



AGENDA

RETIREMENT BOARD MEETING

REGULAR MEETING
November 20, 2024
9:00 a.m.

Board Conference Room
1200 Concord Avenue, Suite 350
Concord, California

THE RETIREMENT BOARD MAY DISCUSS AND TAKE ACTION ON THE FOLLOWING:

1. Pledge of Allegiance.
2. Public Comment (3 minutes/speaker).
3. Recognition of Jasmine Lee for 5 years of service.

CONSENT ITEMS

- 4.A All Consent Items are to be approved by one action unless a Board Member requests separate action on a specific item. (Action Item)
- I. Approve minutes from the September 25, 2024 and October 9, 2024 meetings.
 - II. Approve the following routine items:
 - a. Certifications of membership.
 - b. Service and disability allowances.
 - c. Death benefits.
 - d. Investment liquidity report.
 - III. Accept the following routine items:
 - a. Disability applications and authorize subpoenas as required.
 - b. Travel report.
 - c. Investment asset allocation report.
 - IV. Authorize Chair Gordon's attendance at the 2024 Invesco Real Estate Global Client Conference, November 12-14, 2024, San Diego, CA.

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.

- V. Consider and take possible action to adopt the CCCERA pay schedules for classifications represented by AFSCME, Local 2700, effective January 1, 2025.
- VI. Consider and take possible action on the 2025 Board meeting schedule.
- 4.B Consider and take possible action on Consent Items previously removed, if any. (Action Item)

CLOSED SESSION

- 5. The Board will go into closed session pursuant to Govt. Code Section 54957 to consider recommendations from the medical advisor and/or staff regarding the following disability retirement applications:

<u>Member</u>	<u>Type Sought</u>	<u>Recommendation</u>
a. Alexei Shabanoff	Service Connected	Service Connected
b. Steven Tycer	Service Connected	Service Connected

- 6. The Board will continue in closed session pursuant to Govt. Code Section 549569(d)(1) to confer with legal counsel regarding pending litigation:
 - a. *Stewart v. CCCERA Board of Retirement, et al.*, Contra Costa County Superior Court, Case No. N-23-2108 and C24-02944.

OPEN SESSION

- 7. Presentation of alternative investment fees and expense report. (Presentation Item)
- 8. Consider and take possible action to adopt the 2025 CCCERA budget. (Action Item)
- 9. Review of total portfolio performance for period ending September 30, 2024. (Presentation Item)
 - a. Presentation from Verus
 - b. Presentation from staff
- 10. Consider and take possible action to amend the Compensation Earnable Policy. (Action Item)
- 11. Consider authorizing the attendance of Board: (Action Item)
 - a. NAPO 36th Annual Pension and Benefits Seminar, February 2-4, 2025, Las Vegas, NV.
 - b. CALAPRS General Assembly, March 2-5, 2025, Napa, CA.
 - c. NIRS 16th Annual Retirement Policy Conference, March 3-4, 2025, Washington, DC.

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.

12. Miscellaneous
 - a. Staff Report
 - b. Outside Professionals' Report
 - c. Trustees' comments

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.



RETIREMENT BOARD MEETING MINUTES

REGULAR MEETING
September 25, 2024
9:00 a.m.

Board Conference Room
1200 Concord Avenue, Suite 350
Concord, California

Present: Dennis Chebotarev, Donald Finley, Scott Gordon, Jerry Holcombe, Louie Kroll, Jay Kwon, David MacDonald, Dan Mierzwa, John Phillips, and Mike Sloan

Absent: Candace Andersen and Samson Wong

Staff: Christina Dunn, Chief Executive Officer; Colin Bishop, Deputy Chief Executive Officer; Karen Levy, General Counsel; and Tim Price, Chief Investment Officer

Outside Professional Support:
Danny Sullivan
Scott Whalen

Representing:
Verus Investments
Verus Investments

1. Pledge of Allegiance

The Board, staff and audience joined in the Pledge of Allegiance.

2. Accept comments from the Public

Gordon noted that Dan Mierzwa is to be the Investment Committee Vice Chairperson.

3. Approve minutes from the August 28, 2024 meeting

It was **M/S/C** to approve the minutes from the August 28, 2024 meeting. (Yes: Chebotarev, Finley, Gordon, Holcombe, Kroll, Kwon, MacDonald, Mierzwa, and Phillips).

CLOSED SESSION

The Board moved into Closed Session pursuant to Govt. Code Section 54957(b)(1).

The Board moved into open session.

4. PUBLIC EMPLOYMENT (Government Code § 54957(b)(1))

There was no reportable action related to Govt. Code Section 54957(b)(1).

5. Review of real estate investment performance and pacing recommendation

Sullivan and Whalen presented the real estate investment performance and pacing recommendations.

6. Consider and take possible action to amend the CCCERA Board of Retirement Regulations

It was **M/S/C** to amend the CCCERA Board of Retirement Regulations as presented with the following edits:

- Do not change the meeting days;
- Include wording that the Closed Session placement on the agenda will be determined by the Board Chair and Chief Executive Officer;
- Some additional slight grammatical edits.

(Yes: Chebotarev, Finley, Gordon, Holcombe, Kroll, Kwon, MacDonald, Mierzwa, and Phillips).

7. Consider and take possible action to issue a request for proposal for labor relations consultant services and Request for Proposal to provide labor and employment law consultant services

It was **M/S/C** to issue a Request for Proposal for labor relations consultant services and Request for Proposal to provide labor and employment law consultant services. (Yes: Chebotarev, Finley, Gordon, Holcombe, Kroll, Kwon, MacDonald, Mierzwa, and Phillips).

8. Consider authorizing the attendance of Board:

- a. It was **M/S/C** to authorize the attendance of 1 Board member at the Pension Bridge Real Assets, December 9-10, 2024, Austin, TX. (Yes: Chebotarev, Finley, Gordon, Holcombe, Kroll, Kwon, MacDonald, Mierzwa, and Phillips).
- b. It was **M/S/C** to authorize the attendance of 1 Board member at the NCPERS 2025 Pension Communications Summit, January 26-27, 2025, Washington, DC. (Yes: Chebotarev, Finley, Gordon, Holcombe, Kroll, Kwon, MacDonald, Mierzwa, and Phillips).
- c. It was **M/S/C** to authorize the attendance of 1 Board member at the NCPERS 2025 Legislative Conference & Policy Day, January 27-29, 2025, Washington, DC. (Yes: Chebotarev, Finley, Gordon, Holcombe, Kroll, Kwon, MacDonald, Mierzwa, and Phillips).

9. Miscellaneous:

- a. Staff Report – Dunn reported CCCERA has started the strategic planning process by sending out a survey to members and participating employers requesting their feedback on CCCERA services.

- Price reported on a new relationship that includes a \$60 million commitment to Jaiden Real Estate Fund II.
- b. Outside Professionals' Report – Whalen reported on an organizational change at Verus. He announced that the president, Shelly Heier is leaving after 22 years of service. He noted that the impact to CCCERA would be minimal.
 - c. Trustees' Comments – None

It was **M/S/C** to adjourn the meeting. (Yes: Chebotarev, Finley, Gordon, Holcombe, Kroll, Kwon, MacDonald, Mierzwa, and Phillips)

Scott W. Gordon, Chairperson

Jerry R. Holcombe, Secretary



RETIREMENT BOARD MEETING MINUTES

REGULAR MEETING
October 9, 2024
9:00 a.m.

Board Conference Room
1200 Concord Avenue, Suite 350
Concord, California

Present: Candace Andersen, Donald Finley, Scott Gordon, Jerry Holcombe, Louie Kroll, Jay Kwon, David MacDonald, Dan Mierzwa, John Phillips, Mike Sloan, and Samson Wong

Absent: Dennis Chebotarev

Staff: Christina Dunn, Chief Executive Officer; Colin Bishop, Deputy Chief Executive Officer; Karen Levy, General Counsel; Ryan Luis, Retirement Services Manager; and Tim Price, Chief Investment Officer

Outside Professional Support:
None

Representing:

1. Pledge of Allegiance

The Board, staff and audience joined in the *Pledge of Allegiance*.

2. Accept comments from the Public

No member of the public offered comment.

3A. Consider and take possible action on Consent Items

It was **M/S/C** to approve the consent items of the October 9, 2024, meeting. (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Mierzwa, Phillips, and Wong).

3B. Consider and take possible action on Consent Items if previously removed, if any

No action taken on this item.

CLOSED SESSION

The Board moved into Closed Session pursuant to Govt. Code Section 54957 to consider recommendations from the medical advisor and/or staff regarding disability retirement applications.

The Board moved into open session and reported the following:

4. Disability Applications:

It was **M/S/C** that there was insufficient evidence to grant the following Service Connected disability benefits:

- a. Vedder Li – Service Connected (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Mierzwa, and Phillips).

It was **M/S/C** to accept the Medical Advisor’s recommendation and grant the following disability benefits:

- b. Thomas Miller – Service Connected (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Mierzwa, Phillips, and Wong).
- c. Elizabeth Oha – Non-Service Connected (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Mierzwa, Phillips, and Wong).
- d. Erik Steele – Service Connected (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Mierzwa, and Phillips).
- e. James Steward – Service Connected (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Mierzwa, and Phillips).

5. Presentation of Semi-Annual Disability Retirement Report

Elise Diliberto and Luis gave a presentation on the Semi-Annual Disability Retirement Report.

6. Consider and take possible action concerning the SACRS legislative proposals to be voted on at the November 2024 SACRS Fall Conference

It was **M/S/C** to authorize the CCCERA Board voting delegate to vote to support the 2024 SACRS legislative proposals at the November 2024 SACRS Conference. (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Mierzwa, Phillips and Wong).

7. Report from Investment Committee Chair on the September 25, 2024 Investment Committee meeting

MacDonald reported out on the September 25, 2024, Investment Committee meeting.

8. Miscellaneous

- a. Staff Report – Dunn reported that in response to CCCERA’s Strategic Planning survey, we received 600 survey responses from members and 18 responses from participating employers. CCCERA will host its first family open house in October, allowing staff members’ families the opportunity to come and see where they work. Finally, she stated that Sagitec currently has a go-live date of November 1st but it will most likely be toward the end of 2024.
- b. Outside Professionals’ Report – None
- c. Trustees’ Comments – Gordon would like to adjourn in memory of Melinda Self Dundon, a friend, and Former Director of Contra Costa County Child Support Services, who passed away September 29, 2024.

It was **M/S/C** to adjourn the meeting in memory of Melinda Self Dundon. (Yes: Andersen, Finley, Gordon, Holcombe, Kroll, MacDonald, Mierzwa, Phillips, and Wong)

Scott W. Gordon, Chairperson

Jerry R. Holcombe, Secretary

CERTIFICATION OF MEMBERSHIPS

<u>Name</u>	<u>Employee Number</u>	<u>Tier</u>	<u>Membership Date</u>	<u>Employer</u>
Abe, Miki	95577	P5.2	09/01/24	Contra Costa County
Allen, Kiara	95541	P5.2	09/01/24	Contra Costa County
Anderson, Traci	95518	P5.2	09/01/24	Contra Costa County
Araysa, Janet	93555	P5.2	09/01/24	Contra Costa County
Arce, Keyla	95530	P5.2	09/01/24	Contra Costa County
Avecilla, Olivia	95414	P5.2	09/01/24	Contra Costa County
Baca, Gilda	95410	P5.2	09/01/24	Contra Costa County
Baker, Gavin	95585	P5.2	09/01/24	Contra Costa County
Baskerville, Vanessa	94500	P5.2	09/01/24	Contra Costa County
Benard, Dewanda	95478	P5.2	09/01/24	Contra Costa County
Benner, Austin	95540	P5.2	09/01/24	Contra Costa County
Berrios, Joleen	95579	P5.2	09/01/24	Contra Costa County
Bhaskar Kashyap, Sujay	95509	P5.2	09/01/24	Contra Costa County
Bishop, Colin	D4980	I	09/01/24	Contra Costa County Employees' Retirement Association
Brink, Timothy	95468	P5.2	09/01/24	Contra Costa County
Brockman, Sarah	95407	P5.2	09/01/24	Contra Costa County
Brooks IV, Tammany	95484	P5.2	09/01/24	Contra Costa County
Brown, Allison	95449	P5.2	09/01/24	Contra Costa County
Bruno, Lindsey	95513	P4.2	09/01/24	Contra Costa County Fire Protection District
Buzas, Michelle Veola	95604	P5.2	09/01/24	Contra Costa County
Cabrera, Carlos	93444	P5.2	09/01/24	Contra Costa County
Carrasquillo, Trisha	95460	P5.2	09/01/24	Contra Costa County
Carroll, Toni	93669	P5.2	09/01/24	Contra Costa County
Castillo, Damaris	95461	P5.2	09/01/24	Contra Costa County
Clark, Jordan	95554	P5.2	09/01/24	Contra Costa County
Colley, Pamela	95538	III	09/01/24	Contra Costa County
Dahal, Puja	89694	P5.2	09/01/24	Contra Costa County
Davis, Fatima	72107	P5.2	09/01/24	Contra Costa County
De Leon, Mark Anthony	95526	P5.2	09/01/24	Contra Costa County
Dean, Tonya	95667	P5.2	09/01/24	Contra Costa County
DeCastro, Cynthia	95569	P5.2	09/01/24	Contra Costa County
Dizon, Maria Leah	95472	P5.2	09/01/24	Contra Costa County
Dunn, Cierra	95587	P5.2	09/01/24	Contra Costa County
Eckenfelder, Amanda	95466	P5.2	09/01/24	Contra Costa County

Key:

I = Tier I	P4.2 = PEPR Tier 4 (2% COLA)	S/A = Safety Tier A
II = Tier II	P4.3 = PEPR Tier 4 (3% COLA)	S/C = Safety Tier C
III = Tier III	P5.2 = PEPR Tier 5 (2% COLA)	S/D = Safety Tier D
	P5.3 = PEPR Tier 5 (3% COLA)	S/E = Safety Tier E

CERTIFICATION OF MEMBERSHIPS

<u>Name</u>	<u>Employee Number</u>	<u>Tier</u>	<u>Membership Date</u>	<u>Employer</u>
Ekwezia, Ifeoma	95372	P5.2	09/01/24	Contra Costa County
Espinoza, Gizelle Camille	95447	P5.2	09/01/24	Contra Costa County
Esqueda, Molly	95502	P5.2	09/01/24	Contra Costa County
Garcia, Cynthia	95520	P5.2	09/01/24	Contra Costa County
Gillette, Nicola	95446	P5.2	09/01/24	Contra Costa County
Gonzalez, Evelyn	95581	P5.2	09/01/24	Contra Costa County
Gonzalez, Jesse	95638	S/E	09/01/24	Contra Costa County
Gonzalez, Lizzeth	95565	P5.2	09/01/24	Contra Costa County
Gonzalez, Rosa	88449	P5.2	09/01/24	Contra Costa County
Goodspeed, Orianne	D9500	P5.3	09/01/24	Contra Costa County Superior Court
Green, Terri	95657	P5.2	09/01/24	Contra Costa County
Gross, Kelsey	91950	P4.2	09/01/24	Contra Costa County Fire Protection District
Guerrero, Lorenzo	95524	P5.2	09/01/24	Contra Costa County
Haidari, Noorullah	95568	P5.2	09/01/24	Contra Costa County
Haley, Claudia	95508	P5.2	09/01/24	Contra Costa County
Hanlon, Jessica	91619	P5.2	09/01/24	Contra Costa County
Harrison, KiYanna	95602	P5.2	09/01/24	Contra Costa County
Herrold, Ciara	95459	P5.2	09/01/24	Contra Costa County
Hicks, Kyle	95573	P5.2	09/01/24	Contra Costa County
Hilborn, Danielle	94970	P5.2	09/01/24	Contra Costa County
Ibarra, Marissa	95444	P5.2	09/01/24	Contra Costa County
Iniguez, Analisse	95485	P5.2	09/01/24	Contra Costa County
Iphie, Amaka	73847	P5.2	09/01/24	Contra Costa County
Jacobo, Rocio	95608	P5.2	09/01/24	Contra Costa County
Jacobs, Mia	94568	P5.2	09/01/24	Contra Costa County
Johnson, Nia	95503	P5.2	09/01/24	Contra Costa County
Kimlinger, Ashleigh	95603	P5.2	09/01/24	Contra Costa County
Lapina, Svetlana	95600	P5.2	09/01/24	Contra Costa County
Larson, Kalynn	95487	P5.2	09/01/24	Contra Costa County
Lopez, Charles	95582	P5.2	09/01/24	Contra Costa County
Lujan, Mali	95437	P5.2	09/01/24	Contra Costa County
Luna, Samantha	95493	P5.2	09/01/24	Contra Costa County
Lundin, Ashley	95639	S/E	09/01/24	Contra Costa County

Key:

I = Tier I	P4.2 = PEPRA Tier 4 (2% COLA)	S/A = Safety Tier A
II = Tier II	P4.3 = PEPRA Tier 4 (3% COLA)	S/C = Safety Tier C
III = Tier III	P5.2 = PEPRA Tier 5 (2% COLA)	S/D = Safety Tier D
	P5.3 = PEPRA Tier 5 (3% COLA)	S/E = Safety Tier E

CERTIFICATION OF MEMBERSHIPS

<u>Name</u>	<u>Employee Number</u>	<u>Tier</u>	<u>Membership Date</u>	<u>Employer</u>
Machado De Sousa, Adriana	95223	P5.2	09/01/24	Contra Costa County
Majowogbe, Enita	95489	P5.2	09/01/24	Contra Costa County
Martinez, Martha	95567	P5.2	09/01/24	Contra Costa County
Martinez, Sonia	81322	P5.2	09/01/24	Contra Costa County
May, Kayla	95606	P5.2	09/01/24	Contra Costa County
Melkamu, Tigist	93488	P5.2	09/01/24	Contra Costa County
Mitchell, Sydnie	95457	P5.2	09/01/24	Contra Costa County
Moore, Bianca	95607	P5.2	09/01/24	Contra Costa County
Mubarak, Shaukat	95564	P5.2	09/01/24	Contra Costa County
Myers Silva, Dominick	79202	P5.2	09/01/24	Contra Costa County
Nelson, Christina	95601	P5.2	09/01/24	Contra Costa County
Noory, Hoshang	92599	P5.2	09/01/24	Contra Costa County
O'Brien, Megan	91185	P5.2	09/01/24	Contra Costa County
Orduno, Mary	95583	P5.2	09/01/24	Contra Costa County
Patel, Raina	95435	P5.2	09/01/24	Contra Costa County
Perez, Araceli	95605	P5.2	09/01/24	Contra Costa County
Perez, Lilian	95609	P5.2	09/01/24	Contra Costa County
Picot, Angelique	92239	P5.2	09/01/24	Contra Costa County
Portillo, Fatima	95517	P5.2	09/01/24	Contra Costa County
Prater, Delilah Danielle	95574	P5.2	09/01/24	Contra Costa County
Price, Sarah	95483	P5.2	09/01/24	Contra Costa County
Quesenberry, Travis	95431	S/E	09/01/24	Contra Costa County
Ramey, Nicole Marie	95566	P5.2	09/01/24	Contra Costa County
Ramirez, Favian	95505	P5.2	09/01/24	Contra Costa County
Recinos, Lilian	74283	P5.2	09/01/24	Contra Costa County
Register, Kris	D9990	P4.3	09/01/24	Contra Costa County Housing Authority
Ridge-Edwards, Ann Yolanda	95570	P5.2	09/01/24	Contra Costa County
Riley, Karla	95536	P5.2	09/01/24	Contra Costa County
Robb, Flor	95498	P5.2	09/01/24	Contra Costa County
Rodgers, Eyana	89541	P5.2	09/01/24	Contra Costa County
Rogers, Brandy	95403	P5.2	09/01/24	Contra Costa County
Romero, Rossana	66831	P5.2	09/01/24	Contra Costa County
Ross, Cecil	95590	P5.2	09/01/24	Contra Costa County

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II = Tier II	P4.3 = PEPRA Tier 4 (3% COLA)	S/C = Safety Tier C
III = Tier III	P5.2 = PEPRA Tier 5 (2% COLA)	S/D = Safety Tier D
	P5.3 = PEPRA Tier 5 (3% COLA)	S/E = Safety Tier E

CERTIFICATION OF MEMBERSHIPS

<u>Name</u>	<u>Employee Number</u>	<u>Tier</u>	<u>Membership Date</u>	<u>Employer</u>
Salaya, Chery Mae	95455	P5.2	09/01/24	Contra Costa County
Sayed, Palwasha	93835	P5.2	09/01/24	Contra Costa County
Schirmer, Mark	95458	P5.2	09/01/24	Contra Costa County
Sgamba, Mai	95428	P5.2	09/01/24	Contra Costa County
Shepherd, Theresa	95467	P5.2	09/01/24	Contra Costa County
Singh, Anjana	95588	P5.2	09/01/24	Contra Costa County
Singh, Kieley	95571	P5.2	09/01/24	Contra Costa County
Skinner, Chelsea	93744	P5.2	09/01/24	Contra Costa County
Spain, Emerald	92647	P5.2	09/01/24	Contra Costa County
Sparks, Julie	D7274	P4.3	09/01/24	Moraga-Orinda Fire District
Stack, Kimberly	95572	P5.2	09/01/24	Contra Costa County
Steggall, Jessica	95575	P5.2	09/01/24	Contra Costa County
Stone, Jillian Sandra	95845	P5.2	09/01/24	Contra Costa County
Tabatabaei, Seyed	93396	P5.2	09/01/24	Contra Costa County
Thompson, Barry	D3406	P4.3	09/01/24	Central Contra Costa Sanitary District
Tinsley, Hannah	D9990	P4.3	09/01/24	Contra Costa County Housing Authority
Tucker, Latosha	95557	P5.2	09/01/24	Contra Costa County
Turbow, Coral	95542	P5.2	09/01/24	Contra Costa County
Valdez, Madelyn	93099	P5.2	09/01/24	Contra Costa County
Vega, Anjelicia	94319	P5.2	09/01/24	Contra Costa County
Vidushi, Priyanka	95535	P5.2	09/01/24	Contra Costa County
Warren, Samari	D9990	P4.3	09/01/24	Contra Costa County Housing Authority
White, Miranda	95584	P5.2	09/01/24	Contra Costa County
Williams, Sean	95532	P5.2	09/01/24	Contra Costa County
Wilson, Valerie	95647	P5.2	09/01/24	Contra Costa County
Wong, Heather	75613	III	09/01/24	Contra Costa County
Young, Sparkle	95648	P5.2	09/01/24	Contra Costa County
Yuan, Chenyi	95578	P5.2	09/01/24	Contra Costa County
Zin Oo, Htet Htet	95589	P5.2	09/01/24	Contra Costa County
Zobel, Mark	95463	P5.2	09/01/24	Contra Costa County
Zwinge, Jacqueline	D3406	P4.3	09/01/24	Central Contra Costa Sanitary District

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II = Tier II	P4.3 = PEPRA Tier 4 (3% COLA)	S/C = Safety Tier C
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	P5.3 = PEPRA Tier 5 (3% COLA)	S/E = Safety Tier E

TIER CHANGES

<u>Name</u>	<u>Employee Number</u>	<u>Old Tier</u>	<u>New Tier</u>	<u>Effective Date</u>	<u>Employer</u>	<u>Reason for Change</u>
Aquino, Ryan	94691	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Asalati, Yusuf	94737	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Barrett, Lorenzo	94713	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Clancy, Colin	94603	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Gathuru, Simon Peter	94712	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Ghag, Gurjut	95408	P5.2	III	08/01/24	Contra Costa County	Recip: Age and Tier Change
Giuntini, June	94698	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Hamilton, Tayler	94741	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Hernandez, Emanuel	94588	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Jenkins, Shanequa	94692	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Lopez, Alfred	94605	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Martinez Vega, Juan	94738	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Ortega, Andrew	90932	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Perry, Joshua	94604	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Premo, Taylor	94701	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Ryan, Alison	94601	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Slous, Trever	92836	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier
Ysmael, Romeo	94735	P5.2	S/E	09/01/24	Contra Costa County	Promotion to Safety Tier

Key:

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II = Tier II	P4.3 = PEPRA Tier 4 (3% COLA)	S/C = Safety Tier C
III = Tier III	P5.2 = PEPRA Tier 5 (2% COLA)	S/D = Safety Tier D
	P5.3 = PEPRA Tier 5 (3% COLA)	S/E = Safety Tier E

SERVICE & DISABILITY RETIREMENT ALLOWANCES

<u>Name</u>	<u>Number</u>	<u>Effective Date</u>	<u>Option Type</u>	<u>Tier</u>	<u>Selected</u>
Agnost, Victoria	64234	8/23/24	SR	III	Unmodified
Asiain, Zeneida	74125	9/1/24	SR	III	Unmodified
Bain, Susan	68421	7/31/24	SR	III	Unmodified
Baptista, Marci	62695	9/1/24	SR	III	Unmodified
Belknap, Gregory	70850	8/1/24	SR	III	Unmodified
Bishop, Mark	81065	8/1/24	SR	PEPRA 5.2	Unmodified
Bonner, Danette	63450	8/2/24	SR	II and III	Unmodified
Brandenberg, Ria	68218	8/27/24	SR	III	Unmodified
Bugarin, (Antonio), Monika	54598	6/29/24	SR	III	Unmodified
Caballero, Rosario	57020	8/24/24	SR	II and III	Unmodified
Carpio, Diana	64058	8/1/24	SR	II and III	Unmodified
Crespo, Barbara	70164	8/1/24	SR	III	Unmodified
DeLeon, Antonia	62981	8/2/24	SR	II and III	Unmodified
Freasier, Florene	48047	7/31/24	SR	II and III	Unmodified
Gackowski, Jonathan	65940	8/17/24	SR	Safety A	Unmodified
Gaul, Alan	65335	8/17/24	SR	Safety A	Unmodified
Goss, Mark	D3406	6/21/24	SR	I	Unmodified
Greef, Kristina	84068	8/17/24	SR	PEPRA 5.2	Unmodified
Hall, David	61762	8/31/24	SR	Safety A	Unmodified
Harrison, Steven	67041	8/1/24	SR	Safety A	Unmodified
Haskett, Gregory	54957	9/1/24	SR	Safety A	Unmodified
Henriquez, Enrique	63265	8/1/24	SR	Safety A	Unmodified
Hooker, Mary	78529	8/10/24	SR	PEPRA 5.3	Unmodified
Jackson, Rush	66583	8/2/24	SR	Safety A	Unmodified
Jaime, Mercedes	45335	8/15/24	SR	II and III	Unmodified
Johnson, Mariann	66888	8/21/24	SR	III	Unmodified
Kenoyer, Debora	64161	9/1/24	SR	II and III	Unmodified
King-McCarthy, Theresa	64531	8/25/24	SR	III	Unmodified
Klein, Carmen	60342	9/1/24	SR	III	Unmodified
Koch, Anna	68353	9/27/24	SR	III	Unmodified
Leech, Amy	83144	7/15/24	SR	III	Unmodified

Option Type

NSP = Non-Specified
 SCD = Service Connected Disability
 SR = Service Retirement
 NSCD = Non-Service Connected Disability
 * = County Advance Selected w/option

Tier

I = Tier I
 II = Tier II
 III = Tier III
 S/A = Safety Tier A
 S/C = safety Tier C
 Pepra 4.2 = Pepra Tier 4 (2% COLA)
 Pepra 4.3 = Pepra Tier 4 (3% COLA)
 Pepra 5.2 = Pepra Tier 5 (2% COLA)
 Pepra 5.3 = Pepra Tier 5 (3% COLA)
 S/D = Pepra Safety Tier D
 S/E = Pepra Safety Tier E

Lloyd, Denise	37313	8/1/24	SR	II and III	Unmodified
Lyon, Susan	64950	8/12/24	SR	III	Unmodified
Mahoney, Matthew	D3406	7/13/24	SR	I	Option 2
Mills, Katherine	87728	8/24/24	SR	PEPRA 5.2	Unmodified
Morales, Maria	72519	8/1/24	SR	III	Unmodified
Nielsen, Donald	37675	8/15/24	SR	II and III	Unmodified
Nishi, Kristine	61987	9/22/24	SR	II and III	Unmodified
Owens, Jeannine	74704	8/5/24	SR	I	Unmodified
Ramos, Marietta	64562	8/1/24	SR	III	Unmodified
Ring-Reaves, Joyce	71431	8/1/24	SR	III	Unmodified
Rodriguez, Martha	56051	9/1/24	SR	II and III	Unmodified
Romero-Duran, Adolfo	72369	8/15/24	SR	III	Unmodified
Scott, Malaika	71003	7/18/24	SR	III	Option 2
Sinay, Joseph	56573	8/16/24	SR	II and III	Unmodified
Stapleton, Steven	70042	3/31/24	SR	Safety A	Unmodified
Stephens, Laura	45013	8/30/24	SR	II and III	Unmodified
Sullins, Annette	69304AP	9/9/24	SR	III	Unmodified
Tellez, Sandy	75112	7/11/24	SR	III	Option 1
Ternes, Mathias	63997	8/1/24	SR	II and III	Unmodified
Thomas, Charles	46906	8/1/24	SR	Safety A	Unmodified
Vahidizadeh, Hamid	60895	8/1/24	SR	II and III	Unmodified
Welch, Matthew	70315	8/1/24	SR	III	Unmodified
White, Ralph	63717	7/14/24	SR	I	Unmodified
Young, James	61843	9/1/24	SR	PEPRA 5.2	Unmodified

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Pepra 5.3 = Pepra Tier 5 (3% COLA)
S/D = Pepra Safety Tier D
S/E = Pepra Safety Tier E

DEATHS

<u>Name</u>	<u>Date of Death</u>	<u>Employer as of Date of Death</u>
Baba, Bob	09/10/24	Contra Costa County
Bellah, Willard	12/28/22	City of Pittsburg
Bello, Savannah	10/02/24	Contra Costa County
Cutler, James	10/08/24	Contra Costa County
Deocampo, Norman	10/07/24	Contra Costa County
Fiso, Christopher	06/19/24	Contra Costa County
Gaston Jamerson, Wilma	09/01/24	Contra Costa County
Huffman, Charlotte	01/01/20	Contra Costa County
Kent, Dorothy	09/16/24	Contra Costa County
Nitchman, David	09/22/24	Contra Costa County
O'Day, Kenneth	08/31/24	Contra Costa County
Patin, Ava	09/27/24	Contra Costa County
Quigley, William	09/30/24	City of Pittsburg
Rodgers, Eleanor	10/11/24	Superior Court of California, County of Contra Costa
Rodriguez, Joseph	10/08/24	Contra Costa County
Self, Melinda	09/29/24	Contra Costa County
Smith, Robert	09/22/24	Consolidated Fire
Thompson, Marinelle	10/17/24	Contra Costa County
Tolbert, Victoria	10/10/24	Contra Costa County
Westnidge, Lillian	10/02/24	Contra Costa County
Williams, Kathryn	08/29/24	Contra Costa County



Meeting Date
11/20/2024
Agenda Item
#4.A-IId.

**Contra Costa County Employees' Retirement Association
Liquidity Report – September 2024**

September 2024 Performance

	Cash Flow	Coverage Ratio
Benefit Cash Flow Projected by Model	\$53,500,000	
Liquidity Sub-Portfolio Cash Flow	\$53,500,000	100%
Actual Benefits Paid	\$52,613,826	101.7%
<i>Next Month's Projected Benefit Payment</i>	<i>\$53,500,000</i>	

Monthly Manager Positioning – September 2024

	Beginning Market Value	Liquidity Program Cash Flow	Market Value Change/Other Activity	Ending Market Value
DFA	\$433,841,714	(\$11,750,000)	\$2,340,665	\$424,432,380
Insight	\$721,487,689	(\$20,000,000)	\$5,640,014	\$707,127,703
Sit	\$764,414,959	(\$21,750,000)	\$7,068,308	\$749,733,267
Liquidity	\$1,919,744,363	(\$53,500,000)	\$15,048,987	\$1,881,293,350
Cash	\$257,579,346	\$886,174	\$351,094,171	\$609,559,692
Liquidity + Cash	\$2,177,323,709	(\$52,613,826)	\$366,143,159	\$2,490,853,042

Functional Roles

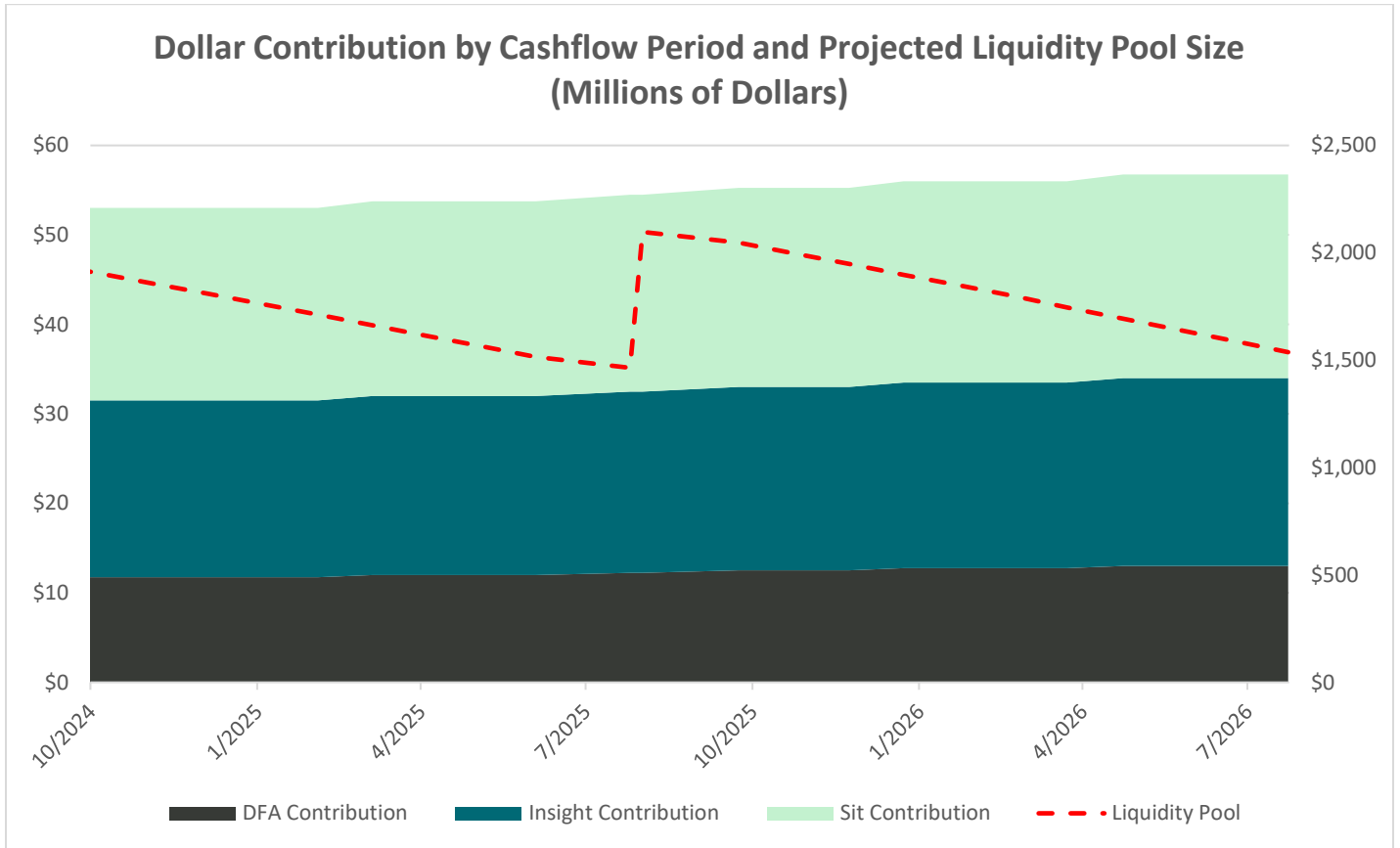
Manager	Portfolio Characteristics	Liquidity Contribution
Sit	High quality portfolio of small balance, government guaranteed mortgages with higher yields.	Pays out net income on monthly basis.
DFA	High quality, short duration portfolio of liquid, low volatility characteristics.	Pays out a pre-determined monthly amount. DFA sources liquidity from across their portfolio.
Insight	Buy and maintain (limited trading) portfolio of high quality, short duration, primarily corporates.	Completion portfolio makes a payment through net income and bond maturities that bridges the gap between other managers and projected payment.
Cash	STIF account at custodial bank.	Buffer in the event of any Liquidity shortfall/excess.

Notes

The ninth cash flow for 2024 from the liquidity program was completed on September 23rd. The actuarial model cash flow was higher than actual experience, producing \$886 thousand more than the actual benefits paid.

Cash Flow Structure

The chart below shows the sources of cash flow for the next three years of CCCERA’s projected benefit payments. This table will change slightly as the model is tweaked and as the portfolios receive new rounds of funding each July as part of the Annual Funding Plan.



DISABILITY RETIREMENT APPLICATIONS

The Board's Hearing Officer is hereby authorized to issue subpoenas in the following cases involving disability applications:

<u>Name</u>	<u>Number</u>	<u>Filed</u>	<u>Type</u>
Haskett, Gregory	54957	10/08/24	SCD
Becnel, Laurel	70289	10/17/24	SCD
Williams, Timothy	D7274-5544	10/25/24	SCD

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Meeting Date
11/20/2024
Agenda Item
#4.A-IIIb.

CCCERA Board of Trustees
Training & Educational Conference Expenses Paid During
Quarter 3 - 2024 (July to September)

Trustee:	Conference Name/Purpose:	Location:	Dates:	Total
Candace Andersen	NONE			
Dennis Chebotarev	NONE			
Donald Finley	Value Edge Advisors Public Funds Forum	Laguna Beach, CA	Sep 3-5, 2024	2,765.45
Scott Gordon	Value Edge Advisors Public Funds Forum	Laguna Beach, CA	Sep 3-5, 2024	1,927.52
Jerry Holcombe	NONE			
Louie Kroll	SACRS - UC Berkeley Program	Berkeley, CA	Jul 14-17, 2024	1,312.34
Jay Kwon	NONE			
David J. MacDonald	NCPERS Annual Conference	Seattle, WA	May 19-22, 2024	1,366.60
	SACRS - UC Berkeley Program	Berkeley, CA	Jul 14-17, 2024	1,757.62
	NCPERS 2024 Public Pension Funding Forum	Boston, MA	Aug 18-20, 2024	1,542.14
	Value Edge Advisors Public Funds Forum	Laguna Beach, CA	Sep 3-5, 2024	2,492.43
Dan Mierzwa	SACRS - UC Berkeley Program	Berkeley, CA	Jul 14-17, 2024	1,712.49
John Phillips	Value Edge Advisors Public Funds Forum	Laguna Beach, CA	Sep 3-5, 2024.	2,549.30
Mike Sloan	NONE			
Samson Wong	NONE			

Contra Costa County Employees' Retirement Association
Asset Allocation as of September 30, 2024

	Market Value	Percentage of Total Fund	Current Target* Percentage	Current Target Over/(Under)	Long Term Target	Long Term Over/(Under)
Liquidity						
Dimensional Fund Advisors	424,432,380	3.6%	4.0%	-0.4%		
Insight	707,127,703	5.9%	6.5%	-0.6%		
Sit	749,733,267	6.3%	6.5%	-0.2%		
Total Liquidity	1,881,293,350	15.8%	17.0%	-1.2%	17.0%	-1.2%
		Range				
		11-22%				
Growth						
Domestic Equity						
Boston Partners	452,859,069	3.8%	3.0%	0.8%		
BlackRock Index Fund	1,259,173,538	10.5%	10.0%	0.5%		
Emerald Advisers	237,270,219	2.0%	1.5%	0.5%		
Ceredex	218,068,297	1.8%	1.5%	0.3%		
Total Domestic Equity	2,167,371,124	18.2%	16.0%	2.2%	13.0%	5.2%
Global & International Equity						
Pyrford (Columbia)	474,014,109	4.0%	4.0%	-0.0%		
William Blair	448,918,377	3.8%	4.0%	-0.2%		
First Eagle	666,600,627	5.6%	5.0%	0.6%		
Artisan Global Opportunities	661,459,865	5.5%	5.0%	0.5%		
PIMCO/RAE Emerging Markets	291,269,074	2.4%	2.0%	0.4%		
TT Emerging Markets	273,101,021	2.3%	2.0%	0.3%		
Total Global & International Equity	2,815,363,073	23.6%	22.0%	1.6%	19.0%	4.6%
Private Equity**						
Real Assets/Infrastructure**	1,032,452,852	8.6%	13.0%	-2.6%	15.0%	-6.4%
Private Credit	204,303,678	1.7%	0.0%		3.0%	-1.3%
Real Estate - Value Add	1,205,699,680	10.1%	10.0%	0.1%	13.0%	-2.9%
Real Estate - Opportunistic & Distressed	262,220,686	2.2%	4.0%	-1.8%	5.0%	-2.8%
Real Estate - REIT	309,020,703	2.6%	4.0%	-1.4%	5.0%	-2.4%
			2.0%	0.1%	0.0%	2.1%
Adelante	112,810,672	0.9%				
Invesco	133,284,299	1.1%				
High Yield	168,307,571	1.4%	2.0%	-0.6%	0.0%	1.4%
Risk Parity			3.0%	-1.1%	3.0%	-1.1%
AQR GRP EL	49,989,010	0.4%				
PanAgora	177,896,397	1.5%				
Total Other Growth Assets	3,655,985,548	30.6%	38.0%	-7.4%	44.0%	-13.4%
Total Growth Assets	8,638,719,745	72.4%	76.0%	-3.6%	76.0%	-3.6%
		Range				
		65-85%				
Risk Diversifying						
AFL-CIO	229,180,560	1.9%	2.5%	-0.6%	2.5%	-0.6%
BH-DG Systematic	187,711,246	1.6%	2.0%		2.5%	
Sit LLCAR	392,268,768	3.3%	2.5%	0.8%	2.0%	1.3%
Total Risk Diversifying	809,160,574	6.8%	7.0%	-0.2%	7.0%	-0.2%
		Range				
		0% - 10%				
Cash and Overlay						
Overlay (Parametric)	145,796,414	1.2%		1.2%		
Cash	463,763,278	3.9%		3.9%		
Total Cash and Overlay	609,559,692	5.1%	0.0%	5.1%	0.0%	5.1%
Total Fund	11,938,733,361	100%	100%		100%	

*Current targets and ranges reflect asset allocation targets accepted by the Board on April 24, 2024 (BOR Resolution 2024-3).

**Private Equity long-term target includes Real Assets/Infrastructure (see Asset Allocation Mix 5 adopted December 9, 2020).

Private Market Investments
As of September 30, 2024

REAL ESTATE - Value Add

	Inception Date	Target Termination	# of Extension	Discretion by GP/LP	New Target Termination	Funding Commitment	Market Value	% of Total Asset	Outstanding Commitment
Blackstone Strategic Partners Real Estate VIII	11/18/22	11/18/32				80,000,000	18,246,283	0.15%	63,136,759
EQT Exeter Industrial Value Fund VI	06/02/23	06/02/31				60,000,000	14,004,887	0.12%	45,000,000
Invesco IREF IV	12/01/14	12/01/21				35,000,000	102,165	0.00%	4,453,599
Invesco IREF V	09/11/18	09/11/25				75,000,000	57,133,237	0.48%	6,581,100
Invesco IREF VI	09/21/21	09/22/29				100,000,000	48,710,716	0.41%	40,854,740
Jadian Real Estate Fund II, LP	08/29/24	08/29/34				60,000,000	3,018,593	0.03%	56,981,407
Long Wharf FREG IV	08/14/13	09/30/21				25,000,000	106,908	0.00%	
Long Wharf FREG V	10/31/16	09/30/24				50,000,000	24,982,578	0.21%	
Long Wharf LREP VI	02/05/20	02/05/28				50,000,000	33,458,228	0.28%	361,552
Long Wharf LREP VII	05/15/23	03/31/32				50,000,000	19,637,486	0.16%	29,151,170
LaSalle Income & Growth Fund VI	01/31/12	01/31/19				75,000,000	8,384,738	0.07%	3,946,000
LaSalle Income & Growth Fund VII	10/31/16	09/30/24				75,000,000	21,200,995	0.18%	87,245
Stockbridge Value Fund V	04/19/24	04/19/34				60,000,000	13,233,872	0.11%	45,554,302
						1,040,000,000	262,220,686	2.20%	296,107,874
Outstanding Commitments							296,107,874		
Total							558,328,560		

REAL ESTATE -Oppportunistic & Distressed

	Inception Date	Target Termination	# of Extension	Discretion by GP/LP	New Target Termination	Funding Commitment	Market Value	% of Total Asset	Outstanding Commitment
Blackstone BREP X	06/30/22	06/30/32				100,000,000	24,525,453	0.21%	76,537,795
Cross Lake Real Estate Fund IV	04/11/23	04/11/33				60,000,000	3,016,691	0.03%	56,010,952
DLJ Real Estate Capital Partners, L.P. III	06/30/05	06/30/14	in full liq.			75,000,000	10,846,364	0.09%	4,031,338
DLJ Real Estate Capital Partners, L.P. IV	12/31/07	09/30/18				100,000,000	32,528,308	0.27%	1,876,084
DLJ Real Estate Capital Partners, L.P. V	07/31/13	12/31/22				75,000,000	12,292,720	0.10%	502,777
DLJ Real Estate Capital Partners, L.P. VI	02/28/19	01/31/29				50,000,000	10,022,634	0.08%	7,508,205
KSL Capital VI	10/24/23	10/24/33				50,000,000	9,980,307	0.08%	39,309,459
Oaktree Real Estate Opportunities Fund V	02/01/11	02/01/21				50,000,000	307,098	0.00%	25,750,000
Oaktree Real Estate Opportunities Fund VI	09/30/13	09/30/20				80,000,000	16,756,778	0.14%	18,400,000
Oaktree Real Estate Opportunities Fund VII	02/28/15	02/28/23				65,000,000	37,717,749	0.32%	16,120,000
PCCP Equity IX	04/11/22	04/01/30				75,000,000	70,588,854	0.59%	13,781,770
Siguler Guff Distressed Real Estate Opp. Fund	07/30/11	07/30/22				75,000,000	10,341,439	0.09%	5,625,000
Siguler Guff Distressed Real Estate Opp. Fund II	08/31/13	08/31/25				70,000,000	24,059,139	0.20%	8,015,000
Siguler Guff Distressed Real Estate Opp. II Co-Inv	01/31/16	10/31/25				25,000,000	11,155,539	0.09%	3,722,138
Paulson Real Estate Fund II	11/10/13	11/10/20				20,000,000	12,566,601	0.11%	654,377
Angelo Gordon Realty Fund VIII	12/31/11	12/31/18				80,000,000	7,864,795	0.07%	12,334,302
Angelo Gordon Realty Fund IX	10/10/14	10/10/22				65,000,000	14,450,234	0.12%	7,572,500
						1,115,000,000	309,020,703	2.36%	297,751,697
Outstanding Commitments							297,751,697		
Total							606,772,400		

PRIVATE CREDIT

	Inception Date	Target Termination	# of Extension	Discretion by GP/LP	New Target Termination	Funding Commitment	Market Value	% of Total Asset	Outstanding Commitment
Torchlight Debt Opportunity Fund IV	08/01/12	08/30/20				60,000,000	3,450,275	0.03%	0
Torchlight Debt Opportunity Fund V	12/31/14	09/17/22				75,000,000	7,563,070	0.06%	15,000,000
Angelo Gordon Energy Credit Opportunities	09/10/15	09/10/20				16,500,000	396,825	0.00%	2,319,783
CCERA StepStone	12/01/17	11/30/27				1,170,000,000	1,194,289,510	10.00%	259,588,449
						1,321,500,000	1,205,699,680	10.10%	276,908,232
Outstanding Commitments							276,908,232		
Total							1,482,607,912		

Private Market Investments
As of September 30, 2024

PRIVATE EQUITY	Inception Date	Target Termination	# of Extension	Discretion by GP/LP	New Target Termination	Funding Commitment	Market Value	% of Total Asset	Outstanding Commitment
Adams Street Partners	12/22/95	12/22/25				269,565,614	101,336,798	0.85%	16,200,628
Adams Street Secondary II	12/31/08	12/31/20				30,000,000	3,173,859	0.03%	1,635,000
Adams Street Secondary V	10/31/12	10/31/22				40,000,000	8,906,215	0.07%	9,154,125
Adams Street Venture Innovation Fund	03/09/16	03/09/28				75,000,000	150,301,073	1.26%	5,719,749
AE Industrial Partners Fund II	05/18/18	05/18/28				35,000,000	35,790,107	0.30%	7,831,761
Altaris Health Partners VI	07/28/23	07/28/33				50,000,000	0	0.00%	50,000,000
Arbor Investments VI	07/01/24	07/01/34				50,000,000	0	0.00%	50,000,000
Bay Area Equity Fund	06/14/04	12/31/14	2nd 2 YR	LP	12/31/2017	10,000,000	0	0.00%	0
Bay Area Equity Fund II	2/29/09	12/31/19				10,000,000	13,162,301	0.11%	0
Carpenter Community BancFund	10/31/09	10/31/19				30,000,000	0	0.00%	0
EQT X	11/17/22	11/17/32				100,000,000	13,816,483	0.12%	83,603,094
Genstar Capital Partners IX	02/18/19	02/18/29				50,000,000	67,213,963	0.56%	7,025,520
Genstar Capital Partners X	04/01/21	04/01/31				42,500,000	41,936,868	0.35%	2,263,973
Genstar Capital Partners XI	04/26/23	04/26/33				75,000,000	1,869,741	0.02%	73,155,769
GTCR XIII	10/27/20	12/31/36				50,000,000	40,289,986	0.34%	13,287,247
GTCR XIV	01/12/23	01/12/33				100,000,000	0	0.00%	100,000,000
Hellman & Friedman Capital Partners X	05/10/21	05/10/31				75,000,000	63,659,466	0.53%	20,888,862
Hellman & Friedman Capital Partners XI	12/16/22	12/16/32				100,000,000	0	0.00%	100,000,000
Leonard Green - Green Equity Investors IX	03/01/22	02/28/32				60,000,000	20,074,144	0.17%	42,773,807
Leonard Green - Jade Equity Investors II	03/01/22	02/28/32				15,000,000	118,935	0.00%	14,857,368
Oaktree Private Investment Fund 2009	02/28/10	12/15/19				40,000,000	310,882	0.00%	6,308,961
Ocean Avenue Fund II	05/07/14	05/07/24				30,000,000	14,039,503	0.12%	3,000,000
Ocean Avenue Fund III	12/09/15	12/09/25				50,000,000	50,661,270	0.42%	3,500,000
Paladin III	08/15/08	08/15/18				25,000,000	4,708,555	0.04%	387,482
Pathway	11/09/98	05/31/21				125,000,000	1,522,044	0.01%	10,512,398
Pathway 2008	12/26/08	12/26/23				30,000,000	8,936,559	0.07%	2,557,597
Pathway 6	05/24/11	05/24/26				40,000,000	22,367,310	0.19%	3,642,788
Pathway 7	02/07/13	02/07/23				70,000,000	53,728,174	0.45%	5,359,393
Pathway 8	11/23/15	11/23/25				50,000,000	60,868,138	0.51%	3,056,658
Siguler Guff CCCERA Opportunities	06/03/14	05/31/25				200,000,000	3,495,685	0.03%	28,597,500
Siguler Guff Secondary Opportunities	12/31/16	12/31/26				50,000,000	0	0.00%	0
Siris Partners IV	05/18/18	05/18/28				35,000,000	43,095,784	0.36%	3,412,566
Symphony Technology Group VII	12/21/22	12/21/32				50,000,000	4,809,769	0.04%	43,931,601
TA XIV	05/27/21	05/27/31				50,000,000	46,169,848	0.39%	3,750,000
TA XV	03/30/23	03/31/33				90,000,000	0	0.00%	90,000,000
TPG Healthcare Partners, L.P.	06/27/19	06/27/29				24,000,000	24,069,613	0.20%	3,039,448
TPG Healthcare Partners II	06/30/22	06/30/32				60,000,000	16,624,654	0.14%	43,225,286
TPG Partners IX	06/30/22	06/30/32				65,000,000	27,017,409	0.23%	38,930,724
Trident VIII, L.P.	05/24/19	05/24/29				40,000,000	50,526,405	0.42%	4,819,990
Trident IX, L.P.	09/17/21	09/17/31				50,000,000	37,851,311	0.32%	17,380,918
Total: Private Equity						2,486,065,614	1,032,452,852	8.65%	913,810,213

Real Assets/Infrastructure	Inception Date	Target Termination	# of Extension	Discretion by GP/LP	New Target Termination	Funding Commitment	Market Value	% of Total Asset	Outstanding Commitment
Aether III & III Surplus	11/30/13	11/30/20				75,000,000	50,772,811	0.43%	1,125,374
Aether IV	01/01/16	01/01/28				50,000,000	47,403,697	0.40%	5,367,254
Commonfund Capital Natural Resources IX	06/30/13	06/30/20				50,000,000	31,312,231	0.26%	2,250,007
EIF USPF II	06/15/05	06/15/15	3rd 1 YR	LP	06/15/18	50,000,000	14,312	0.00%	0
EIF USPF III	02/28/07	02/28/17	1st 1 YR	LP	02/28/18	65,000,000	3,137,120	0.03%	0
EIF USPF IV	06/28/10	06/28/20				50,000,000	17,098,303	0.14%	4
Ares EIF V	09/09/15	11/19/25				50,000,000	34,160,508	0.29%	5,512,350
EQT Infrastructure	11/15/23	11/15/35				125,000,000	19,327,946	0.16%	100,876,070
Wastewater Opportunity Fund	12/31/15	11/30/22				25,000,000	1,076,750	0.01%	521,541
Total: Real Assets/Infrastructure						540,000,000	204,303,678	1.71%	115,652,600
Total: Private Equity and Real Assets/Infrastructure						3,026,065,614	1,236,756,530	10.36%	1,029,462,813

Outstanding Commitments
Total

1,029,462,813
2,266,219,343

Private Market Investments
As of September 30, 2024

Market value equals the most recent reported net asset value, plus capital calls after net asset value date, less distributions after net asset value date.
The Target Termination column is the beginning of liquidation of the fund, however, some funds may be extended for an additional two or three years.



Save the Date!

Please join us at the **2024 Invesco Real Estate Global Client Conference**.

The Lodge at Torrey Pines
San Diego, California
Tuesday, November 12th - Thursday, November 14th

Tuesday, November 12

Morning: Portfolio Company Day for Investors

- *Single Family Rentals, Build-to-Rent, Manufactured Housing, Open Air Retail & Last Mile Logistics*

Afternoon: Fund Meetings*

Wednesday, November 13

General Conference

Thursday, November 14

Fund Meetings*

*Fund meetings for Existing Fund Investors and Advisory Board Members will take place on Tuesday afternoon and Thursday morning.



Meeting Date
11/20/2024
Agenda Item
#4.A-V

MEMORANDUM

Date: November 20, 2024
To: CCCERA Board of Retirement
From: Erica Grant, HR Manager
Subject: Consider and take possible action to adopt the CCCERA publicly available pay schedules for CCCERA classifications represented by AFSCME, Local 2700, effective January 1, 2025

Overview

The ratified Memorandum of Understanding (“MOU”) between Contra Costa County Employees’ Retirement Association (“CCCERA”) and United Clerical, Technical & Specialized Employees (“AFSCME”), Local 2700, for the period of January 1, 2024 through December 31, 2027, Section 5 of the MOU provides for a 6% base pay increase to all bargaining unit employees, effective the first full pay period after January 1, 2025.

Based on the CCCERA *Policy on Determining “Pensionable Compensation” Under PEPRA for purposes of calculating retirement benefits* and Government Code Section 7522.34 a publicly available pay schedule must meet all of the following requirements:

1. Has been duly approved and adopted by the employer’s governing body in accordance with requirements of applicable public meeting laws;
2. Identifies the position title for every employee position;
3. Shows the pay rate for each identified position, which may be stated as a single amount or as multiple amounts within a range;
4. Indicates the time base, including, but not limited to, whether the time base is hourly, daily, bi-weekly, monthly, bi-monthly, or annually;
5. Is posted at the office of the employer or immediately accessible and available for public review from the employer during normal business hours or posted on the employer’s internet website;
6. Indicates an effective date and date of any revisions;
7. Is retained by the employer and available for public inspection for not less than five years; and
8. Does not reference another document in lieu of disclosing the pay rate.

In order to comply with this requirement we have provided an updated CCCERA publicly available pay schedule reflecting the agreed upon base pay increase to all bargaining unit employees represented by AFSCME.

Recommendation

Consider and take possible action to adopt the CCCERA publicly available pay schedule for CCCERA classifications represented by AFSCME, Local 2700, effective January 1, 2025.

CCCERA Position Pay Schedules - Effective 1/1/25

Revision Dates: 1/1/25, 1/1/24, 2/1/23, 1/1/23, 7/27/2022, 7/13/2022, 4/1/2022, 1/1/2022, 4/1/2021, 4/1/2020, 1/1/2020, 7/1/19, 4/1/19, 7/1/18, 7/1/17, 7/1/16, 2/1/16, 7/1/15, 1/1/15

Positions represented by AFSCME, Local 2700:

Classification Title	Hourly (Non-Exempt)								Eligible for Differential	
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	10 year Longevity	15 year Longevity
									2.50%	2.50%
Office Specialist	\$28.55	\$29.97	\$31.47	\$33.03	\$34.69	\$36.43	\$38.24	\$40.14	Yes	Yes
Retirement Services Technician	\$28.55	\$29.97	\$31.47	\$33.03	\$34.69	\$36.43	\$38.24	\$40.14	Yes	Yes
Accounting Technician	\$34.32	\$36.08	\$37.86	\$39.75	\$41.75	\$43.83			Yes	Yes
Communications Technician	\$36.08	\$37.84	\$39.74	\$41.74	\$43.83	\$46.03			Yes	Yes
Retirement Counselor	\$36.08	\$37.84	\$39.74	\$41.74	\$43.83	\$46.03			Yes	Yes
Member Services Specialist	\$36.08	\$37.84	\$39.74	\$41.74	\$43.83	\$46.03			Yes	Yes
Administrative Assistant	\$36.69	\$38.50	\$40.45	\$42.46	\$44.58				Yes	Yes
Accounting Specialist	\$41.59	\$43.67	\$45.83	\$48.13	\$50.55	\$53.07			Yes	Yes
Senior Retirement Counselor	\$41.59	\$43.67	\$45.83	\$48.13	\$50.55	\$53.07			Yes	Yes
Data Technology Specialist	\$41.59	\$43.67	\$45.83	\$48.13	\$50.55	\$53.07			Yes	Yes
Disability Specialist	\$48.82	\$51.26	\$53.83	\$56.50	\$59.32				Yes	Yes

BOARD MEETINGS 2025

Meeting Date
11/20/2024
Agenda Item
#4.A-VI

JANUARY						
Su	Mo	Tu	We	Th	Fr	Sa
			H	2	3	4
5	6	7	B	9	10	11
12	13	14	15	16	17	18
19	H	21	B	23	24	25
26	27	28	29	30	31	

1 - New Year's Day
20 - Martin Luther King Jr. Day

FEBRUARY						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	B	13	14	15
16	H	18	19	20	21	22
23	24	25	B	27	28	

17 - Presidents' Day

MARCH						
Su	Mo	Tu	We	Th	Fr	Sa
						1
C	C	C	C	6	7	8
9	10	11	B	13	14	15
16	17	18	19	20	21	22
23	24	25	B	27	28	29
30	31					

APRIL						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	B	10	11	12
13	14	15	16	17	18	19
20	21	22	B	24	25	26
27	28	29	30			

MAY						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	B	8	9	10
11	12	S	S	S	S	17
18	19	20	23	22	23	24
25	H	27	B	29	30	31

26 - Memorial Day

JUNE						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	B	12	13	14
15	16	17	18	H	20	21
22	23	24	B	26	27	28
29	30					

19 - Juneteenth

JULY						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	H	5
6	7	8	B	10	11	12
13	14	15	16	17	18	19
20	21	22	B	24	25	26
27	28	29	30	31		

4 - Independence Day

AUGUST						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	B	14	15	16
17	18	19	20	21	22	23
24	25	26	B	28	29	30
31						

SEPTEMBER						
Su	Mo	Tu	We	Th	Fr	Sa
	H	2	3	4	5	6
7	8	9	B	11	12	13
14	15	16	17	18	19	20
21	22	23	B	25	26	27
28	29	29				

1 - Labor Day

OCTOBER						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	B	9	10	11
12	13	14	15	16	17	18
19	20	21	B	23	24	25
26	27	28	29	30	31	

NOVEMBER						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	B	6	7	8
9	10	S	S	S	S	15
16	17	18	B	20	21	22
23	24	25	26	H	H	29
30						

11 - Veterans Day
27 and 28 - Thanksgiving

DECEMBER						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	B	11	12	13
14	15	16	17	18	19	20
21	22	23	24	H	26	27
28	29	30	31			

25 - Christmas Day

B Board Meeting

S SACRS

C CALAPRS - General Assembly



MEMORANDUM

Date: November 20, 2024
To: CCCERA Board of Retirement
From: Brian Long, Senior Investment Officer; Greg Ter-Zakhariants, Senior Investment Analyst; Chih-chi Chu, Investment Analyst
Subject: Alternative Investment Fees and Expense Report - 2023

Overview

California public pension plans are required by law to obtain and publicly disclose certain fee and expense data and information on an annual basis in a public meeting (Government Code Section 7514.7, effective January 1, 2017). The law applies to any private fund that is an alternative investment vehicle whose contract with the pension plan was entered into on or after January 1, 2017, and for any existing contract as of December 31, 2016 for which an additional capital commitment is made on or after January 1, 2017. The law also requires the pension plan to use best efforts to obtain this information from funds entered into prior to January 2017. The intent of the legislation was to increase transparency of the cost of private investment vehicles that are used by public funds.

Code Section 7514.7 Disclosure Requirements

1. The fees and expenses that the California plan pays directly to the alternative investment vehicle, the fund manager, or related parties.
(See Columns E, G, H on the following pages)
2. The California plan's pro rata share of fees and expenses not included in paragraph (1) that are paid from the alternative investment vehicle to the fund manager or related parties. The California plan may independently calculate this information based on information contractually required to be provided by the alternative investment vehicle to the public investment fund. If the California plan independently calculates this information, then the alternative investment vehicle shall not be required to provide the information identified in this paragraph.
(Column I)

3. The California plan's pro rata share of carried interest distributed to the fund manager or related parties.
(Column F)
4. The California plan's pro rata share of aggregate fees and expenses paid by all of the portfolio companies held within the alternative investment vehicle to the fund manager or related parties.
(Column J)
5. Any additional information described in subdivision (b) of Section 7928.710 of the Code.
(Columns K-V)

Methodology

Beginning in early 2017, we asked all Alternative Investment Managers to use the Institutional Limited Partners Association (ILPA) template to report fees and expenses to CCCERA on a quarterly basis. Though not required for funds where a contract was entered into prior to January 1, 2017, most managers voluntarily provided information using the ILPA template.

This report displays the available data for alternative investment vehicles in which CCCERA was invested as of December 31, 2023. CCCERA Investment Staff will issue a similar report in 2025 when complete data for 2024 is available.

**Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Private Equity**

Calendar Year 2023

A	B	C	D	E	F	G	H	I	J
Private Equity	Address	Funding Commitment	Remaining Value as of 12/31/2023	Management Fees	Carried Interest Paid	Partnership Expenses	2023 Offsets	Other Expenses	Fees Paid by Portfolio Companies
Adams Street Partners (CCCERA)	Chicago, IL	\$ 210,000,000	\$ 117,430,771	\$ 583,751	\$ 54,259	\$ 97,738	\$ 2,138	\$ 486	N/A
Adam Street Partners - Brinson Partnership Fund	Chicago, IL	\$ 59,565,614	\$ 468,183	\$ -	\$ -	\$ 3,541	\$ -	\$ -	N/A
Adams Street Global Opportunities Secondary Fund II	Chicago, IL	\$ 30,000,000	\$ 3,282,372	\$ 60,000	\$ 22,688	\$ 6,628	\$ -	\$ -	N/A
Adams Street Global Opportunities Secondary Fund V	Chicago, IL	\$ 40,000,000	\$ 10,213,142	\$ 147,000	\$ -	\$ 11,608	\$ -	\$ -	N/A
Adams Street Venture Innovation Fund	Chicago, IL	\$ 75,000,000	\$ 161,811,496	\$ 668,250	\$ -	\$ 48,744	\$ -	\$ 19,046	N/A
AE Industrial Partners Fund II, LP	Boca Raton, FL	\$ 35,000,000	\$ 40,464,604	\$ 475,647	\$ 462,658	\$ 77,717	\$ 235,629	\$ 104,475	N/A
Altaris Health Partners VI, L.P.	New York, NY	\$ 50,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
Bay Area Equity Fund	San Francisco, CA	\$ 10,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,787	N/A
Bay Area Equity Fund II	San Francisco, CA	\$ 10,000,000	\$ 13,081,700	\$ -	\$ -	\$ -	\$ -	\$ 8,974	N/A
Carpenter Community BancFund	Irvine, CA	\$ 30,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
EQT X, L.P.	Stockholm, Sweden	\$ 100,000,000	\$ 14,089,668	\$ 1,500,000	\$ -	\$ -	\$ -	\$ -	N/A
EQT Infrastructure VI	Stockholm, Sweden	\$ 125,000,000	\$ (3,256,894)	\$ 2,135,959	\$ -	\$ -	\$ -	\$ -	N/A
Genstar Capital Partners IX, L.P.	San Francisco, CA	\$ 50,000,000	\$ 69,727,752	\$ 617,696	\$ 655,543	\$ 38,189	\$ -	\$ -	N/A
Genstar Capital Partners X	San Francisco, CA	\$ 42,500,000	\$ 40,076,409	\$ 709,549	\$ -	\$ 36,823	\$ 17,232	\$ -	N/A
Genstar Capital Partners XI	San Francisco, CA	\$ 75,000,000	\$ 106,530	\$ 274,626	\$ -	\$ 121,632	\$ 22,336	\$ 45,943	N/A
Green Equity Investors IX	Los Angeles, CA	\$ 60,000,000	\$ 2,249,807	\$ 346,231	\$ -	\$ -	\$ -	\$ 446,091	N/A
GTCR Fund XIII, L.P.	Chicago, IL	\$ 50,000,000	\$ 27,403,005	\$ 750,000	\$ -	\$ 277,436	\$ 168,806	\$ 248,897	N/A
GTCR Fund XIV	Chicago, IL	\$ 100,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
Hellman & Friedman Capital Partners X, L.P.	San Francisco, CA	\$ 75,000,000	\$ 62,696,843	\$ 1,124,996	\$ -	\$ 123,035	\$ -	\$ 97,684	N/A
Hellman & Friedman Capital Partners XI, L.P.	San Francisco, CA	\$ 100,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
Jade Equity Investors II, L.P.	Los Angeles, CA	\$ 15,000,000	\$ (43,719)	\$ -	\$ -	\$ -	\$ -	\$ 29,836	N/A
Oaktree Private Investment Fund 2009, L.P.	Los Angeles, CA	\$ 40,000,000	\$ 326,303	\$ -	\$ -	\$ 33,999	\$ -	\$ -	N/A
Ocean Avenue Fund II	Santa Monica, CA	\$ 30,000,000	\$ 24,856,566	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
Ocean Avenue Fund III	Santa Monica, CA	\$ 50,000,000	\$ 50,182,111	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
Paladin III, L.P.	Washington, DC	\$ 25,000,000	\$ 9,195,178	\$ 156,884	\$ -	\$ 31,730	\$ -	\$ -	N/A
Pathway Private Equity Fund, LLC	Irvine, CA	\$ 125,000,000	\$ 1,977,631	\$ 343,842	\$ -	\$ 96,049	\$ -	\$ -	N/A
Pathway Private Equity Fund 2008	Irvine, CA	\$ 30,000,000	\$ 10,752,179	\$ 80,070	\$ -	\$ 13,554	\$ -	\$ -	N/A
Pathway Private Equity Fund 6	Irvine, CA	\$ 40,000,000	\$ 27,422,793	\$ 194,242	\$ -	\$ 20,623	\$ -	\$ -	N/A
Pathway Private Equity Fund 7	Irvine, CA	\$ 70,000,000	\$ 61,409,757	\$ 447,475	\$ -	\$ 32,479	\$ -	\$ -	N/A
Pathway Private Equity Fund 8	Irvine, CA	\$ 50,000,000	\$ 65,510,552	\$ 363,870	\$ -	\$ 22,080	\$ -	\$ -	N/A

N/A: This information was not available or not provided by the manager.

Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Private Equity

Calendar Year 2023

A	B	C	D	E	F	G	H	I	J
Private Equity	Address	Funding Commitment	Remaining Value as of 12/31/2023	Management Fees	Carried Interest Paid	Partnership Expenses	2023 Offsets	Other Expenses	Fees Paid by Portfolio Companies
Siguler Guff CCCERA Opportunities Fund, LP	New York, NY	\$ 200,000,000	\$ 115,568,017	\$ 553,978	\$ 7,097	\$ -	\$ 22,500	\$ -	N/A
Siguler Guff Secondary Opportunities Fund	New York, NY	\$ 50,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
Siris Partners IV, L.P.	New York, NY	\$ 35,000,000	\$ 39,921,263	\$ 521,487	\$ -	\$ -	\$ -	\$ -	N/A
Symphony Technology Group VII	Palo Alto, CA	\$ 50,000,000	\$ (868,493)	\$ 468,493	\$ -	\$ 151,006	\$ 45,305	\$ 86,103	N/A
TA XIV-A, L.P.	Boston, MA	\$ 50,000,000	\$ 35,587,859	\$ 940,514	\$ -	\$ 192,344	\$ 138,759	\$ 138,953	N/A
TA XV-A, L.P.	Boston, MA	\$ 90,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
TPG Healthcare Partners, L.P.	San Francisco, CA	\$ 24,000,000	\$ 25,011,829	\$ 236,301	\$ -	\$ 62,144	\$ -	\$ 165,786	N/A
TPG Healthcare Partners II	San Francisco, CA	\$ 60,000,000	\$ 8,315,523	\$ 1,044,785	\$ -	\$ 124,581	\$ -	\$ 680,519	N/A
TPG Partners IX	San Francisco, CA	\$ 65,000,000	\$ 16,640,720	\$ 950,626	\$ -	\$ 161,277	\$ -	\$ 631,090	N/A
Trident VIII, L.P.	Greenwich, CT	\$ 40,000,000	\$ 50,073,726	\$ 459,302	\$ -	\$ -	\$ -	\$ -	N/A
Trident IX, L.P.	Greenwich, CT	\$ 50,000,000	\$ 25,551,711	\$ 750,000	\$ -	\$ -	\$ -	\$ -	N/A
United States Power Fund	Los Angeles, CA	\$ 30,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
USPF II Institutional Fund, L.P.	Los Angeles, CA	\$ 50,000,000	\$ 18,111	\$ -	\$ -	\$ 6,949	\$ -	\$ -	N/A
United States Power Fund III, L.P.	Los Angeles, CA	\$ 65,000,000	\$ 2,206,910	\$ 46,868	\$ -	\$ 8,653	\$ -	\$ 1,273	N/A
Energy Investor Funds USPF IV	Los Angeles, CA	\$ 50,000,000	\$ 17,689,654	\$ 245,748	\$ -	\$ 73,154	\$ -	\$ 274,614	N/A
Ares EIF V	Los Angeles, CA	\$ 50,000,000	\$ 31,247,444	\$ 478,938	\$ -	\$ 47,039	\$ -	\$ 7	N/A
Real Assets									
Aether Real Assets III	Denver, CO	\$ 25,000,000	\$ 15,379,840	\$ 92,931	\$ -	\$ -	\$ -	\$ -	N/A
Aether Real Assets III Surplus	Denver, CO	\$ 50,000,000	\$ 36,736,376	\$ 131,197	\$ -	\$ -	\$ -	\$ -	N/A
Aether Real Assets IV	Denver, CO	\$ 50,000,000	\$ 48,694,502	\$ 261,003	\$ -	\$ -	\$ -	\$ -	N/A
Commonfund Capital Natural Resources IX	Wilton, CT	\$ 50,000,000	\$ 36,375,623	\$ 150,017	\$ -	\$ 35,240	\$ -	\$ -	N/A
Wastewater Opportunity Fund	Portland, OR	\$ 25,000,000	\$ 6,110,693	\$ 152,098	\$ -	\$ -	\$ -	\$ 55,492	N/A

N/A: This information was not available or not provided by the manager.

**Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Private Equity**

Calendar Year 2023

K	L	M	N	O	P	Q	R	S	T	U	V
Private Equity	Address	Inception Date	Funding Commitment	Since Inception Contributions	Since Inception Distributions	Remaining Value as of 12/31/2023	Total Value as of 12/31/2023	Distributed/ Paid in	Total Value/ Paid in	Since Inception Gross IRR	Since Inception Net IRR
Adams Street Partners (CCCERA)	Chicago, IL	12/22/1995	\$ 210,000,000	\$ 195,823,407	\$ 279,739,454	\$ 117,430,771	\$ 397,170,225	1.43x	2.03x	13.4%	11.5%
Adam Street Partners - Brinson Partnership Fund	Chicago, IL	1/18/1996	\$ 59,565,614	\$ 57,517,409	\$ 103,896,144	\$ 468,183	\$ 104,364,327	1.81x	1.81x	14.2%	11.6%
Adams Street Global Opportunities Secondary Fund II	Chicago, IL	1/15/2009	\$ 30,000,000	\$ 28,365,000	\$ 45,661,555	\$ 3,282,372	\$ 48,943,927	1.61x	1.73x	16.3%	13.8%
Adams Street Global Opportunities Secondary Fund V	Chicago, IL	9/21/2012	\$ 40,000,000	\$ 30,845,875	\$ 32,286,795	\$ 10,213,142	\$ 42,499,937	1.05x	1.38x	9.2%	6.5%
Adams Street Venture Innovation Fund	Chicago, IL	3/31/2016	\$ 75,000,000	\$ 69,280,251	\$ 35,897,266	\$ 161,811,496	\$ 197,708,762	0.52x	2.85x	31.4%	29.5%
AE Industrial Partners Fund II, LP	Boca Raton, FL	5/18/2018	\$ 35,000,000	\$ 36,067,717	\$ 15,671,952	\$ 40,464,604	\$ 56,136,556	0.43x	1.56x	23.7%	20.5%
Altaris Health Partners VI, L.P.	New York, NY	7/28/2023	\$ 50,000,000	\$ -	\$ -	\$ -	\$ -	0.00x	0.00x	NM	NM
Bay Area Equity Fund	San Francisco, CA	4/30/2004	\$ 10,000,000	\$ 10,000,000	\$ 37,018,019	\$ -	\$ 37,018,019	3.70x	3.70x	31.4%	23.0%
Bay Area Equity Fund II	San Francisco, CA	6/29/2009	\$ 10,000,000	\$ 10,000,000	\$ 3,684,910	\$ 13,081,700	\$ 16,766,610	0.37x	1.68x	9.1%	5.3%
Carpenter Community BancFund	Irvine, CA	1/16/2008	\$ 30,000,000	\$ 29,314,657	\$ 49,128,304	\$ -	\$ 49,128,304	1.68x	1.68x	10.4%	8.0%
EQT X, L.P.	Stockholm, Sweden	11/17/2022	\$ 100,000,000	\$ 17,450,752	\$ 2,669,844	\$ 14,089,668	\$ 16,759,512	0.15x	0.96x	NM	NM
EQT Infrastructure VI	Stockholm, Sweden	12/31/2023	\$ 125,000,000	\$ -	\$ -	\$ (3,256,894)	\$ (3,256,894)	0.00x	0.00x	NM	NM
Genstar Capital Partners IX, L.P.	San Francisco, CA	2/21/2019	\$ 50,000,000	\$ 48,083,549	\$ 27,299,645	\$ 69,727,752	\$ 97,027,397	0.57x	2.02x	43.1%	31.1%
Genstar Capital Partners X	San Francisco, CA	4/1/2021	\$ 42,500,000	\$ 39,406,048	\$ 181,283	\$ 40,076,409	\$ 40,257,692	0.00x	1.02x	10.9%	2.1%
Genstar Capital Partners XI	San Francisco, CA	4/26/2023	\$ 75,000,000	\$ 298,210	\$ -	\$ 106,530	\$ 106,530	0.00x	0.36x	NM	NM
Green Equity Investors IX	Los Angeles, CA	5/10/2022	\$ 60,000,000	\$ 576,976	\$ -	\$ 2,249,807	\$ 2,249,807	0.00x	3.90x	NM	NM
GTCR Fund XIII, L.P.	Chicago, IL	10/27/2020	\$ 50,000,000	\$ 26,392,753	\$ 5,556,257	\$ 27,403,005	\$ 32,959,262	0.21x	1.25x	22.6%	17.7%
GTCR Fund XIV	Chicago, IL	1/12/2023	\$ 100,000,000	\$ -	\$ -	\$ -	\$ -	1.00x	0.00x	NM	NM
Hellman & Friedman Capital Partners X, L.P.	San Francisco, CA	5/10/2021	\$ 75,000,000	\$ 54,243,885	\$ 140,005	\$ 62,696,843	\$ 62,836,848	0.00x	1.16x	11.0%	8.9%
Hellman & Friedman Capital Partners XI, L.P.	San Francisco, CA	12/16/2022	\$ 100,000,000	\$ -	\$ -	\$ -	\$ -	2.00x	0.00x	NM	NM
Jade Equity Investors II, L.P.	Los Angeles, CA	5/10/2022	\$ 15,000,000	\$ -	\$ -	\$ (43,719)	\$ (43,719)	0.00x	0.00x	NM	NM
Oaktree Private Investment Fund 2009, L.P.	Los Angeles, CA	11/18/2009	\$ 40,000,000	\$ 34,812,560	\$ 47,032,470	\$ 326,303	\$ 47,358,773	1.35x	1.36x	6.8%	6.5%
Ocean Avenue Fund II	Santa Monica, CA	5/2/2013	\$ 30,000,000	\$ 27,000,000	\$ 44,294,244	\$ 24,856,566	\$ 69,150,811	1.64x	2.56x	20.7%	18.8%
Ocean Avenue Fund III	Santa Monica, CA	4/15/2016	\$ 50,000,000	\$ 46,500,000	\$ 57,709,752	\$ 50,182,111	\$ 107,891,863	1.24x	2.32x	28.8%	23.9%
Paladin III, L.P.	Washington, DC	11/30/2007	\$ 25,000,000	\$ 34,954,262	\$ 71,324,279	\$ 9,195,178	\$ 80,519,457	2.04x	2.30x	20.1%	13.3%
Pathway Private Equity Fund, LLC	Irvine, CA	1/19/1999	\$ 125,000,000	\$ 126,517,050	\$ 190,444,516	\$ 1,977,631	\$ 192,422,147	1.51x	1.52x	10.8%	8.3%
Pathway Private Equity Fund 2008	Irvine, CA	7/31/2009	\$ 30,000,000	\$ 30,263,207	\$ 52,742,837	\$ 10,752,179	\$ 63,495,016	1.74x	2.10x	17.0%	13.9%
Pathway Private Equity Fund 6	Irvine, CA	8/22/2011	\$ 40,000,000	\$ 39,620,012	\$ 54,605,384	\$ 27,422,793	\$ 82,028,177	1.38x	2.07x	16.8%	14.0%
Pathway Private Equity Fund 7	Irvine, CA	7/10/2013	\$ 70,000,000	\$ 69,725,061	\$ 89,159,064	\$ 61,409,757	\$ 150,568,821	1.28x	2.16x	18.5%	15.8%
Pathway Private Equity Fund 8	Irvine, CA	11/23/2015	\$ 50,000,000	\$ 49,255,120	\$ 43,254,641	\$ 65,510,552	\$ 108,765,193	0.88x	2.21x	20.5%	18.7%

NM: This data is not yet meaningful.

**Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Private Equity**

Calendar Year 2023

K	L	M	N	O	P	Q	R	S	T	U	V
Private Equity	Address	Inception Date	Funding Commitment	Since Inception Contributions	Since Inception Distributions	Remaining Value as of 12/31/2023	Total Value as of 12/31/2023	Distributed/ Paid in	Total Value/ Paid in	Since Inception Gross IRR	Since Inception Net IRR
Siguler Guff CCCERA Opportunities Fund, LP	New York, NY	6/3/2014	\$ 200,000,000	\$ 175,083,208	\$ 223,690,941	\$ 115,568,017	\$ 339,258,958	1.28x	1.94x	18.4%	15.9%
Siguler Guff Secondary Opportunities Fund	New York, NY	11/30/2016	\$ 50,000,000	\$ 29,999,802	\$ 42,773,166	\$ -	\$ 42,773,166	1.43x	1.43x	118.4%	74.8%
Siris Partners IV, L.P.	New York, NY	5/18/2018	\$ 35,000,000	\$ 32,963,940	\$ 5,820,012	\$ 39,921,263	\$ 45,741,275	0.18x	1.39x	16.1%	11.8%
Symphony Technology Group VII	Palo Alto, CA	12/21/2022	\$ 50,000,000	\$ -	\$ -	\$ (868,493)	\$ (868,493)	0.00x	0.00x	NM	NM
TA XIV-A, L.P.	Boston, MA	5/27/2021	\$ 50,000,000	\$ 38,000,000	\$ 1,500,000	\$ 35,587,859	\$ 37,087,859	0.04x	0.98x	3.9%	-1.9%
TA XV-A, L.P.	Boston, MA	3/30/2023	\$ 90,000,000	\$ -	\$ -	\$ -	\$ -	0.00x	0.00x	NM	NM
TPG Healthcare Partners, L.P.	San Francisco, CA	6/28/2019	\$ 24,000,000	\$ 23,534,961	\$ 6,263,131	\$ 25,011,829	\$ 31,274,960	0.27x	1.33x	33.0%	18.6%
TPG Healthcare Partners II	San Francisco, CA	6/30/2022	\$ 60,000,000	\$ 7,501,200	\$ -	\$ 8,315,523	\$ 8,315,523	0.00x	1.11x	NM	NM
TPG Partners IX	San Francisco, CA	6/30/2022	\$ 65,000,000	\$ 16,324,989	\$ 4,332	\$ 16,640,720	\$ 16,645,052	0.00x	1.02x	NM	NM
Trident VIII, L.P.	Greenwich, CT	5/24/2019	\$ 40,000,000	\$ 38,314,293	\$ 3,792,372	\$ 50,073,726	\$ 53,866,098	0.10x	1.41x	18.0%	14.0%
Trident IX, L.P.	Greenwich, CT	9/17/2021	\$ 50,000,000	\$ 23,201,490	\$ -	\$ 25,551,711	\$ 25,551,711	0.00x	1.10x	17.0%	11.5%
United States Power Fund	Los Angeles, CA	11/26/2003	\$ 30,000,000	\$ 38,960,280	\$ 64,468,378	\$ -	\$ 64,468,378	1.65x	1.65x	34.7%	28.3%
USPF II Institutional Fund, L.P.	Los Angeles, CA	7/15/2005	\$ 50,000,000	\$ 65,029,556	\$ 76,092,655	\$ 18,111	\$ 76,110,766	1.17x	1.17x	5.3%	2.6%
United States Power Fund III, L.P.	Los Angeles, CA	5/31/2007	\$ 65,000,000	\$ 71,409,097	\$ 93,077,887	\$ 2,206,910	\$ 95,284,797	1.30x	1.33x	7.1%	4.4%
Energy Investor Funds USPF IV	Los Angeles, CA	11/28/2011	\$ 50,000,000	\$ 64,917,547	\$ 50,464,797	\$ 17,689,654	\$ 68,154,451	0.78x	1.05x	4.6%	1.0%
Ares EIF V	Los Angeles, CA	11/28/2016	\$ 50,000,000	\$ 71,633,870	\$ 65,340,271	\$ 31,247,444	\$ 96,587,715	0.91x	1.35x	17.5%	12.1%
Aether Real Assets III	Denver, CO	11/27/2013	\$ 25,000,000	\$ 26,404,849	\$ 7,785,428	\$ 15,379,840	\$ 23,165,268	0.29x	0.88x	-0.7%	-2.3%
Aether Real Assets III Surplus	Denver, CO	11/30/2013	\$ 50,000,000	\$ 53,006,965	\$ 15,115,662	\$ 36,736,376	\$ 51,852,038	0.29x	0.98x	0.7%	-0.3%
Aether Real Assets IV	Denver, CO	1/30/2016	\$ 50,000,000	\$ 50,892,773	\$ 8,306,803	\$ 48,694,502	\$ 57,001,305	0.16x	1.12x	4.1%	2.5%
Commonfund Capital Natural Resources IX	Wilton, CT	6/30/2013	\$ 50,000,000	\$ 47,649,993	\$ 33,883,799	\$ 36,375,623	\$ 70,259,422	0.71x	1.47x	8.0%	6.5%
Wastewater Opportunity Fund	Portland, OR	12/8/2015	\$ 25,000,000	\$ 31,512,759	\$ 27,076,172	\$ 6,110,693	\$ 33,186,865	0.86x	1.05x	5.7%	1.7%

NM: This data is not yet meaningful.

Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Private Credit

Calendar Year 2023

A	B	C	D	E	F	G	H	I	J
Private Credit	Address	Funding Commitment	Remaining Value as of 12/31/2023	Management Fees	Carried Interest Paid	Partnership Expenses	2023 Offsets	Other Expenses	Fees Paid by Portfolio Companies
Angelo Gordon Energy Credit Opportunities Fund	New York, NY	\$ 16,500,000	\$ 2,323,574	\$ -	\$ -	\$ 43,256	\$ -	\$ -	N/A
StepStone CC Opportunities Fund, LLC - All Series	La Jolla, CA	\$1,170,000,000	\$ 1,122,590,608	\$ 1,500,000	\$ -	\$ 773,451	\$ -	\$ -	N/A
Torchlight Debt Opportunity Fund IV	New York, NY	\$ 60,000,000	\$ 3,446,984	\$ 46,022	\$ -	\$ 66,730	\$ -	\$ -	N/A
Torchlight Debt Opportunity Fund V	New York, NY	\$ 75,000,000	\$ 7,436,343	\$ 81,840	\$ -	\$ 84,732	\$ -	\$ -	N/A

N/A: This information was not available or not provided by the manager.

**Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Private Credit**

Calendar Year 2023

K	L	M	N	O	P	Q	R	S	T	U	V
Private Credit	Address	Inception Date	Funding Commitment	Since Inception Contributions	Since Inception Distributions	Remaining Value as of 12/31/2023	Total Value as of 12/31/2023	Distributed/ Paid in	Total Value/ Paid in	Since Inception Gross IRR	Since Inception Net IRR
Angelo Gordon Energy Credit Opportunities Fund	New York, NY	8/14/2015	\$ 16,500,000	\$ 18,750,000	\$ 20,410,032	\$ 2,323,574	\$ 22,733,606	1.09x	1.21x	10.2%	7.3%
StepStone CC Opportunities Fund, LLC - All Series	La Jolla, CA	12/18/2017	\$1,170,000,000	\$ 1,016,875,587	\$ 245,401,919	\$ 1,122,590,608	\$ 1,367,992,527	0.24x	1.35x	10.1%	9.5%
Torchlight Debt Opportunity Fund IV	New York, NY	8/1/2012	\$ 60,000,000	\$ 84,866,971	\$ 109,589,365	\$ 3,446,984	\$ 113,036,349	1.29x	1.33x	11.6%	9.8%
Torchlight Debt Opportunity Fund V	New York, NY	3/12/2015	\$ 75,000,000	\$ 60,000,000	\$ 71,460,214	\$ 7,436,343	\$ 78,896,557	1.19x	1.31x	14.1%	10.1%

NM: This data is not yet meaningful.

**Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Real Estate**

Calendar Year 2023

A	B	C	D	E	F	G	H	I	J
Real Estate	Address	Funding Commitment	Remaining Value as of 12/31/2023	Management Fees	Carried Interest Paid	Partnership Expenses	2023 Offsets	Other Expenses	Fees Paid by Portfolio Companies
Ares US Real Estate Opportunity Fund IV, LP	New York, NY	\$ 60,000,000	\$ (881,670)	\$ 704,755	\$ -	\$ 194,885	\$ -	\$ -	N/A
AG Realty Fund VIII, LP	New York, NY	\$ 80,000,000	\$ 10,216,357	\$ -	\$ -	\$ 65,654	\$ -	\$ -	N/A
AG Realty Fund IX (A), LP	New York, NY	\$ 65,000,000	\$ 17,585,156	\$ 516,574	\$ -	\$ 126,894	\$ -	\$ -	N/A
Blackstone Real Estate Partners X	New York, NY	\$ 100,000,000	\$ 4,886,439	\$ 1,658,333	\$ -	\$ 91,825	\$ 375,000	\$ 41,788	N/A
Paulson Real Estate Fund II LP	New York, NY	\$ 20,000,000	\$ 12,539,072	\$ 127,810	\$ -	\$ 77,972	\$ -	\$ -	N/A
Cross Lake Real Estate Fund IV LP	New York, NY	\$ 60,000,000	\$ 1,170,019	\$ 452,055	\$ -	\$ 522,253	\$ -	\$ -	N/A
DLJ RECP Fund III, L.P.	Wilmington, De	\$ 75,000,000	\$ 11,434,409	\$ 62,071	\$ -	\$ 75,015	\$ -	\$ -	N/A
DLJ RECP Fund IV, L.P.	Wilmington, De	\$ 100,000,000	\$ 37,967,574	\$ 408,491	\$ -	\$ 178,925	\$ -	\$ -	N/A
DLJ RECP Fund V, L.P.	Wilmington, De	\$ 75,000,000	\$ 13,984,427	\$ 527,060	\$ -	\$ 304,125	\$ 57,638	\$ 68,180	N/A
DLJ RECP Fund VI, L.P.	Wilmington, De	\$ 50,000,000	\$ 12,109,351	\$ 362,593	\$ -	\$ 810,910	\$ 90,438	\$ 569,894	N/A
EQT Exeter Industrial Value Fund VI, LP	Radnor, PA	\$ 60,000,000	\$ 4,962,651	\$ 900,000	\$ -	\$ 29,991	\$ -	\$ -	N/A
Invesco U.S. Value-Add Fund IV	Dallas, TX	\$ 35,000,000	\$ 356,326	\$ 15,407	\$ -	\$ 61,656	\$ -	\$ -	N/A
Invesco U.S. Value-Add Fund V	Dallas, TX	\$ 75,000,000	\$ 58,669,764	\$ 847,206	\$ -	\$ 976,357	\$ -	\$ -	N/A
Invesco Real Estate U.S. Fund VI	Dallas, TX	\$ 100,000,000	\$ 43,263,683	\$ 364,419	\$ -	\$ 1,616,971	\$ -	\$ -	N/A
KSL Capital Partners VI, L.P.	Denver, CO	\$ 50,000,000	\$ 8,926,995	\$ 1,537,842	\$ -	\$ 123,549	\$ -	\$ 557,301	\$ 376,631
LaSalle Income & Growth Fund VI	Chicago, IL	\$ 75,000,000	\$ 12,520,362	\$ -	\$ -	\$ 24,648	\$ -	\$ -	N/A
LaSalle Income & Growth Fund VII	Chicago, IL	\$ 75,000,000	\$ 23,461,488	\$ 579,911	\$ -	\$ 50,896	\$ -	\$ -	N/A
Long Wharf Real Estate Partners IV L.P.	Boston, MA	\$ 25,000,000	\$ 292,888	\$ 22,933	\$ -	\$ 31,505	\$ -	\$ -	N/A
Long Wharf Real Estate Partners V L.P.	Boston, MA	\$ 50,000,000	\$ 28,758,306	\$ 375,913	\$ -	\$ 67,869	\$ -	\$ -	N/A
Long Wharf Real Estate Partners VI L.P.	Boston, MA	\$ 50,000,000	\$ 34,319,023	\$ 525,927	\$ -	\$ 113,730	\$ -	\$ -	N/A
Long Wharf Real Estate Partners VII L.P.	Boston, MA	\$ 50,000,000	\$ 6,651,081	\$ 934,932	\$ -	\$ 391,099	\$ -	\$ -	N/A
Oaktree Real Estate Opportunities Fund V, L.P.	Los Angeles, CA	\$ 50,000,000	\$ 379,871	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
Oaktree Real Estate Opportunities Fund VI, L.P.	Los Angeles, CA	\$ 80,000,000	\$ 17,840,801	\$ 265,197	\$ -	\$ -	\$ -	\$ -	N/A
Oaktree Real Estate Opportunities Fund VII, L.P.	Los Angeles, CA	\$ 65,000,000	\$ 42,132,306	\$ 645,627	\$ -	\$ -	\$ -	\$ 333,251	N/A
PCCP Equity IX, LP	Los Angeles, CA	\$ 75,000,000	\$ 61,548,960	\$ 1,031,250	\$ -	\$ 452,564	\$ 93,750	\$ -	N/A
Siguler Guff Distressed Real Estate Opportunities Fund, LP	New York, NY	\$ 75,000,000	\$ 11,165,560	\$ 108,508	\$ 222,865	\$ 49,894	\$ -	\$ -	N/A
Siguler Guff Distressed Real Estate Opportunities Fund II, LP	New York, NY	\$ 70,000,000	\$ 25,172,341	\$ 206,278	\$ -	\$ 131,762	\$ -	\$ -	N/A
Siguler Guff DREOF II Co-Investment Fund, LP	New York, NY	\$ 25,000,000	\$ 11,918,001	\$ 95,083	\$ -	\$ 52,806	\$ -	\$ -	N/A
Strategic Partners Real Estate VIII LP	New York, NY	\$ 80,000,000	\$ 4,827,677	\$ 1,222,222	\$ -	\$ 150,872	\$ -	\$ -	N/A

N/A: This information was not available or not provided by the manager.

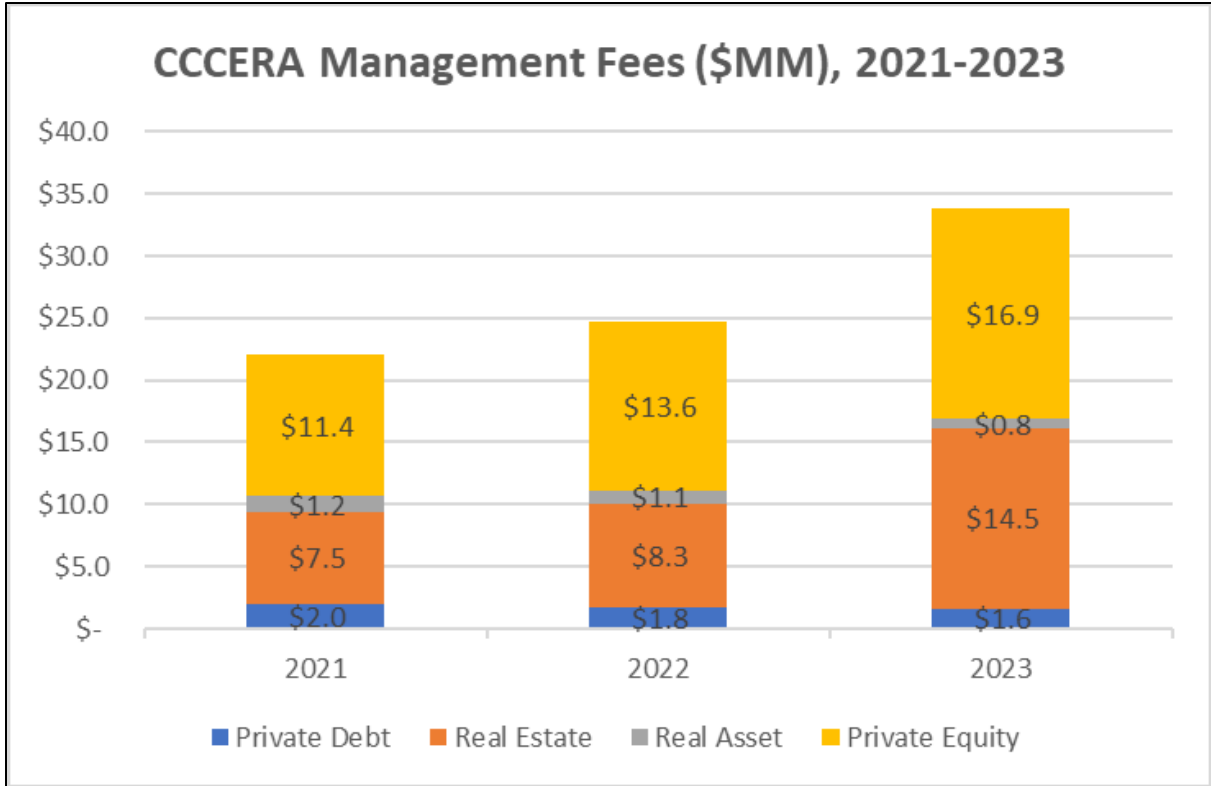
**Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Real Estate**

Calendar Year 2023

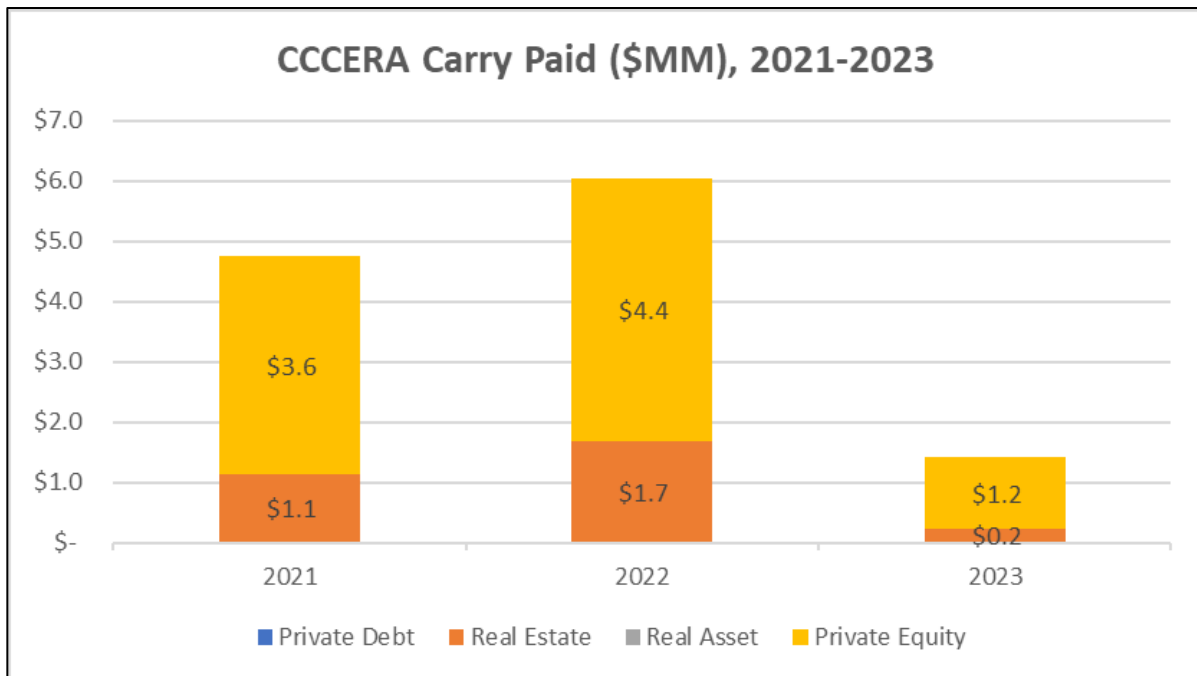
K	L	M	N	O	P	Q	R	S	T	U	V
Real Estate	Address	Inception Date	Funding Commitment	Since Inception Contributions	Since Inception Distributions	Remaining Value as of 12/31/2023	Total Value as of 12/31/2023	Distributed/ Paid in	Total Value/ Paid in	Since Inception Gross IRR	Since Inception Net IRR
Ares US Real Estate Opportunity Fund IV, LP	New York, NY	11/1/2022	\$ 60,000,000	\$ -	\$ -	\$ (881,670)	\$ (881,670)	0.00x	0.00x	NM	NM
AG Realty Fund VIII, LP	New York, NY	12/13/2010	\$ 80,000,000	\$ 75,401,855	\$ 101,711,550	\$ 10,216,357	\$ 111,927,907	1.35x	1.48x	16.0%	12.0%
AG Realty Fund IX (A), LP	New York, NY	12/8/2014	\$ 65,000,000	\$ 60,125,000	\$ 58,012,501	\$ 17,585,156	\$ 75,597,657	0.96x	1.26x	9.0%	5.2%
Blackstone Real Estate Partners X	New York, NY	12/31/2023	\$ 100,000,000	\$ 5,843,649	\$ -	\$ 4,886,439	\$ 4,886,439	0.00x	0.84x	NM	NM
Paulson Real Estate Fund II LP	New York, NY	12/31/2013	\$ 20,000,000	\$ 19,345,623	\$ 26,634,691	\$ 12,539,072	\$ 39,173,763	1.38x	2.02x	15.2%	10.8%
Cross Lake Real Estate Fund IV LP	New York, NY	1/3/2023	\$ 60,000,000	\$ 1,495,894	\$ -	\$ 1,170,019	\$ 1,170,019	0.00x	0.78x	0.0%	0.0%
DLJ RECP Fund III, L.P.	Wilmington, De	6/6/2005	\$ 75,000,000	\$ 101,043,287	\$ 75,366,555	\$ 11,434,409	\$ 86,800,964	0.75x	0.86x	-0.7%	-2.7%
DLJ RECP Fund IV, L.P.	Wilmington, De	12/26/2007	\$ 100,000,000	\$ 133,446,096	\$ 103,988,037	\$ 37,967,574	\$ 141,955,611	0.78x	1.06x	3.0%	1.7%
DLJ RECP Fund V, L.P.	Wilmington, De	7/18/2013	\$ 75,000,000	\$ 117,903,508	\$ 107,876,363	\$ 13,984,427	\$ 121,860,790	0.91x	1.03x	8.0%	1.7%
DLJ RECP Fund VI, L.P.	Wilmington, De	11/20/2018	\$ 50,000,000	\$ 39,587,651	\$ 12,222,991	\$ 12,109,351	\$ 24,332,342	0.31x	0.61x	-9.9%	-18.7%
EQT Exeter Industrial Value Fund VI, LP	Radnor, PA	6/2/2023	\$ 60,000,000	\$ 6,000,000	\$ -	\$ 4,962,651	\$ 4,962,651	0.00x	0.83x	NM	NM
Invesco U.S. Value-Add Fund IV	Dallas, TX	6/30/2014	\$ 35,000,000	\$ 30,546,401	\$ 39,777,325	\$ 356,326	\$ 40,133,651	1.30x	1.31x	12.8%	10.2%
Invesco U.S. Value-Add Fund V	Dallas, TX	7/28/2017	\$ 75,000,000	\$ 73,118,800	\$ 9,319,462	\$ 58,669,764	\$ 67,989,226	0.13x	0.93x	0.6%	-2.3%
Invesco Real Estate U.S. Fund VI	Dallas, TX	12/30/2020	\$ 100,000,000	\$ 51,605,559	\$ -	\$ 43,263,683	\$ 43,263,683	0.00x	0.84x	-16.9%	-18.3%
KSL Capital Partners VI, L.P.	Denver, CO	3/30/2022	\$ 50,000,000	\$ 11,514,612	\$ -	\$ 8,926,995	\$ 8,926,995	0.00x	0.78x	0.1%	-49.1%
LaSalle Income & Growth Fund VI	Chicago, IL	1/20/2012	\$ 75,000,000	\$ 71,428,571	\$ 84,541,423	\$ 12,520,362	\$ 97,061,786	1.18x	1.36x	10.5%	8.6%
LaSalle Income & Growth Fund VII	Chicago, IL	10/30/2015	\$ 75,000,000	\$ 74,912,755	\$ 50,827,071	\$ 23,461,488	\$ 74,288,559	0.68x	0.99x	1.6%	-0.5%
Long Wharf Real Estate Partners IV L.P.	Boston, MA	11/13/2012	\$ 25,000,000	\$ 25,000,000	\$ 34,948,088	\$ 292,888	\$ 35,240,976	1.40x	1.41x	16.6%	11.1%
Long Wharf Real Estate Partners V L.P.	Boston, MA	11/20/2015	\$ 50,000,000	\$ 50,000,000	\$ 37,244,373	\$ 28,758,306	\$ 66,002,679	0.74x	1.32x	9.9%	7.1%
Long Wharf Real Estate Partners VI L.P.	Boston, MA	6/27/2019	\$ 50,000,000	\$ 50,000,000	\$ 27,056,492	\$ 34,319,023	\$ 61,375,515	0.54x	1.23x	25.8%	16.4%
Long Wharf Real Estate Partners VII L.P.	Boston, MA	3/30/2023	\$ 50,000,000	\$ 7,816,417	\$ -	\$ 6,651,081	\$ 6,651,081	0.00x	0.85x	NM	NM
Oaktree Real Estate Opportunities Fund V, L.P.	Los Angeles, CA	2/23/2011	\$ 50,000,000	\$ 50,000,000	\$ 79,068,733	\$ 379,871	\$ 79,448,604	1.58x	1.59x	16.6%	12.2%
Oaktree Real Estate Opportunities Fund VI, L.P.	Los Angeles, CA	9/20/2012	\$ 80,000,000	\$ 80,000,000	\$ 87,690,175	\$ 17,840,801	\$ 105,530,976	1.10x	1.32x	10.4%	6.6%
Oaktree Real Estate Opportunities Fund VII, L.P.	Los Angeles, CA	4/1/2015	\$ 65,000,000	\$ 65,000,000	\$ 47,054,688	\$ 42,132,306	\$ 89,186,994	0.72x	1.37x	16.2%	10.1%
PCCP Equity IX, LP	Los Angeles, CA	4/11/2022	\$ 75,000,000	\$ 56,801,564	\$ -	\$ 61,548,960	\$ 61,548,960	0.00x	1.08x	11.3%	6.8%
Siguler Guff Distressed Real Estate Opportunities Fund, LP	New York, NY	9/2/2010	\$ 75,000,000	\$ 69,375,000	\$ 109,063,966	\$ 11,165,560	\$ 120,229,526	1.57x	1.73x	15.4%	11.2%
Siguler Guff Distressed Real Estate Opportunities Fund II, LP	New York, NY	7/5/2013	\$ 70,000,000	\$ 61,985,000	\$ 61,578,060	\$ 25,172,341	\$ 86,750,401	0.99x	1.40x	8.9%	6.6%
Siguler Guff DREOF II Co-Investment Fund, LP	New York, NY	7/7/2015	\$ 25,000,000	\$ 21,277,862	\$ 13,871,261	\$ 11,918,001	\$ 25,789,262	0.65x	1.21x	5.8%	4.0%
Strategic Partners Real Estate VIII LP	New York, NY	12/31/2023	\$ 80,000,000	\$ 4,135,831	\$ -	\$ 4,827,677	\$ 4,827,677	0.00x	1.17x	NM	NM

NM: This data is not yet meaningful.

APPENDIX
to the
Government Code Section 7514.7 Disclosure

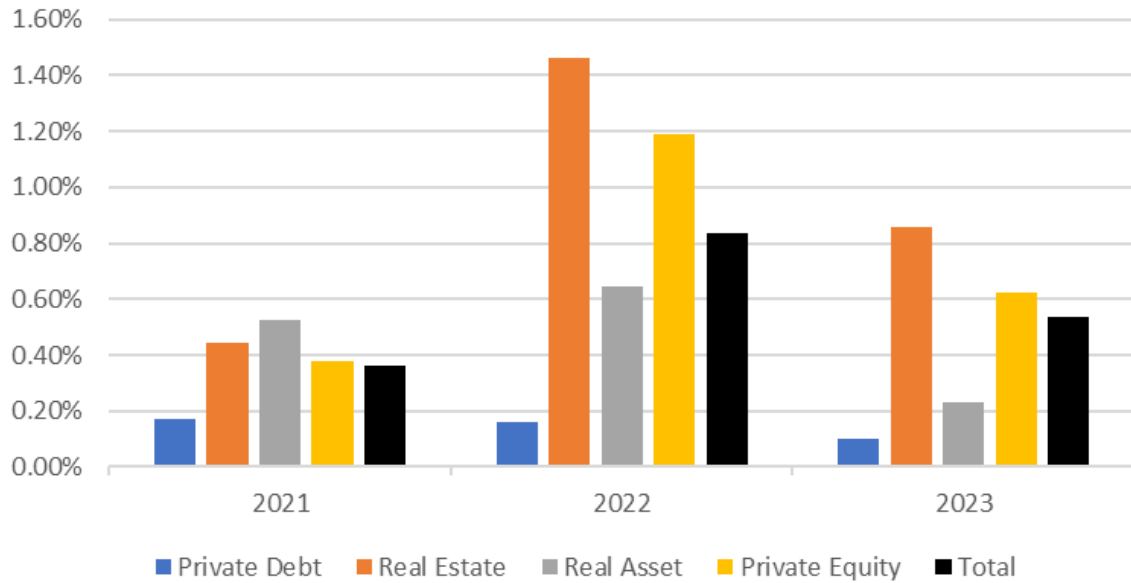


Mgmt Fee \$			
	2021	2022	2023
Private Debt	\$ 1,956,841	\$ 1,755,686	\$ 1,627,862
Real Estate	\$ 7,482,632	\$ 8,287,725	\$ 14,498,397
Real Asset	\$ 1,204,780	\$ 1,096,370	\$ 771,554
Private Equity	\$ 11,395,700	\$ 13,563,095	\$ 16,905,574
Total Mgmt Fee	\$ 22,084,514	\$ 24,747,802	\$ 33,848,677
Mgmt Fee change from prior year			
	2022	2023	
Private Debt	\$ (201,155)	\$ (127,824)	
Real Estate	\$ 805,093	\$ 6,210,672	
Real Asset	\$ (108,410)	\$ (324,816)	
Private Equity	\$ 2,167,395	\$ 3,342,479	
Total	\$ 2,707,849	\$ 9,145,801	



Carry \$			
	2021	2022	2023
Private Debt	\$ -	\$ -	\$ -
Real Estate	\$ 1,132,859	\$ 1,677,664	\$ 222,865
Real Asset	\$ -	\$ -	\$ -
Private Equity	\$ 3,618,444	\$ 4,369,077	\$ 1,202,245
Total Carry	\$ 4,795,864	\$ 6,091,667	\$ 1,470,401
Carry change from prior year			
	2022	2023	
Private Debt	\$ -	\$ -	
Real Estate	\$ 544,805	\$ (1,454,799)	
Real Asset	\$ -	\$ -	
Private Equity	\$ 750,633	\$ (3,166,832)	
Total	\$ 1,340,364	\$ (4,576,341)	

Management Fee, % of Total Value, 2021-2023



Carry Paid, % of Total Value, 2021-2023



Meeting Date

11/20/2024

Agenda Item

#8

LEADING THE WAY

Efficiency and Prudence through Technology Integration

2025 TOTAL ANNUAL BUDGET



A Pension Trust Fund and Component Unit
Serving the County of Contra Costa California
and Participating Employers

CONCORD, CALIFORNIA

Budget Summary

November 20, 2024

Dear Board Members,

It is with pleasure that I present the *2025 Proposed Total Annual Budget* for Contra Costa County Employees' Retirement Association (CCCERA).

CCCERA's mission is to effectively and accurately administer pension benefits earned by our members and to be prudent stewards of plan assets. The activities funded by this proposed budget for next year support that mission.

Included in the *2025 Proposed Total Annual Budget* are routine ongoing operational expenses as estimated by management. When compared to the 2024 budget there are a variety of increases and decreases taken into consideration to administer the pension plan effectively. Those increases and decreases are described below:

Increases

- **Depreciation of a new pension administration system** — The deprecation begins early 2025 at the point of the system go live and the cost is depreciated over a 10 year useful life.
- **IT Support Service and Software** — in connection with a go live of the new pension system, there are software maintenance and support included, along with increased expenses for Investment data services.
- **Staff personnel costs** — With all vacancies filled except an Investment Officer which is expected to be filled later in 2025, the increase is due to negotiated pay increases.
- **Training and education** — With new staff members in the organization there is a need for additional training and educating to get the new staff members trained to complete the tasks required.
- **Professional services** — increased outside services for legal fees; additional disability reviews; and increased actuarial fees.
- **Telephone & Internet Services** — for a new phone system and enhanced office internet capacity.
- **Office rent expense** — There is an increase in the maintenance costs of the common areas and taxes allocation.

Decreases

- **Employee Benefits** — Lower employer retirement contribution rates and decreased contribution to the OPEB Trust.
- **Furniture & Hardware Equipment** — these costs are asset related PCs, laptops, and an audio equipment project being moved from the operating budget to the capital budget where they will be expensed back to the operating budget as depreciation over their useful life.
- **Project Consulting** — With an anticipated go live of early 2025 for the new pension administration system there will be less project consulting support needed to build a new pension administration system.

The *2025 Proposed Total Annual Budget* is \$22.5 million, which is a 10% increase over the 2024 budget. The *2025 Proposed Total Annual Budget* represents the estimated costs of both the administrative expenses and the non-administrative expenses. The administrative expenses are capped by a statutory limit of 21 basis points of the Actuarial Accrued Liability as of December 31, 2023. The proposed administrative expenses for 2025 are 13.0 basis points, well below the statutory limit.

The presentation format of the *2025 Proposed Total Annual Budget* is summarized into major expense line items to reflect the same audit format in the *Annual Comprehensive Financial Report (ACFR)*.

In addition to the *2025 Proposed Total Annual Budget*, the 2024 budget versus actuals as of the 3rd Quarter (January 1 through September 30, 2024) is included in the report. The 2024 3rd Quarter budget versus actuals is included side by side to the proposed 2025 budget to assist reader review and comparison.

Thank you for your consideration.

Respectfully submitted,



Henry J. Gudino, CPA
Accounting Manager

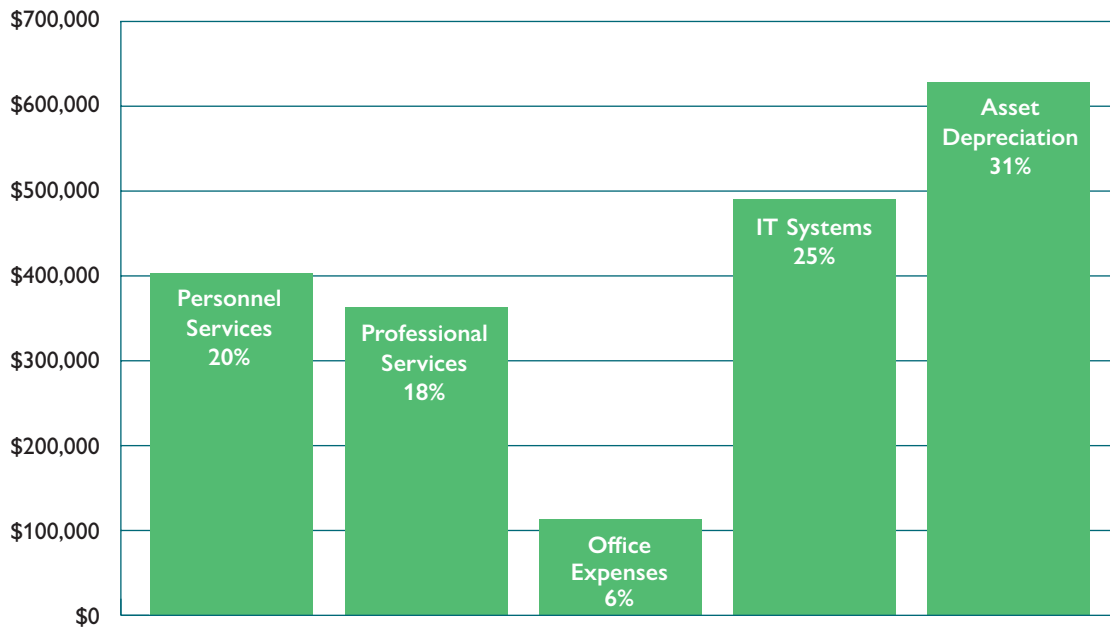
Recommendation

Consider and take possible action to adopt the *2025 Proposed Total Annual Budget*.

2025 Proposed Total Annual Budget

2024 Budget vs Actuals — 3rd Quarter September 30					2025 Proposed Total Annual Budget		
	2024 Budget	2024 Through Q3	\$ Budget Remaining	% Budget Remaining	2025 Proposed Budget	\$ Change Over 2024 Budget	% Change Over 2024 Budget
Personnel Services							
Salaries and Wages	\$9,108,500	\$6,679,470	\$2,429,030	27%	\$9,906,500	\$798,000	9%
Employee Benefits and Retirement	5,380,900	3,778,131	1,602,769	30%	4,988,600	(392,300)	(7%)
Total Personnel Services	14,489,400	10,457,601	4,031,799	28%	14,895,100	405,700	3%
Operational Expenses							
Professional Services							
Investment Consulting	1,030,000	762,310	267,690	26%	1,050,000	20,000	2%
Actuarial Services	256,900	247,866	9,034	4%	311,600	54,700	21%
Outside Legal Counsel Services	404,000	378,283	25,717	6%	595,000	191,000	47%
Audit Services	60,000	59,041	959	2%	67,800	7,800	13%
Benefit Statements	88,000	-	88,000	100%	90,000	2,000	2%
Disability Hearing/ Medical Reviews	107,000	82,758	24,242	23%	163,000	56,000	52%
Other Professional Services	19,800	43,234	(23,434)	(118%)	52,700	32,900	166%
Total Professional Services	1,965,700	1,573,491	392,209	20%	2,330,100	364,400	19%
Office Expenses							
Office Lease	627,000	524,816	102,184	16%	661,000	34,000	5%
Telephone & Internet Services	121,200	83,844	37,356	31%	93,200	(28,000)	(23%)
Equipment Lease & Maintenance	10,500	12,358	(1,858)	(18%)	17,000	6,500	62%
Furniture & Equipment	15,000	1,606	13,394	89%	3,000	(12,000)	(80%)
Office Supplies & Maintenance	113,000	55,816	57,184	51%	122,200	9,200	8%
Printing & Postage	214,400	179,648	34,752	16%	256,300	41,900	20%
Training & Education	204,200	127,814	76,386	37%	215,400	11,200	5%
Travel & Transportation	262,000	147,173	114,827	44%	285,000	23,000	9%
Insurance	346,600	272,267	74,333	21%	374,600	28,000	8%
Total Office Expenses	1,913,900	1,405,343	508,557	27%	2,027,700	113,800	6%
Information Technology Systems							
Support Service & Software Contracts	906,300	708,731	197,569	22%	1,624,600	718,300	79%
Hardware & Equipment Maintenance	81,600	52,370	29,230	36%	16,400	(65,200)	(80%)
Project Consulting	298,000	359,645	(61,645)	(21%)	138,000	(160,000)	(54%)
Total IT Systems	1,285,900	1,120,746	165,155	13%	1,779,000	493,100	38%
Assets Depreciation	885,300	162,676	722,624	82%	1,517,000	631,700	71%
Total CCCERA Expenses	\$20,540,200	\$14,719,856	\$5,820,344	28%	\$22,548,900	\$2,008,700	10%

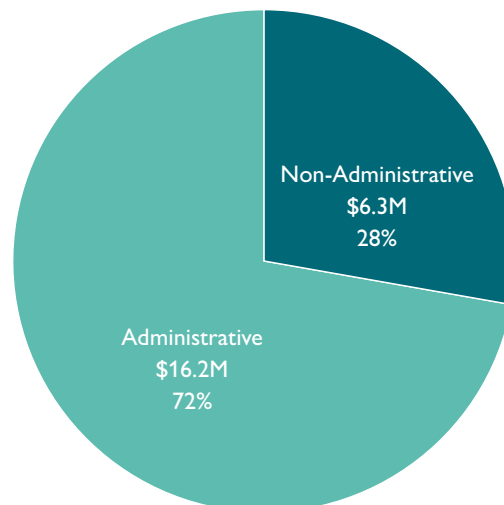
Largest Differences from 2024 to 2025 Budget



- Personnel Services increased by \$405,700
- Professional Services increased by \$364,400
- Office Expenses increased by \$113,800
- IT Systems increased by \$493,100
- Asset Depreciation increased by \$631,700

Administrative Expense and Non-Administrative Expense

The 2025 Proposed Total Annual Budget chart combines \$16.2 million of administrative expenses and \$6.3 million of non-administrative expenses as one budget. Section 31580.2 of the California Government Code limits administrative expenses to 0.21% of the most current Actuarial Accrued Liability (AAL). As of December 31, 2023, the AAL is \$12.4 billion which results in a limit of approximately \$26.1 million. The proposed administrative expenses in the 2025 Proposed Total Annual Budget of \$16.2 million is 0.130% of the AAL and well under the limit amount.



2025 Capital Budget

	Contracted	Costs Paid Through Sep 30	Remaining Contract	Percent Remaining
Pension Administration System (PAS)				
Data Conditioning Project	\$2,119,563	\$1,578,182	\$541,381	26%
Pension Administration System — Sagitec	12,597,660	4,718,991	7,878,669	63%
Total Project Costs	\$14,717,223	\$6,297,173	\$8,420,050	86%

*PAS costs accumulate while in-progress. Depreciation begins at Project Go Live Date over 10-year useful life.

	Asset Life Remaining	Asset Cost Remaining	2025 Depreciation
Other Capital Assets & Depreciation			
New Pension System CORS (Jan 2025)	10 years	\$14,717,223	\$1,472,000
Leasehold Improvements	5 years	68,802	14,000
Audio Visual Equipment	5 years	51,000	5,000
IT Hardware & Software	3–5 years	182,000	26,000
Total Assets & Depreciation		\$15,019,025	\$1,517,000

Verus⁷⁷⁷

Meeting Date
11/20/2024
Agenda Item
#9a.



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: SEPTEMBER 30, 2024

Investment Performance Review for

Contra Costa County Employees' Retirement Association

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SAN FRANCISCO 415.362.3484

Investment Landscape

TAB I

Investment Performance
Review

TAB II

A decorative overlay consisting of a grid of interconnected triangles in various shades of blue and green, covering the left and bottom portions of the image.

**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

4TH QUARTER 2024
Investment Landscape

Verus business update

Since our last Investment Landscape webinar:

- Verus hired Joshua Freimark as a Public Markets Research Analyst, Michael Hughes as Managing Director of Portfolio Management, and Tri Nguyen as a Portfolio Manager, in our Seattle office.
- Kraig McCoy, CFA, formerly Chief Financial Officer and Chief Operations Officer, was appointed President.
- Scott Whalen, CFA, CAIA, Executive Managing Director, was selected by *Chief Investment Officer* as a 2024 Knowledge Broker.
- Tim McEnery, CFA, Managing Director, was recognized by *Crain's Chicago Business* as a 2024 Notable Leader in Consulting.
- Recent research, found at verusinvestments.com/research:
 - *The Rise of OCIO*
 - *The private equity return premium: It's not just due to illiquidity*
 - *Trends and challenges in the commercial real estate sector*
 - *How fixed income portfolios are affected by interest rate regimes*

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Other assets 37

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Recent Verus research

Visit: verusinvestments.com/research

Thought leadership

THE RISE OF OCIO

We explore the factors leading to the rapid growth of the OCIO model, important variables when evaluating OCIO providers, and key questions asset owners should discuss when considering a move to OCIO.

TRENDS AND CHALLENGES IN THE COMMERCIAL REAL ESTATE SECTOR

Headlines warning of commercial real estate risks to the broader financial system may overstate the size and scope of the challenges in real estate. The office market faces serious challenges that are likely to persist, especially in lower-quality office assets.

THE PRIVATE EQUITY RETURN PREMIUM: IT'S NOT JUST DUE TO ILLIQUIDITY

We discuss the key drivers of successful private investment outcomes: skilled manager selection, best-in-class processes such as portfolio management, and effective and efficient governance.

HOW FIXED INCOME PORTFOLIOS ARE AFFECTED BY INTEREST RATE REGIMES

The rise and fall of interest rates can have a significant positive or negative impact on fixed income portfolio performance.

3rd quarter summary

THE ECONOMY

- On September 18th, the Federal Reserve cut interest rates by 50 basis points, bringing the target rate from 5.25-5.50% to 4.75-5.00%. This larger cut surprised many investors who still see inflation risks on the horizon and the economy as generally strong. This move likely kicks off a multi-year period of cuts as the Fed brings interest rates towards what they see as a more neutral level.
- U.S. inflation (CPI) fell to 2.4% year-over-year in September, moving closer to the Fed's 2% target. However, risks remain that inflation moderates above the Fed target, as shelter inflation is still elevated and food prices accelerated in September. Core inflation (ex-Food & Energy) has not budged from Q2 levels—at 3.3% year-over-year.

EQUITY

- Global markets delivered strong performance, with consistent results across regions. Emerging markets (MSCI EM +8.7%) led, followed by international developed (MSCI EAFE +7.3%) and lastly the U.S. market (S&P 500 +5.9%). U.S. dollar weakness provided particular benefits to investors in international developed equities.
- Small cap and value style investing reversed their run of underperformance during the second quarter. Small cap led large cap by +3.2% (-8.9% over the past year), while value also outperformed by +6.2% (-14.4% over the past year). Despite this improvement, the market environment has been incredibly difficult for these style factors.

FIXED INCOME

- The 10-year U.S. Treasury yield fell from 4.36% to 3.79% during the quarter, alongside a series of economic data releases that suggested inflation is moving further towards the Fed's 2% target, and that the labor market is softening. Interestingly, yields moved slightly higher in late September after the Fed's aggressive 50 bps rate cut.
- Default activity remained low, given economic strength. High yield bond default rates continued to decline, falling to 1.4%, well below the long-term annual average of 3.4%. However, distressed exchange activity was high. Total distressed exchange volume was roughly \$13.5 billion, the second largest quarter on record (since Q4 2008).

ASSET ALLOCATION ISSUES

- China announced an aggressive stimulus program in the form of both fiscal and monetary support. Those moves followed a People's Bank of China rate cut from 2.3% to 2.0%. Chinese equities rallied more than 30% in late September. It is not yet clear whether these efforts will help solve any of China's deep and structural issues.
- On August 5th, volatility spiked 42 points to 66, marking the largest one day jump in volatility in modern market history. This was widely attributed to the unwinding of carry trade positions (one popular carry trade involved borrowing in Yen to invest in equities) following a weak labor market data release and an unexpected interest rate hike from the Bank of Japan.

In September, the Fed enacted the first of likely a series of interest rate cuts.

A soft landing appears very possible for the U.S. economy.

What drove the market in Q3?

“Federal Reserve signals end to inflation fight with a sizable half-point rate cut”

Fed Funds Effective Rate

Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024
5.08%	5.33%	5.33%	5.33%	5.33%	4.83%

Article Source: Associated Press, September 18th, 2024

“China’s central bank unveils most aggressive stimulus since pandemic”

Chinese Equity Market Performance, Monthly

April 24	May 24	June 24	July 24	Aug 24	Sep 24
+6.5%	+2.4%	-2.1%	-1.2%	+0.9%	+23.4%

Article Source: Reuters, September 24th, 2024

“Fears of Slowing U.S. Growth Jolt Markets Around the World”

Monthly Nonfarm Payroll Additions

April 24	May 24	June 24	July 24	Aug 24	Sep 24
108k	216k	118k	144k	159k	254k

Article Source: New York Times, August 5th, 2024

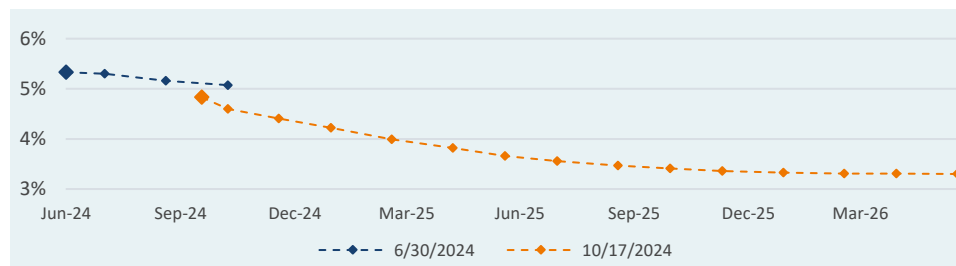
“Inflation falls to its lowest level in more than 3 years”

Consumer Price Index, Year-over-Year change

April 24	May 24	June 24	July 24	Aug 24	Sep 24
3.4%	3.3%	3.0%	2.9%	2.5%	2.4%

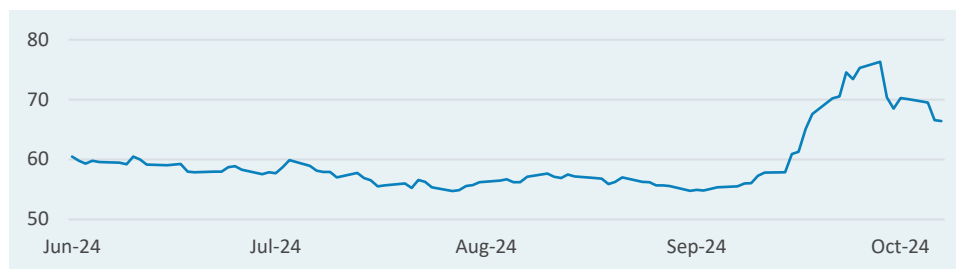
Article Source: NPR, September 11th, 2024

U.S. MARKET IMPLIED FUTURE INTEREST RATES



Source: CME Group, as of 9/30/24

MSCI CHINA INDEX, PRICE



Source: MSCI, as of 9/30/24

CONSUMER PRICE INDEX, YEAR-OVER-YEAR CHANGE



Source: FRED, as of 9/30/24

Economic environment

U.S. economics summary

- On September 18th, the Federal Reserve cut interest rates by 50 basis points, bringing the target rate from 5.25-5.50% to 4.75-5.00%. This larger cut surprised many investors who still see inflation risks on the horizon and see the economy as generally strong. This move likely kicks off a multi-year period of cuts as the Fed brings interest rates towards what they see as a more neutral level.
- U.S. inflation (CPI) fell to 2.4% year-over-year in September, moving closer to the Fed's 2% target. However, risks remain that inflation remains above the Fed target, as shelter inflation is still high and food prices accelerated in September. Core inflation (ex-Food & Energy) has not budged from Q2 levels—at 3.3% year-over-year.
- Since earlier in 2024, unemployment had been ticking higher, but in August and September this trend reversed, with unemployment ending the quarter at 4.1%. The September nonfarm employment report reflected a 254,000

gain in jobs, dramatically outperforming expectations. The impacts of unlawful immigration on official employment statistics have continued to cause discrepancies in data and confusion regarding true labor conditions. We believe analyzing jobs data requires careful analysis.

- Multiple labor strikes have been occurring around the country, including Boeing and the International Longshoremen's Association (ILA). As organized labor fights for higher wages and benefits, disruptions to production and trade could contribute to inflation flareups.
- Consumer sentiment improved slightly during the third quarter, as illustrated by the University of Michigan Consumer Sentiment survey. Households expressed further frustration about high prices, but optimism has grown around the economy and the inflation outlook. According to the survey, expectations have brightened for Americans across the economic and political spectrum.

	Most Recent	12 Months Prior
Real GDP (YoY)	2.7% 9/30/24	2.4% 6/30/23
Inflation (CPI YoY, Core)	3.3% 9/30/24	3.7% 9/30/23
Expected Inflation (5yr-5yr forward)	2.3% 9/30/24	2.5% 9/30/23
Fed Funds Target Range	4.75–5.00% 9/30/24	5.25–5.50% 9/30/23
10-Year Rate	3.79% 9/30/24	4.59% 9/30/23
U-3 Unemployment	4.1% 9/30/24	3.8% 9/30/23
U-6 Unemployment	7.7% 9/30/24	7.0% 9/30/23

Inflation

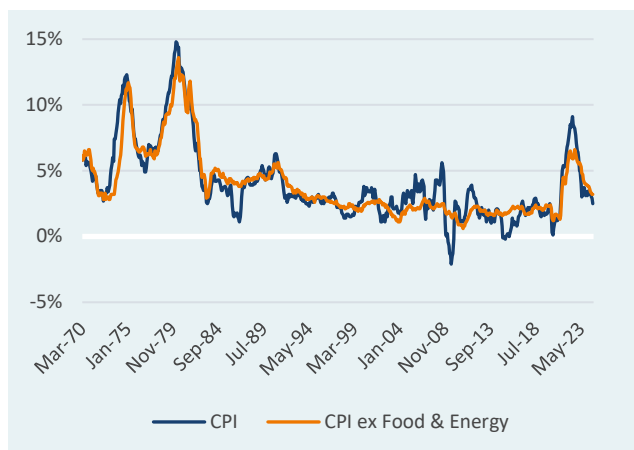
U.S. inflation (CPI) fell to 2.4% year-over-year in September, moving closer to the Fed's 2% target. However, risks remain that inflation could remain above the Fed target, as shelter inflation is still elevated and food prices accelerated in September. Core inflation (ex-Food & Energy) has not budged from Q2 levels—at 3.3% year-over-year.

While certain prices continue to show concerning trends, deflation (year-over-year) has been occurring across many goods prices, such as new vehicles (-1.3%), used vehicles (-5.1%), and energy (-6.8%). If inflation were calculated using market-based shelter prices, the current rate of inflation would likely be less than 2%.

Although price trends have recently been encouraging, the U.S. is certainly not out of the woods yet. For example, Federal Reserve rate cuts create the risk of reigniting demand and spending, pushing prices upward. Multiple labor strikes have been occurring around the country, including Boeing and the International Longshoremen's Association. As organized labor fights for higher wages and benefits, disruptions to production and trade could contribute to inflation flareups. Additionally, falling energy prices over the past year have played a large role in bringing inflation lower. If energy prices flatten out, or reverse and move higher, perhaps due to escalating conflict between Israel and Iran, energy could once again become an inflationary force.

Inflation had been fluctuating between 3-3.5%, but broke lower to 2.4% in Q3

U.S. CPI (YOY)



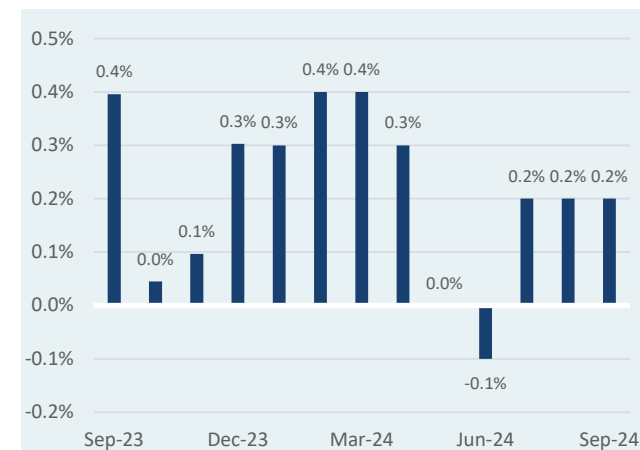
Source: BLS, as of 9/30/24

POTENTIAL INFLATION PATHS



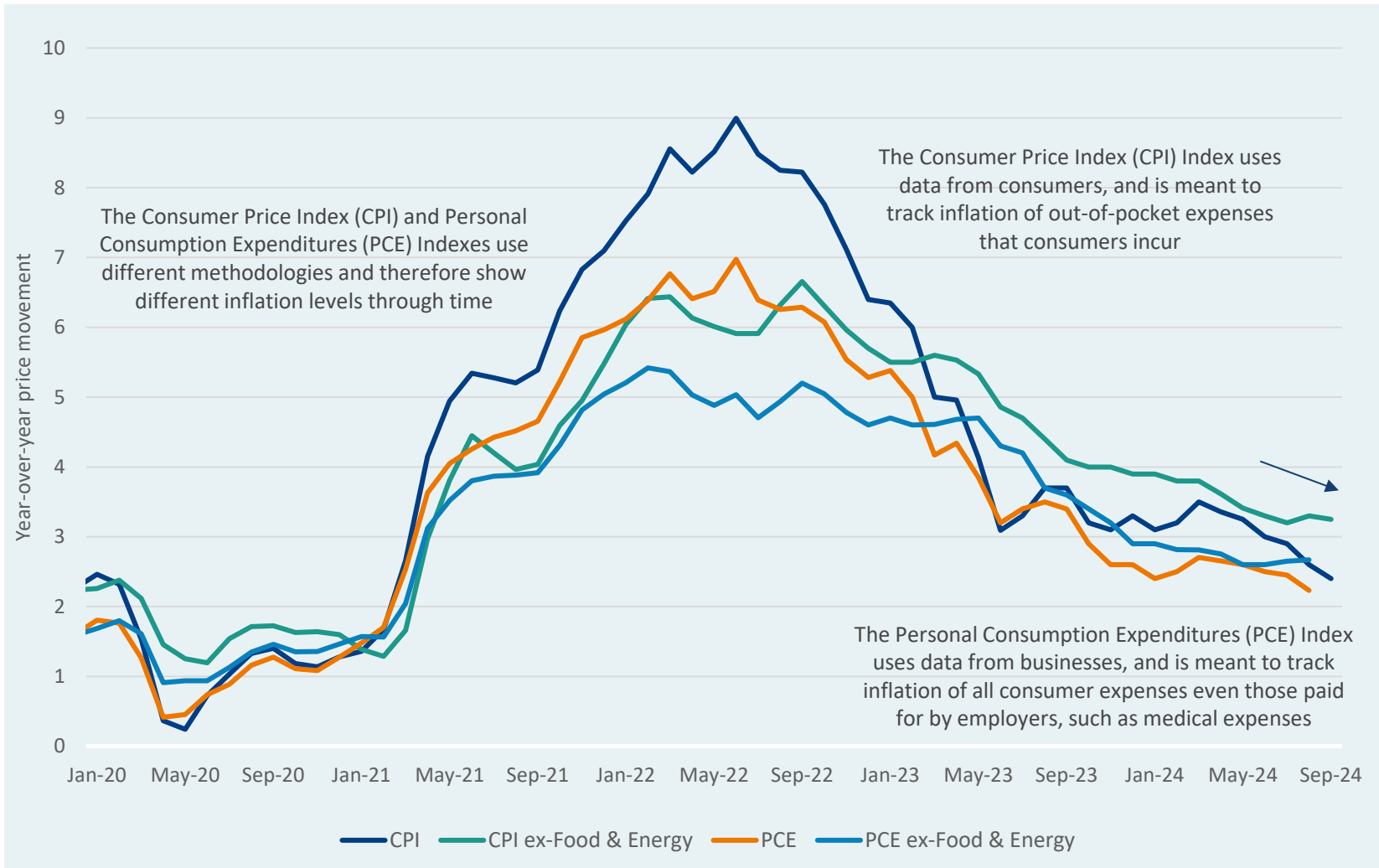
Source: FRED, Verus, of 9/30/24

MONTHLY PRICE MOVEMENT (CPI)



Source: BLS, as of 9/30/24

Inflation is nearing the Fed's target



The Fed's preferred measure of inflation, PCE, may soon reach the stated 2% target

...though price pressures still exist in the economy

Source: FRED, Verus, as of 9/30/24 – or most recent release

GDP growth

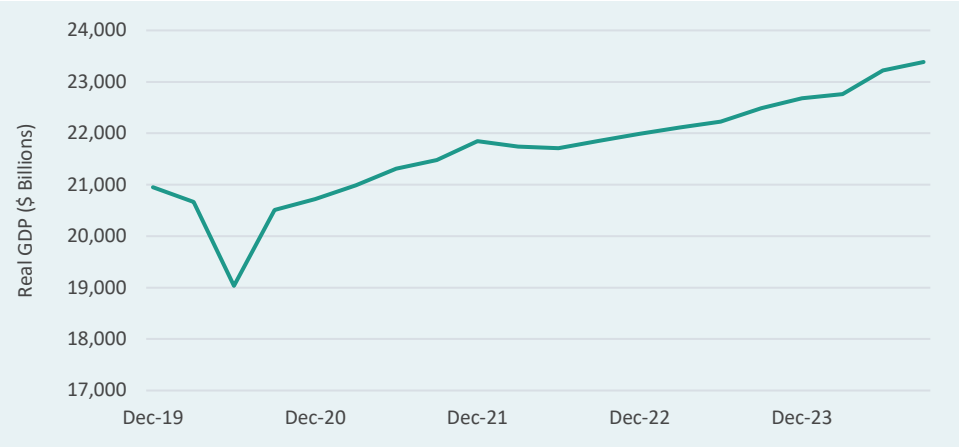
Real GDP growth was robust again during Q3, but slowed slightly from 3.0% to 2.8% quarter-over-quarter, annualized (2.7% year-over-year). Growth continues to be fueled by consumer purchases, which accelerated to a 3.7% annualized pace. Spending was broad based across goods and services. Heightened government defense spending was also a large contributor during the quarter. The moderate deceleration in real GDP growth was mainly caused by less private inventory investment, and a substantial slowing of residential fixed investment.

Although economic conditions remain strong, many economists and investors are wary of the sustainability of consumer

spending growth, given the drawdown of excess savings accumulated during the pandemic, lower personal savings rates, as well as slowing wage growth. The U.S. economy is likely headed towards a more moderate growth phase after many quarters of surprisingly hot growth and spending. Unlike past periods of economic weakening, many trends today could reasonably be summarized as a *return to normalcy*. For example, following the pandemic, the domestic labor market was experiencing a historic mismatch between the number of jobs available and the number of workers available. Resolving that mismatch required a material weakening of the labor market from *extreme tightness* to *relatively strong*, but not a move (yet) towards something that suggests recession.

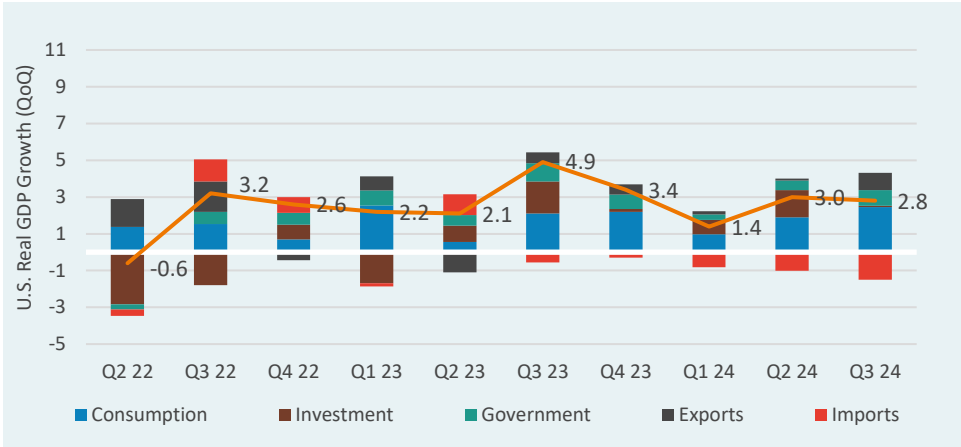
U.S. growth remained robust during Q3, fueled by consumer spending

U.S. REAL GROSS DOMESTIC PRODUCT



Source: FRED, as of 9/30/24

U.S. REAL GDP COMPONENTS (QOQ)



Source: FRED, as of 9/30/24

Labor market

Signs of weakness in the U.S. labor market are evident, though conditions remain generally robust. Throughout 2024, we have held the view that the path towards lower interest rates would be a bumpy one, and that investors may be disappointed in their expectations for aggressive rate cuts. This view proved valid in August and September as the rate of unemployment reversed course and headed lower to 4.1%. September nonfarm payrolls reflected a 254,000 gain in jobs, dramatically outperforming expectations. This data surprised markets, pushing longer-term bond yields upward and contributing to an asset rally on better economic prospects.

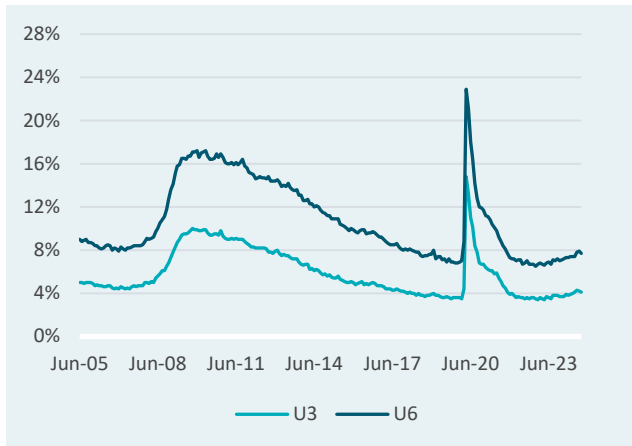
Recent labor trends appear to be unlike many past cycles. Weakness so far has been a product of natural attrition and

less hiring, rather than widespread terminations. These trends could indicate a return to a more balanced job market, rather than a turn towards a sharp economic downturn. Job market *rebalancing* is captured in the recent closing of a wide gap between the number of *available workers* and *available jobs*.

Various types of immigration and the difficulties of quantifying unlawful immigration in official statistics has created much uncertainty in the data. This problem has been acknowledged by senior government officials, including Fed Chair Jerome Powell. The level of unlawful immigration in recent years suggests that estimation errors could be large. Investors should be appropriately cautious when analyzing current data.

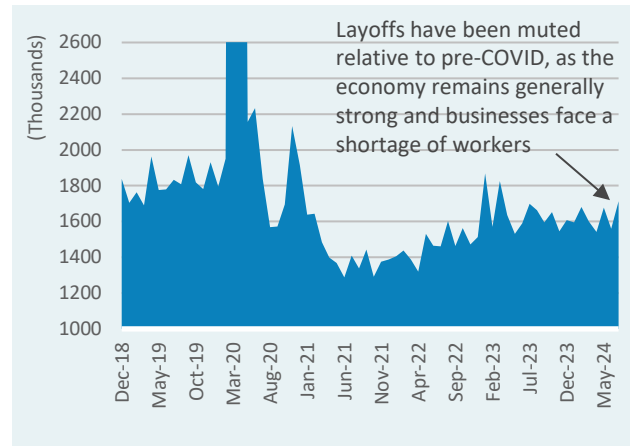
Labor weakness so far has been a product of natural attrition and less hiring, rather than widespread layoffs

U.S. UNEMPLOYMENT



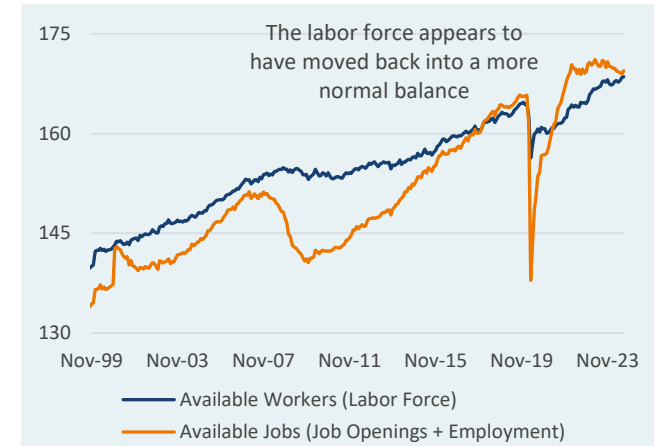
Source: FRED, as of 9/30/24

LAYOFFS



Source: FRED, as of 7/31/24

WORKERS AVAILABLE VS. AVAILABLE JOBS



Source: BLS, Verus, as of 8/31/24

The consumer

Inflation adjusted personal spending growth was 2.9% year-over-year in August and has remained in a 2-3% range for the past two years. This rate indicates moderate economic expansion in line with pre-pandemic rates of growth.

Personal savings rates saw a significant upward adjustment, from 2.9% to 4.9% in July, as the data series was revised to better capture income sources that had been omitted previously. The most recent savings rate was 4.8% in August. This indicates that the consumer is in a healthier position than previously believed, and that fewer Americans are dipping into savings to support their spending.

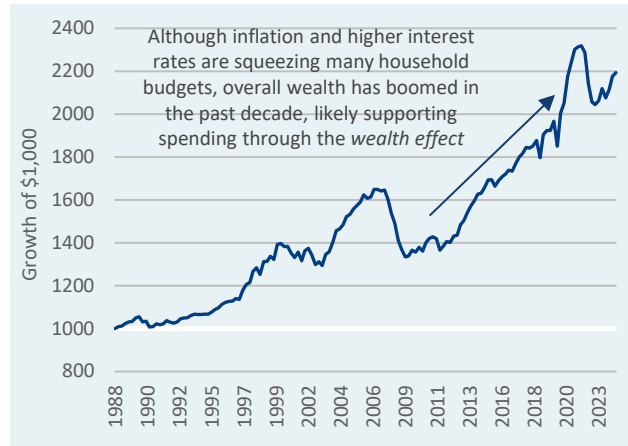
Fueled by large gains from equities and real estate, average household wealth has boomed. While inflation and high prices have in fact squeezed budgets, significant increases in household wealth may be a positive support to consumption. This behavior may be best described by the ‘wealth effect’—an economic theory stating that even if an individual’s income and expenses do not change, if that individual *feels more wealthy*, they tend to have a higher propensity to spend. This theory is often applied to wealth in real estate or investments such as retirement accounts which cannot be accessed immediately.

REAL PERSONAL SPENDING



Source: FRED, as of 8/30/24

AVERAGE HOUSEHOLD NET WORTH (INFLATION-ADJUSTED)



Source: Verus, FRED, as of 6/30/24

PERSONAL SAVINGS RATE



Source: FRED, as of 8/30/24

Sentiment

Consumer sentiment improved slightly during the third quarter, as illustrated by the University of Michigan Consumer Sentiment survey. Households expressed further frustration about high prices, but optimism on the economy and that inflation will continue to slow. According to the survey, the outlook brightened for Americans all across the economic and political spectrum.

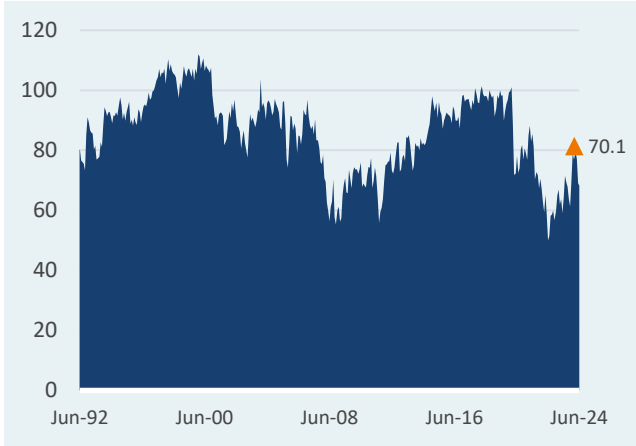
The latest consumer confidence reading from the Conference Board slightly increased from the prior quarter, but consumers expressed pessimism around labor market conditions. Concerns were reported regarding fewer hours and job openings. While interest rate cuts have likely led

consumers to plan on buying big-ticket items like cars and homes, families' perception of their financial conditions ultimately declined over the quarter.

The NFIB Small Business Optimism index was significantly depressed during the quarter, now marking 33 months below the 50-year average. NFIB Chief Economist Bill Dunkelberg stated "Small business owners are feeling more uncertain than ever. Uncertainty makes owners hesitant to invest in capital spending and inventory, especially as inflation and financing costs continue to put pressure on their bottom lines."

Consumer sentiment improved slightly during Q3, while small business sentiment remained very depressed

CONSUMER SENTIMENT (UNIV. OF MICHIGAN)



Source: University of Michigan, as of 9/30/24

CONSUMER CONFIDENCE (CONFERENCE BOARD)



Source: Conference Board, as of 9/30/24

NFIB SMALL BUSINESS SENTIMENT



Source: NFIB, as of 9/30/24

Housing

It is very likely that the Federal Reserve’s September interest rate cut was the first of a series of cuts. This could be positive for potential home buyers and housing affordability, though it will depend on how cuts to the Federal Funds Rate relate to longer-term interest yields, which impact the mortgage rates that are offered to home buyers (the 30-year mortgage rate average fell to 6.1% at the end of Q3, down from a high of 7.8% in late 2023). This will also depend on the way in which home prices react to lower mortgage interest rates—if a rush of home buying activity pushes home prices upward, higher prices could overwhelm the cost savings of lower mortgage rates in terms of total cost of homeownership.

While home prices continue to climb, up 5% year-over-year in July, according

to S&P CoreLogic Case-Shiller, rent prices have reportedly flattened out nationwide. An analysis from Redfin suggests that rents were only up 0.9% year-over-year in August, as the recent boom in construction and building of new apartment units has helped to mitigate price pressure.

The cost of buying vs. owning is currently at historic extremes, given the intense deterioration of home ownership affordability. This has been further worsened as rent prices flattened out over the past year and home prices moved upward. Even in U.S. metro areas with the most attractive balance between renting and buying, it is more attractive to rent. In more expensive cities such as San Francisco and Seattle, the cost of owning is more than double the cost of renting, as illustrated below.

30-YEAR MORTGAGE RATE (%)



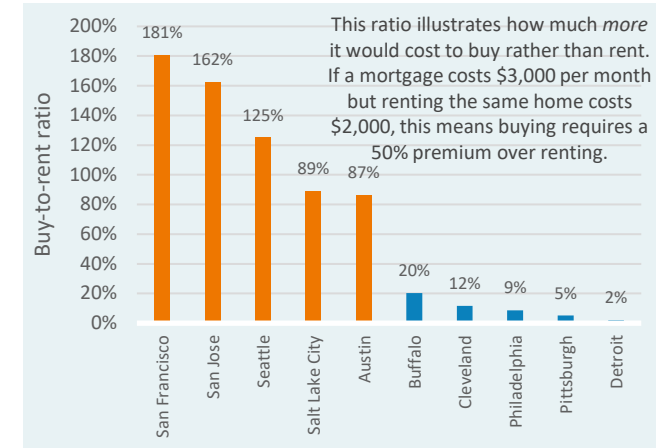
Source: Freddie Mac, as of 9/30/24

EXISTING HOME SALES



Source: National Association of Realtors, as of 8/31/24

HOUSING AFFORDABILITY: 5 MOST EXPENSIVE & 5 LEAST EXPENSIVE METRO AREAS



Source: Bankrate analysis of Redfin’s median sale price data and Zillow rent data, as of February 2024

International economics summary

- The Eurozone faces slowing growth, with recession potentially imminent for Germany. A global shift in consumer purchase patterns towards *services* and away from *goods* has likely had a major impact on manufacturing-heavy economies. These effects are biting especially hard in export-heavy economies such as Germany and Japan. China’s struggling economy is having widespread impacts on global growth, as well as energy and other commodity prices.
- Falling inflation and moderating economic growth creates conditions central banks may see as conducive to interest rate cuts. The European Central Bank and Federal Reserve kicked off a rate cutting cycle during the quarter. The Bank of Japan stands out from the crowd, deciding earlier this year to raise rates modestly. The bank sees Japan’s economy growing faster than potential and wishes to normalize rates carefully.
- One year has passed since the Hamas attack on Israel, and the beginning of

the Israel-Hamas war. The conflict has now broadened out as Israel engages with the Iranian-backed militia Hezbollah, which is designated a terrorist group by much of the western world. Over the past month, Israel and Iran have clashed directly, substantially increasing risks of widespread war in the Middle East.

- China announced an aggressive economic stimulus program in the form of fiscal and monetary support. Those moves followed a People’s Bank of China rate cut from 2.3% to 2.0%. Chinese equities rallied more than 30% in the last few weeks of September. It is not yet clear whether these developments will be sufficient to help turnaround the Chinese economy, which faces serious structural issues.
- India continues to be the fastest-growing major economy in the world, posting strong real GDP growth (+6.7%) on the back of a rapidly growing manufacturing sector and large investments in public infrastructure.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.7% 9/30/24	2.4% 9/30/24	4.1% 9/30/24
Eurozone	0.6% 6/30/24	1.7% 9/30/24	6.4% 8/31/24
Japan	(1.0%) 6/30/24	2.2% 9/30/24	2.5% 8/31/24
BRICS Nations	4.8% 6/30/24	2.0% 9/30/24	5.3% 12/31/23
Brazil	3.3% 6/30/24	4.4% 9/30/24	6.6% 8/31/24
Russia	4.1% 6/30/24	8.6% 9/30/24	2.4% 8/31/24
India	6.7% 6/30/24	5.5% 9/30/24	7.8% 9/30/24
China	4.6% 9/30/24	0.4% 9/30/24	5.1% 9/30/24

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

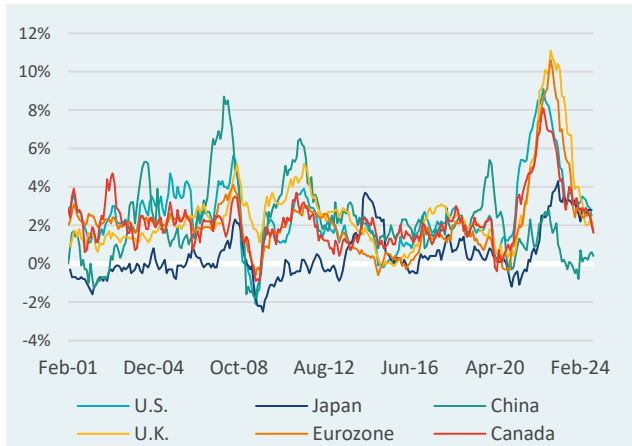
Many developed economies have shown slowing growth recently, as softer spending and a manufacturing slowdown contribute to weakness. These effects are biting especially hard in export-heavy economies such as Germany and Japan. It is difficult to attribute economic weakness on a single cause, though China's struggling economy and a global consumer spending trend towards services rather than goods are likely playing a part. Central bank interest rate hikes mean bigger ticket goods purchases such as automobiles, homes, and home furnishings, are more difficult to afford. As interest rates come down, this trend could reverse. The U.S. economy stands out as exceptionally strong in the current environment.

Inflation rates in the developed world have fallen towards pre-pandemic levels more quickly than had been expected. Many inflation drivers that

had occurred during the pandemic, such as global supply chain issues, government stimulus, and higher energy prices, have seen a reversal. This has helped inflation to normalize without a major shock to spending.

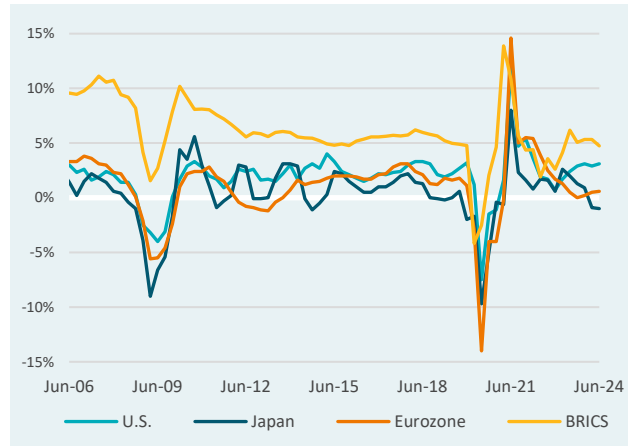
In September, China announced an aggressive economic stimulus program, after three years of ongoing mild support. President Xi pledged both fiscal and monetary support, with specific focus on the ailing real estate market, and stimulus to mitigate the downward trajectory of the stock market. Those moves followed a People's Bank of China rate cut from 2.3% to 2.0%. It is not yet clear whether these developments will be sufficient to help turn around the Chinese economy, which faces serious structural issues such as a declining population, shrinking workforce, and nationwide excess inventory of real estate.

INFLATION (CPI YEAR-OVER-YEAR)



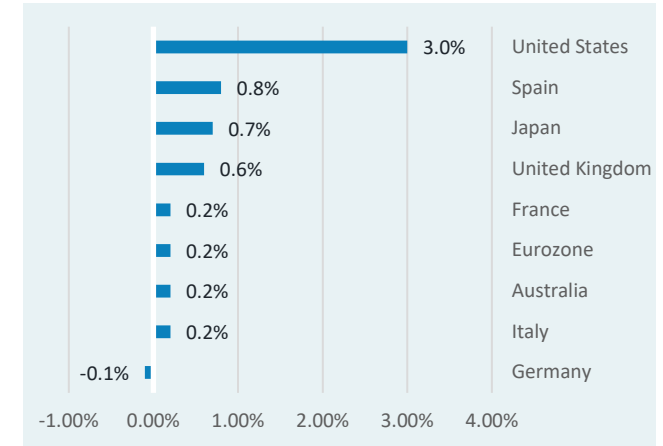
Source: BLS, Verus, as of 9/30/24

REAL GDP GROWTH (YEAR-OVER-YEAR)



Source: BLS, Verus, as of 6/30/24

Q2 REAL GDP GROWTH (QOQ)



Source: BLS, Verus, as of Q2 2024

Fixed income rates & credit

Fixed income environment

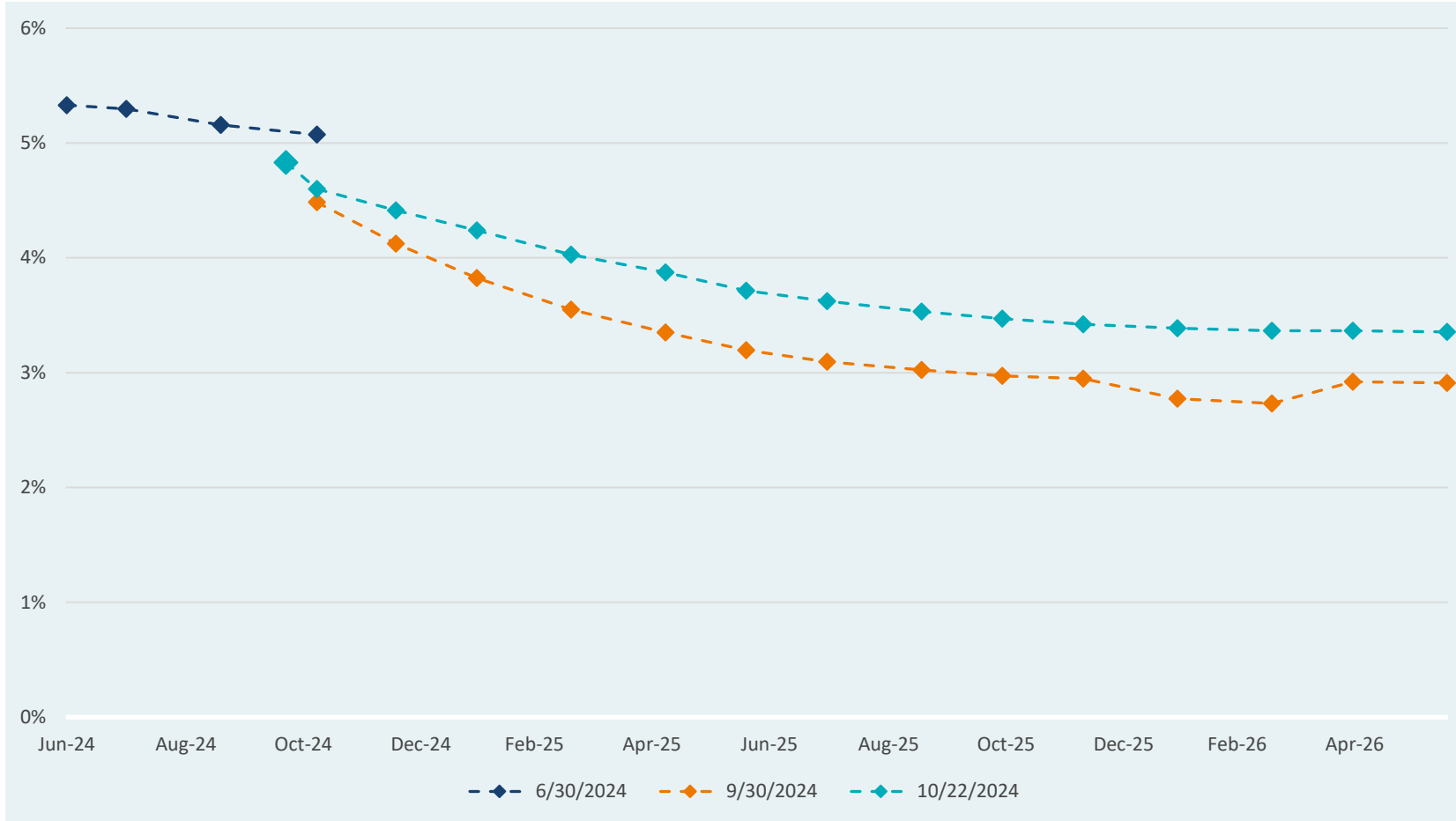
- On September 18th, the Federal Reserve cut interest rates by 50 bps, bringing the target rate from 5.25-5.50% to 4.75-5.00%. This larger cut surprised many investors who still see inflation risks and a generally strong economy. This move likely kicks off a multi-year period of cuts as the Fed brings interest rates towards what they believe to be a more neutral level. Investors have now focused sharply on what the neutral interest rate level, or “R-star”, might be today.
- The 10-year U.S. Treasury yield fell from 4.36% to 3.79% during the quarter, alongside a series of economic data releases that suggested inflation is moving further towards the Fed’s 2% target, and that the labor market is softening. Interestingly, yields moved slightly higher in late September after the Fed rate cut.
- Most credit indices saw positive returns, rising with the rest of the fixed income universe. However, greater credit risk only provided marginally higher returns, with high yield outperforming investment grade by +0.1%. Bank Loans (S&P/LSTA Leveraged Loan) underperformed other major fixed income indices, as the floating rate nature (and ultra-low duration) of bank loans meant these bonds did not benefit from the decline in yields.
- The U.S. yield curve *uninverted* during the quarter, indicated by the 10-year minus the 2-year Treasury yield, as shorter-term interest rates dropped along with more aggressive Federal Reserve rate cut expectations. This ended more than two years of yield curve inversion.
- Default activity remained low in Q3 as the economy remained strong. High yield bond default rates continued to decline, falling to 1.4%, down from 2.2% a year ago and well below the long-term annual average of 3.4%. However, distressed exchange activity was high. Total distressed credit volume was roughly \$13.5 billion, the second largest quarterly total on record (since Q4 2008).

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	5.2%	11.6%
Core Plus Fixed Income (Bloomberg U.S. Universal)	5.2%	12.1%
U.S. Treasuries (Bloomberg U.S. Treasury)	4.7%	9.7%
U.S. Treasuries: Long (Bloomberg U.S. Treasury 20+)	8.0%	15.2%
U.S. High Yield (Bloomberg U.S. Corporate HY)	5.3%	15.7%
Bank Loans (S&P/LSTA Leveraged Loan)	2.1%	9.6%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	9.0%	13.4%
Emerging Market Debt Hard (JPM EMBI Global Diversified)	6.2%	18.6%
Mortgage-Backed Securities (Bloomberg MBS)	5.5%	12.3%

Source: Standard & Poor’s, J.P. Morgan, Bloomberg, as of 9/30/24

A new interest rate regime

Looking at the upcoming expected path of the Fed Funds rate (short-term rate)



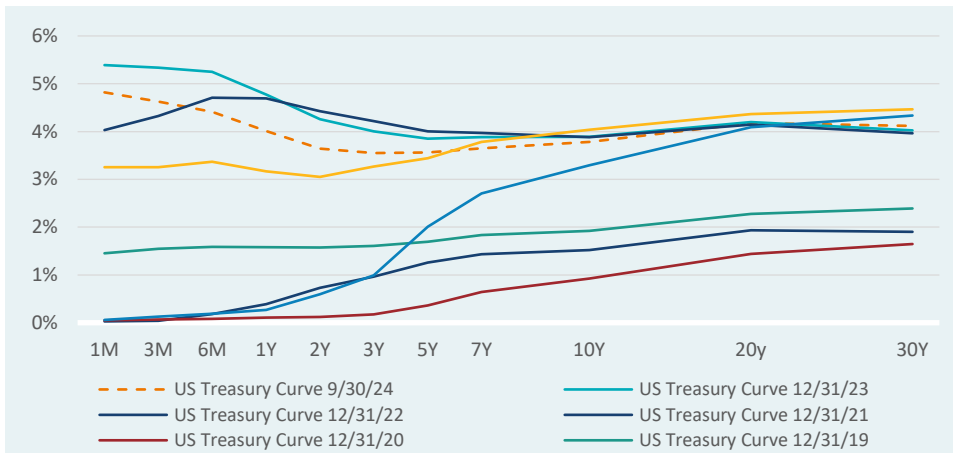
Investors are pricing in considerable near-term rate cuts

Sticky inflation and/or ongoing economic strength could lead to disappointment if the Fed takes a more restrained stance

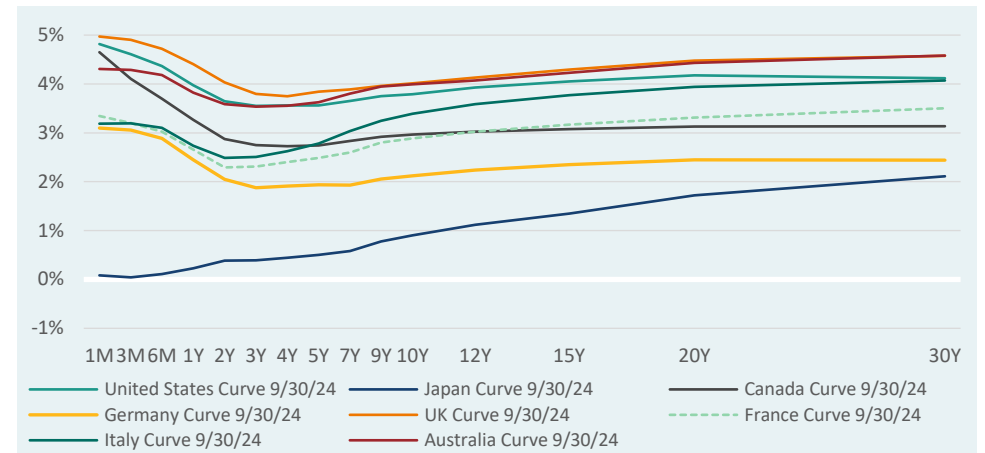
Source: Verus, as of 10/22/24

Yield environment

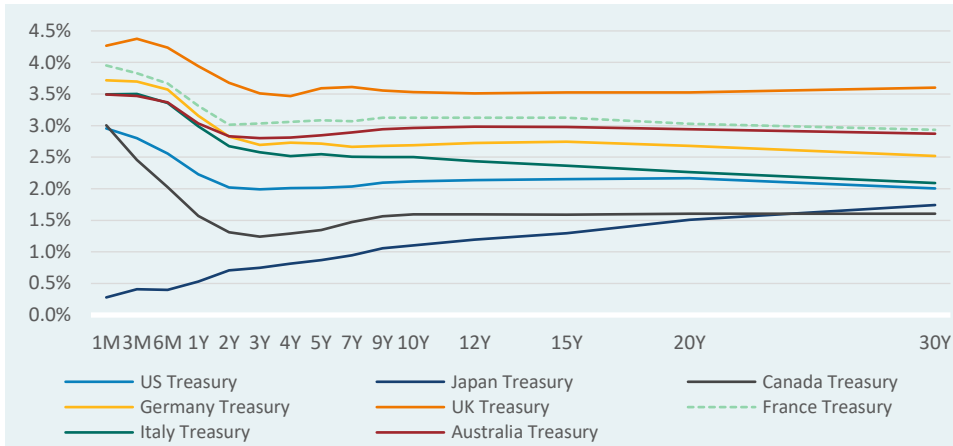
U.S. YIELD CURVE



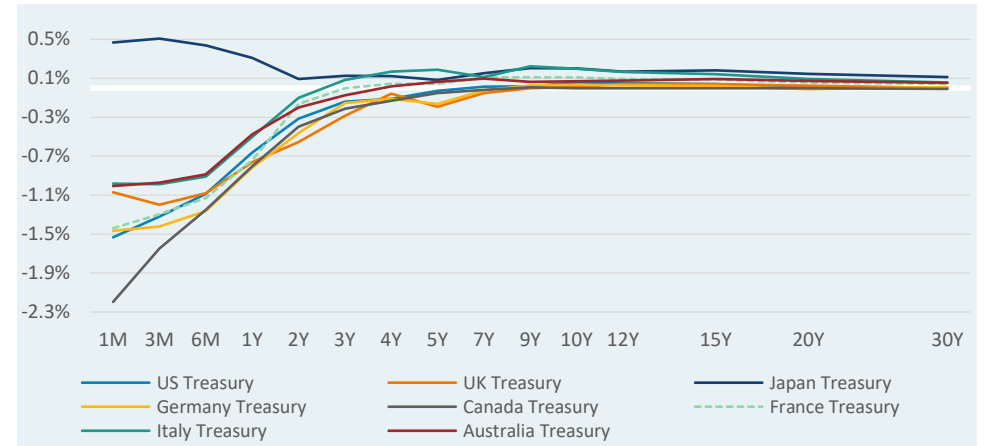
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/24

Credit environment

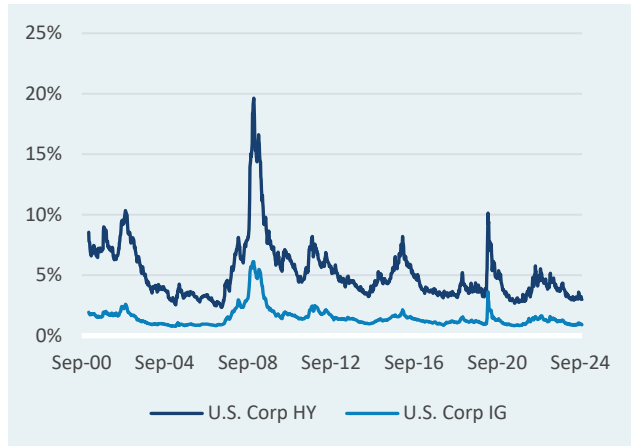
During the third quarter, longer duration credit outperformed shorter duration as U.S. interest rates headed downward. Long duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) gained 8.1% while lower quality credit markets also delivered strong returns—high yield and bank loans added +5.3% (Bloomberg U.S. Corporate High Yield) and +2.1% (CS Leveraged Loans), respectively.

Returns within the high yield bond market were broadly positive. Lower quality credits saw the strongest performance. Bonds rated CCC, which include distressed credit, returned +11.6%, compared to higher quality BB-rated bonds which returned +4.3%. Non-distressed CCC-rated bonds also delivered robust returns, gaining +6.9%. Similarly, lower quality

bank loans outperformed higher quality, with CCC-rated loans returning +2.6%, compared to +2.0% and +1.9% for B- and BB-rated loans.

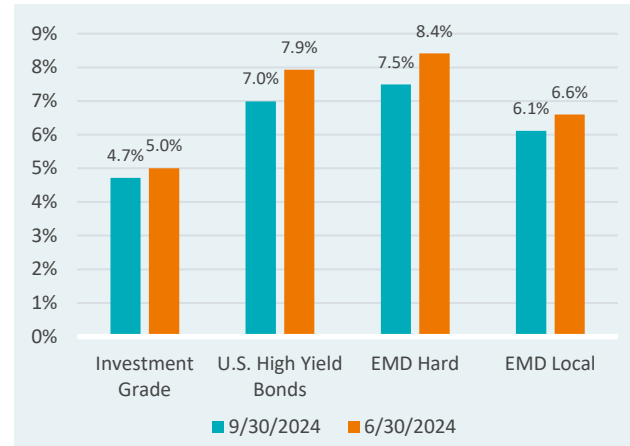
Credit spreads broadly declined alongside an easing of perceived U.S. recession risk. Lower-quality high yield bond spreads fell by roughly 0.2%, to 3.0%, while investment grade spreads tightened slightly to 0.9%. Broadly, across credit ratings, spreads remain well below their long-term historical averages. While some technical factors may be contributing to relative tightness, spreads suggest that investors are fairly confident in the ability of businesses to service debt in the future.

SPREADS



Source: Barclays, Bloomberg, as of 9/30/24

YIELD TO MATURITY



Source: Bloomberg, J.P. Morgan as of 9/30/24

CREDIT SPREAD (OAS)

Market	9/30/24	9/30/23
Long U.S. Corp	1.1%	1.3%
U.S. Inv Grade Corp	0.9%	1.2%
U.S. High Yield	3.0%	3.9%
U.S. Bank Loans*	4.7%	5.2%

Source: Barclays, Credit Suisse, Bloomberg, as of 9/30/24

*Discount margin (4-year life)

Default & issuance

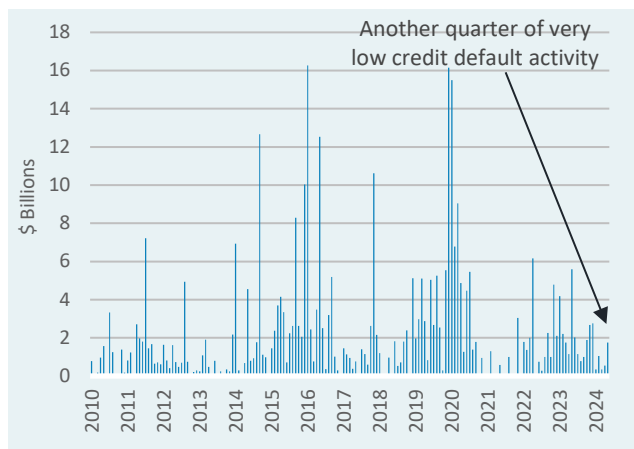
Default activity remained low during the quarter as economic growth was solid and strong economic data releases around the labor market and spending suggested a lower chance of near-term recession. During the period, \$11.1 billion of bank loans and high yield bonds were affected by default or distressed exchanges, down from roughly \$15.0 billion in the prior quarter. Year-to-date, 27 companies have defaulted, totaling more than \$3.0 billion in bonds and \$15.4 billion in loans.

While defaults have remained subdued, distressed exchange activity has been high. During the quarter, total distressed credit volume was roughly \$13.5 billion, the second largest quarterly total on record (since Q4 2008). Despite a rise in exchanges, the year-to-date combination of defaults and distressed exchanges of \$56.1 billion trailed the pace of 2023 by -13%.

High yield bond default rates continued to decline, falling to 1.4%, down from 2.2% a year ago, and are well below the long-term annual average of 3.4%. Recovery rates ended the quarter at 37.7%, down slightly from Q2, but up from the calendar year 2023 level of 32.8%.

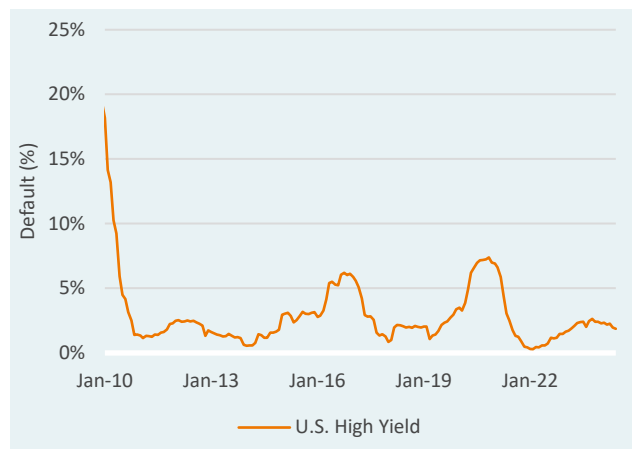
New issuance volume for high yield bonds and bank loans was mixed during the quarter. High yield bond issuance was \$74.0 billion, compared to \$79.4 billion in Q2, while bank loan issuance increased to \$204 billion, up from \$148.4 billion. Lower interest rates likely acted as a catalyst for bank loan issuance activity. Importantly, credit spreads remain near their all-time lows, which allows companies to issue and refinance their debt at more competitive rates.

U.S. HY MONTHLY DEFAULTS (PAR WEIGHTED)



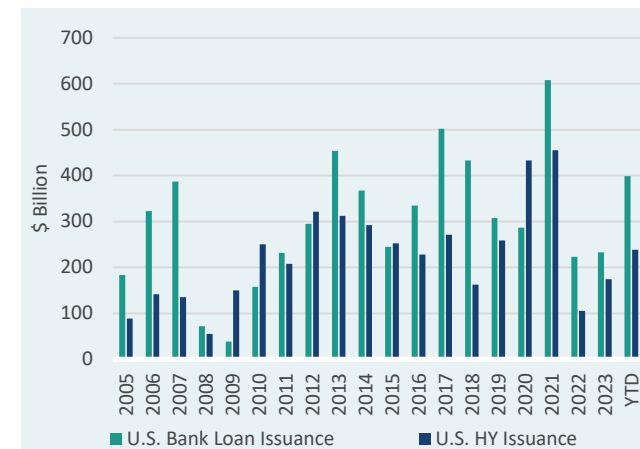
Source: BofA Merrill Lynch, as of 9/30/24

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



Source: BofA Merrill Lynch, as of 9/30/24 – par weighted

U.S. ISSUANCE (\$ BILLIONS)



Source: BofA Merrill Lynch, as of 9/30/24

Credit hedge funds & high yield spreads

- Credit hedge funds tend to outperform high yield when spreads are compressed, based on data since 2000. When high yield spreads are especially wide, high yield typically outperform both U.S. Treasuries and credit hedge funds by a wide margin.
- Current high yield spread levels are well within the first quartile (i.e. are low relative to history), reflecting recent sustained economic growth, easing inflation fears, and the beginning of a rate cut cycle driven by lower inflation and a *soft landing* rather than concerns of recession or weakness.
- This supports our view that now may be an attractive time to consider alternative credit funds as a means of earning a premium over comparable liquid markets. Less liquid, more complex areas of the credit market typically offer premium yields, more idiosyncratic trading opportunities, and fund managers often possess more tools for generating alpha.
- Now may also be an appropriate time to plan for future spread widening, in setting up dedicated “trigger” vehicles with traditional or alternative managers to pre-commit to investing in liquid credit markets at certain spread thresholds, when those markets tend to offer the best return premium.

HF CREDIT AVERAGE EXCESS RETURN VS HIGH YIELD BY SPREAD QUARTILE SINCE JULY 2000

Prior month High Yield Spread over Intermediate Treasury	Avg Monthly Excess Return of HY over Intermediate Treasury	Avg Monthly Excess Return of HF Credit over High Yield Bonds			
		HFRI Convert Arb	HFRI Distressed	HFRI L/S Corporate	HFRI Asset Backed
< 4.2% (Current spread is 3.6%)	0.12%	0.11%	0.13%	0.45%	0.30%
4.2 – 5.4%	0.51%	(0.12%)	(0.03%)	(0.02%)	0.09%
5.4 – 7.3%	0.47%	0.07%	(0.10%)	0.09%	0.08%
> 7.3%	1.13%	(0.33%)	(0.54%)	(0.54%)	(0.28%)

Source: Bloomberg, HFR, MPI. Time period: July 2000 – September 2024. Indexes used: BB US Intermediate Treasury, BB US Corporate High Yield, HFRI RV: Convertible Arbitrage, HFRI ED: Distressed/Restructuring, HFRI RV: Fixed Income: Corporate, HFRI RV: Fixed Income: Asset Backed

Equity

Equity environment

- Global markets delivered strong performance during the quarter, with fairly consistent results across broad regions. Emerging markets (MSCI EM +8.7%) led, followed by international developed equities (MSCI EAFE +7.3%), and lastly the domestic market (S&P 500 +5.9%). Dollar weakness provided particular benefits to investors in international developed equities.
- Market expectations for Federal Reserve rate cuts became aggressive, after the Fed cut by 50 basis points on September 18th. This likely contributed to dollar weakness, since expectations for lower rates make U.S. dollar holdings less attractive.
- S&P 500 blended year-over-year earnings growth was +3.4%, as of October 18th. Once again, technology companies led the way on earnings, providing growth of +15.2%, while Healthcare ranked second at +10.9%. Materials (-2.7%) and Energy (-20.9%) both

acted as a drag on overall index earnings.

- Small cap and value reversed their run of underperformance. Small cap led large cap by +3.2% (Russell 2000 +9.3% vs. Russell 1000 +6.1%) in Q3, while value outperformed growth by +6.2% (Russell 1000 Value +9.4% vs. Russell 1000 Growth +3.2%). Despite size and style factors performing well during Q3, both have done poorly over the past full year, with small cap and value underperforming by -8.9% and -14.4%, respectively.
- On August 5th, volatility spiked 42 points to 66, marking the largest one day jump in volatility in modern market history. This was widely attributed to significant investor unwinding of carry trade positions (borrowing in Yen to purchase U.S. equities) following a weak labor market data release and an unexpected interest rate hike from the Bank of Japan.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	5.9%		36.4%	
U.S. Small Cap (Russell 2000)	9.3%		26.8%	
U.S. Equity (Russell 3000)	6.2%		35.2%	
U.S. Large Value (Russell 1000 Value)	9.4%		27.8%	
US Large Growth (Russell 1000 Growth)	3.2%		42.2%	
Global Equity (MSCI ACWI)	6.6%	5.1%	31.8%	30.8%
International Large (MSCI EAFE)	7.3%	1.5%	24.8%	20.9%
Eurozone (EURO STOXX 50)	6.6%	2.9%	29.4%	25.1%
U.K. (FTSE 100)	8.0%	1.9%	23.5%	12.9%
Japan (TOPIX)	(4.9%)	(4.0%)	21.7%	22.2%
Emerging Markets (MSCI Emerging Markets)	8.7%	6.7%	26.1%	25.2%

Source: Standard & Poor's, FTSE, MSCI, STOXX, JPX, as of 9/30/24

Domestic equity

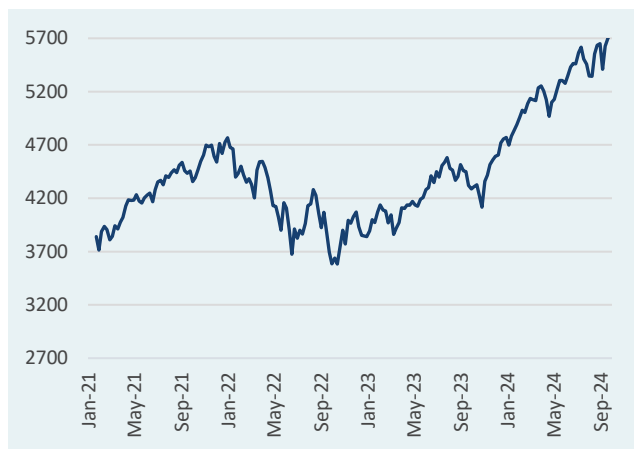
U.S. equities underperformed both international and emerging market shares—the S&P 500 ended Q3 up +5.9%. Market momentum was fueled by strengthening earnings expectations and a solid macro environment. Easing inflation and a normalizing labor market allowed for the Fed to kick off its rate cutting cycle on September 18th with a 50 bps cut. Many other central banks have also pivoted towards lower interest rates.

S&P 500 blended year-over-year earnings growth was +3.4%, as of October 18th. If earnings growth remains positive, it will mark a fifth straight quarter of positive earnings growth for large cap domestic equities. Once again, the Technology sector has led the way in earnings,

providing gains of +15.6%, year-over-year. The Communication Services sector was close behind at a +10.6% pace. Industrials (-8.4%) and Energy (-26.0%) both acted as a drag on the index.

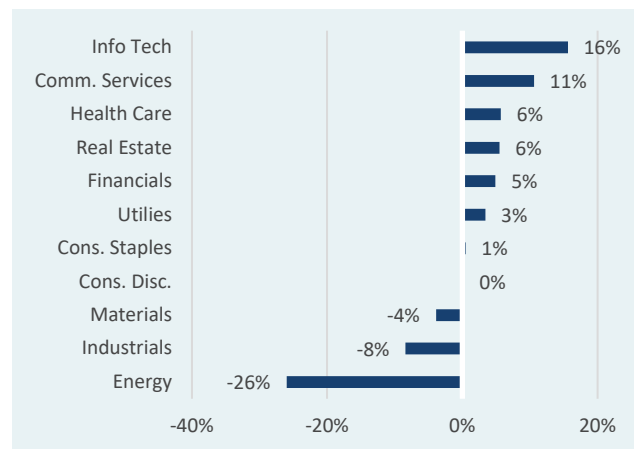
Robust price gains have continued to push valuations higher for the S&P 500, further generating concerns that U.S. equities are *priced for perfection*. Despite this, a resilient economy, interest rate cuts, and decreasing inflation risks arguably provide some fundamental justification for richer prices. Investors will be looking for these conditions to persist, specifically the trajectory of earnings and a path to profitability for recent substantial investments into artificial intelligence capabilities.

S&P 500 PRICE INDEX



Source: Standard & Poor's, as of 9/30/24

S&P 500 BLENDED EPS GROWTH (YOY)



Source: Factset, as of 9/30/24

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



Source: Factset, Verus, as of 10/18/24

Domestic equity size & style

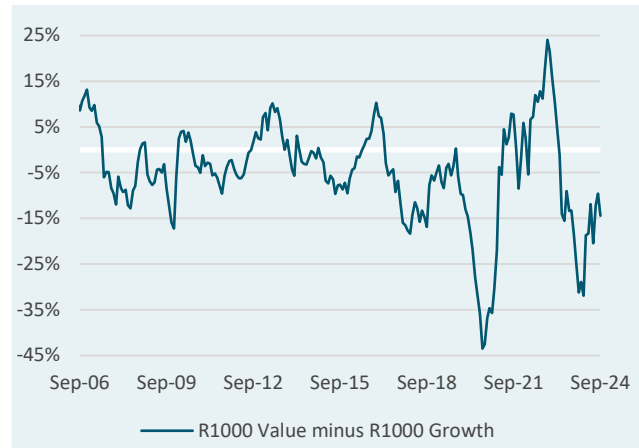
Small cap and value reversed their run of underperformance. Small cap led large cap by +3.2% (Russell 2000 +9.3% vs. Russell 1000 +6.1%) in Q3, while value outperformed growth by +6.2% (Russell 1000 Value +9.4% vs. Russell 1000 Growth +3.2%). Despite size and style factors performing well during the quarter, both have done poorly over the past year, with small cap and value underperforming by -8.9% and -14.4%, respectively.

Sector performance differences continue to fuel significant volatility across size and style factors. The Information

Technology sector, which has a much greater concentration to Growth stocks, has delivered outside performance. Mega cap technology companies have led other S&P 500 constituents during the past year. On the other hand, the Energy sector which has a much greater concentration of Value stocks, has lagged the overall index considerably over the same time period. For investors who engage in tactical factor timing, the current environment has likely proved particularly difficult to do so profitably.

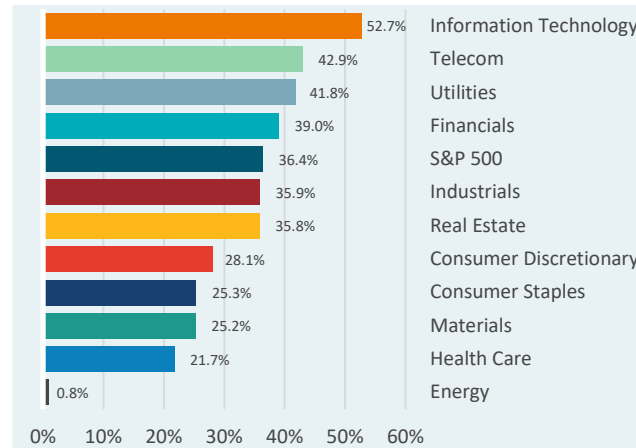
Despite a strong showing in Q3, small cap and value underperformed by -8.9% and -14.4% over the past year, respectively

VALUE VS. GROWTH 1-YR ROLLING



Source: FTSE, as of 9/30/24

S&P 500 SECTOR RETURNS (PAST 1 YEAR)



Source: Standard & Poor's, as of 9/30/24

1-YEAR SIZE & STYLE PERFORMANCE

	Value	Core	Growth
Large Cap	27.8%	35.7%	42.2%
Mid Cap	29.0%	29.3%	29.3%
Small Cap	25.9%	26.8%	27.7%

Source: FTSE, as of 9/30/24

International developed equity

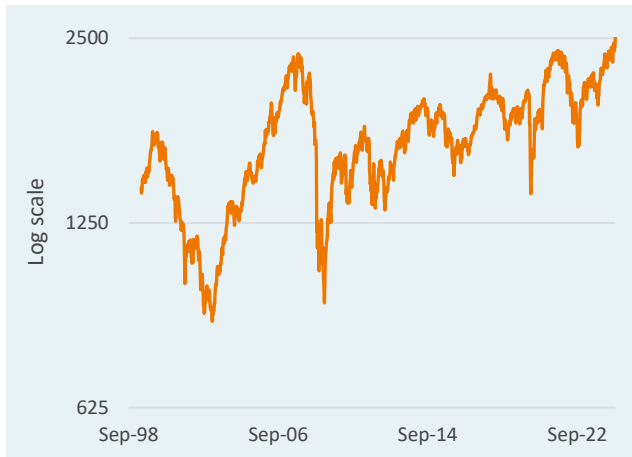
International developed shares (MSCI EAFE +7.3%) outperformed the U.S. market (S&P 500 +5.9%) during the quarter, but trailed emerging market equities (MSCI EM +8.7%). It should be noted that most of this performance was due to currency movements, rather than equity market performance. Unhedged currency exposure contributed +5.8% of the +7.3% index total return.

On a hedged basis, the international developed equity market underperformed the rest of the world (MSCI EAFE Hedged +1.5%). Many developed economies face more sluggish growth, with Europe's largest economy, Germany, now expected to contract -0.2% this year. High energy prices and increased competition with China have weighed on

European manufacturing. The European Union announced duties on these foreign exports with the goal of protecting their manufacturing sector. The European Central Bank has also implemented an accelerated rate cutting cycle in comparison to the U.S., where inflation is under the 2% target, and rate cuts may be necessary to stimulate growth.

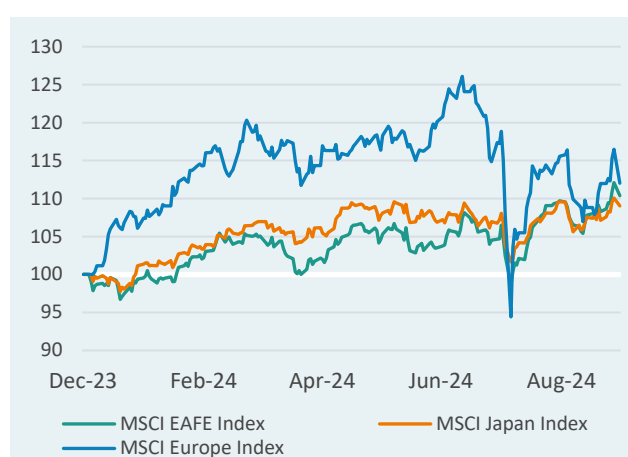
Japanese equities saw significant volatility in Q3, as an unexpected rate hike followed by weak U.S. economic data triggered what appeared to be the unwinding of a carry trade, triggering a sharp sell-off. Japanese equities recovered most of these losses, but the MSCI Japan (hedged) ended the quarter down -4.0%.

INTERNATIONAL DEVELOPED EQUITY



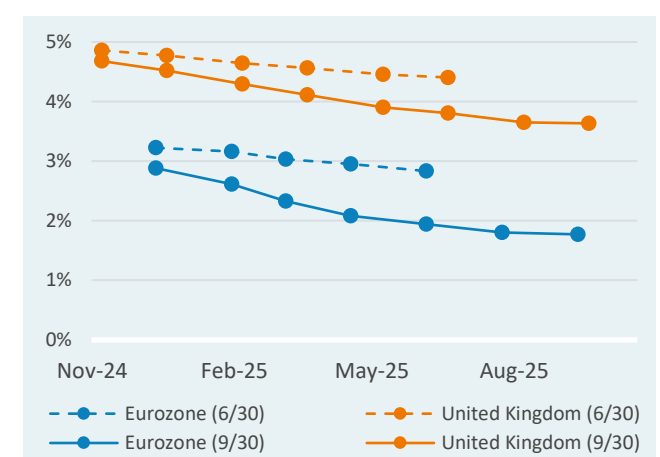
Source: MSCI, as of 9/30/24

MSCI EAFE PERFORMANCE



Source: MSCI, as of 9/30/24

ECB & BOE RATE EXPECTATIONS VS Q2



Source: Bloomberg, as of 9/30/24

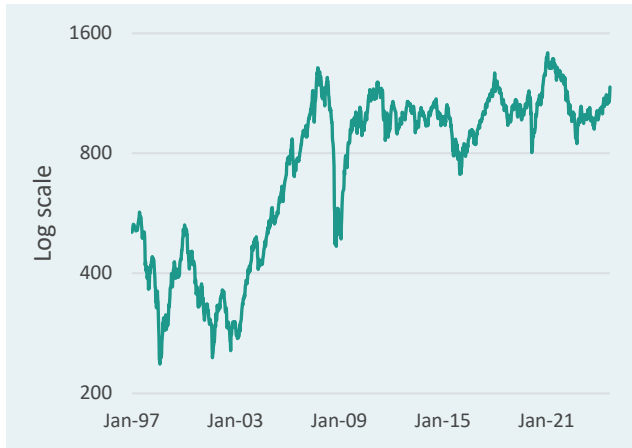
Emerging market equity

Emerging market equities (MSCI EM +8.7%) outperformed both international developed (MSCI EAFE +7.3%) and domestic equities (S&P 500 +5.9%) over the quarter. After dragging the index lower for multiple years, Chinese equities delivered an aggressive rally in September on government stimulus news, though in early October this reversed and much of those gains were lost.

China announced an aggressive economic stimulus program in September, with President Xi pledging both fiscal and

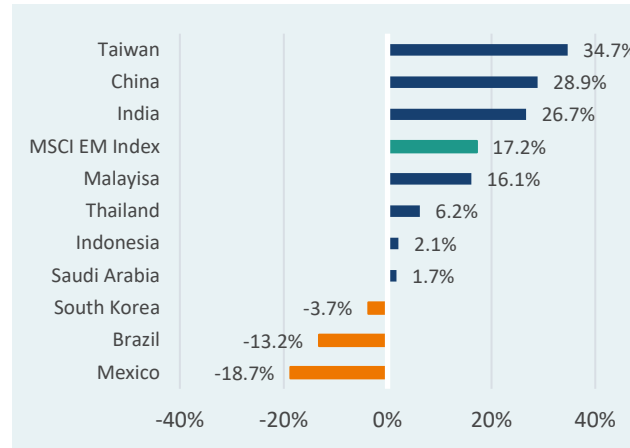
monetary support. Spending was specifically aimed at the ailing real estate market, and at mitigating the downward trajectory of the stock market. Those moves followed the People's Bank of China rate cut from 2.3% to 2.0%. It is not yet clear whether these developments will be sufficient to help turn around the Chinese economy, which faces serious structural issues such as a declining population, shrinking workforce, and a real estate crisis due to substantial excess inventory.

EMERGING MARKET EQUITY



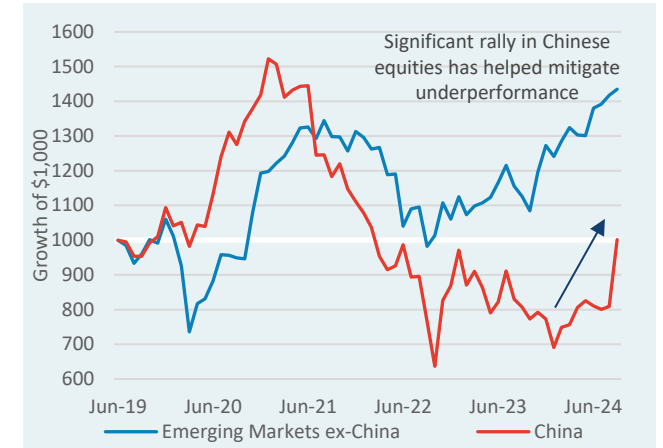
Source: MSCI, as of 9/30/24

MSCI EM 2024 SECTOR RETURNS YTD (USD)



Source: MSCI, J.P. Morgan, as of 9/30/24

CHINA UNDERPERFORMANCE PARTLY REVERSED



Source: MSCI, as of 9/30/24

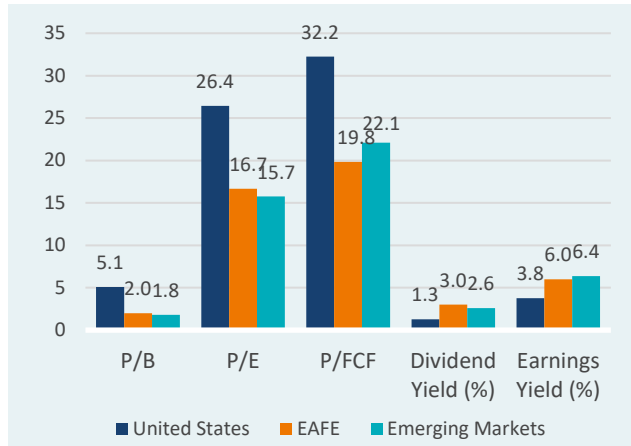
Equity valuations

Valuations moved higher in Q3, fueled by central bank rate cut news, further signs of inflation normalization, and a generally great corporate earnings outlook. The U.S. continues to trade at a large premium to other markets, though high multiples can be partly attributed to the importance of the Information Technology sector in the index (which tends to demand a higher price-to-earnings ratio than other sectors), a stronger expected earnings growth rate, and a business environment that has more effectively fostered innovation.

As U.S. stock valuations head upwards and growth stocks play

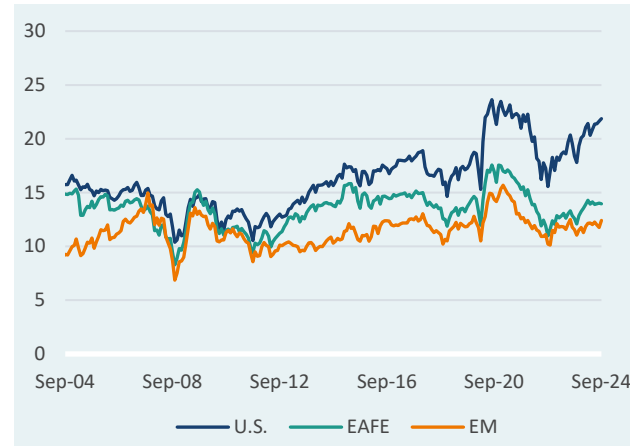
a larger role in the index, these effects have pushed total index dividend yield to a historically depressed level of 1.4%, as of September 30th. Meanwhile, non-U.S. stocks offer a 3.3% dividend yield (MSCI ACWI ex-U.S.). This is a large gap and has rarely occurred historically. However, changes in yield appear partly due to fundamental changes in marketplace characteristics, such as a greater proportion of the index being comprised of high growth companies that choose to reinvest a greater share of earnings, rather than paying those earnings out in the form of dividends.

MSCI VALUATION METRICS (3-MONTH AVG)



Source: MSCI, Verus, as of 6/30/24 – Trailing P/E

FORWARD PRICE/EARNINGS RATIO



Source: MSCI, Verus, as of 9/30/24

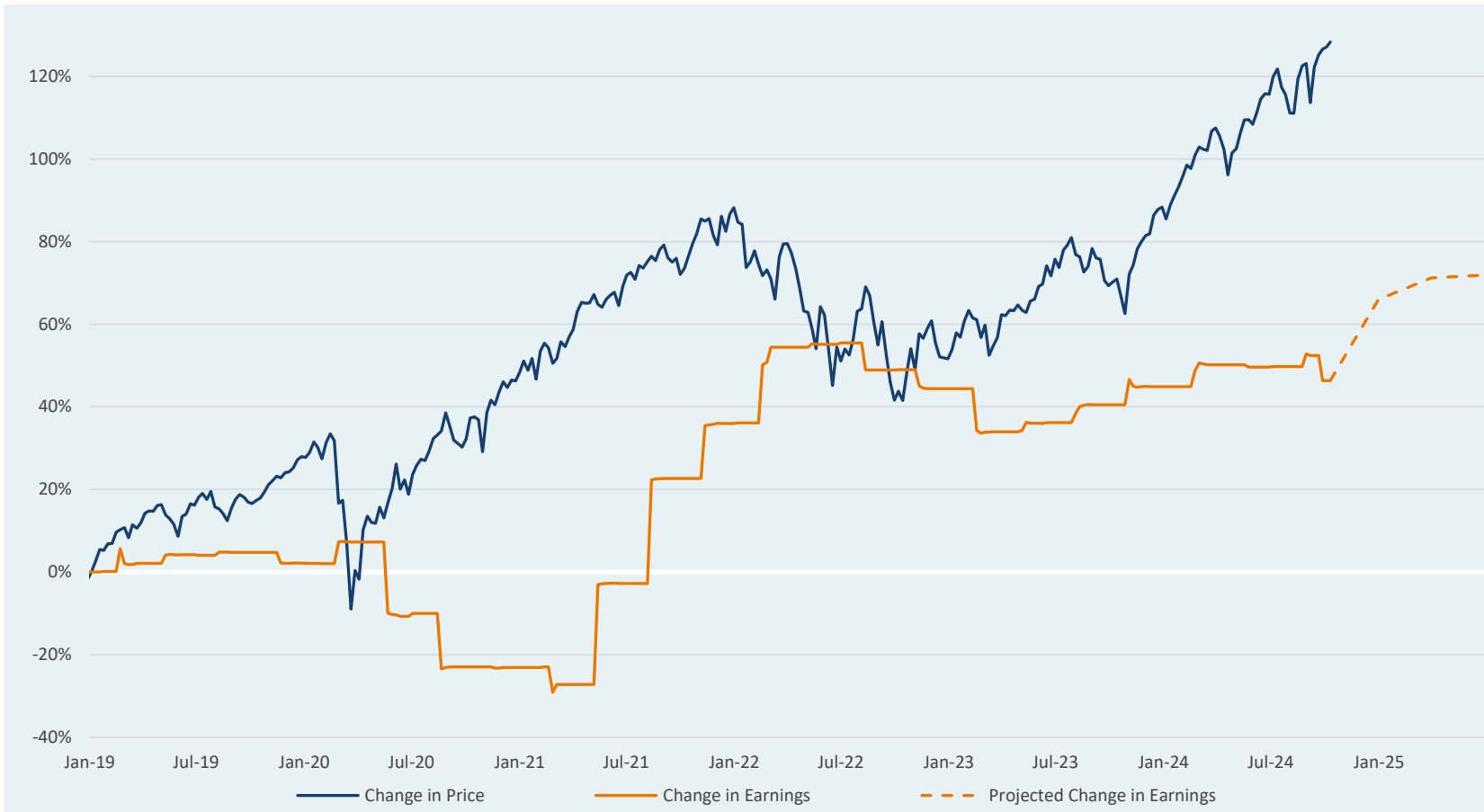
S&P 500 HISTORICAL DIVIDEND YIELD



Source: Standard & Poor's, Verus, as of 9/30/24

Lofty U.S. equity valuations, but strong earnings are expected

S&P 500 PRICE GROWTH VS. EARNINGS GROWTH (SINCE 2019)



Valuations are in the 94th percentile relative to history, meaning multiples have only been this expensive 6% of the time.

But higher valuations may be partly justified by strong earnings forecasts

Source: Standard & Poor's, Verus, as of 10/10/24

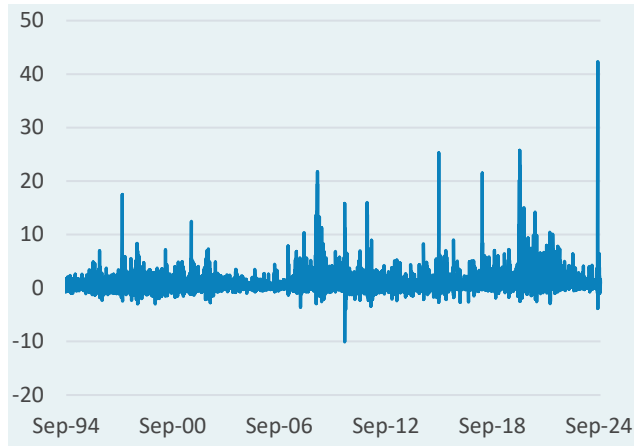
Market volatility

Market-priced volatility (Cboe VIX Index) rose during Q3, starting the quarter at 12.4% and ending at 16.7%—closer to the longer-term average of 19.5%. On August 5th, volatility spiked 42 points to 66, making the largest one day jump in volatility in modern market history. The previous record was set during market turmoil among COVID-19 lockdowns. This market shock in August was widely attributed to unwinding of carry trade positions (borrowing in Yen to purchase U.S. equities) following a weak labor market data release, as well as an unexpected interest rate hike from the Bank of Japan. Volatility has since subsided, and markets have recovered much of their losses. With valuations at elevated levels, it would not be surprising to see further market shakiness.

Bond market volatility remains significantly above the longer-term average, but has trended downward as inflation risk has eased, and economic conditions have outperformed expectations. The Federal Reserve path to lower interest rates, and bumps that will inevitably occur along that path, could result in elevated fixed income volatility.

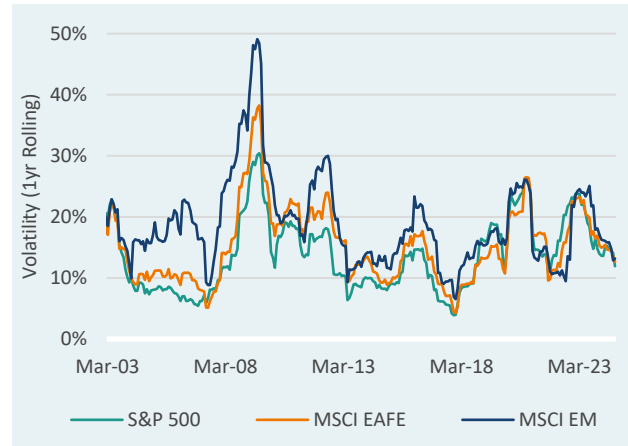
Recent realized one-year volatility has drifted to very low levels, despite uncertainty around inflation and interest rates, geopolitical risk flareups, and the upcoming election. Domestic and foreign markets showed similar volatility levels during that time.

U.S. IMPLIED VOLATILITY (VIX)



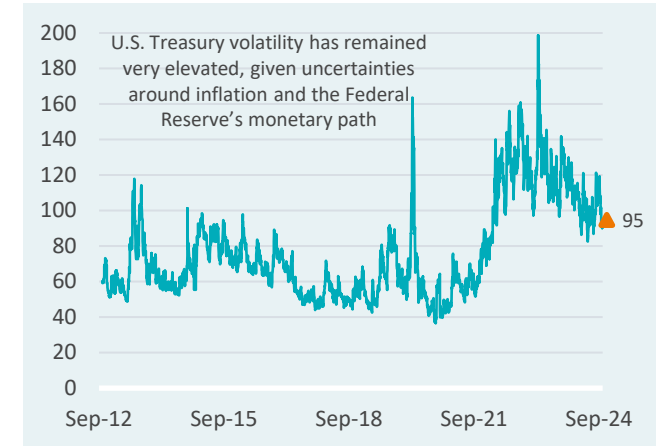
Source: Cboe, as of 9/30/24

REALIZED VOLATILITY



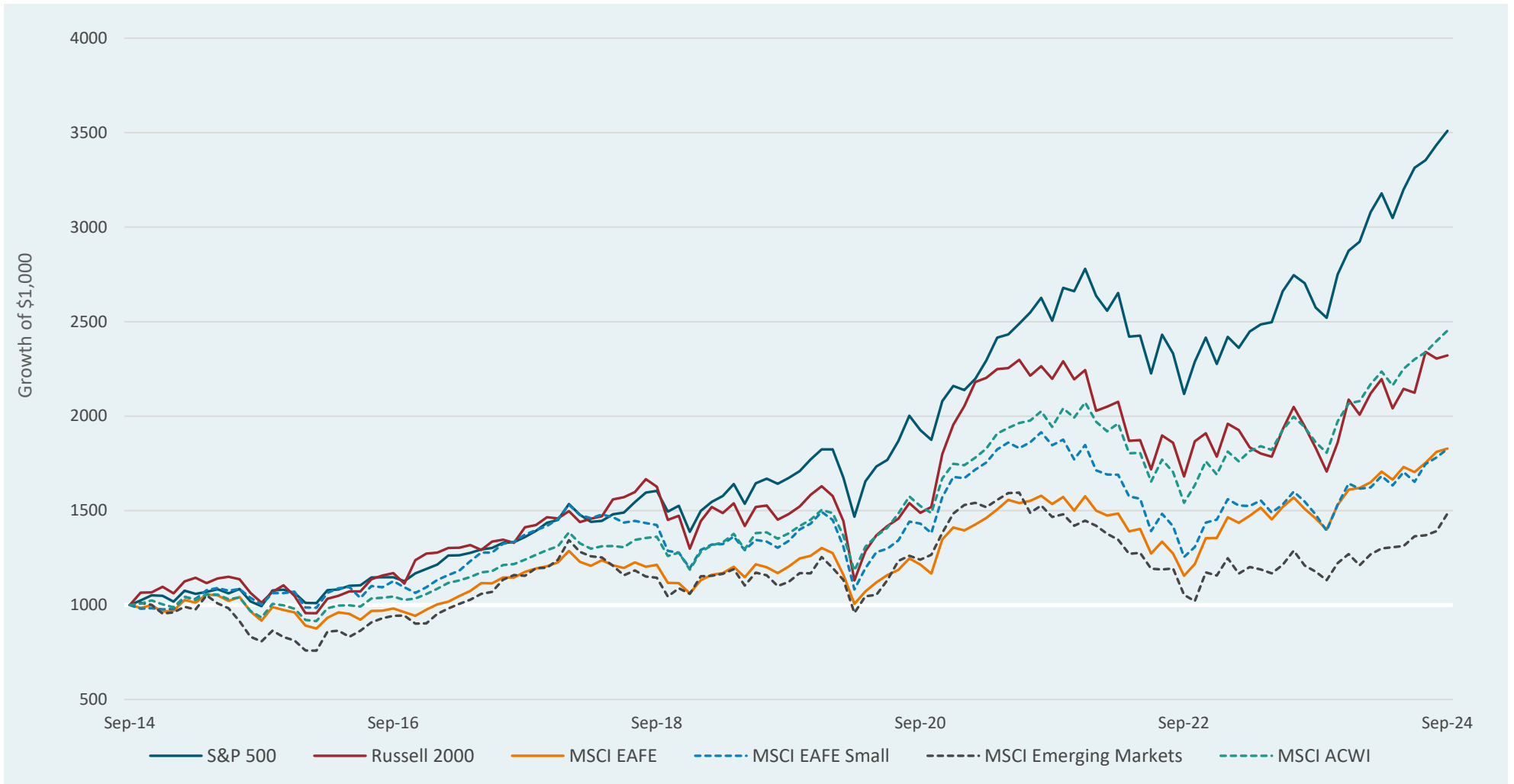
Source: Standard & Poor's, MSCI, Verus, as of 9/30/24

U.S. TREASURY IMPLIED VOL ("MOVE" INDEX)



Source: BofA, as of 9/30/24

Long-term equity performance



Source: Standard & Poor's, FTSE, MSCI, Verus, as of 9/30/24

Other assets

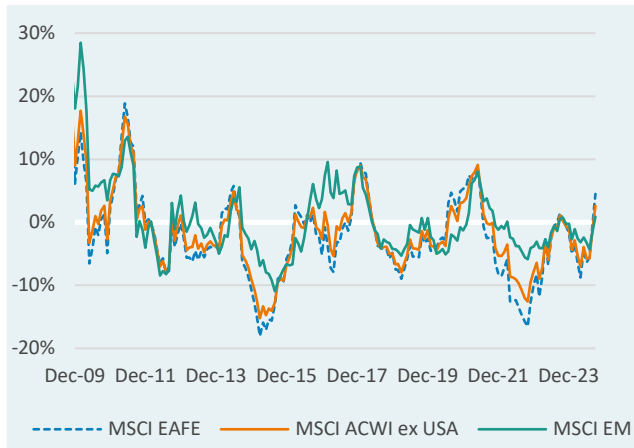
Currency

U.S. dollar weakness resulted in gains for investors with unhedged foreign currency exposure. Market expectations for Federal Reserve rate cuts have become fairly aggressive over the past month, following the surprise 50 basis point cut on September 18th. This has contributed to dollar weakness— expectations for lower rates in the future make holding the U.S. dollars less attractive.

Investors without a currency hedging program gained +5.8% from their international developed equity exposure (MSCI EAFE) during the quarter due to currency movements, and +3.9% over the past year. The return impact from unhedged Japanese currency exposure, which has delivered extreme losses in recent quarters, sharply reversed direction and resulted in a +10.9% gain (represented by the TOPIX Index).

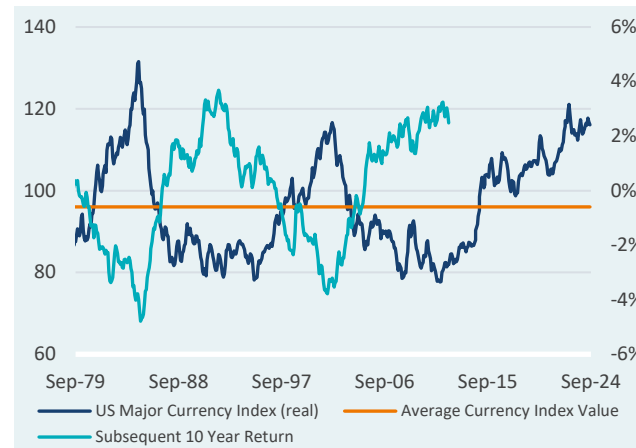
A more thoughtful portfolio approach to currency exposure has provided the dual benefit of lower portfolio volatility and also higher returns—a rare proposition in markets. This approach involves reducing the uncompensated risk of unhedged foreign currency exposure, and instead of unhedged exposure, making a passive investment in the currency market by investing in currencies with higher interest rates, currencies that are undervalued, and currencies that are showing positive price momentum. This approach, represented by the MSCI Currency Factor Mix Index—has offered a positive one-year rolling return over most periods with far lower volatility than the unhedged currency exposure that many investors hold. The past year of intense currency market volatility is testament to this approach.

EFFECT OF CURRENCY (1-YEAR ROLLING)



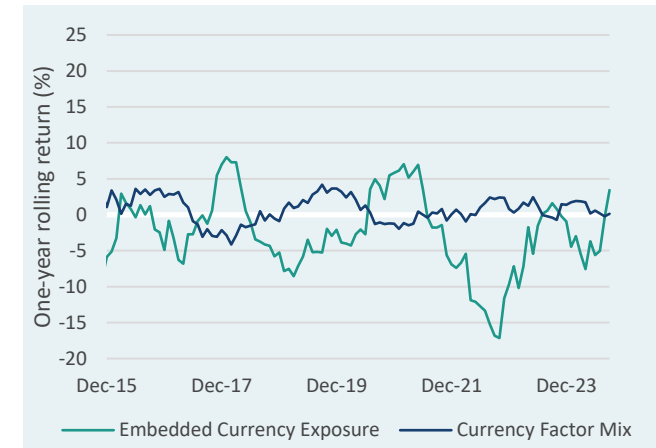
Source: MSCI, Verus, as of 9/30/24

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: FRED, Verus, as of 9/30/24

EMBEDDED CURRENCY VS CURRENCY FACTORS



Source: MSCI, Verus, as of 9/30/24 "Embedded Currency Exposure" is the currency return impact from not hedging currency risk

Appendix

Periodic table of returns

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD	5-Year	10-Year
Large Cap Growth	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	28.3	16.1	42.7	24.5	19.7	16.5
Large Cap Equity	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	34.6	27.6	9.4	26.5	21.2	15.6	13.1
Emerging Markets Equity	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	28.5	21.0	27.1	1.5	18.7	16.9	10.7	9.2
Large Cap Value	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	26.5	20.0	26.5	-4.7	18.2	16.7	7.8	8.9
Small Cap Growth	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	25.5	18.3	25.2	-7.5	16.9	13.2	9.3	8.8
International Equity	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	22.4	14.0	17.7	-13.0	15.4	13.0	9.4	6.4
60/40 Global Portfolio	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	22.0	10.3	14.8	-14.5	14.6	12.5	8.2	8.2
Small Cap Equity	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	18.6	7.8	11.3	-14.5	11.5	11.2	8.8	5.0
Small Cap Value	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	18.4	7.5	8.9	-17.3	9.8	9.2	5.7	5.7
Hedge Funds of Funds	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	8.7	4.6	6.5	-19.1	6.3	6.0	5.3	3.6
Commodities	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	7.8	2.8	2.8	-20.1	5.5	5.9	3.8	4.0
US Bonds	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	7.7	0.5	0.0	-20.4	5.0	4.4	5.7	1.5
Cash	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	6.4	0.5	-1.5	-26.4	-7.9	4.0	2.1	1.8
Real Estate	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	2.1	-3.1	-2.5	-29.1	-7.9	-1.2	0.3	0.0

■ Large Cap Equity

■ Large Cap Value

■ Large Cap Growth

■ Small Cap Equity

■ Small Cap Value

■ Small Cap Growth

■ International Equity

■ Emerging Markets Equity

■ US Bonds

■ Cash

■ Commodities

■ Real Estate

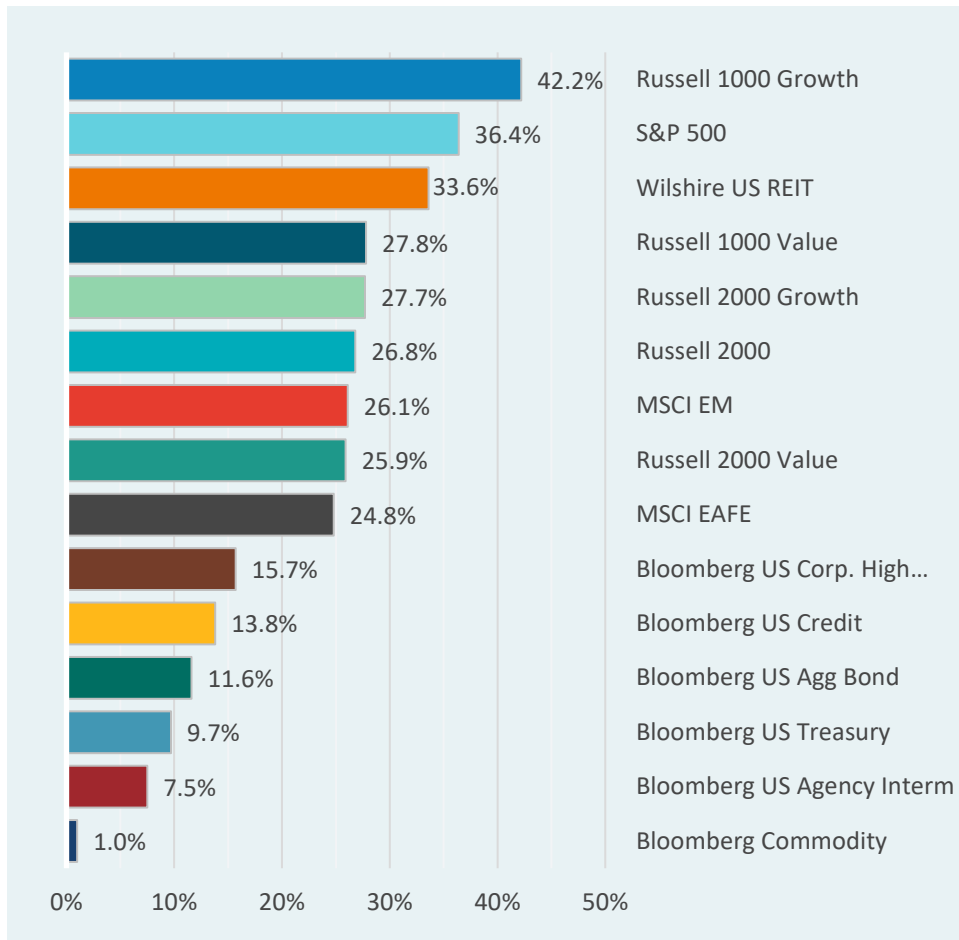
■ Hedge Funds of Funds

■ 60% MSCI ACWI/40% Bloomberg Global Bond

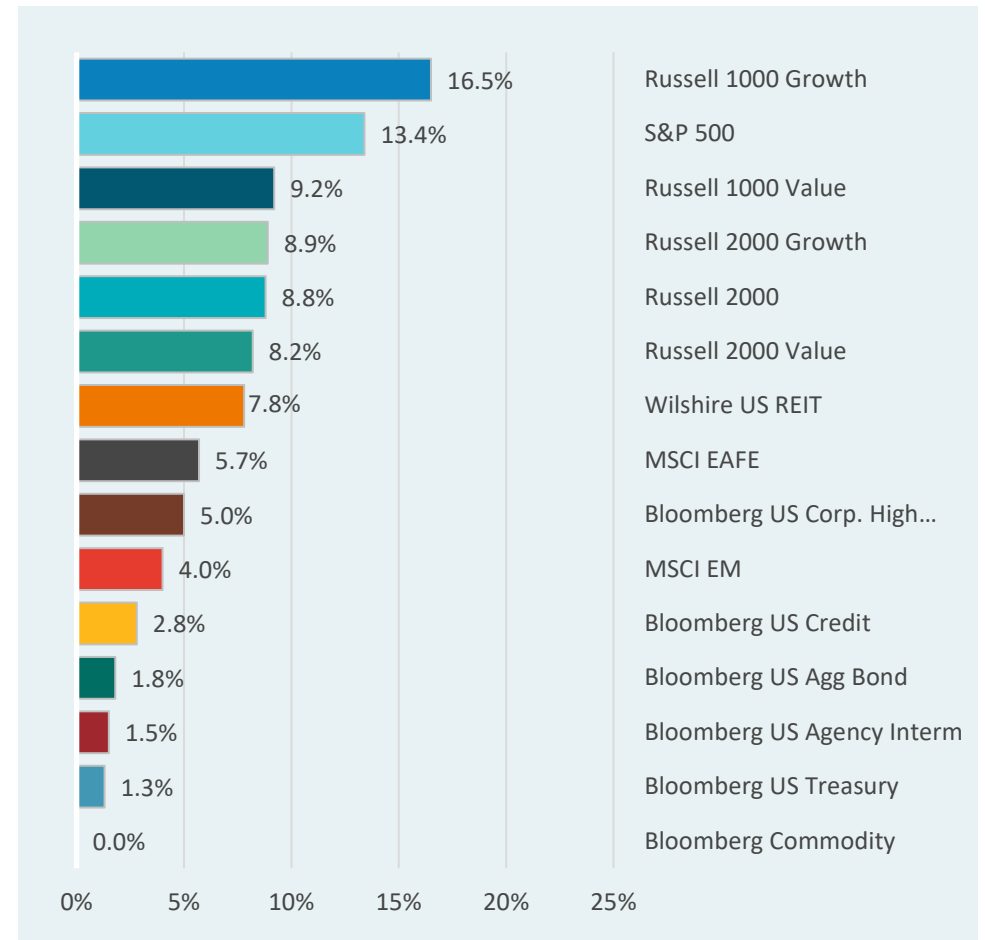
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 6/30/24.

Major asset class returns

ONE YEAR ENDING SEPTEMBER



TEN YEARS ENDING SEPTEMBER



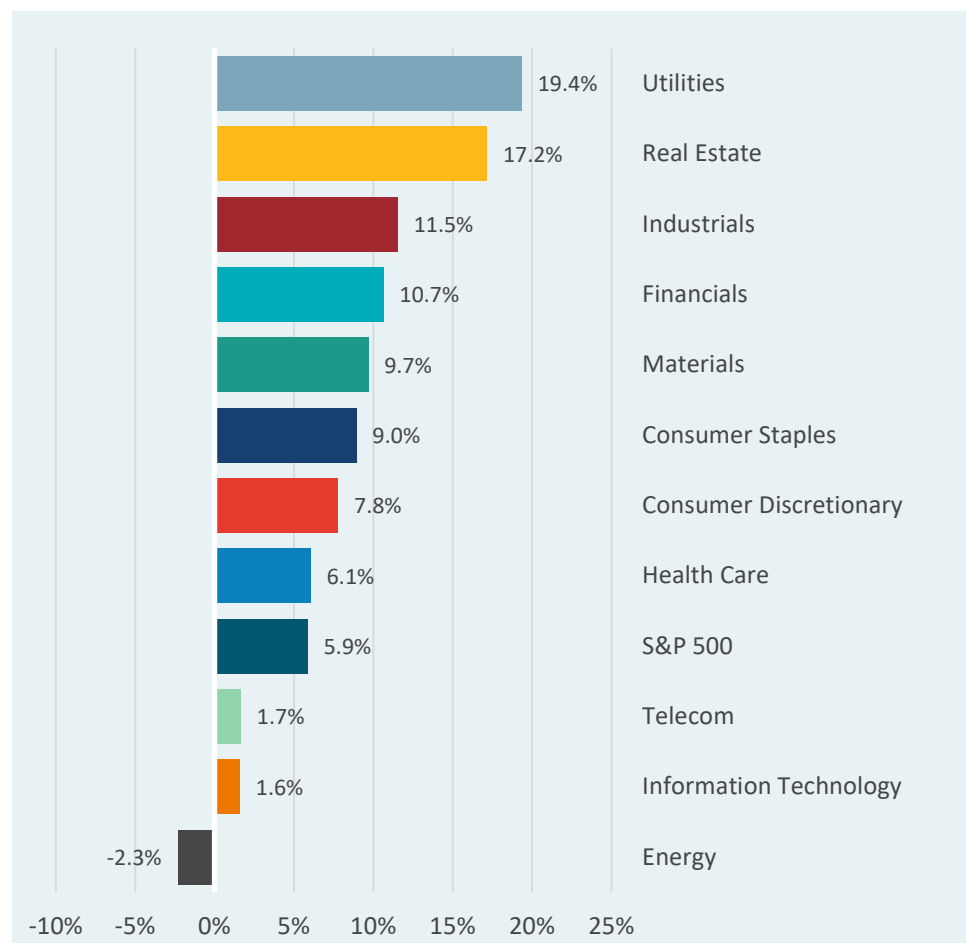
*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 9/30/24

Source: Morningstar, as of 9/30/24

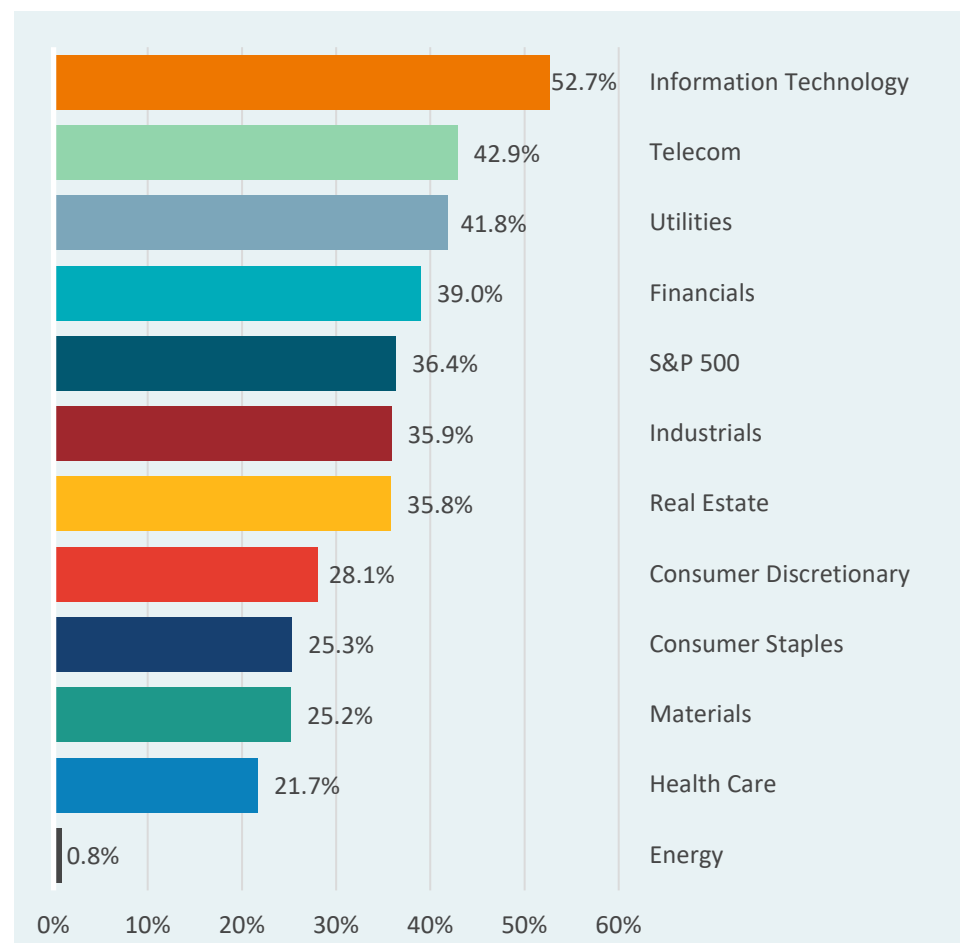
S&P 500 sector returns

QTD



Source: Morningstar, as of 9/30/24

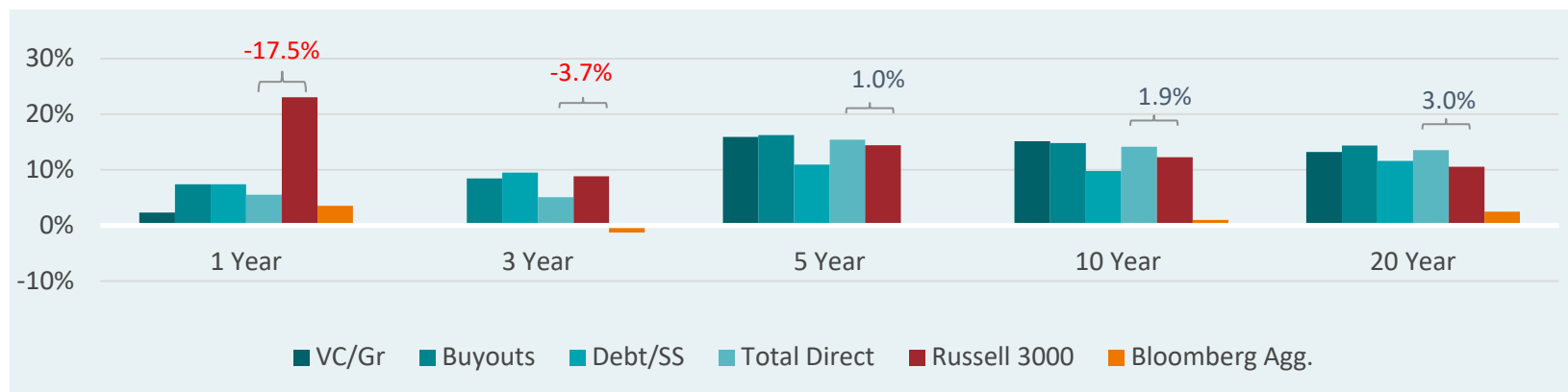
ONE YEAR ENDING AUGUST



Source: Morningstar, as of 9/30/24

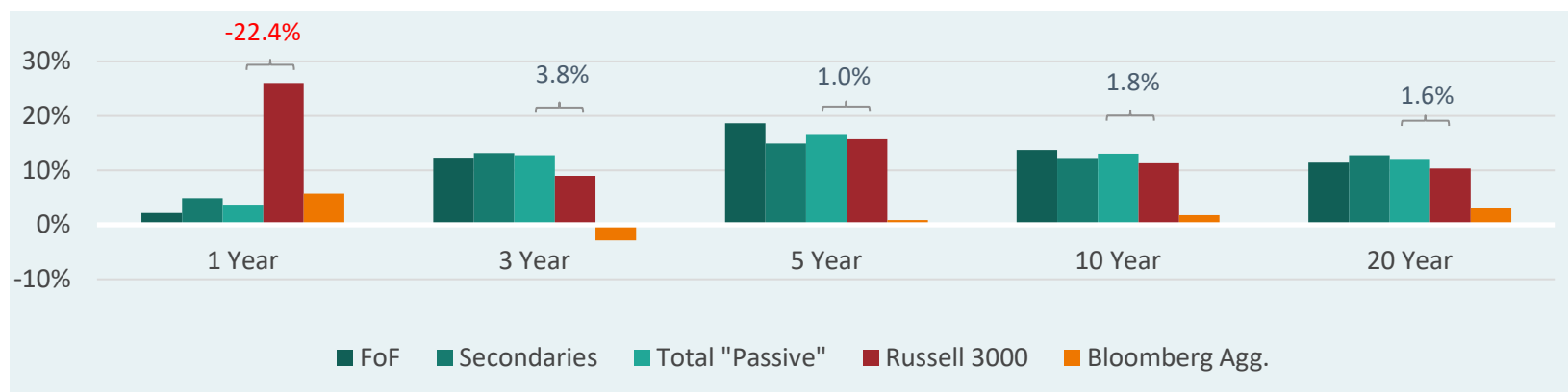
Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



Direct P.E Fund Investments vs. public equities has been mixed.

"PASSIVE" STRATEGIES

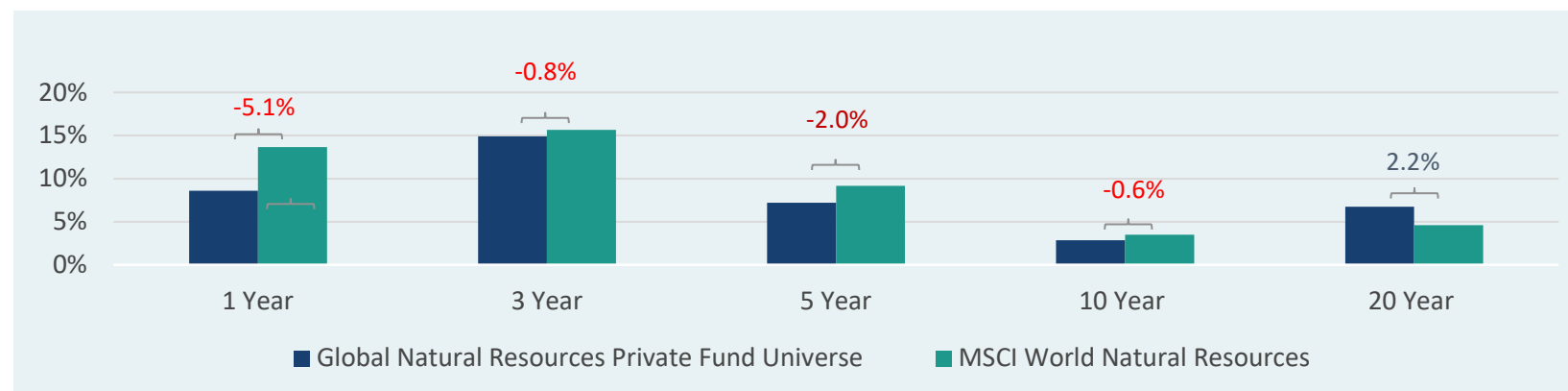


"Passive" strategies outperformed comparable public equities across all time periods, aside from the 1-year.

Sources: FTSE PME: U.S. Direct Private Equity returns are as of June 30, 2024, whereas "Passive" strategies as of March 31, 2024. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.

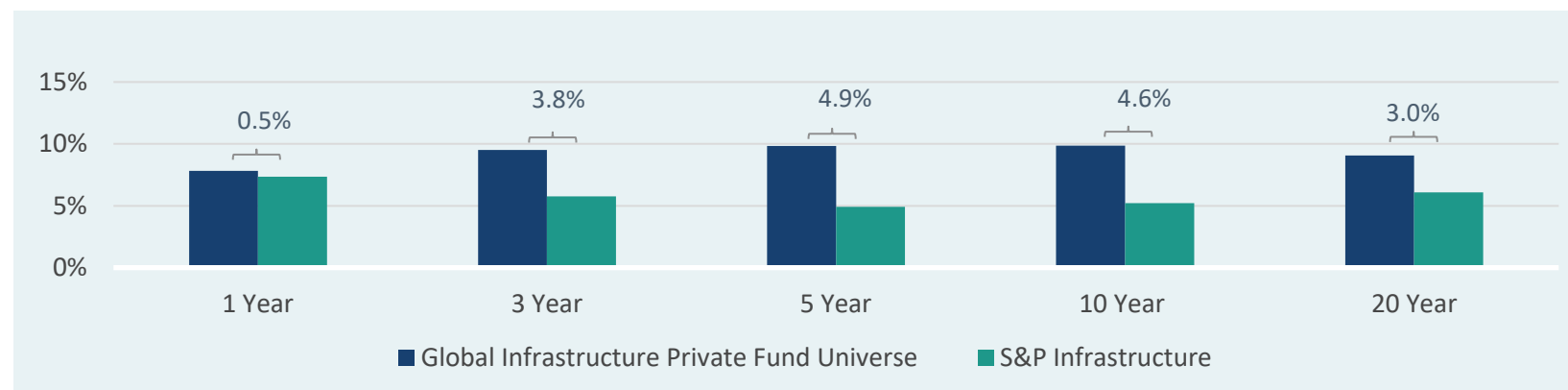
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



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

GLOBAL INFRASTRUCTURE FUNDS

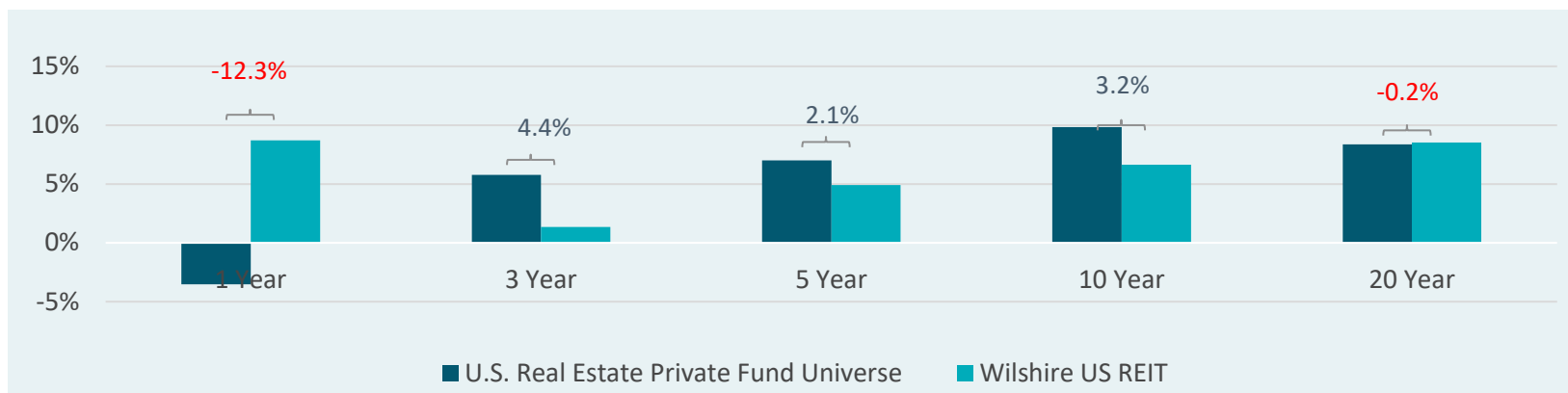


Infra. funds outperformed the S&P Infra. across all periods.

Sources: FTSE 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 June 30, 2024. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

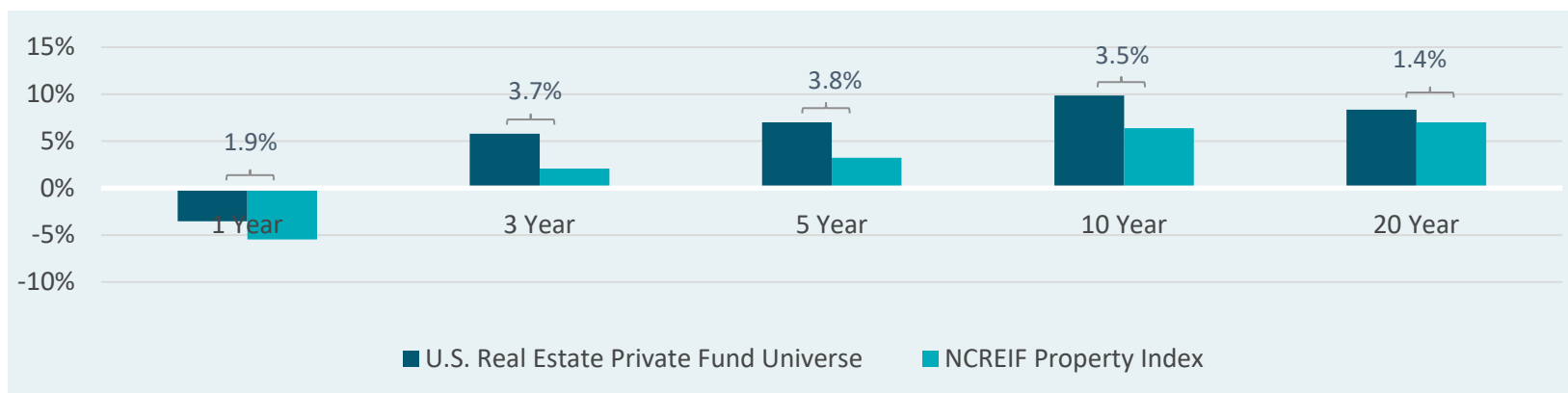
Private vs. liquid and core real estate performance

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



U.S. Private R.E. funds performance vs. the Wilshire U.S. REIT Index has been mixed.

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



U.S. Private R.E. Funds outperformed the NCREIF Property Index across all time periods.

Sources: FTSE PME: U.S. Real Estate universes as of June 30, 2024. 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	2.1	5.9	22.1	36.4	11.9	16.0	13.4
S&P 500 Equal Weighted	2.3	9.6	15.2	28.8	8.2	12.8	11.1
DJ Industrial Average	2.0	8.7	13.9	28.8	10.0	11.8	12.0
Russell Top 200	2.1	5.2	23.3	37.7	12.6	17.2	14.1
Russell 1000	2.1	6.1	21.2	35.7	10.8	15.6	13.1
Russell 2000	0.7	9.3	11.2	26.8	1.8	9.4	8.8
Russell 3000	2.1	6.2	20.6	35.2	10.3	15.3	12.8
Russell Mid Cap	2.2	9.2	14.6	29.3	5.8	11.3	10.2
Style Index							
Russell 1000 Growth	2.8	3.2	24.5	42.2	12.0	19.7	16.5
Russell 1000 Value	1.4	9.4	16.7	27.8	9.0	10.7	9.2
Russell 2000 Growth	1.3	8.4	13.2	27.7	(0.4)	8.8	8.9
Russell 2000 Value	0.1	10.2	9.2	25.9	3.8	9.3	8.2

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	2.3	6.6	18.7	31.8	8.1	12.2	9.4
MSCI ACWI ex US	2.7	8.1	14.2	25.4	4.1	7.6	5.2
MSCI EAFE	0.9	7.3	13.0	24.8	5.5	8.2	5.7
MSCI EM	6.7	8.7	16.9	26.1	0.4	5.7	4.0
MSCI EAFE Small Cap	2.6	10.5	11.1	23.5	(0.4)	6.4	6.2
Style Index							
MSCI EAFE Growth	0.4	5.7	12.3	26.5	1.9	7.7	6.6
MSCI EAFE Value	1.4	8.9	13.8	23.1	8.9	8.3	4.6
Regional Index							
MSCI UK	0.3	7.9	15.4	23.3	9.8	7.9	4.1
MSCI Japan	(0.6)	5.7	12.4	21.6	2.7	7.1	6.4
MSCI Euro	1.8	6.9	12.8	27.3	6.7	9.1	5.7
MSCI EM Asia	8.0	9.5	21.6	29.7	0.8	7.2	5.6
MSCI EM Latin American	0.1	3.7	(12.5)	2.8	7.2	2.1	0.6

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	1.5	4.1	4.9	9.8	(0.6)	2.6	2.5
Bloomberg US Treasury Bills	0.5	1.4	4.1	5.6	3.5	2.3	1.7
Bloomberg US Agg Bond	1.3	5.2	4.4	11.6	(1.4)	0.3	1.8
Bloomberg US Universal	1.4	5.2	4.9	12.1	(1.1)	0.7	2.2
Duration							
Bloomberg US Treasury 1-3 Yr	0.8	2.9	4.1	6.8	1.3	1.5	1.4
Bloomberg US Treasury Long	2.0	7.8	2.4	15.4	(8.4)	(4.3)	1.1
Bloomberg US Treasury	1.2	4.7	3.8	9.7	(1.8)	(0.2)	1.3
Issuer							
Bloomberg US MBS	1.2	5.5	4.5	12.3	(1.2)	0.0	1.4
Bloomberg US Corp. High Yield	1.6	5.3	8.0	15.7	3.1	4.7	5.0
Bloomberg US Agency Interm	0.9	3.1	4.2	7.5	0.5	1.1	1.5
Bloomberg US Credit	1.7	5.7	5.2	13.8	(1.1)	1.1	2.8

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	4.9	0.7	5.9	1.0	3.7	7.8	0.0
Wilshire US REIT	2.6	15.2	14.9	33.6	4.6	5.4	7.8
CS Leveraged Loans	0.7	2.1	6.6	9.7	6.3	5.6	4.9
S&P Global Infrastructure	3.8	13.4	18.0	30.9	9.6	6.9	6.3
Alerian MLP	(0.4)	0.7	20.0	23.6	25.3	12.5	1.6
Regional Index							
JPM EMBI Global Div	1.8	6.2	8.6	18.6	(0.4)	0.9	3.3
JPM GBI-EM Global Div	3.4	9.0	4.9	13.4	0.6	0.6	0.6
Hedge Funds							
HFRI Composite	0.3	1.3	6.2	10.7	3.4	7.0	4.9
HFRI FOF Composite	0.2	1.1	6.0	9.3	2.3	5.3	3.6
Currency (Spot)							
Euro	0.8	4.1	1.0	5.4	(1.3)	0.5	(1.2)
Pound Sterling	2.1	6.1	5.2	9.9	(0.2)	1.7	(1.9)
Yen	1.8	12.5	(1.4)	4.3	(8.0)	(5.5)	(2.6)

Source: Morningstar, HFRI, as of 9/30/24

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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Contra Costa County Employees Retirement Association

Investment Performance Review
Period Ending: September 30, 2024



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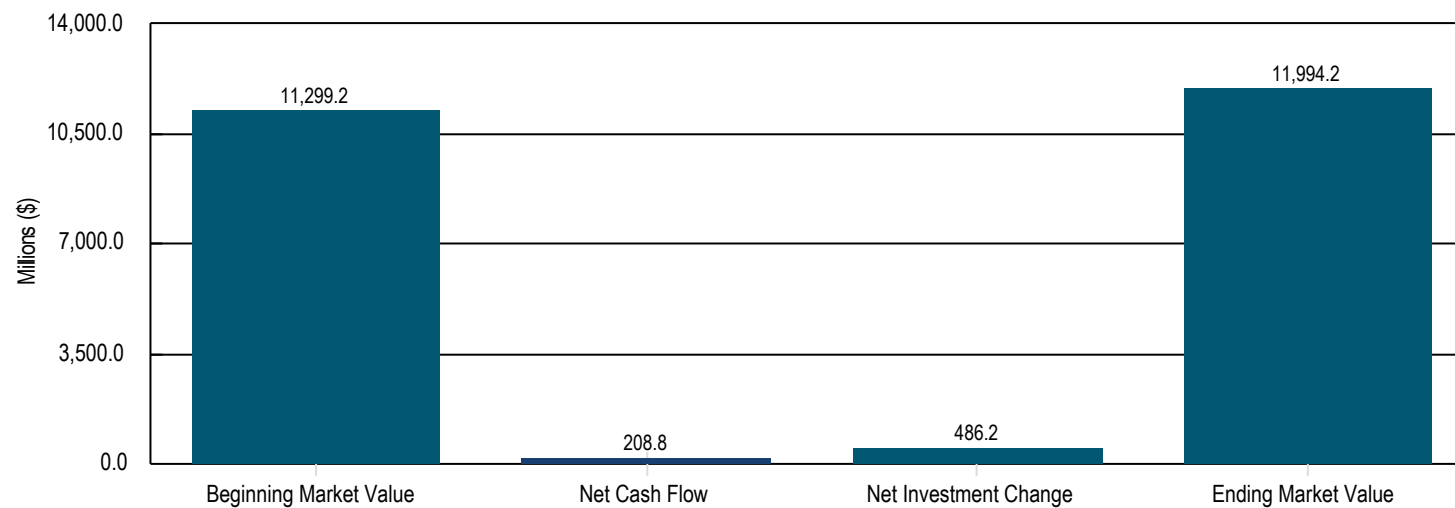
LOS ANGELES 310.297.1777

SAN FRANCISCO 415.362.3484

Portfolio Reconciliation

	Last Three Months	YTD
Beginning Market Value	\$11,299,200,066	\$11,026,398,894
Net Cash Flow	\$208,808,666	-\$36,115,283
Net Investment Change	\$486,155,076	\$1,003,880,198
Ending Market Value	\$11,994,163,809	\$11,994,163,809

Change in Market Value
Last Three Months

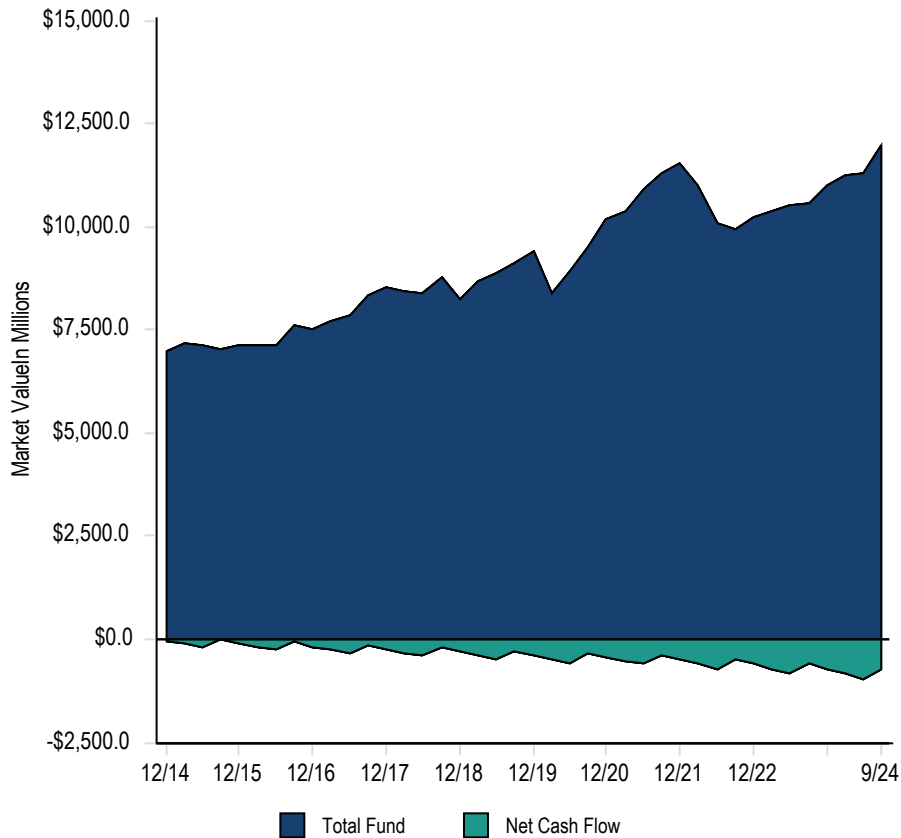


Contributions and withdrawals may include intra-account transfers between managers/funds.

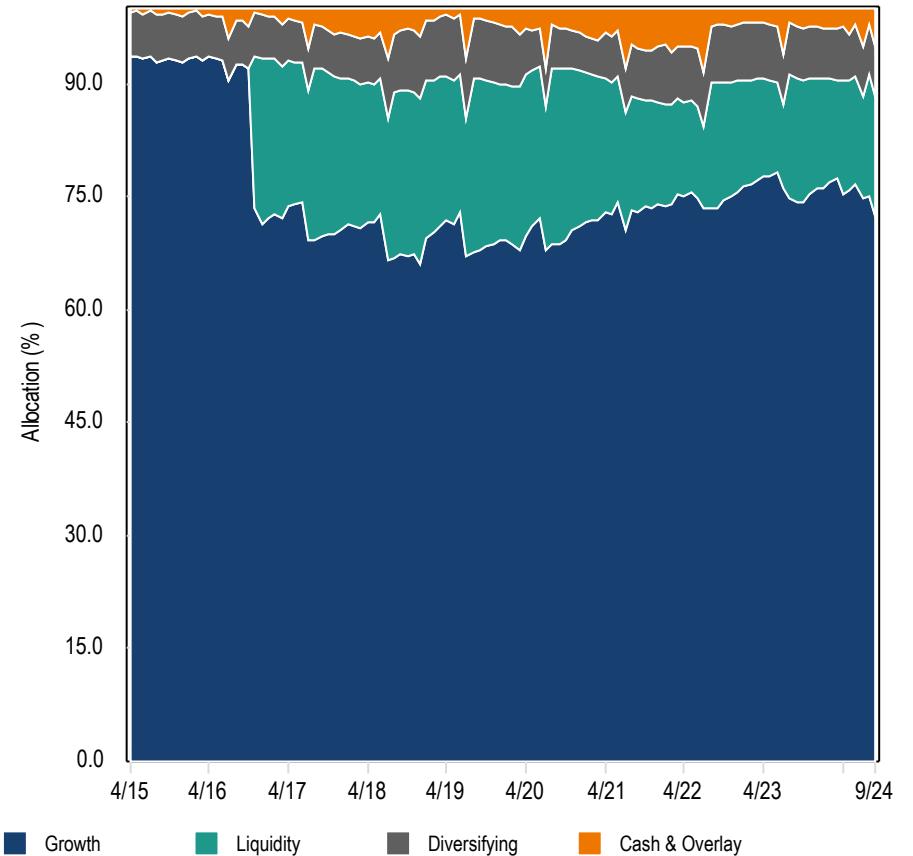
Total Fund
Asset Allocation History

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

Market Value History
Cumulative Cash Flows

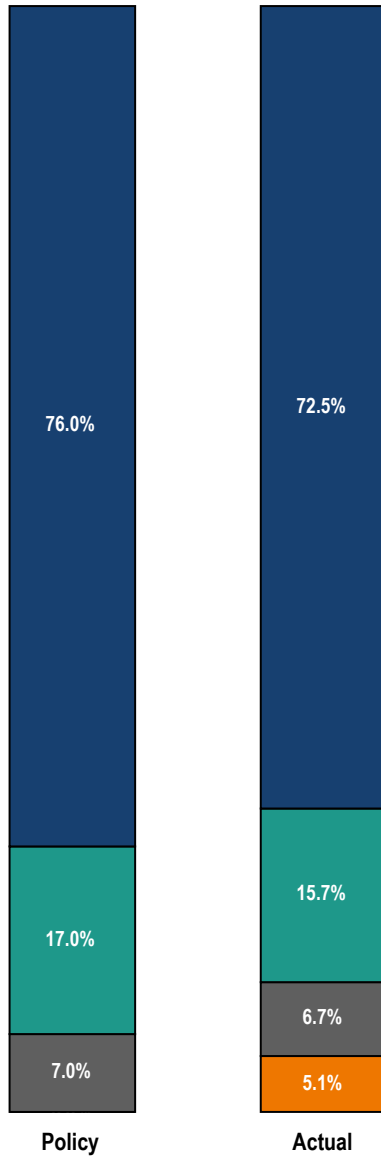


Asset Allocation History



Total Fund
Asset Allocation vs. Policy Target

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024



	Current Balance	Current Allocation	Policy Target	Difference
Growth	\$8,698,902,915	72.5	76.0	-\$416,661,580
Liquidity	\$1,881,293,350	15.7	17.0	-\$157,714,498
Diversifying	\$804,403,169	6.7	7.0	-\$35,188,298
Cash & Overlay	\$609,564,376	5.1	0.0	\$609,564,376
Total	\$11,994,163,809	100.0	100.0	

Policy Targets approved July 2023.

Total Fund
Executive Summary (Net of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019
Total Fund	100.0	4.3	9.2	15.2	3.1	6.6	6.5	9.0	-10.6	13.9	9.2	14.6
Policy Index		4.4	8.5	14.4	4.4	7.8	7.3	9.9	-8.4	15.3	10.8	14.6
Implementation Benchmark		4.4	8.5	14.4	3.8	6.9	6.6	9.0	-8.7	14.2	8.7	13.6
Growth	72.5	4.8	10.7	17.7	3.9	8.7	8.2	10.1	-11.7	19.2	12.0	18.3
Custom Growth Benchmark		4.4	9.9	16.6	5.1	10.0	9.1	11.2	-10.3	21.6	13.8	19.3
Diversifying	6.7	2.1	2.1	4.4	-0.7	-0.2	0.3	2.2	-5.7	1.7	-1.7	6.8
Custom Diversifying Benchmark		4.6	5.8	11.9	2.5	2.8	3.3	7.4	-5.7	1.6	4.7	6.1
Liquidity	15.7	2.7	4.8	8.0	2.0	2.0	-	5.4	-3.5	-0.3	3.4	4.8
Bloomberg U.S. Gov/Credit 1-3 Year Index		3.0	4.4	7.2	1.5	1.7	-	4.6	-3.7	-0.5	3.3	4.0

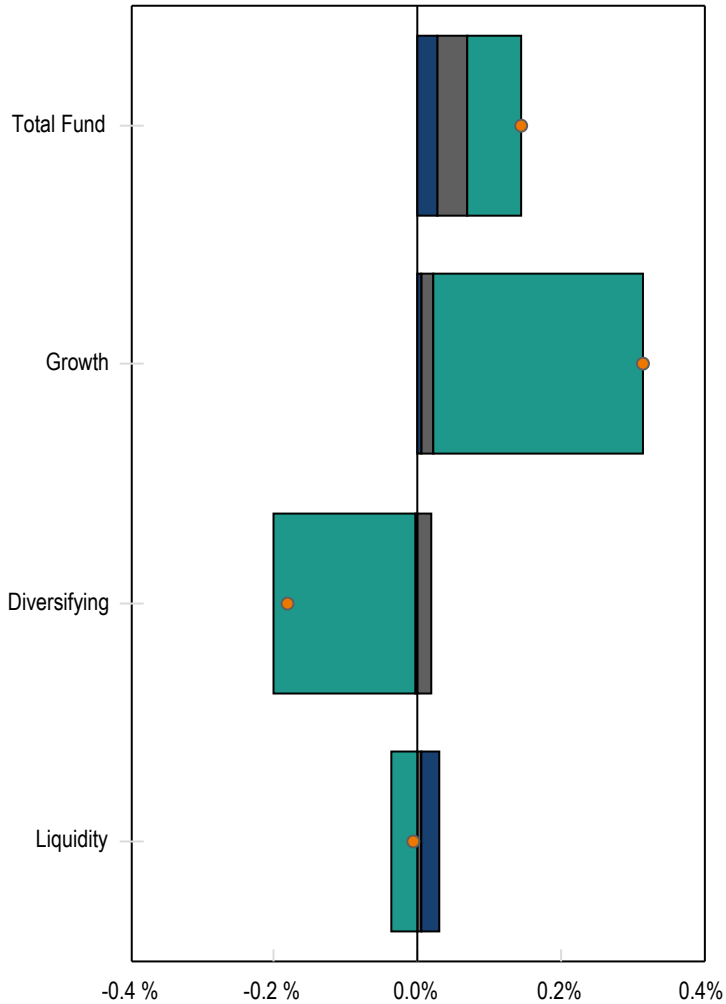
*Correlation between the Growth and Diversifying composites is .81, .60, and .66 over the previous 1, 3, and 5 year periods respectively.

As of 1/1/2024, the Policy Index matches the Implementation Benchmark. The Implementation Benchmark weights can be found in the Data Sources and Methodology pages.

Total Fund
 Attribution Analysis - Asset Class Level (Net of Fees)

Contra Costa County Employees' Retirement Association
 Period Ending: September 30, 2024

Attribution Effects
 3 Months Ending September 30, 2024



Selection Effect Allocation Effect
 Interaction Effect Total Effects

Performance Attribution

	3 Mo
Wtd. Actual Return	4.30
Wtd. Index Return	4.40
Excess Return	-0.10
Selection Effect	-0.08
Allocation Effect	-0.02
Interaction Effect	0.00

Attribution Summary
 Last 3 Months

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Growth	4.8	4.7	0.1	-0.1	0.0	0.0	0.1
Diversifying	2.1	4.6	-2.5	-0.2	0.0	0.0	-0.2
Custom Diversifying Benchmark - Liquidity	0.0	3.1	-3.1	0.0	0.2	0.0	0.2
Total Fund	4.3	4.4	-0.1	-0.3	0.3	0.0	-0.1

Performance attribution calculated from benchmark returns and weightings of each component.

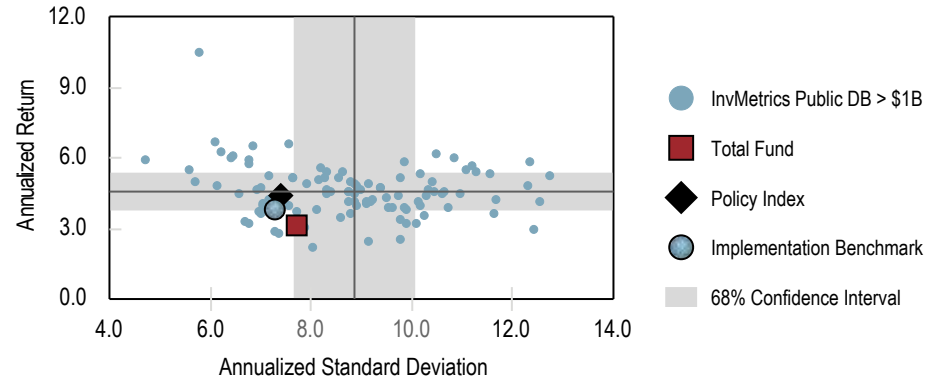
Total Fund
Executive Summary (Net of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

3 Years

	Anlzd Return	Ann Excess Performance	Anlzd Standard Deviation	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
Total Fund	3.13	-0.72	7.73	-0.87	1.05	1.10	0.98	-0.01	-0.61	100.08	113.99

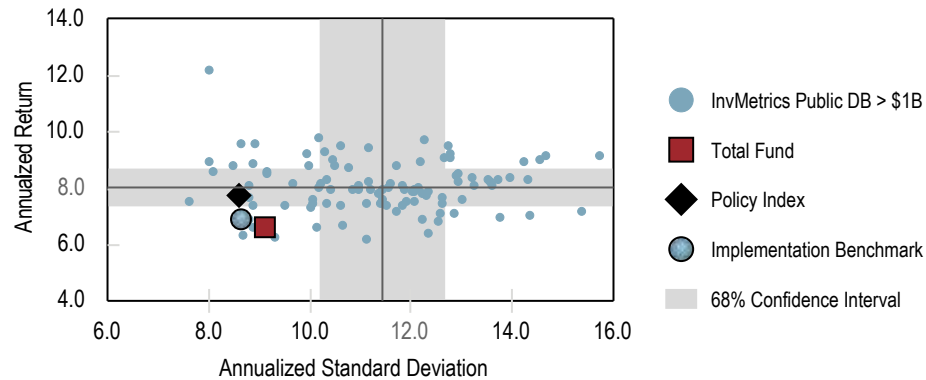
Risk vs. Return



5 Years

	Anlzd Return	Ann Excess Performance	Standard Deviation	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
Total Fund	6.63	-0.28	9.12	-0.58	1.05	1.11	0.99	0.50	-0.20	102.31	110.45

Risk vs. Return



Total Fund
Performance Summary (Gross of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019	Inception	Inception Date
Total Fund	11,994,163,809	100.0	4.4	9.4	15.5	3.4	6.9	6.8	9.2	-10.4	14.2	9.5	14.9		
Policy Index			4.4	8.5	14.4	4.4	7.8	7.3	9.9	-8.4	15.3	10.8	14.6		
Implementation Benchmark			4.4	8.5	14.4	3.8	6.9	6.6	9.0	-8.7	14.2	8.7	13.6		
InvMetrics Public DB > \$1B Rank			61	64	70	87	89	64	85	51	65	81	87		
Total Fund ex Overlay & Cash	11,384,599,433	94.9	4.3	9.4	15.5	3.5	7.1	7.0	9.1	-9.9	14.6	9.7	14.7		
Policy Index			4.4	8.5	14.4	4.4	7.8	7.3	9.9	-8.4	15.3	10.8	14.6		
Implementation Benchmark			4.4	8.5	14.4	3.8	6.9	6.6	9.0	-8.7	14.2	8.7	13.6		
InvMetrics Public DB > \$1B Rank			62	64	70	86	85	61	86	45	61	76	88		
Growth	8,698,902,915	72.5	4.8	10.9	18.0	4.1	9.0	8.5	10.3	-11.4	19.6	12.4	18.7		
Custom Growth Benchmark			4.4	9.9	16.6	5.1	10.0	9.1	11.2	-10.3	21.6	13.8	19.3		
Total Domestic Equity	2,167,371,124	18.1	6.4	18.9	32.6	7.9	13.3	11.9	21.6	-18.3	20.6	22.2	26.7		
Russell 3000 Index			6.2	20.6	35.2	10.3	15.3	12.8	26.0	-19.2	25.7	20.9	31.0		
InvMetrics Public DB US Equity Rank			56	44	59	78	79	75	77	52	98	15	99		
BlackRock Russell 1000 Index	1,259,173,538	10.5	6.1	21.2	35.7	10.8	15.7	-	26.6	-19.1	26.5	21.0	31.4	14.3	May-17
Russell 1000 Index			6.1	21.2	35.7	10.8	15.6	-	26.5	-19.1	26.5	21.0	31.4	14.3	
eV US Large Cap Equity Rank			52	36	37	46	37	-	34	69	56	35	40		
Boston Partners	452,859,069	3.8	6.1	17.3	27.8	12.3	13.6	10.8	14.7	-3.8	31.3	3.0	24.3	11.0	Jun-95
Russell 1000 Value Index			9.4	16.7	27.8	9.0	10.7	9.2	11.5	-7.5	25.2	2.8	26.5	9.5	
eV US Large Cap Value Equity Rank			84	43	55	20	30	40	39	36	19	64	79		
Emerald Advisers	237,270,219	2.0	6.3	16.3	33.6	2.0	11.5	11.6	19.2	-23.8	5.5	39.0	30.3	12.7	Apr-03
Russell 2000 Growth Index			8.4	13.2	27.7	-0.4	8.8	8.9	18.7	-26.4	2.8	34.6	28.5	10.5	
eV US Small Cap Growth Equity Rank			78	29	17	32	42	46	41	27	77	57	48		
Ceredex	218,068,297	1.8	9.0	12.3	24.2	8.6	10.0	9.6	16.0	-8.5	28.4	2.3	18.4	10.8	Nov-11
Russell 2000 Value Index			10.2	9.2	25.9	3.8	9.3	8.2	14.6	-14.5	28.3	4.6	22.4	9.9	
eV US Small Cap Value Equity Rank			39	34	61	36	76	51	62	28	59	70	88		

Individual closed end funds are not shown in performance summary table.

Total Fund
Performance Summary (Gross of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019	Inception	Inception Date
Total International Equity	1,487,310,889	12.4	7.3	14.1	25.8	2.6	8.4	5.9	15.4	-18.2	8.3	15.8	23.7		
MSCI AC World ex USA Index			8.2	14.7	26.0	4.7	8.1	5.7	16.2	-15.6	8.3	11.1	22.1		
MSCI EAFE Index			7.3	13.5	25.4	6.0	8.7	6.2	18.9	-14.0	11.8	8.3	22.7		
InvMetrics Public DB Global ex-US Equity Rank			54	26	27	75	37	53	80	63	54	27	41		
International Equity	922,932,486	7.7	8.3	12.3	24.8	2.7	8.6	6.5	15.6	-18.1	9.0	19.0	27.0	6.8	Oct-10
MSCI AC World ex USA Index			8.2	14.7	26.0	4.7	8.1	5.7	16.2	-15.6	8.3	11.1	22.1	5.6	
InvMetrics Public DB Global ex-US Equity Rank			8	77	41	75	29	34	77	59	43	15	19		
Pyrford	474,014,109	4.0	11.7	14.2	24.0	7.8	8.3	5.9	15.2	-7.0	7.6	4.7	22.1	5.6	May-14
MSCI AC World ex USA Value			9.3	14.4	24.0	7.5	7.8	4.3	17.3	-8.6	10.5	-0.8	15.7	3.9	
eV ACWI ex-US Value Equity Rank			3	45	44	42	71	51	83	22	84	47	38		
William Blair	448,918,377	3.7	4.9	10.2	25.6	-2.1	8.6	6.8	16.2	-27.7	10.5	33.3	32.0	7.0	Nov-10
MSCI AC World ex USA Growth			6.9	14.1	26.7	0.8	7.1	6.0	14.0	-23.1	5.1	22.2	27.3	5.7	
eV ACWI ex-US Growth Equity Rank			72	63	53	68	48	82	59	57	41	35	37		
Emerging Markets Equity	564,378,403	4.7	5.3	17.6	27.8	2.7	8.1	-	14.4	-18.4	7.6	11.4	19.4	6.2	Feb-17
MSCI Emerging Markets			8.7	16.9	26.1	0.4	5.7	-	9.8	-20.1	-2.5	18.3	18.4	5.5	
InvMetrics Public DB Emerging Markets Equity Rank			64	3	13	35	23	-	60	36	20	76	26		
PIMCO RAE Emerging Markets	291,269,074	2.4	6.4	17.3	27.7	9.4	11.6	-	23.1	-9.7	17.1	2.1	14.6	8.3	Mar-17
MSCI Emerging Markets Value			8.1	15.1	24.4	3.3	5.9	-	14.2	-15.8	4.0	5.5	12.0	4.9	
eV Emg Mkts All Cap Value Equity Rank			74	30	25	7	5	-	11	33	8	85	78		
TT Emerging Markets	273,109,329	2.3	4.1	17.9	28.0	-3.7	4.7	-	5.8	-26.4	-0.2	20.8	24.8	3.3	Aug-17
MSCI Emerging Markets			8.7	16.9	26.1	0.4	5.7	-	9.8	-20.1	-2.5	18.3	18.4	3.8	
eV Emg Mkts Equity Rank			87	28	26	92	86	-	91	90	59	39	23		
Total Global Equity	1,328,060,493	11.1	7.1	18.5	30.7	6.1	11.9	10.3	19.0	-18.8	14.1	25.3	28.9	-	Dec-03
MSCI AC World Index			6.6	18.7	31.8	8.1	12.2	9.4	22.2	-18.4	18.5	16.3	26.6	8.2	
InvMetrics Public DB Global Equity Rank			25	17	25	67	42	1	67	61	51	1	9		
Artisan Partners	661,459,866	5.5	4.4	17.9	33.5	2.7	13.1	12.5	24.5	-29.6	15.0	41.7	37.0	12.9	Oct-12
MSCI ACWI Growth NR USD			4.1	21.0	36.5	7.2	14.7	11.8	33.2	-28.6	17.1	33.6	32.7	12.2	
eV Global Growth Equity Rank			63	29	27	52	31	20	38	60	56	33	12		
First Eagle	666,600,627	5.6	10.0	18.8	27.7	9.9	10.4	8.5	13.7	-5.6	13.0	8.5	21.0	8.9	Jan-11
MSCI ACWI Value NR USD			9.4	16.2	26.9	8.5	9.0	6.7	11.8	-7.5	19.6	-0.3	20.6	7.2	
eV Global Value Equity Rank			20	7	22	18	42	23	66	22	86	33	64		

Individual closed end funds are not shown in performance summary table.

Total Fund
Performance Summary (Gross of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019	Inception	Inception Date
Private Credit	1,202,554,142	10.0	3.1	8.9	10.7	10.5	8.8	9.3	9.1	10.5	10.0	4.0	7.7		
Total High Yield	168,307,571	1.4	3.9	7.0	14.2	2.7	4.1	4.4	12.4	-10.6	5.3	5.2	15.3		
ICE BofA U.S. High Yield Index			5.3	8.0	15.7	3.1	4.5	5.0	13.5	-11.2	5.4	6.2	14.4		
eV US High Yield Fixed Inc Rank			77	75	71	85	88	88	62	74	54	73	36		
Voya Global Investors	168,307,571	1.4	3.9	7.0	14.2	2.7	4.1	4.4	12.4	-10.6	5.3	5.2	15.3	6.4	May-00
ICE BofA U.S. High Yield Index			5.3	8.0	15.7	3.1	4.5	5.0	13.5	-11.2	5.4	6.2	14.4	6.6	
eV US High Yield Fixed Inc Rank			77	75	71	85	88	88	62	74	54	73	36		
Total Real Estate	813,639,415	6.8	1.7	-6.3	-7.5	-5.5	-2.1	3.8	-10.6	-5.2	19.2	-5.9	8.1		
Real Estate Benchmark			0.0	-8.4	-10.6	-6.0	-1.2	3.6	-11.3	-4.5	19.3	0.6	7.5		
NCREIF-ODCE			0.2	-2.6	-7.3	-0.2	2.9	6.1	-12.0	7.5	22.2	1.2	5.3		
NCREIF Property Index			0.8	-0.5	-3.5	0.9	3.3	5.9	-7.9	5.5	17.7	1.6	6.4		
Total Core Real Estate	246,094,972	2.1	15.9	15.0	33.7	4.4	6.5	8.5	12.8	-24.8	48.3	-4.6	28.2		
Adelante	112,810,672	0.9	15.4	15.8	33.6	5.1	6.9	8.8	17.2	-26.7	48.3	-4.6	28.2	10.0	Oct-01
Wilshire U.S. REIT Index			15.2	14.9	33.6	4.6	5.4	7.8	16.2	-26.8	46.2	-7.9	25.8	9.5	
Invesco US Fundamental Beta	133,284,299	1.1	16.4	14.3	33.7	-	-	-	9.4	-	-	-	-	2.4	Mar-22
Wilshire U.S. REIT Index			15.2	14.9	33.6	-	-	-	16.2	-	-	-	-	3.3	
Total Private Real Estate	567,544,444	4.7	-3.6	-13.6	-19.5	-8.9	-4.6	2.5	-17.6	1.3	15.3	-6.1	6.2		
Private Equity	1,303,773,874	10.9	0.7	1.7	2.2	2.5	12.4	11.4	-1.0	-0.5	60.4	8.7	8.4		
Risk Parity	227,885,407	1.9	6.3	9.8	17.1	-2.4	2.1	-	4.9	-21.5	9.7	10.0	18.1		
60% MSCI ACWI Net/40% Blmbg. Global Aggregate			6.8	12.5	23.6	3.6	7.0	-	15.4	-17.3	8.8	14.0	18.6		
AQR Global Risk Premium-EL	49,989,010	0.4	6.3	10.3	17.5	0.6	3.8	-	7.0	-16.3	10.7	6.2	18.7	5.7	Jan-19
HFR Risk Parity Vol 10 Index			5.4	10.1	20.5	0.7	2.4	-	10.5	-18.3	6.8	3.6	18.4	4.7	
PanAgora Risk Parity Multi Asset	177,896,397	1.5	6.3	9.4	16.7	-5.2	0.6	-	2.8	-26.1	8.7	14.0	-	2.8	Mar-19
HFR Risk Parity Vol 10 Index			5.4	10.1	20.5	0.7	2.4	-	10.5	-18.3	6.8	3.6	-	3.7	

Individual closed end funds are not shown in performance summary table.

Total Fund
Performance Summary (Gross of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019	Inception	Inception Date
Diversifying	804,403,169	6.7	2.1	2.3	4.7	-0.3	0.1	0.6	2.6	-5.4	2.0	-1.3	7.1		
Custom Diversifying Benchmark			4.6	5.8	11.9	2.5	2.8	3.3	7.4	-5.7	1.6	4.7	6.1		
Diversifying Fixed Income	228,544,167	1.9	5.0	5.4	12.7	-1.2	-0.4	1.3	5.5	-13.3	-0.7	1.6	8.6		
Blmbg. U.S. Aggregate Index			5.2	4.4	11.6	-1.4	0.3	1.8	5.5	-13.0	-1.5	7.5	8.7		
eV US Core Fixed Inc Rank			80	18	22	80	100	100	84	75	32	100	79		
AFL-CIO	228,497,091	1.9	5.0	5.4	12.7	-1.2	0.4	2.0	5.5	-13.3	-0.7	6.6	8.2	5.3	Jul-91
Blmbg. U.S. Aggregate Index			5.2	4.4	11.6	-1.4	0.3	1.8	5.5	-13.0	-1.5	7.5	8.7	5.0	
eV US Core Fixed Inc Rank			80	18	21	81	94	91	86	75	32	94	86		
Diversifying Multi-Asset	575,859,002	4.8	1.1	1.1	1.7	-0.1	-	-	1.4	-1.9	2.8	-	-		
Custom Diversifying Multi-Asset Benchmark			4.0	6.7	11.9	4.2	-	-	8.7	-3.1	4.1	-	-		
Sit LLCAR	388,147,756	3.2	4.1	6.2	11.3	3.0	-	-	6.9	-3.3	-	-	-	4.0	Apr-21
Blmbg. U.S. Aggregate Index +1%			5.5	5.2	12.7	-0.4	-	-	6.6	-12.1	-	-	-	0.3	
BH-DG Systematic	187,711,246	1.6	-4.7	-	-	-	-	-	-	-	-	-	-	-7.6	Apr-24
SG Trend Index			-5.4	-	-	-	-	-	-	-	-	-	-	-9.4	
Liquidity	1,881,293,350	15.7	2.8	4.9	8.1	2.1	2.1	-	5.5	-3.4	-0.2	3.5	4.9		
Blmbg. 1-3 Year Gov/Credit Index			3.0	4.4	7.2	1.5	1.7	-	4.6	-3.7	-0.5	3.3	4.0		
eV US Short Duration Fixed Inc Rank			80	47	51	44	58	-	43	49	47	74	39		
DFA Short Credit	424,432,380	3.5	1.6	4.5	6.5	1.2	1.5	-	5.4	-5.3	-0.4	2.9	5.2	1.9	Dec-16
ICE BofA 1-5 Year U.S. Corp/Govt Index			3.5	4.6	8.1	1.0	1.6	-	4.9	-5.5	-0.9	4.6	5.1	1.9	
eV US Short Duration Fixed Inc Rank			99	77	96	90	96	-	46	90	68	89	27		
Insight Short Duration	707,127,703	5.9	2.5	4.8	7.3	3.0	2.7	-	5.7	-1.1	0.1	3.2	4.7	2.6	Dec-16
Bloomberg U.S. Gov/Credit 1-3 Year Index			3.0	4.4	7.2	1.5	1.7	-	4.6	-3.7	-0.5	3.3	4.0	1.8	
eV US Short Duration Fixed Inc Rank			87	52	81	10	22	-	32	6	33	84	48		
Sit Short Duration	749,733,267	6.3	3.6	5.2	9.7	1.6	1.9	-	5.4	-4.8	-0.3	4.6	4.9	2.3	Dec-16
Blmbg. 1-3 Year Govt Index			2.9	4.1	6.8	1.3	1.5	-	4.3	-3.8	-0.6	3.1	3.6	1.6	
eV US Short Duration Fixed Inc Rank			7	31	13	75	73	-	50	79	59	31	40		
Total Cash	463,767,961	3.9	1.5	4.3	5.7	4.1	2.9	2.1	5.5	2.4	0.4	1.3	3.3		
90 Day U.S. Treasury Bill			1.4	4.0	5.5	3.5	2.3	1.6	5.0	1.5	0.0	0.7	2.3		
Cash	463,763,278	3.9	1.5	4.3	5.7	4.2	3.0	2.1	6.1	2.2	0.4	1.3	3.4	17.1	Apr-98
Northern Trust Transition	4,684	0.0	1.5	7.3	8.8	-80.2	-56.7	-	-99.2	-4.8	-6.1	104.1	-		

Individual closed end funds are not shown in performance summary table. Effective 3/1/2019 the custodian of record switched from State Street to Northern Trust. Wellington Real Total Return was liquidated 4/30/2020. BH-DG Systematic funded on 4/19/2024. Acadian Multi-Asset Absolute Return Fund liquidated on 5/15/2024. \$47,075.25 in residual value is reflected in the Diversifying Fixed Income composite.

Total Fund
Performance Summary (Net of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019	Inception	Inception Date
Total Fund	11,994,163,809	100.0	4.3	9.2	15.2	3.1	6.6	6.5	9.0	-10.6	13.9	9.2	14.6		
Policy Index			4.4	8.5	14.4	4.4	7.8	7.3	9.9	-8.4	15.3	10.8	14.6		
Implementation Benchmark			4.4	8.5	14.4	3.8	6.9	6.6	9.0	-8.7	14.2	8.7	13.6		
Total Fund ex Overlay & Cash	11,384,599,433	94.9	4.3	9.2	15.2	3.3	6.8	6.6	8.9	-10.1	14.3	9.4	14.3		
Policy Index			4.4	8.5	14.4	4.4	7.8	7.3	9.9	-8.4	15.3	10.8	14.6		
Implementation Benchmark			4.4	8.5	14.4	3.8	6.9	6.6	9.0	-8.7	14.2	8.7	13.6		
Growth	8,698,902,915	72.5	4.8	10.7	17.7	3.9	8.7	8.2	10.1	-11.7	19.2	12.0	18.3		
Custom Growth Benchmark			4.4	9.9	16.6	5.1	10.0	9.1	11.2	-10.3	21.6	13.8	19.3		
Total Domestic Equity	2,167,371,124	18.1	6.3	18.7	32.3	7.7	13.0	11.5	21.4	-18.5	20.2	21.8	26.1		
Russell 3000 Index			6.2	20.6	35.2	10.3	15.3	12.8	26.0	-19.2	25.7	20.9	31.0	12.0	
BlackRock Russell 1000 Index	1,259,173,538	10.5	6.1	21.2	35.7	10.8	15.6	-	26.6	-19.1	26.5	20.9	31.4	14.3	May-17
Russell 1000 Index			6.1	21.2	35.7	10.8	15.6	-	26.5	-19.1	26.5	21.0	31.4	14.3	
Boston Partners	452,859,069	3.8	6.0	17.0	27.4	12.0	13.2	10.4	14.3	-4.1	31.0	2.6	23.8	10.9	Jun-95
Russell 1000 Value Index			9.4	16.7	27.8	9.0	10.7	9.2	11.5	-7.5	25.2	2.8	26.5	9.5	
Emerald Advisers	237,270,219	2.0	6.2	15.8	32.7	1.4	10.8	10.9	18.6	-24.2	4.9	38.2	29.4	12.4	Apr-03
Russell 2000 Growth Index			8.4	13.2	27.7	-0.4	8.8	8.9	18.7	-26.4	2.8	34.6	28.5	10.4	
Ceredex	218,068,297	1.8	8.9	11.8	23.4	8.0	9.4	9.0	15.5	-9.0	27.7	1.7	17.7	10.2	Nov-11
Russell 2000 Value Index			10.2	9.2	25.9	3.8	9.3	8.2	14.6	-14.5	28.3	4.6	22.4	9.9	
Total International Equity	1,487,310,889	12.4	7.2	13.9	25.6	2.3	8.0	5.4	15.1	-18.6	7.8	15.2	23.2		
MSCI AC World ex USA Index			8.2	14.7	26.0	4.7	8.1	5.7	16.2	-15.6	8.3	11.1	22.1		
MSCI EAFE Index			7.3	13.5	25.4	6.0	8.7	6.2	18.9	-14.0	11.8	8.3	22.7		
International Equity	922,932,486	7.7	8.3	12.1	24.4	2.4	8.2	6.0	15.2	-18.4	8.6	18.5	26.5		
MSCI AC World ex USA Index			8.2	14.7	26.0	4.7	8.1	5.7	16.2	-15.6	8.3	11.1	22.1		
Pyrford	474,014,109	4.0	11.7	14.0	23.6	7.4	7.9	5.5	14.7	-7.4	7.1	4.2	21.6	5.2	May-14
MSCI AC World ex USA Value			9.3	14.4	24.0	7.5	7.8	4.3	17.3	-8.6	10.5	-0.8	15.7	3.9	
William Blair	448,918,377	3.7	4.8	10.0	25.3	-2.4	8.2	6.4	15.8	-28.0	10.1	32.8	31.5	6.7	Nov-10
MSCI AC World ex USA Growth			6.9	14.1	26.7	0.8	7.1	6.0	14.0	-23.1	5.1	22.2	27.3	5.7	
Emerging Markets Equity	564,378,403	4.7	5.3	17.6	27.8	2.4	7.7	-	14.4	-18.9	7.0	10.7	18.7		
MSCI Emerging Markets			8.7	16.9	26.1	0.4	5.7	-	9.8	-20.1	-2.5	18.3	18.4		
PIMCO RAE Emerging Markets	291,269,074	2.4	6.4	17.3	27.7	9.2	11.2	-	23.0	-10.1	16.5	1.6	14.0	7.9	Mar-17
MSCI Emerging Markets Value			8.1	15.1	24.4	3.3	5.9	-	14.2	-15.8	4.0	5.5	12.0	4.9	
TT Emerging Markets	273,109,329	2.3	4.1	17.9	28.0	-4.0	4.3	-	5.8	-26.8	-0.9	20.0	24.0	2.8	Aug-17
MSCI Emerging Markets			8.7	16.9	26.1	0.4	5.7	-	9.8	-20.1	-2.5	18.3	18.4	3.8	

Individual closed end funds are not shown in performance summary table. Jackson Square has a residual market value of \$83,514.15.

Total Fund
Performance Summary (Net of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019	Inception	Inception Date
Total Global Equity	1,328,060,493	11.1	6.9	17.8	29.7	5.3	11.1	9.5	18.2	-19.4	13.2	24.4	27.9		
MSCI AC World Index			6.6	18.7	31.8	8.1	12.2	9.4	22.2	-18.4	18.5	16.3	26.6		
Artisan Partners	661,459,866	5.5	4.2	17.3	32.5	2.0	12.2	11.6	23.6	-30.1	14.1	40.6	36.0	12.1	Oct-12
MSCI ACWI Growth NR USD			4.1	21.0	36.5	7.2	14.7	11.8	33.2	-28.6	17.1	33.6	32.7	12.2	
First Eagle	666,600,627	5.6	9.8	18.2	26.7	9.1	9.6	7.7	12.9	-6.3	12.1	7.7	20.1	8.1	Jan-11
MSCI ACWI Value NR USD			9.4	16.2	26.9	8.5	9.0	6.7	11.8	-7.5	19.6	-0.3	20.6	7.2	
Private Credit	1,202,554,142	10.0	3.1	8.9	10.7	10.5	8.8	9.0	9.1	10.5	10.0	4.0	7.7		
Total High Yield	168,307,571	1.4	3.8	6.7	13.7	2.3	3.7	4.0	11.8	-10.9	4.9	4.7	14.7		
ICE BofA US High Yield Master II			5.3	8.0	15.7	3.1	4.5	4.9	13.5	-11.2	5.3	6.1	14.4	6.6	
Voya Global Investors	168,307,571	1.4	3.8	6.7	13.7	2.3	3.7	4.0	11.8	-10.9	4.9	4.7	14.7	6.2	May-00
ICE BofA US High Yield Master II			5.3	8.0	15.7	3.1	4.5	4.9	13.5	-11.2	5.3	6.1	14.4	6.7	
Total Real Estate	813,639,415	6.8	1.6	-6.5	-7.8	-5.6	-2.2	3.6	-10.7	-5.3	19.2	-6.0	8.1		
Real Estate Benchmark			0.0	-8.4	-10.6	-6.0	-1.2	3.6	-11.3	-4.5	19.3	0.6	7.5		
NCREIF-ODCE			0.2	-2.6	-7.3	-0.2	2.9	6.1	-12.0	7.5	22.2	1.2	5.3		
NCREIF Property Index			0.8	-0.5	-3.5	0.9	3.3	5.9	-7.9	5.5	17.7	1.6	6.4		
Total Core Real Estate	246,094,972	2.1	15.8	14.7	33.2	4.0	6.0	8.0	12.4	-25.1	47.5	-5.2	27.5		
Adelante	112,810,672	0.9	15.2	15.3	32.9	4.5	6.3	8.2	16.5	-27.2	47.5	-5.2	27.5	9.7	Oct-01
Wilshire U.S. REIT Index			15.2	14.9	33.6	4.6	5.4	7.8	16.2	-26.8	46.2	-7.9	25.8	9.5	
Invesco US Fundamental Beta	133,284,299	1.1	16.3	14.2	33.5	-	-	-	9.2	-	-	-	-	2.3	Mar-22
Wilshire U.S. REIT Index			15.2	14.9	33.6	-	-	-	16.2	-	-	-	-	3.3	
Total Private Real Estate	567,544,444	4.7	-3.6	-13.9	-19.8	-9.0	-4.6	2.2	-17.6	1.3	15.3	-6.1	6.2		
Private Equity	1,303,773,874	10.9	0.7	1.7	2.2	2.5	12.4	11.1	-1.0	-0.5	60.4	8.7	8.4		
Risk Parity	227,885,407	1.9	6.3	9.7	16.9	-2.6	1.8	-	4.7	-21.8	9.3	9.6	17.7		
60% MSCI ACWI Net/40% Blmbg. Global Aggregate			6.8	12.5	23.6	3.6	7.0	-	15.4	-17.3	8.8	14.0	18.6		
AQR Global Risk Premium-EL	49,989,010	0.4	6.3	10.3	17.5	0.4	3.5	-	6.8	-16.6	10.3	5.8	18.3	5.4	Jan-19
HFR Risk Parity Vol 10 Index			5.4	10.1	20.5	0.7	2.4	-	10.5	-18.3	6.8	3.6	18.4	4.7	
PanAgora Risk Parity Multi Asset	177,896,397	1.5	6.2	9.1	16.3	-5.5	0.2	-	2.4	-26.3	8.3	13.6	-	2.5	Mar-19
HFR Risk Parity Vol 10 Index			5.4	10.1	20.5	0.7	2.4	-	10.5	-18.3	6.8	3.6	-	3.7	

Individual closed end funds are not shown in performance summary table.

Total Fund
Performance Summary (Net of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2023	2022	2021	2020	2019	Inception	Inception Date
Diversifying	804,403,169	6.7	2.1	2.1	4.4	-0.7	-0.2	0.3	2.2	-5.7	1.7	-1.7	6.8		
<i>Custom Diversifying Benchmark</i>			4.6	5.8	11.9	2.5	2.8	3.3	7.4	-5.7	1.6	4.7	6.1		
Diversifying Fixed Income	228,544,167	1.9	4.9	5.2	12.4	-1.5	-0.7	0.9	5.2	-13.5	-1.0	1.2	8.3		
<i>Blmbg. U.S. Aggregate Index</i>			5.2	4.4	11.6	-1.4	0.3	1.8	5.5	-13.0	-1.5	7.5	8.7		
AFL-CIO	228,497,091	1.9	4.9	5.2	12.4	-1.5	0.0	1.6	5.2	-13.6	-1.0	6.2	7.8	4.9	Jul-91
<i>Blmbg. U.S. Aggregate Index</i>			5.2	4.4	11.6	-1.4	0.3	1.8	5.5	-13.0	-1.5	7.5	8.7	5.0	
Diversifying Multi-Asset	575,859,002	4.8	1.0	0.9	1.3	-0.4	-	-	0.9	-2.3	2.4	-	-		
<i>Custom Diversifying Multi-Asset Benchmark</i>			4.0	6.7	11.9	4.2	-	-	8.7	-3.1	4.1	-	-		
Sit LLCAR	388,147,756	3.2	4.0	5.9	10.9	2.7	-	-	6.5	-3.7	-	-	-	3.6	Apr-21
<i>Blmbg. U.S. Aggregate +1%</i>			5.5	5.2	12.7	-0.4	-	-	6.6	-12.1	-	-	-	0.3	
BH-DG Systematic	187,711,246	1.6	-4.7	-	-	-	-	-	-	-	-	-	-	-7.6	Apr-24
<i>SG Trend Index</i>			-5.4	-	-	-	-	-	-	-	-	-	-	-9.4	
Liquidity	1,881,293,350	15.7	2.7	4.8	8.0	2.0	2.0	-	5.4	-3.5	-0.3	3.4	4.8		
<i>Blmbg. 1-3 Year Gov/Credit Index</i>			3.0	4.4	7.2	1.5	1.7	-	4.6	-3.7	-0.5	3.3	4.0		
DFA Short Credit	424,432,380	3.5	1.6	4.5	6.4	1.1	1.4	-	5.3	-5.4	-0.5	2.8	5.2	1.8	Dec-16
<i>ICE BofA 1-5 Year U.S. Corp/Govt</i>			3.5	4.6	8.1	1.0	1.6	-	4.9	-5.5	-0.9	4.6	5.1	1.9	
Insight Short Duration	707,127,703	5.9	2.5	4.8	7.3	2.9	2.6	-	5.7	-1.2	0.0	3.1	4.6	2.6	Dec-16
<i>Bloomberg U.S. Gov/Credit 1-3 Year Index</i>			3.0	4.4	7.2	1.5	1.7	-	4.6	-3.7	-0.5	3.3	4.0	1.8	
Sit Short Duration	749,733,267	6.3	3.6	5.0	9.6	1.4	1.8	-	5.2	-5.0	-0.5	4.4	4.7	2.2	Dec-16
<i>Blmbg. 1-3 Year Govt Index</i>			2.9	4.1	6.8	1.3	1.5	-	4.3	-3.8	-0.6	3.1	3.6	1.6	
Total Cash	463,767,961	3.9	1.5	4.3	5.7	4.1	2.9	2.1	5.5	2.4	0.4	1.3	3.3		
<i>90 Day U.S. Treasury Bill</i>			1.4	4.0	5.5	3.5	2.3	1.6	5.0	1.5	0.0	0.7	2.3		
Cash	463,763,278	3.9	1.5	4.3	5.7	4.2	3.0	2.1	6.1	2.2	0.4	1.3	3.4		
Northern Trust Transition	4,684	0.0	1.5	7.3	8.8	-80.2	-56.7	-	-99.2	-4.8	-6.1	104.1	-		

Individual closed end funds are not shown in performance summary table. Effective 3/1/2019 the custodian of record switched from State Street to Northern Trust. Wellington Real Total Return was liquidated 4/30/2020. BH-DG Systematic funded on 4/19/2024. Acadian Multi-Asset Absolute Return Fund liquidated on 5/15/2024. \$47,075.25 in residual value is reflected in the Diversified Fixed Income composite.

Total Fund
Closed End Funds - Investment Summary

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

StepStone Group Analysis (*)													
Closing Date	Manager Name/Fund Name	Estimated Market Value as of 9/30/2024 ¹	Total Commitment	Total % Called	Contributed Capital	Current Qtr. Change in Contributed Capital	Current Qtr. Change in Distributed Capital	Total Distributions	Remaining Commitment	Distrib./Paid-In (DPI) ²	Tot. Value/Paid-In (TVPI) ³	Latest Valuation	
Private Equity & Venture Capital													
5/10/2021	Hellman & Friedman Capital Partners X, L.P.	\$63,659,466	\$75,000,000	77%	\$58,107,501	\$3,816,220	\$0	\$5,333,316	\$20,888,862	0.09	1.19	6/30/2024	
6/30/2024	Hellman & Friedman Capital Partners XI, L.P.	\$0	\$100,000,000	0%	\$0	\$0	\$0	\$0	\$100,000,000	N/A	N/A	N/A	
3/31/2023	Jade Equity Investors II, LP	\$118,935	\$15,000,000	1%	\$142,632	\$142,632	\$0	\$0	\$14,857,368	0.00	0.83	9/30/2024	
11/18/2009	Oaktree PIF 2009	\$310,882	\$40,000,000	87%	\$34,812,560	\$0	\$0	\$47,032,470	\$6,308,961	1.35	1.36	6/30/2024	
5/2/2013	Ocean Avenue Fund II	\$14,039,503	\$30,000,000	90%	\$27,000,000	\$0	\$277,500	\$49,845,749	\$3,000,000	1.85	2.37	6/30/2024	
4/15/2016	Ocean Avenue Fund III	\$50,661,270	\$50,000,000	93%	\$46,500,000	\$0	\$1,750,000	\$59,459,752	\$3,500,000	1.28	2.37	6/30/2024	
11/30/2007	Paladin III	\$4,708,555	\$25,000,000	140%	\$35,078,514	\$0	\$0	\$72,045,990	\$387,482	2.05	2.19	6/30/2024	
8/22/2011	Pathway 6	\$22,367,310	\$40,000,000	99%	\$39,742,254	\$36,000	\$1,425,480	\$59,982,010	\$3,642,788	1.51	2.07	3/31/2024	
7/10/2013	Pathway 7	\$53,728,174	\$70,000,000	100%	\$69,920,536	\$0	\$2,753,709	\$97,690,002	\$5,359,393	1.40	2.17	3/31/2024	
11/23/2015	Pathway 8	\$60,868,138	\$50,000,000	99%	\$49,553,190	\$78,888	\$1,800,605	\$48,861,304	\$3,056,658	0.99	2.21	3/31/2024	
1/19/1999	Pathway	\$1,432,551	\$125,000,000	101%	\$126,694,939	\$89,025	\$0	\$190,811,769	\$10,512,398	1.51	1.52	6/30/2024	
7/31/2009	Pathway 2008	\$8,936,559	\$30,000,000	101%	\$30,390,729	\$50,559	\$367,763	\$54,381,681	\$2,557,597	1.79	2.08	6/30/2024	
6/3/2014	Siguler Guff CCCERA Opportunities	\$71,278,664	\$200,000,000	88%	\$175,083,208	\$0	\$7,105,323	\$267,704,252	\$28,597,500	1.53	1.94	6/30/2024	
5/18/2018	Siris Partners IV, L.P.	\$43,095,784	\$35,000,000	111%	\$38,885,534	\$111,639	\$4,524,210	\$10,899,378	\$3,412,566	0.28	1.39	6/30/2024	
6/30/2023	Symphony Technology Group VII	\$4,809,769	\$50,000,000	12%	\$6,068,399	\$0	\$0	\$0	\$43,931,601	0.00	0.79	6/30/2024	
5/27/2021	TA XIV-A, L.P.	\$46,169,848	\$50,000,000	96%	\$47,750,000	\$750,000	\$0	\$1,500,000	\$3,750,000	0.03	1.00	6/30/2024	
6/30/2023	TA XV-A, L.P.	-\$142,695	\$90,000,000	0%	\$0	\$0	\$0	\$0	\$90,000,000	N/A	N/A	6/30/2024	
6/28/2019	TPG Healthcare Partners, L.P.	\$24,069,613	\$24,000,000	99%	\$23,712,289	\$58,572	\$46,062	\$6,645,514	\$3,039,448	0.28	1.30	6/30/2024	
3/31/2023	TPG Healthcare Partners II	\$16,624,654	\$60,000,000	28%	\$16,798,666	\$3,008,561	\$8,201	\$8,201	\$43,225,286	0.00	0.99	6/30/2024	
3/31/2023	TPG Partners IX	\$27,017,409	\$65,000,000	40%	\$26,070,432	\$6,967,758	\$0	\$26,805	\$38,930,724	0.00	1.04	6/30/2024	
9/17/2021	Trident IX, L.P.	\$37,851,311	\$50,000,000	66%	\$33,099,832	\$4,257,593	\$364,987	\$480,750	\$17,380,918	0.01	1.16	6/30/2024	
5/24/2019	Trident VIII, L.P.	\$50,526,405	\$40,000,000	97%	\$38,866,724	\$110,406	\$1,434,879	\$7,144,556	\$4,819,990	0.18	1.48	6/30/2024	
12/8/2015	Wastewater Opportunity Fund	\$1,076,750	\$25,000,000	126%	\$31,579,656	\$0	\$0	\$31,480,004	\$521,541	1.00	1.03	6/30/2024	
Total Private Equity and Venture Capital		\$1,303,773,874	\$2,875,261,563	70%	\$2,011,156,859	\$25,845,178	\$52,884,148	\$1,939,562,674	\$1,029,099,177	0.96	1.61		
% of Portfolio (Market Value)		10.9%											

* All Data provided by StepStone Group

¹ Latest valuation + capital calls - distributions

² (DPI) is equal to (capital returned / capital called)

³ (TVPI) is equal to (market value + capital returned) / capital called

⁴ Capital has been fully called and fund is in redemption.

Total Fund
Closed End Funds - IRR Summary

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

Private Equity & Venture Capital	Closing Date	Fund Level (G) ²	CCCERA (G)	Fund Level (N) ^{2,3}	CCCERA (N) ³	IRR Date
Adams Street Partners	2/11/2004	-	13.2%	-	11.2%	6/30/2024
Adams Street Partners II	12/31/2008	-	16.3%	-	13.7%	6/30/2024
Adams Street Partners - Fund 5	12/31/2008	-	9.0%	-	6.4%	6/30/2024
Adams Street Partners Venture	1/18/1996	-	28.6%	-	26.7%	6/30/2024
Adams Street Partners - BPF	3/31/2016	-	14.2%	-	11.6%	6/30/2024
AE Industrial Partners Fund II, LP	5/18/2018	23.8%	-	20.8%	-	6/30/2024
Aether Real Assets III	11/27/2013	-0.4%	-	-2.0%	-	6/30/2024
Aether Real Assets III Surplus	11/30/2013	0.5%	-	-0.5%	-	6/30/2024
Aether Real Assets IV	1/30/2016	4.8%	-	3.2%	-	6/30/2024
Bay Area Equity Fund II ⁹	11/26/2003	9.6%	9.6%	6.0%	6.0%	6/30/2024
CommonFund ¹	6/30/2013	-	-	-	6.7%	12/31/2023
Energy Investor Fund II ⁹	7/15/2005	5.6%	5.3%	2.9%	2.6%	3/31/2024
Energy Investor Fund V	11/28/2016	18.5%	-	12.8%	-	6/30/2024
Genstar Capital Partners IX, L.P.	2/21/2019	40.6%	-	32.6%	-	6/30/2024
Oaktree PIF 2009	2/28/2010	6.8%	-	6.5%	-	6/30/2024
Ocean Avenue II	8/15/2013	-	-	17.9%	-	3/31/2024
Ocean Avenue III	4/15/2016	-	-	23.2%	-	3/31/2024
Paladin III	11/30/2007	19.7%	-	-	-	6/30/2024
Pathway 6	8/22/2011	16.5%	16.5%	13.7%	13.7%	6/30/2024
Benchmark ⁴		14.2%	-	-	-	3/31/2024
Pathway 7	7/10/2013	18.0%	18.0%	15.3%	15.3%	6/30/2024
Benchmark ⁵		14.7%	-	-	-	3/31/2024
Pathway 8	11/23/2015	19.6%	19.6%	17.7%	17.7%	6/30/2024
Benchmark ⁶		15.6%	-	-	-	3/31/2024
Pathway Private Equity Fund	1/19/1999	10.8%	10.8%	8.3%	8.3%	6/30/2024
Benchmark ⁷		10.3%	-	-	-	3/31/2024
Pathway Private Equity Fund 2008	7/31/2009	16.8%	16.8%	13.7%	13.7%	6/30/2024
Benchmark ⁸		13.2%	-	-	-	3/31/2024
Siguler Guff CCCERA Opportunities	6/3/2014	-	18.1%	-	15.5%	6/30/2024
Siguler Guff Secondary Opportunities ⁹	8/31/2013	55.3%	118.4%	49.5%	69.0%	9/30/2020
Siris Partners IV, L.P. ¹	5/18/2018	15.0%	0.0%	11.0%	-	6/30/2024
TPG Healthcare Partners, L.P.	6/28/2019	-	-	-	14.0%	6/30/2024
Trident VIII, L.P.	5/24/2019	14.0%	-	-	12.8%	12/31/2023
Wastewater Opportunity Fund ¹	12/8/2015	-	-	3.7%	-	9/30/2023

¹Manager has yet to report IRR figure.

²Fund level data includes CCCERA and all other fund investors.

³Net IRR calculated after deductions of management fees and carried interest to the General Partner.

⁴Private iQ global all private equity median pooled return for vintage years 2011-2014, as of September 30, 2022.

⁵Private iQ global all private equity median pooled return for vintage years 2012-2016, as of September 30, 2022.

⁶Private iQ global all private equity median pooled return for vintage years 2015-2018, as of September 30, 2022.

⁷Private iQ global all private equity median pooled return for vintage years 1999-2011, as of September 30, 2022.

⁸Private iQ global all private equity median pooled return for vintage years 2008-2014, as of September 30, 2022.

⁹Capital has been fully called and fund is in redemption.

Total Fund
Closed End Funds - Investment Summary

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

StepStone Group Analysis (*)												
Closing Date	Manager Name/Fund Name	Estimated Market Value as of 6/30/2024 ¹	Total Commitment	% Called	Contributed Capital	Current Qtr. Change in Contributed Capital	Current Qtr. Change in Distributed Capital	Total Distributions	Remaining Commitment	Distrib./Paid-In (DPI) ²	Tot. Value/Paid-In (TVPI) ³	Latest Valuation
Private Credit												
8/31/2015	Angelo Gordon Energy Credit Opp. ⁴	\$396,825	\$16,500,000	114%	\$18,750,000	\$0	\$0	\$22,660,158	\$2,319,783	1.21	1.23	6/30/2024
12/18/2017	StepStone CC Opportunities Fund, LLC - Series A	\$235,679,085	\$320,000,000	107%	\$343,098,612	\$9,341,635	\$10,592,047	\$182,770,667	\$6,977,526	0.53	1.22	6/30/2024
12/18/2017	StepStone CC Opportunities Fund, LLC - Series B	\$416,852,616	\$350,000,000	77%	\$268,400,318	\$0	\$0	\$20,017,732	\$101,599,682	0.07	1.63	6/30/2024
12/18/2017	StepStone CC Opportunities Fund, LLC - Series C	\$219,359,628	\$200,000,000	91%	\$182,317,456	\$0	\$0	\$59,500,716	\$77,182,544	0.33	1.53	6/30/2024
12/18/2017	StepStone CC Opportunities Fund, LLC - Series D	\$216,782,589	\$150,000,000	99%	\$147,793,242	\$0	\$0	\$5,768	\$2,206,758	0.00	1.47	6/30/2024
12/18/2017	StepStone CC Opportunities Fund, LLC - Series E	\$102,470,054	\$150,000,000	55%	\$82,689,286	\$0	\$0	\$920,000	\$67,310,714	0.01	1.25	6/30/2024
8/1/2012	Torchlight IV	\$3,450,275	\$60,000,000	141%	\$84,866,971	\$0	\$0	\$109,589,365	\$0	1.29	1.33	6/30/2024
3/12/2015	Torchlight V	\$7,563,070	\$75,000,000	80%	\$60,000,000	\$0	\$0	\$71,460,214	\$15,000,000	1.19	1.32	6/30/2024
Total Private Credit		\$1,202,554,142	\$1,321,500,000	90%	\$1,187,915,884	\$9,341,635	\$10,592,047	\$466,924,620	\$272,597,008	0.39	1.41	
% of Portfolio (Market Value)		10.1%										

*All Data provided by StepStone Group

¹Latest valuation + capital calls - distributions

²(DPI) is equal to (capital returned / capital called)

³(TVPI) is equal to (market value + capital returned) / capital called

⁴Capital has been fully called and fund is in redemption.

Total Fund Closed End Funds - Investment Summary

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2024

Verus Internal Analysis												
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 9/30/2024 ¹	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions ⁸	Remaining Commitment	Distrib./Paid-In (DPI) ²	Tot. Value/Paid-In (TVPI) ³	Latest Valuation
Real Estate												
1/23/2012	Angelo Gordon Realty Fund VIII ⁴	\$7,864,795	\$80,000,000	94%	\$75,401,855	\$0	\$0	\$101,711,550	\$12,334,302	1.35	1.45	6/30/2024
12/8/2014	Angelo Gordon Realty Fund IX	\$14,450,234	\$65,000,000	93%	\$60,125,000	\$0	\$1,300,000	\$59,312,501	\$7,572,500	0.99	1.23	6/30/2024
3/24/2023	BlackStone Strategic Partners Real Estate VIII	\$21,031,152	\$80,000,000	22%	\$17,882,104	\$1,226,074	\$0	\$0	\$62,117,896	0.00	1.18	6/30/2024
3/24/2023	Blackstone Real Estate Partners X	\$25,453,073	\$100,000,000	26%	\$26,170,548	\$926,285	\$963,171	\$963,171	\$73,829,452	0.04	1.01	6/30/2024
12/14/2023	Cross Lake RE IV	\$185,443	\$60,000,000	3%	\$1,880,326	\$0	\$0	\$0	\$58,119,674	0.00	0.10	6/30/2024
3/18/2024	Cross Lake RE IV SRO AIV	\$3,034,613	\$8,975,352	32%	\$2,875,142	\$1,379,248	\$0	\$0	\$6,100,210	0.00	1.06	6/30/2024
6/23/2005	DLJ RECP III	\$10,874,872	\$75,000,000	95%	\$70,968,662	\$28,508	\$0	\$77,985,055	\$4,031,338	1.10	1.25	6/30/2024
2/11/2008	DLJ RECP IV	\$32,726,854	\$100,000,000	119%	\$118,992,879	\$198,546	\$0	\$99,841,735	\$1,876,084	0.84	1.11	6/30/2024
7/1/2014	DLJ RECP V	\$6,689,849	\$75,000,000	146%	\$109,426,397	\$32,901	\$0	\$100,933,448	\$2,155,507	0.92	0.98	6/30/2024
3/19/2019	DLJ RECP VI	\$10,022,634	\$50,000,000	88%	\$43,951,508	\$0	\$0	\$11,369,099	\$10,251,671	0.26	0.49	6/30/2024
12/14/2023	EQT Exeter Industrial Value Fund VI	\$14,004,887	\$60,000,000	25%	\$15,000,000	\$0	\$0	\$0	\$45,000,000	0.00	0.93	6/30/2024
N/A	EQT Multifamily Value II	\$0	\$40,000,000	0%	\$0	\$0	\$0	\$0	\$40,000,000	N/A	N/A	N/A
6/30/2014	Invesco Real Estate IV ⁴	\$102,165	\$35,000,000	87%	\$30,546,401	\$0	\$0	\$39,986,504	\$4,453,599	1.31	1.31	6/30/2024
2/20/2019	Invesco Real Estate V	\$56,682,189	\$75,000,000	97%	\$73,118,800	\$0	\$0	\$9,319,462	\$6,581,101	0.13	0.90	9/30/2024
9/27/2022	Invesco Real Estate VI	\$48,710,716	\$100,000,000	59%	\$59,145,260	\$2,411,213	\$0	\$2,230,131	\$40,854,740	0.04	0.86	6/30/2024
9/27/2024	Jadian Real Estate II	\$3,770,675	\$60,000,000	6%	\$3,770,675	\$3,770,675	\$0	\$0	\$56,229,325	0.00	1.00	6/30/2024
11/10/2023	KSL Capital Partners VI, L.P.	\$9,986,686	\$50,000,000	26%	\$13,233,564	\$967,516	\$0	\$0	\$36,766,436	0.00	0.75	6/30/2024
7/16/2013	LaSalle Income & Growth VI ⁴	\$8,384,738	\$75,000,000	95%	\$71,428,571	\$0	\$0	\$84,541,423	\$0	1.18	1.30	6/30/2024
2/28/2017	LaSalle Income & Growth VII	\$21,200,995	\$75,000,000	114%	\$85,708,742	\$0	\$0	\$61,623,058	\$2,845,685	0.72	0.97	6/30/2024
7/3/2013	Long Wharf Fund IV ⁴	\$103,662	\$25,000,000	100%	\$25,000,000	\$0	\$0	\$34,948,087	\$0	1.40	1.40	9/30/2024
9/30/2016	Long Wharf Fund V ⁴	\$23,828,409	\$50,000,000	100%	\$50,000,000	\$0	\$0	\$37,701,359	\$0	0.75	1.23	9/30/2024
6/27/2019	Long Wharf Fund VI	\$33,595,954	\$50,000,000	100%	\$49,999,998	\$0	\$0	\$28,047,570	\$2	0.56	1.23	9/30/2024
5/30/2023	Long Wharf Fund VII	\$20,403,156	\$50,000,000	45%	\$22,533,036	\$6,291,262	\$0	\$0	\$27,466,964	0.00	0.91	9/30/2024
12/31/2011	Oaktree REOF V ⁴	\$164,264	\$50,000,000	101%	\$50,315,673	\$0	\$0	\$78,780,733	\$5,000,000	1.57	1.57	9/30/2024
9/30/2013	Oaktree REOF VI ⁴	\$15,772,203	\$80,000,000	100%	\$80,000,000	\$0	\$0	\$84,810,175	\$18,400,000	1.06	1.26	9/30/2024
4/1/2015	Oaktree REOF VII	\$37,163,980	\$65,000,000	100%	\$65,000,000	\$0	\$0	\$47,054,688	\$18,915,000	0.72	1.30	9/30/2024
11/10/2013	Paulson Real Estate Fund II ⁴	\$12,591,188	\$20,000,000	97%	\$19,345,623	\$0	\$0	\$25,449,660	\$654,377	1.32	1.97	6/30/2024
4/28/2022	PCCP IX	\$70,588,854	\$75,000,000	86%	\$64,301,564	\$2,250,000	\$625,000	\$0	\$10,698,436	0.00	1.10	6/30/2024
1/25/2012	Siguler Guff DREOF	\$9,830,941	\$75,000,000	93%	\$69,375,000	\$0	\$839,735	\$104,610,846	\$5,625,000	1.51	1.65	6/30/2024
8/31/2013	Siguler Guff DREOF II	\$24,232,347	\$70,000,000	89%	\$61,985,000	\$0	\$679,515	\$56,371,301	\$8,015,000	0.91	1.30	6/30/2024
1/27/2016	Siguler Guff DREOF II Co-Inv	\$10,859,044	\$25,000,000	85%	\$21,277,862	\$0	\$465,160	\$14,336,421	\$3,722,138	0.67	1.18	6/30/2024
6/26/2024	Stockbridge Value Fund I	\$13,233,872	\$60,000,000	24%	\$14,459,322	\$14,459,322	\$0	\$0	\$45,540,678	0.00	0.92	6/30/2024
Total Closed End Real Estate		\$567,544,444	\$1,918,975,352	75%	\$1,443,760,192	\$33,941,550	\$4,872,581	\$1,161,927,976	\$575,157,114	0.80	1.20	
% of Portfolio (Market Value)		4.8%										

¹Latest valuation + capital calls - distributions

²(DPI) is equal to (capital returned / capital called)

³(TVPI) is equal to (market value + capital returned) / capital called

⁴Capital has been fully called and fund is in redemption.

⁵Total distributions may include recallable distributions

⁶Remianing commitment includes recallable distributions

Total Fund
Closed End Funds - IRR Summary

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

Private Credit	Inception	Fund Level (G) ²	CCCERA (G)	Fund Level (N) ^{2,3}	CCCERA (N) ³	IRR Date
Angelo Gordon Energy Cred Opp. ⁴	9/24/2015	-	-	-	8.3%	6/30/2024
Stepstone CC Opportunities Fund ¹	2/2/2018	-	9.9%	-	9.2%	12/31/2023
Torchlight IV	8/1/2012	11.0%	11.6%	8.8%	9.7%	6/30/2024
Torchlight V	3/12/2015	13.9%	14.0%	10.0%	10.0%	6/30/2024

Real Estate	Inception	Fund Level (G) ²	CCCERA (G)	Fund Level (N) ^{2,3}	CCCERA (N) ³	IRR Date
Angelo Gordon VIII ⁴	1/23/2012	-	-	-	11.6%	6/30/2024
Angelo Gordon IX	12/8/2014	-	-	-	5.0%	6/30/2024
Blackstone Real Estate Partners X ¹	3/24/2023	-	-	-	-	N/A
BlackStone Strategic Partners Real Estate VIII ¹	3/25/2022	-	-	-	-	N/A
Cross Lake RE IV ¹	12/14/2023	-	-	-	-	N/A
DLJ RECP III	6/23/2005	-1.0%	-1.0%	-3.0%	-3.0%	9/30/2023
DLJ RECP IV	2/11/2008	4.0%	4.0%	1.0%	2.0%	9/30/2023
DLJ RECP V	7/1/2014	11.0%	11.0%	5.0%	5.0%	9/30/2023
DLJ RECP VI	3/19/2019	11.0%	11.0%	2.0%	3.0%	9/30/2023
EQT Exeter Industrial Value Fund VI ¹	12/14/2023	-	-	-	-	N/A
EQT Industrial Value VI ¹	12/31/2023	-	-	-	-	N/A
EQT Multifamily Value II ¹	N/A	-	-	-	-	N/A
Invesco Fund IV ⁴	6/30/2014	12.6%	-	10.1%	-	6/30/2024
Invesco Fund V	2/20/2019	0.4%	-	-2.7%	-	6/30/2024
Invesco Fund VI	9/27/2022	-	-	-	-	N/A
Jadian Real Estate Fund II	9/27/2024	-	-	-	-	N/A
KSL Capital Partners VI ¹	11/10/2023	-	-	-	-	N/A
LaSalle Income & Growth VI ⁴	7/16/2013	9.7%	9.7%	7.6%	7.7%	6/30/2024
LaSalle Income & Growth VII	2/28/2017	1.7%	1.6%	-0.3%	-0.4%	6/30/2024
Long Wharf IV ⁴	7/3/2013	14.5%	14.2%	11.0%	10.9%	9/30/2024
Long Wharf V ⁴	9/30/2016	7.7%	8.0%	5.1%	5.3%	9/30/2024
Long Wharf VI	6/27/2019	21.3%	22.3%	13.0%	13.5%	9/30/2024
Long Wharf VII	5/1/2023	6.7%	6.6%	-7.6%	-7.5%	9/30/2024
Oaktree REOF V ⁴	12/31/2011	16.6%	-	12.2%	-	9/30/2024
Oaktree REOF VI ⁴	9/30/2013	10.0%	-	6.1%	-	9/30/2024
Oaktree REOF VII	4/1/2015	13.7%	-	8.8%	-	9/30/2024
Paulson ⁴	11/10/2013	-	-	12.0%	-	12/31/2023
PCCP IX	5/27/2021	9.9%	-	6.6%	-	3/31/2024
Siguler Guff I	1/25/2012	12.0%	14.8%	10.4%	11.6%	6/30/2024
Siguler Guff II	8/31/2013	8.2%	8.4%	6.9%	6.8%	6/30/2024
Siguler Guff DREOF II Co-Inv	1/27/2016	4.6%	4.8%	3.7%	3.4%	6/30/2024
Stockbridge Value Fund I	6/26/2024	-	-	-	-	N/A

¹Manager has yet to report IRR figure.

²Fund level data includes CCCERA and all other fund investors.

³Net IRR calculated after deductions of management fees and carried interest to the General Partner.

⁴Capital has been fully called and fund is in redemption.

Total Fund
Risk Analysis - 3 Years (Net of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

3 Years

	Anlzd Return	Anlzd Excess Performance	Anlzd Standard Deviation	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
BlackRock Russell 1000 Index	10.83	0.00	17.45	0.00	1.00	0.02	1.00	0.49	-0.13	99.99	100.00
Boston Partners	11.98	2.95	15.86	3.18	0.95	3.30	0.96	0.58	0.79	98.38	84.65
Emerald Advisers	1.42	1.77	22.23	1.76	0.96	4.66	0.96	0.02	0.35	100.09	94.71
Ceredex	8.01	4.24	19.71	4.53	0.84	6.65	0.92	0.32	0.52	91.60	78.57
Pyrford	7.40	-0.09	13.71	1.00	0.84	4.98	0.90	0.34	-0.07	89.84	86.93
William Blair	-2.43	-3.24	18.77	-3.05	1.01	5.42	0.92	-0.22	-0.57	98.45	111.06
PIMCO RAE Emerging Markets	9.17	5.88	16.60	6.06	0.96	6.79	0.83	0.41	0.84	112.18	84.35
TT Emerging Markets	-3.98	-4.39	18.88	-4.18	1.04	5.38	0.92	-0.31	-0.78	100.37	119.29
Artisan Partners	1.95	-5.22	19.28	-4.58	0.96	4.87	0.94	0.02	-1.04	85.91	101.52
First Eagle	9.07	0.58	12.87	1.87	0.82	4.14	0.94	0.48	0.05	84.54	75.44
Voya Global Investors	2.31	-0.77	8.49	-0.71	0.99	1.21	0.98	-0.10	-0.62	94.36	100.17
Adelante	4.52	-0.10	20.83	0.01	0.96	1.55	1.00	0.15	-0.16	96.29	96.29
AQR Global Risk Premium-EL	0.44	-0.26	10.22	-0.23	0.88	2.08	0.98	-0.25	-0.19	87.95	89.40
PanAgora Risk Parity Multi Asset	-5.49	-6.19	14.83	-6.05	1.26	4.53	0.95	-0.54	-1.30	103.54	140.19
Sit LLCAR	2.68	4.07	5.28	3.42	0.53	4.98	0.56	-0.13	0.78	60.83	29.98
AFL-CIO	-1.53	-0.14	7.24	-0.21	0.95	0.99	0.98	-0.67	-0.16	94.71	96.69
DFA Short Credit	1.11	0.14	2.79	0.42	0.71	1.73	0.73	-0.93	0.07	77.37	69.29
Insight Short Duration	2.95	1.44	1.90	2.07	0.57	1.66	0.53	-0.32	0.85	77.76	17.31
Sit Short Duration	1.45	0.17	3.83	-0.39	1.46	1.90	0.84	-0.53	0.11	141.90	153.34

Performance Analysis excludes closed end funds and those funds without 3 years of performance.

Total Fund
Risk Analysis - 5 Years (Net of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

5 Years

	Anlzd Return	Anlzd Excess Performance	Standard Deviation	Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
BlackRock Russell 1000 Index	15.63	-0.01	18.27	-0.01	1.00	0.02	1.00	0.76	-0.51	99.97	99.99
Boston Partners	13.25	2.56	18.74	2.28	1.01	3.14	0.97	0.64	0.76	102.68	92.24
Emerald Advisers	10.83	2.01	23.01	2.37	0.94	5.34	0.95	0.46	0.31	99.29	92.85
Ceredex	9.37	0.08	21.82	1.28	0.85	7.14	0.92	0.42	-0.08	84.87	80.55
Pyrford	7.93	0.14	14.65	1.76	0.76	6.59	0.89	0.44	-0.07	86.48	82.46
William Blair	8.23	1.14	18.85	0.94	1.05	5.23	0.93	0.39	0.26	109.28	106.30
PIMCO RAE Emerging Markets	11.24	5.30	20.05	5.07	1.05	6.42	0.90	0.52	0.83	113.74	91.81
TT Emerging Markets	4.30	-1.45	21.72	-1.67	1.13	6.29	0.93	0.20	-0.11	112.80	120.56
Artisan Partners	12.23	-2.47	18.46	-1.25	0.93	5.13	0.93	0.60	-0.45	89.75	93.23
First Eagle	9.59	0.55	13.66	2.39	0.76	5.46	0.93	0.57	-0.01	83.31	74.75
Voya Global Investors	3.67	-0.88	8.68	-0.48	0.91	1.71	0.97	0.20	-0.53	89.85	94.63
Adelante	6.30	0.90	20.23	1.01	0.95	1.67	1.00	0.29	0.38	98.04	95.03
AQR Global Risk Premium-EL	3.48	1.03	10.03	1.21	0.91	2.20	0.96	0.16	0.42	95.69	88.10
PanAgora Risk Parity Multi Asset	0.21	-2.24	13.64	-2.48	1.21	4.17	0.94	-0.08	-0.45	111.58	127.58
AFL-CIO	0.02	-0.32	5.86	-0.30	0.93	1.07	0.97	-0.37	-0.31	88.86	92.32
DFA Short Credit	1.40	-0.17	2.47	0.25	0.73	1.64	0.65	-0.37	-0.11	75.97	68.70
Insight Short Duration	2.60	0.90	2.08	1.56	0.61	1.87	0.32	0.15	0.47	83.12	17.73
Sit Short Duration	1.76	0.27	3.10	-0.30	1.40	1.60	0.80	-0.17	0.19	140.95	158.26

Performance Analysis excludes closed end funds and those funds without 5 years of performance.

Total Fund
Investment Fund Fee Analysis

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Expense Fee (%)
BlackRock Russell 1000 Index	Growth	0.03 % of Assets	\$1,259,173,538	\$377,752	0.03
Boston Partners	Growth	0.50 % of First \$25 M 0.30 % Thereafter	\$452,859,069	\$1,408,577	0.31
Emerald Advisers	Growth	0.75 % of First \$10 M 0.60 % Thereafter	\$237,270,219	\$1,438,621	0.61
Ceredex	Growth	0.85 % of First \$10 M 0.68 % of Next \$40 M 0.51 % Thereafter	\$218,068,297	\$1,214,148	0.56
Pyrford	Growth	0.70 % of First \$50 M 0.50 % of Next \$50 M 0.35 % Thereafter	\$474,014,109	\$1,909,049	0.40
William Blair	Growth	0.80 % of First \$20 M 0.60 % of Next \$30 M 0.50 % of Next \$50 M 0.45 % of Next \$50 M 0.40 % of Next \$50 M 0.30 % Thereafter	\$448,918,377	\$1,761,755	0.39
PIMCO RAE Emerging Markets	Growth	0.75 % of First \$50 M 0.68 % of Next \$50 M 0.50 % of Next \$100 M 0.45 % Thereafter	\$291,269,074	\$1,623,211	0.56
TT Emerging Markets	Growth	0.70 % of First \$100 M 0.65 % of Next \$100 M 0.60 % Thereafter	\$273,109,329	\$1,788,656	0.65
Artisan Partners	Growth	0.75 % of Assets	\$661,459,866	\$4,960,949	0.75
First Eagle	Growth	0.75 % of Assets	\$666,600,627	\$4,999,505	0.75
Voya Global Investors	Growth	0.50 % of First \$50 M 0.40 % of Next \$50 M 0.35 % Thereafter	\$168,307,571	\$689,077	0.41
Invesco US Fundamental Beta	Growth	0.15 % of Assets	\$133,284,299	\$199,926	0.15
AQR Global Risk Premium-EL	Growth	0.38 % of Assets	\$49,989,010	\$189,958	0.38

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

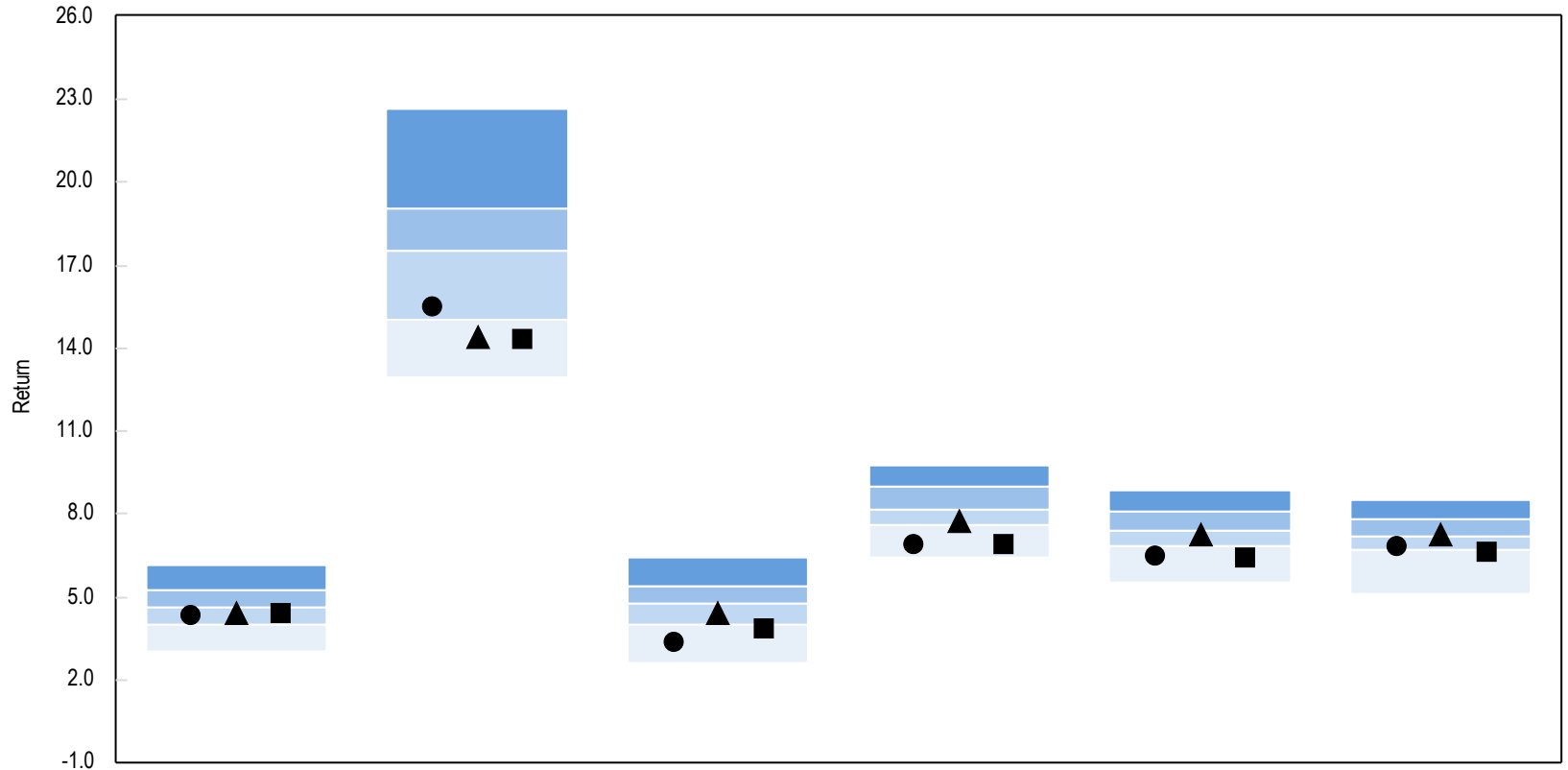
Total Fund
Investment Fund Fee Analysis

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Expense Fee (%)
PanAgora Risk Parity Multi Asset	Growth	0.35 % of Assets	\$177,896,397	\$622,637	0.35
AFL-CIO	Diversifying	0.32 % of Assets	\$228,497,091	\$731,191	0.32
Sit LLCAR	Diversifying	0.39 % of First \$200 M 0.35 % Thereafter	\$388,147,756	\$1,474,961	0.38
DFA Short Credit	Liquidity	0.20 % of First \$25 M 0.10 % Thereafter	\$424,432,380	\$449,432	0.11
Insight Short Duration	Liquidity	0.06 % of First \$500 M 0.05 % of Next \$500 M 0.04 % Thereafter	\$707,127,703	\$403,564	0.06
Sit Short Duration	Liquidity	0.15 % of Assets	\$749,733,267	\$1,124,600	0.15

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

Total Fund Cumulative Performance vs. InvMetrics Public DB >\$1B Gross



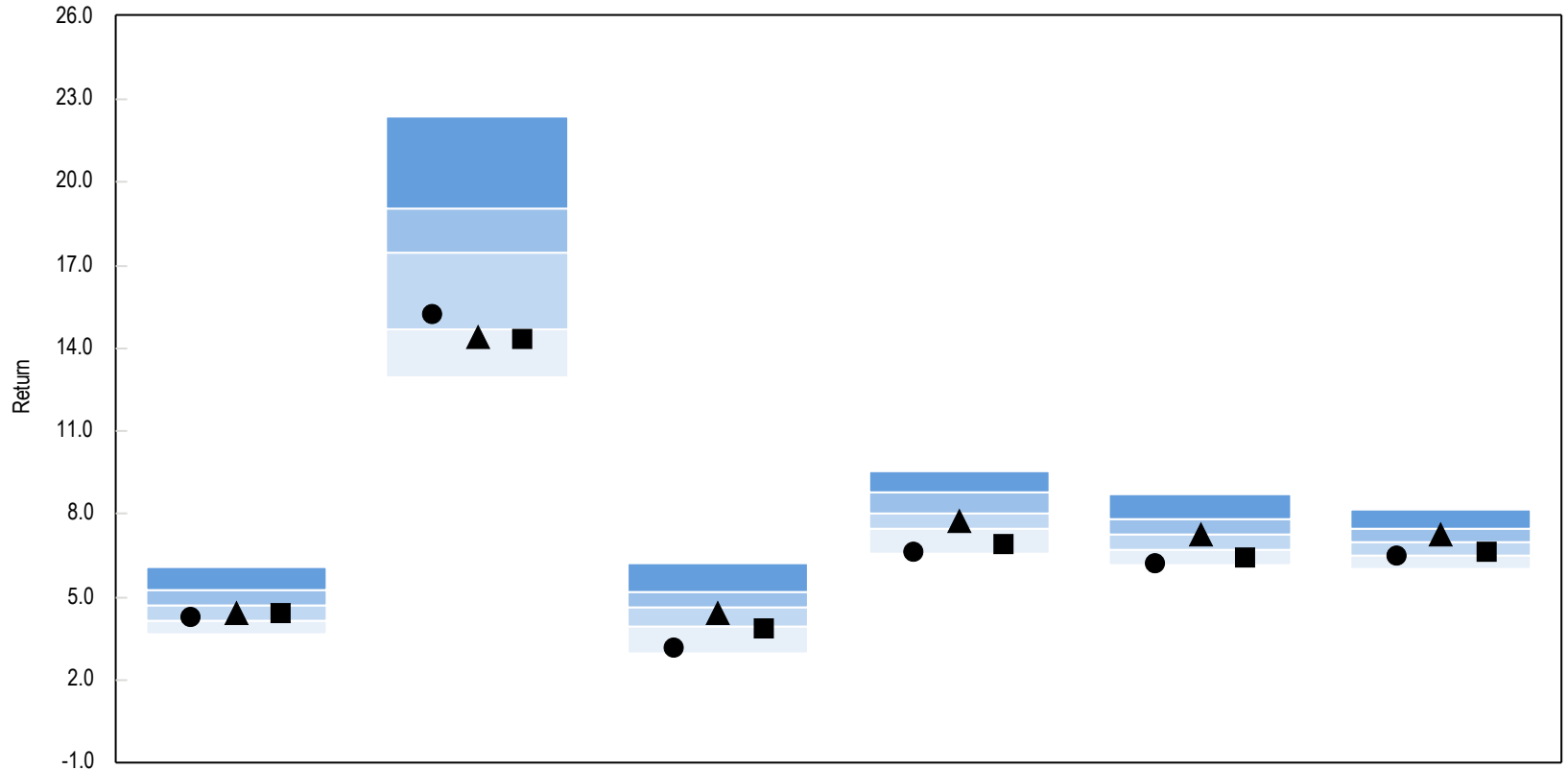
	3 Mo	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● Total Fund	4.35 (61)	15.49 (70)	3.36 (87)	6.89 (89)	6.48 (85)	6.84 (64)
▲ Policy Index	4.40 (60)	14.42 (81)	4.40 (58)	7.77 (67)	7.26 (59)	7.29 (45)
■ Implementation Benchmark	4.40 (60)	14.36 (82)	3.85 (79)	6.90 (88)	6.40 (86)	6.60 (80)

5th Percentile	6.14	22.66	6.41	9.73	8.83	8.53
1st Quartile	5.22	19.04	5.38	8.97	8.10	7.81
Median	4.63	17.52	4.74	8.15	7.42	7.19
3rd Quartile	4.01	15.01	3.99	7.58	6.86	6.71
95th Percentile	3.03	12.92	2.59	6.43	5.55	5.12

Population	120	120	118	117	115	115
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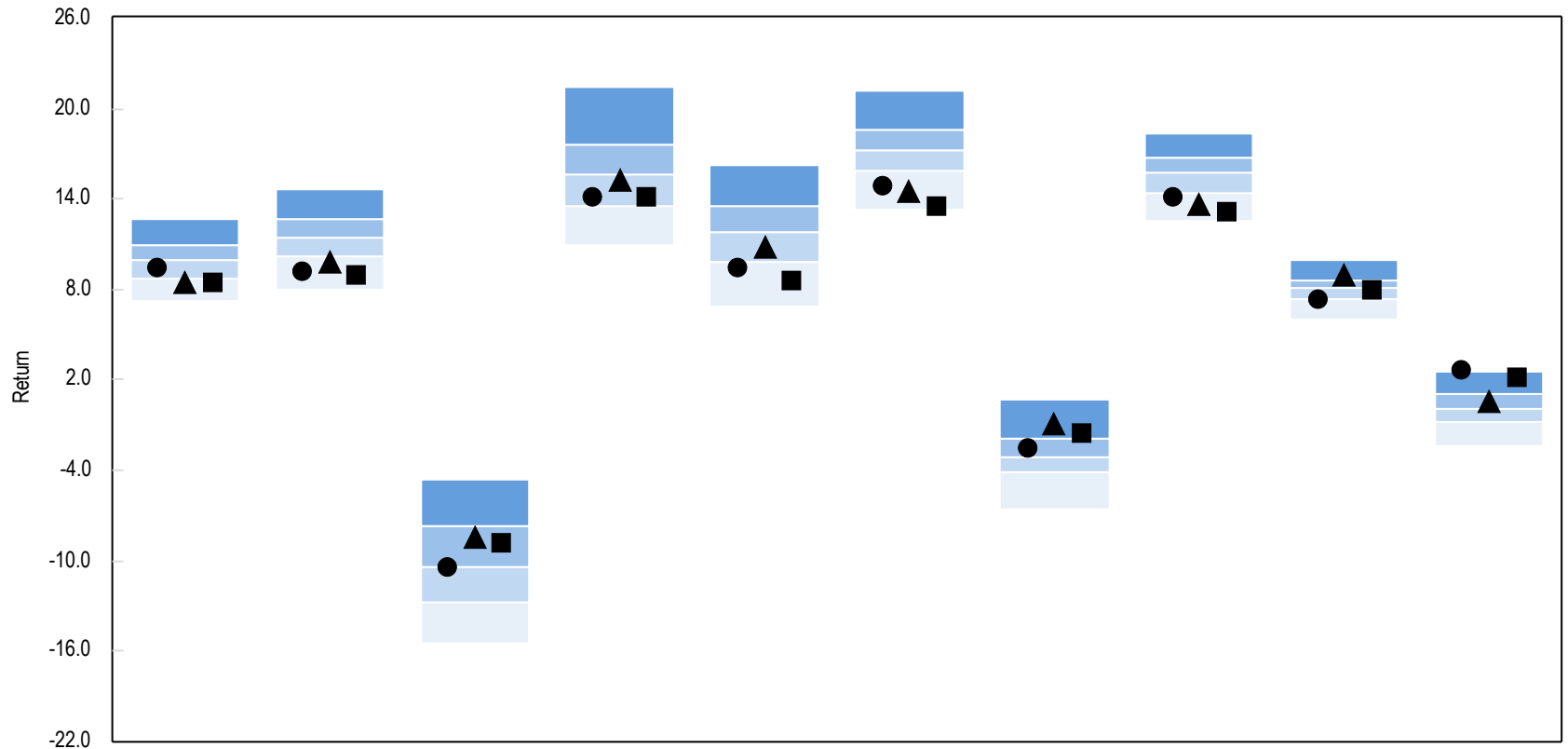
Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund Cumulative Performance vs. InvMetrics Public DB >\$1B Net



	3 Mo	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● Total Fund	4.30 (70)	15.24 (73)	3.13 (93)	6.63 (95)	6.21 (94)	6.50 (75)
▲ Policy Index	4.40 (66)	14.42 (81)	4.40 (58)	7.77 (64)	7.26 (49)	7.29 (33)
■ Implementation Benchmark	4.40 (66)	14.36 (81)	3.85 (79)	6.90 (91)	6.40 (87)	6.60 (69)
5th Percentile	6.10	22.42	6.23	9.52	8.74	8.18
1st Quartile	5.28	19.05	5.21	8.78	7.81	7.44
Median	4.70	17.47	4.60	8.03	7.25	6.98
3rd Quartile	4.13	14.70	3.95	7.48	6.74	6.47
95th Percentile	3.65	12.98	2.93	6.59	6.12	5.98
Population	104	104	101	100	98	96

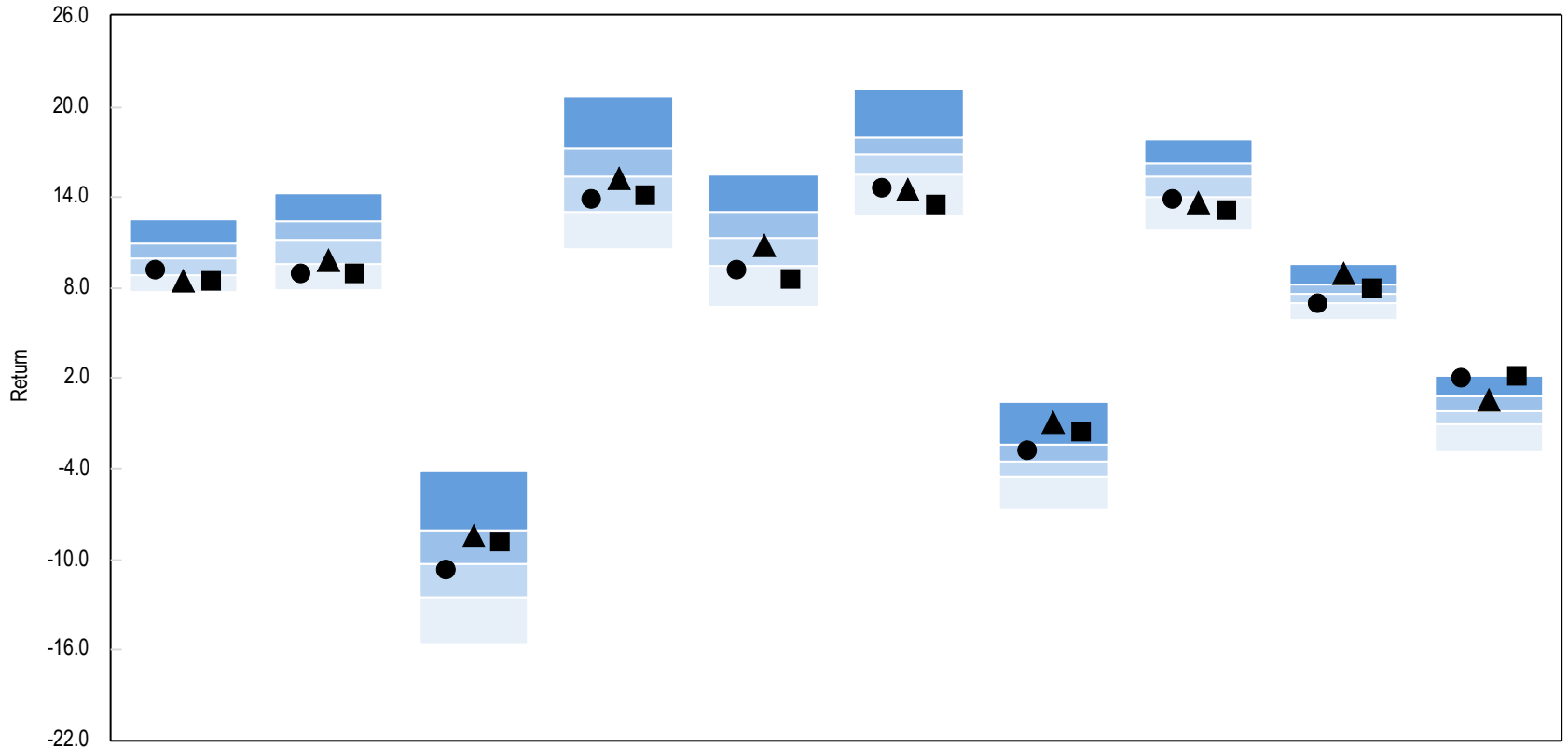
Total Fund Consecutive Periods vs. InvMetrics Public DB >\$1B Gross



	YTD	2023	2022	2021	2020	2019	2018	2017	2016	2015
● Total Fund	9.40 (64)	9.23 (85)	-10.39 (51)	14.21 (65)	9.52 (81)	14.92 (87)	-2.46 (34)	14.18 (79)	7.43 (71)	2.70 (3)
▲ Policy Index	8.45 (79)	9.85 (79)	-8.38 (30)	15.29 (55)	10.81 (64)	14.58 (88)	-0.94 (13)	13.69 (88)	8.93 (15)	0.58 (34)
■ Implementation Benchmark	8.45 (79)	8.99 (87)	-8.74 (33)	14.17 (66)	8.66 (90)	13.59 (95)	-1.52 (17)	13.21 (91)	8.00 (55)	2.18 (11)
5th Percentile	12.69	14.62	-4.61	21.40	16.27	21.18	0.70	18.35	9.91	2.51
1st Quartile	10.90	12.73	-7.71	17.56	13.53	18.55	-1.84	16.78	8.57	1.03
Median	9.98	11.42	-10.37	15.66	11.81	17.28	-3.16	15.80	8.06	0.13
3rd Quartile	8.75	10.15	-12.69	13.49	9.84	15.90	-4.13	14.36	7.35	-0.83
95th Percentile	7.28	8.03	-15.48	10.93	6.83	13.30	-6.57	12.56	5.98	-2.43
Population	120	188	192	226	236	196	173	182	183	178

Effective 1/01/2017, only traditional asset class (public equity, fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund Consecutive Periods vs. InvMetrics Public DB >\$1B Net

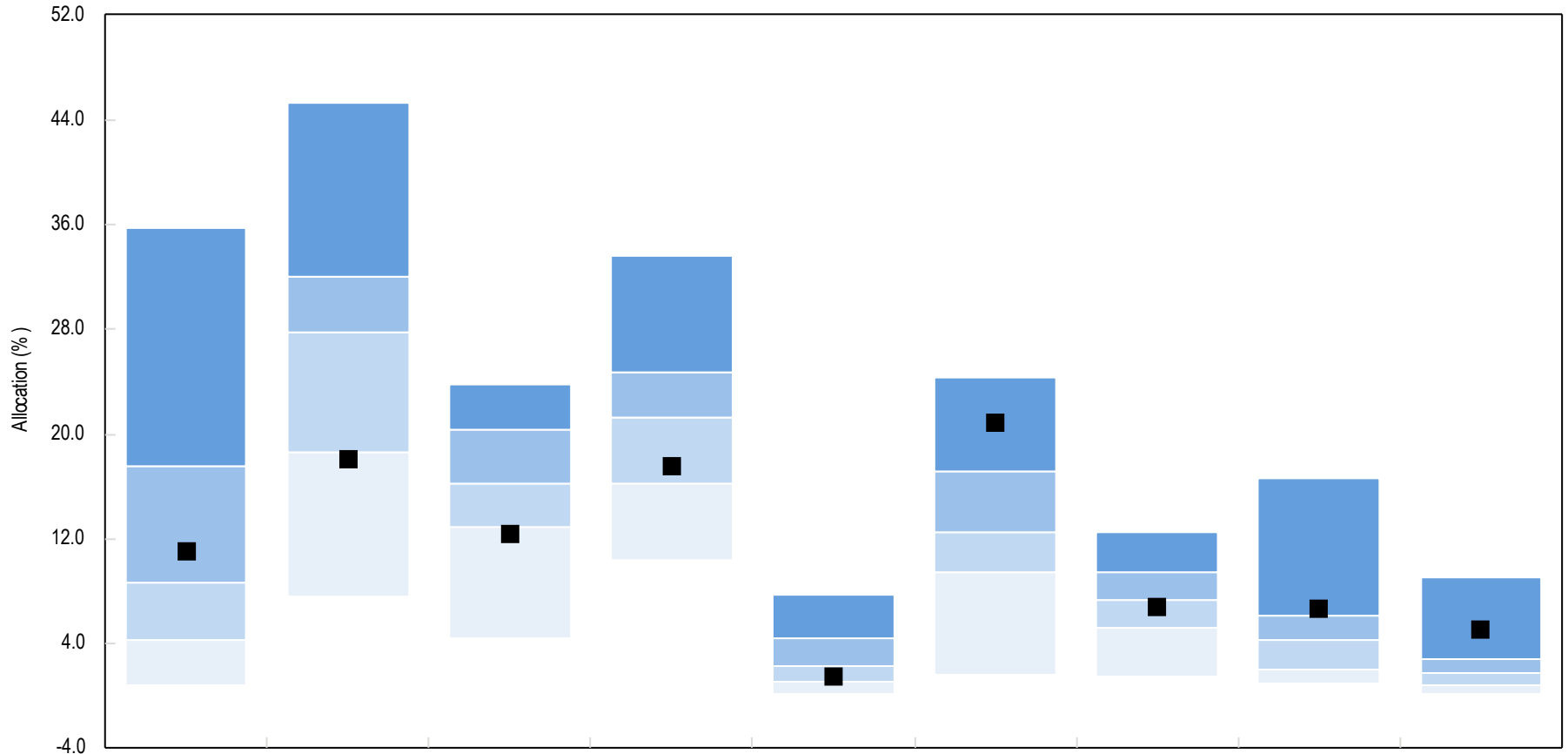


	YTD	2023	2022	2021	2020	2019	2018	2017	2016	2015
● Total Fund	9.23 (71)	9.01 (84)	-10.61 (56)	13.90 (65)	9.23 (77)	14.61 (87)	-2.72 (34)	13.86 (80)	6.94 (77)	2.09 (9)
▲ Policy Index	8.45 (83)	9.85 (74)	-8.38 (29)	15.29 (51)	10.81 (60)	14.58 (88)	-0.94 (9)	13.69 (85)	8.93 (11)	0.58 (27)
■ Implementation Benchmark	8.45 (83)	8.99 (84)	-8.74 (31)	14.17 (62)	8.66 (86)	13.59 (92)	-1.52 (14)	13.21 (89)	8.00 (37)	2.18 (6)
5th Percentile	12.56	14.30	-4.05	20.70	15.50	21.19	0.48	17.87	9.53	2.21
1st Quartile	10.93	12.44	-8.02	17.19	13.09	18.03	-2.33	16.31	8.24	0.83
Median	9.92	11.24	-10.32	15.34	11.27	16.83	-3.52	15.36	7.63	-0.16
3rd Quartile	8.83	9.62	-12.50	13.11	9.45	15.54	-4.47	14.09	7.02	-1.08
95th Percentile	7.71	7.84	-15.59	10.59	6.81	12.77	-6.74	11.82	5.86	-2.87
Population	104	177	177	207	217	193	170	180	175	171

Total Fund
Peer Universe Comparison: Asset Allocation

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

Total Fund vs. InvMetrics Public DB > \$1B



	Global Equity	US Equity	Global ex-US Equity	US Fixed	Global ex-US Fixed	Private Equity	Total Real Estate	Multi-Asset	Cash & Equivalents
■ Total Fund	11.1 (39)	18.1 (77)	12.4 (78)	17.6 (69)	1.4 (66)	20.9 (12)	6.8 (57)	6.7 (19)	5.1 (12)
5th Percentile	35.8	45.3	23.8	33.7	7.7	24.4	12.5	16.6	9.0
1st Quartile	17.5	32.0	20.4	24.7	4.4	17.2	9.4	6.1	2.8
Median	8.7	27.8	16.3	21.3	2.3	12.4	7.4	4.3	1.8
3rd Quartile	4.2	18.6	12.9	16.2	1.1	9.4	5.2	2.0	0.8
95th Percentile	0.7	7.6	4.4	10.3	0.1	1.6	1.5	1.0	0.1
Population	40	104	104	106	44	96	95	23	100

Domestic Equity Managers

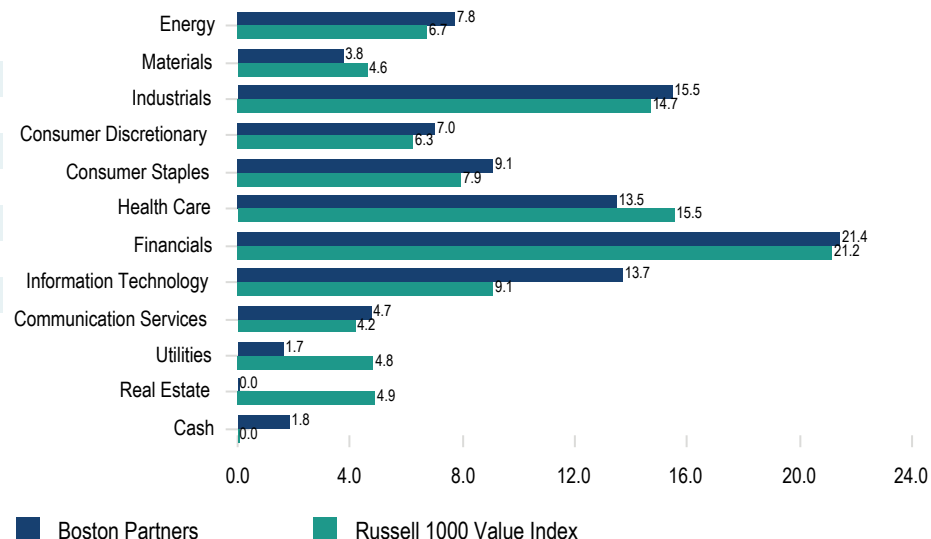
Boston Partners Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2024

Characteristics

	Portfolio	Benchmark
Number of Stocks	88	872
Wtd. Avg. Mkt. Cap \$M	179,896.66	172,124.77
Median Mkt. Cap \$M	50,908.95	14,225.07
Price/Earnings ratio	20.58	20.80
Price/Book ratio	3.19	2.85
Return on Equity (%)	-1.73	3.06
Current Yield (%)	1.72	2.06
Beta (5 Years, Monthly)	1.01	1.00

Sector Allocation (%) vs. Russell 1000 Value Index



Largest Holdings

	End Weight (%)	Quarterly Return (%)
JPMorgan Chase & Co	4.40	4.84
Oracle Corp	2.96	21.02
Alphabet Inc	2.48	-8.83
UnitedHealth Group	2.16	15.22
Philip Morris International Inc	2.08	21.14
Morgan Stanley	1.93	8.22
Fidelity National Information Services Inc	1.76	11.61
CRH PLC	1.75	24.17
American Express Co	1.72	17.47
AMERISOURCEBERGEN	1.68	0.12

Top Contributors

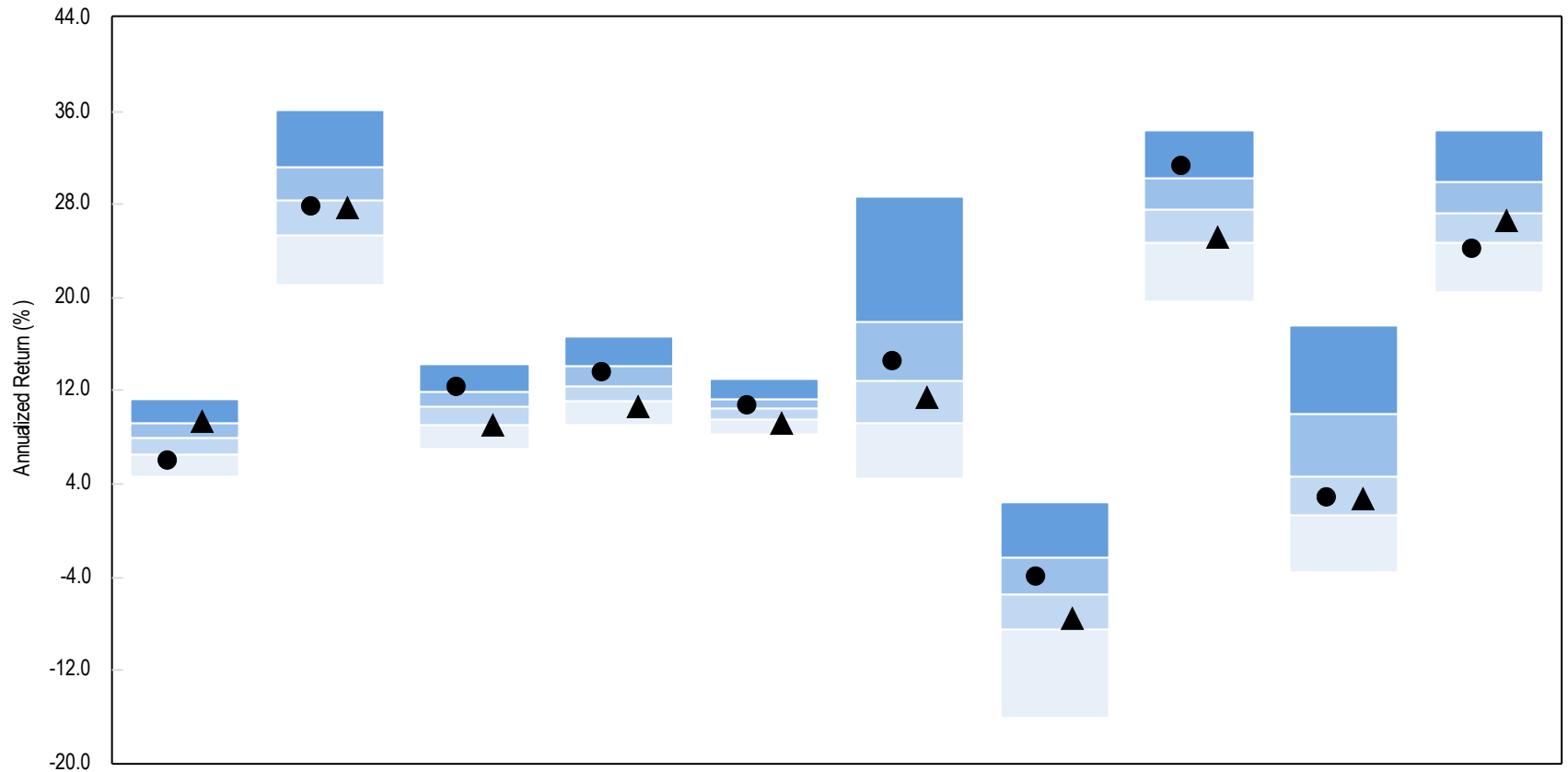
	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Oracle Corp	2.45	21.02	0.51
Philip Morris International Inc	1.97	21.14	0.42
Walmart Inc	1.96	19.60	0.38
Howmet Aerospace Inc	1.17	29.25	0.34
United Rentals Inc.	1.25	25.49	0.32
Sanofi	1.69	18.78	0.32
CRH PLC	1.30	24.17	0.31
American Express Co	1.66	17.47	0.29
T-Mobile US Inc	1.52	17.51	0.27
Bristol-Myers Squibb Co	0.96	26.47	0.25
% of Portfolio	15.93		3.42

Top Detractors

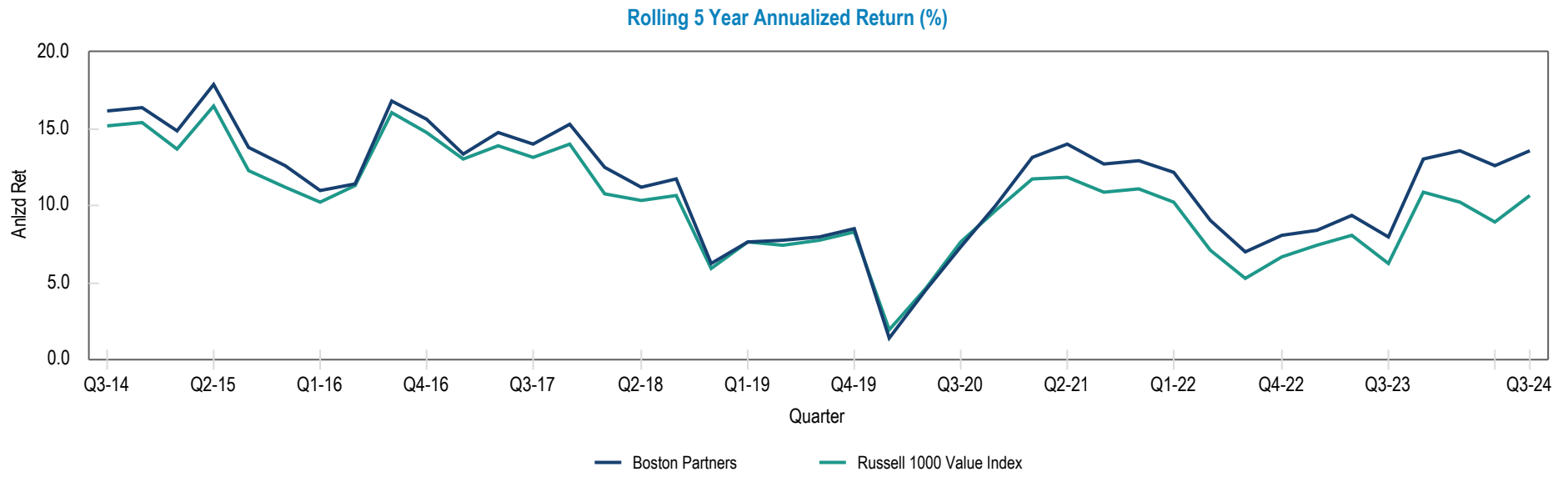
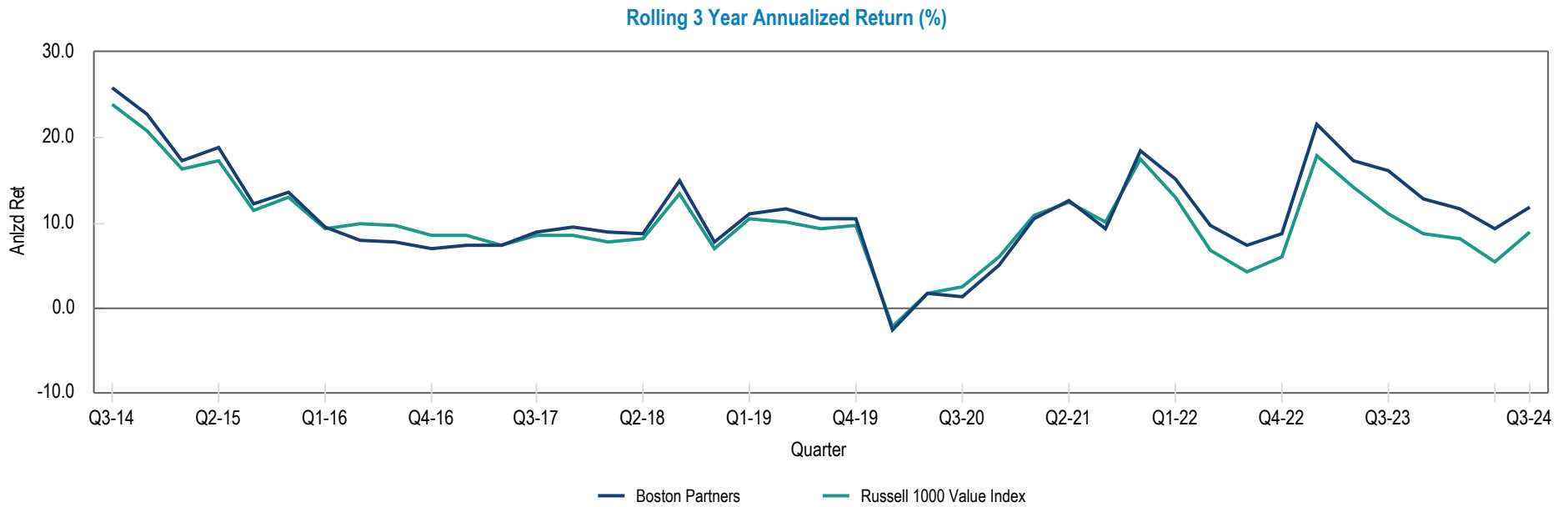
	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Micron Technology Inc.	1.97	-21.08	-0.41
Alphabet Inc	3.82	-8.83	-0.34
Dell Technologies Inc	1.95	-13.74	-0.27
Cenovus Energy Inc	1.72	-14.21	-0.24
Applied Materials Inc	1.63	-14.21	-0.23
McKesson Corp	1.40	-15.24	-0.21
Microchip Technology Inc	1.34	-11.75	-0.16
Lam Research Corp	0.65	-23.13	-0.15
Diamondback Energy Inc	1.10	-12.86	-0.14
Schlumberger Ltd	1.29	-10.49	-0.14
% of Portfolio	16.87		-2.30

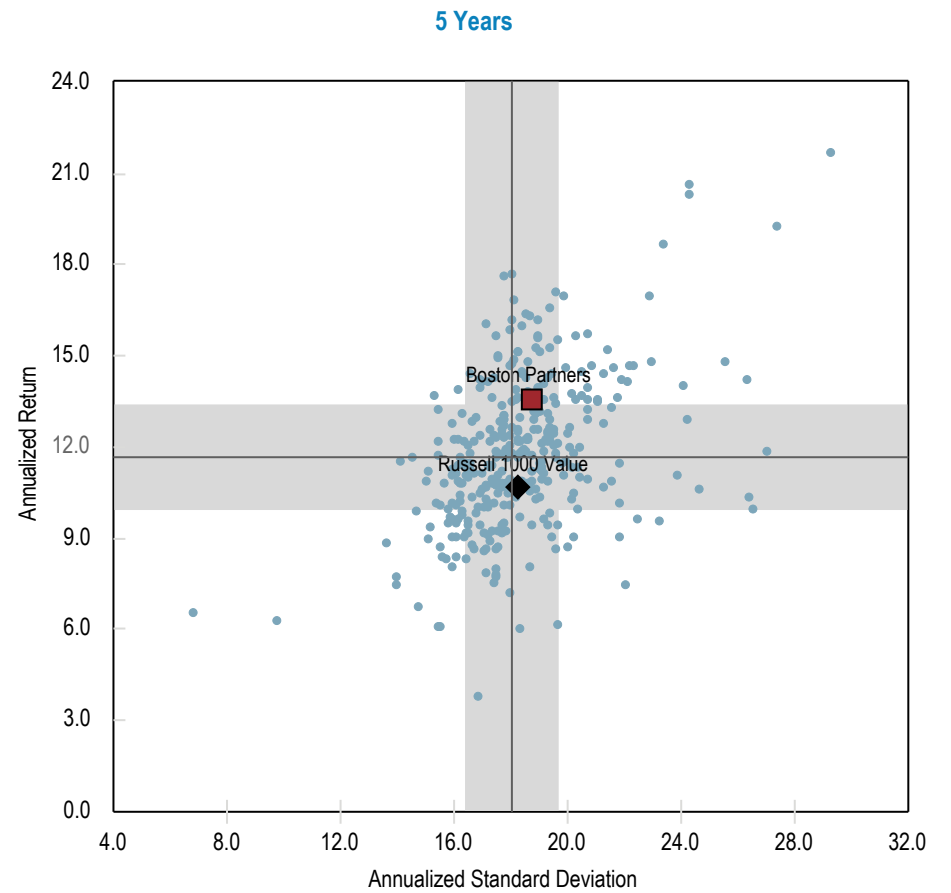
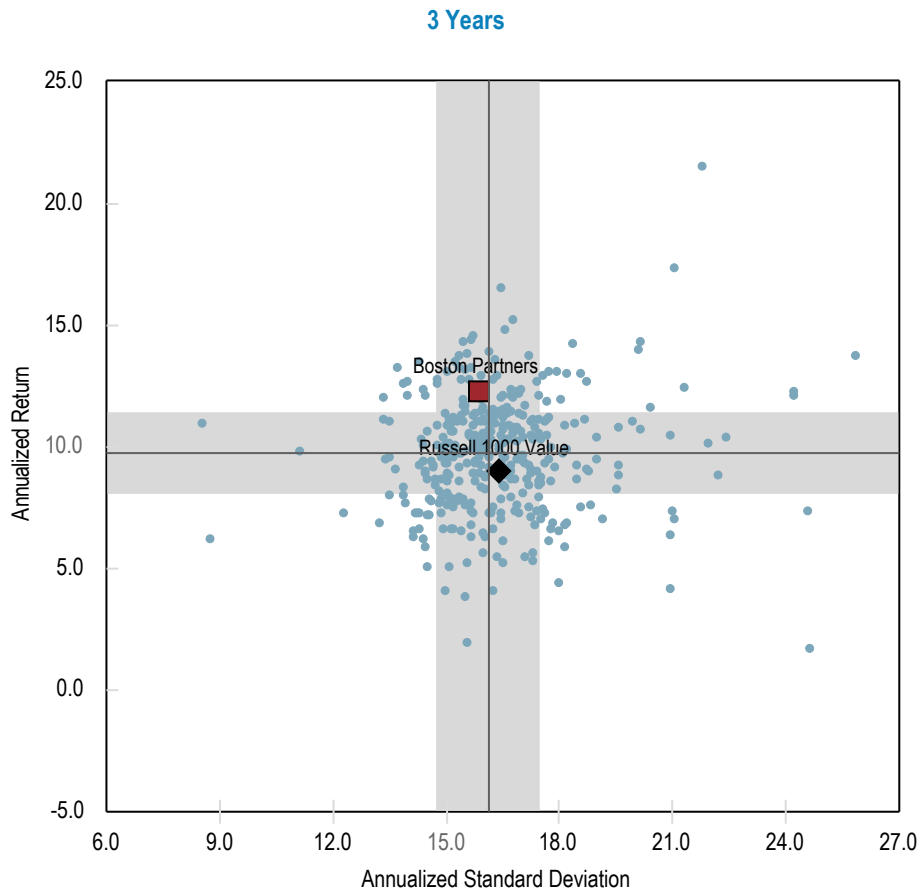
Domestic equity large cap value portfolio exhibiting low turnover in companies with low valuations relative to intrinsic value. Primary personnel include Mark Donovan and David Pyle.

Boston Partners vs. eV US Large Cap Value Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2023	2022	2021	2020	2019
● Boston Partners	6.07 (84)	27.84 (55)	12.32 (20)	13.59 (30)	10.78 (40)	14.67 (39)	-3.82 (36)	31.34 (19)	2.96 (64)	24.26 (79)
▲ Russell 1000 Value Index	9.43 (24)	27.76 (56)	9.03 (76)	10.69 (82)	9.23 (84)	11.46 (62)	-7.54 (69)	25.16 (72)	2.80 (64)	26.54 (57)
5th Percentile	11.36	36.08	14.29	16.59	13.08	28.64	2.36	34.34	17.56	34.33
1st Quartile	9.31	31.15	11.84	14.15	11.31	17.90	-2.38	30.18	10.06	29.95
Median	8.00	28.34	10.60	12.35	10.51	12.86	-5.43	27.60	4.69	27.18
3rd Quartile	6.58	25.40	9.05	11.06	9.57	9.25	-8.50	24.70	1.30	24.74
95th Percentile	4.69	21.16	6.99	9.10	8.36	4.43	-16.01	19.62	-3.52	20.39
Population	376	375	367	354	317	405	417	425	432	458





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Boston Partners	12.3	15.9	0.6
Russell 1000 Value Index	9.0	16.4	0.4
eV US Large Cap Value Equity Median	10.6	16.2	0.5
Population	367	367	367

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Boston Partners	13.6	18.7	0.7
Russell 1000 Value Index	10.7	18.3	0.5
eV US Large Cap Value Equity Median	12.3	18.0	0.6
Population	354	354	354

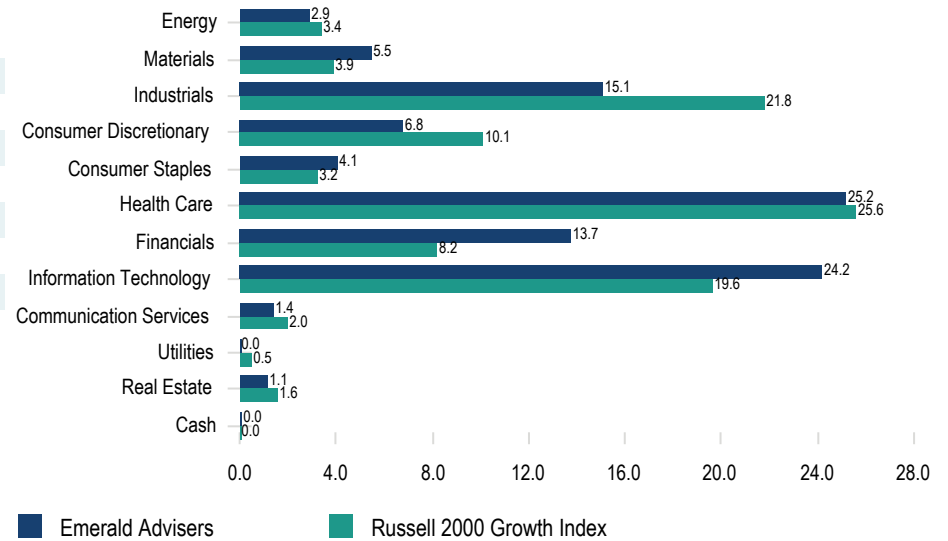
Emerald Advisers
 Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
 Period Ending: September 30, 2024

Characteristics

	Portfolio	Benchmark
Number of Stocks	115	1,120
Wtd. Avg. Mkt. Cap \$M	4,649.01	4,130.75
Median Mkt. Cap \$M	3,210.49	1,176.31
Price/Earnings ratio	29.04	24.08
Price/Book ratio	4.19	4.27
Return on Equity (%)	-22.41	3.53
Current Yield (%)	0.45	0.59
Beta (5 Years, Monthly)	0.94	1.00

Sector Allocation (%) vs. Russell 2000 Growth Index



Largest Holdings

	End Weight (%)	Quarterly Return (%)
FTAI Aviation Ltd	3.42	29.11
Freshpet Inc	2.74	5.70
Carpenter Technology Corp	2.47	45.83
Varonis Systems Inc	2.17	17.78
Q2 Holdings Inc	2.14	32.22
Insmed Inc	2.00	8.95
Credo Technology Group Holding Ltd	1.96	-3.57
Palomar Holdings Inc	1.83	16.66
RadNet Inc	1.80	17.77
Baldwin Insurance Group Inc (The)	1.76	40.40

Top Contributors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Carpenter Technology Corp	2.78	45.83	1.27
FTAI Aviation Ltd	3.62	29.11	1.05
Baldwin Insurance Group Inc (The)	1.31	40.40	0.53
Q2 Holdings Inc	1.57	32.22	0.51
Traverse Therapeutics Inc	0.63	70.19	0.44
Impinj Inc	1.05	38.11	0.40
Varonis Systems Inc	1.95	17.78	0.35
ATI Inc	1.58	20.67	0.33
RadNet Inc	1.62	17.77	0.29
Ultragenyx Pharmaceutical Inc	0.79	35.16	0.28

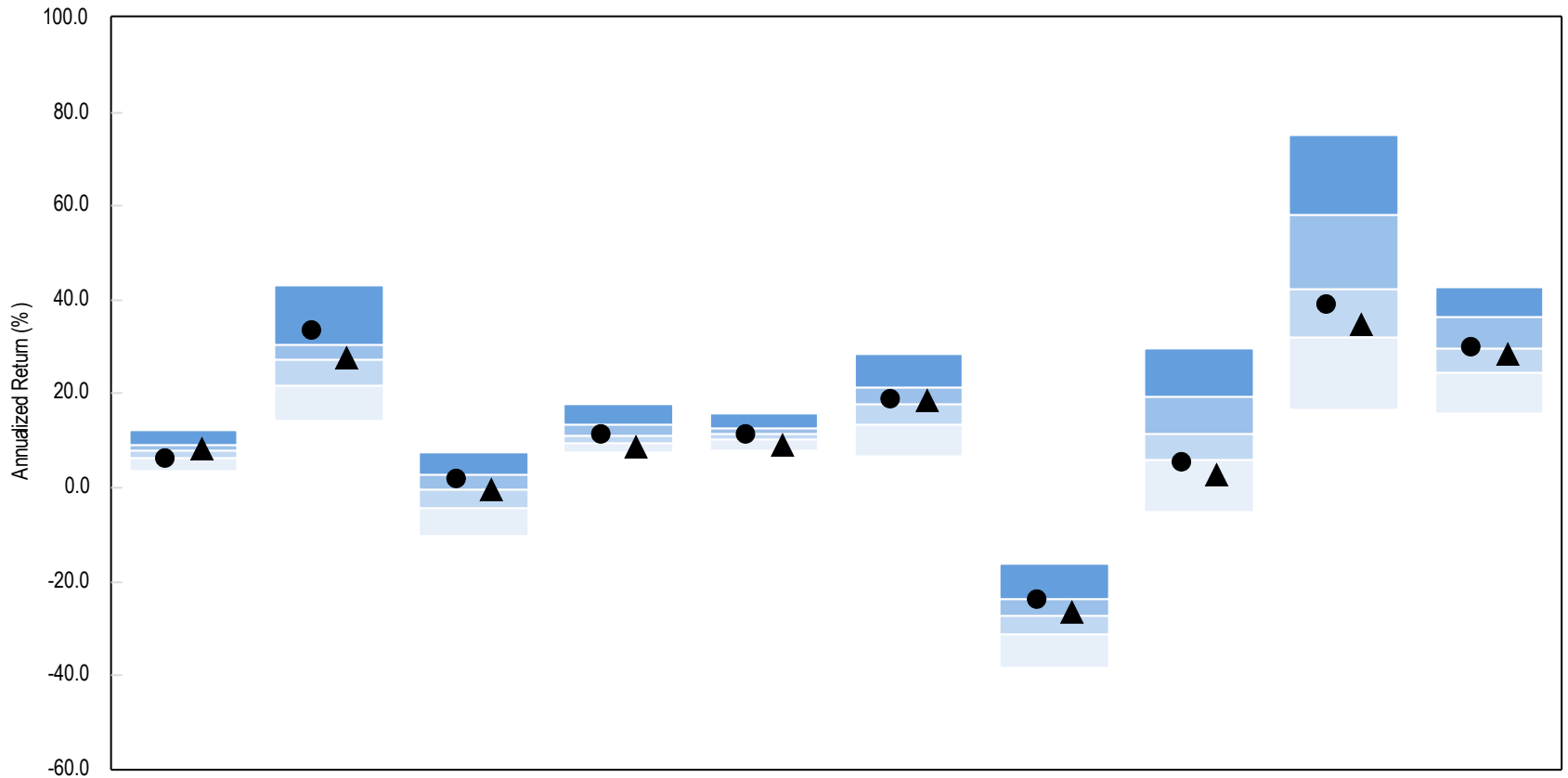
Top Detractors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Super Micro Computer Inc	3.03	-49.18	-1.49
Montrose Environmental Group Inc	1.31	-40.98	-0.54
FormFactor Inc	1.41	-24.00	-0.34
Madrigal Pharmaceuticals Inc	1.14	-24.25	-0.28
Arhaus Inc	0.95	-27.33	-0.26
Blueprint Medicines Corp	1.77	-14.18	-0.25
Rambus Inc	0.87	-28.15	-0.24
indie Semiconductor Inc	0.66	-35.33	-0.23
Tidewater Inc.	0.82	-24.60	-0.20
Chart Industries Inc	1.42	-13.99	-0.20

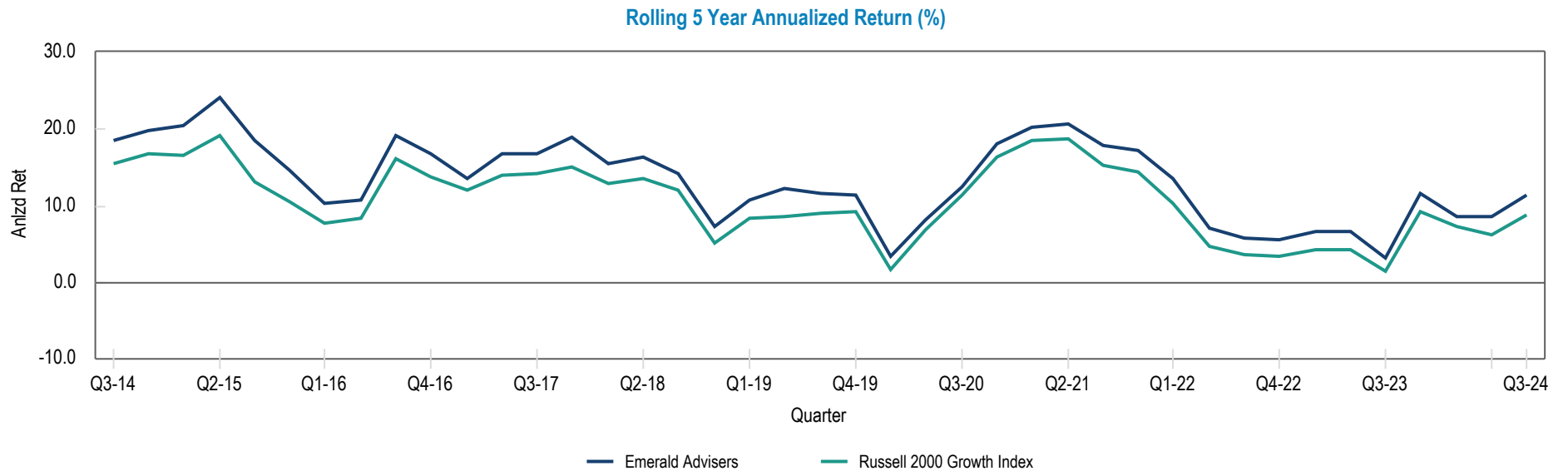
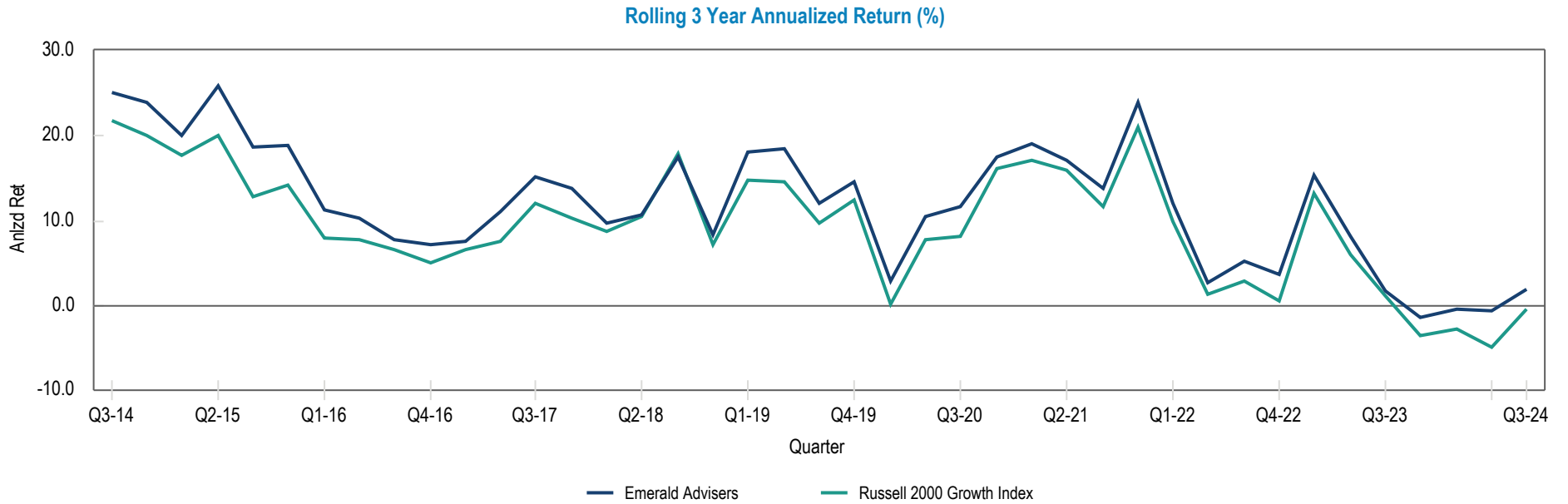
% of Portfolio 16.90 5.44 % of Portfolio 13.38 -4.03

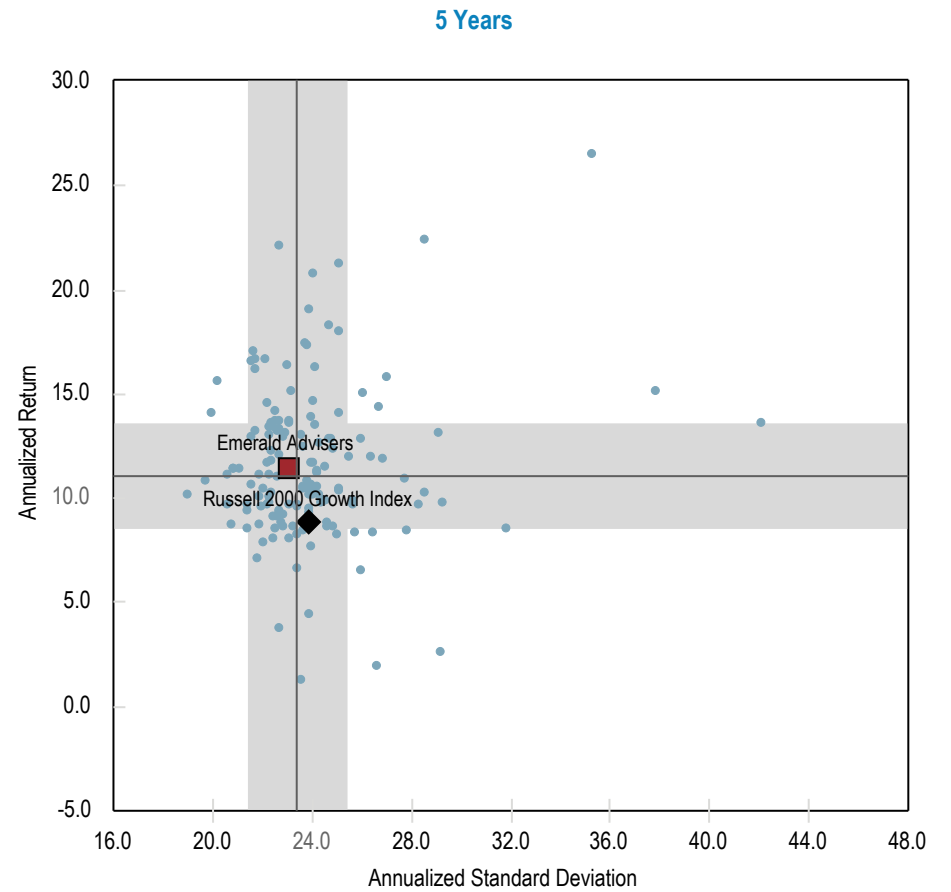
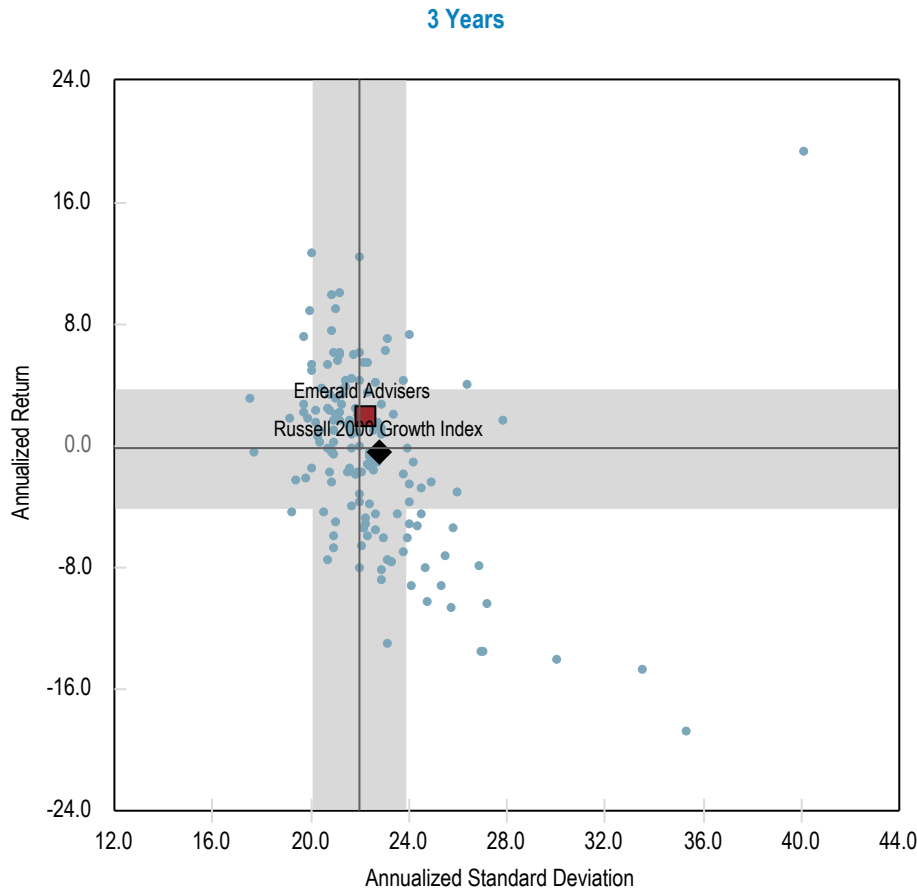
Domestic equity small cap growth portfolio of companies with significantly high growth rates. Primary personnel include Kenneth Mertz, Joseph Garner, and Stacey Sears.

Emerald Advisers vs. eV US Small Cap Growth Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2023	2022	2021	2020	2019
● Emerald Advisers	6.33 (78)	33.58 (17)	1.99 (32)	11.48 (42)	11.61 (46)	19.15 (41)	-23.75 (27)	5.53 (77)	38.96 (57)	30.26 (48)
▲ Russell 2000 Growth Index	8.41 (38)	27.66 (50)	-0.35 (52)	8.82 (82)	8.95 (94)	18.66 (44)	-26.36 (44)	2.83 (85)	34.63 (67)	28.48 (53)
5th Percentile	12.41	43.20	7.45	17.74	15.87	28.49	-16.22	29.85	74.94	42.60
1st Quartile	9.19	30.50	2.79	13.40	12.87	21.30	-23.57	19.34	58.29	36.52
Median	7.77	27.49	-0.19	11.04	11.42	17.64	-27.24	11.57	42.23	29.57
3rd Quartile	6.40	21.60	-4.42	9.57	10.32	13.41	-31.04	5.90	31.98	24.74
95th Percentile	3.52	14.37	-10.28	7.47	8.05	6.75	-38.39	-4.90	16.54	15.94
Population	155	155	155	151	138	162	172	183	184	190





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Emerald Advisers	2.0	22.2	0.0
Russell 2000 Growth Index	-0.4	22.8	-0.1
eV US Small Cap Growth Equity Median	-0.2	22.0	-0.1
Population	155	155	155

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Emerald Advisers	11.5	23.0	0.5
Russell 2000 Growth Index	8.8	23.9	0.4
eV US Small Cap Growth Equity Median	11.0	23.4	0.5
Population	151	151	151

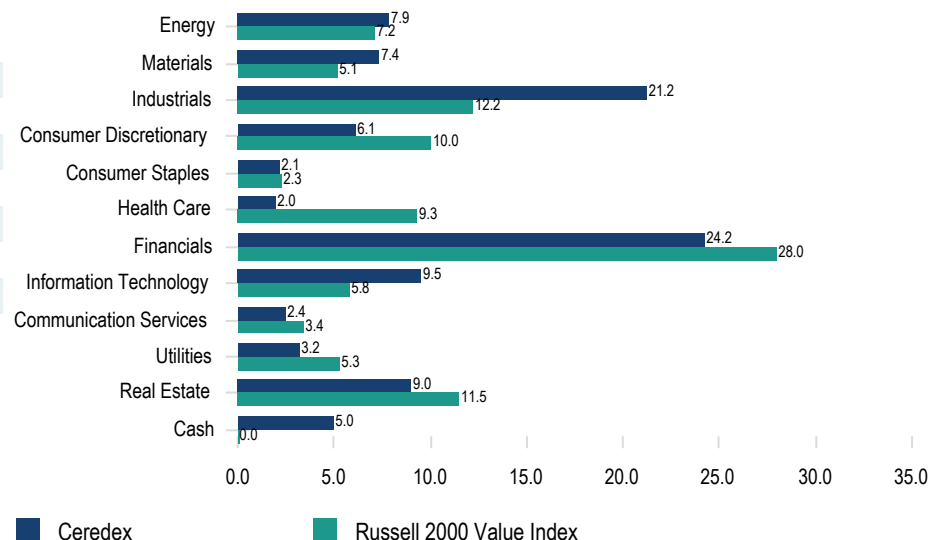
Ceredex
Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

Characteristics

	Portfolio	Benchmark
Number of Stocks	78	1,438
Wtd. Avg. Mkt. Cap \$M	5,842.90	2,842.43
Median Mkt. Cap \$M	6,168.41	782.32
Price/Earnings ratio	19.51	14.21
Price/Book ratio	2.25	1.65
Return on Equity (%)	2.61	-0.04
Current Yield (%)	2.29	2.13
Beta (5 Years, Monthly)	0.85	1.00

Sector Allocation (%) vs. Russell 2000 Value Index



Largest Holdings

	End Weight (%)	Quarterly Return (%)
MSC Industrial Direct Co Inc.	1.93	9.70
Hexcel Corp	1.90	-0.75
IDACORP Inc.	1.62	11.58
Matador Resources Co	1.60	-16.79
OGE Energy Corp	1.60	16.27
Amkor Technology Inc	1.55	-23.33
Littelfuse Inc	1.55	4.05
Range Resources Corp.	1.54	-8.01
Prosperity Bancshares Inc	1.52	18.79
TD SYNEX Corporation	1.49	4.42

Top Contributors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Carpenter Technology Corp	1.87	45.83	0.86
Belden Inc	1.81	24.94	0.45
Progress Software Corp	1.83	24.54	0.45
PROG Holdings Inc	1.10	40.19	0.44
Schneider National Inc	2.29	18.53	0.42
Cogent Communications	1.05	36.35	0.38
Colliers International Group Inc	1.04	35.97	0.37
SouthState Corporation	1.33	27.94	0.37
Curtiss-Wright Corp	1.71	21.37	0.37
Agree Realty Corp	1.59	22.88	0.36

Top Detractors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Chord Energy Corp	1.64	-21.02	-0.34
Matador Resources Co	1.76	-16.79	-0.30
Atkore Inc	0.68	-36.99	-0.25
NOV Inc	1.49	-15.59	-0.23
MKS Instruments Inc	1.16	-16.59	-0.19
ChampionX Corp	1.76	-8.95	-0.16
Autoliv Inc	1.25	-12.14	-0.15
Ashland Inc	1.74	-7.54	-0.13
Range Resources Corp.	1.54	-8.01	-0.12
Kulicke and Soffa Industries Inc	1.54	-7.82	-0.12

% of Portfolio

15.62

4.48

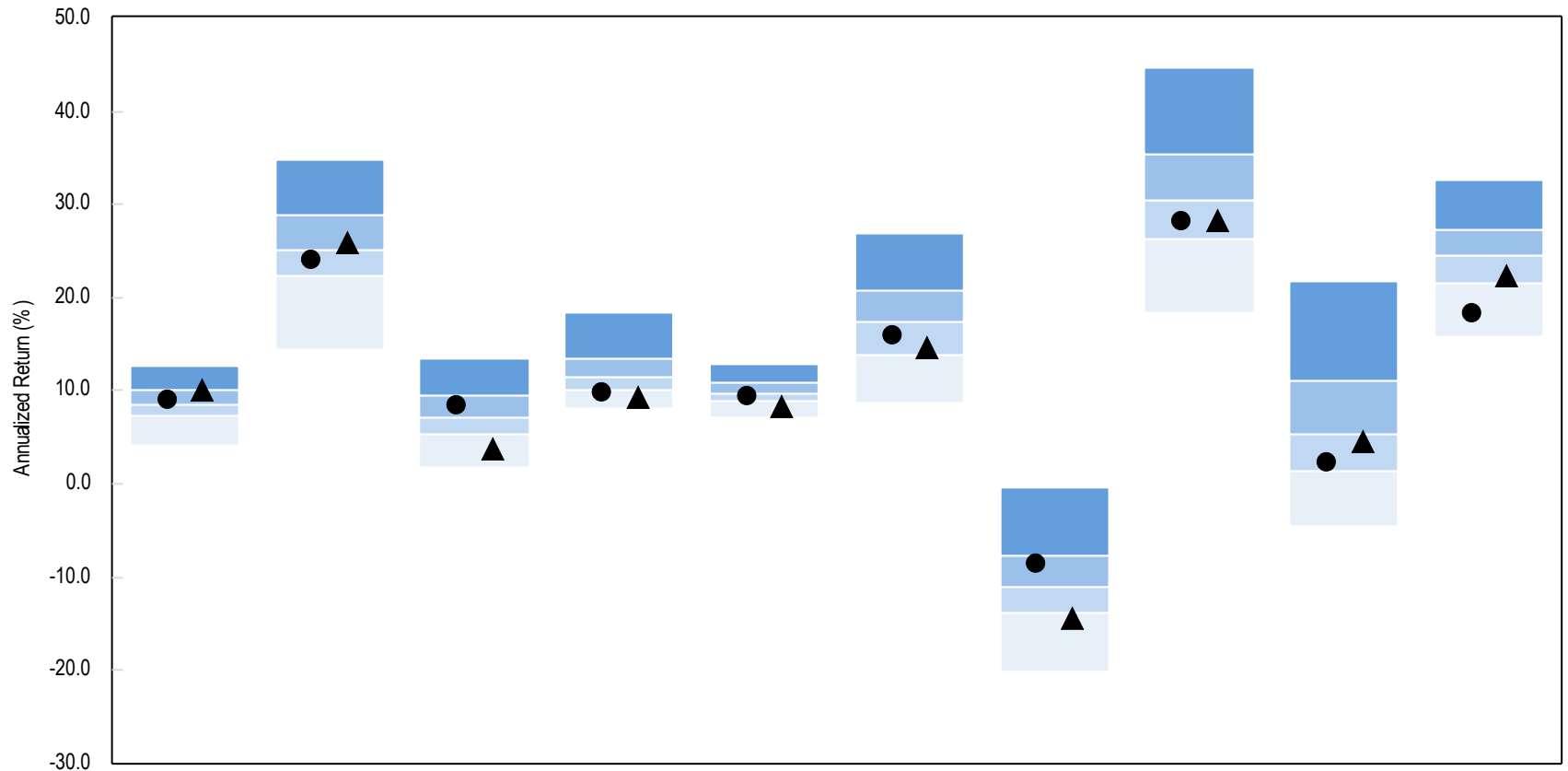
% of Portfolio

14.56

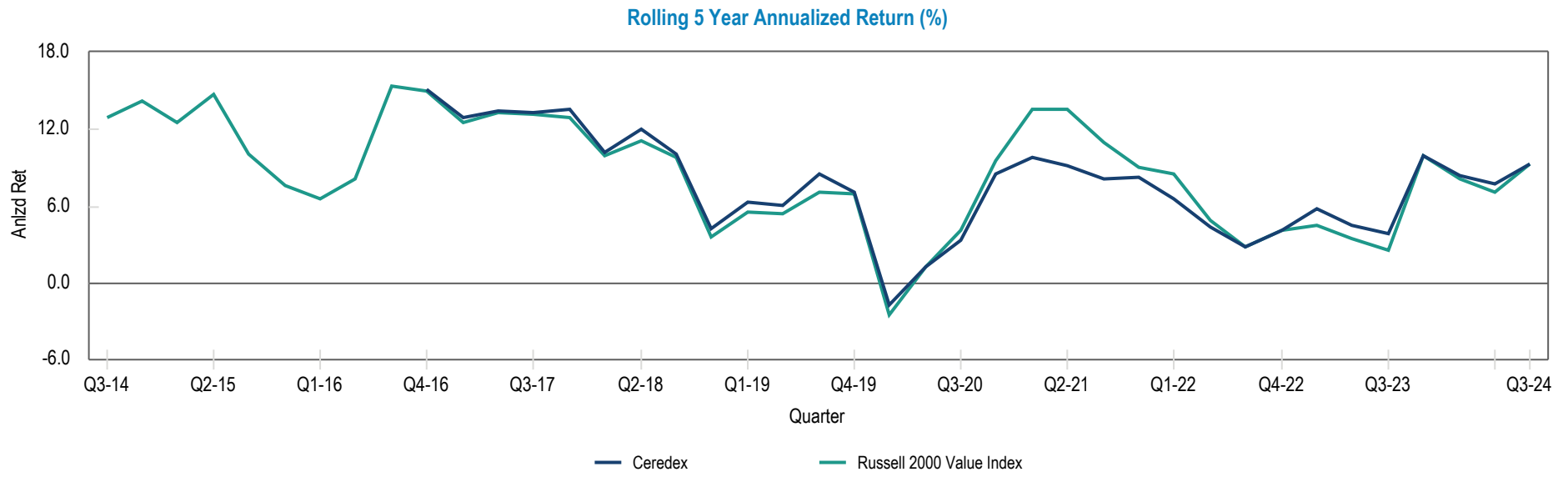
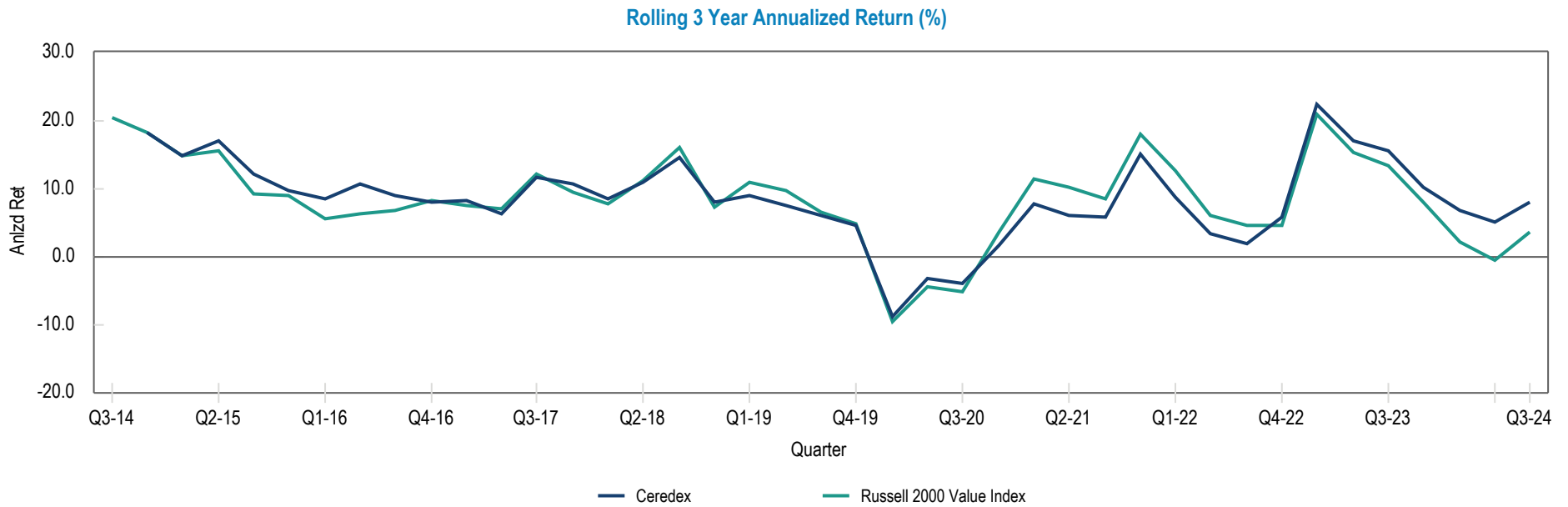
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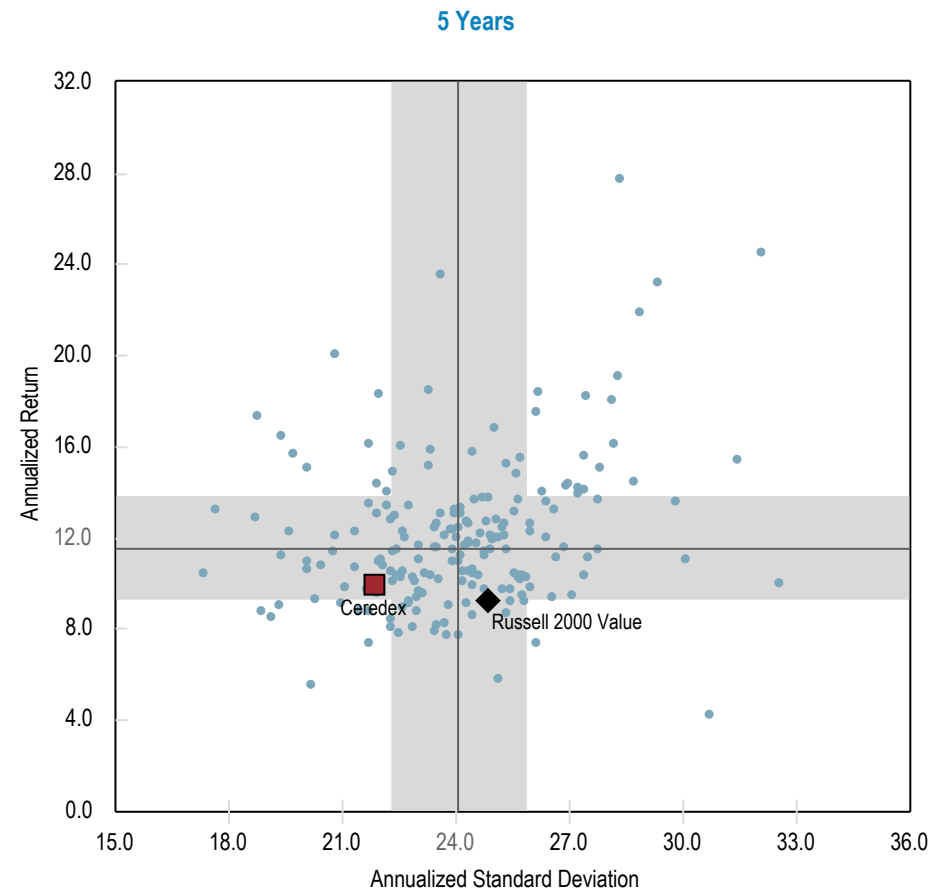
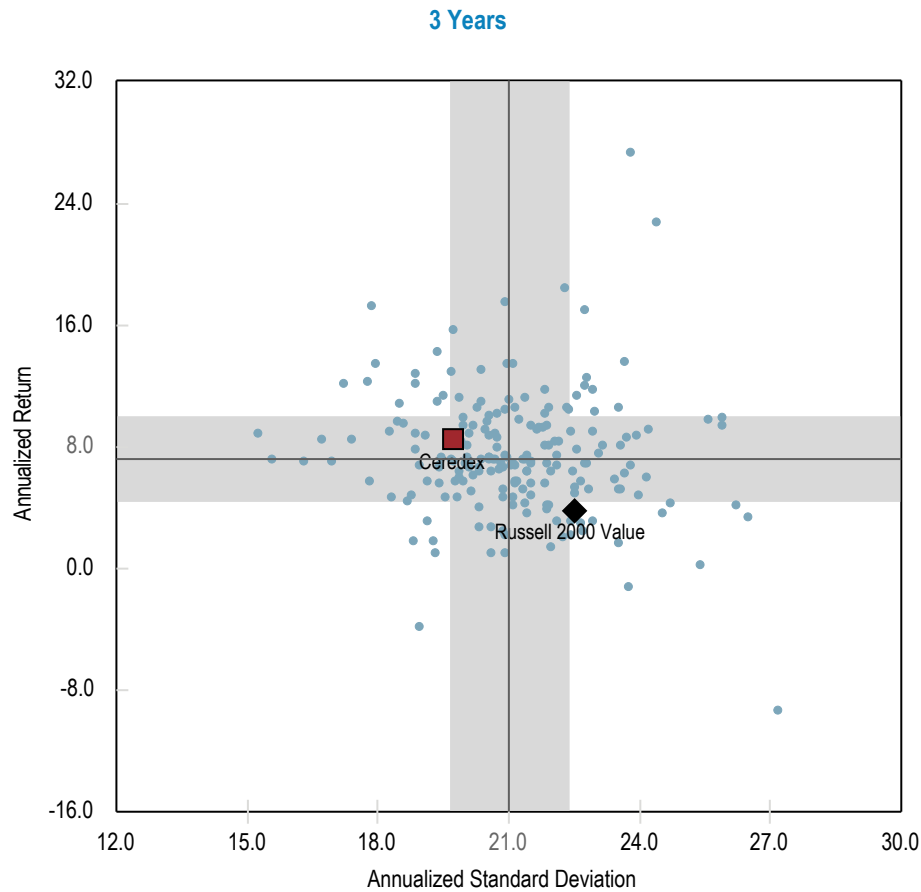
Domestic equity small cap value portfolio of companies with dividend yields and low valuations. Primary personnel include Brett Barner and David Maynard.

Ceredex vs. eV US Small Cap Value Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2023	2022	2021	2020	2019
● Ceredex	9.05 (39)	24.16 (61)	8.57 (36)	9.96 (76)	9.59 (51)	16.02 (62)	-8.46 (28)	28.37 (59)	2.32 (70)	18.36 (88)
▲ Russell 2000 Value Index	10.15 (25)	25.88 (43)	3.77 (88)	9.29 (86)	8.22 (90)	14.65 (71)	-14.48 (79)	28.27 (59)	4.63 (55)	22.39 (70)
5th Percentile	12.57	34.88	13.55	18.32	12.80	26.83	-0.41	44.60	21.68	32.72
1st Quartile	10.13	28.83	9.44	13.45	10.80	20.71	-7.73	35.35	11.03	27.36
Median	8.58	25.06	7.20	11.57	9.63	17.34	-10.95	30.48	5.40	24.42
3rd Quartile	7.32	22.28	5.33	10.11	8.84	13.94	-13.88	26.22	1.38	21.58
95th Percentile	4.11	14.39	1.82	8.12	7.15	8.80	-20.05	18.39	-4.57	15.75
Population	200	200	198	195	170	213	221	233	248	256





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Ceredex	8.6	19.7	0.3
Russell 2000 Value Index	3.8	22.5	0.1
eV US Small Cap Value Equity Median	7.2	21.0	0.3
Population	198	198	198

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Ceredex	10.0	21.8	0.4
Russell 2000 Value Index	9.3	24.8	0.4
eV US Small Cap Value Equity Median	11.6	24.1	0.5
Population	195	195	195

International Equity Managers

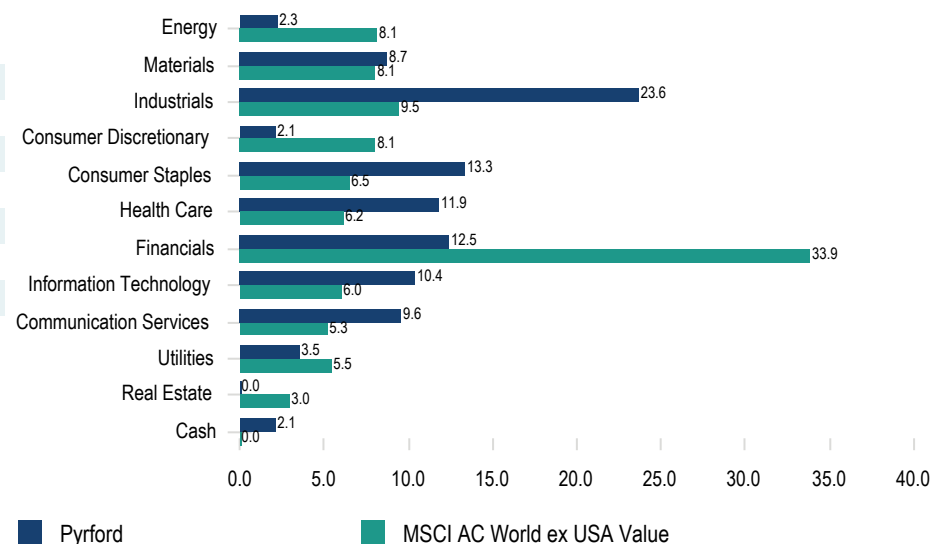
Pyrford Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2024

Characteristics

	Portfolio	Benchmark
Number of Stocks	77	1,202
Wtd. Avg. Mkt. Cap \$M	72,058.99	73,910.29
Median Mkt. Cap \$M	27,160.37	10,661.64
Price/Earnings ratio	19.11	11.75
Price/Book ratio	2.57	1.88
Return on Equity (%)	4.91	3.46
Current Yield (%)	3.58	4.20
Beta (5 Years, Monthly)	0.76	1.00

Sector Allocation (%) vs. MSCI AC World ex USA Value



Largest Holdings

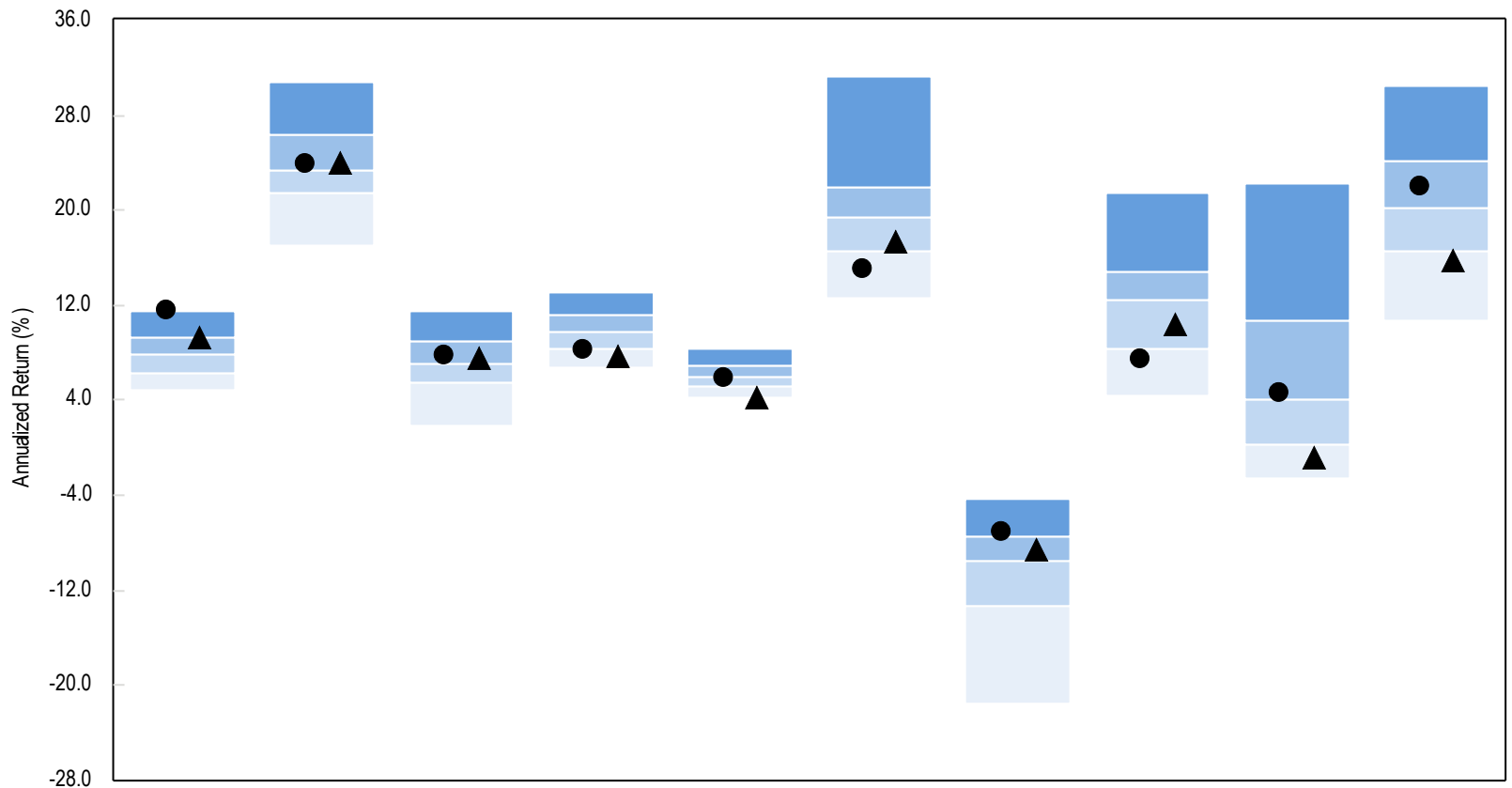
Top Contributors

Top Detractors

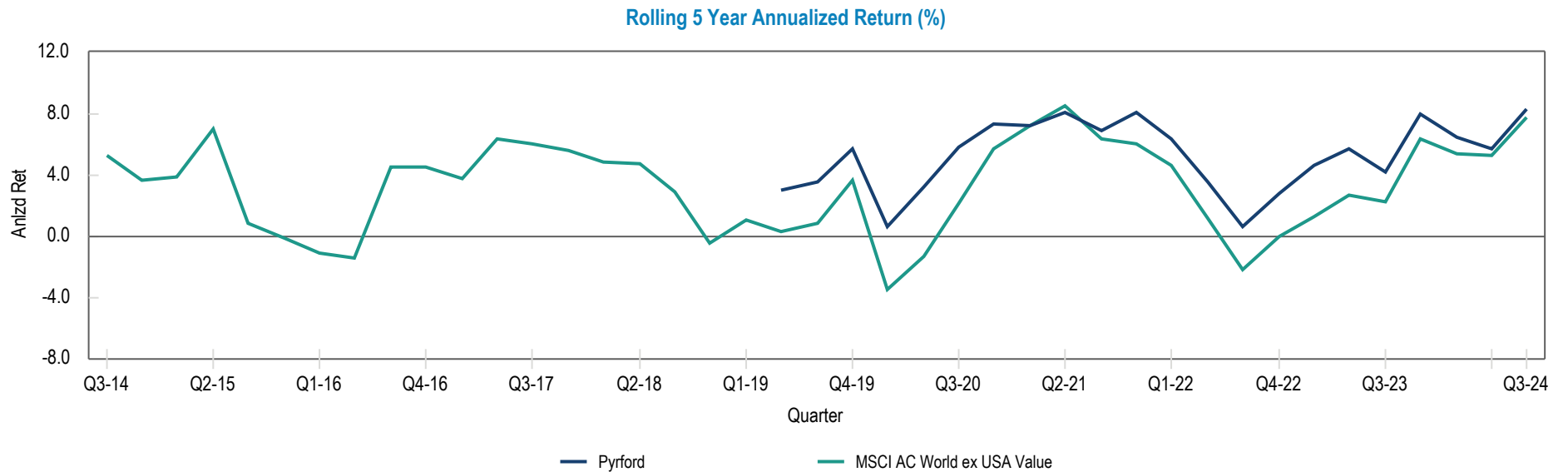
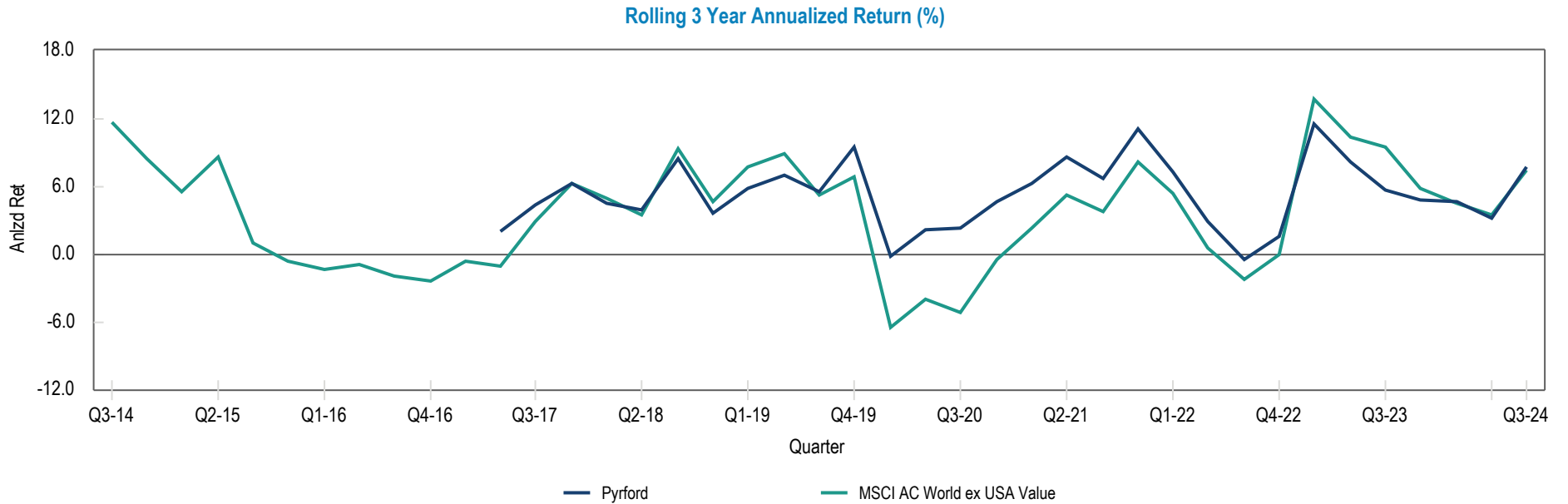
	End Weight (%)	Quarterly Return (%)		Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)		Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Nestle SA, Cham Und Vevey	2.67	-1.33	Brambles Ltd	2.10	38.20	0.80	ASMPT Limited	1.21	-11.91	-0.14
Japan Tobacco Inc	2.58	8.09	Singapore Telecommunications	1.91	27.89	0.53	BP plc	0.81	-11.26	-0.09
Roche Holding AG	2.46	15.53	Malayan Banking Berhad	1.99	23.65	0.47	Shell Plc	1.10	-8.34	-0.09
United Overseas Bank Ltd	2.45	11.81	Kddi Corp	1.86	23.23	0.43	Advantech Co Ltd	0.59	-8.65	-0.05
Brambles Ltd	2.30	38.20	AIA Group Ltd	1.23	33.18	0.41	Woodside Energy Group Ltd	1.09	-3.42	-0.04
Mitsubishi Electric Corp	2.24	1.72	Unilever PLC	1.94	19.14	0.37	Nestle SA, Cham Und Vevey	2.12	-1.33	-0.03
L'Air Liquide SA	2.22	11.87	Roche Holding AG	2.28	15.53	0.35	Rubis	0.70	-2.77	-0.02
Unilever PLC	2.19	19.14	National Grid plc	1.41	23.83	0.34	Toyota Tsusho Corp	0.17	-5.49	-0.01
Kddi Corp	2.17	23.23	Sanofi	1.69	19.14	0.32	QBE Insurance Group Limited	1.54	0.25	0.00
SAP SE	2.17	12.31	British American Tobacco	1.49	21.48	0.32	VTech Holdings Ltd	1.42	0.46	0.01
			% of Portfolio	17.90		4.35	% of Portfolio	10.75		-0.46

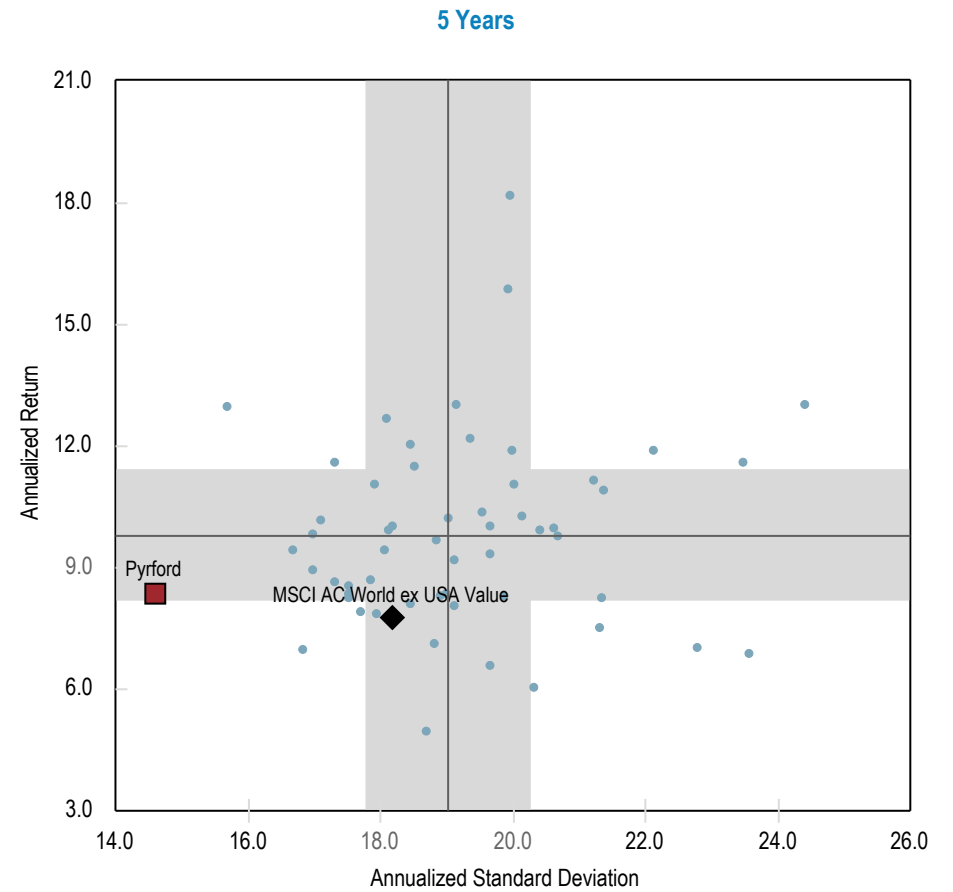
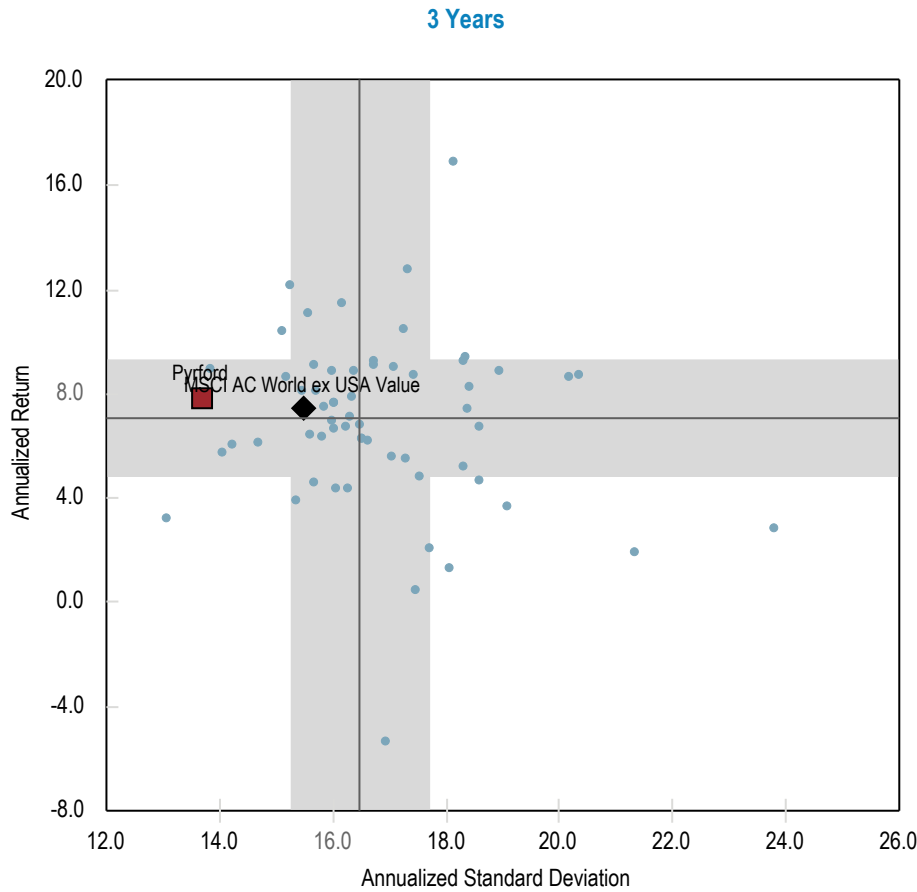
International equity value portfolio of non-US companies with low valuations at the country and stock level. Primary personnel include Tony Cousins, Daniel McDonagh, and Paul Simons.

Pyrford vs. eV ACWI ex-US Value Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2023	2022	2021	2020	2019
● Pyrford	11.68 (3)	23.97 (44)	7.80 (42)	8.35 (71)	5.95 (51)	15.17 (83)	-6.97 (22)	7.57 (84)	4.66 (47)	22.07 (38)
▲ MSCI AC World ex USA Value (Net)	9.26 (26)	24.04 (44)	7.49 (47)	7.79 (86)	4.28 (95)	17.30 (67)	-8.59 (41)	10.46 (66)	-0.77 (80)	15.72 (78)
5th Percentile	11.50	30.78	11.57	13.02	8.40	31.21	-4.22	21.44	22.18	30.55
1st Quartile	9.26	26.29	8.91	11.12	6.97	21.96	-7.45	14.88	10.71	24.23
Median	7.91	23.29	7.08	9.80	5.97	19.46	-9.43	12.53	4.15	20.24
3rd Quartile	6.36	21.43	5.46	8.28	5.24	16.60	-13.27	8.35	0.31	16.63
95th Percentile	4.95	17.04	1.90	6.79	4.27	12.54	-21.52	4.34	-2.63	10.68
Population	64	64	60	55	39	65	67	69	71	69





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Pyrford	7.8	13.7	0.4
MSCI AC World ex USA Value (Net)	7.5	15.5	0.3
eV ACWI ex-US Value Equity Median	7.1	16.5	0.3
Population	60	60	60

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Pyrford	8.3	14.6	0.5
MSCI AC World ex USA Value (Net)	7.8	18.2	0.4
eV ACWI ex-US Value Equity Median	9.8	19.0	0.5
Population	55	55	55

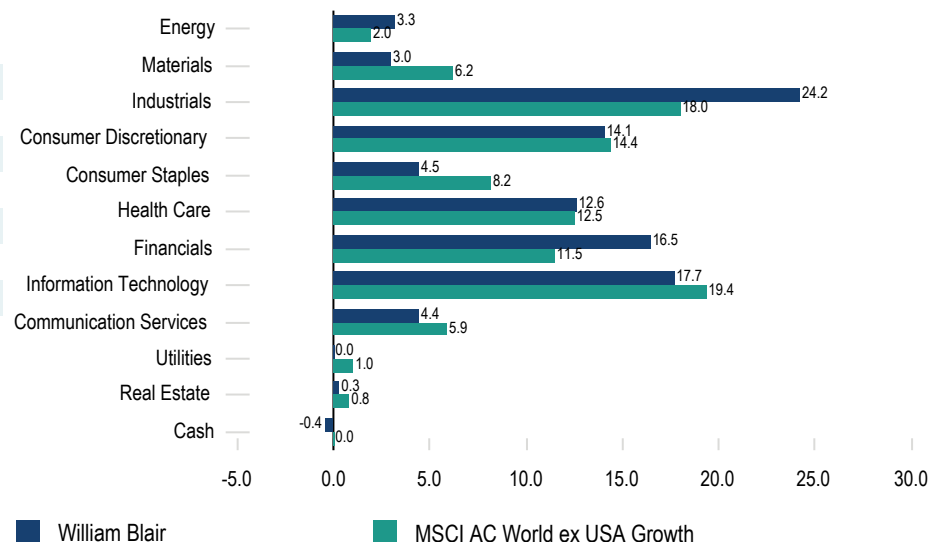
William Blair
Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

Characteristics

	Portfolio	Benchmark
Number of Stocks	184	1,188
Wtd. Avg. Mkt. Cap \$M	119,367.68	145,293.72
Median Mkt. Cap \$M	20,820.15	10,270.15
Price/Earnings ratio	26.71	22.35
Price/Book ratio	4.40	3.87
Return on Equity (%)	5.64	5.21
Current Yield (%)	1.47	1.64
Beta (5 Years, Monthly)	1.05	1.00

Sector Allocation (%) vs. MSCI AC World ex USA Growth



Largest Holdings

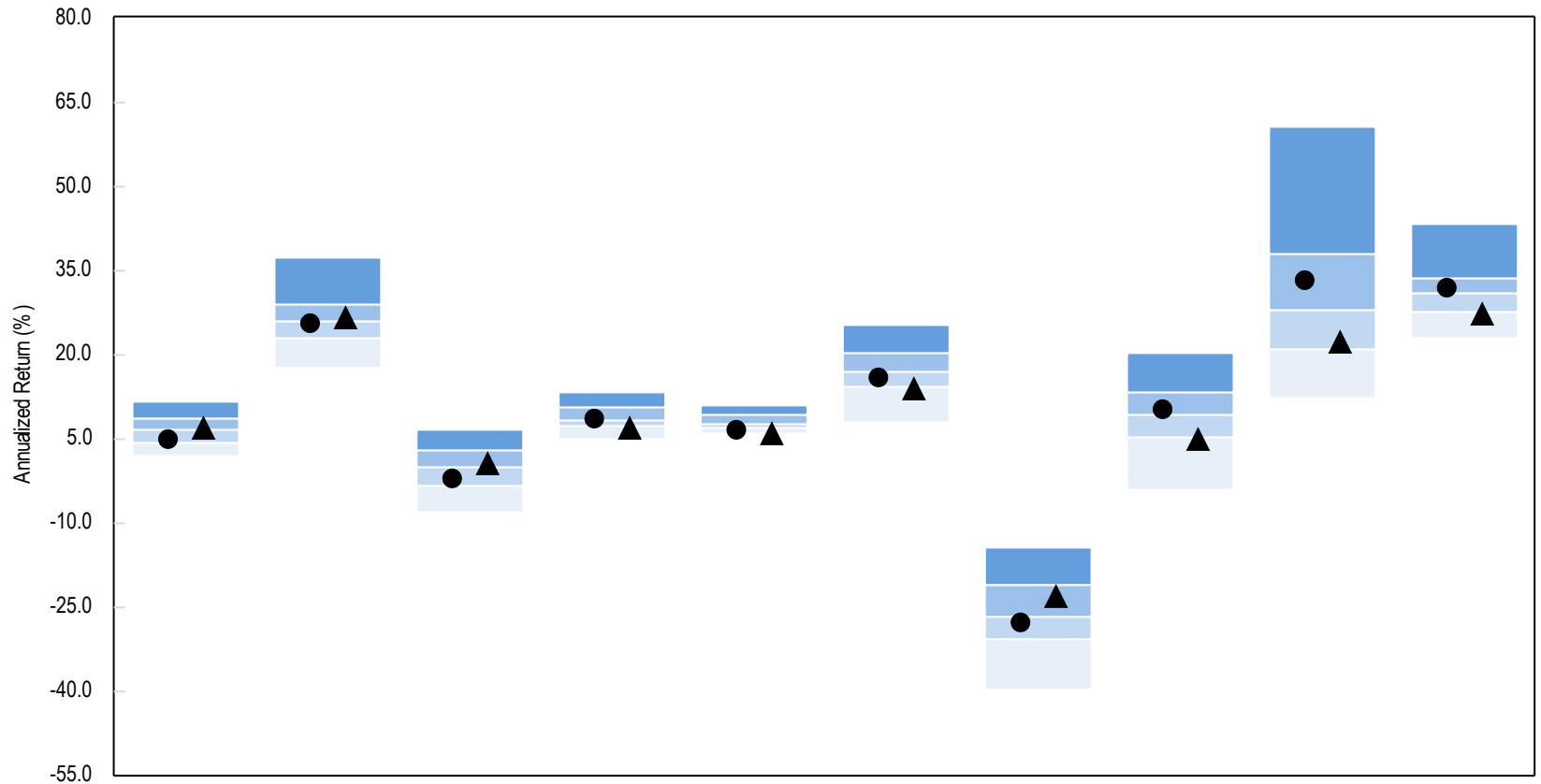
Top Contributors

Top Detractors

	End Weight (%)	Quarterly Return (%)		Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)		Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Taiwan Semiconductor Man.	3.27	0.29	DSV A/S	0.84	34.97	0.29	ASML Holding NV	2.75	-19.32	-0.53
Novo Nordisk A/S	2.11	-18.19	Chugai Pharmaceutical Co Ltd	0.77	36.38	0.28	Novo Nordisk A/S	2.85	-18.19	-0.52
Tencent Holdings LTD	2.11	20.00	London Stock Exchange Group	1.53	15.84	0.24	Disco Corp	1.18	-30.75	-0.36
SAP SE	1.87	12.31	Haleon plc	0.75	29.92	0.22	SK Hynix Inc	1.35	-22.29	-0.30
Reliance Industries Ltd	1.63	-5.82	MTU Aero Engines AG	0.97	22.10	0.21	Samsung Electronics Co Ltd	1.35	-20.57	-0.28
London Stock Exchange Group	1.54	15.84	MercadoLibre Inc	0.80	24.86	0.20	Tokyo Electron Ltd	1.16	-17.80	-0.21
3I Group PLC	1.52	14.38	Hoya Corp	1.01	18.95	0.19	Lasertec Corp	0.70	-26.45	-0.18
Astrazeneca PLC	1.44	0.13	CRH PLC	0.77	24.17	0.19	Mediatek Incorporation	1.15	-12.06	-0.14
Safran SA	1.34	11.36	3I Group PLC	1.28	14.38	0.18	BE Semiconductor Industries NV	0.56	-24.28	-0.14
PT Bank Central Asia TBK	1.30	12.52	Compass Group PLC	1.04	17.61	0.18	ICON Public Limited Company	1.10	-8.35	-0.09
			% of Portfolio	9.76		2.20	% of Portfolio	14.15		-2.75

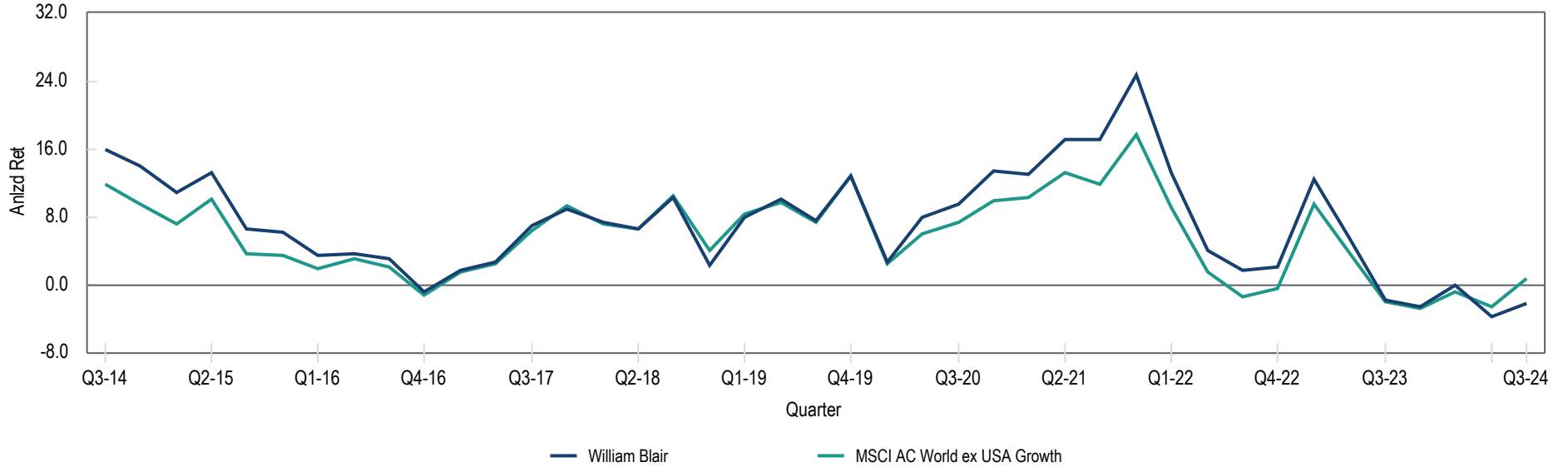
International equity growth portfolio of non-US companies with high growth rates constructed from the security level. Primary personnel include Simon Fennell and Kenneth McAtamney.

William Blair vs. eV ACWI ex-US Growth Equity Gross Universe

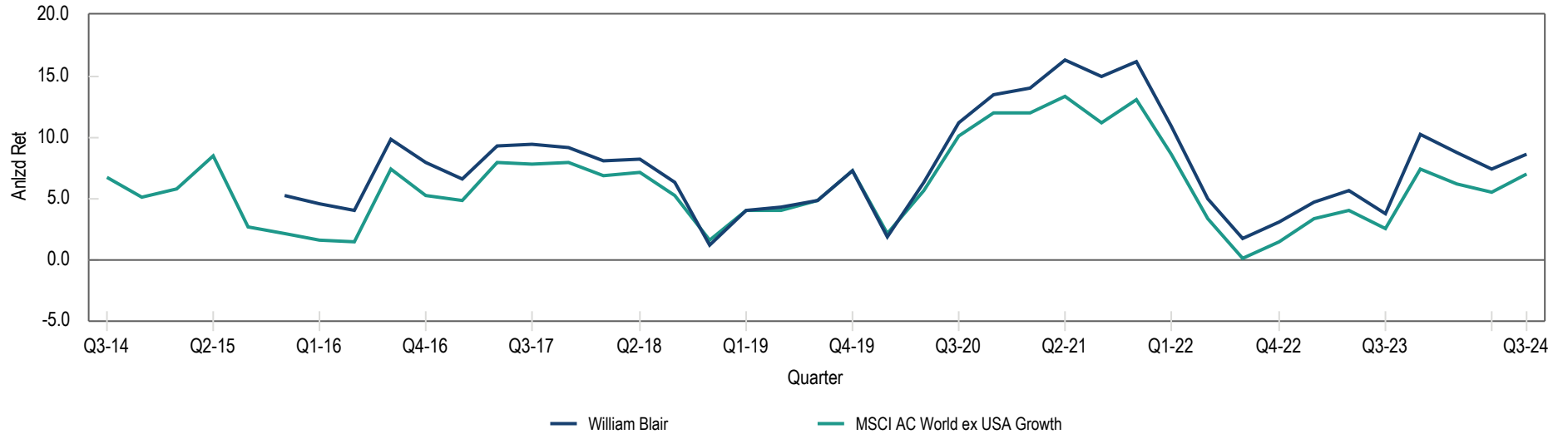


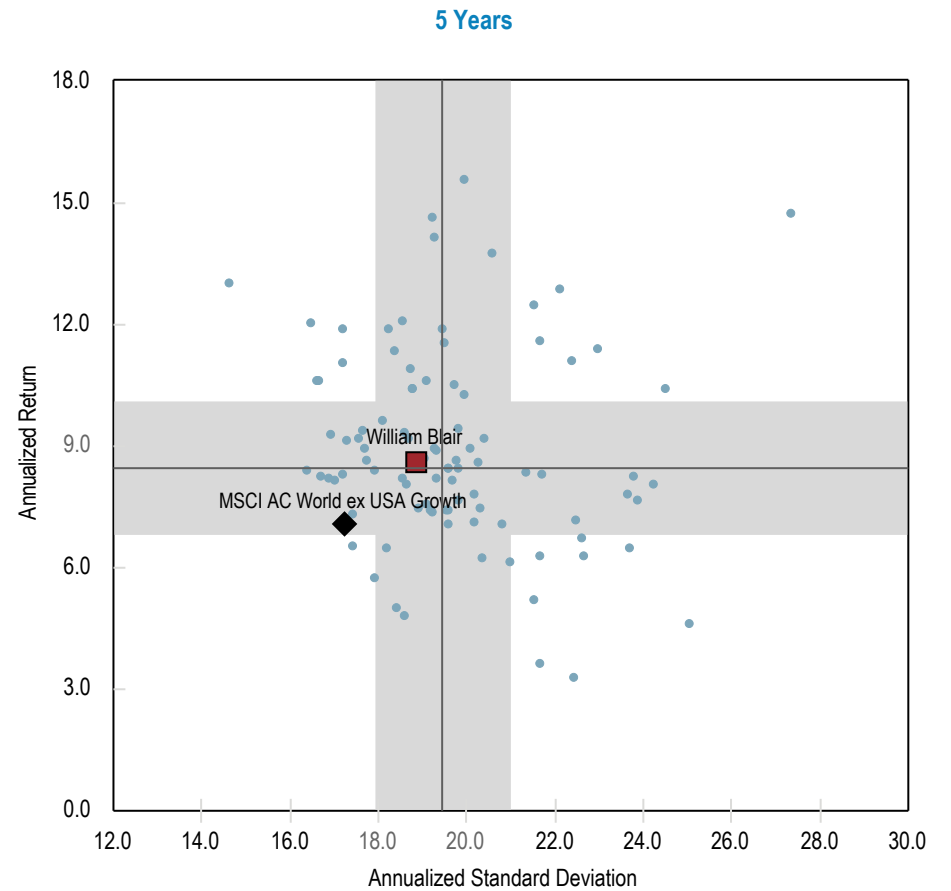
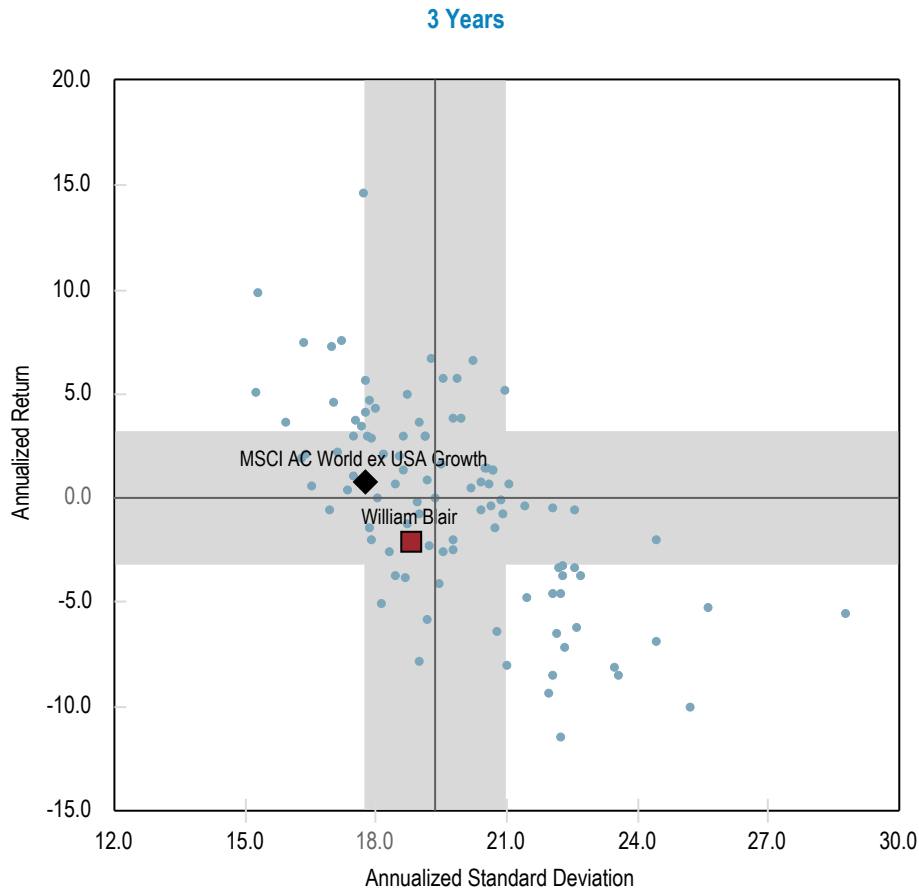
	Quarter	1 Year	3 Years	5 Years	10 Years	2023	2022	2021	2020	2019
● William Blair	4.86 (72)	25.64 (53)	-2.11 (68)	8.61 (48)	6.75 (82)	16.15 (59)	-27.75 (57)	10.48 (41)	33.25 (35)	32.01 (37)
▲ MSCI AC World ex USA Growth	6.92 (47)	26.75 (41)	0.81 (42)	7.09 (84)	5.97 (97)	14.03 (77)	-23.05 (31)	5.09 (76)	22.20 (73)	27.34 (77)
5th Percentile	11.69	37.29	6.66	13.31	11.03	25.47	-14.29	20.35	60.75	43.23
1st Quartile	8.66	29.14	2.99	10.51	9.39	20.18	-20.98	13.39	37.97	33.53
Median	6.67	25.89	0.03	8.45	7.64	17.08	-26.60	9.33	28.06	30.90
3rd Quartile	4.46	22.90	-3.35	7.44	6.93	14.18	-30.77	5.17	21.13	27.76
95th Percentile	2.01	17.80	-8.07	5.14	6.09	7.96	-39.81	-3.97	12.38	23.07
Population	102	102	101	93	71	111	115	118	113	111

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
William Blair	-2.1	18.8	-0.2
MSCI AC World ex USA Growth (Net)	0.8	17.7	-0.1
eV ACWI ex-US Growth Equity Median	0.0	19.3	-0.1
Population	101	101	101

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
William Blair	8.6	18.9	0.4
MSCI AC World ex USA Growth (Net)	7.1	17.2	0.4
eV ACWI ex-US Growth Equity Median	8.5	19.5	0.4
Population	93	93	93

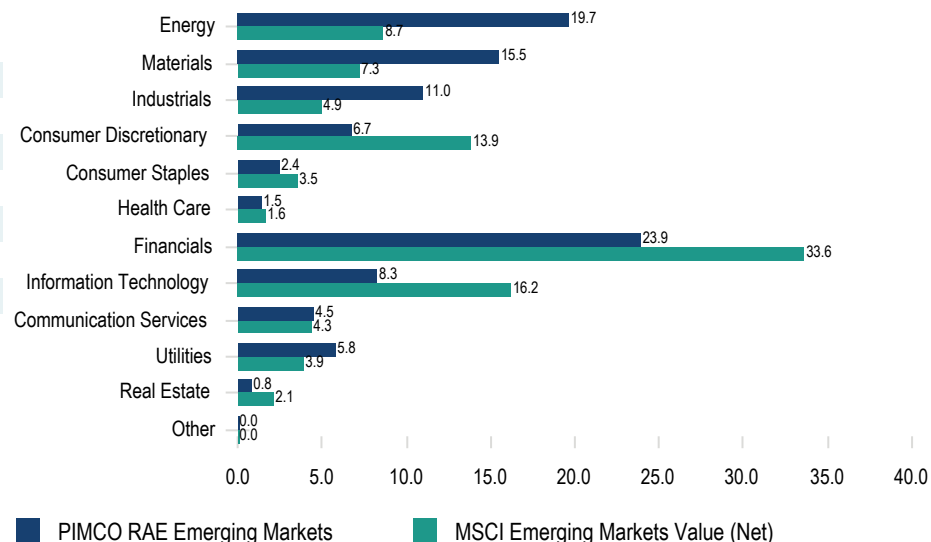
PIMCO RAE Emerging Markets Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2024

Characteristics

	Portfolio	Benchmark
Number of Stocks	361	703
Wtd. Avg. Mkt. Cap \$M	26,862.49	71,917.45
Median Mkt. Cap \$M	4,473.75	8,466.76
Price/Earnings ratio	8.06	11.42
Price/Book ratio	1.73	2.12
Return on Equity (%)	-3.93	3.42
Current Yield (%)	5.90	3.84
Beta (5 Years, Monthly)	1.05	1.00

Sector Allocation (%) vs. MSCI Emerging Markets Value (Net)



Largest Holdings

	End Weight (%)	Quarterly Return (%)
Vale SA	4.58	7.93
Petroleo Brasileiro S.A	4.27	-0.73
China Construction Bank Corp	3.86	10.54
China Petroleum & Chemical	3.45	3.71
Evergreen Marine Corp (Taiwan) Ltd	2.76	6.76
PetroChina Company Limited	2.68	-15.88
Bank of China Ltd	2.53	2.91
Vedanta Ltd	2.28	18.55
POSCO Holdings Inc	1.92	11.64
Ping An Insurance Group Co of China Ltd	1.66	46.53

Top Contributors

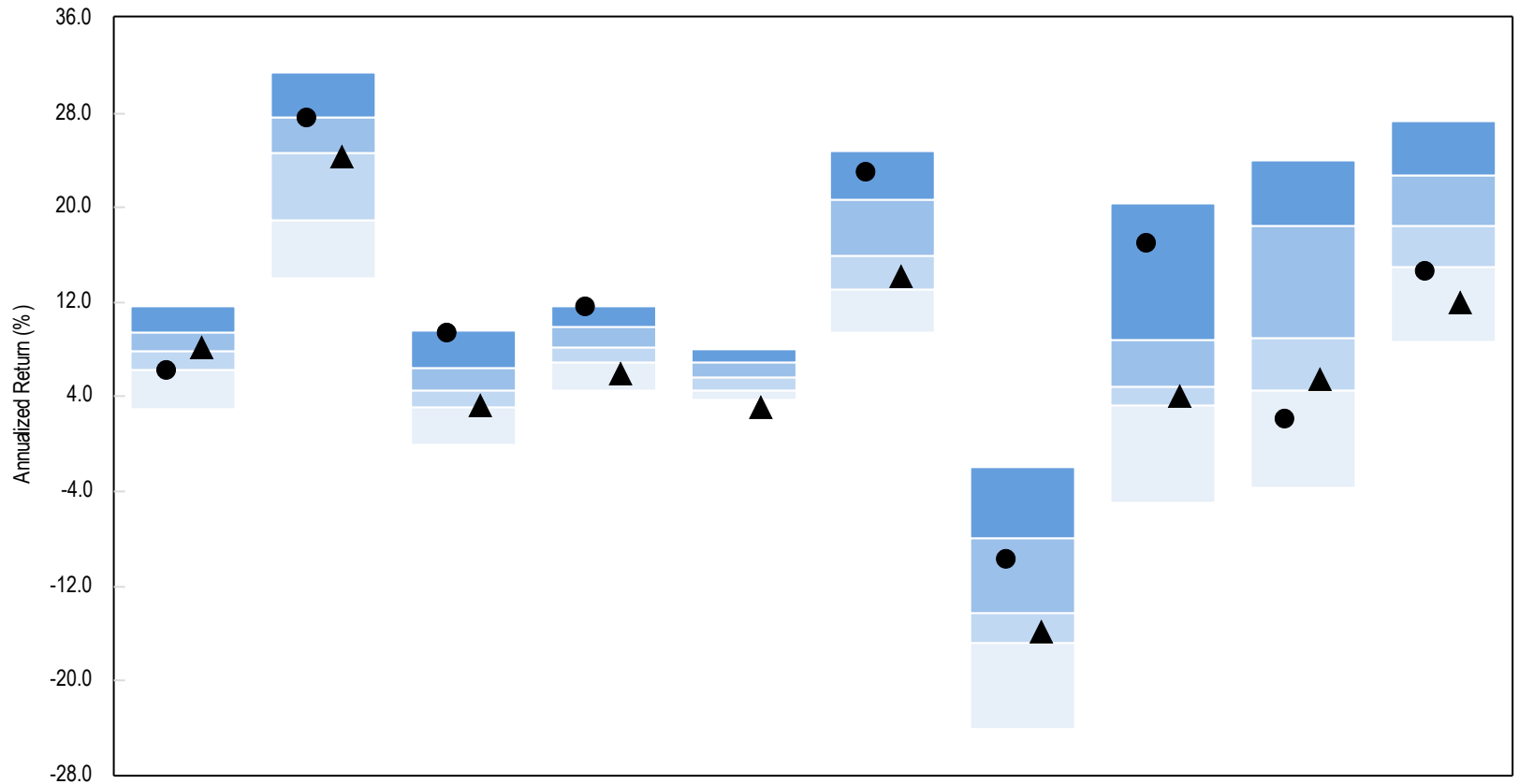
	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Ping An Insurance Group Co of China Ltd	1.24	46.53	0.58
China Construction Bank Corp	5.03	10.54	0.53
Vedanta Ltd	2.15	18.55	0.40
SCB X PCL	1.39	22.93	0.32
Vipshop Holdings Limited	1.23	20.81	0.26
POSCO Holdings Inc	2.15	11.64	0.25
Industrial & Comm. Bank of China	2.82	8.31	0.23
Indian Oil Corp Ltd	1.54	12.77	0.20
Hindustan Petroleum Corp Ltd	0.55	35.86	0.20
PICC Property & Casualty	0.72	26.41	0.19
% of Portfolio	18.82		3.15

Top Detractors

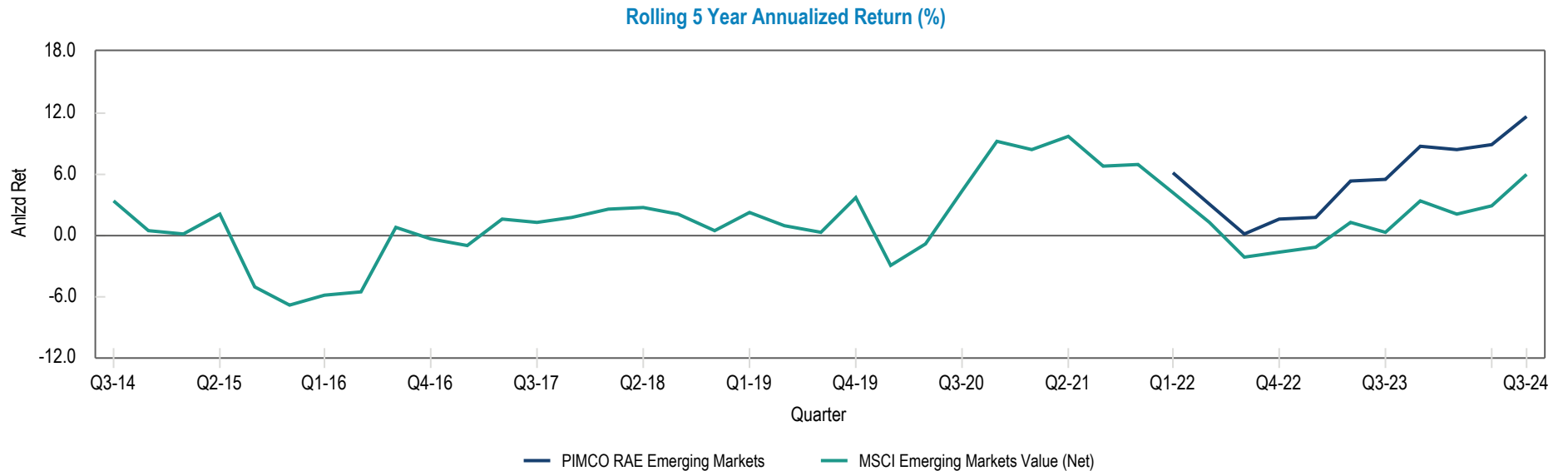
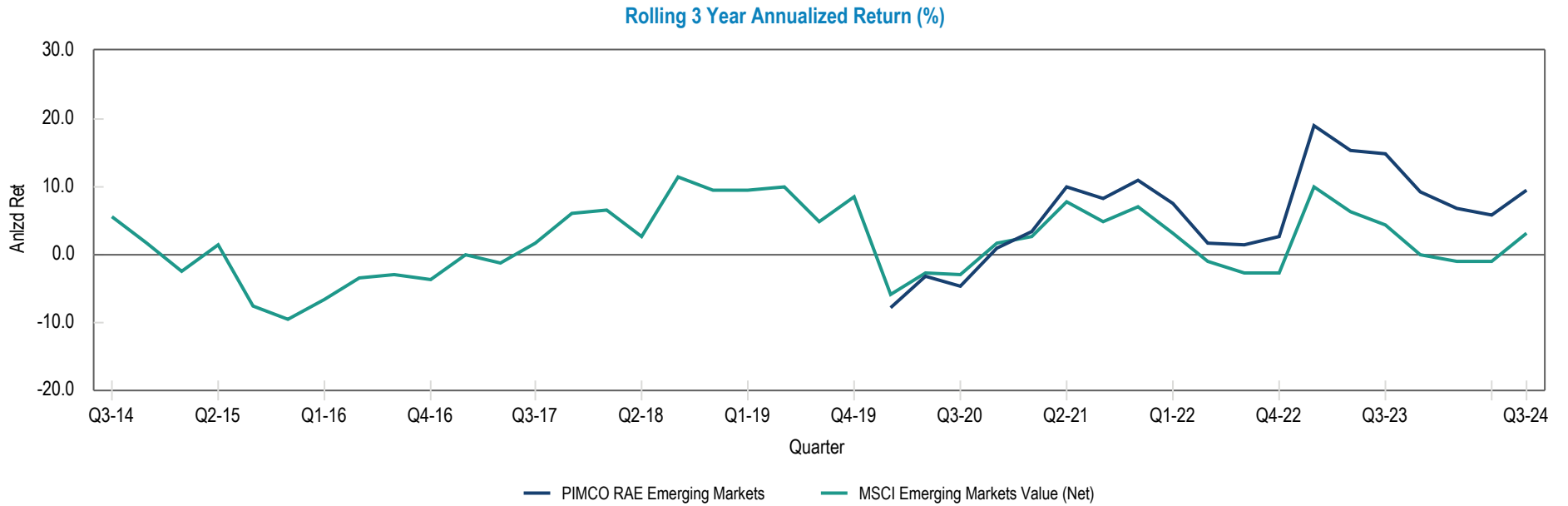
	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
PetroChina Company Limited	3.49	-15.88	-0.55
Quanta Computer Inc	1.84	-13.26	-0.24
Kia Corporation	1.13	-18.67	-0.21
Hon Hai Precision Industry	1.69	-7.81	-0.13
China Motor Co Ltd	0.27	-35.94	-0.10
Bharat Heavy Electricals Ltd	1.25	-7.41	-0.09
Powertech Technology Inc	0.41	-21.89	-0.09
Nanya Technology Corp	0.27	-30.36	-0.08
IS Yatirim Menkul Degerler A.S.	0.49	-13.96	-0.07
Doosan Corp	0.38	-17.78	-0.07
% of Portfolio	11.22		-1.64

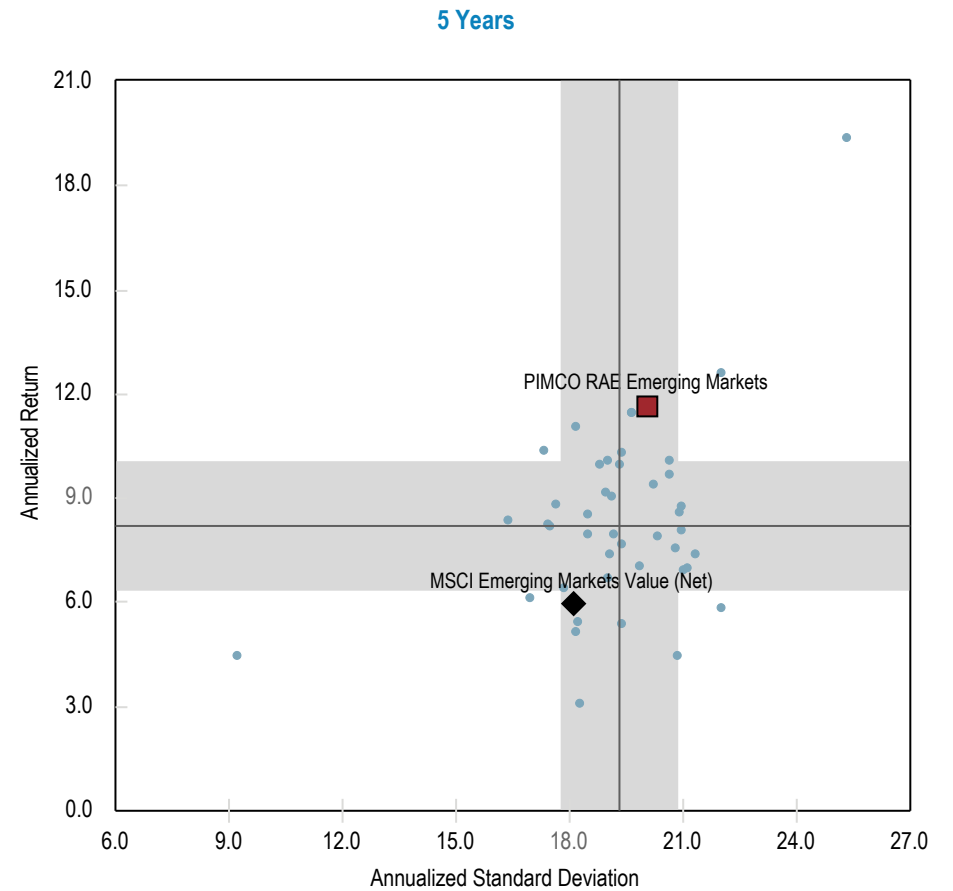
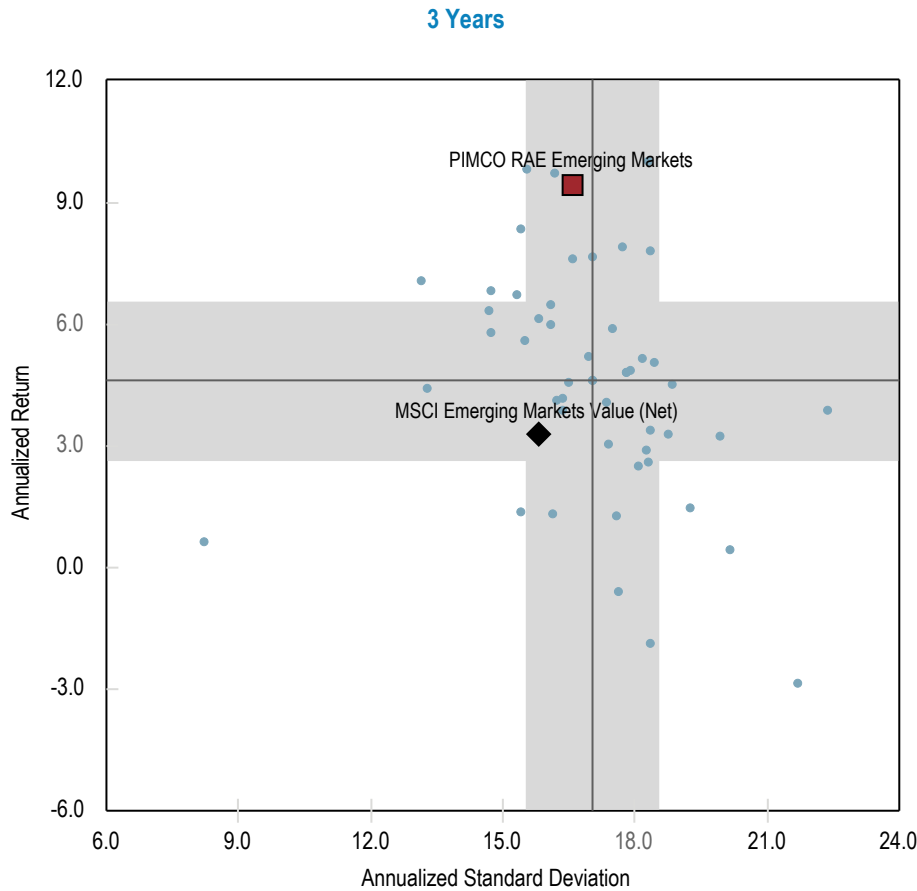
The PIMCO RAE Emerging Markets seeks to invest 80% of its assets in investments that are economically tied to emerging market countries. The portfolio is sub-advised by Research Affiliates, LLC.

PIMCO RAE Emerging Markets vs. eV Emg Mkts All Cap Value Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2023	2022	2021	2020	2019
● PIMCO RAE Emerging Markets	6.35 (74)	27.67 (25)	9.44 (7)	11.64 (5)	-	23.09 (11)	-9.66 (33)	17.08 (8)	2.13 (85)	14.63 (78)
▲ MSCI Emerging Markets Value NR	8.12 (47)	24.38 (54)	3.29 (72)	5.94 (86)	3.12 (100)	14.21 (67)	-15.83 (63)	4.00 (68)	5.48 (72)	11.96 (93)
5th Percentile	11.72	31.41	9.66	11.61	8.02	24.75	-1.92	20.32	23.96	27.29
1st Quartile	9.45	27.63	6.43	10.00	6.94	20.68	-7.96	8.87	18.49	22.65
Median	7.91	24.63	4.61	8.21	5.65	15.92	-14.26	4.87	8.93	18.51
3rd Quartile	6.28	18.92	3.14	6.97	4.59	13.06	-16.84	3.27	4.50	15.01
95th Percentile	2.97	14.10	-0.09	4.56	3.69	9.52	-24.07	-4.86	-3.63	8.63
Population	53	53	51	44	32	53	58	57	59	60





3 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
PIMCO RAE Emerging Markets	9.4	16.6	0.4
MSCI Emerging Markets Value (Net)	3.3	15.8	0.1
eV Emg Mkts All Cap Value Equity Median	4.6	17.0	0.1
Population	51	51	51

5 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
PIMCO RAE Emerging Markets	11.6	20.1	0.5
MSCI Emerging Markets Value (Net)	5.9	18.1	0.3
eV Emg Mkts All Cap Value Equity Median	8.2	19.3	0.4
Population	44	44	44

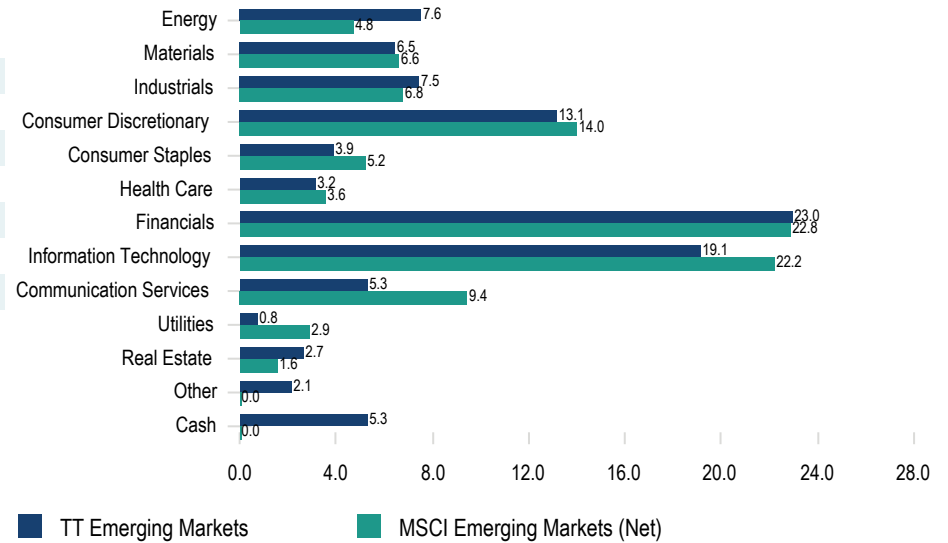
TT Emerging Markets
Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2024

Characteristics

	Portfolio	Benchmark
Number of Stocks	100	1,277
Wtd. Avg. Mkt. Cap \$M	131,071.23	153,636.76
Median Mkt. Cap \$M	14,382.41	8,154.72
Price/Earnings ratio	16.04	15.68
Price/Book ratio	2.78	2.93
Return on Equity (%)	5.59	4.64
Current Yield (%)	1.94	2.59
Beta (5 Years, Monthly)	1.13	1.00

Sector Allocation (%) vs. MSCI Emerging Markets (Net)



Largest Holdings

End of Year Weight (%)	Quarterly Return (%)
Taiwan Semiconductor Man.	8.99 1.99
Tencent Holdings LTD	3.86 0.00
Ypf Sociedad Anonima	3.09 5.42
Alibaba Group Holding Ltd	2.80 6.83
Vista Energy SAB de CV	2.57 2.86
Capstone Copper Corp	2.48 0.37
Grupo Financiero Galicia Sa, Buenos Aires	2.42 3.87
SK Hynix Inc	2.34 2.29
Akbank T A S	2.32 7.77
PDD Holdings Inc	2.29 1.40

Top Contributors

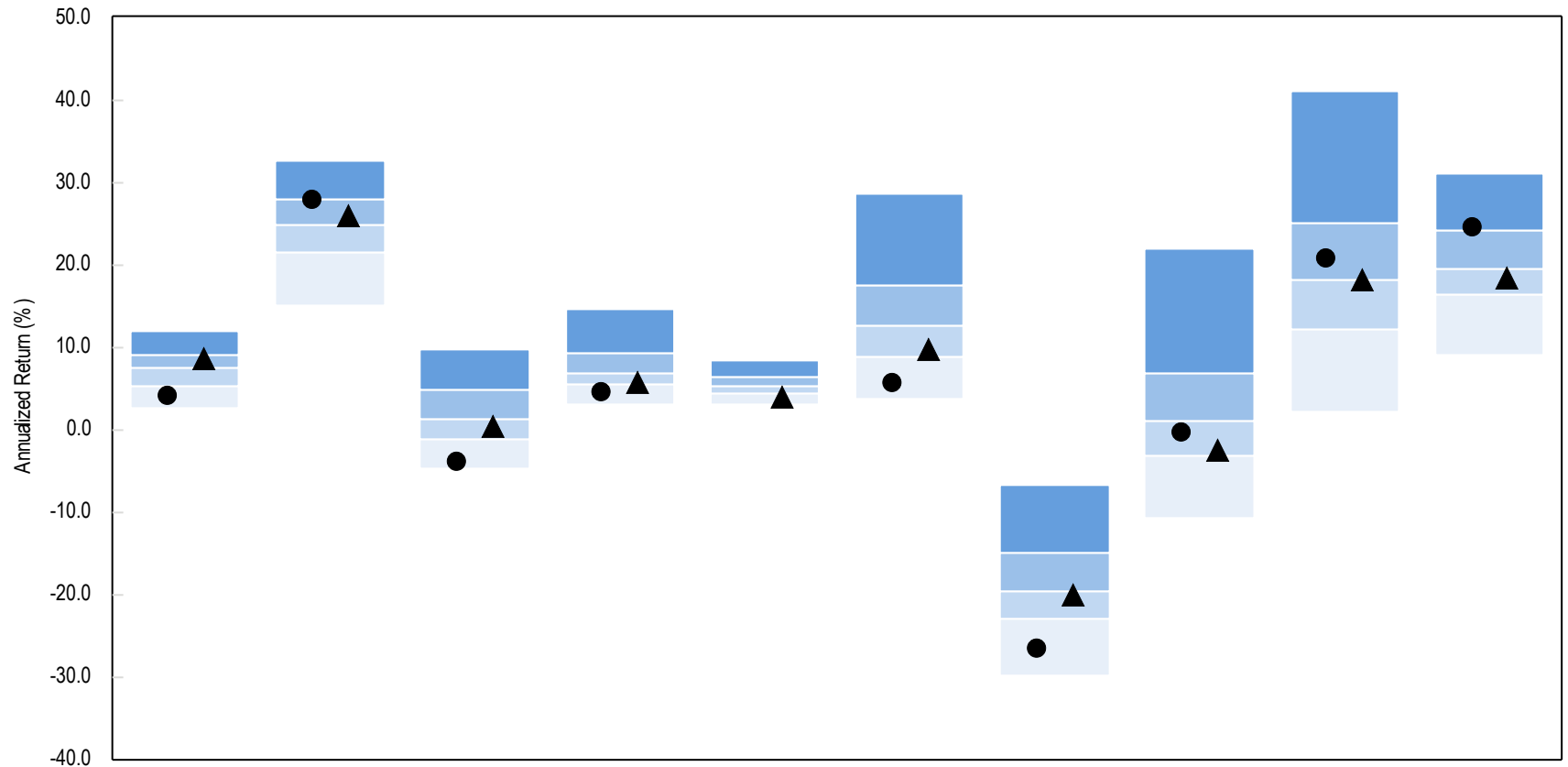
Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)	
Alibaba Group Holding Ltd	1.87	56.83	1.07
Qifu Technology Inc	1.93	54.15	1.05
MercadoLibre Inc	2.63	24.86	0.65
Tencent Holdings LTD	2.93	20.00	0.59
Meituan	0.93	55.61	0.52
PT Bank Mandiri TBK	1.41	21.79	0.31
Taiwan Semiconductor Man.	13.10	1.99	0.26
Samsung Biologics Co Ltd	0.56	41.46	0.23
Prosus NV	0.98	22.92	0.22
Trip com Group Ltd	0.69	31.75	0.22
% of Portfolio	27.03		5.11

Top Detractors

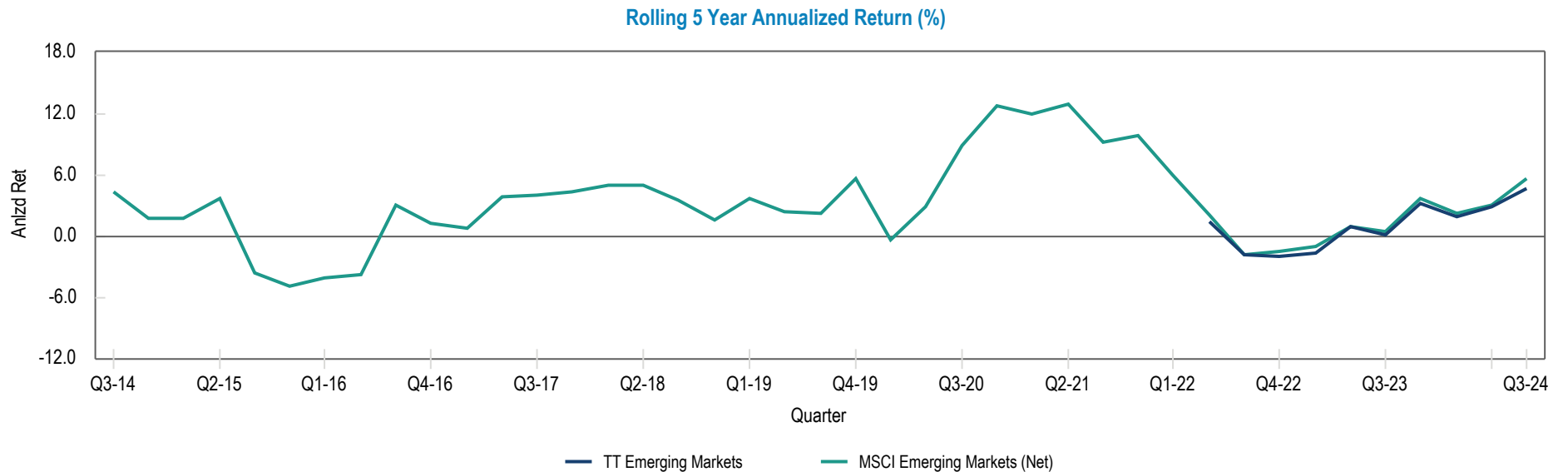
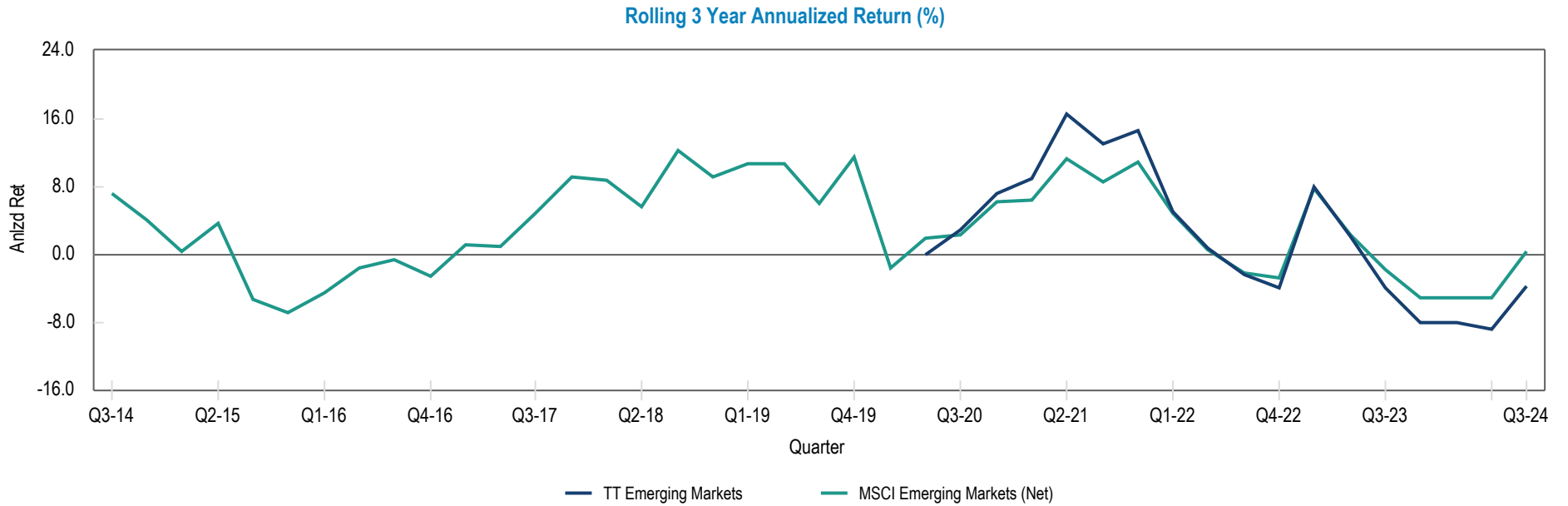
Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)	
SK Hynix Inc	3.13	-22.29	-0.70
Samsung Electronics Co Ltd	3.29	-20.57	-0.68
Samsung Electronics Co Ltd	3.49	-15.76	-0.55
Kia Corporation	2.28	-18.67	-0.43
Unimicron Technology Corp	2.13	-16.69	-0.36
Amkor Technology Inc	1.24	-23.33	-0.29
Ypf Sociedad Anonima	3.06	-8.85	-0.27
Sendas Distribuidora S.A.	0.92	-26.32	-0.24
Grupo Financiero Banorte	2.53	-8.72	-0.22
Hansol Chemience Co Ltd	0.95	-22.57	-0.21
% of Portfolio	23.02		-3.94

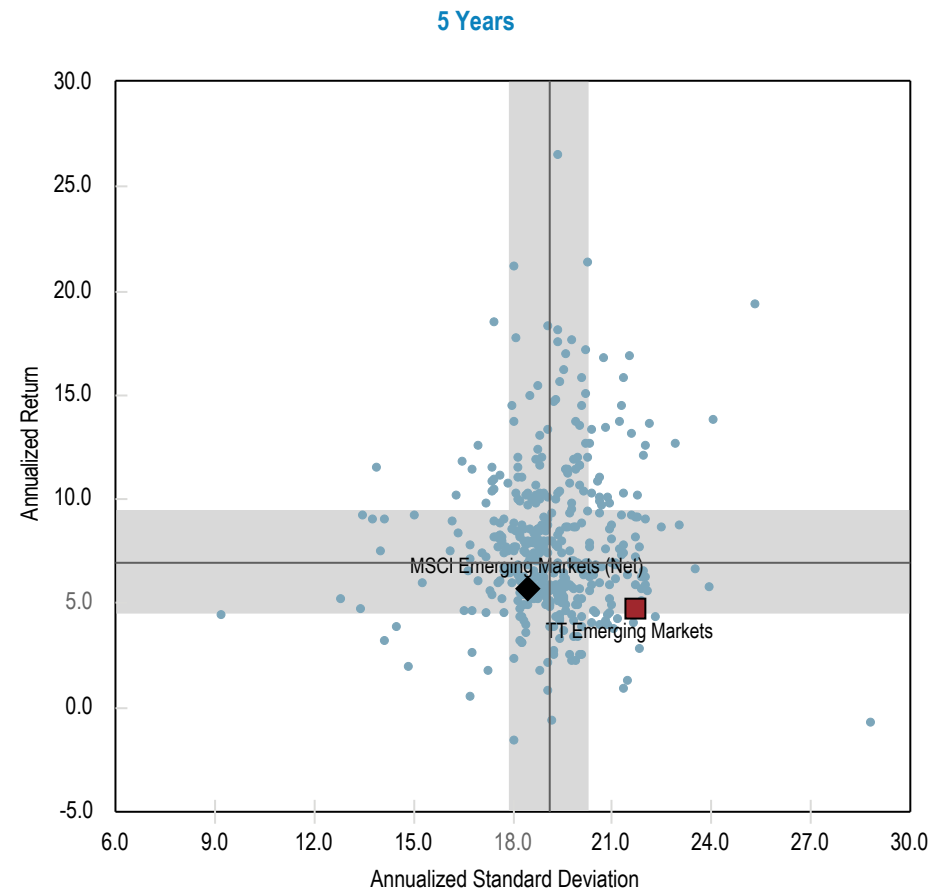
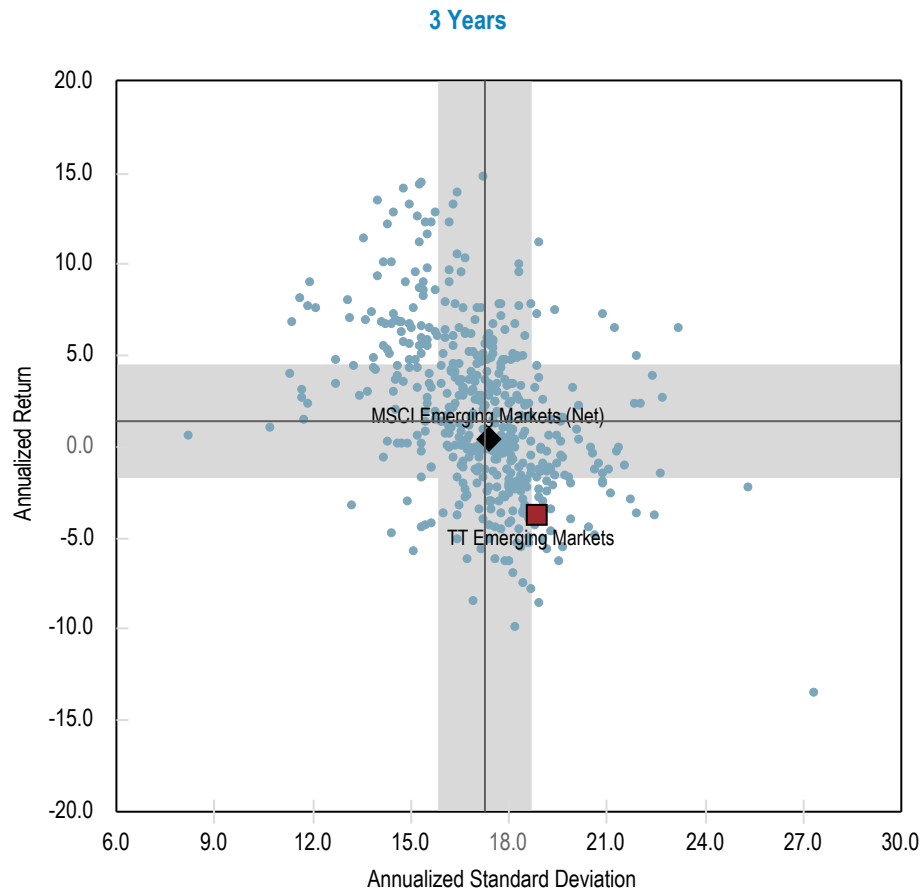
The Emerging Markets Unconstrained strategy aims to outperform its benchmark, MSCI Emerging Markets Index by 5% per annum over a three-year rolling period. It targets high returns and long term capital growth by investing in a focused portfolio of primarily equity and equity-related securities traded in the Emerging Markets.

TT Emerging Markets vs. eV Emg Mkts Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2023	2022	2021	2020	2019
● TT Emerging Markets	4.12 (87)	27.98 (26)	-3.73 (92)	4.74 (86)	-	5.80 (91)	-26.36 (90)	-0.23 (59)	20.79 (39)	24.77 (23)
▲ MSCI Emerging Markets	8.72 (29)	26.05 (41)	0.40 (58)	5.75 (70)	4.02 (83)	9.83 (66)	-20.09 (57)	-2.54 (72)	18.31 (51)	18.42 (62)
5th Percentile	12.06	32.74	9.77	14.72	8.42	28.68	-6.68	22.07	41.01	31.04
1st Quartile	9.02	27.99	4.83	9.31	6.33	17.65	-14.89	6.88	25.07	24.26
Median	7.48	24.98	1.39	6.99	5.36	12.58	-19.50	1.12	18.33	19.61
3rd Quartile	5.41	21.56	-1.15	5.50	4.50	8.96	-22.96	-3.05	12.28	16.50
95th Percentile	2.60	15.17	-4.65	3.14	3.04	3.73	-29.67	-10.70	2.14	9.03
Population	526	526	494	438	315	548	579	587	585	607





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
TT Emerging Markets	-3.7	18.9	-0.3
MSCI Emerging Markets (Net)	0.4	17.4	-0.1
eV Emg Mkts Equity Median	1.4	17.3	0.0
Population	494	494	494

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
TT Emerging Markets	4.7	21.7	0.2
MSCI Emerging Markets (Net)	5.7	18.5	0.3
eV Emg Mkts Equity Median	7.0	19.1	0.3
Population	438	438	438

Global Equity Managers

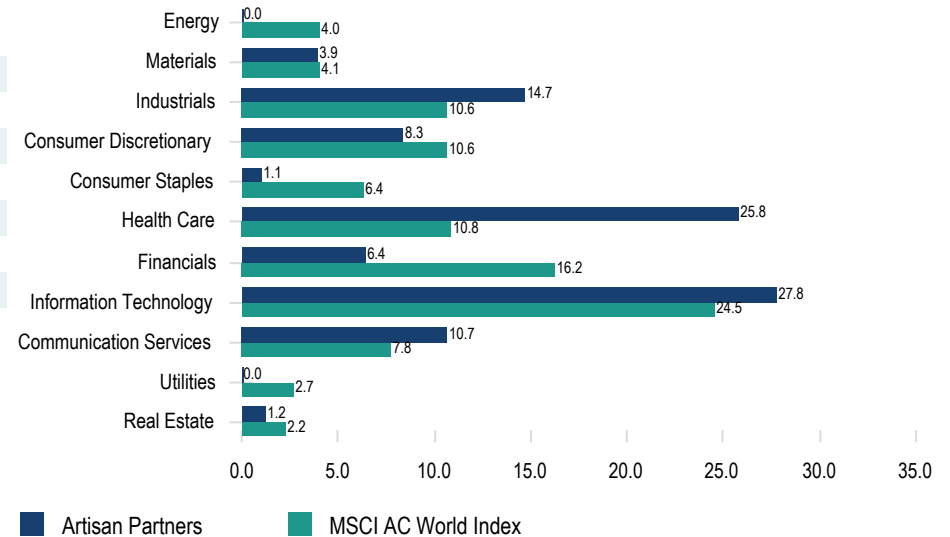
Artisan Partners Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2024

Characteristics

	Portfolio	Benchmark
Number of Stocks	47	2,687
Wtd. Avg. Mkt. Cap \$M	410,291.50	640,634.21
Median Mkt. Cap \$M	106,209.24	13,516.68
Price/Earnings ratio	42.77	22.13
Price/Book ratio	6.31	3.97
Return on Equity (%)	5.56	8.54
Current Yield (%)	0.63	1.87
Beta (5 Years, Monthly)	0.98	1.00

Sector Allocation (%) vs. MSCI AC World Index



Largest Holdings

	End Weight (%)	Quarterly Return (%)
Advanced Micro Devices Inc	5.12	1.15
Boston Scientific Corp	5.06	8.82
Netflix Inc	4.19	5.10
Taiwan Semiconductor Man.	4.09	0.29
Novo Nordisk A/S	3.79	-18.19
Techtronic Industries Co Ltd	3.78	34.45
London Stock Exchange Group	3.64	15.84
arGEN-X SE	3.46	26.05
Tencent Holdings LTD	3.18	20.00
Adidas AG	3.04	11.09

Top Contributors

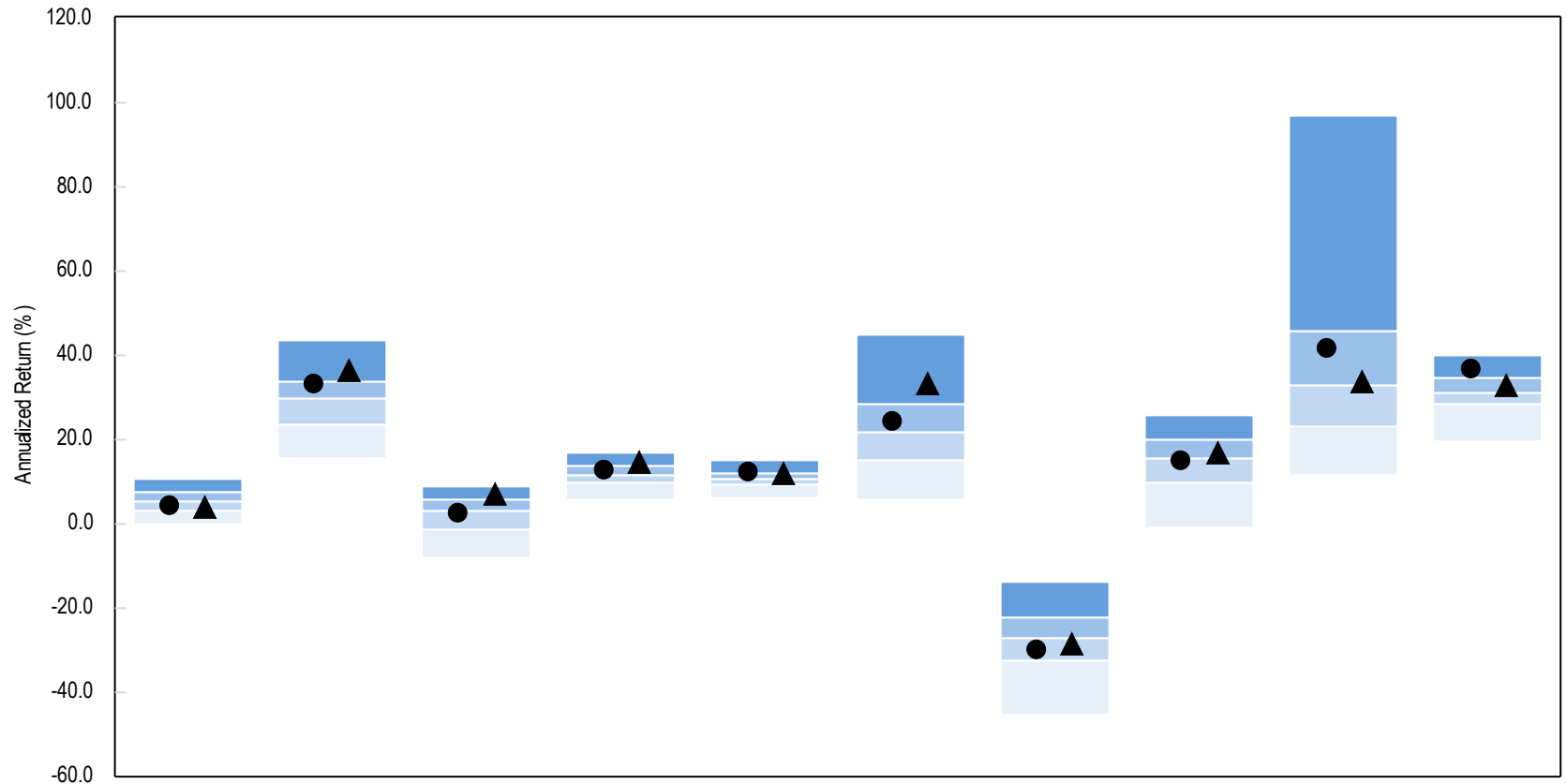
	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Techtronic Industries Co Ltd	3.42	34.45	1.18
arGEN-X SE	2.38	26.05	0.62
London Stock Exchange Group	3.32	15.84	0.53
Boston Scientific Corp	5.89	8.82	0.52
Veeva Systems Inc	2.73	14.68	0.40
LONZA GROUP AG	2.46	16.13	0.40
Tencent Holdings LTD	1.78	20.00	0.36
Quanta Services Inc.	1.90	17.38	0.33
Hoya Corp	1.65	18.95	0.31
S&P Global Inc	1.87	16.04	0.30
% of Portfolio	27.40		4.94

Top Detractors

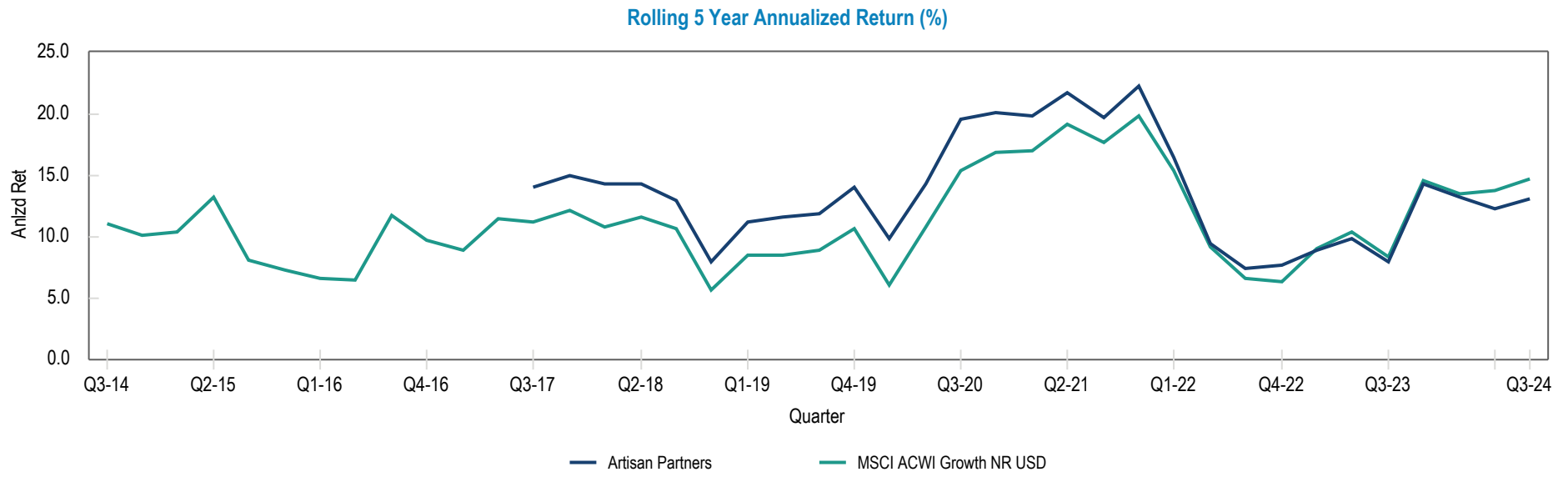
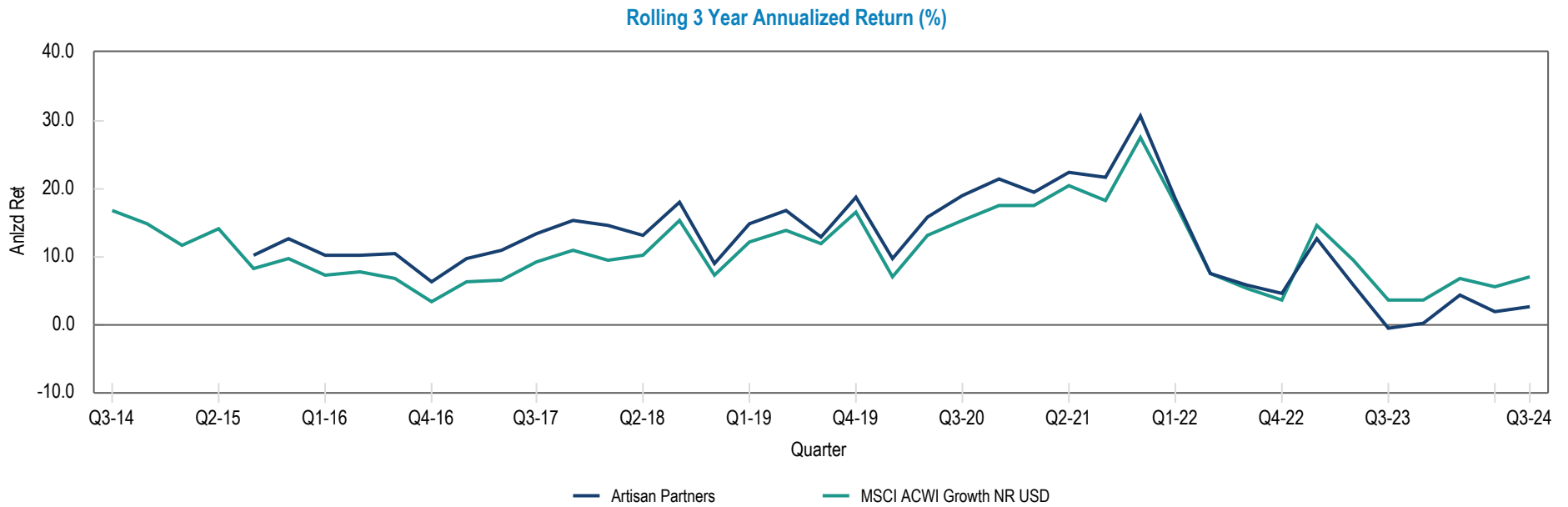
	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Novo Nordisk A/S	7.03	-18.19	-1.28
DexCom Inc	1.54	-40.87	-0.63
Alphabet Inc	3.52	-8.83	-0.31
Atlassian Corp	2.82	-10.22	-0.29
Intuit Inc.	3.95	-5.37	-0.21
Airbnb Inc	1.11	-16.37	-0.18
Amazon.com Inc	3.72	-3.58	-0.13
Microsoft Corp	3.65	-3.55	-0.13
West Pharmaceutical Services Inc.	1.33	-8.81	-0.12
Hexagon AB	1.68	-4.65	-0.08
% of Portfolio	30.35		-3.36

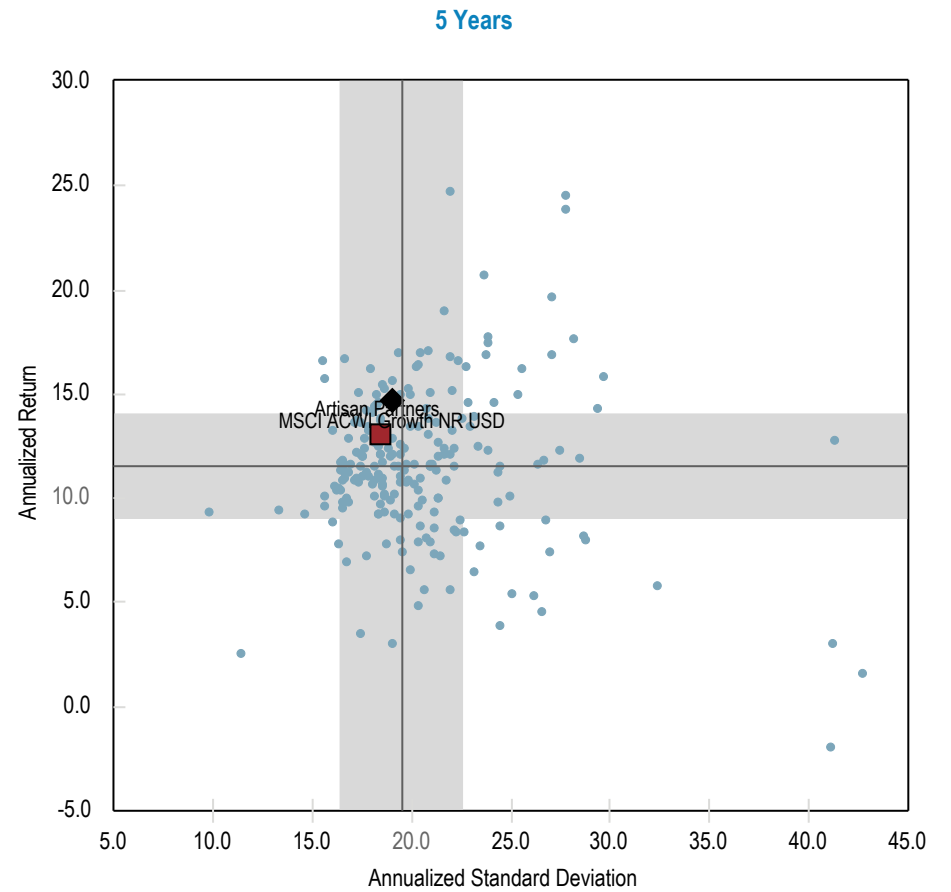
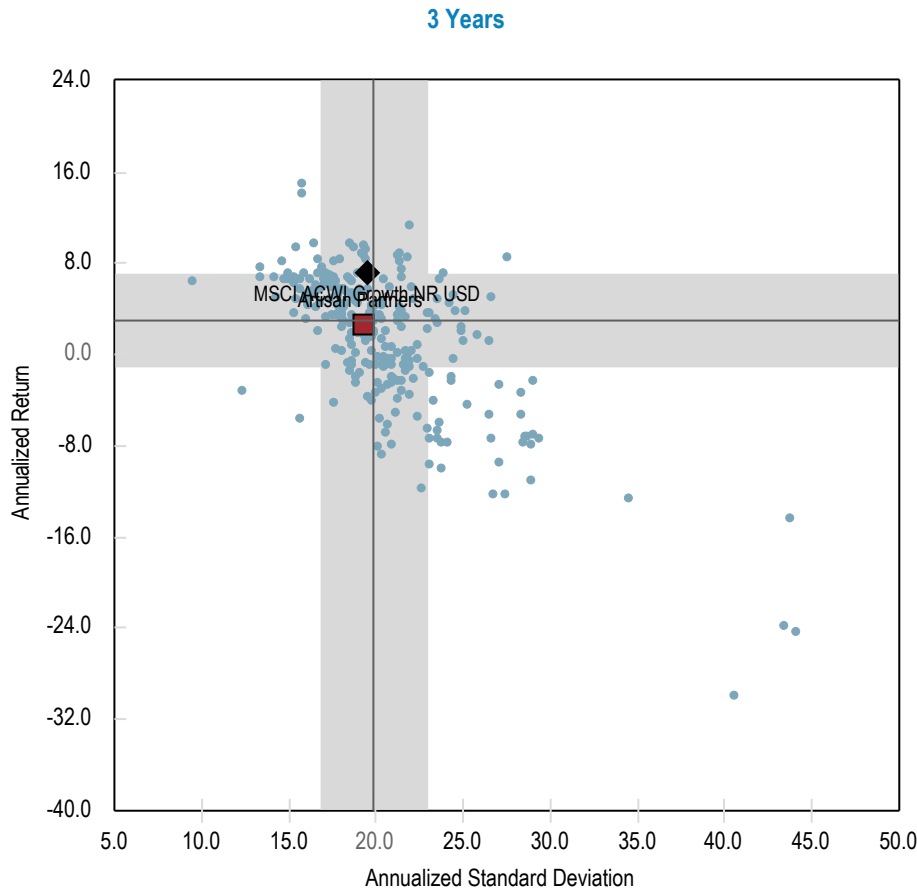
Global equity portfolio of companies that is benchmark agnostic with accelerating profit cycles and a focus on capital allocation. Primary personnel include James Hamel, Craigh Cepukenas, and Matthew Kamm.

Artisan Partners vs. eV Global Growth Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2023	2022	2021	2020	2019
● Artisan Partners	4.43 (63)	33.52 (27)	2.71 (52)	13.07 (31)	12.48 (20)	24.54 (38)	-29.59 (60)	14.99 (56)	41.66 (33)	37.00 (12)
▲ MSCI ACWI Growth NR USD	4.07 (67)	36.45 (18)	7.18 (12)	14.70 (17)	11.78 (27)	33.22 (17)	-28.61 (56)	17.10 (43)	33.60 (49)	32.72 (37)
5th Percentile	10.83	43.54	8.68	16.96	14.93	44.80	-13.98	25.95	96.98	40.08
1st Quartile	7.39	33.96	5.70	13.62	11.94	28.48	-22.14	19.83	45.72	34.65
Median	5.35	29.75	3.02	11.56	10.46	21.68	-27.16	15.65	32.85	31.28
3rd Quartile	3.29	23.44	-1.45	9.79	9.26	15.31	-32.26	9.87	23.22	28.24
95th Percentile	0.00	15.53	-8.13	5.56	6.21	5.61	-45.47	-0.67	11.41	19.44
Population	278	276	257	216	133	292	297	284	266	250





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Artisan Partners	2.7	19.3	0.1
MSCI ACWI Growth NR USD	7.2	19.5	0.3
eV Global Growth Equity Median	3.0	19.9	0.1
Population	257	257	257

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Artisan Partners	13.1	18.5	0.6
MSCI ACWI Growth NR USD	14.7	19.1	0.7
eV Global Growth Equity Median	11.6	19.5	0.5
Population	216	216	216

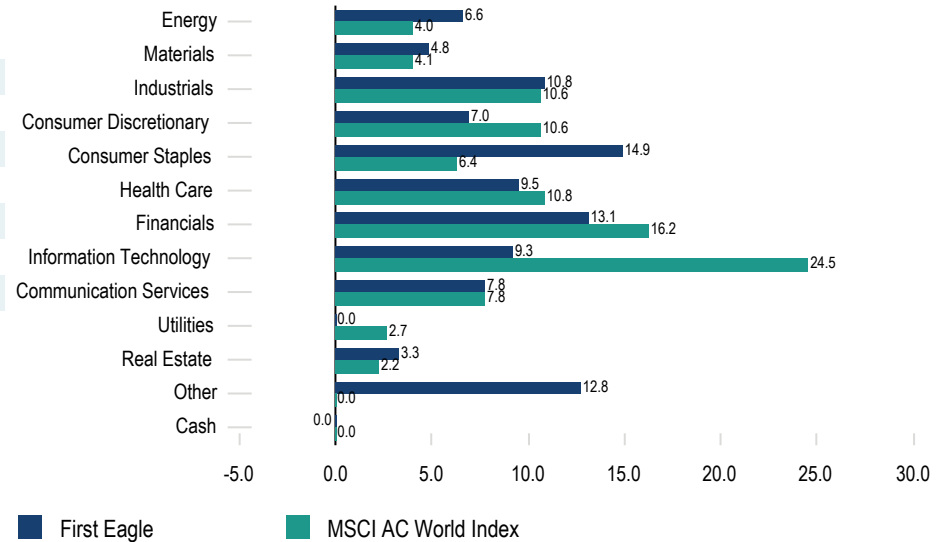
First Eagle Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2024

Characteristics

	Portfolio	Benchmark
Number of Stocks	123	2,687
Wtd. Avg. Mkt. Cap \$M	199,229.37	640,634.21
Median Mkt. Cap \$M	31,708.65	13,516.68
Price/Earnings ratio	19.24	22.13
Price/Book ratio	2.56	3.97
Return on Equity (%)	10.32	8.54
Current Yield (%)	2.14	1.87
Beta (5 Years, Monthly)	0.75	1.00

Sector Allocation (%) vs. MSCI AC World Index



Largest Holdings

	End Weight (%)	Quarterly Return (%)
SPDR Gold Trust	12.75	13.05
Oracle Corp	3.31	21.02
Meta Platforms Inc	2.81	13.64
HCA Healthcare Inc	2.23	26.71
Exxon Mobil Corp	2.10	2.64
Philip Morris International Inc	1.86	21.14
Alphabet Inc	1.74	-8.73
C.H. Robinson Worldwide Inc.	1.69	26.02
Comcast Corp	1.69	7.53
Schlumberger Ltd	1.57	-10.49

Top Contributors

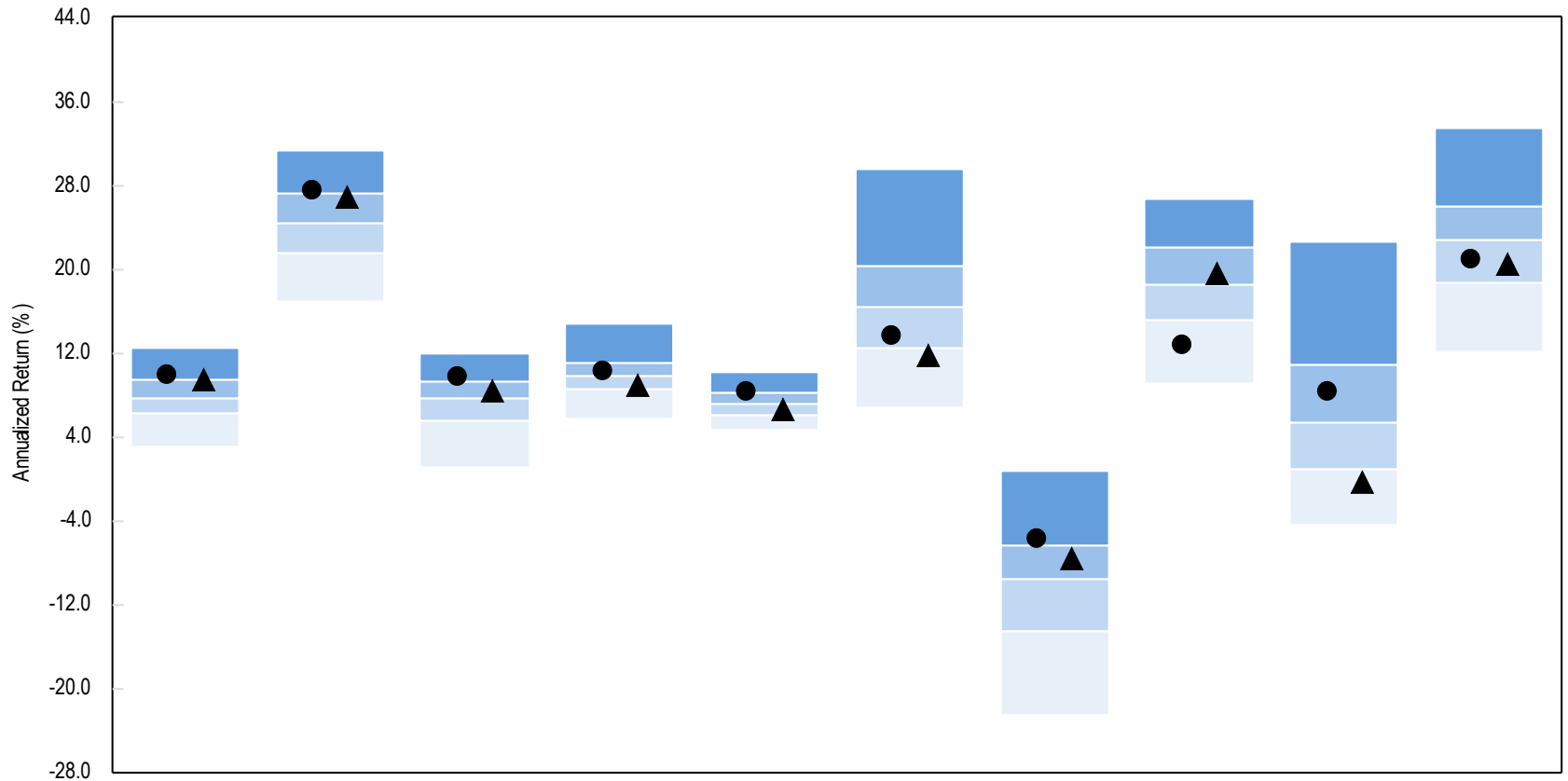
	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
SPDR Gold Trust	12.22	13.05	1.59
Oracle Corp	2.82	21.02	0.59
HCA Healthcare Inc	1.82	26.71	0.49
Alibaba Group Holding Ltd	0.66	56.83	0.37
C.H. Robinson Worldwide Inc.	1.39	26.02	0.36
Meta Platforms Inc	2.55	13.64	0.35
Philip Morris International Inc	1.46	21.14	0.31
Universal Health Services	1.13	23.94	0.27
Bank of New York Mellon Corp (The)	1.25	20.88	0.26
Unilever PLC	1.36	19.14	0.26
% of Portfolio	26.66		4.86

Top Detractors

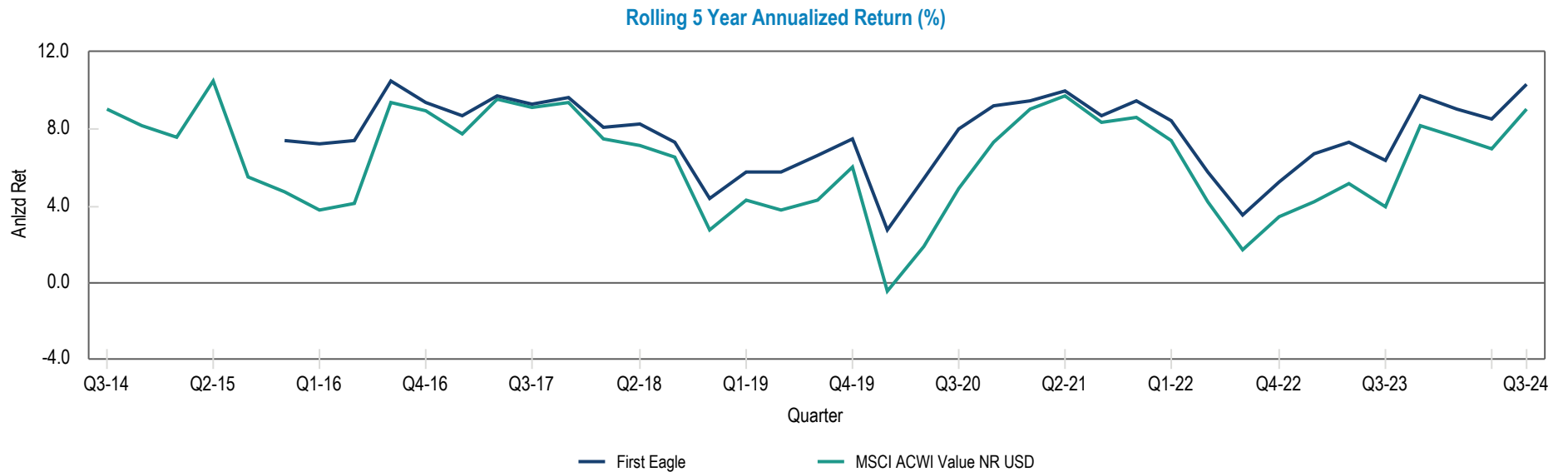
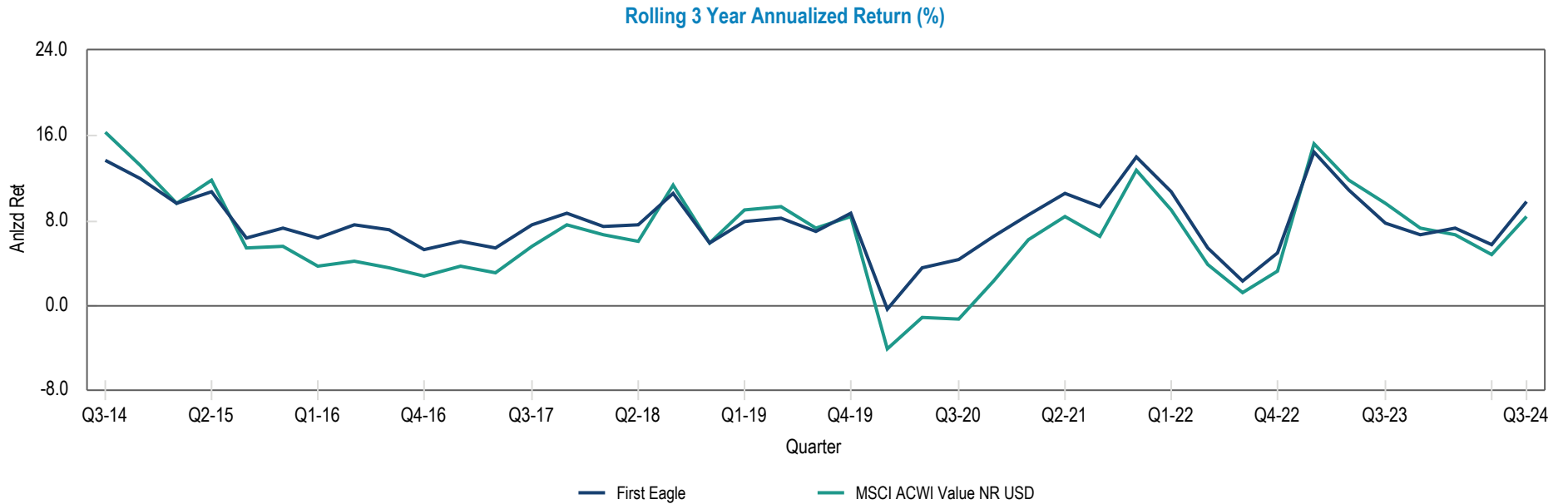
	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Schlumberger Ltd	1.82	-10.49	-0.19
Alphabet Inc	1.97	-8.73	-0.17
NOV Inc	0.99	-15.59	-0.15
Fomento Economico Mexican	1.02	-7.49	-0.08
IPG Photonics Corp	0.48	-11.93	-0.06
Samsung Electronics Co Ltd	0.35	-15.76	-0.06
Alphabet Inc	0.63	-8.83	-0.06
Elevance Health Inc	1.27	-3.75	-0.05
Schwab (Charles) Corp	0.39	-11.70	-0.05
Noble Corporation Plc	0.17	-17.88	-0.03
% of Portfolio	9.09		-0.89

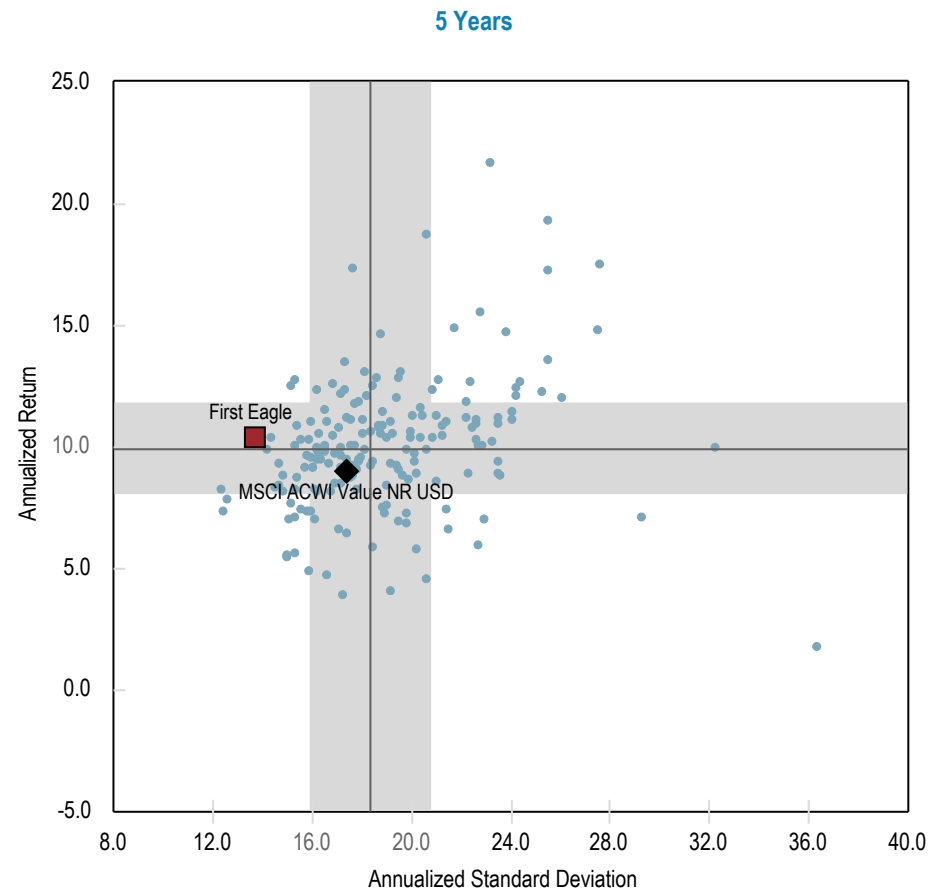
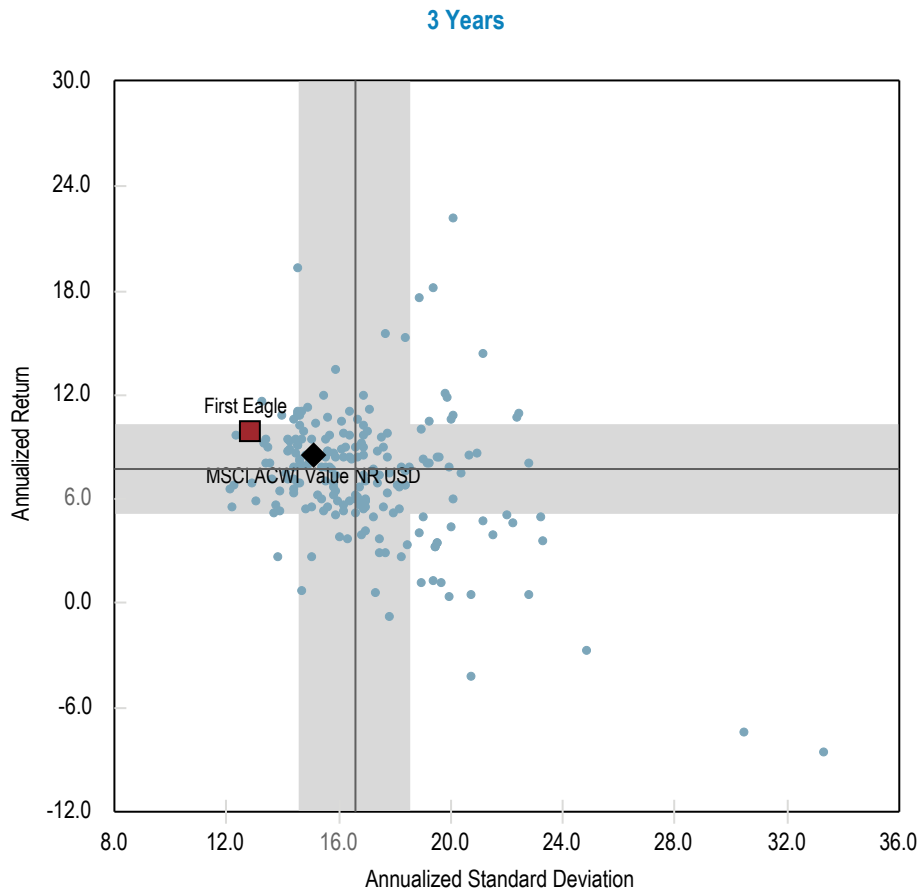
Global equity portfolio that is benchmark agnostic comprised of companies with low valuations. Primary personnel include Matt McLennan and Kimball Brooker.

First Eagle vs. eV Global Value Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2023	2022	2021	2020	2019
● First Eagle	9.97 (20)	27.65 (22)	9.87 (18)	10.40 (42)	8.51 (23)	13.75 (66)	-5.61 (22)	12.95 (86)	8.47 (33)	21.01 (64)
▲ MSCI ACWI Value NR USD	9.42 (27)	26.89 (27)	8.49 (37)	9.04 (69)	6.65 (68)	11.81 (80)	-7.55 (35)	19.62 (42)	-0.33 (80)	20.59 (66)
5th Percentile	12.45	31.42	11.95	14.78	10.26	29.56	0.87	26.73	22.60	33.59
1st Quartile	9.52	27.29	9.38	11.20	8.32	20.39	-6.24	22.19	11.02	26.09
Median	7.72	24.37	7.72	9.94	7.27	16.39	-9.44	18.62	5.41	22.80
3rd Quartile	6.23	21.68	5.58	8.58	6.20	12.51	-14.55	15.15	1.06	18.81
95th Percentile	3.05	17.03	1.20	5.80	4.65	6.76	-22.50	9.07	-4.30	12.25
Population	222	219	204	183	137	230	231	232	239	235





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
First Eagle	9.9	12.9	0.5
MSCI ACWI Value NR USD	8.5	15.1	0.4
eV Global Value Equity Median	7.7	16.6	0.3
Population	204	204	204

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
First Eagle	10.4	13.7	0.6
MSCI ACWI Value NR USD	9.0	17.3	0.5
eV Global Value Equity Median	9.9	18.3	0.5
Population	183	183	183

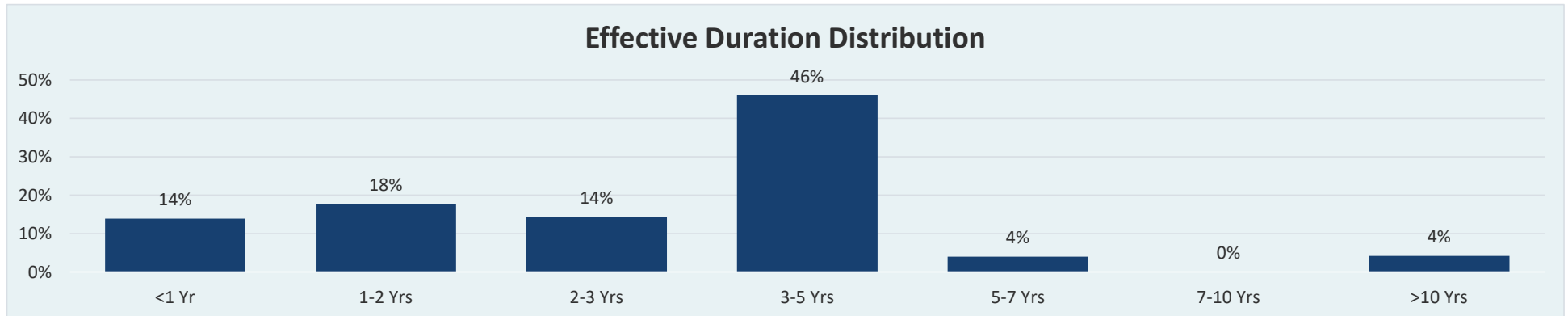
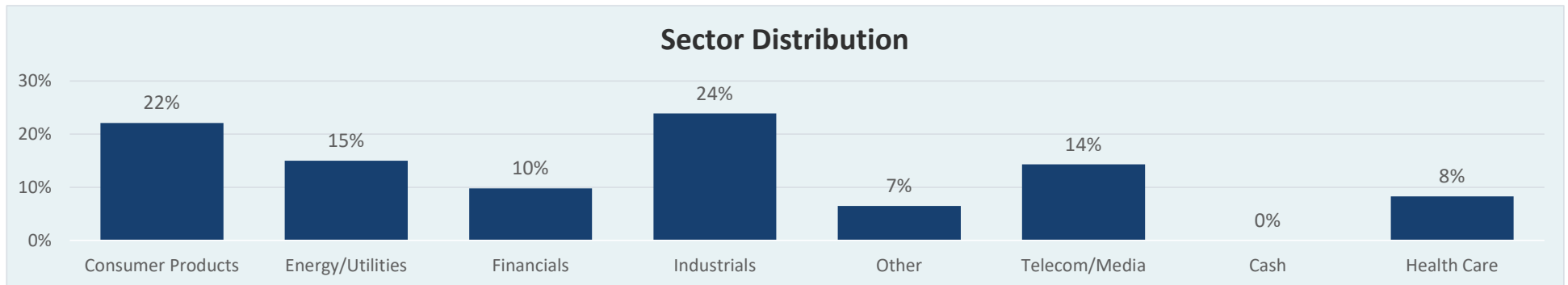
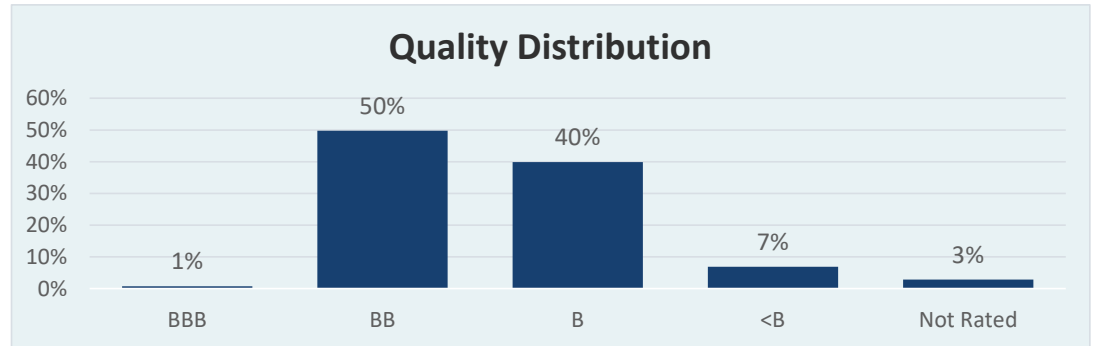
High Yield Managers

Voya Global Investors
 Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
 Period Ending: September 30, 2024

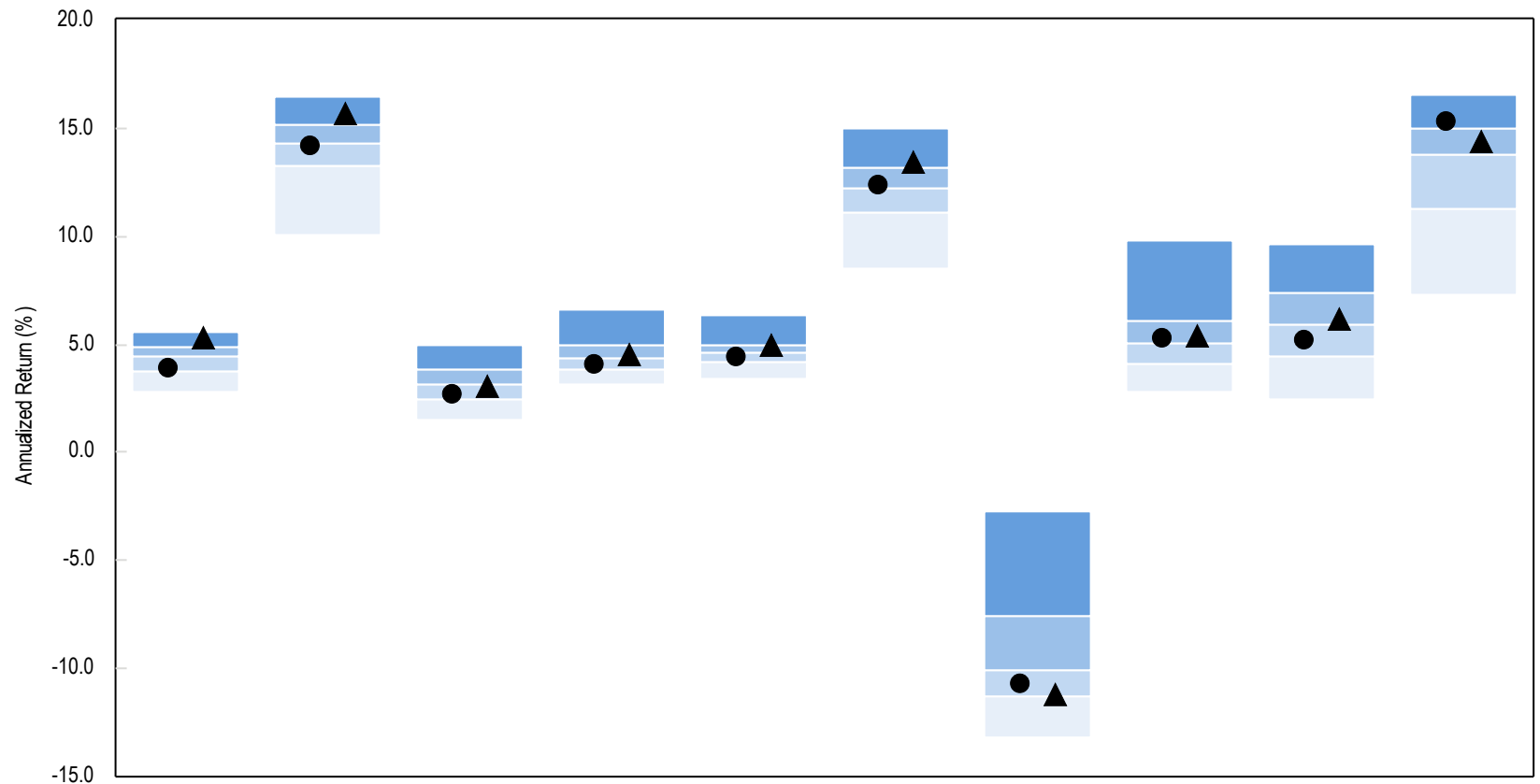
Domestic high yield fixed income portfolio with a focus on security selection. Primary personnel include Douglas Forsyth, Justin Kass, William Stickney, and Michael Yee.

	Voya	ICE BofAML HY Master II
Effective Duration	2.70	3.00
Yield to Maturity	6.4%	7.2%
Average Quality	B1	B1
Average Coupon	6.8%	6.3%

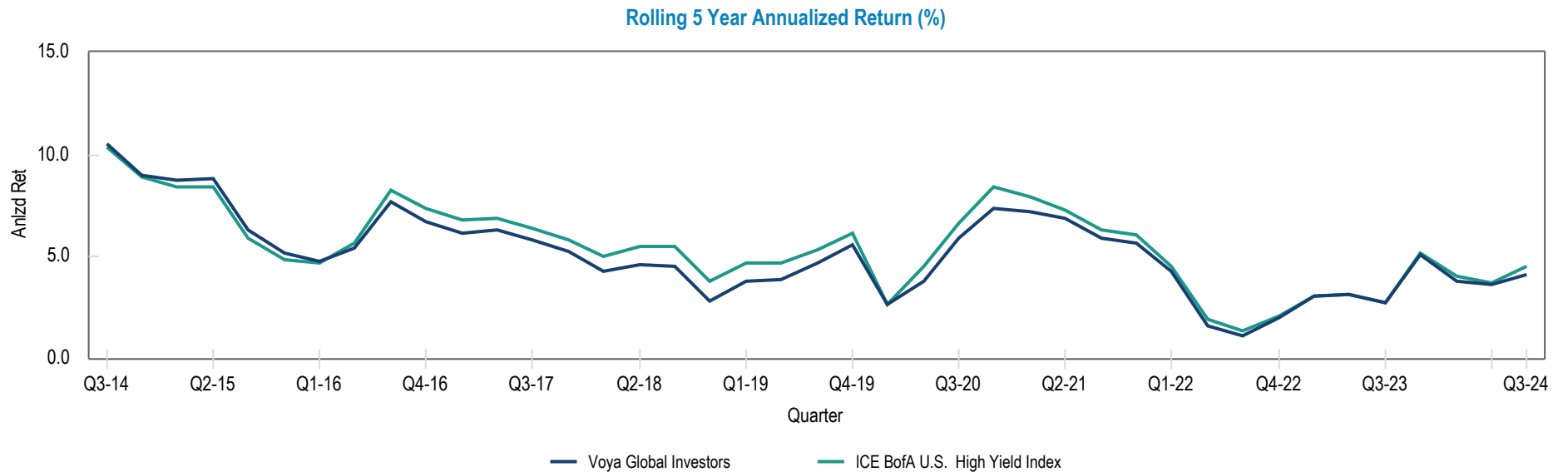
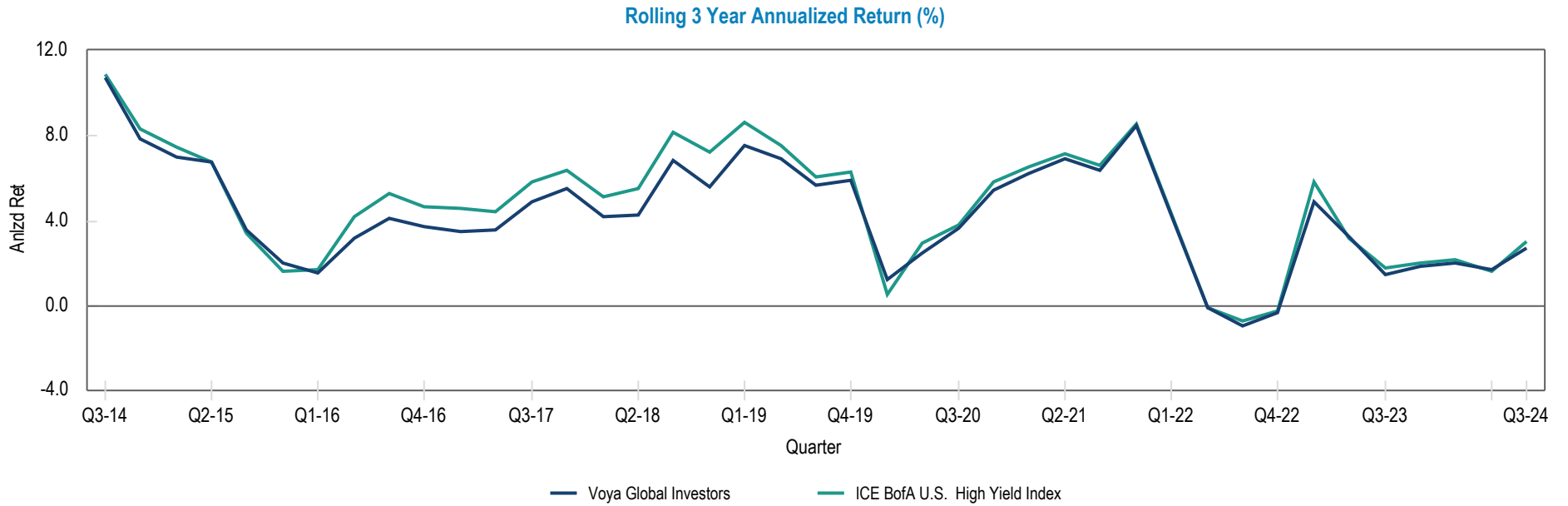


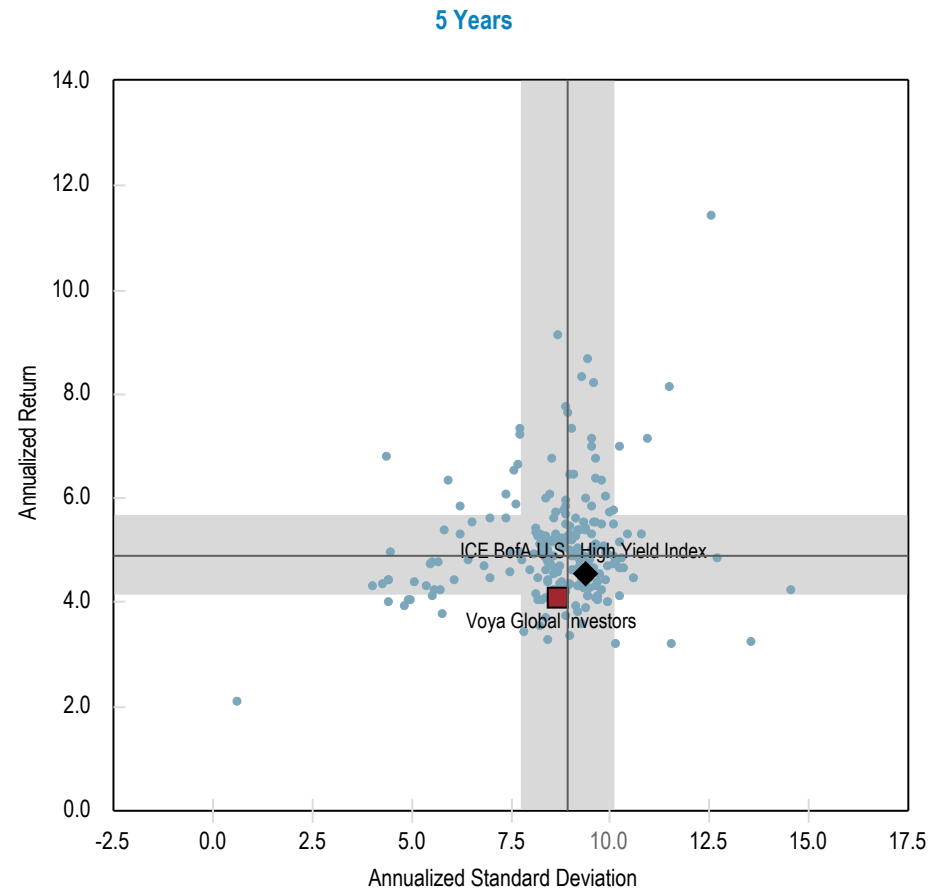
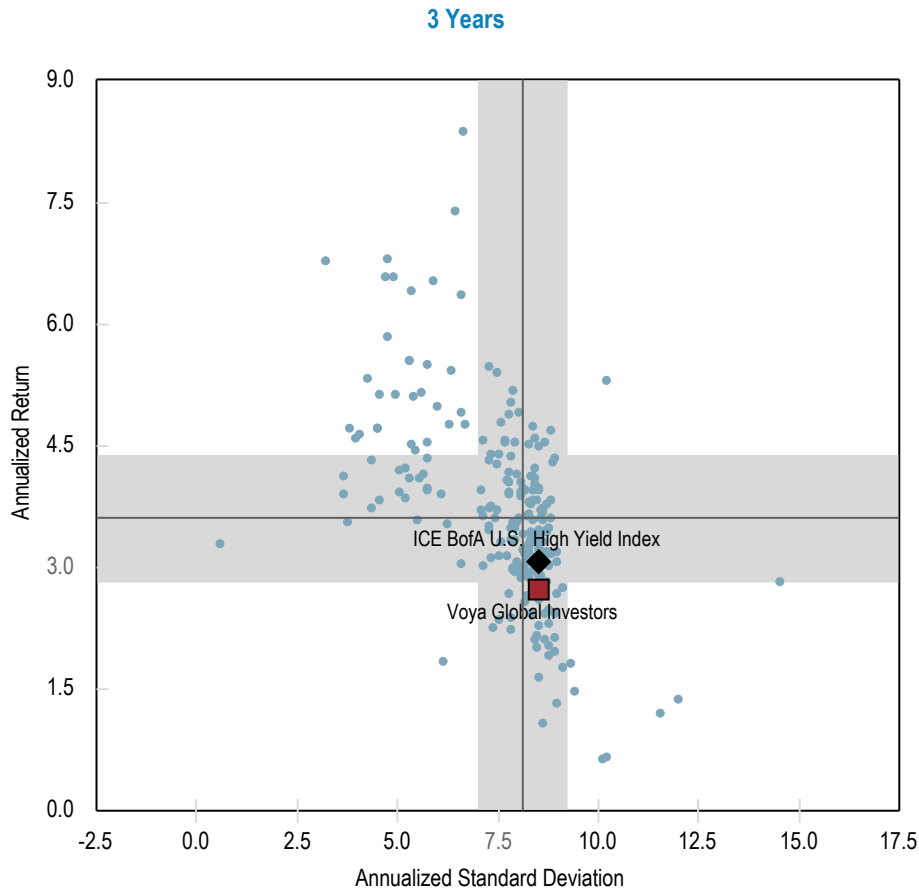
Quality distribution excludes cash.

Voya Global Investors vs. eV US High Yield Fixed Inc Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2023	2022	2021	2020	2019
● Voya Global Investors	3.93 (68)	14.21 (53)	2.74 (64)	4.11 (63)	4.40 (63)	12.39 (47)	-10.64 (63)	5.34 (42)	5.18 (66)	15.32 (19)
▲ ICE BofA U.S. High Yield Index	5.28 (11)	15.66 (13)	3.08 (52)	4.55 (43)	4.95 (27)	13.46 (19)	-11.22 (75)	5.36 (41)	6.17 (43)	14.41 (37)
5th Percentile	5.61	16.42	4.96	6.64	6.32	14.97	-2.77	9.80	9.67	16.50
1st Quartile	4.87	15.16	3.85	4.97	4.99	13.17	-7.53	6.08	7.39	14.97
Median	4.41	14.31	3.14	4.36	4.64	12.25	-10.05	5.05	5.88	13.78
3rd Quartile	3.78	13.28	2.49	3.88	4.16	11.14	-11.25	4.06	4.42	11.23
95th Percentile	2.79	10.02	1.50	3.18	3.39	8.53	-13.16	2.83	2.43	7.28
Population	235	231	225	212	181	246	263	258	262	268





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Voya Global Investors	2.7	8.5	0.0
ICE BofA U.S. High Yield Index	3.1	8.5	0.0
eV US High Yield Fixed Inc Median	3.6	8.1	0.1
Population	227	227	227

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Voya Global Investors	4.1	8.7	0.2
ICE BofA U.S. High Yield Index	4.5	9.4	0.3
eV US High Yield Fixed Inc Median	4.9	8.9	0.4
Population	214	214	214

Real Estate Managers

Adelante Manager Portfolio Overview

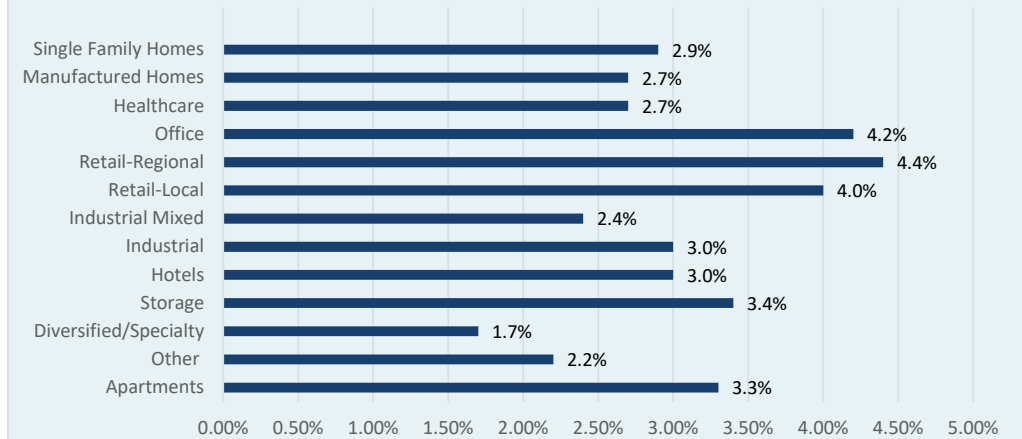
Contra Costa County Employees' Retirement Association Period Ending: September 30, 2024

Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets

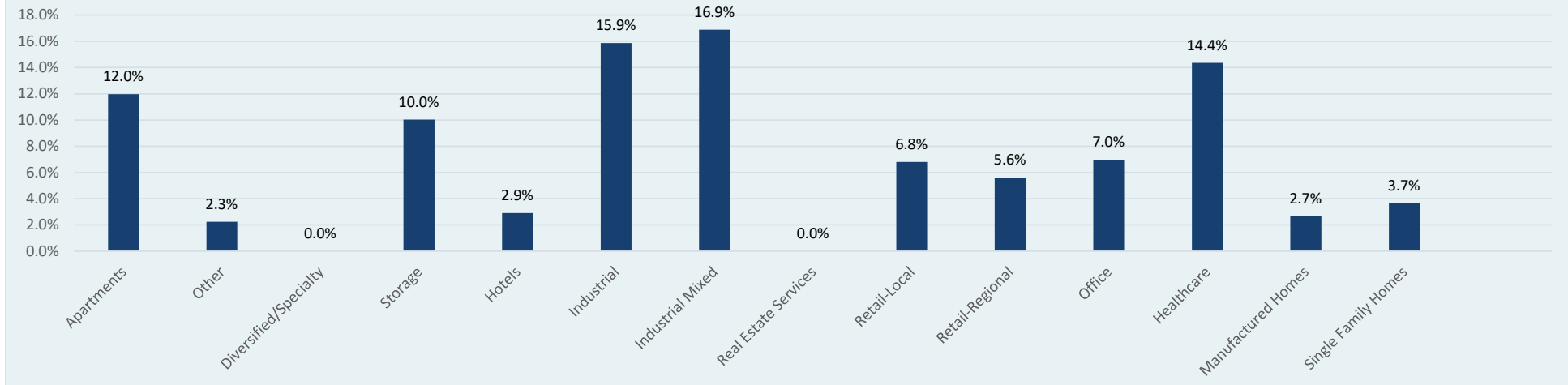
Top Five Holdings

Company	Property Type	Allocation
ProLogis Inc.	Industrial	11.8%
Welltower Inc.	Healthcare	9.2%
Equinix, Inc.	Healthcare	9.1%
Public Storage	Storage	7.0%
AvalonBay Communities, Inc.	Apartments	5.6%

Dividend Yield by Property Type



Property Type Allocation



0.0225% is allocated to Cash and Cash Equivalents.

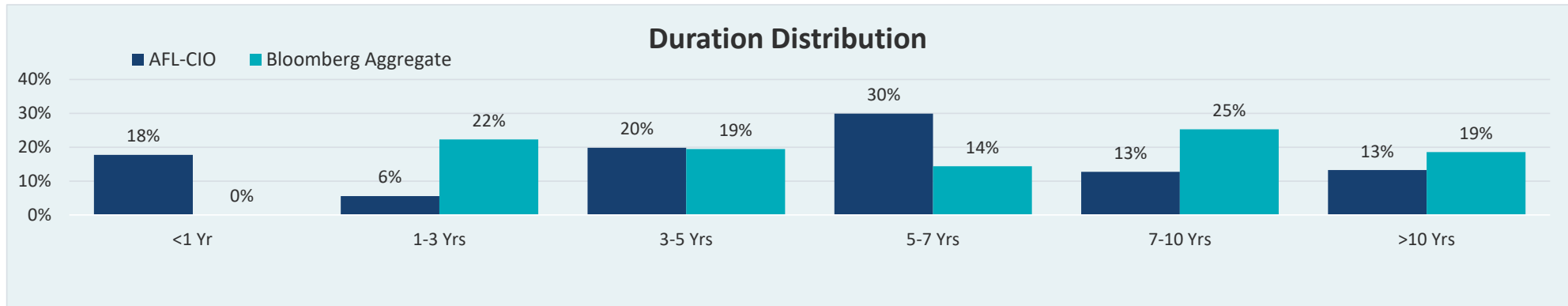
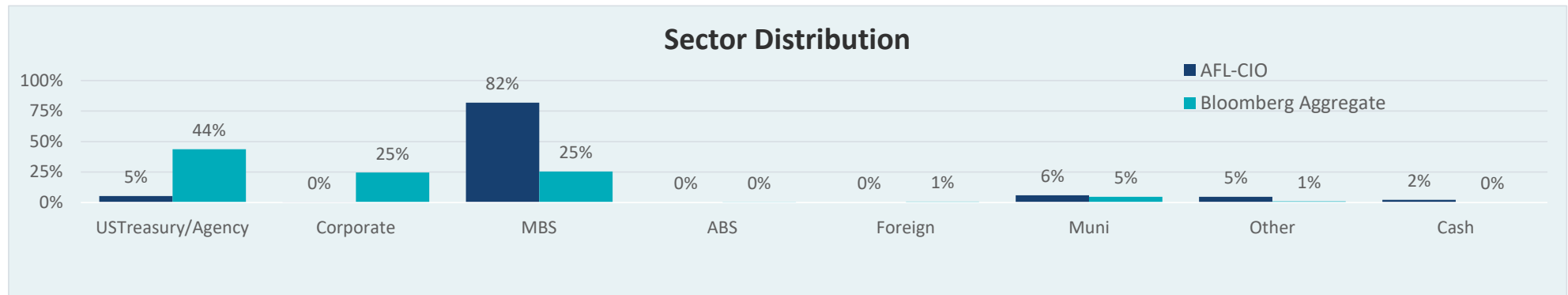
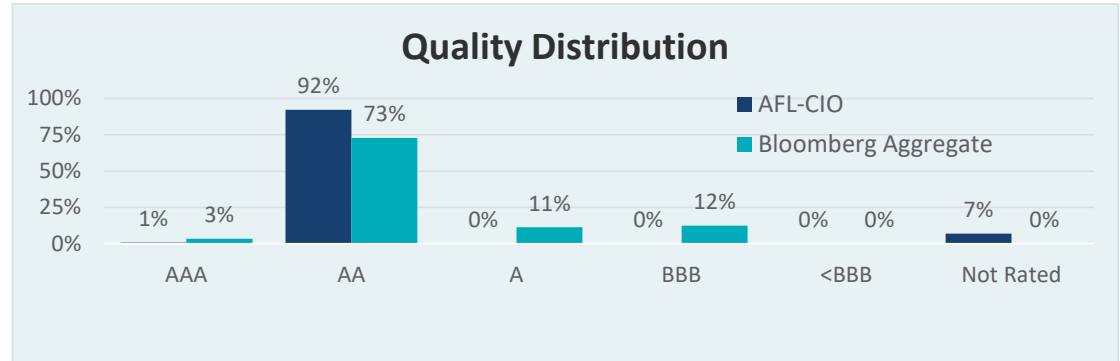
Diversifying Fixed Income Managers

AFL-CIO Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2024

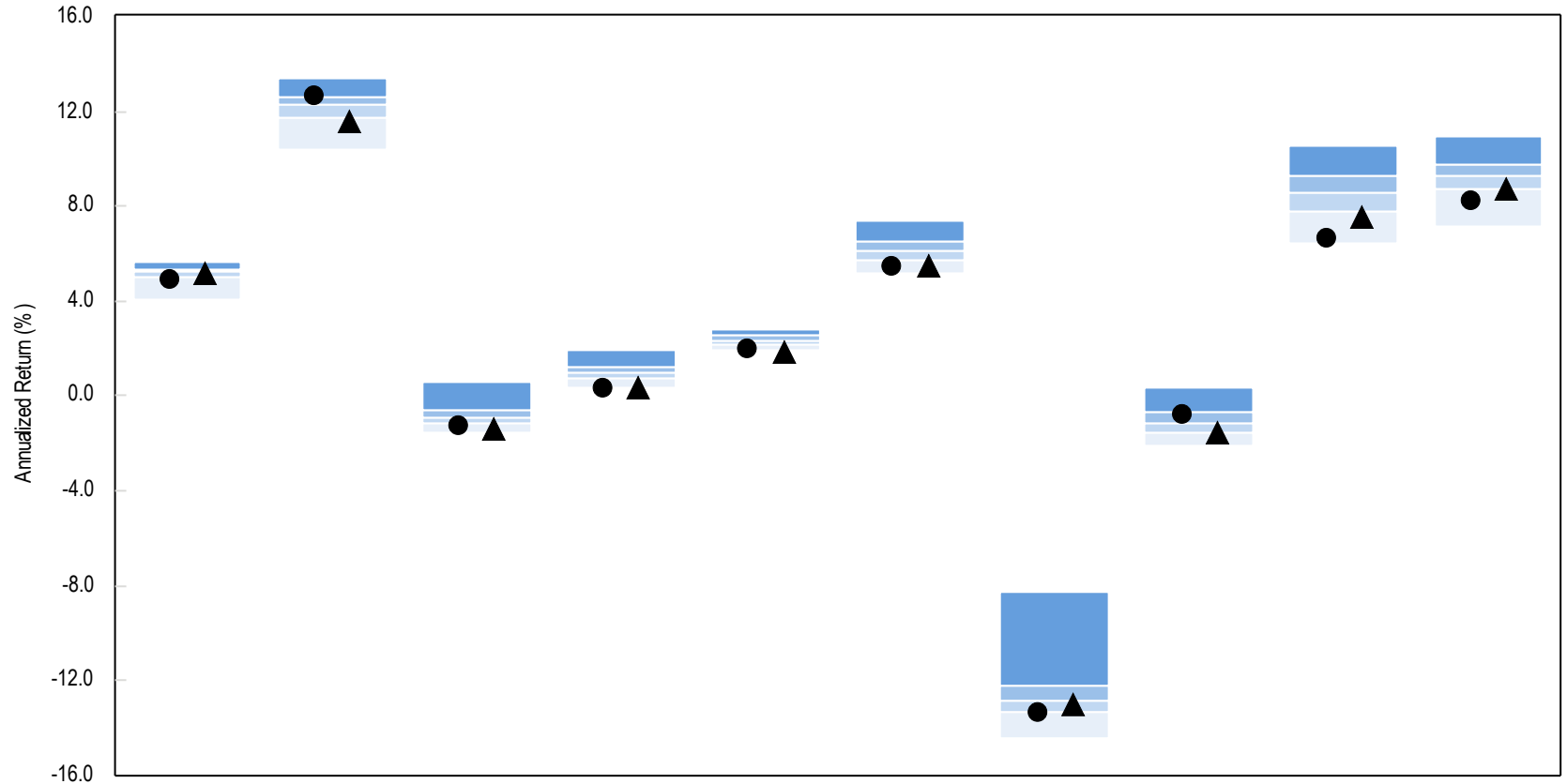
Domestic core fixed income portfolio with an exclusive focus on mortgage-related securities. Primary personnel include Stephen Coyle and Chang Su.

	AFL-CIO	Bloomberg Aggregate
Effective Duration	5.98	6.05
Yield to Maturity	4.0%	3.6%
Average Quality	Aa1	Aa2
Average Coupon	3.7%	3.3%

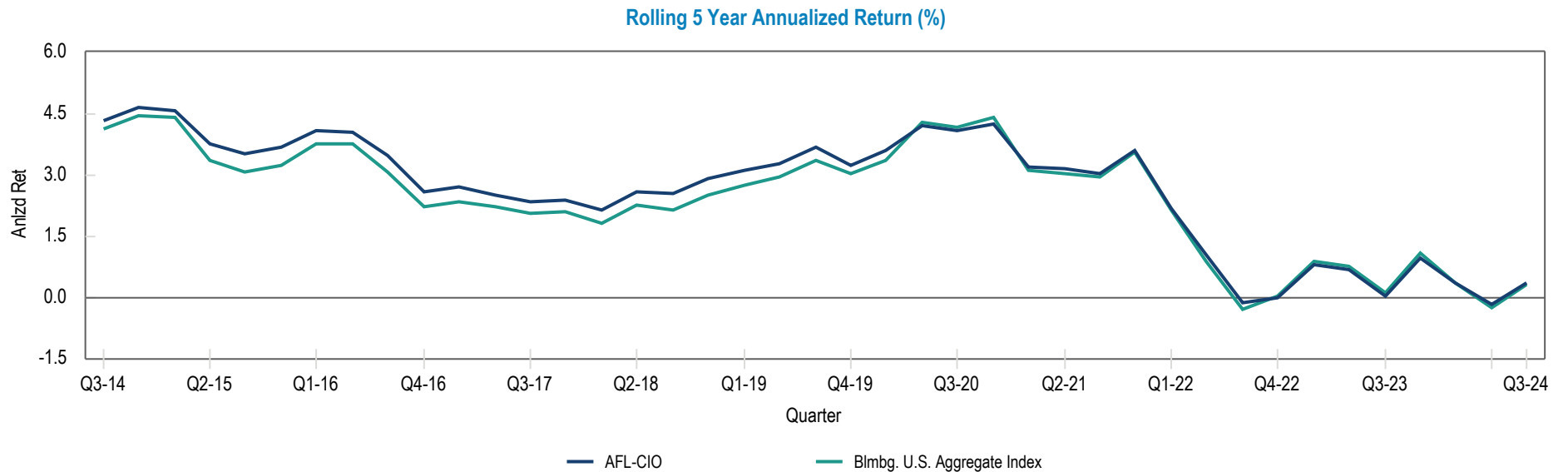
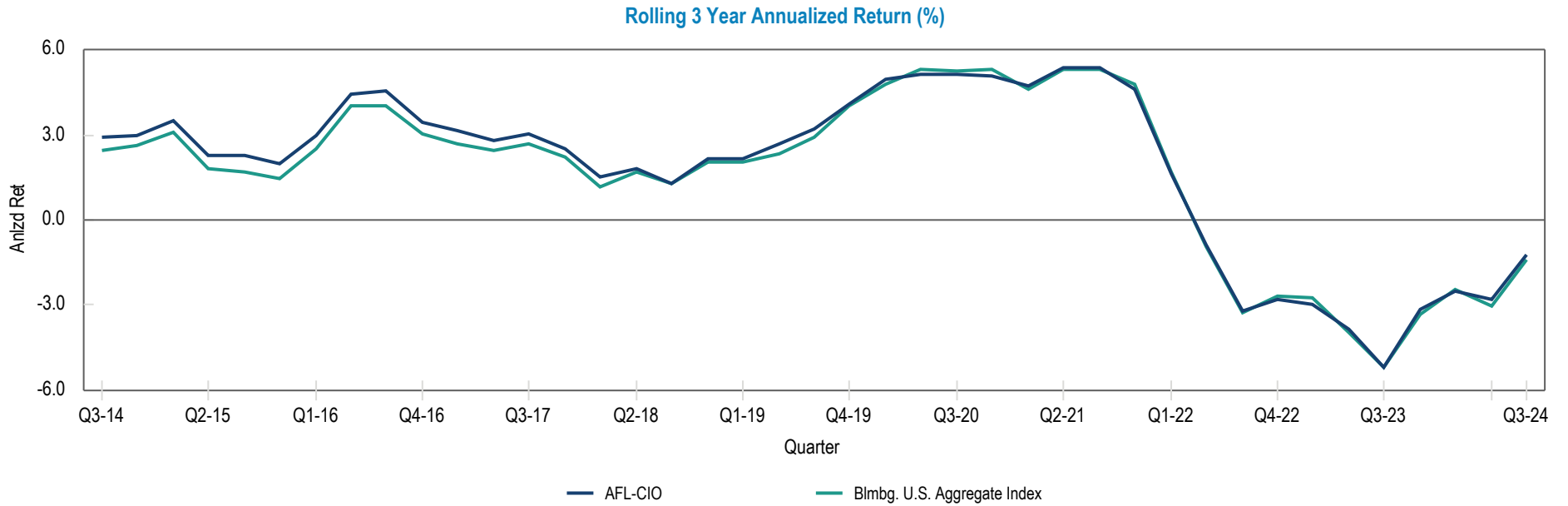


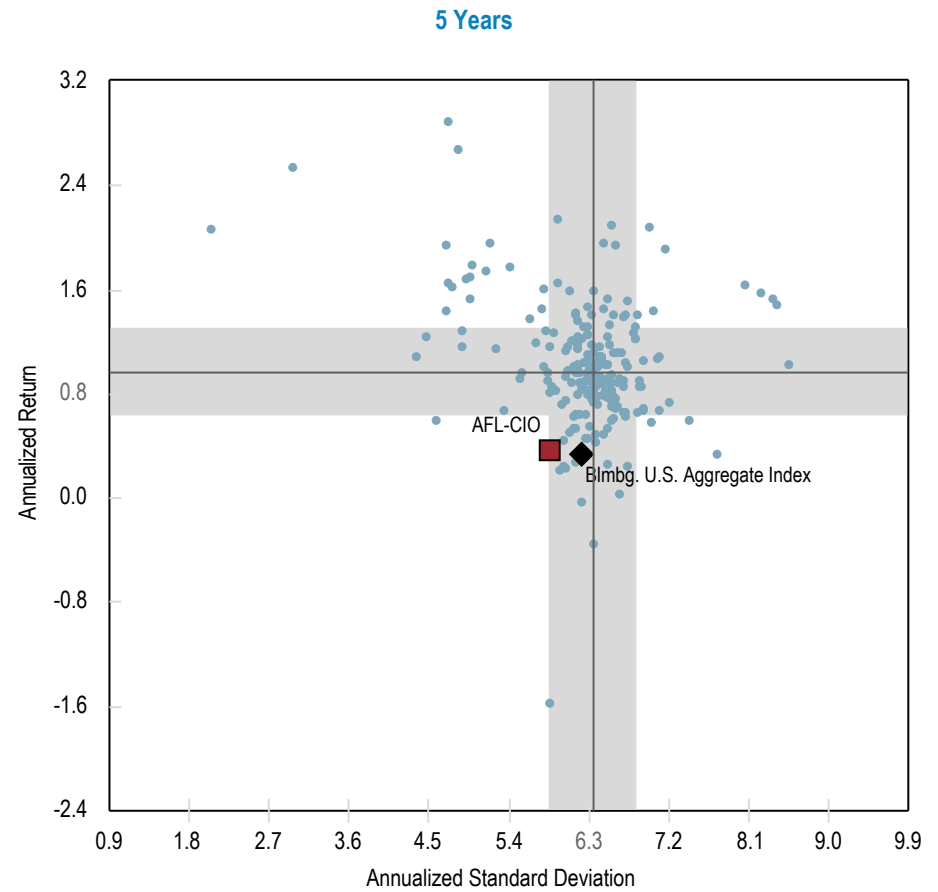
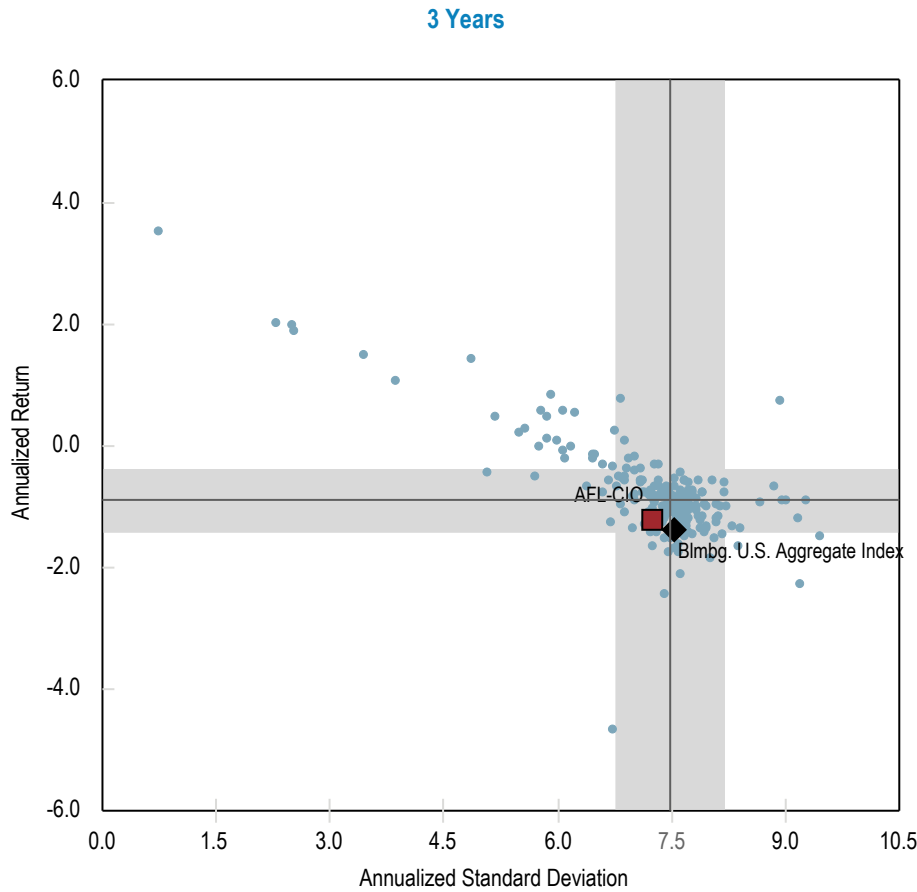
Duration and Quality distributions exclude cash.

AFL-CIO vs. eV US Core Fixed Inc Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2023	2022	2021	2020	2019
● AFL-CIO	4.96 (80)	12.72 (21)	-1.21 (81)	0.36 (94)	2.01 (91)	5.51 (86)	-13.27 (75)	-0.73 (32)	6.65 (94)	8.25 (86)
▲ Blmbg. U.S. Aggregate Index	5.20 (57)	11.57 (82)	-1.39 (90)	0.33 (95)	1.84 (98)	5.53 (84)	-13.01 (63)	-1.55 (77)	7.51 (83)	8.72 (77)
5th Percentile	5.66	13.39	0.59	1.92	2.84	7.40	-8.26	0.38	10.57	10.95
1st Quartile	5.34	12.61	-0.63	1.25	2.54	6.55	-12.19	-0.64	9.30	9.76
Median	5.23	12.26	-0.89	0.97	2.33	6.15	-12.83	-1.13	8.54	9.30
3rd Quartile	5.05	11.77	-1.17	0.77	2.18	5.72	-13.28	-1.52	7.75	8.75
95th Percentile	4.11	10.40	-1.52	0.33	1.91	5.18	-14.44	-2.11	6.42	7.19
Population	231	231	228	219	202	246	265	272	277	281





3 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
AFL-CIO	-1.2	7.2	-0.6
Blmbg. U.S. Aggregate Index	-1.4	7.5	-0.6
eV US Core Fixed Inc Median	-0.9	7.5	-0.6
Population	228	228	228

5 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
AFL-CIO	0.4	5.9	-0.3
Blmbg. U.S. Aggregate Index	0.3	6.2	-0.3
eV US Core Fixed Inc Median	1.0	6.3	-0.2
Population	219	219	219

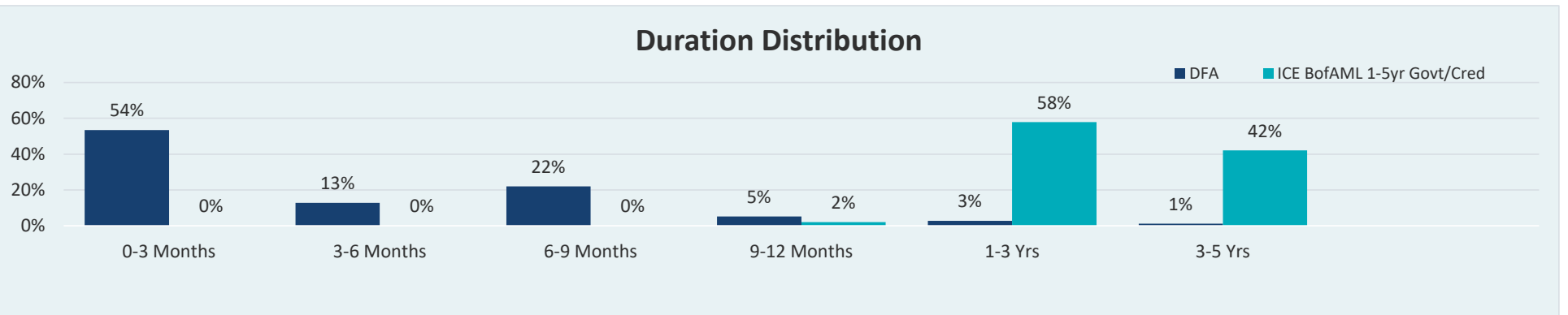
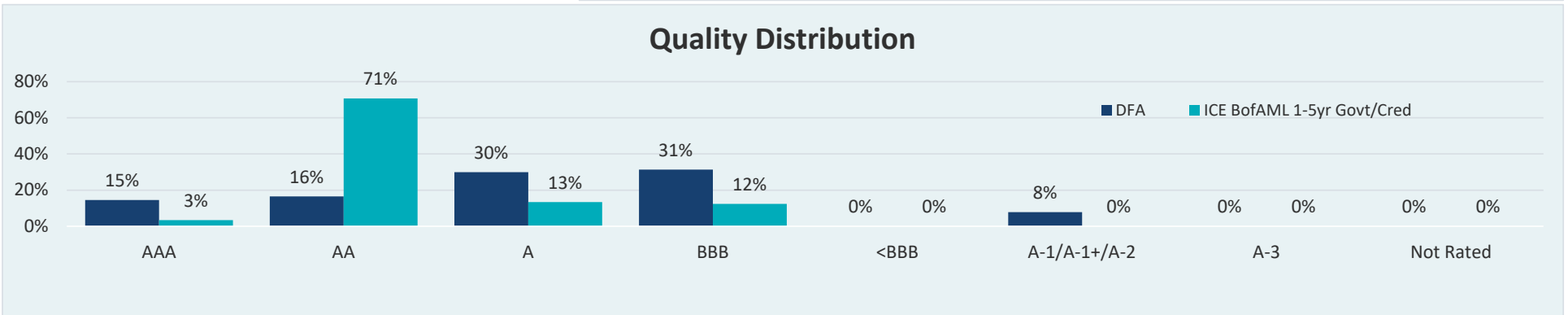
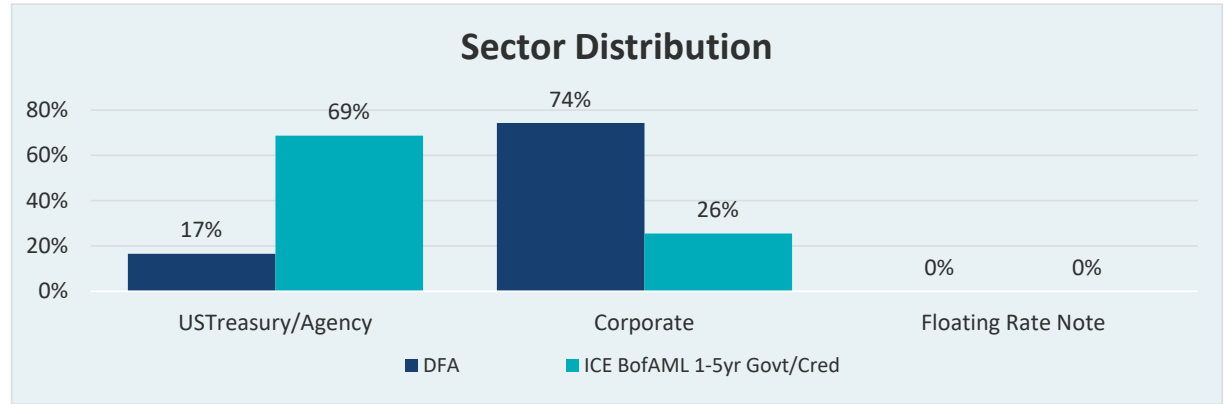
Liquidity Managers

DFA Short Credit Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2024

Domestic short term US credit fixed income portfolio that maximizes total return through income and capital appreciation. Primary personnel include Dave Plecha and Joseph Kolerich.

	DFA	ICE BofAML 1-5yr Govt/Cred
Effective Duration	0.32	2.58
Yield to Maturity	4.95	3.90
Average Quality	A+	Aa2
Average Coupon	3.86%	3.17%

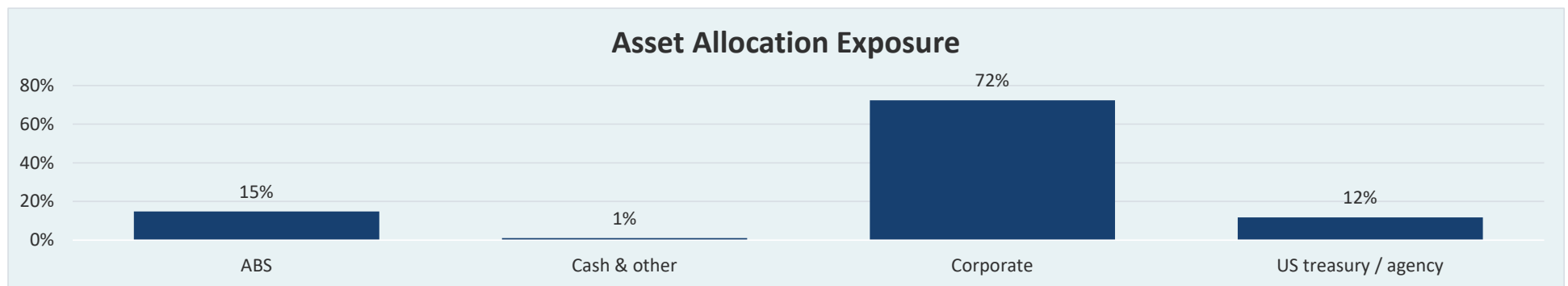
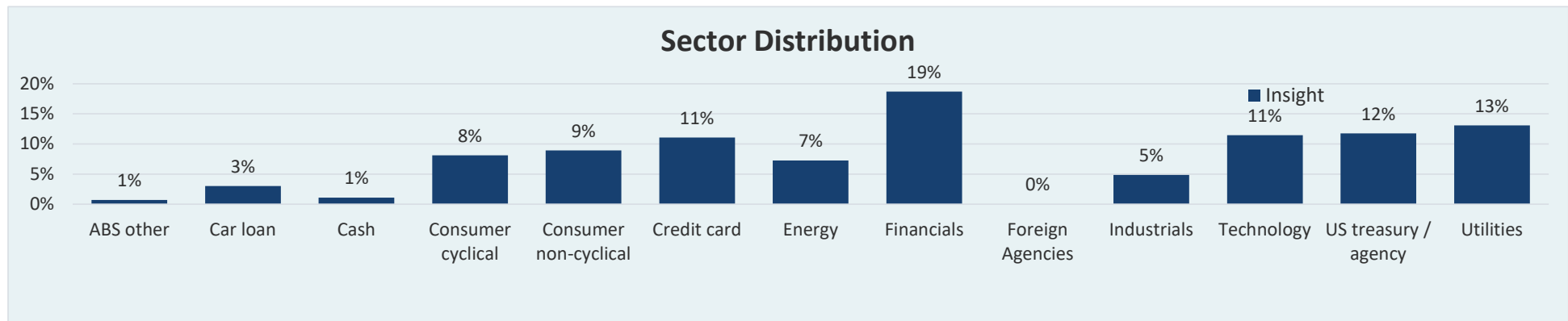
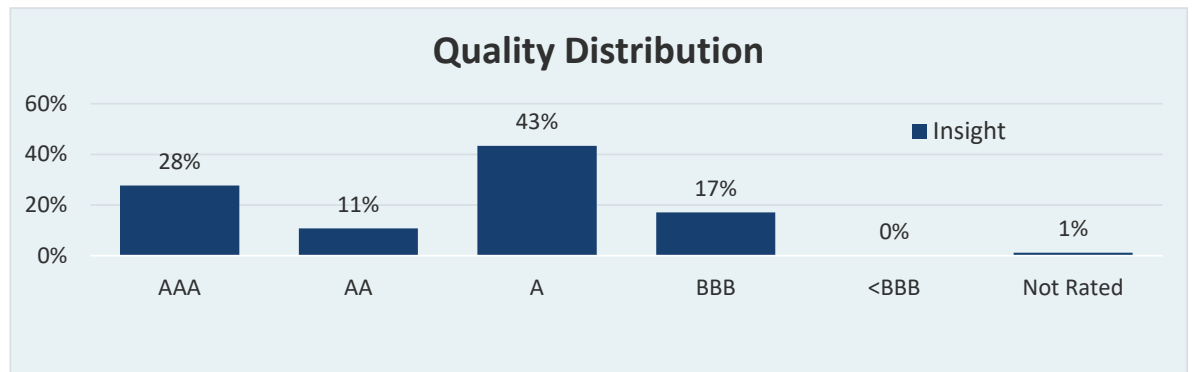


Insight Short Duration Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2024

High quality, short duration multi-sector fixed income portfolio comprised of Treasuries, Agencies, investment grade corporates, and ABS designed specifically to meet CCCERA's liabilities. Key personnel include Gerard Berrigan and Jesse Fogarty.

	Insight	Bloomberg 1-3yr Govt
Effective Duration	1.37	1.92
Yield to Maturity	4.30	N/A
Average Quality	A+	AGY/AGY
Average Coupon	3.49%	2.80%

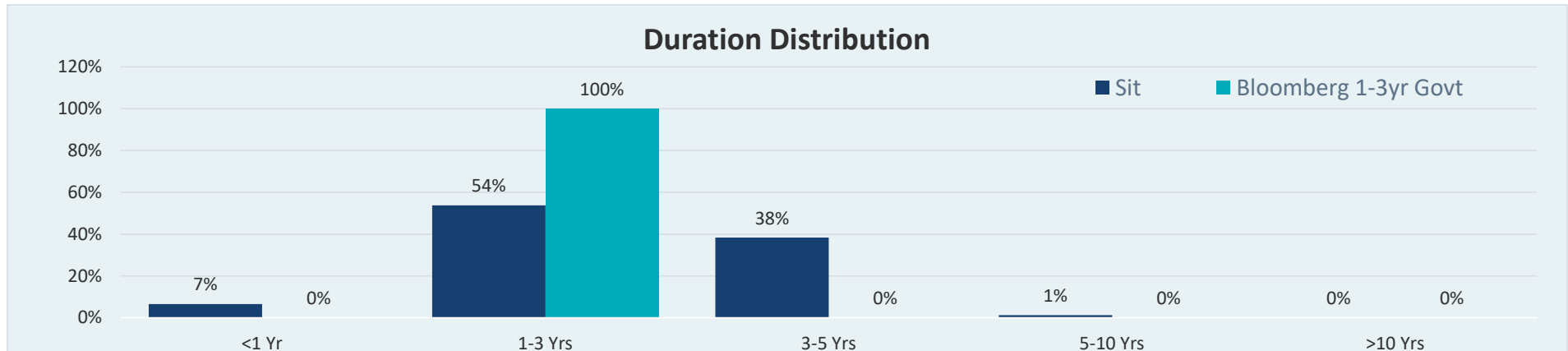
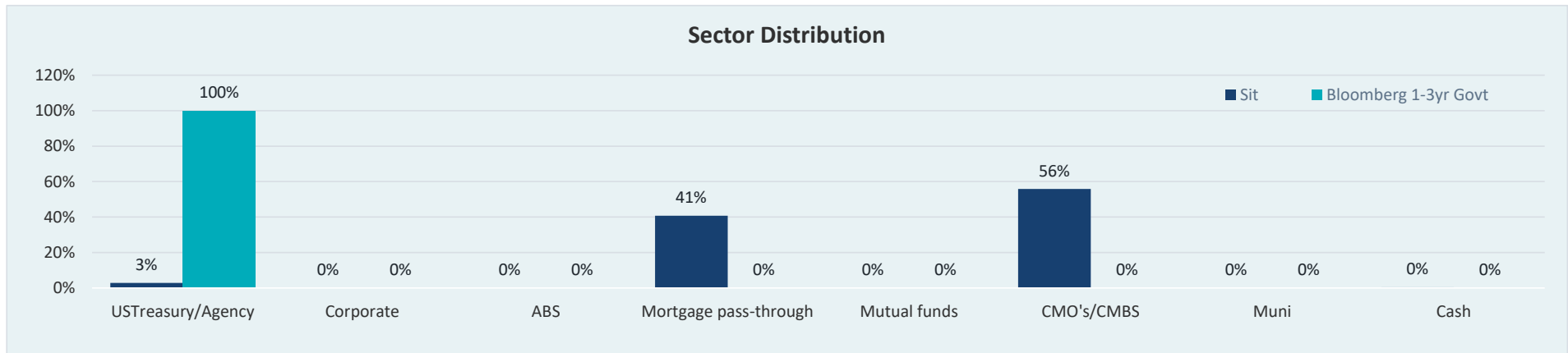
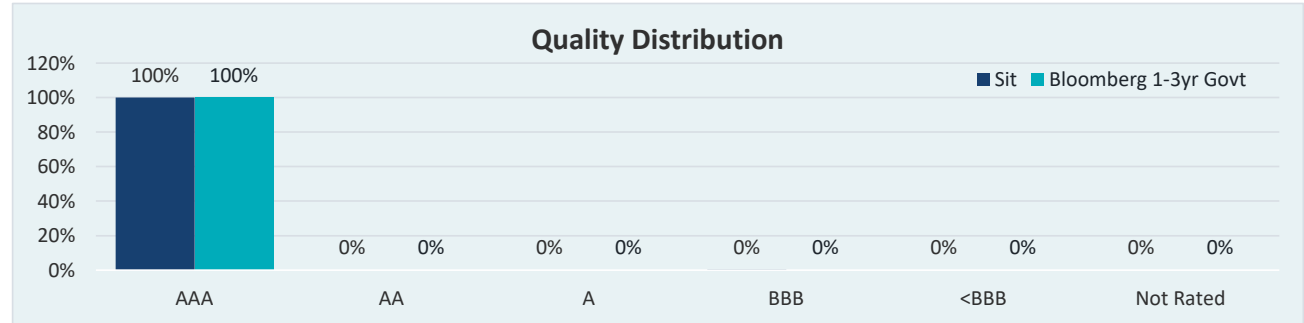


Sit Short Duration Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2024

Short duration fixed income portfolio with a focus on earning high levels of interest income. Primary personnel include Bryce Doty, Paul Jungquist and Michael Brilley.

	Sit	Bloomberg 1-3yr Govt
Modified Duration	2.70	1.90
Yield to Maturity	5.60	N/A
Average Quality	AGY/AGY	AGY/AGY
Average Coupon	6.00%	2.80%



Data Sources and Methodology

Performance Return Calculations

Performance is calculated using Modified Dietz and for time periods with large cash flow (generally greater than 10% of portfolio value), Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are geometrically linked and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

Illiquid Alternatives

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Policy & Custom Index Composition

Policy Index (8/1/2023 - present)	16% Russell 3000, 12% MSCI ACWI ex-US (Gross), 10% MSCI ACWI (Net), 2% Wilshire REIT, 8% Private Real Estate composite returns, 2% FTSE 3-month T-bill +5%, 13% Private Equity composite returns, 10% Private Credit composite returns, 2% ICE BofAML High Yield Master II, 17% Bloomberg 1-3 Yr Gov/Credit, 2.5% Bloomberg US Aggregate, 3% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate, 2.5% Bloomberg US Aggregate TR +1%.
Policy Index (7/1/2022 - present)	16% Russell 3000, 15% MSCI ACWI ex-US (Gross), 9% MSCI ACWI (Net), 2% Wilshire REIT, 8% Private Real Estate composite returns, 2.5% FTSE 3-month T-bill +5%, 13% Private Equity composite returns, 8% Private Credit composite returns, 1.5% ICE BofAML High Yield Master II, 17% Bloomberg 1-3 Yr Gov/Credit, 2.5% Bloomberg US Aggregate, 3% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate, 2.5% Bloomberg US Aggregate TR +1%.
Policy Index (7/1/2021 - 6/30/2022)	16% Russell 3000, 16% MSCI ACWI ex-US (Gross), 9% MSCI ACWI (Net), 2% Wilshire REIT, 8% Private Real Estate composite returns, 3% CPI + 4%, 11% Private Equity composite returns, 8% Private Credit composite returns, 2% ICE BofAML High Yield Master II, 18% Bloomberg 1-3 Yr Gov/Credit, 2.5% Bloomberg US Aggregate, 3% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate, 1.5% HFRI EH Equity Market Neutral.
Policy Index (1/1/2021 - 6/30/2021)	9% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 8% Private Real Estate composite returns, 1.5% CPI + 4%, 11% Private Equity composite returns, 7% Private Credit composite returns, 1.5% ICE BofAML High Yield Master II, 25% Bloomberg 1-3 Yr Gov/Credit, 3% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2% HFRI EH Equity Market Neutral.
Policy Index (7/1/2020 - 12/31/2020)	9% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 1.5% CPI + 4%, 11% S&P 500 +4% (Lagged), 7% ICE BofAML High Yield Master II +2%, 1.5% ICE BofAML High Yield Master II, 25% Bloomberg 1-3 Yr Gov/Credit, 3% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2% HFRI EH Equity Market Neutral.
Policy Index (7/1/2019 - 6/30/2020)	10% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2% CPI + 4%, 11% S&P 500 +4% (Lagged), 5% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 24% Bloomberg 1-3 Yr Gov/Credit, 3.5% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2.5% HFRI EH Equity Market Neutral.
Policy Index (7/1/2018 - 6/30/2019)	11% Russell 3000, 19% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.8% NCREIF Property Index, 7.2% NCREIF ODCE Index, 2% CPI + 4%, 10% S&P 500 +4% (Lagged), 4% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 23% Bloomberg 1-3 Yr Gov/Credit, 3.5% Bloomberg US Aggregate, 2% Bloomberg Global Aggregate, 2.5% HFRI EH Equity Market Neutral.
Policy Index (10/1/2017 - 6/30/2018)	16.3% Russell 3000, 18.8% MSCI ACWI ex-US (Gross), 8.6% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2.5% CPI + 4%, 10.1% S&P 500 +4% (Lagged), 1.9% ICE BofAML High Yield Master II +2%, 4.3% ICE BofAML High Yield Master II, 25% Bloomberg 1-3 Yr Gov/Credit, 3.5% Bloomberg US Aggregate.
Policy Index (1/1/2017 - 9/30/2017)	22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI + 4%, 8.1% S&P 500 +4% (Lagged), 1.7% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML High Yield Master II, 22.4% Bloomberg 1-3 Yr Gov/Credit, 3.2% Bloomberg US Aggregate, 1.6% 91-Day T-Bills.
Policy Index (4/1/2012-12/31/2016)	27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% Bloomberg U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 13.5% Real Estate Benchmark, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.

Contra Costa County Employees' Retirement Association

Data Sources and Methodology

Period Ending: September 30, 2024

Policy & Custom Index Composition (continued)	
Policy Index (4/1/2011-3/31/2012)	31% Russell 3000, 10.4% MSCI EAFE (Gross), 9.6% MSCI ACWI (Net), 25% Bloomberg U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Policy Index (4/1/2010-3/31/2011)	35.6% Russell 3000, 10.4% MSCI EAFE (Gross), 5% MSCI ACWI (Net), 25% Bloomberg U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Policy Index (7/1/2009-3/31/2010)	40.6% Russell 3000, 10.4% MSCI EAFE (Gross), 25% Bloomberg U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% Bloomberg Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Custom Growth Benchmark (7/1/2022 - present)	21.2% Russell 3000, 19.9% MSCI ACWI ex-US (Gross), 11.9% MSCI ACWI (Net), 2.6% Wilshire REIT, 10.6% Private Real Estate composite returns, 17.2% Private Equity composite returns, 10.6% Private Credit composite returns, 2.0% ICE BofAML High Yield Master II, 4% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate
Custom Growth Benchmark (7/1/2021 - 6/30/2022)	21.33% Russell 3000, 21.33% MSCI ACWI ex-US (Gross), 12% MSCI ACWI (Net), 2.67% Wilshire REIT, 10.67% Private Real Estate composite returns, 14.67% Private Equity composite returns, 10.67% Private Credit composite returns, 2.67% ICE BofAML High Yield Master II, 4% 60% MSCI ACWI Net/40% Bloomberg Global Aggregate
Custom Growth Benchmark (1/1/2021 - 6/30/2021)	13.14% Russell 3000, 26.28% MSCI ACWI ex-US (Gross), 16.06% MSCI ACWI (Net), 1.46% Wilshire REIT, 11.68 Private Real Estate composite returns%, 16.06% Private Equity composite returns, 10.22% Private Credit composite returns, 2.19% ICE BofAML High Yield Master II, 2.92% Bloomberg Global Bond
Custom Growth Benchmark (7/1/2020 - 12/31/2020)	13.14% Russell 3000, 26.28% MSCI ACWI ex-US (Gross), 16.06% MSCI ACWI (Net), 1.46% Wilshire REIT, 2.34% NCREIF Property Index, 9.33% NCREIF ODCE Index, 16.06% S&P 500 +4% (Lagged), 10.22% ICE BofAML High Yield Master II +2%, 2.19% ICE BofAML High Yield Master II, 2.92% Bloomberg Global Bond
Custom Growth Benchmark (7/1/2019 - 6/30/20)	14.7% Russell 3000, 26.4% MSCI ACWI ex-US (Gross), 16.2% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.4% NCREIF Property Index, 9.4% NCREIF ODCE Index, 16.2% S&P 500 +4% (Lagged), 7.4% ICE BofAML High Yield Master II +2%, 2.9% ICE BofAML High Yield Master II, 2.9% Bloomberg Global Bond
Custom Growth Benchmark (7/1/2018 - 6/30/2019)	16.0% Russell 3000, 27.5% MSCI ACWI ex-US (Gross), 15.9% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.6% NCREIF Property Index, 10.4% NCREIF ODCE Index, 14.5% S&P 500 +4% (Lagged), 5.8% ICE BofAML High Yield Master II +2%, 2.9% ICE BofAML High Yield Master II, 2.9% Bloomberg Global Bond
Custom Growth Benchmark (9/30/2017- 6/30/2018)	23.6% Russell 3000, 27.2% MSCI ACWI ex-US (Gross), 12.5% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.3% NCREIF Property Index, 9.3% NCREIF ODCE Index, 14.6% S&P 500 +4% (Lagged), 2.8% ICE BofAML High Yield Master II +2%, 6.2% ICE BofAML High Yield Master II
Custom Growth Benchmark (1/1/2017-9/30/2017)	32.6% Russell 3000, 15.7% MSCI ACWI ex-US (Gross), 15.5% MSCI ACWI (Net), 1.4% Wilshire REIT, 2.4% NCREIF Property Index, 9.6% NCREIF ODCE Index, 1.6% CPI +4%, 11.5% S&P 500 +4% (Lagged), 2.4% ICE BofAML High Yield Master II +2%, 7.3% ICE BofAML High Yield Master II
Custom Growth Benchmark (Prior to 1/1/2017)	Weighted-average of the benchmarks of the sub-composites that make up the composite.
Custom Diversifying Benchmark (7/1/2021-present)	35.71% Bloomberg US Aggregate, 21.43% FTSE 3-Month T-bill +4%, 21.43 FTSE 3-Month T-bill +5%, 21.43% Bloomberg Barclays US Aggregate +1%
Custom Diversifying Benchmark (8/1/2020 - 6/30/2021)	46.15% Bloomberg US Aggregate, 30.77 FTSE 3-Month T-bill +4%, 23.08 FTSE 3-Month T-bill +5%.
Custom Diversifying Benchmark (7/1/2018 - 7/31/2020)	43.75% Bloomberg US Aggregate, 25% CPI + 4%, 31.25% HFRI EH Equity Market Neutral.
Custom Diversifying Benchmark (10/1/2017 - 6/30/2018)	58.33% Bloomberg US Aggregate, 41.67% CPI + 4%.
Custom Diversifying Benchmark (1/1/2017 - 9/30/2017)	56.1% Bloomberg US Aggregate, 43.9% CPI + 4%.
Custom Diversifying Benchmark (Prior to 1/1/2017)	Weighted-average of the benchmarks of the sub-composites that make up the composite.
Custom Diversifying Multi-Asset Benchmark (current)	50% FTSE 3-Month T-bill +5%, 50% Bloomberg Barclays US Aggregate +1%
Real Estate Benchmark (current)	20% Wilshire REIT, 80% Private Real Estate composite returns.
Real Estate Benchmark (4/1/2012-11/30/2016)	40% Wilshire REIT, 50% NCREIF Property Index, 10% FTSE/EPRA NAREIT Developed ex-US.

Data Sources and Methodology

Period Ending: September 30, 2024

IMPLEMENTATION BENCHMARK WEIGHTS BY INVESTMENT ALLOCATION RESOLUTION (1/1/17 TO CURRENT)									
Manager	Benchmark	1/1/17 - 9/30/17	10/1/17 - 6/30/18	7/1/18 - 6/30/19	7/1/19 - 6/30/20	7/1/20 - 6/30/21	7/1/21 - 6/30/22	7/1/22 - 7/31/23	8/1/2023 - current
BlackRock Index Fund	Russell 1000 Index	0.0%	1.0%	1.0%	2.0%	2.0%	5.0%	9.0%	10.0%
Intech Large Cap	S&P 500 Index	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pimco Stocks +	S&P 500 Index	4.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Boston Partners	Russell 1000 Value	4.2%	4.5%	3.0%	2.5%	2.0%	4.0%	4.0%	3.0%
Jackson Square	Russell 1000 Growth	4.3%	4.5%	3.0%	2.5%	2.0%	4.0%	0.0%	0.0%
Emerald	Russell 2000 Growth	3.2%	3.3%	2.0%	1.5%	1.5%	1.5%	1.5%	1.5%
Ceredex	Russell 2000 Value	3.0%	3.3%	2.0%	1.5%	1.5%	1.5%	1.5%	1.5%
Pyrford	MSCI AC World ex USA Value	5.5%	5.4%	5.5%	5.0%	5.0%	4.0%	4.0%	4.0%
William Blair	MSCI AC World ex USA Growth	5.5%	5.4%	5.5%	5.0%	5.0%	4.0%	4.0%	4.0%
TT Emerging Markets	MSCI Emerging Markets	0.0%	4.2%	4.0%	4.0%	4.0%	4.0%	3.5%	2.0%
PIMCO/RAE Emerging Markets	MSCI Emerging Markets Value	0.0%	4.2%	4.0%	4.0%	4.0%	4.0%	3.5%	2.0%
Artisan	MSCI ACWI Growth NR USD	4.5%	4.3%	4.0%	4.0%	4.0%	4.5%	4.5%	5.0%
Intech Global Low Vol	MSCI ACWI	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
JP Morgan	MSCI ACWI	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
First Eagle	MSCI ACWI Value NR USD	4.3%	4.3%	4.0%	4.0%	4.0%	4.5%	4.5%	5.0%
Voya	ICE BofA U.S. High Yield Index	5.1%	5.0%	2.0%	2.0%	1.5%	2.0%	1.5%	2.0%
Adelante REIT	Wilshire U.S. REIT Index	1.0%	1.0%	1.0%	1.0%	1.0%	2.0%	1.0%	1.0%
INVESCO REIT	Wilshire U.S. REIT Index	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	1.0%
Private RE (NPI)	Private RE Composite Returns	1.1%	1.4%	1.8%	1.6%	1.6%	0.0%	0.0%	0.0%
Private RE (ODCE)	Private RE Composite Returns	8.4%	8.2%	7.2%	6.4%	6.4%	0.0%	0.0%	0.0%
Private RE	Private RE Composite Returns	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%
Private Credit	Private Equity Composite Returns	0.0%	0.0%	4.0%	5.0%	7.0%	8.0%	8.0%	10.0%
Torchlight	Private Equity Composite Returns	1.7%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Private Equity	Private Equity Composite Returns	7.7%	8.2%	10.0%	11.0%	11.0%	11.0%	13.0%	13.0%
Opportunistic	Private Equity Composite Returns	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Risk Parity	60% MSCI ACWI (Net) / 40% Bloomberg Global Aggregate	0.0%	0.0%	5.0%	5.0%	5.0%	3.0%	3.0%	3.0%
Insight	Bloomberg 1-3 Yr Gov/Cred	10.5%	10.7%	12.0%	12.0%	13.0%	7.0%	6.5%	6.5%
DFA	ICE BofA 1-5 Year U.S. Corp/Gov't Index	6.0%	5.3%	5.5%	6.0%	6.0%	4.0%	4.0%	4.0%
Cash	3-month Tbills	1.6%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sit	Bloomberg 1-3 Yr Govt index	5.9%	6.0%	5.5%	6.0%	6.0%	7.0%	6.5%	6.5%
AFL-CIO HIT	Bloomberg US Aggregate TR	3.2%	3.5%	3.5%	3.5%	3.0%	2.5%	2.5%	2.5%
Parametric Defensive Equity	CPI + 4%	0.0%	0.0%	2.5%	2.5%	0.0%	1.5%	0.0%	0.0%
Wellington Real TR	Bloomberg Global Aggregate	2.5%	2.5%	2.0%	2.0%	0.0%	0.0%	0.0%	0.0%
Acadian MAARS	FTSE 3-month T-bill + 5%	0.0%	0.0%	0.0%	0.0%	1.5%	1.5%	2.5%	2.0%
Sit AR	Bloomberg US Aggregate TR +100	0.0%	0.0%	0.0%	0.0%	2.0%	1.5%	2.5%	2.5%

Manager Line Up					
Manager	Inception Date	Data Source	Manager	Inception Date	Data Source
BlackRock Russell 1000 Index	4/20/2017	BlackRock	Invesco Real Estate V	9/27/2022	Invesco
Boston Partners	6/1/1995	Northern Trust	Oaktree REOF V	12/31/2011	Oaktree
Emerald Advisors	4/7/2003	Northern Trust	Oaktree REOF VI	9/30/2013	Oaktree
Ceredex	11/6/2011	Northern Trust	Oaktree REOF VII	4/1/2015	Oaktree
Pyrford	4/25/2014	State Street	PCCI IX	4/28/2022	PCCP
William Blair	10/29/2010	William Blair	Siguler Guff DREOF	1/25/2012	Siguler Guff
PIMCO RAE Emerging Markets	2/28/2017	State Street	Siguler Guff DREOF II	8/31/2013	Siguler Guff
TT Emerging Markets	7/27/2017	TT	Siguler Guff DREOF II Co-Inv	1/27/2016	Siguler Guff
Artisan Partners	10/1/2012	SEI Trust	Paulson Real Estate Fund II	11/10/2013	Paulson
First Eagle	1/18/2011	Northern Trust	AE Industrial Partners Fund II	4/8/2019	StepStone Group
Allianz Global Investors	4/25/2000	Northern Trust	Adams Street Partners	3/18/1996	StepStone Group
Adelante	9/30/2001	Northern Trust	Adams Street Partners II	1/16/2009	StepStone Group
AQR Global Risk Premium - EL	1/18/2019	AQR	Adams Street Partners Venture	4/28/2017	StepStone Group
Panagora Risk Parity Multi Asset	3/15/2019	Panagora	Adams Street Partners - BFP	1/18/1996	StepStone Group
AFL-CIO	6/30/1991	AFL-CIO	Adams Street Partners - Fund 5	9/21/2012	StepStone Group
Wellington Real Total Return (in Liquidation)	2/26/2013	Wellington	Aether Real Assets IV	3/16/2016	StepStone Group
BH-DG Systematic Trading Fund L.P. - I	4/19/2024	BH-DG	Aether Real Assets III	11/27/2013	StepStone Group
Sit LLCAR	4/15/2021	Northern Trust	Aether Real Assets III Surplus	11/30/2013	StepStone Group
Sit Short Duration	11/2/2016	Northern Trust	Bay Area Equity Fund	6/14/2004	StepStone Group
DFA Short Credit	11/21/2016	Northern Trust	Bay Area Equity Fund II	12/7/2009	StepStone Group
Insight Short Duration	11/18/2016	Northern Trust	Commonfund	6/28/2013	StepStone Group
Parametric Overlay	3/29/2017	Northern Trust	EIF US Power Fund II	8/16/2005	StepStone Group
Cash	-	Northern Trust	EIF US Power Fund III	5/30/2007	StepStone Group
Angelo Gordon Energy Credit Opp	9/24/2015	StepStone Group	EIF US Power Fund IV	11/28/2011	StepStone Group
StepStone CC Opportunities Fund	2/1/2018	StepStone Group	EIF US Power Fund V	11/28/2016	StepStone Group
Torchlight II	9/30/2006	StepStone Group	Genstar Capital Partners IX, L.P.	2/21/2019	StepStone Group
Torchlight IV	7/1/2012	StepStone Group	Oaktree PIF 2009	2/28/2010	StepStone Group
Torchlight V	7/1/2012	StepStone Group	Paladin III	11/30/2007	StepStone Group
Angelo Gordon Realty Fund VIII	1/23/2012	Angelo Gordon	Ocean Avenue Fund II	6/11/2014	StepStone Group
Angelo Gordon Realty Fund IX	12/8/2014	Angelo Gordon	Ocean Avenue Fund III	4/15/2016	StepStone Group
Blackstone Real Estate Partners VIII	3/24/2023	Blackstone	Pathway 6	5/24/2011	StepStone Group
DLJ RECP III	6/23/2005	DLJ	Pathway 7	2/7/2013	StepStone Group
DLJ RECP IV	2/11/2008	DLJ	Pathway 8	11/23/2015	StepStone Group
DLJ RECP V	7/1/2014	DLJ	Pathway	11/9/1998	StepStone Group
DLJ RECP VI	3/19/2019	DLJ	Pathway 2008	12/26/2008	StepStone Group
LaSalle Income & Growth VI	7/16/2013	LaSalle	Siguler Guff CCCERA Opps	6/3/2014	StepStone Group
LaSalle Income & Growth VII	2/28/2017	LaSalle	Siguler Guff Secondary Opps	11/30/2016	StepStone Group
Hearthstone II	6/17/1998	Hearthstone	Siris Partners IV	3/15/2019	StepStone Group
Long Wharf Fund IV	7/3/2013	Long Wharf	TPG Healthcare Partners, L.P.	6/28/2019	StepStone Group
Long Wharf Fund V	9/30/2016	Long Wharf	Trident VIII, L.P.	5/24/2019	StepStone Group
Long Wharf Fund VI	2/5/2020	Long Wharf	Wastewater Opp. Fund	12/8/2015	StepStone Group
Long Wharf Fund VII	5/30/2023	Long Wharf	Cross Lake RE IV	12/14/2023	Cross Lake
Invesco Real Estate IV	6/30/2014	Invesco	KSL Capital Partners VI, L.P.	11/10/2023	KSL
Invesco Real Estate V	2/20/2019	Invesco	EQT Infrastructure VI	12/31/2023	StepStone Group
Stockbridge Value Fund I	6/26/2024	Stockbridge	Altaris Health Partners VI, L.P.	6/30/2024	StepStone Group
Jadian Real Estate Fund II GP, LLC	9/27/2024	Citco	Arbor Investments VI, L.P	6/30/2024	StepStone Group

Other Disclosures

All data prior to 12/31/2014 was provided by previous consultant.
 As of 7/1/2018 all Private Equity and Private Credit data is provided by StepStone Group.

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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Memorandum

Date: November 20, 2024

To: CCCERA Board of Retirement Trustees

From: Timothy Price, Chief Investment Officer

Subject: Investment Staff Report – Q3 2024

Overview

On a quarterly basis CCCERA’s Board receives a report which details critical elements of CCCERA’s Functionally Focused Portfolio’s sub-portfolios. The purpose of the report is to highlight elements of the sub-portfolios which are good indicators to the Board of the program’s efficient and effective operation.

Summary

CCCERA’s Total Fund is largely performing as expected over a ten-year horizon, exhibiting returns above expectations for the amount of risk taken over the long term. This is measured by the Sharpe Ratio (risk-adjusted return), and a comparison to the Simple Target Index. The Simple Target Index is the most basic index which could replicate CCCERA’s Total Fund, and is made up of 76% MSCI ACWI, 17% Bloomberg 1-3 Year Gov/Credit, and 7% 3-Month Treasury Bills (please see the Total Fund pages in the appendix for additional details). CCCERA’s portfolio is much more complex, especially as it relates to allocations to private equity, private credit, and real estate.

Over shorter periods, there are aspects of the implementation that have fallen short of expectations, which are discussed in the Growth and Risk Diversifying sub-portfolio reviews. The Board adopted a new asset allocation in August 2024 and the new allocations have begun to be implemented. This is the last full quarter where the prior positions were in effect. Notably, the Board terminated risk parity allocation and implemented new mandates for Treasuries, multi-asset credit and real estate credit. These new allocations will be implemented over the next several quarters.

CCCERA has experienced lower risk and return levels than the Simple Target Index over trailing periods. This has led to underperformance vs the STI over more recent periods, but has exceeded the STI on a risk-adjusted basis over past ten years. Details on performance relative to this index are included in the appendix. It is worth noting that CCCERA’s Total Fund return is an aggregate of the performance of the Liquidity, Growth, and Risk Diversifying sub-portfolios.

1) Liquidity

The purpose of the liquidity program is to match three years of benefit payments with high credit quality, low duration assets. The liquidity sub-portfolio is made up of three fixed income managers, all of whom pursue a high quality, low duration investment approach. In the second quarter of 2024, all managers held high quality (as measured by credit ratings), low duration portfolios. The average credit quality for the entire liquidity program is AA (AAA is the highest rating), and the duration is 1.7 years, which is considered short. Importantly, the current yield of all three portfolios remains near 5%.

2) Growth

The Growth portfolio is designed to take advantage of capital appreciation and income opportunities globally. To achieve this, the Growth portfolio includes a variety of assets, from stocks and growth-oriented bonds to private equity, real estate, and private credit.

For the trailing five-year period ending September 30, 2024, the Growth portfolio returned 8.7% relative to the index return of 12.2%, for a relative underperformance of -3.5%. Over this period, the Growth program produced a superior Sharpe ratio of 0.55 relative to the index's 0.51. During the third quarter of 2024, CCCERA's Growth sub-portfolio returned 4.8% relative to MSCI ACWI Index return of 6.6%. We expect underperformance relative to the public equity markets during sharp rallies such as we experienced in 2023 and 2024 due to the private market investments where valuations lag.

The past five years have been exceptionally strong for public equities, both on the basis of earnings growth and mostly benign monetary policy. This growth has been concentrated in the US tech sector and even more so in the "Magnificent 7" mega cap stocks. Given this environment, underperformance of a diversified portfolio relative to a single equity index should be expected.

3) Risk Diversifying

The Risk Diversifying mandate holds assets that are expected to diversify the growth portfolio's volatility while offering moderate growth. The mandate as a whole seeks to be highly liquid, have a low beta to the growth market, and produce positive real returns. In the third quarter, the Risk Diversifying mandate fulfilled two of these goals. The entire mandate can be liquidated within 90 days, meeting the requirement of high liquidity. The correlation of the mandate to growth markets is 0.8, an increase from 0.7 during Q2 2024. The trailing real (net of inflation) return over the past five years is -4.4%, improving slightly in the last quarter from -4.5%, but remaining below expectations.

CCCERA's Total Fund in aggregate is performing in line with expectations over the past ten years, having a similar or higher risk-adjusted return but a lower level of volatility compared to the Simple Target Index. Enclosed are additional details on CCCERA's Total Fund, sub-portfolios, and individual investment strategies.

CCCERA Portfolio Report Card

Below we have itemized those elements of each of CCCERA’s sub-portfolios and Total Fund which we believe the Board should pay particular attention to. Additional details on each of the sub-portfolios are available in the appendix. All CCCERA performance is stated on a net of fees basis.

Liquidity

Objective	Measurement	Current Period Data	Status
High Quality	Credit Quality	AA	Meeting Expectations
Low Risk	Duration	1.7 years	Meeting Expectations
Appropriately Sized	Months of Benefit Payments Invested	34 Months	Meeting Expectations

Growth

Objective	Measurement	Current Period Data	Status
Growth of Plan Assets	Absolute Returns	Trailing 5 yr return: 8.7%	Meeting Expectations
	Benchmark Relative Returns	-3.5% relative to ACWI over trailing 5 years	Below Expectations
Efficient Capital Deployment	Sharpe Ratio	CCCERA: 0.55 MSCI ACWI: 0.51 over trailing 5 years	Meeting Expectations

Risk Diversifying

Objective	Measurement	Current Period Data	Status
Offset Volatility in Growth Portfolio	Correlation	0.8 over trailing 5 years	Below Expectations
Positive Real Returns	Returns	5 yr real return: -4.4% 5 yr nominal return: -0.25%	Below Expectations
High Liquidity	% of Portfolio that can be liquidated within 90 days	100%	Meeting Expectations

Total Fund

Objective	Component/Measurement	Status
Store 3 Years of Benefit Payments	Liquidity Sub-portfolio	Meeting Expectations
Participate in Growth Opportunities	Growth Sub-portfolio	Meeting Expectations
Provide an offset to Growth volatility	Risk Diversifying Sub-portfolio	Below Expectations
Produce superior risk adjusted returns	Total Fund Sharpe Ratio	Meeting Expectations

Appendix – Liquidity Sub-Portfolio

Manager Reviews

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
Insight	Good	16%	21%	N
Sit	Good	-11%	16%	N
DFA	Good	20%	29%	N

Performance

	Portfolio Average Credit Quality	Portfolio Average Duration	Portfolio Average Yield	1 Year Total Return
Insight	A+	1.4	4.3	7.3%
Sit	AAA	2.7	5.6	9.5%
DFA	A+	0.3	5.0	6.4%

Manager Notes:

Fixed income yields have fallen slightly on recent rate cuts even as a “higher for longer” expectation remains dominant in the market. The Federal Reserve has cut rates twice as of November 2024, but the outlook for further rate cuts remains clouded. As the yields on these portfolios fell, CCCERA’s mandates have experienced strong total returns over the past year.

Manager Theses:

The Liquidity Portfolio is a combination of three managers which work together to match three years of CCCERA’s liabilities. The portfolio is refreshed every year during the annual funding plan.

Insight: Insight plays a completion role in the liquidity program, matching out liabilities with short duration government and corporate fixed income securities.

DFA: Dimensional Fund Advisors runs a strategy that focuses on obtaining fixed income exposures via the most liquid securities available. DFA contributes to the Liquidity Program by selling securities at regular intervals to pay a portion of CCCERA’s monthly benefit payment.

Sit: Sit invests in high yielding government backed mortgages. The cash flow from these securities is harvested monthly to make up a portion of CCCERA’s monthly benefit payment.

Appendix – Growth Sub-Portfolio

Manager Reviews

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
Boston Partners	Good	27%	22%	N
BlackRock Index Fund	Good	22%	26%	N
Emerald Advisors	Good	20%	19%	N
Ceredex	Good	16%	-11%	N
Pyrford	Good	4%	-2%	N
William Blair	Good	15%	23%	N
First Eagle	Good	22%	16%	N
Artisan Global	Good	16%	23%	N
PIMCO/RAE EM	Good	47%	15%	N
TT EM	Good	-32%	-5%	N
Adelante	Good	30%	20%	N
Invesco REIT	Good	37%	21%	N
Voya	Good	13%	11%	N
AQR	Good	-1%	22%	N
PanAgora	Good	-33%	10%	N
Private Equity	Good	--	--	N
Private Credit	Good	--	--	N
Real Estate	Good	--	--	N

Performance

	Trailing 1-Yr Return	Trailing 5-yr Return	Trailing 10-yr Return	Performance in Line with Expectations?	Inception Date
MSCI ACWI-ND	32%	12%	9%		
Boston Partners	27%	13%	10%	Y	04/30/1995
BlackRock Index Fund	35%	16%	13%	Y	03/31/2017
Emerald Advisors	33%	11%	11%	Y	03/31/2003
Ceredex	23%	9%	9%	Y	09/30/2011
Total Domestic Equity	32%	13%	12%	Y	
Pyrford	23%	8%	5%	Y	03/31/2014
William Blair	25%	8%	6%	Y	09/30/2010
PIMCO/RAE EM	28%	11%	7%	Y	01/31/2017
TT EM	28%	4%	5%	N	06/30/2017
Total International Equity	25%	8%	5%	Y	
First Eagle	27%	10%	8%	Y	12/31/2010
Artisan Global	33%	12%	12%	Y	11/30/2012
Total Global Equity	30%	11%	9%	Y	
Adelante	33%	6%	8%	Y	07/31/2001
Invesco REIT	34%	N/A	N/A	Y	02/28/2022
Voya	14%	4%	4%	N	04/30/2000
AQR	15%	3%	3%	N	12/31/2018
PanAgora	16%	0%	4%	N	02/28/2019
Private Equity	1%	13%	11%	Y	
Private Credit	8%	8%	9%	Y	
Real Estate	-4%	-1%	4%	N	

For periods longer than inception date within CCCERA's Total Fund, the return is from a representative composite account.

Manager Notes:

As we have noted in prior quarters, Niall Paul, lead portfolio and architect of the TT International Global Emerging Market strategy, announced his planned retirement as of June 30, 2024. Rob James, who had been a co-PM on the strategy, will continue along with Diego Mauro, who joined the firm in 2020. We have conducted on-site reviews with James and Mauro to vet the team's capacity to manage the strategy effectively on a go forward basis. We continue to closely monitor this strategy, but recent performance has been above benchmark.

Both risk parity managers, AQR and PanAgora, are being wound down after the Board eliminated the risk parity allocation in the asset allocation targets adopted in August.

Manager Theses:

The growth portfolio includes all managers in public and private equity, real estate, and private credit. These managers grow CCCERA's assets for future benefit payments (beyond the three years already covered by the Liquidity program).

Boston Partners: Large cap domestic equity which follows a value discipline. Boston Partners will buy out of favor companies and sell them when their intrinsic values are reflected in the market. Expected to outperform in flat to falling markets.

BlackRock Index Fund: Large cap domestic equity portfolio which should follow the Russell 1000 Index.

Emerald Advisors: Small cap growth equity seeking companies with high growth rates. Expected to produce strong returns in rising markets, and weak returns in falling markets.

Ceredex: Domestic equity small cap value portfolio of companies with dividend yields and low valuations. This portfolio should outperform flat markets.

Pyrford (Columbia): International equity value portfolio of non-US companies with low valuations at the country and stock level. This portfolio should outperform in flat markets.

William Blair: International equity growth portfolio of non-US companies with high growth rates constructed from the security level. This portfolio should outperform in rapidly rising markets.

First Eagle: Global equity portfolio that is benchmark agnostic comprised of companies with low valuations.

Artisan Global Opportunities: Global equity portfolio of companies that is benchmark agnostic with accelerating profit cycles and a focus on capital allocation.

PIMCO/RAE Emerging Markets: Quantitative equity with a value orientation. This portfolio follows the fundamental indexing approach (ranking companies by metrics other than market capitalization), resulting in a diversified, low turnover portfolio. This portfolio underperforms in momentum driven markets.

TT International Emerging Markets: Concentrated, growth-oriented manager which invests in small and mid-cap emerging market companies. TT employs both a top-down and a bottom-up research approach and seeks to outperform by identifying companies that have a catalyst to drive future growth.

Adelante: Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets. Adelante is a public market proxy of the core real estate market.

INVESCO Fundamental Beta REIT: Invesco invests in US REITs following a sector neutral strategy that allocates to the securities that INVESCO believes have the strongest financial conditions.

Voya High Yield Fixed Income: Domestic high yield fixed income portfolio with a focus on security selection. Voya will focus on the higher quality segment of the high yield universe. Voya should provide a steady income stream and provide downside protection in falling markets.

Private Equity: CCCERA invests in private equity to generate returns above those available in the public equity markets.

Private Credit: CCCERA invests in private credit to generate cash flow streams above those available in the public debt markets.

Real Estate: CCCERA invests in value-add, distressed, and opportunistic real estate to generate returns from the capital appreciation and cash flow associated with commercial real estate investment.

Risk Parity: Multi-asset approach that strives for balanced contributions to total portfolio risk from multiple asset classes.

Appendix – Risk Diversifying Sub-Portfolio

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
AFL-CIO	Good	13%	13%	N
BH-DG	Good	26%	-2%	N
Sit LLCAR	Good	23%	16%	N

Performance

	Trailing 1 Year Correlation to Growth	Trailing 3 Year Correlation to Growth	1 Year Return	5 Year Return	% of Portfolio Liquid in 90 Days
AFL-CIO	0.6	0.8	12%	0%	100%
BH-DG	0.5	-0.6	-7%	8%	100%
Sit LLCAR	0.4	0.5	12%	N/A	100%

Notes: Acadian MAARS was liquidated in May 2024; BH-DG Systematic Trend was funded in April 2024.

Manager Notes:

None.

Manager Theses:

Managers in the risk diversifying allocation seek to have a low correlation with the growth portfolio, positive returns in flat and falling equity markets, and a high degree of liquidity. These managers work together to offset some of the risks in the growth portfolio.

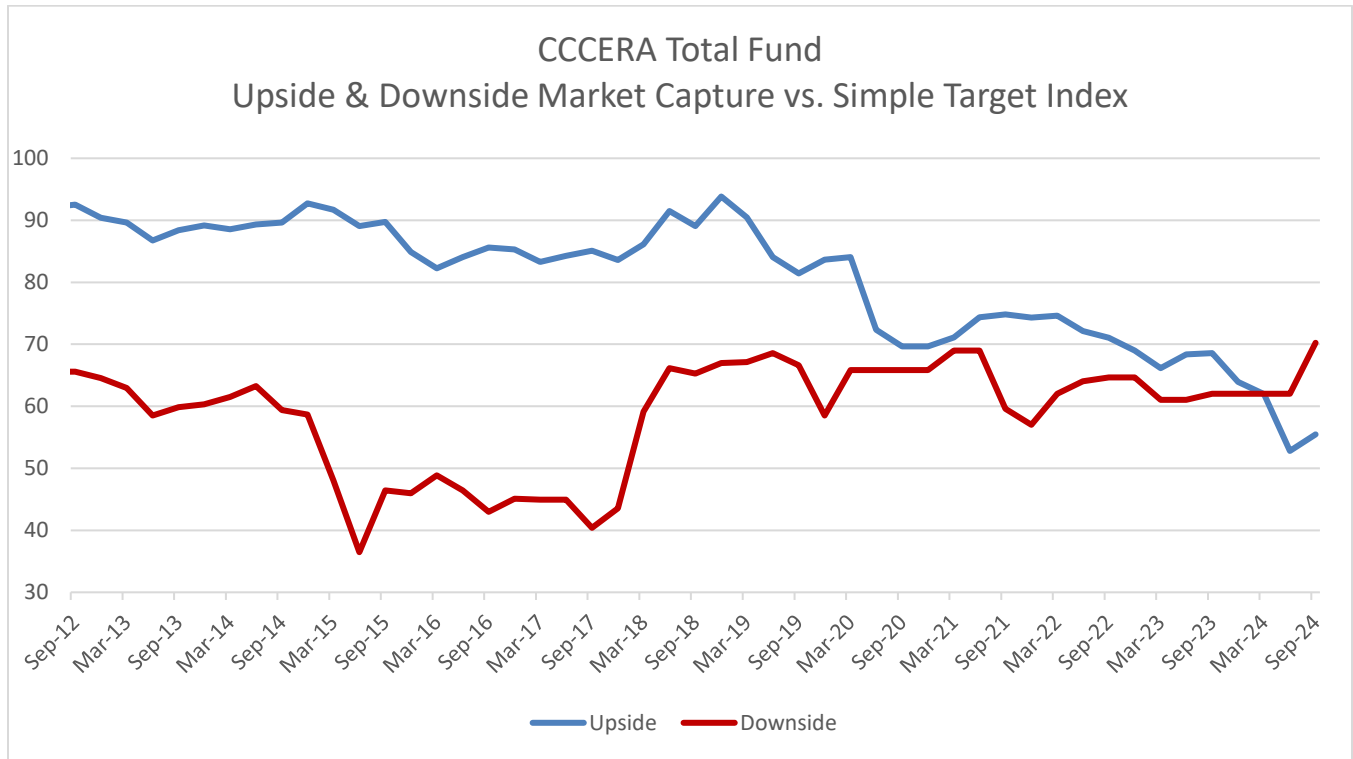
AFL-CIO: Portfolio of domestic, high quality fixed income securities which are backed by commercial and residential mortgages.

BH-DG: Quantitative multi-asset strategy that uses various models to capture both increasing and decreasing price trends across markets and timelines.

Sit LLCAR: Multiple fixed income strategies (closed end funds, mortgages, Treasuries) actively managed to target a modest positive return in most market environments.

Appendix Data – Total Fund

Rolling 3-Year Total Fund Upside/Downside Market Capture



*The composition of the Simple Target Index has mirrored changes in CCCERA’s asset allocation over time: from 2008 to 2012 the benchmark was 73% MSCI ACWI, 23% Bloomberg 1-3 Year Gov/Credit, and 4% 3-Month Treasury Bills. From 2012 to 2016 the composition was 74% MSCI ACWI, 18% Bloomberg 1-3 Year Gov/Credit, and 9% 3-Month Treasury Bills. From 2016 to 2017 the composition was 63% MSCI ACWI, 25% Bloomberg 1-3 Year Gov/Credit, and 12% 3-Month Treasury Bills, from 2017 to June 2018 the composition was 61% MSCI ACWI, 27% Bloomberg 1-3 Year Gov/Credit, and 12% 3-Month Treasury Bills, from July 2018 to June 2019 the composition is 69% MSCI ACWI, 23% Bloomberg 1-3 Year Gov/Credit, and 8% 3-Month Treasury Bills, from July 2019 to June 2020 the composition is 68% MSCI ACWI, 24% Bloomberg 1-3 Year Gov/Credit, and 8% 3-Month Treasury Bills, from July 2020 to June 2021 the composition is 68.5% MSCI ACWI, 25% Bloomberg 1-3 Year Gov/Credit, and 6.5% 3-Month Treasury Bills; from July 2021 to June 2022 the composition is 75% MSCI ACWI, 18% Bloomberg 1-3 Year Gov/Credit, and 7% 3-Month Treasury Bills; from July 2022 to present the composition is 75.5% MSCI ACWI, 17% Bloomberg 1-3 Year Gov/Credit, and 7.5% 3-Month Treasury Bills; from July 2023 to present the composition is 76% MSCI ACWI, 17% Bloomberg 1-3 Year Gov/Credit, and 7% 3-Month Treasury Bills.

Total Fund Quarterly Attribution

	CCCERA Total Fund			Simple Target Index			Analysis		
	Allocation	Return	Return Contribution	Allocation	Return	Return Contribution	Allocation Difference	Return Difference	Total Effect
Liquidity	19.6%	2.7%	0.5%	17.0%	3.0%	0.5%	2.6%	-0.2%	0.0%
Growth	72.4%	4.8%	3.5%	76.0%	6.6%	5.0%	-3.6%	-1.8%	-1.6%
Risk Diversifying	6.8%	2.1%	0.1%	7.0%	1.4%	0.1%	-0.2%	0.7%	0.0%
Overlay	1.2%	1.3%	0.0%	0%	0%	0%	1.2%	1.3%	0.0%
Total Fund	100%		4.2%	100%		5.6%	-0.1%		-1.5%

CCCERA Total Fund Performance vs. Simple Target Index

	One Year		Three Years		Five Years		Ten Years	
	CCCERA	STI	CCCERA	STI	CCCERA	STI	CCCERA	STI
Return	15.2	25.4	3.1	6.9	6.6	9.6	6.5	7.1
Volatility	3.5	5.4	8.1	12.8	9.4	14.1	7.5	11.2
Sharpe	3.0	3.9	0.0	0.3	0.5	0.5	0.7	0.5

The Simple Target Index is made up of 76% MSCI ACWI, 17% Bloomberg 1-3 Year Gov/Credit, and 7% 3-Month Treasury Bill. The purpose of this index is to examine whether CCCERA is being rewarded for pursuing a more nuanced portfolio versus a very simple representative portfolio.

CCCERA's Total Fund has produced good risk adjusted returns over all trailing time periods, but has lagged the absolute return of the Simple Target Index. This primarily reflects the exceptionally strong performance of the global equity markets in recent years relative to more modest private equity and credit returns and significant challenges in real estate.

The Sharpe ratio is a measure of risk adjusted returns which shows the amount of return a portfolio earns above the risk-free rate per unit of volatility. The Total Fund has matched or exceeded the Sharpe ratio relative to the Simple Target Index over the trailing five and ten-year over time.



MEMORANDUM

Date: November 20, 2024
To: CCCERA Board of Retirement
From: Christina Dunn, Chief Executive Officer
Karen Levy, General Counsel
Subject: Amendments to Compensation Earnable Policy

Background

CCCERA's Compensation Earnable Policy sets forth what elements of pay constitute "compensation earnable" for Legacy (pre-PEPRA) members under applicable law. In Section III.A, the policy addresses Gov. Code section 31461(a), which defines "compensation earnable" to mean "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." (Emphasis added.) The law grants the County Board of Supervisors authority to prescribe county employees' compensation as well as conditions of employment. (Gov. Code section 25300.) It is thus the County who sets salaries as well as grades and classes of County employee positions. In determining a member's "grade or class of positions," CCCERA refers to the employer's official job classification, as documented in employer regulations, resolutions, employment agreements or salary schedule.

In order to clarify that CCCERA is to refer to the employer's official documentation, we recommend adding the following language to CCCERA's Compensation Earnable Policy:

The term "grade or class of positions", as used in this section, refers to the grade or class of positions set by the member's employer, and must be reflected in the official employer regulation, ordinance, resolution, employment agreement or salary schedule. Thus, in determining a member's "grade or class", reference will be made to the employer official job classifications/job titles.

Recommendation

Consider and take possible action to amend the Compensation Earnable Policy.

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
BOARD OF RETIREMENT

COMPENSATION EARNABLE POLICY

I. INTRODUCTION

In 1997, the California Supreme Court held that "compensation earnable" used to determine a retiring member's retirement allowance ordinarily includes all cash payments received for services performed, with the exception of overtime pay. *Ventura Deputy Sheriffs' Assn. v. Board of Retirement*, 16 Cal.4th 483 (1997). In 2012, the California Legislature enacted and the Governor signed into law Assembly Bill 197, which changed the way the Board of Retirement must calculate "compensation earnable". The effective date of AB 197 was January 1, 2013, but that date was postponed until July 12, 2014 by an order of the Contra Costa County Superior Court.¹ AB 197 applies to the calculation of benefits for all active or deferred employees who first became CCCERA members before January 1, 2013 ("Legacy Members.") AB 197 does not apply to "New Members," generally those who became members of CCCERA for the first time on or after January 1, 2013. The retirement allowances of "New Members" will be calculated under the provisions of the California Public Employees' Pension Reform Act of 2013 ("PEPRA.")

On May 12, 2014, the Contra Costa County Superior Court issued a final Judgment and Writ interpreting AB 197 and concluding that it was consistent with prior law. The Court's Statement of Decision supporting the Judgment concluded that several of CCCERA's prior practices were not consistent with applicable law — primarily with reference to the inclusion of leave sell-backs and cash-outs for time not both earned and payable annually during the one- or three-year final average salary ("FAS") period. CCCERA was required to apply the Judgment and Writ to all retirements occurring on or after July 12, 2014.

AB 197 and the Judgment and Writ changed the way CCCERA is obligated to calculate Legacy Members' retirement allowances, primarily by requiring CCCERA to exclude certain elements of compensation that previously were treated as "compensation earnable" if earned or received during the FAS period. AB 197 provides that these exclusions from "compensation earnable" are intended to be consistent with and not in conflict with the holdings in *Salus v. San Diego County Employees Retirement Association*, 117 Cal.App.4th 734 (2004) and *In re Retirement Cases*, 110 Cal.App.4th 426 (2003). (Gov. Code § 31461(c).) These two appellate court decisions held as follows: (1) Compensation that may only be received at termination and never during service must be excluded from "compensation earnable"; and (2) Amounts received at the end of a career that "distort" the notion of "average annual compensation" must also be excluded. The Legislature intended that the Board's implementation of AB 197 be guided by these two principles, and the CCCERA Board intends to follow these principles in implementing the requirements of AB 197.

¹ *Contra Costa County Deputy Sheriffs Association, et al., v. CCCERA, et al.*, Contra Costa County Superior Court, Case No. N12-1870.

In 2020, the California Supreme Court upheld the statutory exclusions in AB 197, rejected the estoppel claims made by the petitioners, and ordered the case to remand first to the court of appeal and then to the trial court to vacate the trial court's judgment and conduct further proceedings consistent with the *Alameda* decision. *Alameda County Deputy Sheriff's Assoc. et al., v. Alameda County Employees' Retirement Assn., et al.* (2020) 9 Cal.5th 1032 ("Alameda"). The Board intends to follow the principles set forth in the *Alameda* decision in implementing the requirements of AB 197.

II. PURPOSE

The purpose of this Policy is to set forth what elements of pay constitute "compensation earnable" for Legacy Members under applicable law.

III. POLICY

This Policy identifies what elements of compensation are considered "compensation earnable" during the FAS period and sets forth the policies and practices CCCERA intends to follow in implementing the new law. A list of general pay items that are included in, and excluded from, "compensation earnable" by CCCERA effective on and after July 12, 2014 is attached hereto as Attachment A.

Where an item of remuneration is not excluded categorically from "compensation earnable," CCCERA's participating employers will need to collect and pay both employer and employee contributions on such amounts, if and when paid during service.

A. "Compensation Earnable" Is the Average Annual Compensation For the Period Under Consideration.

Applicable Law: *"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. The computation for any absence shall be based on the compensation of the position held by the member at the beginning of the absence. Compensation, as defined in Section 31460, that has been deferred shall be deemed "compensation earnable" when earned, rather than when paid.* (Gov. Code Section 31461(a).)

CCCERA Policies and Practices. This provision remains unchanged under AB 197. The section primarily defines what constitutes an ordinary work week, excluding compensation received for non-mandatory "overtime." Consistent with the Supreme Court decision in *Ventura Deputy Sheriffs' Assn. v. Board of Retirement*, 16 Cal.4th 483 (1997), "compensation earnable" ordinarily includes all cash payments received for services performed during normal working hours, and usually does not have to be earned or received by everybody else in the same grade or class of positions. Thus, "compensation earnable" ordinarily includes regular salary, service and skill based differentials (e.g. POST, CPA, bilingual pay), holiday pay, allowances (uniform, automobile). "Compensation earnable" excludes overtime pay.

The term “grade or class of positions”, as used in this section, refers to the grade or class of positions set by the member’s employer, and must be reflected in the official employer regulation, ordinance, resolution, employment agreement or salary schedule. Thus, in determining a member's "grade or class", reference will be made to the employer’s official job classifications/job titles.

B. "Compensation Earnable" Excludes Payments For Unused Leave To The Extent They Exceed What Was Both Earned and Could Have Been Sold Back For Cash During Service During The FAS Period

Applicable Law: *"Compensation earnable" does not include, in any case, the following: 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. (G.C. § 31461(b)(2).)*

CCCERA Policies and Practices. Every CCCERA employer has policies and memoranda of understanding governing its employees' ability to earn vacation, sick, compensatory and other leave time, and to receive the value of some or all of those accruals in cash in lieu of time off, but not all such cash payment for unused leave can be included as "compensation earnable". Cash payment for unused leave will be included only to the extent it does not exceed that which may be earned and payable in each 12-month period during the final average salary period.

The CCCERA Board has determined that if a Legacy Member has an employment agreement that allows an annual "sell back" of a certain number of leave hours (*e.g.*, every calendar or fiscal year), then the payment to be included in the FAS period will be limited to that same number of hours per year, regardless of whether the member actually cashed out more during the selected one- or three-year FAS period. Thus, if a member earns 240 hours of vacation leave in a calendar year and is allowed to sell back 80 hours of unused leave each calendar year, the amount that can be counted as "earned and payable" during the FAS period will be 80 hours, even if the member chose a FAS period that "straddles" two calendar years and sells back 80 hours twice during that period. This avoids the distortion that could arise between comparable members solely due to the selection of the twelve (or thirty-six) month FAS period, and yields a true "average annual" compensation earnable.

In general, it does not matter whether the member actually received the cash in lieu of time while still employed or at termination. If it was both earned and payable during the FAS period and does not exceed the employment agreement annual sell back limits, it will be "compensation earnable," regardless of when actually paid.

CCCERA will not need to trace the origin of each hour of leave earned, accrued and/or sold during a member's career. CCCERA will look to the applicable employment agreement to determine how much a member may earn and receive in cash in each time period (*e.g.*, each calendar year or fiscal year) during the FAS period to determine how much is to be included in "compensation earnable."

C. "Compensation Earnable" Excludes Termination Pay.

Applicable Law: *"Compensation earnable" does not include, in any case, the following: 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. (G.C. § 31461(b)(4).)*

CCCERA Policies and Practices. AB 197 made clear, based on case law precedent, that payments that are not both earned and payable to the member during service, but only received because of termination of employment, may not be included in the calculation of the retirement allowance. For example, severance pay and termination pay are generally excluded from "compensation earnable." It is recognized, however, that some pay for unused leave that could have been received during service may not be received until termination, solely due to the member's choice not to take it during service. Taking the money in a "lump sum" at termination does not necessarily disqualify it from inclusion in "compensation earnable." So long as the total of leave cashouts received during the FAS period and at termination does not exceed the amount that was both earned and could have been paid in cash during the FAS period, it will be included in calculating the retirement allowance, subject to the annual "sell back" limitation described in Section III.B. of this Policy. Amounts in excess of that amount will be excluded from "compensation earnable."

D. "Compensation Earnable" Excludes Payments For Additional Services Rendered Outside of Normal Working Hours.

Applicable Law: *"Compensation earnable" does not include, in any case, the following: Payments for additional services rendered outside of normal working hours, whether paid in a lump sum or otherwise. (G.C. § 31461(b)(3).)*

CCCERA Policies and Practices. Pay received for services rendered outside normal working hours is not included in "compensation earnable." To be included, the time for which compensation is received:

- (1) must be the normal working hours set forth in the applicable regulation, resolution or employment agreement;
- (2) must be required by the employer to be worked by the employee (as distinguished from voluntarily worked) as set forth in the applicable regulation, resolution or employment agreement; and
- (3) must be ordinarily worked by all others in the same grade or classification at the same rate of pay.

Pay that will be reviewed under these conditions is often described as "standby" and "on-call." Employers should utilize two separate pay codes: one for pensionable pay that meets the above three-point test; and the other for non-pensionable pay that does not meet the test; and must report to CCCERA as pensionable only that pay that meets the test set forth above. Employer contributions should only be taken against the pensionable pay code.

E. "Compensation Earnable" Excludes Compensation Determined By the Board To Have Been Paid To Enhance A Member's Retirement Benefits.

Applicable Law: *"Compensation earnable" does not include, in any case, the following: Any compensation determined by the board to have been paid to enhance a member's retirement benefit under that system. That compensation may include:*

(A) 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.

(B) 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.

(C) 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.

(G.C. § 31461(b)(1).)

CCCERA Policies and Practices. AB 197 gives the Board authority to review employer pay practices generally, and compensation received individually, to determine if any element of compensation being considered as "compensation earnable" during the FAS period was paid to "enhance" the member's retirement benefit. Examples would include converting from the use of an automobile for many years during service to the sudden receipt of an auto allowance in the year before retirement; converting from employer payments to third-party insurance providers during a member's career to making direct cash payments to the member instead, and having the member separately purchase insurance coverage with the cash; a bonus received at the end of career solely for announcing one's retirement; retroactive grants of cashable leave time; pay received for voluntary after-hours "on-call" service substantially exceeding the member's practice during his or her career; "termination pay" that could not have been received during service; departmental transfers to higher paying positions in a member's final year after it is known the member is retiring; and similar examples of activities that appear to distort the "average annual" compensation earnable the member would have received had he or she not been nearing retirement.

Before the Board makes a determination under this provision, it will afford the member appropriate due process, including an opportunity to appear before the Board and present evidence to support the inclusion of the pay item in calculating the member's retirement allowance, as set forth in the Policy Regarding Assessment and Determination of Compensation Enhancements.

IV. IMPLEMENTATION BY CCCERA

The Chief Executive Officer, with assistance from legal counsel, is responsible for implementing the Board's determination related to "compensation earnable." The CEO is authorized to examine new pay codes and determine their pensionability as follows: If new pay codes are substantially similar to ones addressed in this Policy, the CEO is authorized to notify the employer of the pay item's pensionability without taking the item to the Board. If new pay codes are unusual or unique, the CEO will present the pay code to the Board for the Board's determination on pensionability. In all cases, the CEO will keep the Board informed regarding significant ongoing issues and challenges, as appropriate.

V. HISTORY

This Policy was adopted originally by the Board of Retirement on September 10, 2014 and superseded the predecessor "Determining Which Pay Items are 'Compensation' for Retirement Purposes," as amended, and the Addendum thereto.

Amended: May 5, 2021; _____

Attachment A

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
BOARD OF RETIREMENT

**CHART OF GENERAL PAY ITEMS THAT ARE INCLUDED IN AND EXCLUDED
FROM "COMPENSATION EARNABLE" EFFECTIVE JULY 12, 2014 UNDER
ASSEMBLY BILL 197
FOR "LEGACY" (PRE-PEPRA) MEMBERS**

The following list applies to the calculation of benefits for all active or deferred employees who first became CCCERA members before January 1, 2013 ("Legacy Members"). New members after that date will have their retirement allowances calculated under the provisions of the California Public Employees' Pension Reform Act of 2013 ("PEPRA").

"Compensation earnable" ordinarily includes:

- Regular base salary
- FLSA premium pay for regularly scheduled work assignment (fire and law enforcement)
- Longevity pay
- Cash payments for special skills and qualifications and unique services, such as:
 - bilingual pay
 - shift differential
 - special assignment differential
 - holiday pay
- Educational incentive pay (e.g. POST, CPA)
- In-service leave cash outs (earned and payable each year, regardless of when actually paid)
- Allowances (e.g. uniform, automobile)

"Compensation earnable" ordinarily excludes:

- Pay for additional services performed outside normal working hours, including pay for overtime, on-call, standby and canine care
- Expense reimbursements
- The monetary value of advantages received in kind, such as:
 - uniforms
 - employer payments to third-party insurers
 - lodging
 - transportation
 - the use of an automobile.
- Employer contributions to deferred compensation plans
- Lump sum at termination for accrued unused leave that exceeds the amount that is both earned and can be cashed out annually during the FAS period
- Severance pay

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
BOARD OF RETIREMENT

COMPENSATION EARNABLE POLICY

Adopted: 9/10/2014

Amended: 5/5/2021

I. INTRODUCTION

In 1997, the California Supreme Court held that "compensation earnable" used to determine a retiring member's retirement allowance ordinarily includes all cash payments received for services performed, with the exception of overtime pay. *Ventura Deputy Sheriffs' Assn. v. Board of Retirement*, 16 Cal.4th 483 (1997). In 2012, the California Legislature enacted and the Governor signed into law Assembly Bill 197, which changed the way the Board of Retirement must calculate "compensation earnable". The effective date of AB 197 was January 1, 2013, but that date was postponed until July 12, 2014 by an order of the Contra Costa County Superior Court.¹ AB 197 applies to the calculation of benefits for all active or deferred employees who first became CCCERA members before January 1, 2013 ("Legacy Members.") AB 197 does not apply to "New Members," generally those who became members of CCCERA for the first time on or after January 1, 2013. The retirement allowances of "New Members" will be calculated under the provisions of the California Public Employees' Pension Reform Act of 2013 ("PEPRA.")

On May 12, 2014, the Contra Costa County Superior Court issued a final Judgment and Writ interpreting AB 197 and concluding that it was consistent with prior law. The Court's Statement of Decision supporting the Judgment concluded that several of CCCERA's prior practices were not consistent with applicable law — primarily with reference to the inclusion of leave sell-backs and cash-outs for time not both earned and payable annually during the one- or three-year final average salary ("FAS") period. CCCERA was required to apply the Judgment and Writ to all retirements occurring on or after July 12, 2014.

AB 197 and the Judgment and Writ changed the way CCCERA is obligated to calculate Legacy Members' retirement allowances, primarily by requiring CCCERA to exclude certain elements of compensation that previously were treated as "compensation earnable" if earned or received during the FAS period. AB 197 provides that these exclusions from "compensation earnable" are intended to be consistent with and not in conflict with the holdings in *Salus v. San Diego County Employees Retirement Association*, 117 Cal.App.4th 734 (2004) and *In re Retirement Cases*, 110 Cal.App.4th 426 (2003). (Gov. Code § 31461(c).) These two appellate court decisions held as follows: (1) Compensation that may only be received at termination and never during service must be excluded from "compensation earnable"; and (2) Amounts received at the end of a career that "distort" the notion of "average annual compensation" must also be excluded.

¹ *Contra Costa County Deputy Sheriffs Association, et al., v. CCCERA, et al.*, Contra Costa County Superior Court, Case No. N12-1870.

The Legislature intended that the Board's implementation of AB 197 be guided by these two principles, and the CCCERA Board intends to follow these principles in implementing the requirements of AB 197.

In 2020, the California Supreme Court upheld the statutory exclusions in AB 197, rejected the estoppel claims made by the petitioners, and ordered the case to remand first to the court of appeal and then to the trial court to vacate the trial court's judgment and conduct further proceedings consistent with the *Alameda* decision. *Alameda County Deputy Sheriff's Assoc. et al., v. Alameda County Employees' Retirement Assn., et al.* (2020) 9 Cal.5th 1032 ("Alameda"). The Board intends to follow the principles set forth in the *Alameda* decision in implementing the requirements of AB 197.

II. PURPOSE

The purpose of this Policy is to set forth what elements of pay constitute "compensation earnable" for Legacy Members under applicable law.

III. POLICY

This Policy identifies what elements of compensation are considered "compensation earnable" during the FAS period and sets forth the policies and practices CCCERA intends to follow in implementing the new law. A list of general pay items that are included in, and excluded from, "compensation earnable" by CCCERA effective on and after July 12, 2014 is attached hereto as Attachment A.

Where an item of remuneration is not excluded categorically from "compensation earnable," CCCERA's participating employers will need to collect and pay both employer and employee contributions on such amounts, if and when paid during service.

A. "Compensation Earnable" Is the Average Annual Compensation For the Period Under Consideration.

Applicable Law: *"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. The computation for any absence shall be based on the compensation of the position held by the member at the beginning of the absence. Compensation, as defined in Section 31460, that has been deferred shall be deemed "compensation earnable" when earned, rather than when paid.* (Gov. Code Section 31461(a).)

CCCERA Policies and Practices. This provision remains unchanged under AB 197. The section primarily defines what constitutes an ordinary work week, excluding compensation received for non-mandatory "overtime." Consistent with the Supreme Court decision in *Ventura Deputy Sheriffs' Assn. v. Board of Retirement*, 16 Cal.4th 483 (1997), "compensation earnable" ordinarily includes all cash payments received for services performed during normal working hours, and usually does not have to be earned or received by everybody else in the same grade or

class of positions. Thus, "compensation earnable" ordinarily includes regular salary, service and skill based differentials (e.g. POST, CPA, bilingual pay), holiday pay, allowances (uniform, automobile). "Compensation earnable" excludes overtime pay.

–The term “grade or class of positions”, as used in this section, refers to the grade or class of positions set by the member’s employer, and must be reflected in the official employer regulation, ordinance, resolution, employment agreement or salary schedule. Thus, in determining a member's "grade or class", reference will be made to the employer’s official job classifications/job titles.

B. "Compensation Earnable" Excludes Payments For Unused Leave To The Extent They Exceed What Was Both Earned and Could Have Been Sold Back For Cash During Service During The FAS Period

Applicable Law: *"Compensation earnable" does not include, in any case, the following: 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. (G.C. § 31461(b)(2).)*

CCCERA Policies and Practices. Every CCCERA employer has policies and memoranda of understanding governing its employees' ability to earn vacation, sick, compensatory and other leave time, and to receive the value of some or all of those accruals in cash in lieu of time off, but not all such cash payment for unused leave can be included as "compensation earnable". Cash payment for unused leave will be included only to the extent it does not exceed that which may be earned and payable in each 12-month period during the final average salary period.

The CCCERA Board has determined that if a Legacy Member has an employment agreement that allows an annual "sell back" of a certain number of leave hours (*e.g.*, every calendar or fiscal year), then the payment to be included in the FAS period will be limited to that same number of hours per year, regardless of whether the member actually cashed out more during the selected one- or three-year FAS period. Thus, if a member earns 240 hours of vacation leave in a calendar year and is allowed to sell back 80 hours of unused leave each calendar year, the amount that can be counted as "earned and payable" during the FAS period will be 80 hours, even if the member chose a FAS period that "straddles" two calendar years and sells back 80 hours twice during that period. This avoids the distortion that could arise between comparable members solely due to the selection of the twelve (or thirty-six) month FAS period, and yields a true "average annual" compensation earnable.

In general, it does not matter whether the member actually received the cash in lieu of time while still employed or at termination. If it was both earned and payable during the FAS period and does not exceed the employment agreement annual sell back limits, it will be "compensation earnable," regardless of when actually paid.

CCCERA will not need to trace the origin of each hour of leave earned, accrued and/or sold during a member's career. CCCERA will look to the applicable employment agreement to

determine how much a member may earn and receive in cash in each time period (e.g., each calendar year or fiscal year) during the FAS period to determine how much is to be included in "compensation earnable."

C. "Compensation Earnable" Excludes Termination Pay.

Applicable Law: *"Compensation earnable" does not include, in any case, the following: 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. (G.C. § 31461(b)(4).)*

CCCERA Policies and Practices. AB 197 made clear, based on case law precedent, that payments that are not both earned and payable to the member during service, but only received because of termination of employment, may not be included in the calculation of the retirement allowance. For example, severance pay and termination pay are generally excluded from "compensation earnable." It is recognized, however, that some pay for unused leave that could have been received during service may not be received until termination, solely due to the member's choice not to take it during service. Taking the money in a "lump sum" at termination does not necessarily disqualify it from inclusion in "compensation earnable." So long as the total of leave cashouts received during the FAS period and at termination does not exceed the amount that was both earned and could have been paid in cash during the FAS period, it will be included in calculating the retirement allowance, subject to the annual "sell back" limitation described in Section III.B. of this Policy. Amounts in excess of that amount will be excluded from "compensation earnable."

D. "Compensation Earnable" Excludes Payments For Additional Services Rendered Outside of Normal Working Hours.

Applicable Law: *"Compensation earnable" does not include, in any case, the following: Payments for additional services rendered outside of normal working hours, whether paid in a lump sum or otherwise. (G.C. § 31461(b)(3).)*

CCCERA Policies and Practices. Pay received for services rendered outside normal working hours is not included in "compensation earnable." To be included, the time for which compensation is received:

- (1) must be the normal working hours set forth in the applicable regulation, resolution or employment agreement;
- (2) must be required by the employer to be worked by the employee (as distinguished from voluntarily worked) as set forth in the applicable regulation, resolution or employment agreement; and
- (3) must be ordinarily worked by all others in the same grade or classification at the same rate of pay.

Pay that will be reviewed under these conditions is often described as "standby" and "on-call." Employers should utilize two separate pay codes: one for pensionable pay that meets the above three-point test; and the other for non-pensionable pay that does not meet the test; and must report to CCCERA as pensionable only that pay that meets the test set forth above. Employer contributions should only be taken against the pensionable pay code.

E. "Compensation Earnable" Excludes Compensation Determined By the Board To Have Been Paid To Enhance A Member's Retirement Benefits.

Applicable Law: *"Compensation earnable" does not include, in any case, the following: Any compensation determined by the board to have been paid to enhance a member's retirement benefit under that system. That compensation may include:*

(A) 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.

(B) 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.

(C) 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.

(G.C. § 31461(b)(1).)

CCCERA Policies and Practices. AB 197 gives the Board authority to review employer pay practices generally, and compensation received individually, to determine if any element of compensation being considered as "compensation earnable" during the FAS period was paid to "enhance" the member's retirement benefit. Examples would include converting from the use of an automobile for many years during service to the sudden receipt of an auto allowance in the year before retirement; converting from employer payments to third-party insurance providers during a member's career to making direct cash payments to the member instead, and having the member separately purchase insurance coverage with the cash; a bonus received at the end of career solely for announcing one's retirement; retroactive grants of cashable leave time; pay received for voluntary after-hours "on-call" service substantially exceeding the member's practice during his or her career; "termination pay" that could not have been received during service; departmental transfers to higher paying positions in a member's final year after it is known the member is retiring; and similar examples of activities that appear to distort the "average annual" compensation earnable the member would have received had he or she not been nearing retirement.

Before the Board makes a determination under this provision, it will afford the member appropriate due process, including an opportunity to appear before the Board and present evidence to support the inclusion of the pay item in calculating the member's retirement allowance, as set forth in the Policy Regarding Assessment and Determination of Compensation Enhancements.

IV. IMPLEMENTATION BY CCCERA

The Chief Executive Officer, with assistance from legal counsel, is responsible for implementing the Board's determination related to "compensation earnable." The CEO is authorized to examine new pay codes and determine their pensionability as follows: If new pay codes are substantially similar to ones addressed in this Policy, the CEO is authorized to notify the employer of the pay item's pensionability without taking the item to the Board. If new pay codes are unusual or unique, the CEO will present the pay code to the Board for the Board's determination on pensionability. In all cases, the CEO will keep the Board informed regarding significant ongoing issues and challenges, as appropriate.

V. HISTORY

This Policy was adopted originally by the Board of Retirement on September 10, 2014 and superseded the predecessor "Determining Which Pay Items are 'Compensation' for Retirement Purposes," as amended, and the Addendum thereto.

Amended: May 5, 2021; _____

~~**This Policy was adopted originally by the Board of Retirement on September 10, 2014 and superseded the predecessor "Determining Which Pay Items are 'Compensation' for Retirement Purposes," as amended, and the Addendum thereto.**~~

Attachment A

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
BOARD OF RETIREMENT

**CHART OF GENERAL PAY ITEMS THAT ARE INCLUDED IN AND EXCLUDED
FROM "COMPENSATION EARNABLE" EFFECTIVE JULY 12, 2014 UNDER
ASSEMBLY BILL 197
FOR "LEGACY" (PRE-PEPRA) MEMBERS**

The following list applies to the calculation of benefits for all active or deferred employees who first became CCCERA members before January 1, 2013 ("Legacy Members"). New members after that date will have their retirement allowances calculated under the provisions of the California Public Employees' Pension Reform Act of 2013 ("PEPRA").

"Compensation earnable" ordinarily includes:

- Regular base salary
- FLSA premium pay for regularly scheduled work assignment (fire and law enforcement)
- Longevity pay
- Cash payments for special skills and qualifications and unique services, such as:
 - bilingual pay
 - shift differential
 - special assignment differential
 - holiday pay
- Educational incentive pay (e.g. POST, CPA)
- In-service leave cash outs (earned and payable each year, regardless of when actually paid)
- Allowances (e.g. uniform, automobile)

"Compensation earnable" ordinarily excludes:

- Pay for additional services performed outside normal working hours, including pay for overtime, on-call, standby and canine care
- Expense reimbursements
- The monetary value of advantages received in kind, such as:
 - uniforms
 - employer payments to third-party insurers
 - lodging
 - transportation
 - the use of an automobile.
- Employer contributions to deferred compensation plans
- Lump sum at termination for accrued unused leave that exceeds the amount that is both earned and can be cashed out annually during the FAS period
- Severance pay

NATIONAL ASSOCIATION OF POLICE ORGANIZATIONS

36th ANNUAL PENSION & BENEFITS SEMINAR

Please join the National Association of Police Organizations at our 36th Annual Police, Fire, EMS and Municipal Employee Pension & Benefits Seminar February 2 - 4, 2025 at Caesars Palace Hotel & Casino in Las Vegas, Nevada.

Thanks to the assistance of our impressive advisory board, we are receiving overwhelming responses to our seminar. Our goal is to educate pension and union representatives along with their providers on the latest issues surrounding the pensions & benefits industry.

Topics will include: Economic & Political Updates and the likely Impact of the 2024 Elections, Inflation and the Fed's Response, Mounting National Debt and Threats to the U.S. Credit Rating, Socially Conscious Investing, Global Taxation Plans, Liability Pitfalls & Practical Advice for Fiduciaries, AI and its Impact on Pension & Benefits Plans and Investing to name a few!

Take an active role in improving the future of your fund by registering for this informative seminar.

Questions??? Contact NAPO's Director of Events, Elizabeth Loranger, at 800-322-6276 or eloranger@napo.org



Meeting Date
11/20/2024
Agenda Item
#11a.

Register now to take advantage of the Early Bird Discount!

February 2 - 4, 2025

CAESARS PALACE HOTEL & CASINO

Las Vegas, Nevada

ATTENDEE REGISTRATION FORM

Registrant Information

Name: _____

Title: _____

Organization: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Cell: _____

Email: _____

Attendees

Name: _____

Email: _____

Name: _____

Email: _____

Name: _____

Email: _____

Name: _____

Email: _____

Please provide the full name for each attendee, as it should appear on their name badge.

Registration Fees

Register by 12/1/2024 for \$595*/\$695**/\$2,695*** Early Bird Rate

NAPO Law Enforcement Group Member* \$645 _____

Public Safety Non NAPO Member** \$745 _____

Pension/Union Trustee/Director** \$745 _____

Asset Manager/Service Provider*** \$2,895 _____

NAPO Member Spouse \$300 _____

TOTAL PAID \$ _____

Payment Information

Check Enclosed \$ _____ (payable to NAPO)

Charge \$ _____ MC VISA AMEX DISC

Card #: _____

Exp. Date: _____ CVV#: _____

Billing Address: _____

City: _____ State: _____ Zip: _____

Name: _____

Signature: _____

Seminar Information

Join NAPO for the 36th Annual Pension & Benefits Seminar in Las Vegas! Participate in discussions on the pertinent and pressing topics affecting your retirement, pension fund and benefits. For the most up-to-date agenda, and seminar details please visit www.napo.org/PB25.

Schedule at a Glance

Saturday, February 2

3:15 p.m. - 6:00 p.m.	Attendee Registration
3:30 p.m. - 5:15 p.m.	NAPO Executive Board
5:30 p.m. - 7:00 p.m.	Welcome Reception

Monday, February 3

8:30 a.m. - 6:30 p.m.	Exhibit Hall Open
8:30 a.m. - 9:00 a.m.	Registration/Breakfast
9:00 a.m. - 12:30 p.m.	General Session
12:30 p.m. - 1:30 p.m.	Hosted Lunch
1:30 p.m. - 4:45 p.m.	General Session
5:00 p.m. - 6:30 p.m.	Networking Reception

Tuesday, February 4

8:30 a.m. - 3:00 p.m.	Exhibit Hall Open
8:30 a.m. - 9:00 a.m.	Breakfast
9:00 a.m. - 12:00 p.m.	General Session
12:00 p.m. - 1:00 p.m.	Hosted Lunch
1:30 p.m. - 4:00 p.m.	General Session

Seminar Registration

We encourage you to register by December 1, 2024 to take advantage of the Early Bird Discounts. On-site registration is available for an additional \$100.00 per attendee. Only registered individuals may attend the general sessions and social events.



	Early Bird Rate By 12/1/24	Standard Rate After 12/1/24
NAPO Law Enforcement Group Member	\$595	\$645
Pension/ Union Trustee, Administrator, Director, Public Employee Non NAPO Member	\$695	\$745
Asset Managers & Service Providers	\$2695	\$2895
Attendee Spouse	\$300	\$300

Registration

ONLINE:

www.napo.org/PB25

MAIL:

NAPO, 317 South Patrick Street, Alexandria, VA 22314

FAX/EMAIL:

Fax: 703-684-0515 Email: eloranger@napo.org

Cancellation/Refund Policy

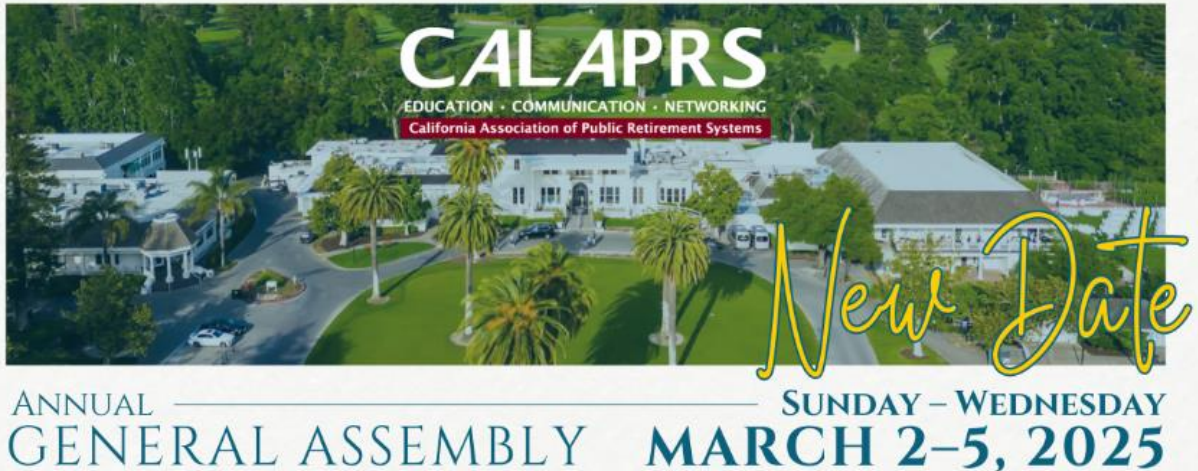
Cancellation requests received prior to January 20, 2025 will be refunded minus a \$50 processing fee. No refunds will be given after January 20, 2025.

Hotel

NAPO has reserved guest rooms at Caesars Palace Hotel for registered seminar attendees. Room rates are \$209 weekend and \$159 weekday. Reservations may be made by calling (866) 227-5944. Advise them you are attending the NAPO Seminar. To avoid a \$15 booking fee, make your reservations online. Check the NAPO website, www.napo.org/PB25 for the reservation link.

Airfare

Discounted airfare is available through Delta and United Airlines. To confirm the discounted prices please go to the NAPO Pension & Benefits website: www.napo.org/PB25



General Information

The CALAPRS General Assembly is an educational conference for retirement system trustees, senior staff, and annual sponsors of CALAPRS. Typically held on a Saturday through Tuesday in March, the program includes educational sessions on relevant and timely topics, as well as networking opportunities for participants. The program agenda is developed by a planning committee commissioned by the CALAPRS Board of Directors.

Upcoming Events

General Assembly 2025

Sunday-Wednesday, March 2-5, 2025 *[NEW DATE PATTERN]*

Silverado Resort, 1600 Atlas Peak Rd, Napa, CA

Agenda still to come!

[Register Here](#)

[Book Your Room Online](#)

Hotel Room Rate: \$269/night plus taxes and fees PLUS \$35/night resort fee.



NATIONAL INSTITUTE ON
Retirement Security

Reliable Research. Sensible Solutions.

Noteworthy from NIRS
September 2024



Save the Date | 16th Annual Retirement Policy Conference

Mark your calendar to attend the National Institute on Retirement Security (**NIRS**) 16th Annual Retirement Policy Conference, **Choices, Challenges, and Opportunities | Strengthening the Retirement Infrastructure.**

Scheduled for Monday, March 3 and Tuesday, March 4, 2025, at the **Park Hyatt** in Washington, D.C., this conference again will bring together top retirement thought leaders from across the country for conversations about the most pressing retirement issues facing the nation. Attendees will engage with keynote speakers and panelists to explore key retirement obstacles, along with policy solutions that can help shore up Americans' retirement readiness.



Stay tuned for more information and registration coming soon. This conference is exclusive to NIRS members and special invited guests. Interested in becoming a NIRS member? Contact **Margaret Rogers** for more information.