



AGENDA

RETIREMENT BOARD MEETING

REGULAR MEETING
December 13, 2023
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 Wrally Dutkiewicz for 10 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 the following routine items:
 - a. Certifications of membership.
 - b. Service and disability allowances.
 - c. Death benefits.
 - d. Investment liquidity report.
 - II. Accept the following routine items:
 - a. Disability applications and authorize subpoenas as required.
 - b. Investment asset allocation report.
 - III. Receive the 2024 Compliance Activity Plan as presented to the Audit Committee at the November 29, 2023 meeting.
 - IV. Receive the Contra Costa County Human Resources Department employer audit report as presented to the Audit Committee at the November 29, 2023 meeting.

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. Receive the Contra Costa County Administrator’s Office employer audit report as presented to the Audit Committee at the November 29, 2023 meeting.
 - VI. Receive the Contra Costa Animal Services employer audit report as presented to the Audit Committee at the November 29, 2023 meeting.
 - VII. Consider and take possible action to approve the 2023-2024 Internal Audit Plan, as recommended by the Audit Committee.
 - VIII. Consider and take possible action to approve the Internal Audit Charter, as recommended by the Audit Committee.
- 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. Stephen Bame	Service Connected	Service Connected
b. Ma Teresa De Guzman Agas	Non-Service Connected	Non-Service Connected
c. Michael Marshall	Service Connected	Service Connected
d. Richard Nogueira	Service Connected	Service Connected
e. Damon Pellegrini	Service Connected	Service Connected
f. Casey Reel	Service Connected	Service Connected

- 6. CONFERENCE WITH LABOR NEGOTIATORS
(Government Code § 54957.6)

Agency designated representatives:
Christina Dunn, Acting Chief Executive Officer
Erica Grant, Human Resources Manager
Alison Flowers, CCCERA's Chief Negotiator

Employee Organization: AFSCME Local 2700

- 7. PUBLIC EMPLOYMENT (Government Code § 54957(b))
Title: Chief Executive Officer

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OPEN SESSION

8. Consider and take possible action regarding service connected disability retirement allowance of deceased member Michael Newton. (Action Item)
9. Review of total portfolio performance for period ending September 30, 2023. (Presentation Item)
 - a. Presentation from Verus
 - b. Presentation from staff
10. Update on private equity and real estate allocations. (Presentation Item)
11. Pension administration system project update: (Presentation Item)
 - a. Update from staff
 - b. Presentation from Segal
 - c. Presentation from Sagitec
12. Report from Audit Committee Chair on the November 29, 2023 Audit Committee meeting. (Presentation Item)
13. Consider authorizing the attendance of Board: (Action Item)
 - a. 35th Annual Pension & Benefits Seminar, NAPO, January 28-30, 2024, Las Vegas, NV.
 - b. Advanced Trustees and Administrators Institute, IFEBP, February 12-14, 2024, Orlando, FL.
14. Miscellaneous
 - a. Staff Report
 - b. Outside Professionals' Report
 - c. Trustees' comments

The Board will adjourn in honor of Russell Watts' retirement.

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.

CERTIFICATION OF MEMBERSHIPS

Name	Employee Number	Tier	Membership Date	Employer
Aguiar, Michael	D9500	P5.3	10/01/23	Contra Costa County Superior Courts
Alli-Ogunleye, Adedayo	88441	P5.2	10/01/23	Contra Costa County
Arellano, Mandy	94106	P5.2	10/01/23	Contra Costa County
Asifi, Mohammed	94005	P5.2	10/01/23	Contra Costa County
Bartlett, Shane	D3406	P4.3	10/01/23	Central Contra Costa Sanitary District
Bass, James	94006	P5.2	10/01/23	Contra Costa County
Bercaives, Veronica	94017	P5.2	10/01/23	Contra Costa County
Bernas, Heidi	94039	P5.2	10/01/23	Contra Costa County
Berumen, Marisol	94032	P5.2	10/01/23	Contra Costa County
Brown, Rachel	94080	P5.2	10/01/23	Contra Costa County
Burkes, Monei	72938	III	10/01/23	Contra Costa County
Caicedo, Raquel	93952	P5.2	10/01/23	Contra Costa County
Carchidi, Brad	D3406	P4.3	10/01/23	Central Contra Costa Sanitary District
Chiu, Jeff	94018	P5.2	10/01/23	Contra Costa County
Clark, Imani	94103	P5.2	10/01/23	Contra Costa County
Cruz, Tricia	D3406	P4.3	10/01/23	Central Contra Costa Sanitary District
Cunnane, Kevin	78234	P5.2	10/01/23	Contra Costa County
Davis, Anita	D4980	P4.3	10/01/23	Contra Costa County Employees Retirement Association
De Luna, Reynald	94075	P5.2	10/01/23	Contra Costa County
Diankov, Nikolay	94074	P5.2	10/01/23	Contra Costa County
Diaz, Stephanie	94109	P5.2	10/01/23	Contra Costa County
DiRicco, Devlet	93974	P5.2	10/01/23	Contra Costa County
Donoghue, Michaela	94058	P5.2	10/01/23	Contra Costa County
Eshera, Noha	88377	P5.2	10/01/23	Contra Costa County
Fahmie, Emely	90342	P5.2	10/01/23	Contra Costa County
Franklin, Jenna	82984	P5.2	10/01/23	Contra Costa County
Freo, Stormy	93967	P5.2	10/01/23	Contra Costa County
Garcia, Evangelina	94057	P4.3	10/01/23	First Five of Contra Costa
Garvey, Scott	93899	P5.2	10/01/23	Contra Costa County
Gliscinska-Yagjian, Malgorzata	94043	P5.2	10/01/23	Contra Costa County
Goddard, Ashleigh	94054	P5.2	10/01/23	Contra Costa County
Gray, Matthew	94004	P5.2	10/01/23	Contra Costa County
Guinn, Paris	94088	P5.2	10/01/23	Contra Costa County
Gutierrez, Gian-Lawrence	94072	P5.2	10/01/23	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

Name	Employee Number	Tier	Membership Date	Employer
Hernandez, Jasmine	94052	P5.2	10/01/23	Contra Costa County
Hicks, Shannon	D7274	P4.3	10/01/23	Moraga-Orinda Fire District
Hoser, Tenzin	93978	P5.2	10/01/23	Contra Costa County
Jacobson, Jesse	93991	P5.2	10/01/23	Contra Costa County
Janis, Glenda	63291	P5.2	10/01/23	Contra Costa County
Johnson, Donjanae	94105	P5.2	10/01/23	Contra Costa County
Johnson, Jennifer	89248	P5.2	10/01/23	Contra Costa County
Johnson, Mia	D9500	P5.3	10/01/23	Contra Costa County Superior Courts
Jones, Amy	94104	P5.2	10/01/23	Contra Costa County
Khosravi, Sara	93853	P5.2	10/01/23	Contra Costa County
Kuntz, Rebecca	94090	P5.2	10/01/23	Contra Costa County
Lee, Grace	88603	P5.2	10/01/23	Contra Costa County
Lepe, Cynthia	94031	P5.2	10/01/23	Contra Costa County
Leung, Peter	D4980	P4.3	10/01/23	Contra Costa County Employees Retirement Association
Liang, Casey	94084	P5.2	10/01/23	Contra Costa County
Lopez, Irene	94046	P5.2	10/01/23	Contra Costa County
Luna De Vazquez, Sandra	84912	P5.2	10/01/23	Contra Costa County
Manalac, Derrick	91175	P5.2	10/01/23	Contra Costa County
McColley, Robert	94059	P5.2	10/01/23	Contra Costa County
McKenna, Carol	94071	P5.2	10/01/23	Contra Costa County
Morgan, Najah	93870	P5.2	10/01/23	Contra Costa County
Munger, Joanna	91414	P5.2	10/01/23	Contra Costa County
Navarro, Nadia	94070	P5.2	10/01/23	Contra Costa County
Navas, Maria	94024	P5.2	10/01/23	Contra Costa County
Nuri, Stoorai	94110	P5.2	10/01/23	Contra Costa County
Olson, Kelly	87909	P5.2	10/01/23	Contra Costa County
Ordon, Elcid	92720	P5.2	10/01/23	Contra Costa County
Ormerod, Chloe	89665	P4.2	10/01/23	Contra Costa County Fire Protection District
Oseguera, Carolena	94047	P5.2	10/01/23	Contra Costa County
Osiemo, Elkanah	94041	P5.2	10/01/23	Contra Costa County
Osorio, Adrian	94011	S/E	10/01/23	Contra Costa County
Preciado, Mitchell	94042	P5.2	10/01/23	Contra Costa County
Ramos, Jessica	93356	P5.2	10/01/23	Contra Costa County
Ranger, Yasuyo	82732	P5.2	10/01/23	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

Name	Employee Number	Tier	Membership Date	Employer
Rao, Amit	94102	P5.2	10/01/23	Contra Costa County
Ravi, Akshay	93969	P5.2	10/01/23	Contra Costa County
Richards, Florbela	94063	P4.2	10/01/23	Contra Costa County Fire Protection District
Rivera, Andre	94016	S/E	10/01/23	Contra Costa County
Roblero De Berviz, Xiomara	87277	P5.2	10/01/23	Contra Costa County
Rodriguez, Jose	94073	P5.2	10/01/23	Contra Costa County
Rosas, Maria	93949	P5.2	10/01/23	Contra Costa County
Saldana, Omar	94051	P5.2	10/01/23	Contra Costa County
Santos, Francisco	D3406	P4.3	10/01/23	Central Contra Costa Sanitary District
Scott, Mark	D9500	P5.3	10/01/23	Contra Costa County Superior Courts
Scroggins, Lauren	94064	III	10/01/23	Contra Costa County
Sharma, Rohit	94121	P5.2	10/01/23	Contra Costa County
Singh, Lachman	92066	P5.2	10/01/23	Contra Costa County
So, Jonathan	94082	P5.2	10/01/23	Contra Costa County
Srinivasan, Srijith	94034	P5.2	10/01/23	Contra Costa County
Strohl, Jonathan	94019	P5.2	10/01/23	Contra Costa County
Sykes, Garrett	92696	P5.2	10/01/23	Contra Costa County
Tagaloo, Pekina	94049	P5.2	10/01/23	Contra Costa County
Tarvins, Robynn	94045	P5.2	10/01/23	Contra Costa County
Toor, Gurvinder	D9500	P5.3	10/01/23	Contra Costa County Superior Courts
Verduzco, Lurdes	94044	P5.2	10/01/23	Contra Costa County
Walker, Reshundra	94003	P5.2	10/01/23	Contra Costa County
Wall III, Howard	D3406	P4.3	10/01/23	Central Contra Costa Sanitary District
Zeavin-Moss, Ivan	94053	P5.2	10/01/23	Contra Costa County

Key:

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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

TIER CHANGES

<i>Name</i>	<i>Employee Number</i>	<i>Old Tier</i>	<i>New Tier</i>	<i>Effective Date</i>	<i>Employer</i>	<i>Reason for Change</i>
Gambetti, Roberta	93595	P5.2	III	07/01/23	Contra Costa County	Reciprocity Established
Zebley, Joshua	93941	P5.2	III	09/01/23	Contra Costa County	Reciprocity Established

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III = Tier III	P5.2 = PEPR A Tier 5 (2% COLA)	S/D = Safety Tier D
	P5.3 = PEPR A Tier 5 (3% COLA)	S/E = Safety Tier E

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
BOARD OF RETIREMENT

<u>Meeting Date</u> 12/13/2023 <u>Agenda Item</u> #4.A-1b.

Service and Disability Retirement Allowances:

<u>Name</u>	<u>Number</u>	<u>Effective Date</u>	<u>Option Type</u>	<u>Tier</u>	<u>Selected</u>
Agurto, Sandra	80459	08/18/23	SR	PEPRA 5.2	Unmodified
Ahearn, Ava	77603	09/05/23	SR	PEPRA 5.3	Unmodified
Bier, Sherrill	79594	08/12/23	SR	PEPRA 5.3	Unmodified
Blasingame, Nancye	76938	09/01/23	SR	III	Unmodified
Carranza, Alicia	D9500	08/19/23	SR	II and III	Unmodified
Cortez, Aaron	D3406	09/23/23	SR	I	Unmodified
Crider, Laurie	69034	09/01/23	SR	II and III	Unmodified
Floyd, Alaina	77906	11/04/22	SR	III	Unmodified
Gouvaia, Anthony	61971	10/19/23	SR	Safety A	Unmodified
Greene, Jimmy	72914	08/31/23	SR	Safety C	Unmodified
Hartono, Arlene	D7830	09/30/23	SR	I	Unmodified
Havea, Amy	70553	05/07/22	SCD	PEPRA 5.3	Unmodified
Johnson, Michelle	84053	09/14/23	SR	III	Option 1
Justice, Denise	71219	09/02/23	SR	III	Unmodified
Levy, Alice	60863	09/01/23	SR	III	Unmodified
Lorrekovich, Jacqueline	60023	09/01/23	SR	I, II and III	Unmodified
Lovett, Torey	62641	09/01/23	SR	II and III	Unmodified
Marin, Roxanne	48958	09/01/23	SR	I	Unmodified
Nelson, Michele	D9990	09/01/23	SR	I	Unmodified
Nobriga, James	62171	09/28/23	SR	III	Unmodified
Norman, Julia	53656	10/25/23	SR	III	Unmodified
Olsen, Joseph	45782	09/14/23	SR	II	Unmodified
Orfirer, Kathryn	0649/AP	10/18/23	SR	II and III	Unmodified
Rodriguez, Sylvia	67509	09/01/23	SR	III	Unmodified
Shum, Julie	49418	09/21/23	SR	I	Unmodified
Taylor, Allene	61626	08/20/23	SR	I	Unmodified
Valente, Loriana	74842	08/16/23	SR	III	Unmodified
Wakefield, Daphne	60856	09/01/23	SR	II and III	Unmodified
Wentink, Michelle	71621	09/01/23	SR	Safety A	Unmodified

<p><u>Option Type</u> NSP = Non-Specified SCD = Service Connected Disability SR = Service Retirement NSCD = Non-Service Connected Disability * = County Advance Selected w/option</p>	<p><u>Tier</u> I = Tier I II = Tier II III = Tier III S/A = Safety Tier A S/C = safety Tier C</p>	<p><u>Tier</u> 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</p>
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CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
BOARD OF RETIREMENT

Meeting Date
12/13/2023
Agenda Item
#4.A-Ic.

Deaths:

<u>Name</u>	<u>Date of Death</u>	<u>Employer as of Date of Death</u>
Carey, Nancy	10/14/23	Contra Costa County
Desurne, James	10/13/23	Central Contra Costa Sanitary District
Ferry, Joseph	11/01/23	Contra Costa County
Gambarini, Bobbie	10/22/23	Contra Costa County
Hammond, Elana	10/22/23	Contra Costa County
Hensley, Yvonne	10/17/23	Contra Costa County
Houck, Derhyl	10/12/23	Contra Costa County
Kiesel, Patricia	10/19/23	Contra Costa County
Kinney, Harry	10/02/23	Contra Costa County
Markert, Theresa	10/23/23	Contra Costa County
Moore, Derrick	10/23/23	Contra Costa County
Perkins, Lowde	11/06/23	Contra Costa County
Pilcher, Marilyn	11/02/23	Contra Costa County
Shatswell, Farrell	11/17/23	Contra Costa County
Stahlke, Shirley	08/08/23	Contra Costa County
Stamps, Doris	10/19/23	Contra Costa County
Taylor, Vernice	11/07/23	Contra Costa County
Valentine, Lucille	10/28/23	Contra Costa County



Meeting Date
12/13/2023
Agenda Item
#4.A-Id.

**Contra Costa County Employees' Retirement Association
 Liquidity Report – October 2023**

October 2023 Performance

	Cash Flow	Coverage Ratio
Benefit Cash Flow Projected by Model	\$50,500,000	
Liquidity Sub-Portfolio Cash Flow	\$50,500,000	100%
Actual Benefits Paid	\$50,498,582	100.0%
<i>Next Month's Projected Benefit Payment</i>	<i>\$50,750,000</i>	

Monthly Manager Positioning – October 2023

	Beginning Market Value	Liquidity Program Cash Flow	Market Value Change/Other Activity	Ending Market Value
DFA	\$392,323,184	(\$11,000,000)	\$1,725,612	\$383,048,795
Insight	\$643,860,895	(\$19,000,000)	\$2,668,690	\$627,529,585
Sit	\$690,423,236	(\$20,500,000)	(\$4,064,325)	\$665,858,911
Liquidity	\$1,726,607,314	(\$50,500,000)	\$329,977	\$1,676,437,291
Cash	\$147,980,104	\$1,418	\$8,157,755	\$156,139,277
Liquidity + Cash	\$1,874,587,418	(\$50,498,582)	\$8,487,732	\$1,832,576,568

Functional Roles

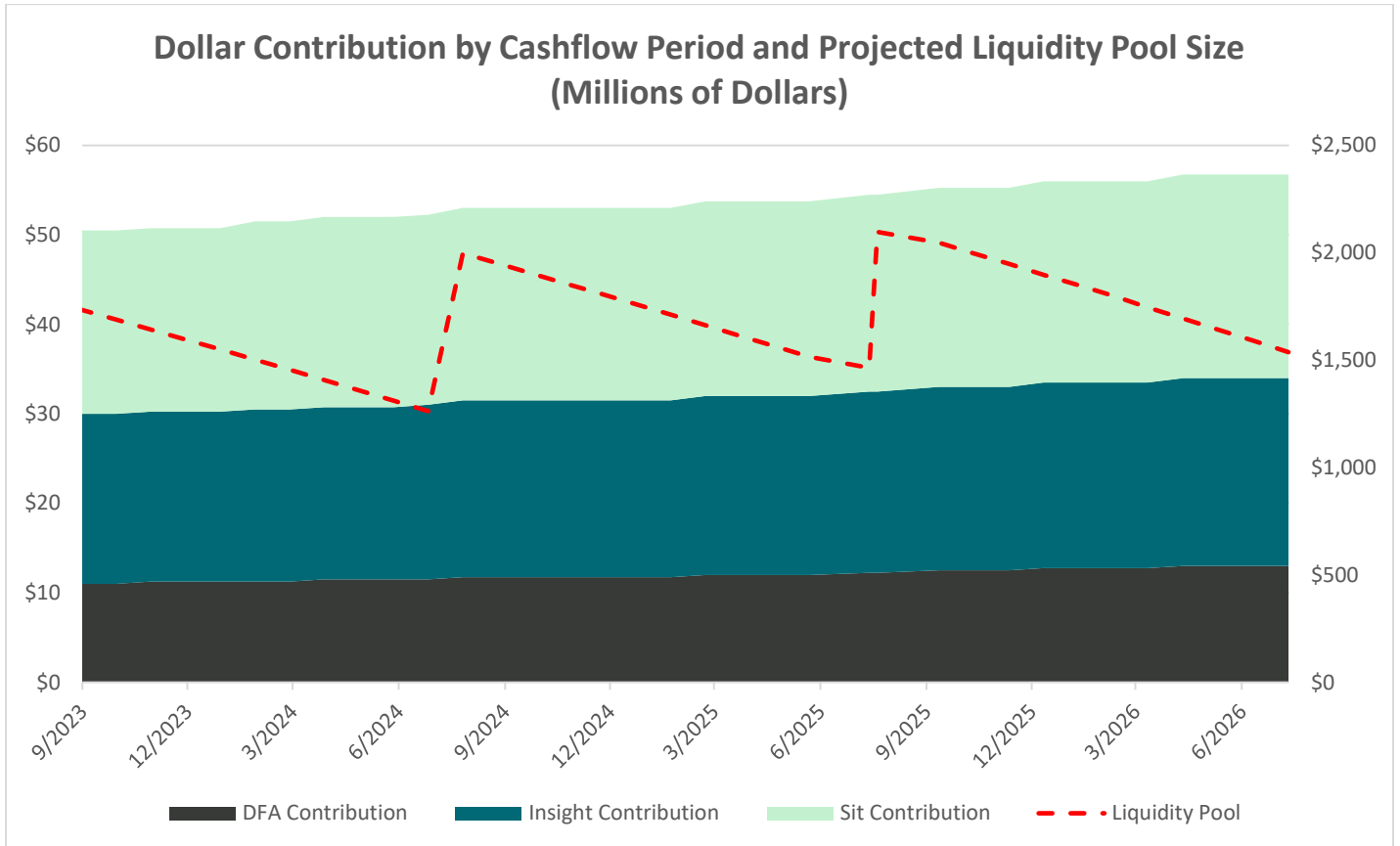
Manager	Portfolio Characteristics	Liquidity Contribution
Sit	High quality portfolio of small balance, government guaranteed mortgages with higher yields.	Pays out net income on monthly basis.
DFA	High quality, short duration portfolio of liquid, low volatility characteristics.	Pays out a pre-determined 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 tenth cash flow for 2023 from the liquidity program was completed on October 23rd. The actuarial model cash flow was slightly higher than actual experience, producing \$1.4 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.



CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
BOARD OF RETIREMENT

Meeting Date
12/13/2023
Agenda Item
#4.A-IIa.

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>
Marshall, Michael	75046	11/13/23	SCD
Martinez, Mary	76841	10/25/23	NSCD
Richard, Clifford	61076	11/06/23	SCD
Steele, Erik	66581	11/15/23	SCD

<p style="text-align: center;"><u>Option Type</u></p> <p>NSP = Non-Specified</p> <p>SCD = Service Connected Disability</p> <p>SR = Service Retirement</p> <p>NSCD = Non-Service Connected Disability</p> <p>* = County Advance Selected w/option</p>	<p style="text-align: center;"><u>Tier</u></p> <p>I = Tier I</p> <p>II = Tier II</p> <p>III = Tier III</p> <p>S/A = Safety Tier A</p> <p>S/C = safety Tier C</p>	<p>Pepra 4.2 = Pepra Tier 4 (2% COLA)</p> <p>Pepra 4.3 = Pepra Tier 4 (3% COLA)</p> <p>Pepra 5.2 = Pepra Tier 5 (2% COLA)</p> <p>Pepra 5.3 = Pepra Tier 5 (3% COLA)</p> <p>S/D = Pepra Safety Tier D</p> <p>S/E = Pepra Safety Tier E</p>
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**Contra Costa County Employees' Retirement Association
Asset Allocation as of October 31, 2023**

**Meeting Date
12/13/2023
Agenda Item
#4.A-IIb.**

Liquidity	Market Value	Percentage of Total Fund	Current Target* Percentage	Current Target Over/(Under)	Long Term Target	Long Term Over/(Under)
Dimensional Fund Advisors	383,048,795	3.7%	4.0%	-0.3%		
Insight	627,529,585	6.1%	6.5%	-0.4%		
Sit	665,858,911	6.4%	6.5%	-0.1%		
Total Liquidity	1,676,437,291	16.2%	17.0%	-0.8%	17.0%	-0.8%

**Range
11-22%**

Growth						
Domestic Equity						
Boston Partners	357,815,935	3.5%	3.0%	0.5%		
BlackRock Index Fund	1,053,729,395	10.2%	10.0%	0.2%		
Emerald Advisers	189,748,045	1.8%	1.5%	0.3%		
Ceredex	194,250,079	1.9%	1.5%	0.4%		
Total Domestic Equity	1,795,543,455	17.3%	16.0%	1.3%	13.0%	4.3%

Global & International Equity

Pyrford (Columbia)	448,408,225	4.3%	4.0%	0.3%		
William Blair	399,150,538	3.8%	4.0%	-0.2%		
First Eagle	513,666,894	5.0%	5.0%	-0.0%		
Artisan Global Opportunities	509,993,940	4.9%	5.0%	-0.1%		
PIMCO/RAE Emerging Markets	215,931,511	2.1%	2.0%	0.1%		
TT Emerging Markets	200,897,018	1.9%	2.0%	-0.1%		
Total Global & International Equity	2,288,048,126	22.1%	22.0%	0.1%	19.0%	3.1%

Private Equity**

Private Credit	1,320,322,365	12.7%	13.0%	-0.3%	18.0%	-5.3%
Real Estate - Value Add	1,087,290,128	10.5%	10.0%	0.5%	13.0%	-2.5%
Real Estate - Opportunistic & Distressed	248,707,244	2.4%	4.0%	-1.6%	5.0%	-2.6%
Real Estate - REIT	329,747,333	3.2%	4.0%	-0.8%	5.0%	-1.8%
Adelante	81,021,419	0.8%	2.0%	-0.3%	0.0%	1.7%
Invesco	96,629,532	0.9%				
High Yield	146,114,872	1.4%	2.0%	-0.6%	0.0%	1.4%
Risk Parity			3.0%	-0.0%	3.0%	-0.0%
AQR GRP EL	162,345,943	1.6%				
PanAgora	148,760,225	1.4%				
Total Other Growth Assets	3,620,939,062	34.9%	38.0%	-3.1%	44.0%	-9.1%

Total Growth Assets	7,704,530,643	74.3%	76.0%	-1.7%	76.0%	-1.7%
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**Range
65-85%**

Risk Diversifying						
AFL-CIO	207,478,542	2.0%	2.5%	-0.5%	2.5%	-0.5%
Acadian MAARS	221,656,145	2.1%	2.0%	0.1%	2.5%	-0.4%
Sit LLCAR	295,314,770	2.8%	2.5%	0.3%	2.0%	0.8%
Total Risk Diversifying	724,449,456	7.0%	7.0%	-0.0%	7.0%	-0.0%

**Range
0% - 10%**

Cash and Overlay						
Overlay (Parametric)	108,685,259	1.0%		1.0%		
Cash	156,139,277	1.5%		1.5%		
Total Cash and Overlay	264,824,536	2.6%	0.0%	2.6%	0.0%	2.6%

Total Fund	10,370,241,926	100%	100%		100%	
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*Current targets and ranges reflect asset allocation targets accepted by the Board on July 12, 2023 (BOR Resolution 2023-3).

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

**Private Market Investments
As of October 31, 2023**

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	3,718,035	0.04%	80,000,000
Invesco IREF IV	12/01/14	12/01/21				35,000,000	651,414	0.01%	4,453,599
Invesco IREF V	09/11/18	09/11/25				75,000,000	80,339,243	0.77%	6,581,100
Invesco IREF VI	09/21/22	09/22/29				100,000,000	50,858,557	0.49%	46,221,091
Long Wharf FREG IV	08/14/13	09/30/21				25,000,000	296,681	0.00%	
Long Wharf FREG V	10/31/16	09/30/24				50,000,000	29,220,152	0.28%	
Long Wharf LREP VI	02/05/20	02/05/28				50,000,000	34,107,845	0.33%	361,552
Long Wharf LREP VII	05/15/23	03/31/32				50,000,000	4,902,529	0.05%	44,545,577
LaSalle Income & Growth Fund VI	01/31/12	01/31/19				75,000,000	12,516,418	0.12%	3,946,000
LaSalle Income & Growth Fund VII	10/31/16	09/30/24				75,000,000	32,096,370	0.31%	87,245
						860,000,000	248,707,244	2.40%	186,196,164
Outstanding Commitments							186,196,164		
Total							434,903,408		

REAL ESTATE -Opportunistic & 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	3,718,035	0.04%	96,642,602
Cross Lake Real Estate Fund IV	04/11/23	04/11/33				60,000,000	0	0.00%	60,000,000
DLJ Real Estate Capital Partners, L.P. III	06/30/05	06/30/14	in full liq.			75,000,000	11,918,094	0.11%	4,031,338
DLJ Real Estate Capital Partners, L.P. IV	12/31/07	09/30/18				100,000,000	44,238,815	0.43%	1,876,084
DLJ Real Estate Capital Partners, L.P. V	07/31/13	12/31/22				75,000,000	29,167,530	0.28%	535,678
DLJ Real Estate Capital Partners, L.P. VI	02/28/19	01/31/29				50,000,000	30,315,296	0.29%	12,652,562
KSL Capital VI	10/24/23	10/24/33				50,000,000	0	0.00%	50,000,000
Oaktree Real Estate Opportunities Fund V	02/01/11	02/01/21				50,000,000	354,706	0.00%	25,750,000
Oaktree Real Estate Opportunities Fund VI	09/30/13	09/30/20				80,000,000	18,522,338	0.18%	18,400,000
Oaktree Real Estate Opportunities Fund VII	02/28/15	02/28/23				65,000,000	39,299,237	0.38%	16,120,000
PCCP Equity IX	04/11/22	04/01/30				75,000,000	55,426,565	0.53%	23,031,770
Siguler Guff Distressed Real Estate Opp. Fund	07/30/11	07/30/22				75,000,000	12,989,150	0.13%	5,625,000
Siguler Guff Distressed Real Estate Opp. Fund II	08/31/13	08/31/25				70,000,000	27,527,046	0.27%	8,015,000
Siguler Guff Distressed Real Estate Opp. II Co-Inv	01/31/16	10/31/25				25,000,000	12,444,986	0.12%	3,722,138
Paulson Real Estate Fund II	11/10/13	11/10/20				20,000,000	11,543,296	0.11%	654,377
Angelo Gordon Realty Fund VIII	12/31/11	12/31/18				80,000,000	11,304,234	0.11%	12,334,302
Angelo Gordon Realty Fund IX	10/10/14	10/10/22				65,000,000	20,978,005	0.20%	7,572,500
						1,115,000,000	329,747,333	3.14%	346,963,351
Outstanding Commitments							346,963,351		
Total							676,710,684		

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	2,972,174	0.03%	0
Torchlight Debt Opportunity Fund V	12/31/14	09/17/22				75,000,000	7,260,340	0.07%	15,000,000
Angelo Gordon Energy Credit Opportunities	09/10/15	09/10/20				16,500,000	1,943,985	0.02%	2,319,783
CCCERA StepStone	12/01/17	11/30/27				1,170,000,000	1,075,113,629	10.37%	270,513,840
						1,321,500,000	1,087,290,128	10.48%	287,833,623
Outstanding Commitments							287,833,623		
Total							1,375,123,751		

**Private Market Investments
As of October 31, 2023**

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	121,770,990	1.17%	16,316,834
Adams Street Secondary II	12/31/08	12/31/20				30,000,000	3,563,265	0.03%	1,635,000
Adams Street Secondary V	10/31/12	10/31/22				40,000,000	10,910,858	0.11%	9,154,125
Adams Street Venture Innovation Fund	03/09/16	03/09/28				75,000,000	164,243,863	1.58%	5,719,749
AE Industrial Partners Fund II	05/18/18	05/18/28				35,000,000	38,477,866	0.37%	9,752,530
Altaris Health Partners VI	07/28/23	07/28/33				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	10,957,892	0.11%	0
Carpenter Community BancFund	10/31/09	10/31/19				30,000,000	0	0.00%	0
EIF USPF II	06/15/05	06/15/15	3rd 1 YR	LP	06/15/18	50,000,000	74,281	0.00%	0
EIF USPF III	02/28/07	02/28/17	1st 1 YR	LP	02/28/18	65,000,000	2,222,867	0.02%	0
EIF USPF IV	06/28/10	06/28/20				50,000,000	18,670,665	0.18%	4
Ares EIF V	09/09/15	11/19/25				50,000,000	30,989,973	0.30%	3,888,697
EQT X	11/17/22	11/17/32				100,000,000	7,583,159	0.07%	89,115,696
Genstar Capital Partners IX	02/18/19	02/18/29				50,000,000	68,099,262	0.66%	7,699,107
Genstar Capital Partners X	04/01/31	04/01/31				42,500,000	38,726,893	0.37%	5,051,091
Genstar Capital Partners XI	04/26/23	04/26/33				75,000,000	0	0.00%	75,000,000
GTCR XIII	10/27/20	12/31/36				50,000,000	25,363,798	0.24%	23,607,247
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	59,521,025	0.57%	20,768,284
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	910,039	0.01%	59,423,024
Leonard Green - Jade Equity Investors II	03/01/22	02/28/32				15,000,000	0	0.00%	15,000,000
Oaktree Private Investment Fund 2009	02/28/10	12/15/19				40,000,000	344,120	0.00%	6,308,961
Ocean Avenue Fund II	05/07/14	05/07/24				30,000,000	24,203,276	0.23%	3,000,000
Ocean Avenue Fund III	12/09/15	12/09/25				50,000,000	53,687,919	0.52%	3,500,000
Paladin III	08/15/08	08/15/18				25,000,000	9,296,925	0.09%	387,482
Pathway	11/09/98	05/31/21				125,000,000	2,558,527	0.02%	10,513,800
Pathway 2008	12/26/08	12/26/23				30,000,000	11,372,625	0.11%	2,620,384
Pathway 6	05/24/11	05/24/26				40,000,000	28,225,101	0.27%	3,716,887
Pathway 7	02/07/13	02/07/23				70,000,000	62,419,015	0.60%	5,228,078
Pathway 8	11/23/15	11/23/25				50,000,000	66,076,125	0.64%	3,178,252
Siguler Guff CCCERA Opportunities	06/03/14	05/31/25				200,000,000	133,542,719	1.29%	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	42,886,954	0.41%	6,130,376
Symphony Technology Group VII	12/21/22	12/21/32				50,000,000	0	0.00%	50,000,000
TA XIV	05/27/21	05/27/31				50,000,000	32,093,855	0.31%	15,500,000
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	23,785,276	0.23%	3,216,776
TPG Healthcare Partners II	06/30/22	06/30/32				35,000,000	4,255,030	0.04%	31,809,756
TPG Partners IX	06/30/22	06/30/32				65,000,000	2,172,112	0.02%	62,946,953
Trident VIII, L.P.	05/24/19	05/24/29				40,000,000	46,302,690	0.45%	4,777,416
Trident IX, L.P.	09/17/21	09/17/31				50,000,000	21,967,306	0.21%	26,798,510
Real Assets									
Aether III & III Surplus	11/30/13	11/30/20				75,000,000	56,689,682	0.55%	1,683,397
Aether IV	01/01/16	01/01/28				50,000,000	53,562,382	0.52%	3,832,805
Commonfund Capital Natural Resources IX	06/30/13	06/30/20				50,000,000	34,216,311	0.33%	2,350,007
Wastewater Opportunity Fund	12/31/15	11/30/22				25,000,000	8,577,720	0.08%	521,541
						2,826,065,614	1,320,322,365	13.91%	958,750,268
Outstanding Commitments							958,750,268		
Total							2,279,072,633		

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.

Meeting Date
12/13/2023
Agenda Item
#4.A-III



2024 Compliance Activity Plan

Wrally Dutkiewicz
Compliance Officer

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Introduction

The Compliance Officer is authorized to engage in designing internal compliance plans and controls, developing compliance procedures, monitoring operational compliance, and conducting risk assessments to support the retirement system's activities. Also, CCCERA Compliance coordinates its activities with auditors and legal to ensure compliance with CERL, PEPRA, Board of Retirement (BOR) Regulations, Internal Revenue Code (IRC), and other government statutes.

Compliance monitoring and reporting will be the principal tools for the Compliance Department. These tools are used to evaluate the efficacy of CCCERA's operational compliance and risk management going forward through the 2024 Compliance Activity Plan calendar and beyond.

Scope & Mission

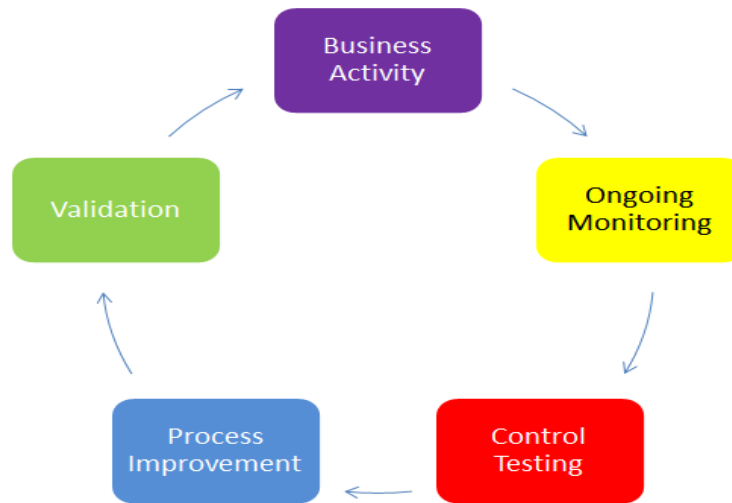
The CERL, PEPRA, and CCCERA policies, along with the standards published by the Society of Corporate Compliance and Ethics (SCCE) and The Institute of Internal Auditors (IIA) provide the framework within which the Compliance Officer performs compliance activities to support, manage, and test CCCERA's Compliance Program and to determine the priorities for compliance activities. The Compliance Officer prepares an annual Compliance Activity Plan (CAP) to help identify, measure, and prioritize potential issues related to compliance around business activities and the level of risk that may exist if those activities were to become impaired or rendered ineffective. The purpose of the annual CAP is to outline the work to be performed and is designed to cover high risk activities while limiting the scope of work to what can realistically be accomplished during the upcoming fiscal year.

Compliance Monitoring and Review Process

The development and implementation of updated department procedures is an ongoing goal and CCCERA Compliance will work with each of the department managers and advise on matters concerning workflow, technical applications of government code and BOR policy, and supervisory tools and structures. Compliance will continue to develop processes to minimize errors.

The Compliance Officer will obtain a sufficiently detailed explanation of the business process from CCCERA staff. This process will be documented in the working paper files. Such documentation may take the form of a narrative description, a flowchart depiction, or a combination of both when appropriate.

The goal is to create a continually validating compliance program that is integrated into business processes:



The annual compliance planning process includes the following major planning activities:

- Defining the Compliance Universe
- Conducting a Risk Assessment
- Preparing the Compliance Activity Plan
- Presenting the Compliance Activity Plan

The Compliance Program encompasses the following five stages:

1. Planning
2. Review & Testing
3. Quality Assessment
4. Reporting
5. Follow-up

Risk Assessment

The Risk Assessment for compliance activity planning is the process of systematically scoring (or rating) the relative impact of a variety of “risk factors.” A risk factor is an observable or measurable indicator of conditions or events that could adversely affect the outcome of a business activity. Various risk factors will be used to measure risks (such as the complexity of operations or regulations) or organizational vulnerability (such as weak internal controls).

A questionnaire is completed for each business process activity to score the level of risk for each of the risk factors identified. Also, weights are assigned to each risk factor based on relative importance as determined by input from management. The final step to complete the Risk Assessment is to calculate the total risk score for each business process activity in order from highest risk score to the lowest by tabulating the information gathered from the questionnaires and applying the weights assigned to the risk factors.

The Compliance Department prepares a Risk Assessment Worksheet that provides a weighted risk assessment score for each business activity component under review. If a business activity is comprised of several functional parts, the overall risk assessment will be the average of the sum of the risk assessment scores for its component parts.

The Risk Assessment Worksheet takes into consideration the following six risk factors:

<p>Incapacitation: Significance of an impairment event on the ability to meet strategic and/or organizational goals and objectives. Amount of impact the business activity process has on the retirement system’s constituents.</p>
<p>External Influence: Concern about adverse publicity; laws and regulations; customer demands; and political exposure.</p>
<p>Internal Controls:</p> <ul style="list-style-type: none"> • The internal control structure takes into consideration the adequacy of written procedures and whether or not controls have been previously tested. • Degree of segregation of duties and responsibilities, supervision and training, planning for business resumption and contingency, and reconciliation controls, make exposures for this audit.
<p>Complexity:</p> <ul style="list-style-type: none"> • Business processes have many steps and several control points. May include both manual and system-based steps; • Complexity can increase both the probability of error and the effort required to monitor the business activity process. Includes complexity of federal and state laws, rules and regulations governing a particular program.
<p>Information Technology Controls:</p> <ul style="list-style-type: none"> • Computer applications affect the accuracy and timeliness of completed work tasks, as well as the productivities of the staff. Information systems should process information in a secure, reliable and accurate manner. • Age, condition, extent of manual user intervention, efficiency and effectiveness of the data processing system specific to this business activity, and the perceived impact of general information technology controls related to: consistent use of an acceptable systems development methodology (including programmer and user documentation and testing procedures), consistent use of an acceptable project management system, effective computer maintenance change controls (to assure application program changes are properly authorized, managed, and recorded), and effective logical access security to guard against unwarranted access and unauthorized changes to computer programs and/or data.

Change:

- Changes in operation to meet statutory, regulatory, and legal requirements, and/or to address organizational restructuring including modifications to manual or automated procedures such as increased use of technology.
- Changes in operations can impact the efficiency and effectiveness of the retirement system's performance. Criteria include changes in staff size, processing changes (manual to computerized), systems (input and/or output), as well as staff turnover. This area includes concerns of rapid growth, which includes rapid growth of personnel size and of additional programs added to an operational area.

Risk Assessment Scoring assigns a weighting to each of the six risk assessment factors to generate an Overall Risk Assessment Score. This scoring is used to create a risk-based map of CCCERA's operations over time to aid in its governance, risk, and compliance (GRC) strategic planning.

A "risk assignment" refers to the subjective classification of risk based on judgment rather than observation. A "risk assessment" refers to the assignment of risk based on observable facts, activities, identified threats, and empirical analysis.

The focus of the "risk assignment" review is to prioritize business activities that CCCERA's compliance department will review in connection with its Compliance Activity Plan. The following criteria are used during the "risk assignment" review:

- Financial Exposure
- Compliance – Laws and Regulations
- Complexity of Operations
- Public Exposure

2023 Compliance Activity Recap

2023 Compliance Activity Completed Projects:

<p>Projects</p>	<ul style="list-style-type: none">• CCCERA Operational Activity Reporting – consolidate into departmental compliance activity reports for management and executive use and decision-making;• CCCERA Member Guidance and Information Review – review of guidance and information made available on CCCERA website, membership guides, and participating employer guide.• Compliance collaborated with the Administration Department to update the Board Meeting Preparation Guide to include underlying workflows that support the reporting elements Board meetings including consent items, and updates to the Board meeting month by month reporting timeline.
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2023 Employer Audits:

Employer audits appearing in the 2022 Compliance Activity Plan carried over with three county departments being completed in 2023. The remaining six County departments still to be audited were transitioned to the Internal Auditor for completion. All audit communications, conferences, and fieldwork were performed virtually.

The following employer audits were conducted:

Completed –Final Report to Board	
County Department	Contra Costa County Public Works
County Department	Contra Costa County Conservation and Development
County Department	Contra Costa County Veterans Service Office

In-Progress	
County Department	Contra Costa County Human Resources
District	Rodeo Sanitary District

Compliance Activity Planned for 2024

Changes to the CCCERA Compliance Program:

With the installation of CCCERA's Internal Auditor there will be a significant shift in the focus of CCCERA's Compliance Program going forward. The following will be the planned changes for 2024 and beyond:

1. Development and implementation of updated department procedures to ensure compliance with applicable rules and development of processes to minimize errors.
2. Shift in compliance focus to trending, monitoring, and reporting on CCCERA operations away from participating employer centric auditing activities. This change reflects the transfer of the employer audit program from CCCERA Compliance to the CCCERA Internal Auditor.
3. Review in depth CCCERA's internal control framework across all of its operations and map to Committee of Sponsoring Organizations (COSO) Internal Control Integrated Framework; Security and Privacy Controls for Information Systems and Organizations (NIST 800-53), and NCPERS Best Governance Practices for Public Retirement Systems.
4. Map all Board of Retirement Regulations, Policies, CERL, IRC, and other regulations and guidelines to operational and reporting activities performed by each CCCERA department.
5. Review and update CCCERA department procedures as necessary.
6. Focus on supporting accessible, actionable, and timely reporting (ATA) to support compliance activities.

Sources of Areas Selected for Compliance Review

Areas selected for compliance review can come from a variety of sources. These include risk assessment, management and employee requests, surprise audits and allegations of fraud, waste, and abuse.

Risk must be one of the primary factors in selecting areas for compliance review. Risk for some aspects of CCCERA operations is higher than others for many reasons. This includes the type of activities, financial and operational impact to CCCERA and its members if something were to go wrong. Those areas of CCCERA and its participating Employers which are high risk should receive more attention than those of lower risk. It should be noted, however, that areas of lower risk should not be ignored; rather, they should be done with less frequency than the higher risk areas.

2024 Compliance Activity Projects:

- Policy Management Platform Project – map board regulations, policies, and CERL sections to functional compliance requirements, workflows and consolidate into policy management and reporting platform.
- Member and Retiree Reporting Hotline – Updating CCCERA’s reporting hotline to include a web portal for members and retirees to make reports.
- Procedure Reviews and Updates:
 - Information Technology Department
 - Accounting Department
 - Retirement Services Department

Meeting Date
12/13/2023
Agenda Item
#4.A-IV



Contra Costa County Employees'
Retirement Association

EMPLOYER AUDIT REPORT

November 17, 2023

EMPLOYER AUDIT

**Contra Costa County
Human Resources Department**

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November 17, 2023

Ann Elliott
Director of Human Resources
Contra Costa County
1025 Escobar St.
2nd Floor
Martinez, CA 94533

RE: CCCERA Employer Audit Report – Contra Costa County Human Resources Department

Dear Ms. Elliott,

Enclosed is the employer audit report of Contra Costa County Human Resources (CCCHR), conducted pursuant to Government Code Section 31543. I want to thank you and all CCCHR staff for their assistance in gathering all the records and documents and making them readily available during this audit. This cooperation was greatly appreciated and allowed for the audit to be completed in an efficient manner.

The *Employer Audit Report* is enclosed for your review. There were no observations requiring follow-up from the Department. This report will be placed on the November 29, 2023, agenda and will be presented to the CCCERA Board of Retirement Audit Committee meeting.



In addition, I would like to extend my gratitude to CCCHR payroll staff and the courtesy that they extended to CCCERA compliance staff during the review. Should you wish to discuss or have any questions regarding the items reviewed and the observations contained within this report, please contact me at 925-521-3960.

Best regards,



Wrally Dutkiewicz
Compliance Officer

CC: Ann Elliot, Human Resources Director Contra Costa County
Monica Nino, Contra Costa County Administrator
Robert Campbell, Contra Costa County Auditor Controller
Cherry Chang, CCCERA Internal Auditor
Christina Dunn, CCCERA Acting CEO

BACKGROUND

The Contra Costa County Employees' Retirement Association (CCCERA) is a public employee retirement system that was established by Contra Costa County on July 1, 1945, and is administered by the Board of Retirement (Board) to provide service retirement, disability, death, and survivor benefits for Contra Costa County (County) employees and 15 other participating agencies under the California State Government Code, Section 31450, et. seq. (County Employees Retirement Law of 1937 or CERL) and the California Public Employees' Pension Reform Act of 2013 (PEPRA).

CCCERA administers the retirement benefits for the employees of Contra Costa County and participating District employers. Participating employers within the CCCERA retirement system transmit payroll information and contributions to fund the benefits for their employees. CCCERA sets up retirees' accounts, processes applications, calculates retirement allowances, prepares monthly retirement benefit payment rolls, and makes adjustments to retirement benefits when needed.

Retirement allowances are computed in accordance with statute using three factors: years of service, age at retirement, and final compensation. For Legacy (pre-PEPRA) members, final compensation is defined as the highest average annual compensation earnable (as defined in G.C. Section 31461) by a member during the last one or three consecutive years of employment depending on the member's Tier, unless the member elects a different period with a higher average. For PEPRA members, final compensation is defined as the highest average annual pensionable compensation (as defined in G.C. Section 7522.34) earned by the member during a period of 36 consecutive months.

The employer's knowledge of the rules relating to membership and payroll reporting facilitates the employer in providing CCCERA with appropriate employee information. Correct enrollment of eligible employees and correct reporting of payroll information are necessary for the accurate computation of a member's retirement allowance.

The CCCHR had a FY 2020-2021 budget of approximately \$12 million. The Department is organized into four divisions that provide a full range of Human Resources services to County Departments, employees, and the public.¹ The four divisions are: Administrative Services; Employee Benefits Services; Information Management; and Personnel Services.

Per CCCERA records, CCCHR had approximately sixty-four (64) active employees in 2022 and for these employees the County reported pensionable compensation to CCCERA of approximately \$6,200,000 along with \$650,000 in employee pension contributions and \$1,600,000 in employer pension contributions in 2022. As of December 31, 2022, CCCERA had twenty-four (24) retirees on record for CCCHR with a total paid benefit amount of approximately \$723,000.

¹ <https://www.contracosta.ca.gov/361/Human-Resources>

SCOPE

The 2013 Pension Reform legislation granted CCCERA the authority under Government Code Section 31543 to conduct audits of employers to ensure that employee and payroll information used in the calculation of retiree pension benefits is correct and verifiable. The scope of these reviews include:

- Correctness of retirement benefits;
- Reportable compensation;
- Enrollment in, and reinstatement to the system (GC 31554);
- Pensionable compensation (GC 31461 and GC 7522.34);
- Review MOUs with respect to compensation and salary regulations (i.e. Vacation Sales, etc.);
- Determine if compensation is paid to enhance a member's retirement benefit (GC 31461(b)(1) and GC 7522.34(c)(1));
- Evaluate employer's compliance with restrictions on retirees returning to work (GC 7522.56, I.R.S. bona fide separation and normal retirement age rules).
- Determine if employees convicted of certain felonies have forfeited benefits earned or accrued from the commission of the felony (GC 7522.72(g) and GC 7522.74(g));

The CCCERA audit of CCCHR was conducted virtually between September and October 2023. The review period encompassed active employee records and retired employee records from 2021 through 2022.

OBSERVATIONS AND FINDINGS

ACCURACY OF PAYROLL INFORMATION PROVIDED TO CCCERA

➤ *Scope Item 1: None*

PAYROLL AND REPORTING PROCESS AND RECEIVABLES REVIEW

Pursuant to Board of Retirement Regulations Section IV: Employer pensionable payroll and corresponding pension contributions are to be reported to the retirement system timely and accurately. (Contributions And Reporting, 2. Due Dates, 4. Employer Certification).

Due Dates:

Each employer shall report to the Association in a manner and frequency as determined by the Board sufficient for the Board to credit contributions and service to each member's record.

Unless otherwise specified, reports shall be due no later than the tenth of each month for the previous month's payroll and shall be accompanied by member and employer contributions. If the tenth of the month falls on a weekend or holiday, the due date shall be the last working day before the tenth. Reports, which are unreadable or incorrect, shall not be accepted and shall be returned to the employer. (Emphasis added.)

Reports and contributions received after the due date shall be considered late and subject to a late reporting penalty equal to: the prime rate in effect on the due date computed on a daily, non-compounding basis and applied to the contributions due.

➤ *Observation 1: Accuracy*
None.

INPUT FILE REVIEW

Employer Certification

Each payroll and pension contribution report shall include or be accompanied by a certification, under penalty of perjury, as to its accuracy. The certification shall be made by a duly authorized representative of the employer. (Board of Retirement Regulations *Section IV, 4. Employer Certification*.)

Observation 2: None.

COMPENSATION LIMITS

Federal and state laws place annual limits on the compensation that can be used to determine contributions and benefits for CCCERA plan members.

Legacy Members:

- The Internal Revenue Code Section 415(b) provides for dollar limitations on benefits and contributions under qualified retirement plans which are adjusted annually for cost-of-living increases.
- Members who commenced participation in CCCERA on or after January 1, 1996 are subject to the annual federal Internal Revenue Code Section 401(a)(17) compensation limit.
- For CERL benefit formulas (General Tiers 1, 3, Safety Tiers A & C), the 2022 calendar year compensation limit was increased by the I.R.S. from \$290,000 to \$305,000.
- Members who commenced participation in CCCERA prior to January 1, 1996 are not subject to the Internal Revenue Code annual compensation limit.

PEPRA Members:

- For new employees who commenced participation in CCCERA on or after January 1, 2013 under PEPRA benefit formulas (General Tiers 4,5, Safety Tiers D & E), the compensation which exceeds that annual pensionable compensation limit under California Government Code Section 7522.10(c) and (d) is not included in determining benefits or contributions.
- The 2022 calendar year PEPRA compensation limits are as follows:
 - For employees enrolled in Social Security – increased to \$134,974.
 - For employees not enrolled in Social Security – increased to \$161,969.
- The 2021 calendar year PEPRA compensation limits are as follows:
 - For employees enrolled in Social Security the limit was \$128,059.
 - For employees not enrolled in Social Security the limit was \$153,671.

➤ *Observation 3: None*

PAYROLL REPORTING – PENSIONABLE COMPENSATION AND CONTRIBUTION REVIEW

Compensation Earnable Applicable Law for Legacy Members

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's Compensation Earnable Policy sets forth the definition of Compensation Earnable as well as exclusions from Compensation Earnable.

Pensionable Compensation Applicable Law for PEPRA members

PEPRA defines "pensionable compensation" as follows:

"Pensionable compensation" of a new member of any public retirement system means the normal monthly rate of pay or base pay of the member paid in cash to similarly situated members of the same group or class of employment for services rendered on a full-time basis during normal working hours, pursuant to publicly available pay schedules.

Compensation that has been deferred shall be deemed pensionable compensation when earned rather than when paid. (Gov. Code Section 7522.34(a) and (b).)

Pursuant to CCCERA's "Pensionable Compensation Policy", Section III:

The CCCERA Board has determined that "Pensionable Compensation" includes "base pay." Pensionable compensation does not include any pay other than base pay, in accordance with Govt. Code Sections 7522.34(c)(11) and (12).

Pensionable compensation (GC 31461 and 7522.34) is to be reported to the retirement system and the corresponding contributions are to be reported to the retirement system.

➤ *Observation 4:*
None.

SALARIES IN ACCORDANCE WITH PUBLICLY AVAILABLE PAY SCHEDULE

➤ *Scope Item 2: No exceptions were observed in this section.*

Pursuant to CCCERA's Policy On Determining "Pensionable Compensation" Under PEPRA For Purposes Of Calculating Retirement Benefits, 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 meetings 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.

➤ *Observation 5: No exceptions were observed in this section.*

ENROLLMENT OF ELIGIBLE EMPLOYEES

- *Scope Item 3:* One enrollment packet missing for alternate Sample Member #3 with Membership Date 8/1/22.
CCCERA Internal Inquiry Made To Research – Member is on Leave Non-Contributing as of July 6, 2023. CCCERA Member Services will coordinate with CCCHR and the member to secure enrollment packet.

1. Exclusion from Membership – By Type of Employment

- A. All officers and employees of the County or districts shall be members of the association as provided in Article 4 under Sections 31550-31567 of the County Employees' Retirement Law of 1937 (Gov. Code Secs. 31450, et seq. "CERL"), unless excluded from membership by this Section.
- B. The following employees shall be excluded from membership:
- i. Temporary, seasonal or independent contract employees who are employed or re-employed for temporary service or at certain specified periods each year.
 - ii. Intermittent or permanent-intermittent employees who are appointed to serve less than 80% of the full number of working hours required of regular employees or who actually serve less than 80% of such full number of working hours in one year as certified by their appointing authority.
 - iii. Part-time employees whose service for the County or district is less than fifty (50) percent of the full number or working hours required of fulltime employees at that employer.
 - iv. Project employees, unless the appointing authority certifies that the project is expected to be of one year or more in duration on a greater than part-time basis.
 - v. Provisional employees, unless they otherwise meet the requirements for reciprocal benefits with other retirement systems under Article 15 of CERL.
- C. In making its determination regarding an employee's inclusion in or exclusion from membership, the Board will not rely solely upon the term given to the type of employment. Rather, the Board will rely upon additional facts such as the nature of the employment, its expected or actual duration, and its relationship to what is considered full-time, permanent employment.

2. Exclusion from Membership – by Compensation

Except as otherwise herein provided, all employees of the County or district who receive compensation amounting to less than one-hundred (\$100) dollars per month, and in the case of employees paid on other than a monthly basis an average of one-hundred (\$100) dollars per month for the preceding year, including maintenance valued according to the schedule adopted by the governing body, are hereby excluded and exempted from membership in the Retirement Association. Any member of the Retirement Association whose salary is reduced to an amount less than one-hundred (\$100) dollars per month shall have the option of continuing or discontinuing his/her active membership in the Association.

2.1 Exclusion from Membership – by Waiver

Newly hired employees age 60 and older may waive membership as authorized by Gov. Code Section 31552. Any such waiver of membership shall be effective only if it is submitted to the CCCERA Retirement Chief Executive Officer within 90 days of the employee's date of hire; provided, however, that the Retirement Chief Executive Officer may, in his/her sole and reasonable discretion, waive the time limitation if the newly hired employee establishes good cause for such a waiver.

3. Certifications

Every employee of the County or district within the county whose employees are members of the Association shall, upon entry into the Association, complete a sworn statement as provided for in Gov. Code Section 31526(b). A certified copy of the member's birth certificate or other evidence of birth may be required by the Board.

It shall be the employer's responsibility to ensure compliance with this section. The Board shall assess the employer five hundred (\$500) dollars per employee for every month or fraction thereof that the required certification is not submitted. The Board shall notify the employer in writing of the imposition of assessment at least thirty days before the assessment.

Observation 6:

One Enrollment Packet not submitted for new employee with a membership date of 8/1/2022.

PENSION BENEFIT REVIEW

➤ *Scope Item 4: No exceptions were observed in this section.*

REVIEW OF PENSION BENEFIT CALCULATIONS

1. Compensation Policies
 - i. *Policy On Determining “Compensation Earnable Under Assembly Bill 197 For Purposes Of Calculating Retirement Benefits For “Legacy” (Pre-PEPRA) Members – Adopted: 9/10/2014, Amended 5/5/2021; GC 31461;*
 - ii. *Policy On Determining “Pensionable Compensation” Under PEPRA For Purposes Of Calculating Retirement Benefits - Adopted: 9/10/2014; GC 7522.34;*
 - iii. *Policy Regarding Assessment and Determination Of Compensation Enhancements – Adopted 11/1/2012, Amended: 3/8/2017 and 4/12/2023; GC 31461(b)(1) and 7522.34(c)(1)*

➤ *Observation 7: None*

RETIREE RETURN TO WORK MONITORING

2. Retiree Return to Work Monitoring
 - i. *GC 7522.56 Retired Persons; Service and Employment Restrictions*

➤ *Observation 8: None*

FORFEITURE OF BENEFITS EARNED OR ACCRUED FROM THE COMMISSION OF A FELONY

3. *Felony Forfeiture Monitoring and Notification – GC 7522.72(g) and GC 7522.74(g)*

➤ *Observation 9: None*

INTERNAL REVENUE CODE SECTION 415 COMPLIANCE

As adopted on December 8, 2010 and amended on January 9, 2013, July 11, 2018, September 8, 2021, and August 9, 2023.

➤ *Observation 10: None*

FOLLOW-UP ITEMS

The following items were noted during the review and require follow-up by the Human Resources Department

- None.

EMPLOYER REPLY

CCCERA received the following reply from Contra Costa County Human Resources Department:

**Contra
Costa
County**



Human Resources Department

Administration Building
1025 Escobar Street, Second Floor
Martinez, CA 94553

DATE: November 27, 2023
TO: Wrally Dutkiewicz, Compliance Officer, CCCERA
FROM: Anthony Phillip, Human Resources Manager
SUBJECT: CCCERA Audit Report for CCC Human Resources

CCCHR acknowledges receipt of the CCCERA Audit Report. CCCHR would like to thank CCCERA for the clear steps in the audit process and CCCHR is satisfied with the report received. CCCHR will work on resolving the item regarding the one employee with missing paperwork.



Contra Costa County Employees'
Retirement Association

EMPLOYER AUDIT REPORT

October 2, 2023

EMPLOYER AUDIT

Contra Costa County Administrator's Office

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October 2, 2023

Monica Nino
County Administrator
Contra Costa County
1025 Escobar Street, 4th Floor
Martinez, CA 94533

RE: CCCERA Employer Audit Report – Contra Costa County Administrator's Office

Dear Ms. Nino,

Enclosed is the employer audit report of Contra Costa County Administrator's Office (CAO), conducted pursuant to Government Code Section 31543. I want to thank you and all CAO staff for their assistance in gathering all the records and documents and making them readily available during this audit. This cooperation was greatly appreciated and allowed for the audit to be completed in an efficient manner.

The *Employer Audit Report* is enclosed for your review. There were no "Follow-Up Items" noted for the CAO to address. However, the audit noted gaps in the area of enrollment packets where new hires' enrollment packets were not submitted to CCCERA in a timely manner. CCCERA is in receipt of a written response from the CAO dated September 15, 2023. The response is included in this report which will be submitted to CCCERA's Audit Committee for its review.

This report will be placed on the agenda and will be presented to the CCCERA Board of Retirement Audit Committee at its November 29, 2023 meeting.

In addition, I would like to extend my gratitude to CAO fiscal and administrative staff and the courtesy that they extended to CCCERA during the review. Should you wish to discuss or have any questions regarding the items reviewed and the observations contained within this report, please contact me at 925-521-3960.



Best regards,

A handwritten signature in black ink that reads "Cherry Chang". The signature is written in a cursive, flowing style.

Cherry Chang
Internal Auditor

CC: Adam Nguyen, Contra Costa County Finance Director
Paula Webb, Executive Assistant to the County Administrator, County Administrator's Office
Robert Campbell, Contra Costa County Auditor Controller
Christina Dunn, Acting Chief Executive Officer, CCCERA
Wrally Dutkiewicz, Compliance Officer, CCCERA

BACKGROUND

The Contra Costa County Employees' Retirement Association (CCCERA) is a public employee retirement system that was established by Contra Costa County on July 1, 1945, and is administered by the Board of Retirement (Board) to provide service retirement, disability, death, and survivor benefits for Contra Costa County (County) employees and 15 other participating agencies under the California State Government Code, Section 31450, *et. seq.* (County Employees Retirement Law of 1937 or CERL) and the California Public Employees' Pension Reform Act of 2013 (PEPRA).

CCCERA administers the retirement benefits for the employees of Contra Costa County and participating District employers. Participating employers within the CCCERA retirement system transmit payroll information and contributions to fund the benefits for their employees. CCCERA sets up retirees' accounts, processes applications, calculates retirement allowances, prepares monthly retirement benefit payment rolls, and makes adjustments to retirement benefits when needed.

Retirement allowances are computed in accordance with statute using three factors: years of service, age at retirement, and final compensation. For Legacy (pre-PEPRA) members, final compensation is defined as the highest average annual compensation earnable (as defined in G.C. Section 31461) by a member during one or three consecutive years of employment depending on the member's Tier. For PEPRA members, final compensation is defined as the highest average annual pensionable compensation (as defined in G.C. Section 7522.34) earned by the member during a period of 36 consecutive months.

The employer's knowledge of the rules relating to membership and payroll reporting facilitates the employer in providing CCCERA with appropriate employee information. Correct enrollment of eligible employees and correct reporting of payroll information are necessary for the accurate computation of a member's retirement allowance.

Contra Costa County has a general law form of government. A five-member Board of Supervisors (BOS), each elected to four-year terms, serves as the legislative body. The County Administrator is appointed by the BOS and the County Administrator's Office runs the day-to-day business of the County, including:

- Staffing the Board and Board committees
- Overseeing implementation of Board directives
- Planning, monitoring, and overseeing County operations
- Ensuring that Board policies are carried out efficiently and effectively
- Supervising appointed department heads and performing general administrative duties
- Preparing the annual budget
- Administering the County's labor management relations program

Per CCCERA records, the Contra Costa County Administrator's Office had 31 active members as of 4/30/23. For these members, the County reported pensionable compensation of approximately \$4.9 and \$4.3 million in 2021 and 2022, respectively. The table below summarizes membership counts,

pensionable compensation, pension contribution, retiree counts and pension benefit payment for calendar years 2021, 2022 and 2023.

	CY2021	CY2022	CY2023*
Active Members	40	36	31
Pensionable Compensation	\$4,852,888	\$4,281,942	\$1,193,417
Employer Contribution	\$1,287,497	\$1,183,472	\$325,660
Member Contribution	\$497,113	\$447,979	\$125,185
Retirees & Beneficiaries	32	38	37
Pension Benefit Payment	\$1747,658	\$2,044,861	\$1,059,551

* through 4/30/23 for active members and 6/1/23 for retirees

SCOPE

The 2013 pension reform legislation granted CCCERA the authority under Government Code Section 31543 to conduct audits of employers to ensure that employee and payroll information used in the calculation of retiree pension benefits is correct and verifiable. The scope of these on-site reviews includes:

- Correctness of retirement benefits;
- Reportable compensation;
- Enrollment in, and reinstatement to the system (GC 31554);
- Pensionable compensation (GC 31461 and GC 7522.34);
- Review MOUs with respect to compensation and salary regulations (i.e. Vacation Sales, etc.);
- Determine if compensation is paid to enhance a member's retirement benefit (GC 31461(b)(1) and GC 7522.34(c)(1));
- Evaluate employer's compliance with restrictions on retirees returning to work (GC 7522.56, I.R.S. bona fide separation and normal retirement age rules); and
- Determine if employees convicted of certain felonies have forfeited benefits earned or accrued from the commission of the felony (GC 7522.72(g) and GC 7522.74(g)).

The CCCERA audit of the County Administrator's Office was conducted virtually between July and September 2023. The review period encompassed active employee records and retiree records from January 2021 through June 2023.

OBSERVATIONS AND FINDINGS

ACCURACY OF PAYROLL INFORMATION PROVIDED TO CCCERA

➤ *Scope Item 1: No exceptions were observed in this section.*

PAYROLL AND REPORTING PROCESS AND RECEIVABLES REVIEW

Pursuant to Board of Retirement Regulations Section IV: Employer pensionable payroll and corresponding pension contributions are to be reported to the retirement system timely and accurately. (Contributions And Reporting, 2. Due Dates, 4. Employer Certification).

Due Dates:

Each employer shall report to the Association in a manner and frequency as determined by the Board sufficient for the Board to credit contributions and service to each member's record.

Unless otherwise specified, reports shall be due no later than the tenth of each month for the previous month's payroll and shall be accompanied by member and employer contributions. If the tenth of the month falls on a weekend or holiday, the due date shall be the last working day before the tenth. Reports, which are unreadable or incorrect, shall not be accepted and shall be returned to the employer. (Emphasis added.)

Reports and contributions received after the due date shall be considered late and subject to a late reporting penalty equal to the prime rate in effect on the due date computed on a daily, non-compounding basis and applied to the contributions due.

The County represents that due to its large payroll size and complex reconciliation process, it requires an additional 30 days beyond the deadline set forth in CCCERA's Regulations for reporting. The County will provide CCCERA with contribution report no later than the tenth day of the second month following the payroll month that is the subject of the report.

➤ *Observation 1: The earlier employer audit of County Treasurer-Tax Collector's Office noted late report submissions during 2021 and 2022. This has been communicated to the County Auditor-Controller's Office. Reports for 2023 January-June have been submitted timely.*

INPUT FILE REVIEW

Employer Certification

Each payroll and pension contribution report shall include or be accompanied by a certification, under penalty of perjury, as to its accuracy. The certification shall be made by a duly authorized representative of the employer. (Board of Retirement Regulations *Section IV*, 4. Employer Certification.)

➤ *Observation 2: The earlier employer audit of County Treasurer-Tax Collector's Office noted a defect with CCCERA's employer certification in which the certification box did not appear every time when files were submitted to CCCERA. This has been remediated starting with the County's May 2023 reports where the employer certification was added to the file transmission confirmation that both the employer and CCCERA receives.*

COMPENSATION LIMITS

Federal and state laws place annual limits on the compensation that can be used to determine contributions and benefits for CCCERA plan members.

Legacy Members:

- The Internal Revenue Code Section 415(b) provides for dollar limitations on benefits and contributions under qualified retirement plans which are adjusted annually for cost-of-living increases.
- Members who commenced participation in CCCERA on or after January 1, 1996 are subject to the annual federal Internal Revenue Code Section 401(a)(17) compensation limit.
- For CERL benefit formulas (General Tiers 1, 3, Safety Tiers A & C), the 2022 calendar year compensation limit was increased by the I.R.S. from \$290,000 to \$305,000 for calendar year 2021.
- Members who commenced participation in CCCERA prior to January 1, 1996 are not subject to the Internal Revenue Code annual compensation limit.

PEPRA Members:

- For new employees who commenced participation in CCCERA on or after January 1, 2013 under PEPRA benefit formulas (General Tiers 4,5, Safety Tiers D & E), the compensation which exceeds that annual pensionable compensation limit under California Government Code Section 7522.10(c) and (d) is not included in determining benefits or contributions.
- The 2022 calendar year PEPRA compensation limits are as follows:
 - For employees enrolled in Social Security – increased to \$134,974.
 - For employees not enrolled in Social Security – increased to \$161,969.
- The 2021 calendar year PEPRA compensation limits are as follows:
 - For employees enrolled in Social Security the limit was \$128,059.
 - For employees not enrolled in Social Security the limit was \$153,671.

➤ *Observation 3: None*

PAYROLL REPORTING – PENSIONABLE COMPENSATION AND CONTRIBUTION REVIEW

Compensation Earnable Applicable Law for Legacy Members

"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's Compensation Earnable Policy sets forth the definition of Compensation Earnable as well as exclusions from Compensation Earnable.

Pursuant to CCCERA's "Compensation Earnable Policy"¹, Section III.D. "Compensation Earnable" excludes payments for additional services rendered outside of normal working hours.

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.

Pensionable Compensation Applicable Law for PEPRA members

PEPRA defines "pensionable compensation" as follows:

"Pensionable compensation" of a new member of any public retirement system means the normal monthly rate of pay or base pay of the member paid in cash to similarly situated members of the same

¹ https://www.cccera.org/sites/main/files/file-attachments/post_ab_197_compensation_earnable_policy_final.pdf?1620253572

group or class of employment for services rendered on a full-time basis during normal working hours, pursuant to publicly available pay schedules.

Compensation that has been deferred shall be deemed pensionable compensation when earned rather than when paid. (Gov. Code Section 7522.34(a) and (b).)

PEPRA excludes from "pensionable compensation" the following:

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

Pursuant to CCCERA's "Pensionable Compensation Policy", Section III:

The CCCERA Board has determined that "Pensionable Compensation" includes "base pay." Pensionable compensation does not include any pay other than base pay, in accordance with Govt. Code Sections 7522.34(c)(11) and (12).

Pensionable compensation (GC 31461 and 7522.34) is to be reported to the retirement system and the corresponding contributions are to be reported to the retirement system.

➤ *Observation 4: None*

SALARIES IN ACCORDANCE WITH PUBLICLY AVAILABLE PAY SCHEDULE

➤ *Scope Item 2: No exceptions were observed in this section.*

Pursuant to CCCERA's Policy On Determining "Pensionable Compensation" Under PEPRA For Purposes Of Calculating Retirement Benefits, 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 meetings 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.

➤ *Observation 5: No exceptions were observed in this section.*

ENROLLMENT OF ELIGIBLE EMPLOYEES

➤ *Scope Item 3: Missing Enrollment Packets were noted during the review.*

1. Exclusion from Membership – By Type of Employment

- A. All officers and employees of the County or districts shall be members of the association as provided in Article 4 under Sections 31550-31567 of the County Employees' Retirement Law of 1937 (Gov. Code Secs. 31450, et seq. "CERL"), unless excluded from membership by this Section.
- B. The following employees shall be excluded from membership:
 - i. Temporary, seasonal or independent contract employees who are employed or re-employed for temporary service or at certain specified periods each year.
 - ii. Intermittent or permanent-intermittent employees who are appointed to serve less than 80% of the full number of working hours required of regular employees or who actually serve less than 80% of such full number of working hours in one year as certified by their appointing authority.
 - iii. Part-time employees whose service for the County or district is less than fifty (50) percent of the full number or working hours required of fulltime employees at that employer.
 - iv. Project employees, unless the appointing authority certifies that the project is expected to be of one year or more in duration on a greater than part-time basis.
 - v. Provisional employees, unless they otherwise meet the requirements for reciprocal benefits with other retirement systems under Article 15 of CERL.
- C. In making its determination regarding an employee's inclusion in or exclusion from membership, the Board will not rely solely upon the term given to the type of employment. Rather, the Board will rely upon such additional facts such as the nature of the employment, its expected or actual duration, and its relationship to what is considered full-time, permanent employment.

2. Exclusion from Membership – by Compensation

Except as otherwise herein provided, all employees of the County or district who receive compensation amounting to less than one-hundred (\$100) dollars per month, and in the case of employees paid on other than a monthly basis an average of one-hundred (\$100) dollars per month for the preceding year, including maintenance valued according to the schedule adopted by the governing body, are hereby excluded and exempted from membership in the Retirement Association. Any member of the Retirement Association whose salary is reduced to an amount less than one-hundred (\$100) dollars per

month shall have the option of continuing or discontinuing his/her active membership in the Association.

2.1 Exclusion from Membership – by Waiver

Newly hired employees age 60 and older may waive membership as authorized by Gov. Code Section 31552. Any such waiver of membership shall be effective only if it is submitted to the CCCERA Retirement Chief Executive Officer within 90 days of the employee’s date of hire; provided, however, that the Retirement Chief Executive Officer may, in his/her sole and reasonable discretion, waive the time limitation if the newly hired employee establishes good cause for such a waiver.

3. Certifications

Every employee of the County or district within the county whose employees are members of the Association shall, upon entry into the Association, complete a sworn statement as provided for in Gov. Code Section 31526(b). A certified copy of the member’s birth certificate or other evidence of birth may be required by the Board.

It shall be the employer’s responsibility to ensure compliance with this section. The Board shall assess the employer five hundred (\$500) dollars per employee for every month or fraction thereof that the required certification is not submitted. The Board shall notify the employer in writing of the imposition of assessment at least thirty days before the assessment.

➤ *Observation 6: Enrollment forms were missing for four (4) members.*

CCCERA reviewed a sample of 25 members for testing, of which 21 were hired during 2019-2023. The audit found 4 members with missing enrollment forms on file as summarized in Table 1 below. In 3 of the 4 instances, CCCERA Member Services sent letters to the members directly requesting the missing information but did not receive a response. CCCERA notified the County Administrator’s Office (CAO) during the audit of the missing forms and CAO has facilitated in securing the missing enrollment packets from the two (2) active members. CCCERA Member Services will contact the two (2) deferred members to obtain the missing enrollment forms.

Table 1: Summary of Missing Enrollment Forms

Hire/ Rehire Date	Audit Observation
11/30/20	Missing Beneficiary Form (left the County)
11/18/19	Missing enrollment packet
10/24/19	Missing enrollment packet (left the County)
05/04/16	Missing enrollment packet
Total of 4 members	

PENSION BENEFIT REVIEW

➤ *Scope Item 4: No exceptions were observed in this section.*

REVIEW OF PENSION BENEFIT CALCULATIONS

1. Compensation Policies
 - i. *Compensation Earnable Policy* – Adopted: 9/10/2014, Amended: 5/5/2021; GC 31461;
 - ii. *Policy On Determining “Pensionable Compensation” Under PEPRRA For Purposes Of Calculating Retirement Benefits* - Adopted: 9/10/2014; GC 7522.34;
 - iii. *Policy Regarding Assessment and Determination Of Compensation Enhancements* – Adopted 11/1/2012, Amended: 3/8/2017; GC 31461(b)(1) and 7522.34(c)(1)

➤ *Observation 7: None*

RETIREE RETURN TO WORK MONITORING

2. Retiree Return to Work Monitoring
 - i. GC 7522.56 Retired Persons; Service and Employment Restrictions

➤ *Observation 8: None*

FORFEITURE OF BENEFITS EARNED OR ACCRUED FROM THE COMMISSION OF A FELONY

3. Felony Forfeiture Monitoring and Notification – GC 7522.72(g) and GC 7522.74(g)

➤ *Observation 9: None*

INTERNAL REVENUE CODE SECTION 415 COMPLIANCE

As adopted on December 8, 2010 and amended on January 9, 2013, July 11, 2018, September 8, 2021 and August 9, 2023

➤ *Observation 10: None*

FOLLOW-UP ITEMS

The following item was noted during the review and requires follow-up by the County Administrator's Office and CCCERA:

The County Administrator's Office has no outstanding follow-up items resulting from the audit.

EMPLOYER REPLY

The following reply was received from the County Administrator's Office to CCCERA:

County Administrator

County Administration Building
1025 Escobar Street, 4th Floor
Martinez, California 94553-1229
(925) 655-2075

Monica Nino
County Administrator

Contra
Costa
County



Board of Supervisors

John M. Gioia
1st District

Candace Andersen
2nd District

Diane Burgis
3rd District

Ken Carlson
4th District

Federal D. Glover
5th District

September 15, 2023

Cherry Chang, CIA, CISA, CFE
Internal Auditor
Contra Costa County Employees' Retirement Association
1200 Concord Avenue, Suite 300
Concord, CA 94520

RE: Employer Audit: Contra Costa County, County Administrator's Office

Dear Ms. Chang,

Please allow this to serve as the response to the Contra Costa County Employees' Retirement Association's (CCCERA) first employer audit of the County Administrator's Office. We were pleased that your review verified that our payroll and pensionable compensation reporting was accurate and did not have any exceptions, and that there are no related follow up items from our department or the County.

For the one observation directly applicable to our department, Observation 6 on page 12 of your report, it notes that four members out of the 25 sampled for testing had missing enrollment forms. Our office worked with two of the employees to subsequently submit completed forms, and CCCERA is following up with the other two members who have since separated from service. While our department worked in good faith to coordinate with the members to provide completed forms, we do not believe this should be the County's responsibility. The County assists by providing new employees CCCERA's forms upon hire and encourages them to promptly complete and submit the forms to your organization. The County's responsibility is to ensure that its new employees are identified and enrolled into CCCERA retirement system as appropriate, which is done through other reporting and processes. It is the employee's responsibility to follow up directly with CCCERA as needed to elect beneficiaries or establish reciprocity between retirement systems. The County will continue to help facilitate the onboarding process and provide CCCERA's forms to new employees, but ultimately it is

CCCERA's responsibility to follow up with its members to ensure all forms have been collected as needed.

Thank you for the professional, efficient, and courteous manner of the audit. We appreciate your thorough consideration of the facts presented on behalf of Contra Costa County and we thank you for your time and effort to ensure that County employees are appropriately served.

Sincerely,

Contra Costa County
Office Of The County Administrator

T. Adam Nguyen

Adam Nguyen
County Finance Director

cc: M. Nino, County Administrator

RESPONSE TO EMPLOYER REPLY

CCCERA Internal Auditor provided a draft report to the County Administrator’s Office (CAO) for review and comment. The CAO’s comments regarding the actions it has taken or plans to implement in response to the report have been included in the previous section of the audit report. This section of the report provides the Internal Auditor’s clarification to the CAO’s response.

With regards to observation #6 on page 12 of the report, CCCERA Internal Auditor maintains that it is the employer’s responsibility to ensure new employees’ enrollment affidavits are submitted to CCCERA in a timely manner, pursuant to CCCERA Board of Retirement Regulations, Section III, 4. Certifications. The Regulations have been adopted by the Board of Retirement and approved by the Contra Costa County Board of Supervisors pursuant to California Government Code Sections 31525 and 31526(b).

The applicable governing laws and an excerpt of the regulations are included below with emphasis added (*in italics*).

➤ *California State Government Code, Section 31525.*

The board [of retirement] may make regulations not inconsistent with this chapter. *The regulations become effective when approved by the board of supervisors.*

➤ *California State Government Code, Section 31526(b).*

The [board of retirement] regulations shall include provisions:

...

(b) For one of the following:

(1) The filing of a sworn statement by every person who is or becomes a member, showing date of birth, nature and duration of employment with the county, compensation received, and other information as is required by the board.

(2) In lieu of a sworn statement, the submission by the member’s employer to the retirement association of the information otherwise required in paragraph (1), in a form determined by the retirement association.

...

➤ *CCCERA Board of Retirement Regulations, Section III, 4. Certifications.*

Every employee of the County or district within the county whose employees are members of the Association shall, upon entry into the Association, complete a sworn statement as provided for in Gov. Code Section 31526(b). A certified copy of the member’s birth certificate or other evidence of birth may be required by the Board.

It shall be the employer's responsibility to assure compliance with this section. The Board shall assess the employer five hundred (\$500) dollars per employee for every month or fraction thereof that the required certification is not submitted. The Board shall notify the employer in writing of the imposition of assessment at least thirty days before the assessment.

The laws and regulations included above have been discussed with County staff. It is the County's responsibility to assure new employees' sworn statements are completed as part of the enrollment process and that the enrollment packets are provided to CCCERA. The County's monthly electronic reporting of new employees certifies employees' demographic information but does not substitute employees' sworn statements as required by the above laws and regulations.

It is CCCERA's mission to effectively and accurately administer pension benefits earned by our members and to be prudent stewards of plan assets. We value the County's continued partnership in assisting us in accomplishing this mission.



Contra Costa County Employees'
Retirement Association

EMPLOYER AUDIT REPORT

October 24, 2023

EMPLOYER AUDIT

Contra Costa Animal Services Department

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October 24, 2023

Beth Ward
Contra Costa Animal Services Director
4800 Imhoff Place
Martinez, CA 94553

RE: CCCERA Employer Audit Report – Contra Costa Animal Services Department

Dear Ms. Ward,

Enclosed is the employer audit report of Contra Costa Animal Services (CCAS), conducted pursuant to Government Code Section 31543. I want to thank you and all CCAS staff for their assistance in gathering all the records and documents and making them readily available during this audit. This cooperation was greatly appreciated and allowed for the audit to be completed in an efficient manner.

The *Employer Audit Report* is enclosed for your review. There were no “Follow-Up Items” noted for CCAS to address. However, the audit noted gaps in the areas of payroll reporting and enrollment packets. CCCERA is in receipt of a written response from CCAS dated October 18, 2023. This response is included in the “*Final Report*” which will be submitted to CCCERA’s Audit Committee for its review.

This report will be placed on the agenda and will be presented to the CCCERA Board of Retirement Audit Committee at its November 29, 2023 meeting.

In addition, I would like to extend my gratitude to CCAS fiscal and administrative staff and the courtesy that they extended to CCCERA during the review. Should you wish to discuss or have any questions regarding the items reviewed and the observations contained within this report, please contact me at 925-521-3960.



Best regards,



Cherry Chang
Internal Auditor

CC: Arturo Castillo, Administrative Services Officer, CCAS
Kara Galindo, Administrative Services Assistant III, CCAS
Monica Nino, Contra Costa County Administrator
Robert Campbell, Contra Costa County Auditor-Controller
Christina Dunn, Acting Chief Executive Officer, CCCERA
Wrally Dutkiewicz, Compliance Officer, CCCERA

BACKGROUND

The Contra Costa County Employees' Retirement Association (CCCERA) is a public employee retirement system that was established by Contra Costa County on July 1, 1945, and is administered by the Board of Retirement (Board) to provide service retirement, disability, death, and survivor benefits for Contra Costa County (County) employees and 15 other participating agencies under the California State Government Code, Section 31450, *et. seq.* (County Employees Retirement Law of 1937 or CERL) and the California Public Employees' Pension Reform Act of 2013 (PEPRA).

CCCERA administers the retirement benefits for the employees of Contra Costa County and participating District employers. Participating employers within the CCCERA retirement system transmit payroll information and contributions to fund the benefits for their employees. CCCERA sets up retirees' accounts, processes applications, calculates retirement allowances, prepares monthly retirement benefit payment rolls, and makes adjustments to retirement benefits when needed.

Retirement allowances are computed in accordance with statute using three factors: years of service, age at retirement, and final compensation. For Legacy (pre-PEPRA) members, final compensation is defined as the highest average annual compensation earnable (as defined in G.C. Section 31461) by a member during one or three consecutive years of employment depending on the member's Tier. For PEPRA members, final compensation is defined as the highest average annual pensionable compensation (as defined in G.C. Section 7522.34) earned by the member during a period of 36 consecutive months.

The employer's knowledge of the rules relating to membership and payroll reporting facilitates the employer in providing CCCERA with appropriate employee information. Correct enrollment of eligible employees and correct reporting of payroll information are necessary for the accurate computation of a member's retirement allowance.

Contra Costa Animal Services is charged with protecting the health, safety and well-being of all people and animals in the community. The department operates one animal shelter, serves a population of over one million people and sees approximately 11,000 animals pass through its doors each year.

The department shelters animals that are sick, injured or in danger, and assists in re-uniting lost animals with their families. Additionally, the department provides education and services to enhance the lives of people while strengthening the human-animal bond.

Per CCCERA records, the Contra Costa Animal Services had 74 active members as of 6/30/23. For these members, the County reported pensionable compensation of approximately \$4.3 and \$4.6 million in 2021 and 2022, respectively. The table below summarizes membership counts, pensionable compensation, pension contribution, retiree counts and pension benefit payment for calendar years 2021, 2022 and 2023.

	CY2021	CY2022	CY2023*
Active Members	73	76	74
Pensionable Compensation	\$4,439,693	\$4,634,624	\$2,499,052
Employer Contribution	\$1,110,631	\$1,154,456	\$608,551
Member Contribution	\$467,452	\$477,902	\$252,335
Retirees & Beneficiaries	64	64	67
Pension Benefit Payment	\$2,455,209	\$2,549,381	\$2,080,950

* through 6/30/23 for active members and 9/1/23 for retirees

SCOPE

The 2013 pension reform legislation granted CCCERA the authority under Government Code Section 31543 to conduct audits of employers to ensure that employee and payroll information used in the calculation of retiree pension benefits is correct and verifiable. The scope of these on-site reviews includes:

- Correctness of retirement benefits;
- Reportable compensation;
- Enrollment in, and reinstatement to the system (GC 31554);
- Pensionable compensation (GC 31461 and GC 7522.34);
- Review MOUs with respect to compensation and salary regulations (i.e. Vacation Sales, etc.);
- Determine if compensation is paid to enhance a member's retirement benefit (GC 31461(b)(1) and GC 7522.34(c)(1));
- Evaluate employer's compliance with restrictions on retirees returning to work (GC 7522.56, I.R.S. bona fide separation and normal retirement age rules); and
- Determine if employees convicted of certain felonies have forfeited benefits earned or accrued from the commission of the felony (GC 7522.72(g) and GC 7522.74(g)).

The CCCERA audit of the Contra Costa Animal Services was conducted virtually between August and October 2023. The review period encompassed active employee records and retiree records from January 2021 through June 2023.

OBSERVATIONS AND FINDINGS

ACCURACY OF PAYROLL INFORMATION PROVIDED TO CCCERA

➤ *Scope Item 1: Exceptions were observed in this section.*

PAYROLL AND REPORTING PROCESS AND RECEIVABLES REVIEW

Pursuant to Board of Retirement Regulations Section IV: Employer pensionable payroll and corresponding pension contributions are to be reported to the retirement system timely and accurately. (*Contributions And Reporting, 2. Due Dates, 4. Employer Certification*).

Due Dates:

Each employer shall report to the Association in a manner and frequency as determined by the Board sufficient for the Board to credit contributions and service to each member’s record.

Unless otherwise specified, reports shall be due no later than the tenth of each month for the previous month’s payroll and shall be accompanied by member and employer contributions. If the tenth of the month falls on a weekend or holiday, the due date shall be the last working day before the tenth. Reports which are unreadable or incorrect, shall not be accepted and shall be returned to the employer. (Emphasis added.)

Reports and contributions received after the due date shall be considered late and subject to a late reporting penalty equal to the prime rate in effect on the due date computed on a daily, non-compounding basis and applied to the contributions due.

The County represents that due to its large payroll size and complex reconciliation process, it requires an additional 30 days beyond the deadline set forth in CCCERA’s Regulations for reporting. The County will provide CCCERA with contribution reports no later than the tenth day of the second month following the payroll month that is the subject of the report.

➤ *Observation 1: Any observations in this area have been communicated to the County Auditor-Controller’s Office.*

INPUT FILE REVIEW

Employer Certification

Each payroll and pension contribution report shall include or be accompanied by a certification, under penalty of perjury, as to its accuracy. The certification shall be made by a duly authorized representative of the employer. (Board of Retirement Regulations *Section IV, 4. Employer Certification*.)

➤ *Observation 2: Any observations in this area have been communicated to the County Auditor-Controller's Office and CCCERA Management.*

COMPENSATION LIMITS

Federal and state laws place annual limits on the compensation that can be used to determine contributions and benefits for CCCERA plan members.

Legacy Members:

- The Internal Revenue Code Section 415(b) provides for dollar limitations on benefits and contributions under qualified retirement plans which are adjusted annually for cost-of-living increases.
- Members who commenced participation in CCCERA on or after January 1, 1996 are subject to the annual federal Internal Revenue Code Section 401(a)(17) compensation limit.
- For CERL benefit formulas (General Tiers 1, 3, Safety Tiers A & C), the 2022 calendar year compensation limit was increased by the I.R.S. from \$290,000 to \$305,000 for calendar year 2021.
- Members who commenced participation in CCCERA prior to January 1, 1996 are not subject to the Internal Revenue Code annual compensation limit.

PEPRA Members:

- For new employees who commenced participation in CCCERA on or after January 1, 2013 under PEPRA benefit formulas (General Tiers 4,5, Safety Tiers D & E), the compensation which exceeds that annual pensionable compensation limit under California Government Code Section 7522.10(c) and (d) is not included in determining benefits or contributions.
- The 2022 calendar year PEPRA compensation limits are as follows:
 - For employees enrolled in Social Security – increased to \$134,974.
 - For employees not enrolled in Social Security – increased to \$161,969.
- The 2021 calendar year PEPRA compensation limits are as follows:
 - For employees enrolled in Social Security the limit was \$128,059.
 - For employees not enrolled in Social Security the limit was \$153,671.

➤ *Observation 3: None*

PAYROLL REPORTING – PENSIONABLE COMPENSATION AND CONTRIBUTION REVIEW

Compensation Earnable Applicable Law for Legacy Members

"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's Compensation Earnable Policy sets forth the definition of Compensation Earnable as well as exclusions from Compensation Earnable.

Pursuant to CCCERA's "Compensation Earnable Policy"¹, Section III.D. "Compensation Earnable" excludes payments for additional services rendered outside of normal working hours.

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.

Pensionable Compensation Applicable Law for PEPRA members

PEPRA defines "pensionable compensation" as follows:

"Pensionable compensation" of a new member of any public retirement system means the normal monthly rate of pay or base pay of the member paid in cash to similarly situated members of the same group or class of employment for services rendered on a full-time basis during normal working hours, pursuant to publicly available pay schedules.

Compensation that has been deferred shall be deemed pensionable compensation when earned rather than when paid. (Gov. Code Section 7522.34(a) and (b).)

PEPRA excludes from "pensionable compensation" the following:

¹ https://www.cccera.org/sites/main/files/file-attachments/post_ab_197_compensation_earnable_policy_final.pdf?1620253572

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

Pursuant to CCCERA’s “Pensionable Compensation Policy”, Section III:

The CCCERA Board has determined that "Pensionable Compensation" includes "base pay." Pensionable compensation does not include any pay other than base pay, in accordance with Govt. Code Sections 7522.34(c)(11) and (12).

Pensionable compensation (GC 31461 and 7522.34) is to be reported to the retirement system and the corresponding contributions are to be reported to the retirement system.

➤ *Observation 4: The audit identified a payroll reporting error in the March 1-15, 2023 payroll period where the data from the Contra Costa Animal Services (CCAS) timekeeping system (i.e. Ecotime) was not recorded into the County’s payroll system (i.e. Kronos) for three clerical staff. One staff is a Legacy member who worked 76.5 hazard pay hours, or \$138 in pensionable compensation, that were not recorded in Kronos and not reported to CCCERA. The other two staff are PEPRA members and their pensionable compensations were not impacted by this error. CCAS has worked with the County Auditor-Controller’s Office to make a payroll correction for the three identified staff.*

SALARIES IN ACCORDANCE WITH PUBLICLY AVAILABLE PAY SCHEDULE

➤ *Scope Item 2: No exceptions were observed in this section.*

Pursuant to CCCERA's Policy On Determining "Pensionable Compensation" Under PEPRA For Purposes Of Calculating Retirement Benefits, 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 meetings 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.

➤ *Observation 5: No exceptions were observed in this section.*

ENROLLMENT OF ELIGIBLE EMPLOYEES

➤ *Scope Item 3: Missing/incomplete Enrollment Packets were noted during the review.*

1. Exclusion from Membership – By Type of Employment

- A. All officers and employees of the County or districts shall be members of the association as provided in Article 4 under Sections 31550-31567 of the County Employees’ Retirement Law of 1937 (Gov. Code Secs. 31450, et seq. “CERL”), unless excluded from membership by this Section.
- B. The following employees shall be excluded from membership:
 - i. Temporary, seasonal or independent contract employees who are employed or re-employed for temporary service or at certain specified periods each year.
 - ii. Intermittent or permanent-intermittent employees who are appointed to serve less than 80% of the full number of working hours required of regular employees or who actually serve less than 80% of such full number of working hours in one year as certified by their appointing authority.
 - iii. Part-time employees whose service for the County or district is less than fifty (50) percent of the full number or working hours required of fulltime employees at that employer.
 - iv. Project employees, unless the appointing authority certifies that the project is expected to be of one year or more in duration on a greater than part-time basis.
 - v. Provisional employees, unless they otherwise meet the requirements for reciprocal benefits with other retirement systems under Article 15 of CERL.
- C. In making its determination regarding an employee’s inclusion in or exclusion from membership, the Board will not rely solely upon the term given to the type of employment. Rather, the Board will rely upon such additional facts such as the nature of the employment, its expected or actual duration, and its relationship to what is considered full-time, permanent employment.

2. Exclusion from Membership – by Compensation

Except as otherwise herein provided, all employees of the County or district who receive compensation amounting to less than one-hundred (\$100) dollars per month, and in the case of employees paid on other than a monthly basis an average of one-hundred (\$100) dollars per month for the preceding year, including maintenance valued according to the schedule adopted by the governing body, are hereby excluded and exempted from membership in the Retirement Association. Any member of the Retirement Association whose salary is reduced to an amount less than one-hundred (\$100) dollars per

month shall have the option of continuing or discontinuing his/her active membership in the Association.

2.1 Exclusion from Membership – by Waiver

Newly hired employees age 60 and older may waive membership as authorized by Gov. Code Section 31552. Any such waiver of membership shall be effective only if it is submitted to the CCCERA Retirement Chief Executive Officer within 90 days of the employee’s date of hire; provided, however, that the Retirement Chief Executive Officer may, in his/her sole and reasonable discretion, waive the time limitation if the newly hired employee establishes good cause for such a waiver.

3. Certifications

Every employee of the County or district within the county whose employees are members of the Association shall, upon entry into the Association, complete a sworn statement as provided for in Gov. Code Section 31526(b). A certified copy of the member’s birth certificate or other evidence of birth may be required by the Board.

It shall be the employer’s responsibility to ensure compliance with this section. The Board shall assess the employer five hundred (\$500) dollars per employee for every month or fraction thereof that the required certification is not submitted. The Board shall notify the employer in writing of the imposition of assessment at least thirty days before the assessment.

➤ *Observation 6: Enrollment forms were missing or incomplete for thirty (30) members.*

CCCERA reviewed a sample of 50 members for testing, of which 46 were hired during 2019-2023. The audit found 30 members with missing or incomplete enrollment forms on file as summarized in Table 1 below. In most cases, CCCERA Member Services sent letters to the members directly requesting the missing information but did not receive a response. CCCERA notified Contra Costa Animal Services (CCAS) during the audit of the missing forms and CCAS has facilitated in securing the enrollment forms from the eighteen (18) members still employed with CCAS. CCCERA Member Services will contact the remaining twelve (12) members to obtain the missing/incomplete enrollment forms.

Table 1: Summary of Missing Enrollment Forms by Member Employment Status

Member Status	Member Count	Action Item
Employed with CCAS	18	CCAS to obtain missing enrollment forms from members
Separated from CCAS; still employed with the County	1	CCCERA Member Services to contact members to obtain enrollment forms
Separated from the County	11	
Total of 30 members		



PENSION BENEFIT REVIEW

➤ *Scope Item 4: No exceptions were observed in this section.*

REVIEW OF PENSION BENEFIT CALCULATIONS

1. Compensation Policies
 - i. *Compensation Earnable Policy* – Adopted: 9/10/2014, Amended: 5/5/2021; GC 31461;
 - ii. *Policy On Determining “Pensionable Compensation” Under PEPRRA For Purposes Of Calculating Retirement Benefits* - Adopted: 9/10/2014; GC 7522.34;
 - iii. *Policy Regarding Assessment and Determination Of Compensation Enhancements* – Adopted 11/1/2012, Amended: 3/8/2017; GC 31461(b)(1) and 7522.34(c)(1)

➤ *Observation 7: None*

RETIREE RETURN TO WORK MONITORING

2. Retiree Return to Work Monitoring
 - i. GC 7522.56 Retired Persons; Service and Employment Restrictions

➤ *Observation 8: None*

FORFEITURE OF BENEFITS EARNED OR ACCRUED FROM THE COMMISSION OF A FELONY

3. Felony Forfeiture Monitoring and Notification – GC 7522.72(g) and GC 7522.74(g)

➤ *Observation 9: None*

INTERNAL REVENUE CODE SECTION 415 COMPLIANCE

As adopted on December 8, 2010 and amended on January 9, 2013, July 11, 2018, September 8, 2021 and August 9, 2023

➤ *Observation 10: None*

FOLLOW-UP ITEMS

The following item was noted during the review and requires follow-up by Contra Costa Animal Services and CCCERA:


Contra Costa Animal Services has no outstanding follow-up items resulting from the audit.

EMPLOYER REPLY

The following reply was received by CCCERA from Contra Costa Animal Services:

Animal Services Department **Contra Costa County**
 4800 Imhoff Place
 Martinez, California 94553-4300
 (925) 608-8400

Beth Ward
 Animal Services Director



MEMORANDUM

DATE: October 18, 2023

TO: Cherry Chang, Internal Auditor, CCCERA

FROM: Beth Ward, Director
Prepared by: Arturo Castillo

CC: Monica Nino, Contra Costa County Administrator
 Robert Campbell, Contra Costa County Auditor-Controller
 Christina Dunn, Acting Chief Executive Officer, CCCERA
 Wrally Dutkiewicz, Compliance Officer, CCCERA

RE: CCAS 2023 Contra Costa County Employee Retirement Association Audit

In response to the Contra Costa County Employee Retirement Association (CCCERA) 2023 Audit for the Contra Costa Animal Services (CCAS) department, CCAS accepts the CCCERA observations.

CCAS has addressed and completed all pending observations. CCAS will also receive an employee enrollment in-service/training from CCCERA to improve its on-boarding processes within 30 days of this letter.



Meeting Date
12/13/2023
Agenda Item
#4.A-VII

MEMORANDUM

Date: December 13, 2023
To: CCCERA Board of Retirement
From: John Phillips, Audit Committee Chair
Subject: 2023-2024 Internal Audit Plan

Executive Summary

To assist the Audit Committee and the Board of Retirement in fulfilling its oversight responsibilities for CCCERA, the Internal Auditor presents the attached 2023-2024 Internal Audit Plan, which outlines and prioritizes internal audit activities for the period of 2023-2024. The proposed Internal Audit Plan is designed to cover high-risk activities or areas where the Internal Auditor could have the greatest impact, while limiting the scope of work to what can realistically be accomplished during the 2023-24 period. The Internal Audit Plan is ready for the Audit Committee and the Board's review and approval.

Risk Assessment and Audit Plan Development

The Institute of Internal Auditors' Standards require the Internal Auditor to establish a risk-based approach to determine the priorities for internal audit activities. The Audit Plan reflects the results of a risk assessment process gathered from various sources including, but not limited to, management questionnaires, interviews with staff, results of previous reviews/consulting engagements and data analytics. Additionally, selection of activities for the Audit Plan includes examining various factors such as: time of last review, relevant or current events (including pension administration system project), areas where the Internal Auditor can have the greatest impact, requests by management or the Audit Committee, the resource limitations that may exist, and if out-sourcing or co-sourcing arrangements are available to supplement the Audit Plan. This can result in the Internal Auditor selecting activities for inclusion in the Audit Plan that may not have the highest risk scores.

2023-2024 Internal Audit Plan

The proposed Internal Audit Plan in Attachment A has 4 components: (a) audits of internal operations, (b) contingent audits, (c) employer audits, and (d) other activities. The list of contingent audits allows flexibility for the Internal Auditor. The contingent audits include

reviews of the key processes in the new pension administration system (PAS). The PAS project is in its final phase with the anticipated go live date in the second half of 2024. Once the PAS processes are ready to be reviewed, they will be prioritized over the already scheduled audit activities. Any contingent audits not started in 2024 will be considered when completing the 2025 Internal Audit Plan.

Internal Auditor continues to conduct the scheduled employer audits in accordance with the 2023 Compliance Plan. The 2024 employer audits will focus on Contra Costa County's countywide processes related to retirement reporting, including demographic reporting, payroll and contribution reporting, new pay items or positions reporting, contribution payments, compensation limits, retiree return to work monitoring, and felony forfeiture, etc.

In addition to the proposed audits, Internal Auditor will begin audit standards implementation and may respond to ad-hoc management requests and/or hotline investigations.

Recommendation

Consider and take possible action to approve the 2023-2024 Internal Audit Plan, as recommended by the Audit Committee.

ATTACHMENT A: 2023-2024 Internal Audit Plan

Audit Activity	Department	Description	Timeline*
Audits of Internal Operations			
Accounts Payable	Accounting	Evaluate the Accounts Payable process and the associated controls in the accounting system.	2023 Q4 (in progress)
Due Diligence	Investments	Evaluate the due diligence process and the associated controls in the investment management system.	2024 Q1
Business Continuity Plan	IT	Assess the adequacy of the business continuity and disaster recovery plan and review the controls over the process.	2024 Q2
Lump Sum Death Benefits	Retirement Services	Review the process used for paying lump sum death benefits and burial allowances for deceased members.	2024 Q3
Portfolio Rebalancing	Investments	Evaluate the process used to ensure implementation of asset allocation and portfolio rebalancing is in line with Investment Policy Statement.	2024 Q4
Contingent Audits			
Employer Payroll Processing	Member Services	Assess whether the employer payroll transmittal process is effective to ensure data uploaded to Pension Administration System (PAS) is accurate post go-live.	2024
Service Retirement Application	Retirement Services	Evaluate the process in processing service retirement applications and benefit calculations post go-live. Test benefit payments to ensure inputs and formulas used in PAS are	2024

Audit Activity	Department	Description	Timeline*
		correct as supported by proper documentation.	
Retirement Payroll: Off-Cycle	Retirement Services	Evaluate controls in processing and recording off-cycle retirement payroll disbursements in PAS post go-live.	2024
Employer Audits			
Contra Costa County Counsel		Evaluate compliance with the Board regulations, County Employees' Retirement Law (CERL) and the employer's agreement with CCCERA.	2023 Q4 (in progress)
Contra Costa County Child Support Services			2023 Q4 (in progress)
Contra Costa County District Attorney			2024 Q1
Contra Costa County Auditor-Controller's Office		Focus on testing countywide processes related to compliance with the Board regulations, CERL, and the employer's agreement.	2024
Contra Costa County Human Resources Department			2024
Other Activities			
Auditing Standards Implementation		Develop Audit Manual and related processes, including audit workpapers system, quality assurance & improvement program, and performance measurements for Internal Audit.	2024
Ad-Hoc Requests		Respond to ad-hoc management requests and/or hotline investigations as needed.	2024

*Tentative timelines depending on department workloads and priorities



Meeting Date
12/13/2023
Agenda Item
#4.A-VIII

MEMORANDUM

Date: December 13, 2023
To: CCCERA Board of Retirement
From: John Phillips, Audit Committee Chair
Subject: Internal Audit Charter

Background

The Institute of Internal Auditors' Standards require the internal audit function to formally define the purpose, authority, and responsibilities of the function in a Charter. The Charter is a formal document approved by the Audit Committee as well as the Board of Retirement. It enables the Internal Auditor to effectively carry out assigned responsibilities and it provides a blueprint of how the internal audit function will operate. The Internal Audit Charter must define, at a minimum:

- Internal Audit's purpose within the organization.
- Internal Audit's authority.
- Internal Audit's responsibility.
- Internal Audit's position within the organization.

The Institute of Internal Auditors requires a periodic review of the Internal Audit Charter to ensure it is aligned with the industry standards and organizational changes.

Recommendation

Consider and take possible action to approve the Internal Audit Charter, as recommended by the Audit Committee.

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
BOARD OF RETIREMENT

INTERNAL AUDIT CHARTER

I. PURPOSE AND MISSION

The purpose of CCCERA's Internal Audit function (Internal Audit) is to provide independent, objective assurance and consulting services designed to add value and improve CCCERA's operations. The mission of Internal Audit is to enhance and protect organizational value by providing risk-based and objective assurance, advice, and insight. Internal Audit helps CCCERA accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of governance, risk management, and control processes.

II. AUDITING STANDARDS

Internal Audit will adhere to the mandatory elements of the Institute of Internal Auditors' International Professional Practices Framework, including the Core Principles for the Professional Practice of Internal Auditing, the Code of Ethics, the *International Standards for the Professional Practice of Internal Auditing*, and the Definition of Internal Auditing. The Internal Auditor will report periodically to management and the Audit Committee regarding Internal Audit's conformance to the Code of Ethics and the Standards.

III. AUTHORITY

The Board of Retirement Audit Committee ("Audit Committee") oversees the work of the Internal Auditor. The Internal Auditor reports functionally to the Audit Committee and administratively to the Chief Executive Officer.

The Audit Committee authorizes Internal Audit to:

1. Except where prohibited by law, have unrestricted access to CCCERA's records, personnel, and facilities pertinent to carrying out its mission, while maintaining strict adherence to confidentiality and safeguarding of records and information,
2. Have unrestricted access to, and communicate and interact directly with, the Audit Committee, subject to the requirements of the Ralph M. Brown Act (Government Code Section 54950, et seq.),
3. Review any matter within the scope of the Internal Auditor's responsibilities,
4. Allocate resources, set frequencies, select subjects, determine scopes of work, apply techniques required to accomplish audit objectives, and issue reports, and
5. Obtain the necessary assistance of personnel in units of the organization where audits are being performed, as well as other specialized services from within or outside the organization.

The Internal Auditor will inform the Audit Committee whenever significant barriers, or resistance to access to, personnel or information occurs.

IV. INDEPENDENCE AND OBJECTIVITY

The Internal Auditor will ensure that the Internal Audit remains free from all conditions that threaten the ability of internal auditors to carry out their responsibilities in an unbiased manner, including matters of audit selection, scope, procedures, frequency, timing, and report content. If the Internal Auditor determines that independence or objectivity may be impaired, in fact or appearance, the details of impairment will be disclosed to appropriate parties.

The Internal Auditor will have no direct operational responsibility or authority over any of the activities audited. Accordingly, the Internal Auditor will not implement internal controls, develop procedures, install systems, prepare records, or engage in any other activity that may impair their judgment, including:

1. Performing any operational duties for CCCERA or its affiliates.
2. Initiating or approving transactions external to the Internal Audit.
3. Directing the activities of any CCCERA's employee not reporting to Internal Audit, except to the extent that such employees have been appropriately assigned to auditing teams or to otherwise assist Internal Audit.

Where Internal Auditor has, or is expected to have, roles and/or responsibilities that fall outside of Internal Audit, safeguards will be established to limit impairments to independence or objectivity. The Internal Auditor will confirm to the Audit Committee, at least annually, the organizational independence of the Internal Audit.

The Internal Auditor will be diligent in monitoring its own potential conflicts of interest in performing its mission. Where a conflict is identified, the Audit Committee will be advised, and a determination will be made by the Audit Committee as to whether to proceed and procure an independent outside auditor. The Audit Committee's determination will further be considered for approval by the Board of Retirement at a scheduled and properly noticed Board of Retirement meeting.

V. RESPONSIBILITIES AND DUTIES

Under the direction of the Audit Committee, the Internal Auditor:

1. Develops a flexible annual audit plan using appropriate risk-based methodology, including any risks or controls concerns identified by management, and submit to the Audit Committee for review and approval;
2. Reviews CCCERA's governing laws and established policies and procedures and evaluates compliance with same during the performance of audits;

3. Reviews the adequacy, efficiency, and effectiveness of CCCERA's internal control structure and reports discovered significant deficiencies and/or material weaknesses to the Audit Committee and management;
4. Conducts audits in support of the plan and writes and presents audit reports to the Audit Committee for its review and acceptance;
5. Establishes a follow-up process to monitor and ensure that appropriate management actions have been taken in response to audit findings and recommendations;
6. Assists the Audit Committee in its evaluation and recommendation to the Board for the selection of the external financial audit firm;
7. Performs investigations of alleged fraud or fraudulent actions that come to the attention of management or the Board;
8. Performs consulting and related client service activities to assist management in meeting objectives. The nature and scope of which will be agreed with the client, provided the Internal Auditor does not assume management responsibility;
9. Performs other duties as directed by the Audit Committee in accordance with the Audit Committee Charter;
10. Establishes and ensure adherence to policies and procedures designed to guide the Internal Audit;
11. Reports periodically to the Audit Committee on the status and results of Internal Audit's activities, the sufficiency of resources, significant risk exposures and control issues, and other matters requiring the attention of, or requested by, the Audit Committee;
12. Maintains a quality assurance and improvement program (QAIP) that covers all aspects of the Internal Audit. The QAIP will include an evaluation of conformance with the Standards. The program will also assess the efficiency and effectiveness of the Internal Audit and identify opportunities for improvement;
13. Communicates to the Audit Committee and senior management on the Internal Audit's QAIP, including results of internal assessments and external assessments conducted at least once every five years.

VI. CHARTER REVIEW

The Board of Retirement shall review this Charter periodically to ensure it remains relevant and appropriate.

VII. HISTORY

Adopted: Month XX, 202X



MEMORANDUM

Date: December 13, 2023
To: CCCERA Board of Retirement
From: Elise Diliberto, Disability Specialist
Subject: Michael Newton, Application for Service-Connected Disability, Safety A

On June 22, 2023, Michael Newton, an Assistant County Probation Officer with the Probation Department, passed away as a result of cardiac arrest. Newton had 29.2500 years of service at the time of his passing.

The Board's medical advisor analyzed Mr. Newton's medical records and opined that Mr. Newton was totally disabled for a discernable period of time prior to his passing, and permanently unable to engage in any employment prior to death.

Government Code Section 31720.5 provides that a safety member, who has completed five years or more of service, and develops heart trouble, that the heart trouble is presumed to arise out of and in the course of employment.

The Board's medical advisor reviewed the medical evidence and opined based on the presumption of being work related per Government Code Section 31720.5, Newton meets the requirements for a service-connected disability retirement.

The Board is now called upon to make a determination as to whether the member became permanently unable to perform his job duties prior to his death and if a service-connected disability should be granted.

Recommendation: Find that the member was permanently disabled and unable to perform any employment prior to death and approve a service-connected disability retirement under Government Code 31720 and 31720.5.

Disability Benefit:

NOTE: If approved, Michael Newton's beneficiary would receive a monthly allowance equal to 100% of the calculated Unmodified Benefit and a portion would be tax free.

Verus⁷⁷⁷

Meeting Date

12/13/2023

Agenda Item

#9a.



PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



PERIOD ENDING: SEPTEMBER 30, 2023

Investment Performance Review for

Contra Costa County Employees' Retirement Association

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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, with some triangles containing white or blue shapes, is positioned on the left side of the slide.

**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

4TH QUARTER 2023
Investment Landscape

Verus business update

Since our last Investment Landscape webinar:

- Verus retained four new clients across the U.S. expanding our coverage in the Pacific, Midwest, Southwest, and Southeast
- Shelly Heier, CFA, CAIA – *President*, was named one of Pensions & Investments' 2023 Influential Women in Institutional Investing
- Eileen Neill, CFA – *Managing Director | Senior Consultant*, was nominated as one of Chief Investment Officer's 2023 Knowledge Brokers
- Sneha Pendyala – *Public Markets Research Analyst* recently passed CFA level III. Christian Reed – *Private Markets Performance Analyst* and Jonah Coffee – *Performance Analyst* passed CFA level II
- Recent research, found at verusinvestments.com/research:
 - ***2023 Private Equity Outlook***
 - ***Hedge funds in 2023: How has the environment changed?***
 - ***The rising rate environment's impact on real estate cap rates***
 - ***Yield curve inversion: recession signal, but why?***
 - ***Credit, distress, default & the long term***



Shelly Heier, CFA, CAIA
President



Eileen Neill, CFA
Managing Director |
Senior Consultant

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Equity 28

Other assets 38

Appendix 43

Recent Verus research

Visit: verusinvestments.com/research

Topics of interest

CREDIT, DISTRESS, DEFAULT & THE LONG TERM

As the environment for credit changes and the risks of defaults increase, investors would be well advised to assess their fixed income positioning. This includes considering other opportunities across the credit spectrum beyond traditional core vehicles.

THE RISING RATE ENVIRONMENT'S IMPACT ON REAL ESTATE CAP RATES

The quickly rising interest rate environment has changed the landscape for commercial real estate so much that investors are questioning how the appraised values of their private real estate assets might change in the future. Our latest whitepaper illuminates this question.

YIELD CURVE INVERSION: RECESSION SIGNAL, BUT WHY?

Predicting future market conditions is an incredibly difficult task. One signal that has been a historically accurate predictor preceding a U.S. recession is the yield curve inversion. We examine what drives curve inversion, allowing investors a framework regarding the implications of this type of event.

HEDGE FUNDS IN 2023: HOW HAS THE ENVIRONMENT CHANGED?

For those clients who are comfortable embracing the complexity of hedge funds, we continue to believe that these strategies can play an important role. Furthermore, the justifications for these strategies may be strengthening as we enter a much different market regime.

Annual research

2023 PRIVATE EQUITY OUTLOOK

In the 2023 Private Equity Outlook, we focus on the impact of a “higher rate for longer” scenario on the asset class. We also examine how the rising-rate environment has affected private markets so far.

3rd quarter summary

THE ECONOMIC CLIMATE

- Real GDP increased at a 2.9% pace from a year ago in Q3 (4.9% QoQ annualized rate). The large uptick was driven by consumption, which continues to show resiliency. A combination of pandemic related excess savings and a strong decade of household wealth expansion is likely providing a cushion against an economic slowdown.
- The unemployment rate increased slightly during the quarter from 3.6% to 3.8%, though this appears to be due to more workers rejoining the labor force and seeking employment (a positive rather than negative development). The total size of the U.S. workforce grew by 580,000 in Q3.

PORTFOLIO IMPACTS

- The U.S. consumer has shown resiliency, with ongoing moderate spending activity. However, personal savings rates are nearly the lowest on record. We believe depressed savings activity without a commensurate surge in spending, and very poor sentiment, suggests high inflation is squeezing household budgets.
- The Cboe VIX implied volatility index remained below-average for most of the third quarter, before rising to 17.5 to end September. Market risk has been falling fairly consistently throughout the year, which may be at least partly attributed to the perception that certain risks, such as regional bank contagion and near-term recession, have eased.

THE INVESTMENT CLIMATE

- The 10-year U.S. Treasury yield increased during the quarter to 4.58%—a level not seen since 2007—likely supported by *higher for longer* interest rate expectations. This led to a flattening of the yield curve.
- U.S. headline inflation ticked up from 3.1% to 3.7% year-over-year. Core CPI (ex-food & energy) continued to fall from 4.9% to 4.1%. Shelter costs jumped unexpectedly in September showing the largest rise since May, and along with rising energy prices have generated concerns of renewed inflation. A material weakening of the job market and U.S. economy will likely be needed to bring inflation down to a 2% level.

ASSET ALLOCATION ISSUES

- Nearly all asset classes produced materially negative performance during the quarter, including global equities (-3.4%), U.S. core fixed income (-3.2%) and U.S. Treasuries (-3.1%). Highly correlated markets created difficulties for investors, as diversification produced limited value. **p. 48**
- U.S. investors continue to face a difficult environment for style factor investing. Over the past year, mega cap growth stocks have propelled the U.S. market higher, leading to dramatic outperformance of growth stocks and large cap stocks. However, value investing has delivered exceptional results in international developed markets, outperforming growth stocks by 11.5%.

Nearly all asset classes produced materially negative performance during the quarter

A material weakening of the job market and/or U.S. economy will likely be needed to bring inflation down to a 2% level

What drove the market in Q3?

“Fed Signals Higher-for-Longer Rates with Hikes Almost Finished”

10-YEAR U.S. TREASURY YIELDS

Apr	May	June	July	Aug	Sep
3.42%	3.64%	3.84%	3.96%	4.11%	4.57%

Article Source: Bloomberg, September 20th, 2023

“U.S. Inflation Rises in August as Petrol Prices Jump”

WTI CRUDE OIL PRICES (PER BARREL)

Apr	May	June	July	Aug	Sep
\$76.78	\$68.09	\$70.64	\$81.80	\$83.63	\$90.79

Article Source: Financial Times, September 13th, 2023

“U.S. Growth Trimmed on Inventories; Retains Underlying Momentum”

FEDERAL RESERVE BANK OF ATLANTA Q3 2023 GDPNOW FORECAST

July 28 th	Aug 15 th	Aug 31 st	Sept 15 th	Sept 29 th	Oct 10 th
3.5%	5.0%	5.6%	4.9%	4.9%	5.1%

Article Source: Reuters, August 30th, 2023

“S&P 500 Q2 2023 Earnings Beat Wall Street Expectations”

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

Q1 22	Q2 22	Q3 22	Q4 22	Q1 23	Q2 23
9.0%	6.0%	2.4%	(4.9%)	(6.6%)	(4.1%)

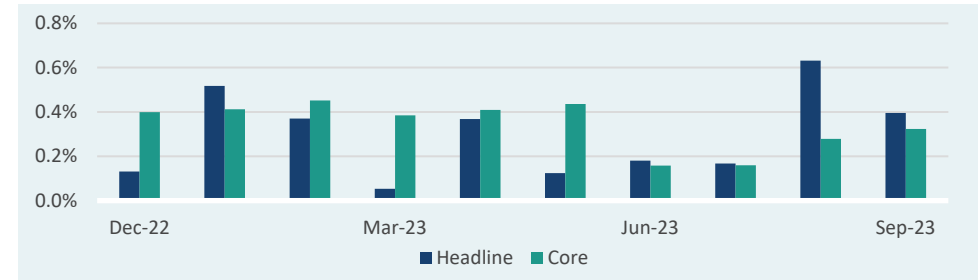
Article Source: Axios, August 18th, 2023

U.S. TREASURY YIELDS (YEAR-TO-DATE)



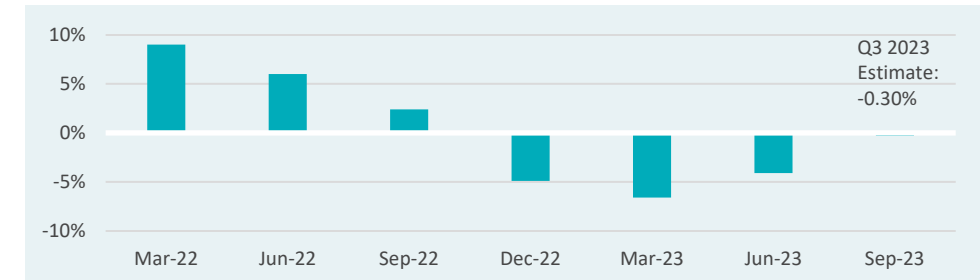
Source: Bloomberg, as of 9/30/23

HEADLINE VS. CORE CPI (MONTH-OVER-MONTH)



Source: BLS, as of 9/30/23

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



Source: FactSet, as of 9/30/23

Economic environment

U.S. economics summary

- Real GDP increased at a 2.9% pace from a year ago in the third quarter (4.9% quarter-over-quarter annualized rate). The large uptick was driven by consumption, which continues to show resiliency. While many investors have expected high inflation and weaker wage growth to impact spending, a combination of pandemic related excess savings and a strong decade of household wealth expansion is likely providing a cushion against an economic slowdown.
- U.S. headline inflation ticked up during the quarter, from 3.1% to 3.7% year-over-year in September. Core CPI (ex-food & energy) continued to fall from 4.9% to 4.1%. Shelter costs jumped unexpectedly in September, which along with rising energy prices have generated fresh concerns of renewed inflation.
- The U.S. consumer has shown resiliency, with continued moderate spending levels. However, personal

savings rates are nearly the lowest on record. We believe depressed savings activity, along with mild household spending and very poor sentiment, suggests high inflation is squeezing household budgets.

- The unemployment rate increased slightly during the quarter from 3.6% to 3.8%, though this appears to be due to more workers rejoining the labor force and seeking employment (a positive rather than negative development). The total size of the U.S. workforce grew by 580,000 in Q3.
- Consumer sentiment readings were mixed during Q3 but remain poor. According to the Conference Board survey, the future outlook for income, business, and labor conditions fell very sharply and are now at levels that historically have signaled recession within a year.

	Most Recent	12 Months Prior
Real GDP (YoY)	2.9% 9/30/23	1.7% 9/30/22
Inflation (CPI YoY, Core)	4.1% 9/30/23	8.2% 9/30/22
Expected Inflation (5yr-5yr forward)	2.4% 9/30/23	2.1% 9/30/22
Fed Funds Target Range	5.25–5.50% 9/30/23	3.00–3.25% 9/30/22
10-Year Rate	4.58% 9/30/23	3.83% 9/30/22
U-3 Unemployment	3.8% 9/30/23	3.5% 9/30/22
U-6 Unemployment	7.0% 9/30/23	6.7% 9/30/22

Inflation

U.S. headline inflation ticked up during the quarter, from 3.1% to 3.7% year-over-year in September. Core CPI (ex-food & energy) continued to fall from 4.9% to 4.1%. Shelter costs jumped unexpectedly in September showing the largest rise since May, which along with rising energy prices have generated concerns of renewed inflation. Oil in particular saw material gains over the quarter (+24.3% for Brent, +28.5% for WTI), largely driven by supply dynamics.

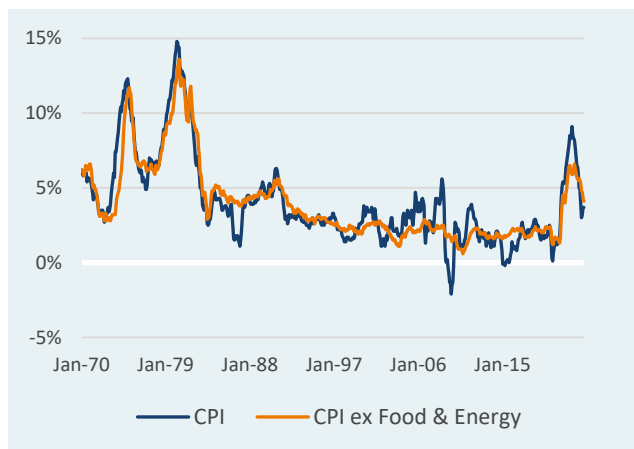
The attack of Hamas on Israel in early October led to upward movement in oil prices on the risk of escalation into a broader conflict involving Iran. Nearly one-fifth of global oil

supply is shipped through the Strait of Hormuz, on Iran's border, which means that a larger conflict would likely have major implications for inflation, and interest rates, and therefore the domestic economy.

Shorter-term inflation trends illustrate that the rate of inflation is still materially higher than the Federal Reserve's 2% target. Inflation appears to be stabilizing at a 3-4% range, and may not reach the Fed's 2% target without a material weakening of the job market and/or the U.S. economy.

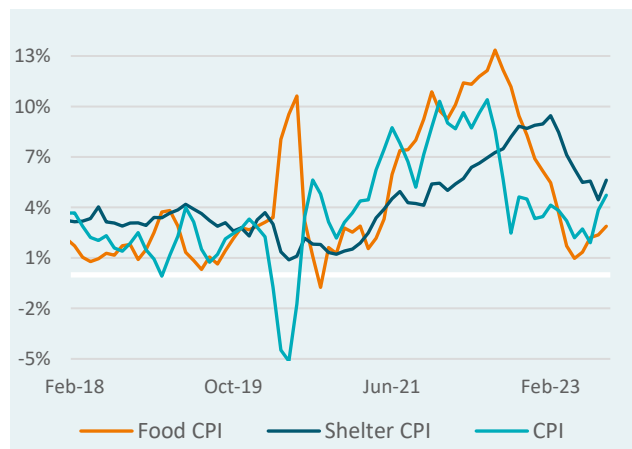
The recent jump in energy prices has reignited inflation concerns

U.S. CPI (YOY)



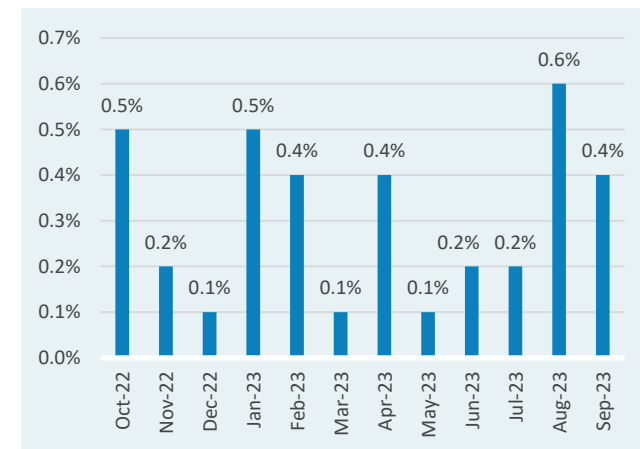
Source: BLS, as of 9/30/23

3-MONTH ANNUALIZED INFLATION RATE



Source: FRED, Verus, as of 9/30/23

MONTHLY PRICE MOVEMENT



Source: BLS, as of 9/30/23

GDP growth

Real GDP increased at a 2.9% pace from a year ago in the third quarter (4.9% quarter-over-quarter annualized rate). The large uptick was driven by consumption, which continues to show resiliency. While many investors have expected high inflation and weaker wage growth to impact spending, a combination of pandemic related excess savings and a strong decade of household wealth expansion is likely providing a cushion against an economic slowdown. Outside of consumption, all major categories, besides net exports, positively contributed to GDP growth.

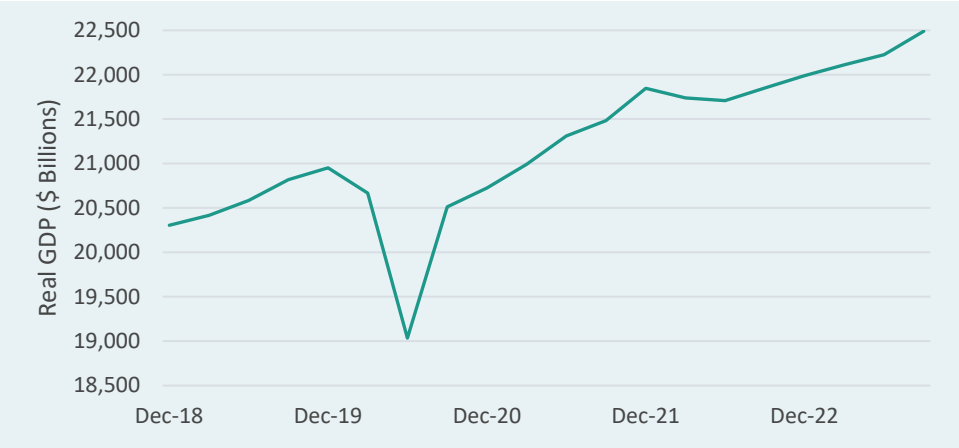
A strong economy continues to support the *higher for longer*

interest rate narrative. This has also contributed to markets reacting negatively to positive economic news, as strong growth increases the likelihood of Federal Reserve hawkishness.

Despite healthy overall GDP growth, weakness is beginning to appear in the economy. Savings rates remain on the lower end of historical trends at 3.9%, while transitions into delinquency across credit card, auto, and mortgage lending has all moved higher. As savings and debt-driven consumption begins to recede, expectations are for weaker consumption in the fourth quarter.

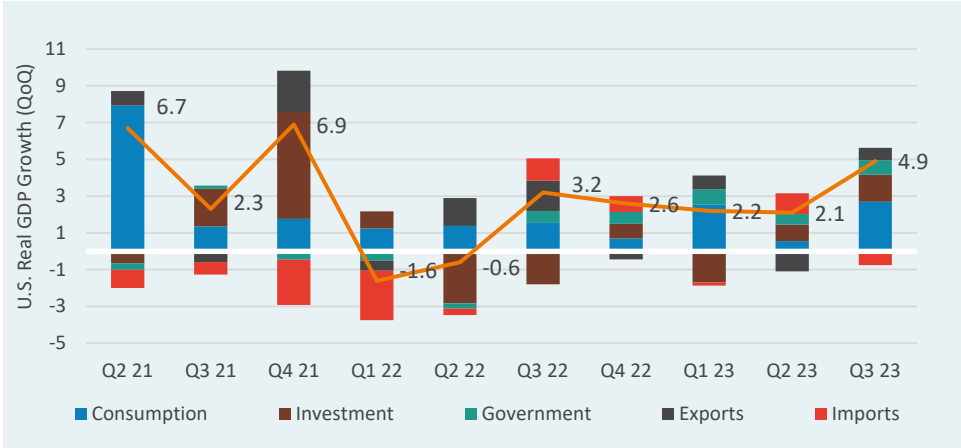
The U.S. economy continues to show resilience despite aggressive monetary tightening & low consumer confidence

U.S. REAL GROSS DOMESTIC PRODUCT



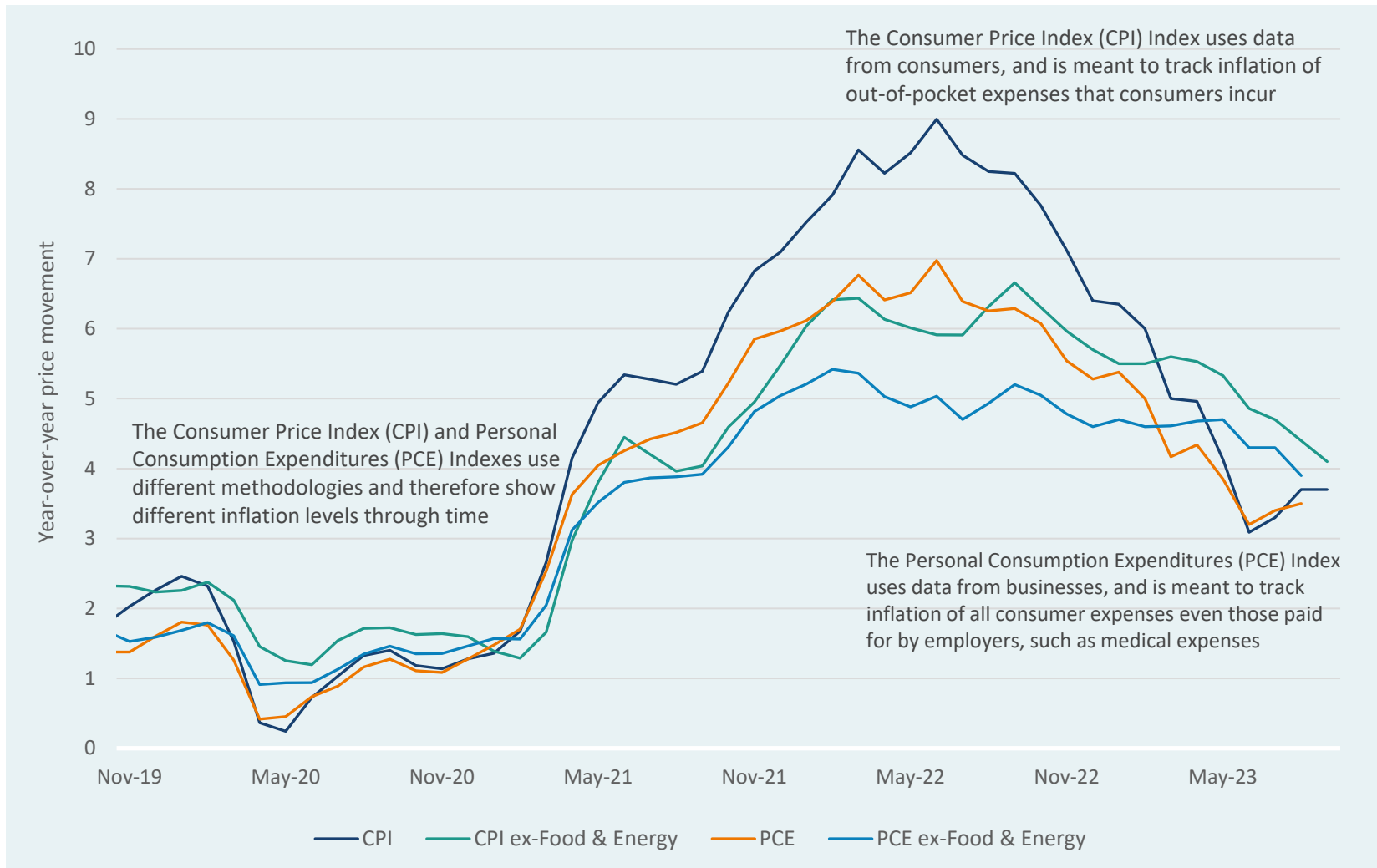
Source: FRED, as of 9/30/23

U.S. REAL GDP COMPONENTS (QOQ)



Source: FRED, as of 9/30/23

How are inflation conditions evolving?



U.S. inflation appears to be stabilizing at a 3-4% level, materially above the Fed's 2% target

The recent jump in energy prices has reignited inflation concerns

Source: FRED, Verus, PCE data as of 8/31/23, CPI data as of 9/30/23

Labor market

The unemployment rate increased slightly during the quarter from 3.6% to 3.8%, though this appears to be due to more workers rejoining the labor force and seeking employment (a positive rather than negative development). The total size of the U.S. workforce grew by 580,000 in Q3.

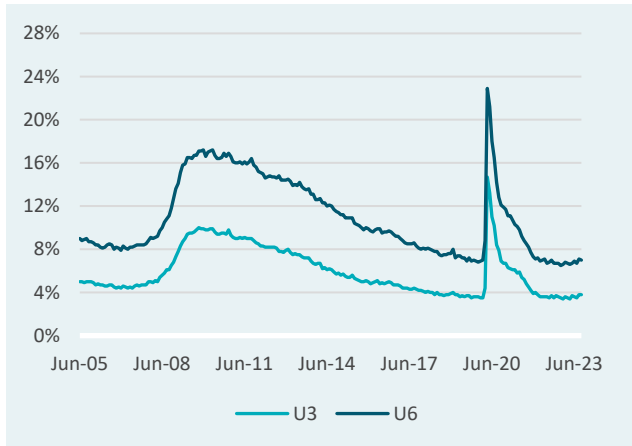
Rebalancing within the labor market continued, though there remains a mismatch between the number of *workers available* and the *available jobs*. The labor participation rate has improved across all age groups, while wage growth slowly receded—at 4.2% year-over-year in September—compared to ~3% pre-pandemic. Deceleration of wage growth is of course

not a welcome development for American workers, but should help to moderate inflation pressures, all else equal.

A short supply of workers relative to demand for staffing has placed more bargaining power with workers. Recent contract negotiations between employers and labor unions have been widely publicized and contentious at times. The United Auto Workers (UAW) strike against General Motors, Ford, and Stellantis serves as a recent example, affecting more than 400,000 workers. With households feeling the damaging effects of inflation on wages and budgets, and a large ongoing mismatch in the labor market regarding supply and demand, these disputes are likely to persist.

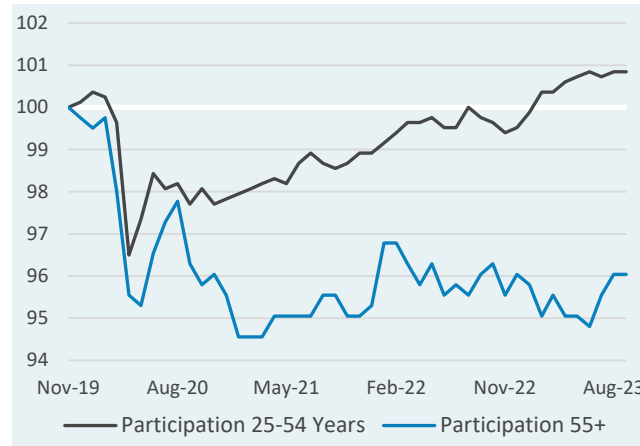
A short supply of workers relative to demand for staffing has placed more bargaining power with workers

U.S. UNEMPLOYMENT



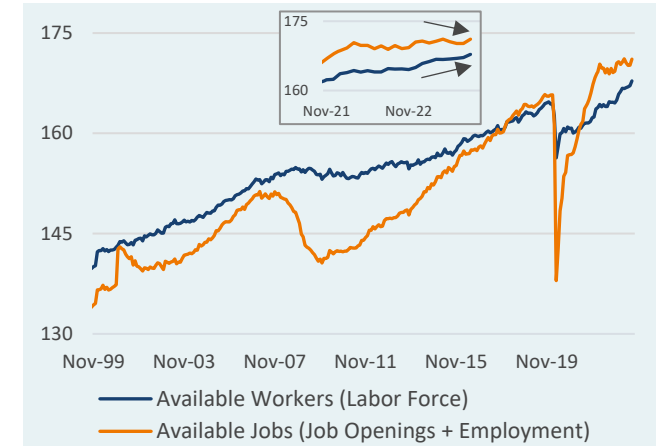
Source: FRED, as of 9/30/23

LABOR FORCE PARTICIPATION RATE BY AGE



Source: FRED, as of 9/30/23

WORKERS AVAILABLE VS. AVAILABLE JOBS



Source: BLS, Verus, as of 8/31/23

The consumer

The U.S. consumer has shown resiliency, with real (inflation-adjusted) personal consumption expenditures moving along at a moderate pace—coming in at 2.3% year-over-year in August. However, much of this resilience appears to have been possible through the spending down of household savings accumulated during the pandemic. Recent estimates seem to suggest that this *excess savings* has now been mostly (or all) spent, which could lead to a downturn in spending in future months.

Personal savings rates have deteriorated further—now at 3.9%—nearly half the pre-pandemic savings level and one of the lowest levels on record. We believe depressed savings activity without a commensurate surge in spending, and very

poor sentiment, suggests high inflation is squeezing household budgets.

As mentioned last quarter, tighter household budgets should be contrasted with the fact that Americans have experienced a vast boom in wealth and prosperity over the past decade, fueled by a substantial bull market in stocks and in residential real estate, among other assets. This wealth may serve as somewhat of a unique buffer against economic weakness. A large portion of this wealth was created by the housing boom during the pandemic, which suggests more economic sensitivity than usual to downward house and asset price moves.

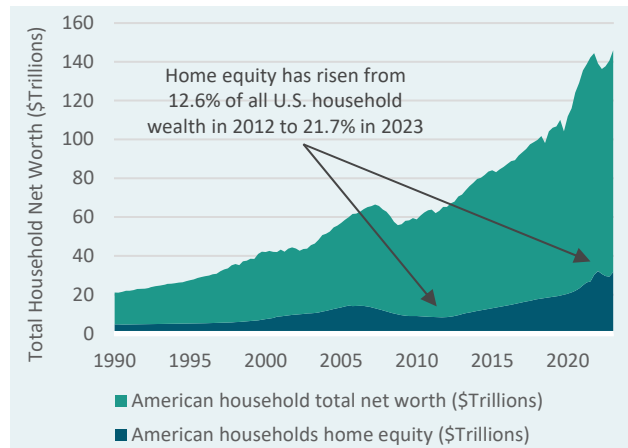
Higher home prices have played a major role in America's booming wealth over the past decade

REAL PERSONAL SPENDING



Source: FRED, as of 8/31/23

AVERAGE HOUSEHOLD NET WORTH



Source: FRED, Verus, as of 6/30/23

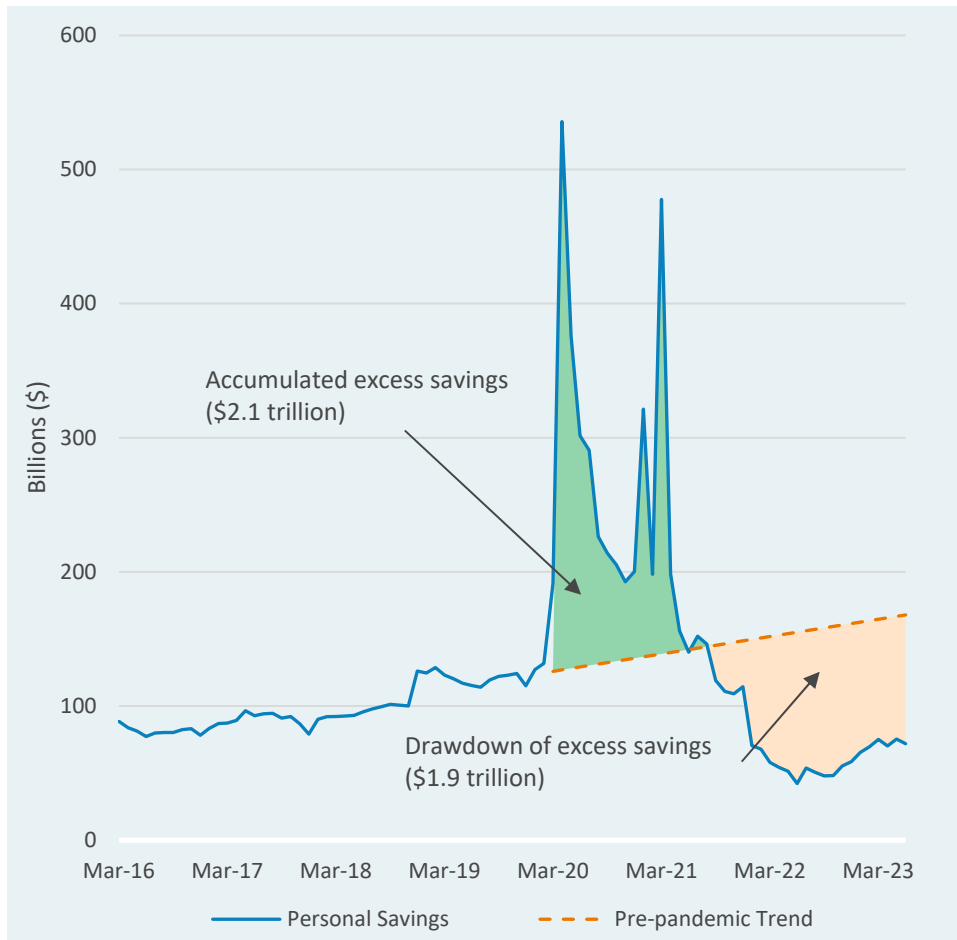
PERSONAL SAVINGS RATE



Source: BEA, as of 8/31/23

The consumer - excess savings wearing off

ACCUMULATED PERSONAL SAVINGS ABOVE PRE-PANDEMIC TREND



The resilience of U.S. consumer spending has been driven at least partly by *excess household savings*, which accumulated during the pandemic as Americans were limited in their ability to spend (on vacations and dining, for example). While these excess savings have recently helped to fuel a stronger economy, savings drawdown rates across the past three, six, or even twelve months suggest that these excess savings were fully depleted by the end of Q3.

Above-average inflation continues to be a drag on the domestic consumer, which can be seen in economic data. Second quarter metrics from the New York Fed's Household Debt and Credit report show an uptick in credit delinquencies, which is likely to show an even higher rate at the Q3 2023 release on November 7th if the trend persists. Although delinquency rates have moved higher, these are at average levels relative to history.

Going forward, many expect consumer conditions to worsen, especially under a *higher for longer* interest rate environment. This would likely act as a headwind to future economic growth, and negatively impact markets in a variety of ways, ranging from corporate earnings to mortgage transactions.

Source: BEA and San Francisco Federal Reserve, as of 8/16/23

Sentiment

Consumer sentiment readings were mixed in the third quarter but by most measures remain pessimistic.

The University of Michigan Consumer Sentiment survey improved, reporting that expectations around personal finances have weakened, though this was offset by better business conditions. Americans feel uncertain about the future of the economy.

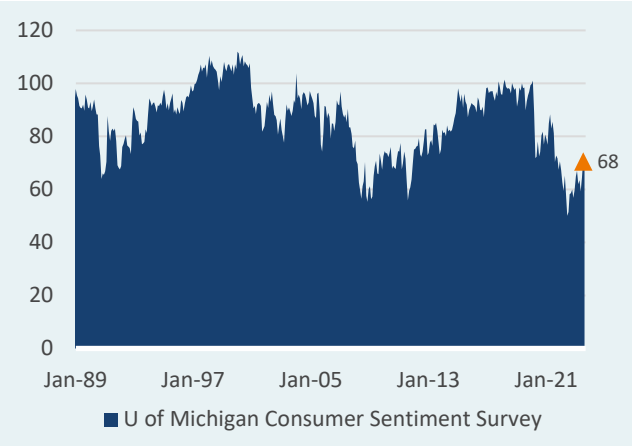
Consumer confidence as indicated by the Conference Board weakened. According to the Conference Board survey, current labor market and business conditions improved moderately,

while the future outlook for income, business, and labor conditions fell very sharply. Consumer expectations are depressed and at levels that historically have signaled recession within one year.

The NFIB Small Business Optimism index was stable during the quarter, but further indicated a dire outlook for business conditions. Sales growth has reportedly slowed, profit margins are being squeezed, inflation continues to be a major concern, and qualified employees are difficult to find. A majority of businesses plan to raise prices, though fewer businesses expect sales revenues to keep up with inflation.

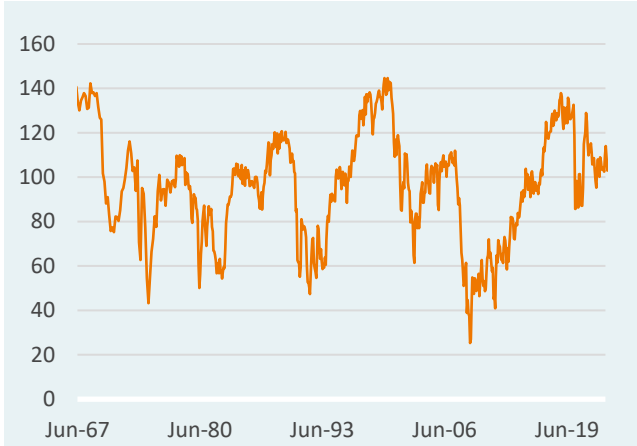
Sentiment was mixed during the quarter but remains poor by most measures

CONSUMER SENTIMENT



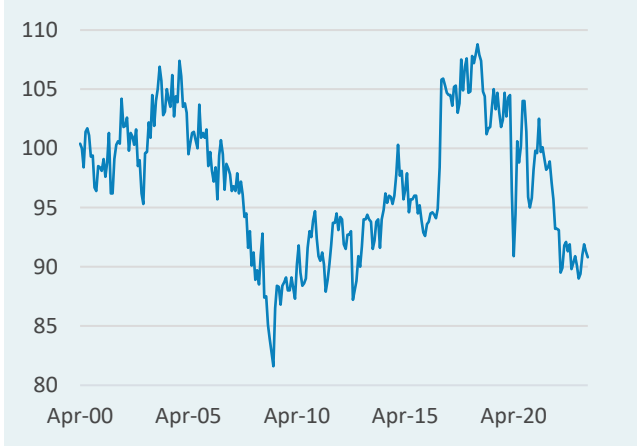
Source: University of Michigan, as of 9/30/23

CONFERENCE BOARD CONSUMER CONFIDENCE



Source: Conference Board, as of 9/30/23

NFIB SMALL BUSINESS SENTIMENT



Source: NFIB, as of 9/30/23

Housing

Housing market conditions have deteriorated even further since last quarter. In late September mortgage rates climbed to a new 23-year high of 7.3%. Existing home sales have fallen -15.3% over the past year, as of August, while affordability remains the worst on record.

Despite higher mortgage rates and extremely poor affordability, home values have held up. This appears to be due to depressed housing inventories resulting from many years of underinvestment in new home construction following the 2000s U.S. housing bubble, an upward trend in U.S. homeownership, and an unwillingness of potential home sellers to sacrifice their existing low mortgage interest rates. Overall,

very low supply seems to be balancing low demand and, for now, providing an ongoing support to elevated prices.

Despite higher interest rates, existing homeowners in this environment are, on average, well-capitalized. Many homeowners refinanced at ultra-low mortgage interest rates in recent years or purchased their homes with a low rate. Mortgage delinquency levels of single-family homeowners were materially below-average at 1.7%, as of Q2. However, borrowers with variable-rate loans, which is a small portion of borrowers overall, may face difficulties in covering much larger monthly mortgage payments.

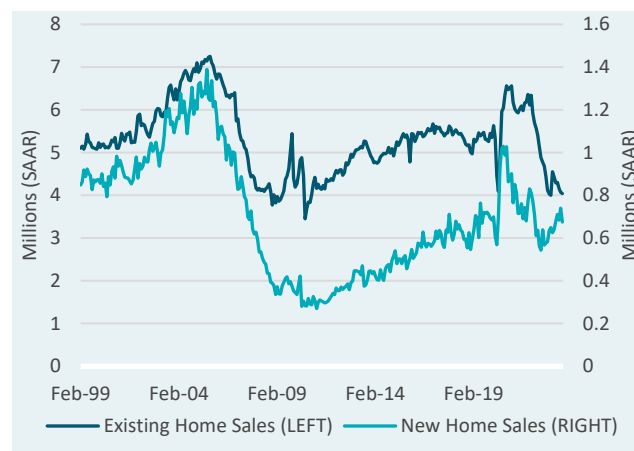
Home sales have slowed to a crawl as affordability is poor, and potential sellers don't want to lose their low interest rates

30-YEAR MORTGAGE RATE



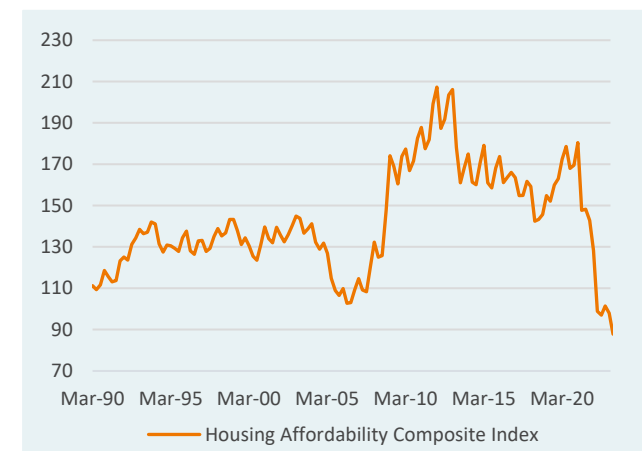
Source: FRED, as of 9/30/23

HOME SALES: NEW & EXISTING (MILLIONS)



Source: FRED, as of 8/31/23

HOUSING AFFORDABILITY



Source: FRED, as of 6/30/23 – Housing affordability is calculated as the cost of a median priced single-family home at the current mortgage rate, as a percentage of the median family income

International economics summary

- Countries struggling to control inflation—primarily advanced economies—face a challenging path. Many central banks are grappling with high prices and slow growth, and the balancing act of fighting inflation but also trying to avoid recession. In contrast, most emerging economies are exceeding growth expectations, outside of China. Some of this strength has come from trade rotation as tensions remain between the U.S. and China and businesses rethink their trade partners.
- The IMF’s October World Economic Outlook was little changed from July Projections, as global growth is still expected to slow in 2024. Regional divergences remained an emphasis, as emerging economies are projected to drive global output. India is expected to outpace all other countries with growth forecasts above 6% for both 2023 and 2024.
- Inflation in the Eurozone and United Kingdom has remained sticky, with inflation in September coming in at 4.3% and 6.7% year-over-year, respectively. Monetary policy is expected to be tighter for both the ECB and BOE, although rate decisions diverged at their respective September meetings, as the ECB raised rates by another 25 bps, while the BOE voted 5-4 to maintain their bank rate at 5.25%.
- Japan was a bright spot amongst developed economies, driven by strong exports in the second quarter. While growth was positive, the potential for an early end to ultra loose Bank of Japan (BOJ) monetary policy presents a potential headwind. A weak Japanese Yen adds to this story, as the currency has been greatly devalued, largely due to the BOJ’s contrarian monetary policy relative to other major central banks.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.9% 9/30/23	3.7% 9/30/23	3.8% 9/30/23
Eurozone	0.5% 6/30/23	4.3% 9/30/23	6.4% 8/31/23
Japan	1.6% 6/30/23	2.8% 9/30/23	2.7% 8/31/23
BRICS Nations	6.1% 6/30/23	1.7% 9/30/23	4.8% 12/31/22
Brazil	3.4% 6/30/23	5.2% 9/30/23	7.8% 8/31/23
Russia	4.9% 6/30/23	6.0% 9/30/23	3.0% 8/31/23
India	7.8% 6/30/23	5.0% 9/30/23	7.1% 9/30/23
China	4.9% 9/30/23	0.0% 9/30/23	5.0% 9/30/23

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

International economics

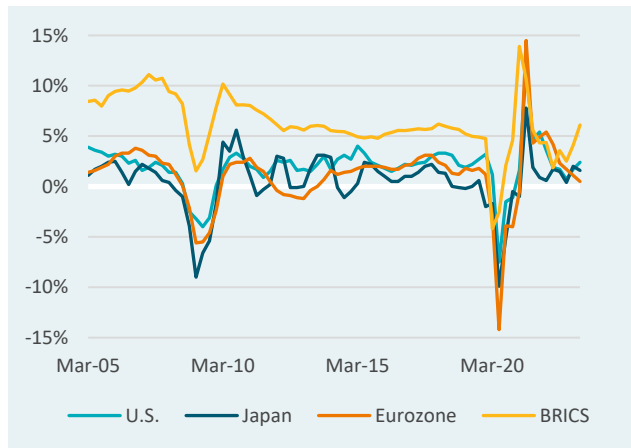
International economies showed signs of slowing during the third quarter. While growth decelerated, economies have shown greater resilience to inflation and higher interest rate headwinds than originally expected.

Countries struggling to control inflation—primarily advanced economies—face a challenging path. Many central banks are grappling with high prices and slow growth, and the balancing act of fighting inflation but also trying to avoid recession. In contrast, most emerging economies are exceeding growth expectations, outside of China. Some of this strength has come

from trade rotation as tensions remain between the U.S. and China and businesses rethink their trade partners.

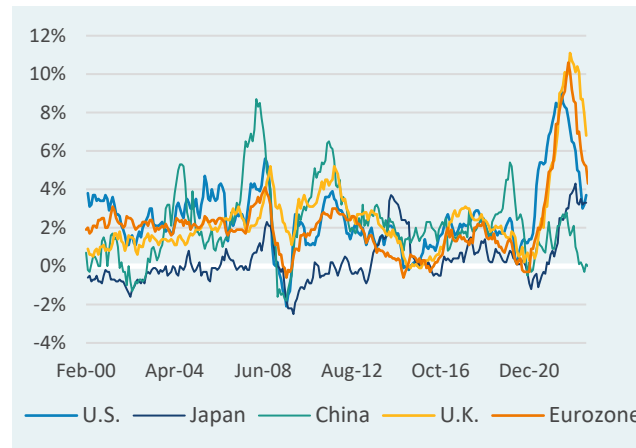
The outlook remains uncertain. Strong growth driven by services has started to wear off, while manufacturing activity remains depressed. Developed economies within the Eurozone and United Kingdom struggle with inflation, while China deals with its own domestic issues. Japan and India showed signs of strength, but are likely unable to buoy global economic growth, especially if the current issues plaguing larger nations persist.

REAL GDP GROWTH (YOY)



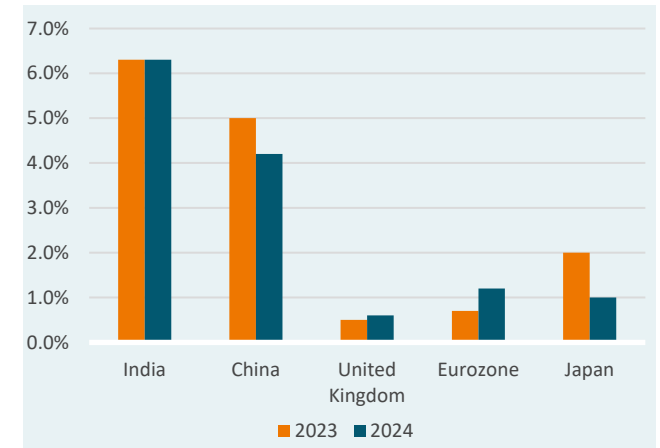
Source: Bloomberg, as of 6/30/23

INFLATION (CPI YOY)



Source: Bloomberg, as of 9/30/23 – or most recent release

IMF WEO REAL GROWTH FORECASTS



Source: IMF World Economic Outlook Oct. 2023, as of 10/10/23

International economics

	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23
Manufacturing													
Global	50.3	49.8	49.4	48.8	48.7	49.1	49.9	49.6	49.6	49.5	48.7	48.6	49.0
Developed	50.2	50.1	48.8	47.8	47.3	48.0	48.1	48.4	48.5	47.6	46.3	47.1	46.8
US	52.9	51.0	50.0	49.0	48.4	47.4	47.7	46.3	47.1	46.9	46.0	46.4	47.6
UK	47.3	48.4	46.2	46.5	45.3	47.0	49.3	47.9	47.8	47.1	46.5	45.3	43.0
Eurozone	49.6	48.4	46.4	47.1	47.8	48.8	48.5	47.3	45.8	44.8	43.4	42.7	43.5
Germany	49.1	47.8	45.1	46.2	47.1	47.3	46.3	44.7	44.5	43.2	40.6	38.8	39.1
Japan	51.5	50.8	50.7	49.0	48.9	48.9	47.7	49.2	49.5	50.6	49.8	49.6	49.6
EM	50.2	49.3	49.8	49.7	49.8	49.9	51.6	50.7	50.5	51.4	51.1	50.2	51.4
Services													
Global	49.3	50.0	49.2	48.1	48.0	50.1	52.6	54.4	55.4	55.5	53.9	52.7	51.1
Developed	46.7	49.6	48.8	47.5	47.2	48.7	51.8	53.4	54.6	54.9	53.6	51.9	50.2
US	56.1	55.9	54.5	55.5	49.2	55.2	55.1	51.2	51.9	50.3	53.9	52.7	54.5
UK	50.9	50.0	48.8	48.8	49.9	48.7	53.5	52.9	55.9	55.2	53.7	51.5	49.5
Eurozone	49.8	48.8	48.6	48.5	49.8	50.8	52.7	55.0	56.2	55.1	52.0	50.9	47.9
Germany	47.7	45.0	46.5	46.1	49.2	50.7	50.9	53.7	56.0	57.2	54.1	52.3	47.3
Japan	49.5	52.2	53.2	50.3	51.1	52.3	54.0	55.0	55.4	55.9	54.0	53.8	54.3
EM	54.9	50.6	49.9	49.2	50.1	53.1	54.5	56.7	57.2	56.7	54.6	54.5	53.1

Service sectors – which have recently driven global strength – are now showing signs of moderation, while manufacturing sectors remains depressed

European markets seem to reflect the weakest future business conditions

Source: Bloomberg, as of 8/31/23 – The Purchasing Managers' Index (PMI) is an index based on a broad survey of supply chain managers across nineteen industries in each country. The survey gauges business sentiment, with a reading of below 50 indicating that businesses expect business conditions to worsen in the near-future. A reading of 50 indicates no expected change in business conditions. A reading above 50 indicates expectations for stronger (expanding) future business conditions.

Fixed income rates & credit

Fixed income environment

- The 10-year U.S. Treasury yield increased during the quarter from 3.81% to 4.58%—a level not seen since 2007—likely supported by *higher for longer* interest rate expectations. This has led to a flattening of the yield curve, though the curve remains inverted at -0.5% (defined as the 10-year Treasury yield minus 2-year Treasury yield).
- Rising interest rates combined with lower inflation have brought real (inflation-adjusted, based on the U.S. TIPS Inflation Breakeven Rate) 10- and 30-year Treasury yields to the highest levels in over a decade. Real yields for 10- and 30-year Treasuries finished the month at 2.24% and 2.33%, respectively. In March of 2022 these rates were negative.
- The Federal Reserve hiked interest rates by 0.25% in July but held rates steady at the September meeting as inflation moderated. Importantly, Chairman Powell signaled that additional rate hikes may be warranted if the economy remains strong and inflation above target.
- During Q3, higher quality bonds and U.S. Treasuries saw mild losses due primarily to their longer duration profile. Riskier credit performed well, with larger coupons and shorter duration contributing to positive performance.
- Longer duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) performed very poorly, falling by -7.3% during the quarter as rising interest rates acted as a headwind.
- With inflation moderating during the quarter, investors expressed optimism that the Federal Reserve would soon pause interest rate hikes. However, interest rate volatility increased during the period as concerns related to the U.S. government's budget deficit and the amount of expected issuance contributed to higher long-term bond yields.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	(3.2%)	0.6%
Core Plus Fixed Income (Bloomberg U.S. Universal)	(2.9%)	1.6%
U.S. Treasuries (Bloomberg U.S. Treasury)	(3.1%)	(0.8%)
U.S. Treasuries: Long (Bloomberg U.S. Treasury 20+)	(13.0%)	(10.7%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	0.5%	10.3%
Bank Loans (S&P/LSTA Leveraged Loan)	3.4%	13.0%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	(3.3%)	13.1%
Emerging Market Debt Hard (JPM EMBI Global Diversified)	(2.2%)	10.0%
Mortgage-Backed Securities (Bloomberg MBS)	(4.1%)	(0.2%)

Source: Bloomberg, as of 9/30/23

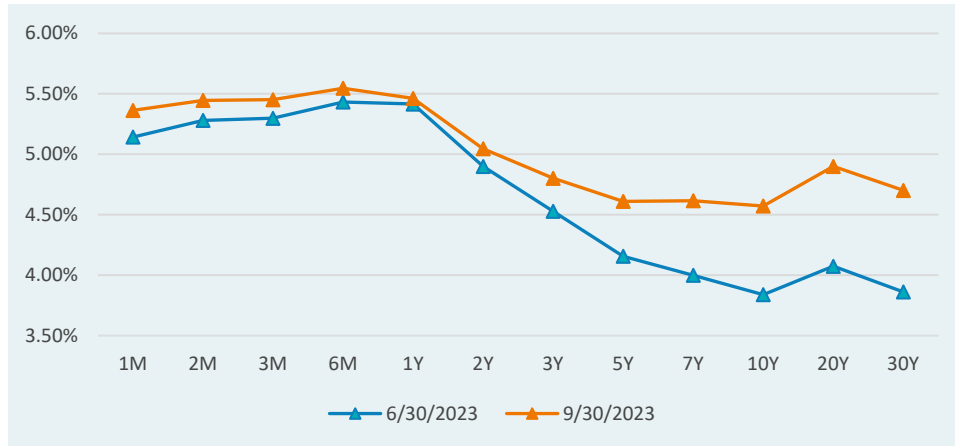
A higher for longer rate environment

The “higher for longer” narrative gained steam throughout the quarter, driven by better-than-expected economic and labor metrics, above target inflation, and rising energy costs. The bond market saw the largest impact, as yields on the 10-year Treasury rose from 3.84% to 4.57% throughout the quarter, resulting in a -13.0% loss for longer-term U.S. Treasuries (Bloomberg U.S. Treasury 20+ Year Index).

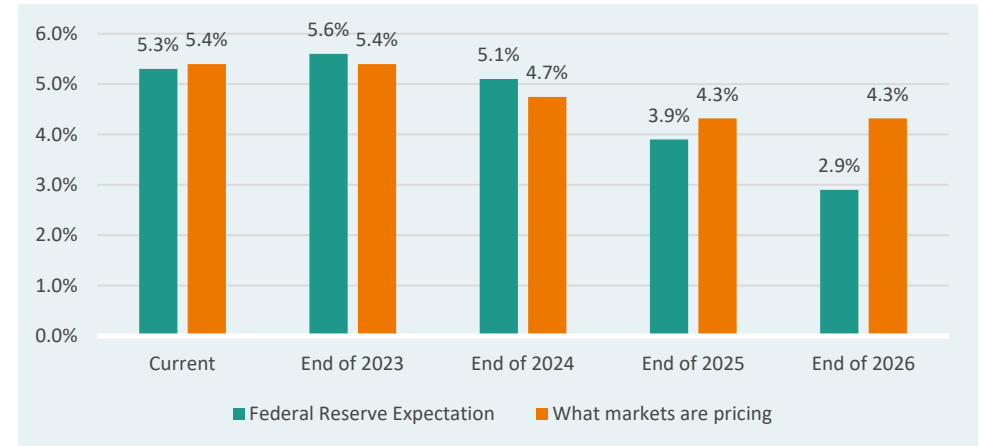
The yield of cash is expected to remain elevated for years into the future

A floor regarding how far inflation can fall, given price dynamics of certain goods and services, has set inflation expectations closer to levels around three to four percent, outpacing the Federal Reserve’s two-percent mandate. This has brought rates higher, while also extending the expected timeline for higher rates. Implied rates on Fed Funds Futures contracts show rates remaining above four percent throughout the start of 2025.

U.S. TREASURY YIELD CURVE – CHANGE THROUGH Q3 2023



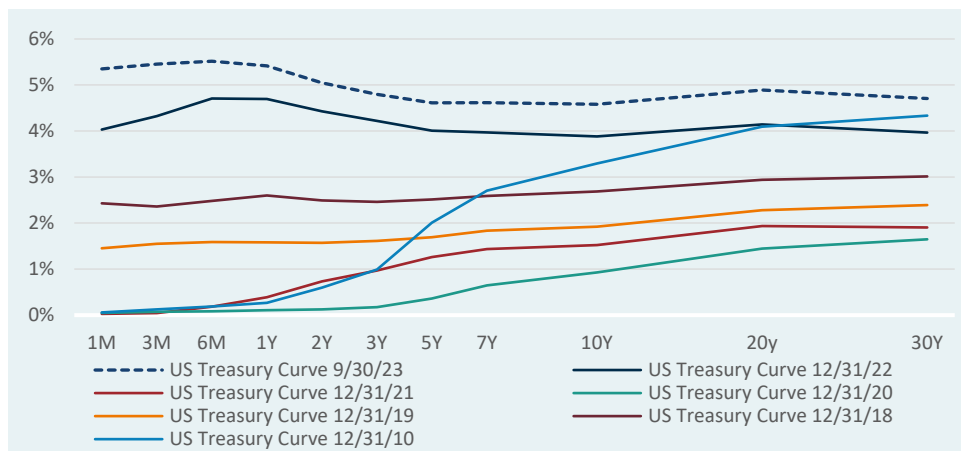
FUTURE EXPECTATIONS FOR THE % YIELD OF CASH



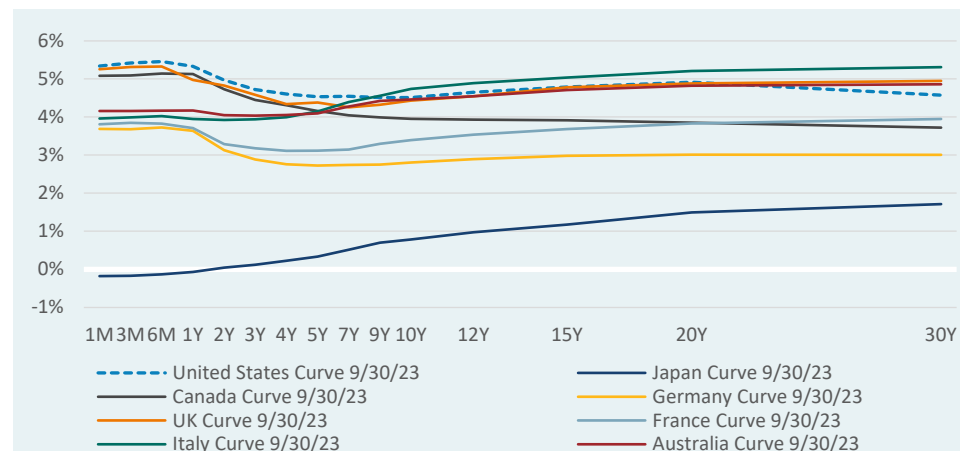
Source: Bloomberg, as of 9/30/23

Yield environment

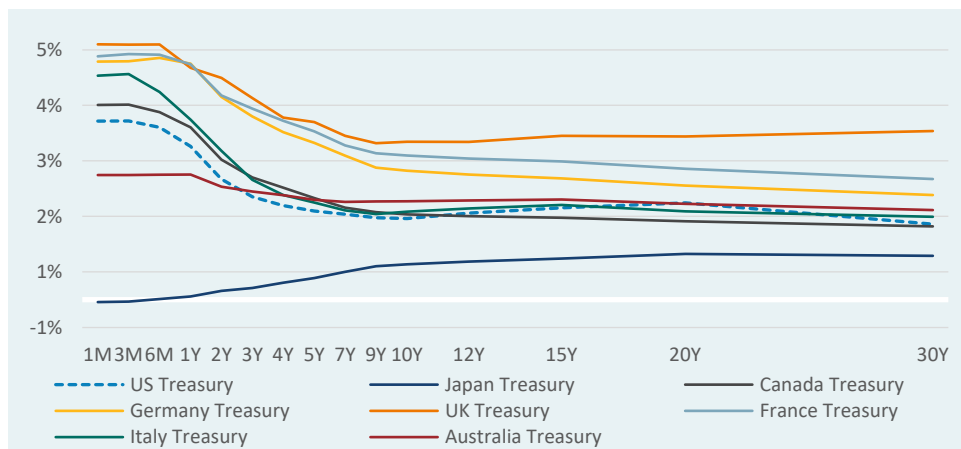
U.S. YIELD CURVE



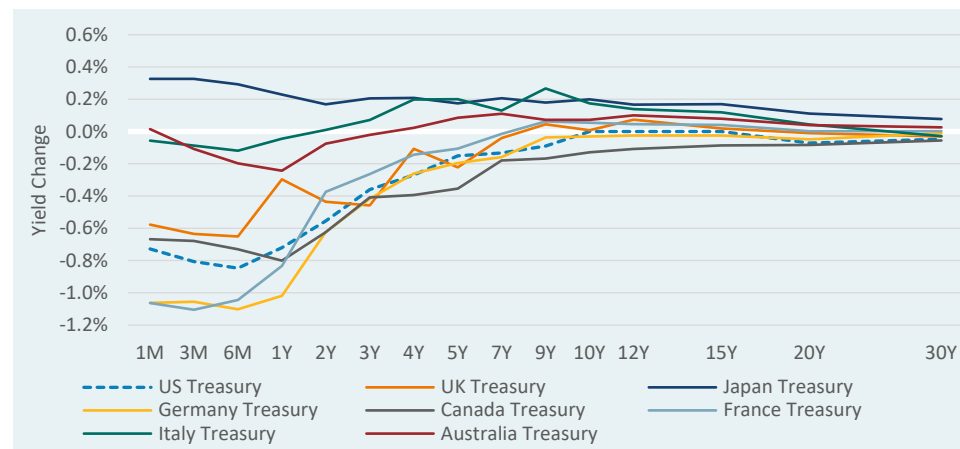
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/23

Credit environment

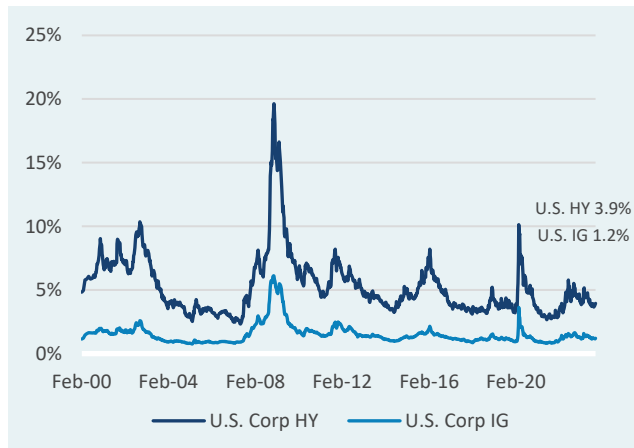
During the third quarter, fixed income markets delivered positive results with lower-quality credits such as high yield bonds and bank loans outperforming higher-quality credits. High yield bonds returned 0.5% (Bbg U.S. Corporate High Yield), while bank loans delivered a stronger 3.4% (CS Leveraged Loans), aided primarily by the lower duration of these bonds. Longer duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) performed poorly, falling by -7.3% during the quarter as rising interest rates acted as a headwind.

Similar to Q2, lower quality CCC-rated bonds outperformed BB- and B-rated bonds during the period. CCC-rated bonds returned 2.8% for the quarter compared to 1.0% and -0.3% for B-rated and BB-rated bonds, respectively. Bank loans also delivered an impressive 3.4% return,

with rising interest rates providing a mild tailwind to performance (floating rate bonds reprice as rates are rising, improving returns).

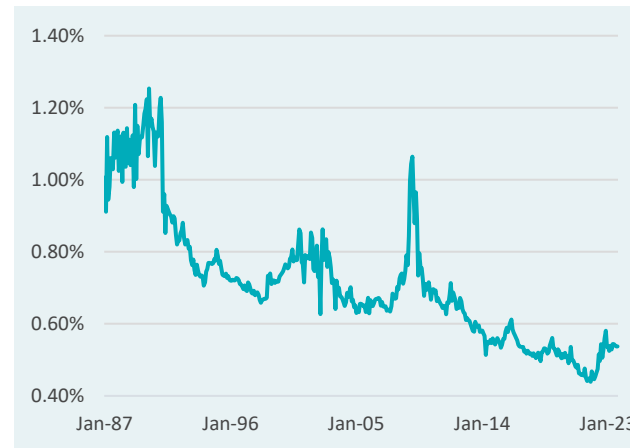
Credit spreads were broadly unchanged during the quarter despite concerns related to an economic slowdown, the potential for higher interest rates, increased credit stress, and lower equity prices. Lower-quality, CCC-rated high-yield bond spreads fell by 0.2% to 9.2%, while investment grade spreads decreased by roughly 0.1% to 1.3%. Broadly, spreads remain slightly below their long-term historical averages, which suggests that investors remain confident about the ability of those companies to service their debt. That said, should the U.S. economy begin to weaken, credit spreads could move higher as confidence fades.

SPREADS



Source: Barclays, Bloomberg, as of 9/30/23

HIGH YIELD BONDS MONTHLY INCOME RETURN



Source: Bloomberg, as of 9/30/23

CREDIT SPREAD (OAS)

Market	9/30/23	9/30/22
Long U.S. Corp	1.3%	2.0%
U.S. Inv Grade Corp	1.2%	1.6%
U.S. High Yield	3.9%	5.5%
U.S. Bank Loans*	5.2%	6.0%

Source: Barclays, Credit Suisse, Bloomberg, as of 9/30/23

*Discount margin (4-year life)

Default & issuance

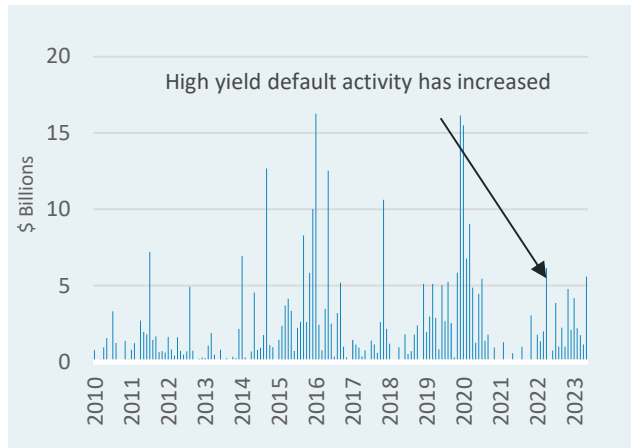
Default activity declined during Q3, to the lowest quarterly levels of 2023. Fourteen companies defaulted, which were concentrated in the Retail, Autos, Media, Technology, and Gaming sectors. A total of \$11.5 billion of bank loans and high yield bonds were affected by default or distressed exchanges, down from \$17.9 billion in the prior quarter. Notable company defaults included Carvana (Autos), Digital Media Solutions (Media), Exela Intermed (Technology), and Maverick (Gaming).

However, year-to-date default rates for both high-yield bonds and bank loans were higher than the first three quarters of 2022, totaling \$63 billion. High yield bond default rates have increased to roughly 2.5%, but are still below the long-term annual average of roughly 3.2%. High-yield

default recovery rates rose slightly to 35%, up from 33% during the previous quarter.

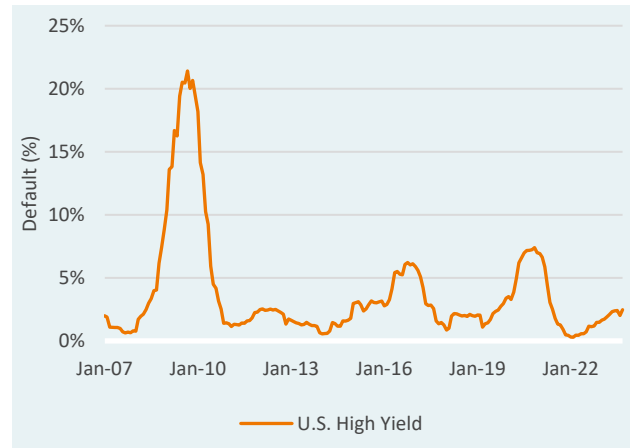
The issuance of investment-grade credit slowed from the prior quarter, down to roughly \$275 billion versus \$333 billion. Similarly, fewer lower quality companies issued new debt. High-yield bond issuance fell to \$40 billion, down from \$56 billion in Q2. As borrowing costs have jumped, the pace of both investment-grade and high yield issuance has been impacted. Although issuance overall remains dampened relative to history, high-yield issuance year-to-date is already greater than the total of 2022, and investment-grade bonds appear on track to match 2022 activity levels. It appears that a significant portion of issuance has moved into the private markets, creating opportunities for private allocations.

U.S. HY MONTHLY DEFAULTS (PAR WEIGHTED)



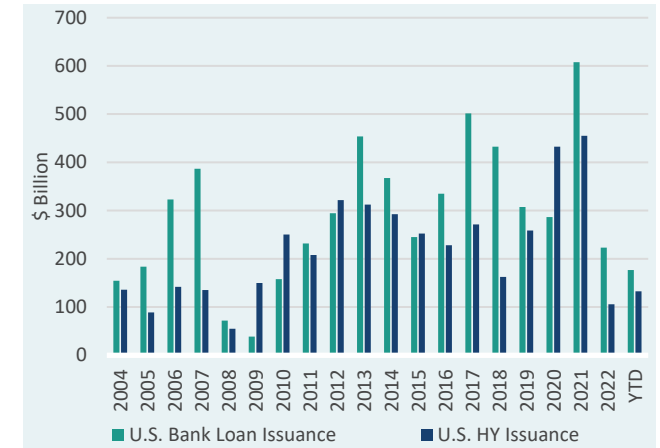
Source: BofA Merrill Lynch, as of 9/30/23

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



Source: BofA Merrill Lynch, as of 9/30/23 – par weighted

DEVELOPED MARKET ISSUANCE (\$ BILLIONS)



Source: BofA Merrill Lynch, all developed markets, as of 9/30/23

Equity

Equity environment

- Global equities delivered negative performance during the quarter (MSCI ACWI -3.4%). Weakness in markets was broad-based, with international developed (MSCI EAFE -4.1%) slightly underperforming domestic and emerging market equities (S&P 500 -3.3%, MSCI EM -2.9%).
- Over the quarter, the valuation gap between domestic and international equities grew even larger. An analysis of international developed Price/Earnings ratios shows that all sectors currently hold a valuation discount relative to U.S. shares, and that those discounts are generally much wider than the historical average.
- Currency movements dragged portfolio performance lower for investors with unhedged foreign currency exposure. Investors with unhedged international developed equity exposure saw losses of -

3.6% due to currency volatility during the quarter.

- U.S. investors continue to face a difficult environment for style factor investing. Over the past year, mega cap growth stocks have propelled the U.S. market higher, leading to dramatic outperformance of growth stocks and large cap stocks. However, value investing has delivered exceptional results in international developed markets, with value stocks outperforming growth by 11.5%.
- The Cboe VIX implied volatility index remained below-average for most of the third quarter, before rising to 17.5% to end September. Market risk has been falling fairly consistently throughout the year.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	(3.3%)		21.6%	
U.S. Small Cap (Russell 2000)	(5.1%)		8.9%	
U.S. Equity (Russell 3000)	(3.3%)		20.5%	
U.S. Large Value (Russell 1000 Value)	(3.2%)		14.4%	
US Large Growth (Russell 1000 Growth)	(3.1%)		27.7%	
Global Equity (MSCI ACWI)	(3.4%)	(2.3%)	20.8%	20.4%
International Large (MSCI EAFE)	(4.1%)	(0.5%)	25.6%	24.1%
Eurozone (EURO STOXX 50)	(7.7%)	(4.3%)	39.4%	33.0%
U.K. (FTSE 100)	(1.9%)	2.2%	25.3%	16.0%
Japan (TOPIX)	(1.0%)	4.0%	25.7%	36.6%
Emerging Markets (MSCI Emerging Markets)	(2.9%)	(1.3%)	11.7%	11.1%

Source: Russell Investments, MSCI, STOXX, FTSE, JPX, as of 9/30/23

Domestic equity

Domestic equities finished lower to end the quarter, breaking the previous three consecutive quarters of gains. The S&P 500 Index ended September down -3.3%, alongside losses across all other regional equity groups. Strong gains in July—influenced by better-than-expected earnings—were pared by losses in August and September as the *higher for longer* narrative raised recession fears while also helping to push Treasury yields significantly higher.

Early Q3 gains were driven by a continued rally across mega-cap technology names and better-than-expected earnings. Second quarter earnings marked the third straight quarter of year-over-year declines, yet the -4.1% fall was much better than the initially feared -7.0% projection

by FactSet. From a sector perspective, equity movements were less concentrated relative to the prior quarter. Energy was an outlier, where the sector’s +12.2% gain was a function of higher oil prices due primarily to supply related issues.

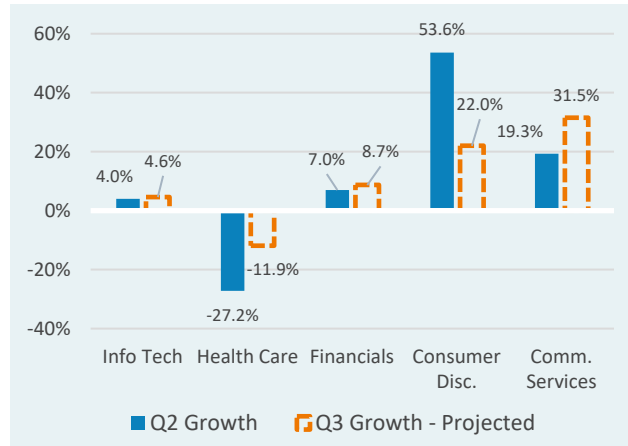
Going forward, domestic equities remain challenged on both the earnings and valuations front. Earnings growth is expected to decline for the fourth straight quarter, although stable expectations amongst the S&P 500’s largest sectors could provide an anchor. Earnings stability of some of the largest index names may also be contributing to higher valuations, which remain expensive relative to international developed and emerging market equities.

S&P 500 PRICE INDEX



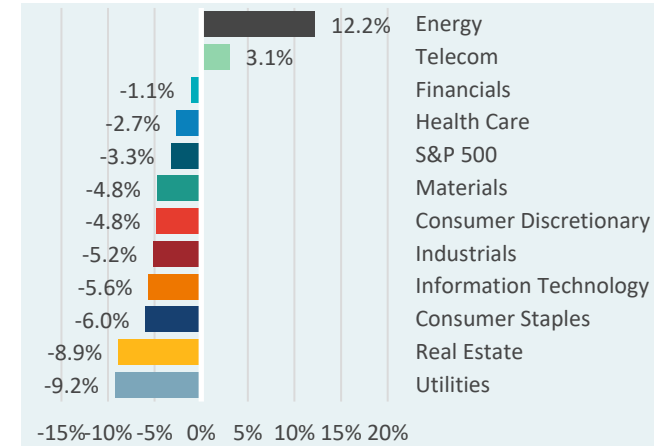
Source: Bloomberg, as of 9/30/23

FIVE LARGEST SECTORS EPS GROWTH YOY



Source: FactSet, as of 9/30/23

Q3 2023 SECTOR PERFORMANCE



Source: Morningstar, as of 9/30/23

Domestic equity size & style

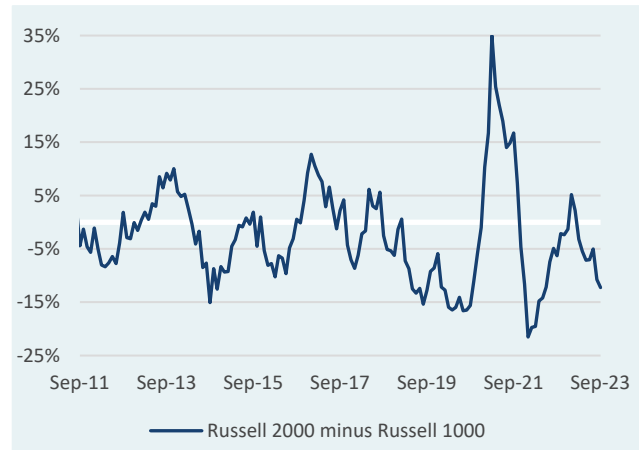
Investors continue to face a difficult environment for style factor investing. Value underperformed growth mildly during the quarter (-3.2% vs. -3.1%), with sector trends appearing to have had less of an impact on value vs. growth stocks during Q2. Small cap equities materially lagged large caps (-5.1% vs -3.3%). *Higher for longer* rate expectations likely contributed to a repricing of growth-focused assets that are more sensitive to interest rate fluctuations.

Over the past year, mega cap growth stocks have propelled the U.S. market higher, leading to dramatic outperformance

of growth stocks and large cap stocks. Many of these market-leading stocks are concentrated in the Information Technology and Telecom sectors, which have outperformed the overall index (+41.1% and 38.5%, respectively).

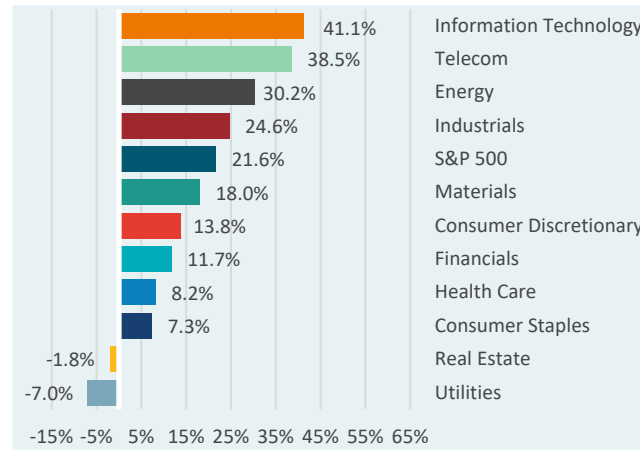
In recent years value stocks have been extremely cheap. Value has rarely been this discounted relative to growth, and during the few historical periods when this was the case, value outperformed significantly. However, value has failed to deliver similar outperformance during the current period.

SMALL CAP VS LARGE CAP (YOY)



Source: FTSE, as of 9/30/23

VALUE VS GROWTH (YOY)



Source: Morningstar, as of 9/30/23

1-YEAR SIZE & STYLE PERFORMANCE

	Value	Core	Growth
Large Cap	14.4%	21.2%	27.7%
Mid Cap	11.0%	13.4%	17.5%
Small Cap	7.8%	8.9%	9.6%

Source: FTSE, as of 9/30/23

International developed equity

International developed shares fell -4.1% during Q3 in unhedged currency terms, underperforming U.S. and emerging markets. However, international developed equities in hedged currency terms were the best performing markets (returning -0.5%), as currency hedging would have avoided the U.S. dollar surge fueled by a *higher for longer* interest rate narrative.

Underperformance within the Eurozone dragged the overall index lower, with the STOXX 50 Index falling -7.7% over the quarter in unhedged terms—the worst performer across regional indices. The broader bloc continues to struggle to bring down inflation, while policymakers also deal with stagnant economic growth. In contrast to weakness seen from European

shares, Japanese equities delivered another quarter of positive performance in unhedged terms (TOPIX -1.0%), and significant outperformance in currency hedged terms (+4.0%). While a weaker Japanese Yen (JPY) hurt performance in U.S. dollar terms, the weak JPY has boosted local corporate earnings. These currency movements combined with meaningful inflation and equity reforms—meant to spark investment in wages, higher growth, and therefore shareholder value—have been a tailwind to strong year-over-year Japanese equity performance.

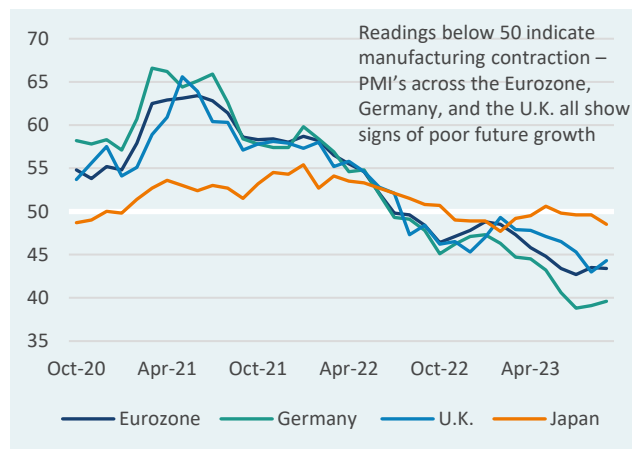
Overall, we believe international developed equities are less attractive in the near-term, specifically due to the economic headwinds facing the U.K. and broader Eurozone.

INTERNATIONAL DEVELOPED EQUITY



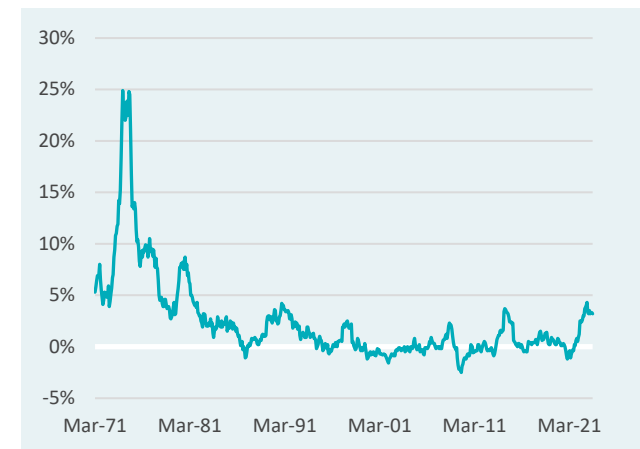
Source: MSCI, as of 9/30/23

MANUFACTURING PMI



Source: S&P Global, as of 9/30/23

JAPANESE CPI



Source: Japan MIC, as of 8/31/23

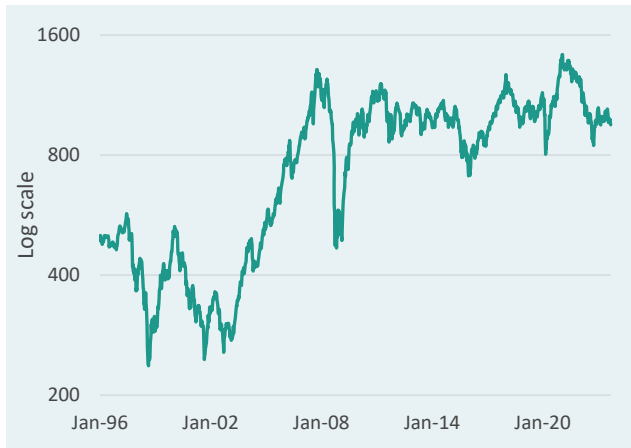
Emerging market equity

Emerging market equities outperformed domestic equities and international developed equities in Q3. The MSCI EM Index fell -2.9%, while the S&P 500 was -3.3% lower and the MSCI EAFE Index dropped -4.1%. Emerging markets have provided only a 2.1% annualized return over the past decade.

From an individual country perspective, the two largest weights in the index—China and India—outperformed, although Chinese equities were still -1.9% lower. This impact counterbalanced losses across other markets, since the combined weight of both countries makes up approximately 45% of the MSCI Emerging Markets Index.

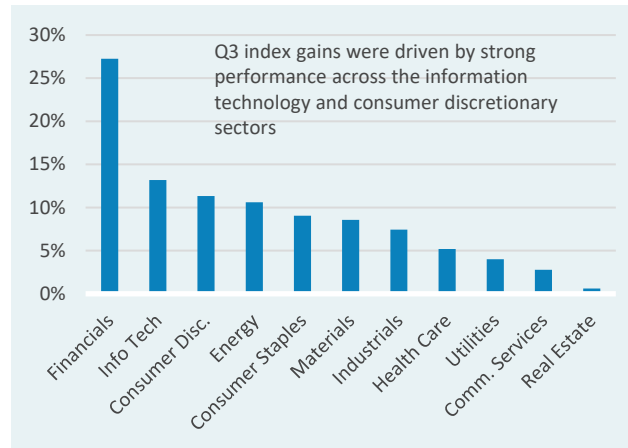
Emerging market equities continue to offer fairly cheap valuations, yet sentiment has grown negative, especially as concerns around China are now mainstream. Outside of geopolitical tensions, the Chinese economy continues to show signs of struggle despite some small government stimulus efforts. The property market remains a large pain point, evidenced by credit stress and falling contracted sales amongst large property developers such as Country Garden and Evergrande.

EMERGING MARKET EQUITY



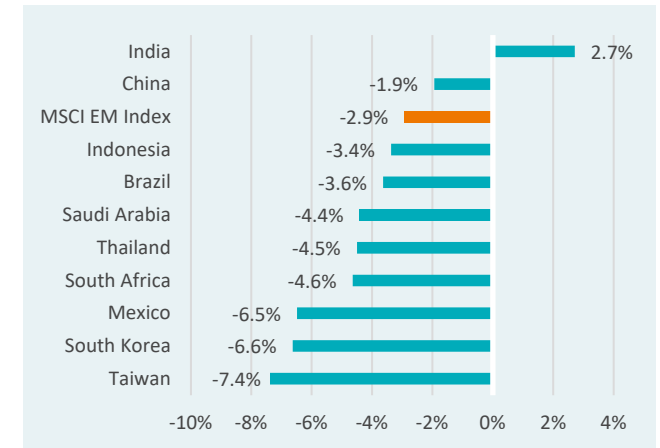
Source: MSCI, as of 9/30/23

MSCI INDIA SECTOR WEIGHTS



Source: MSCI, as of 9/30/23

Q3 2023 MSCI EM COUNTRY RETURNS (USD)



Source: Bloomberg, MSCI, as of 9/30/23

Equity valuations

Equity valuation disparities have grown even wider. U.S. equities are now priced at more than a 60% valuation premium (Price/Earnings) over international developed, averaging 22.5 and 13.8, respectively, during the quarter. Some of this gap can be explained by the greater concentration of U.S. markets in the technology sector, which tends to command higher valuations. However, as we see on the next slide, nearly all sectors are materially more expensive in U.S. markets relative to international developed markets.

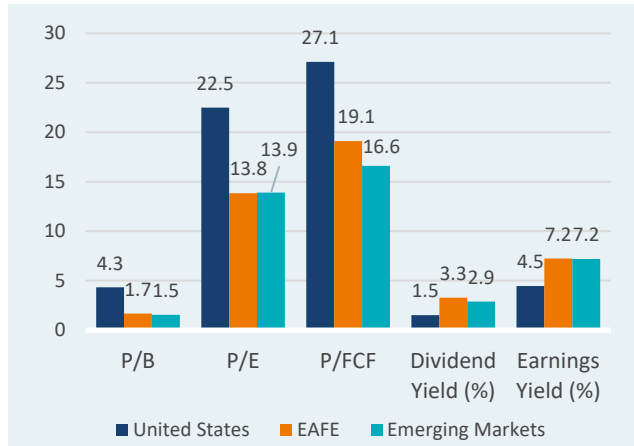
Despite very large valuation differences, we believe international developed equities currently provide lower

growth potential and unique challenges which may lead to further near-term underperformance relative to U.S. equities.

Core fixed income now offers a yield greater than U.S. equities for the first time in more than two decades. Quickly rising interest rates should have theoretically resulted in a sharp fall in equity valuations in order to maintain the “equity risk premium” of stock returns over bond returns. This effect has not yet occurred, which may lead many investors to view bonds as relatively attractive (and stocks relatively less attractive) in the current environment.

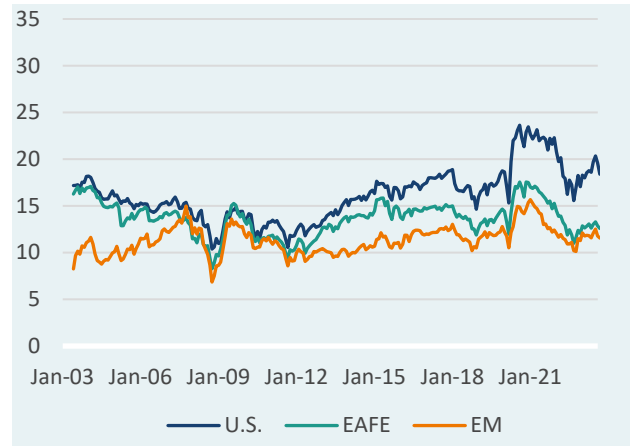
Core fixed income is yielding more than equities for the first time in two decades

MSCI VALUATION METRICS (3-MONTH AVG)



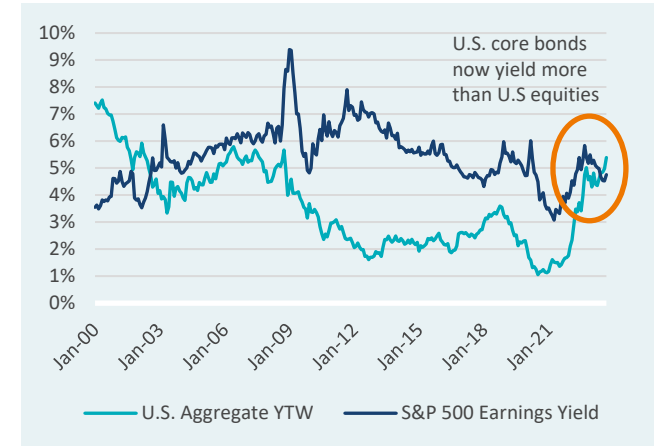
Source: Bloomberg, as of 9/30/23

FORWARD PRICE/EARNINGS RATIO



Source: MSCI, Bloomberg, as of 9/30/23

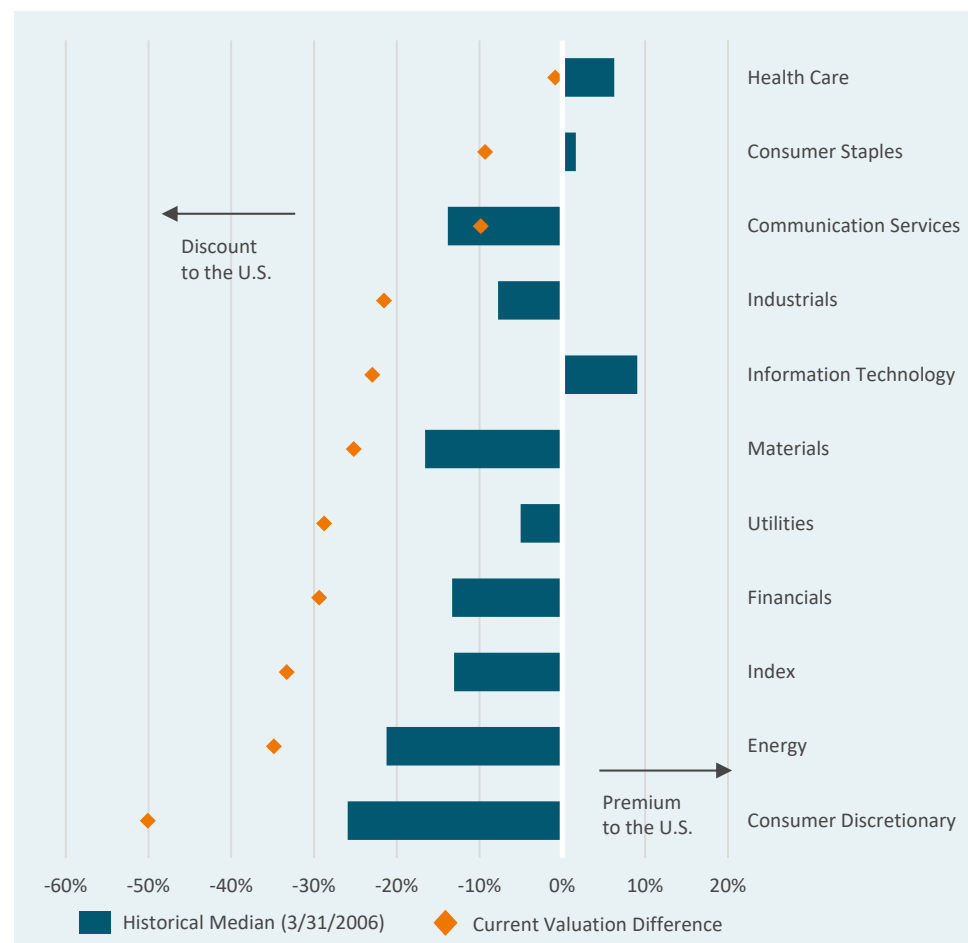
U.S. VALUATIONS: BONDS VS. STOCKS



Source: Bloomberg, Standard & Poor's, as of 9/30/23

International developed valuations

MSCI EAFE VALUATIONS RELATIVE TO U.S. VALUATIONS



Source: Bloomberg, MSCI, as of 9/30/23

Over the quarter, the valuation gap between domestic and international equities grew even larger. Sector weightings play a large role when evaluating the broader indices, as the U.S. holds a larger weight in growth-focused sectors such as Information Technology which tends to command a higher valuation.

The valuation disparity between U.S. and international developed equities has been a topic of interest recently, since historically these markets have shown a much smaller discount relative to one another.

An analysis of international developed Price/Earnings ratios shows that all sectors currently hold a valuation discount relative to U.S. shares, and that those discounts are generally much wider than the historical average.

Despite very large valuation differences, we believe international developed equities currently provide lower growth potential and unique challenges which may lead to further near-term underperformance relative to U.S. equities. Specifically, stagnant economic growth and higher inflation in the Eurozone and U.K. may result in headwinds.

Market volatility

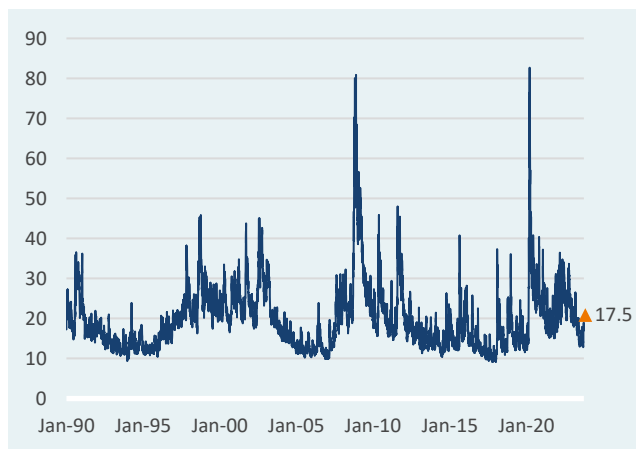
The Cboe VIX implied volatility index remained below-average for most of the third quarter, before rising to 17.5 to end September. Market risk has been falling fairly consistently throughout the year, which may be at least partly attributed to the perception that certain risks, such as regional bank contagion and near-term recession, seem to have eased.

Realized volatility of global equity markets has moderated, and is around average on a one-year basis. Emerging markets are an exception, displaying persistent elevated volatility. In contrast to recent years when emerging market volatility was

lower than that of developed markets—an uncommon occurrence historically speaking—this trend has now reversed.

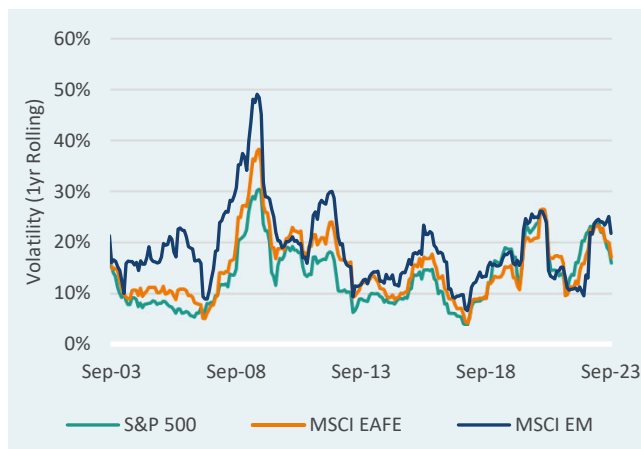
Bond markets have shown some shakiness, as indicated by the “MOVE” Index—which calculates the implied volatility of U.S. Treasury securities. This index has risen to levels not seen since the 2020 COVID-19 market selloff. Uncertainty around the Federal Reserve’s interest rate path, potential recession, and the worsening U.S. fiscal situation, are likely contributing to greater Treasury market volatility.

U.S. IMPLIED VOLATILITY (VIX)



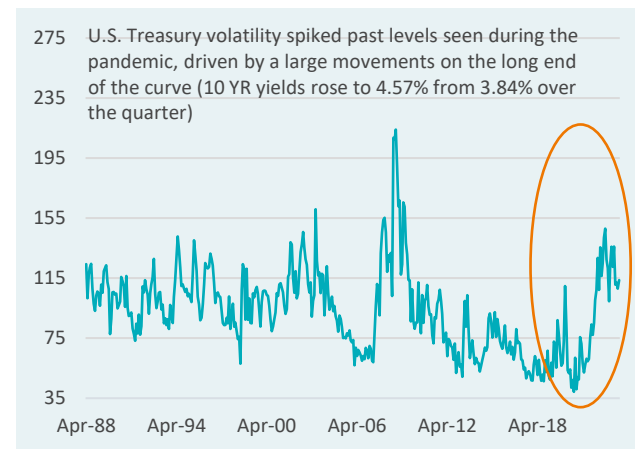
Source: Cboe, as of 9/30/23

REALIZED VOLATILITY



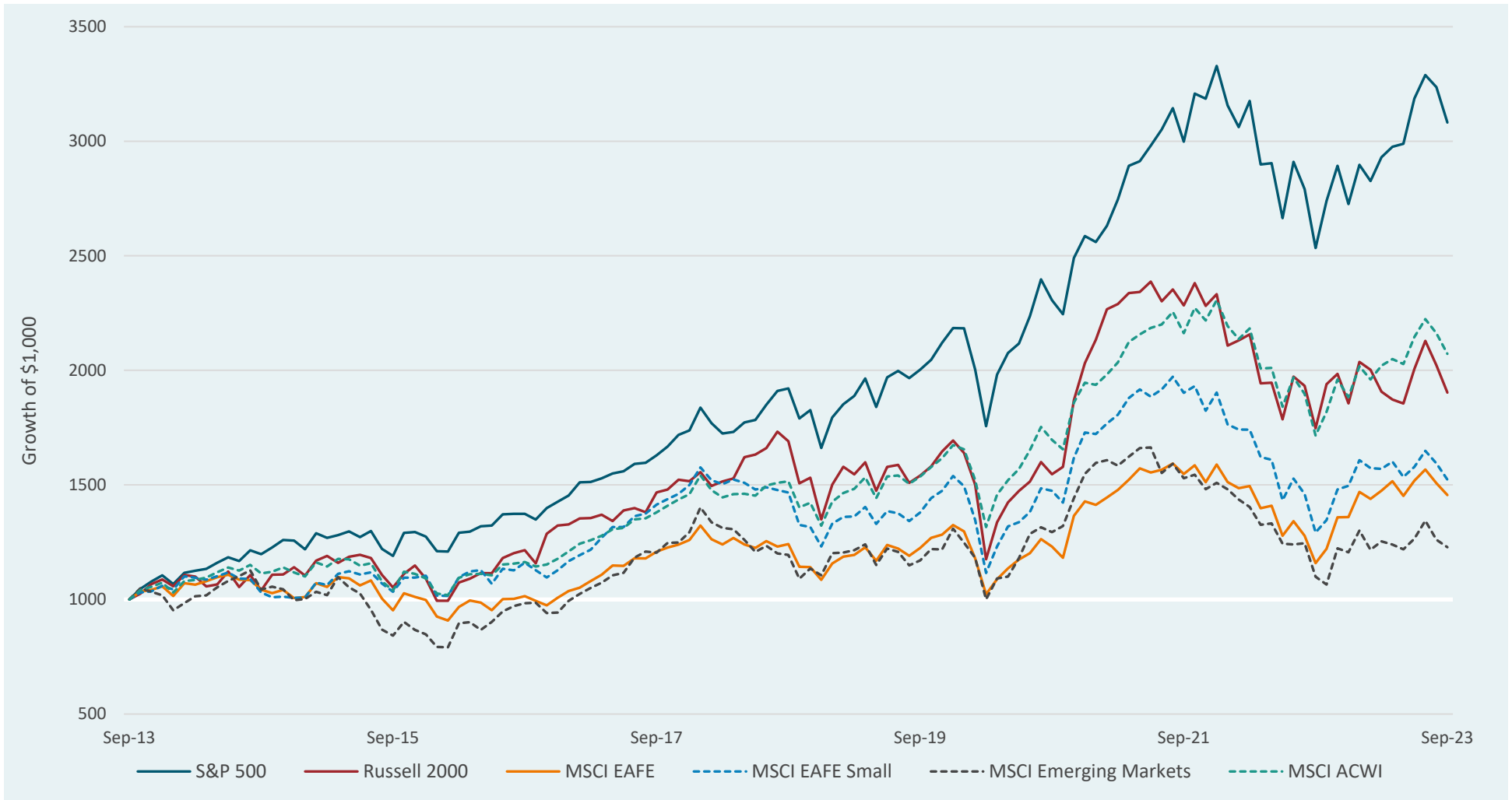
Source: S&P, MSCI, as of 9/30/23

U.S. TREASURY IMPLIED VOL (“MOVE” INDEX)



Source: Bloomberg, as of 9/30/23

Long-term equity performance



Source: MPI, as of 9/30/23

Other assets

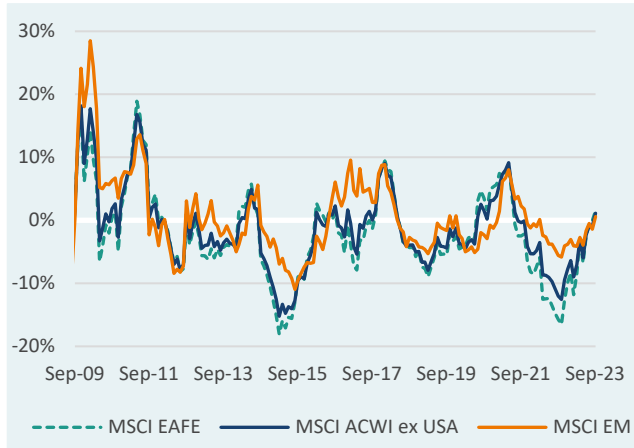
Currency

Currency movements dragged portfolio performance lower for investors with unhedged foreign exposure. On a trade-weighted basis, the value of the U.S. dollar shot higher as investors questioned the falling inflation story and bond yields rose on the *higher for longer* interest rate narrative.

Investors with unhedged international developed equity exposure saw losses of -3.6% due to currency movements in Q3. After recently experiencing deep losses over multiple years from unhedged foreign currency exposure, along with ongoing volatility, many investors may be interested in exploring more thoughtful approaches to currency. A currency hedging program can reduce the uncompensated risk of unhedged foreign

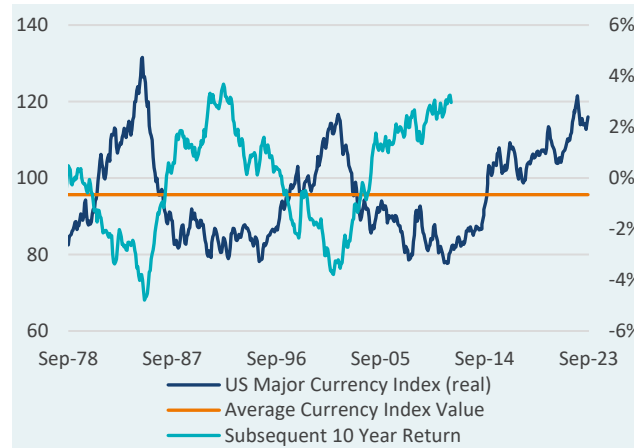
currency exposure (what we call “embedded currency” risk). Additionally, the MSCI Currency Factor Mix Index—a representation of a passive investment in the currency market, by investing in currencies with higher interest rates, currencies that are undervalued, and currencies that are showing positive price momentum—has shown a positive one-year rolling return over most periods with low volatility. This is an approach to thoughtfully gain exposure to the currency market with the objective of generating a moderate positive return. A currency hedging program along with a passive investment in the currency market may allow investors to reduce overall portfolio risk while moderately increasing total portfolio expected returns.

EFFECT OF CURRENCY (1-YEAR ROLLING)



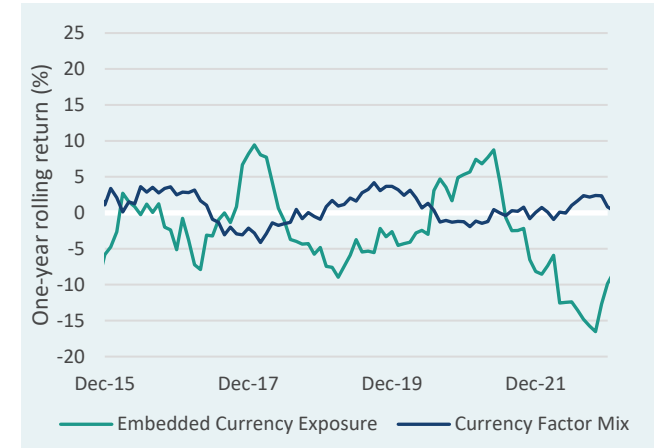
Source: MSCI, as of 9/30/23

BLOOMBERG DOLLAR SPOT INDEX



Source: Bloomberg, as of 9/30/23

EMBEDDED CURRENCY VS CURRENCY FACTORS



Source: Bloomberg, MSCI, as of 9/30/23

Commodities

Data pointing towards resilient economic growth was widely viewed as the initial driver of the “higher for longer” rate environment. Adding to this narrative in the third quarter was a tick up in energy costs due to supply side dynamics. This brought an increased focus to energy prices, as the four-decade high inflation experienced during 2022 was partly fueled by a rapid spike in oil and natural gas prices. As inflation has moderated back to levels closer to target, energy price movements have raised concerns of another potential catalyst for higher inflation, and therefore higher rates.

Oil was the largest contributor, as WTI and Brent Crude prices rose 24.3% and 28.5%, respectively. These significant price increases were driven by a combination of supply cuts by Saudi Arabia and Russia. A slowing economic outlook provides little motivation for oil companies to increase production.

A large jump in energy prices – specifically oil – has raised concerns over potentially higher inflation

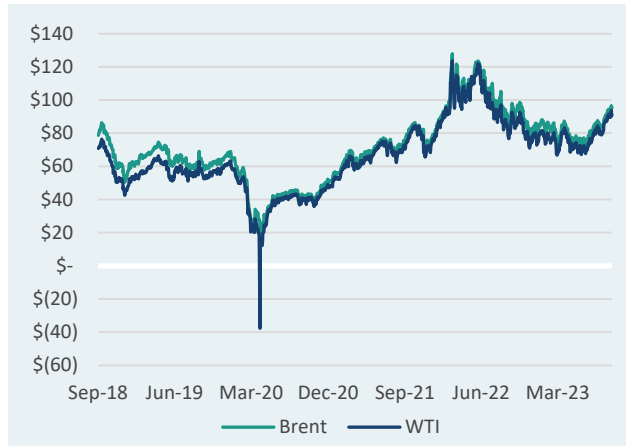
From a performance standpoint, the outsized gain of the Bloomberg Commodity Energy Index (+19.6%) lifted the broader index, with the Bloomberg Commodity Index finishing the quarter up 4.7%.

ENERGY YEAR-OVER-YEAR CPI CHANGES



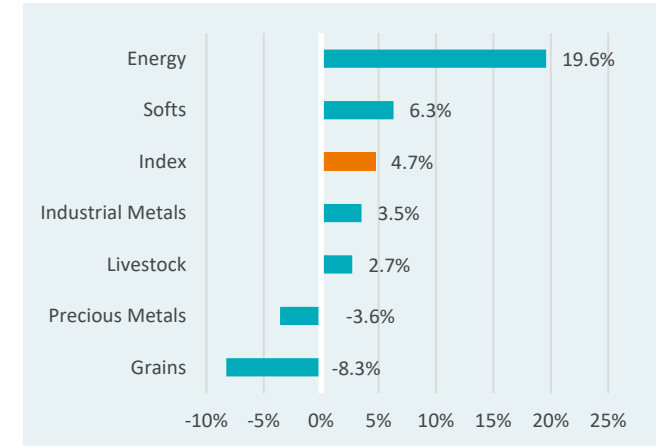
Source: BLS, as of 9/30/23

BRENT AND WTI CRUDE OIL PRICES



Source: Bloomberg, as of 9/30/23

BCOM SECTOR PERFORMANCE – Q3 2023



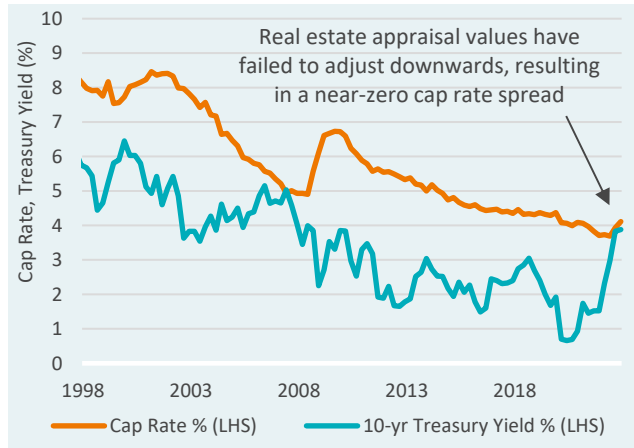
Source: Bloomberg, as of 9/30/23

Private real estate stalemate?

As summer ends, the real estate market looks much like it did as it began. Real estate transaction activity continues to be frozen, as buyers and sellers disagree about pricing, leading to a very large bid-ask spread. Private valuations remain higher than public, and write-downs should continue over the next several quarters. While movement has been slow thus far, opportunities may pick up as a wall of low interest rate loan maturities will be coming due and asset owners will need to either refinance at much higher rates, provide additional capital, and/or sell assets.

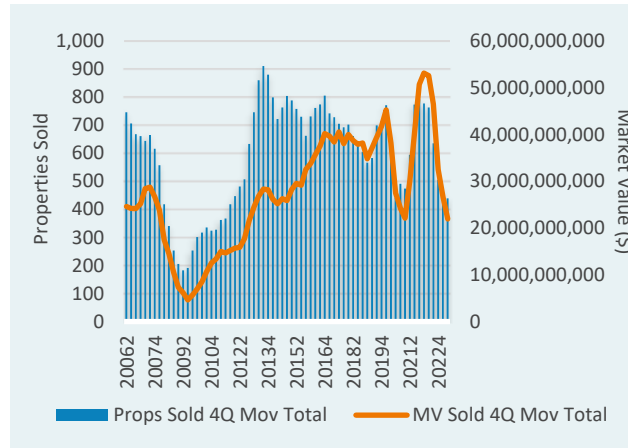
New capital should find a compelling environment to deploy in over the next several years at lower entry pricing. We are favoring managers experienced with investing in stressed and distressed environments and those with flexibility to invest across the debt and equity capital spectrum.

REAL ESTATE CAP RATE VS U.S. TREASURY YIELD



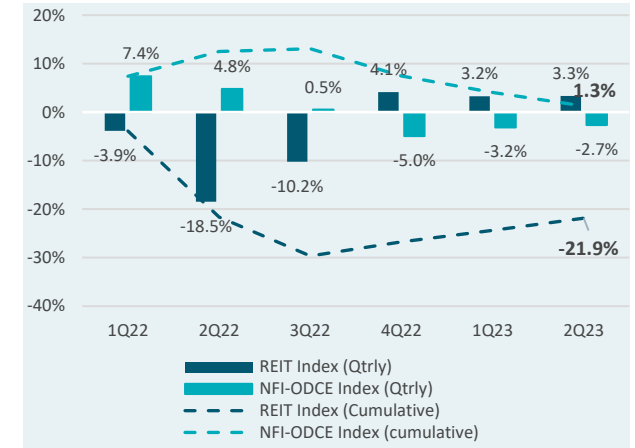
Source: NCREIF trends Report Q2

PROPERTY SALES (ANNUALIZED)



Source: NCREIF trends Report Q2 2023

PUBLIC VS PRIVATE REAL ESTATE PERFORMANCE



Source: NCREIF, Wilshire REIT Index

Hedge funds outperform, CTAs shine again

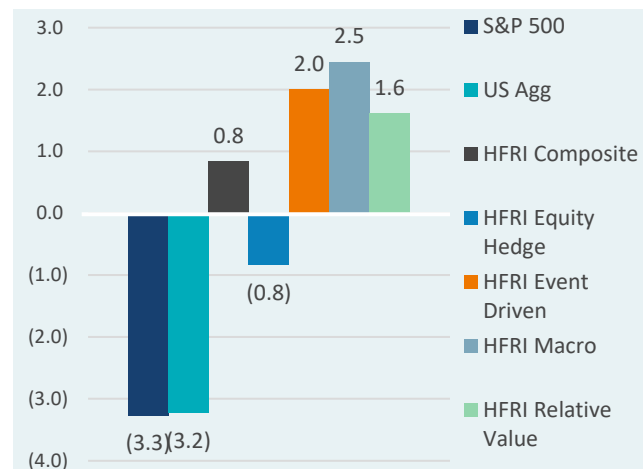
Hedge funds enjoyed broad outperformance vs markets in the third quarter as both stocks and bonds declined more than 3%. Most hedge fund strategies were actually positive on the quarter, reflected in the 0.8% return from the HFRI Composite Index.

Gains were led by Macro strategies while Event Driven was buoyed by a very strong quarter from Merger Arbitrage, rebounding after seeing spreads widen out earlier in the year. Popular Macro trades like short bonds and yield curve steepener paid off handsomely. Four of the last 7 quarters

have seen simultaneous declines in the S&P 500 and the Bloomberg US Aggregate – in all of those, including the most recent one, CTAs have been positive.

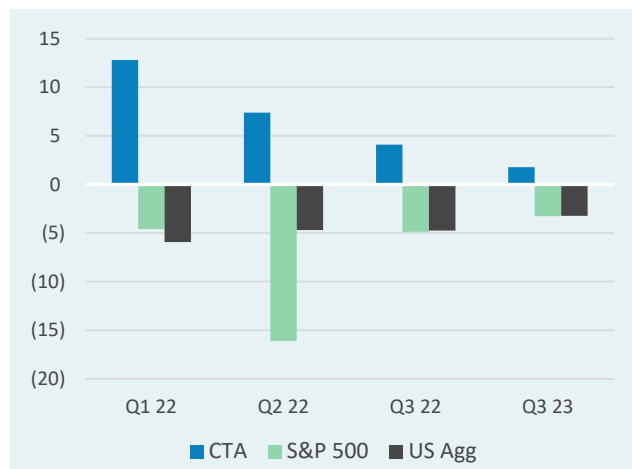
Credit-focused strategies also outperformed high yield as duration impacts were hedged and higher, typically floating rate coupons in areas like asset-backed offset any credit deterioration.

3Q 2023 QUARTERLY RETURNS



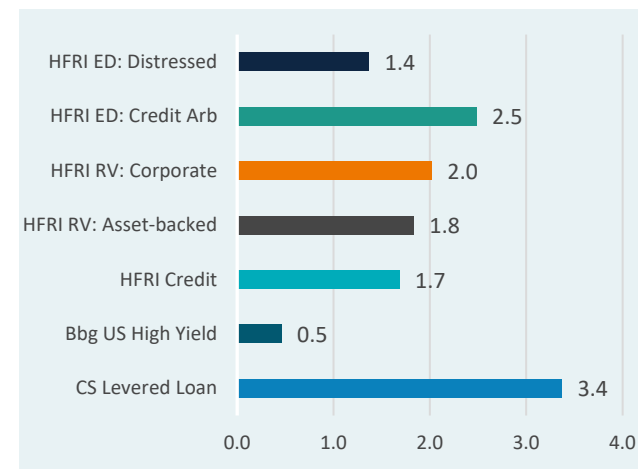
Source: HFR, MPI, as of 9/30/23

CTAS VS STOCKS/BONDS WHEN BOTH DECLINE



Source: MPI, SocGen. as of 9/30/23

3Q RETURNS FOR CREDIT STRATEGIES



Source: HFR, MPI, as of 9/30/23

Appendix

Periodic table of returns

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	5-Year	10-Year
Large Cap Growth	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	28.3	16.1	25.0	12.4	14.5
Large Cap Equity	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	34.6	27.6	9.4	13.0	9.6	11.6
International Equity	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	28.5	21.0	27.1	1.5	7.1	6.2	8.4
Small Cap Growth	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	26.5	20.0	26.5	-4.7	5.2	6.1	7.8
60/40 Global Portfolio	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	25.5	18.3	25.2	-7.5	5.1	5.9	6.7
Cash	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	22.4	14.0	17.7	-13.0	3.6	3.5	6.6
Hedge Funds of Funds	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	22.0	10.3	14.8	-14.5	3.0	3.4	6.2
Small Cap Equity	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	18.6	7.8	11.3	-14.5	2.5	3.2	4.5
Emerging Markets Equity	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	18.4	7.5	8.9	-17.3	1.8	2.6	3.8
Large Cap Value	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	8.7	4.6	6.5	-19.1	1.8	2.4	3.3
Small Cap Value	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	7.8	2.8	2.8	-20.1	-0.5	1.6	2.1
US Bonds	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	7.7	0.5	0.0	-20.4	-1.2	1.6	1.1
Commodities	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	6.4	0.5	-1.5	-26.4	-3.4	0.6	1.1
Real Estate	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	2.1	-3.1	-2.5	-29.1	-3.8	0.1	-0.7

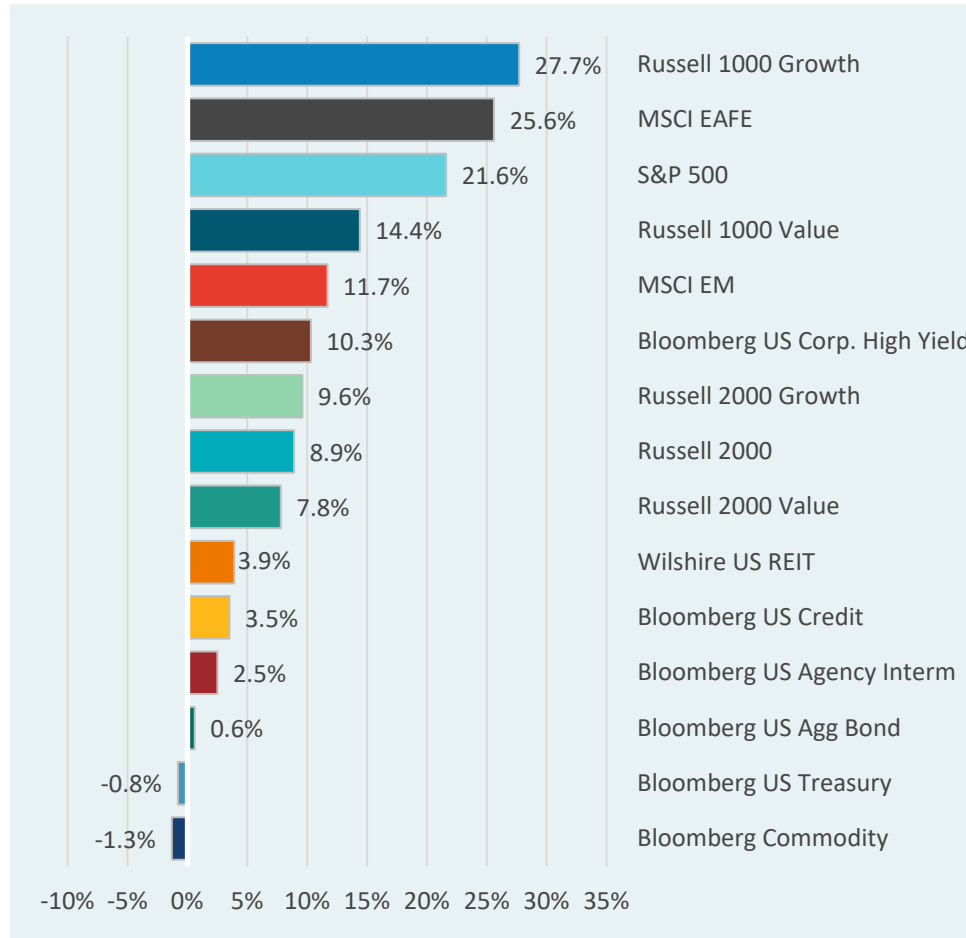
BEST
↑
↓
WORST

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

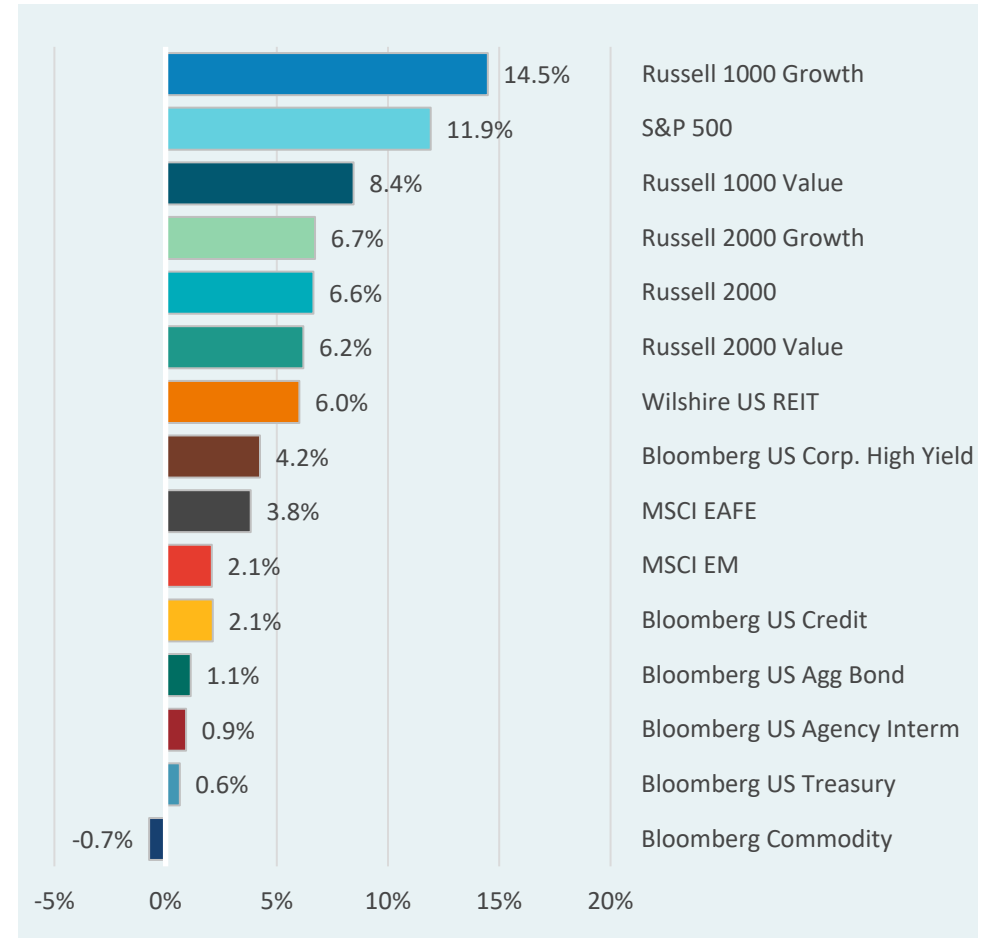
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 6/30/23.

Major asset class returns

ONE YEAR ENDING SEPTEMBER



TEN YEARS ENDING SEPTEMBER



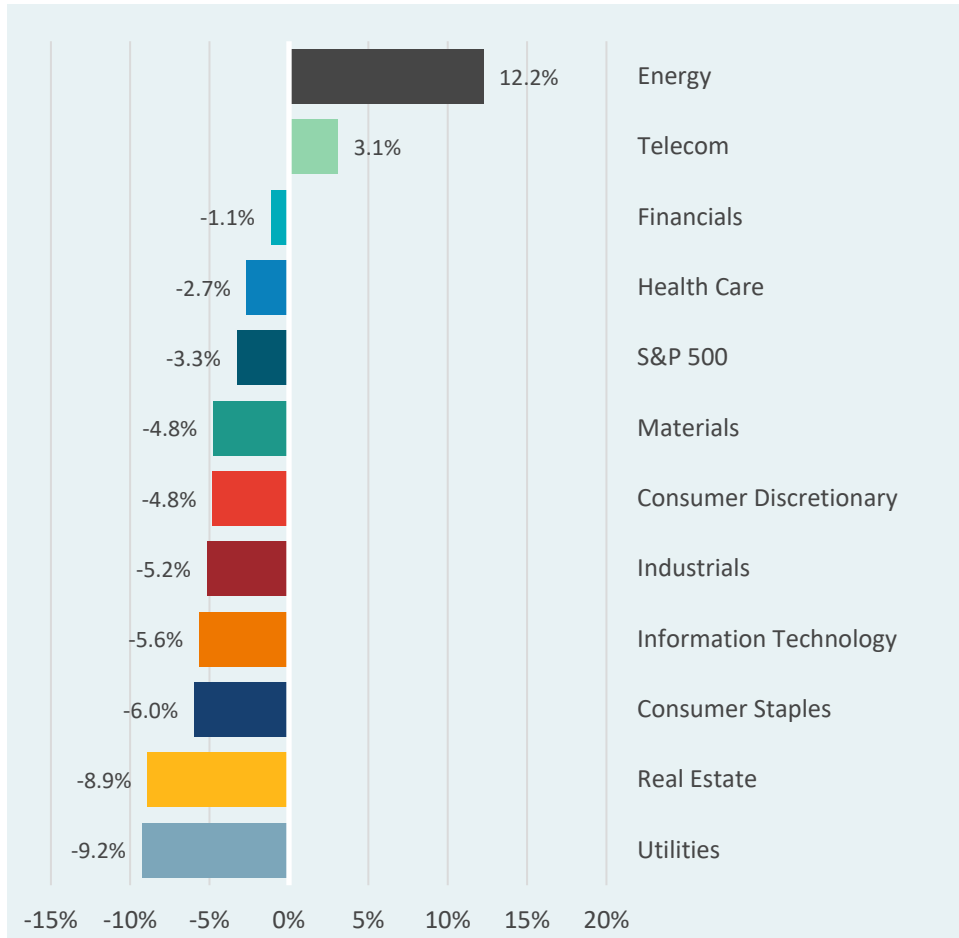
*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 9/30/23

Source: Morningstar, as of 9/30/23

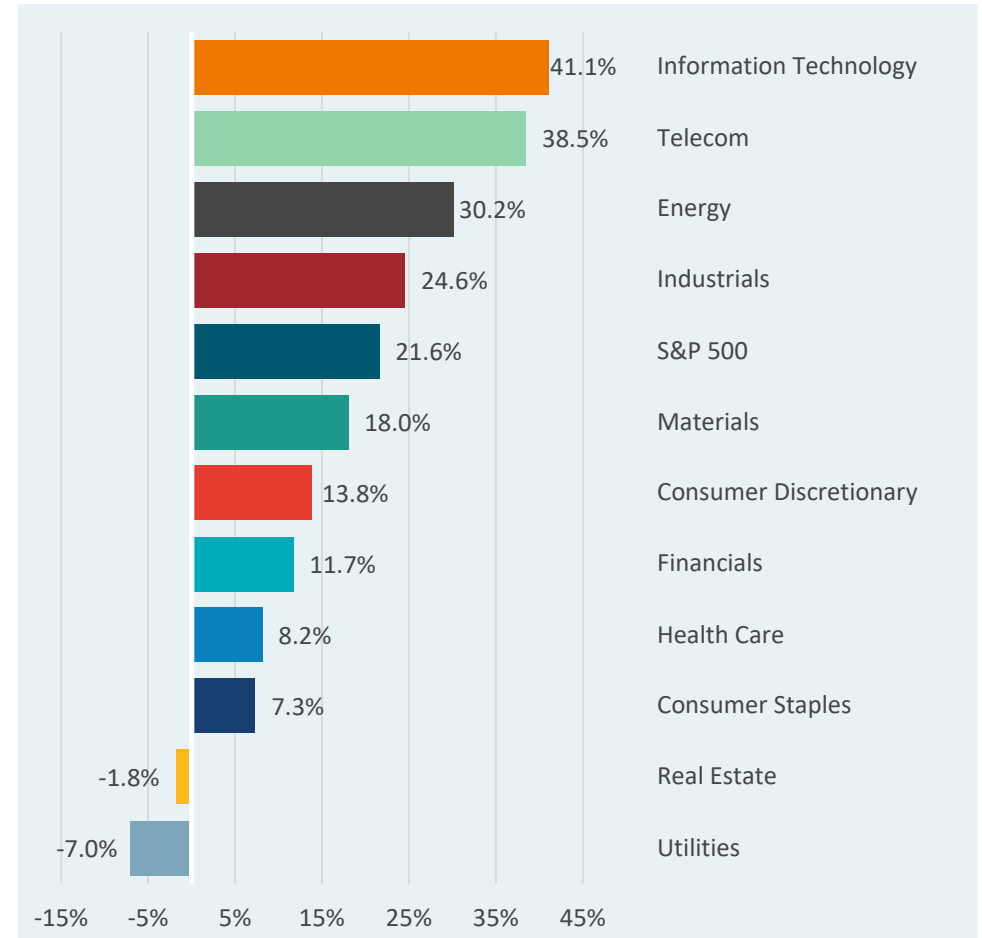
S&P 500 sector returns

QTD



Source: Morningstar, as of 9/30/23

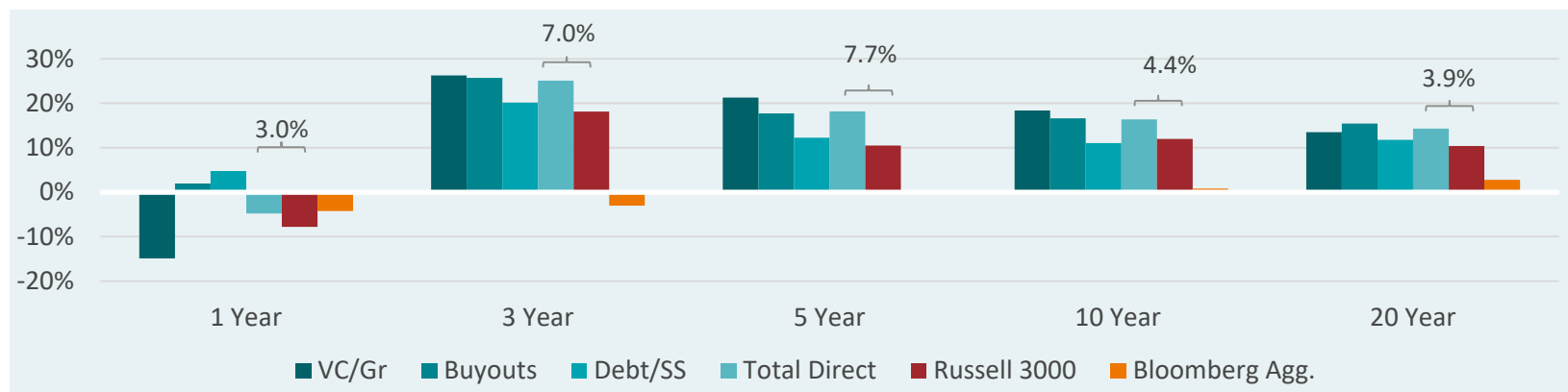
ONE YEAR ENDING AUGUST



Source: Morningstar, as of 9/30/23

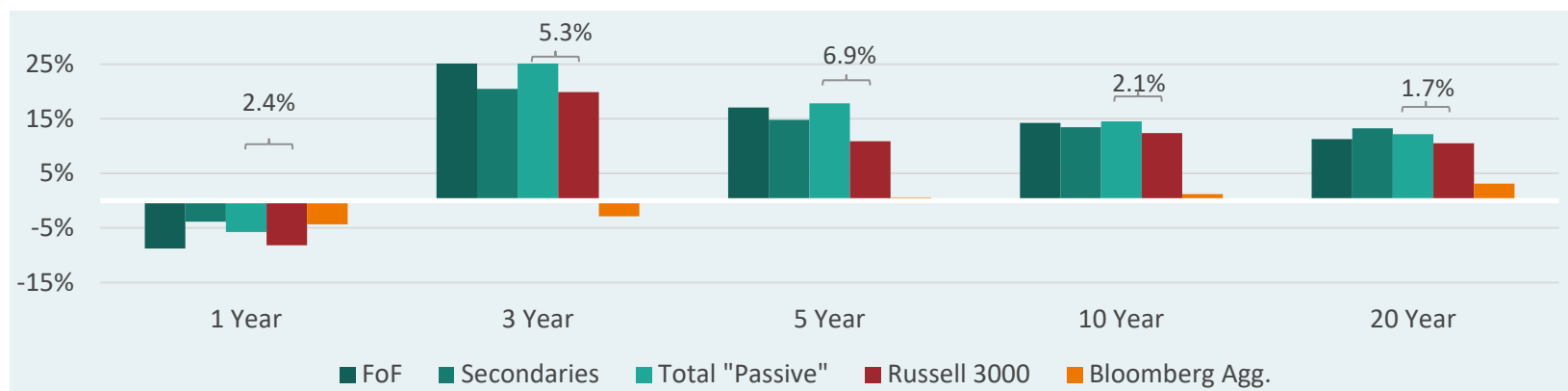
Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



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

"PASSIVE" STRATEGIES

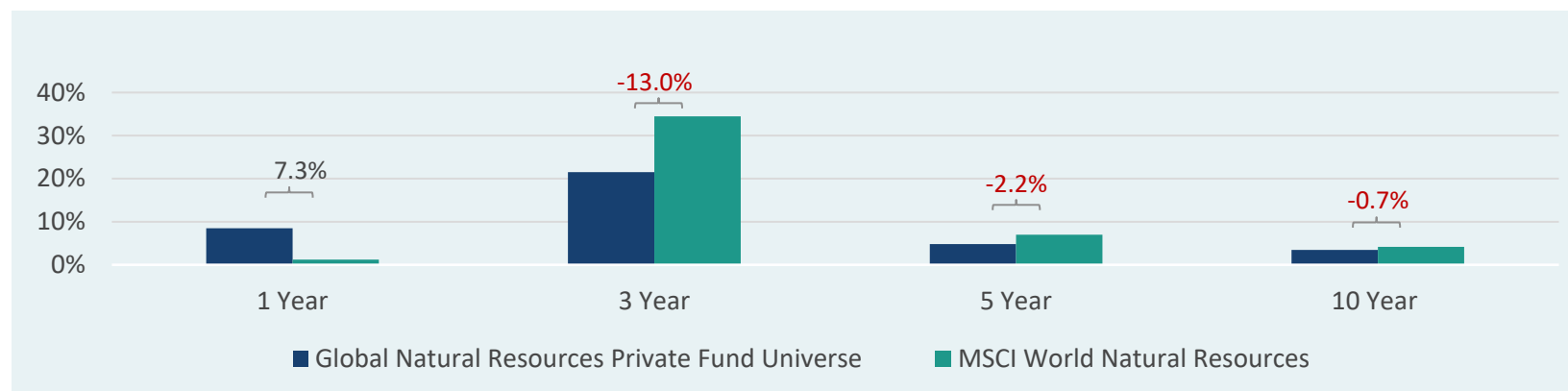


"Passive" strategies outperformed comparable public equities across all time periods.

Sources: Refinitiv PME: U.S. Private Equity Funds sub asset classes as of March 31, 2023. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.

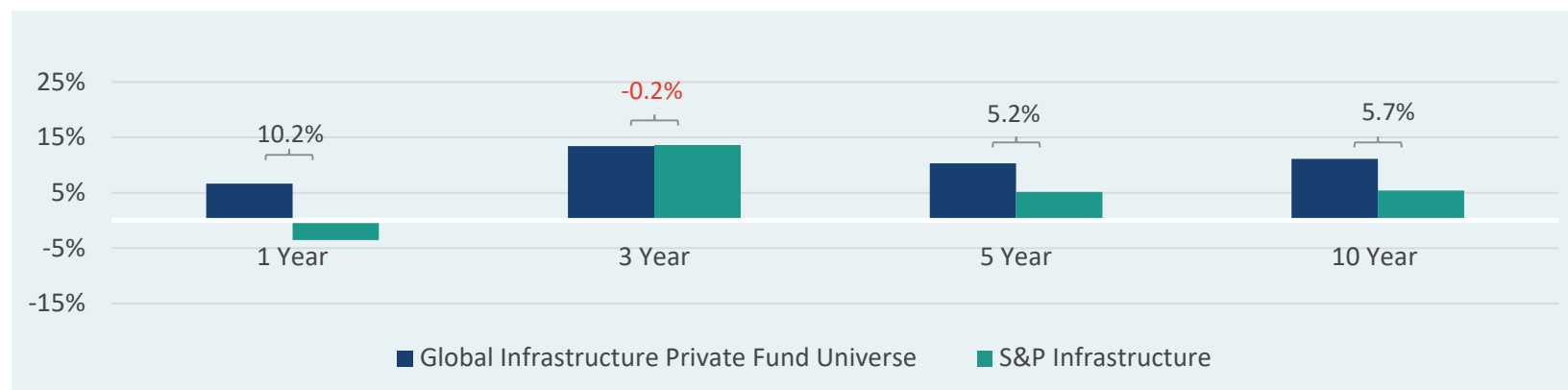
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



N.R. funds underperformed the MSCI World Natural Resources benchmark across all periods, aside the 1-year basis.

GLOBAL INFRASTRUCTURE FUNDS

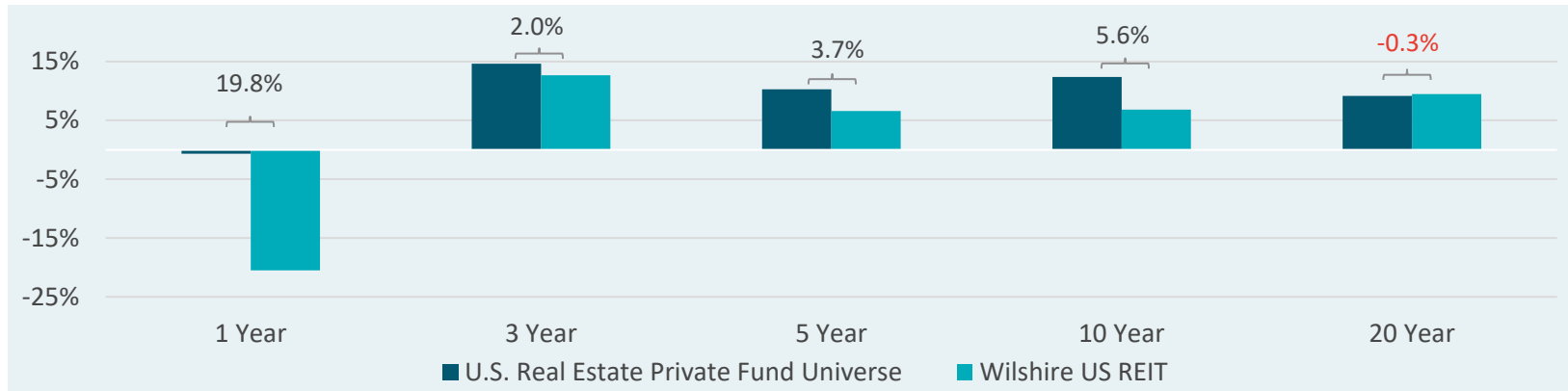


Infra. funds outperformed the S&P Infra. across all periods, aside the 3-year basis.

Sources: Refinitiv PME: Global Natural Resources (vintage 1999 and later, inception of MSCI World Natural Resources benchmark) and Global Infrastructure (vintage 2002 and later, inception of S&P Infrastructure benchmark) universes as of March 31, 2023. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

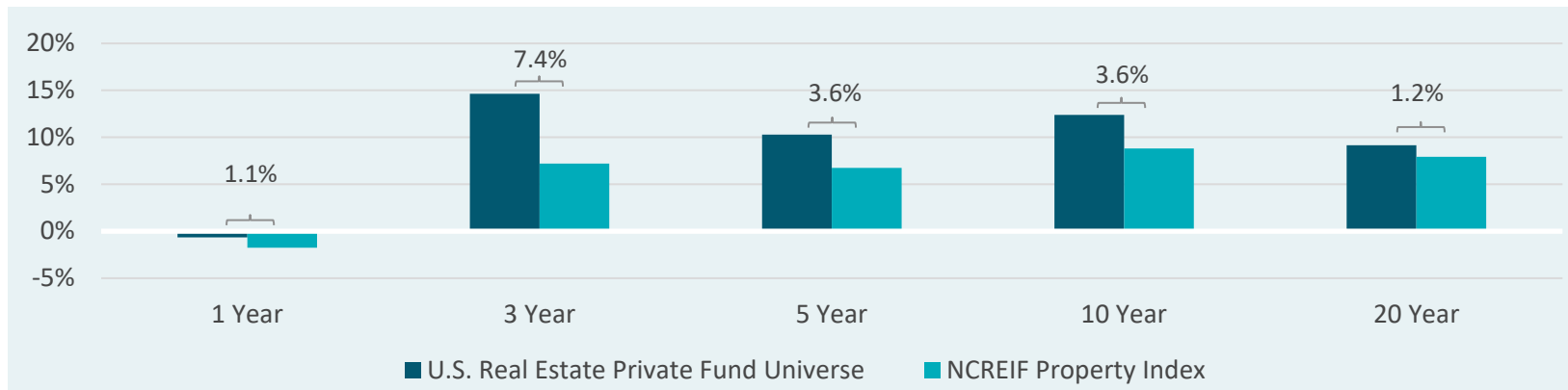
Private vs. liquid and core real estate performance

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



U.S. Private R.E. funds have underperformed the Wilshire U.S. REIT Index over the past 20 years, but outperformed more recently

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: Refinitiv PME: U.S. Real Estate universes as of March 31, 2023. 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	(4.8)	(3.3)	13.1	21.6	10.2	9.9	11.9
S&P 500 Equal Weighted	(5.1)	(4.9)	1.8	13.6	11.4	8.0	10.2
DJ Industrial Average	(3.4)	(2.1)	2.7	19.2	8.6	7.1	10.8
Russell Top 200	(4.6)	(2.7)	16.3	23.9	10.0	10.8	12.6
Russell 1000	(4.7)	(3.1)	13.0	21.2	9.5	9.6	11.6
Russell 2000	(5.9)	(5.1)	2.5	8.9	7.2	2.4	6.6
Russell 3000	(4.8)	(3.3)	12.4	20.5	9.4	9.1	11.3
Russell Mid Cap	(5.0)	(4.7)	3.9	13.4	8.1	6.4	9.0
Style Index							
Russell 1000 Growth	(5.4)	(3.1)	25.0	27.7	8.0	12.4	14.5
Russell 1000 Value	(3.9)	(3.2)	1.8	14.4	11.1	6.2	8.4
Russell 2000 Growth	(6.6)	(7.3)	5.2	9.6	1.1	1.6	6.7
Russell 2000 Value	(5.2)	(3.0)	(0.5)	7.8	13.3	2.6	6.2

INTERNATIONAL EQUITY

Broad Index							
MSCI ACWI	(4.1)	(3.4)	10.1	20.8	6.9	6.5	7.6
MSCI ACWI ex US	(3.2)	(3.8)	5.3	20.4	3.7	2.6	3.3
MSCI EAFE	(3.4)	(4.1)	7.1	25.6	5.8	3.2	3.8
MSCI EM	(2.6)	(2.9)	1.8	11.7	(1.7)	0.6	2.1
MSCI EAFE Small Cap	(4.4)	(3.5)	1.8	17.9	1.1	0.8	4.3
Style Index							
MSCI EAFE Growth	(6.0)	(8.6)	4.3	20.0	0.4	3.2	4.4
MSCI EAFE Value	(0.8)	0.6	9.9	31.5	11.1	2.8	3.0
Regional Index							
MSCI UK	(0.8)	(1.5)	6.8	24.9	12.1	2.9	2.5
MSCI Japan	(2.1)	(1.6)	11.2	25.9	2.8	2.1	4.4
MSCI Euro	(5.4)	(7.5)	10.9	36.4	7.3	3.7	3.8
MSCI EM Asia	(2.6)	(2.9)	1.0	11.9	(3.5)	1.0	3.8
MSCI EM Latin American	(2.3)	(4.7)	12.9	19.4	15.1	2.8	0.2

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	(1.8)	(2.6)	(0.8)	1.2	(2.0)	2.1	1.7
Bloomberg US Treasury Bills	0.4	1.3	3.6	4.6	1.7	1.7	1.1
Bloomberg US Agg Bond	(2.5)	(3.2)	(1.2)	0.6	(5.2)	0.1	1.1
Bloomberg US Universal	(2.4)	(2.9)	(0.6)	1.6	(4.7)	0.3	1.4
Duration							
Bloomberg US Treasury 1-3 Yr	(0.0)	0.7	1.7	2.4	(0.9)	1.0	0.8
Bloomberg US Treasury Long	(7.3)	(11.8)	(8.6)	(9.1)	(15.7)	(2.8)	0.8
Bloomberg US Treasury	(2.2)	(3.1)	(1.5)	(0.8)	(5.8)	(0.1)	0.6
Issuer							
Bloomberg US MBS	(3.2)	(4.1)	(2.3)	(0.2)	(5.1)	(0.8)	0.6
Bloomberg US Corp. High Yield	(1.2)	0.5	5.9	10.3	1.8	3.0	4.2
Bloomberg US Agency Interm	(0.3)	0.2	1.6	2.5	(2.0)	0.7	0.9
Bloomberg US Credit	(2.6)	(3.0)	0.0	3.5	(4.8)	0.9	2.1

OTHER

Index							
Bloomberg Commodity	(0.7)	4.7	(3.4)	(1.3)	16.2	6.1	(0.7)
Wilshire US REIT	(6.5)	(6.4)	(0.2)	3.9	5.7	2.9	6.0
CS Leveraged Loans	0.9	3.4	9.9	12.5	5.9	4.3	4.3
S&P Global Infrastructure	(4.7)	(7.3)	(3.7)	6.9	7.3	4.1	5.1
Alerian MLP	2.4	9.4	20.2	32.7	43.5	6.4	1.7
Regional Index							
JPM EMBI Global Div	(2.6)	(2.2)	1.8	10.0	(4.6)	(0.4)	2.5
JPM GBI-EM Global Div	(3.4)	(3.3)	4.3	13.1	(2.7)	(0.0)	(0.8)
Hedge Funds							
HFRI Composite	(0.2)	0.8	4.3	6.7	6.9	5.0	4.6
HFRI FOF Composite	(0.2)	0.7	3.0	4.8	3.8	3.4	3.3
Currency (Spot)							
Euro	(2.5)	(3.0)	(0.8)	8.1	(3.4)	(1.8)	(2.4)
Pound Sterling	(3.7)	(4.0)	1.5	9.3	(1.9)	(1.3)	(2.8)
Yen	(2.4)	(3.1)	(11.6)	(3.0)	(10.9)	(5.3)	(4.1)

Source: Morningstar, HFRI, as of 9/30/23.

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, 2023



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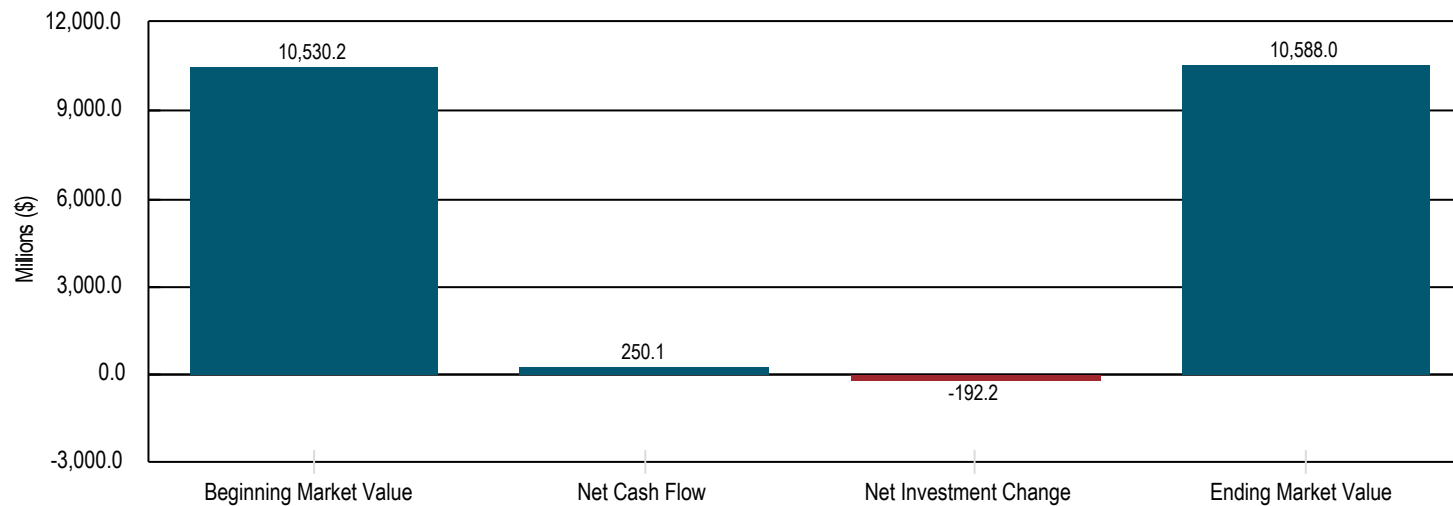
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SAN FRANCISCO 415.362.3484

Portfolio Reconciliation

	Last Three Months	YTD
Beginning Market Value	\$10,530,195,113	\$10,223,348,190
Net Cash Flow	\$250,050,816	\$11,988,647
Net Investment Change	-\$192,214,792	\$352,694,300
Ending Market Value	\$10,588,031,137	\$10,588,031,137

Change in Market Value
Last Three Months

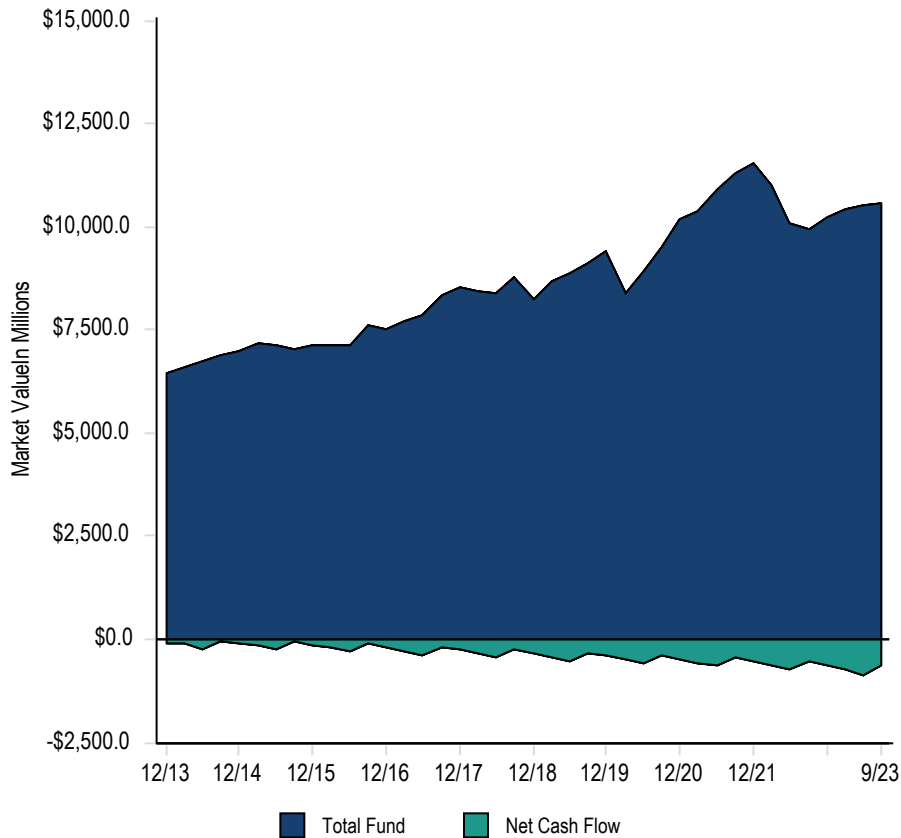


Contributions and withdrawals may include intra-account transfers between managers/funds.

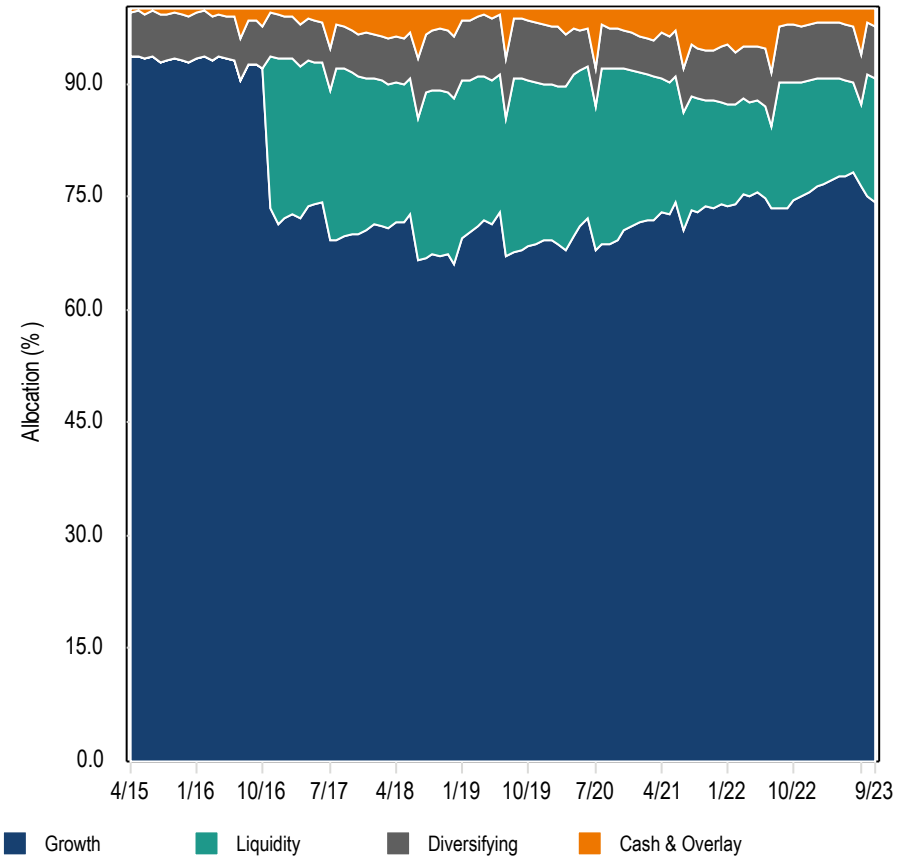
Total Fund
Asset Allocation History

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

Market Value History
Cumulative Cash Flows

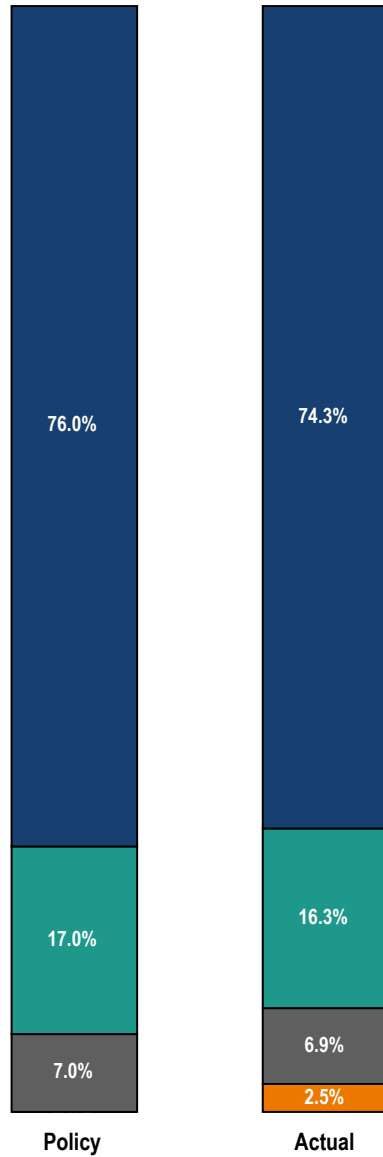


Asset Allocation History



Total Fund
Asset Allocation vs. Policy Target

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023



	Current Balance	Current Allocation	Policy Target	Difference
Growth	\$7,866,672,835	74.3	76.0	-\$180,230,829
Liquidity	\$1,726,607,314	16.3	17.0	-\$73,357,979
Diversifying	\$734,915,085	6.9	7.0	-\$6,247,094
Cash & Overlay	\$259,835,902	2.5	0.0	\$259,835,902
Total	\$10,588,031,137	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, 2023

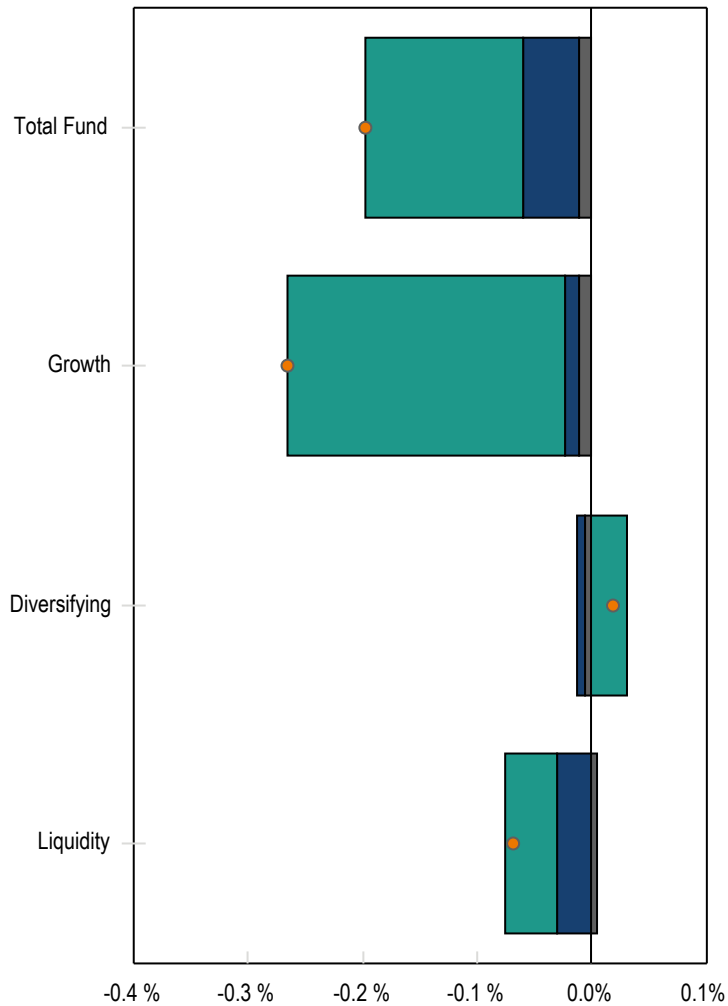
	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018
Total Fund	100.0	-1.7	7.5	4.4	4.5	6.0	-10.6	13.9	9.2	14.6	-2.7
Policy Index		-1.5	8.7	5.9	6.0	7.0	-8.4	15.3	10.8	14.6	-0.9
Policy Index (Adjusted)		-1.5	8.7	5.8	5.4	6.6	-8.4	15.3	8.5	14.1	-1.5
Growth	74.3	-2.4	8.9	6.7	6.0	7.5	-11.7	19.2	12.0	18.3	-3.9
Custom Growth Benchmark		-2.1	10.6	8.5	7.7	8.6	-10.3	21.6	13.8	19.3	-2.1
Diversifying	6.9	-1.1	-1.6	-1.1	-0.1	0.2	-5.7	1.7	-1.7	6.8	-2.3
Custom Diversifying Benchmark		-1.5	3.7	-0.6	1.6	2.7	-5.7	1.6	4.7	6.1	1.4
Liquidity	16.3	0.5	3.4	-0.4	1.5	-	-3.5	-0.3	3.4	4.8	1.7
Blmbg. 1-3 Year Gov/Credit index		0.7	2.8	-0.7	1.2	-	-3.7	-0.5	3.3	4.0	1.6

*Correlation between the Growth and Diversifying composites is .46 , .51 and .60 over the previous 1, 3, and 5 year periods respectively.

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

Contra Costa County Employees' Retirement Association
 Period Ending: September 30, 2023

Attribution Effects
 3 Months Ending September 30, 2023



■ Selection Effect ■ Allocation Effect
■ Interaction Effect ● Total Effects

Performance Attribution

	3 Mo
Wtd. Actual Return	-1.73
Wtd. Index Return	-1.53
Excess Return	-0.20
Selection Effect	-0.14
Allocation Effect	-0.05
Interaction Effect	-0.01

Attribution Summary
 Last 3 Months

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Growth	-2.4	-2.1	-0.3	-0.2	0.0	0.0	-0.3
Diversifying	-1.1	-1.5	0.4	0.0	0.0	0.0	0.0
Liquidity	0.5	0.7	-0.3	0.0	0.0	0.0	-0.1
Total Fund	-1.7	-1.5	-0.2	-0.1	0.0	0.0	-0.2

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

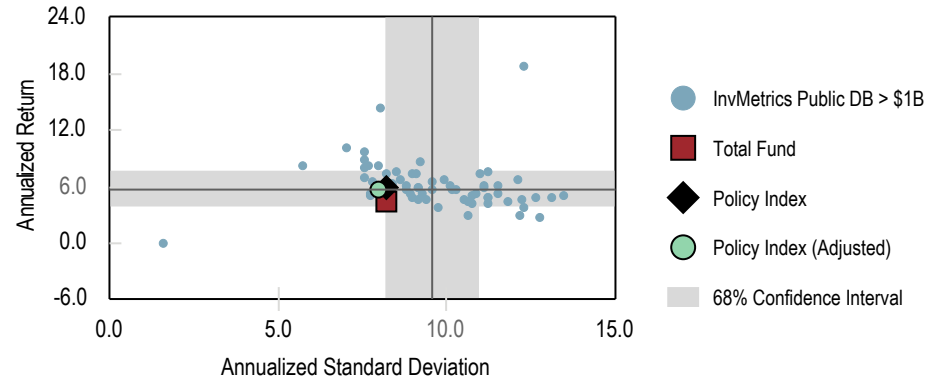
Total Fund
Executive Summary (Net of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

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	4.42	-1.52	8.23	-1.38	0.99	1.31	0.97	0.36	-1.10	95.06	107.82

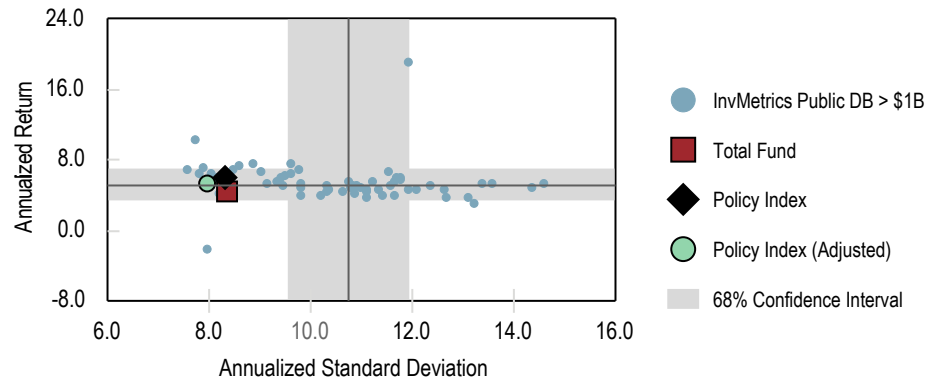
Risk vs. Return



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	4.55	-1.44	8.34	-1.23	0.98	1.86	0.95	0.37	-0.74	95.23	107.15

Risk vs. Return



Total Fund
Performance Summary (Gross of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018	Inception	Inception Date
Total Fund	10,588,031,137	100.0	-1.7	7.7	4.7	4.8	6.4	-10.4	14.2	9.5	14.9	-2.5		Oct-92
Policy Index			-1.5	8.7	5.9	6.0	7.0	-8.4	15.3	10.8	14.6	-0.9		
Policy Index (Adjusted)			-1.5	8.7	5.8	5.4	6.6	-8.4	15.3	8.5	14.1	-1.5		
InvMetrics Public DB > \$1B Rank			36	93	81	75	57	45	67	80	90	32		
Total Fund ex Overlay & Cash	10,328,195,234	97.5	-1.7	7.5	5.0	5.0	6.5	-9.9	14.6	9.7	14.7	-2.1		Dec-03
Policy Index			-1.5	8.7	5.9	6.0	7.0	-8.4	15.3	10.8	14.6	-0.9		
Policy Index (Adjusted)			-1.5	8.7	5.8	5.4	6.6	-8.4	15.3	8.5	14.1	-1.5		
InvMetrics Public DB > \$1B Rank			38	94	73	67	49	39	60	75	91	26		
Growth	7,866,672,835	74.3	-2.3	9.1	7.0	6.3	7.9	-11.4	19.6	12.4	18.7	-3.6		Jan-03
Custom Growth Benchmark			-2.1	10.6	8.5	7.7	8.6	-10.3	21.6	13.8	19.3	-2.1		
Total Domestic Equity	1,856,174,493	17.5	-2.8	19.0	8.7	6.9	10.2	-18.3	20.6	22.2	26.7	-7.2		Sep-82
Russell 3000 Index			-3.3	20.5	9.4	9.1	11.3	-19.2	25.7	20.9	31.0	-5.2		
InvMetrics Public DB US Equity Rank			15	58	68	97	77	49	99	15	100	77		
BlackRock Russell 1000 Index	1,079,815,274	10.2	-3.1	21.2	9.5	9.6	-	-19.1	26.5	21.0	31.4	-4.8	11.3	May-17
Russell 1000 Index			-3.1	21.2	9.5	9.6	-	-19.1	26.5	21.0	31.4	-4.8	11.3	
eV US Large Cap Equity Rank			61	40	56	40	-	69	55	35	40	51		
Boston Partners	370,891,941	3.5	0.8	18.6	16.4	8.0	9.9	-3.8	31.3	3.0	24.3	-8.7	10.5	Jun-95
Russell 1000 Value Index			-3.2	14.4	11.1	6.2	8.4	-7.5	25.2	2.8	26.5	-8.3	8.9	
eV US Large Cap Value Equity Rank			3	30	13	41	37	36	18	63	79	58		
Emerald Advisers	202,868,375	1.9	-8.5	10.6	1.7	3.3	8.6	-23.8	5.5	39.0	30.3	-10.1	11.8	Apr-03
Russell 2000 Growth Index			-7.3	9.6	1.1	1.6	6.7	-26.4	2.8	34.6	28.5	-9.3	9.7	
eV US Small Cap Growth Equity Rank			76	51	60	75	65	27	77	57	48	86		
Ceredex	202,598,903	1.9	-1.4	19.8	16.2	4.5	7.6	-8.5	28.4	2.3	18.4	-11.3	9.7	Nov-11
Russell 2000 Value Index			-3.0	7.8	13.3	2.6	6.2	-14.5	28.3	4.6	22.4	-12.9	8.6	
eV US Small Cap Value Equity Rank			35	26	51	68	65	27	60	70	88	29		

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, 2023

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018	Inception	Inception Date
Total International Equity	1,319,020,751	12.5	-4.6	18.0	3.2	3.5	4.3	-18.2	8.3	15.8	23.7	-14.3		Sep-88
MSCI AC World ex USA Index			-3.7	21.0	4.2	3.1	3.8	-15.6	8.3	11.1	22.1	-13.8		
MSCI EAFE Index			-4.0	26.3	6.3	3.7	4.3	-14.0	11.8	8.3	22.7	-13.4		
InvMetrics Public DB Global ex-US Equity Rank			59	96	62	47	39	68	51	26	42	67		
International Equity	877,470,524	8.3	-6.2	18.3	2.0	4.1	5.0	-18.1	9.0	19.0	27.0	-13.6	5.5	Oct-10
MSCI AC World ex USA Index			-3.7	21.0	4.2	3.1	3.8	-15.6	8.3	11.1	22.1	-13.8	4.2	
InvMetrics Public DB Global ex-US Equity Rank			94	95	73	34	25	65	35	7	15	42		
Pyrford	462,794,387	4.4	-3.7	22.2	5.7	4.2	-	-7.0	7.6	4.7	22.1	-10.1	3.8	May-14
MSCI AC World ex USA Value			-0.1	25.2	9.6	2.3	-	-8.6	10.5	-0.8	15.7	-14.0	1.9	
eV ACWI ex-US Value Equity Rank			83	79	90	46	-	20	84	48	38	6		
William Blair	414,676,137	3.9	-8.8	14.2	-1.7	3.8	5.1	-27.7	10.5	33.3	32.0	-16.8	5.7	Nov-10
MSCI AC World ex USA Growth			-7.3	15.8	-1.9	2.5	3.9	-23.1	5.1	22.2	27.3	-14.4	4.2	
eV ACWI ex-US Growth Equity Rank			79	76	58	50	66	59	43	36	36	72		
Emerging Markets Equity	441,550,226	4.2	-2.6	17.6	5.0	2.8	-	-18.4	7.6	11.4	19.4	-15.3	3.2	Feb-17
MSCI Emerging Markets			-2.9	11.7	-1.7	0.6	-	-20.1	-2.5	18.3	18.4	-14.6	2.7	
InvMetrics Public DB Emerging Markets Equity Rank			81	38	9	9	-	29	28	68	27	67		
PIMCO RAE Emerging Markets	228,149,004	2.2	1.9	30.0	14.8	5.4	-	-9.7	17.1	2.1	14.6	-12.3	5.6	Mar-17
MSCI Emerging Markets Value			-0.8	16.0	4.4	0.4	-	-15.8	4.0	5.5	12.0	-10.7	2.2	
eV Emg Mkts All Cap Value Equity Rank			5	6	3	18	-	34	8	85	77	47		
TT Emerging Markets	213,401,223	2.0	-7.1	5.7	-3.9	0.2	-	-26.4	-0.2	20.8	24.8	-18.4	-0.2	Aug-17
MSCI Emerging Markets			-2.9	11.7	-1.7	0.6	-	-20.1	-2.5	18.3	18.4	-14.6	0.6	
eV Emg Mkts Equity Rank			97	95	83	88	-	90	58	39	24	82		
Total Global Equity	1,053,670,143	10.0	-4.2	18.0	3.4	7.3	8.5	-18.8	14.1	25.3	28.9	-7.8		Dec-03
MSCI AC World Index			-3.4	20.8	6.9	6.5	7.6	-18.4	18.5	16.3	26.6	-9.4		
InvMetrics Public DB Global Equity Rank			76	100	100	30	-	84	61	1	17	20		
Artisan Partners	531,360,106	5.0	-5.1	16.3	-0.5	7.9	10.4	-29.6	15.0	41.7	37.0	-7.9	11.2	Oct-12
MSCI ACWI Growth NR USD			-4.9	24.4	3.8	8.4	9.5	-28.6	17.1	33.6	32.7	-8.1	10.2	
eV Global Growth Equity Rank			38	58	70	29	18	60	55	34	12	60		
First Eagle	522,190,898	4.9	-3.2	19.7	7.8	6.4	6.9	-5.6	13.0	8.5	21.0	-7.6	7.5	Jan-11
MSCI ACWI Value NR USD			-1.8	17.0	9.7	4.0	5.3	-7.5	19.6	-0.3	20.6	-10.8	5.8	
eV Global Value Equity Rank			59	67	72	24	28	21	86	33	64	18		

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, 2023

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018	Inception	Inception Date
Private Credit	1,093,882,374	10.3	2.8	9.1	10.3	8.7	9.9	10.5	10.0	4.0	7.7	8.3		Sep-06
Total High Yield	147,368,701	1.4	0.0	10.2	1.5	2.7	3.6	-10.6	5.3	5.2	15.3	-3.2		Dec-03
ICE BofA U.S. High Yield Index			0.5	10.2	1.8	2.8	4.2	-11.2	5.4	6.2	14.4	-2.3		
eV US High Yield Fixed Inc Rank			88	51	81	87	88	75	54	72	35	89		
Voya Global Investors	147,368,701	1.4	0.0	10.2	1.5	2.7	3.6	-10.6	5.3	5.2	15.3	-3.2	6.1	May-00
ICE BofA U.S. High Yield Index			0.5	10.2	1.8	2.8	4.2	-11.2	5.4	6.2	14.4	-2.3	6.3	
eV US High Yield Fixed Inc Rank			88	51	81	87	88	75	54	72	35	89		
Total Real Estate	770,087,930	7.3	-4.6	-10.8	1.8	1.0	6.3	-5.2	19.2	-5.9	8.1	7.4		Sep-92
Real Estate Benchmark			-4.4	-10.8	2.1	2.5	5.9	-4.5	19.3	0.6	7.5	6.8		
NCREIF-ODCE			-1.9	-12.1	7.1	5.7	8.2	7.5	22.2	1.2	5.3	8.3		
NCREIF Property Index			-1.4	-8.4	6.0	5.3	7.4	5.5	17.7	1.6	6.4	6.7		
Total Core Real Estate	184,110,260	1.7	-7.3	0.5	6.3	4.4	7.0	-24.8	48.3	-4.6	28.2	-5.0		Jan-01
Adelante	84,432,661	0.8	-6.2	4.2	7.0	4.8	7.3	-26.7	48.3	-4.6	28.2	-5.0	9.1	Oct-01
Wilshire U.S. REIT Index			-6.4	3.9	5.7	2.9	6.0	-26.8	46.2	-7.9	25.8	-4.8	8.5	
Invesco US Fundamental Beta	99,677,600	0.9	-8.2	-2.4	-	-	-	-	-	-	-	-	-13.5	Mar-22
Wilshire U.S. REIT Index			-6.4	3.9	-	-	-	-	-	-	-	-	-12.3	
Total Private Real Estate	585,977,669	5.5	-4.0	-14.5	1.7	0.9	6.3	1.3	15.3	-6.1	6.2	8.8		Sep-92
Private Equity	1,307,556,426	12.3	-0.4	-3.7	19.2	13.6	13.2	-0.5	60.4	8.7	8.4	12.0		Dec-03
Risk Parity	318,912,018	3.0	-4.1	1.6	-2.7	-	-	-21.5	9.7	10.0	18.1	-		Jan-19
60% MSCI ACWI Net/40% Blmbg. Global Aggregate			-3.5	13.2	1.3	-	-	-17.3	8.8	14.0	18.6	-		
AQR Global Risk Premium-EL	165,931,550	1.6	-2.5	3.0	0.0	-	-	-16.3	10.7	6.2	18.7	-	3.4	Jan-19
HFR Risk Parity Vol 10 Index			-3.4	4.1	-2.0	-	-	-18.3	6.8	3.6	18.4	-	1.6	
PanAgora Risk Parity Multi Asset	152,980,468	1.4	-5.8	0.1	-5.3	-	-	-26.1	8.7	14.0	-	-	0.0	Mar-19
HFR Risk Parity Vol 10 Index			-3.4	4.1	-2.0	-	-	-18.3	6.8	3.6	-	-	0.4	

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, 2023

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018	Inception	Inception Date
Diversifying	734,915,085	6.9	-1.0	-1.2	-0.7	0.3	0.6	-5.4	2.0	-1.3	7.1	-2.0		Dec-03
<i>Custom Diversifying Benchmark</i>			-1.5	3.7	-0.6	1.6	2.7	-5.7	1.6	4.7	6.1	1.4		
Diversifying Fixed Income	210,966,211	2.0	-3.3	-0.3	-5.2	-1.3	0.6	-13.3	-0.7	1.6	8.6	-1.7		Dec-03
<i>Blmbg. U.S. Aggregate Index</i>			-3.2	0.6	-5.2	0.1	1.1	-13.0	-1.5	7.5	8.7	0.0		
<i>eV US Core Fixed Inc Rank</i>			85	99	92	100	100	76	33	100	80	100		
AFL-CIO	210,905,365	2.0	-3.3	-0.3	-5.2	0.0	1.3	-13.3	-0.7	6.6	8.2	0.6	5.0	Jul-91
<i>Blmbg. U.S. Aggregate Index</i>			-3.2	0.6	-5.2	0.1	1.1	-13.0	-1.5	7.5	8.7	0.0	4.8	
<i>eV US Core Fixed Inc Rank</i>			86	99	93	96	93	76	33	95	87	14		
Diversifying Multi-Asset	523,948,875	4.9	0.0	-1.6	1.4	-	-	-1.9	2.8	-	-	-		Aug-20
<i>Custom Diversifying Multi-Asset Benchmark</i>			-0.2	5.8	1.9	-	-	-3.1	4.1	-	-	-		
Acadian Multi-Asset Absolute Return Fund	222,658,418	2.1	2.0	-3.7	1.3	-	-	-0.1	1.7	-	-	-	1.0	Aug-20
<i>FTSE 3-Month T-bill +5%</i>			2.6	9.9	6.9	-	-	6.6	5.0	-	-	-	6.8	
Sit LLCAR	301,290,456	2.8	-1.3	0.6	-	-	-	-3.3	-	-	-	-	1.2	Apr-21
<i>Blmbg. U.S. Aggregate Index +1%</i>			-3.0	1.7	-	-	-	-12.1	-	-	-	-	-4.2	
Liquidity	1,726,607,314	16.3	0.5	3.6	-0.3	1.6	-	-3.4	-0.2	3.5	4.9	1.8		Nov-16
<i>Blmbg. 1-3 Year Gov/Credit Index</i>			0.7	2.8	-0.7	1.2	-	-3.7	-0.5	3.3	4.0	1.6		
<i>eV US Short Duration Fixed Inc Rank</i>			72	45	55	48	-	49	45	75	39	25		
DFA Short Credit	392,323,184	3.7	1.4	5.2	-0.6	1.4	-	-5.3	-0.4	2.9	5.2	1.2	1.3	Dec-16
<i>ICE BofA 1-5 Year U.S. Corp/Govt Index</i>			0.3	2.7	-1.6	1.2	-	-5.5	-0.9	4.6	5.1	1.4	1.1	
<i>eV US Short Duration Fixed Inc Rank</i>			8	12	72	71	-	91	67	89	26	90		
Insight Short Duration	643,860,895	6.1	1.1	4.4	0.9	2.2	-	-1.1	0.1	3.2	4.7	1.7	1.9	Dec-16
<i>Blmbg. 1-3 Year Gov/Credit index</i>			0.7	2.8	-0.7	1.2	-	-3.7	-0.5	3.3	4.0	1.6	1.1	
<i>eV US Short Duration Fixed Inc Rank</i>			19	23	11	14	-	6	31	85	48	38		
Sit Short Duration	690,423,236	6.5	-0.6	1.9	-1.4	1.4	-	-4.8	-0.3	4.6	4.9	2.5	1.3	Dec-16
<i>Blmbg. 1-3 Year Govt Index</i>			0.7	2.5	-0.9	1.0	-	-3.8	-0.6	3.1	3.6	1.6	0.9	
<i>eV US Short Duration Fixed Inc Rank</i>			99	98	96	69	-	80	58	29	40	3		
Total Cash	147,984,408	1.4	1.5	2.4	1.3	1.8	1.0	2.4	0.4	1.3	3.3	1.7		Dec-03
<i>90 Day U.S. Treasury Bill</i>			1.3	4.5	1.7	1.7	1.1	1.5	0.0	0.7	2.3	1.9		
Cash	147,980,104	1.4	1.5	6.0	2.4	2.5	1.8	2.2	0.4	1.3	3.4	1.7	17.6	Apr-98
Northern Trust Transition	4,304	0.0	1.4	-99.2	-80.9	-	-	-4.8	-6.1	104.1	-	-		Feb-19

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. \$60,845.58 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, 2023

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018	Inception	Inception Date
Total Fund	10,588,031,137	100.0	-1.7	7.5	4.4	4.5	6.0	-10.6	13.9	9.2	14.6	-2.7		Oct-92
Policy Index			-1.5	8.7	5.9	6.0	7.0	-8.4	15.3	10.8	14.6	-0.9		
Policy Index (Adjusted)			-1.5	8.7	5.8	5.4	6.6	-8.4	15.3	8.5	14.1	-1.5		
Total Fund ex Overlay & Cash	10,328,195,234	97.5	-1.8	7.3	4.7	4.8	6.1	-10.1	14.3	9.4	14.3	-2.4		Dec-03
Policy Index			-1.5	8.7	5.9	6.0	7.0	-8.4	15.3	10.8	14.6	-0.9		
Policy Index (Adjusted)			-1.5	8.7	5.8	5.4	6.6	-8.4	15.3	8.5	14.1	-1.5		
Growth	7,866,672,835	74.3	-2.4	8.9	6.7	6.0	7.5	-11.7	19.2	12.0	18.3	-3.9		Jan-03
Custom Growth Benchmark			-2.1	10.6	8.5	7.7	8.6	-10.3	21.6	13.8	19.3	-2.1		
Total Domestic Equity	1,856,174,493	17.5	-2.8	18.8	8.4	6.6	9.8	-18.5	20.2	21.8	26.1	-7.6		Sep-82
Russell 3000 Index			-3.3	20.5	9.4	9.1	11.3	-19.2	25.7	20.9	31.0	-5.2		
BlackRock Russell 1000 Index	1,079,815,274	10.2	-3.1	21.2	9.5	9.6	-	-19.1	26.5	20.9	31.4	-4.8	11.3	May-17
Russell 1000 Index			-3.1	21.2	9.5	9.6	-	-19.1	26.5	21.0	31.4	-4.8	11.3	
Boston Partners	370,891,941	3.5	0.7	18.2	16.1	7.6	9.5	-4.1	31.0	2.6	23.8	-8.9	10.3	Jun-95
Russell 1000 Value Index			-3.2	14.4	11.1	6.2	8.4	-7.5	25.2	2.8	26.5	-8.3	8.9	
Emerald Advisers	202,868,375	1.9	-8.5	10.1	1.2	2.7	8.0	-24.2	4.9	38.2	29.4	-10.7	11.4	Apr-03
Russell 2000 Growth Index			-7.3	9.6	1.1	1.6	6.7	-26.4	2.8	34.6	28.5	-9.3	9.6	
Ceredex	202,598,903	1.9	-1.4	19.3	15.6	3.9	7.0	-9.0	27.7	1.7	17.7	-11.8	9.2	Nov-11
Russell 2000 Value Index			-3.0	7.8	13.3	2.6	6.2	-14.5	28.3	4.6	22.4	-12.9	8.6	
Total International Equity	1,319,020,751	12.5	-4.7	17.7	2.7	3.1	3.9	-18.6	7.8	15.2	23.2	-14.7		Sep-88
MSCI AC World ex USA Index			-3.7	21.0	4.2	3.1	3.8	-15.6	8.3	11.1	22.1	-13.8		
MSCI EAFE Index			-4.0	26.3	6.3	3.7	4.3	-14.0	11.8	8.3	22.7	-13.4		
International Equity	877,470,524	8.3	-6.2	17.9	1.6	3.7	4.6	-18.4	8.6	18.5	26.5	-13.9		Oct-10
MSCI AC World ex USA Index			-3.7	21.0	4.2	3.1	3.8	-15.6	8.3	11.1	22.1	-13.8		
Pyrford	462,794,387	4.4	-3.8	21.7	5.3	3.8	-	-7.4	7.1	4.2	21.6	-10.5	3.4	May-14
MSCI AC World ex USA Value			-0.1	25.2	9.6	2.3	-	-8.6	10.5	-0.8	15.7	-14.0	1.9	
William Blair	414,676,137	3.9	-8.8	13.9	-2.1	3.4	4.7	-28.0	10.1	32.8	31.5	-17.1	5.4	Nov-10
MSCI AC World ex USA Growth			-7.3	15.8	-1.9	2.5	3.9	-23.1	5.1	22.2	27.3	-14.4	4.2	
Emerging Markets Equity	441,550,226	4.2	-2.6	17.4	4.5	2.2	-	-18.9	7.0	10.7	18.7	-15.7		Feb-17
MSCI Emerging Markets			-2.9	11.7	-1.7	0.6	-	-20.1	-2.5	18.3	18.4	-14.6		
PIMCO RAE Emerging Markets	228,149,004	2.2	1.9	29.7	14.3	5.0	-	-10.1	16.5	1.6	14.0	-12.6	5.2	Mar-17
MSCI Emerging Markets Value			-0.8	16.0	4.4	0.4	-	-15.8	4.0	5.5	12.0	-10.7	2.2	
TT Emerging Markets	213,401,223	2.0	-7.1	5.5	-4.3	-0.4	-	-26.8	-0.9	20.0	24.0	-18.9	-0.7	Aug-17
MSCI Emerging Markets			-2.9	11.7	-1.7	0.6	-	-20.1	-2.5	18.3	18.4	-14.6	0.6	

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Total Fund
Performance Summary (Net of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018	Inception	Inception Date
Total Global Equity	1,053,670,143	10.0	-4.3	17.1	2.7	6.5	7.8	-19.4	13.2	24.4	27.9	-8.5		Dec-03
MSCI AC World Index			-3.4	20.8	6.9	6.5	7.6	-18.4	18.5	16.3	26.6	-9.4		
Artisan Partners	531,360,106	5.0	-5.3	15.4	-1.2	7.1	9.6	-30.1	14.1	40.6	36.0	-8.6	10.4	Oct-12
MSCI ACWI Growth NR USD			-4.9	24.4	3.8	8.4	9.5	-28.6	17.1	33.6	32.7	-8.1	10.2	
First Eagle	522,190,898	4.9	-3.4	18.9	7.0	5.6	6.1	-6.3	12.1	7.7	20.1	-8.3	6.8	Jan-11
MSCI ACWI Value NR USD			-1.8	17.0	9.7	4.0	5.3	-7.5	19.6	-0.3	20.6	-10.8	5.8	
Private Credit	1,093,882,374	10.3	2.8	9.1	10.3	8.7	9.4	10.5	10.0	4.0	7.7	8.3		Sep-06
Total High Yield	147,368,701	1.4	0.0	10.0	1.1	2.3	3.2	-10.9	4.9	4.7	14.7	-3.6		Dec-03
ICE BofA US High Yield Master II			0.5	10.2	1.8	2.8	4.2	-11.2	5.3	6.1	14.4	-2.3		
Voya Global Investors	147,368,701	1.4	0.0	10.0	1.1	2.3	3.2	-10.9	4.9	4.7	14.7	-3.6	5.9	May-00
ICE BofA US High Yield Master II			0.5	10.2	1.8	2.8	4.2	-11.2	5.3	6.1	14.4	-2.3	6.3	
Total Real Estate	770,087,930	7.3	-4.6	-10.9	1.7	1.0	5.9	-5.3	19.2	-6.0	8.1	7.4		Sep-92
Real Estate Benchmark			-4.4	-10.8	2.1	2.5	5.9	-4.5	19.3	0.6	7.5	6.8		
NCREIF-ODCE			-1.9	-12.1	7.1	5.7	8.2	7.5	22.2	1.2	5.3	8.3		
NCREIF Property Index			-1.4	-8.4	6.0	5.3	7.4	5.5	17.7	1.6	6.4	6.7		
Total Core Real Estate	184,110,260	1.7	-7.3	0.2	5.8	3.9	6.5	-25.1	47.5	-5.2	27.5	-5.5		Jan-01
Adelante	84,432,661	0.8	-6.3	3.6	6.4	4.2	6.7	-27.2	47.5	-5.2	27.5	-5.5	8.8	Oct-01
Wilshire U.S. REIT Index			-6.4	3.9	5.7	2.9	6.0	-26.8	46.2	-7.9	25.8	-4.8	8.5	
Invesco US Fundamental Beta	99,677,600	0.9	-8.2	-2.6	-	-	-	-	-	-	-	-	-13.6	Mar-22
Wilshire U.S. REIT Index			-6.4	3.9	-	-	-	-	-	-	-	-	-12.3	
Total Private Real Estate	585,977,669	5.5	-4.0	-14.5	1.7	0.9	5.8	1.3	15.3	-6.1	6.2	8.8		Sep-92
Private Equity	1,307,556,426	12.3	-0.4	-3.7	19.2	13.6	12.7	-0.5	60.4	8.7	8.4	12.0		Dec-03
Risk Parity	318,912,018	3.0	-4.1	1.3	-3.1	-	-	-21.8	9.3	9.6	17.7	-		Jan-19
60% MSCI ACWI Net/40% Blmbg. Global Aggregate			-3.5	13.2	1.3	-	-	-17.3	8.8	14.0	18.6	-		
AQR Global Risk Premium-EL	165,931,550	1.6	-2.5	2.8	-0.3	-	-	-16.6	10.3	5.8	18.3	-	3.1	Jan-19
HFR Risk Parity Vol 10 Index			-3.4	4.1	-2.0	-	-	-18.3	6.8	3.6	18.4	-	1.6	
PanAgora Risk Parity Multi Asset	152,980,468	1.4	-5.8	-0.3	-5.6	-	-	-26.3	8.3	13.6	-	-	-0.3	Mar-19
HFR Risk Parity Vol 10 Index			-3.4	4.1	-2.0	-	-	-18.3	6.8	3.6	-	-	0.4	

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, 2023

	Market Value	% of Portfolio	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018	Inception	Inception Date
Diversifying	734,915,085	6.9	-1.1	-1.6	-1.1	-0.1	0.2	-5.7	1.7	-1.7	6.8	-2.3		Dec-03
<i>Custom Diversifying Benchmark</i>			-1.5	3.7	-0.6	1.6	2.7	-5.7	1.6	4.7	6.1	1.4		
Diversifying Fixed Income	210,966,211	2.0	-3.4	-0.6	-5.5	-1.6	0.2	-13.5	-1.0	1.2	8.3	-2.0		Dec-03
<i>Blmbg. U.S. Aggregate Index</i>			-3.2	0.6	-5.2	0.1	1.1	-13.0	-1.5	7.5	8.7	0.0		
AFL-CIO	210,905,365	2.0	-3.4	-0.6	-5.5	-0.3	0.9	-13.6	-1.0	6.2	7.8	0.2	4.7	Jul-91
<i>Blmbg. U.S. Aggregate Index</i>			-3.2	0.6	-5.2	0.1	1.1	-13.0	-1.5	7.5	8.7	0.0	4.8	
Diversifying Multi-Asset	523,948,875	4.9	-0.1	-2.0	1.0	-	-	-2.3	2.4	-	-	-		Aug-20
<i>Custom Diversifying Multi-Asset Benchmark</i>			-0.2	5.8	1.9	-	-	-3.1	4.1	-	-	-		
Acadian Multi-Asset Absolute Return Fund	222,658,418	2.1	1.9	-4.2	0.8	-	-	-0.6	1.1	-	-	-	0.5	Aug-20
<i>FTSE 3-Month T-bill +5%</i>			2.6	9.9	6.9	-	-	6.6	5.0	-	-	-	6.8	
Sit LLCAR	301,290,456	2.8	-1.4	0.2	-	-	-	-3.7	-	-	-	-	0.8	Apr-21
<i>Blmbg. U.S. Aggregate +1%</i>			-3.0	1.7	-	-	-	-12.1	-	-	-	-	-4.2	
Liquidity	1,726,607,314	16.3	0.5	3.4	-0.4	1.5	-	-3.5	-0.3	3.4	4.8	1.7		Nov-16
<i>Blmbg. 1-3 Year Gov/Credit Index</i>			0.7	2.8	-0.7	1.2	-	-3.7	-0.5	3.3	4.0	1.6		
DFA Short Credit	392,323,184	3.7	1.3	5.1	-0.7	1.3	-	-5.4	-0.5	2.8	5.2	1.1	1.2	Dec-16
<i>ICE BofA 1-5 Year U.S. Corp/Govt</i>			0.3	2.7	-1.6	1.2	-	-5.5	-0.9	4.6	5.1	1.4	1.1	
Insight Short Duration	643,860,895	6.1	1.1	4.3	0.9	2.1	-	-1.2	0.0	3.1	4.6	1.7	1.9	Dec-16
<i>Blmbg. 1-3 Year Gov/Credit index</i>			0.7	2.8	-0.7	1.2	-	-3.7	-0.5	3.3	4.0	1.6	1.1	
Sit Short Duration	690,423,236	6.5	-0.6	1.8	-1.6	1.2	-	-5.0	-0.5	4.4	4.7	2.3	1.1	Dec-16
<i>Blmbg. 1-3 Year Govt Index</i>			0.7	2.5	-0.9	1.0	-	-3.8	-0.6	3.1	3.6	1.6	0.9	
Total Cash	147,984,408	1.4	1.5	2.4	1.3	1.8	1.0	2.4	0.4	1.3	3.3	1.7		Dec-03
<i>90 Day U.S. Treasury Bill</i>			1.3	4.5	1.7	1.7	1.1	1.5	0.0	0.7	2.3	1.9		
Cash	147,980,104	1.4	1.5	6.0	2.4	2.5	1.8	2.2	0.4	1.3	3.4	1.7		Apr-98
Northern Trust Transition	4,304	0.0	1.4	-99.2	-80.9	-	-	-4.8	-6.1	104.1	-	-		Feb-19

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. \$60,845.58 in residual value is reflected in the Diversified Fixed Income composite.

Total Fund
Closed End Funds - IRR Summary

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

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	12.0%	13.6%	-	11.7%	6/30/2023
Adams Street Partners II	12/31/2008	16.4%	16.4%	-	13.9%	6/30/2023
Adams Street Partners - Fund 5	12/31/2008	9.5%	9.0%	-	6.5%	6/30/2023
Adams Street Partners Venture	1/18/1996	35.2%	35.3%	-	33.2%	6/30/2023
Adams Street Partners - BPF	3/31/2016	14.2%	14.2%	-	11.6%	6/30/2023
AE Industrial Partners Fund II, LP	5/18/2018	26.9%	-	24.1%	-	6/30/2023
Aether Real Assets III ¹	11/27/2013	0.2%	-	-1.3	-	6/30/2023
Aether Real Assets III Surplus ¹	11/30/2013	1.7%	-	0.7%	-	6/30/2023
Aether Real Assets IV ¹	1/30/2016	6.5%	-	4.8%	-	6/30/2023
Bay Area Equity Fund I ⁹	11/26/2003	31.3%	31.3%	22.9%	22.9%	6/30/2023
Bay Area Equity Fund II ⁹	11/26/2003	8.1%	8.1%	4.2%	4.2%	6/30/2023
CommonFund ¹	6/30/2013	-	-	-	8.2%	12/31/2022
Energy Investor Fund II ⁹	7/15/2005	5.7%	5.3%	2.9%	2.6%	12/31/2022
Energy Investor Fund V	11/28/2016	18.0%	-	12.7%	-	9/30/2023
Genstar Capital Partners IX, L.P.	2/21/2019	44.9%	-	34.7%	-	9/30/2023
Oaktree PIF 2009	2/28/2010	6.8%	-	6.6%	-	9/30/2023
Ocean Avenue II	8/15/2013	-	-	18.9%	-	9/30/2023
Ocean Avenue III	4/15/2016	-	-	25.6%	-	9/30/2023
Paladin III	11/30/2007	20.2%	-	-	-	6/30/2023
Pathway 6	8/22/2011	17.2%	17.2%	14.3%	14.3%	6/30/2023
Benchmark ⁴		14.7%	-	-	-	6/30/2023
Pathway 7	7/10/2013	19.2%	19.2%	16.4%	16.4%	6/30/2023
Benchmark ⁵		15.4%	-	-	-	6/30/2023
Pathway 8	11/23/2015	21.3%	21.3%	19.3%	19.3%	6/30/2023
Benchmark ⁶		17.2%	-	-	-	6/30/2023
Pathway Private Equity Fund	1/19/1999	10.9%	10.9%	8.4%	8.4%	6/30/2023
Benchmark ⁷		10.4%	-	-	-	6/30/2023
Pathway Private Equity Fund 2008	7/31/2009	17.2%	17.2%	14.1%	14.1%	6/30/2023
Benchmark ⁸		13.5%	-	-	-	6/30/2023
Siguler Guff CCCERA Opportunities	6/3/2014	18.6%	19.3%	18.1%	16.9%	6/30/2023
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	22.4%	-	17.9%	-	3/31/2023
TPG Healthcare Partners, L.P.	6/28/2019	28.0%	41.0%	-	24.0%	6/30/2023
Trident VIII, L.P.	5/24/2019	17.0%	-	13.0%	-	6/30/2023
Wastewater Opportunity Fund ¹	12/8/2015	8.5%	-	4.5%	-	3/31/2023

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, 2023

StepStone Group Analysis (*)

Closing Date	Manager Name/Fund Name	Estimated Market Value as of 9/30/2023 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	\$1,943,985	\$16,500,000	114%	\$18,750,000	\$0	\$0	\$20,410,032	\$2,319,783	1.09	1.19	6/30/2023
12/18/2017	Stepstone CC Opportunities Fund	\$1,080,314,415	\$1,170,000,000	86%	\$1,008,568,397	\$22,612,034	\$18,238,508	\$229,331,986	\$264,007,741	0.23	1.30	6/30/2023
8/1/2012	Torchlight IV	\$4,340,654	\$60,000,000	141%	\$84,866,971	\$0	\$1,327,721	\$109,589,365	\$0	1.29	1.34	6/30/2023
3/12/2015	Torchlight V	\$7,283,320	\$75,000,000	80%	\$60,000,000	\$0	\$0	\$71,460,214	\$15,000,000	1.19	1.31	6/30/2023
Total Private Credit		\$1,093,882,374										
% of Portfolio (Market Value)		10.3%										

*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, 2023

Verus Internal Analysis												
Inception Date	Manager Name/Fund Name	Estimated Market Value as of 9/30/2023 ¹	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions ⁵	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	\$11,304,234	\$80,000,000	94%	\$75,401,855	\$0	\$0	\$101,711,550	\$12,334,302	1.35	1.50	6/30/2023
12/8/2014	Angelo Gordon Realty Fund IX	\$20,978,005	\$65,000,000	93%	\$60,125,000	\$0	\$1,462,500	\$58,012,501	\$7,572,500	0.96	1.31	6/30/2023
3/24/2023	Blackstone Real Estate Partners X	\$4,093,035	\$100,000,000	5%	\$4,640,226	\$375,000	\$0	\$0	\$95,359,774	0.00	0.88	6/30/2023
3/24/2023	Blackstone Real Estate Partners VIII	\$21,390,003	\$80,000,000	0%	\$0	\$0	\$0	\$0	\$80,000,000	N/A	N/A	N/A
3/25/2022	BlackStone Strategic Partners Real Estate VIII	\$0	\$80,000,000	0%	\$0	\$0	\$0	\$0	\$80,000,000	N/A	N/A	N/A
N/A	Cross Lake RE IV	\$0	\$60,000,000	0%	\$0	\$0	\$0	\$0	\$60,000,000	N/A	N/A	N/A
6/23/2005	DLJ RECP III	\$12,524,664	\$75,000,000	134%	\$100,709,313	\$0	\$0	\$69,364,915	\$4,031,338	0.69	0.81	6/30/2023
2/11/2008	DLJ RECP IV	\$44,238,815	\$100,000,000	130%	\$130,117,329	\$0	\$0	\$99,841,735	\$1,876,084	0.77	1.11	6/30/2023
7/1/2014	DLJ RECP V	\$28,058,358	\$75,000,000	144%	\$108,093,296	\$651,081	\$0	\$100,933,448	\$15,567,682	0.93	1.19	6/30/2023
3/19/2019	DLJ RECP VI	\$30,577,966	\$50,000,000	77%	\$38,496,759	\$3,170,689	\$0	\$11,369,099	\$22,649,572	0.30	1.09	6/30/2023
N/A	EQT Industrial Value VI	\$0	\$60,000,000	0%	\$0	\$0	\$0	\$0	\$60,000,000	N/A	N/A	N/A
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	\$454,733	\$35,000,000	87%	\$30,546,401	\$0	\$0	\$39,777,325	\$4,453,599	1.30	1.32	9/30/2023
2/20/2019	Invesco Real Estate V	\$77,219,605	\$75,000,000	87%	\$65,318,898	\$4,243,690	\$0	\$9,319,462	\$9,681,102	0.14	1.32	9/30/2023
9/27/2022	Invesco Real Estate VI	\$42,710,901	\$100,000,000	46%	\$45,631,253	\$0	\$0	\$2,230,131	\$66,873,408	0.05	0.98	6/30/2023
7/16/2013	LaSalle Income & Growth VI ⁴	\$12,516,418	\$75,000,000	95%	\$71,428,571	\$0	\$0	\$84,541,423	\$0	1.18	1.36	6/30/2023
2/28/2017	LaSalle Income & Growth VII	\$32,096,370	\$75,000,000	96%	\$72,154,315	\$2,845,685	\$0	\$50,904,014	\$2,845,685	0.71	1.15	6/30/2023
7/3/2013	Long Wharf Fund IV ⁴	\$296,681	\$25,000,000	100%	\$25,000,000	\$0	\$0	\$34,948,087	\$0	1.40	1.41	9/30/2023
9/30/2016	Long Wharf Fund V ⁴	\$29,220,152	\$50,000,000	100%	\$50,000,000	\$0	\$0	\$37,244,373	\$0	0.74	1.33	9/30/2023
6/27/2019	Long Wharf Fund VI	\$34,107,845	\$50,000,000	100%	\$49,999,998	\$594,648	\$1,387,512	\$27,056,490	\$2	0.54	1.22	9/30/2023
5/30/2023	Long Wharf Fund VII	\$4,902,529	\$50,000,000	12%	\$5,931,095	\$987,704	\$0	\$0	\$44,068,905	0.00	0.83	9/30/2023
12/31/2011	Oaktree REOF V ⁴	\$354,706	\$50,000,000	101%	\$50,315,673	\$0	\$0	\$78,780,733	\$5,000,000	1.57	1.57	9/30/2023
9/30/2013	Oaktree REOF VI ⁴	\$18,522,338	\$80,000,000	100%	\$80,000,000	\$0	\$1,200,000	\$84,810,175	\$18,400,000	1.06	1.29	9/30/2023
4/1/2015	Oaktree REOF VII	\$39,299,237	\$65,000,000	100%	\$65,000,000	\$0	\$4,225,000	\$42,829,688	\$18,915,000	0.66	1.26	9/30/2023
11/10/2013	Paulson Real Estate Fund II ⁴	\$12,723,327	\$20,000,000	97%	\$19,345,623	\$0	\$0	\$25,449,660	\$654,377	1.32	1.97	6/30/2023
4/28/2022	PCCP IX	\$55,426,565	\$75,000,000	72%	\$54,176,564	\$3,750,000	\$0	\$0	\$20,823,436	0.00	1.02	6/30/2023
1/25/2012	Siguler Guff DREOF	\$12,989,150	\$75,000,000	93%	\$69,375,000	\$0	\$8,371	\$103,779,482	\$5,625,000	1.50	1.68	6/30/2023
8/31/2013	Siguler Guff DREOF II	\$27,527,046	\$70,000,000	89%	\$61,985,000	\$0	\$15,244	\$55,707,030	\$8,015,000	0.90	1.34	6/30/2023
1/27/2016	Siguler Guff DREOF II Co-Inv	\$12,444,986	\$25,000,000	85%	\$21,277,862	\$362,500	\$0	\$13,871,261	\$3,722,138	0.65	1.24	6/30/2023
Total Closed End Real Estate		\$585,977,669	\$1,760,000,000	77%	\$1,355,070,032	\$16,980,997	\$8,298,628	\$1,132,482,583	\$588,468,903	0.84	1.27	
% of Portfolio (Market Value)		5.5%										

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, 2023

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	-	-	-	6.9%	6/30/2023
Stepstone CC Opportunities Fund ¹	2/2/2018	-	9.9%	-	9.2%	12/31/2022
Torchlight IV	8/1/2012	11.4%	11.9%	9.2%	10.0%	6/30/2023
Torchlight V	3/12/2015	14.2%	14.3%	10.2%	10.2%	6/30/2023
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	-	-	-	12.3%	6/30/2023
Angelo Gordon IX	12/8/2014	-	-	-	6.3%	6/30/2023
Blackstone Real Estate Partners X ¹	3/24/2023	-	-	-	-	6/30/2023
Blackstone Real Estate Partners VIII ¹	3/24/2023	-	-	-	-	N/A
BlackStone Strategic Partners Real Estate VIII ¹	3/25/2022	-	-	-	-	N/A
Cross Lake RE IV ¹	N/A	-	-	-	-	N/A
DLJ RECP III ¹	6/23/2005	-1.0%	-1.0%	-3.0%	-3.0%	6/30/2023
DLJ RECP IV ¹	2/11/2008	4.0%	4.0%	1.0%	2.0%	6/30/2023
DLJ RECP V ¹	7/1/2014	15.0%	15.0%	9.0%	9.0%	6/30/2023
DLJ RECP VI ¹	3/19/2019	13.0%	13.0%	4.0%	4.0%	6/30/2023
EQT Industrial Value VI ¹	N/A	-	-	-	-	N/A
EQT Multifamily Value II ¹	N/A	-	-	-	-	N/A
Invesco Fund IV ⁴	6/30/2014	13.2%	-	10.5%	-	6/30/2023
Invesco Fund V	2/20/2019	11.9%	-	9.2%	-	6/30/2023
Invesco Fund VI	9/27/2022	-	-	-	-	9/30/2023
LaSalle Income & Growth VI ⁴	7/16/2013	10.8%	10.7%	8.8%	8.8%	9/30/2023
LaSalle Income & Growth VII	2/28/2017	2.9%	2.7%	1.1%	0.9%	9/30/2023
Long Wharf IV ⁴	7/3/2013	14.7%	14.5%	11.1%	11.0%	9/30/2023
Long Wharf V ⁴	9/30/2016	10.1%	10.5%	7.5%	7.8%	9/30/2023
Long Wharf VI	6/27/2019	29.0%	31.1%	17.9%	19.0%	9/30/2023
Oaktree REOF V ⁴	12/31/2011	16.6%	-	12.2%	-	9/30/2023
Oaktree REOF VI ⁴	9/30/2013	10.6%	-	6.8%	-	9/30/2023
Oaktree REOF VII	4/1/2015	17.5%	-	11.2%	-	9/30/2023
Paulson ⁴	11/10/2013	-	-	12.2%	-	12/31/2022
PCCP IX	5/27/2021	8.5%	-	4.2%	-	6/30/2023
Siguler Guff I	1/25/2012	12.4%	15.1%	10.8%	15.1%	6/30/2023
Siguler Guff II	8/31/2013	9.1%	9.3%	7.9%	7.6%	6/30/2023
Siguler Guff DREOF II Co-Inv ¹	1/27/2016	5.8%	6.0%	4.9%	4.7%	6/30/2023

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.

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, 2023

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	9.52	0.00	17.82	0.00	1.00	0.01	1.00	0.51	-0.40	99.98	100.00
Boston Partners	16.10	5.05	17.59	4.66	1.00	3.23	0.97	0.84	1.40	104.72	84.41
Emerald Advisers	1.18	0.10	21.30	0.14	0.92	5.33	0.95	0.08	-0.03	98.47	98.85
Ceredex	15.60	2.28	20.14	4.02	0.84	7.44	0.90	0.74	0.20	91.43	80.65
Pyrford	5.29	-4.28	14.72	-2.12	0.78	6.31	0.88	0.31	-0.71	80.08	93.23
William Blair	-2.09	-0.24	18.78	0.01	1.02	5.80	0.90	-0.11	0.00	105.55	105.45
PIMCO RAE Emerging Markets	14.32	9.92	18.69	9.70	1.02	6.46	0.88	0.72	1.46	126.06	83.98
TT Emerging Markets	-4.31	-2.59	20.25	-2.13	1.10	6.18	0.91	-0.20	-0.35	116.27	125.41
Artisan Partners	-1.20	-4.96	18.82	-4.60	0.95	4.38	0.95	-0.06	-1.14	82.05	98.26
First Eagle	7.00	-2.73	13.51	-0.64	0.78	5.23	0.92	0.44	-0.57	78.88	82.86
Voya Global Investors	1.15	-0.67	8.10	-0.66	1.00	1.05	0.98	-0.03	-0.62	96.34	102.79
Adelante	6.41	0.67	19.74	0.78	0.96	1.48	1.00	0.33	0.33	97.92	95.51
AQR Global Risk Premium-EL	-0.31	1.66	10.35	1.54	0.93	2.14	0.96	-0.14	0.76	98.27	88.69
PanAgora Risk Parity Multi Asset	-5.64	-3.67	15.09	-2.71	1.36	4.80	0.97	-0.42	-0.68	120.38	138.21
AFL-CIO	-5.54	-0.34	5.70	-0.79	0.92	1.04	0.97	-1.27	-0.36	85.84	95.99
DFA Short Credit	-0.74	0.82	2.64	0.68	0.90	1.03	0.86	-0.96	0.80	103.26	82.81
Insight Short Duration	0.88	1.60	1.61	1.26	0.51	1.59	0.36	-0.54	1.00	73.40	22.22
Sit Short Duration	-1.58	-0.67	2.82	-0.36	1.34	1.38	0.81	-1.15	-0.48	143.62	153.47

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, 2023

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	9.62	-0.01	19.20	-0.01	1.00	0.01	1.00	0.49	-0.76	99.96	99.99
Boston Partners	7.62	1.39	19.78	1.27	1.02	3.13	0.98	0.38	0.46	101.49	95.73
Emerald Advisers	2.67	1.11	24.00	1.18	0.96	5.19	0.96	0.16	0.19	101.03	97.96
Ceredex	3.93	1.34	23.14	1.50	0.89	6.80	0.93	0.21	0.13	90.59	86.20
Pyrford	3.76	1.47	14.83	1.79	0.75	6.81	0.89	0.21	0.11	84.43	78.29
William Blair	3.38	0.84	19.27	0.93	1.05	5.16	0.93	0.18	0.22	108.98	105.66
PIMCO RAE Emerging Markets	4.96	4.59	20.63	4.88	1.07	5.83	0.92	0.26	0.84	115.53	95.47
TT Emerging Markets	-0.35	-0.91	22.08	-0.56	1.12	5.84	0.94	0.02	-0.05	114.88	117.42
Artisan Partners	7.14	-1.23	19.22	-0.71	0.95	4.68	0.94	0.37	-0.26	91.62	93.31
First Eagle	5.58	1.61	14.20	2.25	0.76	5.59	0.94	0.33	0.16	82.75	74.32
Voya Global Investors	2.32	-0.48	8.84	-0.29	0.93	1.67	0.97	0.11	-0.31	94.36	97.93
Adelante	4.23	1.36	19.62	1.36	0.96	1.64	1.00	0.22	0.69	99.30	94.68
AFL-CIO	-0.34	-0.45	5.18	-0.44	0.92	1.06	0.97	-0.37	-0.44	87.07	93.14
DFA Short Credit	1.26	0.09	2.50	0.24	0.88	1.29	0.75	-0.17	0.07	87.50	78.42
Insight Short Duration	2.10	0.88	1.99	1.39	0.58	1.86	0.26	0.20	0.47	82.50	17.44
Sit Short Duration	1.25	0.21	2.70	-0.14	1.35	1.34	0.81	-0.16	0.17	144.87	159.00

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, 2023

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Expense Fee (%)
BlackRock Russell 1000 Index	Growth	0.03 % of Assets	\$1,079,815,274	\$323,945	0.03
Boston Partners	Growth	0.50 % of First \$25 M 0.30 % Thereafter	\$370,891,941	\$1,162,676	0.31
Emerald Advisers	Growth	0.75 % of First \$10 M 0.60 % Thereafter	\$202,868,375	\$1,232,210	0.61
Ceredex	Growth	0.85 % of First \$10 M 0.68 % of Next \$40 M 0.51 % Thereafter	\$202,598,903	\$1,135,254	0.56
Pyrford	Growth	0.70 % of First \$50 M 0.50 % of Next \$50 M 0.35 % Thereafter	\$462,794,387	\$1,869,780	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	\$414,676,137	\$1,659,028	0.40
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	\$228,149,004	\$1,339,171	0.59
TT Emerging Markets	Growth	0.70 % of First \$100 M 0.65 % of Next \$100 M 0.60 % Thereafter	\$213,401,223	\$1,430,407	0.67
Artisan Partners	Growth	0.75 % of Assets	\$531,360,106	\$3,985,201	0.75
First Eagle	Growth	0.75 % of Assets	\$522,190,898	\$3,916,432	0.75
Voya Global Investors	Growth	0.50 % of First \$50 M 0.40 % of Next \$50 M 0.35 % Thereafter	\$147,368,701	\$615,790	0.42
Invesco US Fundamental Beta	Growth	0.15 % of Assets	\$99,677,600	\$149,516	0.15
AQR Global Risk Premium-EL	Growth	0.38 % of Assets	\$165,931,550	\$630,540	0.38

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

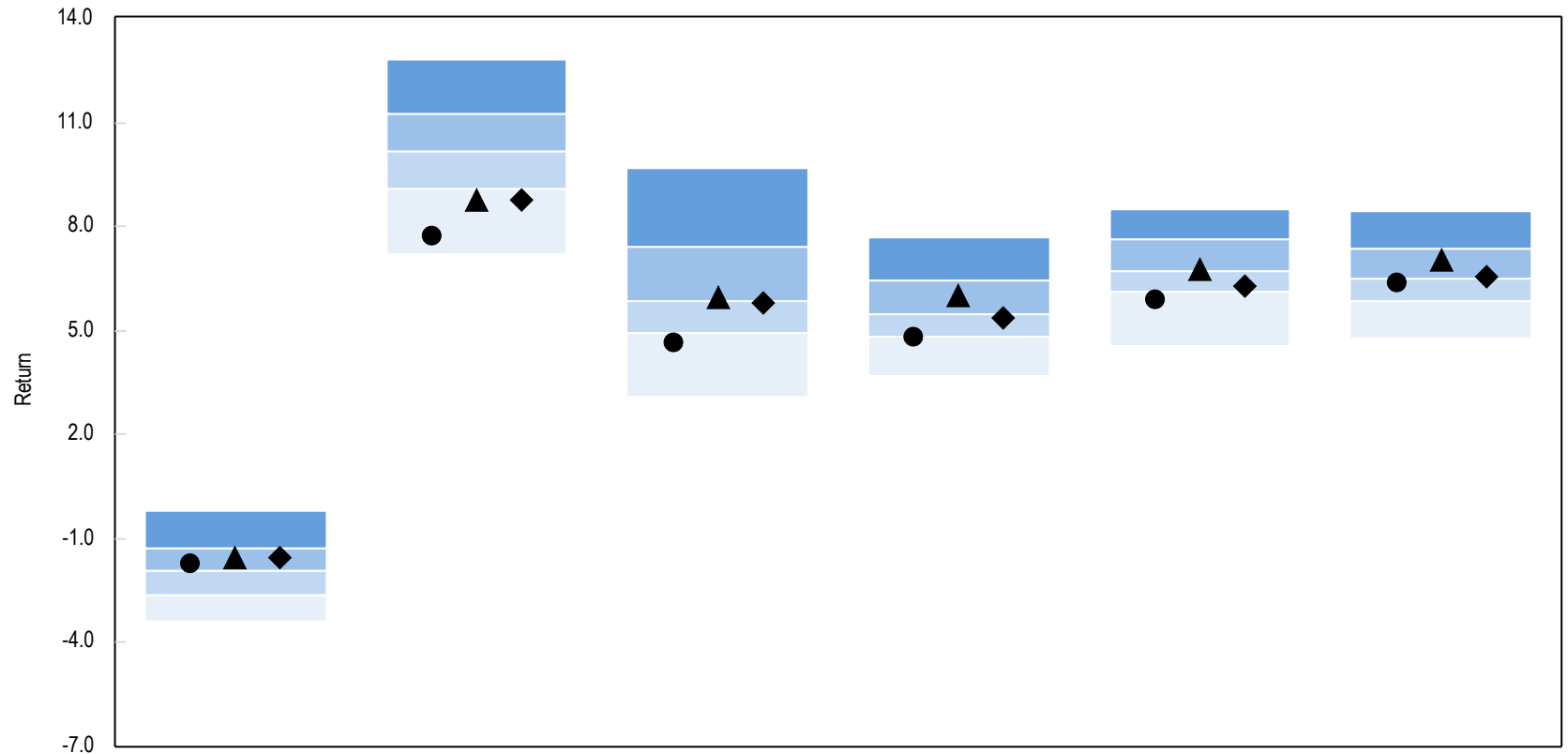
Total Fund
Investment Fund Fee Analysis

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Expense Fee (%)
PanAgora Risk Parity Multi Asset	Growth	0.35 % of Assets	\$152,980,468	\$535,432	0.35
AFL-CIO	Diversifying	0.32 % of Assets	\$210,905,365	\$674,897	0.32
Acadian Multi-Asset Absolute Return Fund	Diversifying	0.50 % of Assets	\$222,658,418	\$1,113,292	0.50
Sit LLCAR	Diversifying	0.39 % of First \$200 M 0.35 % Thereafter	\$301,290,456	\$1,144,904	0.38
DFA Short Credit	Liquidity	0.20 % of First \$25 M 0.10 % Thereafter	\$392,323,184	\$417,323	0.11
Insight Short Duration	Liquidity	0.06 % of First \$500 M 0.05 % of Next \$500 M 0.04 % Thereafter	\$643,860,895	\$371,930	0.06
Sit Short Duration	Liquidity	0.15 % of Assets	\$690,423,236	\$1,035,635	0.15

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

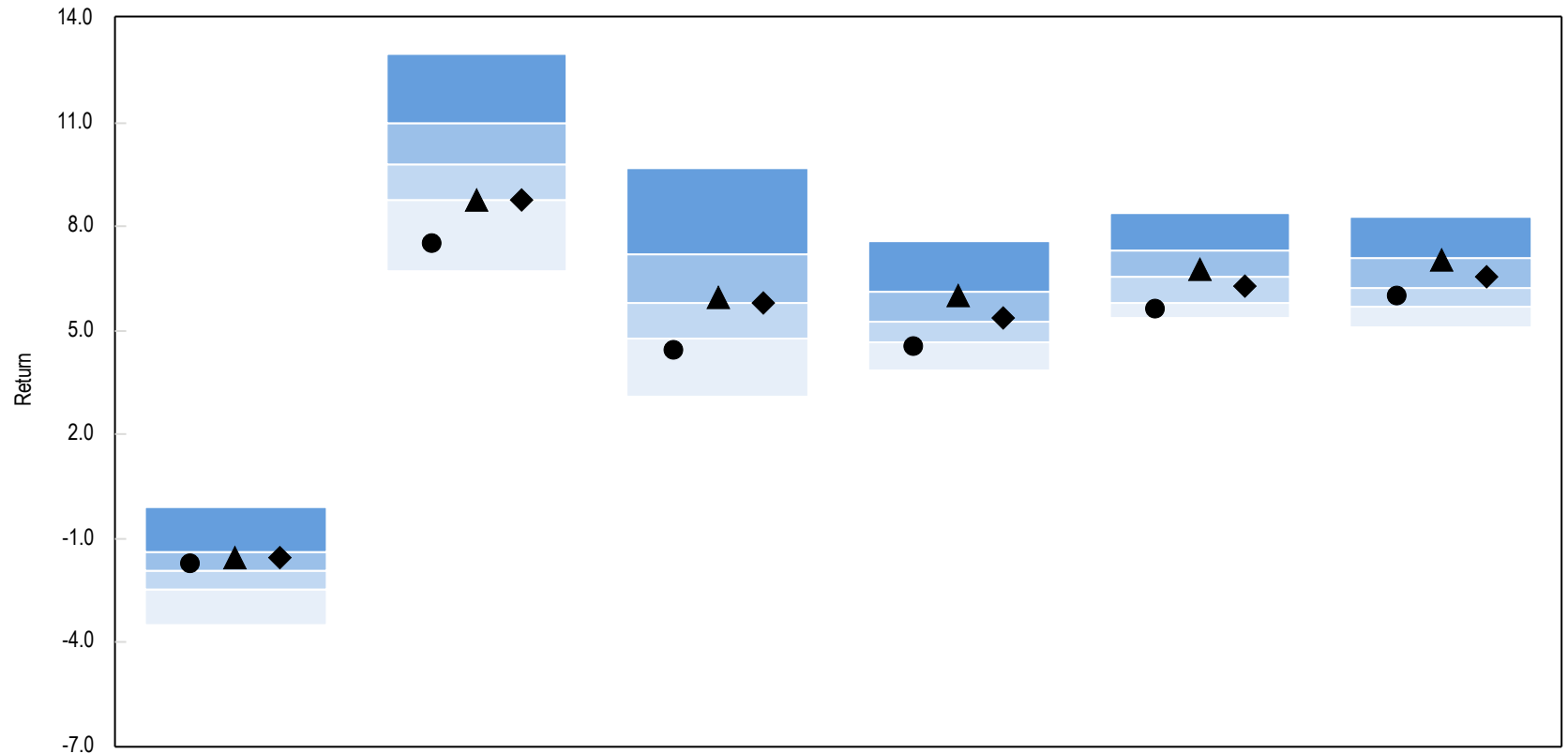
Total Fund Cumulative Performance vs. InvMetrics Public DB >\$1B Gross



	3 Mo	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● Total Fund	-1.71 (36)	7.73 (93)	4.67 (81)	4.81 (75)	5.88 (80)	6.41 (57)
▲ Policy Index	-1.54 (29)	8.75 (81)	5.95 (49)	5.99 (34)	6.77 (48)	7.02 (38)
◆ Policy Index (Adjusted)	-1.54 (29)	8.75 (81)	5.77 (52)	5.37 (54)	6.27 (69)	6.56 (49)
5th Percentile	-0.18	12.79	9.70	7.67	8.50	8.42
1st Quartile	-1.27	11.26	7.43	6.42	7.64	7.36
Median	-1.91	10.17	5.82	5.49	6.70	6.51
3rd Quartile	-2.64	9.08	4.93	4.80	6.12	5.82
95th Percentile	-3.37	7.19	3.11	3.72	4.55	4.76
Population	90	82	73	71	70	65

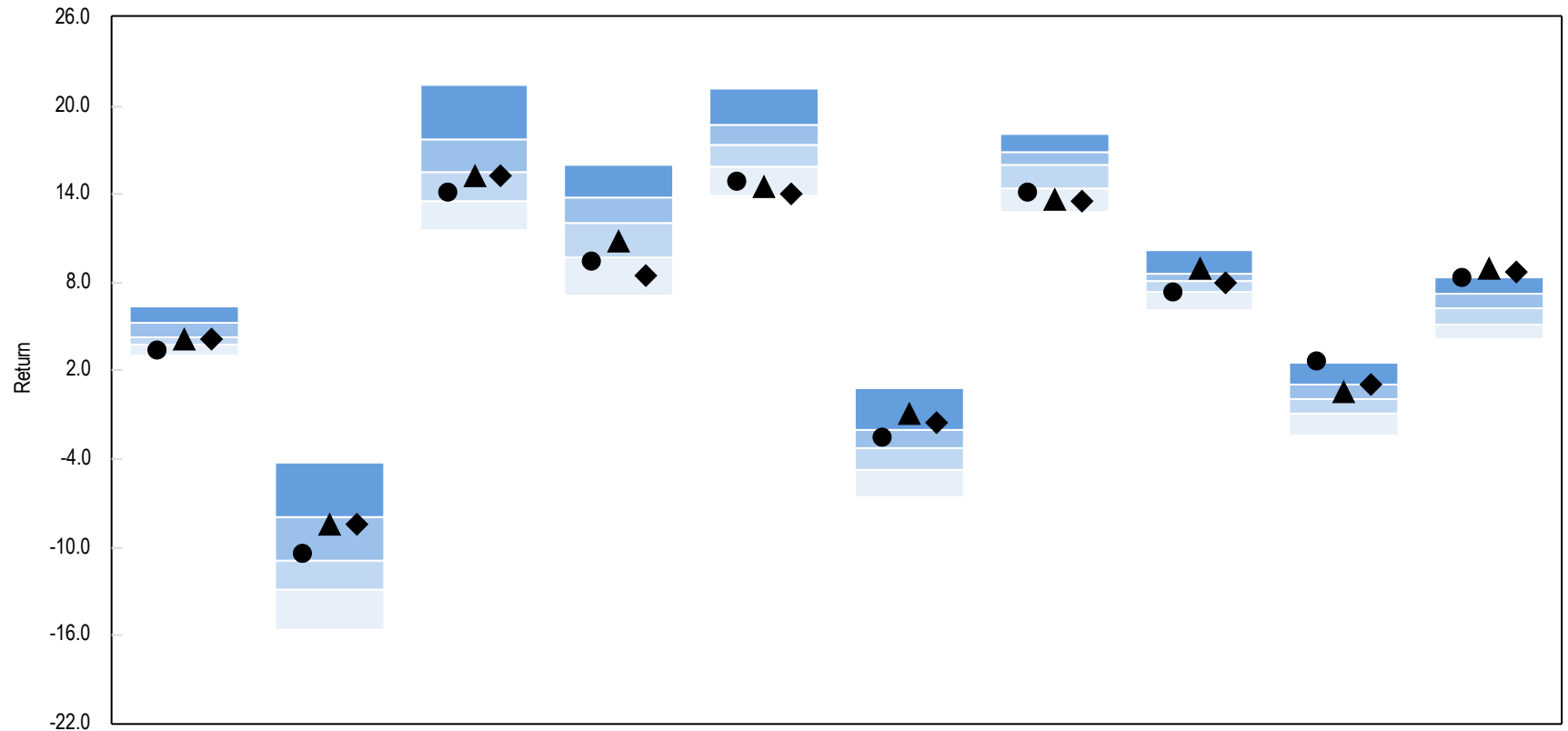
Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

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



	3 Mo	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
● Total Fund	-1.73 (37)	7.53 (93)	4.42 (85)	4.55 (78)	5.61 (89)	6.03 (56)
▲ Policy Index	-1.54 (29)	8.75 (76)	5.95 (47)	5.99 (32)	6.77 (48)	7.02 (29)
◆ Policy Index (Adjusted)	-1.54 (29)	8.75 (76)	5.77 (51)	5.37 (47)	6.27 (60)	6.56 (44)
5th Percentile	-0.11	12.98	9.69	7.57	8.38	8.29
1st Quartile	-1.36	11.00	7.17	6.13	7.32	7.08
Median	-1.92	9.76	5.79	5.27	6.53	6.22
3rd Quartile	-2.46	8.77	4.76	4.68	5.81	5.66
95th Percentile	-3.50	6.72	3.10	3.83	5.38	5.07
Population	80	73	63	61	60	54

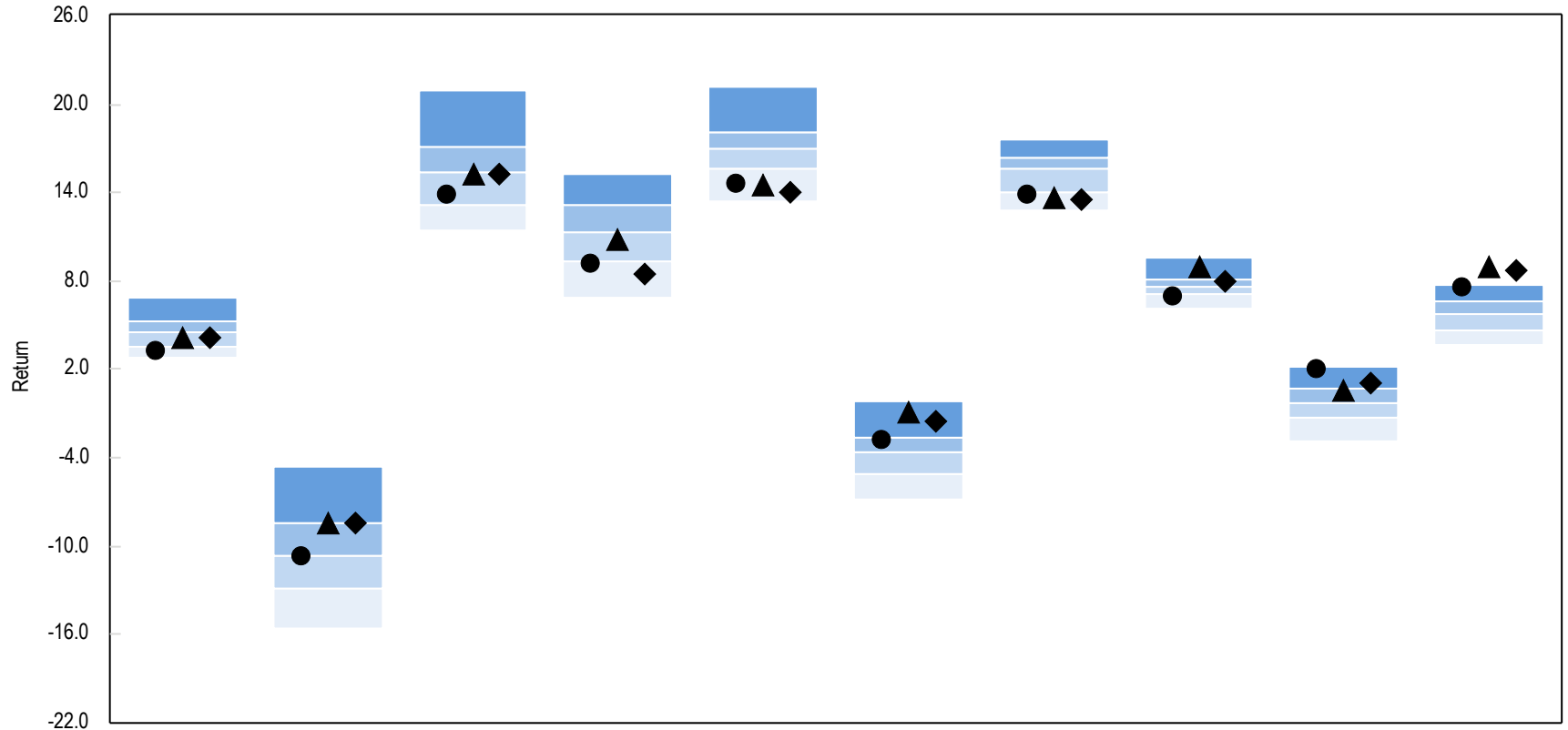
Total Fund Consecutive Periods vs. InvMetrics Public DB >\$1B Gross



	YTD	2022	2021	2020	2019	2018	2017	2016	2015	2014
● Total Fund	3.47 (86)	-10.39 (45)	14.21 (67)	9.52 (80)	14.92 (90)	-2.46 (32)	14.18 (79)	7.43 (74)	2.70 (3)	8.40 (6)
▲ Policy Index	4.15 (55)	-8.38 (26)	15.29 (54)	10.81 (64)	14.58 (91)	-0.94 (12)	13.69 (90)	8.93 (18)	0.58 (35)	9.03 (2)
◆ Policy Index (Adjusted)	4.15 (55)	-8.38 (26)	15.29 (54)	8.49 (91)	14.06 (94)	-1.52 (17)	13.51 (92)	8.03 (54)	1.06 (25)	8.67 (3)
5th Percentile	6.36	-4.27	21.43	16.06	21.23	0.77	18.11	10.15	2.60	8.40
1st Quartile	5.22	-7.96	17.71	13.75	18.69	-2.07	16.81	8.61	1.05	7.26
Median	4.28	-10.84	15.55	12.05	17.31	-3.27	16.02	8.08	0.11	6.23
3rd Quartile	3.75	-12.84	13.51	9.70	15.91	-4.71	14.36	7.38	-0.86	5.18
95th Percentile	3.01	-15.61	11.55	7.16	13.87	-6.57	12.78	6.10	-2.39	4.21
Population	84	121	157	169	132	113	123	127	123	120

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.

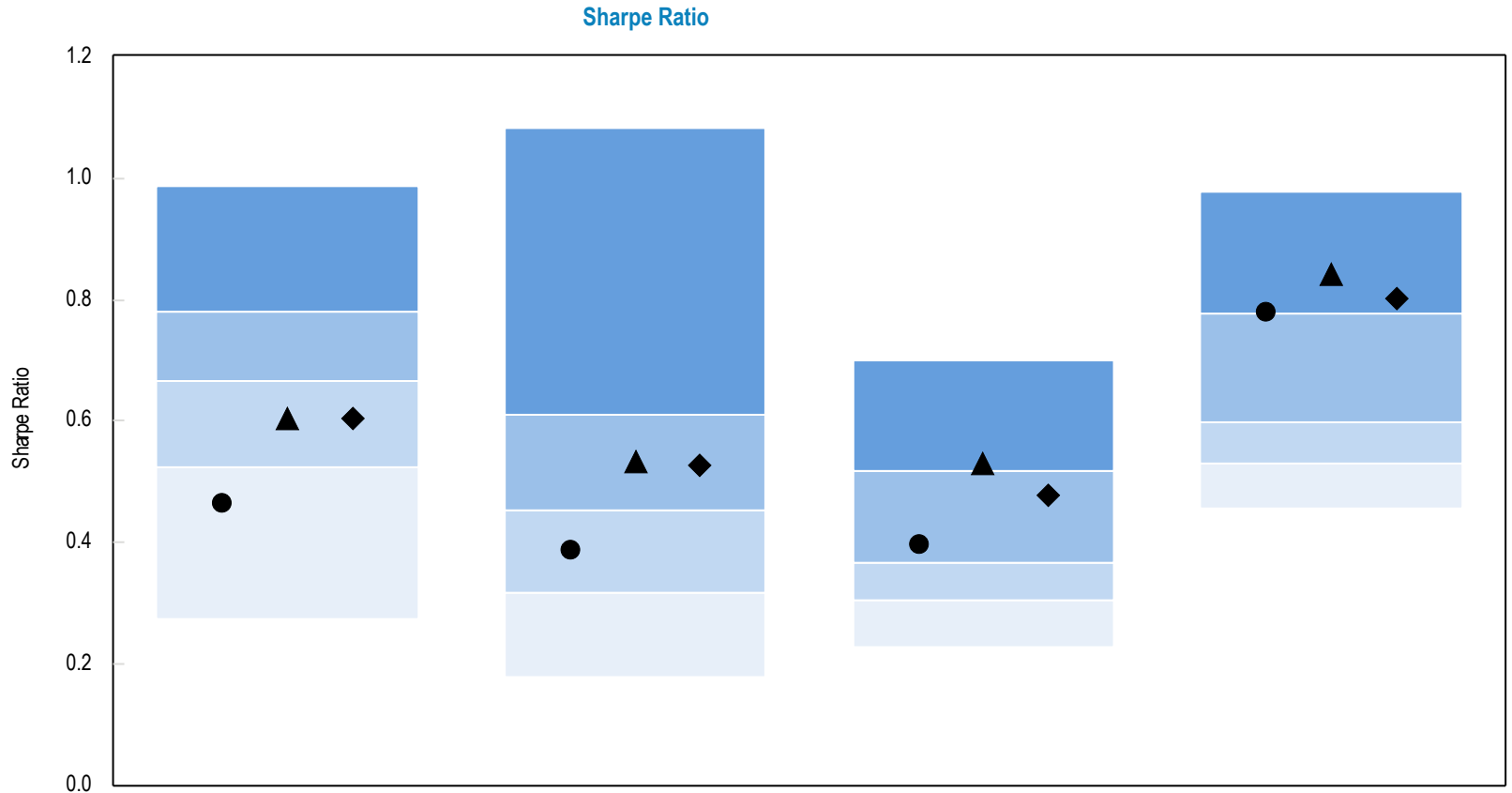
Total Fund Consecutive Periods vs. InvMetrics Public DB >\$1B Net



	YTD	2022	2021	2020	2019	2018	2017	2016	2015	2014
● Total Fund	3.33 (81)	-10.61 (50)	13.90 (66)	9.23 (76)	14.61 (92)	-2.72 (29)	13.86 (80)	6.94 (79)	2.09 (9)	7.67 (7)
▲ Policy Index	4.15 (56)	-8.38 (26)	15.29 (51)	10.81 (60)	14.58 (92)	-0.94 (7)	13.69 (85)	8.93 (14)	0.58 (26)	9.03 (2)
◆ Policy Index (Adjusted)	4.15 (56)	-8.38 (26)	15.29 (51)	8.49 (90)	14.06 (94)	-1.52 (10)	13.51 (87)	8.03 (33)	1.06 (22)	8.67 (2)
5th Percentile	6.83	-4.66	20.99	15.24	21.22	-0.12	17.64	9.59	2.21	7.79
1st Quartile	5.28	-8.38	17.17	13.13	18.15	-2.65	16.42	8.12	0.75	6.59
Median	4.58	-10.61	15.34	11.37	17.04	-3.66	15.65	7.61	-0.32	5.74
3rd Quartile	3.57	-12.83	13.22	9.29	15.66	-5.12	14.02	7.12	-1.28	4.67
95th Percentile	2.79	-15.60	11.39	6.87	13.41	-6.79	12.79	6.17	-2.82	3.69
Population	74	100	133	146	124	104	115	113	110	106

Total Fund
Sharpe Ratio Ranking (Gross of Fees)

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

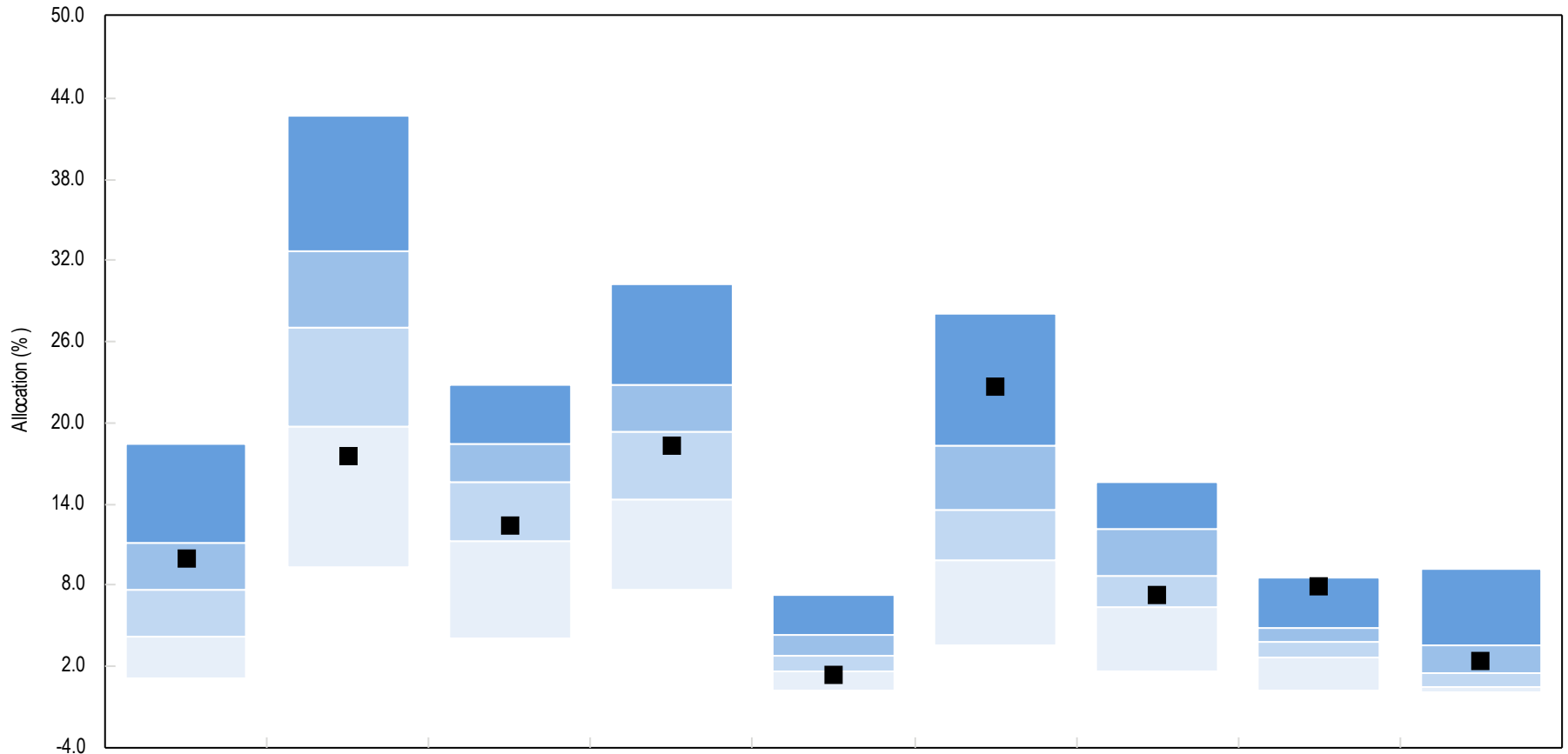


	1 Yr	3 Yrs	5 Yrs	10 Yrs
● Total Fund	0.47 (89)	0.39 (63)	0.40 (39)	0.78 (25)
▲ Policy Index	0.60 (56)	0.54 (35)	0.53 (23)	0.84 (15)
◆ Policy Index (Adjusted)	0.60 (56)	0.53 (37)	0.48 (29)	0.80 (22)
5th Percentile	0.99	1.08	0.70	0.98
1st Quartile	0.78	0.61	0.52	0.78
Median	0.66	0.45	0.37	0.60
3rd Quartile	0.52	0.32	0.31	0.53
95th Percentile	0.27	0.18	0.23	0.46
Population	73	63	61	54

Total Fund
Peer Universe Comparison: Asset Allocation

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

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	10.0 (36)	17.5 (80)	12.5 (73)	18.3 (54)	1.4 (79)	22.7 (12)	7.3 (66)	8.0 (8)	2.5 (35)
5th Percentile	18.5	42.7	22.8	30.2	7.3	28.1	15.6	8.5	9.2
1st Quartile	11.2	32.7	18.4	22.8	4.3	18.3	12.2	4.9	3.6
Median	7.7	27.0	15.6	19.4	2.8	13.5	8.7	3.9	1.5
3rd Quartile	4.2	19.7	11.3	14.3	1.6	9.8	6.4	2.7	0.5
95th Percentile	1.1	9.3	4.1	7.7	0.2	3.6	1.6	0.2	0.1
Population	29	78	78	78	27	60	65	28	69

Domestic Equity Managers

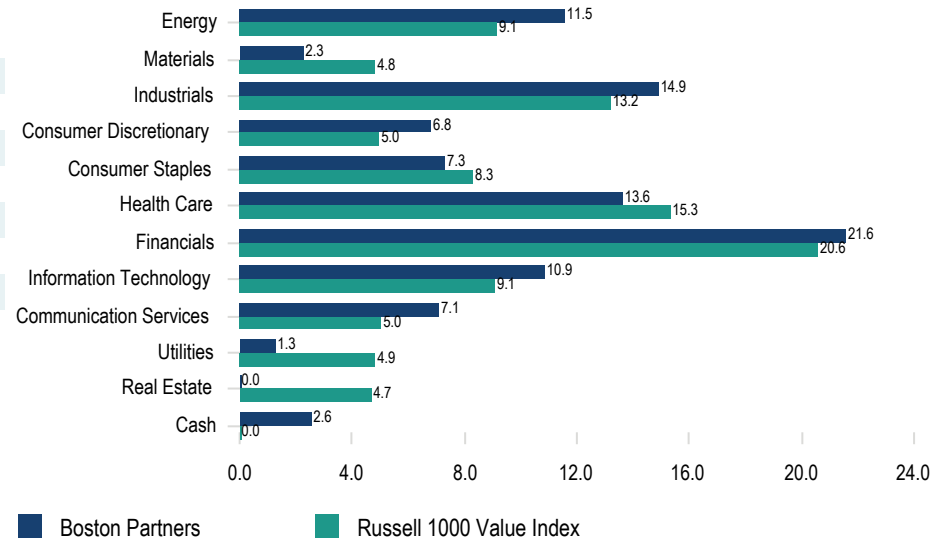
Boston Partners
Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

Characteristics

	Portfolio	Benchmark
Number of Stocks	90	845
Wtd. Avg. Mkt. Cap \$M	172,965.22	137,852.79
Median Mkt. Cap \$M	39,484.98	11,541.64
Price/Earnings ratio	15.10	15.28
Price/Book ratio	2.46	2.43
Return on Equity (%)	6.01	3.83
Current Yield (%)	1.88	2.49
Beta (5 Years, Monthly)	1.02	1.00

Sector Allocation (%) vs. Russell 1000 Value Index



Largest Holdings

	End Weight (%)	Quarterly Return (%)
JPMorgan Chase & Co	3.68	0.40
Berkshire Hathaway Inc	3.63	2.73
Alphabet Inc	3.37	9.32
Bristol-Myers Squibb Co	2.55	-8.43
Cisco Systems Inc	2.37	4.69
AutoZone Inc	1.87	1.87
Sanofi	1.87	-0.48
Wells Fargo & Co	1.77	-3.52
Unitedhealth Group Inc	1.76	5.31
Marathon Petroleum Corp	1.75	30.48

Top Contributors

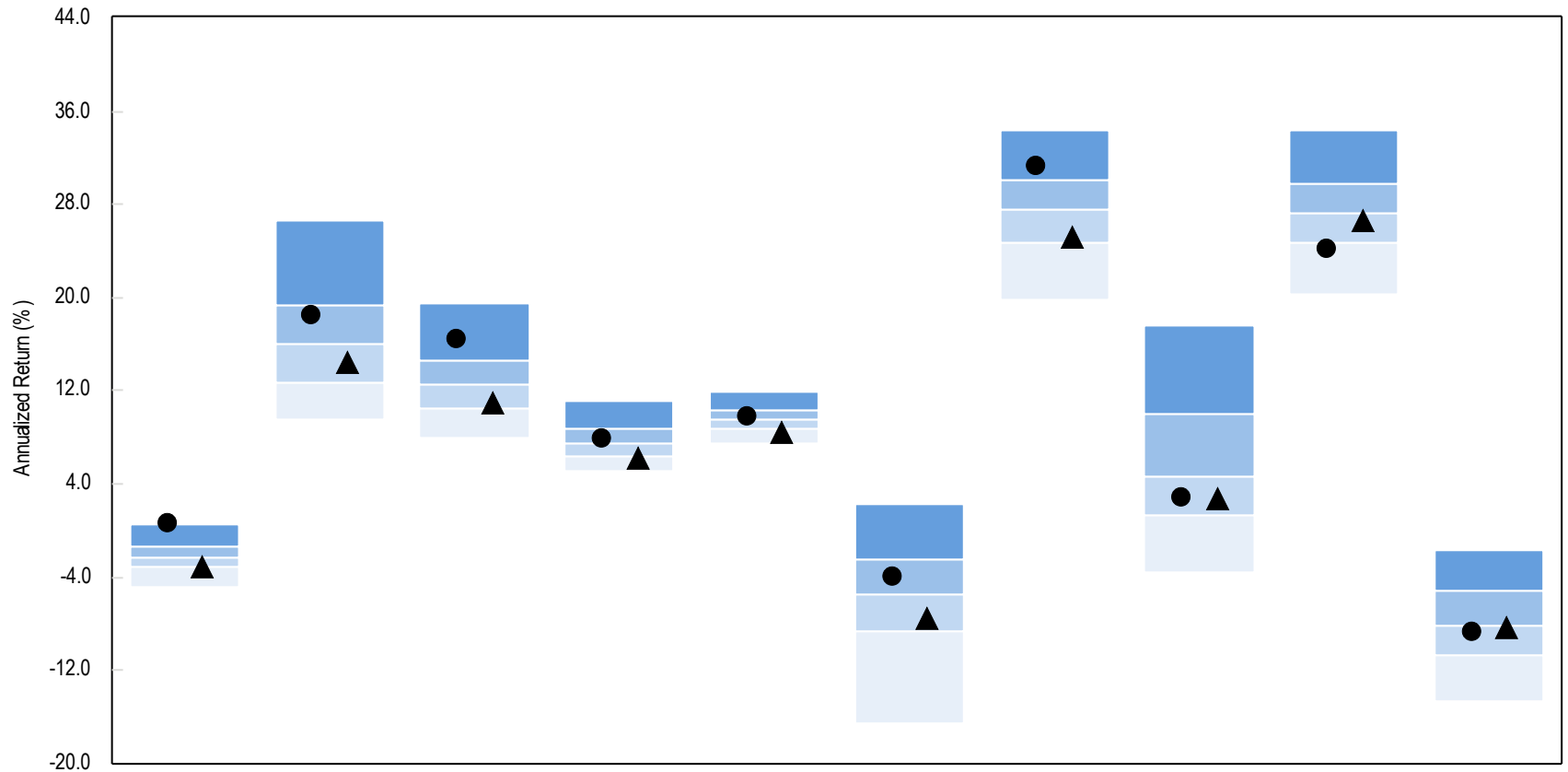
	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Marathon Petroleum Corp	1.47	30.48	0.45
Cenovus Energy Inc	1.32	23.22	0.31
Halliburton Co	1.27	23.25	0.30
Alphabet Inc	3.04	9.32	0.28
Schlumberger Ltd	1.42	19.18	0.27
Dell Technologies Inc	0.95	28.21	0.27
Activision Blizzard Inc	2.00	12.26	0.24
Amgen Inc	1.00	22.03	0.22
Conocophillips	1.25	16.70	0.21
Canadian Natural Resources Ltd	1.28	16.13	0.21
% of Portfolio	15.00		2.75

Top Detractors

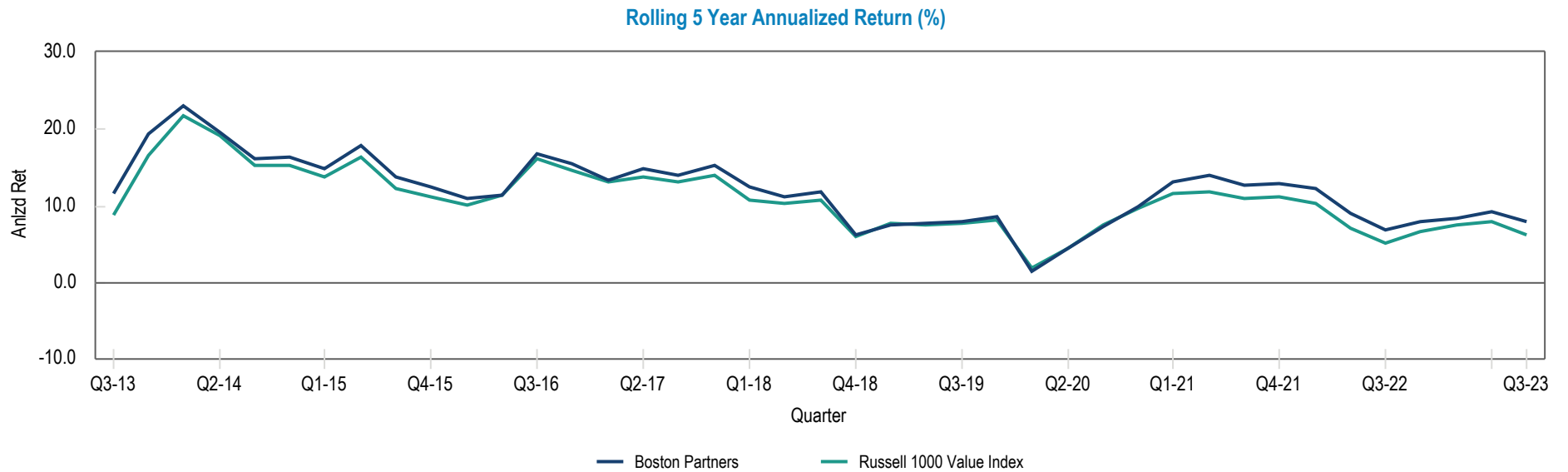
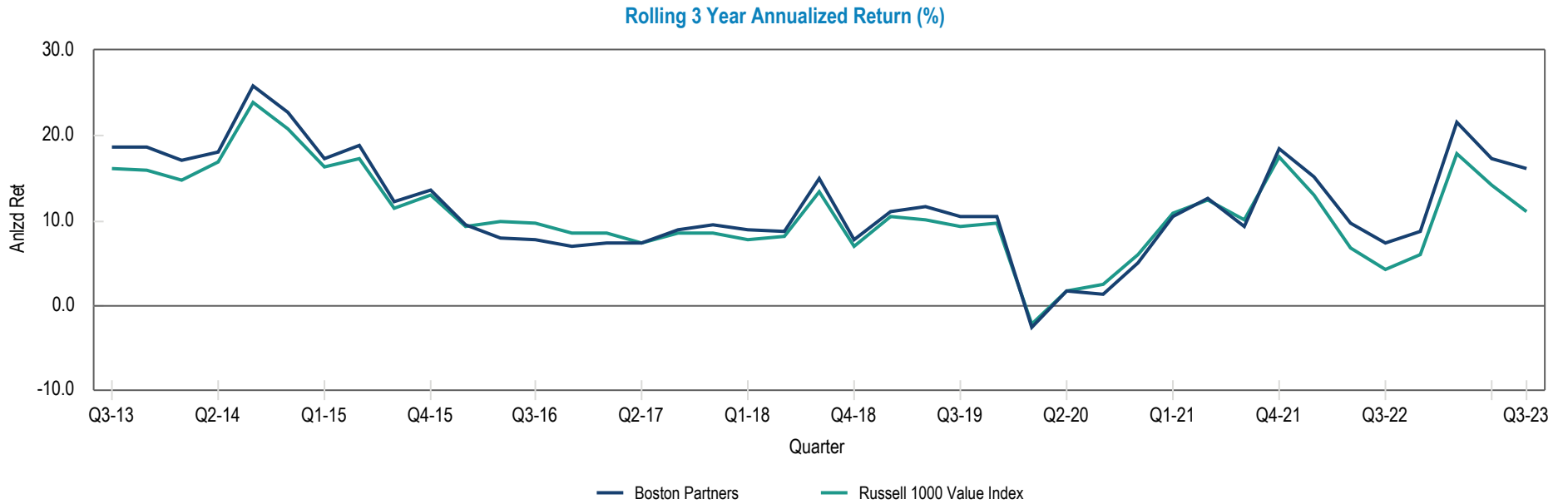
	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Bristol-Myers Squibb Co	2.83	-8.43	-0.24
Omnicom Group Inc	0.85	-20.99	-0.18
Microchip Technology Inc	1.26	-12.44	-0.16
Discover Financial Services	0.58	-25.28	-0.15
Johnson & Johnson	2.68	-5.23	-0.14
LKQ Corporation	0.93	-14.59	-0.14
Advanced Micro Devices Inc	1.23	-9.74	-0.12
Dollar General Corporation	0.31	-37.47	-0.12
US Foods Holding Corp	1.17	-9.77	-0.11
WESCO International Inc	0.59	-19.49	-0.11
% of Portfolio	12.43		-1.46

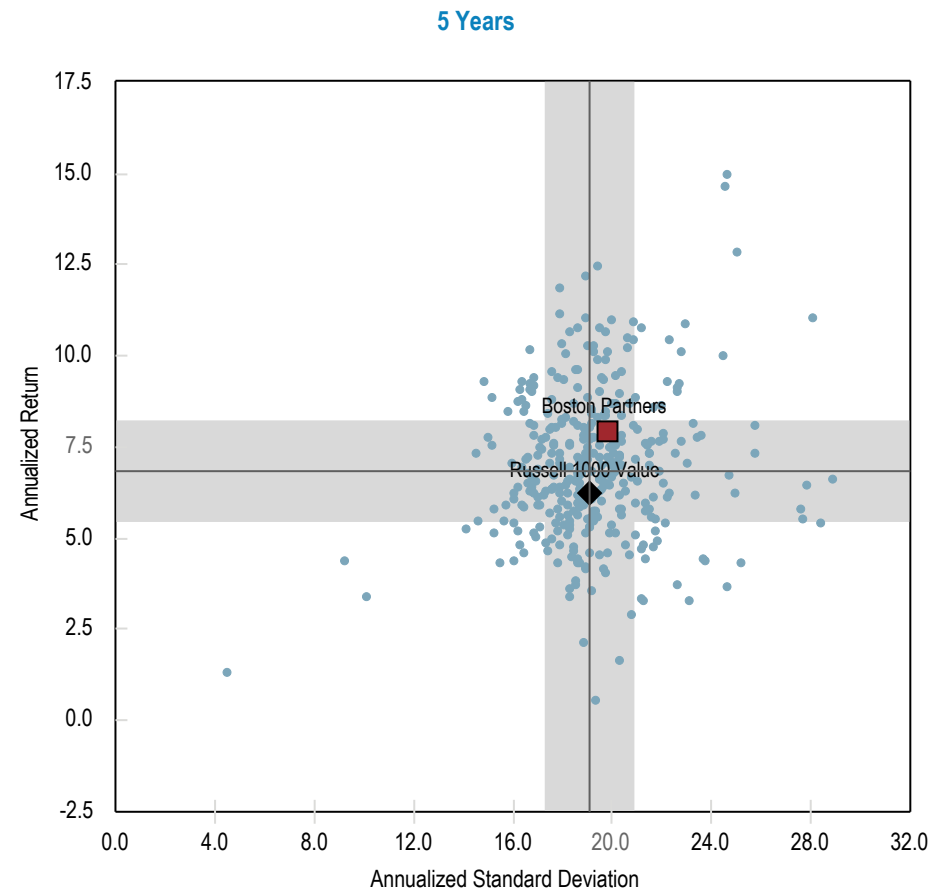
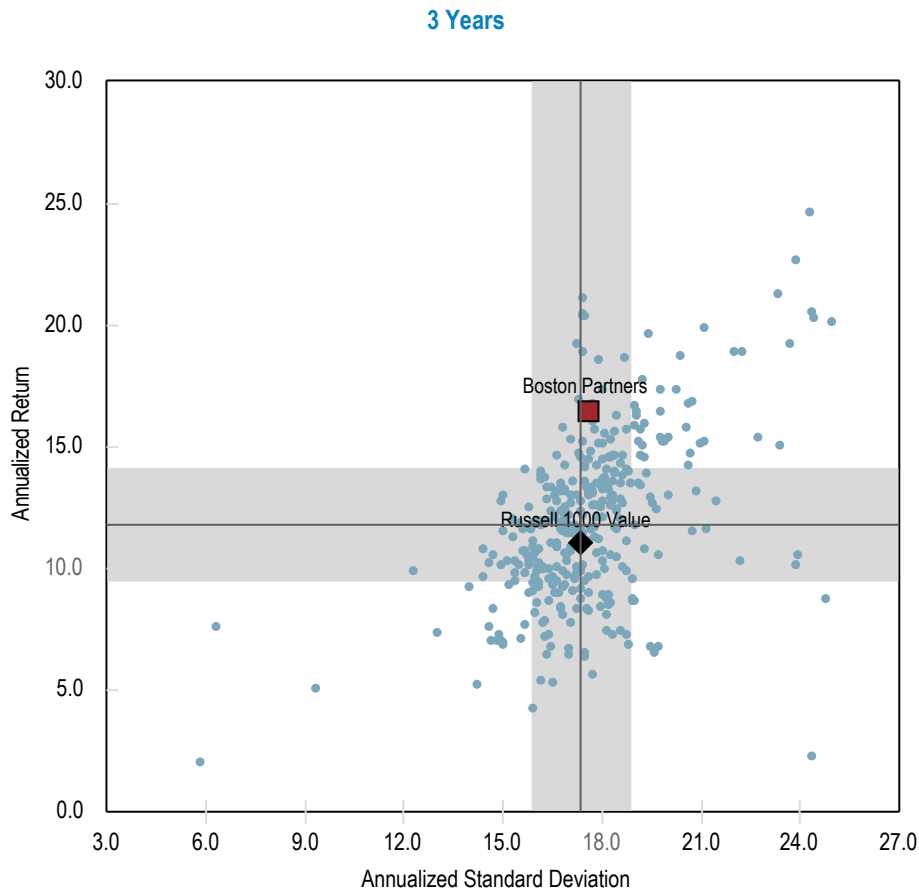
Domestic equity large cap value portfolio exhibiting low turnover in companies with low valuations relative to intrinsic value. Primary personnel include Mark Donovan and David Pyle.

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



	Quarter	1 Year	3 Years	5 Years	10 Years	2022	2021	2020	2019	2018
● Boston Partners	0.78 (3)	18.56 (30)	16.44 (13)	7.96 (41)	9.86 (37)	-3.82 (36)	31.34 (18)	2.96 (63)	24.26 (79)	-8.65 (58)
▲ Russell 1000 Value Index	-3.16 (77)	14.44 (63)	11.05 (68)	6.23 (79)	8.45 (83)	-7.54 (69)	25.16 (73)	2.80 (64)	26.54 (57)	-8.27 (53)
5th Percentile	0.47	26.61	19.46	11.15	11.97	2.35	34.35	17.56	34.32	-1.67
1st Quartile	-1.37	19.31	14.57	8.83	10.27	-2.48	30.14	10.06	29.83	-5.09
Median	-2.27	15.98	12.50	7.45	9.51	-5.43	27.59	4.61	27.19	-8.15
3rd Quartile	-3.12	12.75	10.47	6.42	8.77	-8.57	24.64	1.29	24.73	-10.71
95th Percentile	-4.90	9.55	7.89	5.09	7.53	-16.47	19.87	-3.55	20.37	-14.67
Population	382	381	369	359	324	405	415	422	451	473





3 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Boston Partners	16.4	17.6	0.9
Russell 1000 Value Index	11.1	17.3	0.6
eV US Large Cap Value Equity Median	12.5	17.4	0.7
Population	369	369	369

5 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Boston Partners	8.0	19.8	0.4
Russell 1000 Value Index	6.2	19.1	0.3
eV US Large Cap Value Equity Median	7.4	19.1	0.4
Population	359	359	359

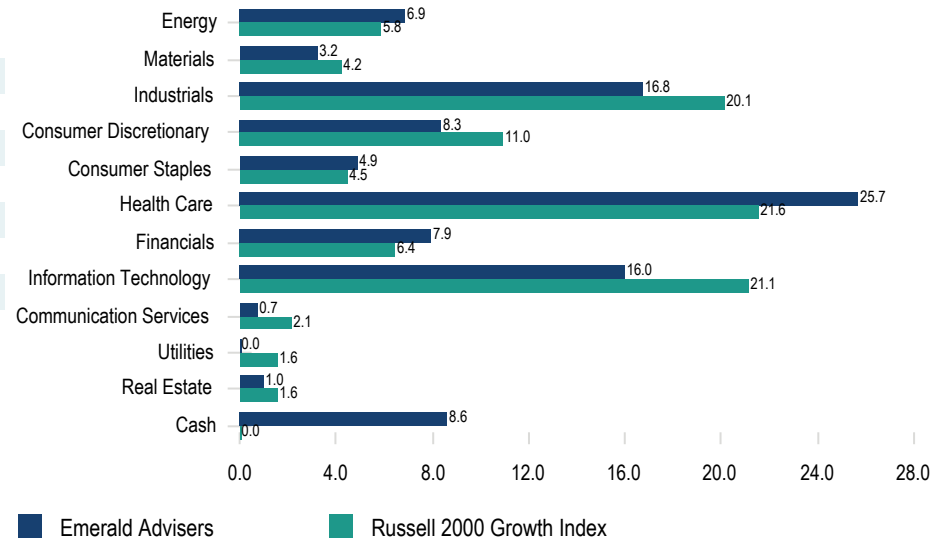
Emerald Advisers
 Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
 Period Ending: September 30, 2023

Characteristics

	Portfolio	Benchmark
Number of Stocks	113	1,084
Wtd. Avg. Mkt. Cap \$M	3,117.71	3,235.53
Median Mkt. Cap \$M	2,298.00	1,098.42
Price/Earnings ratio	20.35	19.75
Price/Book ratio	3.55	3.66
Return on Equity (%)	2.68	-56.84
Current Yield (%)	0.54	0.70
Beta (5 Years, Monthly)	0.96	1.00

Sector Allocation (%) vs. Russell 2000 Growth Index



Largest Holdings

	End Weight (%)	Quarterly Return (%)
Carpenter Technology Corp	2.13	20.16
Chart Industries Inc	1.94	5.84
Super Micro Computer Inc	1.86	10.02
Simply Good Foods Co (The)	1.76	-5.66
Trinet Group Inc	1.72	22.65
Churchill Downs Inc	1.70	-16.62
Tenable Holdings Inc	1.64	2.87
Acadia Pharmaceuticals Inc	1.54	-12.98
Freshpet Inc	1.54	0.11
LivaNova PLC	1.50	2.82

Top Contributors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution To Return (%)
Reata Pharmaceuticals Inc	1.43	69.05	0.98
TETRA Technologies Inc.	0.47	88.76	0.42
Carpenter Technology Corp	1.73	20.16	0.35
Trinet Group Inc	1.37	22.65	0.31
Thorne HealthTech Inc	0.20	116.81	0.24
MACOM Technology Solutions Holdings Inc	0.96	24.49	0.24
Northern Oil and Gas Inc	1.28	18.31	0.23
Super Micro Computer Inc	2.30	10.02	0.23
Cactus Inc	1.10	18.92	0.21
BridgeBio Pharma Inc	0.37	53.31	0.20

Top Detractors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution To Return (%)
Treace Medical Concepts Inc	1.58	-48.75	-0.77
Transmedics Group Inc	1.63	-34.81	-0.57
Docgo Inc	0.93	-43.12	-0.40
Model N Inc	1.30	-30.97	-0.40
Petco Health & Wellness Co Inc	0.64	-54.05	-0.35
Sun Country Airlines Holdings Inc	0.99	-33.99	-0.34
Churchill Downs Inc	1.99	-16.62	-0.33
Planet Fitness Inc	1.21	-27.08	-0.33
PDF Solutions Inc	1.16	-28.16	-0.33
ICU Medical Inc	0.94	-33.21	-0.31

% of Portfolio

11.21

3.40

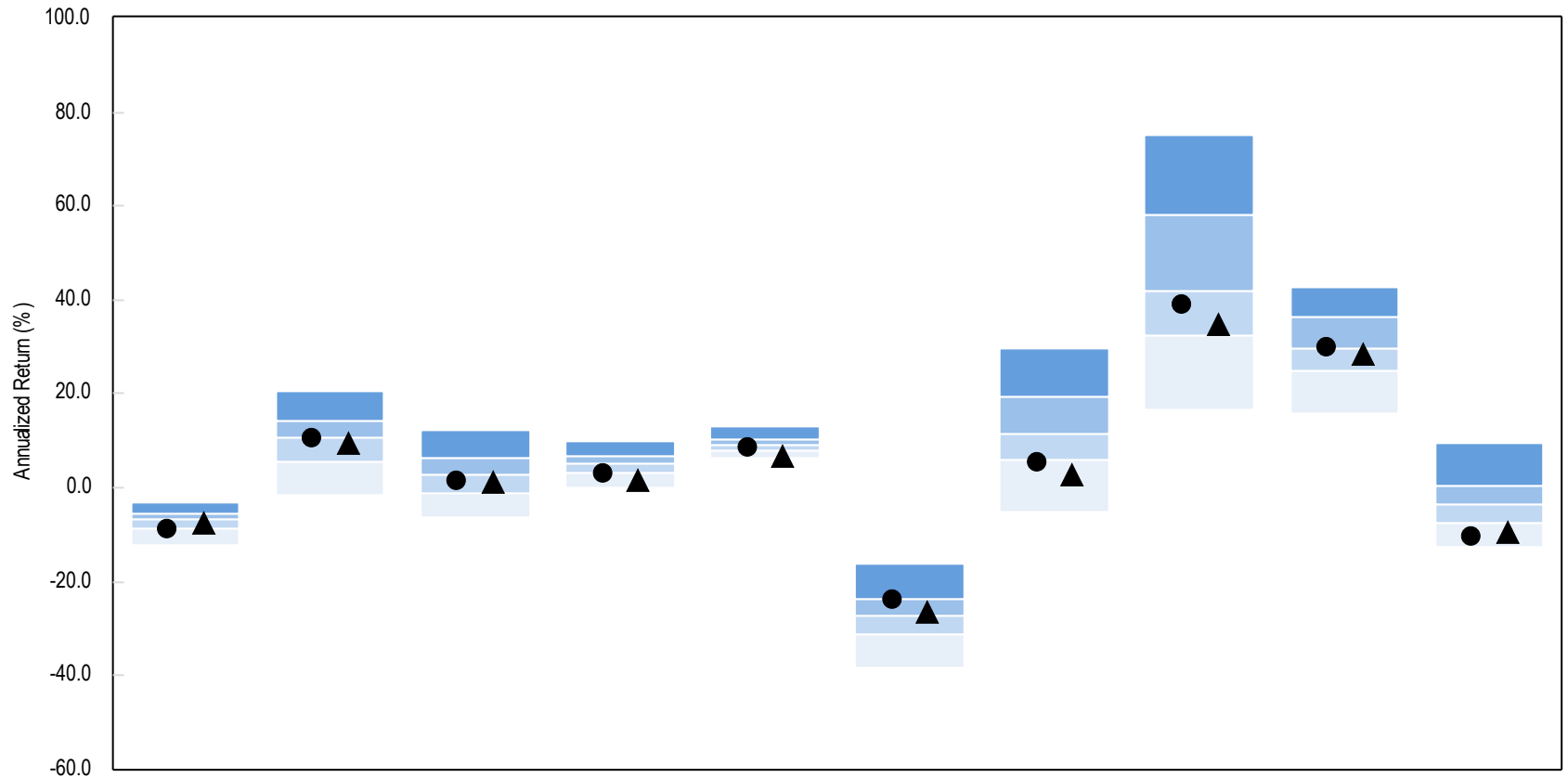
% of Portfolio

12.37

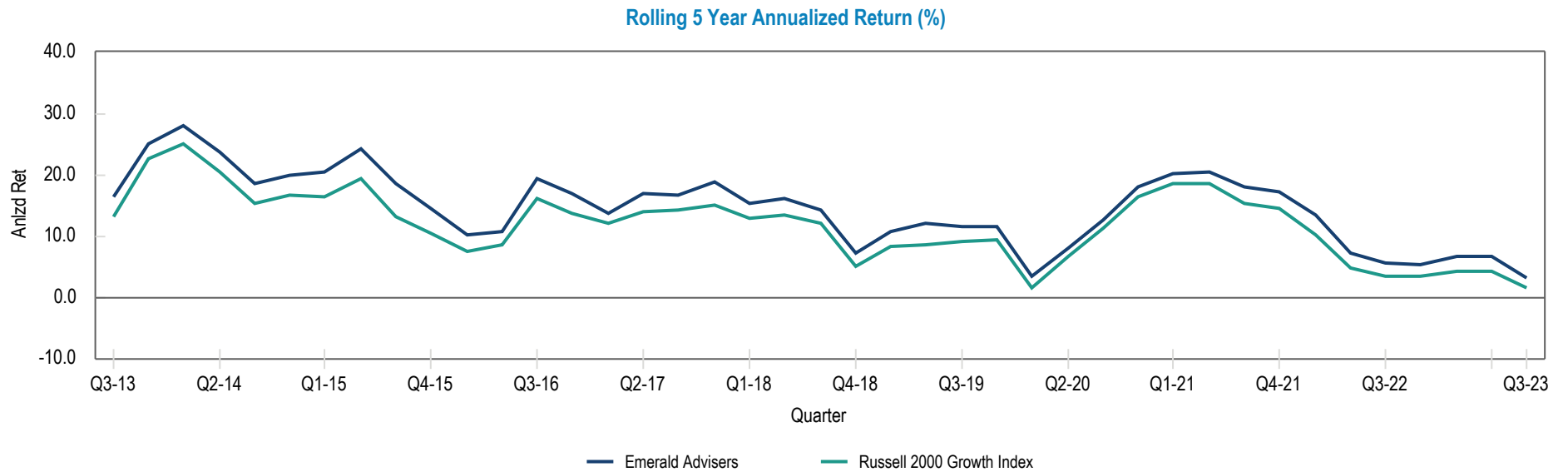
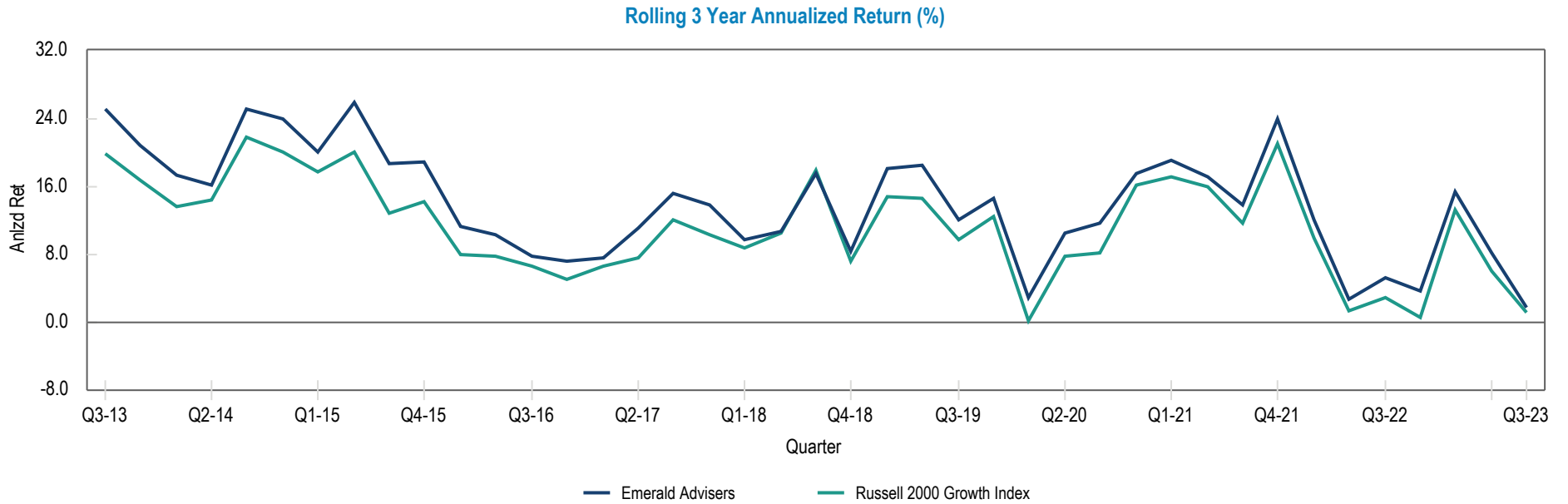
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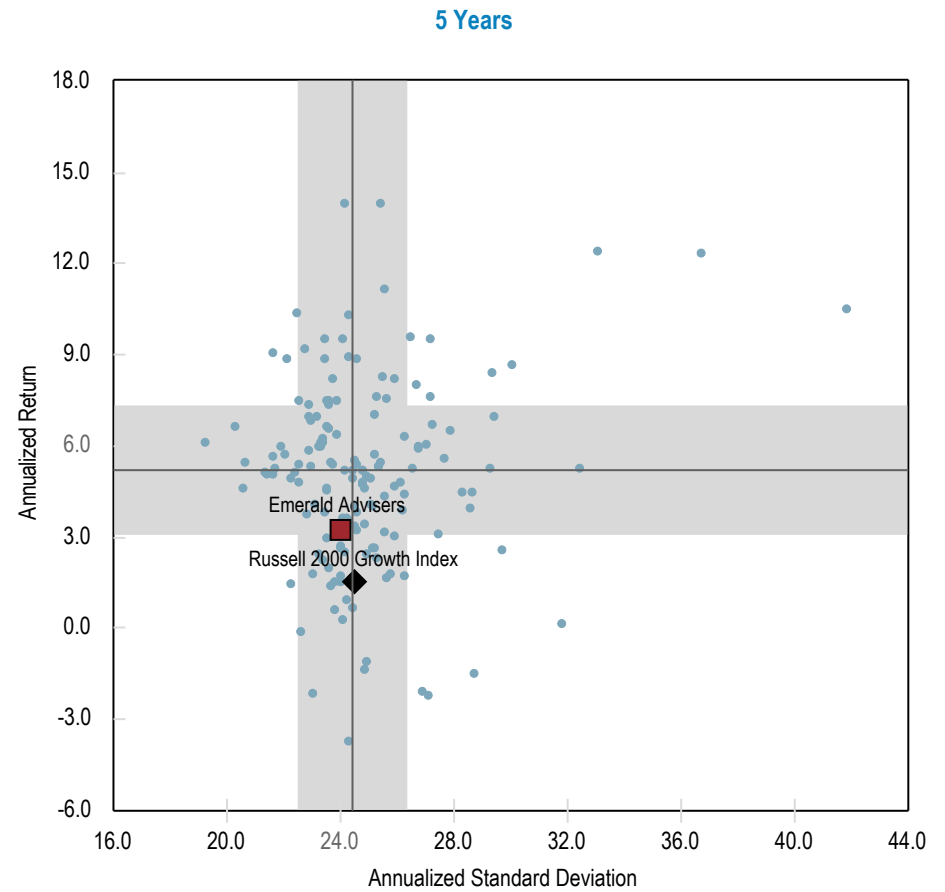
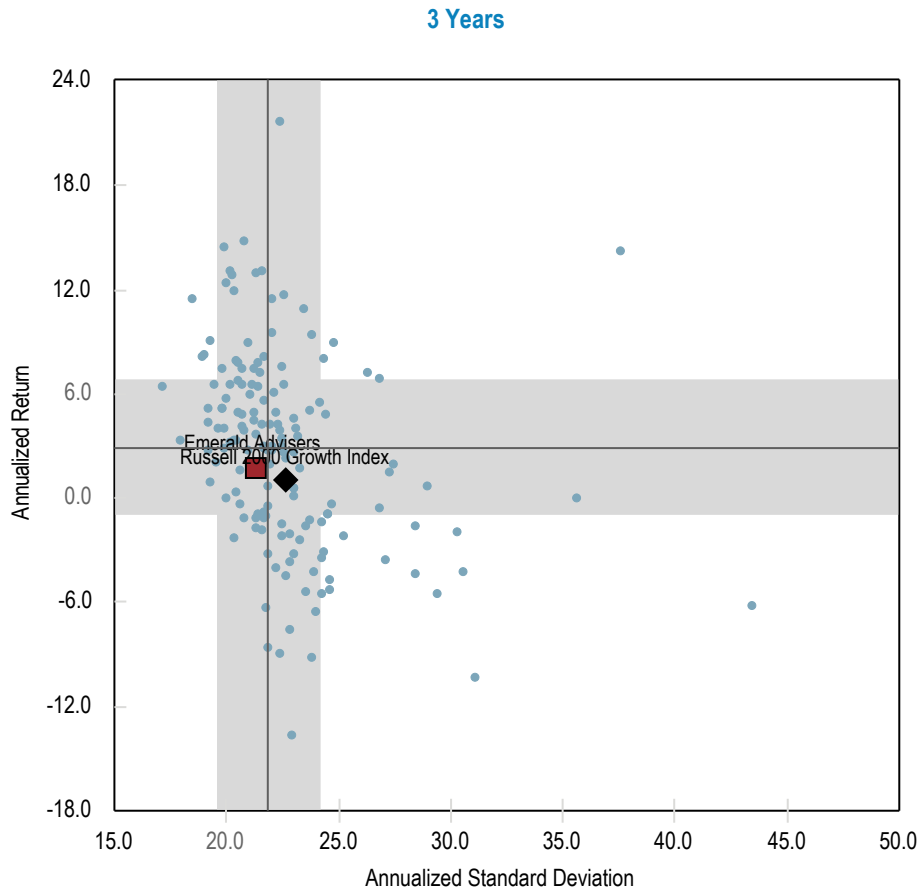
Domestic equity small cap growth portfolio of companies with significantly high growth rates. Primary personnel include Kenneth Mertz, Joseph Garner, and Stacey Sears.

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



	Quarter	1 Year	3 Years	5 Years	10 Years	2022	2021	2020	2019	2018
● Emerald Advisers	-8.50 (76)	10.57 (51)	1.74 (60)	3.27 (75)	8.60 (65)	-23.75 (27)	5.53 (77)	38.96 (57)	30.26 (48)	-10.14 (86)
▲ Russell 2000 Growth Index	-7.32 (63)	9.59 (58)	1.09 (63)	1.55 (89)	6.72 (95)	-26.36 (44)	2.83 (85)	34.63 (67)	28.48 (54)	-9.31 (82)
5th Percentile	-3.26	20.69	12.48	9.88	12.92	-16.19	29.85	74.94	42.84	9.59
1st Quartile	-5.39	14.38	6.45	6.70	10.39	-23.56	19.34	58.29	36.58	0.64
Median	-6.62	10.66	2.91	5.20	9.23	-27.20	11.57	42.06	29.59	-3.65
3rd Quartile	-8.49	5.69	-1.17	3.21	8.13	-31.20	5.90	32.32	24.84	-7.43
95th Percentile	-12.28	-1.72	-6.23	0.07	6.43	-38.40	-5.10	16.54	15.96	-12.50
Population	157	157	156	153	133	170	183	184	191	195





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Emerald Advisers	1.7	21.3	0.1
Russell 2000 Growth Index	1.1	22.6	0.1
eV US Small Cap Growth Equity Median	2.9	21.9	0.2
Population	156	156	156

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Emerald Advisers	3.3	24.0	0.2
Russell 2000 Growth Index	1.6	24.5	0.1
eV US Small Cap Growth Equity Median	5.2	24.4	0.3
Population	153	153	153

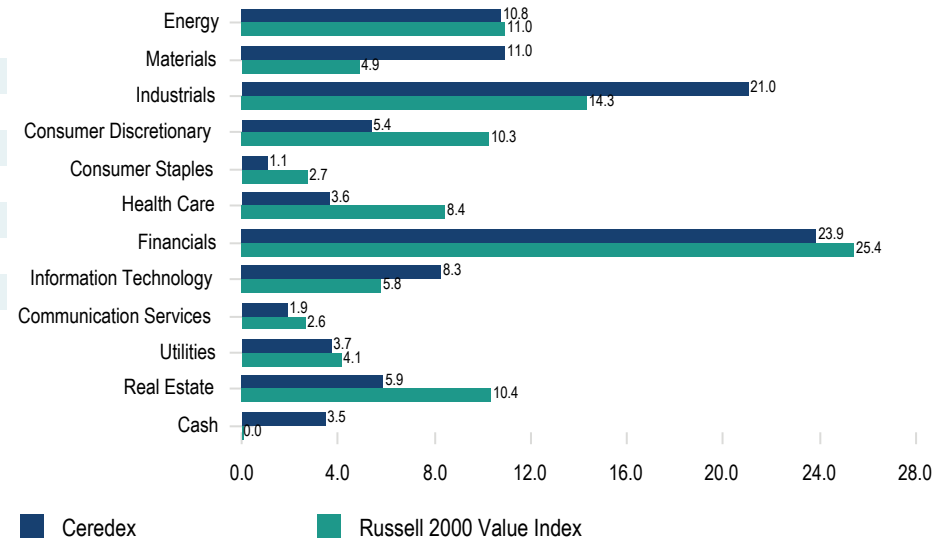
Ceredex
Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

Characteristics

	Portfolio	Benchmark
Number of Stocks	70	1,448
Wtd. Avg. Mkt. Cap \$M	4,606.44	2,389.47
Median Mkt. Cap \$M	4,325.93	718.93
Price/Earnings ratio	14.35	9.42
Price/Book ratio	2.12	1.58
Return on Equity (%)	2.23	1.73
Current Yield (%)	2.53	2.58
Beta (5 Years, Monthly)	0.89	1.00

Sector Allocation (%) vs. Russell 2000 Value Index



Largest Holdings

	End Weight (%)	Quarterly Return (%)
RB Global Inc	2.37	4.65
Ashland Inc	1.99	-5.61
NOV Inc	1.99	30.61
Kemper Corp	1.93	-12.35
KBR Inc	1.88	-9.21
Littelfuse Inc	1.83	-14.89
Cactus Inc	1.82	18.92
Matador Resources Co	1.82	13.98
Perrigo Co Plc	1.81	-5.18
DENTSPLY SIRONA Inc	1.81	-14.29

Top Contributors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
NOV Inc	1.51	30.61	0.46
Vistra Corp	1.56	27.19	0.42
Ovintiv Inc	1.39	25.73	0.36
Bank of Hawaii Corp	1.45	22.09	0.32
Carpenter Technology Corp	1.49	20.16	0.30
Cactus Inc	1.52	18.92	0.29
Pinnacle Financial Partners Inc	1.49	18.69	0.28
Championx Corp	1.56	15.07	0.23
Autoliv Inc	1.44	14.21	0.21
Perella Weinberg Partners	0.75	23.01	0.17

Top Detractors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Forward Air Corp	1.29	-34.98	-0.45
Algonquin Power & Utilities Corp	1.61	-27.09	-0.44
Power Integrations Inc	1.96	-19.21	-0.38
Macy's Inc	1.11	-26.61	-0.30
Louisiana-Pacific Corp	1.01	-26.01	-0.26
Valmont Industries Inc	1.49	-17.26	-0.26
Timken Co (The)	1.30	-19.37	-0.25
DENTSPLY SIRONA Inc	1.76	-14.29	-0.25
Littelfuse Inc	1.56	-14.89	-0.23
Agree Realty Corp	1.58	-14.50	-0.23

% of Portfolio

14.16

3.05

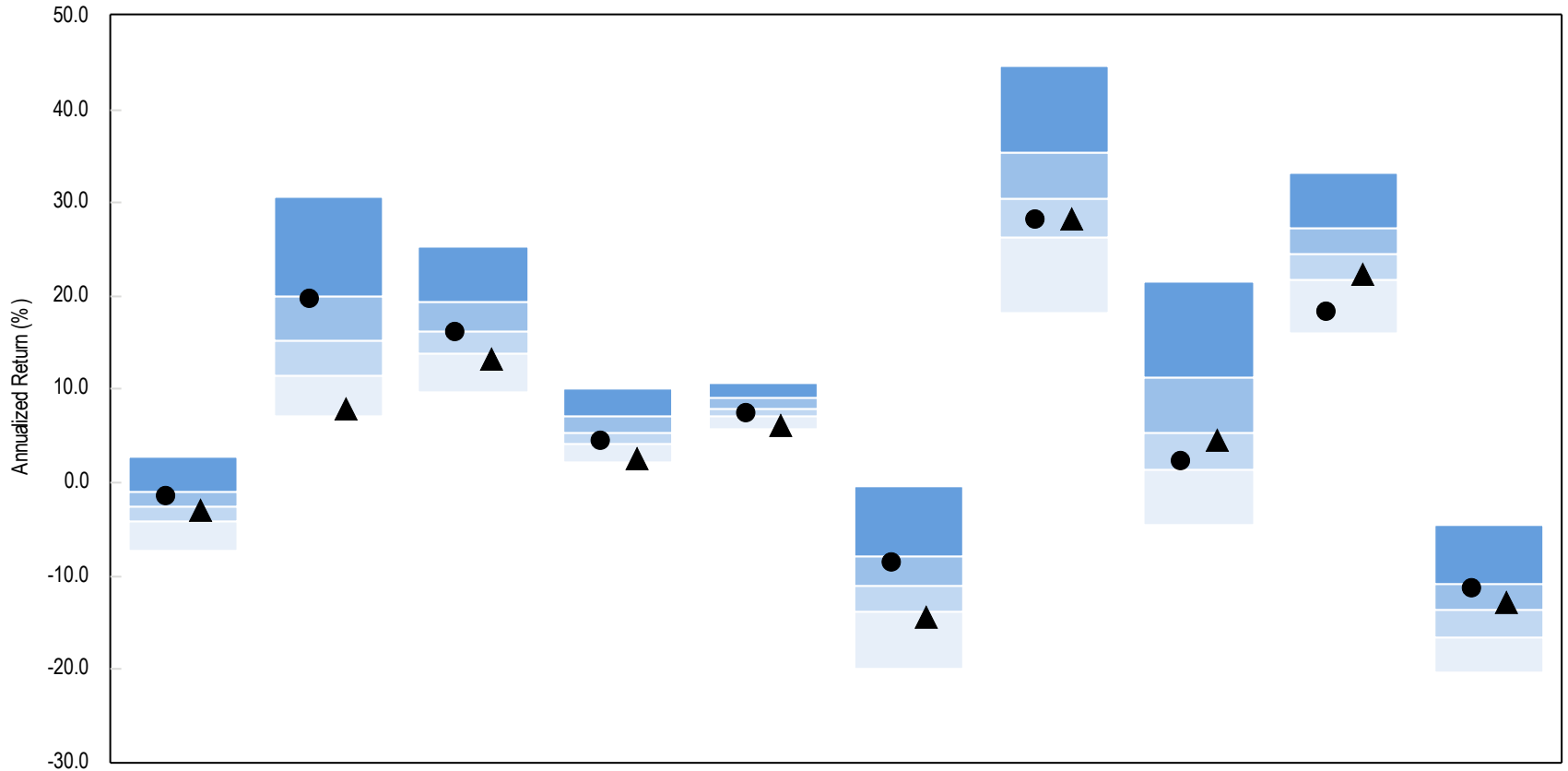
% of Portfolio

14.67

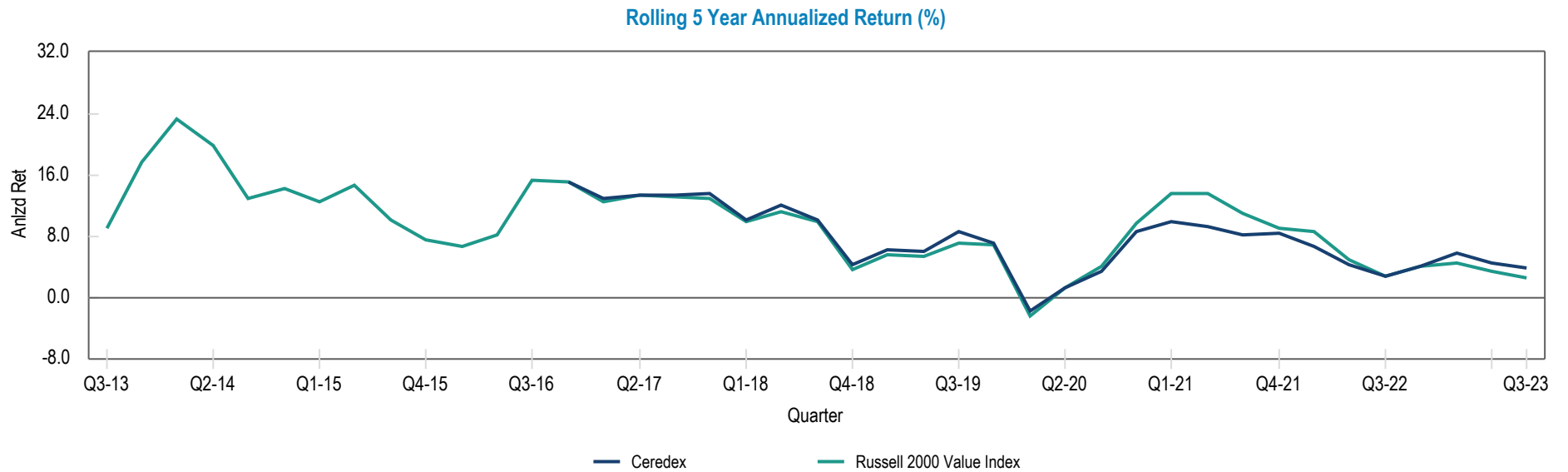
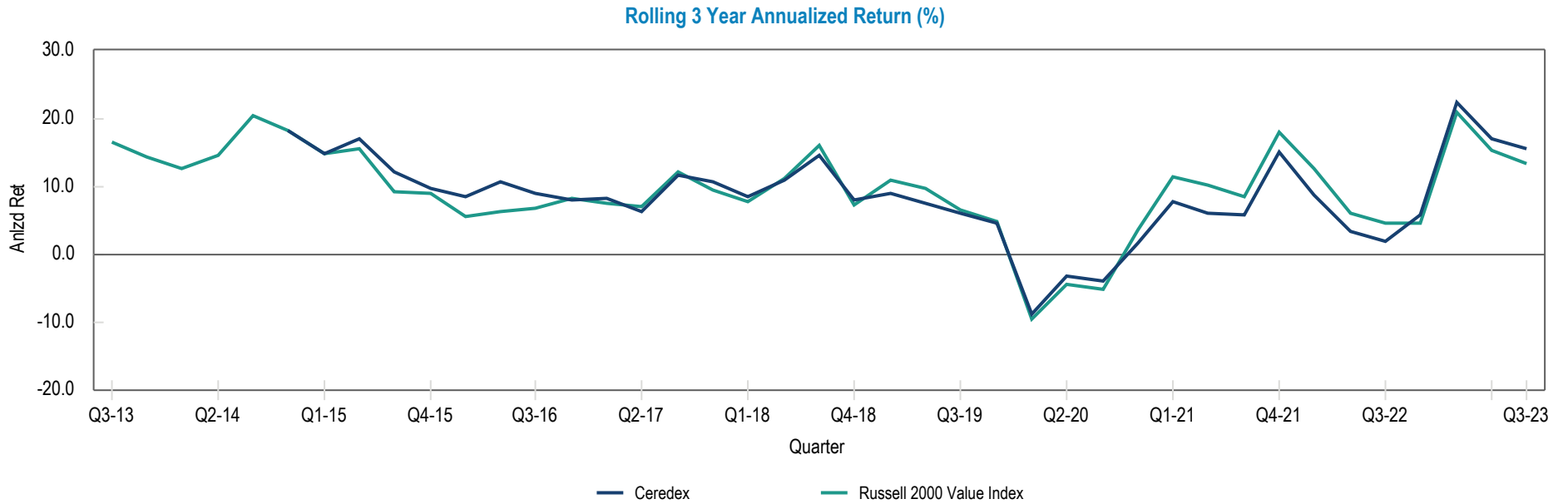
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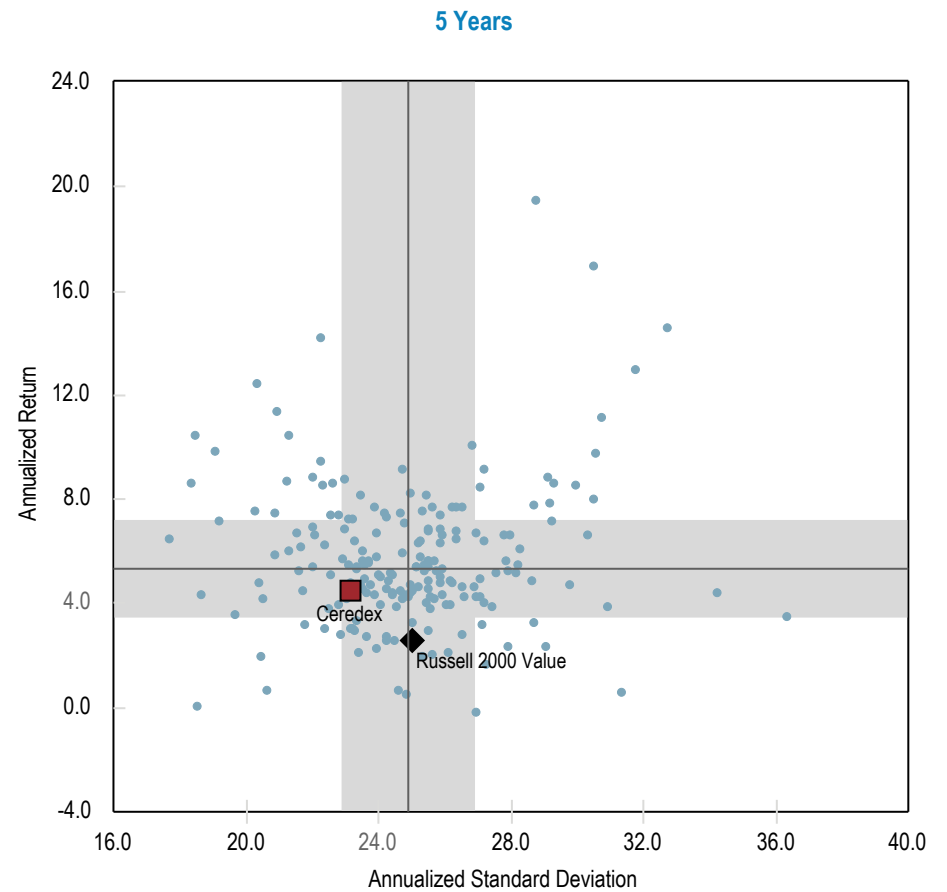
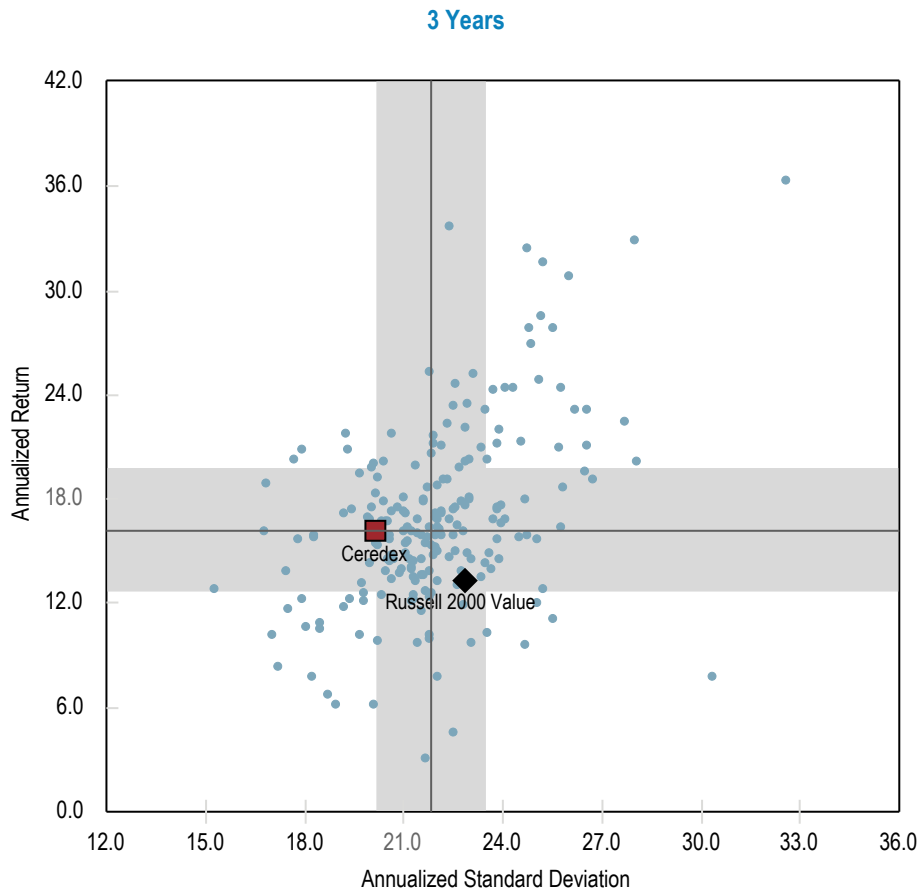
Domestic equity small cap value portfolio of companies with dividend yields and low valuations. Primary personnel include Brett Barner and David Maynard.

Ceredex vs. eV US Small Cap Value Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2022	2021	2020	2019	2018
● Ceredex	-1.41 (35)	19.79 (26)	16.19 (51)	4.49 (68)	7.58 (65)	-8.46 (27)	28.37 (60)	2.32 (70)	18.36 (88)	-11.32 (29)
▲ Russell 2000 Value Index	-2.96 (57)	7.84 (93)	13.32 (80)	2.59 (93)	6.19 (91)	-14.48 (78)	28.27 (60)	4.63 (54)	22.39 (71)	-12.86 (42)
5th Percentile	2.82	30.65	25.31	10.16	10.69	-0.36	44.60	21.48	33.29	-4.55
1st Quartile	-0.90	19.94	19.39	7.14	9.02	-7.91	35.31	11.22	27.36	-10.83
Median	-2.54	15.26	16.20	5.32	7.90	-11.05	30.49	5.33	24.43	-13.65
3rd Quartile	-4.13	11.51	13.86	4.23	7.10	-13.89	26.25	1.35	21.69	-16.61
95th Percentile	-7.29	7.23	9.79	2.11	5.75	-19.92	18.16	-4.59	15.95	-20.38
Population	208	208	207	198	175	218	231	245	253	264





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Ceredex	16.2	20.2	0.8
Russell 2000 Value Index	13.3	22.8	0.6
eV US Small Cap Value Equity Median	16.2	21.8	0.7
Population	207	207	207

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Ceredex	4.5	23.2	0.2
Russell 2000 Value Index	2.6	25.1	0.2
eV US Small Cap Value Equity Median	5.3	24.9	0.3
Population	198	198	198

International Equity Managers

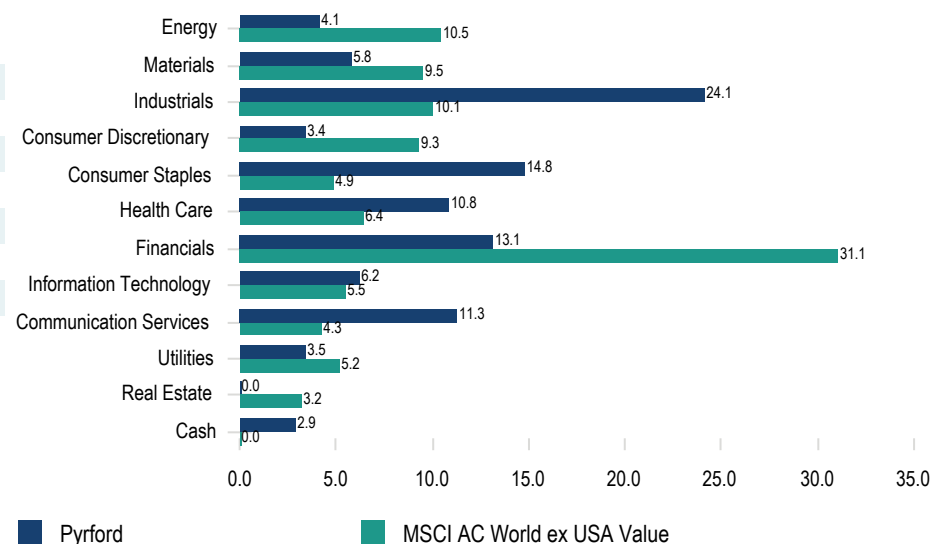
Pyrford Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2023

Characteristics

	Portfolio	Benchmark
Number of Stocks	76	1,354
Wtd. Avg. Mkt. Cap \$M	53,548.33	63,383.89
Median Mkt. Cap \$M	21,374.72	8,618.28
Price/Earnings ratio	14.72	9.47
Price/Book ratio	2.26	1.67
Return on Equity (%)	4.80	3.12
Current Yield (%)	4.32	4.78
Beta (5 Years, Monthly)	0.75	1.00

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



Largest Holdings

	End Weight (%)	Quarterly Return (%)
Japan Tobacco Inc	2.74	5.67
Nestle SA, Cham Und Vevey	2.51	-5.71
United Overseas Bank Ltd	2.51	3.90
Kddi Corp	2.31	1.15
Novartis AG	2.28	2.00
Mitsubishi Electric Corp	2.24	-10.70
Telenor ASA	2.21	12.44
Singapore Telecommunications	2.21	-0.98
Brambles Ltd	2.14	-2.23
Roche Holding AG	2.03	-10.44

Top Contributors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Japan Tobacco Inc	3.02	5.67	0.17
Telenor ASA	1.36	12.44	0.17
Toyota Tsusho Corp	0.81	20.76	0.17
Computershare Ltd Cpu	1.78	9.42	0.17
Comfordelgro Corporation Ltd	1.19	13.72	0.16
Sumitomo Rubber Industries Ltd	1.06	14.71	0.16
BP plc	0.82	12.60	0.10
United Overseas Bank Ltd	2.41	3.90	0.09
Woodside Energy Group Ltd	1.37	6.16	0.08
Malayan Banking Bhd Maybank	1.80	4.57	0.08

% of Portfolio

15.62

1.36

Top Detractors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
AIA Group Ltd	1.60	-18.71	-0.30
Deutsche Post AG	1.77	-16.40	-0.29
Mitsubishi Electric Corp	2.46	-10.70	-0.26
Roche Holding AG	2.19	-10.44	-0.23
Nabtesco Corp	1.09	-17.32	-0.19
Kone OYJ	0.98	-19.01	-0.19
Essity Aktiebolag	0.98	-18.31	-0.18
Fielmann Group AG	1.01	-17.48	-0.18
National Grid plc	1.73	-9.58	-0.17
Taiwan Semiconductor Man.	1.31	-11.92	-0.16

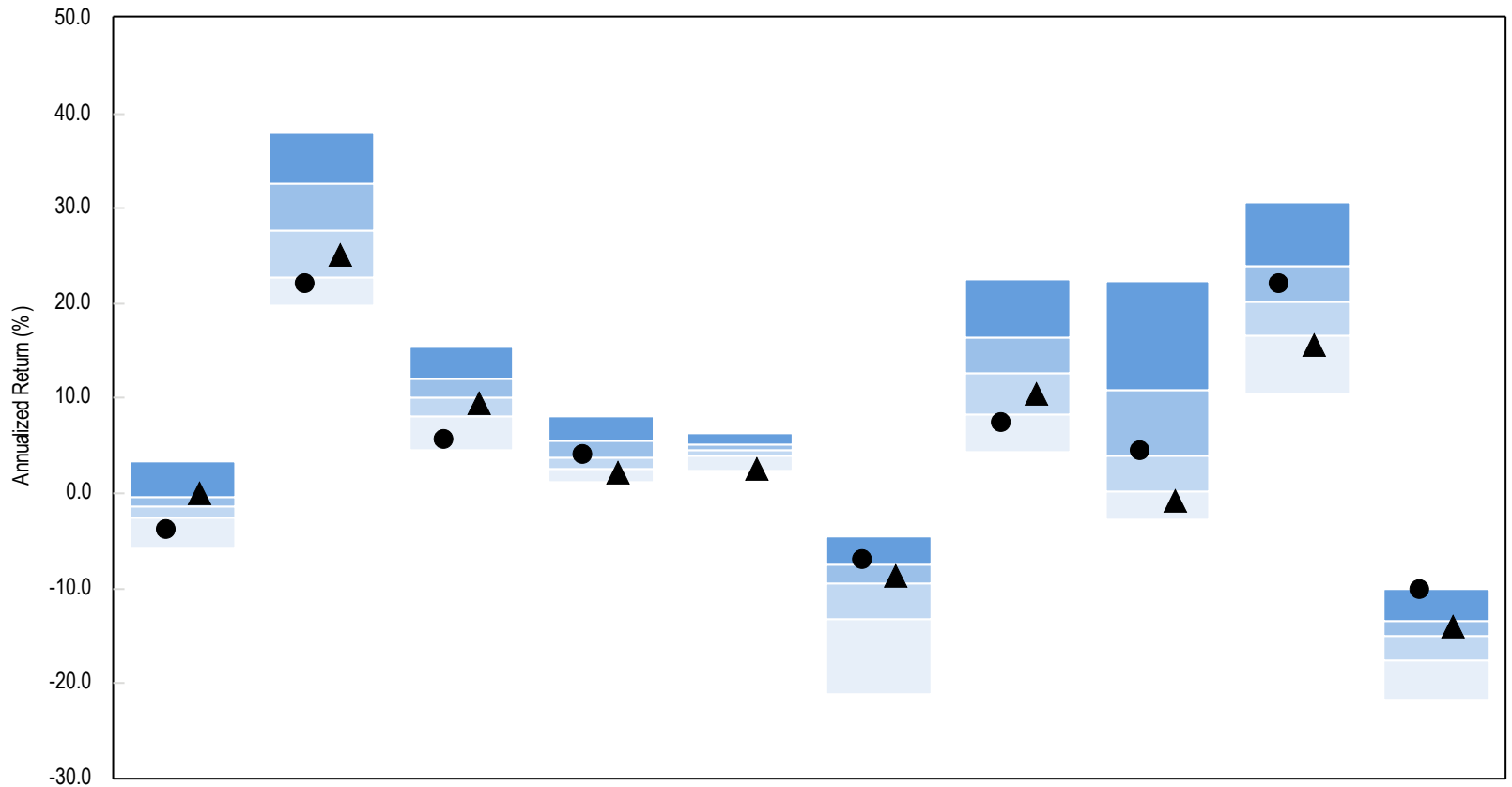
% of Portfolio

15.12

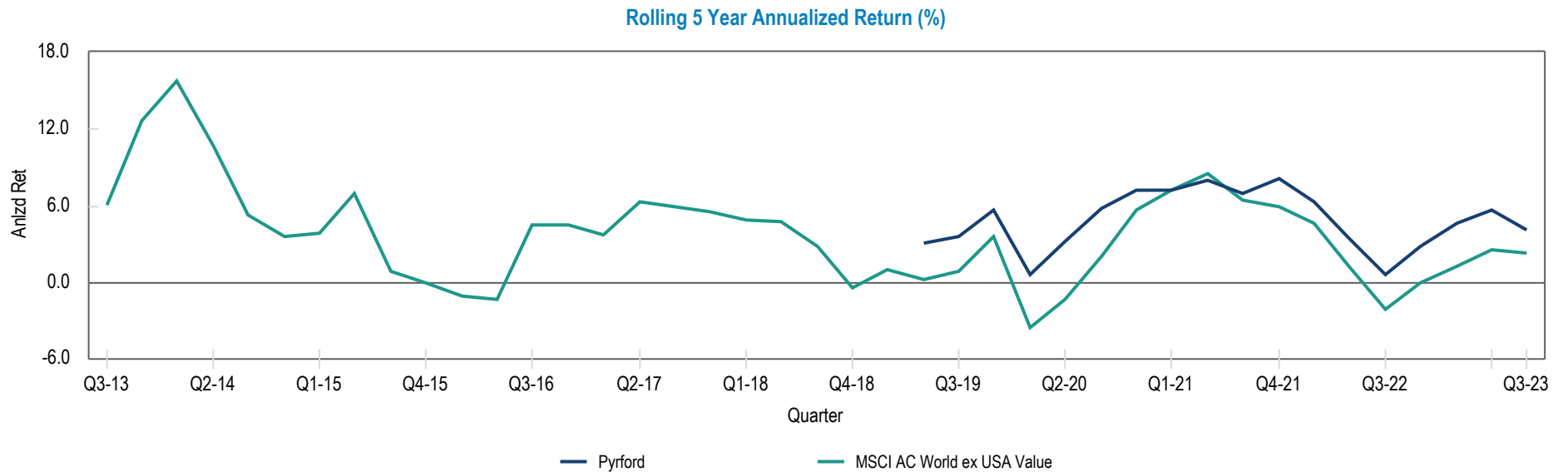
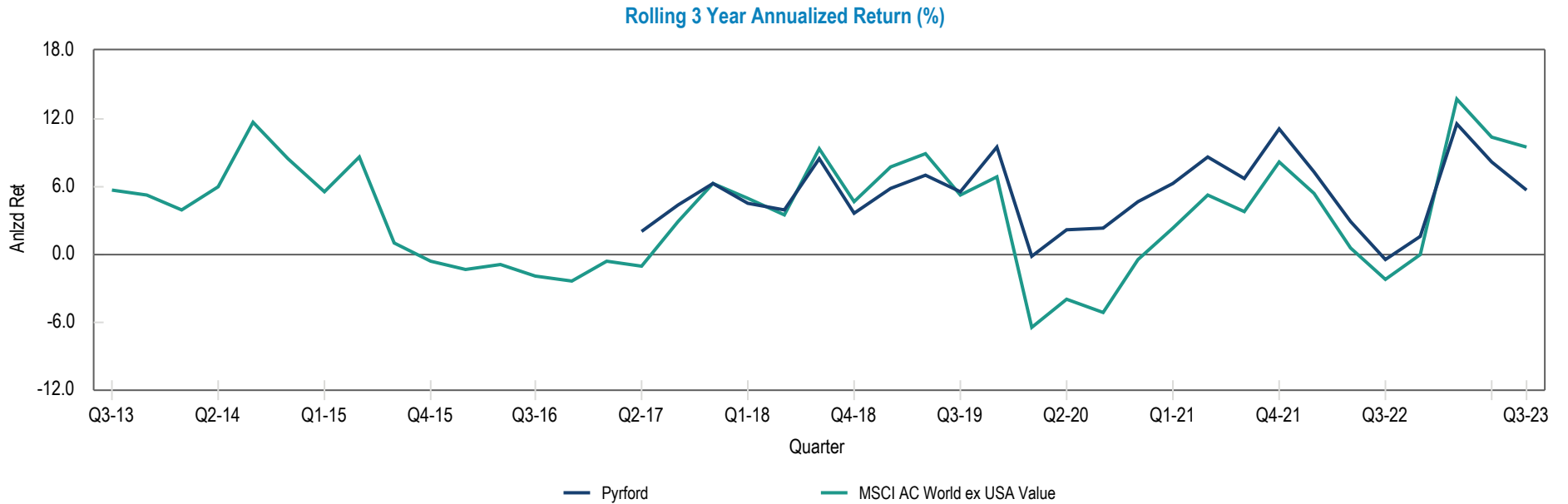
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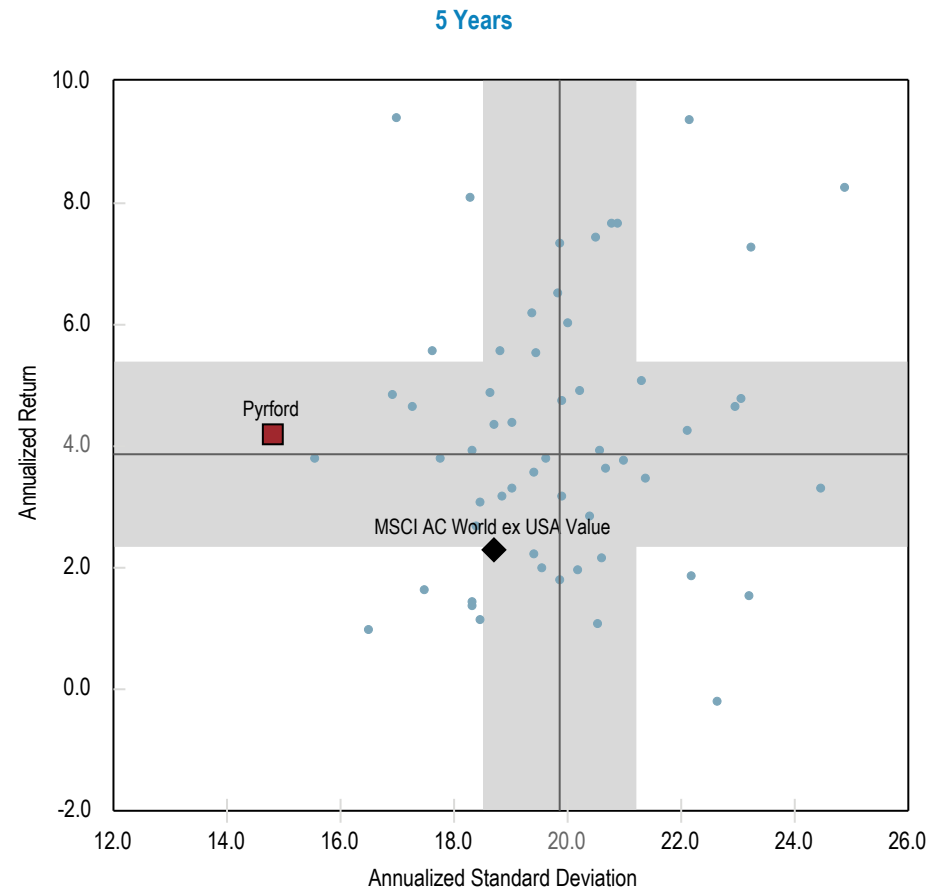
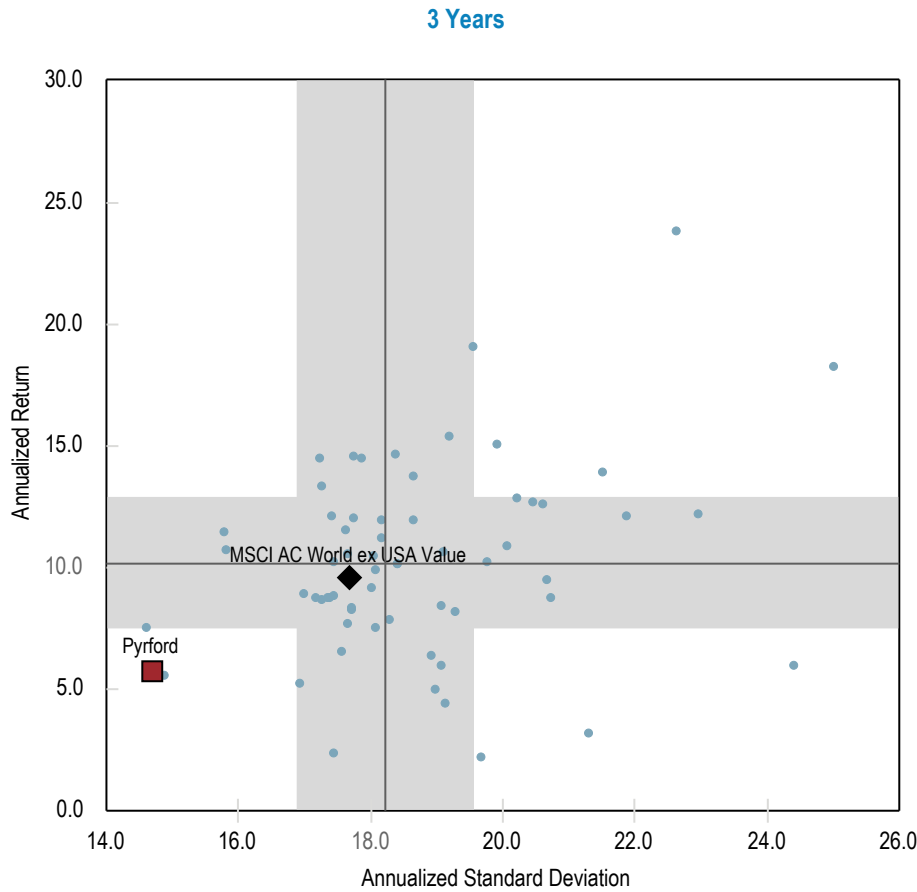
International equity value portfolio of non-US companies with low valuations at the country and stock level. Primary personnel include Tony Cousins, Daniel McDonagh, and Paul Simons.

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



	Quarter	1 Year	3 Years	5 Years	10 Years	2022	2021	2020	2019	2018
● Pyrford	-3.74 (83)	22.22 (79)	5.72 (90)	4.19 (46)	-	-6.97 (20)	7.57 (84)	4.66 (48)	22.07 (38)	-10.15 (6)
▲ MSCI AC World ex USA Value (Net)	-0.07 (22)	25.17 (62)	9.57 (56)	2.29 (77)	2.58 (88)	-8.59 (40)	10.46 (66)	-0.77 (80)	15.72 (78)	-13.97 (31)
5th Percentile	3.40	37.88	15.41	8.13	6.35	-4.61	22.61	22.27	30.57	-10.04
1st Quartile	-0.34	32.55	12.17	5.54	5.14	-7.53	16.46	10.79	24.00	-13.41
Median	-1.42	27.61	10.20	3.87	4.50	-9.50	12.69	3.91	20.24	-15.08
3rd Quartile	-2.47	22.71	8.21	2.59	3.90	-13.18	8.35	0.30	16.62	-17.58
95th Percentile	-5.67	19.70	4.49	1.13	2.39	-21.01	4.34	-2.66	10.49	-21.69
Population	65	65	62	56	36	66	69	70	68	67





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Pyrford	5.7	14.7	0.3
MSCI AC World ex USA Value (Net)	9.6	17.7	0.5
eV ACWI ex-US Value Equity Median	10.2	18.2	0.5
Population	62	62	62

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Pyrford	4.2	14.8	0.2
MSCI AC World ex USA Value (Net)	2.3	18.7	0.1
eV ACWI ex-US Value Equity Median	3.9	19.8	0.2
Population	56	56	56

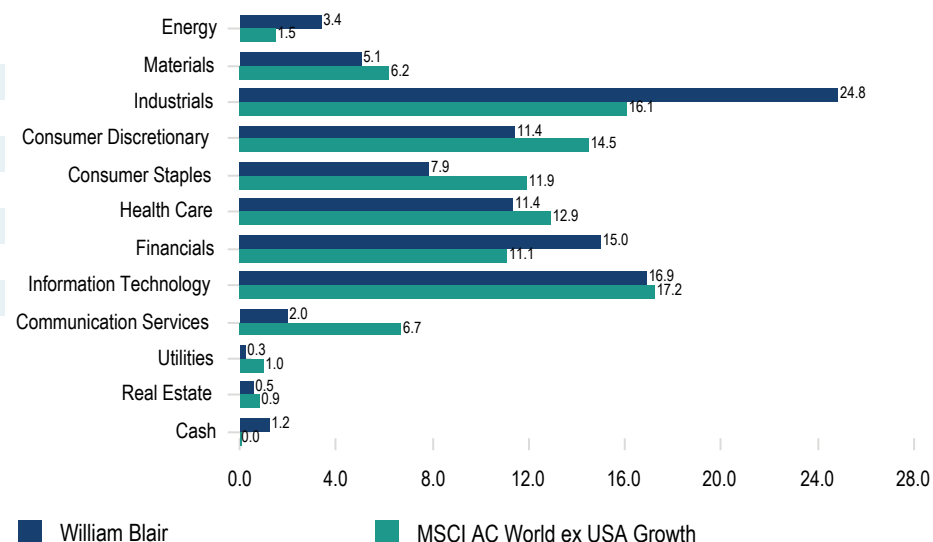
William Blair
Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

Characteristics

	Portfolio	Benchmark
Number of Stocks	181	1,304
Wtd. Avg. Mkt. Cap \$M	75,554.92	101,630.96
Median Mkt. Cap \$M	11,524.27	8,944.95
Price/Earnings ratio	21.37	20.10
Price/Book ratio	3.64	3.37
Return on Equity (%)	7.51	7.51
Current Yield (%)	1.90	1.94
Beta (5 Years, Monthly)	1.05	1.00

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



Largest Holdings

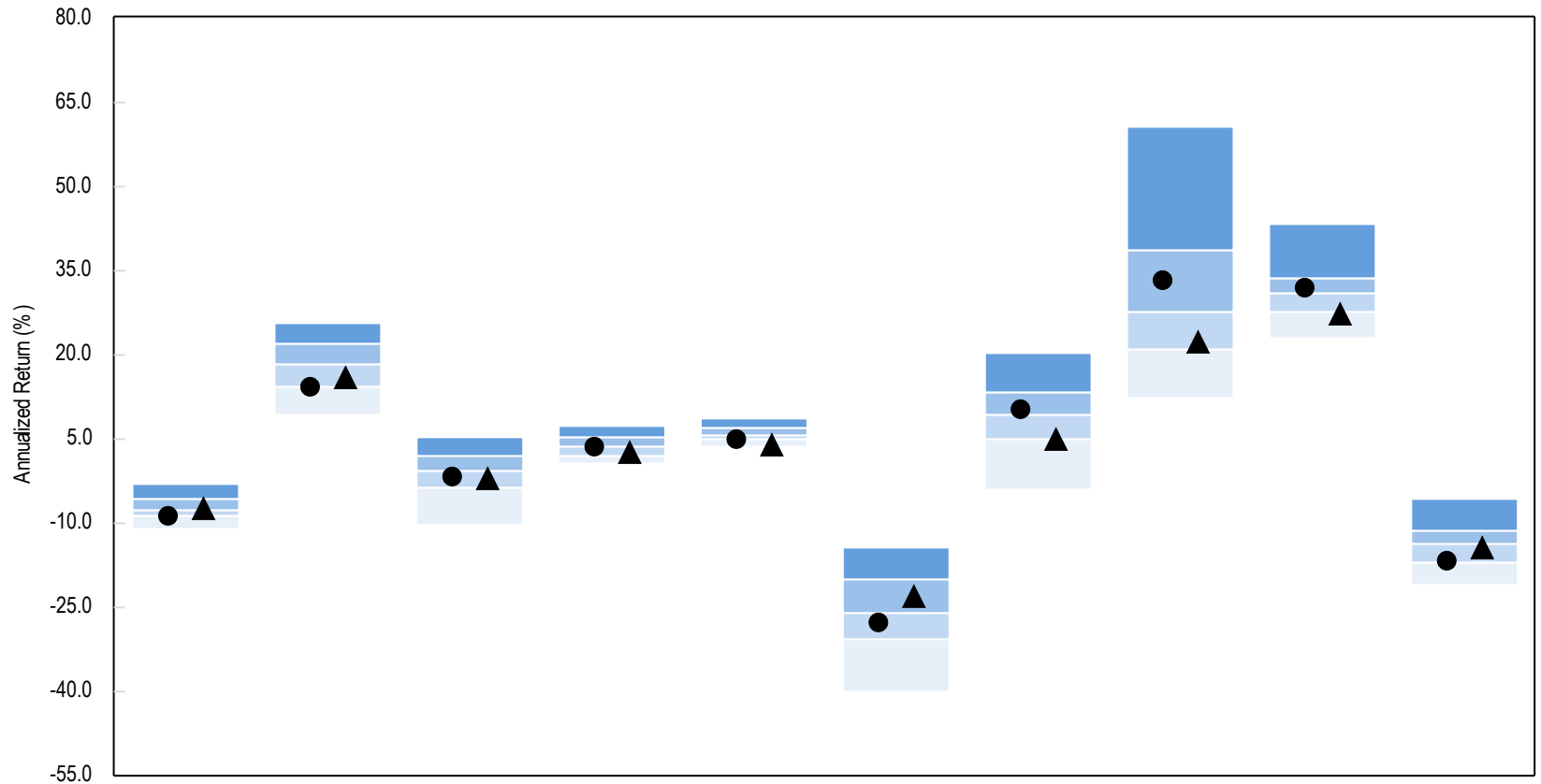
Top Contributors

Top Detractors

	End Weight (%)	Quarterly Return (%)		Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)		Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Novo Nordisk A/S	2.14	14.05	Novo Nordisk A/S	1.77	14.05	0.25	MTU Aero Engines AG	1.39	-29.79	-0.41
Taiwan Semiconductor Man.	1.80	-13.45	Partners Group AG	0.53	20.21	0.11	ASML Holding NV	2.01	-17.98	-0.36
ASML Holding NV	1.75	-17.98	TotalEnergies SE	0.46	16.43	0.08	Adyen N.V	0.58	-56.81	-0.33
Astrazeneca PLC	1.61	-4.87	Disco Corp	0.37	18.44	0.07	Keyence Corp	1.56	-20.57	-0.32
Linde Plc	1.60	-1.97	Kingspan Group PLC	0.48	13.48	0.06	Amadeus IT Group SA	1.57	-19.36	-0.30
DSV A/S	1.53	-10.81	Pro Medicus Ltd	0.23	23.46	0.05	Hexagon AB	1.00	-30.07	-0.30
TotalEnergies SE	1.52	16.43	Parkland Corp	0.26	18.85	0.05	LVMH Moet Hennessy Louis V	1.48	-19.44	-0.29
Canadian Pacific Kansas City Ltd	1.48	-7.70	DBS Group Holdings Ltd	0.64	7.37	0.05	Daikin Industries Ltd	1.27	-21.91	-0.28
London Stock Exchange Group	1.44	-5.09	Kweichow Moutai Co Ltd	0.66	5.78	0.04	LONZA GROUP AG	1.24	-21.97	-0.27
Compass Group PLC	1.42	-12.80	MercadoLibre Inc	0.49	7.03	0.03	Taiwan Semiconductor Man.	1.96	-13.45	-0.26
			% of Portfolio	5.89		0.79	% of Portfolio	14.06		-3.13

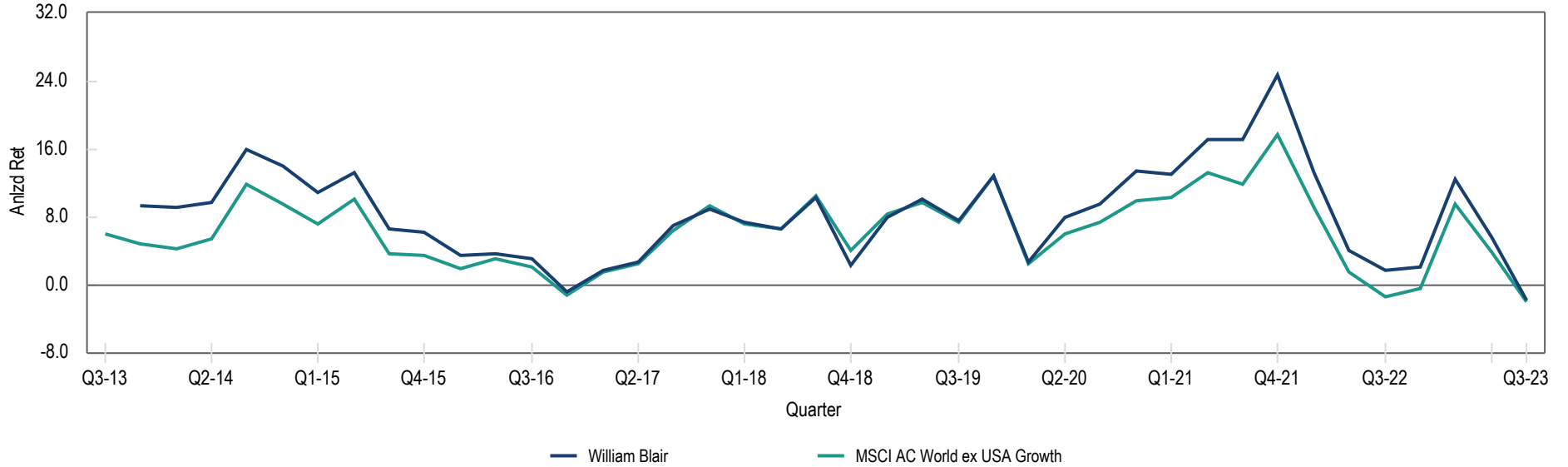
International equity growth portfolio of non-US companies with high growth rates constructed from the security level. Primary personnel include Simon Fennell and Kenneth McAtamney.

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

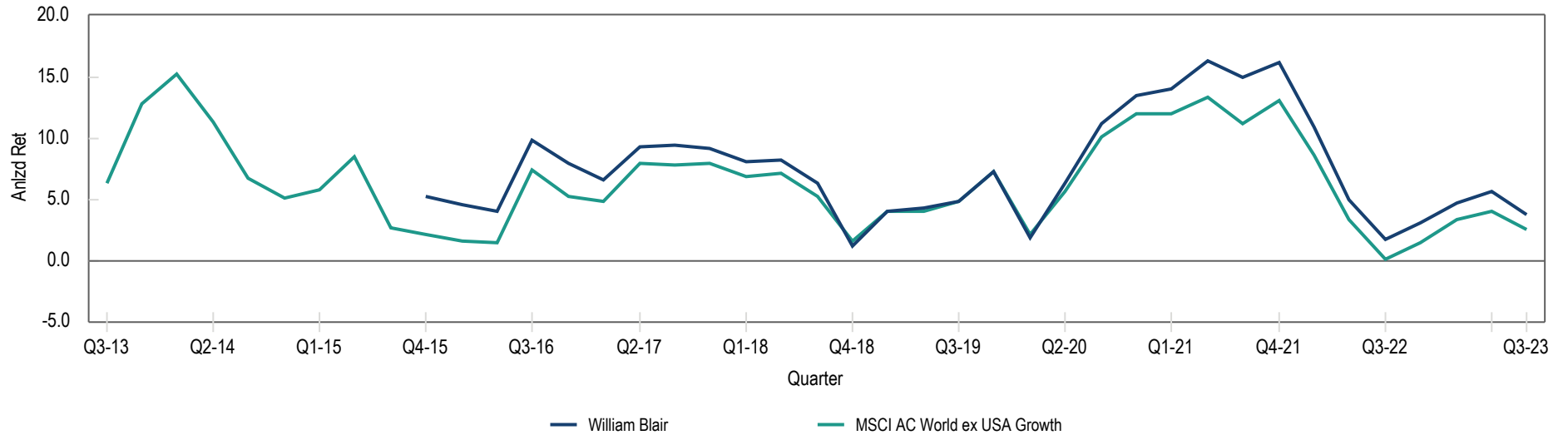


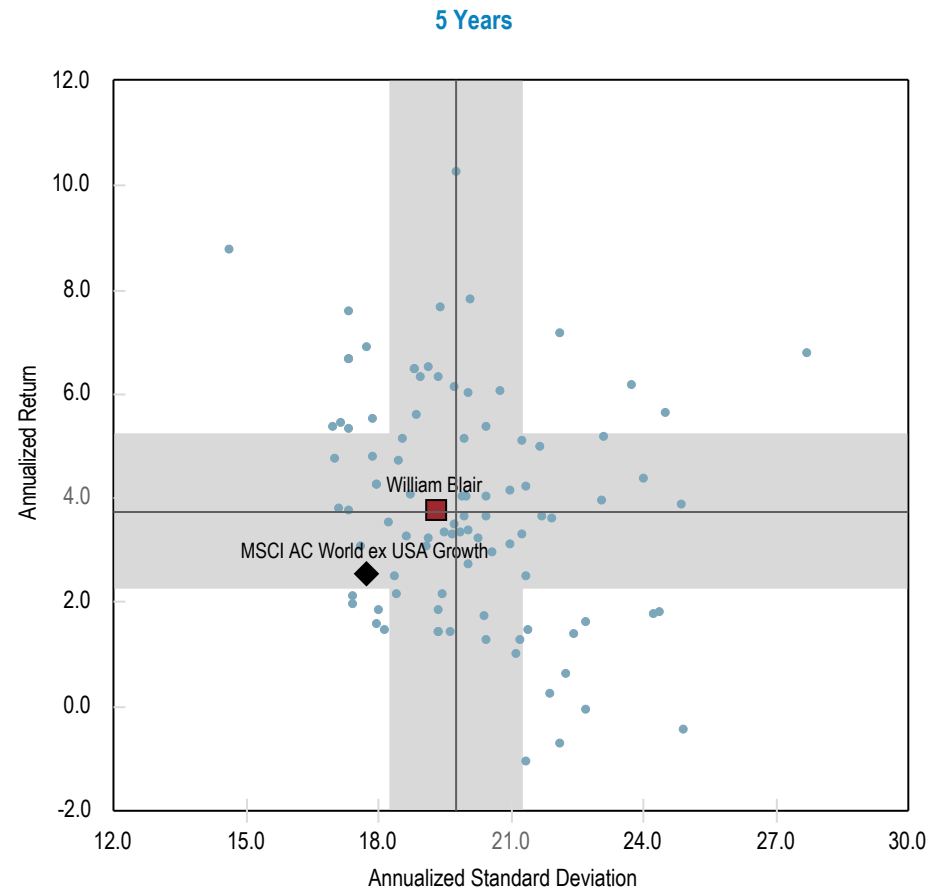
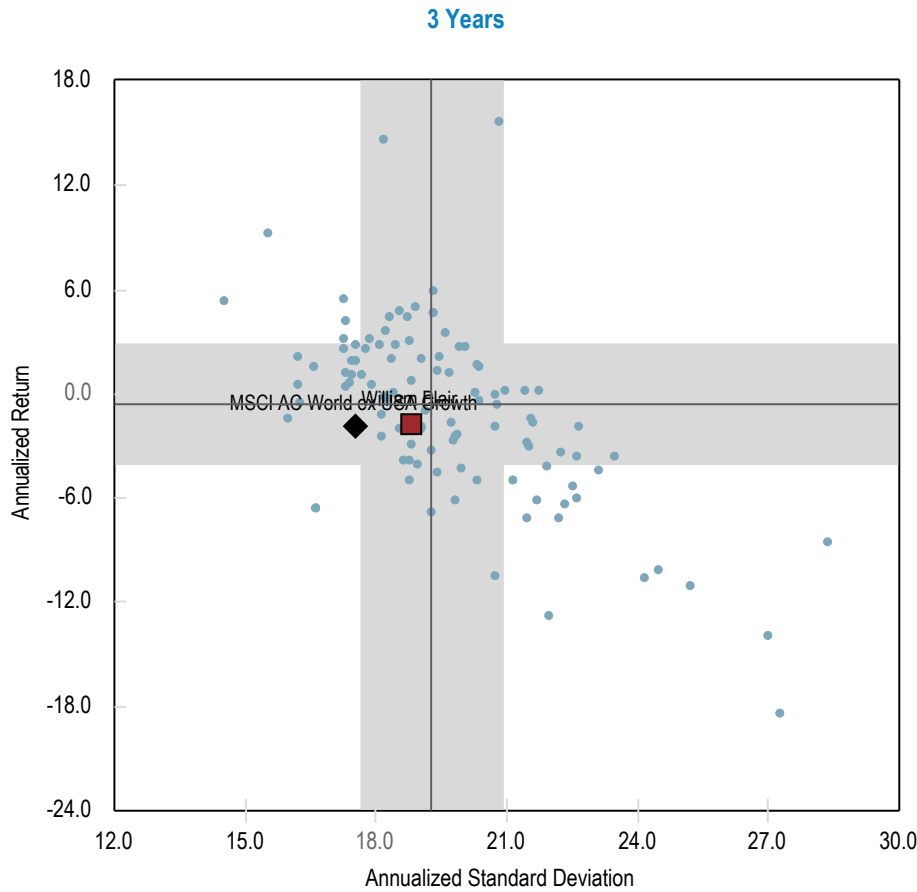
	Quarter	1 Year	3 Years	5 Years	10 Years	2022	2021	2020	2019	2018
● William Blair	-8.78 (79)	14.21 (76)	-1.74 (58)	3.76 (50)	5.07 (66)	-27.75 (59)	10.48 (43)	33.25 (36)	32.01 (36)	-16.78 (72)
▲ MSCI AC World ex USA Growth	-7.31 (46)	15.84 (67)	-1.86 (59)	2.54 (72)	3.92 (91)	-23.05 (35)	5.09 (76)	22.20 (72)	27.34 (78)	-14.43 (55)
5th Percentile	-3.12	25.61	5.28	7.29	8.69	-14.26	20.36	60.81	43.28	-5.69
1st Quartile	-5.61	21.84	2.07	5.39	7.06	-19.93	13.44	38.73	33.55	-11.44
Median	-7.51	18.30	-0.60	3.75	5.50	-26.03	9.35	27.77	30.89	-13.66
3rd Quartile	-8.57	14.23	-3.81	2.15	4.88	-30.69	5.10	21.01	27.81	-16.86
95th Percentile	-10.93	9.19	-10.32	0.55	3.76	-39.86	-4.01	12.34	23.02	-20.93
Population	112	112	109	96	70	114	116	112	110	104

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
William Blair	-1.7	18.8	-0.1
MSCI AC World ex USA Growth (Net)	-1.9	17.5	-0.1
eV ACWI ex-US Growth Equity Median	-0.6	19.3	0.0
Population	109	109	109

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
William Blair	3.8	19.3	0.2
MSCI AC World ex USA Growth (Net)	2.5	17.7	0.1
eV ACWI ex-US Growth Equity Median	3.8	19.7	0.2
Population	96	96	96

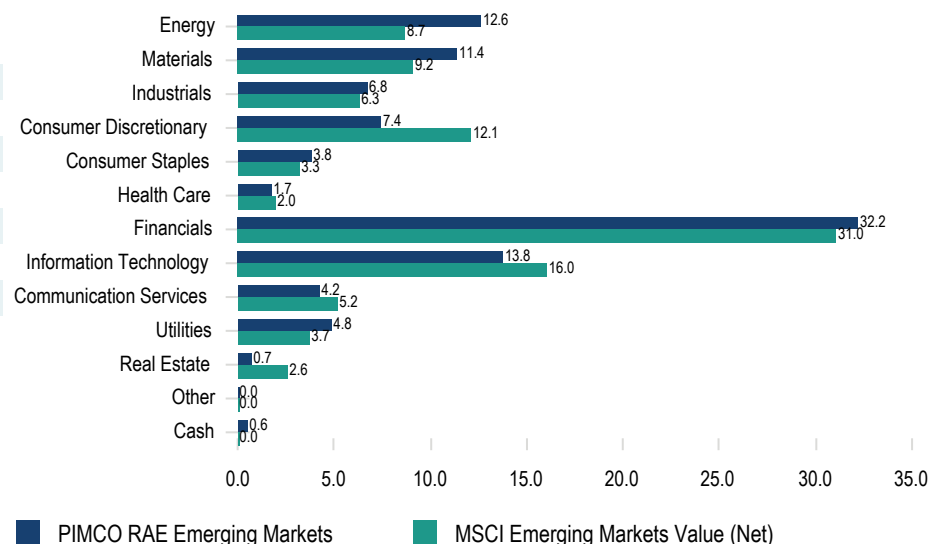
PIMCO RAE Emerging Markets Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2023

Characteristics

	Portfolio	Benchmark
Number of Stocks	371	828
Wtd. Avg. Mkt. Cap \$M	18,928.25	56,268.99
Median Mkt. Cap \$M	4,174.50	6,052.58
Price/Earnings ratio	7.02	9.17
Price/Book ratio	1.80	1.76
Return on Equity (%)	2.82	2.86
Current Yield (%)	5.69	4.51
Beta (5 Years, Monthly)	1.07	1.00

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



Largest Holdings

	End Weight (%)	Quarterly Return (%)
China Construction Bank Corp	4.31	-4.46
POSCO Holdings Inc	3.05	34.64
China Petroleum & Chemical	2.92	-3.45
Bank of China Ltd	2.61	-4.77
Petrochina Co Ltd	2.42	13.47
Quanta Computer Inc	2.05	52.02
Industrial & Comm. Bank of China	2.03	-1.64
Vipshop Holdings Limited	1.74	-2.97
Ping An Insurance Group	1.71	-8.04
SCB X PCL	1.58	-1.96

Top Contributors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Turkiye Is Bankasi AS	1.02	74.09	0.76
Posco International Corp	0.75	74.96	0.57
IS Yatirim Menkul Degerler A.S.	0.27	161.48	0.44
POSCO Holdings Inc	1.14	34.64	0.40
Quanta Computer Inc	0.65	52.02	0.34
Indiabulls Housing Finance Ltd	0.59	49.44	0.29
REC Ltd	0.33	79.51	0.26
Petrochina Co Ltd	1.91	13.47	0.26
Haci Omer Sabanci	1.06	23.36	0.25
Akbank	0.41	57.52	0.24

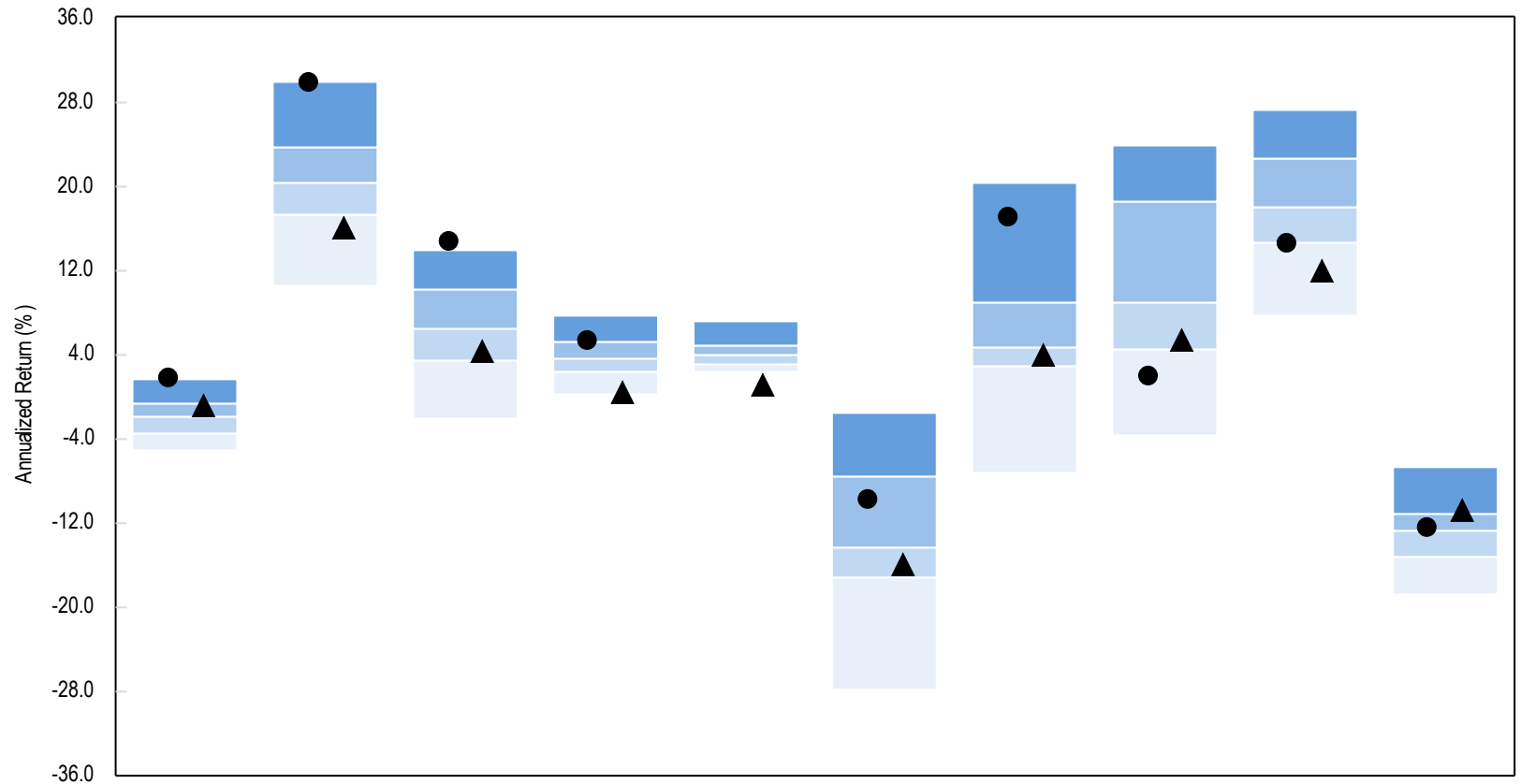
Top Detractors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Cielo SA	1.39	-26.72	-0.37
Vedanta Ltd	1.58	-20.90	-0.33
Lg Electronics Inc	1.48	-22.24	-0.33
China Construction Bank Corp	4.14	-4.46	-0.18
Bank of China Ltd	3.11	-4.77	-0.15
Korea Electric Power Corp	0.99	-14.58	-0.15
Cemex SAB de CV	1.85	-6.61	-0.12
Hon Hai Precision Industry	1.73	-6.92	-0.12
LG Display Co Ltd	0.58	-18.77	-0.11
China Petroleum & Chemical	3.11	-3.45	-0.11

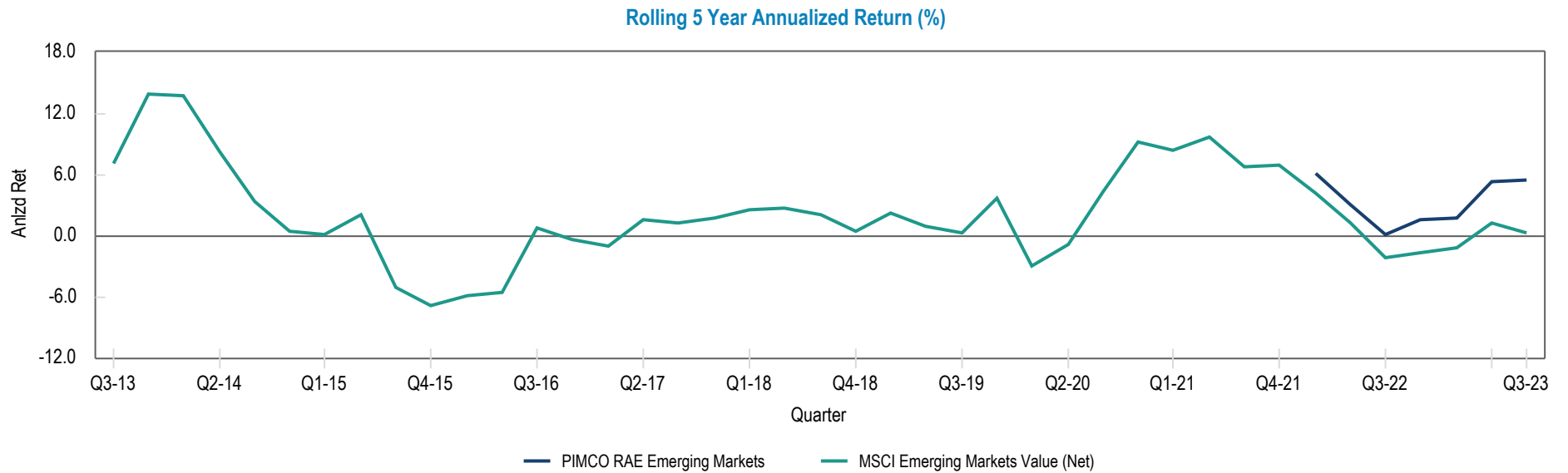
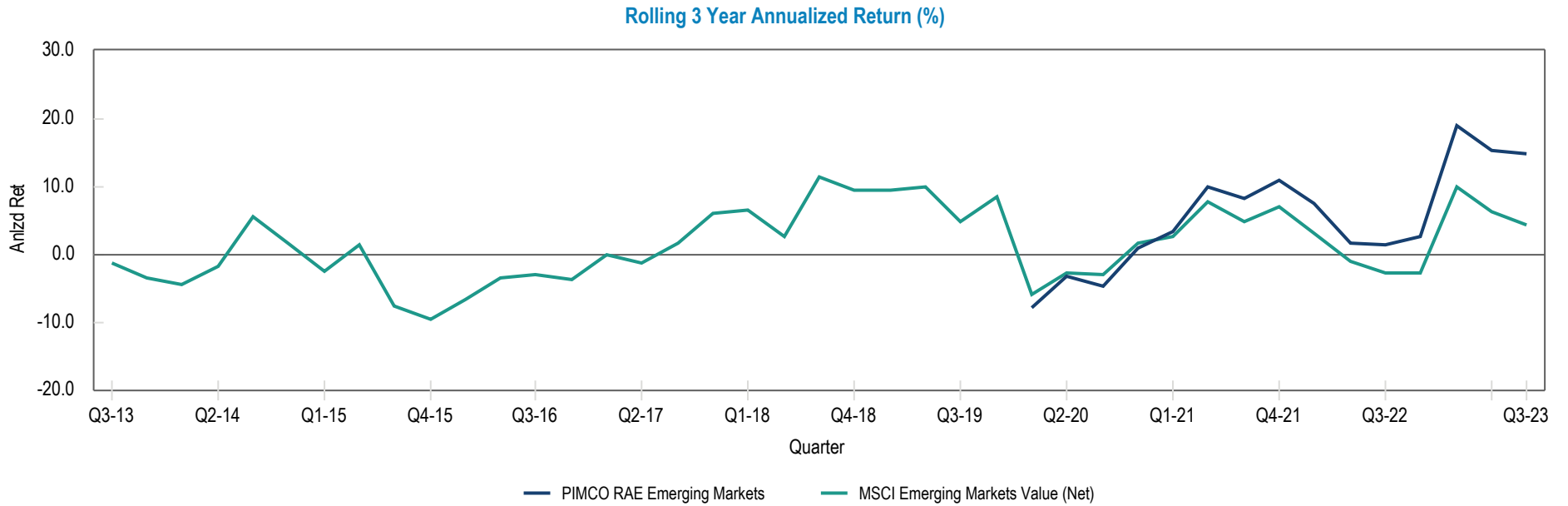
% of Portfolio 8.13 3.79 % of Portfolio 19.96 -1.97

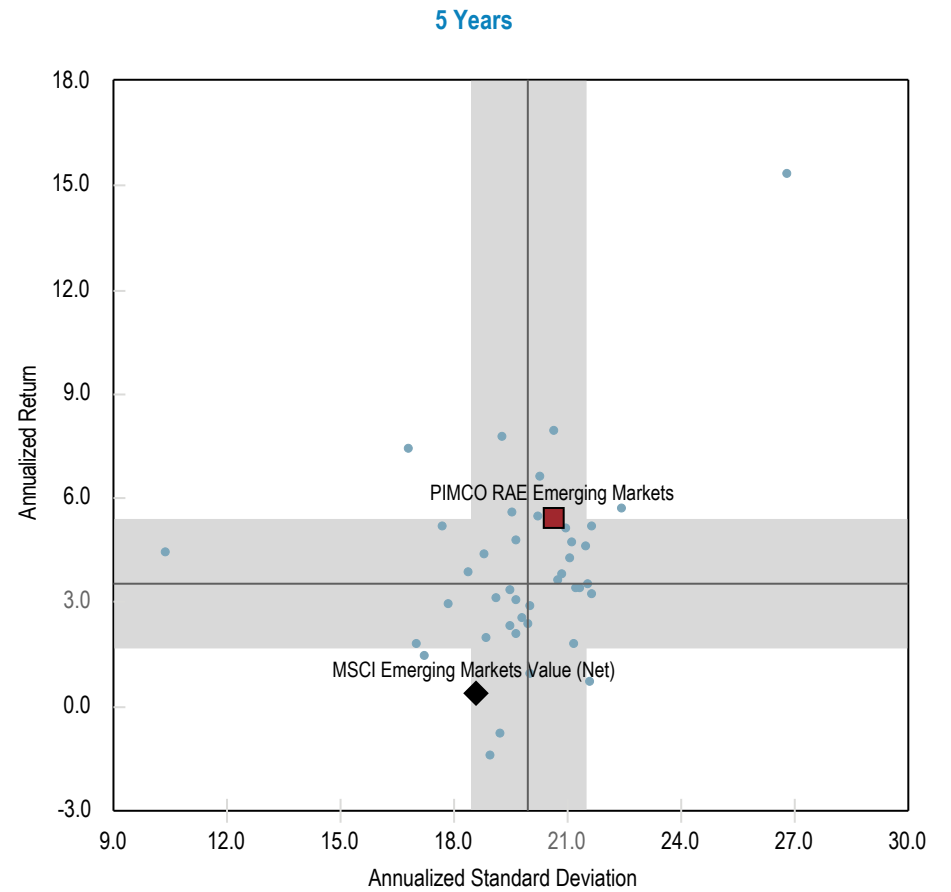
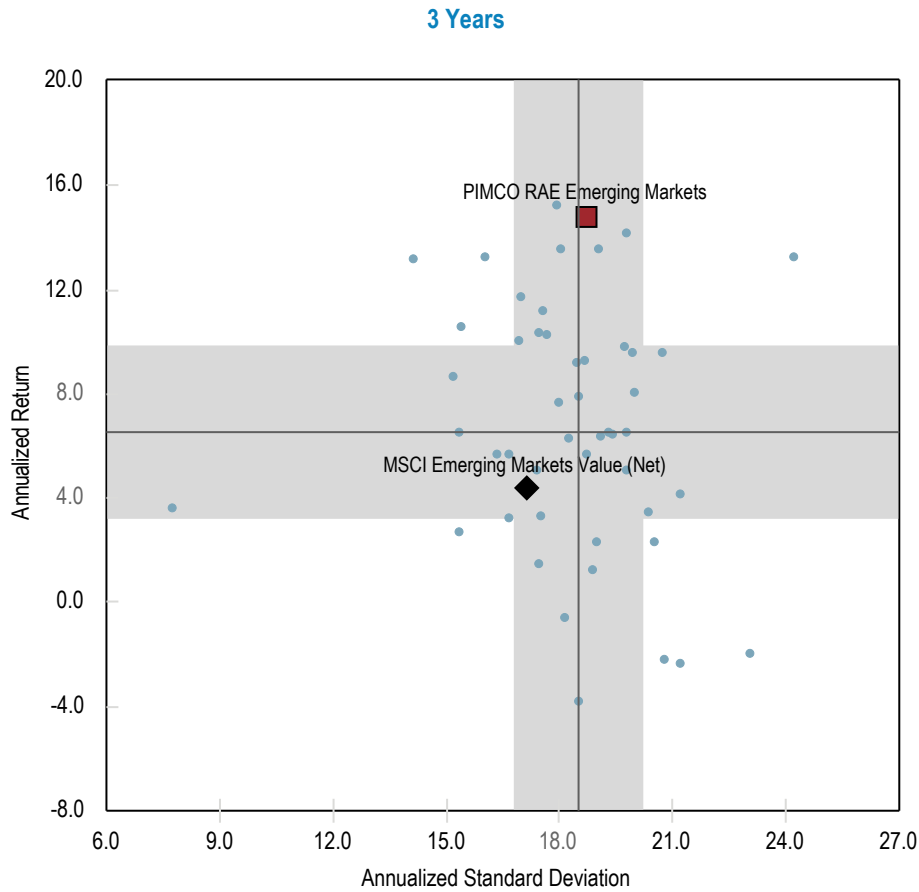
The PIMCO RAE Emerging Markets seeks to invest 80% of its assets in investments that are economically tied to emerging market countries. The portfolio is sub-advised by Research Affiliates, LLC.

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



	Quarter	1 Year	3 Years	5 Years	10 Years	2022	2021	2020	2019	2018
● PIMCO RAE Emerging Markets	1.93 (5)	29.98 (6)	14.80 (3)	5.45 (18)	-	-9.66 (34)	17.08 (8)	2.13 (85)	14.63 (77)	-12.30 (47)
▲ MSCI Emerging Markets Value NR	-0.78 (31)	16.03 (85)	4.40 (71)	0.38 (95)	1.21 (100)	-15.83 (61)	4.00 (64)	5.48 (72)	11.96 (91)	-10.74 (23)
5th Percentile	1.77	30.00	13.96	7.75	7.14	-1.44	20.40	23.96	27.29	-6.64
1st Quartile	-0.55	23.77	10.31	5.16	4.90	-7.62	9.02	18.49	22.65	-11.18
Median	-1.90	20.32	6.54	3.56	3.92	-14.26	4.76	8.93	17.98	-12.63
3rd Quartile	-3.38	17.25	3.48	2.38	3.15	-17.13	2.87	4.50	14.73	-15.20
95th Percentile	-5.04	10.57	-2.06	0.27	2.31	-27.86	-7.27	-3.63	7.68	-18.81
Population	55	55	49	43	30	57	56	59	60	57





3 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
PIMCO RAE Emerging Markets	14.8	18.7	0.7
MSCI Emerging Markets Value (Net)	4.4	17.2	0.2
eV Emg Mkts All Cap Value Equity Median	6.5	18.5	0.3
Population	49	49	49

5 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
PIMCO RAE Emerging Markets	5.4	20.6	0.3
MSCI Emerging Markets Value (Net)	0.4	18.6	0.0
eV Emg Mkts All Cap Value Equity Median	3.6	20.0	0.2
Population	43	43	43

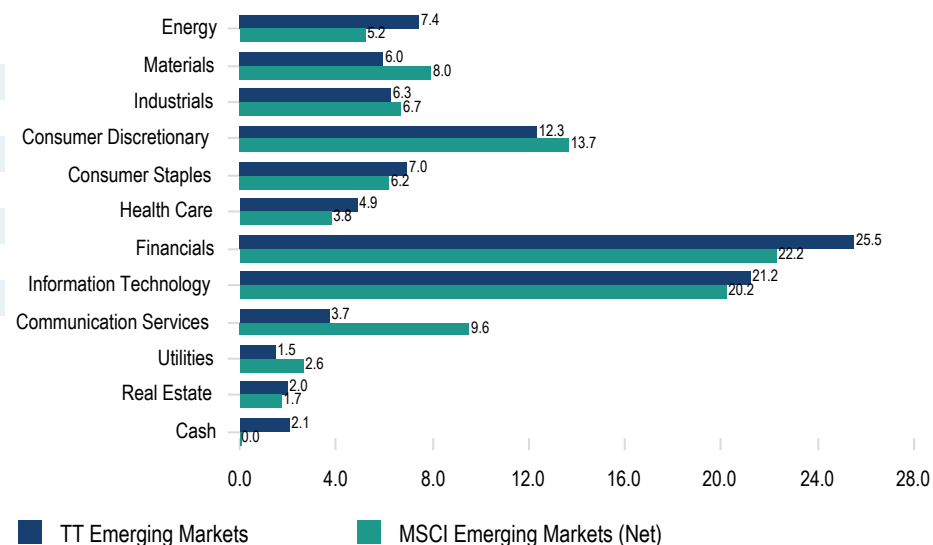
TT Emerging Markets Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2023

Characteristics

	Portfolio	Benchmark
Number of Stocks	65	1,437
Wtd. Avg. Mkt. Cap \$M	84,714.69	93,495.42
Median Mkt. Cap \$M	10,035.19	6,341.37
Price/Earnings ratio	11.63	12.11
Price/Book ratio	2.31	2.37
Return on Equity (%)	4.57	3.63
Current Yield (%)	2.46	3.08
Beta (5 Years, Monthly)	1.12	1.00

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



Largest Holdings

	End Weight (%)	Quarterly Return (%)
Taiwan Semiconductor Man.	8.41	-11.92
Axis Bank Ltd	5.18	3.82
Grupo Financiero Banorte	4.50	0.59
Nova Ljubljanska Banka d.d	3.67	-2.43
Alibaba Group Holding Ltd	3.24	5.48
Ypf Sociedad Anonima	3.24	-3.88
Samsung Electronics Co Ltd	3.16	-10.56
Icici Bank Ltd	2.89	1.45
Delta Electronics Inc	2.37	-9.12
Hapvida Participacoes	2.24	-0.46

Top Contributors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Emaar Properties	2.95	25.43	0.75
PVR INOX Limited	1.37	23.50	0.32
PT Bank Mandiri TBK	2.11	12.40	0.26
Axis Bank Ltd	5.17	3.82	0.20
Alibaba Group Holding Ltd	3.32	5.48	0.18
Tata Steel Ltd	1.19	13.70	0.16
Varun Beverages Ltd	0.76	16.58	0.13
Absa Group Ltd	1.28	8.54	0.11
Bank of Baroda Limited	0.89	11.04	0.10
Bank of Ningbo Co Ltd	1.21	7.74	0.09

% of Portfolio 20.25 2.31

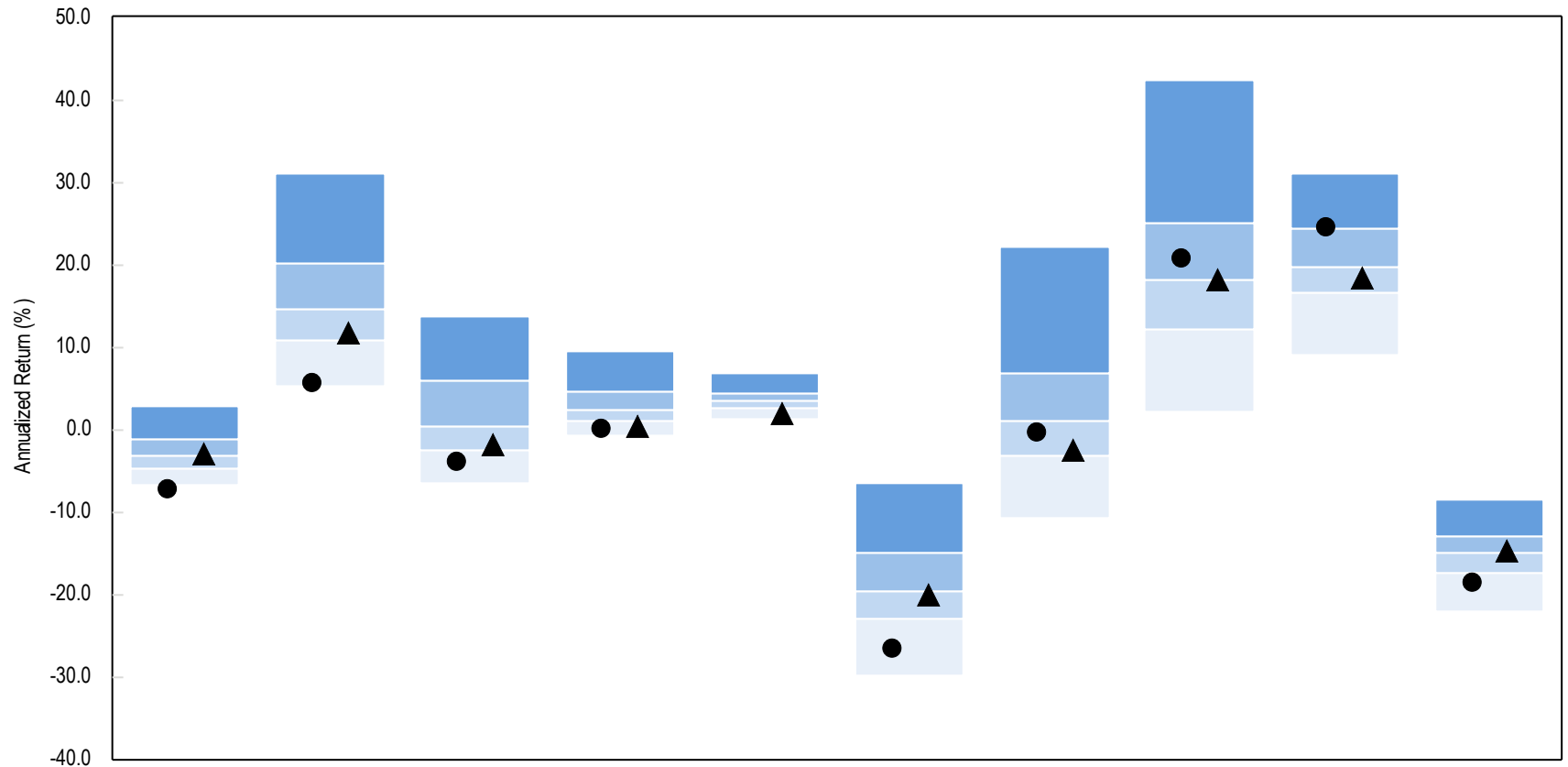
Top Detractors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Lojas Renner SA	1.68	-34.91	-0.59
Allkem Limited	1.71	-28.82	-0.49
Lg Chem Ltd	1.50	-27.31	-0.41
L & F Co	1.34	-30.32	-0.41
Samsung Electronics Co Ltd	3.82	-10.56	-0.40
Samsung Sdi Co Ltd	1.54	-25.27	-0.39
Vamos Locacao de Caminhos SA	1.61	-23.90	-0.38
Pepco Group N.V.	0.74	-48.83	-0.36
B3 S.A.-Brasil Bolsa Balcao	1.62	-19.22	-0.31
Hansol Chemience Co Ltd	0.95	-31.73	-0.30

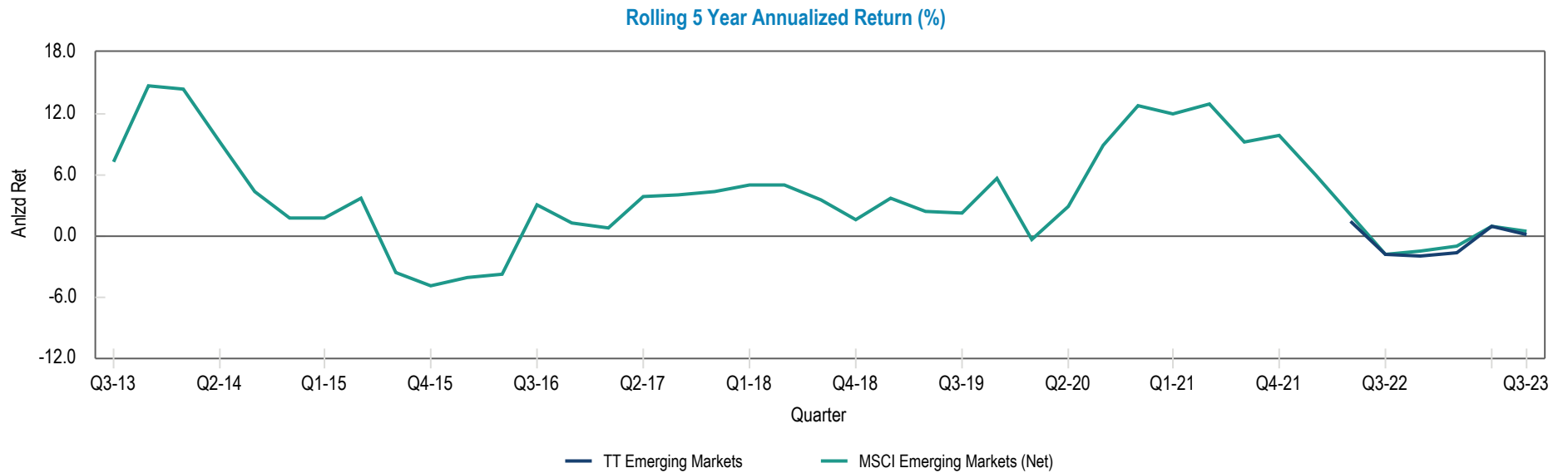
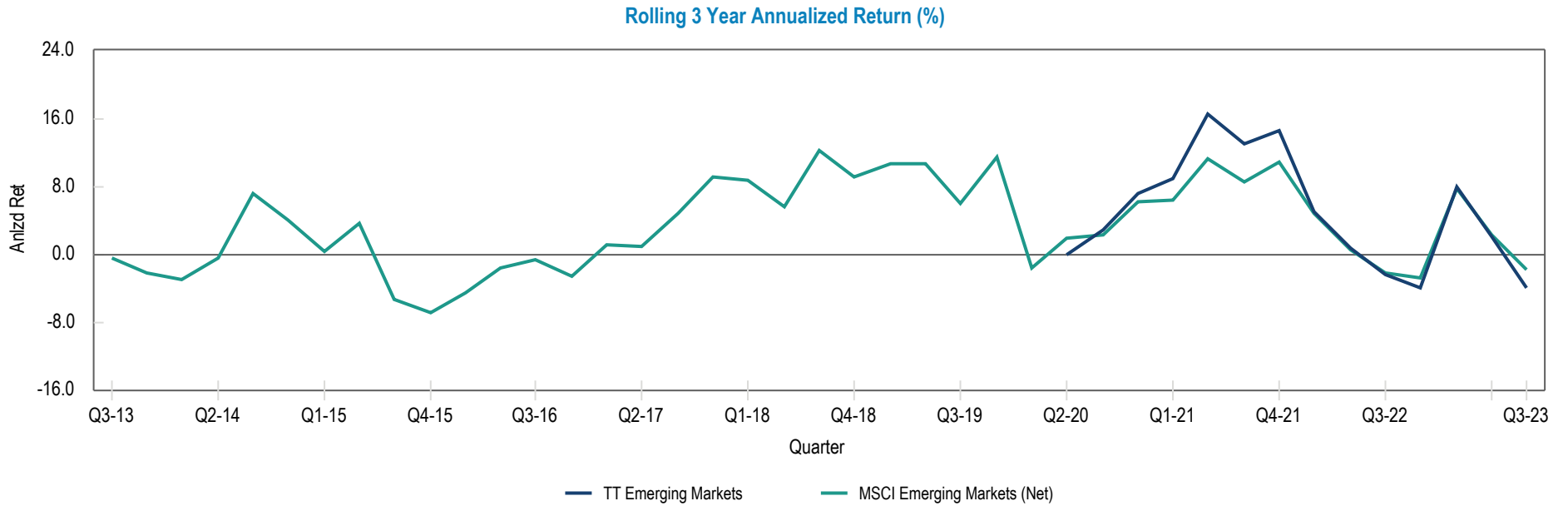
% of Portfolio 16.51 -4.04

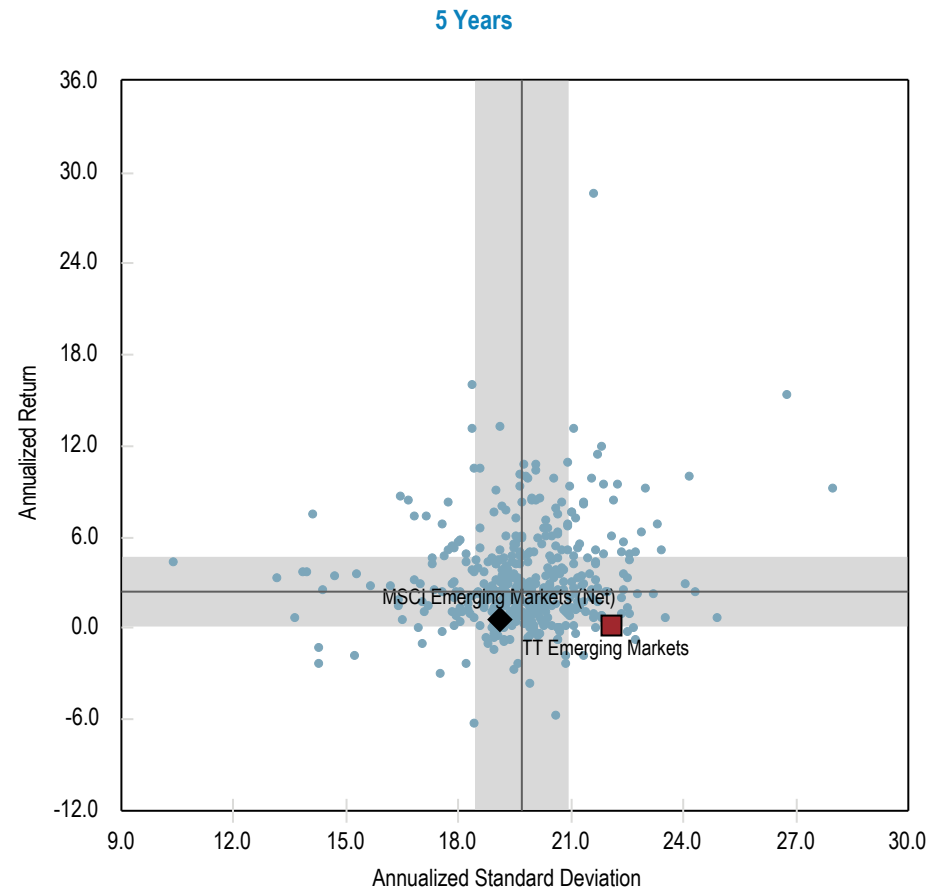
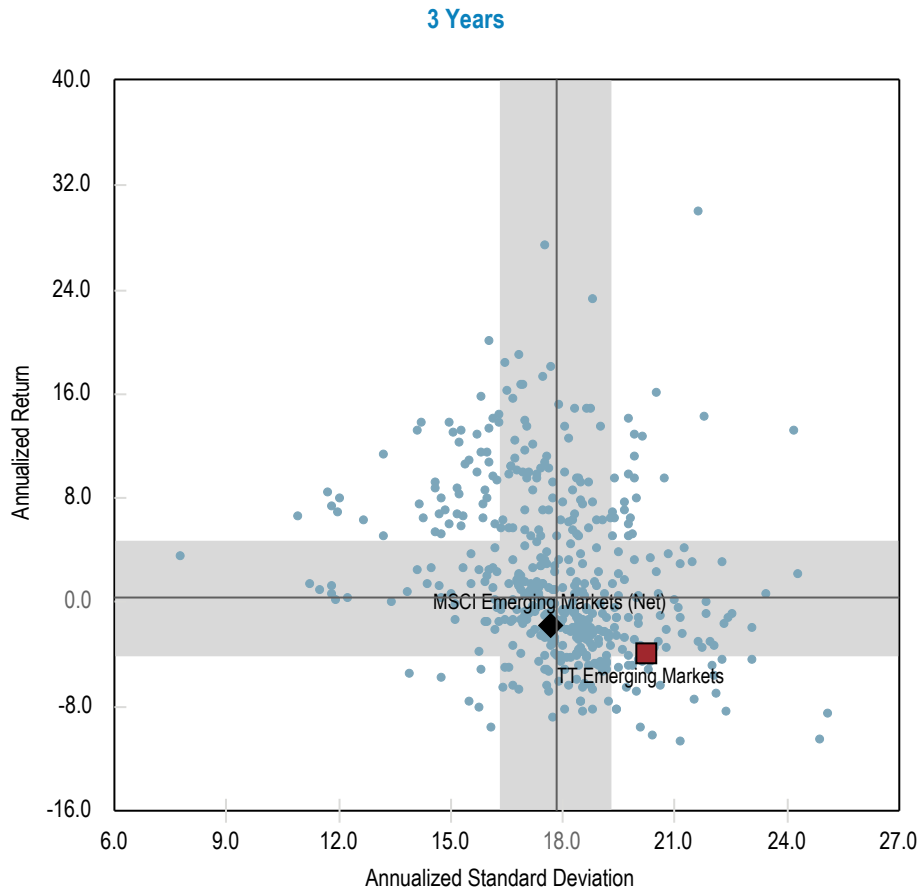
The Emerging Markets Unconstrained strategy aims to outperform its benchmark, MSCI Emerging Markets Index by 5% per annum over a three-year rolling period. It targets high returns and long term capital growth by investing in a focused portfolio of primarily equity and equity-related securities traded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

TT Emerging Markets vs. eV Emg Mkts Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2022	2021	2020	2019	2018
● TT Emerging Markets	-7.09 (97)	5.71 (95)	-3.85 (83)	0.19 (88)	-	-26.36 (90)	-0.23 (58)	20.79 (39)	24.77 (24)	-18.39 (82)
▲ MSCI Emerging Markets	-2.93 (46)	11.70 (68)	-1.73 (67)	0.55 (82)	2.07 (89)	-20.09 (56)	-2.54 (72)	18.31 (51)	18.42 (63)	-14.57 (45)
5th Percentile	2.80	31.20	13.85	9.45	6.91	-6.47	22.27	42.46	31.17	-8.51
1st Quartile	-1.05	20.33	6.01	4.63	4.45	-14.93	6.86	25.13	24.36	-12.79
Median	-3.10	14.57	0.36	2.43	3.51	-19.54	1.02	18.33	19.72	-14.88
3rd Quartile	-4.57	10.99	-2.48	1.03	2.64	-22.96	-3.09	12.28	16.61	-17.35
95th Percentile	-6.74	5.29	-6.55	-0.65	1.24	-29.67	-10.69	2.12	9.13	-22.01
Population	530	530	488	436	304	560	576	577	600	588





3 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
TT Emerging Markets	-3.9	20.3	-0.2
MSCI Emerging Markets (Net)	-1.7	17.6	-0.1
eV Emg Mkts Equity Median	0.4	17.8	0.0
Population	488	488	488

5 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
TT Emerging Markets	0.2	22.1	0.0
MSCI Emerging Markets (Net)	0.6	19.1	0.0
eV Emg Mkts Equity Median	2.4	19.7	0.1
Population	436	436	436

Global Equity Managers

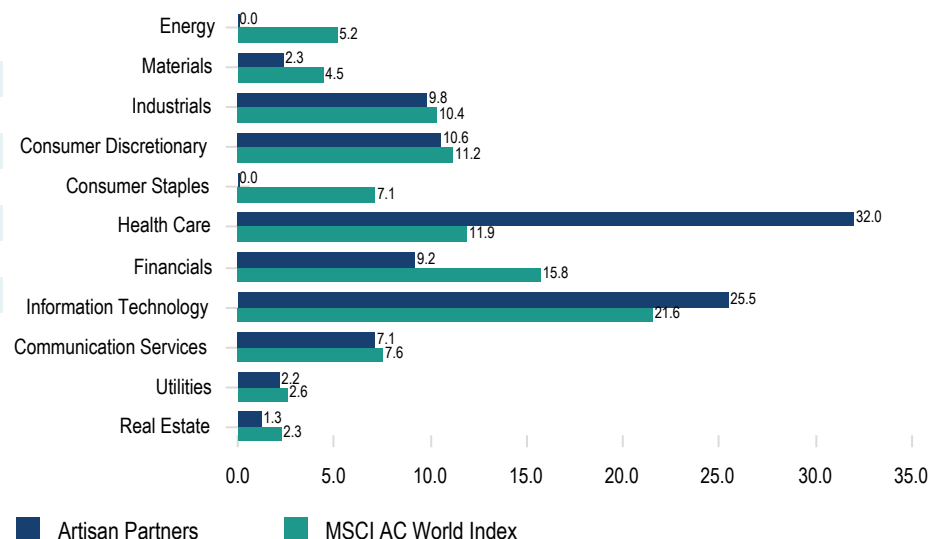
Artisan Partners Manager Portfolio Overview

Contra Costa County Employees' Retirement Association Period Ending: September 30, 2023

Characteristics

	Portfolio	Benchmark
Number of Stocks	43	2,947
Wtd. Avg. Mkt. Cap \$M	199,198.66	401,761.58
Median Mkt. Cap \$M	65,675.00	11,768.97
Price/Earnings ratio	25.12	17.44
Price/Book ratio	4.70	3.38
Return on Equity (%)	4.05	8.96
Current Yield (%)	0.70	2.27
Beta (5 Years, Monthly)	0.99	1.00

Sector Allocation (%) vs. MSCI AC World Index



Largest Holdings

	End Weight (%)	Quarterly Return (%)
Veeva Systems Inc	6.84	2.89
Novo Nordisk A/S	5.13	14.05
Advanced Micro Devices Inc	4.80	-9.74
Boston Scientific Corp	4.78	-2.38
Atlassian Corp	4.02	20.08
ON Semiconductor Corp	3.67	-1.72
Intuit Inc.	3.53	11.71
Techtronic Industries Co Ltd	3.52	-9.62
LONZA GROUP AG	3.32	-21.97
Astrazeneca PLC	3.30	-4.87

Top Contributors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Novo Nordisk A/S	4.28	14.05	0.60
Atlassian Corp	2.97	20.08	0.60
Intuit Inc.	3.02	11.71	0.35
arGEN-X SE	1.28	26.15	0.33
UBS Group AG	1.26	22.63	0.28
Alphabet Inc	2.54	9.32	0.24
Arista Networks Inc	1.49	13.50	0.20
Veeva Systems Inc	6.26	2.89	0.18
Airbnb Inc	1.63	7.06	0.12
Danaher Corp	2.28	3.38	0.08

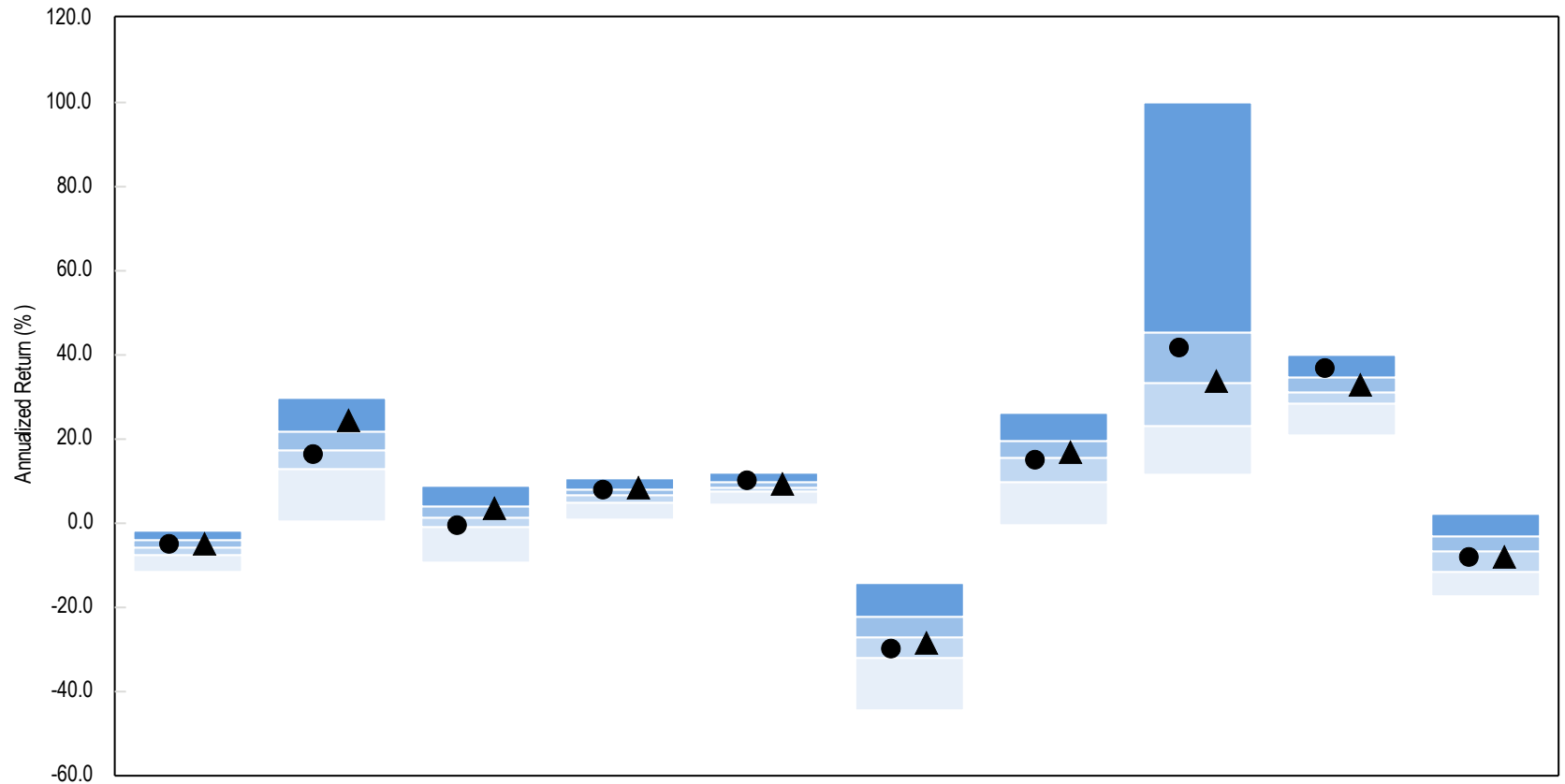
Top Detractors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
LONZA GROUP AG	4.07	-21.97	-0.89
Adyen N.V	1.46	-56.81	-0.83
Hexagon AB	2.19	-30.07	-0.66
NextEra Energy Inc	2.73	-22.26	-0.61
Keyence Corp	2.73	-20.57	-0.56
Advanced Micro Devices Inc	4.59	-9.74	-0.45
Chipotle Mexican Grill Inc	2.97	-14.36	-0.43
Cie Financiere Richemont	1.65	-25.58	-0.42
Netflix Inc	2.64	-14.28	-0.38
Techtronic Industries Co Ltd	3.76	-9.62	-0.36

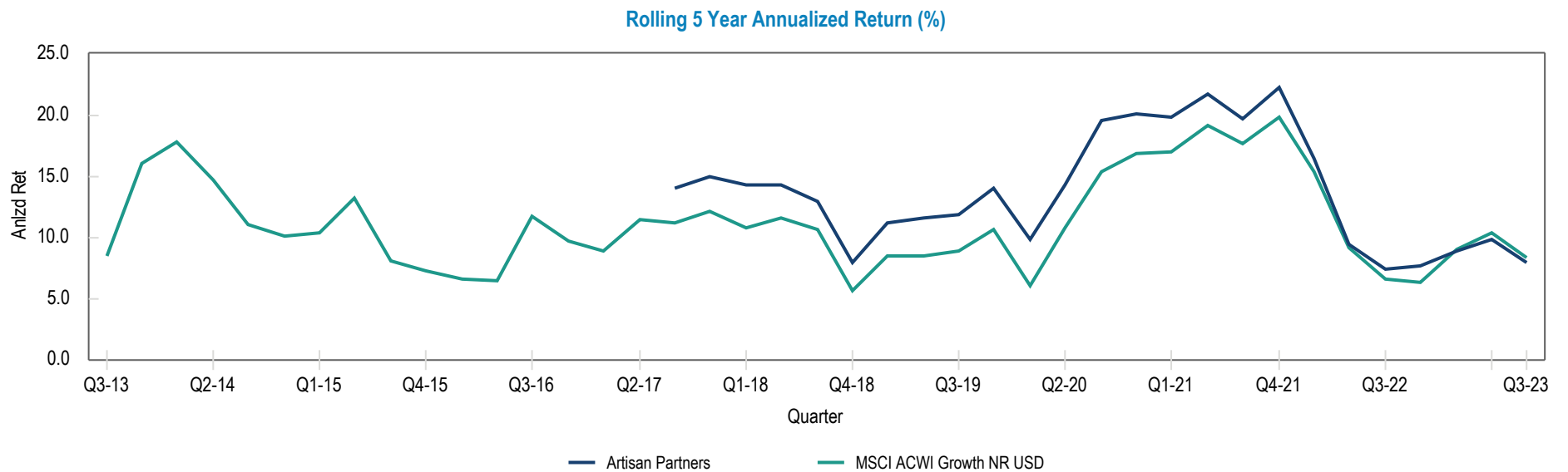
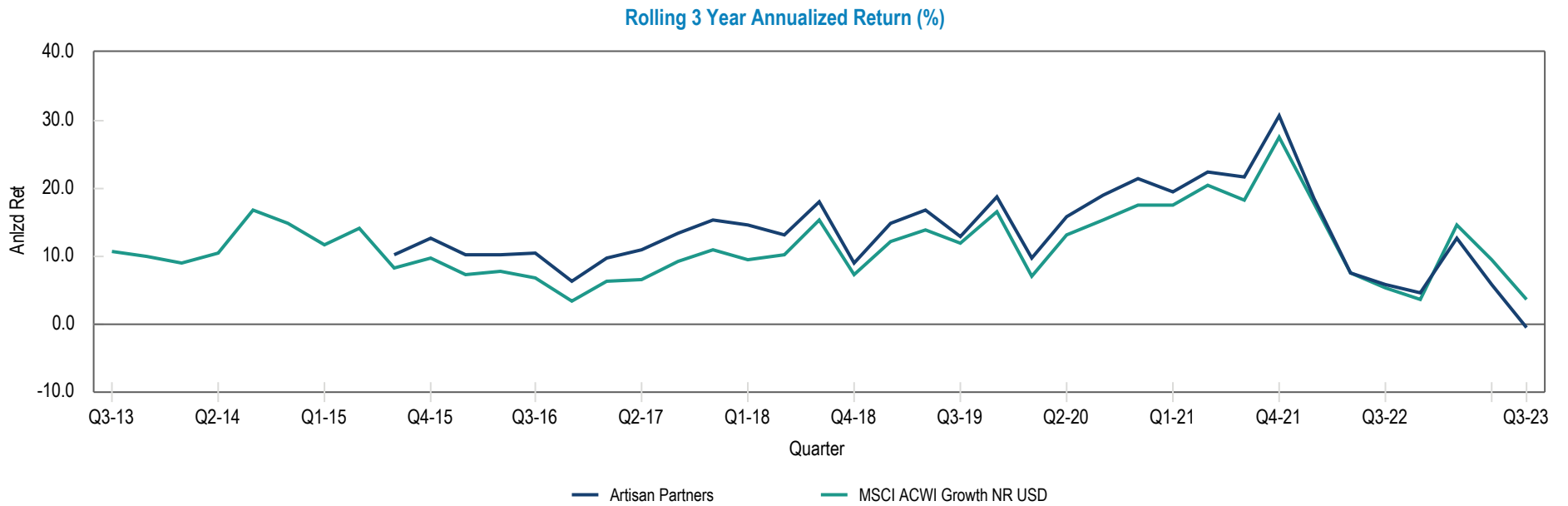
% of Portfolio 27.01 2.98 % of Portfolio 28.79 -5.58

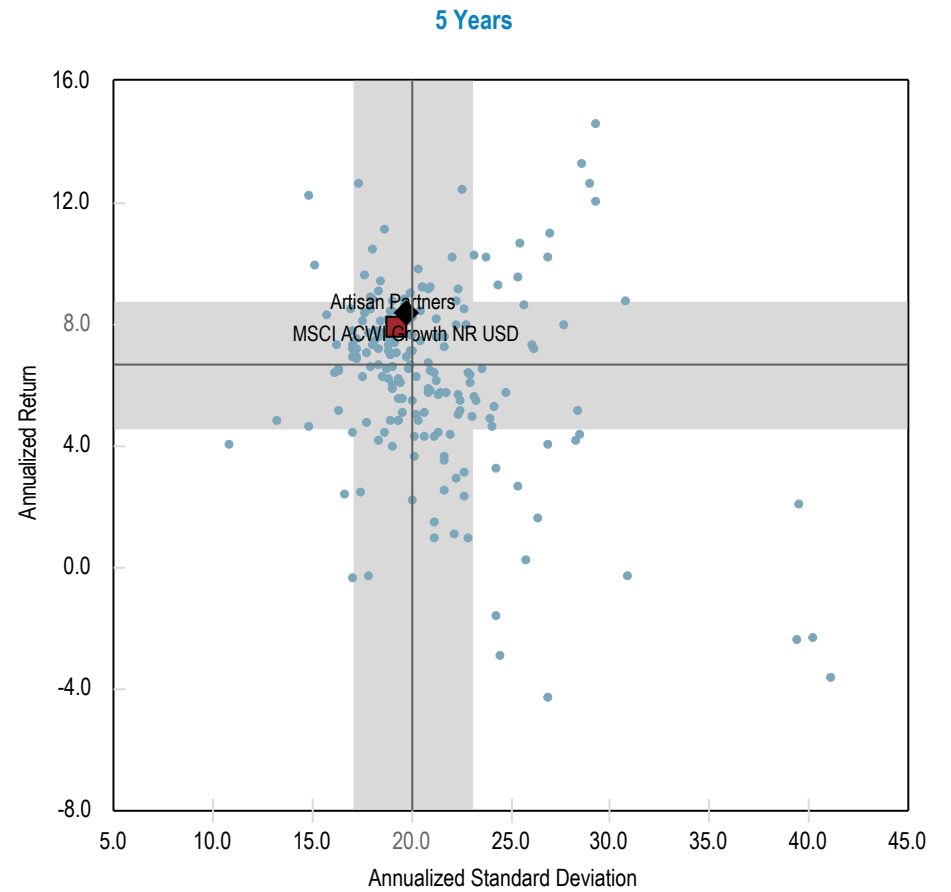
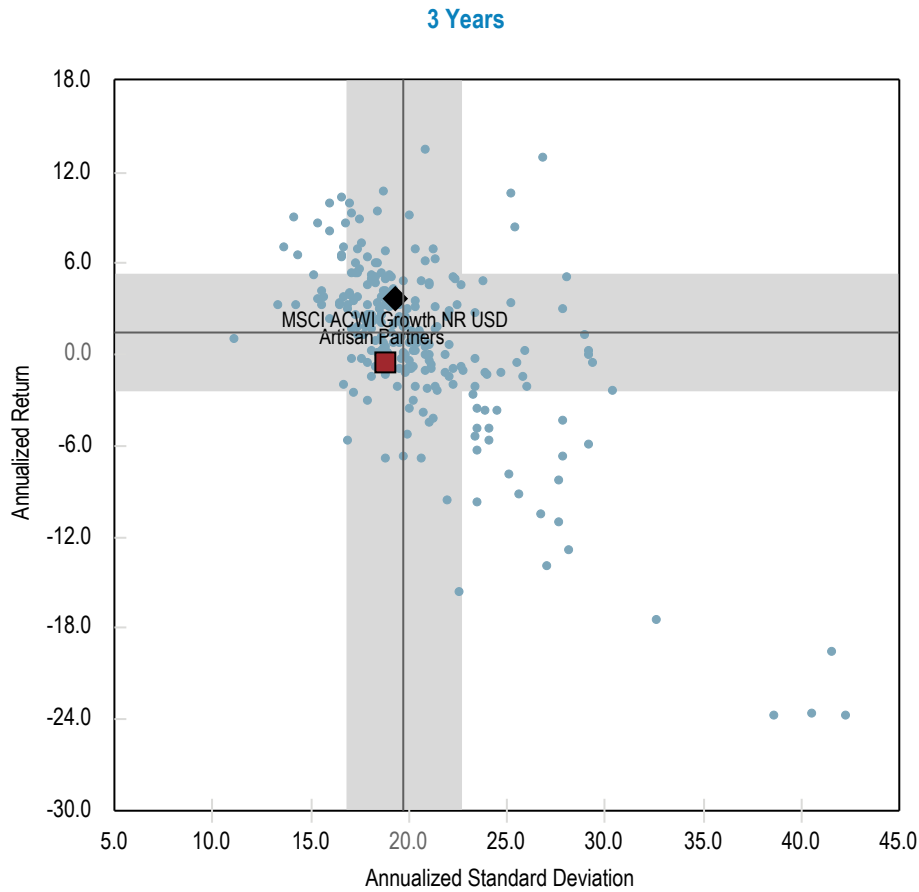
Global equity portfolio of companies that is benchmark agnostic with accelerating profit cycles and a focus on capital allocation. Primary personnel include James Hamel, Craigh Cepukenas, and Matthew Kamm.

Artisan Partners vs. eV Global Growth Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2022	2021	2020	2019	2018
● Artisan Partners	-5.10 (38)	16.29 (58)	-0.46 (70)	7.94 (29)	10.40 (18)	-29.59 (60)	14.99 (55)	41.66 (34)	37.00 (12)	-7.94 (60)
▲ MSCI ACWI Growth NR USD	-4.89 (34)	24.41 (15)	3.76 (27)	8.37 (23)	9.53 (29)	-28.61 (56)	17.10 (41)	33.60 (50)	32.72 (36)	-8.13 (60)
5th Percentile	-1.71	29.63	8.75	10.57	12.10	-14.04	26.06	99.93	39.90	2.08
1st Quartile	-4.21	21.87	3.88	8.16	9.72	-22.20	19.68	45.38	34.65	-2.91
Median	-5.76	17.55	1.49	6.67	8.62	-27.19	15.46	33.28	31.25	-6.59
3rd Quartile	-7.46	13.04	-0.92	4.88	7.47	-31.87	9.69	23.19	28.32	-11.47
95th Percentile	-11.40	0.66	-9.14	0.70	4.43	-44.33	-0.63	11.71	20.96	-17.41
Population	269	267	242	193	116	277	266	252	234	216





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Artisan Partners	-0.5	18.8	0.0
MSCI ACWI Growth NR USD	3.8	19.3	0.2
eV Global Growth Equity Median	1.5	19.8	0.1
Population	242	242	242

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Artisan Partners	7.9	19.2	0.4
MSCI ACWI Growth NR USD	8.4	19.7	0.4
eV Global Growth Equity Median	6.7	20.1	0.4
Population	193	193	193

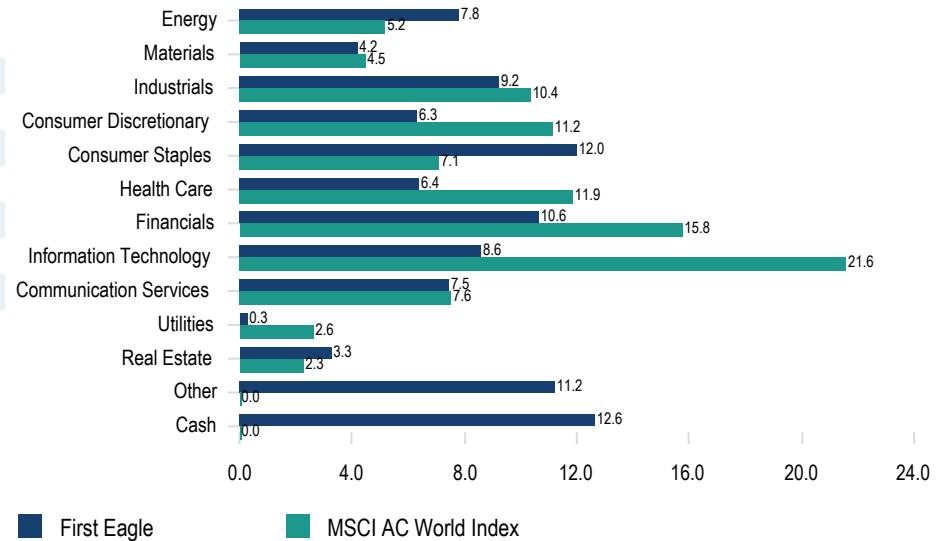
First Eagle
Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

Characteristics

	Portfolio	Benchmark
Number of Stocks	127	2,947
Wtd. Avg. Mkt. Cap \$M	140,557.14	401,761.58
Median Mkt. Cap \$M	25,614.56	11,768.97
Price/Earnings ratio	17.37	17.44
Price/Book ratio	2.36	3.38
Return on Equity (%)	-5.51	8.96
Current Yield (%)	2.25	2.27
Beta (5 Years, Monthly)	0.76	1.00

Sector Allocation (%) vs. MSCI AC World Index



Largest Holdings

	End Weight (%)	Quarterly Return (%)
SPDR Gold Trust	11.20	-3.83
Oracle Corp	3.09	-10.75
Meta Platforms Inc	2.60	4.61
Schlumberger Ltd	2.46	19.18
Exxon Mobil Corp	2.44	10.55
Comcast Corp	2.12	7.46
HCA Healthcare Inc	1.60	-18.76
Alphabet Inc	1.50	8.99
Imperial Oil Ltd	1.48	21.59
Philip Morris International Inc	1.34	-3.81

Top Contributors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Schlumberger Ltd	2.02	19.18	0.39
Imperial Oil Ltd	1.19	21.59	0.26
NOV Inc	0.81	30.61	0.25
Exxon Mobil Corp	2.17	10.55	0.23
Comcast Corp	1.88	7.46	0.14
Alphabet Inc	1.34	8.99	0.12
Meta Platforms Inc	2.43	4.61	0.11
MS&AD Insurance Group	0.84	6.65	0.06
Flowserve Corp.	0.60	7.60	0.05
Alphabet Inc	0.47	9.32	0.04

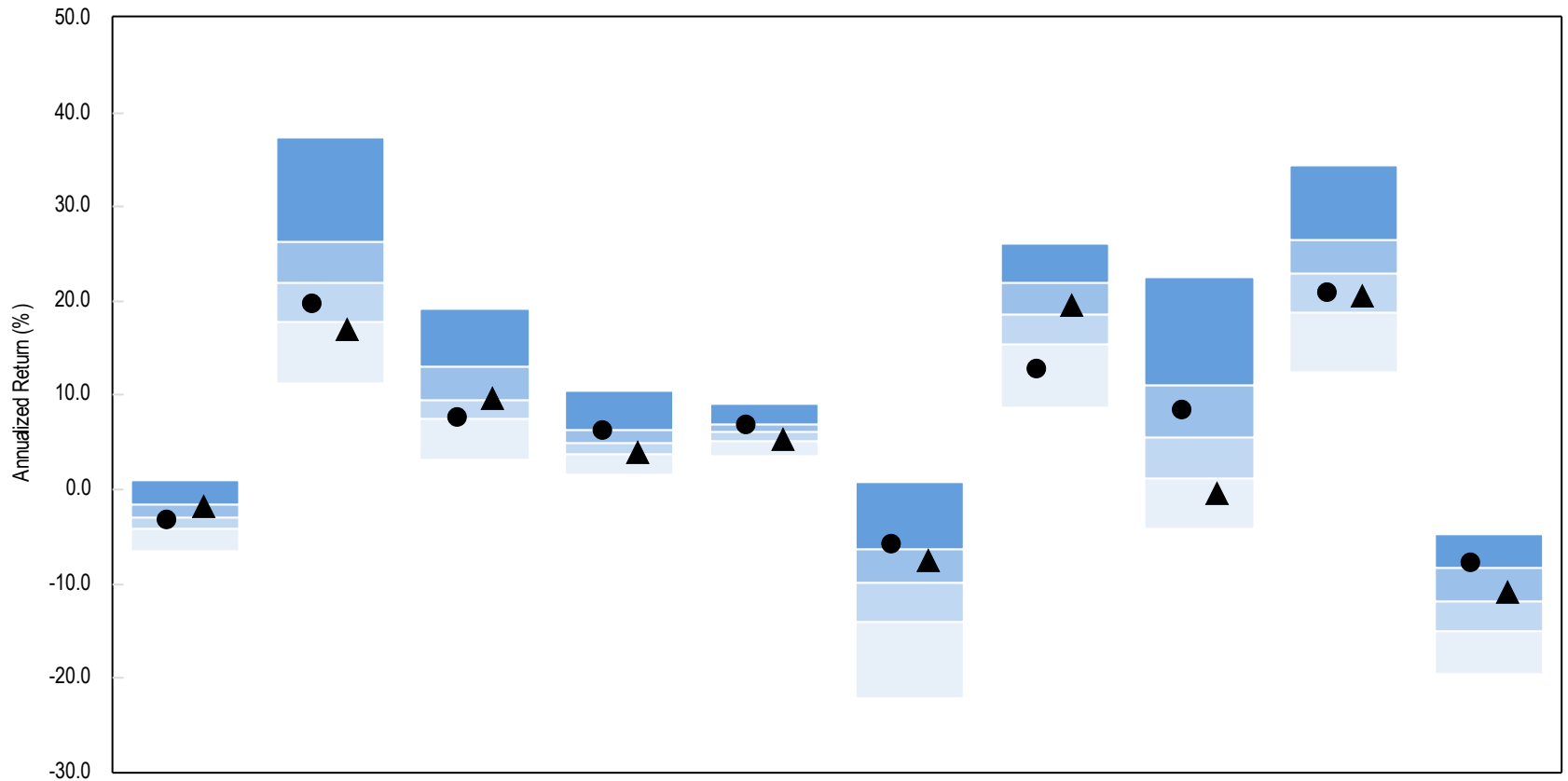
Top Detractors

	Portfolio Weight (%)	Quarterly Return (%)	Contribution to Return (%)
Cie Financiere Richemont	1.67	-25.58	-0.43
Oracle Corp	3.39	-10.75	-0.36
HCA Healthcare Inc	1.92	-18.76	-0.36
SPDR Gold Trust	9.31	-3.83	-0.36
Fanuc Corp	0.96	-25.07	-0.24
Universal Health Services	1.09	-20.19	-0.22
IPG Photonics Corp	0.86	-25.24	-0.22
Ambev SA	1.01	-18.87	-0.19
Willis Towers Watson plc	1.24	-10.92	-0.14
Taiwan Semiconductor Man.	0.99	-13.45	-0.13

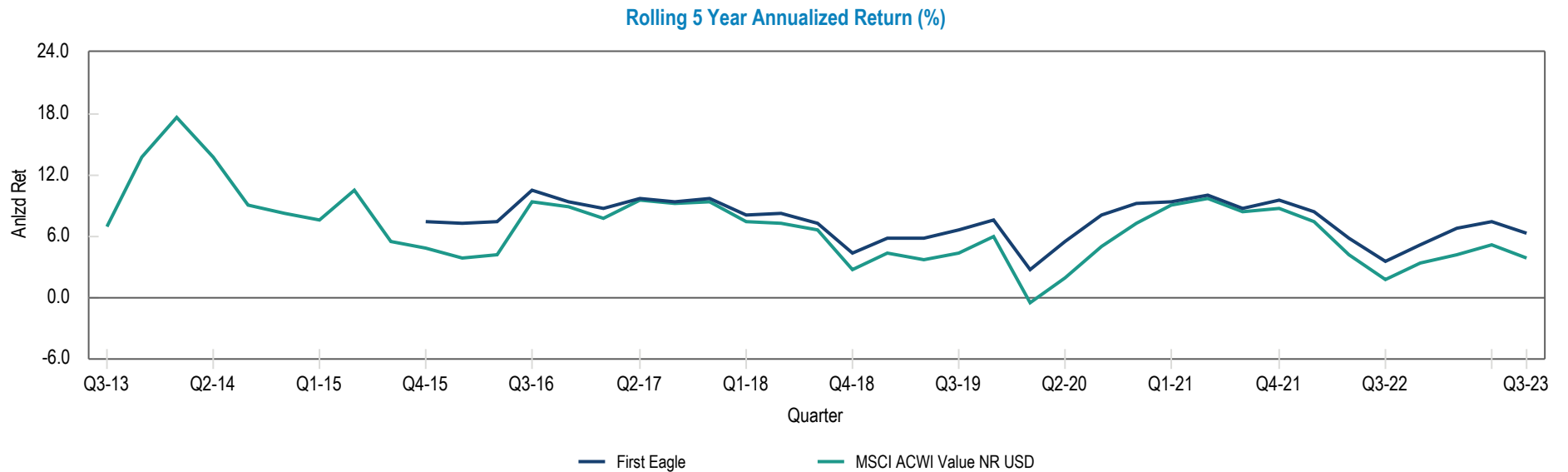
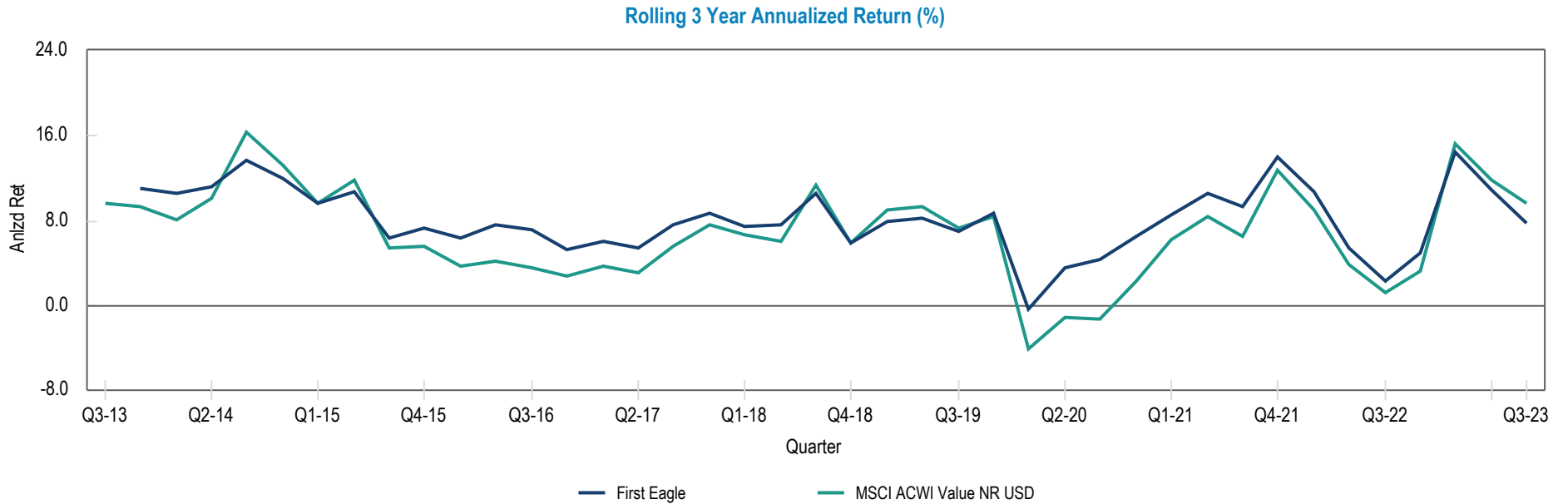
% of Portfolio 13.75 1.64 % of Portfolio 22.44 -2.65

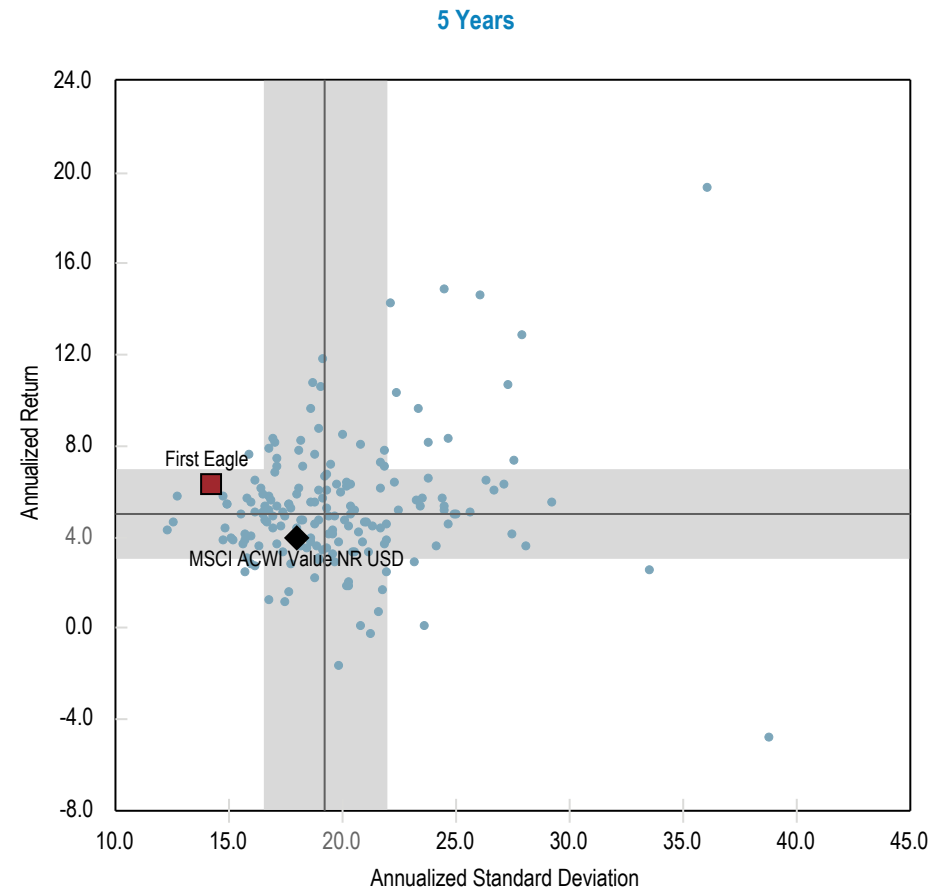
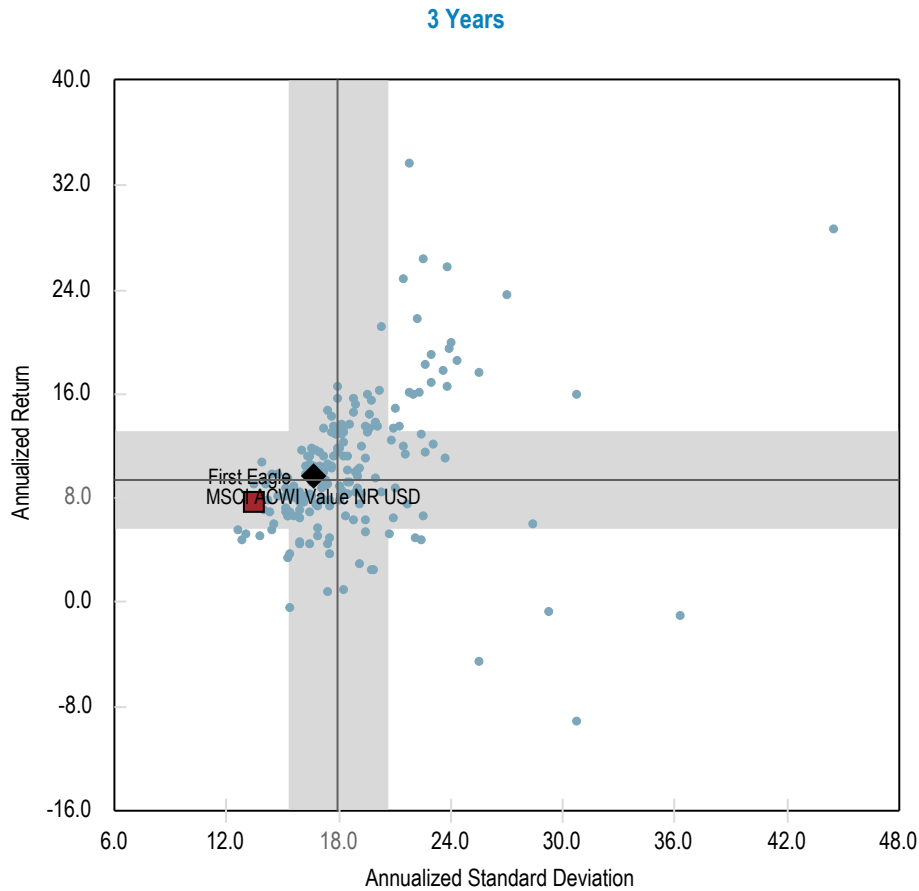
Global equity portfolio that is benchmark agnostic comprised of companies with low valuations. Primary personnel include Matt McLennan and Kimball Brooker.

First Eagle vs. eV Global Value Equity Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2022	2021	2020	2019	2018
● First Eagle	-3.21 (59)	19.74 (67)	7.78 (72)	6.36 (24)	6.86 (28)	-5.61 (21)	12.95 (86)	8.47 (33)	21.01 (64)	-7.64 (18)
▲ MSCI ACWI Value NR USD	-1.76 (30)	16.98 (79)	9.72 (49)	3.97 (72)	5.27 (73)	-7.55 (35)	19.62 (41)	-0.33 (82)	20.59 (67)	-10.79 (45)
5th Percentile	1.01	37.32	19.24	10.48	9.21	0.80	26.12	22.63	34.34	-4.73
1st Quartile	-1.57	26.27	12.98	6.28	6.92	-6.26	21.91	11.05	26.44	-8.35
Median	-2.86	22.00	9.45	5.04	6.13	-9.81	18.62	5.53	22.87	-11.74
3rd Quartile	-4.09	17.87	7.45	3.81	5.13	-13.95	15.35	1.31	18.85	-14.96
95th Percentile	-6.52	11.29	3.22	1.63	3.54	-22.15	8.66	-4.18	12.44	-19.53
Population	210	208	191	171	125	215	222	231	226	230





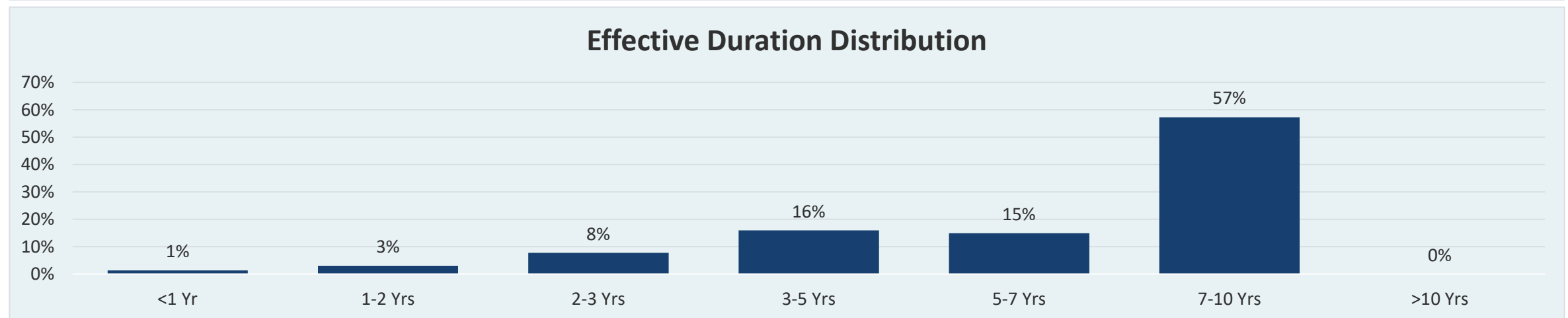
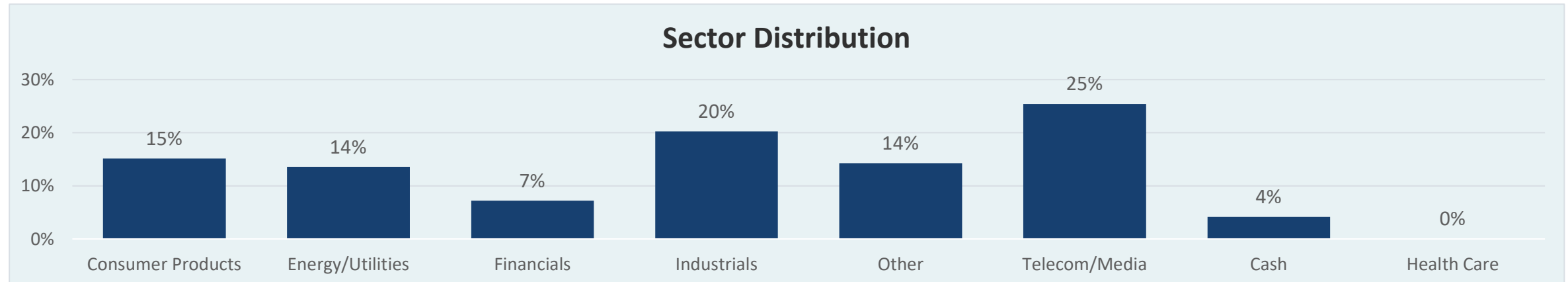
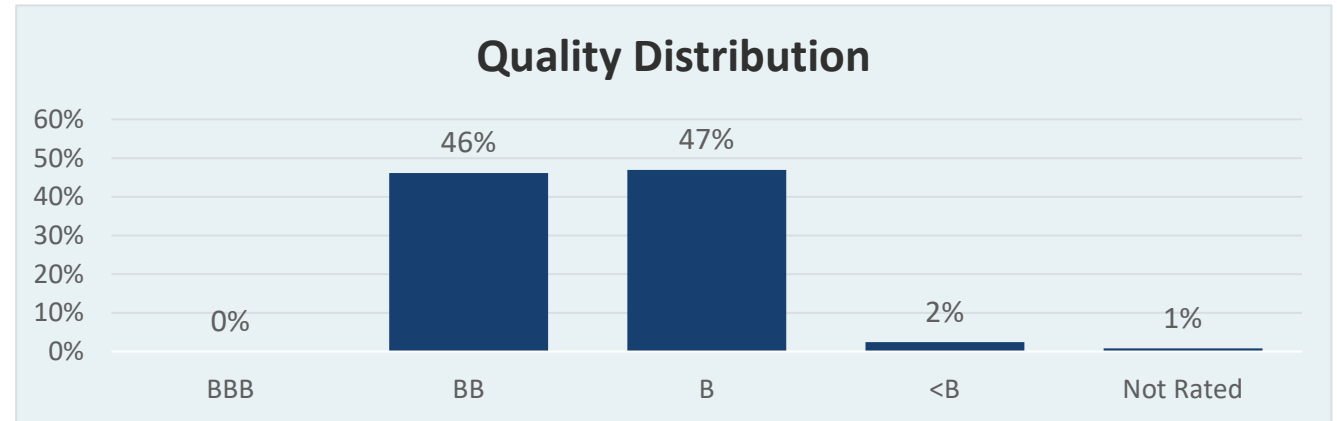
	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
First Eagle	7.8	13.5	0.5
MSCI ACWI Value NR USD	9.7	16.6	0.5
eV Global Value Equity Median	9.4	18.0	0.5
Population	191	191	191

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
First Eagle	6.4	14.2	0.4
MSCI ACWI Value NR USD	4.0	18.0	0.2
eV Global Value Equity Median	5.0	19.2	0.3
Population	171	171	171

High Yield Managers

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	3.60	3.60
Yield to Maturity	8.0%	9.0%
Average Quality	B1	B1
Average Coupon	6.7%	6.0%

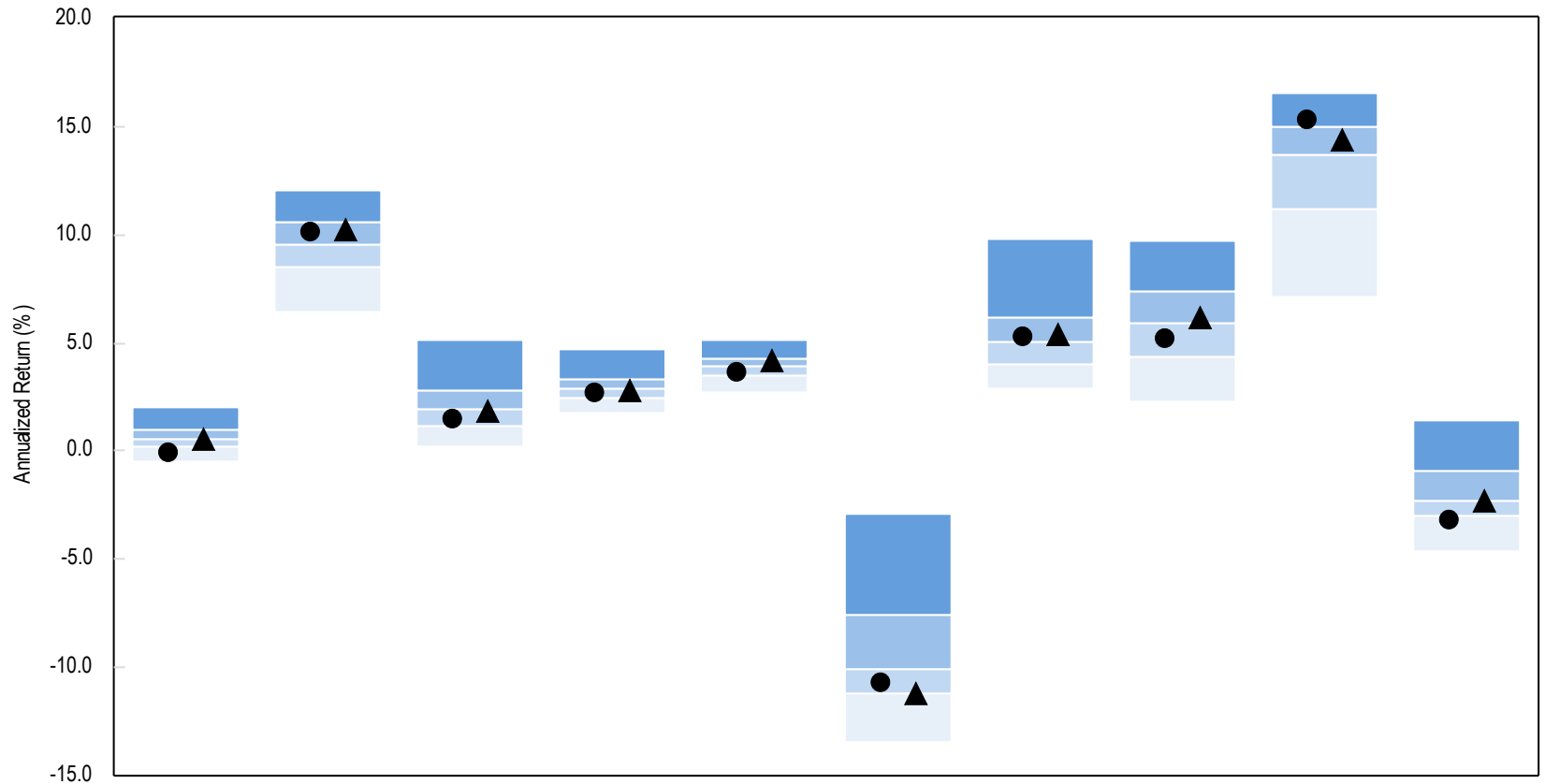


Quality distribution excludes cash.

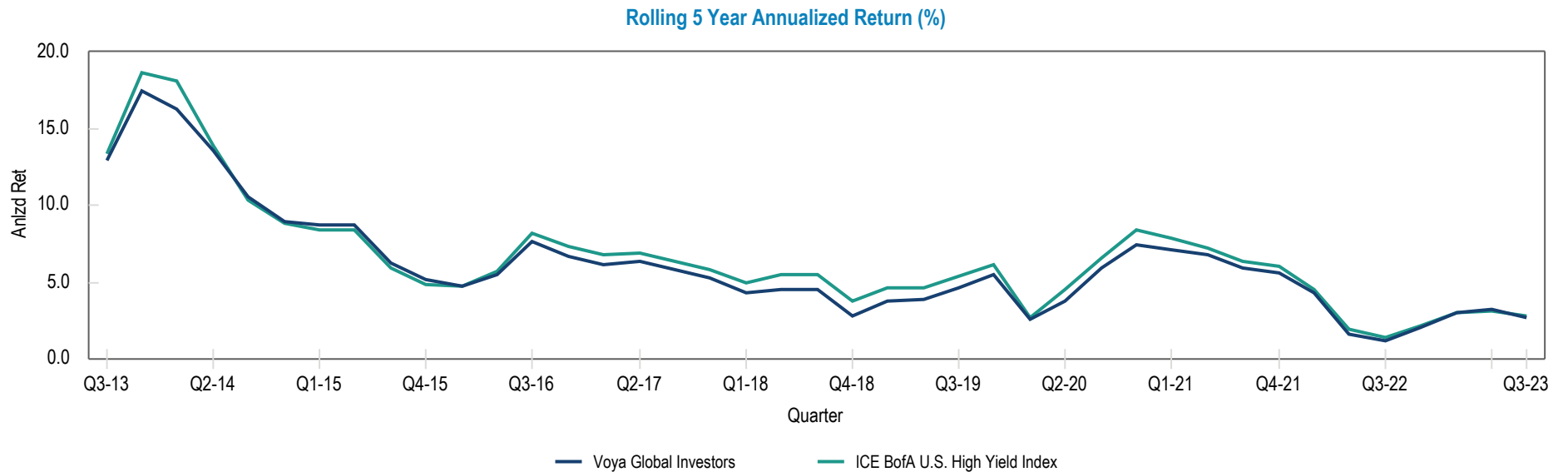
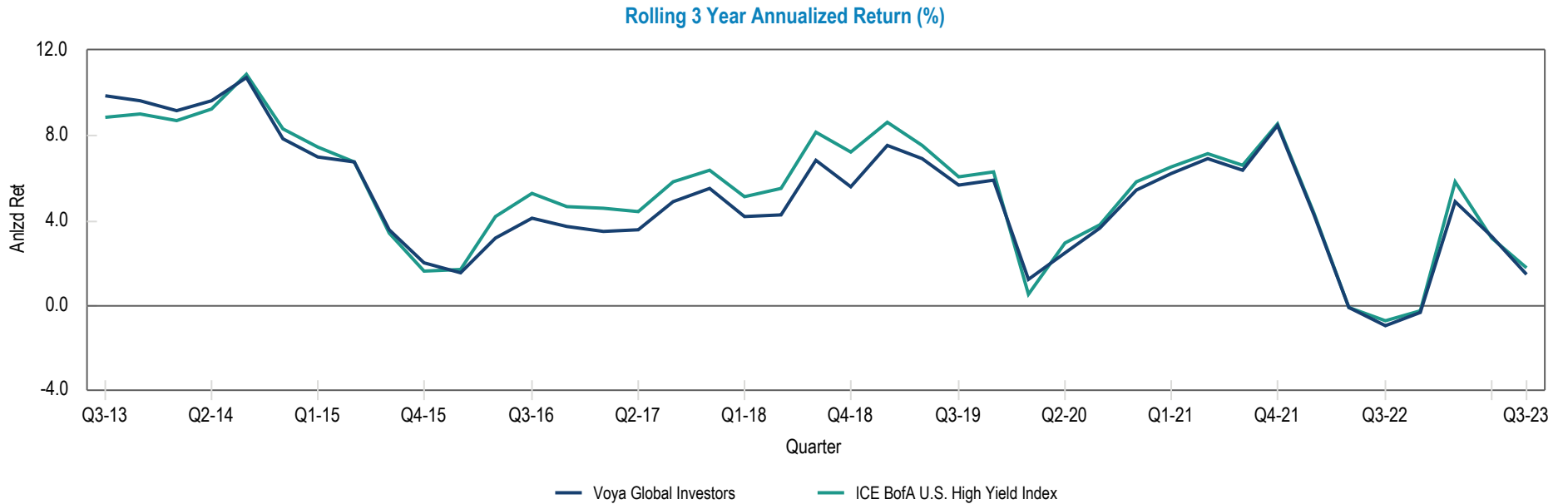
Voya Financial acquired Allianz Global Investors in 2022.

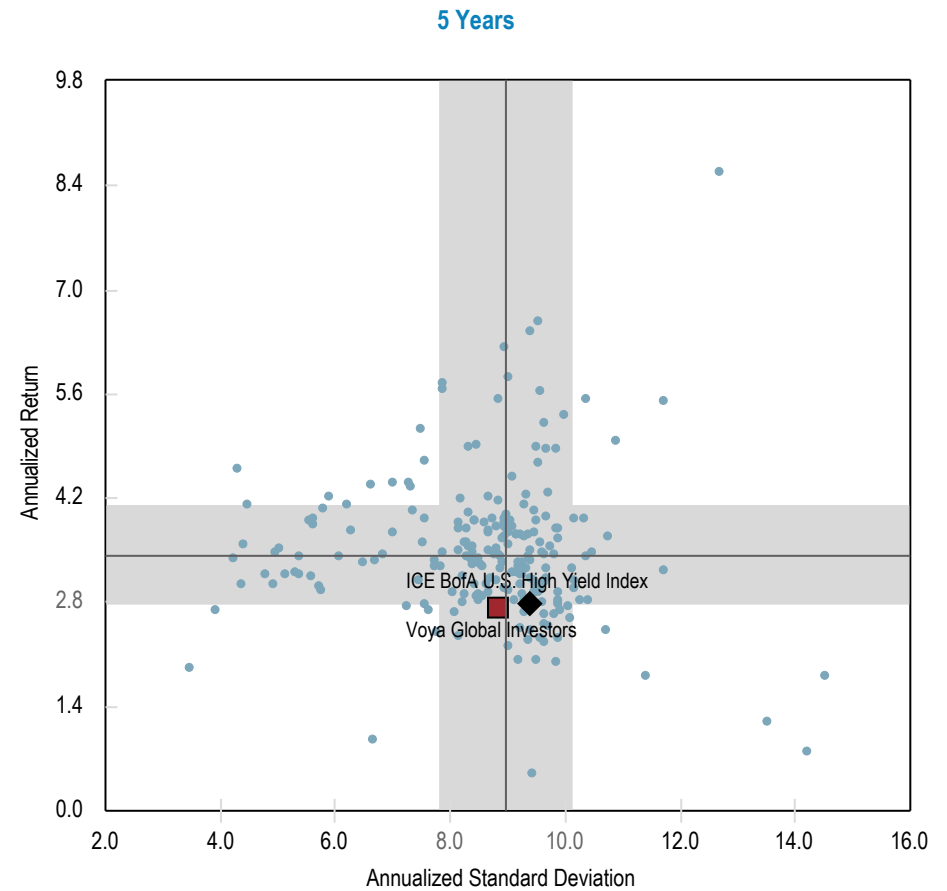
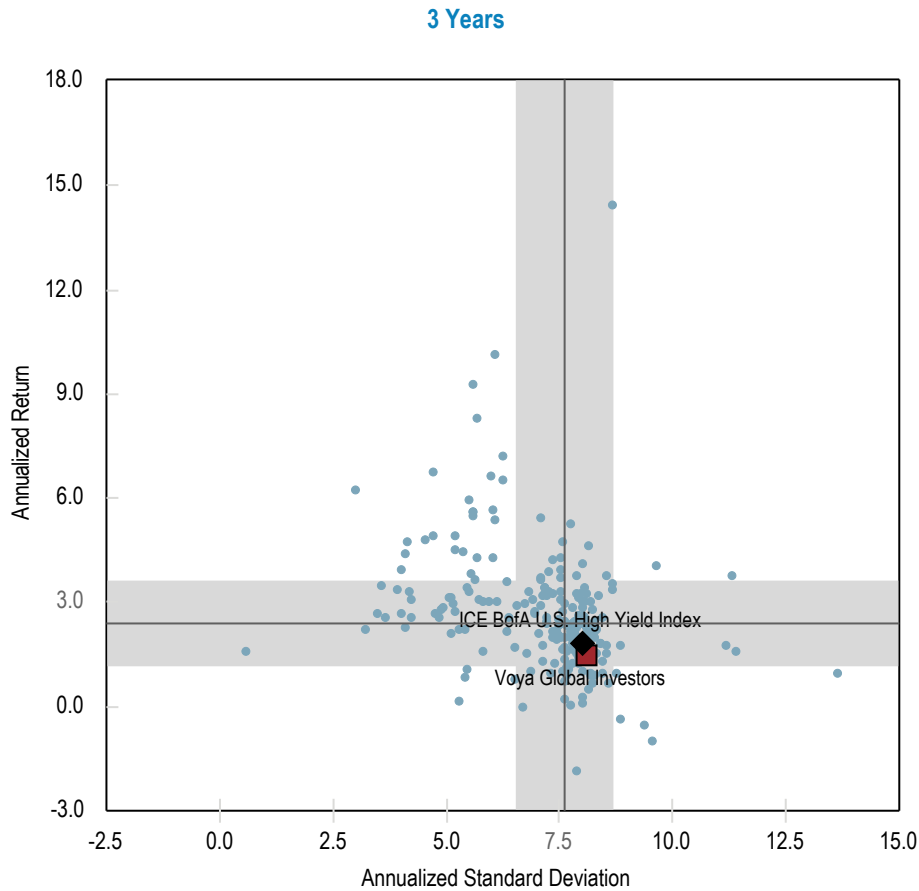


Voya Global Investors vs. eV US High Yield Fixed Inc Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2022	2021	2020	2019	2018
● Voya Global Investors	-0.01 (85)	10.19 (36)	1.50 (65)	2.73 (59)	3.63 (66)	-10.64 (64)	5.34 (42)	5.18 (65)	15.32 (19)	-3.20 (78)
▲ ICE BofA U.S. High Yield Index	0.53 (54)	10.20 (36)	1.82 (53)	2.80 (56)	4.16 (31)	-11.22 (76)	5.36 (42)	6.17 (43)	14.41 (36)	-2.27 (50)
5th Percentile	2.01	12.01	5.14	4.71	5.16	-2.94	9.81	9.73	16.54	1.43
1st Quartile	1.00	10.54	2.81	3.36	4.25	-7.55	6.15	7.40	14.94	-0.92
Median	0.57	9.54	1.90	2.90	3.90	-10.03	5.05	5.88	13.70	-2.30
3rd Quartile	0.23	8.48	1.14	2.44	3.51	-11.20	4.05	4.35	11.17	-3.01
95th Percentile	-0.46	6.47	0.19	1.81	2.72	-13.45	2.91	2.31	7.09	-4.60
Population	223	222	217	207	171	240	241	249	255	256





3 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Voya Global Investors	1.5	8.1	0.0
ICE BofA U.S. High Yield Index	1.8	8.0	0.1
eV US High Yield Fixed Inc Median	2.4	7.6	0.1
Population	229	229	229

5 Years

	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
Voya Global Investors	2.7	8.8	0.2
ICE BofA U.S. High Yield Index	2.8	9.4	0.2
eV US High Yield Fixed Inc Median	3.4	9.0	0.2
Population	219	219	219

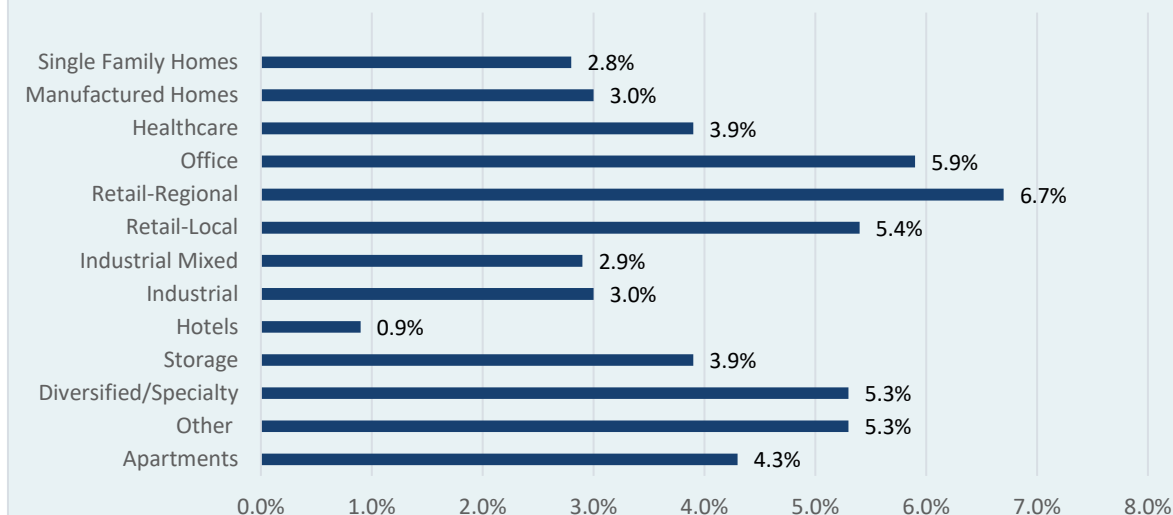
Real Estate Managers

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

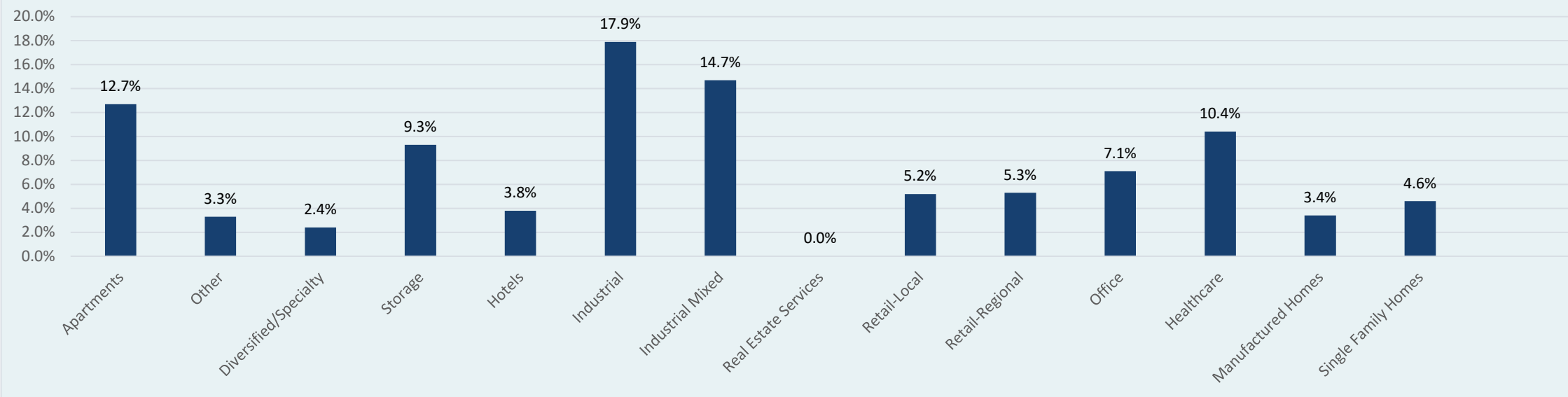
Top Five Holdings

Company	Property Type	Allocation
ProLogis Inc.	Industrial	14.3%
Equinix Inc.	Industrial Mixed	9.3%
Welltower Inc.	Healthcare	7.1%
Equity Residential	Apartments	5.4%
Public Storage	Storage	4.9%

Dividend Yield by Property Type



Property Type Allocation



0.0224% is allocated to Cash and Cash Equivalents.

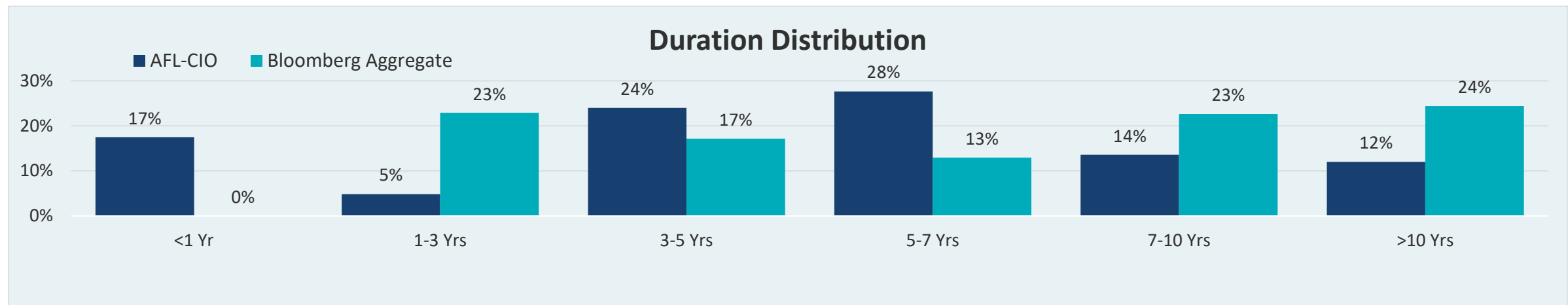
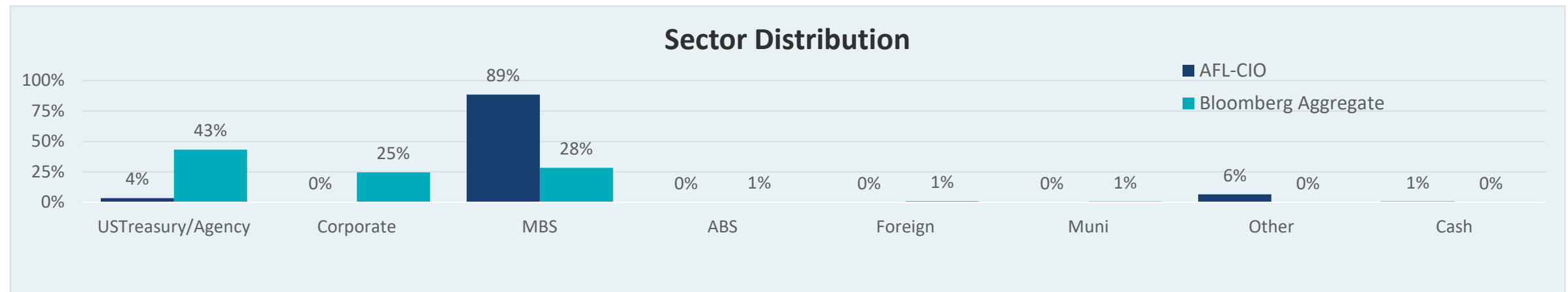
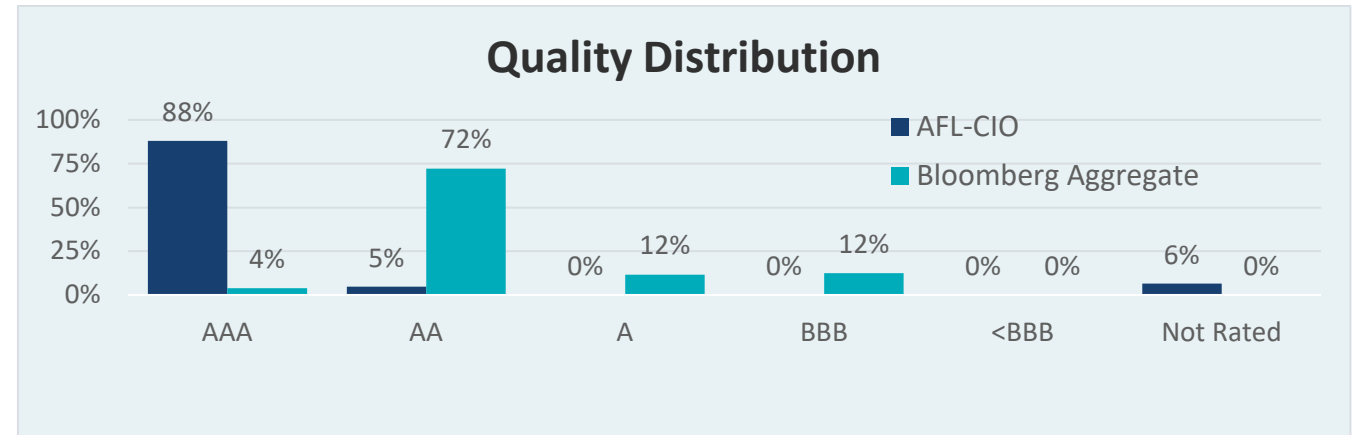
Diversifying Fixed Income Managers

AFL-CIO Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

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

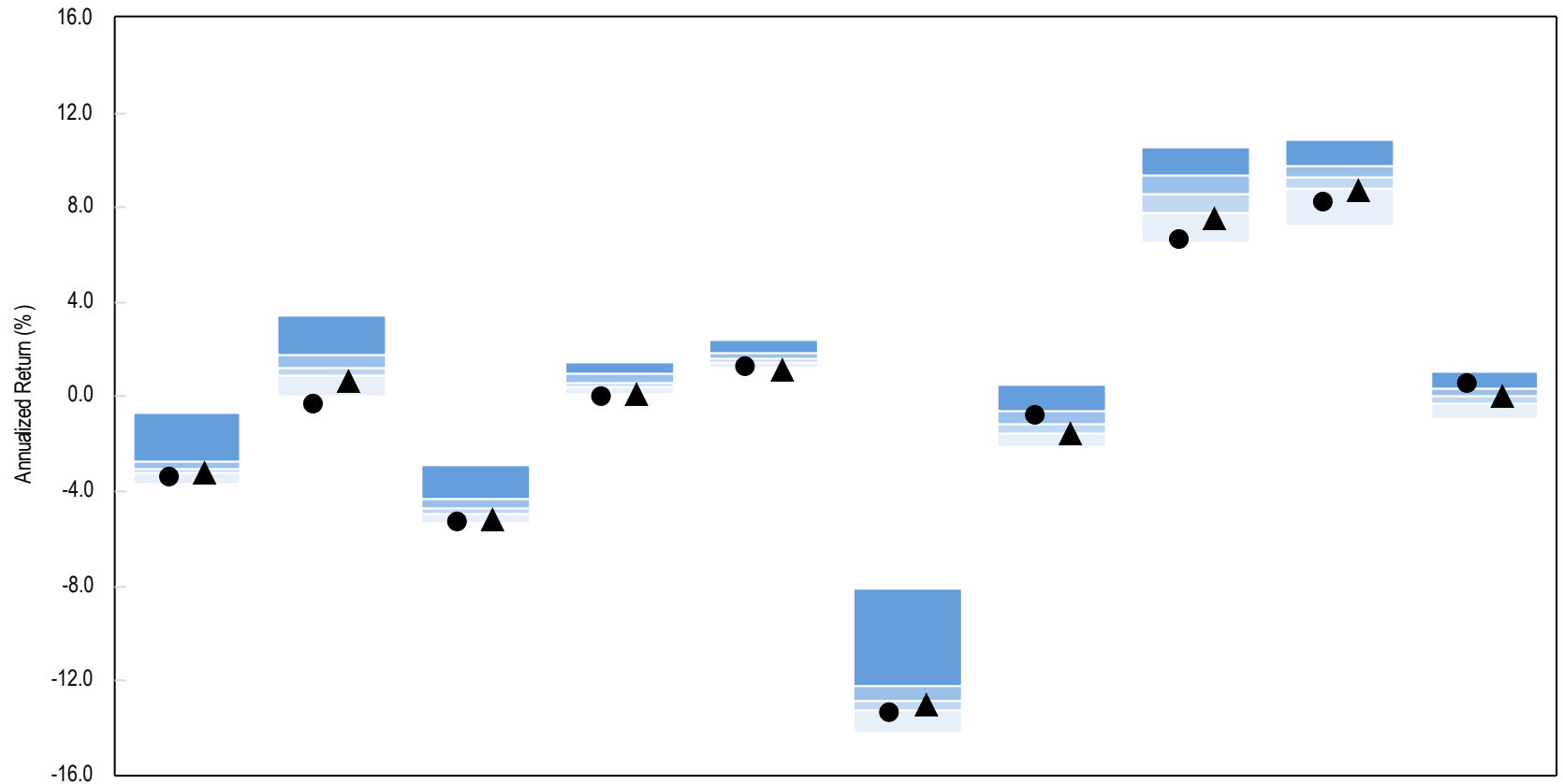
	AFL-CIO	Bloomberg Aggregate
Effective Duration	5.91	6.30
Yield to Maturity	4.1%	8.8%
Average Quality	AAA	AA
Average Coupon	3.5%	3.0%



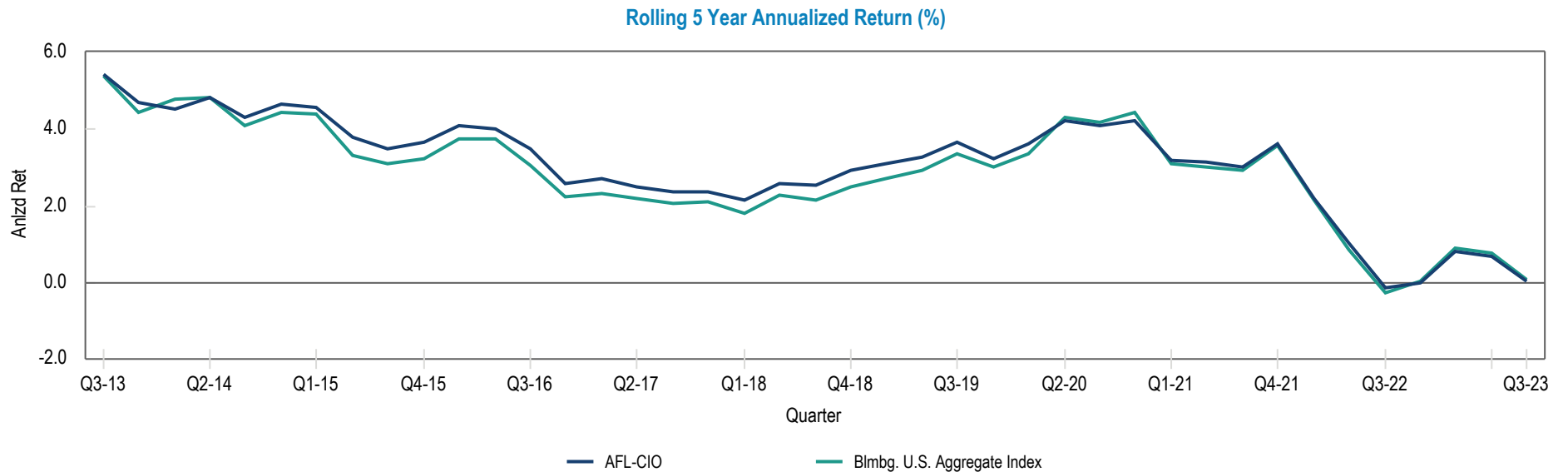
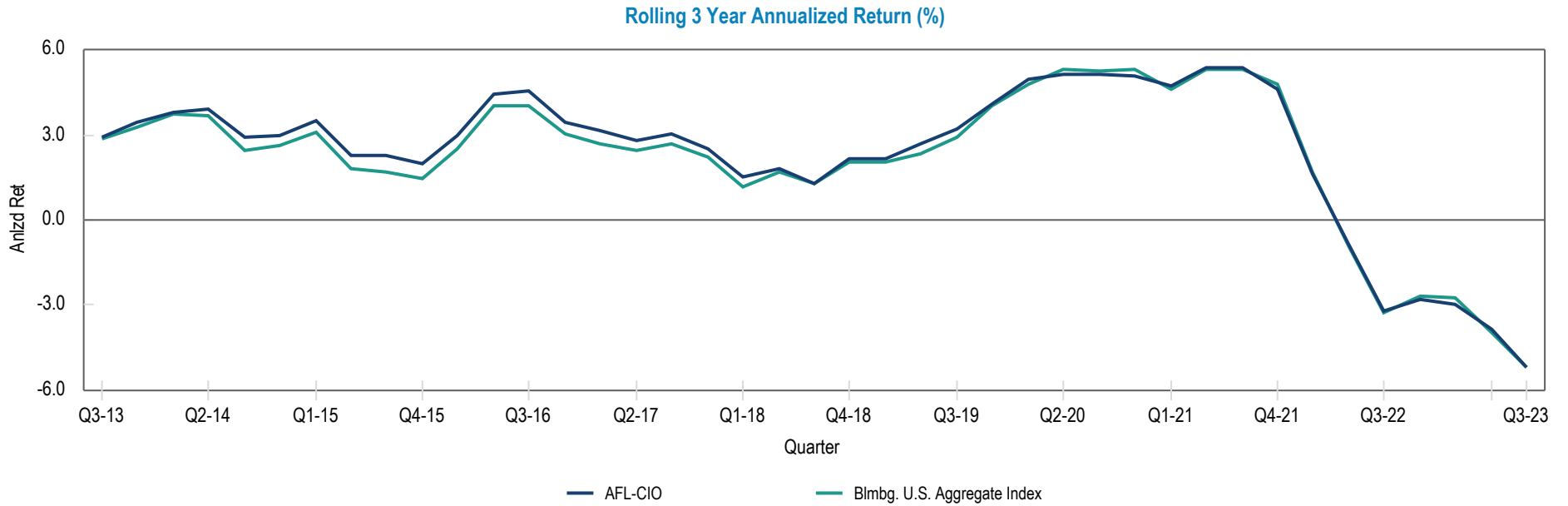
Duration and Quality distributions exclude cash.

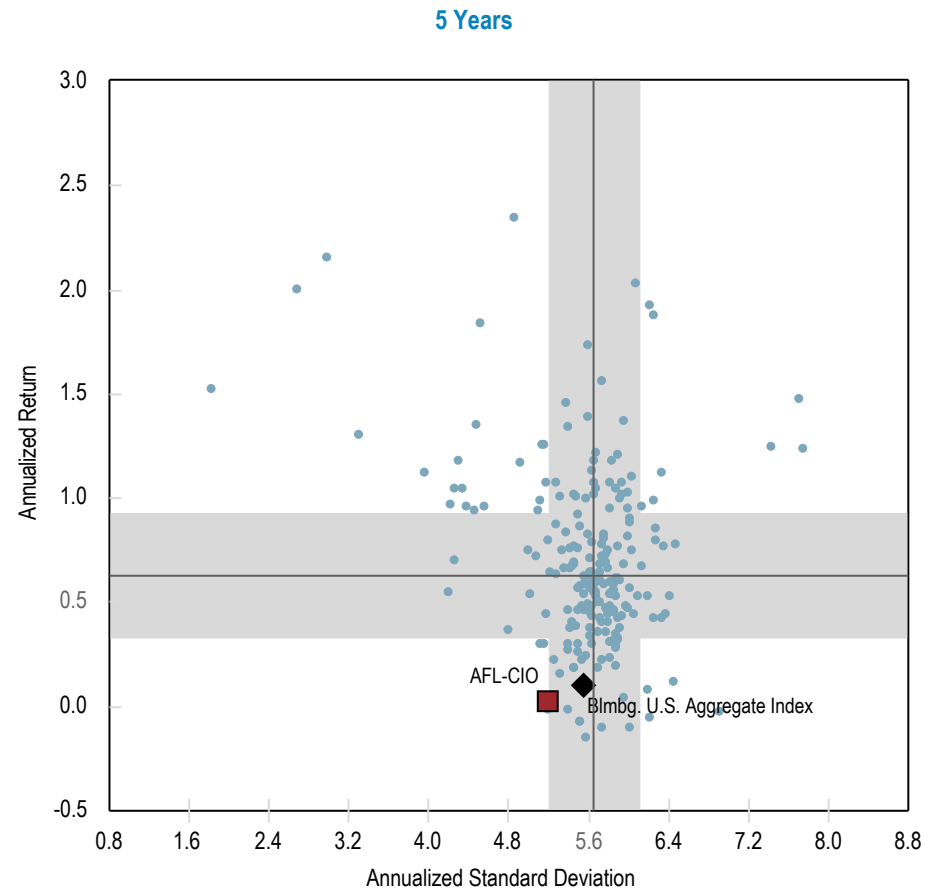
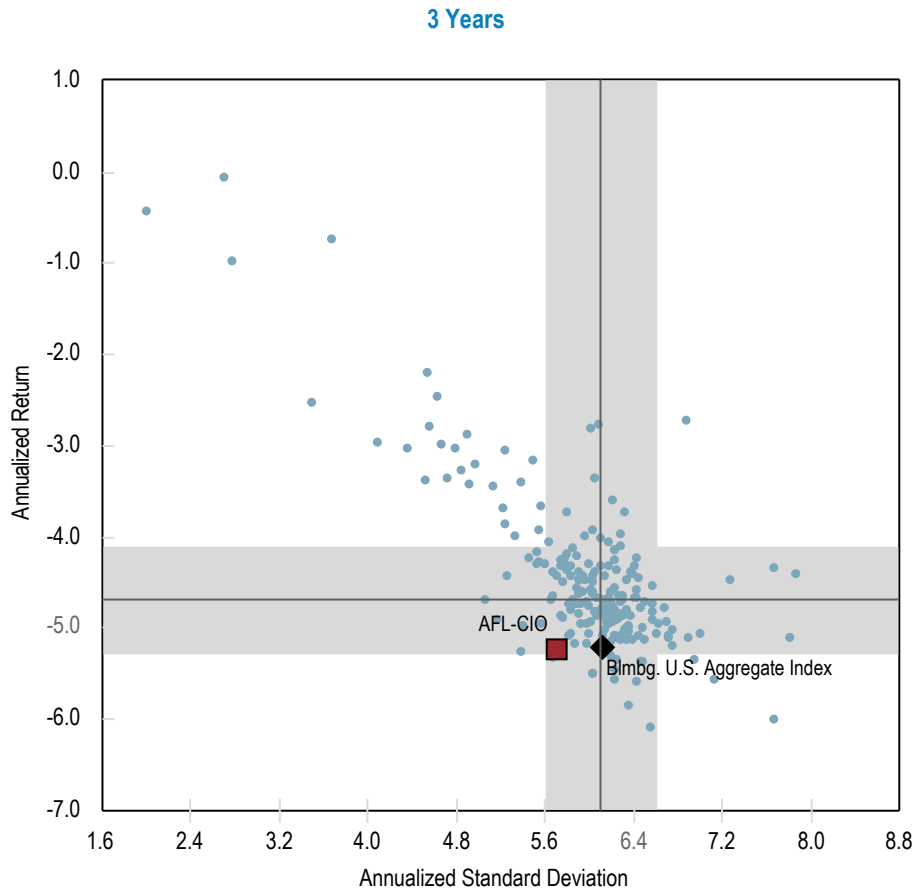


AFL-CIO vs. eV US Core Fixed Inc Gross Universe



	Quarter	1 Year	3 Years	5 Years	10 Years	2022	2021	2020	2019	2018
● AFL-CIO	-3.34 (86)	-0.31 (99)	-5.23 (93)	0.02 (96)	1.28 (93)	-13.27 (76)	-0.73 (33)	6.65 (95)	8.25 (87)	0.59 (14)
▲ Blmbg. U.S. Aggregate Index	-3.23 (76)	0.64 (83)	-5.21 (92)	0.10 (95)	1.13 (98)	-13.01 (63)	-1.55 (77)	7.51 (84)	8.72 (77)	0.01 (53)
5th Percentile	-0.68	3.41	-2.85	1.48	2.37	-8.09	0.50	10.57	10.85	1.08
1st Quartile	-2.75	1.74	-4.28	0.96	1.85	-12.19	-0.62	9.36	9.76	0.34
Median	-3.03	1.23	-4.69	0.63	1.64	-12.83	-1.11	8.57	9.30	0.03
3rd Quartile	-3.22	0.88	-4.94	0.44	1.45	-13.26	-1.52	7.77	8.79	-0.28
95th Percentile	-3.65	0.06	-5.35	0.09	1.24	-14.20	-2.11	6.55	7.22	-0.87
Population	225	225	215	207	194	250	258	261	267	273





	3 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
AFL-CIO	-5.2	5.7	-1.2
Blmbg. U.S. Aggregate Index	-5.2	6.1	-1.1
eV US Core Fixed Inc Median	-4.7	6.1	-1.0
Population	215	215	215

	5 Years		
	Anlzd Return (%)	Anlzd Standard Deviation (%)	Sharpe Ratio
AFL-CIO	0.0	5.2	-0.3
Blmbg. U.S. Aggregate Index	0.1	5.5	-0.3
eV US Core Fixed Inc Median	0.6	5.7	-0.2
Population	207	207	207

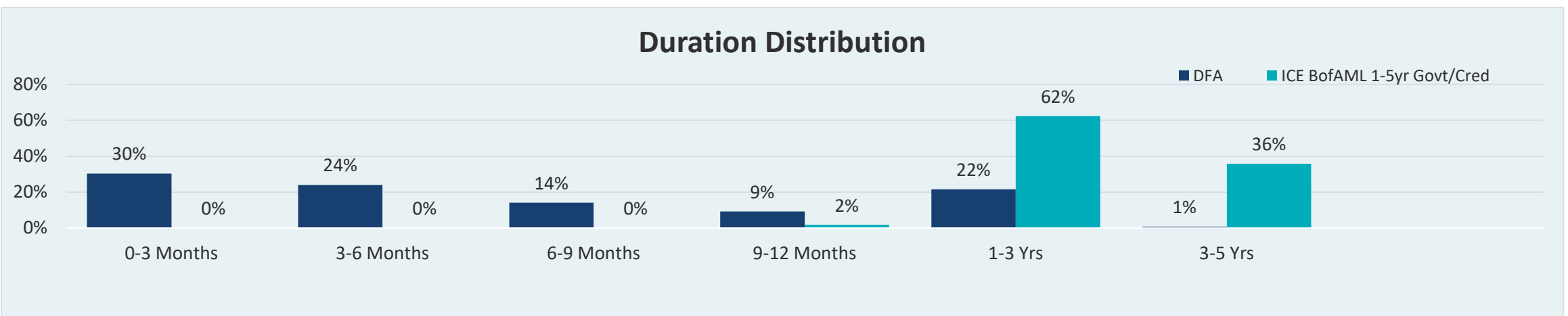
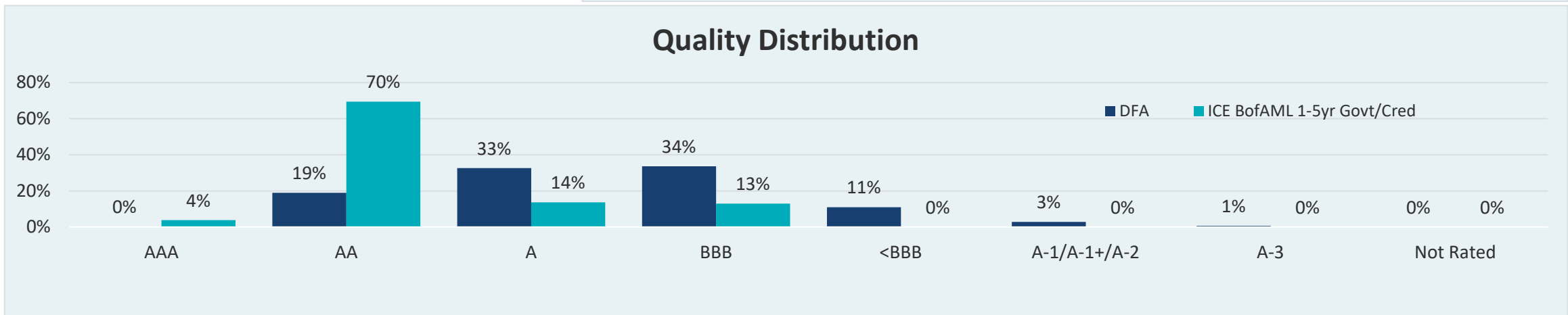
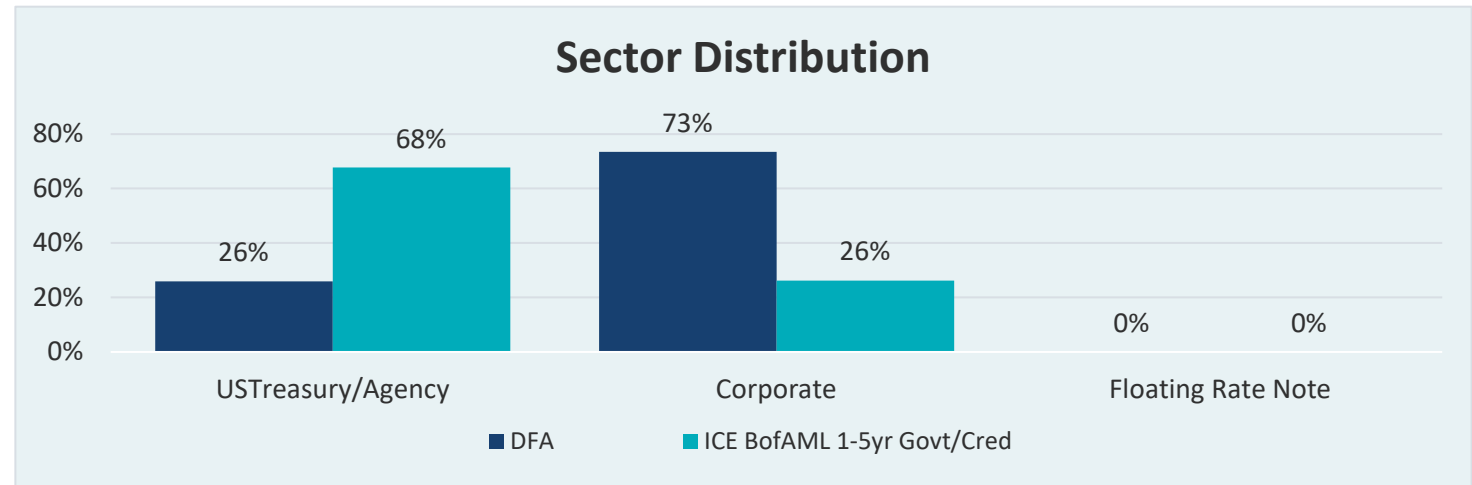
Liquidity Managers

DFA Short Credit Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

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	0.67	2.57
Yield to Maturity	6.23	5.28
Average Quality	A	Aa2
Average Coupon	2.77%	2.68%

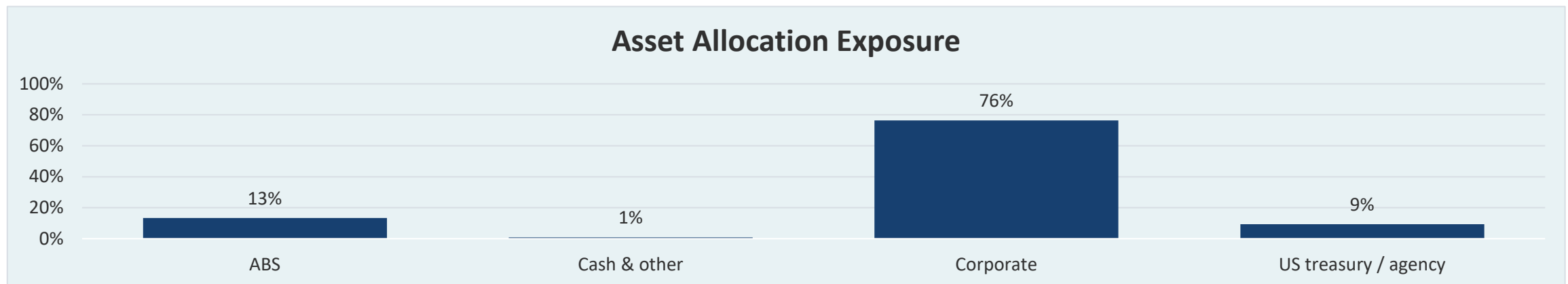
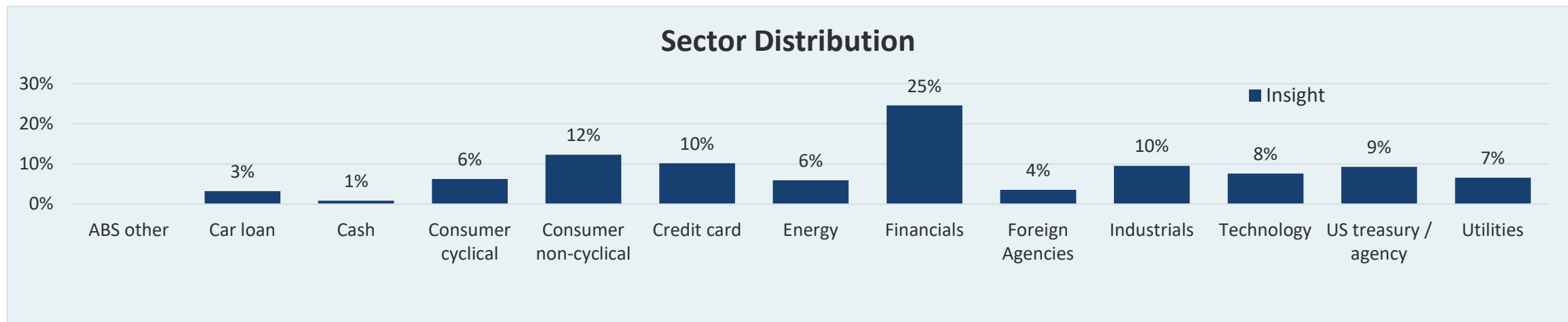
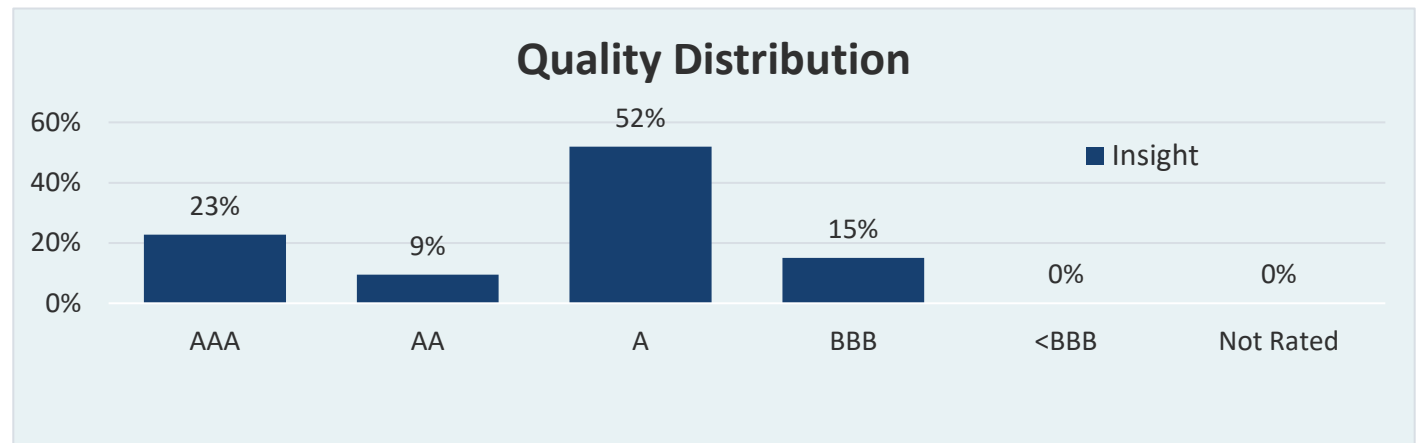


Insight Short Duration Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

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	1.31	1.90
Yield to Maturity	5.84	N/A
Average Quality	A+	AAA
Average Coupon	3.35%	2.00%

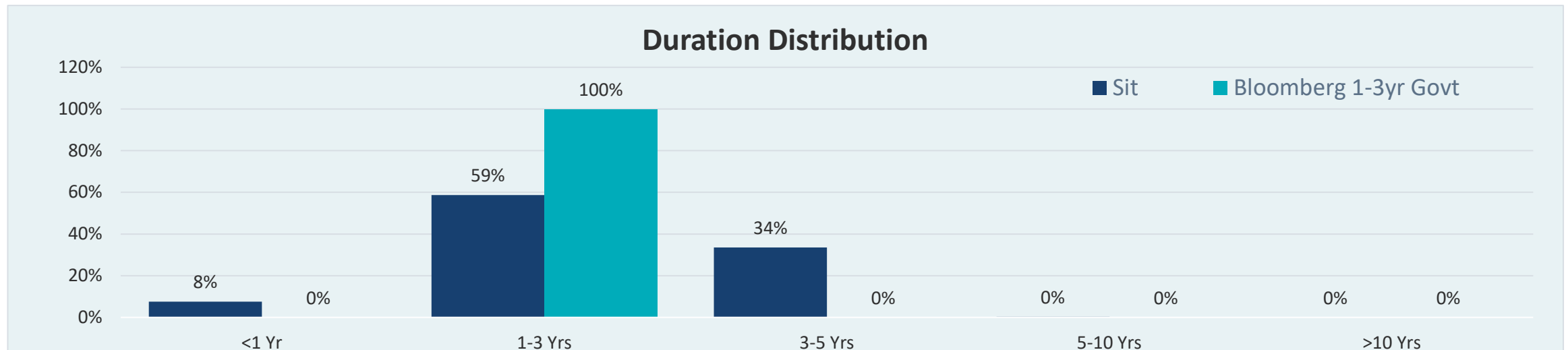
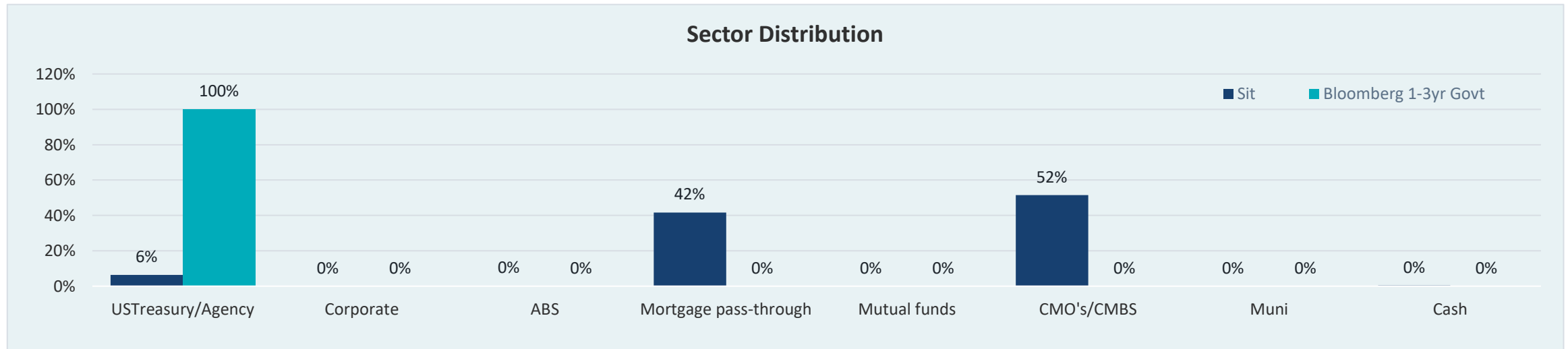
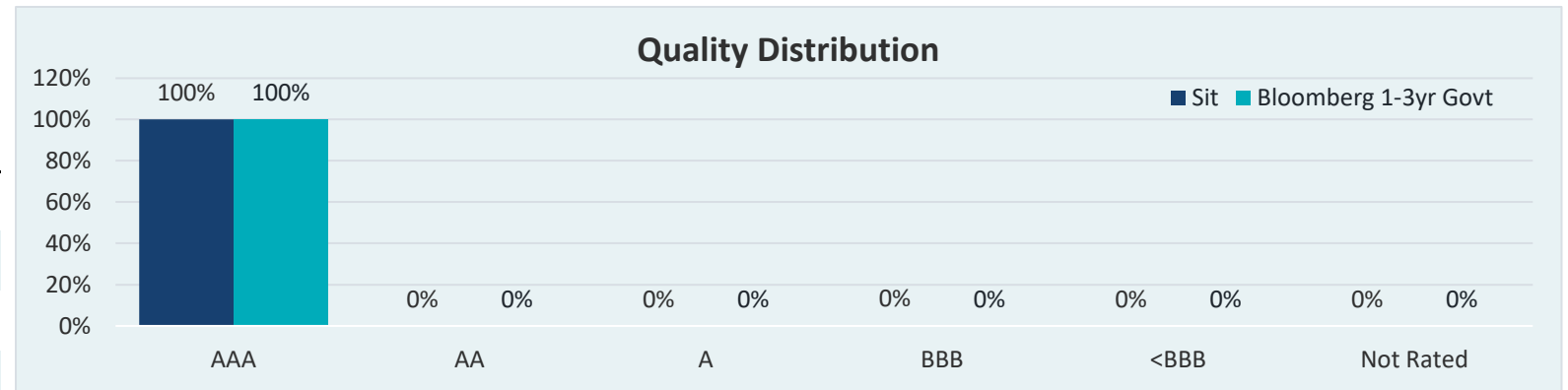


Sit Short Duration Manager Portfolio Overview

Contra Costa County Employees' Retirement Association
Period Ending: September 30, 2023

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	2.80	1.90
Yield to Maturity	5.50	N/A
Average Quality	AAA	AAA
Average Coupon	5.90%	2.00%



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, 2023

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

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	2/20/2019	Invesco	
Boston Partners	6/1/1995	Northern Trust	Invesco Real Estate V	9/27/2022	Invesco	
Emerald Advisors	4/7/2003	Northern Trust	Oaktree REOF V	12/31/2011	Oaktree	
Ceredex	11/6/2011	Northern Trust	Oaktree REOF VI	9/30/2013	Oaktree	
Pyrford	4/25/2014	State Street	Oaktree REOF VII	4/1/2015	Oaktree	
William Blair	10/29/2010	William Blair	PCCI IX	4/28/222	PCCP	
PIMCO RAE Emerging Markets	2/28/2017	State Street	Siguler Guff DREOF	1/25/2012	Siguler Guff	
TT Emerging Markets	7/27/2017	TT	Siguler Guff DREOF II	8/31/2013	Siguler Guff	
Artisan Partners	10/1/2012	SEI Trust	Siguler Guff DREOF II Co-Inv	1/27/2016	Siguler Guff	
First Eagle	1/18/2011	Northern Trust	Paulson Real Estate Fund II	11/10/2013	Paulson	
Allianz Global Investors	4/25/2000	Northern Trust	AE Industrial Partners Fund II	4/8/2019	StepStone Group	
Adelante	9/30/2001	Northern Trust	Adams Street Partners	3/18/1996	StepStone Group	
AQR Global Risk Premium - EL	1/18/2019	AQR	Adams Street Partners II	1/16/2009	StepStone Group	
Panagora Risk Parity Multi Asset	3/15/2019	Panagora	Adams Street Partners Venture	4/28/2017	StepStone Group	
AFL-CIO	6/30/1991	AFL-CIO	Adams Street Partners - BFP	1/18/1996	StepStone Group	
Wellington Real Total Return (in Liquidation)	2/26/2013	Wellington	Adams Street Partners - Fund 5	9/21/2012	StepStone Group	
Acadian Multi-Asset Absolute Return Fund	8/4/2020	SS&C	Aether Real Assets IV	3/16/2016	StepStone Group	
Sit LLCAR	4/15/2021	Northern Trust	Aether Real Assets III	11/27/2013	StepStone Group	
Sit Short Duration	11/2/2016	Northern Trust	Aether Real Assets III Surplus	11/30/2013	StepStone Group	
DFA Short Credit	11/21/2016	Northern Trust	Bay Area Equity Fund	6/14/2004	StepStone Group	
Insight Short Duration	11/18/2016	Northern Trust	Bay Area Equity Fund II	12/7/2009	StepStone Group	
Parametric Overlay	3/29/2017	Northern Trust	Commonfund	6/28/2013	StepStone Group	
Cash	-	Northern Trust	EIF US Power Fund II	8/16/2005	StepStone Group	
Angelo Gordon Energy Credit Opp	9/24/2015	StepStone Group	EIF US Power Fund III	5/30/2007	StepStone Group	
StepStone CC Opportunities Fund	2/1/2018	StepStone Group	EIF US Power Fund IV	11/28/2011	StepStone Group	
Torchlight II	9/30/2006	StepStone Group	EIF US Power Fund V	11/28/2016	StepStone Group	
Torchlight IV	7/1/2012	StepStone Group	Genstar Capital Partners IX, L.P.	2/21/2019	StepStone Group	
Torchlight V	7/1/2012	StepStone Group	Oaktree PIF 2009	2/28/2010	StepStone Group	
Angelo Gordon Realty Fund VIII	1/23/2012	Angelo Gordon	Paladin III	11/30/2007	StepStone Group	
Angelo Gordon Realty Fund IX	12/8/2014	Angelo Gordon	Ocean Avenue Fund II	6/11/2014	StepStone Group	
Blackstone Real Estate Partners X	3/24/2023	Blackstone	Ocean Avenue Fund III	4/15/2016	StepStone Group	
DLJ RECP III	6/23/2005	DLJ	Pathway 6	5/24/2011	StepStone Group	
DLJ RECP IV	2/11/2008	DLJ	Pathway 7	2/7/2013	StepStone Group	
DLJ RECP V	7/1/2014	DLJ	Pathway 8	11/23/2015	StepStone Group	
DLJ RECP VI	3/19/2019	DLJ	Pathway	11/9/1998	StepStone Group	
LaSalle Income & Growth VI	7/16/2013	LaSalle	Pathway 2008	12/26/2008	StepStone Group	
LaSalle Income & Growth VII	2/28/2017	LaSalle	Siguler Guff CCCERA Opps	6/3/2014	StepStone Group	
Hearthstone II	6/17/1998	Hearthstone	Siguler Guff Secondary Opps	11/30/2016	StepStone Group	
Long Wharf Fund IV	7/3/2013	Long Wharf	Siris Partners IV	3/15/2019	StepStone Group	
Long Wharf Fund V	9/30/2016	Long Wharf	TPG Healthcare Partners, L.P.	6/28/2019	StepStone Group	
Long Wharf Fund VI	2/5/2020	Long Wharf	Trident VIII, L.P.	5/24/2019	StepStone Group	
Long Wharf Fund VII	5/30/2023	Long Wharf	Wastewater Opp. Fund	12/8/2015	StepStone Group	
Invesco Real Estate IV	6/30/2014	Invesco				

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: December 13, 2023

To: CCCERA Board of Retirement Trustees

From: Timothy Price, Chief Investment Officer

Subject: Investment Staff Report – Q3 2023

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, 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.

CCCERA has been rewarded for implementing a more complex portfolio and has outperformed the Simple Target Index over the trailing ten-year period, but has lagged the STI over shorter periods, while experiencing less risk (volatility). 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 third quarter of 2023, all managers held high quality (as measured by credit ratings), low duration portfolios. The average credit quality for the entire liquidity program is A (AAA is the highest rating), and the duration is 1.0 year, which is considered short.

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, 2023, the Growth portfolio returned 6.0% relative to the index return of 6.5%, for a relative underperformance of -0.5%. Over this period, the Growth program produced a superior Sharpe ratio of 0.3 relative to the index's 0.2. During the third quarter of 2023, CCCERA's Growth sub-portfolio return of -2.4% relative to MSCI ACWI Index return of -3.4%.

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 0.7, the same as in June 2023. The trailing real (net of inflation) return over the past five years is -4.1%, remaining below expectations. Recent changes to diversify this portion of the portfolio away from fixed income have been beneficial over the past year.

By and large, the product teams and asset managers across all managers are stable. There have been two personnel changes announced at TT and Acadian. We are conducting on-site reviews with both firms. CCCERA's Total Fund in aggregate is performing in line with expectations, 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	A	Meeting Expectations
Low Risk	Duration	1.0 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: 6.0%	Meeting Expectations
	Benchmark Relative Returns	-0.5% relative to ACWI over trailing 5 years	Below Expectations
Efficient Capital Deployment	Sharpe Ratio	CCCERA: 0.3 MSCI ACWI: 0.2 (over trailing 5 years)	Meeting Expectations

Risk Diversifying

Objective	Measurement	Current Period Data	Status
Offset Volatility in Growth Portfolio	Correlation	0.7 over trailing 5 years	Below Expectations
Positive Real Returns	Returns	5 yr real return: -4.1% 5 yr nominal return: -0.1%	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	-5%	-3%	N
Sit	Good	-4%	1%	N
DFA	Good	1%	15%	N

Performance

	Portfolio Average Credit Quality	Portfolio Average Duration	Portfolio Average Yield	1 Year Total Return
Insight	A+	1.0	5.5	2.8%
Sit	A+	1.3	5.8	1.9%
DFA	A	0.7	6.2	4.9%

Manager Notes:

Fixed income yields have moderated on the growing consensus that the Federal Reserve is done raising rates for this cycle. The shorter duration of CCCERA's mandates have provided relative protection during these rate hikes, as has the buy and maintain bias of the portfolio.

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	8%	11%	N
BlackRock Index Fund	Good	9%	14%	N
Emerald Advisors	Good	7%	6%	N
Ceredex	Good	-19%	-8%	N
Pyrford	Good	12%	-2%	N
William Blair	Good	6%	16%	N
First Eagle	Good	11%	12%	N
Artisan Global	Good	5%	13%	N
PIMCO/RAE EM	Good	14%	3%	N
TT EM	Under Review	-59%	-20%	N
Adelante	Good	-7%	-8%	N
Invesco REIT	Good	8%	12%	N
Voya	Good	10%	-3%	N
AQR	Good	-5%	4%	N
PanAgora	Good	-23%	1%	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	21%	6%	8%		
Boston Partners	18%	8%	10%	Y	04/30/1995
BlackRock Index Fund	21%	10%	12%	Y	03/31/2017
Emerald Advisors	10%	3%	8%	Y	03/31/2003
Ceredex	19%	4%	7%	Y	09/30/2011
Total Domestic Equity	19%	7%	10%	Y	
Pyrford	22%	4%	4%	Y	03/31/2014
William Blair	14%	3%	5%	Y	09/30/2010
PIMCO/RAE EM	30%	5%	5%	Y	01/31/2017
TT EM	6%	0%	3%	N	06/30/2017
Total International Equity	18%	3%	4%	Y	
First Eagle	19%	6%	6%	Y	12/31/2010
Artisan Global	15%	7%	9%	Y	11/30/2012
Total Global Equity	17%	6%	8%	Y	
Adelante	4%	4%	7%	Y	07/31/2001
Invesco REIT	-3%	N/A	N/A	Y	02/28/2022
Voya	10%	2%	3%	N	04/30/2000
AQR	3%	2%	3%	N	12/31/2018
PanAgora	0%	1%	4%	N	02/28/2019
Private Equity	-2%	14%	13%	Y	
Private Credit	8%	8%	9%	Y	
Real Estate	-11%	1%	6%	Y	

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

Manager Notes:

On May 15, 2023, TPG announced a deal to acquire Angelo Gordon for \$2.7 billion. That deal closed on November 2, 2023. CCCERA is a current investor in three TPG private equity funds and three funds from Angelo Gordon spanning both credit and real estate strategies.

Niall Paul, lead portfolio and architect of the TT International Global Emerging Market strategy, has announced that he intends to retire near the end of the year. Rob James, who had been a co-PM on the strategy, will continue along with Diego Mauro, who joined the firm in 2020. We are in the midst of re-underwriting the strategy to vet the team's capacity after the departure of Niall Paul.

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.

Third 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	2%	2%	N
Acadian	Under Review	27%	17%	N
Sit	Good	1%	1%	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	0.8	0.8	-1%	0%	100%
Acadian	-1.0	-0.4	-4%	3%	100%
Sit	0.3	N/A	0%	N/A	100%

Manager Notes:

Acadian announced on October 2, 2023 that they had parted ways Ilya Figelman as well as four junior members of the systematic team that manages our account. Mr. Figelman had been the founder and lead portfolio manager of the MAARS strategy in which CCCERA is invested. In the interim, the team will be lead by Senior Portfolio Manager Thomas Dobler. We have conducted an on-site review and we are monitoring performance closely.

We are completing our final reviews of two trend following strategies for potential inclusion in the program in early 2024.

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.

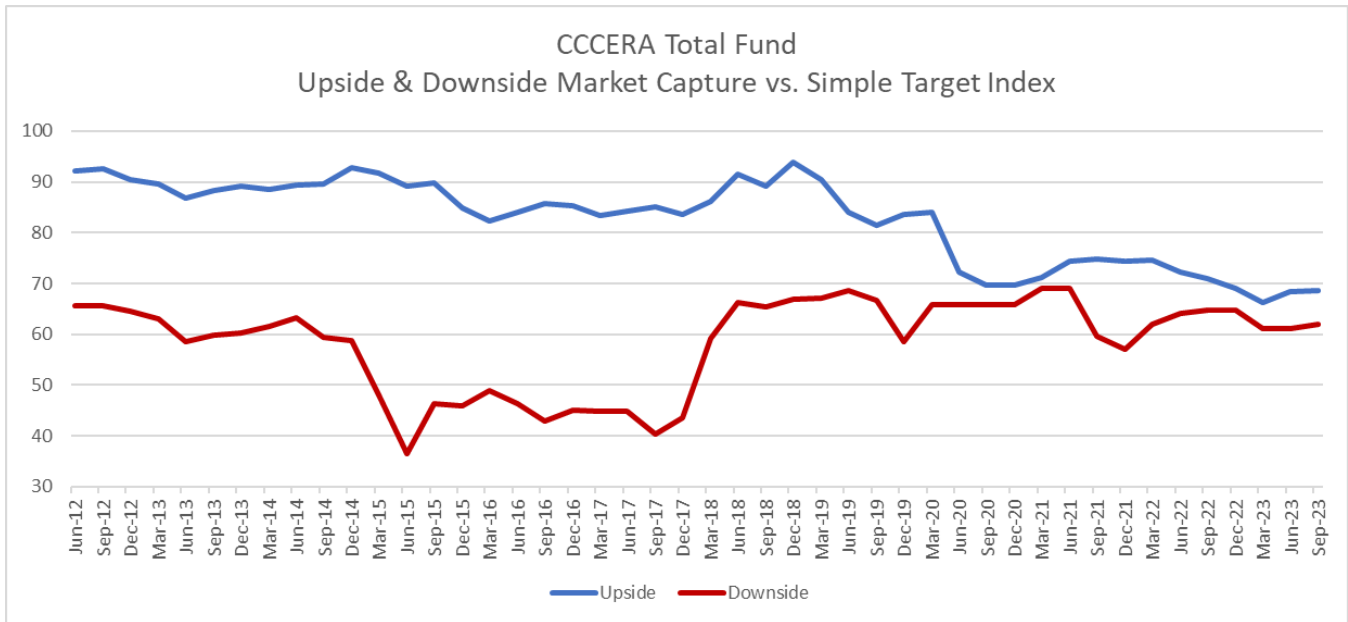
AFL-CIO: Portfolio of domestic, high quality fixed income securities which are backed by commercial and residential mortgages.

Acadian: Quantitatively managed multi-asset absolute return strategy that uses various models to capture pricing dislocations.

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	13.4%	0.5%	0.1%	17.0%	0.7%	0.1%	-3.6%	-0.3%	-0.1%
Growth	78.1%	-2.4%	-1.9%	76.0%	-3.4%	-2.6%	2.1%	1.0%	0.7%
Risk Diversifying	7.4%	-1.2%	-0.1%	7.0%	1.3%	0.1%	0.4%	-2.5%	-0.2%
Overlay	1.1%	-3.0%	0.0%	0%	0%	0%	1.1%	-3.0%	0.0%
Total Fund	100%		-1.9%	100%		-2.4%	-0.1%		0.4%

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	7.6	16.4	4.4	4.8	4.6	5.3	6.0	5.6
Volatility	5.0	8.7	9.0	12.8	9.9	14.7	7.5	10.9
Sharpe	0.6	1.3	0.3	0.2	0.3	0.2	0.7	0.4

The Simple Target Index is made up of 76% MSCI ACWI, 17% Bloomberg 1-3 Year Gov/Credit, and 7% 3-Month Treasury Bill. This 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 and has produced a solid absolute return over the past ten years. The Total Fund has lagged the STI over the trailing one, three and five-year periods. This primarily reflects challenges within the publicly traded equity investments (most notably in emerging markets) as well as the sharp recovery in global equities relative to private asset classes. The long-term track record indicates that CCCERA has been rewarded over time for engaging in more complex investments which target outperformance versus investing passively in the publicly traded market even though these more complex structures.

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 exceeded the Sharpe ratio relative to the Simple Target Index over all trailing time periods longer than one year, indicating that CCCERA is being favorably rewarded for the level of risk taken in the portfolio.



Memorandum

Date: December 13, 2023

To: CCCERA Board of Retirement

From: Timothy Price, Chief Investment Officer

Subject: Update on Private Equity and Real Estate Allocations

Overview

CCCERA recently made commitments to one private equity and two real estate funds using the delegated authority granted in the Investment Policy Statement. A brief description of each fund/strategy is included below. This memo is for informational purposes only and no action is required from the Board at this time.

Investment Policy Statement

The CCCERA Investment Policy Statement adopted by the Board on September 28, 2016 (amended on April 24, 2019 and May 26, 2021) outlines the hiring process for new investment mandates. Commitments up to a \$150 million per strategy may be approved via a staff review process, while mandates above this threshold require approval by the Board.

EQT Infrastructure Fund VI

EQT Infrastructure VI is a value-oriented investment strategy that will target investments in four core infrastructure sectors: digital, energy and environmental, transport and logistics, and social. They will focus on companies primarily located in Europe and North America (80% minimum) and Asia Pacific (20% maximum). The Fund will focus on several sector focused themes across the infrastructure opportunity set (fast and reliable connectivity, decarbonization, automation, health/well-being, etc.), positioning themselves as a preferred buyer and seeking exclusivity in deals. EQT is targeting a total fundraise of €20 billion. CCCERA committed \$125 mm to this fund.

KSL Capital Partners Fund VI

KSL VI is a closed-end opportunistic real estate fund that targets investments in the hospitality and leisure sectors. The fund's focus areas are hotels, recreation clubs, and the leisure sector. Fund VI is targeting a total fundraise of \$3 billion. CCCERA committed \$50 mm to this fund.

Ares US Real Estate Opportunity Fund IV

Ares US Real Estate Opportunity Fund IV (AREOF IV) is a closed-end opportunistic real estate fund that targets investments in the commercial real estate sectors. The fund's focus areas are industrial, multifamily, triple nets (leasing), and rescue capital via structured preferred equity. Fund IV is targeting a total fundraise of \$3 billion. CCCERA committed \$60 mm to this fund.

NAPOS's 34th Annual Pension & Benefits Seminar January 29 – January 31, 2023

Sunday, January 29

- | | |
|------------------------------|---|
| 1:00 p.m. – 4:00 p.m. | Attendee Registration |
| 1:30 p.m. – 3:30 p.m. | NAPO Executive Board Meeting |
| 1:30 p.m. – 3:00 p.m. | Sponsor Registration & Exhibit Setup |
| 3:30 p.m. – 6:30 p.m. | Championship Football Tailgate Party |

Monday, January 30

- | | |
|--------------------------------|--|
| 8:30 a.m. - 7:00 p.m. | Registration & Exhibit Hall Open |
| 8:30 a.m. – 9:00 a.m. | Continental Breakfast – Exhibit Hall
Sponsored by Empower |
| 9:00 a.m. – 9:15 a.m. | Welcome Remarks and Presentation of Colors
Sergeant Michael McHale, <i>President, NAPO</i>
<i>Las Vegas Metropolitan Police Honor Guard</i> |
| 9:15 a.m. – 10:00 a.m. | Markets, Policy & Recession Risk in 2023
Jason R. Vaillancourt <i>Global Macro Strategist</i>
<i>Putnam Investments/Empower</i> |
| 10:00 a.m. – 11:00 a.m. | Pensions Overview
Robert D. Klausner <i>Esq., Partner</i>
<i>Klausner Kaufman Jensen & Levinson Law Firm</i> |

A Review of the Constitutional protection of pension rights under state and federal constitutions; the role of collective bargaining ion that process; and the limits of the protections as determined by the courts.

- | | |
|--------------------------------|--|
| 11:00 a.m. – 11:15 a.m. | Coffee Break
Sponsored by Spectrum Advisory Group |
| 11:15 a.m. – 12:00 p.m. | Retirement Plan Lawsuits: Lessons Learned & Best Practices for Public Sector Retirement Plans
Bill Abramowicz, <i>Vice President Business Development</i>
<i>Corebridge Financial</i>
Wendy Dominguez, <i>President</i>
<i>Innovest Portfolio Solutions</i> |

A fireside chat with Wendy Dominguez, President and Co-founder of Innovest Portfolio Solutions on retirement plan lawsuits. Gain an understanding of the retirement plan components that are under attack by litigators and follow best practices to safeguard your plan from any breaches in fiduciary responsibility.

- | | |
|--------------------------------|---|
| 12:00 p.m. – 12:30 p.m. | Cancer Screening
Kevin B. O'Connor, <i>Founding Principal O'Connor CARES Solutions</i>
Ray Lankin, <i>CEO United Diagnostic Services</i> |
|--------------------------------|---|

A comprehensive diagnostic health program to detect actionable pathologies, cardiovascular disease and occupational cancer among the public safety community. These are non-invasive ultrasound-based tests deployed by registered UDS professionals that are specifically designed for early diagnosis and treatment.

These exams have literally saved lives by catching diseases and conditions before they would have otherwise been diagnosed.

- | | |
|-------------------------------|--|
| 12:30 p.m. – 1:30 p.m. | Hosted Lunch
Sponsored by Law Firm of Alex Dell, PLLC |
|-------------------------------|--|

1:30 p.m. – 2:15 p.m. **General Overview of Veterans Affairs Claims**

Alex C. Dell, *Attorney at Law*
Law Firm of Alex Dell, PLLC

A general overview of Veterans Affairs claims, and benefits including the filing and appeal process and discussion on the new PACT Act, a new law that expands VA health care and benefits for Veterans exposed to burn pits and other toxic substances.

2:15 p.m. – 3:00 p.m. **Restructuring of Pension Systems as a Tool for Reform**

Moderator:

Richard A. White Jr., *Executive Director*
Illinois Police Officers' Pension Investment Fund

Panel:

Lee Catavu, *Secretary Aurora Police Pension Fund*

Trustee Illinois Police Officers' Pension Investment Fund

Pat Colligan, *President New Jersey State Policemen's Benevolent Association*

Darrell Kriplean, *President Phoenix Law Enforcement Association*

Corina Lee, *Director Los Angeles Police Protective League*

This panel will closely examine efforts and proposals to modify and consolidate public pension plans in an attempt to streamline management, control costs, and improve administration. Panelists from several major pension systems across the United States will discuss the real-world implications of these efforts upon the existing systems and what the future may hold for plans and participants.

3:00 p.m. – 3:15 p.m. Coffee Break
Sponsored by Atlas Privacy

3:15 p.m. – 4:00 p.m. **Fiduciary Liability Exposures & Cybersecurity Risk Management**

Laverne Wingfield, *Assistant Vice President Claims*
Ullico Casualty Group, LLC

Richard J. Reimer, Esq., *Managing Partner*
Reimer Dobrovolny & LaBardi PC

The panel will provide a general overview of the liability exposures and litigation trends NAPO leaders face in today's challenging environment. The panel will discuss key insurance coverages (i.e. fiduciary liability, union liability, and cyber-liability) and offer general risk-management tools to manage potential exposures.

4:00 p.m. – 4:45 p.m. **A Funded HRA Solution**
Rich Dickman, *Senior Client Consultant*
Gallagher Benefit Services, Inc.

Are your members stressing about how they'll afford retiree health care? Are you struggling to recruit and retain qualified personnel? Funded health reimbursement arrangement (HRA) plans provide many flexible options to help solve these common challenges and more. Plus, members get to enjoy triple tax savings—the best possible tax advantage! We'll explore comparative case studies, how funded HRA programs are used around the country, and why they have become an essential retirement savings tool alongside pensions and other retirement plans.

5:30 p.m. – 7:00 p.m. Networking Reception
Sponsored by Nationwide

Tuesday, January 31

8:30 a.m. – 3:00 p.m. Registration and Exhibit Hall Open

8:30 a.m. - 9:00 a.m. Continental Breakfast – Exhibit Hall
Sponsored by Citizen Watch America

9:00 a.m. – 9:15 a.m. **Opening Remarks**
Sergeant Michael McHale, *President, NAPO*

9:15 a.m. – 10:00 a.m. **ESG & Sustainable – Considerations for Plan Sponsors & Fiduciaries**
T.J. Kistner *Chief Investment Officer*
Retirement Plan Advisors

Over the past decade, ESG and Sustainable investing has seen tremendous growth. Today, ESG seems to be hottest topic in the asset management industry and many plan sponsors, fiduciaries, and asset owners are wondering if and how it might apply to their investment program. Despite its growing prevalence in our industry, many plan sponsors, trustees, and asset owners still struggle with very fundamental concepts such as what exactly Sustainable or ESG investments are, how to integrate them in an investment portfolio, whether or not they actually generate alpha, and the host of fiduciary concerns surrounding their use. In this session, we will define

ESG & Sustainable investing, provide an overview of the regulatory environment, discuss current trends, and provide some considerations for plan sponsors, trustees, and fiduciaries exploring ESG & Sustainable investing.

10:00 a.m. – 11:00 a.m. **Estate Planning**
Doug Ewing, *Vice President*
Nationwide Retirement Institute

Your legacy is about much more than money but planning how assets will be passed along is important. Join us for a presentation that will point out the things to consider as you plan, such as:

- Conducting an inventory of assets
- Protecting a surviving spouse
- Designating other beneficiaries
- Maximizing the tax efficiency of your estate
- Helping your heirs avoid income tax shock

11:00 a.m. – 11:15 a.m. **Coffee Break**
Sponsored by Lending to Heroes

11:15 a.m. – 12:00 p.m. **Social Security**
Doug Ewing, *Vice President*
Nationwide Retirement Institute

The Nationwide Retirement Institute® Social Security 360® program offers an end-to-end consumer-ready solution that combines education on Social Security, a comprehensive tool for guiding well-informed filing decisions and broad support for answering commonly asked questions and developing income plans.

12:00 p.m. – 1:00 p.m. **Hosted Lunch**
Sponsored by FirstNet Built with AT&T

1:00 p.m. – 1:45 p.m. **Asset Allocation in a Recessionary Environment**

Moderator:

Richard A. White Jr., *Executive Director*
Illinois Police Officers' Pension Investment Fund

Panel:

Brad Ramirez, *Vice President & Consulting Actuary Segal*
Craig Chaikin, *Senior Vice President, Fund Sponsor Consultant Callan*
Troyce Krumme, *Vice Chairmen*
Las Vegas Metro Police Managers & Supervisors

As it becomes increasingly apparent that the massive amounts of 'easy money' injected into our national economy during the COVID-19 response has led to rates of inflation not seen in decades; and as the Fed struggles to contain the monster they've helped create, we will look closely at how the broadly anticipated recessionary reaction will affect pension plans and the retirees who rely upon them. Specifically, how and to what extent plan assets should be adjusted, rebalanced, and reallocated. What are the responsibilities of each plan overseer in this regard, and how long can we anticipate this 'new normal' to last.

1:45 p.m. – 2:30 p.m. **Distribution of Funds and Tax Implications**

Moderator:

Javier Obando, *Retirement Plan Consultant*
SageView

Panel:

James R. McCrary, *Retirement Plan Consultant*
SageView
John Diehl, *Senior Vice President*
Hartford Funds
Scott Leeton, *President*
Corpus Christi Police Officers Association

2:30 p.m. – 2:45 p.m. **Coffee Break**
Sponsored by SageView

2:45 p.m. – 3:30 p.m. **Public Sector Health Care Policy, Politics, & Predictions:
Opportunities & Challenges**

Andrew MacPherson, *Managing Partner*
Healthsperien, LLC

A review of the key healthcare issues to watch and how those issues could play out in the 118th Congress. We will also review the Inflation Reduction Act and how the changes will affect Retirement plans and retiree health care.

3:30 p.m. – 4:00 p.m. **Capitol Hill Update**
William Johnson, *Executive Director & General Counsel*
National Association of Police Organizations

NATIONAL ASSOCIATION OF POLICE ORGANIZATIONS

35th ANNUAL PENSION & BENEFITS SEMINAR

Please join the National Association of Police Organizations at our 35th Annual Police, Fire, EMS and Municipal Employee Pension & Benefits Seminar January 28 - 30, 2024 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 on 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!



Register now to take advantage of the Early Bird Discount!

January 28-30, 2024

**CAESARS PALACE HOTEL & CASINO
Las Vegas, Nevada**

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

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 12/1/2023 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 35th 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/PB24.

Advisory Board

Special thanks to our Pension & Benefits Advisory Board:

Michael McHale, *Florida Police Benevolent Association*

Richard A. White, *Illinois Police Officers' Pension Investment Fund*

James McNamee, *Illinois Public Pension Fund Association*

Kelly Bush, *Empower Retirement*

Javier Obando, *Sageview Advisory*

Kevin Lyons, *New Jersey State Policemen's Benevolent Association*

Richard J. Snyder, *Gallagher - Retirement Consulting*

Vincent Vallelong, *NYPD Sergeants Benevolent Association*

Bill Abramowicz, *Corebridge Financial*

Who Should Attend

- Pension Representatives: Trustees, Administrators, Commissioners, Staff
- Taft Hartley Representatives: Trustees, Administrators, Commissioners, Staff
- Consultants • Attorneys • Accountants
- Hedge Fund Managers • Fund of Funds Managers
- Real Estate Managers • Equity Managers
- Venture Capitalists • Private Equity Managers
- Insurance Companies • Benefit Companies
- Public Service Administrative Providers

Special Thanks to Our Early Bird Sponsors:

- Empower Retirement
- Spectrum Advisory Group
- Nationwide
- Ullico
- Mission Square Retirement

Seminar Registration

We encourage you to register by December 1, 2023 to take advantage of our 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 12/1/23	Standard Rate After 12/2/23
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/PB23

MAIL:

NAPO, 317 South Patrick Street, Alexandria, VA 22314

FAX/EMAIL:

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

Cancellation/Refund Policy

Cancellation requests received prior to January 12, 2024 will be refunded minus a \$50 processing fee. No refunds will be given after January 12, 2024.

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/PB24 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/PB24

NATIONAL ASSOCIATION OF POLICE ORGANIZATIONS

35th ANNUAL PENSION & BENEFITS SEMINAR

WORKING AGENDA

Sunday, January 28

10:30 a.m. - 12:30 p.m.	NAPO Executive Board Meeting
3:15 p.m. - 4:30 p.m.	Attendee Registration
3:30 p.m. - 6:30 p.m.	Championship Football Tailgate Party

Monday, January 29

8:30a.m. - 6:30 p.m.	Registration & Exhibit Hall Open
8:30a.m. - 9:00 a.m.	Continental Breakfast
9:00 a.m. - 12:30 p.m.	Opening 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, January 30

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

Please check the NAPO website for updates and additions to the Pension & Benefits Seminar Agenda.

Questions ???? Contact NAPO's Director of Events, Elizabeth Loranger at eloranger@napo.org or 703-549-0775



Hotel

The 2024 Pension & Benefits Seminar will be held at CAESARS PALACE LAS VEGAS HOTEL & CASINO

NAPO has reserved guest rooms for registered Pension & Benefits seminar attendees at Caesars Las Vegas Hotel & Casino.

Room rates are \$159 weekday/\$209.00 weekend. Reservations may be made by calling 866-227-5944. Advise them you are attending the NAPO Pension & Benefits.

In order to avoid a \$15.00 booking fee, **make reservations online**.

Reservations must be made prior to January 8, 2024 to receive discounted rates.



2023 Pension & Benefits Seminar

- [Register](#)
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Advanced Trustees & Administrators Institute

Monday, February 12 - Wednesday, February 14, 2024
Disney's Yacht Club, Orlando, FL

Meeting Date
12/13/2023
Agenda Item
#13b.

REGISTER

PROGRAM DETAILS

PRECONFERENCE INFORMATION

HOTEL/TRAVEL

SPONSOR/EXHIBIT

IFEBP > Education > Trustees and Administrators Institutes > Advanced Trustees and Administrators Institute

For nearly five decades, this program has served as the cornerstone of education for multiemployer trustees and administrators. Sessions are designed to meet the needs of both trustees and administrators, whether they are fairly new to serving on a fund or have decades of experience. Attended by hundreds, this conference is large enough to offer choices of sessions yet small enough that you won't get lost in the crowd.

Developed by active trustees, administrators and professional advisors, each session is designed to address current issues, providing the relevant context and information for you to make sound decisions for your fund. Keep informed of the latest industry trends, legal and regulatory changes, and best practices. Take away new ideas and a deeper understanding of how to run your pension and health and welfare funds.

Don't miss this time-honored educational event.

Topics/Agenda

- Economic Update
- Legislative and Regulatory Update
- Emerging Benefit Trends
- Round Table Discussion for Small Plans
- Fiduciary Responsibility—Advanced Issues
- The Changing Service Provider Landscape
- Mental Health & Well-being for Your Members and Participants
- Managing Risk in Your Pension Fund
- Administrators Round Table Discussion
- Refresher on Collecting Employer Contributions
- Addressing the Obesity Epidemic and Weight Loss Drugs
- Hybrid Pension Plans
- Emerging Trends in Rx Cost Management
- SECURE 2.0 Act
- Reaching Employees With Suicide Prevention and Support Resources
- Advanced Withdrawal Liability
- Crisis Management
- Cybersecurity
- Next-Generation Tools to Enhance Your Communications
- Artificial Intelligence—It's Here!

Benefits of Attending

- Learn from industry experts about the current state of affairs and latest reform initiatives—Be prepared for what lies ahead.
- Network with peers who face similar challenges—Learn from their mistakes, benchmark your performance, and gather workable ideas and solutions to implement.
- Bring home helpful resource materials to share with colleagues, from sample documents to checklists and case studies—The value of your attendance will continue long after you've left the program.

Who Should Attend

This Institute is designed for experienced multiemployer trustees, those who have attended the New Trustees Institute and those who have served as a trustee for more than two years, as well as salaried and contract administrators of all experience levels.

Preconference Options

Trustees Institute—Level II: Concepts in Practice

February 10, 2024 | 8:00 a.m.-5:00 p.m.

and

February 11, 2024 | 8:00 a.m.-4:00 p.m.

Strengthen your knowledge on required responsibilities as a multiemployer trustee by attending Trustees Institute—Level II: Concepts in Practice. Held immediately prior to the Trustees and Administrators Institute, this course will take the concepts and education provided at the New Trustees Institute—Level I: Core Concepts and go into more depth and applicability, expanding on need-to-know topics. Discover best practices, identify solutions and find answers to your questions by attending this exciting program. Class size is limited to foster deeper comprehension and peer-to-peer discussion.

Separate registration is required. [View program page for more information.](#)

One-Day Preconference

Understanding and Engaging Today's Workforce

February 11, 2024 | 8:00 a.m.-1:00 p.m.

Something has changed out there! You feel it wherever you go. Every business is short staffed. People are less patient. Having a mediocre customer service experience is the best you can hope for. Nobody wants to work. Nobody wants to go to the office. We are clearly dealing with a difficult world as it relates to work—our own work, the work of others that we rely on. This workshop will examine the changing workforce and help you understand how to evaluate and implement positive change into your own work environment. Topics include:

- Demographics of today's workforce
- Changing norms, expectations and desires
- Managing multigenerational issues
- Creating positive culture in the office and on the jobsite
- Supporting neurodivergent workers
- Harrassment
- HR policies
- Communication
- Do your benefits benefit your participants?
- Understanding your workforce
- Assessing your environment
- Building a strategy for change

Additional Information

Separate registration is required to attend.

Fees for Trustees Institute—Level II: Concepts in Practice:

Member - \$1,695

Nonmember - \$2,025

Fees for the one-day preconference:

Member - \$525

Nonmember - \$635

Prices good through January 3, 2024.

Hotel Information

Please make your reservations directly with the hotel.

Disney's Yacht Club

407-939-4686

Reservation Deadline: Friday, January 12, 2024

Rate: \$339.00 Single/Double Occupancy

Taxes & Fees (subject to change):

6% Florida State Accommodation

6% Orange County Accommodation

0.5% Orange County Surtax

Please contact the hotel directly and mention the International Foundation to receive our special group rate, or click on the hotel name above to book your reservation online.

Note: Hotel room availability is not guaranteed outside of scheduled program dates.

