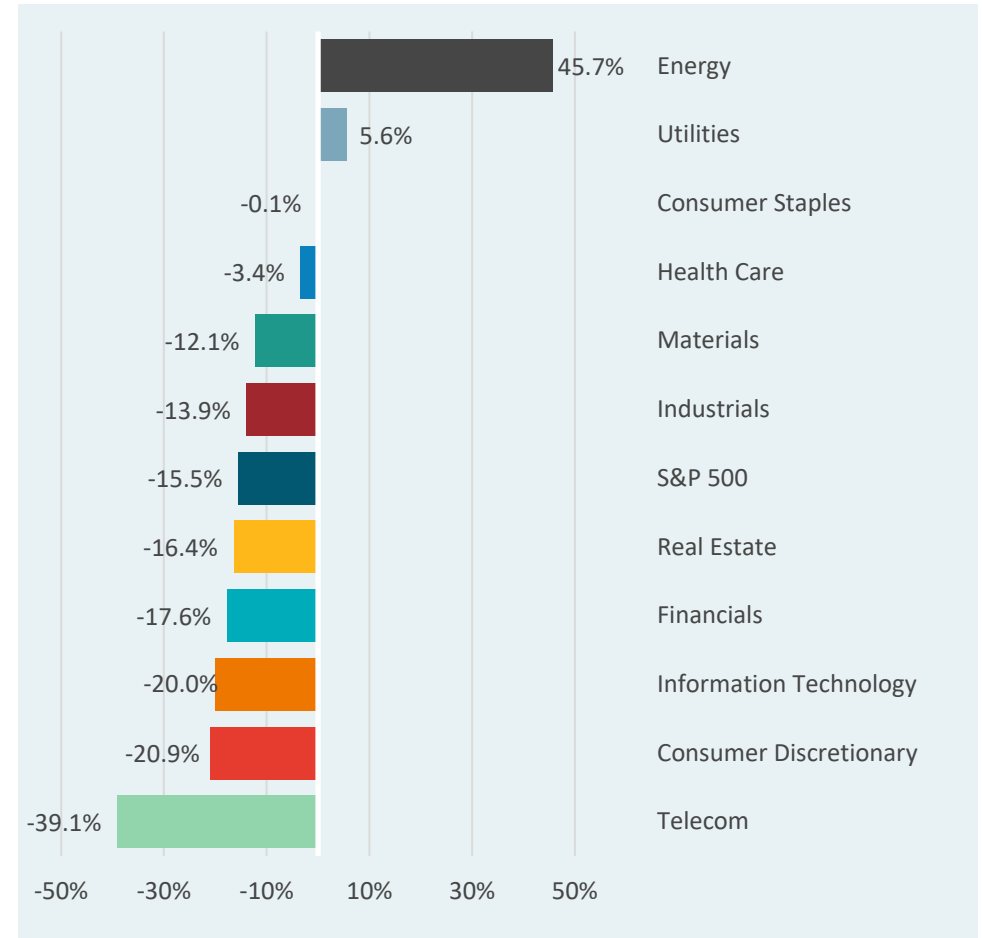
S&P 500 sector returns

QTD



Source: Morningstar, as of 9/30/22

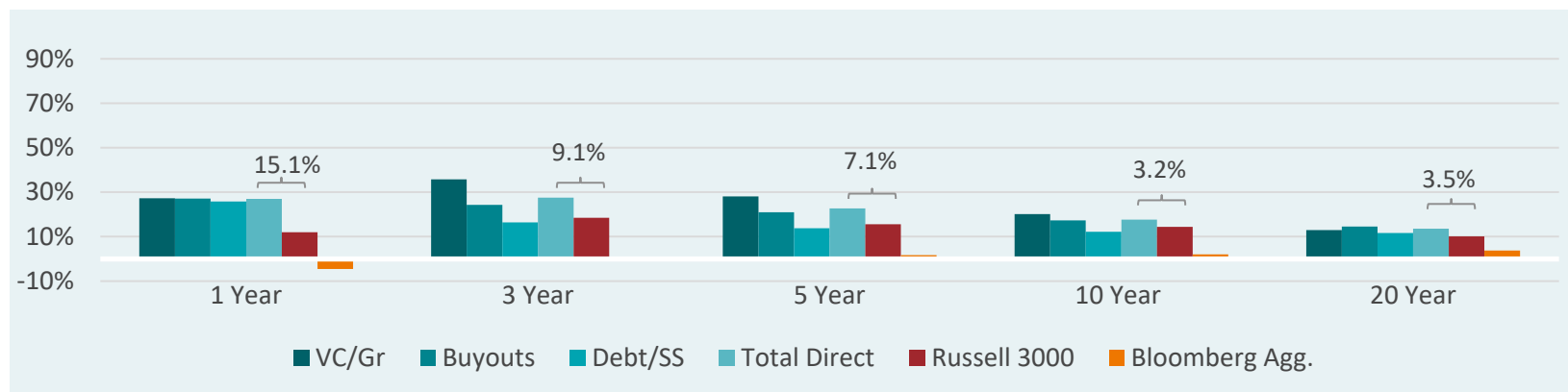
ONE YEAR ENDING SEPTEMBER



Source: Morningstar, as of 9/30/22

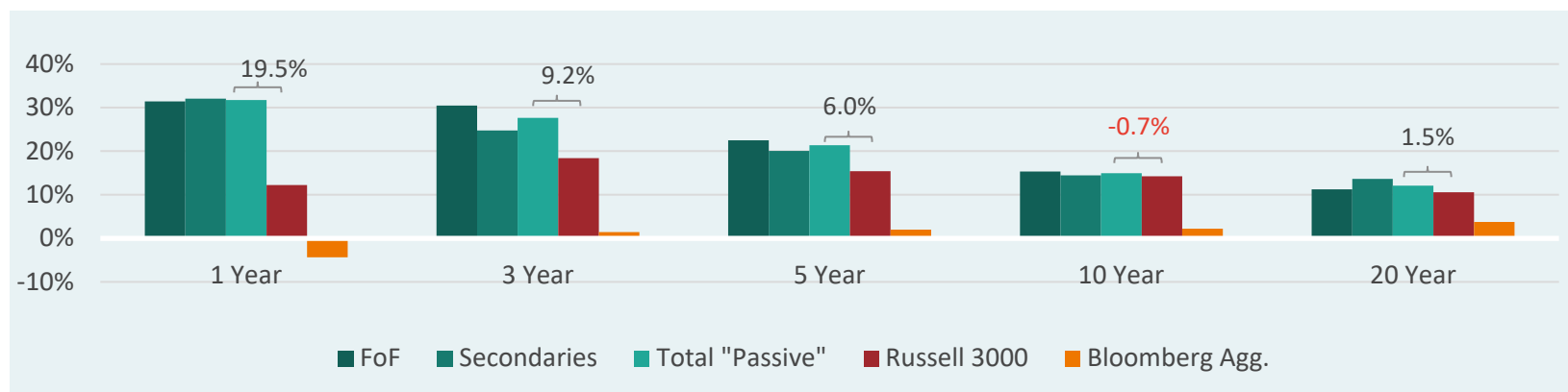
Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



Direct P.E Fund Investments outperformed comparable public equities across all time periods.

“PASSIVE” STRATEGIES

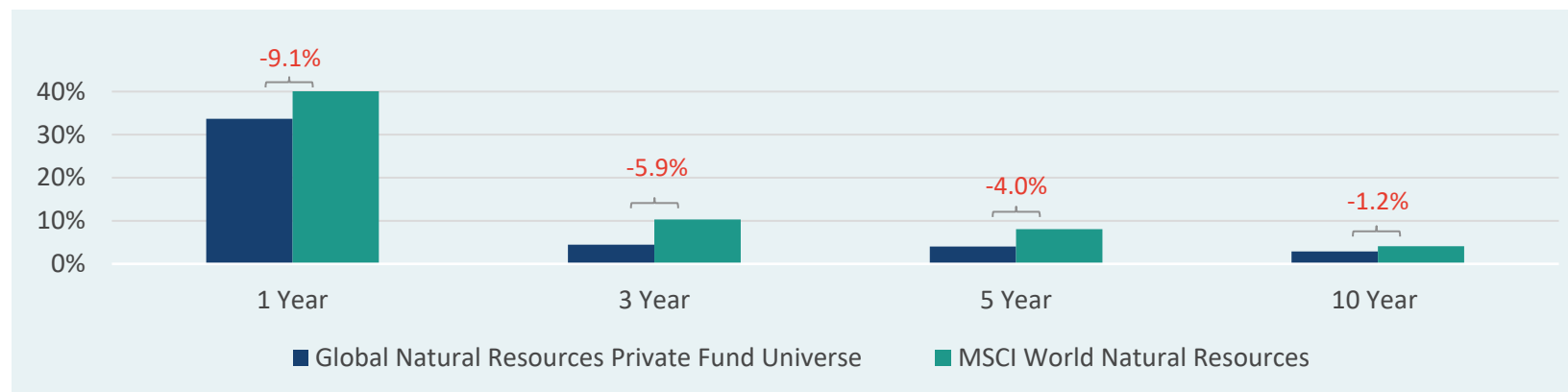


“Passive” strategies outperformed comparable public equities across all time periods, aside from the 10-year basis.

Sources: Refinitiv PME: U.S. Private Equity Funds sub asset classes as of March 31, 2022. Public Market Equivalent returns resulted from “Total Passive” and Total Direct’s identical cash flows invested into and distributed from respective traditional asset comparable.

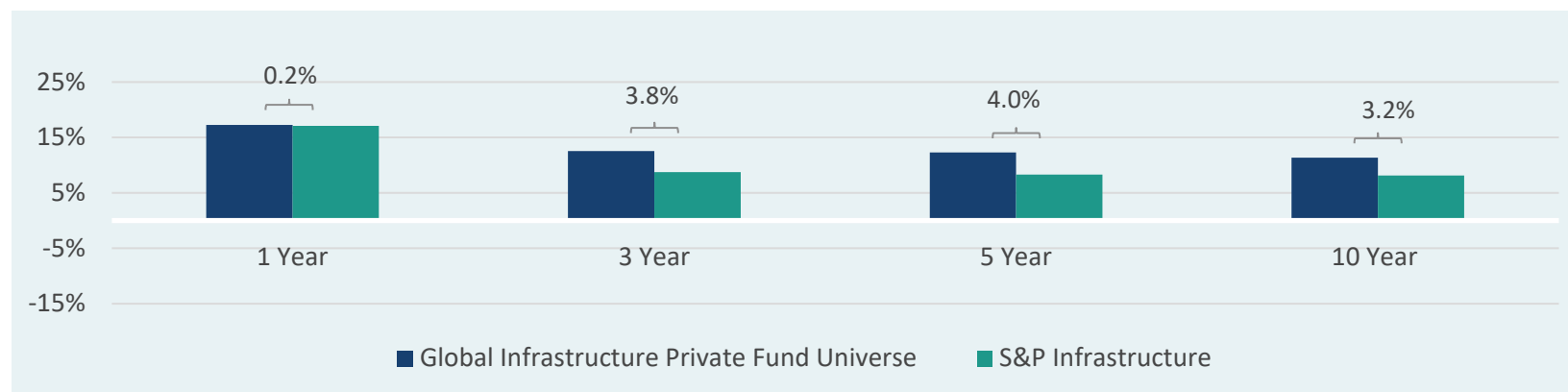
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS (N.R.)



N.R. funds underperformed the MSCI World Natural Resources benchmark across all time periods.

GLOBAL INFRASTRUCTURE FUNDS

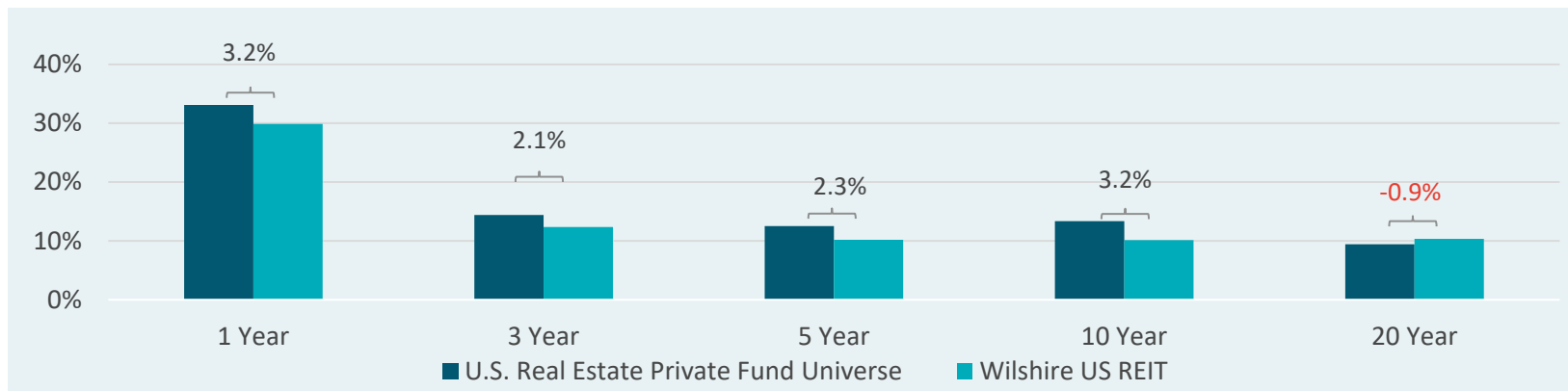


Infra. funds outperformed the S&P Infra. across all periods.

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 March 31, 2022. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

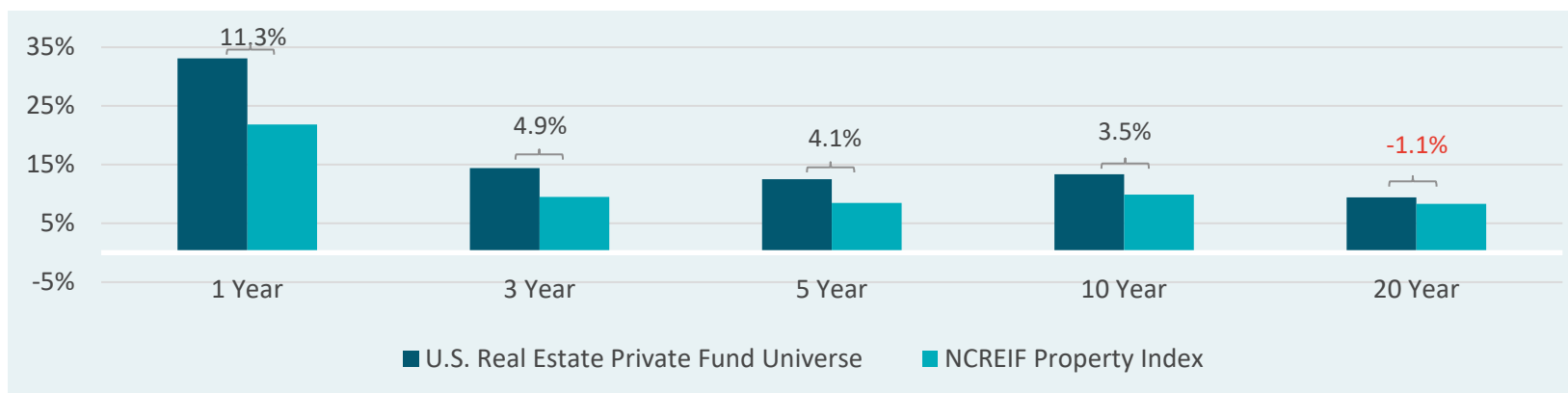
Private vs. liquid and core real estate performance

U.S. PRIVATE REAL ESTATE FUNDS VS. LIQUID UNIVERSE



U.S. Private R.E. funds underperformed the Wilshire U.S. REIT Index across all time periods, aside on a 20-year basis.

U.S. PRIVATE REAL ESTATE FUNDS VS. CORE FUNDS



U.S. Private R.E. Funds outperformed the NCREIF Property Index across all time periods, aside a 20-year basis.

Sources: Refinitiv PME: U.S. Real Estate universes as of March 31, 2022. 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	(9.2)	(4.9)	(23.9)	(15.5)	8.2	9.2	11.7
S&P 500 Equal Weighted	(9.2)	(4.8)	(20.7)	(13.5)	7.7	8.0	11.5
DJ Industrial Average	(8.8)	(6.2)	(19.7)	(13.4)	4.4	7.4	10.5
Russell Top 200	(9.2)	(5.0)	(24.7)	(16.4)	9.0	10.0	12.1
Russell 1000	(9.3)	(4.6)	(24.6)	(17.2)	7.9	9.0	11.6
Russell 2000	(9.6)	(2.2)	(25.1)	(23.5)	4.3	3.6	8.6
Russell 3000	(9.3)	(4.5)	(24.6)	(17.6)	7.7	8.6	11.4
Russell Mid Cap	(9.3)	(3.4)	(24.3)	(19.4)	5.2	6.5	10.3
Style Index							
Russell 1000 Growth	(9.7)	(3.6)	(30.7)	(22.6)	10.7	12.2	13.7
Russell 1000 Value	(8.8)	(5.6)	(17.8)	(11.4)	4.4	5.3	9.2
Russell 2000 Growth	(9.0)	0.2	(29.3)	(29.3)	2.9	3.6	8.8
Russell 2000 Value	(10.2)	(4.6)	(21.1)	(17.7)	4.7	2.9	7.9

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	(9.6)	(6.8)	(25.6)	(20.7)	3.7	4.4	7.3
MSCI ACWI ex US	(10.0)	(9.9)	(26.5)	(25.2)	(1.5)	(0.8)	3.0
MSCI EAFE	(9.4)	(9.4)	(27.1)	(25.1)	(1.8)	(0.8)	3.7
MSCI EM	(11.7)	(11.6)	(27.2)	(28.1)	(2.1)	(1.8)	1.0
MSCI EAFE Small Cap	(11.5)	(9.8)	(32.1)	(32.1)	(2.2)	(1.8)	5.3
Style Index							
MSCI EAFE Growth	(9.7)	(8.5)	(33.0)	(30.3)	(1.5)	0.7	4.7
MSCI EAFE Value	(9.0)	(10.2)	(21.1)	(20.2)	(2.8)	(2.7)	2.4
Regional Index							
MSCI UK	(8.8)	(10.8)	(18.7)	(14.1)	(1.7)	(1.1)	1.9
MSCI Japan	(10.4)	(7.7)	(26.4)	(29.3)	(2.6)	(0.6)	4.8
MSCI Euro	(8.4)	(10.0)	(32.7)	(30.0)	(3.8)	(3.2)	3.2
MSCI EM Asia	(13.2)	(14.0)	(28.8)	(29.5)	(0.8)	(1.1)	3.1
MSCI EM Latin American	(3.3)	3.6	3.0	0.2	(3.4)	(2.6)	(2.3)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	(6.6)	(5.1)	(13.6)	(11.6)	0.8	2.0	1.0
Bloomberg US Treasury Bills	0.2	0.4	0.4	0.4	0.6	1.1	0.7
Bloomberg US Agg Bond	(4.3)	(4.8)	(14.6)	(14.6)	(3.3)	(0.3)	0.9
Bloomberg US Universal	(4.3)	(4.5)	(14.9)	(14.9)	(3.1)	(0.2)	1.2
Duration							
Bloomberg US Treasury 1-3 Yr	(1.2)	(1.5)	(4.5)	(5.1)	(0.5)	0.5	0.6
Bloomberg US Treasury Long	(7.9)	(9.6)	(28.8)	(26.6)	(8.5)	(1.6)	0.6
Bloomberg US Treasury	(3.5)	(4.3)	(13.1)	(12.9)	(3.1)	(0.2)	0.5
Issuer							
Bloomberg US MBS	(5.1)	(5.3)	(13.7)	(14.0)	(3.7)	(0.9)	0.5
Bloomberg US Corp. High Yield	(4.0)	(0.6)	(14.7)	(14.1)	(0.5)	1.6	3.9
Bloomberg US Agency Interm	(1.8)	(2.4)	(7.2)	(7.9)	(1.4)	0.2	0.6
Bloomberg US Credit	(5.1)	(4.9)	(18.1)	(17.9)	(3.6)	(0.0)	1.6

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	(8.1)	(4.1)	13.6	11.8	13.5	7.0	(2.1)
Wilshire US REIT	(12.3)	(10.2)	(29.7)	(17.6)	(2.2)	2.9	6.1
CS Leveraged Loans	(2.2)	1.2	(3.3)	(2.6)	2.1	3.0	3.7
S&P Global Infrastructure	(11.8)	(9.6)	(10.1)	(6.0)	(0.1)	2.1	5.7
Alerian MLP	(7.5)	8.4	19.0	20.0	3.1	1.2	1.7
Regional Index							
JPM EMBI Global Div	(6.4)	(4.6)	(23.9)	(24.3)	(7.2)	(2.6)	1.1
JPM GBI-EM Global Div	(4.9)	(4.7)	(18.6)	(20.6)	(7.1)	(3.9)	(2.4)
Hedge Funds							
HFRI Composite	(2.3)	(0.6)	(6.2)	(5.8)	6.2	4.5	4.6
HFRI FOF Composite	(0.6)	0.7	(5.9)	(5.5)	4.5	3.3	3.6
Currency (Spot)							
Euro	(2.6)	(3.9)	(13.9)	(15.5)	(3.5)	(3.7)	(2.7)
Pound Sterling	(4.1)	(8.3)	(17.6)	(17.2)	(3.2)	(3.6)	(3.6)
Yen	(4.2)	(7.7)	(20.4)	(22.9)	(9.3)	(4.9)	(6.0)

Source: Morningstar, HFRI, as of 9/30/22.

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.lanqerresearch.com)

University of Michigan Consumer Sentiment Index - A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. (www.Bloomberg.com)

NFIB Small Business Outlook - Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (<http://www.nfib-sbet.org/about/>)

NAHB Housing Market Index - the housing market index is a weighted average of separate diffusion indices for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula $(\text{Good-Poor} + 100)/2$ to the present and future sales series and $(\text{High/Very High-Low/Very Low} + 100)/2$ to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.

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Glossary

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 6.3

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer



SUBJECT: Report on Phase One of Asset Liability Study – Enterprise Risk Tolerance Results and Review of Current Policy Characteristics

Recommendation

Provide direction to staff and consultant regarding SamCERA's enterprise risk tolerance assessment and current policy characteristics.

Background

The first step in the asset liability study is having an enterprise risk tolerance discussion. To help facilitate this discussion, Verus performed risk tolerance interviews with the Trustees. Verus has summarized the risk tolerance results as part of the attached report. The report also introduces the asset liability study by showing historical plan data, deterministic and stochastic projections, and reviews the current policy characteristics.

Discussion

Verus will share the ERT interview results and lead the discussion around SamCERA's risk tolerance assessment and current policy characteristics.

Attachment

Asset Liability Study: ERT Results and Asset Liability Introduction



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



DECEMBER 2022

Enterprise Risk Tolerance (ERT) Results & Asset Liability Introduction

San Mateo County Employees' Retirement Association

Table of contents



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Introduction TAB I

ERT results TAB II

Asset Liability Introduction TAB III

Next steps TAB IV

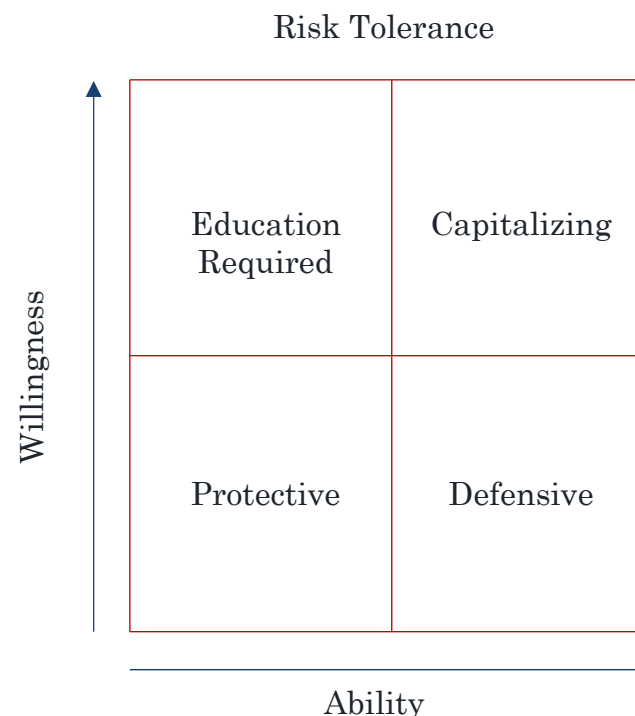
Appendix TAB V

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I. Introduction

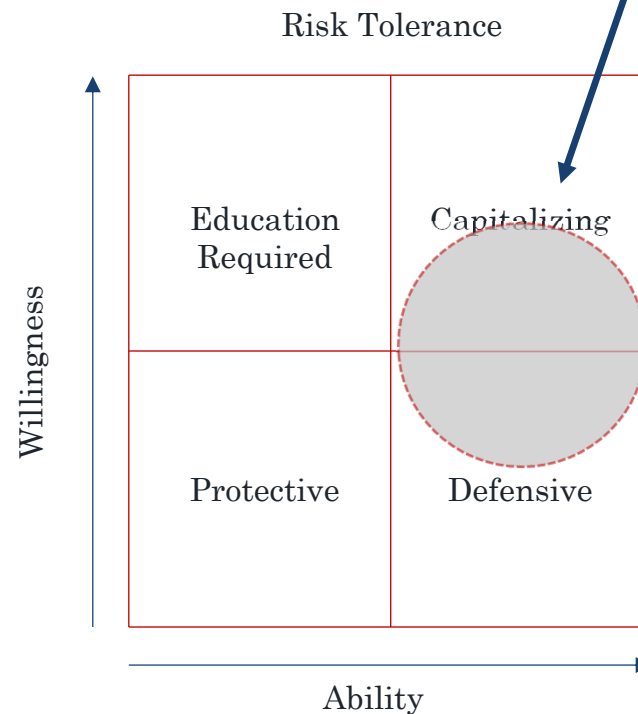
Enterprise Risk Tolerance in Context

- Properly assessing enterprise risk tolerance (“ERT”) has important and practical implications for investment strategy development.
- Identifying the appropriate risk tolerance for a plan involves viewing risk in terms of the Plan’s willingness and ability to bear risk.
- The ability to bear risk depends on financial circumstances while the willingness to bear risk is generally based on investor’s attitudes and beliefs about investments.
- **In today’s session, we review SamCERA’s willingness and ability to incur investment risk, based on our findings from recent Trustee interviews.**
- Although the SamCERA Board’s duty is to the beneficiaries of the Association, assessing the County’s financial situation and ability to make contributions to the Pension is one component in evaluating the Plan’s ability to take on risk.
- An assessment of the financial health of the Plan sponsor will also be incorporated into the forthcoming 2023 asset/liability study.



Summary Observations

- ERT interviews indicate a Trustee willingness to accept certain risks including
 - Enough growth risk to meet return targets
 - Not overly concerned about peer risk
 - Willingness to deviate from the herd
 - Confidence in governance structure
 - Willingness to consider new strategies with appropriate education/understanding



ERT Trustee interviews would imply SamCERA is somewhere here

Most trustees are comfortable with current level of risk/downside protection

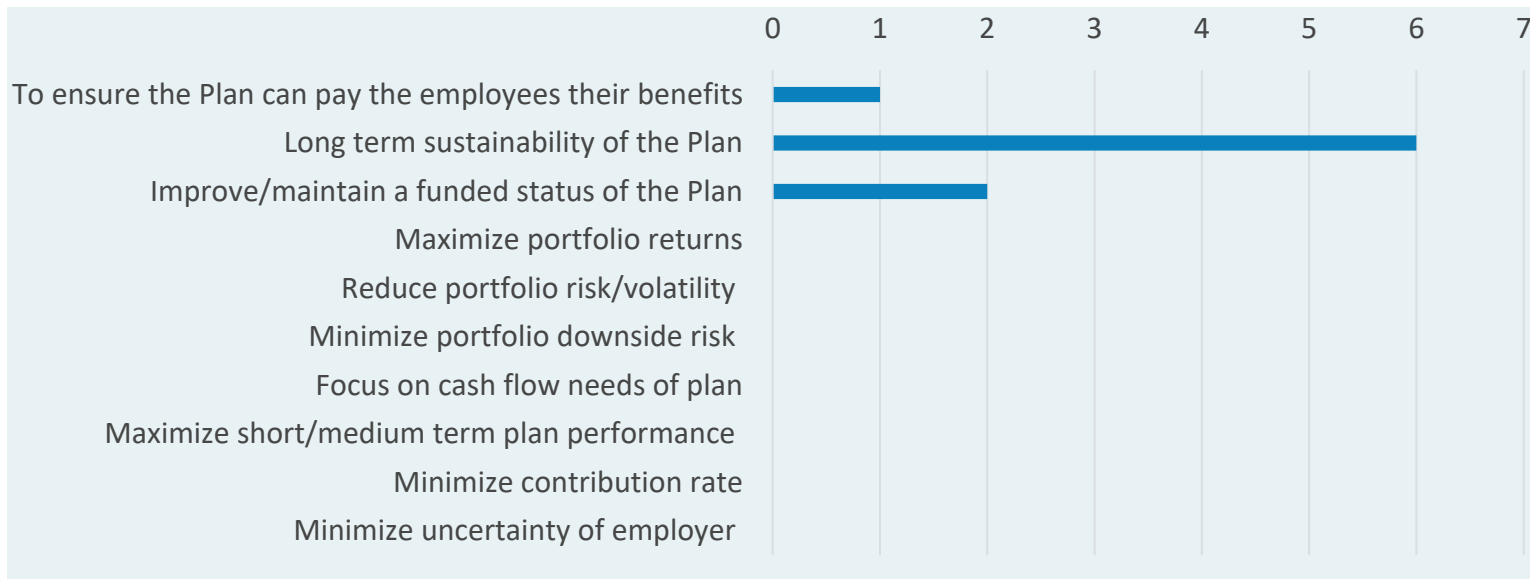
Most Trustees were not eager to take on more risk, even if the ability to do so was there

Open to changes in the portfolio with proper education

II. ERT results

Mission and Objectives

“What is/should be the overall objective of the SamCERA Plan”



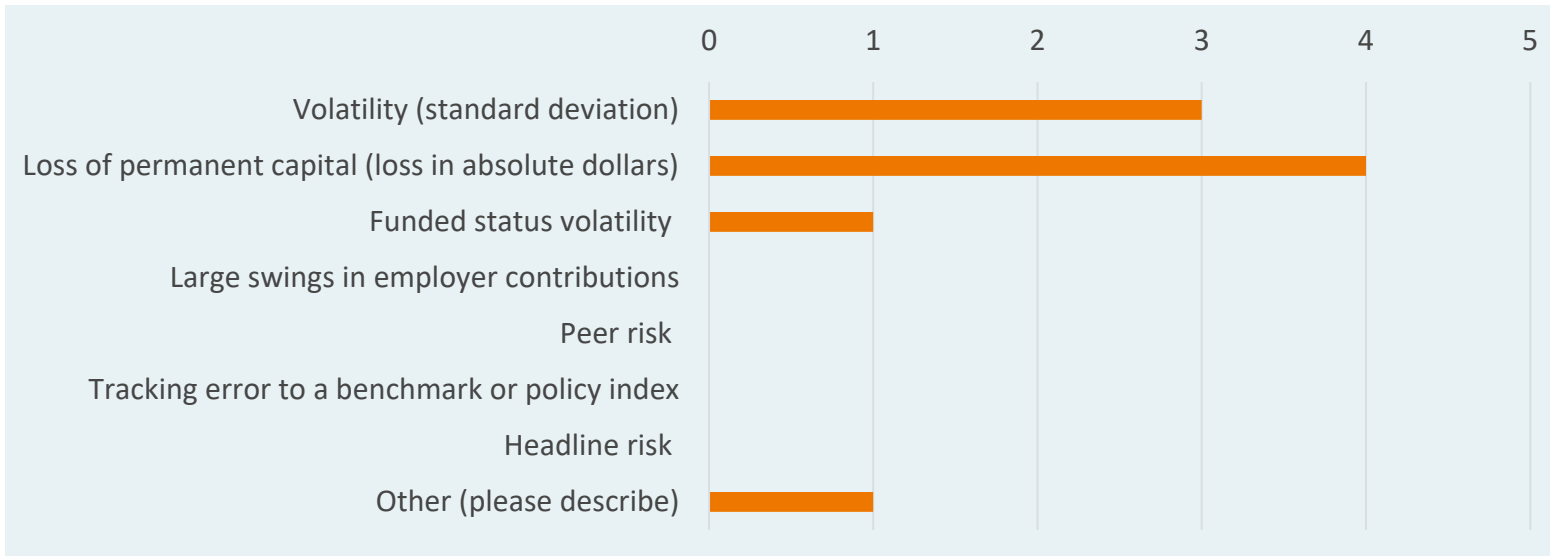
There is broad agreement on SamCERA’s overall Mission, objectives and priorities

Several trustees had more than one objective

One of SamCERA’s goals highlighted in the IPS:

“Prudently manage the assets in order to appropriately fund the actuarial liabilities of the retirement system, to ensure the ability to pay all earned benefits while minimizing the costs to employers.”

How do you define risk?



*Other – Taking only enough risk to achieve your goals.

IPS Risk Definition:

No single definition of risk. Various ways of measuring risk

Portfolio should be diversified across many risk dimensions/ timeframes

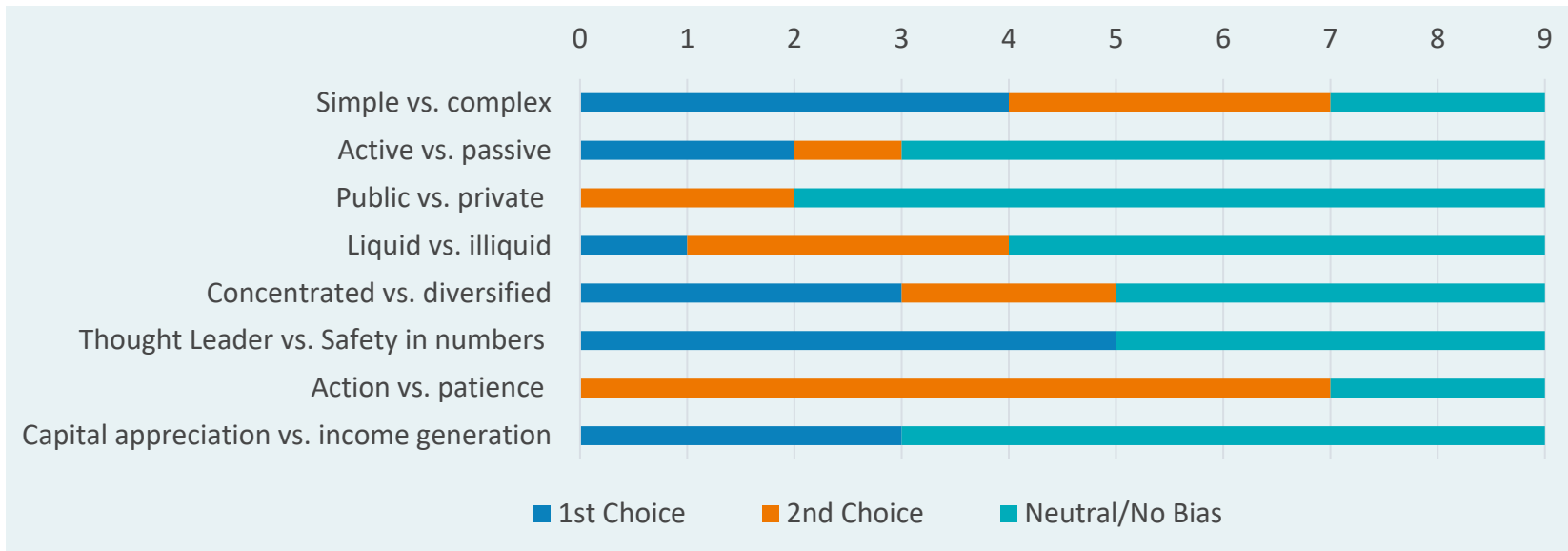
Too many managers in the portfolio. Worry that we are not tracking all the managers as a Board.

Inflation Risk

Are we de-risking too much? Higher burden on employee contribution rates

Cyber Security Risk & Climate Risk

Portfolio investment philosophy



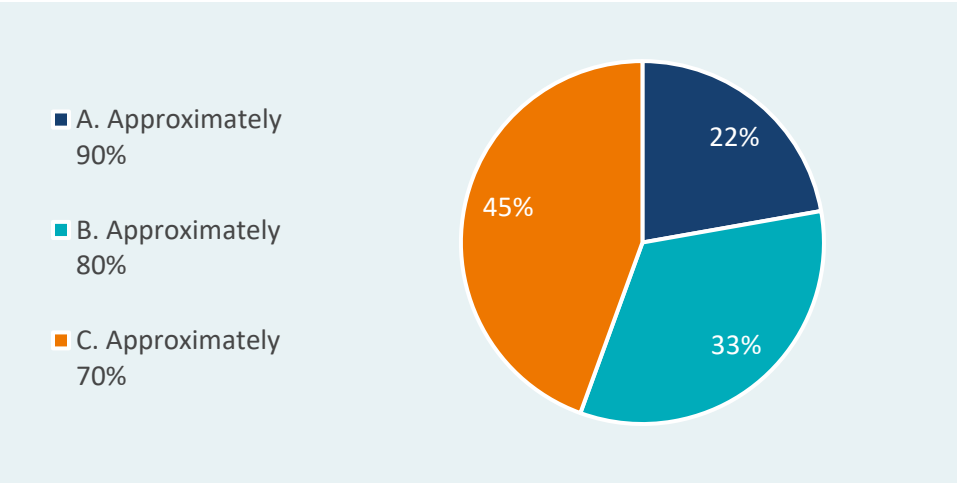
In many cases, Trustees were comfortable with how the portfolio is invested today, hence the higher number in Neutral/No bias

SamCERA shouldn't be concerned with Peers

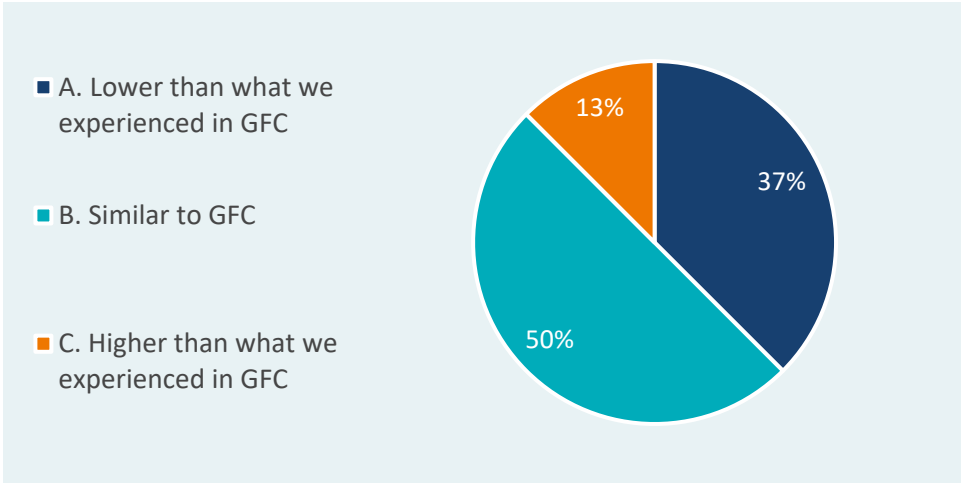
Whatever is appropriate for the needs of SamCERA

Comfort with risk

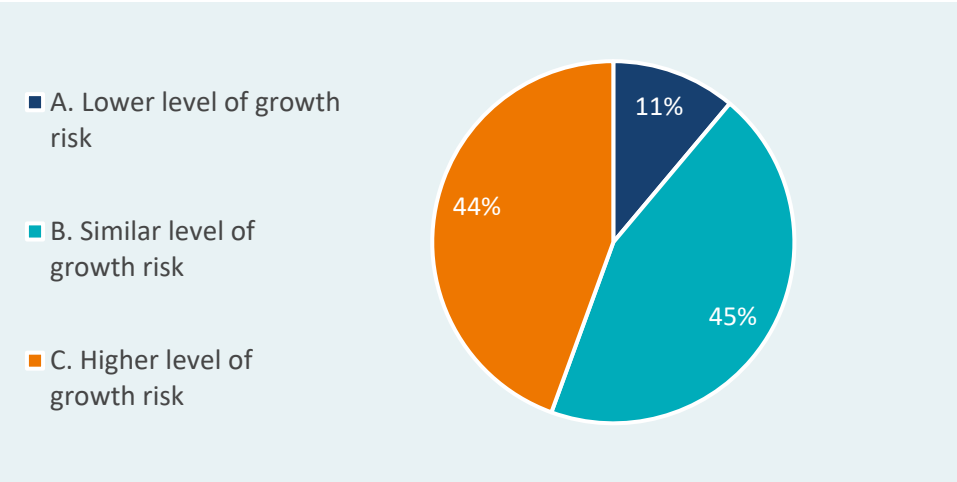
SAMCERA SHOULD BE WILLING TO ACCEPT A FUNDED RATIO OF



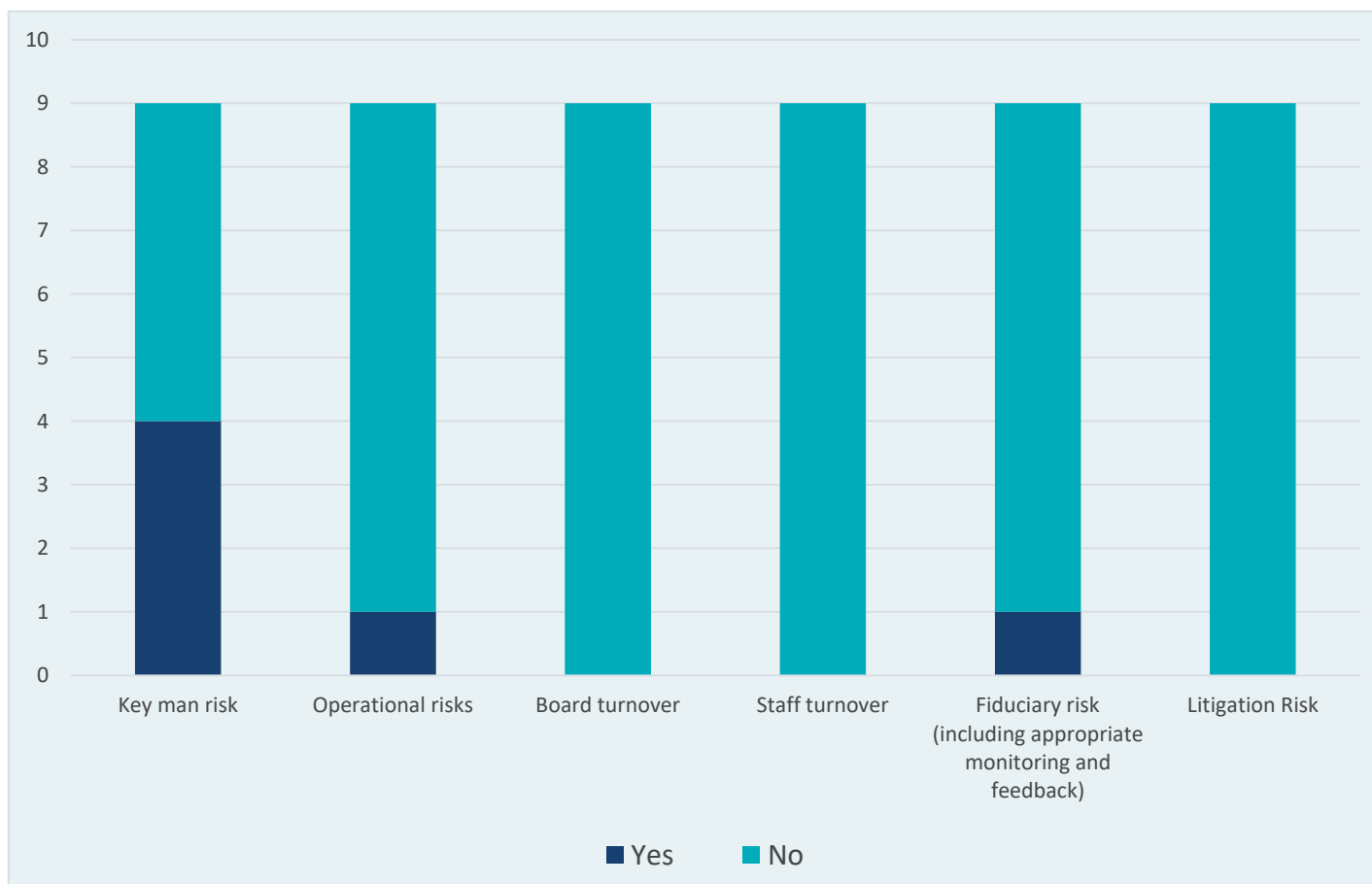
COMFORT WITH POTENTIAL PORTFOLIO DRAWDOWN



SAMCERA HAS LOWERED EQUITY RISK, ARE YOU COMFORTABLE WITH



Operational, Organizational and External Risks



No significant organizational risks were expressed during the ERT Survey

One risk several of the Trustee's wanted to address was succession planning for SamCERA's CEO/CIO

Cyber security risk and climate risk was mentioned as a potential risk for SamCERA

Considerations for ALM study

- **Objectives:**

- SamCERA's IPS objectives are in line with SamCERA's overall mission
- Trustees recognize SamCERA's objective

- **Risks:**

- SamCERA looks at risk in a variety of ways, but the majority define risk as volatility & permanent loss of capital
- The majority of Board members did not want to significantly alter the risk/return profile of SamCERA. Some were willing to increase risk modestly; few trustees indicated they wanted to further reduce the portfolio risk

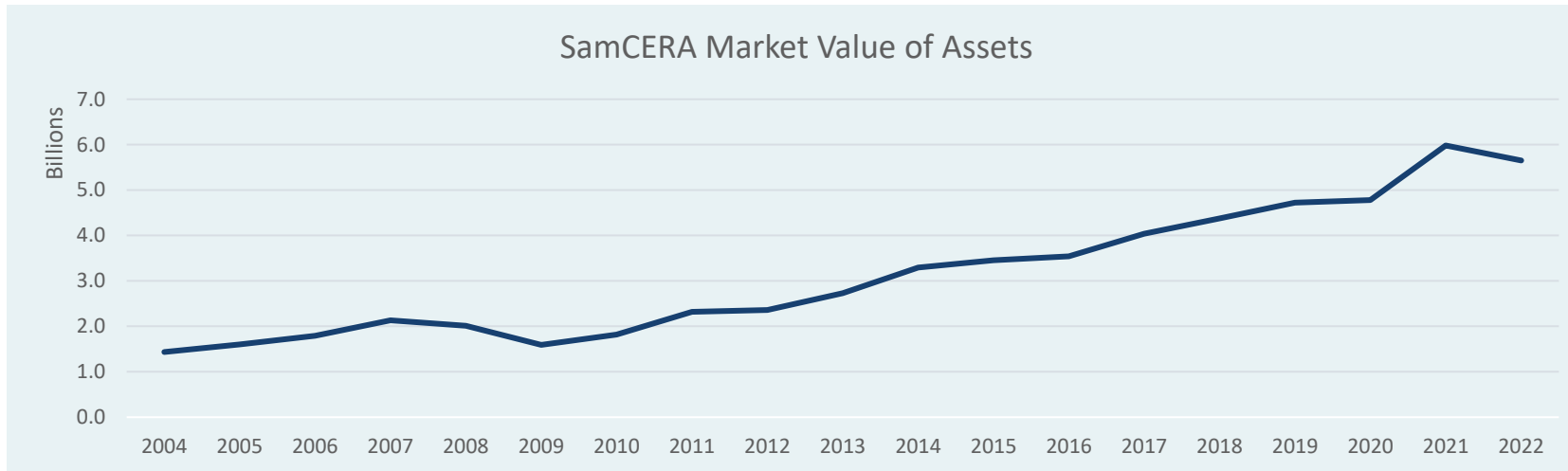
- **Portfolio:**

- Trustees were comfortable with the complexity of the current portfolio
- Many trustees were neutral in terms of illiquidity risk and public/private investing
- SamCERA has a strong county backing which provides the ability to take risk

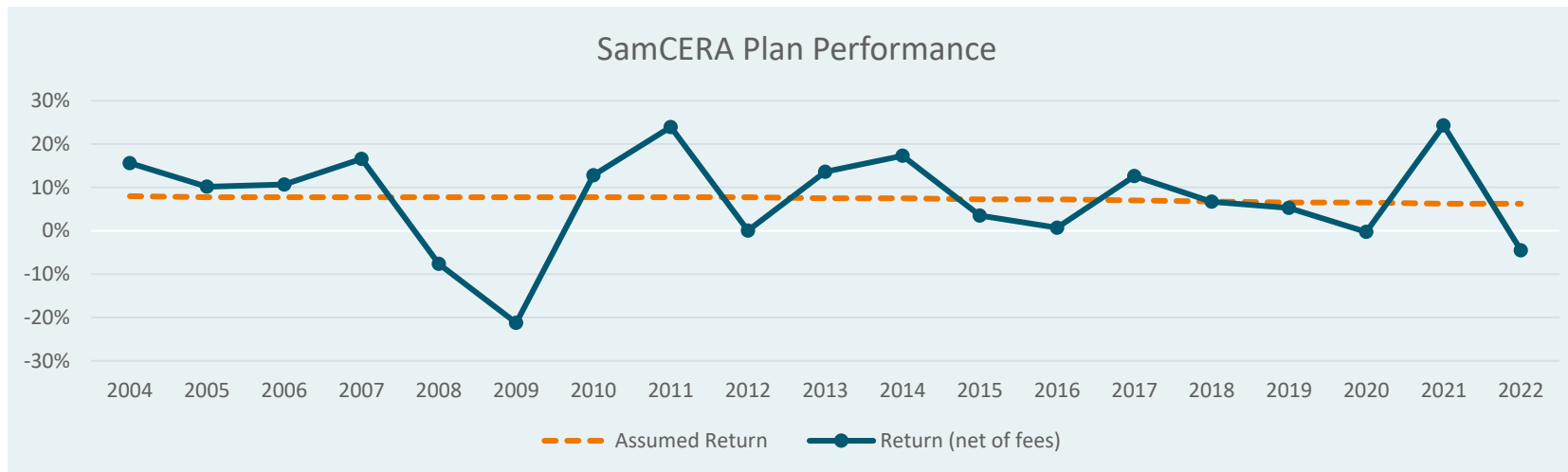
III. Asset Liability Introduction

Historical plan data

Rolling returns and plan value

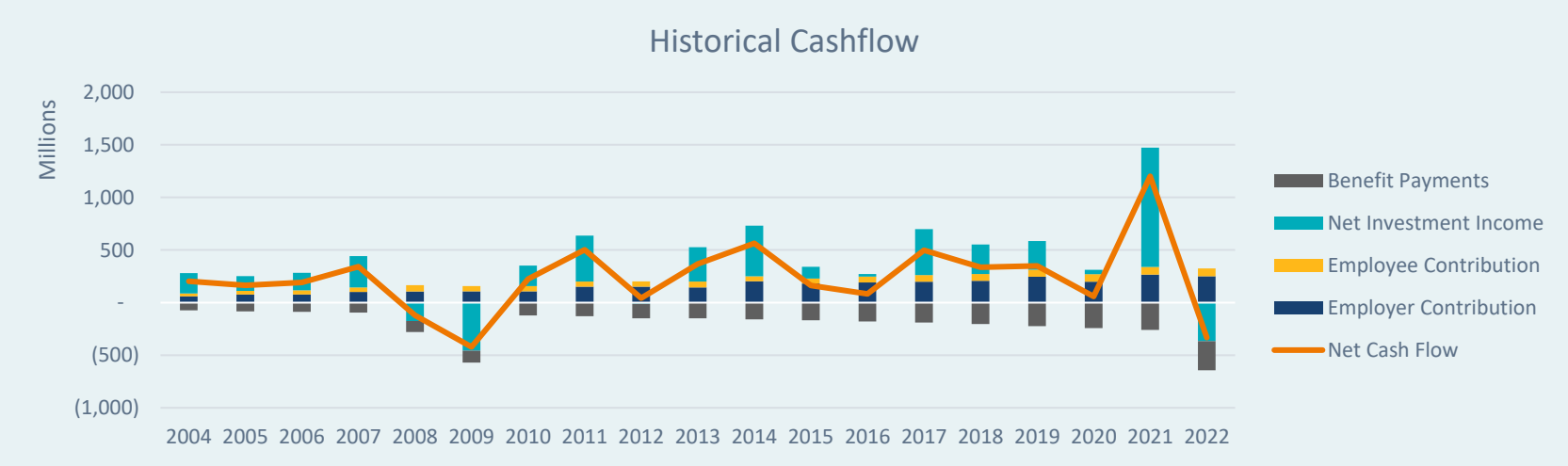


Assets have recovered since the Global Financial Crisis.

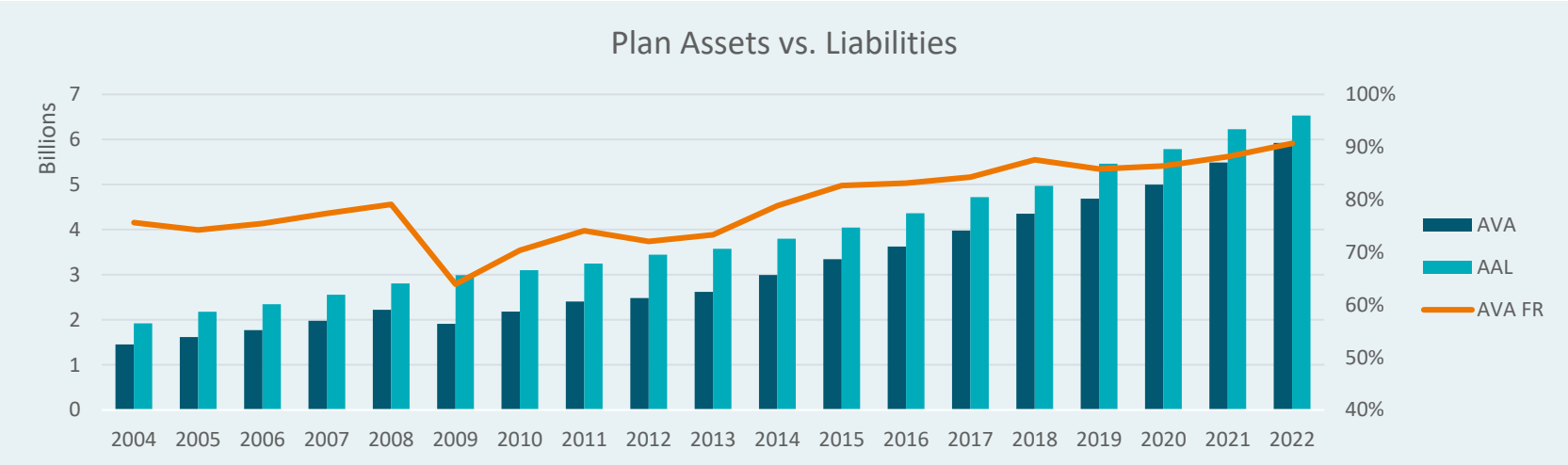


Dates represented as Fiscal Year ending June 30th. Data taken from historical SamCERA CAFRs and actuarial valuations.

Benefit payments and contributions



Historically, net plan outflow has been driven by investment earnings.



The plan's assets have recovered since 2009, growing faster than liabilities

Dates represented as Fiscal Year ending June 30th. Data taken from historical SamCERA CAFRs and actuarial valuations.

A comment on liability projections



To become fully funded by 2038, the plan will require roughly 9.8b in assets

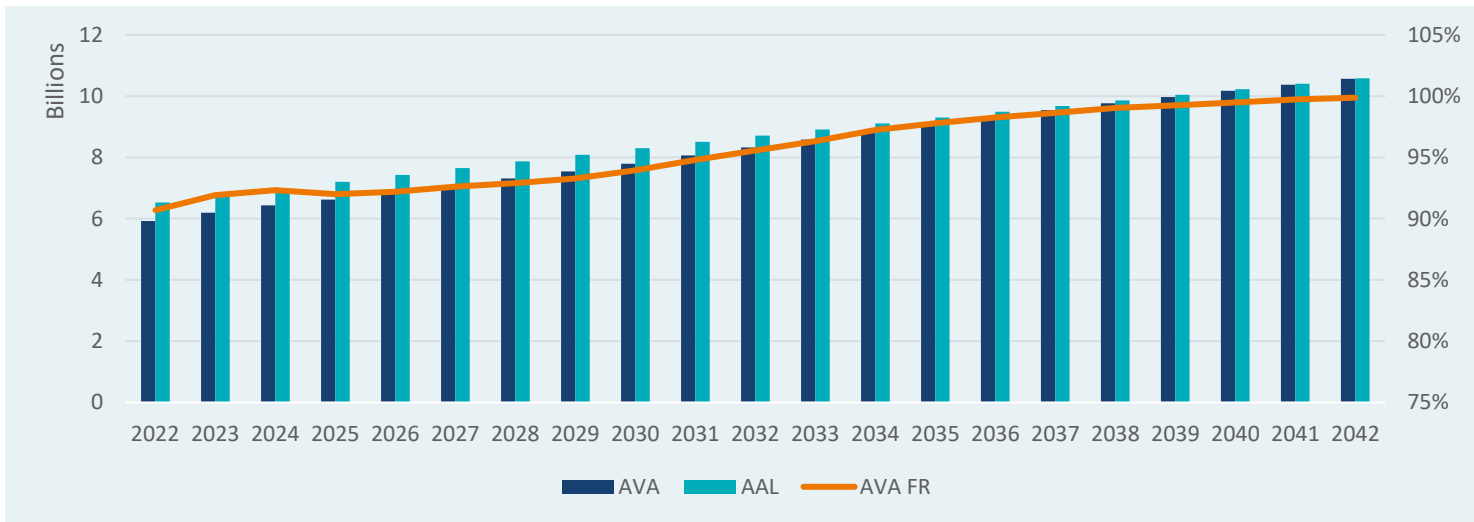
Discrepancies in our projections will occur when plan experience differs from our assumptions

Projection from current Asset Liability study done for SamCERA by Verus. Data taken from historical SamCERA CAFRs and actuarial valuations

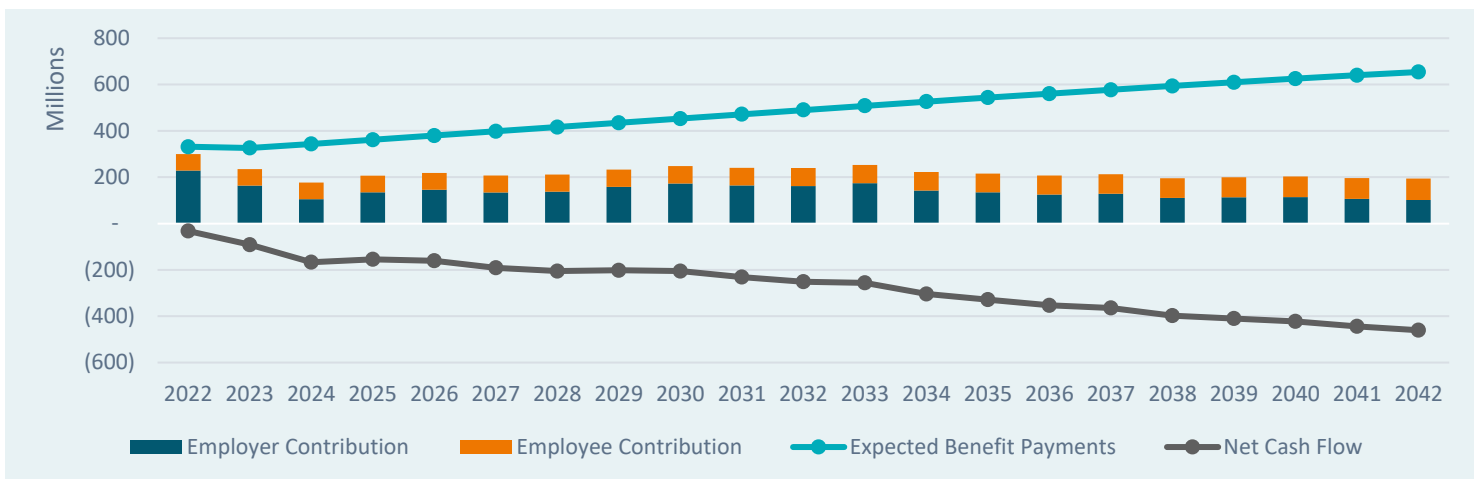
Deterministic projections

The pension equation in action

BASELINE PROJECTION: 6.25% INVESTMENT RETURN



Assuming plan meets return target of 6.25% and contributions follow the current funding policy, the Plan sponsor will become 99% funded in roughly 16 years.

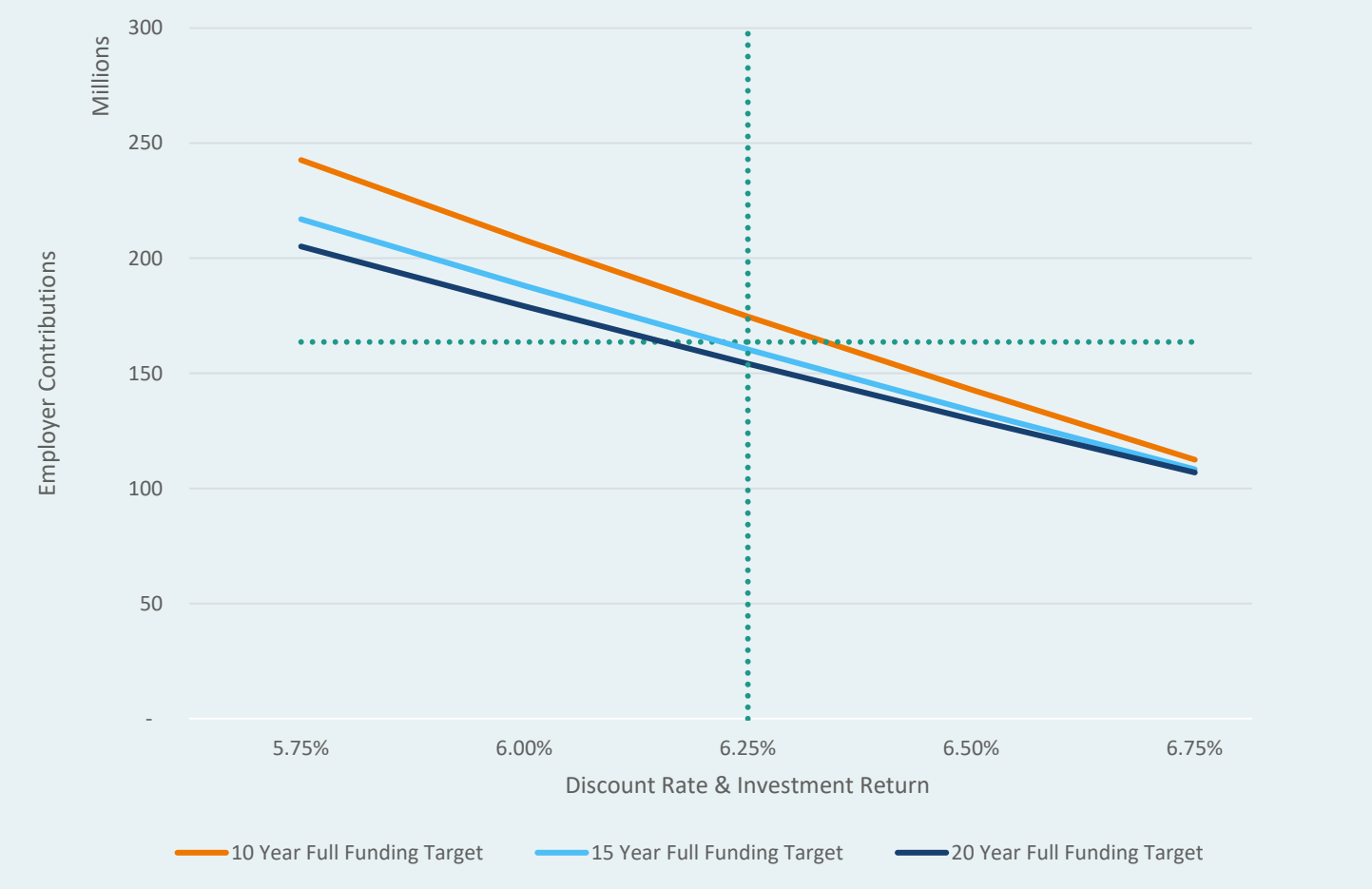


As the plan matures it becomes increasingly dependent on investment performance to meet cashflow needs.

Assumes discount rate changes from 6.75% in 2018 to 6.50% in 2019. Assumes investment return is 6.75% for first year and 6.50% thereafter. In addition, assumes plan growth is approximately 0.6% annually and all other assumptions (mortality, termination, disability, etc.) are met exactly.

Cost of de-risking

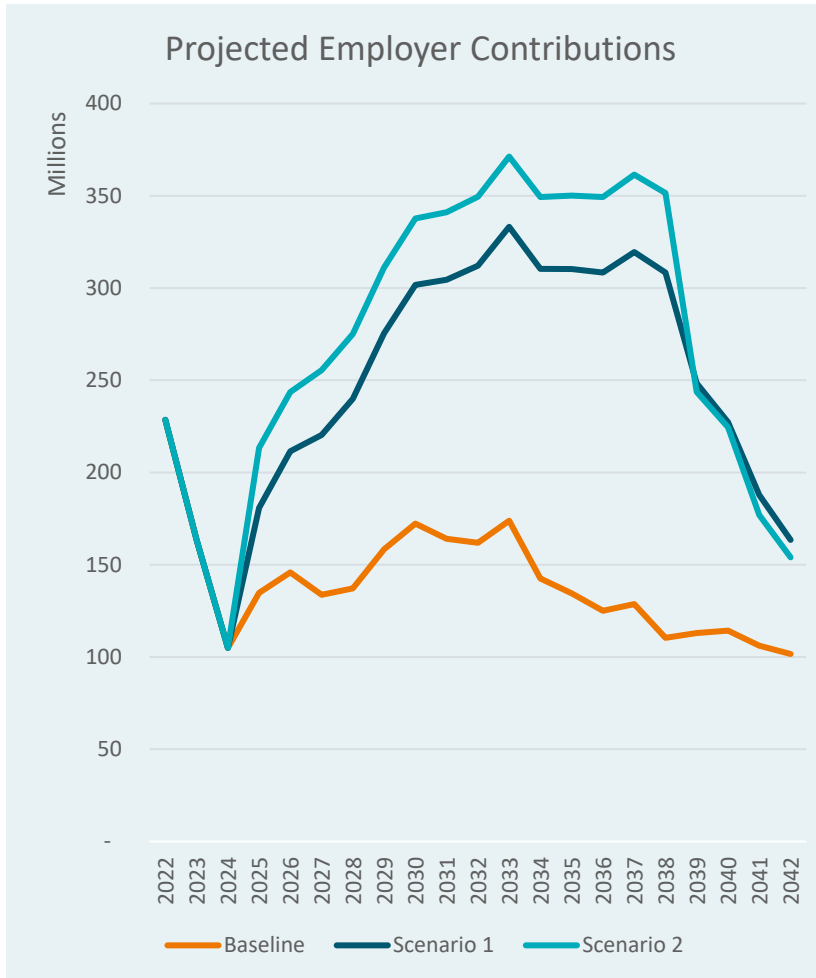
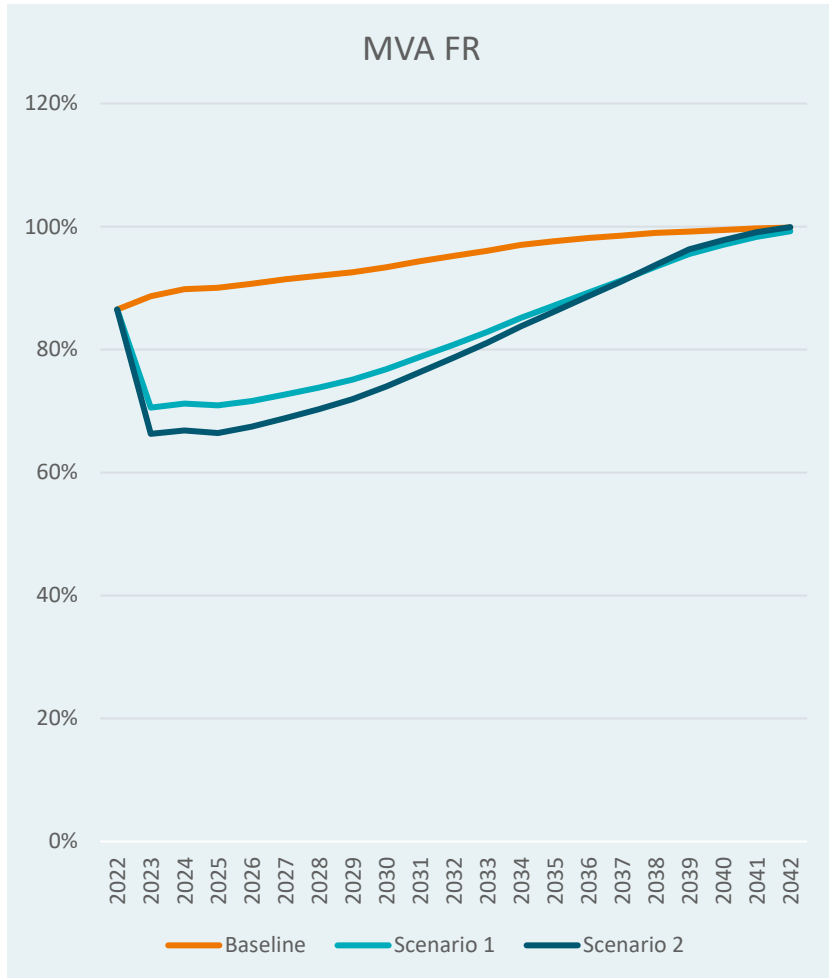
THE COST OF FUNDING AND DE-RISKING, 10 YEAR HORIZON



Plan is expected to achieve full funding within 15 years assuming plan performance remains strong.

Data displayed in this chart assumes investment returns equal the discount rate for the entire modeling period and all other assumptions (mortality, disability, plan growth, etc.) are met exactly.

Cost of a drawdown



A significant drawdown may require an adjustment to the current funding projections.

Baseline: 6.75% return in year 1, 6.25% return in every other year.
 Scenario 1: -15% Return in year 1, 6.25% return in every other year.
 Scenario 2: -20% return in year 1, 6.25% return in every other year.

Projections

10-year return & risk assumptions

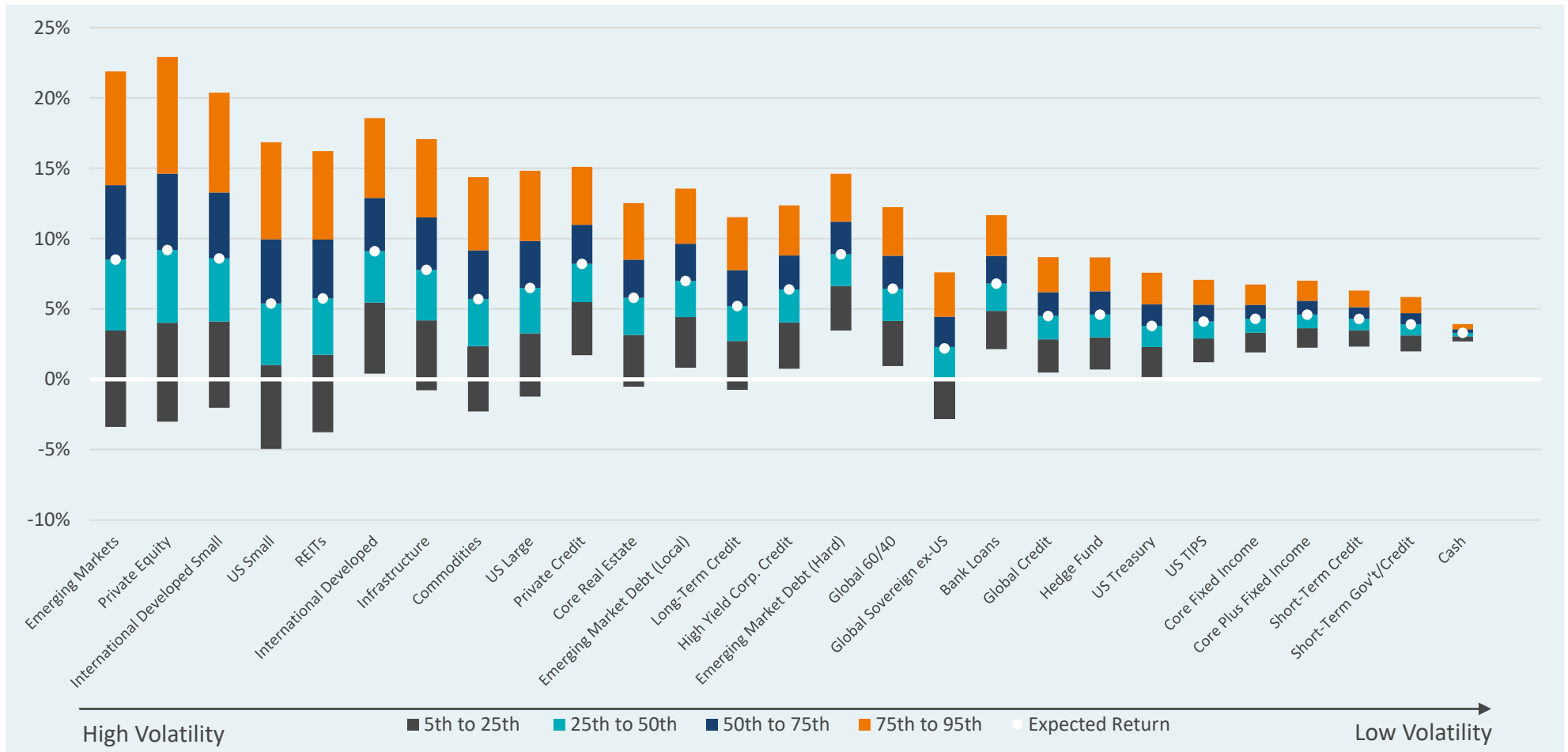
Asset Class	Index Proxy	Ten Year Return Forecast		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)	10-Year Historical Sharpe Ratio (g)	10-Year Historical Sharpe Ratio (a)
		Geometric	Arithmetic					
Equities								
U.S. Large	S&P 500	6.5%	7.6%	15.6%	0.21	0.28	0.76	0.79
U.S. Small	Russell 2000	5.4%	7.5%	21.5%	0.10	0.20	0.42	0.49
International Developed	MSCI EAFE	9.1%	10.5%	17.8%	0.33	0.40	0.21	0.27
International Small	MSCI EAFE Small Cap	9.2%	11.3%	22.1%	0.27	0.36	0.29	0.36
Private Equity Direct	CA U.S. Private Equity	10.2%	13.0%	25.8%	0.27	0.38	-	-
Fixed Income								
Cash	30 Day T-Bills	3.3%	3.3%	1.2%	-	-	-	-
Core Fixed Income	Bloomberg U.S. Aggregate Bond	4.3%	4.4%	4.6%	0.22	0.24	0.05	0.07
Core Plus Fixed Income	Bloomberg U.S. Universal	4.6%	4.7%	4.6%	0.28	0.30	0.17	0.14
Short-Term Gov't/Credit	Bloomberg U.S. Gov't/Credit 1-3 Year	3.9%	4.0%	3.7%	0.16	0.19	0.11	0.11
High Yield Corp. Credit	Bloomberg U.S. Corporate High Yield	6.4%	7.0%	11.2%	0.28	0.33	0.44	0.47
Bank Loans	S&P/LSTA Leveraged Loan	6.8%	7.2%	9.2%	0.38	0.42	0.53	0.54
Private Credit	S&P LSTA Leveraged Loan Index	8.2%	9.0%	13.0%	0.38	0.44	-	-

Asset Class	Index Proxy	Ten Year Return Forecast		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)	10-Year Historical Sharpe Ratio (g)	10-Year Historical Sharpe Ratio (a)
		Geometric	Arithmetic					
Other								
Commodities	Bloomberg Commodity	5.7%	6.9%	16.3%	0.15	0.22	(0.20)	(0.13)
Hedge Funds (Asymmetric Style)	Custom HFRI Benchmark Mix*	4.8%	4.9%	4.8%	0.31	0.33	-	-
Core Real Estate	NCREIF Property	5.8%	6.5%	12.6%	0.20	0.25	1.94	1.87
Value-Add Real Estate	NCREIF Property + 200bps	7.8%	8.9%	15.5%	0.29	0.36	-	-
Global Infrastructure	S&P Global Infrastructure	7.8%	9.1%	17.3%	0.26	0.34	0.28	0.35
Inflation		2.5%	-	-	-	-	-	-

Investors wishing to produce expected geometric return forecasts for their portfolios should use the arithmetic return forecasts provided here as inputs into that calculation, rather than the single-asset-class geometric return forecasts. This is the industry standard approach, but requires a complex explanation only a heavy quant could love, so we have chosen not to provide further details in this document – we will happily provide those details to any readers of this who are interested.

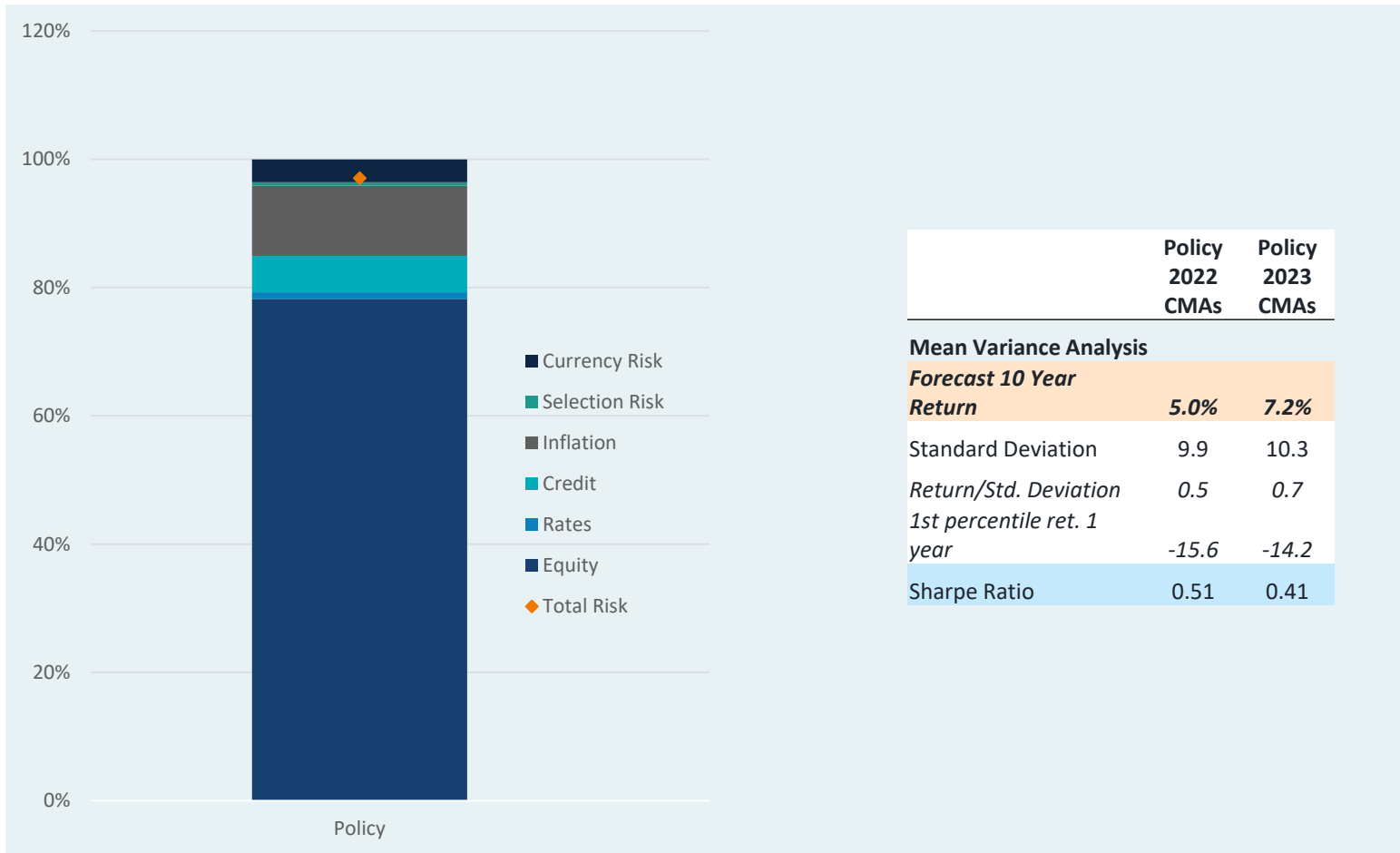
Range of likely 10-year outcomes

10-YEAR RETURN 90% CONFIDENCE INTERVAL



Source: Verus, MPI

Risk decomposition



	Policy 2022 CMA	Policy 2023 CMA
Mean Variance Analysis		
<i>Forecast 10 Year</i>		
Return	5.0%	7.2%
Standard Deviation	9.9	10.3
Return/Std. Deviation	0.5	0.7
1st percentile ret. 1 year	-15.6	-14.2
Sharpe Ratio	0.51	0.41

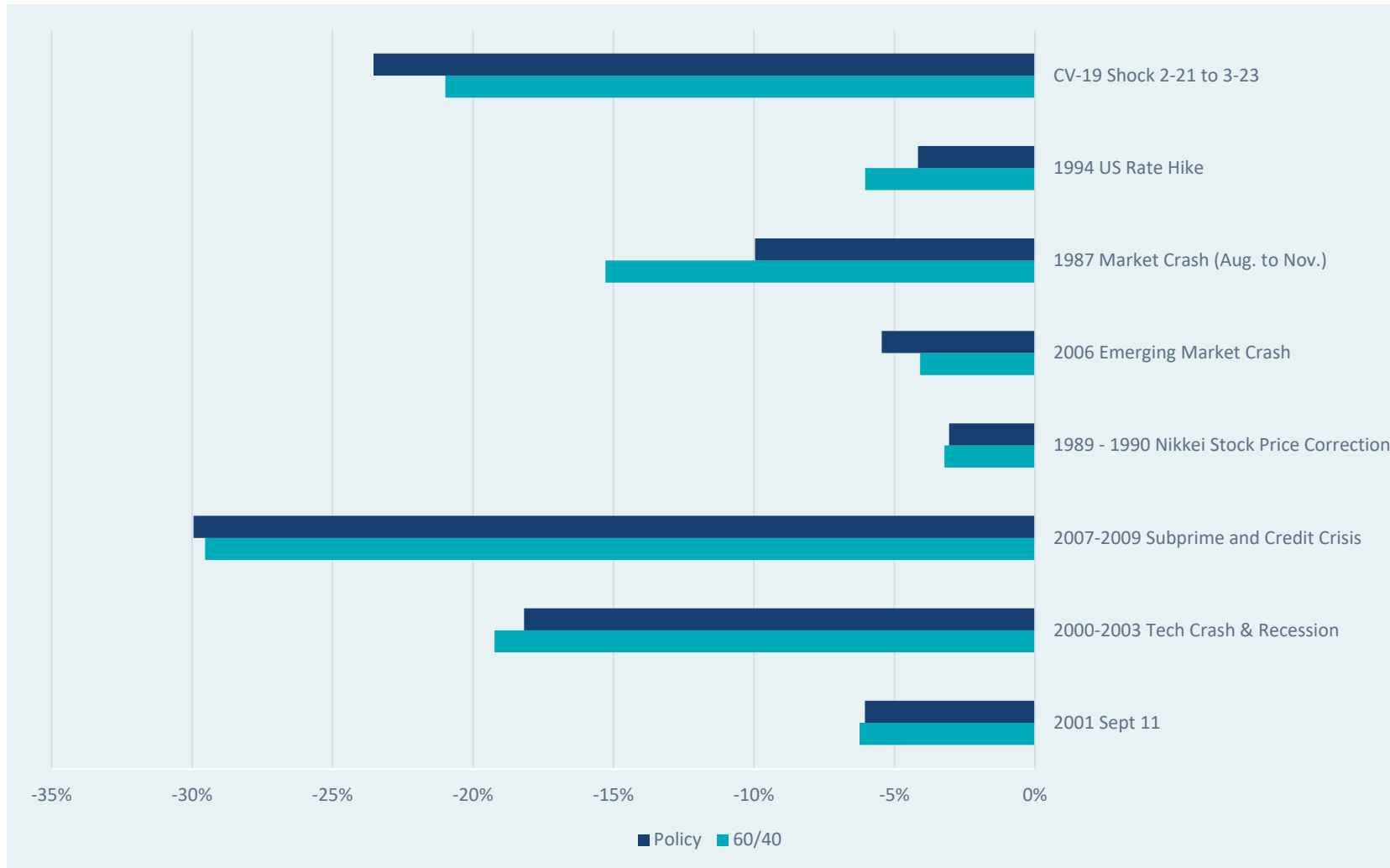
Expected returns improved dramatically in 2023 as interest rates moved the capital market line upward

Interestingly, Sharpe ratio fell as the risk-free rate also rose sharply

The equity risk factor dominates most portfolios. SamCERA's Equity risk is significantly less than most public pension plans

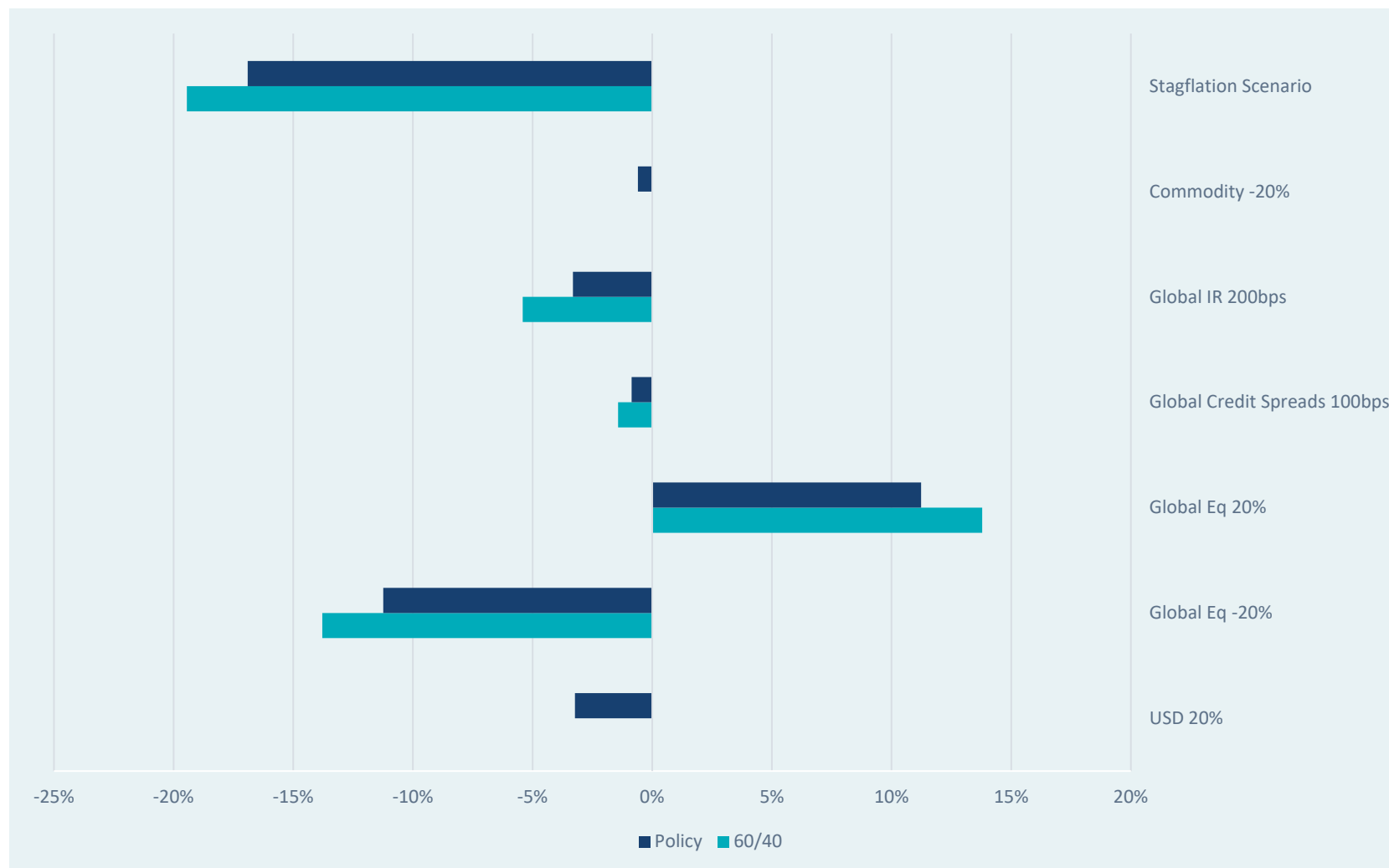
Source: Barra, Ex-Ante Volatility

Scenario analysis



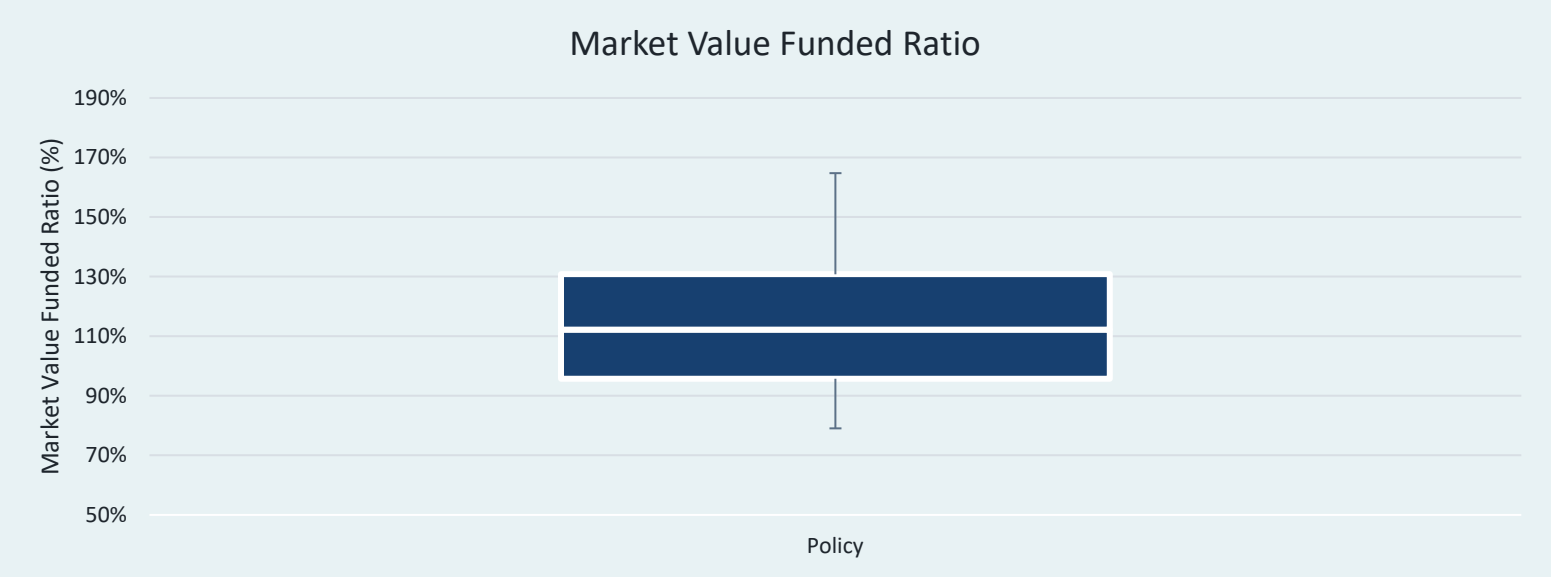
Source: Barra

Stress tests



Source: Barra

Funded status: 10-year forecast



There is only a 5% chance that SamCERA will have under a 79% funded ratio in the next 10-years

FUNDED STATUS – STOCHASTIC OUTCOMES IN 10 YEARS

	Policy
Best Case (95%)	165%
Median Outcome (50%)	112%
Worst Case (5%)	79%

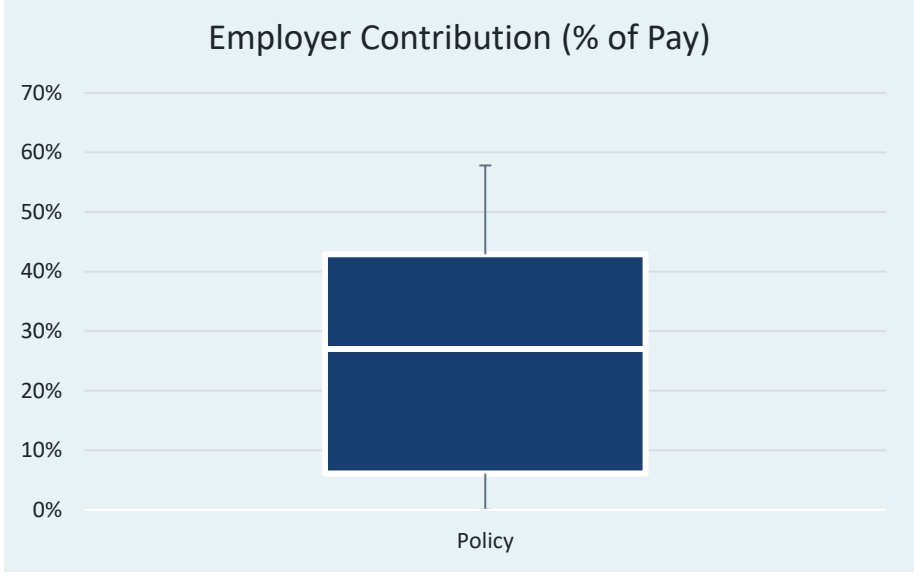
Source: ProVal, Verus

Employer contributions: 10-year forecast



EMPLOYER CONTRIBUTIONS – STOCHASTIC OUTCOMES IN 10 YEARS

	Policy
Worst Case (95%)	452M
Median Outcome (50%)	202M
Best Case (5%)	0M



EMPLOYER CONTRIBUTIONS – STOCHASTIC OUTCOMES IN 10 YEARS

	Policy
Worst Case (95%)	58%
Median Outcome (50%)	27%
Best Case (5%)	0%

Source: ProVal, Verus

Conclusions

- SamCERA remains a healthy pension plan, both financially and organizationally
 - Fully funded status should occur in sixteen years assuming a 6.25% return target and maintenance of the current funding policy
- The Board has a strong sense of fiduciary duty and should be credited for helping steer this portfolio into the strong financial position that it holds today
- Given the overall satisfaction with how the portfolio is positioned today, we would anticipate only modest changes to the asset allocation
 - Caveat to that statement is that the large swings in expected returns could result in asset classes that had previously looked unfavorable becoming more attractive (i.e. fixed income)
- Expected returns are now above the actuarial rate which should give comfort to Trustees that moving further out on the risk spectrum is no longer a necessity

IV. Next steps

Next steps

Results from the ERT interview results will be incorporated into the modelling of different potential long-term strategic asset allocation portfolios for evaluation and consideration in the next version of the Asset Liability study.



V. Appendix

Methodology

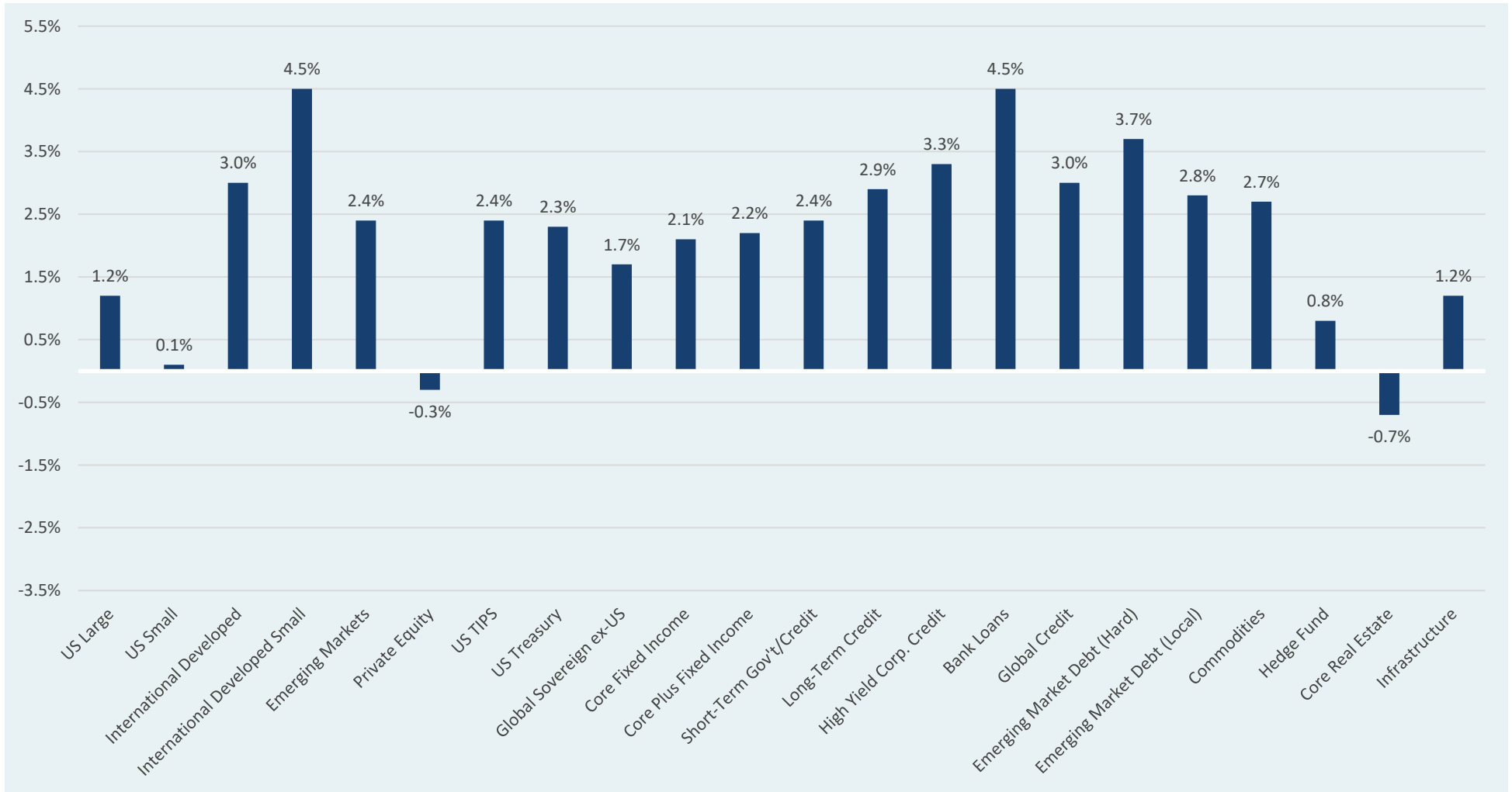
CORE INPUTS

- We use a fundamental building block approach based on several inputs, including historical data and academic research to create asset class return forecasts.
- For most asset classes, we use the long-term historical volatility after adjusting for autocorrelation.
- Correlations between asset classes are calculated based on the last 10 years. For illiquid assets, such as private equity and private real estate, we use BarraOne correlation estimates.

Asset	Return Methodology	Volatility Methodology*
Inflation	25% weight to the University of Michigan Survey 5-10 year ahead inflation expectation and the Survey of Professional Forecasters (Fed Survey), and the remaining 50% to the market's expectation for inflation as observed through the 10-year TIPS breakeven rate	-
Cash	75% * current federal funds rate + 25% * U.S. 10-year Treasury yield	Long-term volatility
Bonds	Nominal bonds: current yield; Real bonds: real yield + inflation forecast	Long-term volatility
International Bonds	Current yield	Long-term volatility
Credit	Current option-adjusted spread + U.S. 10-year Treasury – effective default rate	Long-term volatility
International Credit	Current option-adjusted spread + foreign 10-year Treasury – effective default rate	Long-term volatility
Private Credit	Levered gross return (LIBOR + spread + original issuance discounts) – management fees – carried interest	Estimated volatility
Equity	Current yield + real earnings growth (historical average) + inflation on earnings (inflation forecast) + expected P/E change	Long-term volatility
Intl Developed Equity	Current yield + real earnings growth (historical average) + inflation on earnings (intl. inflation forecast) + expected P/E change	Long-term volatility
Private Equity	US large cap domestic equity forecast * 1.85 beta adjustment	1.2 * Long-term volatility of U.S. small cap
Commodities	Collateral return (cash) + spot return (inflation forecast) + roll return (assumed to be zero)	Long-term volatility
Hedge Funds	Return coming from traditional betas + 15-year historical idiosyncratic return	Long-term volatility
Core Real Estate	Cap rate + real income growth – capex + inflation forecast	65% of REIT volatility
REITs	Core real estate	Long-term volatility
Value-Add Real Estate	Core real estate + 2%	Volatility to produce Sharpe Ratio (g) equal to core real estate
Opportunistic Real Estate	Core real estate + 3%	Volatility to produce Sharpe Ratio (g) equal to core real estate
Infrastructure	Current yield + real income growth + inflation on earnings (inflation forecast)	Long-term volatility
Risk Parity	Expected Sharpe Ratio * target volatility + cash rate	Target volatility

*Long-term historical volatility data is adjusted for autocorrelation (see Appendix)

2023 vs. 2022 return forecast



Source: Verus, as of 9/30/22

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 6.4

TO: Board of Retirement

FROM: Lilibeth Dames, Investment Analyst *Lilibeth Dames*

SUBJECT: Presentation of Private Asset Semi-Annual Performance Reports as of June 30, 2022

Recommendation

Accept and review Verus' semi-annual private equity and private real assets performance reports as of June 30, 2022.

Background

Verus provides a semi-annual performance report of SamCERA's private equity and private real asset portfolios as of June 30th and December 31st each year.

Discussion

As of June 30, 2022, SamCERA's private equity portfolio had a total market value of \$375 million (6.5% of SamCERA's total fund). SamCERA's target allocation for Private Equity as of June 30 was 6.0%. The target allocation was increased to 7.0% effective July 1st.

The private equity portfolio has a 20.4% net IRR since inception, 780 bps above the same cash flow invested in the Russell 3000 Total Return Index of 12.6%. In the first half of 2022, SamCERA committed \$50 million to two new funds and completed the sale of two funds in the secondary market. As of June 30th, SamCERA had a total of thirty-six funds with \$642 million in committed capital across twenty-two private equity managers.

As of June 30, 2022, SamCERA's private real assets portfolio had a total market value of \$219 million (3.9% of SamCERA's total fund). SamCERA's current target asset allocation to private real assets is 4.0%.

The private real assets portfolio has a 5.9% net IRR since inception. In the first half of 2022, SamCERA committed to one new fund for a total of \$60 million. As of June 30, 2022, there were sixteen private asset funds in the portfolio with \$375 million in committed capital across twelve private real asset managers.

Faraz Shooshani and John Nicolini will review the performance reports with the Board and be available for questions.

Attachments

Verus Semi-Annual Private Equity Performance Report for Period Ending 6/30/2022
Verus Semi-Annual Private Real Assets Performance Report for Period Ending 6/30/2022



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING JUNE 30, 2022

Private Equity Review

San Mateo County Employees' Retirement Association

Table of contents



VERUSINVESTMENTS.COM

SEATTLE 206-622-3700

PITTSBURG 412-784-6678

LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

Market Commentary **PG 3**

Significant Events / Material
Exceptions to Policy **PG 21**

Portfolio Overview **PG 14**

Portfolio Diversification **PG 17**

- By Strategy
 - By Geography
 - By Industry
 - By Vintage Year
-

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Market Commentary

DEBT RELATED

- **Decrease in both High Yield and Leveraged Loan issuance.** In the first half of 2022, US high yield issuance at \$63.6 billion dropped 76.2% compared to 1H 2021¹. Leverage loan issuance volume was \$5612.5 billion in 1H 2022, down 18.9% from the same time last year¹. In Europe, 1H 2022 LBO Loan volume at \$21.6 billion was down 67.5% from 1H 2021 and down 84.3% from \$137.7 billion peak in 2007⁴.
- **Spreads loosened across the board.** Compared to 1H 2021, HY Credit Index spread increased by 274 bps or 86.2%² in 1H 2022. BB and B index loosened by 162 bps and 238 bps, increasing by 52.3%² and 53.7%². And CCC index spread increased by 44.8%² in the first half of 2022.
- **LBO debt levels increased slightly, while interest coverage improved in US.** US new issue loans total leverage averaged 5.9x (Debt / EBITDA) in 1H 2021, up 1.4% from 2021³. Interest coverage averaged 3.8x (EBITDA / Cash Interest), up 7.7% from 2021³. In Europe, leverage multiples increased 7.6% to 6.0x in 1H 2022⁴, 2.8% below 6.1x peak in 2007⁴.

GLOBAL

- **Investment activity and average deal size increased.** During 1H 2022, global PE firms invested in \$1.1 trillion worth of deals, up 22.5% from the same time prior year. With 35,277 transactions closed, down 8.8%⁵, average deal size increased, up 35.4%⁵.
- **PE dry powder decreased globally.** Total global PE dry powder was at \$2.2 trillion as of June 30, 2022, down 27.7% from 1H 2021⁵. US total PE was down by 25.5% to \$1.6 trillion⁵; Europe total PE decreased by 34.1% to \$441.7 billion⁵; Asia total PE was down by 24.6% to \$142.7 billion⁵; and the rest of world total PE was down by 43.8% to \$35.0 billion⁵.

US BUYOUTS

- **Fundraising activity increased.** In 1H 2022, US firms across all buyout strategies raised \$134.4 billion, up by 32.3% from same time prior year⁵. Average fund size was down 7.2%, from \$1.0 billion in 1H 2021 to \$933.4 million in 1H 2022⁵.
- **Investment activity was up.** During 1H 2022, US buyout firms invested in \$410.6 million (+18.0% from 1H 2021) into 3,230 deals (+16.2%)⁵. Q1 total deal value represents 2/3 the total values in the first half of 2022 with significant drop in the second quarter.
- **Dry powder decreased.** In 1H 2022, US buyout dry powder was \$916.2 billion, down by 23.8% from the same time in 2021⁵.
- **LBO price multiples increased significantly.** As of June 30, 2022, US LBO purchase price multiple (Enterprise Value / EBITDA) was at 12.1x, an 8.9% increase from June 30, 2021³; a function of deals inked in late 2021 and closed in Q1 2022.
- **Exit activity decreased.** During the first half of 2022, US buyout firms exited 424 companies (51.5% Sponsor Acquisition, 46.1% Corporate Acquisition, and 2.4% Public Listing), representing \$140.6 billion in total transaction value⁵. This represented a 51.5% decrease in the number of exits and a 14.5% decrease in total transaction value compared to the same time last year⁵.

Market Commentary

US VENTURE CAPITAL

- **Fundraising activity increased.** US VC firms raised \$121.5 billion during the first six months of 2022, a 63.9% increase from the same period last year⁵. 415 funds closed in 1H 2022, a 22.8% increase from the same period last year⁵. The average US VC fund size increased to \$292.7 million by 33.5% versus the same period last year⁵.
- **Investment activity increased with smaller deal size.** US VC firms deployed \$144.2 billion in capital in 1H 2021, a 3.9% decrease from 1H 2020. The number of deals closed at 7,841, a 11.1% increase from the same time last year⁵. Average deal size decreased 13.5% from 1H 2020.
- **Dry powder decreased.** In 1H 2022, US VC dry powder was at \$113.7 billion, down 57.2% from the first six months in 2021⁵.
- **Entry valuation and deals size trends mixed by stage:**
 - **Entry valuations.** Compared to June 30, 2021, the average pre-money valuations in 1H 2022 were: down 21% at \$4.0 million⁵ for Angel stage, up 50% at \$12.0 million⁵ for Seed stage, up 42.9% at \$60.0 million⁵ for early-stage VC, and down 23.1% at \$105.0 million⁵ for late-stage VC.
 - **Deal sizes.** Average deal size decreased by \$36.3 million or 13.4% in late-stage VC⁵. All other stage deal sizes increased: \$1.3 million (62.9%) for Angel stage, \$4.0 million (34.1%) for Seed stage, and \$17.0 million (18.7%) for early-stage VC. Compared to 3 years ago, the average deal size of Angel-, Seed-, Early- and Late-stage investments were down 15.2%, 85.2%, 98.4%, and 100.5%, respectively⁵.
- **Exit activity decreased significantly with smaller transactions.** US VC firms exited 633 companies in the first six months in 2022, down by 9.4% from the same time last year⁵. This represented \$48.8 billion in transaction value, down by 86.9% from the same period last year⁵. Largest sectors exited were Software and Pharma & Biotech. Notwithstanding the Y-Y drop, compared to three years ago, exit volume was up 51.1% with transaction value up 70.3%⁵.

EX US

- **Ex-US fundraising was down.** In 1H 2022, ex-US fundraising decreased 13.7% from the same time in 2021 to \$162.4 billion⁵. Fundraising in Asia decreased by 7.5% to \$52.8 billion⁵, while Europe was down by 41.9% to \$42.1 billion⁵.
- **Capital deployment increased in Europe, but dropped in Asia.**
 - **Buyout deal activity and capital deployment rose in Europe, but dropped in Asia.** In Europe, buyout firms transacted \$311.6 billion in aggregate value (+31.8% from 1H 2021)⁵. Asia buyout firms invested \$16.4 billion in aggregate value (-25.2%)⁵.
 - **In Europe, VCs invested more capital into more deals while Asia VC invested less .** In the first 6 months in 2022, investment activity increased by 26.2% in Europe with 15.6% increase in capital deployed at \$57.0 billion. In Asia, however, Asian VCs invested in 52.6% fewer deals compared to 1H 2021, deploying \$23.1 billion, a 62.4% decrease from last year.

Market Commentary

- **Dry powder decreased ex-US.** PE dry powder outside the US decreased 32.8% to \$619.4 billion⁵ in 1H 2022. Dry powder outside the US was 60.9% less than dry powder in the US (\$1.6 trillion)⁵.
 - **Europe VC and buyout dry powder both down.** VC at \$3.7 billion and buyout at \$232.6 billion were down 78.1% and 41.5% from 1H 2021, respectively⁵.
 - **In Asia, VC, buyout and growth dry powder decreased in parallel with US and Europe.** VC at \$4.4 billion, buyout at \$104.0 billion, and growth at \$27.9 billion were down 26.9%, 72.0% and 21.3% from 2020, respectively⁵.
- **Purchase price multiples decreased in Europe but increased in Asia .** As of June 30, 2022, European buyout median purchase price multiples decreased 18.5% from 9.3x to 7.6x EBITDA from the same time last year⁵. Asia buyout median purchase price multiples increased 48.7% from 8.9x to 13.3x EBITDA from the same time last year⁵.
- **Exit activity weaken in Europe and Asia.** Europe PE aggregate exit value amounted to \$131.8 billion, a 34.8% decrease from 1H 2021, while Asia PE exit value dropped by 34.0% to \$71.3 billion⁵.

Notes

1. *White & Case Debt Explorer (August 11, 2022)*
2. *Guggenheim High-Yield Bank Loan Outlook (August 2022)*
3. *S&P Global US LBO Review (2Q 2022)*
4. *S&P Global LCD European Leveraged Buyout Review (2Q 2022)*
5. *Pitchbook (June 30, 2022)*

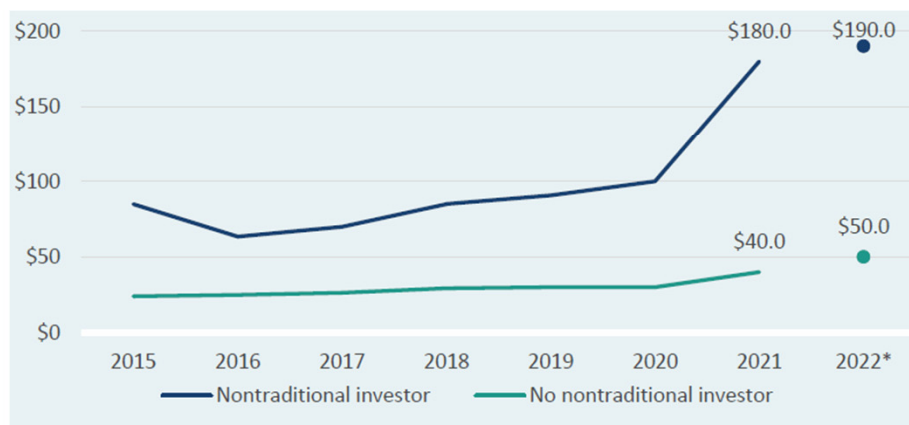
Spotlights

Spotlight: Late-stage VC valuations

Nontraditional investors continue pushing VC valuations higher

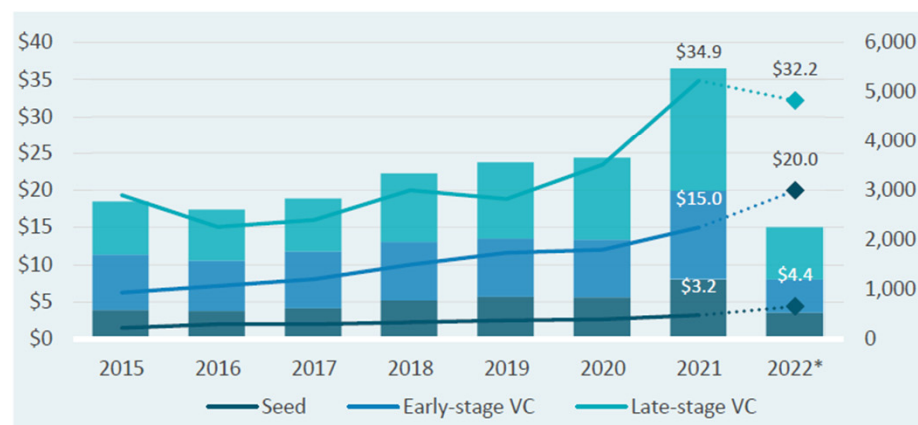
- Nontraditional investors (“NTI”) identified as hedge funds, mutual funds, private equity funds, and corporate investors have maintained strong activity within later-stage ventures compared with the narrative around the market.
- Investment by nontraditional investors in recent years has led to many of the broader trends we’ve seen across the industry. From growth in deal sizes and valuations to the high numbers of mega-deals and unicorns, these investors have been a driving force for change in the VC market.
- Mega-rounds, of which nontraditional investors have been a major part, are being completed at a much slower pace as growth investors take a more cautious approach due to the volatility plaguing the public markets.
- Valuations of deals receiving nontraditional investor capital have remained high as their mechanics do not change during market shifts, being larger and less price sensitive than a traditional venture fund. However, there is some evidence NTIs are shifting tactics (or at least being more cautious) by moving earlier in the venture lifecycle where companies are further from public market volatility.

MEDIAN LATE-STAGE VC VALUATIONS(\$M) CLIMB HIGHER



Source: Pitchbook Q2 2022. *As 6/30/22.

U.S. VC DEAL ACTIVITY WITH NONTRADITIONAL INVESTOR PARTICIPATION



Source: Pitchbook Q2 2022. *As 6/30/22.

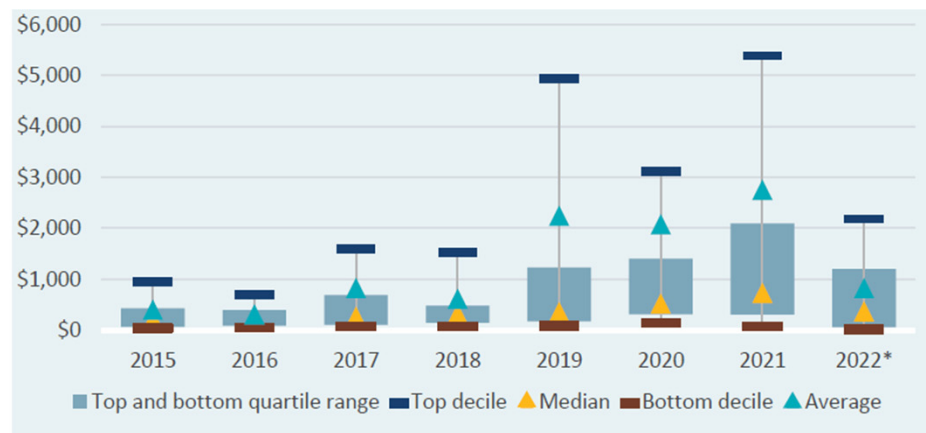
Spotlight: Late-stage VC valuations (cont.)

Liquidity

- Exit activity (or lack thereof) continues to be a key narrative in 2022 as the average and top-quartile valuations came down across both public listings and acquisitions.
- IPOs continue to be essentially nonexistent for VC-backed businesses in 2022, with only 22 closed during the first half of the year relative to 183 in 2021 and 108 in 2020.
- Public listings have also slumped, with special purpose acquisition company (SPAC) mergers recording a tough year-to-date in which general sentiment around SPACs continues to deteriorate in light of massive losses in public equities. Many announced SPAC mergers

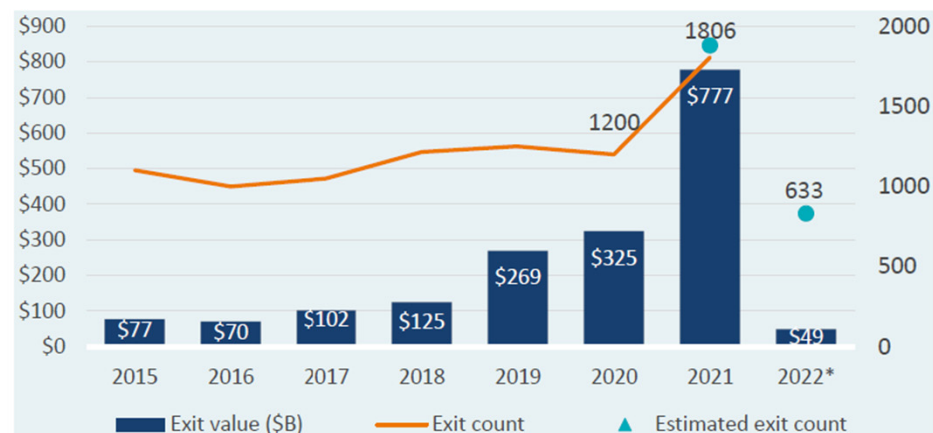
- were abandoned or canceled in the wake of the reset in valuation multiples.
- While unicorns seem to have sufficient runway to sustain operations for the first six months of the year, if a public market liquidity gap persists for the rest of this year, we would expect to see more flat and down rounds as startups return to private markets.
- Valuations for acquisitions have been steady relative to public market exits, with little movement in the median or average valuations over the first two quarters of the year, acquirers are still finding attractive opportunities in the VC universe.

VALUATION (\$M) AT EXIT VIA PUBLIC LISTING



Source: Pitchbook Q2 2022. *As 6/30/22.

U.S. VC EXIT ACTIVITY (\$M)



Source: Pitchbook Q2 2022. *As 6/30/22.

Spotlight: GP-led continuation funds

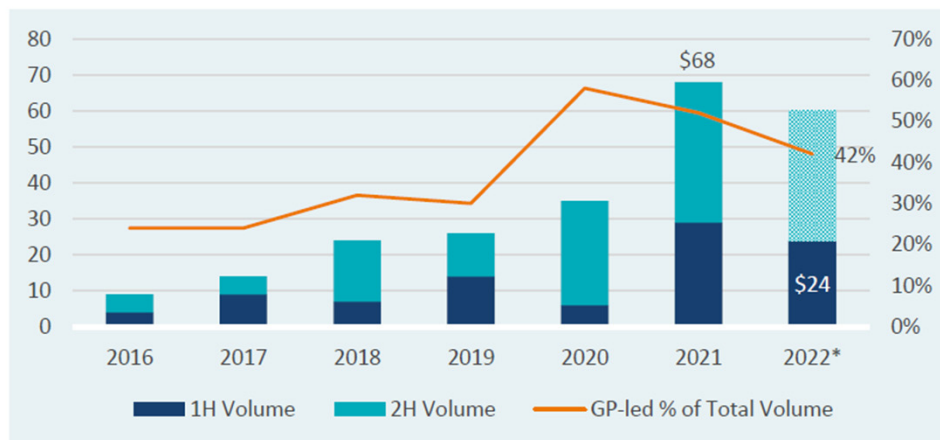
Continuation funds

- One of the biggest trends in private equity over the last couple of years has been the rise of funds to extend the economic gains of performing assets. Continuation funds arrived on the private equity scene only recently but have quickly become established as an attractive part of the market, representing 80% of GP-led volume.
- GP-led continuation funds involve GPs moving one or more existing fund assets into a special purpose vehicle to retain exposure to high-performing ‘trophy’ assets. Continuation funds help create liquidity for LPs and crystallize any GP carried interest earned to date while allowing existing LPs to maintain exposure to the asset and their GP

relationship through the new vehicle.

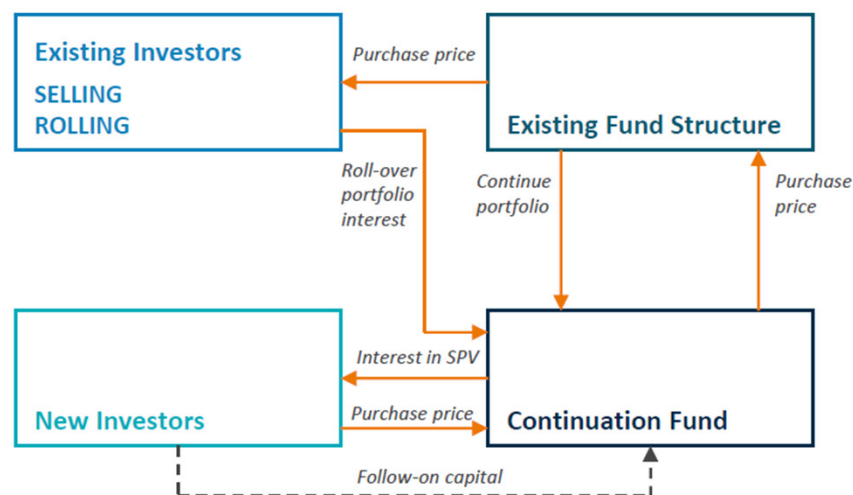
- While a potential “liquidity squeeze” in private equity may not be felt immediately, there has been increased activity from Sponsors utilizing the secondary market for alternative liquidity solutions.
- Single asset continuation funds remain popular, forming the largest part of the Sponsor-led secondary market at ~45% of the volume, but are down vs. 2021 (~52%) with multi-asset transactions being increasingly prioritized by several secondary firms (~31% → ~34%).

GP-LED ANNUAL TRANSACTION VOLUME (\$B)



Source: Source: Jefferies Global Secondary Market Review July 2022. *As 6/30/22.

GP-LED CONTINUATION FUND STRUCTURE



Spotlight: GP-led continuation funds (cont.)

Risks associated with GP-led secondaries - what should investors consider?

- GP-led secondary transactions can provide a number of benefits: optionality and liquidity for LPs; allowing LPs to restructure their portfolio; adding more time and capital to assets and therefore additional potential value; and incentivizing the GP. However, they are not without risk and given the many potential conflicts of interest, should be approached carefully.

RISKS	CONSIDERATIONS
Asset Concentration	GP-led transactions often concentrated on 3-4 key assets.
Additional costs and Reporting requirements	LPs are required to invest in a newly formed investment vehicle, potentially creating the need for additional due diligence related to legal, tax, accounting, and reporting obligations; such activities may require engaging other third parties or outside legal counsel support, resulting in further costs for LPs.
Legal: Ensuring GP alignment/ commitment	A GP's commitment is a strong indication of their conviction in a deal or asset; a small commitment may suggest little confidence in a deal, while a larger commitment signals significant alignment with the GP.
Price setting mechanisms & conflicts of interest	GP-led secondaries transactions can create several conflicts of interest given the potential benefit to GPs on both sides of the transaction. As fiduciaries, GPs should disclose all conflicts and potential risks of the transaction to the buyer and be aware of potential scrutiny from relevant regulatory bodies (e.g. SEC).
Valuation	Valuation of an asset or a fund's portfolio can be challenging in turbulent markets. Fairness opinions, transparency and third-party valuations can help to address potential issues around a fair purchase price.

Spotlight: GP-led continuation funds

Investor evaluation criteria

- With the significant market growth, the SEC has proposed new and amended rules for private fund advisers to address GP-led transactions. The proposal is closely aligned with the Institutional Limited Partners Association (ILPA) guidelines regarding transparency and disclosures to investors but would also require certain types of GP-led transactions to have fairness opinions.
- We believe it is important to focus on four key elements when evaluating GP-led deals: (i) a strategic edge resulting from platform synergies; (ii) sponsor/company quality; (iii) return profile; and (iv) sponsor alignment and conviction.

CRITERIA	EVALUATION
Strategic Edge	Does the Sponsor have a compelling edge over the market by; a) knowing the asset and its sector better than anyone else, thus reducing buy-side risk; b) a well-established and productive relationship with a management team wanting to avoid the business disruption through a sale process; or c) have add-on acquisitions in the pipeline that will generate significant upside but require additional equity financing? These factors should be price accretive – to the benefit of selling investors.
Company Quality	The underlying business is a market leader with compelling financial characteristics (margins, FCF profile, industry tailwinds, etc.), multiple growth levers to drive value potential at the exit, strong performance under the sponsor’s ownership to date, and high capital efficiency.
Return Profile	Is the Investment selection based on specific returns generated by the main fund (e.g., generate above a 2.5x return), strategy (e.g., deal must not be turnaround focused or defensive), or sector (e.g., deal must target software investments)?
Sponsor Alignment	Is the Sponsor “cashing out,” or will they have material exposure to the continuation vehicle by investing new capital or through the rollover of its commitment and carry in the legacy fund? Is there a go-forward performance incentive allocated to the appropriate members of the deal team? Is the management team of the portfolio company generating liquidity as part of the transaction?

Environmental, social, and governance

Increased ESG implementation across the industry

Current Trends

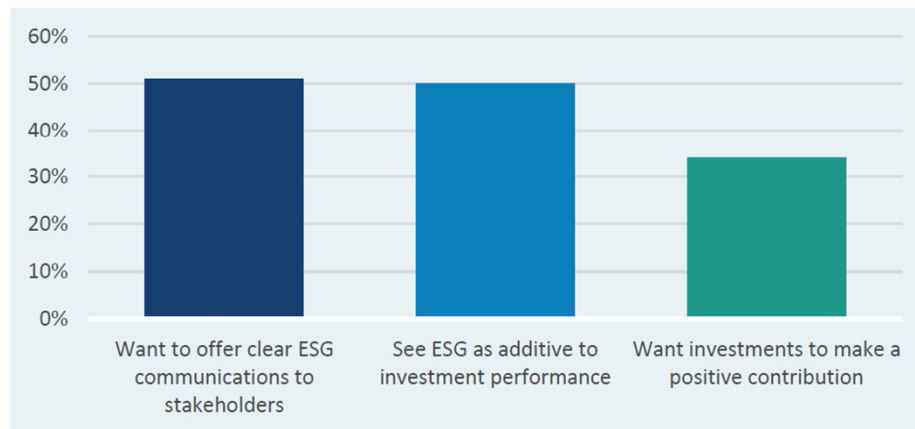
- Over the past decade, ESG investing has gained attention as investors increasingly acknowledge the materiality of risks beyond traditional accounting-based and financial analysis and with a desire to move away from short-term risk-return perspectives has filtered into the private markets. Increasingly, LPs are requiring GPs to incorporate ESG integration in long-term investment decisions.
- According to a joint survey conducted by the ILPA and Bain & Co, LPs are incorporating ESG considerations into their investment policies because they view them as additive to investment performance and want to offer clear ESG communications to stakeholders.

- As more ESG-mandated funds are raised, the SEC has begun to require increased transparency in ESG reporting with an aim to inform and protect investors while facilitating further innovation in this evolving area of the asset management industry.

Challenges

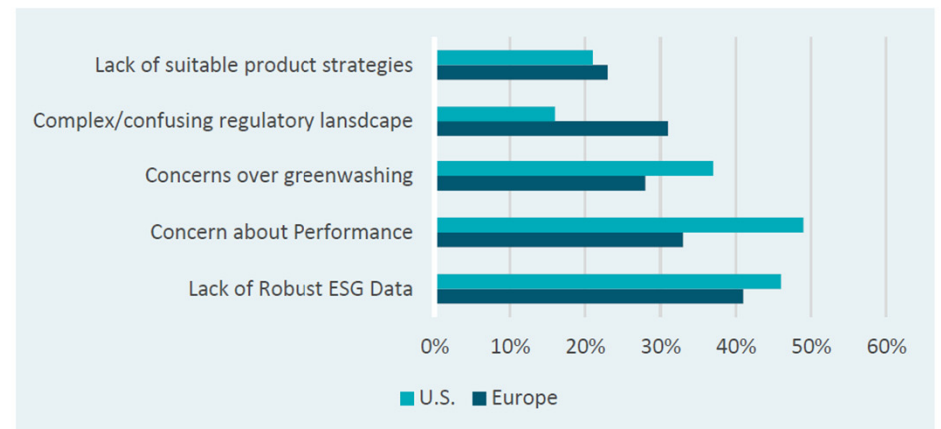
- Accessing ESG data presents specific problems for investors as a lack of robust ESG data along with the uncertainty of how to define and measure outcomes are seen as the largest barriers to ESG adoption.
- Recently LPs are facing criticism about fiduciary responsibility from stakeholders over concerns about whether returns are being given second consideration in favor of sustainable investment practices.

REASONS FOR ADOPTING ESG



Source: Bain & Co | ILPA, LPs and Private Equity Firms Embrace ESG

CHALLENGES WITH INCORPORATING ESG DATA



Source: Capital Group ESG Global Study 2022

Diversity, equity, and inclusion

Increased DEI awareness across the industry

Current Environment

- Over the past decade the total amount of assets under management (“AUM”) managed by diverse-owned firms has evolved across the private equity landscape. For minority-owned firms AUM has been steadily increasing as a percentage of overall AUM. For women-owned firms, relative AUM has been increasing more slowly but is on an upward trend as a whole. Although both groups still have relatively low industry penetration, their AUM growth rates have outpaced that of non-diverse firms.
- Changes in diversity amongst senior leadership in established PE firms has been challenging, but notably increasing within the junior ranks and recruitment efforts. PE firms have begun internal outreach and internships as well as partnering with organizations, such as Girls Who Invest, Women’s

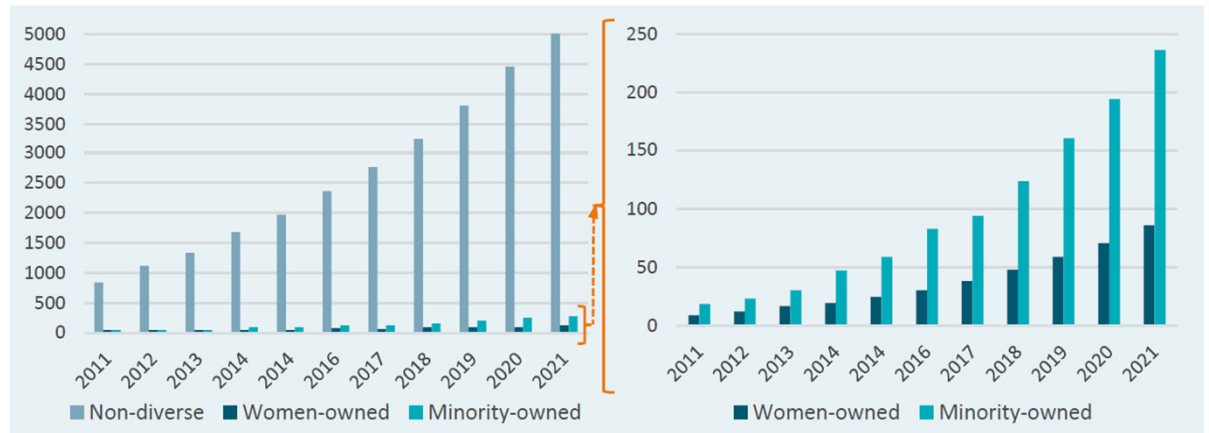
Association of Venture & Equity (“WAVE”) and Management Leadership for Tomorrow (“MLT”).

- Private markets stakeholders are increasingly prioritizing diversity, equity, and inclusion, both within their own organizations as well as within their portfolios. The ILPA, understanding that progress in DE&I requires intention and action on both the part of LPs and GPs, has created the Diversity in Action initiative to motivate market participants and build momentum around advancing DE&I over time.
- As part of the initiative the ILPA has released a Diversity Metrics template to aid in standardizing key areas of inquiry and provide a framework for ongoing monitoring of progress related to DE&I (<https://ilpa.org/due-diligence-questionnaire/>).

(%) OF U.S. BASED AUM MANAGED BY MINORITY & WOMEN-OWNED FIRMS



NON-DIVERSE, WOMEN-OWNED & MINORITY-OWNED U.S. BASED PRIVATE EQUITY AUM (\$BN)



Source: Knight Foundation Sept 2021

Source: Knight Foundation Sept 2021

Private Equity portfolio

Portfolio Overview

Period Ending: June 30, 2022

Investment Type	Policy Target	Policy Range	Market Value %	Market Value \$(000)	Unfunded Commitment \$(000)	Market Value + Unfunded \$(000)
SamCERA - Total Plan			100.0%	5,671,344		
Buyout (60% +/- 20%)	3.6%	2.4%-4.8%	3.3%	188,670	130,342	319,012
Venture Capital (20%, 0%-30%)	1.2%	1.0%-1.8%	2.1%	121,277	41,774	163,051
Debt-Related/Special Situations (20% +/- 10%)	1.2%	0.6%-1.8%	1.1%	64,635	38,231	102,866
Total Private Equity*	6.0%	4%-8%	6.5%	374,581	210,347	584,927

Portfolio Summary

- As of June 30, 2022, the Private Equity Portfolio had a total market value of \$374.6MM, with \$188.7M in Buyout, \$121.3M in Venture Capital, and \$64.6M in Debt-Related/Special Situations. Total market value is the current reported value of investments, excluding the remaining amount of unfunded commitments.
- Since its initial allocation to Private Equity, SamCERA has contributed \$466.6M towards its Private Equity commitments, with \$285.2M to Buyouts, \$68.9M to Venture Capital, and \$112.6M in Debt-Related / Special Situations. Unfunded commitments total \$210.3M.
- The portfolio exposure at 6.5% is above the 6.0% policy target, but below the 7.0% target, effective July 1st, 2022. Compared to December 31, 2022, portfolio exposure is down 0.5%. Buyout exposure and Debt Related / Special Situations exposure remain below target but within policy range. Venture Capital is 0.9% above its policy target.

Portfolio Activity

- Thus far in 2022, SamCERA committed \$25M to Atlas Partners III, and \$25M to Great Hill Equity Partners VIII, L.P.
- SamCERA completed the sale of its interest in two funds in the secondary market, with 100% of sale proceeds received in Q2'2022: JLL Partners Fund VII, L.P. and Angeles Equity Partners I, L.P.

*The Private equity Policy Target of 6.0% was increased to 7.0% effective 7/1/2022.

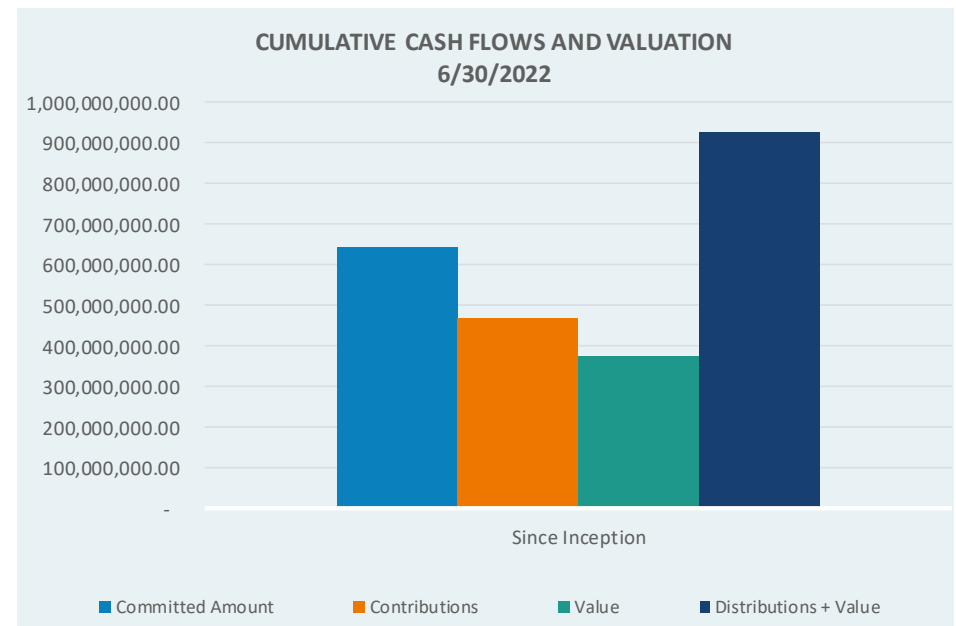
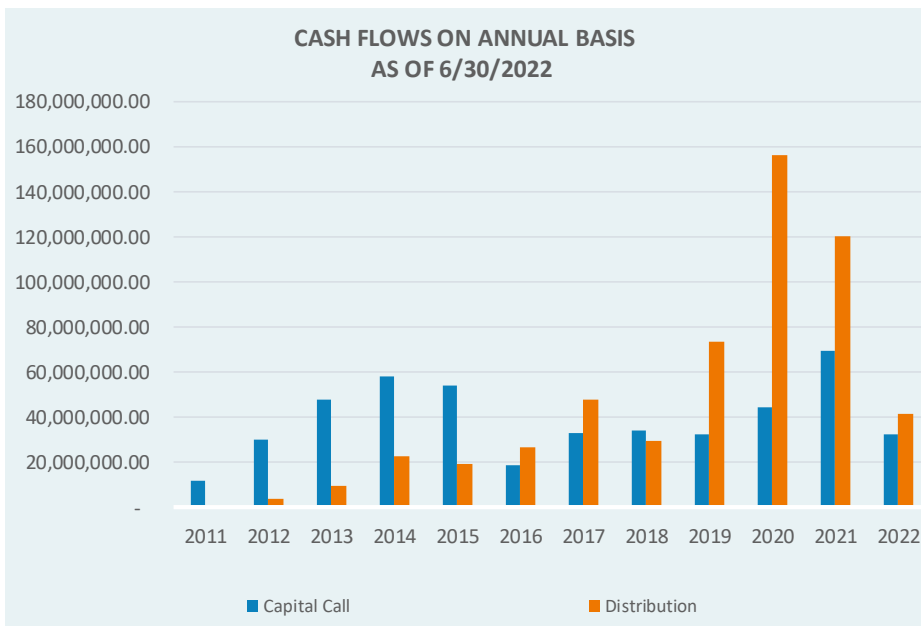
Performance

- The Private Equity portfolio’s performance, as measured by net IRR, is 20.4%, 780 bps above the same cash flow invested in Russell 3000 Total Return Index of 12.6%. Capital weighted average investment age of the portfolio is 5.1 years.
- The portfolio is currently valued at \$374.6M. Together with \$522.1M in realized distributions, the Total Value at \$926.7M is approximately \$460.0M above \$466.6M in total capital contributions, resulting in a total value multiple of 1.99x and a distribution multiple of 1.18x.
- Distributions (\$41.4M) surpassed contributions (\$32.6M) with a ratio of 1.3:1 thus far in 2022 compared to 1.7:1 in 2021 and 3.5:1 in 2020.

— Attribution of returns:

- Buyouts up \$185.0M / 0.65x cost (Great Hill V & VII, Sycamore and JLL VII leading), with 98.8% of called capital realized and distributed;
- Venture Capital up \$257.8M / 3.74x cost (Emergence Capital III, General Catalyst VI, Great Hill VI, and Third Rock III leading), with 298.2% of called capital realized and distributed;
- Debt-related/Special Situations up \$16.9M / 0.15x cost (ABRY Advanced Securities II, ABRY Senior Equity V, and OHA Strategic Credit II leading), with 57.6% of called capital realized and distributed.

- Within Private Equity, the current allocation of market value exposure is 50.3% to Buyout, 32.4% to Venture Capital, and 1.3% to Debt-Related/Special Situations.

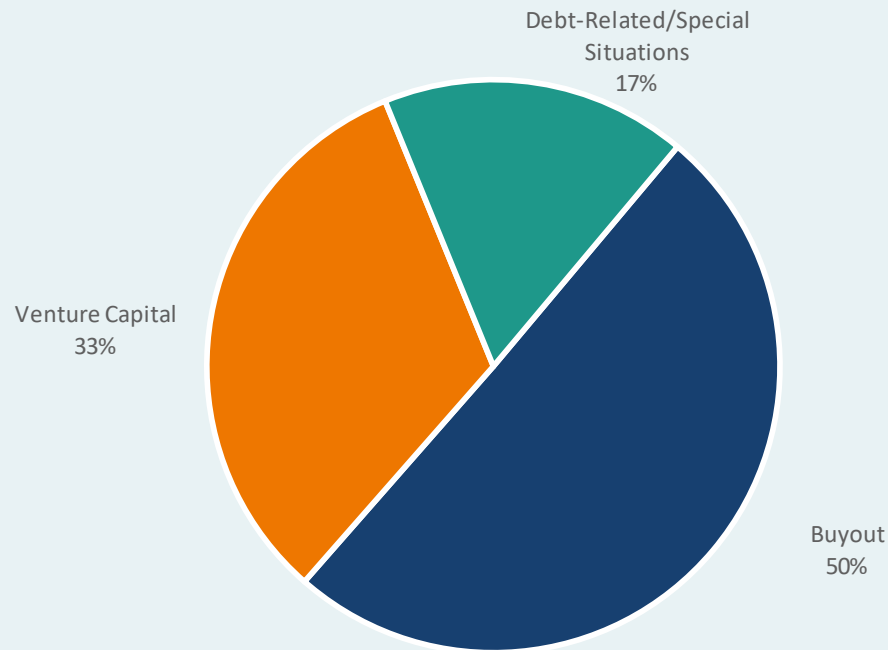


Portfolio Diversification By Strategy

Period Ending: June 30, 2022

Investment Type	Commitment	Reported Value	Current Exposure as % of Private Equity
Buyout	386,501,040	188,670,306	50.4%
Venture Capital	110,500,000	121,276,780	32.4%
Debt-Related/Special Situations	144,500,000	64,634,626	17.3%
Total Private Equity	641,501,040	374,581,715	100.0%

Private Equity Portfolio: Current Exposure



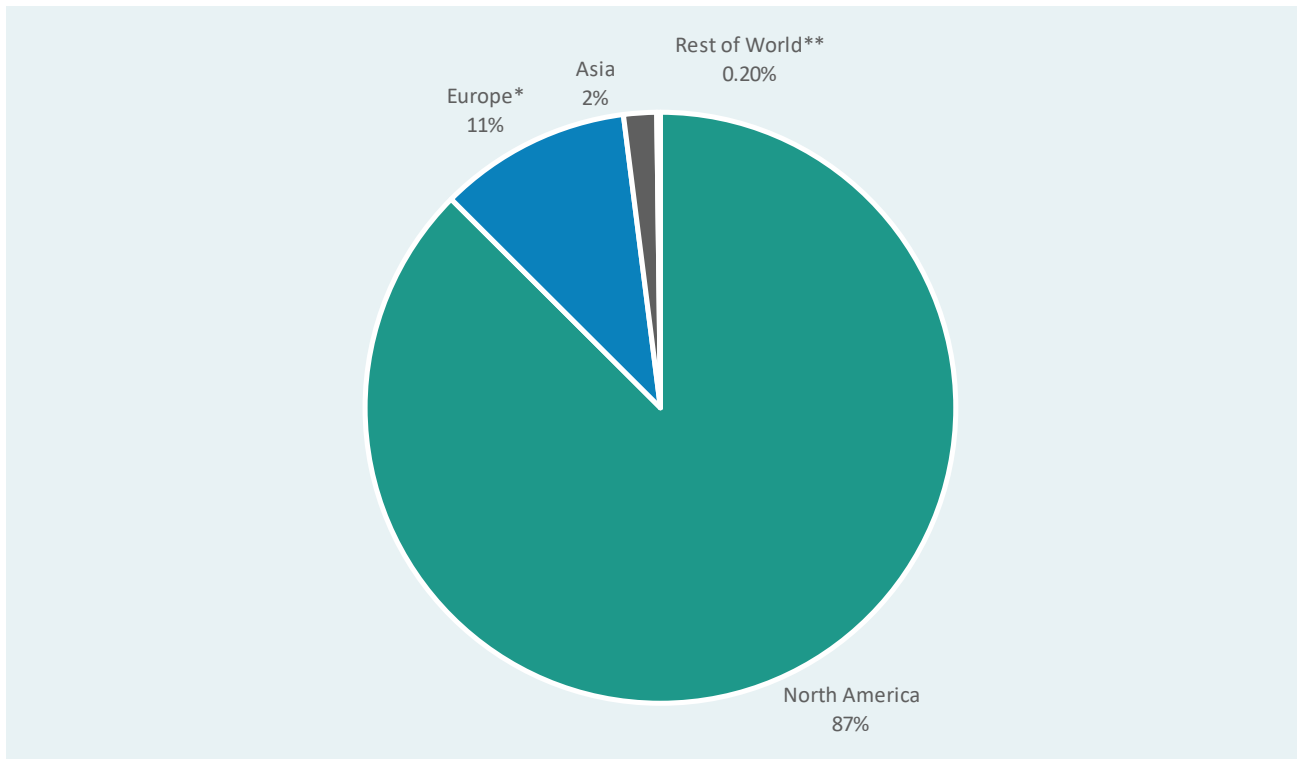
Portfolio Diversification By Geography

Period Ending: June 30, 2022

Geography	Current Exposure
North America	327,624,785
Europe*	39,415,884
Asia	6,792,122
Rest of World**	748,920
Total Private Equity	374,581,715

* Europe includes 100% market value from Cevian II.

** Rest of World includes Kenya, United Arab Emirates, Turkey, and Brazil.

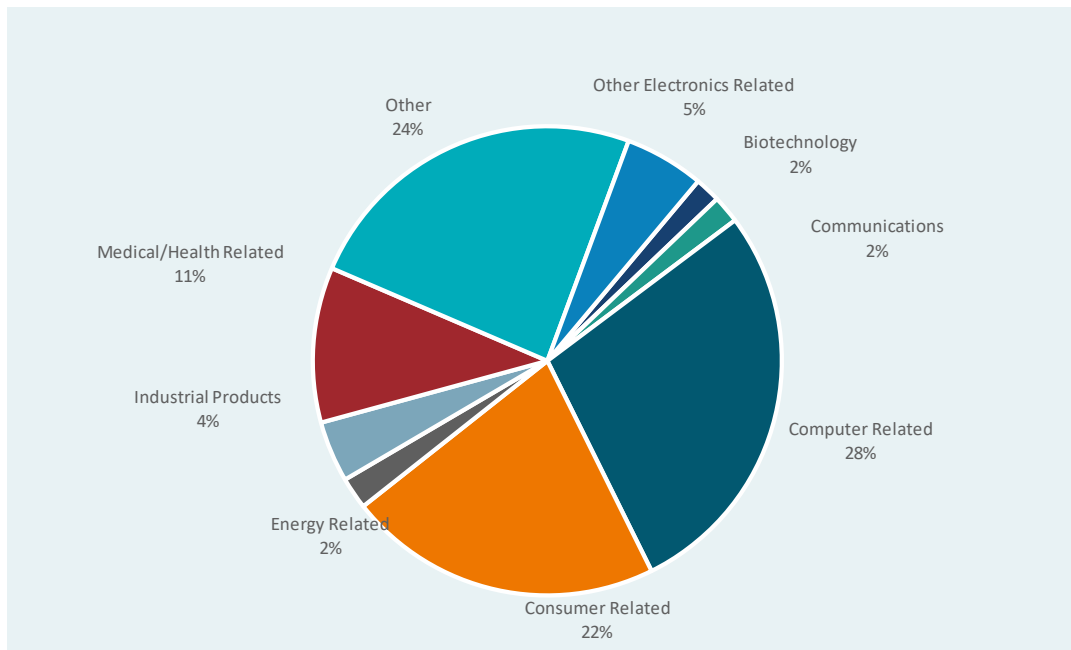


Based on the value of portfolio companies as of June 30, 2022, if provided by the partnerships. Differences between reported value and the total portfolio valuation is due to temporary cash funds, fees, other expenses, and holdings with undisclosed geography breakdown.

Portfolio Diversification By Industry

Period Ending: June 30, 2022

Industry	Current Exposure
Biotechnology	6,598,906
Communications	7,096,315
Computer Related	104,526,310
Consumer Related	81,245,981
Energy Related	8,232,452
Industrial Products	15,747,987
Medical/Health Related	40,075,721
Other	90,592,209
Other Electronics Related	20,486,663
Total Private Equity	374,581,715

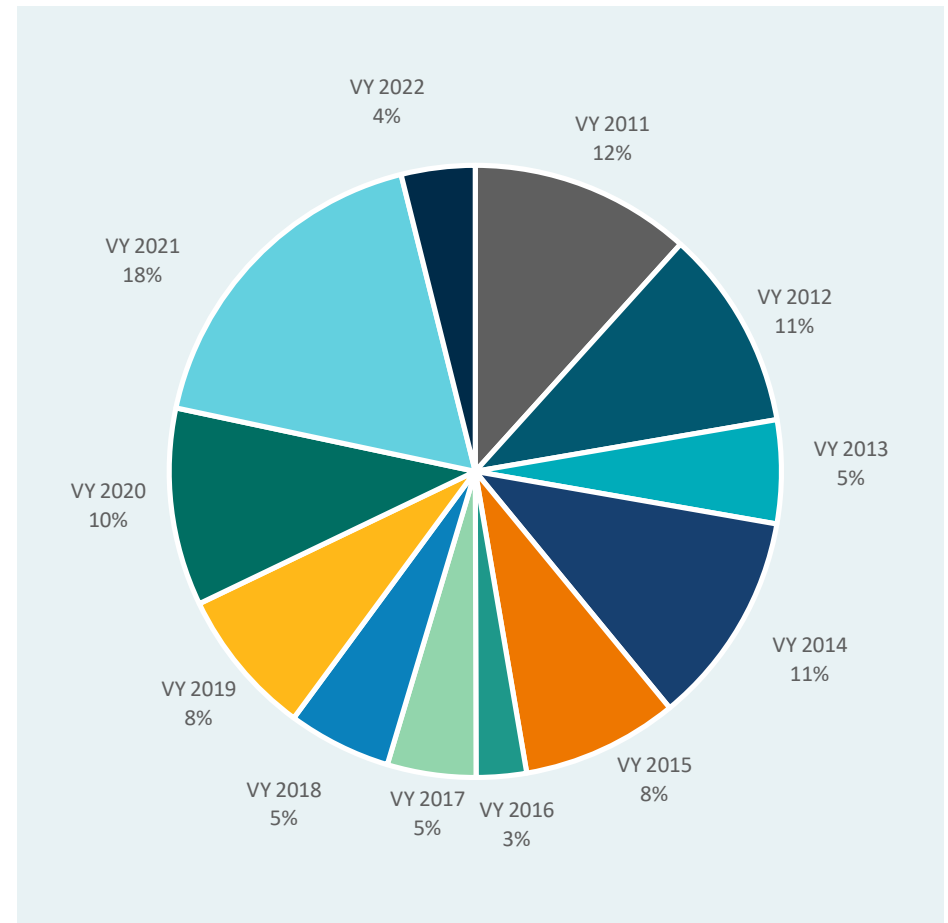


Based on the value of portfolio companies as of June 30, 2022, if provided by the partnerships. Differences between reported value and the total portfolio valuation is due to temporary cash funds, fees, other expenses, and holdings with undisclosed geography breakdown.

Portfolio Diversification By Vintage Year

Period Ending: June 30, 2022

Vintage Year	Commitment as of 6/30/2022	% of Portfolio Commitment	Reported Value as of 6/30/2022
2011	75,000,000	11.69%	19,023,999
2012	68,000,000	10.60%	97,829,477
2013	35,000,000	5.46%	25,724,996
2014	72,500,000	11.30%	43,294,868
2015	53,000,000	8.26%	25,935,646
2016	10,000,000	1.56%	0
2017	37,000,000	5.77%	43,623,138
2018	35,000,000	5.46%	25,485,688
2019	50,000,000	7.79%	31,895,981
2020	67,001,040	10.44%	38,924,411
2021	114,000,000	17.77%	22,885,020
2022	25,000,000	3.90%	-41,509
Total Private Equity	641,501,040	100%	374,581,715



Material Exceptions to Policy Significant Events

Period Ending: June 30, 2022

- No material exceptions to Policy.



**PERSPECTIVES
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PERIOD ENDING: JUNE 30, 2022

Real Assets Review

San Mateo County Employees' Retirement Association

Table of Contents



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Real Assets Portfolio Performance 3

Real Assets Program Update 9

Real Assets Portfolio Diversification 5

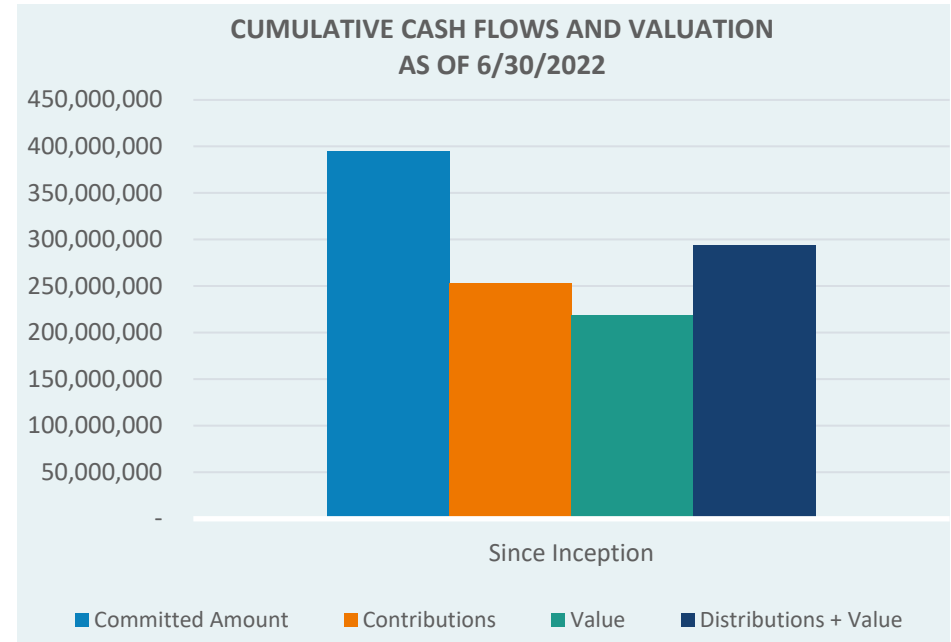
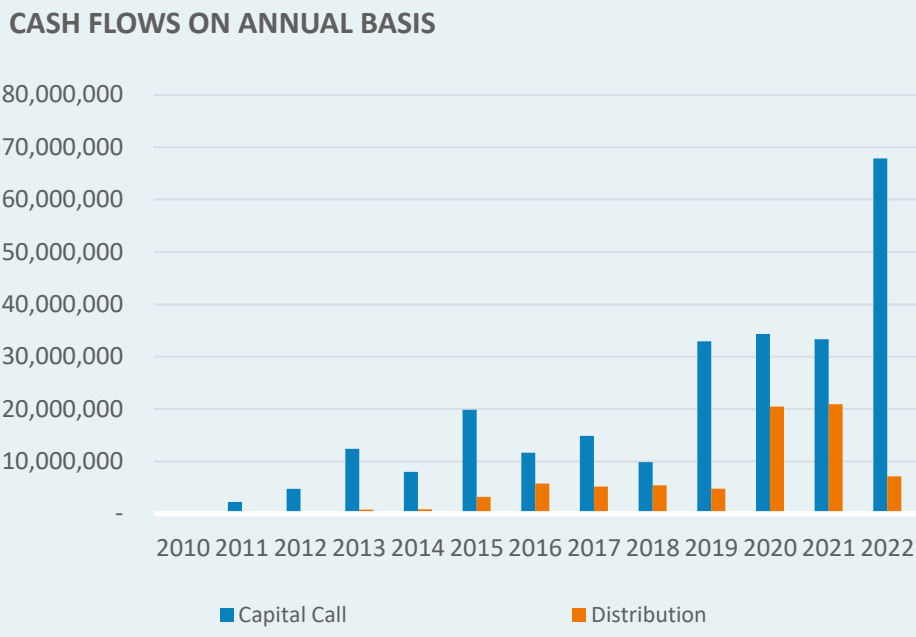
- RA Portfolio Diversification by Strategy
 - RA Portfolio Diversification by Geography
 - RA Portfolio Diversification by Vintage Year
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Real Asset Performance

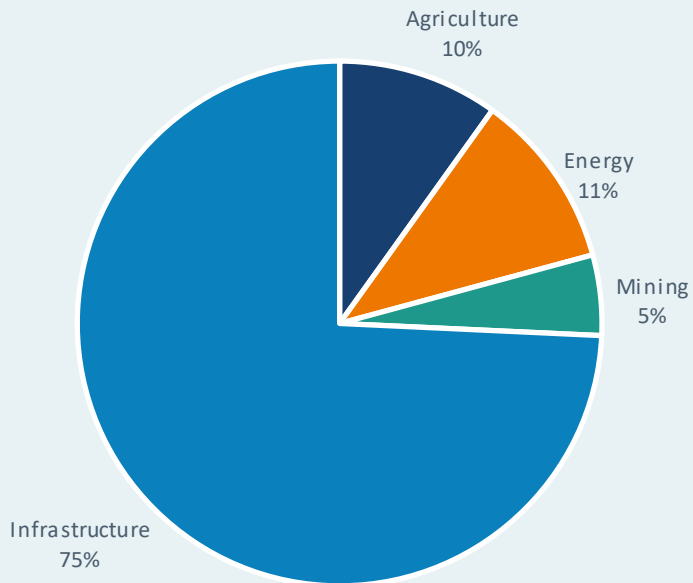
Performance

- The portfolio is currently valued at \$218.7 million. Together with \$74.7 million in realized distributions, the Total Value at \$293.3 million is approximately \$41.0 million above \$252.3 million total capital contributions, resulting in a total value multiple of 1.16x and a net IRR of 5.90%. If we exclude the investment in Sheridan, the portfolio IRR would be 11.61%. Capital weighted average investment age of the portfolio is 3.1 years.
- Within Private Real Assets, the current allocation of market value exposure is 9.8% to Agriculture, 10.7% to Energy, 4.8% to Mining, and 74.6% to Infrastructure.



Investment Type	Commitment	Current Exposure	Current Exposure as % of Portfolio
Agriculture	15,000,000	21,473,567	9.8%
Energy	49,800,000	23,496,190	10.7%
Mining	55,000,000	10,487,522	4.8%
Infrastructure	275,000,000	163,208,022	74.6%
Total Portfolio	394,800,000	218,665,301	100.0%

REAL ASSETS PORTFOLIO: CURRENT EXPOSURE

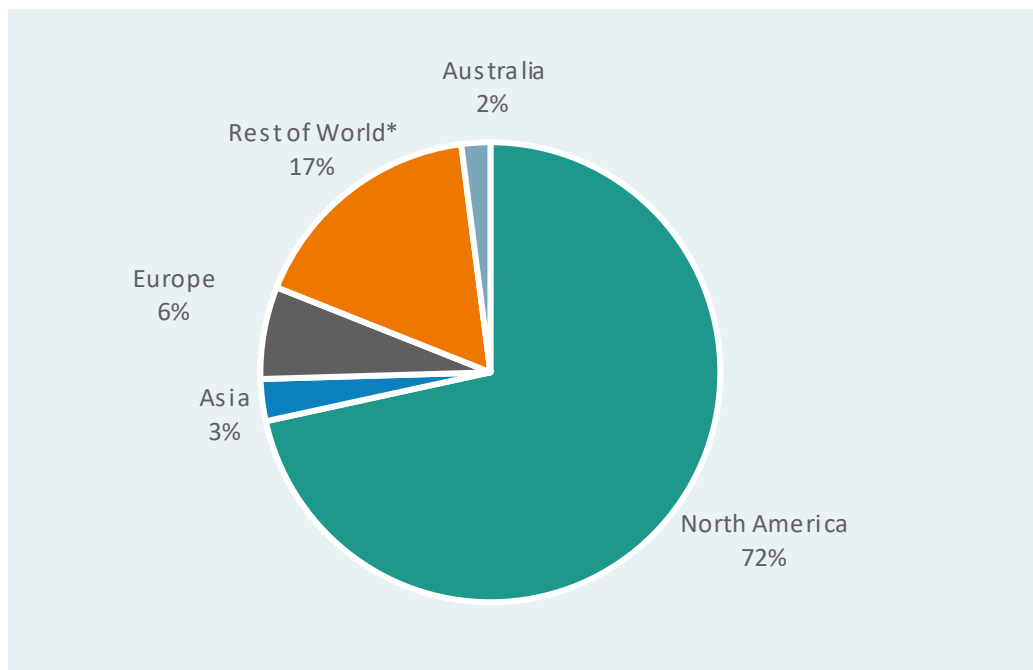


Geography

Portfolio Diversification

Period Ending: June 30, 2022

Geography	Reported Fair Value
North America*	132,814,560
Asia	11,316,536
Europe	44,959,994
Rest of World**	29,574,211
Total Portfolio	218,665,301



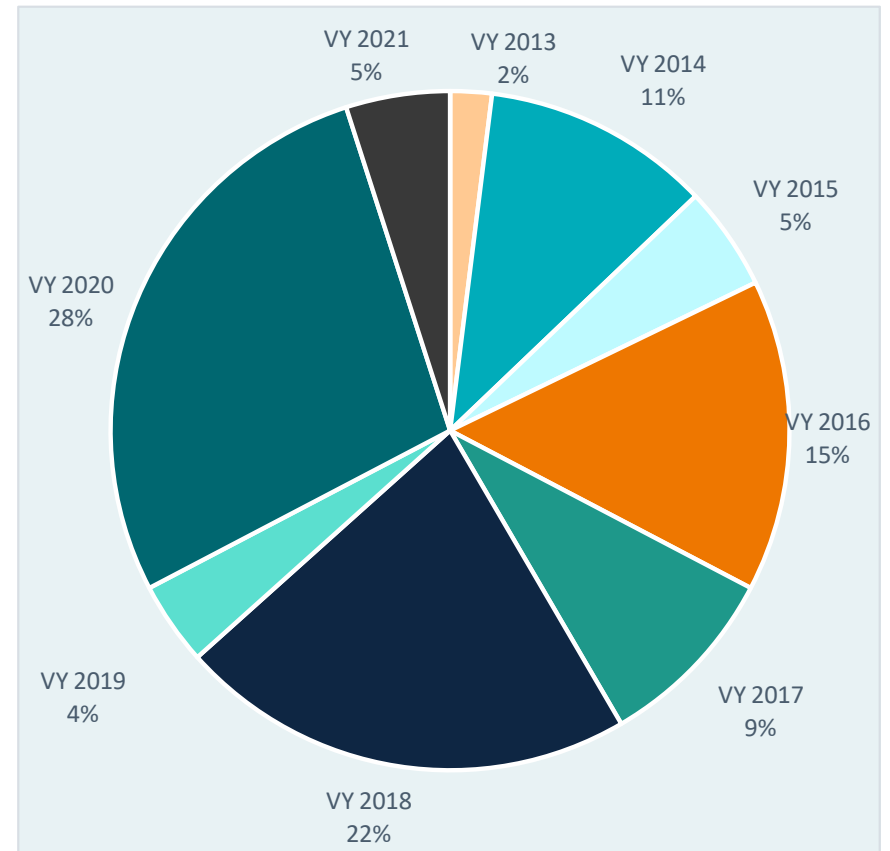
Based on invested capital as of June 30, 2022, if provided by the partnerships. The portfolio is expected to be US-biased given the mandate to hedge domestic inflation.

* Rest of World includes New Zealand, Chile, Senegal, DRC, and Burkina Faso.

Vintage Year Portfolio Diversification

Period Ending: June 30, 2022

Vintage Year	Commitment as of 6/30/2022	% of Portfolio Commitment	Reported Value as of 6/30/2022
2010	20,000,000	5.1%	0
2013	10,000,000	2.5%	4,809,726
2014	35,000,000	8.9%	23,235,848
2015	10,000,000	2.5%	11,998,421
2016	25,000,000	6.3%	33,209,744
2017	29,800,000	7.5%	19,179,919
2018	50,000,000	12.7%	47,404,671
2019	25,000,000	6.3%	8,231,786
2020	85,000,000	21.5%	60,434,827
2021	45,000,000	11.4%	10,160,359
2022	60,000,000	15.2%	0
Total Portfolio	394,800,000	100%	218,665,301



The portfolio is increasingly diversified by vintage year with larger capital commitments expected over the next 2-3 years.


- The opportunity set for new investments has been challenging within real assets this year. The relative outperformance within natural resources and infrastructure compared to the rest of the market has been encouraging for client portfolios but also brings some valuation concerns to the asset classes. We are finding more interesting opportunities within real estate and are considering some niche sector real estate funds that would fit within the real asset portfolios mandate.
- We have a number of re-up opportunities over the next 6 months that should provide plenty of deal flow for SamCERA, as well.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 6.5

TO: Board of Retirement

FROM: Doris Ng, Investment Analyst 

SUBJECT: Report on Investment Consultant Annual Review

Recommendation

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

Background

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

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

The survey was provided online, and results were collected from 7 trustees and 4 staff members. There was a total of 21 questions in the survey with 16 of the questions scored on a scale from 1 to 5, with 5 being the highest rating (High). Questions were asked about the general consulting team, the private equity consulting team, and the real assets consulting team. In addition, the survey prompted the Board to provide strategic and educational topics that they would like Jeff MacLean from Verus to cover in 2023.

Discussion

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

In addition, the Board and Staff provided the following strategic and educational topics they would like Jeff MacLean from Verus to cover with the Board in year 2023:

- 1) "Updates on current event topics that will impact our investment portfolio including rising inflation, supply chain issues and the war in Ukraine. Additionally, in what ways would a war in Taiwan potentially affect us."
- 2) "Asset allocation in a high inflation environment."

- 3) "Continue discussions on how to better support SamCERA's mature status. Provide strategy how to deal with inflation if it turns out to be more than just a passing issue"
- 4) "DEI, marks and valuations in VC and PE (how should board members be thinking about this?), blockchain"
- 5) "I would like to see how we will continue to manage our fund through the looming recession, while finding opportunities for upside potential."
- 6) "Ways in which the institutional playbook may be outdated in this current cycle from past cycles from past 30 years."
- 7) "We should have Jeff talk about the anticipated evolution of our cash matching program- what can we expect in 4-7 years."

2022 Survey		Trustees			Staff		
		Min	Avg	Max	Min	Avg	Max
	Question						
General Consulting							
2	How would you rate the general consulting team's ability to effectively convey concise and useful information during Board meetings?	4	4.7	5	4	4.5	5
3	How would you rate the general consulting team's responsiveness to questions and requests?	5	5.0	5	5	5.0	5
4	How would you rate the general consulting team's analytical sophistication?	4	4.9	5	4	4.3	5
5	How would you rate the effectiveness of the general consulting team's ability to lead strategic initiatives/projects and provide strategic advice (e.g. Asset-Liability Studies, Asset Allocation Reviews, Risk Management)?	4	4.7	5	4	4.5	5
6	How would you rate the effectiveness of the general consulting team's ability to assist and guide the Board on "big-picture" total Fund investment policy and structure on an on-going basis?	4	4.9	5	4	4.3	5
7	How would you rate the quality and/or clarity of the general consulting team's reports (e.g. Monthly Capital Markets Updates, Quarterly Performance Reports, Manager Review Notes, New Manager Investment Recommendations, etc.)?	5	5.0	5	4	4.8	5
8	How would you rate the effectiveness of the general consulting team's educational presentations (e.g. Investment Leverage, Liquidity Analysis, Plan Maturity, etc.)?	4	4.7	5	4	4.8	5
9	How would you rate the general consulting team's knowledge of institutional investment practices?	4	4.9	5	4	4.8	5
Private Equity							
11	How would you rate the private equity consulting team's ability to effectively convey concise and useful information during Board meetings?	4	4.6	5	5	5.0	5
12	How would you rate the quality and/or clarity of the private equity program's reports (e.g. Semi-Annual Private Equity Performance Reports, Private Equity Investment Recommendations, Educational Presentations)?	4	4.6	5	5	5.0	5
13	How would you rate the private equity consulting team's analytical sophistication?	4	4.7	5	5	5.0	5
14	How would you rate the overall effectiveness of the firm's private equity program?	4	4.6	5	5	5.0	5
Real Assets							
15	How would you rate the real asset consulting team's ability to effectively convey concise and useful information during Board meetings?	4	4.7	5	5	5.0	5
16	How would you rate the quality and/or clarity of the real asset program's reports (e.g. Semi-Annual Private Real Asset Performance Reports, Real Asset Investment Recommendations, Educational Presentations)?	3	4.6	5	5	5.0	5
17	How would you rate the real asset consulting team's analytical sophistication?	4	4.7	5	5	5.0	5
18	How would you rate the overall effectiveness of the firm's real assets program?	4	4.6	5	4	4.8	5

Attachment

Verus Annual Review Questionnaire



PERSPECTIVES
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2022 Annual Review Questionnaire

San Mateo County Employees' Retirement Association

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PITTSBURGH 412-784-6678

Mr. John Nicolini
Managing Director and Senior Consultant

Mr. Joseph Abdou, CFA
Consultant

Table of Contents



Organizational Update	PAGE 1
Performance	PAGE 13
Investment Consulting Philosophy	PAGE 16
Outlook	PAGE 21
Conclusion	PAGE 25

Annual Review Questionnaire

Organizational Update

1) Provide an update on Verus’s organization, with particular emphasis on:

(a) changes to your structure

We do not anticipate significant changes in the next twelve months. The number of employee shareholders increased from 31 to 35 during the last five years with 4 new shareholders selected from July 2021 and July 2022 from different areas of the firm – consulting, research, risk advisory, performance measurement, and marketing. Of note, over the past year we have continued to grow our presence in the Mid-West by opening a Chicago office with two Chicago-based senior consultants. We are still looking for a physical location for the office.

The history of our firm has been a steady movement towards broadening the breadth of ownership among our key employees, with the number of shareholders increasing from seven in 2006 to 35 today. We will continue to use equity ownership as a means for attracting and retaining talent and, more importantly, for aligning the interests of our employees with those of our clients.

(b) growth of assets/accounts under consultation

Since our last due diligence submission in 2021, we have added nine new accounts under consultation. Following are updated AUA numbers:

(c) breakdown by client type, and

Corporate	21	\$	9,390,494,377.04
Public	25	\$	588,000,258,022.42
Private	4	\$	1,902,806,300.38
Taft-Hartley	57	\$	24,890,397,717.87
Non-Profit	46	\$	52,572,242,942.99
Total	153	\$	676,756,199,360.70

(d) clients gained or lost in the past year. All significant changes should be accompanied by an explanation.

Verus gained nine clients and lost five client from December 2021 through November 2022 as shown in the tables below. Client confidentiality policies prohibit us from disclosing the names of non-governmental clients.

Client Name	AUA	Date Hired
Non-Profit Client	\$66,000	12/1/21
Non-Profit Client	\$146,000	3/1/22
Corporate Client	\$201,300	4/1/22
Non-Profit Client	\$100,000	4/1/22
Taft-Hartley Client	\$400,000	4/1/22

South Carolina Retirement System	\$39,000,000	7/1/22
Taft-Hartley Client	\$280,000	8/1/22
Non-Profit Client	\$1,100,000	8/1/22
City of Springfield (MO) Police Officers & Fire Fighters Retirement System	\$485,000	10/15/22

In addition, we continue to serve as Project Consultant to Pennsylvania Public Schools Retirement System (\$65 billion AUM) which we've excluded from this retainer list.

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

	2018	2019	2020	2021	2022
Non-Discretionary (\$M)	\$439,032	\$427,313	\$433,895	\$653,326	\$671,736
Number	150	145	148	145	146
Discretionary (i.e., OCIO) (\$M)	\$3,536	\$3,487	\$4,044	\$5,264	\$5,020
Number	10	11	15	16	17

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

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

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

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

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

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

Additionally, it may be perceived that our OCIO relationships could receive preference over our traditional non-discretionary clients with regards to capacity-constrained investment opportunities. OCIO clients, by the nature of the model, are nimbler than traditional non-discretionary clients and can act faster on

investment opportunities than Trustees governing a non-discretionary investment program. Our opinion is that such opportunities rarely occur. Furthermore, this potential conflict exists even within consulting firms that do not have OCIO services as their clients maintain different meeting cycles and investment policies. That said, we have implemented an allocation procedure for limited capacity opportunities to ensure all clients are treated fairly. Following is our process for allocating capacity:

Approval Process

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

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

Capacity Allocation

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

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

these claims for capacity will be presented to the external investment manager for consideration.

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

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

- 6) Describe your plans for managing the future growth of your firm.

- a) Do you have limitations on the number of clients you intend to accept?

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

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

John Nicolini has three clients as lead general consultant, and Joseph Abdou has three clients as lead consultant and four clients as secondary consultant.

- c) Provide the number of clients for the specialty consultants, Faraz Shooshani and John Nicolini, for the past 5 years. Describe your policies for controlling the workload of Faraz Shooshani and John Nicolini.

During the past five years, Faraz Shooshani has served as private markets consultant to seven clients, six of which are currently active. John Nicolini serves as lead and/or real assets consultant to four clients. Verus added another analyst to the real assets team since SamCERA's last review. Marc Gesell, who is a generalist consultant with a risk specialty, serves as co-consultant or secondary to six clients.

Firm leadership is primarily responsible for managing consultants' workloads. Although we do not set limits on a consultant's book of business, workload is managed by factors that include (1) a consultant's seniority and level of experience, (2) the complexity of services required by his or her client accounts, and (3) overall capacity for new relationships. The current client-to-consultant ratio is 5-to-1 for larger clients with complex portfolios. Verus' firm infrastructure supports the firm's consultants and consulting clients with resources across all asset classes. Faraz Shooshani heads the firm's private markets consulting practice and has a team of nine assisting him with research resources across the private market spectrum (venture, buyout, debt-related, real assets, private credit). The private markets team also has dedicated reporting analysts to assist in performance reporting. John Nicolini has a senior real estate analyst and a newer real assets analyst supporting him.

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

Jeffrey MacLean (CEO)
 Shelly Heier, CFA, CAIA (President)
 Ian Toner, CFA (CIO)
 Kraig McCoy, CFA (CFO & COO)
 Scott Whalen, CFA, CAIA (Executive Managing Director)
 Faraz Shooshani (Managing Director and Senior Private Markets Consultant)
 Mark Brubaker, CFA (Managing Director and Senior Consultant)

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

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

9) Has your firm been involved in any regulatory or litigation events in the past year?

No.

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

Following is our current coverage applied to the firm as a whole.

Type of Insurance	Coverage Amount	Company	Rating
Fiduciary Liability	\$5m (\$25k deductible)	Allianz Underwriters Insurance Co.	A+ by A.M Best
Errors & Omissions	\$10m (\$500k deductible)	Allianz Underwriters Insurance Co.	A+ by A.M Best
Directors & Officer Liability	\$10m (\$500k deductible)	Allianz Underwriters Insurance Co.	A+ by A.M Best
Cyber Policy	\$2m (100k deductible)	North American Capacity Insurance Co.	A+ by A.M Best
Employment Practices Liability	\$7.5m (100k deductible)	Allianz Underwriters Insurance Co.	A+ by A.M Best
Financial Institution / Crime Bond	\$1m (\$50k deductible)	Federal Insurance Company	A+ by A.M Best
ERISA Fidelity Bond	10% plan assets or \$500k	Federal Insurance Company	A+ by A.M Best
Commercial General Liability	\$1m per occurrence	Phoenix Insurance Company	A++ by A.M Best

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

Date Hired	Employee Gained	Title
3/29/2021	Darren Lucky	Performance Analyst
3/29/2021	Anthony Flores	Performance Analyst
4/5/2021	Zarif Urozaliyev	Consulting Associate
4/26/2021	Evan Benedict	Consulting Associate
5/17/2021	Christopher Shelby*	Director Private Markets
6/21/2021	Kyle Schmit	Performance Analyst
8/9/2021	Zeca Cardoso	Senior Consultant

SAMCERA 2022 ANNUAL REVIEW QUESTIONNAIRE

8/16/2021	Lamine Kaba	Performance Analyst
8/16/2021	Jeff Faubion	Senior Performance Analyst
8/16/2021	Sneha Pendyala	Public Markets Research Analyst
8/30/2021	Michael Patalsky*	Managing Director Senior Consultant
9/1/2021	Stephen Reller	Public Markets Analyst
9/7/2021	Matthew Hummel	Senior Consulting Associate
9/13/2021	Thomas Lam	IT Technician
9/13/2021	Dana Larkin	Accounting Specialist
9/27/2021	Zeyad Izzeldeen	Performance Analyst
10/18/2021	Dillon Ovitt	Performance Analyst
10/25/2021	Tim Joo	Senior Consulting Associate
11/29/2021	Katherine Dennis	Risk Analyst
1/4/2022	Crystal Nicholls	Senior Performance Analyst
3/7/2022	Rathnakar Raj Padmanaban	Senior Consulting Associate
3/14/2022	Kyle Jangard	Public Markets Research Analyst
4/11/2022	Samantha Grant	Senior Consultant
4/11/2022	Tim McEnery	Managing Director Senior Consultant
6/13/2022	James Wadner	Performance Analyst
6/13/2022	Jonah Coffee	Performance Analyst
6/13/2022	Lukas Seeley	Performance Analyst
6/13/2022	Nicholas Pecache	Performance Analyst
6/13/2022	John Santopadre*	Director Portfolio Management
7/1/2022	Colleen Flannery	Associate Director Public Markets
8/1/2022	Jason Fajardo	Performance Analyst
8/1/2022	Sam Geschickter	Portfolio Management Associate
8/1/2022	Linda Wu	Senior Consulting Associate
9/6/2022	Amanda Schroeder*	Director of Marketing

Date Hired	Employee Lost	Title	Reason for Leaving
1/8/2021	Pete Madrid	Consulting Associate	Voluntarily Resigned
2/19/2021	Francis Griffin*	Director Private Markets	Voluntarily Resigned
2/26/2021	Carmen (Jiamin) Zhuo	Performance Analyst	Voluntarily Resigned
3/17/2021	Abhijeet Singh	Performance Analyst	Voluntarily Resigned
4/2/2021	Vanessa Larson	Accounting Specialist	Voluntarily Resigned
7/2/2021	Stuart Odell*	Managing Director Senior Consultant	Voluntarily Resigned
7/2/2021	Anna (Odmaa) Farmer	Performance Analyst	Voluntarily Resigned
8/6/2021	Margaret Wallace	Senior Performance Analyst	Voluntarily Resigned
8/27/2021	Gary Fagerholm	System Administrator	Voluntarily Resigned – Relocated geographically
8/31/2021	Brock Foster	Consulting Associate	Voluntarily Resigned
9/17/2021	Fateha Uddin	Performance Analyst	Voluntarily Resigned – Relocated geographically
11/12/2021	Zane Coble	Senior Analyst	Voluntarily Resigned
12/15/2021	Dillon Ovitt	Performance Analyst	Voluntarily Resigned
12/31/2021	Brad Ness*	Senior Consultant	Retirement

4/20/2022	Rathnakar Raj Padmanaban	Senior Consulting Associate	Voluntarily Resigned – Relocated geographically
4/29/2022	Mitch Lane	Performance Analyst	Voluntarily Resigned
4/29/2022	Connor Ridgeway	Associate Director Strategic Research	Voluntarily Resigned
6/1/2022	Kristi Kanadi	Performance Analyst	Voluntarily Resigned
6/3/2022	David Greenwood	Associate Director Public Markets	Voluntarily Resigned
7/18/2022	Margie Lane*	Director of Marketing	Voluntarily Resigned - Semi retiring
8/5/2022	Will Jones	Portfolio Manager	Voluntarily Resigned
8/5/2022	Darren Lucky	Performance Analyst	Voluntarily Resigned – Relocated geographically
9/22/2022	Katherine Dennis	Risk Analyst	Voluntarily Resigned
9/29/2022	Garrett Dinsmore	Associate Director Private Markets	Voluntarily Resigned

*Senior investment professionals denoted with an asterisk.

Year	Turnover % (All Employees)
2020	8%
2021	13%
2022	11%

Please note that since SamCERA’s last review, Margaret Jadallah’s impending retirement has prompted the promotion of John Nicolini to Lead Consultant.

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

SamCERA is currently conducting an Asset Liability study. During this study, Verus & staff will evaluate the overall risks in the portfolio and recommend changes to the portfolio based on the risk assessment. The 2022 study is underway, and results will be presented by early 2023. New services/improvements will be recommended following the results of the study.

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

Verus’ 14-person Performance Analytics Group is dedicated to data calculation, reconciliation, and performance evaluation. The group is supervised by Mr. Justin Hatley, Director of Performance Analytics, who reports to the President of the firm. Mr. Hatley has 18 years of experience. SamCERA’s performance analyst, Augienette Castillo, has 25 years of investment experience and has been with Verus for eight years.

The risk advisory team, led by the chief investment officer, Ian Toner, provides risk analytics, monitoring and education, and delivers end-to-end services to help clients develop a comprehensive framework for risk management that analyzes and communicates risk in every aspect of their investment program. Mr. Toner has over 30 years of industry experience and sits on the Verus investment committee and management committee. Risk Director Danny Sullivan, FRM, CAIA, began his career with Verus in 2011 and Vance Creekpaum, ASA, was an actuarial analyst for 4 years prior to joining Verus in 2016.

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

Performance measurement resources

Our main tool for performance measurement and reporting is Investment Metrics, a leading provider of investment performance reporting and analytics software solutions for institutional investment consultants, asset owners, asset managers, OCIOs, and private wealth advisors. The Investment Metrics universe for comparative performance reporting represents roughly \$3.4 trillion in assets under advisement with over 6,000 institutional plans and 3,000 investment managers. The universe aggregates data submitted by institutional investment consulting organizations using institutional and custodial statements for separate accounts, and investment managers for privately-held or commingled funds. The databases contain at least twenty-five years of performance data on each of the major asset classes. The database is updated monthly.

Following is the composition of this performance measurement database:

Plan Type	Number of Observations	Total Market Value
All Plans	3,095	\$2 Trillion
All DB Plans	1,483	\$1.7 Trillion
Corporate DB Plans	508	\$391 Billion
Public DB Plans	343	\$1 Trillion
Taft-Hartley DB Plans	422	\$189 Billion
Endowments & Foundations	961	\$206 Billion

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

Investment Metrics is continually maintaining its system and upgrading its platform to respond to clients' needs. A Consultant's Collaborative of Investment Metrics clients meets periodically to discuss initiatives that would help guide the platform's improvements and development. This is mutually beneficial in that it saves Investment Metrics time tapping each client individually to learn about needs; instead they receive the information from the Collaborative. The Collaborative streamlines and consolidates client requests to enable Investment Metrics to focus on the most critical improvements and respond more quickly. Verus is an active participant in the Consultant Collaborative.

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

eVestment	Alliance Public markets database
MPI Stylus	Returns-based style analysis, regression analysis
MSCI BarraOne	Risk analysis
Morningstar Direct	Mutual fund information, analytics, index information
Aksia	Hedge fund database

Solovis	Private markets analytics and performance platform
Pitchbook	Private markets database
Thomson Reuter Cambridge Associates	Private markets database
Thomson One VentureXpert	Private equity database
Private Informant	Private equity database
Pitchbook	Private equity database

Risk monitoring and analysis

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

15) What are your mission critical systems?

Technology is an integral part of our consulting practice. We have an in-house IT group composed of three technology specialists who assist our consulting staff in monitoring, testing and evaluating the tools of our trade. We have spent, on average, 10% of revenue on systems and technology in the last three years and anticipate technology investments to stay roughly between 9-12% of revenue over the next three years. We evaluate all IT systems on an annual basis for feature deficiency. We use automated software to apply operating system security patches as soon as they are available from the manufacturer, and continuously upgrade all internal IT systems to insure we maintain long-term support availability with our various vendors and partners. During the past 24 months we have been working to convert our performance systems to Paris, which will offer enhanced performance capabilities.

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

- Infrastructure Items
- Redundant Internet Service Providers
- Centrally managed Cisco Firewalls
- Intrusion Prevention System at all points of entry
- Centrally-managed Network Switches
- Centrally-managed Video Security Cameras
- Application and Management Servers
- Linux and Windows based operating system (OS)
- Virtual environment with built in clustering for fail over redundancy
- Fully replicated data sets for additional fail over redundancy
- Fully encrypted cloud-based storage for additional layer of redundancy
- Network Attached Storage (NAS)

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

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

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

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

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

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

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

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

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

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

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

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

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

We review and update our systems on a regular basis. We are in the process of converting out Investment Metrics (InvestorForce) performance system to Paris over the coming months. SamCERA is currently using InvestorForce but will likely move to Paris over the next year to eighteen months. InvestorForce is a legacy system which will be sunset over the next few years; however, the performance team is cautious to move complicated plans such as SamCERA before various identified issues are fixed in the new system.

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

Verus maintains a Business Continuity and Disaster Recovery Plan (BCDR). Forensic review is conducted annually by the compliance department. Third-party audits of the plan were completed in 2014 and 2018. IT security testing is done continuously, with outside third-party penetration testing provided on a regular basis. The plan provides for alternative work sites, geographic and service provider diversity, remote access to critical systems, secure laptops with VPN access, and data retention enforcement for data recovery. We conduct DR/BCP testing exercises regularly to ensure validity, viability, and timely execution. The BDCR has been live-tested successfully during a massive power outage in Seattle.

Performance

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

Verus believes we are meeting SamCERA's performance expectations as detailed in both the Verus contract as well as SamCERA's IPS. Since our last review, Verus has performed all services described in the contract and along with staff, have run the portfolio in a manner consistent with the objectives described in the IPS. SamCERA is a risk conscious plan and has taken steps to lower the overall risk in the portfolio through both the strategic asset allocation as well as implementation decisions. Performance for the overall plan can be expected to lag in strong markets and outperform in turbulent markets. Performance YTD through September 30, 2022 is -11.5% outperforming both the peer group (-14.4%) and benchmark (-13.0%). Outperformance versus the peer group is due to SamCERA's risk profile versus peers, and it's policy by implementing strategies like low vol and diversifying absolute return.

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

US Equity

- Equity markets saw further losses during Q3, extending the selloff deeper into bear market territory. Emerging market equities (MSCI Emerging Markets -11.6%) experienced the greatest drawdown, on an unhedged currency basis, followed by international developed (MSCI EAFE -9.4%) and domestic equities (S&P 500 -4.9%).
- Many markets now trade at valuation levels below their historical average. According to FactSet, the S&P 500 sat at a forward price/earnings of 15.4 as of September 30th, below the five-year average of 18.6 and 10-year average of 17.1. Interestingly, earnings expectations have been fairly resilient at 7.4% for calendar year 2022 and 7.9% for 2023.

International Equity

- International developed equities fell alongside the global opportunity set in the third quarter. The MSCI EAFE Index dropped -9.4% in U.S. dollar terms, although most of those losses can be attributed to currency impacts, with hedged returns only experiencing a -2.8% loss. The Federal Reserve continues to set the tone for global central bank rate hikes, which has pushed the dollar higher.
- Investors with unhedged foreign currency exposure have seen extreme losses recently. A U.S. investor with an international developed equity investment (MSCI EAFE) suffered a loss of -15.7% over the past year from currency movements. Investors in non-US equity (MSCI ACWI ex-US) saw a -12.0% loss. Currency risk is typically the second largest risk in institutional portfolios and is not expected to be compensated over the long term. We continue to believe that more forward-thinking currency solutions can materially improve portfolio outcomes.
- Looking at sub-regional performance, Japanese equities were the best performing markets in local terms, being one of the few asset classes with positive Q3 return (+0.2%). Despite strong local returns, diverging rate policy between the BOJ and Federal Reserve has crushed the Japanese yen, resulting in a seven percent spread between hedged and unhedged equity outcomes.

Fixed Income

- The 10-year U.S. Treasury yield rose materially from 2.89% to 3.83% as the Federal Reserve reaffirmed its aggressive stance and markets questioned whether interest rates might be held at higher levels for longer than previously anticipated.
- Credit performance was mixed over Q3 with lower duration exposures faring better than higher duration exposures. Fears of a looming recession remained as the Fed's 75 basis point rate hikes in July and September reinforced its intention to fight inflation until the "job is done." Leveraged loans performed the best, returning 1.2%, followed by high yield credit and investment grade credit which returned -0.6% and -4.9%, respectively.
- Default activity continued to pick up in the third quarter with seven companies defaulting on loans and bonds totaling \$16.5 billion. This was the highest quarterly total seen since the second quarter of 2020. Activity represented a significant jump from the \$1.6 billion and \$10.4 billion shown in Q1 and Q2, respectively.
- The U.S. Yield Curve inverted during the quarter, with the 10-year 2-year spread falling from 0.1% to -0.4%. An inverted curve has historically suggested recession within two years or so.
- Throughout the third quarter, the Federal Reserve continued its path to reduce the balance sheet, beginning in June with the paced redemption of maturing securities. The initial June monthly redemption caps of \$30 billion for Treasuries and \$17.5 billion for agency MBS were increased to \$60 billion and \$35 billion in September. Markets have seemingly digested the reduction well, although the total drawdown has been relatively small so far, around \$200 billion against the peak size of \$8.97 trillion in April 2022.

Real Assets

- Fundraising within Infrastructure increased in 2021, driven by several mega-funds that were closed during the year. With the oil/gas sector out of favor with institutional investors, infrastructure has been a recipient for some of the commitments which used to go into natural resources. It is possible this trend could reverse in 2022 as the recovery in energy markets has the potential to reignite investor interest in the sector.
- Despite a robust transaction market in 2021, dry powder ticked up slightly due to the large amount of capital that was raised. Along with a reduction in the cost of capital for the asset class broadly, this has caused managers to expand their definition of infrastructure and invest in companies that would more traditionally be considered private equity such as industrial services and healthcare companies.
- Volumes for transportation infrastructure have largely bounced back to pre-pandemic levels. However, we remain cautious of this sector given the high correlation to GDP and the lack of discount available despite poor recent operating performance. Transportation assets under availability-based contracts are more appealing, but there is limited opportunity for new construction of these assets and returns for operating assets are in the mid-single digits which only align with core infrastructure targets.

- The current inflationary environment has caused many investors to look to infrastructure to provide a hedge. While the asset class does exhibit some sensitivity to inflation, not all sectors offer equal protection. On one hand, regulated utilities earn a set return on an asset base that is often directly linked to an inflation index and have shown a strong correlation. Other sectors such as ports and rail have no direct inflation linkage in their revenues and rely on their position in the market for pricing power. Communication assets such as cell towers often have annual revenue increases built into their contracts, but these increases are typically pre-determined at 2-3% as opposed to linked to an index.

U.S. Real Estate

- Core private real estate rebounded quickly to produce an all-time record calendar year performance in 2021. The NCREIF Property Index returned 17.7%, while the levered NFI-ODCE Index returned 22.1%.
- Property type sector dispersion remained high with industrial (+43.3%) and multifamily (+19.9%) leading the way. Office and retail were the laggards; however, both were positive at +6.1% and +4.2%, respectively.
- Public real estate securities (REITs) continued to see elevated volatility. After a 10% decline in 2020, REITs rebounded in 2021 to be one of the top returning asset classes, finishing the year up over 46% and outperforming the S&P 500 by over 17%.
- Non-core real estate vintage funds have historically outperformed during recessionary years and early recovery periods (e.g., 2000-2003 and 2009-2011) as market dislocations created attractive entry valuations. Given the recent stress in the market, current non-core vintages could be attractive.

Private Equity

- Private equity deal activity remains weak in the face of a complex macroeconomic and geopolitical backdrop. Rising interest rates and falling public market indexes are having a direct impact on the pricing environment: In many cases, with the cost of debt rising, the proportion of equity has also risen. Multiples are coming down, and until a more stable environment has been established, deal activity will likely remain subdued. Overall, deal activity will likely pick up as GPs feel pressure to deploy capital, but this eventuality may be several quarters out.
- Private equity deal activity remains weak in the face of a complex macroeconomic and geopolitical backdrop. Rising interest rates and falling public market indexes are having a direct impact on the pricing environment: In many cases, with the cost of debt rising, the proportion of equity has also risen. Multiples are coming down, and until a more stable environment has been established, deal activity will likely remain subdued. Overall, deal activity will likely pick up as GPs feel pressure to deploy capital, but this eventuality may be several quarters out.
- The second quarter of 2022 brought an expected continuation of market tightening in some parts of the U.S. venture capital (VC) ecosystem. Although corporations have been dealing with their own challenges in a bear market, VC-backed startups still seem to be a priority for their growth strategies. Both corporate M&A and corporate venture capital (CVC) investments have remained relatively strong in 2022. However, participation from nontraditional and crossover investors showed more prominent signs of a pullback in H1 2022. Recent public market performance has shrunk valuations for many of

these investors' overall portfolios, likely causing some to reassess their VC investment pace and strategies.

Investment Consulting Philosophy

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

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

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

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

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

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

As far as limitations, Verus is 100% focused on consulting. For clients who are looking for a variety of services under one roof (e.g., actuarial, recordkeeping), larger, multi-service firms are a better solution.

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

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

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

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

SamCERA's portfolio is structured in alignment with its risk tolerance and considers important factors such as the MOU (County's overfunding) and the financial strength of San Mateo County which enables the Plan to have 6.25% actuarial expected return and a relatively conservative strategic asset allocation compared with many peers. We view the biggest risk in the SamCERA portfolio as peer risk or the risk of being different from peers. Verus is comfortable with this difference and believes that the portfolio is prudently structured, well diversified and well positioned for the future. Moreover, Verus believes that SamCERA would not capitulate and abandon a well-conceived plan at an inopportune time.

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

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

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

We believe the categories of managers currently in the portfolio, both public and private, are appropriate and capable of implementing objectives and expectations outlined in SamCERA's Investment Policy Statement. Verus has worked with SamCERA to add/change categories of managers as appropriate as market conditions have evolved. We may consider reviewing the number of managers within discrete asset classes that have overlapping strategies that could be consolidated in order to reduce fees, reduce administrative complexity and potentially maximize alpha.

We are in the process of conducting an Asset Liability study which will set the strategic direction of the Plan for the coming 3 years. Changes to allocation and categories of managers may follow the result of the study.

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

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

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

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

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

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

Verus subscribes to the MSCI ESG Ratings, which is considered a best practices standard for rating ESG mandates. We can employ these ratings in our ESG mandate selection and monitoring activities on clients' behalf. Verus can identify ESG strategies across both public and private markets and multiple asset classes given the tools we regularly employ. In 2023, we will continue expansion of our ESG capabilities. All of our approved strategies are also assigned an ESG rating, based on an assessment of ESG integration into the investment strategy, alongside an investment rating.

24) Please discuss any enhancements currently under research or contemplation, such as in the areas of asset liability studies or risk management.

Topic of the Research	Title of Publication	Publication Date
In the 2022 Private Equity Outlook, we focus attention on the rise of GP-led continuation funds and what investors should consider when evaluating such opportunities.	2022 Private Equity Outlook	October 2022
Revisiting the small cap premium thesis and a discussion of active management opportunities in small caps	Opportunities in Small Caps	September 2022
Investing in Chinese assets: overview, potential opportunities and threats	A Closer Look at China	July 2022
Investment thesis and Verus' outlook on timberland and agriculture in the current market environment	A Primer: Timberland & Farmland	June 2022
Inflation & Recession	2022 Real Assets Outlook	May 2022
Introduction to mortgage income and its strategic role in portfolios	Primer on Mortgage Income	May 2022
Active manager dispersion has been very wide recently, as the pandemic-induced global recession and subsequent fast-paced recovery resulted in considerable economic divergence.	2022 Active Management Environment	March 2022
Market movements of 2021, impact of rising inflation and interest rates, newly released forecasts for specific hedge fund styles, and forecasts for various strategies/approaches with the private credit universe	2022 Capital Market Assumptions	December 2021
How do we estimate the expected behavior of active management in asset allocation?	Integrating Active Return Into Asset Allocation Modeling	December 2021
Investment income and price appreciation in a low interest environment	The Role of Income in Portfolios	November 2021
Focus attention on investor appetite for ESG and the growing response from private equity	2021 Private Equity Outlook	October 2021
Equity alternatives to traditional fixed income as portfolio diversifier	Establishment of Risk Mitigation Buckets	September 2021
Assessment of less conventional investment strategies in both mature and nascent marketplaces	Thinking Differently	September 2021
Analysis of historical inflationary environments to understand protection offered by types of assets	Thinking About Inflation in Risk Terms	August 2021
Active risk in portfolio construction	Measuring and Budgeting Active Risk	June 2021
Potential for inflationary pressure, a portfolio risk that hasn't emerged in several decades. That discussion has reignited interest in real assets and capital flows into the asset class	2021 Real Assets Outlook	May 2021

Topic of the Research	Title of Publication	Publication Date
Risks facing public pension funds and how to align investment goals with risk tolerance	Implications of Risk Tolerance on Establishing an Effective Investment Strategy for Public Pension Funds	April 2021
Late stage asset-liability considerations for plan sponsors	Developing an End Game for Corporate Pensions	April 2021
Reframing approach to manager decisions	How to Make Manager Research Decisions	April 2021
Benefits and risks of using leverage in portfolios	Leverage in Portfolios	March 2021
Insights from this research will allow for a deeper understanding of active manager behavior and inform selection in the future. For first time readers, an introduction to this research and methodological details	2021 Active Management Environment	February 2021
Research findings on how emerging/diverse managers generate alpha compared to traditional managers	Is There Alpha Available from Emerging and Diverse Managers	February 2021
Part 4 of a 4-part series on ESG: Asset allocation	ESG and Asset Allocation	February 2021

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

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

Outlook

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

Following are our current 10-year return and risk assumptions for 45 asset classes. Note that we will be updating our capital market assumptions this month for use in asset allocation studies the coming year.

Asset Class	Index Proxy	Ten Year Return Forecast		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)	10-Year Historical Sharpe Ratio (g)	10-Year Historical Sharpe Ratio (a)
		Geometric	Arithmetic					
Equities								
U.S. Large	S&P 500	5.3%	6.4%	15.7%	0.31	0.39	1.21	1.19
U.S. Small	Russell 2000	5.3%	7.4%	21.6%	0.23	0.32	0.77	0.81
International Developed	MSCI EAFE	6.1%	7.6%	17.9%	0.32	0.40	0.52	0.57
International Small	MSCI EAFE Small Cap	4.7%	6.9%	22.2%	0.19	0.29	0.66	0.71
Emerging Markets	MSCI EM	6.1%	8.9%	25.3%	0.23	0.34	0.32	0.40
Global Equity	MSCI ACWI	5.7%	7.1%	17.3%	0.31	0.39	0.84	0.86
Private Equity	Cambridge U.S. Private Equity	9.5%	12.4%	26.0%	0.35	0.46	-	-
Private Equity (Direct)	Cambridge U.S. Private Equity	10.5%	13.4%	26.0%	0.39	0.50	-	-
Private Equity (Fund of Funds)	Cambridge U.S. Private Equity	8.5%	11.4%	26.0%	0.31	0.42	-	-
Fixed Income								
Cash	30 Day T-Bills	0.4%	0.4%	1.2%	-	-	-	-
U.S. TIPS	Bloomberg U.S. TIPS 5-10	1.7%	1.8%	5.3%	0.25	0.27	0.59	0.60
U.S. Treasury	Bloomberg Treasury 7-10 Year	1.5%	1.7%	6.8%	0.16	0.20	0.43	0.45
Global Sovereign ex U.S.	Bloomberg Global Treasury ex U.S.	0.5%	1.0%	9.5%	0.01	0.06	-0.01	0.02
Global Aggregate	Bloomberg Global Aggregate	1.4%	1.6%	6.1%	0.16	0.20	0.28	0.30
Core Fixed Income	Bloomberg U.S. Aggregate Bond	2.2%	2.3%	4.1%	0.44	0.46	0.80	0.80
Core Plus Fixed Income	Bloomberg U.S. Universal	2.4%	2.5%	4.0%	0.50	0.51	0.82	0.83
Short-Term Gov't/Credit	Bloomberg U.S. Gov't/Credit 1-3 Year	1.5%	1.6%	3.6%	0.31	0.33	1.07	1.06
Short-Term Credit	Bloomberg Credit 1-3 Year	1.6%	1.7%	3.6%	0.34	0.35	1.25	1.24
Long-Term Credit	Bloomberg Long U.S. Corporate	2.4%	2.8%	9.4%	0.21	0.26	0.67	0.70
High Yield Corp. Credit	Bloomberg U.S. Corporate High Yield	3.1%	3.7%	11.2%	0.24	0.30	1.01	1.00
Bank Loans	S&P/LSTA Leveraged Loan Index	2.3%	2.7%	9.3%	0.20	0.25	0.82	0.83
Global Credit	Bloomberg Global Credit	1.5%	1.8%	7.3%	0.15	0.19	0.67	0.68
Emerging Markets Debt (Hard)	JPM EMBI Global Diversified	5.2%	5.9%	12.6%	0.38	0.44	0.66	0.68
Emerging Markets Debt (Local)	JPM GBI-EM Global Diversified	4.2%	4.9%	12.2%	0.31	0.37	0.04	0.09
Private Credit	S&P LSTA Leveraged Loan Index	6.8%	7.8%	14.6%	0.44	0.51	-	-
Private Credit (Direct Lending - Unlevered)	S&P LSTA Leveraged Loan Index	5.0%	5.5%	10.5%	0.44	0.49	-	-
Private Credit (Direct Lending - Levered)	S&P LSTA Leveraged Loan Index	8.0%	9.4%	17.4%	0.44	0.51	-	-
Private Credit (Credit Opportunities)	S&P LSTA Leveraged Loan Index	7.0%	8.0%	15.0%	0.44	0.51	-	-
Private Credit (Junior Capital / Mezzanine)	S&P LSTA Leveraged Loan Index	8.8%	10.4%	19.0%	0.44	0.53	-	-
Private Credit (Distressed)	S&P LSTA Leveraged Loan Index	9.0%	12.6%	29.1%	0.30	0.42	-	-

Investors wishing to produce expected geometric return forecasts for their portfolios should use the arithmetic return forecasts provided here as inputs into that calculation, rather than the single-asset-class geometric return forecasts. This is the industry standard approach, but requires a complex explanation only a heavy quant could love, so we have chosen not to provide further details in this document – we will happily provide those details to any readers of this who are interested.

Asset Class	Index Proxy	Ten Year Return Forecast		Standard Deviation Forecast	Sharpe Ratio Forecast (g)	Sharpe Ratio Forecast (a)	10-Year Historical Sharpe Ratio (g)	10-Year Historical Sharpe Ratio (a)
		Geometric	Arithmetic					
Other								
Commodities	Bloomberg Commodity	3.0%	4.2%	15.9%	0.16	0.24	-0.25	-0.18
Hedge Funds	HFRI Fund Weighted Composite	3.8%	4.1%	7.7%	0.44	0.48	0.88	0.49
Hedge Funds (Fund of Funds)	HFRI Fund of Funds Composite	2.8%	3.1%	7.7%	0.31	0.35	-	-
Hedge Funds (Equity Style)	Custom HFRI Benchmark Mix*	4.5%	5.6%	15.0%	0.27	0.34	-	-
Hedge Funds (Credit Style)	Custom HFRI Benchmark Mix*	3.6%	4.1%	10.1%	0.32	0.37	-	-
Hedge Funds (Asymmetric Style)	Custom HFRI Benchmark Mix*	2.3%	2.4%	4.9%	0.39	0.41	-	-
Real Estate Debt	Bloomberg CMBS IG	2.1%	2.4%	7.4%	0.23	0.27	1.12	1.11
Core Real Estate	NCREIF Property	6.5%	7.2%	12.5%	0.49	0.54	2.08	2.02
Value-Add Real Estate	NCREIF Property + 200bps	8.5%	9.8%	16.7%	0.49	0.56	-	-
Opportunistic Real Estate	NCREIF Property + 300bps	9.5%	11.1%	18.7%	0.49	0.57	-	-
REITs	Wilshire REIT	6.5%	8.2%	19.3%	0.32	0.40	0.67	0.72
Global Infrastructure	S&P Global Infrastructure	6.6%	8.0%	17.6%	0.35	0.43	0.45	0.51
Risk Parity	S&P Risk Parity 10% Vol Index	5.4%	5.9%	10.0%	0.50	0.55	-	-
Currency Beta	MSCI Currency Factor Index	0.8%	0.9%	3.4%	0.12	0.13	0.24	0.25
Inflation		2.5%	-	-	-	-	-	-

Following are our current correlation assumptions:

	Cash	US Large	US Small	Intl Large	Intl Small	EM	Global Equity	PE	US TIPS	US Treasury	Global Sovereign ex-US	US Core	Core Plus	Short-Term Gov't/Credit	Short-Term Credit	Long-Term Credit	US HY	Bank Loans	Global Credit	EMD USD	EMD Local	Commodities	Hedge Funds	Real Estate	REITs	Infrastructure	Risk Parity	Currency Beta	
Cash	1.0																												
US Large	-0.2	1.0																											
US Small	-0.2	0.9	1.0																										
Intl Large	-0.2	0.9	0.8	1.0																									
Intl Small	-0.2	0.9	0.8	1.0	1.0																								
EM	-0.1	0.7	0.7	0.8	0.8	1.0																							
Global Equity	-0.2	1.0	0.9	1.0	0.9	0.9	1.0																						
PE	-0.2	0.7	0.6	0.6	0.6	0.6	0.7	1.0																					
US TIPS	0.0	0.2	0.1	0.2	0.2	0.3	0.2	0.2	1.0																				
US Treasury	0.2	-0.3	-0.4	-0.3	-0.3	-0.2	-0.3	-0.2	0.7	1.0																			
Global Sovereign ex-US	0.1	0.2	0.1	0.3	0.4	0.5	0.3	0.1	0.6	0.4	1.0																		
US Core	0.2	0.0	-0.1	0.0	0.0	0.1	0.0	0.0	0.8	0.9	0.6	1.0																	
Core Plus	0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.8	0.8	0.6	1.0	1.0																
Short-Term Gov't/Credit	0.4	-0.1	-0.1	0.0	0.0	0.1	0.0	-0.1	0.6	0.7	0.5	0.8	0.7	1.0															
Short-Term Credit	0.0	0.4	0.4	0.4	0.4	0.5	0.4	0.0	0.6	0.3	0.5	0.6	0.7	0.6	1.0														
Long-Term Credit	0.0	0.3	0.2	0.3	0.3	0.4	0.3	0.1	0.7	0.6	0.5	0.8	0.9	0.5	0.7	1.0													
US HY	-0.2	0.8	0.7	0.8	0.8	0.8	0.8	0.5	0.4	-0.2	0.4	0.2	0.5	0.1	0.7	0.6	1.0												
Bank Loans	-0.3	0.6	0.7	0.6	0.7	0.6	0.7	0.3	0.3	-0.3	0.2	0.1	0.3	0.0	0.6	0.4	0.9	1.0											
Global Credit	-0.1	0.6	0.5	0.7	0.7	0.8	0.7	0.3	0.6	0.2	0.7	0.5	0.7	0.4	0.8	0.8	0.8	0.6	1.0										
EMD USD	-0.2	0.6	0.5	0.7	0.7	0.7	0.7	0.4	0.6	0.1	0.6	0.5	0.7	0.3	0.7	0.7	0.8	0.7	0.9	1.0									
EMD Local	0.0	0.6	0.5	0.7	0.7	0.8	0.7	0.4	0.4	0.0	0.7	0.3	0.5	0.3	0.6	0.5	0.7	0.5	0.8	0.8	1.0								
Commodities	0.1	0.5	0.5	0.6	0.6	0.6	0.6	0.3	0.2	-0.3	0.3	-0.1	0.1	0.0	0.3	0.1	0.6	0.5	0.5	0.5	0.6	1.0							
Hedge Funds	-0.2	0.8	0.8	0.8	0.8	0.7	0.8	0.6	0.2	-0.3	0.2	0.0	0.2	0.0	0.5	0.4	0.8	0.7	0.6	0.6	0.5	0.5	1.0						
Real Estate	-0.2	0.6	0.6	0.5	0.5	0.5	0.6	0.4	0.2	-0.1	0.2	0.1	0.1	-0.1	0.1	0.2	0.4	0.3	0.3	0.4	0.4	0.4	0.5	1.0					
REITs	-0.2	0.7	0.6	0.6	0.6	0.5	0.7	0.5	0.5	0.1	0.3	0.4	0.5	0.2	0.5	0.5	0.7	0.5	0.6	0.6	0.5	0.3	0.5	0.7	1.0				
Infrastructure	-0.2	0.8	0.7	0.8	0.8	0.7	0.8	0.7	0.4	-0.1	0.5	0.3	0.4	0.2	0.6	0.5	0.8	0.7	0.8	0.8	0.8	0.5	0.7	0.3	0.7	1.0			
Risk Parity	-0.1	0.7	0.6	0.7	0.7	0.7	0.8	0.4	0.5	0.0	0.4	0.3	0.5	0.3	0.7	0.5	0.8	0.7	0.7	0.8	0.7	0.7	0.7	0.4	0.6	0.8	1.0		
Currency Beta	0.0	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	1.0	

Note: Correlation assumptions are based on the last ten years. Private Equity and Real Estate correlations are especially difficult to model – we have therefore used BarraOne correlation data to strengthen these correlation estimates.

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

We use a fundamental building block approach based on several inputs, including historical data and academic research to create asset class return forecasts. For most asset classes, we use the long-term historical volatility after adjusting for autocorrelation. Correlations between asset classes are calculated based on the last 10 years. For illiquid assets, such as private equity and private real estate, we use BarraOne correlation estimates.

Asset	Return Methodology	Volatility Methodology*
Inflation	25% weight to the University of Michigan Survey 5-10 year ahead inflation expectation and the Survey of Professional Forecasters (Fed Survey), and the remaining 50% to the market's expectation for inflation as observed through the 10-year TIPS breakeven rate	-
Cash	75% * current federal funds rate + 25% * U.S. 10-year Treasury yield	Long-term volatility
Bonds	Nominal bonds: current yield; Real bonds: real yield + inflation forecast	Long-term volatility
International Bonds	Current yield	Long-term volatility
Credit	Current option-adjusted spread + U.S. 10-year Treasury – effective default rate	Long-term volatility
International Credit	Current option-adjusted spread + foreign 10-year Treasury – effective default rate	Long-term volatility
Private Credit	Levered gross return (LIBOR + spread + original issuance discounts) – management fees – carried interest	Estimated volatility
Equity	Current yield + real earnings growth (historical average) + inflation on earnings (inflation forecast) + expected P/E change	Long-term volatility
Intl Developed Equity	Current yield + real earnings growth (historical average) + inflation on earnings (intl. inflation forecast) + expected P/E change	Long-term volatility
Private Equity	US large cap domestic equity forecast * 1.85 beta adjustment	1.2 * Long-term volatility of U.S. small cap
Commodities	Collateral return (cash) + spot return (inflation forecast) + roll return (assumed to be zero)	Long-term volatility
Hedge Funds	Return coming from traditional betas + 15-year historical idiosyncratic return	Long-term volatility
Core Real Estate	Cap rate + real income growth – capex + inflation forecast	65% of REIT volatility
REITs	Core real estate	Long-term volatility
Value-Add Real Estate	Core real estate + 2%	Volatility to produce Sharpe Ratio (g) equal to core real estate
Opportunistic Real Estate	Core real estate + 3%	Volatility to produce Sharpe Ratio (g) equal to core real estate
Infrastructure	Current yield + real income growth + inflation on earnings (inflation forecast)	Long-term volatility
Risk Parity	Expected Sharpe Ratio * target volatility + cash rate	Target volatility

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

While consolidation was prevalent pre-2019, the trend in consolidation among consulting firms has slowed significantly during and post-COVID. Consolidation was, in part, driven by the portfolio complexity that has occurred over the last decade in institutional portfolios. The need to have capabilities across public and private markets, risk analytics, OCIO, etc. led many smaller and mid-size firms to merge in order to gain scale and new resources. The top 10-15 consultants today mostly have the resources needed to provide the full suite of consulting services so further consolidation has become less important.

With the rise of ESG and subsequent implementation of ESG policies and procedures and even sustainability staff for larger plans; we are seeing a trend where ESG is being politicized. As a result, there have been several states that have legislation ensuring ESG factors are used on a limited case basis. SamCERA's approach is to leave ESG considerations up to each manager and their respective expertise.

28) Given the current environment, what portfolio changes (if any) are Verus considering or recommending to clients?

Verus sees a higher degree of uncertainty in markets around the world today, and therefore believes it is reasonable for investors to keep closer to their long-term policy allocations. In high volatility environments of the past, the consequences of being wrong on an investment view tended to be much more painful. With that said, we have recommended an overweight position to emerging market equities and underweight position to international developed equities for clients where appropriate.

Emerging market equities show extremely cheap valuations – much of which has been driven by pessimism around China. Easing of fears regarding China's property crisis, "Zero Covid" lockdowns, and/or weak economic growth could result in upward pricing to equity markets and gains for emerging market equities. These markets also tend to deliver *higher equity market beta* which means some cyclical recovery in markets could benefit emerging markets in an outsized way.

International developed equity markets appear less attractive in the current environment. Europe continues to cope with an energy crisis, with no clear end in sight. Many developed economies are likely to experience recession over the next year – perhaps deep in some locations. Couple these issues with ongoing political turmoil, and we see this asset class as less attractive.

Lastly, negative investment performance in 2022 across nearly all asset classes has resulted in a 'repricing' of risk, and a large jump in forward-looking expectations. We believe this change in environment will allow investors much more flexibility in asset allocation, including the revitalization of simple cost-effective structures such as the 60/40 portfolio (global equity / core fixed income), which according to our 2023 Capital Market Assumptions is expected to return 7.2% over the next 10 years.

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

Clients have explored adoption of global equity mandates phasing out the domestic/international equity split. This trend is being used to simplify portfolios by having the manager maintain the allocation between international equity and domestic equity. The trend assumes alpha is attainable by the manager across all equities (and doesn't limit exposure to domestic/international.)

With the rise in interest rates, clients are exploring a dedicated treasury allocation within fixed income. These allocations serve two purposes, first providing enhanced liquidity to the Plan, and second adding diversification and an element of risk management to portfolios.

Clients have also considered the governance decision of delegating manager selection to staff and consultant. Verus assumes asset allocation drives 90% of portfolio performance, as a result, it along with controlling risk are significantly more important decisions which should be done at the Board level. By delegating manager selection, the Board has ample time to weigh more important strategic level decisions.

Conclusion

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

Currently, we do not have anything to add to SamCERA's Investment Policy Statement; however, this may change due to the ongoing Asset Liability Study which is set to be completed by early 2023

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

Verus' has a diverse client base of institutional, long-term investors. As such, clients maintain their asset mixes for an extended period of time with incremental changes. Portfolios are built to achieve specific goals, yet all are diversified in order to weather various market environments. That said, SamCERA has been at the forefront of many of our recommended changes in asset mixes including the adoption of a CDI portfolio, private real assets, currency hedging and private credit. Our responses to questions 28-30 address what we believe will be near-term trends in asset allocation.

32) What market opportunities should SamCERA be considering?

SamCERA has been implementing opportunities as they arise throughout the year. We intend to review potential changes to the portfolio in early 2023.

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

We are going to develop the 2023 work plan in December 2022. We will likely have asset allocation changes pursuant to the ALM study. We also intend to work with staff in hiring new private credit and absolute return managers in early 2023.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 7.1

TO: Board of Retirement

FROM: Gladys Smith, Assistant Executive Officer



SUBJECT: Annual Review of Independent Auditor, Brown Armstrong

Recommendation

Accept the annual performance report of Brown Armstrong Accountancy Corporation.

Background

Each year an evaluation is conducted of SamCERA's independent auditor. The evaluation consists of three parts: (1) A survey completed by trustees, staff and the auditor; (2) the auditor's responses to approved questions; and (3) a discussion at the Board meeting to present the results of the responses.

Discussion

This year's annual survey was completed by eight Board members and four staff members. Brown Armstrong received high ratings overall from both the Board and staff for the services they provided to SamCERA. The ratings ranked from above average to high.

Andy Paulden will highlight areas in Brown Armstrong's attached survey responses and will be available to respond to any questions or comments regarding her firm's audit services.

Attachment

Brown Armstrong Questionnaire Response
New Client List 2022
Inactive Clients 2022

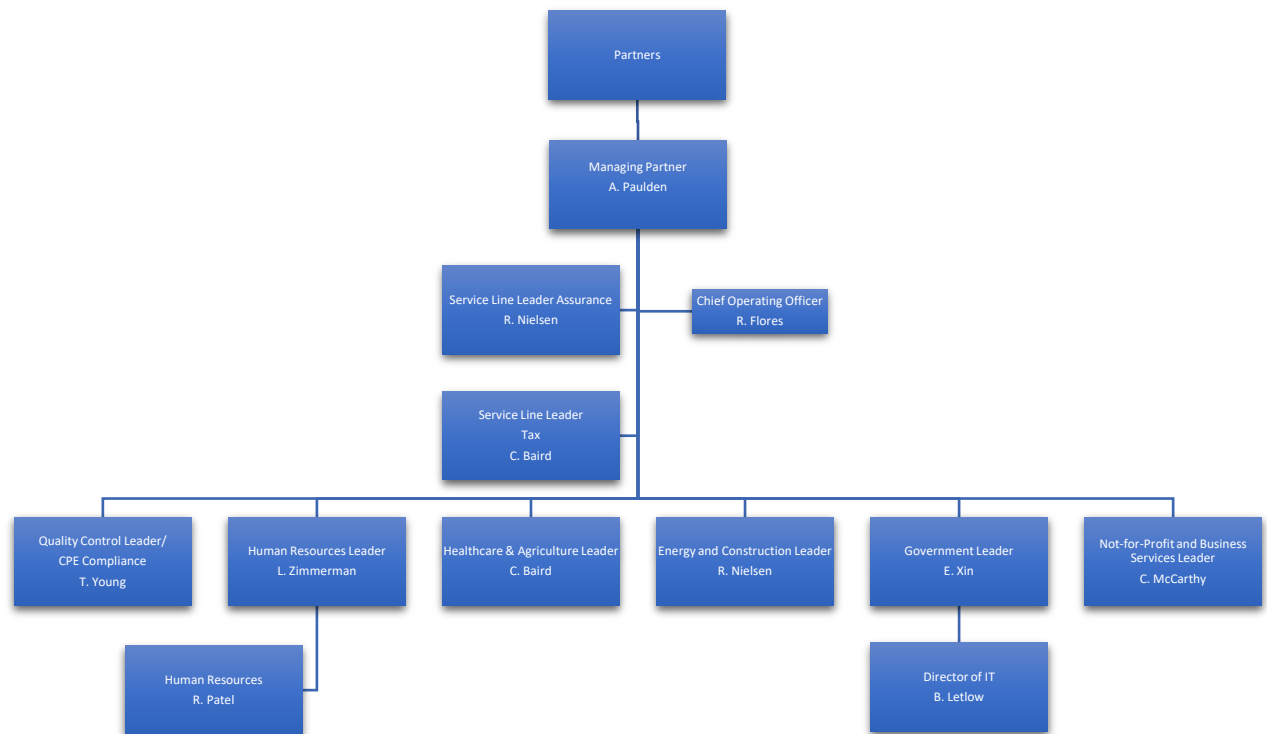
Questions for Annual Auditor Consultant Evaluation

Please provide information about the following events and activities and whether they occurred during Fiscal Year 2021-22.

Organizational Update

- 1) Provide an update on your firm's organization, with particular emphasis on changes to your management structure over the past twelve months. All significant changes should be accompanied by an explanation. An updated organizational chart should accompany this response.

[See organizational chart below.](#) During the year, Rosalva Flores transitioned from a Partner to our Chief Operating Officer. We admitted another Partner to the group starting January 1, 2022 Charlie McCarthy.



- 2) Update all significant personnel changes or expected changes to the "SamCERA Team." During the year Paul Sahota, CPA replaced Colin Lo, CPA as the Audit Engagement Manager. Ashley Green completed the audit engagement as the Audit Partner and went on Maternity leave starting November 7, 2022 and expected to return April 6, 2023. Andy Paulden the technical reviewer and Paul Sahota are available to SamCERA during her maternity leave. We expect no significant changes to the SamCERA Team for FY 2023.

3) Has your firm or any of its employees been involved in regulatory or litigation actions related to your business in the past twelve months?

No

4) Has a peer review been performed on any of your firm's audit products? If yes, discuss the review and the findings. Any material findings or recommendations must be accompanied by an explanation.

Our latest peer review was performed in the fiscal year ending 2022 and we are awaiting AICPA approval to release our new report. There were no material findings or recommendations.

5) Are any of your operations outsourced? If the answer is yes, provide details regarding the firm(s) with which your firm has contracted.

No

6) Please describe how your firm monitors and manages cyber security risks as they relate to confidential SamCERA data/information.

Our policy is that all confidential information is exchanged via secured, encrypted communications (see <https://support.citrix.com/article/CTX208317> for more details on our file transfer service). Internally our client data is stored on servers in a locked server room with a discrete alarm system. Servers are kept updated and patched against security vulnerabilities and reside behind a network firewall with an Intrusion Protection System. Data on employee computers is protected by a full disk encryption system that will lock attackers out after a few incorrect password guesses (see <https://www.checkpoint.com/products/full-disk-encryption/> for more information about our endpoint encryption product). Employee passwords must comply with industry standard complexity requirements and change quarterly. Additionally, we do quarterly security training for all employees to keep them up to date on the most recent attack vectors and exploits.

Has your firm experienced any problems with cyber security in the past 18 months?

No

What is your cyber security breach policy?

Currently we are in the process of establishing a cyber security breach policy.

What procedures do you have in place for a cyber security breach?

We will be following this outline of procedures:

- Make an initial assessment.
- Communicate the incident.
- Contain the damage and minimize the risk.
- Identify the type and severity of the compromise.
- Protect evidence.
- Notify external agencies, if appropriate.
- Recover systems.
- Compile and organize incident documentation.
- Assess incident damage and cost.

- Review the response and update policies

Client Update

- 7) What is your firm's philosophy and current policy regarding new business?
We engage only new clients that have the highest ethical standards, and only after we are certain we can provide high quality, timely service.
- 8) Please list all clients gained or lost in the past eighteen months.
See attached.

Outlook Beyond Fiscal Year 2021-22

- 9) What issues are other clients concerned with regarding products, services, education and governance that your staff has not addressed with SamCERA?
Our other clients are concerned with obtaining training and implementation guidance relating to new and proposed accounting standards. See our recommendation at #13 in attending our future continuing education and upcoming pronouncement changes. Upcoming future GASB statement No's 91, 94, 96, and 99-101 which may not have a significant effect on SamCERA. We usually provide an update on the current GASBs and their applicability during our entrance meeting with management or the Audit Committee when an entrance meeting is requested by the Audit Committee.

The future statement for implementation in FY2023 that might be applicable and SamCERA should research further is **GASB Statement No. 96** – Subscription-Based Information Technology Arrangements, to address the accounting treatment and financial reporting for these agreements. The requirements of this statement are effective for fiscal years beginning after June 15, 2022, and all reporting periods thereafter.

- 10) Should SamCERA be made aware of significant changes that your clients are making?
Nothing SamCERA hasn't already implemented or considered.
- 11) Relative to your expertise, what trends are occurring in the retirement industry that SamCERA should be tracking?
Nothing SamCERA hasn't already implemented or considered.

Conclusion

- 12) How can SamCERA better assist you in accomplishing the goals it has established for your firm?
We have a very good relationship with SamCERA and continued feedback will be helpful in accomplishing the goals established.

- 13) How can we better utilize your firm's capabilities?
We provide continuing education for our clients and our staff about new Governmental Accounting Standards established. SamCERA could take advantage of the resources and training for a reduced cost of attending we provide to all clients. We typically have our continuing education scheduled in January and May/June. We will provide more information once the agendas have been established.
- 14) Is there any information that would be timely pursuant to SamCERA's annual review?
None noted.
- 15) What audit related changes should SamCERA consider that were not mentioned in your audit or audit presentation?
Nothing that hasn't already been mentioned in #9.

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
4/1/2021 CARMEL	TOES ON THE GO, INC.	79949.001	Paulden 002
4/1/2021 BAKERSFIELD	L. M. SURGERY CENTERS, INC.	48406.001	Paulden 002
4/5/2021 BAKERSFIELD	ENERGY IN FOCUS, INC.	25806.001	Baird 018
4/5/2021 BAKERSFIELD	VENABLE, ROBERT & NANCY	82809.001	McCarthy 067
4/5/2021 BAKERSFIELD	VENABLE, CAROLINE	82811.001	McCarthy 067
4/6/2021 BAKERSFIELD	THOENE, JACOB	79931.001	Nielsen 022
4/7/2021 BAKERSFIELD	MONGOLD, DAVID & TOMMIE	54266.001	Paulden 002
4/9/2021 WASCO	ALTAMIRA LABOR SERVICE, INC.	03421.001	Flores 015
4/9/2021 MODESTO	STANISLAUS COUNTY 457 PLAN	78461.001	Datta 024
4/9/2021 BURBANK	LEINIUS, ETHAN	49420.004	Baird 018
4/12/2021 BAKERSFIELD	VAUGHAN - ADMINISTRATIVE TRUST, RICHA	82812.001	Paulden 002
4/12/2021 BAKERSFIELD	VAUGHAN - EXEMPT MARITAL TRUST, RICHA	82813.001	Paulden 002
4/12/2021 BAKERSFIELD	VAUGHAN - NON-EXEMPT MARITAL TRUST, F	82814.001	Paulden 002
4/12/2021 BAKERSFIELD	VAUGHAN - RESIDUAL TRUST, RICHARD & M.	82816.001	Paulden 002
4/12/2021 BAKERSFIELD	VAUGHAN - SURVIVORS TRUST, RICHARD &	82817.001	Paulden 002
4/12/2021 SAN FRANCISCO	HANISH, BESS	34470.001	Roberts 107
4/13/2021 BAKERSFIELD	PIERCE, JACLYN	61980.003	Ragus-Wines 228
4/13/2021 BAKERSFIELD	GARZA, MADISON	61980.002	Ragus-Wines 228
4/19/2021 BAKERSFIELD	THREE PHASE ELECTRIC	79986.001	Paulden 002
4/20/2021 BAKERSFIELD	WHITE WOLF LAND SERVICE	83314.001	Paulden 002
4/20/2021 BAKERSFIELD	PEACE, RICK	61675.001	Paulden 002
4/23/2021 SACRAMENTO	SACRAMENTO TRANSPORTATION AUTHORIT	73526.001	Nielsen 022
4/26/2021 BAKERSFIELD	KEYES, KEVIN & JENNIFER	43344.001	Baird 018
4/30/2021 SACRAMENTO	INVESTMENT TRUST OF CALIFORNIA (CaTRI	37782.001	Green 040
4/30/2021 OCEANSIDE	JOHNSON, MONICA	39831.001	Nielsen 022
5/3/2021 BAKERSFIELD	SACCHINI, ANDREW	73525.002	Baird 018
5/3/2021 CARMEL	KRAFT, MICHELLE	46551.001	Paulden 002
5/4/2021 BAKERSFIELD	HAMISCH, ARIANA	34471.003	McCarthy 067
5/4/2021 BAKERSFIELD	HAMISCH, JOHN & GEORGIA	34471.001	McCarthy 067
5/4/2021 BAKERSFIELD	HAMISCH, ANDREW	34471.002	McCarthy 067

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
5/4/2021 OAKLAND	GOLDEN GATE DERMATOLOGY	32373.001	Baird 018
5/4/2021 BAKERSFIELD	HOAGLAND, TREVOR	35551.001	Baird 018
5/5/2021 BAKERSFIELD	LUNA COMPANIES, INC.	49436.001	Baird 018
5/5/2021 BAKERSFIELD	MCKNIGHT, MICHAEL	51701.001	Ragus-Wines 228
5/5/2021 BAKERSFIELD	GANN, JASON & CORRINE	29826.001	Roberts 107
5/11/2021 BAKERSFIELD	MEDFORD, JEFFERY D.	52201.001	Paulden 002
5/14/2021 EUREKA	CROSS, WILLIAM	20310.002	Paulden 002
5/14/2021 BAKERSFIELD	WERNHART, MITCHEL	83183.002	Baird 018
5/17/2021 BAKERSFIELD	CORREA, JOE	19517.001	McCarthy 067
5/20/2021 BAKERSFIELD	GREEN GLOBE, INC.	33024.001	Xin 011
5/21/2021 VALENCIA	R.M. PYLES BOYS CAMP	64316.001	Nielsen 022
5/21/2021 BAKERSFIELD	NATIONAL ASSOCIATION OF WOMEN BUSINE	57224.001	Ragus-Wines 228
6/2/2021 VISALIA	FAMILY F.O.C.U.S. CORPORATION (TAX)	26680.002	Young 012
6/7/2021 BAKERSFIELD	E & B NATURAL RESOURCES	24791.001	Nielsen 022
6/8/2021 STOCKTON	HOSPICE OF SAN JOAQUIN	36390.001	Green 040
6/9/2021 MARINA DEL REY	CHAMAS, KEVIN	16139.001	Baird 018
6/9/2021 MARINA DEL REY	KJC HOLDINGS	16139.002	Baird 018
6/9/2021 MARINA DEL REY	JKC HOLDINGS	16139.003	Baird 018
6/11/2021 BAKERSFIELD	C & S CARE HOMES, LLC	13971.001	Nielsen 022
6/15/2021 BAKERSFIELD	BLACKBURN ESTATE, MILDRED	11298.001	McCarthy 067
6/15/2021 SANTA CRUZ	SANTA CRUZ - SCCACT AUP YE 06/30/21	74055.016	Zimmerman 079
6/17/2021 MORRO BAY	MORRO BAY - AUDIT ACFR, CITY OF	54476.001	Zimmerman 079
6/17/2021 SHAFTER	SHAFTER RECREATION AND PARK DISTRICT	74621.001	Zimmerman 079
6/18/2021 BAKERSFIELD	BAKERSFIELD POLICE ACTIVITIES LEAGUE	08007.001	McCarthy 067
6/25/2021 SAN MATEO	FIRST 5 SAN MATEO COUNTY	74014.001	Young 012
6/28/2021 BAKERSFIELD	FIRST FIVE KERN - INDIRECT RATE CERTIFIC	16154.003	Xin 011
6/30/2021 FRESNO	SAN JOAQUIN VALLEY REGIONAL BROADBAI	73984.001	Green 040
7/26/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.001	Xin 011
7/26/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.002	Xin 011
7/29/2021 BAKERSFIELD	DYE, BRANDI	24580.002	McCarthy 067

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date	Client Sort Name	Client Num.Eng	Primary Partner
8/3/2021 BAKERSFIELD	KCSOS PROJECTS	42470.011	Xin 011
8/4/2021 HURON	HURON, CITY OF	36694.001	Zimmerman 079
8/11/2021 CHOUTEA	BOLES, SHERRY	11484.001	McCarthy 067
8/12/2021 LANCASTER	DESERT HAVEN ENTERPRISES, INC. 401(k) P	23801.002	Nielsen 022
8/19/2021 GLENDDORA	LA VERNE NURSERY, INC.	47036.001	Paulden 002
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.003	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.004	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.005	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.006	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.007	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.008	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION - TD.	70593.009	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.015	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.017	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.018	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.016	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.019	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.020	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.021	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.022	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.023	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.010	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.012	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.011	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.013	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.014	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.024	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.025	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.026	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.027	Xin 011

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.028	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.029	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.030	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.031	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.032	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.033	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.034	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.035	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.036	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.037	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.038	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.039	Xin 011
8/23/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.040	Xin 011
8/24/2021 DELANO	DELAY, ALLEN D. DECEDENTS TRUST	22322.001	Paulden 002
9/7/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.041	Xin 011
9/7/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.042	Xin 011
9/13/2021 MODESTO	STANISLAUS COUNTY CASH COUNT AUP	78459.001	Xin 011
9/13/2021 MODESTO	STANISLAUS COUNTY P-CARD AUP	78459.002	Xin 011
9/15/2021 BAKERSFIELD	ZANINOVICH, VINCENT & DONNA	85866.001	Nielsen 022
9/21/2021 BAKERSFIELD	TOMONO, KIYOSHI & CECI	80981.001	Baird 018
9/24/2021 BAKERSFIELD	EAST, MEL & JACQUELINE	24796.001	McCarthy 067
9/24/2021 BAKERSFIELD	HOME CARE HEROES, LLC	36391.001	McCarthy 067
9/29/2021 BAKERSFIELD	KERN LAW ENFORCEMENT ASSOCIATION (A	42885.002	Zimmerman 079
10/4/2021 BAKERSFIELD	LOVE, BARBARA	48013.001	Baird 018
10/7/2021 BAKERSFIELD	ROBBINS, GIL	70993.001	McCarthy 067
10/15/2021 BAKERSFIELD	THURMAN VETERINARY CENTER	80101.001	Baird 018
10/15/2021 BAKERSFIELD	THURMAN, TRAVIS & MOLLY	80103.001	Baird 018
10/15/2021 BAKERSFIELD	THURMAN LAND & CATTLE, LLC	80102.001	Baird 018
10/19/2021 MORRO BAY	MORRO BAY - SINGLE AUDIT, CITY OF	54476.002	Zimmerman 079
10/19/2021 MORRO BAY	MORRO BAY - AUDIT TDA, CITY OF	54476.003	Zimmerman 079

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
10/19/2021 MORRO BAY	MORRO BAY - AUP GANN, CITY OF	54476.004	Zimmerman 079
10/20/2021 BAKERSFIELD	RAJPREET KAHLON, REGISTERED NURSING,	42006.001	Nielsen 022
10/26/2021 FAIRFIELD	HORIZON ENERGY PARTNERS, LLC	36382.001	Nielsen 022
11/1/2021 BAKERSFIELD	MCQUIN, REBECCA	51791.002	McCarthy 067
11/4/2021 BAKERSFIELD	DESIGNER FUELS, LLC	23251.001	Baird 018
11/11/2021 BAKERSFIELD	HIGHLAND HAWKS PTA	35472.001	McCarthy 067
11/11/2021 KERNVILLE	4926 S. UNION AVENUE, LLC	28344.001	McCarthy 067
11/11/2021 KERNVILLE	124 HARTMAN LANE, LLC	58624.001	McCarthy 067
11/11/2021 NEW YORK	UBEES, INC.	82343.001	Paulden 002
11/16/2021 MODESTO	STANSLAUS REGIONAL TRANSIT AUTHORITY	78456.001	Xin 011
11/18/2021 BAKERSFIELD	RIDDLE, CHARLIE	70401.001	McCarthy 067
11/18/2021 ROSEVILLE	FARGUSSON, M.D., INC., MICHAEL	26762.001	McCarthy 067
11/18/2021 BAKERSFIELD	RELIABLE MULTI SERVICES, LLC	70072.001	McCarthy 067
11/29/2021 SAN FRANCISCO	WEST COAST SURGICAL CORP	83199.001	McCarthy 067
11/29/2021 BAKERSFIELD	RELIABLE MERCHANT SERVICES, LLC	70181.001	McCarthy 067
11/29/2021 SAN FRANCISCO	DEGMETICH, SEAN & NINA NOSAVAN	22101.001	McCarthy 067
11/30/2021 ELK GROVE	IT'S EID, INC.	38002.001	McCarthy 067
12/6/2021 RIVERSIDE	RIVERSIDE COUNTY TRANSPORTATION COM	70593.043	Xin 011
12/7/2021 BAKERSFIELD	ISAAC, MACKEY & COURTNEY	37985.001	McCarthy 067
12/14/2021 LANCASTER	THE 50TH DISTRICT AGRICULTURAL ASSOC.	03549.005	Young 012
12/14/2021 LANCASTER	THE 51ST DISTRICT AGRICULTURAL ASSOC.	03549.006	Young 012
12/17/2021 BAKERSFIELD	SKRACIC, JOSEPH	78060.001	Paulden 002
12/27/2021 BAKERSFIELD	THE ZANINOVICH FAMILY RESIDUAL TRUST	85868.001	Nielsen 022
12/27/2021 BAKERSFIELD	BIG CRUSH FARMING, LLC	11086.001	Nielsen 022
12/29/2021 OXNARD	STEELE, NATALIE	78590.001	Nielsen 022
12/30/2021 BIRMINGHAM	BMSS ADVISORS & CPAS	11530.001	Nielsen 022
12/30/2021	BLUE LINE SOLUTIONS, INC.	11471.001	Nielsen 022
12/30/2021 LONG BEACH	LAYTON, STEVE	47329.002	Nielsen 022
12/31/2021 SANTA BARBARA	NASIF, HICKS, HARRIS & CO., LLP	57197.001	Green 040
1/6/2022 BAKERSFIELD	LELAND IRR TR 091688, BESS	47489.001	Krausse 005

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
1/10/2022 BAKERSFIELD	PARK, CPA, YOUNG-WOO	61564.001	Xin 011
1/11/2022 BAKERSFIELD	ONE MARK, LLC	59380.001	Nielsen 022
1/12/2022 BAKERSFIELD	BFLS INCORPORATED	11079.001	McCarthy 067
1/12/2022 BAKERSFIELD	XS TRAVELS INC, dba ELITE SAFETY & SUPPI	85498.001	Nielsen 022
1/14/2022 BAKERSFIELD	LIGHT, ERIC & ANN	47868.001	Baird 018
1/18/2022 BAKERSFIELD	SKRACIC, DARKO & DENISE	78058.001	Paulden 002
1/18/2022 BAKERSFIELD	GENESIS MACHINE & FABRICATION, INC.	30045.001	Paulden 002
1/18/2022 BAKERSFIELD	NAGEM PROPERTIES, LLC	57226.001	Paulden 002
1/18/2022 BAKERSFIELD	S AND O ENTERPRISES, INC.	73155.001	Paulden 002
1/20/2022 BAKERSFIELD	KERLEY, LONNIE & DAWN	42330.001	Nielsen 022
1/26/2022 BAKERSFIELD	MURR, GEORGE & DEBORAH	56950.001	Baird 018
1/26/2022 BAKERSFIELD	ARAUJO, FERNANDO & MARIA MIRO	03885.001	Baird 018
1/26/2022 BAKERSFIELD	LITHOGENE ENERGY, LLC	48030.001	Baird 018
1/28/2022 BAKERSFIELD	BOWENS, BRAD	11738.001	McCarthy 067
1/31/2022 CAPE CORAL	MOSES, MARK & MARION	55561.001	Baird 018
2/1/2022 BAKERSFIELD	LOPEZ, PAUL & NATASHA	48942.001	Baird 018
2/2/2022 BAKERSFIELD	VV FAMILY FOUNDATION	82920.001	Zimmerman 079
2/4/2022 PASADENA	CALTECH ALUMNI ASSOCIATION (TAX)	14548.002	McCarthy 067
2/10/2022 BAKERSFIELD	VAQUERO UINTAH, LLC	82806.001	Nielsen 022
2/10/2022 BAKERSFIELD	BITE ME DONUTS & DOGS, LLC	09150.002	Nielsen 022
2/11/2022 MAMMOTH LAKES	EBERTS, MADDISON	25600.002	Baird 018
2/11/2022 BAKERSFIELD	CUSHMAN, NICOLAS & ALEXIS	21000.001	Nielsen 022
2/11/2022 BAKERSFIELD	BLACK AND WHITE INVESTMENTS, LLC	11270.001	Nielsen 022
2/11/2022 BAKERSFIELD	CHICANE PROPERTIES, LLC	16151.001	Nielsen 022
2/11/2022 BAKERSFIELD	LNP REAL ESTATE, LLC	48480.001	Nielsen 022
2/11/2022 BAKERSFIELD	MCQUIN, THOMAS	51792.001	McCarthy 067
2/11/2022 GREENBELT	LEE, KLIFTON	47412.001	McCarthy 067
2/14/2022 WESTLAKE VILLAGE	CHRISTIAN FOUNDATION OF THE WEST (TAX)	16179.002	McCarthy 067
2/15/2022 BAKERSFIELD	JOHNSON, FRANK & JUNE	39690.001	Roberts 107
2/15/2022 BEAUMONT	MULVIHILL ENTERPRISES, INC.	56810.001	Moring III 257

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
2/15/2022 GORMAN	GOLDEN VALLEY MUNICIPAL WATER DISTRIK	79696.001	Nielsen 022
2/15/2022 BAKERSFIELD	AGENTCOR MANAGEMENT INC.	02340.001	Moring III 257
2/15/2022 BAKERSFIELD	CELLAN CENTRAL VALLEY COLLEGE, LLC	16008.001	Moring III 257
2/15/2022 BAKERSFIELD	MERCADO, DAVID & ELSA	52261.001	Moring III 257
2/15/2022 ANAHEIM HILLS	BLACKFORD & ASSOCIATES	11292.001	Moring III 257
2/16/2022 BAKERSFIELD	MCATEE, ANDREW & LESLIE	51704.001	Moring III 257
2/16/2022 BAKERSFIELD	ZANINOVICH, RYAN & CARRIE	85862.001	Nielsen 022
2/16/2022 RIVERSIDE	PREFERRED SALES & SERVICE INC.	63605.001	Moring III 257
2/16/2022 RIVERSIDE	RIVERSIDE'S COMPLETE AUTOMOTIVE REPA	70627.001	Moring III 257
2/16/2022 ST. CHARLES	TWO ROADS LENDING LLC	82155.001	Moring III 257
2/16/2022 RIVERSIDE	VILLAGE COACH FITNESS, INC.	82883.001	Moring III 257
2/16/2022 MORENO VALLEY	VICTORIA'S SIMPLY DANCING, LLC	82819.001	Moring III 257
2/16/2022 SHAFTER	SIEMENS, ALAYA	77546.001	Moring III 257
2/16/2022 RIVERSIDE	COLLINS, SHERRY LEE ATTORNEY AT LAW	17243.001	Moring III 257
2/16/2022 RIVERSIDE	MYSTIC REEF	57044.001	Moring III 257
2/16/2022 RIVERSIDE	MULLINS, ADAM & PATTY	57044.002	Moring III 257
2/16/2022 RIVERSIDE	MULLINS, JEREMY & ROCIO	57044.003	Moring III 257
2/16/2022 APPLE VALLEY	MULLINS, MELISSA	57045.001	Moring III 257
2/16/2022 BAKERSFIELD	RAMOS, JOSE & GUADALUPE DELGADO	66895.001	Moring III 257
2/16/2022 BAKERSFIELD	J.L.R. INTERPRISES, LLC	66895.002	Moring III 257
2/16/2022 BAKERSFIELD	JR REXLAND LLC	66895.003	Moring III 257
2/16/2022 JURUPA VALLEY	HERRING, MITCHELL & NICHOLE	35390.001	Moring III 257
2/16/2022 JURUPA VALLEY	HYDROTEK INDUSTRIES	35390.002	Moring III 257
2/16/2022 BAKERSFIELD	COUGHENOUR, ROGER & KAREN	19635.001	Moring III 257
2/16/2022 BAKERSFIELD	INFINITE LIFE CARE PLANS, LLC	19635.002	Moring III 257
2/16/2022 RIVERSIDE	RYAN, PATRICIA	17243.002	Moring III 257
2/16/2022 RIVERSIDE	RYAN, PATRICIA O. LIVING TRUST	17243.003	Moring III 257
2/16/2022 RIVERSIDE	COLLINS, SHERRY LEE	17243.004	Moring III 257
2/16/2022 RIVERSIDE	FAWCETT, JEFFREY & RACHELLE	26905.001	Moring III 257
2/16/2022 RIVERSIDE	FAWCETT, BRAYDEN	26905.002	Moring III 257

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
2/16/2022 RIVERSIDE	FAWCETT, MAKENNA	26905.003	Moring III 257
2/16/2022 RIVERSIDE	FAWCETT, SHAYLIE	26905.004	Moring III 257
2/16/2022 THE DALLES	MURPHY, PAUL & ELIZABETH	56946.001	Moring III 257
2/16/2022 THE DALLES	MURPHY, BERYL & ERNEST	56946.002	Moring III 257
2/16/2022 RIVERSIDE	MY LEARNING STUDIO OUTREACH	57027.001	Moring III 257
2/16/2022 RIVERSIDE	JENKINS, RICHARD & LORNA	39623.001	Moring III 257
2/16/2022 BAKERSFIELD	RODRIGUEZ, ANTHONY & GINA	71107.001	Moring III 257
2/16/2022 BAKERSFIELD	RODRIGUEZ, GENESIS	71107.002	Moring III 257
2/16/2022 BAKERSFIELD	HOLLINGSWORTH, GERALD & RACHEL	35553.001	Moring III 257
2/16/2022 BAKERSFIELD	THOMAS, TAYLOR	35553.002	Moring III 257
2/16/2022 DELANO	MENDOZA, RICHARD & REINA	52266.001	Moring III 257
2/16/2022 DELANO	MENDOZA, KAYLE	52266.002	Moring III 257
2/16/2022 DELANO	MENDOZA, KENNETH	52266.003	Moring III 257
2/16/2022 BAKERSFIELD	ZAMORA-FERNANDEZ, ROBERT	52261.004	Moring III 257
2/16/2022 BAKERSFIELD	ZAMORA, ALEXA	52261.002	Moring III 257
2/16/2022 BAKERSFIELD	ZAMORA-FERNANDEZ, AYLIN	52261.003	Moring III 257
2/16/2022 BEAUMONT	MULVIHILL, WALTER JR. & DOROTHEA	56810.002	Moring III 257
2/16/2022 BEAUMONT	MULVIHILL, GREG & DIANA	56811.001	Moring III 257
2/16/2022 SAN LUIS OBISPO	SAN LUIS OBISPO COUNTY INTEGRATED WA	74012.001	Young 012
2/16/2022 BEAUMONT	MULVIHILL FAMILY TRUST	56812.001	Moring III 257
2/16/2022 RIVERSIDE	ALEXANDER, KERMIT & TAMRA	85081.001	Moring III 257
2/16/2022 RIVERSIDE	ALEXANDER, CLIFTON	85081.002	Moring III 257
2/16/2022 ANAHEIM	SOWERS, SHERRY	78239.001	Moring III 257
2/16/2022 GLEN ALLEN	TOMLIN ASSOCIATES, INC.	80983.001	Moring III 257
2/16/2022 ROSAMOND	SALES, CLAUDIA & PABLO	73569.001	Moring III 257
2/16/2022 BANNING	SARTORI, LARRY & JUNE	74062.001	Moring III 257
2/16/2022 BAKERSFIELD	MARTINEZ, ALFREDO & ANN	50957.001	Moring III 257
2/16/2022	DEFUNCT-REUSE	4561.001	No Selection 0
2/16/2022 BAKERSFIELD	CANCIO, ALICE	14561.001	Moring III 257
2/16/2022 BAKERSFIELD	BALDWIN, BRAD & CARLA COOPER	07993.001	Moring III 257

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
2/16/2022 TAFT	HOVSEPIAN, SAM & MEGERDOM, ALINA	36413.001	Moring III 257
2/16/2022 BAKERSFIELD	FRANZ, BRIAN & ANNABELL	28843.001	Moring III 257
2/16/2022 BAKERSFIELD	CHRISTOPHER, CARL	16182.001	Moring III 257
2/16/2022 GLEN ALLEN	MCKEON, TOM & LINDA	51762.001	Moring III 257
2/16/2022 HIGHLAND	MORALES, ROBERT & MARJORIE	54413.001	Moring III 257
2/16/2022 HIGHLAND	A-1 AFFORDABLE BACKFLOW TESTING	54413.002	Moring III 257
2/16/2022 RIVERSIDE	ACTIVE IT SOLUTIONS, INC.	00994.001	Moring III 257
2/16/2022 DIAMOND BAR	ALIAH SWEET FRAGILE HEARTS FOUNDATIO	03386.001	Moring III 257
2/16/2022 RIVERSIDE	GEDEON, VAUGHN & MAUREEN	30029.001	Moring III 257
2/16/2022 PERRIS	GONSALVES, JOHN & TAMARA	32438.001	Moring III 257
2/16/2022 RIVERSIDE	SHAY, DAVID & RUBY TREVINO	74656.001	Moring III 257
2/16/2022 MENIFEE	BENGARD, LINDA	09552.001	Moring III 257
2/16/2022 PHILLIPS RANCH	SWEET, JOSEPH & M. STORME	79314.001	Moring III 257
2/16/2022 BAKERSFIELD	DALE, ROB & VERNA	21716.001	Moring III 257
2/17/2022 BAKERSFIELD	MODELO, STEPHANIE	54204.001	Moring III 257
2/17/2022 RIVERSIDE	EGAN, TERESA	25676.001	Moring III 257
2/17/2022 LONE PINE	MCFARLAND, TERESA	51753.001	Moring III 257
2/17/2022 CORONA	BLACKWOOD, TERRY & LAURA	11308.001	Moring III 257
2/17/2022 BAKERSFIELD	BROWN, TERRY	12998.001	Moring III 257
2/17/2022 RIVERSIDE	ORANGECREST GIRLS SOFTBALL ASSOCIAT	29037.001	Moring III 257
2/17/2022 BAKERSFIELD	VIGO, THOMAS	82837.001	Moring III 257
2/17/2022 BAKERSFIELD	CLAGGETT, TIM & SHAWNA	16194.001	Moring III 257
2/17/2022 WASCO	HIVELY, JOE & CONNIE	35555.001	Zimmerman 079
2/17/2022 BAKERSFIELD	WEST, CELESTE	83193.001	Moring III 257
2/17/2022 BAKERSFIELD	GARZA, CRISTO & LOURDES	11968.001	Moring III 257
2/17/2022 BAKERSFIELD	NJUGUNA, DAVID	57667.001	Moring III 257
2/17/2022 BAKERSFIELD	PRENDEZ, BRIAN & DEBORAH	63604.001	Moring III 257
2/17/2022 RIVERSIDE	GARCIA, ADAM & DONNA	29907.001	Moring III 257
2/17/2022 BAKERSFIELD	DELGADO, ESTEBAN	22351.001	Moring III 257
2/17/2022 BAKERSFIELD	CASTILLO, FRANCISCO MARTINEZ	14964.001	Moring III 257

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
2/17/2022 BAKERSFIELD	DELGADO, HERBERT	22352.001	Moring III 257
2/17/2022 BAKERSFIELD	GARZA, HOMERO & IRMA	11969.001	Moring III 257
2/17/2022 MAKAWAO	ARTHUR, JASON	04752.001	Moring III 257
2/17/2022 BAKERSFIELD	TENTER, JASON & ERIN	79695.001	Moring III 257
2/17/2022 BAKERSFIELD	LUCAS, JENNIFER	49401.001	Moring III 257
2/17/2022 BAKERSFIELD	RIVERA, JERRY	70596.001	Moring III 257
2/17/2022 BAKERSFIELD	ARELLANO, JESSICA	04051.001	Moring III 257
2/17/2022 BAKERSFIELD	DANEL, DOUG & JESSICA	21732.001	Moring III 257
2/17/2022 MAKAWAO	ARTHUR, JOEL & ROBIN	04753.001	Moring III 257
2/17/2022 APPLE VALLEY	MCCLAIN, JOSH	51750.001	Moring III 257
2/17/2022 BAKERSFIELD	HARPOLE, JEFF & KAREN	34548.001	Moring III 257
2/17/2022 BAKERSFIELD	WHITE, KEN & KAREN	83313.001	Moring III 257
2/17/2022 BAKERSFIELD	GEORGE, KARI	30071.001	Moring III 257
2/17/2022 DECATUR	NEWTON, KATHY	57631.001	Moring III 257
2/17/2022 LAKE ELSINORE	REISERT, KATHY	70073.001	Moring III 257
2/17/2022 PALM DESERT	O'NEIL, BRYSON & KEELY	59409.001	Moring III 257
2/17/2022 BAKERSFIELD	LONG, KEITH & CARRIE	48927.001	Moring III 257
2/17/2022 OAKLAND	ALBIN, PATRICK & KELLY	03224.001	Moring III 257
2/17/2022 RIVERSIDE	GERVAIS, RICHARD & LAURA PARKER	30079.001	Moring III 257
2/17/2022 BAKERSFIELD	HUGHES, DAVID & MARY	36681.001	Moring III 257
2/17/2022 SHAFTER	DUNLAP, MICHAEL	24533.001	Moring III 257
2/17/2022 BAKERSFIELD	DUNN, MICHAEL & ROXANNE	24556.001	Moring III 257
2/17/2022 BAKERSFIELD	WEST, NIKHOL	83194.001	Moring III 257
2/17/2022 BAKERSFIELD	CORONA, RICARDO	19504.001	Moring III 257
2/17/2022 BAKERSFIELD	VILLANUEVA, RICARDO & MARIBEL	82885.001	Moring III 257
2/17/2022 APPLE VALLEY	COX, RONALD	19672.001	Moring III 257
2/17/2022 BAKERSFIELD	RAMOS, SANDRA	66901.001	Moring III 257
2/17/2022 RIDGECREST	SODERGREN, SANDRA	77617.001	Moring III 257
2/17/2022 BAKERSFIELD	LEDBETTER, SHANE & GAIA	47443.001	Moring III 257
2/17/2022 ALAMEDA	NORRIS, TYSON & KATHY	57669.001	Moring III 257

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
2/17/2022 BAKERSFIELD	EASTON BUSINESS COMPLEX	25665.001	Moring III 257
2/17/2022 BANNING	DAVIS, LINDELL & LILLIAN	21785.001	Moring III 257
2/17/2022 VISALIA	VISALIA PUBLIC CEMETERY DISTRICT	82924.001	Young 012
2/17/2022 BAKERSFIELD	NEISS, SHAWNA	57381.001	McCarthy 067
2/18/2022 BAKERSFIELD	WDC ENERGY, LLC	83164.001	Paulden 002
2/22/2022 ARLINGTON HEIGHTS	AUGUST JAMES LIMITED	05630.001	Moring III 257
2/22/2022 BAKERSFIELD	HERNANDEZ, ALLAN	35379.001	Moring III 257
2/22/2022 BAKERSFIELD	STONE, LEXUS	35379.002	Moring III 257
2/23/2022 DELANO	DELAY, ALLEN D.	22323.001	Paulden 002
2/24/2022 BOTHHELL	MCKINLEY ESTATE, STAN	57240.002	Baird 018
2/24/2022 NORTHRIDGE	HERITAGE CALIF - SINGLE AUDIT	35367.003	Xin 011
2/24/2022 BAKERSFIELD	BOWENS, BRENDA & EARL	11737.001	McCarthy 067
2/25/2022 SALINAS	MONTEREY COUNTY AB 900 AUDIT	54263.001	Xin 011
2/25/2022 SALINAS	MONTEREY COUNTY SB 81 AUDIT	54263.002	Xin 011
2/25/2022 BAKERSFIELD	AMERICAN ASSOCIATION OF DRILLING ENGI	03429.001	Nielsen 022
2/25/2022 NORTHRIDGE	FAMILY HOSPICE CARE SINGLE AUDIT	26676.002	Xin 011
2/25/2022 BAKERSFIELD	KILLMAN, WILLIAM & MINDI	43560.001	Moring III 257
3/1/2022 BAKERSFIELD	TOBIN, ADDISON	80950.002	Paulden 002
3/1/2022 PORTLAND	CUSTER, ANDREW & BRIDGETT	21003.001	Nielsen 022
3/1/2022 BAKERSFIELD	TOBIN, BRONSON	80950.004	Paulden 002
3/2/2022 BAKERSFIELD	GOODWILL INDUSTRIES (TAX)	32480.002	Zimmerman 079
3/2/2022 BAKERSFIELD	HOFFMANN HOSPICE - 403b PLAN AUDIT	35443.004	Datta 024
3/4/2022 BAKERSFIELD	KERN COUNTY BROADCASTERS ASSOCIATI	42425.001	Baird 018
3/4/2022 BAKERSFIELD	HEGARTY, BARTHOLEMEW & MAGEN	35331.001	Nielsen 022
3/7/2022 BAKERSFIELD	NEW PROGRESSIVE INVESTMENTS, LLC	57615.001	Paulden 002
3/8/2022 DISCOVERY BAY	HANSON, KYLE & JODY	34484.001	Baird 018
3/8/2022 BAKERSFIELD	EDGERLE, CAMERON	25650.001	Baird 018
3/8/2022 BAKERSFIELD	EDGERLE, CHANDLER	25650.002	Baird 018
3/8/2022 GLEN DORA	LAVERNE NURSERY, LLC	47379.001	Paulden 002
3/8/2022 FISHERS	BROWN, TASMINE	12999.001	McCarthy 067

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
3/8/2022 GLENDDORA	WILSON, RICHARD & TERUMI	47379.002	Paulden 002
3/9/2022 BAKERSFIELD	LAKE CANYON TRANSPORT AND GATHERINC	47047.001	Baird 018
3/9/2022 BAKERSFIELD	MAYBERRY, DENIS & CAROL	51289.001	McCarthy 067
3/9/2022 BAKERSFIELD	CONSTRUCTION QUALITY CONSULTANTS IN	51289.002	McCarthy 067
3/9/2022 BAKERSFIELD	ALLIANCE GRAPHICS & PRINTING	11063.001	Ragus-Wines 228
3/9/2022 BAKERSFIELD	KAYZIES COLLECTIONS	42243.001	Ragus-Wines 228
3/9/2022 BAKERSFIELD	RIPPLE ROYALTY COMPANY LLC	36691.002	Nielsen 022
3/9/2022 BAKERSFIELD	VARSITY PRODUCE SALES, INC.	82748.001	Zimmerman 079
3/10/2022 RIDGECREST	LADASSOR, CRAIG	47026.001	Baird 018
3/10/2022 TEHACHAPI	EDWARDS, DONALD & NATALIE	25747.001	Ragus-Wines 228
3/10/2022 BAKERSFIELD	VARSITY PACKING, INC.	82748.002	Zimmerman 079
3/10/2022 BAKERSFIELD	KERN AG PARTNERS INC.	82748.003	Zimmerman 079
3/10/2022 BAKERSFIELD	CENTRO ENTERPRISE INC.	82748.004	Zimmerman 079
3/10/2022 BAKERSFIELD	RHODES, RICHARD & DAWN	82748.005	Zimmerman 079
3/10/2022 BAKERSFIELD	RHODES, BRENT & ELENA	82748.006	Zimmerman 079
3/10/2022 BAKERSFIELD	RHODES, MATTHEW	82748.007	Zimmerman 079
3/14/2022 BAKERSFIELD	NOURISH CONSULTING GROUP, LLC	57702.001	Nielsen 022
3/14/2022 BAKERSFIELD	BRENOEL, ERIN	12048.001	Zimmerman 079
3/14/2022 BAKERSFIELD	GOSSELIN, KEVIN & SUZANNE	32572.001	Baird 018
3/14/2022 COLUMBIA	RAGSDELL, KEITH & PATRICIA	66771.001	Moring III 257
3/14/2022 COLUMBIA	MIDWAY DEVELOPMENT, INC.	66771.002	Moring III 257
3/14/2022 COLUMBIA	RAVEN 6 INC.	66771.003	Moring III 257
3/15/2022 MERRIMACK	STRATTON, JONATHON & JORDAN	77619.001	McCarthy 067
3/15/2022 BAKERSFIELD	WOLVERMED LLC, A NEVADA LLC	85082.001	Nielsen 022
3/15/2022 BAKERSFIELD	DERMATOLOGY SPA MED, INC.	22997.001	Nielsen 022
3/15/2022 BAKERSFIELD	BLUE DEVIL PROPERTIES LLC	11485.001	Nielsen 022
3/15/2022 MERRIMACK	SOLAR POWERED LLC	77619.002	McCarthy 067
3/16/2022 BAKERSFIELD	KILLMAN, JACOB	43560.002	Moring III 257
3/16/2022 ALPHARETTA	TRIANGLE RENOVATIONS LLC	81748.001	Moring III 257
3/16/2022 BAKERSFIELD	SHIELDS, JONATHAN & BUENTELLO, TATIAN/	74712.001	Ragus-Wines 228

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
3/17/2022 FELLOWS	GAYLORD, CY & BLAYZE	29993.001	Moring III 257
3/17/2022 FELLOWS	GAYLORD, CYRIS	29993.002	Moring III 257
3/17/2022 FELLOWS	GAYLORD, KAILEE	29993.003	Moring III 257
3/18/2022 TEHACHAPI	LELAND, KYLE	47493.001	Krausse 005
3/18/2022 BAKERSFIELD	LELAND, RYAN	47494.001	Krausse 005
3/18/2022 LAS VEGAS	DUNBAR, POLLIE	24518.001	Moring III 257
3/18/2022 LAS VEGAS	BALDERRAMA, BENJAMIN	08009.001	Moring III 257
3/18/2022 AMARILLO	CHRISTOPHER, ERIC & VICTORIA	16183.001	Moring III 257
3/18/2022 AMARILLO	CATES, COLBY	16183.002	Moring III 257
3/18/2022 BAKERSFIELD	INNOVATERRA TECHNOLOGY SOLUTIONS LL	37420.001	Moring III 257
3/21/2022 BAKERSFIELD	BLAIR, SKYLER	34517.002	Paulden 002
3/21/2022 FRESNO	ILIZIROV, SERGEY	36846.001	Ragus-Wines 228
3/22/2022 BAKERSFIELD	BLACKBURN TESTAMENTARY TRUST OF VEF	11300.001	McCarthy 067
3/23/2022 BAKERSFIELD	SMITH, MALCOLM	34548.002	Moring III 257
3/24/2022 BAKERSFIELD	KHAN, AMER & HORIYA AMEEN	43902.001	Moring III 257
3/24/2022 BAKERSFIELD	IRWIN, PATRICIA	37785.001	McCarthy 067
3/25/2022	DEFUNCT - REUSE	07938.001	No Selection 0
3/25/2022 BAKERSFIELD	HOPPLE, MERI	36365.001	Roberts 107
3/25/2022 BAKERSFIELD	BAKERSFIELD BAR & BOTTLE, LLC	70592.002	Nielsen 022
3/28/2022 BAKERSFIELD	YUTZLER, DON & ROSE	85828.001	McCarthy 067
3/28/2022	RE-USE	83568.001	No Selection 0
3/28/2022 BAKERSFIELD	YOUNG, ANTHONY	85638.001	McCarthy 067
3/29/2022 SAN FRANCISCO	CHOU, ROBERT & AMBIKA	16169.001	McCarthy 067
3/29/2022 ROCKLIN	GOYAL, VIVEK & NITASHA	32583.001	McCarthy 067
3/29/2022 SAN FRANCISCO	KIM, THOMAS & JOANNE	43588.001	McCarthy 067
3/30/2022 LAKE HAVASU	LAUGHLIN, CHARLES III	47342.001	Nielsen 022
3/30/2022 BAKERSFIELD	RINCON, BRAULIO	70520.001	Ragus-Wines 228
3/30/2022 BAKERSFIELD	RINCON, MILKA LARA	70520.002	Ragus-Wines 228
3/31/2022 RANCHO CUCAMONGA	JALALI, MATTHEW & SAEIDEH	38500.001	McCarthy 067
4/1/2022 FRESNO	ILIZIROV, JONATHAN	36846.002	Ragus-Wines 228
4/1/2022 BAKERSFIELD	LUERA, JOEL & DOLORES	49417.001	Moring III 257

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
4/1/2022 BAKERSFIELD	LUERA, KRISTINA	49417.002	Moring III 257
4/1/2022 BAKERSFIELD	LUERA, PETER	49417.003	Moring III 257
4/4/2022 BAKERSFIELD	DE LA GARZA TRUCKING COMPANY	22286.001	McCarthy 067
4/4/2022 BAKERSFIELD	DE LA GARZA, MIGUEL & ELIZABETH	22286.002	McCarthy 067
4/4/2022 BAKERSFIELD	DE LA GARZA, MARIA	22286.003	McCarthy 067
4/4/2022 BAKERSFIELD	DE LA GARZA, JOSE	22286.004	McCarthy 067
4/5/2022 SANTA BARBARA	GARCIA, SALVADOR M.	29882.001	Krausse 005
4/5/2022 BAKERSFIELD	SMITH, VERNA	83313.002	Moring III 257
4/5/2022 BAKERSFIELD	SKRACIC, ANTHONY	78057.001	Paulden 002
4/5/2022 BAKERSFIELD	O'CONNELL, PATRICK M.D.	58295.001	McCarthy 067
4/6/2022 BAKERSFIELD	MALDONADO, MANUEL & ADRIANA	50852.001	Baird 018
4/7/2022 BAKERSFIELD	HESS, LILLY	36681.002	Moring III 257
4/8/2022 HANFORD	VALLEY VOICES	82700.001	McCarthy 067
4/11/2022 BAKERSFIELD	BOWCLOR CREATIONS LLC	11873.001	McCarthy 067
4/13/2022 BAKERSFIELD	HOUGHTON ROAD, LLC	24580.003	McCarthy 067
4/13/2022 BAKERSFIELD	GUTIERREZ, EDDIE & DORA	34224.001	Baird 018
4/13/2022 PIRU	AZUSA HOLDINGS, LLC	47379.003	Paulden 002
4/13/2022 PIRU	AGRA WORLD PROPERTIES	47379.004	Paulden 002
4/15/2022 BAKERSFIELD	UPTAMIN LLC	82486.001	Baird 018
4/15/2022 HESPERIA	AMERS, JACOB & ASHLEY	03433.001	Moring III 257
4/18/2022 MERCED	CARDOZA, CHRISTINA	14794.001	Moring III 257
4/26/2022 BAKERSFIELD	JOHNSON, MARIE & JASON	39822.001	Nielsen 022
4/26/2022 FAIRFIELD	BANSAL, RAGHUNATH & INDU GOYAL	08022.001	McCarthy 067
4/26/2022 POMONA	CAUSEY-BOYKIN, CONSTANCE	71100.001	Moring III 257
5/2/2022 TACOMA	BACKYARD ADU LLC	07901.001	Moring III 257
5/5/2022 FAIRFIELD	BANSAL PSYCHIATRIC INC.	08022.002	McCarthy 067
5/6/2022 BAKERSFIELD	R&D RHODES FAMILY LIMITED PARTNERSHII	82748.008	Zimmerman 079
5/9/2022 BAKERSFIELD	CDZ BASEBALL	13962.001	Paulden 002
5/9/2022 RIVERSIDE	INLAND EMPIRE UNITED WAY - AUDIT	82571.003	Xin 011
5/9/2022 RIVERSIDE	INLAND EMPIRE UNITED WAY - TAX	82571.004	McCarthy 067

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date Client City	Client Sort Name	Client Num.Eng	Primary Partner
5/9/2022 RIVERSIDE	INLAND SOUTHERN CALIFORNIA 211+ - TAX	82571.005	McCarthy 067
5/9/2022 RIVERSIDE	INLAND SOUTHERN CALIFORNIA UNITED WA	82571.006	McCarthy 067
5/11/2022 EL CENTRO	IMPERIAL COUNTY FILM COMMISSION	36855.001	Nielsen 022
5/17/2022 SANTA BARBARA	FOSTER, SEAN & DEBORAH	28329.001	Moring III 257
6/2/2022 RIVERSIDE	MULLINS, RUBY J RVOC TR	57044.004	Moring III 257
6/7/2022 SACRAMENTO	DUTRA FAMILY, LLC, DIANE	24571.001	Paulden 002
6/9/2022 FRESNO	CALIFORNIA SURGICAL MEDICAL CLINICS IN	14570.001	Ragus-Wines 228
6/10/2022 FRESNO	BACHIR, SIMON & MOLLY	07906.001	Ragus-Wines 228
6/15/2022 BAKERSFIELD	SANCHEZ, NATALIE	74019.001	Moring III 257
6/20/2022 BAKERSFIELD	KERN COUNTY HUMAN SERVICES DEPT.	42470.012	Xin 011
6/20/2022 BAKERSFIELD	KCSOS PROJECTS	42470.010	Xin 011
6/22/2022 ROSEVILLE	HANS, HARLIV	34477.001	McCarthy 067
6/24/2022 BAKERSFIELD	WRENCH IT AUTO REPAIR	85422.001	McCarthy 067
6/27/2022 BODFISH	MARSHMAN, STEVEN	50932.001	Baird 018
6/29/2022 LANCASTER	ANTELOPE VALLEY FAIR ASSOCIATION (TAX)	03549.007	Young 012
7/8/2022 SAN JOSE	SANTA CLARA COUNTY BSCC SB-81	74052.001	Young 012
7/18/2022 NEWPORT BEACH	LIMELIGHT MANAGEMENT CONSULTING LLC	47900.001	Paulden 002
7/22/2022 VENTURA	SMITH, STUART & KIMBERLY	78183.001	Roberts 107
7/22/2022 CAMARILLO	K & E THERAPY, INC.	40175.001	Roberts 107
7/26/2022 VISALIA	TULARE COUNTY REGIONAL TRANSIT AGENI	82136.012	Young 012
8/2/2022 BAKERSFIELD	BEALES, RONALD	09088.001	McCarthy 067
8/3/2022 BAKERSFIELD	KETTLEMAN LAND, LLC	43340.001	Baird 018
8/4/2022 BAKERSFIELD	MENDONCA, JOEY & SHARI	52272.001	McCarthy 067
8/4/2022 LADERA RANCH	SUNSET APARTMENTS	79230.003	Young 012
8/11/2022 BAKERSFIELD	ST. FRANCIS SCHOOL FOUNDATION, INC.	78365.001	McCarthy 067
8/11/2022 SACRAMENTO	CALIFORNIA ASSO. OF PUBLIC AUTHORITIES	14440.001	Green 040
8/17/2022 SHAFTER	PARK PLACE SPECIAL EVENTS FOUNDATION	61558.001	Baird 018
8/18/2022 SANTA ROSA	TREE HUGGER CONTAINERS, LLC	81608.001	Moring III 257
8/22/2022 BAKERSFIELD	FAHIL, RAZAN	26683.001	McCarthy 067
8/23/2022 RIDGECREST	DESERT TORTOISE PRESERVE (TAX)	23255.002	Baird 029

Brown Armstrong Accountancy Corporation
Client List
Active Date From 4/1/2021 To 9/30/2022

Active Date	Client Sort Name	Client Num.Eng	Primary Partner
8/23/2022 BAKERSFIELD	KERN COUNTY HISPANIC COMMISSION (TAX	42431.002	Nielsen 022
8/23/2022 VISALIA	PROTEUS, INC. (TAX)	63670.002	Baird 029
8/30/2022 SAN FRANCISCO	DONALDSON, BARBARA	24150.001	Baird 018
8/30/2022 FALLBROOK	KBL FRANCHISE CONSULTANTS, LLC	42261.001	Paulden 002
9/1/2022 PHELAN	TECHNOLOGY IN PRACTICE	79631.001	Baird 018
9/1/2022 RIVERSIDE	GARCIA, ALYSSA	29907.002	Moring III 257
9/1/2022 PHELAN	FURLONG, IAN	29024.001	Baird 018
9/16/2022 BAKERSFIELD	NOLASCO, JONATHAN	57668.001	Moring III 257
9/23/2022 WOODCLIFF LAKE	SENTINEL CONSULTING, LLC	74470.001	Moring III 257

GrandTotal:

Report Parameters

REPORT NAME: New Client List
 FIRM NAME: Brown Armstrong Accountancy Corporation

Brown Armstrong Accountancy Corporation
InActive Client List
InActive Date From 4/1/2021 To 9/30/2022

InActive Date	Client Sort Name	Client Name	Client Num.Eng	Primary Partner
6/1/2022	5 TKACS, LLC	5 TKACS, LLC	80482.001	Paulden 002
5/6/2021	ABNEY, JULIET	JULIET ABNEY	00274.001	Paulden 002
5/6/2021	ADDISON NATURAL RESOURCES, LLC	ADDISON NATURAL RESOURCE	01088.001	Baird 018
5/6/2021	ADDISON OIL AND GAS, LLC	ADDISON OIL AND GAS, LLC	01089.001	Baird 018
5/6/2021	AGLAEAUSA, INC.	AGLAEAUSA, INC.	02345.001	Baird 018
6/1/2022	ALEXANDER, JERRY	JERRY ALEXANDER	03367.001	Paulden 002
8/22/2022	ALLIANCE AGAINST FAMILY VIOLENCE (TAX)	ALLIANCE AGAINST FAMILY VIC	11065.004	Young 012
3/15/2022	ALLTORC SERVICES, LLC	ALLTORC SERVICES, LLC	03412.001	Baird 018
8/9/2022	ALTAMIRA LABOR SERVICE, INC.	ALTAMIRA LABOR SERVICE, INC	03421.001	Flores 015
2/10/2022	ALZHEIMER'S DISEASE ASSOCIATION OF KEI	ALZHEIMER'S DISEASE ASSOCI	03420.001	Nielsen 022
4/11/2022	AMEND, THOMAS & ANNEMARIE	THOMAS & ANNEMARIE AMEND	03426.001	Baird 018
5/6/2021	AMERICAN IRRIGATION, LLC	AMERICAN IRRIGATION, LLC	03427.001	Paulden 002
5/12/2021	AMW PROPERTIES, LLC	AMW PROPERTIES, LLC	03418.001	Baird 018
4/11/2022	ANGELINI, CARLOS EXE	CARLOS A. ANGELINI EXEMPTI	03496.001	Baird 018
3/17/2022	ANGELINI, CARLOS JR.	CARLOS A., JR. & KATHLEEN M.	03497.001	Baird 018
4/11/2022	ANGELINI, VIRGINIA	VIRGINIA ANGELINI	03495.001	Baird 018
6/1/2022	ANGULO, FERNANDO & VALERIE	FERNANDO & VALERIE ANGULC	03546.001	Paulden 002
5/6/2021	ARB LAND COMPANY, LP	ARB LAND COMPANY, LP	03890.001	McCarthy 067
4/13/2022	ARCHER OPERATIONS CALIFORNIA, LLC	ARCHER OPERATIONS CALIFOF	03912.001	Baird 018
5/6/2021	ARMSTRONG, MOLLY	MOLLY ARMSTRONG	04740.004	Baird 018
5/12/2021	AVILA, JOSE & THERESA	JOSE & THERESA AVILA	05671.001	Ragus-Wines 228
9/16/2022	BACKYARD ADU LLC	BACKYARD ADU LLC	07901.001	Moring III 257
6/1/2022	BAKERSFIELD RENEWABLE FUELS, LLC	BAKERSFIELD RENEWABLE FUI	07937.001	Nielsen 022
3/31/2022	BARKER, JUDY	JUDY BARKER	08032.001	Baird 018
5/6/2021	BELADAGIO, INC.	BELADAGIO, INC.	00996.001	McCarthy 067
3/22/2022	BENDER, RANDY M. & ALICIA	RANDY M. & ALICIA BENDER	09546.001	Paulden 002
6/1/2022	BERRY ESTATE, JUSTIN KNUTE	JUSTIN KNUTE BERRY ESTATE	11461.001	McCarthy 067
5/6/2021	BILDERBECK, NIGLE R.	NIGLE R. & MICKI R. BILDERBEC	11100.001	Baird 018
6/1/2022	BKRF HCP, LLC	BKRF HCP, LLC	11255.001	Nielsen 022
6/1/2022	BKRF OCB, LLC	BKRF OCB, LLC	11260.001	Nielsen 022
6/1/2022	BKRF OCP, LLC	BKRF OCP, LLC	11265.001	Nielsen 022
5/14/2021	BOGARD, JASON & DANIELL	JASON & DANIELL BOGARD	11540.001	Nielsen 022
5/6/2021	BOWLAND, DON & HEATHER	DON & HEATHER BOWLAND	11868.001	Baird 018
5/6/2021	BOWMAN, RICHARD & MA	RICHARD & MARTHA BOWMAN	11865.001	McCarthy 067
4/4/2022	BRANT, SCOTT H. & TA	SCOTT H. & TAMARA A. BRANT	12005.001	Baird 018
3/15/2022	BRIDGEMARK CORPORATION (AUDIT)	BRIDGEMARK CORPORATION (12057.001	Nielsen 022
6/1/2022	BROWN, MICHAEL	MICHAEL BROWN	12993.003	Baird 018
5/6/2021	BV CUB, INC.	BV CUB, INC.	13805.001	Nielsen 022
6/1/2022	CADY, BRUCE D. & PAULA A.	BRUCE D. & PAULA A. CADY	14018.001	Paulden 002
7/12/2022	CALIFORNIA DEPARTMENT OF TECHNOLOG	CALIFORNIA DEPARTMENT OF	14467.001	Xin 011
6/1/2022	CAPITAL ISLAND PROPERTIES, LLC	CAPITAL ISLAND PROPERTIES,	17494.001	McCarthy 067
7/12/2022	CARPINTERIA VALLEY WATER DISTRICT	CARPINTERIA VALLEY WATER I	14795.001	Nielsen 022
5/6/2021	CARRENO, REYNA	REYNA CARRENO	14840.001	Paulden 002
4/27/2021	CASPER, JACQUELYN	JACQUELYN CASPER	15988.002	McCarthy 067
5/6/2021	CCE BLT I, LLC	CCE BLT I, LLC	14335.008	McCarthy 067
5/6/2021	CCE BLT II, LLC	CCE BLT II, LLC	14335.007	McCarthy 067
5/6/2021	CCE BLT III, LLC	CCE BLT III, LLC	14335.006	McCarthy 067
12/7/2021	CITY HEALTH, A MEDICAL CORPORATION	CITY HEALTH, A MEDICAL CORP	16192.001	Baird 018
2/10/2022	COLBY, GUY & SHERRIL	GUY & SHERRIL COLBY	16998.001	Baird 018
5/12/2021	COLD SMOKE APPAREL, LLC	COLD SMOKE APPAREL, LLC	16986.001	Baird 018
2/10/2022	COMMUNITY ACTION PARTNERSHIP	COMMUNITY ACTION PARTNER	17649.001	Paulden 002
1/6/2022	COMMUNITY ACTION PTNR - AUP TRAVEL	COMMUNITY ACTION PARTNER	17649.007	Paulden 002
1/6/2022	COMMUNITY ACTION PTNR - M.P	COMMUNITY ACTION PARTNER	17649.003	Paulden 002
1/6/2022	COMMUNITY ACTION PTNR - PROGRAM	COMM. ACTION PARTNERSHIP	17649.005	Paulden 002
1/6/2022	COMMUNITY ACTION PTNR - S.A	COMMUNITY ACTION PARTNER	17649.002	Paulden 002
1/6/2022	COMMUNITY ACTION PTNR - STATE C	COMM. ACTION PARTNERSHIP	17649.004	Paulden 002
1/6/2022	COMMUNITY ACTION PTNR (TAX)	COMMUNITY ACTION PARTNER	17649.006	Paulden 002
6/1/2022	CONWAY, PHYLLIS	PHYLLIS CONWAY	18703.001	Paulden 002
5/6/2021	COPPER AND IRON ENTERPRISES, LLC	COPPER AND IRON ENTERPRIS	19240.001	Paulden 002
3/29/2022	COX, RONALD	RONALD COX	19672.001	Moring III 257

Brown Armstrong Accountancy Corporation
InActive Client List
InActive Date From 4/1/2021 To 9/30/2022

InActive Date	Client Sort Name	Client Name	Client Num.Eng	Primary Partner
3/25/2022	DEFUNCT - REUSE	DEFUNCT - REUSE	07938.001	No Selection 0
5/6/2021	DEIFEL, WAYNE A.	WAYNE A. DEIFEL	22149.001	Paulden 002
4/27/2021	DELANO, NICHOLAS	NICHOLAS DELANO	22157.001	Baird 018
3/29/2022	DELGADO, ESTEBAN	ESTEBAN DELGADO	22351.001	Moring III 257
3/29/2022	DELGADO, HERBERT	HERBERT DELGADO	22352.001	Moring III 257
5/7/2021	DICKENS, BROOKE	BROOKE DICKENS	23475.003	Paulden 002
3/18/2022	DO NOT USE LELAND, KYLE	DO NOT USE KYLE LELAND	47490.002	Krausse 005
3/18/2022	DO NOT USE LELAND, RYAN	DO NOT USE RYAN LELAND	47490.003	Krausse 005
3/23/2022	DUNHAM, PIERRE & MICHELLE	PIERRE & MICHELLE DUNHAM	24520.001	Nielsen 022
7/12/2022	EASTERN KERN AIR POLLUTION CONTROL D	EASTERN KERN AIR POLLUTIO	25517.001	Young 012
6/1/2022	EL PUEBLO MARKET	EL PUEBLO MARKET	25728.001	Flores 015
2/10/2022	EYLER, JONATHAN	JONATHAN EYLER	26083.001	Baird 018
8/22/2022	FAMILY F.O.C.U.S. CORPORATION	FAMILY F.O.C.U.S. CORPORATI	26680.001	Young 012
8/22/2022	FAMILY F.O.C.U.S. CORPORATION (TAX)	FAMILY F.O.C.U.S. CORPORATI	26680.002	Young 012
4/6/2022	FAWCETT, BRAYDEN	BRAYDEN FAWCETT	26905.002	Moring III 257
4/6/2022	FAWCETT, JEFFREY & RACHELLE	JEFFREY & RACHELLE FAWCET	26905.001	Moring III 257
4/6/2022	FAWCETT, MAKENNA	MAKENNA FAWCETT	26905.003	Moring III 257
4/6/2022	FAWCETT, SHAYLIE	SHAYLIE FAWCETT	26905.004	Moring III 257
5/6/2021	FELDMAN, STACY	STACY FELDMAN	26926.001	Paulden 002
5/14/2021	FERGON, BRADLEY & ELIZABETH	BRADLEY & ELIZABETH FERGO	26935.001	Paulden 002
2/10/2022	FERGUSON, EARL W. &	EARL W. FERGUSON & SUN H. F	26945.001	Baird 018
5/6/2021	FIDDLER, CLAUDE ADMI	CLAUDE FIDDLER ADMINISTRAT	27014.001	Krausse 005
6/1/2022	FIDDLER, KATHERINE	KATHERINE FIDDLER	27020.002	Krausse 005
6/1/2022	FIDDLER, KIMBERLY	KIMBERLY FIDDLER	27020.003	Krausse 005
1/24/2022	FIRST 5 SONOMA COUNTY COMMISSION	FIRST 5 SONOMA COUNTY COM	16160.001	Flores 015
6/1/2022	FOWLER, JOHN & ROXANNE	JOHN & ROXANNE FOWLER	28532.001	McCarthy 067
5/31/2021	FREIBEL, MICHELLE	MICHELLE FREIBEL	29021.001	Nielsen 022
12/26/2021	FRESNO C.E.R.A. GASB 67/68	FRESNO C.E.R.A. GASB 67/68	29030.002	Flores 015
6/10/2022	FRESNO CSA NO. 18, COUNTY OF	COUNTY OF FRESNO CSA NO. 1	29031.007	Xin 011
6/10/2022	FRESNO CSA NO. 51, COUNTY OF	COUNTY OF FRESNO CSA NO. 5	29031.022	Xin 011
6/10/2022	FRESNO WATERWORKS DISTRICT NO. 18, CO	COUNTY OF FRESNO - WATERW	29031.032	Xin 011
5/6/2021	FUZION HOME SERVICES, INC.	FUZION HOME SERVICES, INC.	29653.001	McCarthy 067
8/31/2022	GATCHELL DRILLING, LLC	GATCHELL DRILLING, LLC	29991.001	Baird 018
6/1/2022	GCE HOLDINGS ACQUISITIONS, LLC	GCE HOLDINGS ACQUISITIONS	30020.001	Nielsen 022
6/1/2022	GCE OPERATING COMPANY, LLC	GCE OPERATING COMPANY, LL	30025.001	Nielsen 022
6/1/2022	GIL, JIMMY & KIMBERLY	JIMMY & KIMBERLY GIL	30745.001	McCarthy 067
12/7/2021	GOLDEN GATE DERMATOLOGY	GOLDEN GATE DERMATOLOGY	32373.001	Baird 018
5/6/2021	GRUNDT, MICHAEL	MICHAEL GRUNDT	33510.001	Paulden 002
4/11/2022	HARRINGTON, TRACI	TRACI HARRINGTON	34560.001	Baird 018
7/12/2022	HATHAWAY LLC	HATHAWAY LLC	034590.001	Nielsen 022
1/25/2022	HATTEN, INC., JOHN	JOHN HATTEN, INC.	34595.001	Paulden 002
12/7/2021	HAVEN MD	HAVEN MD	34625.001	Baird 018
4/27/2021	HEISE MEDIA GROUP	HEISE MEDIA GROUP	35337.001	Baird 018
8/22/2022	HERNANDEZ FARM LABOR, LLC	MARIA HERNANDEZ FARM LABO	35376.002	Flores 015
8/22/2022	HERNANDEZ LABOR CONTRACTING, MARIA	MARIA HERNANDEZ LABOR COI	35376.001	Flores 015
5/6/2021	HICKS, LEWIS	LEWIS HICKS	35442.001	Baird 018
12/26/2021	HOENSHHELL, BERTHA M.	BERTHA M. HOENSHHELL ESTAT	35535.001	McCarthy 067
7/12/2022	INTERNATIONAL TEST SOLUTIONS, INC.	INTERNATIONAL TEST SOLUTIC	37666.001	Nielsen 022
1/25/2022	IRVINE COMMONS SURGICAL MANAGEMENT	IRVINE COMMONS SURGICAL M	37781.001	Paulden 002
5/14/2021	JETER, JASON M.	JASON M. JETER	39644.001	Nielsen 022
4/11/2022	JKC HOLDINGS	JKC HOLDINGS	16139.003	Baird 018
3/21/2022	JOHNS, BILLY	BILLY JOHNS	39860.001	Baird 018
5/6/2021	JOHNS, EDNA	EDNA JOHNS	39680.001	Paulden 002
5/6/2021	JOHNSON IRREVOCABLE	JOHNSON IRREVOCABLE LIFE I	39801.001	Krausse 005
6/1/2022	JOHNSTON, DOUGLAS	DOUGLAS JOHNSTON	39681.002	Baird 018
6/1/2022	JONES FAMILY TRUST	JONES FAMILY TRUST	39829.001	McCarthy 067
4/12/2022	JONES, RICHARD & JUDITH	RICHARD & JUDITH JONES	40006.001	Baird 018
5/6/2021	KERN COMPUTER CORPOR	KERN COMPUTER CORPORATI	42835.001	McCarthy 067
3/15/2022	KERN ENDOCRINE CENTER	KERN ENDOCRINE CENTER	24436.001	Baird 018
6/2/2022	KERN INTERNATIONAL INVESTMENTS, LLC	KERN INTERNATIONAL INVESTI	42894.001	Baird 018

Brown Armstrong Accountancy Corporation
InActive Client List
InActive Date From 4/1/2021 To 9/30/2022

InActive Date	Client Sort Name	Client Name	Client Num.Eng	Primary Partner
4/11/2022	KJC HOLDINGS	KJC HOLDINGS	16139.002	Baird 018
1/31/2022	LA ROCHE, LORNA	LORNA LA ROCHE	47039.001	McCarthy 067
5/6/2021	LAS CIENEGAS, LLC	LAS CIENEGAS, LLC	12057.003	Baird 018
5/12/2021	LATTICE ENERGY PARTNERS, LLC	LATTICE ENERGY PARTNERS, I	47389.001	Baird 018
6/1/2022	LIDGETT, RABAE	RABAE LIDGETT	47861.001	Paulden 002
3/22/2022	LOEHER, LLC, R. A.	R. A. LOEHER, LLC	48812.001	Paulden 002
12/26/2021	LONG BEACH, CITY OF	CITY OF LONG BEACH	48925.001	Flores 015
4/6/2022	LONG, KEITH & CARRIE	KEITH & CARRIE LONG	48927.001	Moring III 257
3/21/2022	LOPEZ, LAURA	LAURA LOPEZ	48937.001	Baird 018
7/5/2022	LOPEZ, PAUL & NATASHA	PAUL & NATASHA LOPEZ	48942.001	Baird 018
12/26/2021	LOS ANGELES C.E.R.A. - GASB 67/68	LOS ANGELES C.E.R.A. - GASB	48965.002	Paulden 002
12/26/2021	LOS ANGELES C.E.R.A. - GL 2.0 AUP	LOS ANGELES C.E.R.A. - GL 2.0	48965.004	Paulden 002
12/26/2021	LOS ANGELES C.E.R.A. - OPEB	LOS ANGELES C.E.R.A. - OPEB	48965.003	Paulden 002
12/26/2021	LOS ANGELES COUNTY E	LOS ANGELES COUNTY EMPLO	48965.001	Paulden 002
9/9/2022	LOVE, BARBARA	BARBARA LOVE	48013.001	Baird 018
4/6/2022	LUCAS, JENNIFER	JENNIFER LUCAS	49401.001	Moring III 257
5/6/2021	LUNA, TITO R.	TITO R. & STACEY LUNA	49435.001	Baird 018
5/6/2021	MACDUFF, ELLIOTT	ELLIOTT MACDUFF	50290.002	Baird 018
5/6/2021	MACDUFF, IAN	IAN MACDUFF	50290.003	Baird 018
5/6/2021	MACK PACKAGING, INC.	MACK PACKAGING, INC.	50393.001	McCarthy 067
9/15/2022	MADDEN, DANIEL & JODY	DANIEL & JODY MADDEN	50430.001	Nielsen 022
4/11/2022	MARKS, PAUL M.	PAUL M. MARKS	50916.001	Baird 018
5/6/2021	MARRIAGE AND FAMILY COUNSELING, INC.	MARRIAGE AND FAMILY COUNS	50918.001	McCarthy 067
5/6/2021	MCCORMICK, ALANA	ALANA MCCORMICK	51723.001	Paulden 002
5/6/2021	MCHALE FAMILY TRUST	MCHALE FAMILY TRUST	39681.003	Baird 018
4/6/2022	MENDOZA, KAYLE	KAYLE MENDOZA	52266.002	Moring III 257
4/6/2022	MENDOZA, KENNETH	KENNETH MENDOZA	52266.003	Moring III 257
4/6/2022	MENDOZA, RICHARD & REINA	RICHARD & REINA MENDOZA	52266.001	Moring III 257
5/6/2021	MILTON M. YOUNGER, INC.	MILTON M. YOUNGER, INC.	85751.001	McCarthy 067
4/4/2022	MOSES, WILLIAM TRUST DATED 09/18/2012	WILLIAM MOSES TRUST DATED	55559.002	Baird 018
12/26/2021	NAFTEX DEVELOPMENT, LLC	NAFTEX DEVELOPMENT, LLC	57190.001	Nielsen 022
12/26/2021	NAFTEX SECTION 27 PARTNERS, LLC	NAFTEX SECTION 27 PARTNER	57190.002	Nielsen 022
5/12/2021	NAJJAR, EMAD	EMAD NAJJAR	57223.001	Baird 018
3/29/2022	NEWTON, KATHY	KATHY NEWTON	57631.001	Moring III 257
5/6/2021	NIJJAR, MAHAN	MAHAN NIJJAR	57648.001	Baird 018
6/1/2022	NIKZAD, MIKE	MIKE NIKZAD	57649.001	McCarthy 067
5/6/2021	ODELL, DANIEL & AMY	DANIEL & AMY ODELL	58300.001	Nielsen 022
12/7/2021	PARKIN, SEAN & MARGARITA	SEAN & MARGARITA PARKIN	61627.001	Baird 018
5/6/2021	PEAK OIL VENTURES II	PEAK OIL VENTURES II	61673.001	Nielsen 022
5/6/2021	PEAK OPERATOR II, LLC	PEAK OPERATOR II, LLC	61671.001	Nielsen 022
5/6/2021	PEAK OPERATOR LLC	PEAK OPERATOR LLC	61670.001	Nielsen 022
2/18/2022	PHILLIPS CONCRETE	PHILLIPS CONCRETE	61901.001	Baird 018
3/15/2022	PHYGY, LLC	PHYGY, LLC	62020.001	Baird 018
4/26/2022	PLUNKETT, J. CRAIG	FATHER J. CRAIG PLUNKETT	63090.001	Baird 018
4/12/2022	POON, DALE L. & PAME	DALE L. & PAMELA J. POON	63289.001	Paulden 002
5/6/2021	PREM NIVAS LLC	PREM NIVAS LLC	63588.001	McCarthy 067
3/31/2022	PRESTRIDGE, PATRICK	PATRICK L. PRESTRIDGE	63593.003	Baird 018
5/6/2021	R & A GARNER LLC	R & A GARNER LLC	29904.001	Paulden 002
3/15/2022	RANCHO EQUITY PARTNERS-2 L.P.	RANCHO EQUITY PARTNERS-2	67405.001	Baird 018
2/18/2022	RANCHO EQUITY PTR, INC.	RANCHO EQUITY PARTNERS, IN	67400.001	Baird 018
6/1/2022	RANEY, ESTATE OF RUTH PAULDEN	ESTATE OF RUTH PAULDEN RA	67901.001	Paulden 002
5/6/2021	RAPER, TYLER	TYLER RAPER	67994.001	Baird 018
3/28/2022	RE-USE	RE-USE	83568.001	No Selection 0
9/12/2022	RICHGROVE ELEMENTARY (2013)	RICHGROVE ELEMENTARY SCH	70340.002	Flores 015
8/9/2022	RICHLAND SCHOOL DISTRICT PROPOSITION	RICHLAND SCHOOL DISTRICT F	70341.001	Flores 015
2/10/2022	RIO BRAVO PTC ASSOCIATION	RIO BRAVO PTC ASSOCIATION	70519.001	McCarthy 067
12/26/2021	RIVER CANYON PARTNERS, LLC	RIVER CANYON PARTNERS, LL	57190.003	Nielsen 022
2/10/2022	RIZO, STEVE & TERESA	STEVE & TERESA L. RIZO	70651.001	Baird 018
2/22/2022	ROBINSON, STEVI	STEVI ROBINSON	70987.001	Roberts 107
4/26/2022	RUSH, JANIS	JANIS RUSH	71101.001	Baird 018

Brown Armstrong Accountancy Corporation
InActive Client List
InActive Date From 4/1/2021 To 9/30/2022

InActive Date	Client Sort Name	Client Name	Client Num.Eng	Primary Partner
5/6/2021	RUSTAGI, THE JAGDISH S. & KAMLA 1995 RE	THE JAGDISH S. & KAMLA RUST	72750.001	McCarthy 067
4/14/2022	SACCHINI, ANDREW	ANDREW SACCHINI	73525.002	Baird 018
7/12/2022	SANTA BARBARA METROPOLITAN TRANSIT	SANTA BARBARA METROPOLIT	74040.001	Nielsen 022
5/6/2021	SAQUELLA, SAMANTHA & MORGAN	SAMANTHA & MORGAN SAQUEI	74061.001	Paulden 002
3/31/2022	SEATON, JOANN	JOANN SEATON	74432.001	Baird 018
2/10/2022	SHIELDS, SAM J. & MA	SAM J. & MARIETTA SHIELDS	74710.001	Baird 018
3/21/2022	SHORT-LOPEZ, JULIE	JULIE SHORT-LOPEZ	48937.002	Baird 018
4/27/2021	SINGH, AMAN & RAJVINDER KAUR	AMAN & RAJVINDER KAUR SINC	77669.001	Baird 018
5/6/2021	SINGH, GAGAN & MONA	DR. GAGAN & MONA SINGH	77670.001	Baird 018
3/21/2022	SINGH, GAGAN DEEP, PC	GAGAN DEEP SINGH, PC	77671.001	Baird 018
3/17/2022	SINGH, SARABJEET & JASLEEN DUGGAL	SARABJEET SINGH & JASLEEN	77664.0	Baird 018
3/17/2022	SINGH, SARABJEET, M.D., A PROFESSIONAL	SARABJEET SINGH, M.D., A PRC	77663.001	Baird 018
5/6/2021	SMALL, ANTHONY	ANTHONY SMALL	78124.002	Baird 018
4/27/2021	SMALL, DAVID & TERI	DAVID & TERI SMALL	78124.001	Baird 018
6/1/2022	SMITH, REBEKAH E.	REBEKAH E. SMITH	78188.002	Paulden 002
3/31/2022	SMOKE SHOW BBQ, LLC	SMOKE SHOW BBQ, LLC	78207.001	Baird 018
5/6/2021	SOUTH VALLEY SOLUTIONS, LLC	SOUTH VALLEY SOLUTIONS, LL	78233.001	Nielsen 022
5/6/2021	SPECTER BUSINESS GROUP, LLC	SPECTER BUSINESS GROUP, LI	78292.001	Roberts 107
6/1/2022	STEWART, ERIC L. & P	ERIC L. & PAMELA M. STEWART	78678.001	McCarthy 067
3/14/2022	TAYLOR, JAMES & SARA	JAMES & SARAH TAYLOR	79660.001	Baird 018
5/6/2021	TELESPEECH THERAPY, INC.	TELESPEECH THERAPY, INC.	79677.001	Paulden 002
8/31/2022	TEMBLOR GATCHELL, LLC	TEMBLOR GATCHELL, LLC	79892.001	Baird 018
8/31/2022	TEMBLOR LOS ALAMOS, LLC	TEMBLOR LOS ALAMOS, LLC	79891.001	Baird 018
8/31/2022	TEMBLOR PETROLEUM COMPANY, LLC	TEMBLOR PETROLEUM COMPA	79672.001	Baird 018
5/6/2021	THE LICENSED TRADE CHARITY	THE LICENSED TRADE CHARIT	47860.001	McCarthy 067
9/25/2022	THE MADDEN HOUSE, INC.	THE MADDEN HOUSE, INC.	50430.002	Nielsen 022
6/1/2022	TKAC JON & WENDY	JON & WENDY TKAC	80498.001	Paulden 002
6/1/2022	TKAC HOLDING CORP.	TKAC HOLDING CORP.	80481.001	Paulden 002
6/1/2022	TKAC TRUST, GABRIELLE NICOLE	GABRIELLE NICOLE TKAC TRUS	80498.004	Paulden 002
6/1/2022	TKAC TRUST, WESTON BERNARD	WESTON BERNARD TKAC TRUS	80498.005	Paulden 002
6/1/2022	TKAC, WESTON	WESTON TKAC	80498.003	Paulden 002
1/30/2022	TOBIAS, JOSHUA L., M.D., INC.	JOSHUA L. TOBIAS, M.D., INC.	80931.001	Paulden 002
2/10/2022	TREVERY TRADING, LLC	TREVERY TRADING, LLC	81208.001	Baird 018
9/16/2022	TRIANGLE RENOVATIONS LLC	TRIANGLE RENOVATIONS LLC	81748.001	Moring III 257
8/9/2022	TRUITT OILFIELD MAIN 401K AUDIT	TRUITT OILFIELD MAINTENANC	81785.002	Flores 015
5/6/2021	TRUXTUN TOWER ASSOCI	TRUXTUN TOWER ASSOCIATES	82010.001	McCarthy 067
3/15/2022	TUDOR, DOROTHY P.	DOROTHY P. TUDOR	82125.001	Baird 018
3/15/2022	TUDOR, REX FAMILY TR	REX TUDOR FAMILY TRUST	82126.001	Baird 018
8/22/2022	VALLEY STRONG CREDIT UNION 401K	VALLEY STRONG CREDIT UNIO	42900.002	Flores 015
5/4/2021	VALLEY STRONG CREDIT UNION DB PLN	VALLEY STRONG CREDIT UNIO	42900.001	Flores 015
6/1/2022	VAN HORN, MADISON	MADISON VAN HORN	85752.001	Baird 018
8/24/2022	VAN HORN, MATHEW & M	MATHEW & MARY L. VAN HORN	82750.001	Baird 018
4/6/2022	VILLANUEVA, RICARDO & MARIBEL	RICARDO & MARIBEL VILLANUE	82885.001	Moring III 257
4/11/2022	WAHL, BRADLEY G. & CHERYL	BRADLEY G. & CHERYL M. WAH	82970.001	Baird 018
6/1/2022	WATSON, WESTON	WESTON WATSON	83163.001	Zimmerman 079
4/13/2022	WERNHART, MITCHEL	MITCHEL WERNHART	83183.002	Baird 018
12/26/2021	WHITMAN, MAHER & WIE	WHITMAN, MAHER & WIESE	83320.001	Nielsen 022
5/6/2021	WITCHER, SYDNEY P.	SYDNEY P. WITCHER	84474.001	Paulden 002
6/1/2022	WOMAN'S CLUB OF BAKERSFIELD	WOMAN'S CLUB OF BAKERSFIE	85201.001	McCarthy 067
8/16/2022	XS TRAVELS INC, dba ELITE SAFETY & SUPPI	XS TRAVELS INC, dba ELITE SAI	85498.001	Nielsen 022
5/6/2021	XTX, INC.	XTX, INC.	85500.001	Krausse 005
3/31/2022	YANCY-SEARS, JANE E.	JANE E. YANCY-SEARS	85575.001	Baird 018
5/6/2021	YOUNG MEN'S NATION, LLC	YOUNG MEN'S NATION, LLC	85648.001	Baird 018
8/9/2022	YOUTH UPRISING 401K PLAN	YOUTH UPRISING 401K PLAN	85825.001	Flores 015

GrandTotal:

Brown Armstrong Accountancy Corporation
InActive Client List
InActive Date From 4/1/2021 To 9/30/2022

InActive Date	Client Sort Name	Client Name	Client Num.Eng	Primary Partner
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Report Parameters

REPORT NAME: Inactive Clients
FIRM NAME: Brown Armstrong Accountancy Corporation

FILTERED BY:
InActive Date BETWEEN '4/1/2021' AND '9/30/2022'
Active Date BETWEEN '1/1/1974' AND '9/30/2022'

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 7.2

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer



SUBJECT: Report on Quarterly Funding Progress for the Period Ended September 30, 2022

Recommendation

Accept the quarterly funding update report for the period ended September 30, 2022.

Discussion

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

Attached is the Q1 FY 22-23 dashboard showing the projected funded status and employer contribution rate utilizing current data and assuming all assumptions are met for the remainder of the fiscal year. The second page shows a ten-year projection utilizing the same data.

After the first quarter, the funded status is projected to drop by 2% and the employer contribution rate is projected to be 2% higher. The factor that impacts the funding ratio and employer rate the most is the investment return for the first quarter being lower than expected. Two other factors impacting the projected funded status and employer rate are inflation and salary increases being higher than expected.

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

Attachment

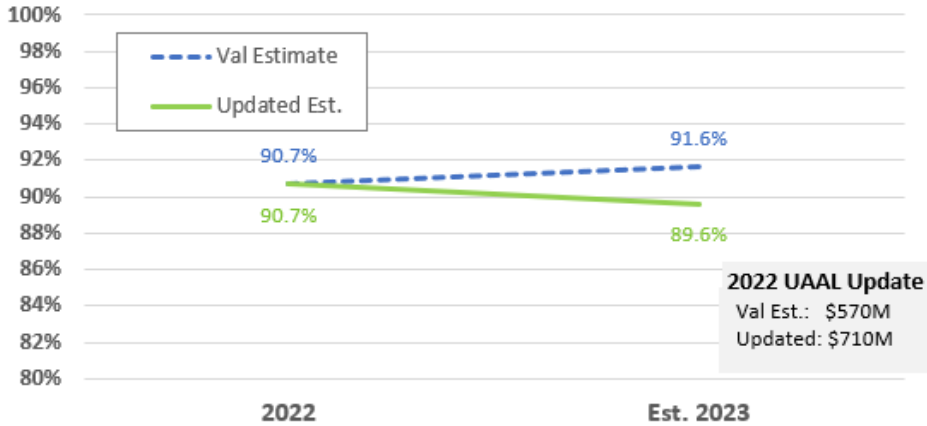
Funding Dashboard

SamCERA Funding Dashboard

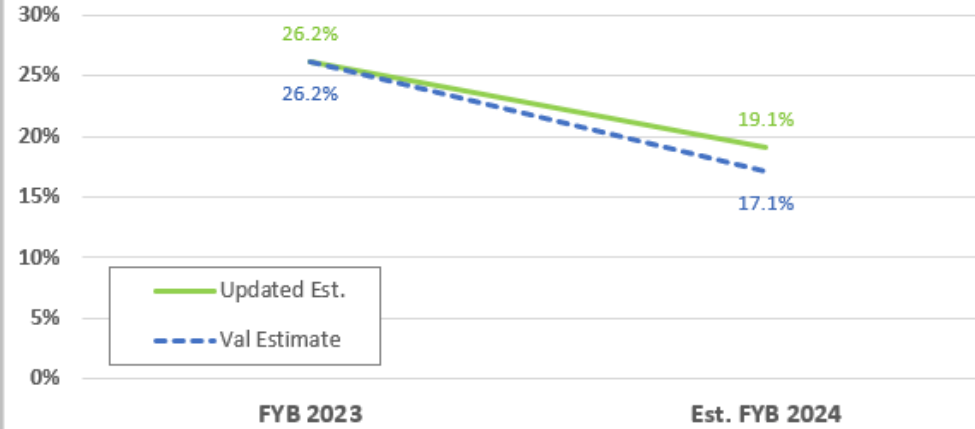
Update Graph Formats

SamCERA Projected Funding for June 30, 2023 Valuation (based on Information as of September 30, 2022)

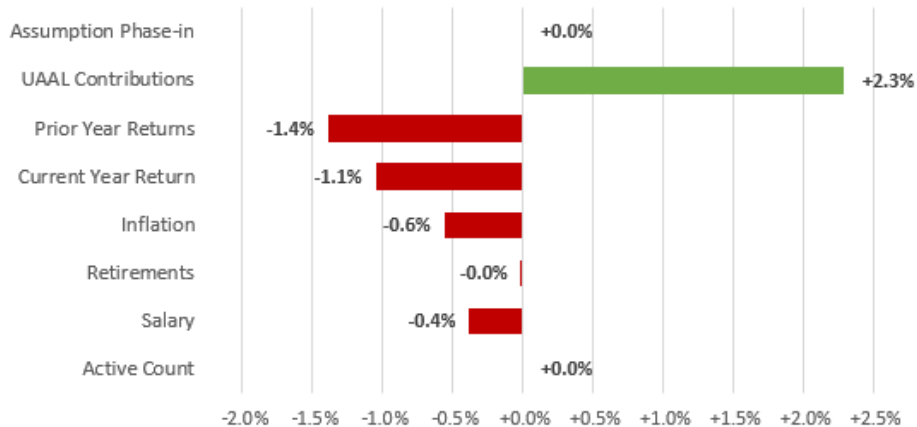
Projected Funded Ratio



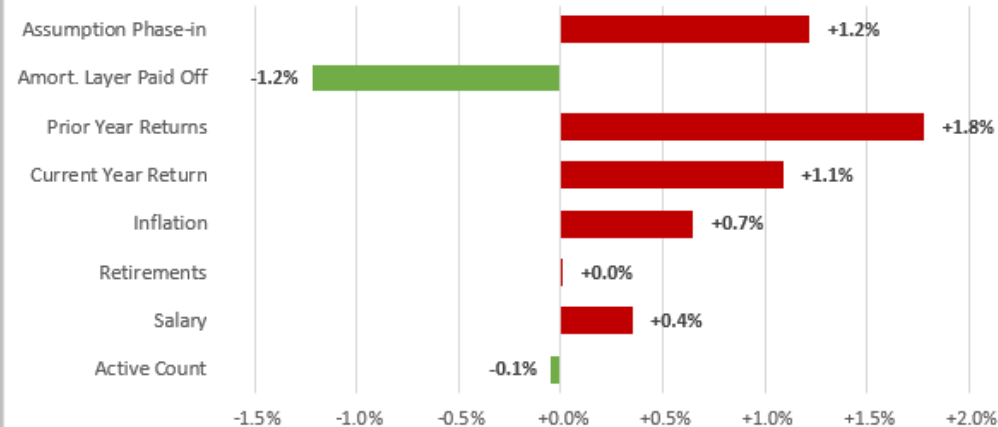
Projected Employer Contribution Rate



Factors Expected to Affect Funded Ratio



Factors Expected to Affect Employer Rate



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

Input

Completed Quarter	9/30
Est. Return FYTD	-3.90%
Est. Return (1st Quarter)	-3.90%
Servive Retirements to Date	52
Active Member Count	5,280

CPI 2022

Aug	Oct	Dec	Annual
328.871	N/A	N/A	N/A

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

Post-Valuation Data

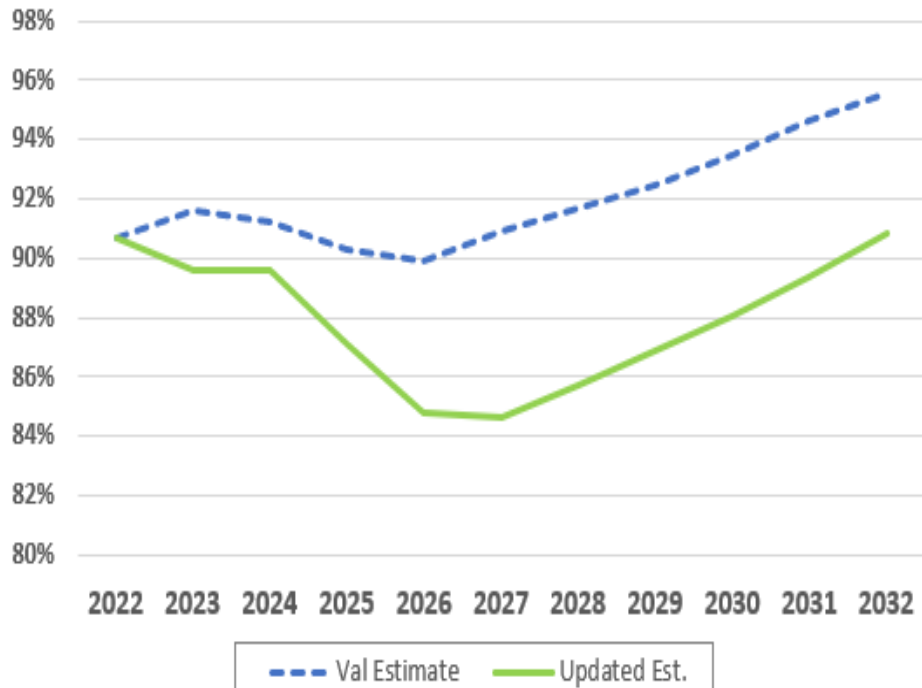
Return	
Fiscal Year - First Quarter	-3.90%
Fiscal Year- Full Year (Est.)	0.57%
Inflation for 2022	
Assumed	2.50%
Est.	5.81%
Service Retirements in Fiscal Year	
Assumed	238
Est.	249
Salary Increase	
Assumed	3.00%
Est.	4.05%
Active Members	
Assumed	5,249
Est.	5,280

SamCERA Funding Dashboard, cont

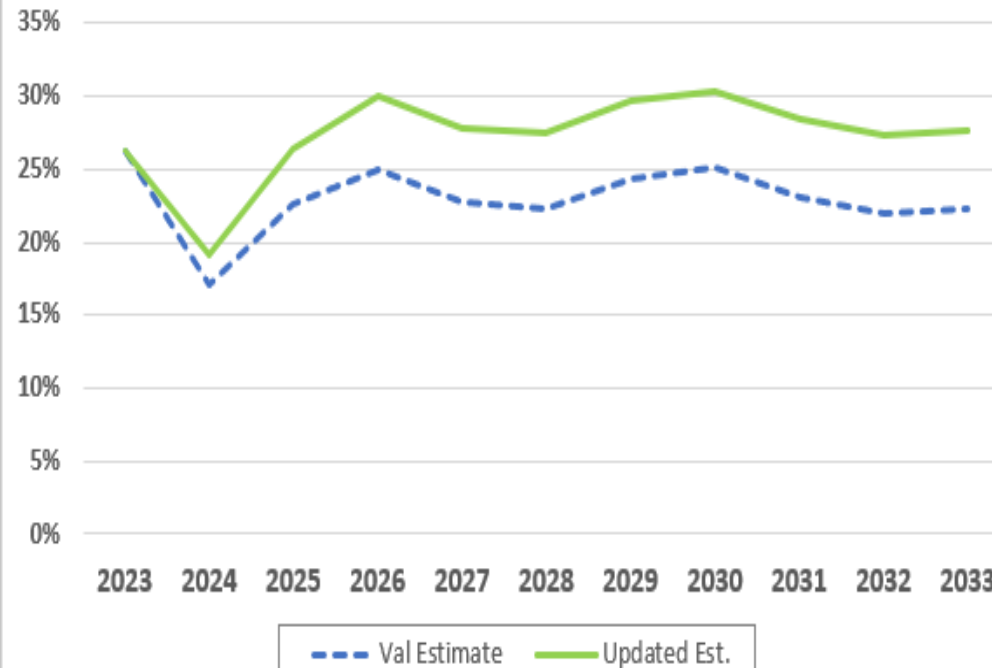
10-Year Projection

Show/Hide Fresh Start Line

Projected Funded Ratio



Projected Employer Contribution Rate



10-Year Projection Input

	Return	Ann. CPI
FYE2023	0.57%	5.81%
FYE2024	6.25%	2.50%
FYE2025	6.25%	2.50%
FYE2026	6.25%	2.50%
FYE2027	6.25%	2.50%

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

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

Year UAAL is projected to be fully paid off:

Valuation Estimate: **> 15 yrs**

Updated Estimate: **> 15 yrs**

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

December 6, 2022

Agenda Item 7.3

TO: Board of Retirement
FROM: Scott Hood, Chief Executive Officer
SUBJECT: 2023 Board-Staff Retreat Topics



Recommendation

Provide direction for staff regarding the topics and schedule for the March 28, 2023, Board-Staff Retreat.

Background

The annual Board retreat is scheduled for March 28, 2023. The Board assists on setting the topics to be addressed at the retreat and provides input regarding the proposed presenters. This agenda item gives trustees its first opportunity to discuss retreat topics. We will bring this item back to the Board again prior to finalizing the agenda.

Discussion

Since March of 2020, SamCERA's meetings have been held via Zoom. We anticipate that the March meeting and retreat will be held in person. The Board already approved a start time of 8:30 a.m. for March 28th and we are proposing this one-day retreat to occur in addition and after the regular Board meeting. The retreat portion would have 4 major topics and time for discussion between topics.

Some suggested topics are included in the following list:

- High level-look at the economy
- Deep Dive into the portfolio
- Further discussion on Plan Maturity/Preparing for Negative Cash Flow and De-risking Glide Path
- What if economic trends / strategies that were tailwinds become headwinds for our portfolio going forward?
- Discussion of Funding Options