Due to the termination of the statewide COVID-19 State of Emergency by the Governor of California, effective March 1, 2023, all meetings of the Oakland Police & Fire Retirement System Board and its Committees will be conducted in person.

Meetings are held in wheelchair accessible facilities.

The Board may take action on items not on the agenda only if findings pursuant to the Sunshine Ordinance and Brown Act are made that the matter is urgent or an emergency.

For additional information, contact the Retirement Unit by calling (510) 238-7295. or send an email to mvisaya@oaklandca.gov

CITY OF OAKLAND

Retirement Unit
150 Frank H. Ogawa Plaza
Oakland, CA 94612

AGENDA

**In the event a quorum of the Board participates in the Committee meeting, the meeting is noticed as a Special Meeting of the Board; however, no final Board action can be taken. In the event that the Audit Committee does not reach quorum, this meeting is noticed as an informational meeting between staff and the Chair of the Audit Committee.*

MEETING of the AUDIT & OPERATIONS COMMITTEE of the OAKLAND POLICE AND FIRE RETIREMENT SYSTEM ("PFRS")

WEDNESDAY, MARCH 27, 2024
10:00 AM
ONE FRANK H. OGAWA PLAZA, HEARING ROOM 2
OAKLAND, CA 94612

OBSERVE

- To observe the meeting by video conference, please click on this link: https://us02web.zoom.us/j/82880493983 at the noticed meeting time.
- To listen to the meeting by phone, please call the numbers below at the noticed meeting time: Dial (for higher quality, dial a number based on your current location):
- iPhone one-tap: US: +16699006833, 82880493983# or +13462487799, 82880493983#
- US: +1 669 900 6833 or +1 346 248 7799 or +1 253 215 8782 or +1 301 715 8592 or +1 312 626 6799 or +1 929 205 6099
- International numbers available: https://us02web.zoom.us/u/kctrX35uax
- Webinar ID: 828 8049 3983.
  If asked for a participant ID or code, press #.

PUBLIC COMMENTS

There are two ways to submit public comments:

- Speaker Card: All persons wishing to address the Board must complete a speaker's card, stating their name and the agenda item they wish to address, including "Open Forum".
- eComment: To send your comment directly to staff BEFORE the meeting starts, please email to mvisaya@oaklandca.gov with "PFRS Board Meeting Public Comment" in the subject line for the corresponding meeting. Please note that eComment submission **closes two (2) hours before posted meeting time**.

If you have any questions, please email Maxine Visaya, Administrative Assistant II at mvisaya@oaklandca.gov

ORDER OF BUSINESS

1.	**Subject:**	**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM ("PFRS") AUDIT & OPERATIONS COMMITTEE MEETING MINUTES**
	From:	Staff of the PFRS Board
	Recommendation:	**APPROVE** the February 28, 2024 Audit & Operations Committee Meeting Minutes
2.	**Subject:**	**ADMINISTRATIVE EXPENSES REPORT**
	From:	Staff of the PFRS Board
	Recommendation:	**ACCEPT** informational report regarding PFRS administrative expenses as of January 31, 2024
3.	**Subject:**	**PFRS MID-CYCLE ADMINISTRATIVE BUDGET ADJUSTMENT FY 2023/2024 and 2024/2025**
	From:	Staff of the PFRS Board
	Recommendation:	**RECOMMEND BOARD APPROVAL** of the proposed mid-cycle adjustment to PFRS FY 2024/2025 Administrative Expenses Budget
4.	**Subject:**	**RESOLUTION NO. 8095** **TRAVEL REQUEST: JAIME T. GODFREY**
	From:	Staff of the PFRS Board
	Recommendation:	**RECOMMEND BOARD APPROVAL** of Resolution No. 8085 authorizing request of Oakland Police and Fire Retirement System Board Member Jaime T. Godfrey to travel and attend Pension Bridge The Annual 2024 conference from April 15, 2024 through April 17, 2024 in Half Moon Bay, CA and authorizing reimbursement of registration fees and travel-related expenses in an amount not to exceed one-thousand five hundred fifty dollars ($1,500.00)
5.	**Subject:**	**PFRS ANNUAL REPORT** **FISCAL YEAR ENDED JUNE 30, 2023**
	From:	Staff of the PFRS Board
	Recommendation:	**RECOMMEND BOARD APPROVAL** of printing and publication of the Annual Report of the Oakland Police & Fire Retirement System for Fiscal Year Ended June 30, 2023

6. **REVIEW OF PENDING AUDIT COMMITTEE MEETING AGENDA ITEMS**
7. **OPEN FORUM**
8. **FUTURE SCHEDULING**
9. **ADJOURNMENT**

A MEETING OF THE AUDIT & OPERATIONS COMMITTEE of the Oakland Police and Fire Retirement System ("PFRS") was held Wednesday, February 28,2024 , at One Frank Ogawa Plaza, Hearing Room 2, Oakland, California.

Committee Members	▪ John C. Speakman	Chairperson
	▪ Martin J. Melia	Member
	▪ R. Steven Wilkinson	Member
Additional Attendees	▪ David Jones	PFRS Secretary & Plan Administrator
	▪ Téir Jenkins	PFRS Investment & Operations Manager
	▪ Maxine Visaya	PFRS Staff Member
	▪ Selia Warren	PFRS Legal Counsel

The meeting was called to order at 10:03 a.m. Pacific

1. PFRS AUDIT & OPERATIONS COMMITTEE MEETING MINUTES

Member Melia made a motion to approve the January 31, 2024, Audit & Operations Committee Meeting minutes, second by Member Wilkinson. Motion passed.

[SPEAKMAN – Y / MELIA – Y / WILKINSON – Y]
(AYES:3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

2. ADMINISTRATIVE EXPENSES REPORT

PFRS Investment & Operations Manager Jenkins presented an informational report regarding PFRS' administrative expenditures as of December 31, 2023. PFRS has an approved annual budget of approximately $3.8 million and expensed approximately $934,000 to date for fiscal year 2023/2024. Membership consisted of 640 retired members and beneficiaries, which included 399 Police Members and 241 Fire Members. PFRS Investment & Operations Manager Jenkins presented graphical information comparing the approved budget for fiscal year 2023/2024 vs. actual expenses as of December 31, 2023.

MOTION: Chairperson Speakman made a motion to accept the administrative expenses report as of December 31, 2023, and forward to the Board, second by member Wilkinson. Motion passed.

[SPEAKMAN – Y / MELIA – Y / WILKINSON – Y]
(AYES:3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

3. **REVIEW OF PENDING AUDIT COMMITTEE MEETING AGENDA ITEMS**
   PFRS Secretary & Plan Administrator Jones reported on the two (2) items on the Audit and Operations Committee Agenda pending list. Item 1) Status Report of the Ad Hoc Committee regarding the Actuarial Funding Date of July 1, 2026: The Ad Hoc Committee met on February 26, 2024 and requested legal counsel provide an update. Legal Counsel Warren advised the following: the outside legal opinion regarding the Property Tax Override has been finalized and progress is being made towards a public facing position. Additionally, there was discussion regarding proposed charter changes to change the membership of the Board and reduce the frequency of meetings. It was agreed both are needed but it is not urgent and can likely wait until the 2026 election cycle. The Ad Hoc Committee will continue to research and discuss the matter and anticipates it will bring forward a matter for the agenda at a future date regarding the need to change the Board membership and seek direction from the Board. Item 2) Monitor & Update PFRS Board of Upcoming City Council Agendas Regarding Discussion of the 2026 Actuarial Funding Date: There is no update at this time.

4. **OPEN FORUM** – No Report

5. **FUTURE SCHEDULING**
   The next PFRS Audit & Operations Committee Meeting will be held in-person and is tentatively scheduled to occur March 27, 2024 at One Frank Ogawa Plaza, Hearing Room 2, Oakland, CA.

6. **ADJOURNMENT** – Member Melia made a motion to adjourn, second by Member Wilkinson. Motion passed.

[SPEAKMAN – Y / MELIA – Y / WILKINSON – Y]
(AYES:3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

The meeting adjourned at 10:12 a.m. Pacific

JOHN C. SPEAKMAN **COMMITTEE CHAIRPERSON**	**DATE**

Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Administrative Budget Spent to Date (Preliminary)

As of January 31, 2024

	Approved Budget	January 2024	FYTD	Remaining	Percent Remaining
Internal Administrative Costs					
PFRS Staff Salaries	$ 1,459,000	$ 111,918	$ 693,491	$ 765,509	52.5%
Board Travel Expenditures	52,500	-	2,239	50,261	95.7%
Staff Training	20,000	-	-	20,000	100.0%
Staff Training - Tuition Reimbursement	7,500	-	-	7,500	100.0%
Board Hospitality	3,600	178	1,982	1,618	44.9%
Payroll Processing Fees	40,000	-	-	40,000	100.0%
Miscellaneous Expenditures	45,000	3,367	10,868	34,132	75.8%
Internal Service Fees (ISF)	88,000	-	41,500	46,500	52.8%
Contract Services Contingency	50,000	250	750	49,250	98.5%
Internal Administrative Costs Subtotal :	**$ 1,765,600**	**$ 115,713**	**$ 750,830**	**$ 1,014,770**	**57.5%**
Actuary and Accounting Services					
Audit	$ 52,800	$ -	$ 18,941	$ 33,859	64.1%
Actuary	49,400	11,584	11,584	37,816	76.6%
Actuary and Accounting Subtotal:	**$ 102,200**	**$ 11,584**	**$ 30,525**	**$ 71,675**	**70.1%**
Legal Services					
City Attorney Salaries	$ 212,100	$ -	$ -	$ 212,100	100.0%
Legal Contingency	150,000	-	-	150,000	100.0%
Legal Services Subtotal:	**$ 362,100**	**$ -**	**$ -**	**$ 362,100**	**100.0%**
Investment Services					
Money Manager Fees	$ 1,353,000	$ 85,951	$ 341,887	$ 1,011,113	74.7%
Custodial Fee	124,500	62,250	62,250	62,250	50.0%
Investment Consultant	100,000	25,000	50,000	50,000	50.0%
Investment Subtotal:	**$ 1,577,500**	**$ 173,201**	**$ 454,137**	**$ 1,123,363**	**71.2%**
Total Operating Budget	**$ 3,807,400**	**$ 300,498**	**$ 1,235,493**	**$ 2,571,907**	**67.55%**

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of January 31, 2024

		January 2024
Beginning Cash as of 1/1/2024	$	10,537,707
Additions:		
City Pension Contribution - January		3,396,917
Investment Draw		1,000,000
Misc. Receipts		800
Total Additions:	$	4,397,717
Deductions:		
Pension Payment (December Pension Paid on 1/2/2024)		(4,175,192)
Expenditures Paid		(362,254)
Total Deductions	$	(4,537,446)
Ending Cash Balance as of 1/31/2024*	$	10,397,977

** On 2/1/2024, January pension payment of appx $4,183,000 will be made leaving a cash balance of $6,215,000.*

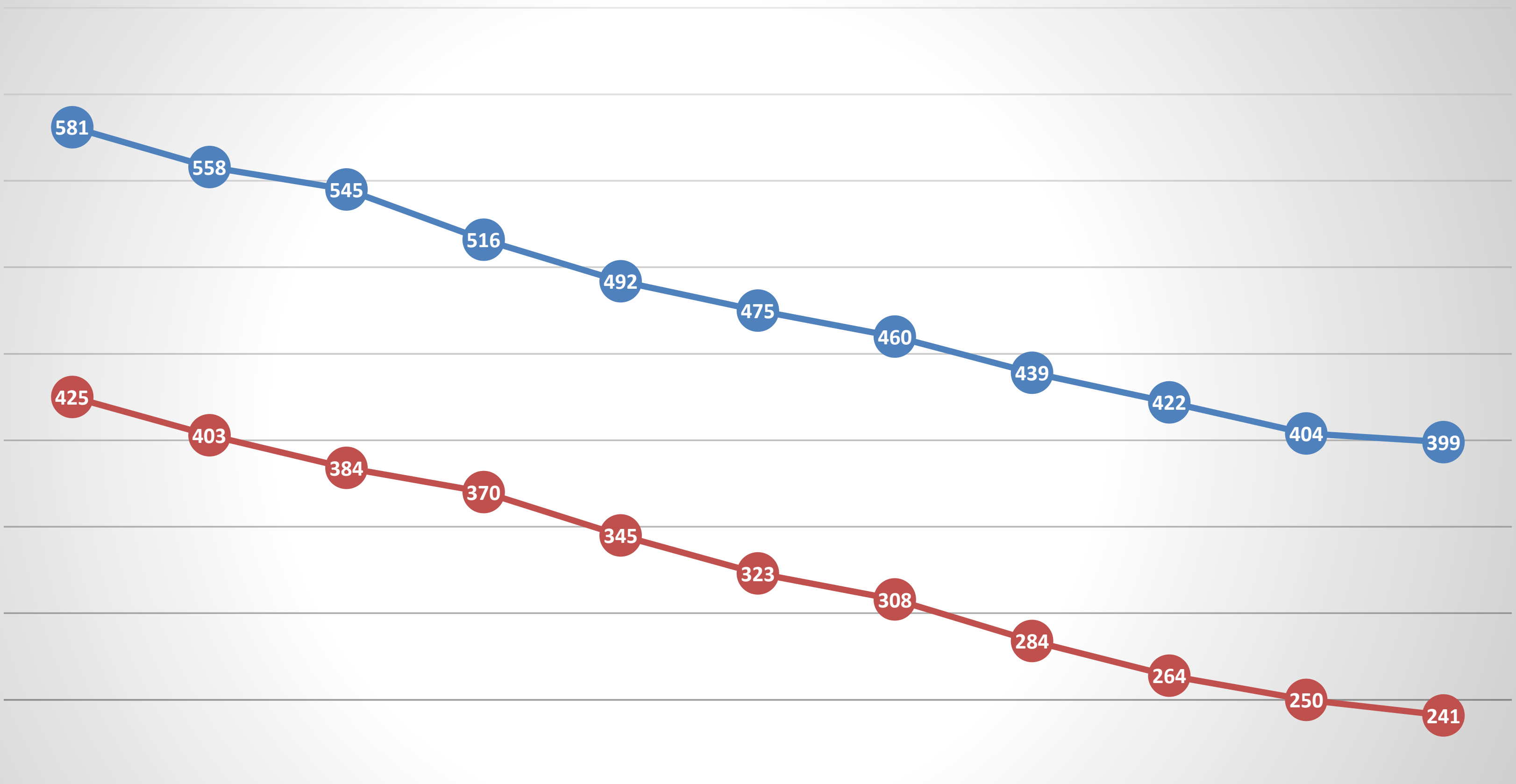
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of January 31, 2024

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	271	153	424
Beneficiary	128	88	216
Total Retired Members	**399**	**241**	**640**
Total Membership:	**399**	**241**	**640**

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	267	113	380
Disability Retirement	124	117	241
Death Allowance	8	11	19
Total Retired Members:	**399**	**241**	**640**
Total Membership as of January 31, 2024:	**399**	**241**	**640**
Total Membership as of June 30, 2023:	**404**	**250**	**654**
Annual Difference:	**-5**	**-9**	**-14**

Oakland Police and Fire Retirement System
Pension Plan Membership Count
As of January 31, 2024 (FY 2014 - FY 2024)



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024 FYTD
Police	581	558	545	516	492	475	460	439	422	404	399
Fire	425	403	384	370	345	323	308	284	264	250	241
Total	1006	961	929	886	837	798	768	723	686	654	640

CITY OF OAKLAND

AGENDA REPORT

TO:	Oakland Police and Fire Retirement System Board	**FROM:**	David F. Jones Plan Administrator
SUBJECT:	PFRS FY2023-2025 Administrative Expenses Budget Mid-Cycle Adjustment	**DATE:**	March 27, 2024

SUMMARY

Staff has analyzed the Oakland Police and Fire Retirement System's ("PFRS") previously approved two-year budgets for FY 2023-2024 and FY 2024-2025. As a result, staff is recommending some adjustments to the budgeted line items. Staff recommends that the Board approve the nominal budget increase for FY 2024-2025 as attached in **Table 1**.

BACKGROUND

At their April 27, 2022 Board meeting, the Oakland Police and Fire Retirement System Board ("PFRS Board") approved a 2-year PFRS Administrative Budget of $3,807,400 for FY 2023-2024 and $3,878,100 for FY 2024-2025.

PROPOSED CHANGES

Staff recommends proposed changes to the FY 2024-2025 budgets as shown in **Table 1**. The proposed changes adjust budgeted funds to accurately reflect expected costs. The total annual proposed budget is approximately 0.92% of the Plan's existing investment portfolio.

KEY CHANGES

The Internal Administrative Budget is proposed to increase by $166,000 in FY 2024-2025, an overall increase of 4.3%. Staff is seeking authority from the Board to hire an additional administrative staff member to support the Oakland Police and Fire Retirement System. This additional staff member will be critical in improving the overall efficiency of the Retirement Unit, providing additional back office administrative support, and archiving critical files and data.

Every year PFRS budget includes an amount of $150,000 to assist with any potential lawsuits and to pay for Outside Counsel services, as needed. This budgeted line item has not been used in several years. Staff is seeking authority to utilize a portion of the existing Legal Contingency budget to pay for needed Outside Counsel to assist the City Attorney's office regarding Trusts, Estates and Power of Attorney's (POA). As PFRS members continue to age, staff is seeing an increase of POAs and would like to utilize Outside Counsel to review current processes, provide staff training, and assist on special cases when needed. Staff would also like to obtain Outside Counsel to assist with Investment Manager contracts, when needed.

The Budgeted funds are already available in the PFRS internal Cash in Treasury Pool and no additional transfers are required per City of Oakland Charter, Article XXVI; Police & Fire Retirement System, Section 2601 (d).

Respectfully submitted,

David F. Jones, Plan Administrator
Oakland Police and Fire Retirement System

Attachment (1):
Table 1: *Oakland Police and Fire Retirement System – Proposed Mid-Cycle Administrative Budget Changes*

Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Proposed Mid-Cycle Administrative Budget Changes
FY 2023-2024 and FY 2024-2025

	Approved Budget		Proposed Changes		Proposed Revised Budgets	
	FY 2023-2024	FY 2024-2025	FY 2023-2024	FY 2024-2025	FY 2023-2024	FY 2024-2025
Internal Administrative Costs						
PFRS Staff Salaries	$ 1,459,000	$ 1,518,000	$ -	$ 166,000	$ 1,459,000	$ 1,684,000
Board Travel Expenditures	52,500	52,500	-	-	52,500	52,500
Staff Training	20,000	20,000	-	-	20,000	20,000
Staff Training - Tuition Reimbursement	7,500	7,500	-	-	7,500	7,500
Board Hospitality	3,600	3,600	-	-	3,600	3,600
Payroll Processing Fees	40,000	40,000	-	-	40,000	40,000
Miscellaneous Expenditures	45,000	45,000	-	-	45,000	45,000
Internal Service Fees (ISF)	88,000	88,000	-	-	88,000	88,000
Contract Services Contingency	50,000	50,000	-	-	50,000	50,000
Internal Administrative Subtotal :	**$ 1,765,600**	**$ 1,824,600**	**$ -**	**$ 166,000**	**$ 1,765,600**	**$ 1,990,600**
Actuary and Accounting Services						
Audit	$ 52,800	$ 54,400	$ -	$ -	$ 52,800	$ 54,400
Actuary	49,400	50,900	-	-	49,400	50,900
Actuary and Accounting Subtotal:	**$ 102,200**	**$ 105,300**	**$ -**	**$ -**	**$ 102,200**	**$ 105,300**
Legal Services						
City Attorney Salaries	$ 212,100	$ 220,700	$ -	$ -	$ 212,100	$ 220,700
Legal Contingency	150,000	150,000	-	-	150,000	150,000
Legal Services Subtotal:	**$ 362,100**	**$ 370,700**	**$ -**	**$ -**	**$ 362,100**	**$ 370,700**
Investment Services						
Money Manager Fees	$ 1,353,000	$ 1,353,000	$ -	$ -	$ 1,353,000	$ 1,353,000
Custodial Fee: (Northern Trust)	124,500	124,500	-	-	124,500	124,500
Investment Consultant (Meketa)	100,000	100,000	-	-	100,000	100,000
Investment Services Subtotal:	**$ 1,577,500**	**$ 1,577,500**	**$ -**	**$ -**	**$ 1,577,500**	**$ 1,577,500**
					-	-
Total Operating Budget	**$ 3,807,400**	**$ 3,878,100**	**$ -**	**$ 166,000**	**$ 3,807,400**	**$ 4,044,100**
Percentage increase					**0.0%**	**4.3%**

CITY OF OAKLAND

AGENDA REPORT

TO: Oakland Police and Fire Retirement System Board (PFRS)

FROM: David F. Jones, Plan Administrator & Secretary

SUBJECT: Authorization and Reimbursement of Board Member Wilkinson's Travel/Education Expenses

DATE: March 27, 2024

Jaime T. Godfrey, Board Member of the **Oakland Police and Fire Retirement System** Board, requests authorization for reimbursement of travel and/or board education related funds for the event detailed below. Staff has verified that budgeted funds are available for this Board Member to be reimbursed.

Staff recommends the reimbursement of travel/education funds for the event below be approved by board motion.

Travel/Education Event:	Pension Bridge The Annual 2024
Event Location:	Ritz-Carlton in Half Moon Bay, CA
Event Date:	April 15, 2024 – April 17, 2024
Estimated Event Expense:	$1,500.00
Notes:	

* If enrollment, registration or admission expenses are required, the fund will process a check in advance and pay vendor directly; all other board-approved reimbursements will be made upon delivery of receipts to staff by the travelling party. Cancellation of event attendance requires return of all reimbursed funds paid to attendee to the fund.

Respectfully submitted,

David F. Jones
Plan Administrator & Secretary
Oakland Police & Fire Retirement Systems

For questions, please contact Maxine Visaya, Administrative Assistant II, at 510.238.7295

Attachments:
(1) Resolution 8095
(2) Conference Agenda

ATTACHMENT 1

RESOLUTION NO. 8095

Approved to Form and Legality

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA

RESOLUTION NO. 8095

ON MOTION OF MEMBER ______________________ SECONDED BY MEMBER __________________________

RESOLUTION APPROVING REQUEST OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM BOARD MEMBER JAIME T. GODFREY TO TRAVEL AND ATTEND PENSION BRIDGE THE ANNUAL 2024 CONFERENCE FROM APRIL 15, 2024 THROUGH APRIL 17, 2024 IN HALF MOON BAY, CA AND AUTHORIZING REIMBURSEMENT OF REGISTRATION FEES AND TRAVEL-RELATED EXPENSES IN AN AMOUNT NOT TO EXCEED ONE-THOUSAND FIVE HUNDRED FIFTY DOLLARS ($1,500.00)

WHEREAS, the Oakland Police and Fire Retirement System (PFRS) Education and Travel Policy ("Travel Policy") requires that PFRS Board members and staff obtain prior Board approval of all education and travel-related expenses that will be reimbursed by PFRS; and;

WHEREAS, PFRS Board Member Godfrey would like to attend Pension Bridge The Annual 2024 conference from April 15, 2024 through April 17, 2024 in Half Moon Bay, CA; and

WHEREAS, in compliance with Section IV(13)(c) of the Travel Policy, Member Godfrey has submitted documentation showing the registration fees and estimated travel-related expenses to attend the Conference will be approximately One-Thousand Five Hundred Fifty Dollars ($1,500.00); and, therefore be it

RESOLVED: That PFRS Board Member Jaime T. Godfrey's request to attend Pension Bridge The Annual 2024 conference in Half Moon Bay, CA from April 15, 2024 through April 17, 2024 at an estimated cost of One-Thousand Five Hundred Dollars ($1,500.00) is approved; and be it

FURTHER RESOLVED: That the PFRS Board authorizes reimbursement of the registration fees and travel-related expensed in an amount not to exceed One-Thousand Five Hundred Dollars ($1,500.00) for Member Godfrey's attendance at Pension Bridge The Annual 2024 conference.

IN BOARD MEETING, CITY HALL, OAKLAND, CA MARCH 27, 2024

PASSED BY THE FOLLOWING VOTE:

AYES: MELIA, NICHELINI, ROSEMAN, SPEAKMAN, WILKINSON, & PRESIDENT JOHNSON
NOES:
ABSTAIN: GODFREY
ABSENT:

ATTEST: ________________________
PRESIDENT

ATTEST: ________________________
SECRETARY

ATTACHMENT 2

Conference Agenda

Pension Bridge
The Annual
2024

Search Session

All Days Mon Apr 15 Tue Apr 16 Wed Apr 17

All Sessions (52) My Interests

Mon **Apr 15**

LOG IN

1:00 PM

1:00 PM - 1:40 PM PDT (40 Min)

Analyst Workshop | Registration

1:40 PM

1:40 PM - 2:20 PM PDT (40 Min)

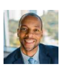
Analyst Workshop | Portfolio Construction: Building for the Future

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  11(41)(https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

2:20 PM

2:20 PM - 3:00 PM PDT (40 Min)

Analyst Workshop | Analysts in the Hotseat

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  45(18)(https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

3:00 PM

3:00 PM - 3:55 PM PDT (55 Min)

Registration and Refreshments

3:55 PM

3:55 PM - 4:05 PM PDT (10 Min)

Opening Remarks

4:05 PM

4:05 PM - 4:30 PM PDT (25 Min)

Keynote Interview

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  7(35)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

4:30 PM

(52)

4:30 PM - 6:00 PM PDT (1 Hour, 30 Min)

Networking Cocktail Reception

7:00 PM

7:00 PM - 7:00 PM PDT (0 Min)

End of Day One

Tue **Apr 16**

7:30 AM

7:30 AM - 8:30 AM PDT
(1 Hour)

Allocator-Only Breakfast: Diversity, Inclusion and Talent

8:30 AM

8:30 AM - 8:35 AM PDT (5 Min)

Opening Remarks

8:35 AM

8:35 AM - 8:55 AM PDT (20 Min)

Fireside Chat with Asset Owner CIO

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  7(19)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

8:55 AM

8:55 AM - 9:30 AM PDT (35 Min)

What-Landing? Portfolios and America's Economic Future

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  2(513)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

9:30 AM

(52)

9:30 AM - 10:05 AM PDT (35 Min)

Asset Allocation: A Material Change...

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  34(34)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

10:05 AM

10:05 AM - 10:25 AM PDT (20 Min)

Headline Presentation

10:25 AM

10:25 AM - 10:55 AM PDT (30 Min)

Networking Coffee

10:55 AM

10:55 AM - 11:30 AM PDT (35 Min)

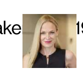
The Looming Credit Crisis: Fail to Prepare...

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speakers/3201(24)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

11:30 AM

11:30 AM - 12:05 PM PDT (35 Min)

The Digitalization of Everything

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  19(31)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

12:05 PM

12:05 PM - 12:40 PM PDT (35 Min)

Scenario Setting: Private Credit in a Recessionary Environment

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  3(47)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

12:40 PM

12:40 PM - 1:40 PM PDT (1 Hour)

(52)

Networking Lunch

1:40 PM

1:40 PM - 2:15 PM PDT
(35 Min)

Emerging Markets: Back from the Dead?

Emerging markets are in one of their longest bear markets. The MSCI Emerging Markets Index is down by about 40% of its February 2021 highs. China's economic woes have largely driven this poor performance, from lockdowns to deflation and dampened post-Covid growth to debt crises. Yet the long-term
Read More (https://events.withintelligence.com/pensionbridgetheannual/agenda/session/1243870)

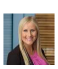
 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  7(85)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

2:15 PM

2:15 PM - 2:50 PM PDT
(35 Min)

Infrastructure: Defense is the Best Offense

Secular trends such as decarbonization and digitalization are driving infrastructure growth. That the asset class is inflation-hedging is a boon. Yet dry powder levels are high, competition for the best deals is rife, and long-duration fixed income products with higher yields threaten demand.
Read More (https://events.withintelligence.com/pensionbridgetheannual/agenda/session/1260533)

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  3(32)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

2:50 PM

2:50 PM - 3:25 PM PDT
(35 Min)

Carbon Credits: An Eye to 2050

According to the World Bank, carbon markets and Emission Trading Systems (ETS) reached a record high of $95 billion in 2023. Increased volumes in this space have led to renewed activity, with recent carbon credit auctions generating new opportunities for investors, but also risk as the carbon certification schemes
Read More (https://events.withintelligence.com/pensionbridgetheannual/agenda/session/1243872)

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

(52)

3:25 PM

3:25 PM - 4:00 PM PDT
(35 Min)

Distressed: Hitting the Wall

The check for a decade-long borrowing binge is about to be cashed. Debt piles accumulated in the pandemic are due for repayment and with current high costs of financing, over-leveraged firms have little options, other than asset sales, to service their debt. But with pain comes opportunity.
Read More (https://events.withintelligence.com/pensionbridgetheannual/agenda/session/1260535)


Allan Schweitzer
Portfolio Manager
Beach Point Capital Management
Speaker
(https://events.withintelligence.com/pensionbridgetheannual/agenda/speakers/3240143)

4:00 PM

4:00 PM - 4:30 PM PDT (30 Min)

Networking Coffee Break

4:30 PM

4:30 PM - 4:50 PM PDT (20 Min)

Headline Presentation


Raffaele Savi
Senior Managing Director, Global Head of BlackRock Systematic (BSYS) and Co-CIO and Co-Head of...
BlackRock
Speaker
(https://events.withintelligence.com/pensionbridgetheannual/agenda/speakers/3241945)

4:50 PM

4:50 PM - 5:25 PM PDT (35 Min)

The GP-LP Relationship: The Times, they are A Changin'

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

5:25 PM

5:25 PM - 5:30 PM PDT (5 Min)

Closing Remarks

5:30 PM

5:30 PM - 7:30 PM PDT (2 Hours)

Wine Tasting Reception

(52)

7:30 PM

7:30 PM - 8:00 PM PDT (30 Min)

End of Day Two

Wed **Apr 17**

7:40 AM

7:40 AM - 8:40 AM PDT (1 Hour)

Breakfast for All Attendees

8:40 AM

8:40 AM - 8:45 AM PDT (5 Min)

Welcome Remarks

8:45 AM

8:45 AM - 9:20 AM PDT (35 Min)

Exit the Dragon: US-China Decoupling and Portfolios

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  27(78) (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

9:20 AM

9:20 AM - 9:55 AM PDT (35 Min)

Fixed Income: A Defining Moment...

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  3(10) (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

9:55 AM

9:55 AM - 10:15 AM PDT (20 Min)

(52)

Headline Presentation

Mr. Brett Hickey
Founder & CEO
Star Mountain Capital
Speaker

(https://events.withintelligence.com/pensionbridgetheannual/agenda/speakers/3227571)

10:15 AM

10:15 AM - 10:50 AM PDT (35 Min)

Secondaries Wave: Will the Surf Ever Stop?

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  3(82) (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

10:50 AM

10:50 AM - 11:20 AM PDT (30 Min)

Networking Coffee Break

11:20 AM

11:20 AM - 11:55 AM PDT (35 Min)

Pension Bridge Debates: ESG and Fiduciary Duty—For or Against?

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  3(78) (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

11:55 AM

11:55 AM - 12:15 PM PDT (20 Min)

Keynote Interview

12:15 PM

12:15 PM - 1:15 PM PDT (1 Hour)

Networking Lunch

1:15 PM

1:15 PM - 1:50 PM PDT (35 Min)

Pension Bridge Triva Round

(52)

1:50 PM

1:50 PM - 2:25 PM PDT (35 Min)

The Energy Transition: Tapping the Megatrend

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  21(56)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

2:25 PM

2:25 PM - 3:00 PM PDT (35 Min)

Networking Coffee Break

3:00 PM

3:00 PM - 3:35 PM PDT (35 Min)

Scenario Setting: Equities and the Fed

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  19(68)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

3:35 PM

3:35 PM - 4:10 PM PDT (35 Min)

CIO Closing Panel: Building 2030's Portfolio Today

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  72(18)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

Add to calendar:

Google (https://www.google.com/calendar/render?

action=TEMPLATE&text=Pension%20Bridge%20The%20Annual%202024&dates=20240415T150000/20240417T200000&details=%0A%0Ahttps%3A%2F%2Fevents.withintelligenc

Carlton%2C%20Half%20Moon%20Bay%2C%20Miramontes%20Point%20Road%2C%20Half%20Moon%20Bay%2C%20CA%2C%20USA&sprop=&sprop=name:&ctz=America/Los_

CITY OF OAKLAND

AGENDA REPORT

TO:	Oakland Police and Fire Retirement System Board (PFRS)	**FROM:**	David F. Jones Plan Administrator & Secretary
SUBJECT:	Approve Printing & Distribution of PFRS Annual Report for the Fiscal Year Ended June 30, 2023	**DATE:**	March 27, 2024

RECOMMENDATION

The PFRS Annual Report for the Fiscal Year ended June 30, 2023 has been completed and is submitted here for the Board approval for printing and distribution.

Respectfully submitted,

David F. Jones
Plan Administrator & Secretary
Oakland Police & Fire Retirement Systems

Attachement:
(1) PFRS Annual Report FYE June 30, 2023

CITY OF OAKLAND

POLICE & FIRE RETIREMENT SYSTEM

ANNUAL REPORT

Fiscal Year Ended June 30, 2023

CONTENTS

SECTION 1: INTRODUCTION

SECTION 2: FINANCIAL

SECTION 3: INVESTMENT

CONTENTS
(Continued)

SECTION 4: ACTUARIAL

IN MEMORIAM

Production Credits
-Layout: Maxine Visaya, Retirement Systems, City of Oakland
-Print Production: City of Oakland Copy Services
-Photo: Vincent James Photography

Section 1
Introduction

Peter P. Peterson
Lieutenant

Served with Oakland Police Department
December 1970 to August 1998

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LETTERS OF TRANSMITTAL

CITY OF OAKLAND

150 FRANK H.OGAWA PLAZA, SUITE 3349 · OAKLAND, CALIFORNIA 94612-2021

Finance Department
Treasury Bureau
Retirement Unit

(510) 238-3307
FAX (510) 238-7129
CA RELAY 711

March 27, 2024

Oakland City Council
1 Frank H. Ogawa Plaza
Oakland, CA 94612

Honorable Mayor Thao and Members of the City Council:

I am pleased to present the annual report of the Oakland Police and Fire Retirement System for the fiscal year ended June 30, 2023. Provided in this report are the Plan's Financial Information, Investment Performance, and Actuarial Valuations and Statistical Information for the corresponding year.

The members of the Board express their appreciation to the Mayor and City Council, City Administrator, City Attorney, the various City Agencies and Departments and the members of their staff for their cooperation and assistance.

Respectfully submitted,

Walter L. Johnson, Sr., President
Oakland Police and Fire Retirement System

LETTERS OF TRANSMITTAL

CITY OF OAKLAND

150 FRANK H.OGAWA PLAZA, SUITE 3349 · OAKLAND, CALIFORNIA 94612-2021

Finance Department
Treasury Bureau
Retirement Unit

(510) 238-3307
FAX (510) 238-7129
CA RELAY 711

March 27, 2024

Oakland Police and Fire Retirement Board
150 Frank H. Ogawa Plaza, Suite 3349
Oakland CA 94612

Board of Trustees:

I am pleased to present the Annual Report of the Oakland Police and Fire Retirement System for the fiscal year ended June 30, 2023.

ACCOUNTING SYSTEM

The accompanying financial statements have been prepared in compliance with the City Charter and in accordance with the accounting and reporting requirements of the Governmental Accounting Standards Board (GASB) and the reporting requirements prescribed by the Government Finance Officers' Association of the United States and Canada (GFOA).

The method for recording revenues and expenses is on an accrual basis. Revenue is taken into account when earned, regardless of the date of the collection, and expenses are recorded when the corresponding liabilities are incurred instead of when payment is made. Amortization of bond premiums and discounts are over the life of the investment security and actuarial reserves are funded via the entry age normal cost method.

ADDITIONS

Additions to the plan includes all income received into the Plan for the Fiscal Year. Pension Plan's sources of income include items such as contributions and investment income. Total additions for the fiscal year ended June 30, 2023 were $67,119,789.

This amount includes a net investment gain of $34,407,789. Net investment includes appreciation or depreciation in fair value of investments, interest income and dividend income less investment expenses during the fiscal year. In addition, the City contributed $32,712,000 during the fiscal year. As of June 30, 2023, all the System's members are retired.

DEDUCTIONS

Total deductions to the plan in the fiscal year ended June 30, 2023 were $52,476,806. This amount includes deductions of $50,850,416 for pension payments to members and qualified beneficiaries.

RESERVES AND FUNDING

The Police and Fire Retirement System most recent actuarial study values the Plan as of July 1, 2022. Details regarding this actuarial study can be found in Section 4 of this annual report.

As of the most recent actuary study dated July 1, 2022, the System's Unfunded Actuarial Liability is approximately $130.2 million, and the System had a Funded Ratio of 72.6 percent on a Market Value of Assets (MVA) basis. During fiscal year 2023, the City of Oakland contributed $32.7 million to the System. The next required City contribution is projected to be approximately $40.8 million in FY 2023-2024.

INVESTMENTS

The Police and Fire Retirement System Investment Policy is used as a guideline for all investment activities. The Investment Policy includes an asset allocation plan. The plan consists of six asset classes: Domestic Stocks, International Stocks, Fixed Income Instruments, Credit, Covered Calls and Crisis Risk Offset (CRO). In addition, the Policy also allocates among the different investment management styles.

Total Investment Income resulted in a gain of $34,407,789 in fiscal year 2023. The actual money-weighted annual investment return for fiscal year 2023 was 8.84%. GASB requires that investments be reported at fair value. The appreciation (depreciation) in fair value of investments held by PFRS is recorded as an increase (decrease) in investment income based on the valuation of investments at year-end.

LETTERS OF TRANSMITTAL

The historical annualized money-weighted rates of return on the portfolios are as follows:

	Total Returns %		
	1 Year	3 Year	5 Year
Total Fund	8.84%	6.94%	5.74%

ACKNOWLEDGEMENTS

The compilation of this report reflects the combined efforts of the Retirement System Administration Staff, the Board of Trustees, and various professional consultants. Its intent is to provide complete and reliable information to the beneficiaries of the Plan, to serve as a basis for making management decisions, and to ensure compliance with legal provisions affecting the administration of the Plan.

Respectfully submitted,

David F. Jones
Plan Administrator

MEMBERS OF THE BOARD OF ADMINISTRATION

Walter L. Johnson, Sr.
President
Community Representative

Jaime T. Godfrey
Vice President
Bank Representative

John C. Speakman
Fire Department Representative

Plan Administrator
David F. Jones
Treasury Administrator

Legal Advisor, City of Oakland

Selia Warren
Supervising Deputy City Attorney

R. Steven Wilkinson
Insurance Representative

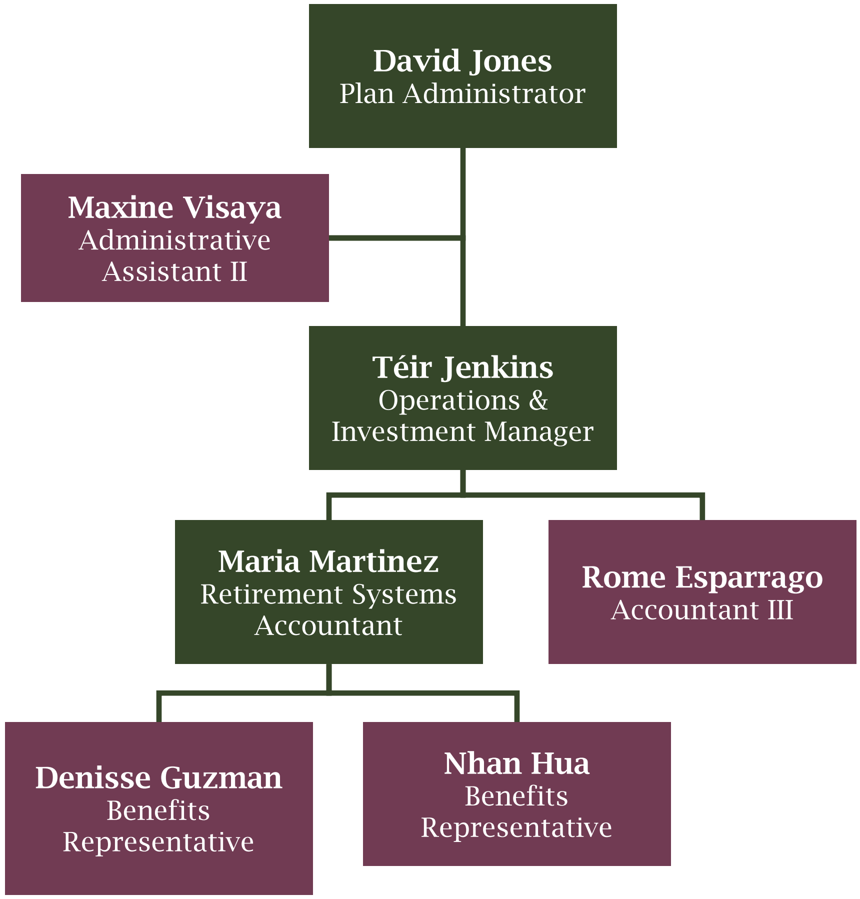
Martin J. Melia
Alternating Fire/Police Department Representative

Robert W. Nichelini
Police Representative

Erin Roseman
Mayoral Designate

ADMINISTRATIVE STAFF

Retirement Unit



PROFESSIONAL SERVICES

Over the past year the Board of Administration has engaged the following consultants to

Actuary	Cheiron, Inc.
Auditors	Macias Gini & O'Connell LLP
Custodial Service	The Northern Trust Company
Investment Consultant	Meketa Investment Group

assist in making investments and in developing a sound retirement plan:

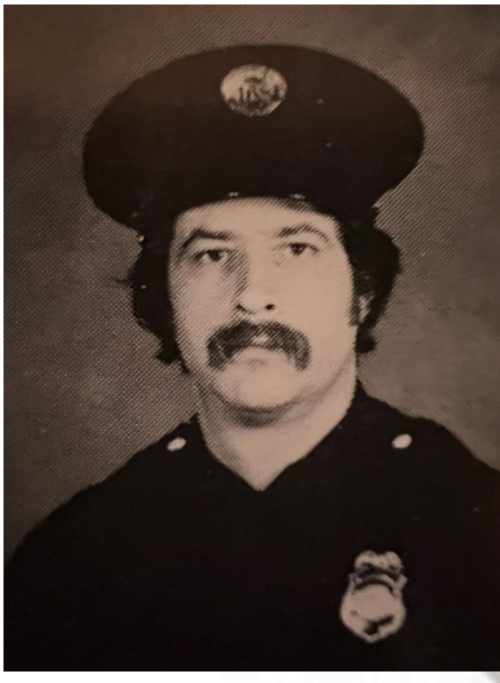
A complete list of Investment Professionals is included on page 56 of this Annual Report.

BOARD MEETING INFORMATION

On-Site Meeting Location	1 Frank H. Ogawa Plaza, Oakland, CA 94612
Virtual Meeting	Zoom Webinar
Date	Last Wednesday of each month

For more information, visit our website at:
City of Oakland | Oakland Police & Fire Retirement System Board (PFRS) (oaklandca.gov)

Section 2
Financial



Dennis Holmes
Firefighter

Served with Oakland Fire Department
March 1974 to March 1988

MGO. | Certified Public Accountants

Independent Auditor's Report

Board of Administration
Oakland Police and Fire Retirement System
Oakland, California

Opinion

We have audited the financial statements of the Oakland Police and Fire Retirement System (System), a pension trust fund of the City of Oakland, California (City), as of and for the years ended June 30, 2023, and 2022, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System as of June 30, 2023, and 2022, and the changes in its fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the System and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matter

As described in Note 1, the financial statements present only the Oakland Police and Fire Retirement System and do not purport to, and do not, present fairly the financial position of the City as of June 30, 2023, and the changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we

- exercise professional judgment and maintain professional skepticism throughout the audit.
- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, no such opinion is expressed.
- evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, the schedule of changes in the employer's net pension liability and related ratios, the schedule of employer contributions, and the schedule of investment returns as listed in the table of contents be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the introductory, investment, actuarial, and the in-memoriam section but does not include the basic financial statements and our auditor's report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Macias Gini & O'Connell LLP

Walnut Creek, California
December 5, 2023

3

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Management's Discussion & Analysis
(Unaudited)

As management of the Oakland Police and Fire Retirement System (System), we offer readers of the System's financial statements this narrative overview and analysis of the financial activities of the System for the years ended June 30, 2023 and 2022. We encourage readers to consider the information presented here in conjunction with the System's financial statements that follow this section. These discussions and analyses are presented in the following sections:

- Organizational Overview and Highlights
- Financial Statement Overview
- Financial Analysis: 2023 vs. 2022
- Financial Analysis: 2022 vs. 2021
- Requests for Additional Information

ORGANIZATIONAL OVERVIEW AND HIGHLIGHTS

The City of Oakland City Charter established the System and provides for its funding. Accordingly, the System is an integral part of the City of Oakland (City) and its operations have been reported as a Pension Trust Fund in the City's basic financial statements. The System is a closed, single employer, defined benefit pension plan that provides retirement, disability and survivor benefits for eligible sworn safety employees of the City. The System serves the City's sworn employees hired prior to July 1, 1976, who have not transferred to the California Public Employees' Retirement System (CalPERS). The System is governed by a board of seven trustees: the Mayor or his/her designate, three Mayoral appointees approved by the City Council, an elected active or retired member of the Police Department, an elected active or retired member from the Fire Department, and an elected member position which alternates between the Police Department and Fire Department membership. Trustees receive no compensation.

The System has been funded by periodic employee and City contributions at actuarially determined amounts sufficient to accumulate the necessary assets to pay benefits when due as specified by the City Charter, unless the Board and the City have agreed to other funding options. In accordance with the City Charter, active members hired after July 1, 1951, and prior to July 1, 1976, contribute a percentage of their earned salaries based upon entry age as determined by consulting actuaries. During the years ended June 30, 2023, and 2022, the employee contribution rate was 0% for both years. There are no active participants in the Plan as of June 30, 2023, and 2022.

In July 2012, the City deposited $210 million in pension obligation bond proceeds into the System and entered into a funding agreement with the System Board, which suspended contributions until the fiscal year beginning July 1, 2017.

As of June 30, 2023, the total pension liability of $533.8 million less the fiduciary net position of $416.1 million results in a net pension liability of approximately $117.7 million. The fiduciary net position as a percentage of the total pension liability is 78.0%.

As of June 30, 2022, the total pension liability of $553.3 million less the fiduciary net position of $401.5 million results in a net pension liability of approximately $151.8 million. The fiduciary net position as a percentage of the total pension liability is 72.6%.

The System membership at June 30, 2023, is 654, which includes 436 retirees and 218 beneficiaries. The System membership at June 30, 2022, is 686. The following are the significant assumptions used to compute contribution requirements in the July 1, 2022, Actuarial Valuation Report:

- Select and ultimate rates, equal to 5.09% single equivalent investment rate of return
- 2.75% inflation rate, U.S.
- 2.85% inflation rate, Bay Area
- 3.25% long-term post-retirement benefit increases

City contributions are based on spreading costs as a level percentage of the City's total uniform payroll to July 1, 2026. The System uses the entry age normal cost method for its disclosure and reporting. During fiscal years 2023 and 2022, the City contributions were $32.7 million and $43.8 million respectively to the System. The next required City contribution is projected to be approximately $40.8 million in fiscal year 2024 .

FINANCIAL STATEMENT OVERVIEW

This annual financial report consists of three parts – management's discussion and analysis (this section), the basic financial statements and required supplementary information. The basic financial statements include *Statements of Fiduciary Net Position; Statements of Changes in Fiduciary Net Position*; and the *Notes to the Basic Financial Statements.*

The *Statements of Fiduciary Net Position* and the *Statements of Changes in Fiduciary Net Position* report information to assist readers in determining whether the System's finances as a whole have improved or deteriorated as a result of the year's activities. These statements report the net position of the System and the activities that caused the changes in the net position during the year, respectively.

The *Statements of Fiduciary Net Position* present information on all System assets and liabilities, with the difference between the two reported as net position restricted for pensions. Over time, increases or decreases in net position restricted for pensions may serve as a useful indicator of whether the financial condition of the System is improving or deteriorating.

While the *Statements of Fiduciary Net Position* provide information about the nature and amount of resources and obligations at year-end, the *Statements of Changes in Fiduciary Net Position* present the results of the System's activities during the fiscal year and information on the change in the net position restricted for pensions during the fiscal year. The *Statements of Changes in Fiduciary Net Position* measure the results of the System's investment performance as well as its additions from contributions and investment income and deductions for payment of benefits and administrative expenses. The *Statements of Changes in Fiduciary Net Position* can be viewed as indicators of the System's progress on the set goals of fully funding all current and past service costs and possessing sufficient additional resources to pay for current refunds of contributions and administrative and investment expenses.

The *Notes to the Basic Financial Statements* and *Required Supplementary Information* provide explanations and other information that is helpful to a full understanding of the data provided in the financial statements. The *Notes to the Basic Financial Statements* and *Required Supplementary Information* are found starting on page **26** and page **48**. respectively.

Management's Discussion & Analysis
(Unaudited)

FINANCIAL ANALYSIS
2023 vs. 2022

Table 1 summarizes net position restricted for pensions as of June 30, 2023 and 2022:

Table 1
Statements of Fiduciary Net Position
As of June 30, 2023 and 2022

	June 30		Change	
	2023	2022	Amount	Percentage
Assets				
Cash and Deposits	$ 9,566,751	$ 7,494,971	$ 2,071,780	27.6%
Receivables	15,147,401	6,218,664	8,928,737	143.6%
Investments	458,166,392	448,337,582	9,828,810	2.2%
Total Assets	482,880,544	462,051,217	20,829,327	4.5%
Liabilities				
Accounts payable	42,821	3,200	39,621	1238.0%
Benefits payable	4,132,458	4,183,604	(51,145)	-1.2%
Investments payable	21,517,405	7,700,505	13,816,900	179.4%
Accrued investment management fees	364,389	300,676	63,713	21.2%
Securities lending liabilities	40,693,027	48,375,771	(7,682,745)	-15.9%
Total liabilities	66,750,100	60,563,756	6,186,344	10.2%
Net Position				
Restricted for pensions	$ 416,130,444	$ 401,487,461	$ 14,642,983	3.6%

Net position restricted for pensions increased $14.6 million from June 30, 2022, to June 30, 2023. The main reasons for this increase were net investment gains of $34.4 million and the City pension contribution of $32.7 million. The remaining fluctuations in receivables and investments payable are primarily due to investment trading at year-end, where the outstanding balances represent investments either sold or purchased, but not yet settled.

Table 2 summarizes changes in net position restricted for pensions for the years ended June 30, 2023 and 2022.

Table 2
Statements of Changes in Fiduciary Net Position
For the Years Ended June 30, 2023 and 2022

	June 30		Change	
	2023	2022	Amount	Percentage
Additions				
Contributions from the City	$ 32,712,000	$ 43,820,000	$ (11,108,000)	-25.3%
Net investment income/(loss)	34,407,789	(47,954,760)	82,362,549	171.8%
Total additions	67,119,789	(4,134,760)	71,254,549	1723.3%
Deductions				
Benefits to members and beneficiaries	50,850,416	51,450,001	(599,585)	-1.2%
Administrative expenses	1,626,390	1,460,653	165,736	11.3%
Total deductions	52,476,806	52,910,654	(433,849)	-0.8%
Changes in net position	14,642,983	(57,045,414)	71,688,398	125.7%
Net position restricted for pensions				
Beginning of year	401,487,461	458,532,875	(57,045,414)	-12.4%
End of year	$ 416,130,444	$ 401,487,461	$ 14,642,984	3.6%

During fiscal year 2023, the City of Oakland contributed $32.7 million to the System. In addition, the System's net investment income for the year ended June 30, 2023, was $34.4 million. The money-weighted annual return for the year ended June 30, 2023, was 8.84%, compared to a benchmark return of 10.4% and an actuarial expected rate of return of 5.09%.

FINANCIAL ANALYSIS
2022 vs. 2021

Table 3 summarizes net position restricted for pensions as of June 30, 2022 and 2021.

Table 3
Statements of Fiduciary Net Position
As of June 30, 2022 and 2021

	June 30		Change	
	2022	2021	Amount	Percentage
Assets				
Cash and Deposits	$ 7,494,971	$ 6,323,835	$ 1,171,136	18.5%
Receivables	6,218,664	2,469,425	3,749,239	151.8%
Investments	448,337,582	503,773,621	(55,436,039)	-11.0%
Total Assets	462,051,217	512,566,881	(50,515,664)	-9.9%
Liabilities				
Accounts payable	3,200	1,110	2,090	188.2%
Benefits payable	4,183,604	4,294,620	(111,016)	-2.6%
Investments payable	7,700,505	422,993	7,277,512	1720.5%
Investment management fees	300,676	361,228	(60,552)	-16.8%
Securities lending liabilities	48,375,771	48,954,055	(578,284)	-1.2%
Total liabilities	60,563,756	54,034,006	6,529,750	12.1%
Net Position				
Restricted for pensions	$ 401,487,461	$ 458,532,875	$ (57,045,414)	-12.4%

Net position restricted for pensions decreased $57.0 million from June 30, 2021 to June 30, 2022. The main reasons of this decrease were net investment losses of $48.0 million and benefit payments of $51.4 million exceeded the City pension contribution of $43.8 million. The remaining fluctuations in receivables and investments payable are primarily due to investment trading at year-end, where the outstanding balances represent investments either sold or purchased, but not yet settled.

Table 4 summarizes changes in net position restricted for pensions for the years ended June 30, 2022 and 2021.

Table 4
Statements of Changes in Fiduciary Net Position
For the Years Ended June 30, 2022 and 2021

	June 30		Change	
	2022	2021	Amount	Percentage
Additions				
Contributions from the City	$ 43,820,000	$ 43,648,000	$ 172,000	0.4%
Net investment income/(loss)	(47,954,760)	90,191,309	(138,146,069)	-153.2%
Other additions	-	908	(908)	-100.0%
Total additions	(4,134,760)	133,840,217	(137,974,977)	-103.1%
Deductions				
Benefits to members and beneficiaries	51,450,001	52,697,378	(1,247,377)	-2.4%
Administrative expenses	1,460,653	1,584,654	(124,001)	-7.8%
Total deductions	52,910,654	54,282,032	(1,371,378)	-2.5%
Changes in net position	(57,045,414)	79,558,185	(136,603,599)	-171.7%
Net position restricted for pensions				
Beginning of year	458,532,875	378,974,690	79,558,185	21.0%
End of year	$ 401,487,461	$ 458,532,875	$ (57,045,414)	-12.4%

During fiscal year 2022, the City of Oakland contributed $43.8 million to the System. In addition, the System's net investment losses for the year ended June 30, 2022 were $48.0 million, mainly due to net depreciation in fair value of the investment portfolio. The time-weighted annual return for the year ended June 30, 2022 was -10.4%, compared to a benchmark return of -11.9% and an actuarial expected rate of return of 5.19%.

REQUESTS FOR ADDITIONAL INFORMATION

This financial report is designed to provide a general overview of the System's finances and to account for the money that the System receives. Questions concerning any of the information provided in this report or requests for additional information should be addressed to:

Retirement System
City of Oakland
150 Frank H Ogawa Plaza, Suite 3349
Oakland, CA 94612

Financial Statements

Oakland Police and Fire Retirement System
Statements of Fiduciary Net Position
June 30, 2023 and 2022

	2023	2022
Assets		
Cash and Cash Equivalents	$ 9,566,751	$ 7,494,971
Receivables:		
Interest Receivable	851,342	813,441
Dividends Receivable	185,259	279,524
Investments Receivable	13,861,852	4,911,786
Retired Members and Beneficiaries	101,798	102,906
Miscellaneous	147,149	111,007
Total Receivables	15,147,401	6,218,664
Investments, at Fair Value:		
Short-Term Investments	10,743,990	7,474,421
Bonds	132,354,487	130,126,766
Domestic Equities and Mutual Funds	169,856,809	158,144,787
International Equities and Mutual Funds	55,731,256	47,911,190
Alternative Investments	48,463,642	56,334,733
Securities Lending Collateral	41,016,208	48,345,685
Total Investments	458,166,392	448,337,582
Total Assets	**482,880,544**	**462,051,217**
Liabilities		
Accounts Payable	42,821	3,200
Benefits Payable	4,132,458	4,183,604
Investments Payable	21,517,405	7,700,505
Investment Management Fees Payable	364,389	300,676
Securities Lending Liabilities	40,693,027	48,375,771
Total Liabilities	**66,750,100**	**60,563,756**
Net Position Restricted for Pensions	**$ 416,130,444**	**$ 401,487,461**

See accompanying notes to the basic financial statements.

Financial Statements

Oakland Police and Fire Retirement System
Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2023 and 2022

	2023	2022
Additions		
Contributions from the City	$ 32,712,000	$ 43,820,000
Investment Income:		
Net Appreciation/(Depreciation) in Fair Value of Investments	27,639,783	(54,534,753)
Interest	4,897,976	4,134,111
Dividends	3,131,776	3,768,733
Less: Investment Expenses	(1,361,423)	(1,475,655)
Securities Lending Income:		
Securities Lending Earnings	1,905,212	264,447
Securities Lending Expenses, Net of Rebates	(1,805,535)	(111,643)
Net Securities Lending Income	99,677	152,804
Net Investment Income/(Loss)	$ 34,407,789	$ (47,954,670)
Total Additions	67,119,789	(4,134,760)
Deductions		
Benefits to Members and Beneficiaries:		
Retirement	30,958,511	31,495,125
Disability	18,400,366	18,418,545
Death	1,491,539	1,536,331
Total Benefits to Members and Beneficiaries	50,850,416	51,450,001
Administrative Expenses	1,626,390	1,460,653
Total Deductions	52,476,806	52,910,654
Change in Net Position	$ 14,642,983	$ (57,045,414)
Net Position Restricted for Pensions		
Beginning of Year	401,487,461	458,532,875
End of Year	$ 416,130,444	$ 401,487,461

See accompanying notes to the basic financial statements.

Notes to the Basic Financial Statements

For Years Ended June 30, 2023 and 2022

1. Description of the Oakland Police and Fire Retirement System

The Oakland Police and Fire Retirement System (System) is a closed, single-employer defined benefit pension plan (Plan) established by the City of Oakland (City) Charter. The System is governed by a board of seven trustees (Board); the City Mayor or his/her designate, three Mayoral appointees approved by the City Council, an elected active or retired member of the Police Department, an elected active or retired member from the Fire Department, and an elected member position which alternates between the Police Department and Fire Department membership. Trustees receive no compensation. As a result of a City Charter amendment, known as Measure R, approved by the electorate on June 8, 1976, membership in the Plan is limited to uniformed employees hired prior to July 1, 1976.

The System is exempt from the regulations of the Employee Retirement Income Security Act of 1974. The System is also exempt from federal and California income taxes.

The System is considered to be a part of the City's financial reporting entity and is included in the City's basic financial statements as a pension trust fund. The financial statements of the System are intended to present only the plan net position and changes in plan net position of the System. They do not purport to, and do not, present fairly the financial position of the City as of June 30, 2023 and 2022, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America. The City's basic financial statements can be obtained from the Finance Department, Controller's Bureau, City of Oakland, 150 Frank H. Ogawa Plaza, Suite 6353; Oakland, California 94612.

a) System Membership

At June 30, 2023, and 2022, the System membership consisted of only retirees and beneficiaries. The System's membership is as follows :

Retirees and Beneficiaries Currently Receiving Benefits	2023	2022
Police	404	422
Fire	250	264
Total	654	686

b) Basic Benefit Provisions

The City Charter establishes plan membership, contribution, and benefit provisions. The System provides that any member who completes at least 25 years of service, regardless of age, or completes 20 years of service and attains age 55, or has attained age 65, is eligible for retirement benefits. The basic retirement allowance equals 50% of the compensation attached to the average rank held during the three years immediately preceding retirement, plus an additional allowance of 1 and 2/3% of such compensation for each year of service (up to ten) subsequent to (a) qualifying for retirement and (b) July 1, 1951. However, any member retiring at age 65 with less than 20 years of service shall receive a reduced retirement allowance based upon the number of years of service. A member is eligible for early retirement benefits after 20 to 24 years of service with a retirement allowance based upon 40% to 48% of the compensation attached to the average rank held during the three years preceding retirement. Additionally, a member with 10 to 19 years of service may retire and, on or after the 25th anniversary of his/her date of employment may receive a retirement allowance based upon 20% to 38% of the compensation attached to the average rank held during the three years preceding retirement.

The System also provides for various death, disability, and survivors' benefits. Death and disability benefits are paid to eligible members who became disabled or passed away prior to retirement. If the member's death or disability is duty related, then the surviving spouse or member is paid a pension equivalent to an immediate service retirement. The duty related death or disability pension is paid at a level no less than 50% of the pay attached to the rank. If a death occurs after retirement, then a one-time payment of $1,000 is paid to the member's designated beneficiary.

After retirement, members receive benefits based on a fixed monthly dollar amount. Pension amounts change based on changes to the compensation attached to the average rank. Upon a retiree's death, benefits are continued to an eligible surviving spouse at a two-thirds level for service and non-duty disabled retirees and at a 100% level for retirements for duty disability.

Notes to the Basic Financial Statements

For Years Ended June 30, 2023 and 2022

2. Summary of Significant Accounting Policies

a) Basis of Presentation

The financial statements are prepared in accordance with U.S. generally accepted accounting principles as applicable to governmental organizations. The System adheres to the reporting requirements established by the Governmental Accounting Standards Board (GASB).

b) Measurement Focus and Basis of Accounting

The financial statements are prepared on a flow of economic resources measurement focus using the accrual basis of accounting. Contributions are recognized in the period in which the contributions are due pursuant to legal requirements as well as statutory or contractual requirements, and benefits and refunds are recognized when payable under plan provisions.

c) Methods Used to Value Investments

Investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Investments that do not have an established market are reported at estimated fair values based on the net asset value as determined by the fund manager based on quoted market prices of fund holdings or values provided by the custodian or the applicable money manager. Purchases and sales of investments are recorded on a trade date basis.

d) Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles in the United States of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

3. Contributions

In accordance with the City Charter, active members hired after July 1, 1951, and prior to July 1, 1976, contributed a percentage of their earned salaries based upon entry age as determined by consulting actuaries. Since fiscal year 2015, there were no remaining active members in the System.

In March 1997, the City issued pension obligation bonds and deposited $417 million into the System to pay the City's contributions through June 2011. In accordance with an agreement entered into at the time the pension obligation bonds were issued in 1997, the City was not expected to contribute until July 2011. In the year ended June 30, 2005, the City transferred excess proceeds of $17.7 million from the Oakland Joint Powers Financing Authority Refunding Revenue 2005 Series B Bond to fund a portion of the City's future obligation to the System.

Effective July 1, 2011, the City resumed contributing to the System. The City contributed $45.5 million in the year ended June 30, 2012. Using the current actuarial cost method, these contributions are based on spreading costs as a level percentage of all uniformed employees' compensation through June 30, 2026. Budgeted administrative expenses are included in the City contribution rates. The City must contribute, at a minimum, such amounts as are necessary, on an actuarial basis, to provide assets sufficient to meet benefits to be paid to plan members.

On July 30, 2012, the City contributed $210 million to the System. As a result of a funding agreement entered into between the System's Board and the City no additional contributions were required until July 1, 2017. The City resumed contributions to the System on July 1, 2017. The City contributed $32.71 million and $43.82 million in the years ended June 30, 2023, and 2022, respectively. The next required contribution for fiscal year 2024 is $40.76 million.

4. Cash, Deposits and Investments

a) Investment Policy

The System's investment policy authorizes investment in U.S. equities, international equities, U.S. fixed income instruments including U.S. Treasury notes and bonds, government agency mortgage-backed securities, U.S. corporate notes and bonds, collateralized mortgage obligations, Yankee bonds and non-U.S.-issued fixed income securities denominated in foreign currencies. The System's investment portfolio is managed by external investment managers, except for the two iShares ETF which are managed internally. During the years ended June 30, 2023, and 2022, the number of external investment managers was eleven and eleven, respectively.

The System investments are also restricted by the City Charter. In November 2006, City voters passed Measure M to amend the City Charter to allow the System's Board to invest in non-dividend paying stocks and to change the asset allocation structure from 50% equities and 50% fixed income to the Prudent Person Standard as defined by the California Constitution.

The System's investment policy limits fixed income investments to a maximum average duration of 10 years and a maximum remaining term to maturity (single issue) at purchase of 30 years, with targeted portfolio duration of between 3 to 8 years and targeted portfolio maturity of 15 years. The System's investment policy allows the fixed income managers to invest in fixed income instruments and some exposure to investments below an investment grade rating, as long as the portfolio maintains an average credit quality of BBB (investment grade using Standard & Poor's, Moody's or Fitch ratings).

The System's investment policy states that investments in securities known as collateralized mortgage obligations (CMOs) shall be limited to a maximum of 20% of a broker account's fair value with no more than 5% in any one issue. CMOs are mortgage-backed securities that create separate pools of pass-through rates for different classes of bondholders with varying maturities. The fair values of CMOs are considered sensitive to interest rate changes because they have embedded options.

The investment policy allows for each fixed income asset manager to have a maximum of 10% of any single security investment in their individual portfolios with the exception of U.S. government securities, which is allowed to have a maximum of 25% in each manager's portfolio.

The following was the Board's adopted asset allocation policy as of June 30, 2023 and 2022:

	Target Allocation	
Asset Class	**June 30, 2023**	**June 30, 2022**
Fixed Income	21%	21%
Credit	2	2
Covered Calls	5	5
Domestic Equity	40	40
International Equity	12	12
Crisis Risk Offset	20	20
Total	100%	100%

The Board's target allocation does not include cash and cash equivalents, which are designated for approved administrative budget purposes.

b) Concentrations

Concentration of credit risk is the risk of potential loss attributed to the magnitude of the System's investment in a single issuer of securities. As of June 30, 2023, there were no organizations or issuers that represent 5% or more of the total investments or the fiduciary net position .

c) Rate of Return

The money-weighted rate of return is a measure of the rate of return for an asset or portfolio of assets that incorporates the size and timing of cash flows. For the years ended June 30, 2023, and 2022, the annual money-weighted rates of return on pension plan investments, net of pension plan investment expenses, were 8.84% and -10.24%, respectively.

d) Cash and Cash Equivalents

As of June 30, 2023, and 2022, cash and cash equivalents consisted of cash in treasury held in the City's cash and investment pool as well as cash deposits held in bank and with a custodian. Funds in the City Treasury are invested according to the investment policy adopted by the City Council. Interest earned in the City Treasury is allocated monthly to all participants based on the average daily cash balance maintained by the respective funds. Information regarding the characteristics of the entire investment pool can be found in the City's June 30, 2023, and 2022 basic financial statements. As of June 30, 2023, and 2022, the System's share of the City's investment pool totaled $9,559,927 and $7,487,892, respectively. The System also had cash not included in the City's investment pool. As of June 30, 2023, and 2022, the System's cash and cash deposits not held in the City's investment pool totaled $6,824 and $7,079, respectively.

e) Hierarchy of Inputs

The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs.

The System has the following recurring fair value measurements as of June 30, 2023:

Recurring Fair Value Measurements
As of June 30, 2023

	2023			
	Level One	Level Two	Level Three	Total
Investments by fair value level:				
Short-Term Investments	$ -	$ 1,607,980	$ -	$ 1,607,980
Bonds	14,131,423	102,295,756	-	116,427,179
Domestic Equities and Mutual Funds	65,219,530	-	-	65,219,530
International Equities and Mutual Funds	55,709,361	-	21,895	55,731,256
Alternative Investments	22,435,178	-	-	22,435,178
Total investments by fair value level	$ 157,495,492	$103,903,736	$ 21,895	261,421,123
Investments measured at net asset value (NAV):				
Short-Term Investment Funds				9,136,010
Fixed Income Funds				15,927,308
Domestic Equities and Mutual Funds				104,637,279
Hedge Fund				10,476,679
Venture Capital Fund				15,551,785
Securities Lending Collateral - Short-Term Investment Fund				41,016,208
Total investments measured at NAV				196,745,269
Total investments measured at fair value				**$458,166,392**

The System has the following recurring fair value measurements as of June 30, 2022:

Recurring Fair Value Measurements
As of June 30, 2022

	2022			
	Level One	Level Two	Level Three	Total
Investments by fair value level:				
Short-Term Investments	$ -	$ 1,497,607	$ -	$ 1,497,607
Bonds	15,606,180	99,275,321	-	114,881,501
Domestic Equities and Mutual Funds	63,509,351	-	-	63,509,351
International Equities and Mutual Funds	47,543,916	-	367,274	47,911,190
Alternative Investments	30,599,372	-	-	30,599,372
Total investments by fair value level	$ 157,258,819	$100,772,928	$ 367,274	258,399,021
Investments measured at net asset value (NAV):				
Short-Term Investment Funds				5,976,814
Fixed Income Funds				15,245,265
Domestic Equities and Mutual Funds				94,635,436
Hedge Fund				9,894,309
Venture Capital Fund				15,841,052
Securities Lending Collateral - Short-Term Investment Fund				48,345,685
Total investments measured at NAV				189,938,561
Total investments measured at fair value				**$448,337,582**

Investments measured at NAV represent commingled and venture capital funds where fair value is measured based on the System's pro rata share of the total NAV .

Investments Measured at Net Asset Value As of June 30, 2023

	June 30, 2023	Redemption Frequency	Redemption Notice Period
Investments measured at net asset value (NAV):			
Short-Term Investment Funds	$ 9,136,010	n/a	n/a
Fixed Income Funds	6,726,320	n/a	n/a
Fixed Income Funds	9,200,988	n/a	15 days for < $10 million; 60 days for ≥ $10 million
Domestic Equities and Mutual Funds	23,373,498	Monthly	10 days
Domestic Equities and Mutual Funds	81,263,781	n/a	n/a
Hedge Fund	10,476,679	Monthly*	30 days
Venture Capital Fund	15,551,785	Monthly	10 days
Securities Lending Collateral - Short-Term Investment Fund	41,016,208	n/a	n/a
Total investments measured at NAV	**$ 196,745,269**		

* For full redemptions, a 5% audit holdback is applied that is then paid after the audit is finalized.

Investments Measured at Net Asset Value As of June 30, 2022

	June 30, 2022	Redemption Frequency	Redemption Notice Period
Investments measured at net asset value (NAV):			
Short-Term Investment Funds	$ 5,976,814	n/a	n/a
Fixed Income Funds	6,741,756	n/a	n/a
Fixed Income Funds	8,503,509	n/a	15 days for < $10 million; 60 days for ≥ $10 million
Domestic Equities and Mutual Funds	20,739,219	Monthly	10 days
Domestic Equities and Mutual Funds	73,896,217	n/a	n/a
Hedge Fund	9,894,309	Monthly*	30 days
Venture Capital Fund	15,841,052	Monthly	10 days
Securities Lending Collateral - Short-Term Investment Fund	48,345,685	n/a	n/a
Total investments measured at NAV	$ 189,938,561		

* For full redemptions, a 5% audit holdback is applied that is then paid after the audit is finalized.

f) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. As described previously, the System's investment policy limits fixed income investments to a maximum average duration of 10 years and a maximum remaining term to maturity (single issue) at purchase of 30 years, with targeted portfolio duration of between 3 to 8 years and targeted portfolio maturity of 15 years. The weighted average duration for the System's fixed income investment portfolio excluding fixed income short-term investments, foreign currency contracts, and securities lending investments was 7.23 years as of June 30, 2023, and 7.59 years as of June 30, 2022.

The following summarizes the System's fixed income investments by category as of June 30, 2023, and 2022. As of June 30, 2023, the System held exchange cleared swaps of $43,921 in an asset position that is included in the tables below. As of June 30, 2022, the System held exchange cleared swaps of $70,497 in a liability position that is not included in the tables below.

Short-Term Investment Duration

	2023		2022	
Investment Type	**Fair Value**	**Modified Duration (Years)**	**Fair Value**	**Modified Duration (Years)**
Short-Term Investment Funds	$ 10,743,990	n/a	$ 7,474,421	n/a
U.S. Treasury Bills*	3,576,567	0.55	-	n/a

Long-Term Investment Duration

	2023		2022	
Investment Type	**Fair Value**	**Modified Duration (Years)**	**Fair Value**	**Modified Duration (Years)**
Fixed Income Investments				
Government Bonds				
U.S. Treasuries	$ 20,795,994	8.63	$ 25,417,687	6.53
Government Agencies	38,294,874	7.57	29,893,654	8.41
Total Government Bonds	59,090,868		55,311,341	
Corporate and Other Bonds				
Corporate Bonds	69,687,021	6.96	74,807,108	7.63
Other Government Bonds	-	0.00	78,814	6.97
Total Corporate and Other Bonds	69,687,021		74,885,922	
Total Fixed Income Investments	**$ 132,354,487**	7.23	**$130,197,263**	7.59
Securities Lending	**$ 41,016,208**		**$ 48,345,685**	

* Though short-term in duration these are not included with short-term investments. These U.S. Treasury Bills are included in Bonds in the financial statements.

g) Fair Value Highly Sensitive to Change in Interest Rates

The terms of a debt investment may cause its fair value to be highly sensitive to interest rate changes. The System has invested in CMOs, which are mortgage-backed bonds that pay pass-through rates with varying maturities. The fair values of CMOs are considered sensitive to interest rate changes because they have embedded options, which are triggers related to quantities of delinquencies or defaults in the loans backing the mortgage pool. If a balance of delinquent loans reaches a certain threshold, interest and principal that would be used to pay junior bondholders is instead directed to pay off the principal balance of senior bondholders, shortening the life of the senior bonds.

The following are the System's investments in CMOs at June 30, 2023:

Investments in CMOs at June 30, 2023

Investment Type	Weighted Average Coupon Rate	Weighted Average Maturity (Years)	Fair Value	Percent of Total Investments Fair Value
Mortgage-backed securities	2.45%	27.49	$28,560,073	6.23%

The following are the System's investments in CMOs at June 30, 2022:

Investments in CMOs at June 30, 2022

Investment Type	Weighted Average Coupon Rate	Weighted Average Maturity (Years)	Fair Value	Percent of Total Investments Fair Value
Mortgage-backed securities	2.39%	24.36	$20,820,467	4.64%

h) Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation.

The following provides information concerning the credit risk of fixed income securities as of June 30, 2023 and 2022:

Short-Term Investment Ratings

	2023		2022	
Investment Type	S&P / Moody's/ Fitch Rating	Fair Value	S&P / Moody's/ Fitch Rating	Fair Value
Short-Term Investment Funds	Not Rated	$10,743,990	Not Rated	$7,474,421
U.S. Treasury Bills**	N/A	$3,576,597	N/A	-

Long-Term Investment Ratings

	2023		2022	
S&P / Moody's Rating	Fair Value	Percentage of Total Fair Value	Fair Value	Percentage of Total Fair Value
AAA/Aaa	$ 30,637,612	23.8%	$ 31,697,696	24.4%
AA/Aa	22,291,955	17.3%	27,835,706	21.1%
A/A	12,987,483	10.1%	12,809,876	9.8%
BBB/Baa	11,087,375	8.6%	15,713,952	12.1%
BB/Ba	469,751	0.4%	1,196,674	0.9%
B/B	55,102	0.0%	21,734	0.0%
CCC/CCC	9,200,988	7.1%	8,503,509	6.5%
Not Rated*	21,055,331	16.4%	9,780,847	7.5%
N/A**	20,992,293	16.3%	22,566,772	17.3%
	$ 128,777,890	100.0%	$130,126,766	100.00%

* Includes Government Mortgage-Backed Securities such as FNMA and FHLMC. These securities are issued by Government Sponsored Enterprises (GSEs) and are not rated by the rating agencies. They are implicitly guaranteed by the U.S. Government. Additionally there is $1M Corporate ABS, MBS & CMOs included

** In the financial statements, Short-term U.S. Treasury Bills, which are rated N/A, are included with Long-Term N/A. These include U.S. government obligations (Treasury Bill, Treasury Notes, and GNMA) explicitly guaranteed by the U.S. government which are not considered to have credit risk.

Securities Lending Collateral

S&P / Moody's Rating	2023 Fair Value	2022 Fair Value
Not Rated	$ 41,016,208	$ 48,345,685

i) Custodial Credit Risk

Custodial credit risk is the risk that, in the event of a failure of a depository financial institution or counterparty to a transaction, there will be an inability to recover the value of deposits, investments, or collateral securities in the possession of an outside party.

The California Government Code requires that governmental securities or first trust deed mortgage notes be used as collateral for demand deposits and certificates of deposit at 110 percent and 150 percent, respectively, of all deposits not covered by federal deposit insurance. As the City holds cash and certificates of deposit on behalf of the System, the collateral must be held by the pledging financial institution's trust department and is considered held in the City's name. For all other System deposits, the collateral must be held by the pledging financial institution's trust department and is considered held in the System's name.

The City, on behalf of the System, does not have any funds or deposits that are not covered by depository insurance, which are either uncollateralized, collateralized with securities held by the pledging financial institution, or collateralized with securities held by the pledging financial institution's trust department or agent, but not in the City's name. The System does not have any investments that are not registered in the name of the System and are either held by the counterparty or the counterparty's trust department or agent but not in the System's name.

j) Foreign Currency Risk

Foreign currency risk is the risk that changes in foreign exchange rates will adversely affect the fair values of an investment or deposit. Currency hedging is allowed under the System's investment policy for defensive purposes only. The investment policy limits currency hedging to a maximum of 25% of the portfolio value.

The following summarizes the System's investments denominated in foreign currencies as of June 30, 2023 and 2022:

Investments Denominated in Foreign Currencies
As of June 30, 2023 and 2022

	Fair Value	
Foreign Currency	**June 30, 2023**	**June 30, 2022**
Australian Dollar	$ 1,460,100	$ 1,993,400
Brazilian Real	417,399	772,622
British Pound	4,563,264	3,154,218
Canadian Dollar	2,702,222	3,290,894
Danish Krone	1,121,370	895,274
Euro	10,062,579	6,894,262
Hong Kong Dollar	4,011,826	3,464,161
Indonesian Rupiah	701,715	555,889
Japanese Yen	5,806,892	4,662,742
Malaysian Ringgit	83,557	65,343
Mexican Peso	1,059,658	375,149
New Israeli Shekel	398,428	310,309
Norwegian Krone	247,136	-
Singapore Dollar	169,966	-
South African Rand	743,005	654,291
Swedish Krona	319,868	831,667
Swiss Franc	1,659,827	1,734,147
Thai Baht	553,667	-
Turkish Lira	-	133,896
Total	$ 36,082,479	$ 29,788,264

k) Securities Lending Transactions

The System's investment policy authorizes participation in securities lending transactions, which are short-term collateralized loans of the System's securities to broker-dealers with a simultaneous agreement allowing the System to invest and receive earnings on the collateral received. All securities loans can be terminated on demand by either the System or the borrower, although the average term of loans is one week.

The administrator of the System's securities lending activities is responsible for maintaining an adequate level of collateral in an amount equal to at least 102% of market value of loaned U.S. government securities, common stock and other equity securities, bonds, debentures, corporate debt securities, notes, and mortgages or other obligations held in U.S. Dollars. The minimum collateral level is 105% of market value of loaned securities for any securities held in currencies other than the U.S. Dollar. Collateral received may include cash, letters of credit, or securities. The term to maturity of the loaned securities is generally not matched with the term to maturity of the investment of the said collateral. If securities collateral is received, the System cannot pledge or sell the collateral securities unless the borrower defaults.

As of June 30, 2023, and 2022, management believes the System has minimized its credit risk exposure to borrowers because the amounts held by the System as collateral exceeded the securities loaned by the System. The System's contract with the administrator requires it to indemnify the System if the borrowers fail to return the securities (and if the collateral is inadequate to replace the securities borrowed) or fails to pay the System for income distributions by the securities' issuers while the securities are on loan.

The following summarizes investments in securities lending transactions and collateral received at June 30, 2023 and 2022:

Securities Lending as of June 30, 2023

Investment Type	Fair Value of Loaned Securities: For Cash Collateral	For Non-Cash Collateral	Total
Securities on Loan for Cash Collateral			
U.S. Government and Agencies	$ 17,566,171	$ -	$ 17,566,171
U.S. Corporate Bonds	4,779,355	-	4,779,355
U.S. Equities	17,329,930	1,361,842	18,691,772
Non-U.S. Equities	278,878	706,079	984,957
Total investments in securities lending transactions	$ 39,954,334	$ 2,067,920	$ 42,022,254
Collateral Received	$ 40,693,027	$ 2,110,707	$ 42,803,734

Securities Lending as of June 30, 2022

Investment Type	Fair Value of Loaned Securities: For Cash Collateral	For Non-Cash Collateral	Total
Securities on Loan for Cash Collateral			
U.S. Government and Agencies	$ 8,379,326	$ -	$ 8,379,326
U.S. Corporate Bonds	10,881,429	-	10,881,429
U.S. Equities	28,047,680	7,249,351	35,297,031
Non-U.S. Equities	-	252,473	252,473
Total investments in securities lending transactions	$ 47,308,435	$ 7,501,824	$ 54,810,259
Collateral Received	$ 48,375,771	$ 7,742,587	$ 56,119,358

l) Derivative Instruments

The Retirement System reports its derivative instruments under the provisions of GASB Statement No. 53, *Accounting and Financial Reporting for Derivatives Instruments*. Pursuant to the requirements of this statement, the Retirement System has provided a summary of derivative instrument activities during the reporting periods presented and the related risks.

As of June 30, 2023 and 2022, the derivative instruments held by the Retirement System are considered investments and not hedges for accounting purposes. All investment derivatives are reported as investments at fair value in the statements of fiduciary net position. The gains and losses arising from this activity are recognized as incurred in the statement of changes in fiduciary net position. All investment derivatives discussed below are included within the investment risk schedules, which precede this subsection. Investment derivative instruments are disclosed separately to provide a comprehensive and distinct view of this activity and its impact on the overall investment portfolio valuation methods used by the System are described in more detail in Note 2.c). The fair value of the exchange traded derivative instruments, such as futures, options, rights, and warrants are based on quoted market prices. The fair values of forward foreign currency contracts are determined using a pricing service, which uses published foreign exchange rates as the primary source. The fair values of swaps are determined by the System's investment managers based on quoted market prices of the underlying investment instruments.

The tables below present the notional amounts, the fair values, and the related net appreciation (depreciation) in the fair value of derivative instruments that were outstanding at June 30, 2023 and 2022:

As of and for the Year Ended June 30, 2023

Derivative Type / Contract	Notional Amount	Fair Value	Net Appreciation (Depreciation) in Fair Value
Options			
Equity Contracts	$ 45	$ (290,565)	$ (74,660)
Swaps			
Credit Contracts	1,455,000	43,921	51,559
Total	$ 1,455,045	$ (246,645)	$ (23,101)

As of and for the Year Ended June 30, 2022

Derivative Type / Contract	Notional Amount	Fair Value	Net Appreciation (Depreciation) in Fair Value
Options			
Equity Contracts	$ 59	$ (243,640)	$ 244,104
Swaps			
Credit Contracts	2,554,200	(70,497)	(147,933)
Total	$ 2,554,259	$ (314,137)	$ 96,171

Counterparty Credit Risk

The System is not exposed to credit risk on non-exchange traded derivative instruments that are in liability positions. As of June 30, 2023, and 2022, the System held no forward currency contracts in liability positions.

Custodial Credit Risk

The custodial credit risk disclosure for exchange traded derivative instruments is made in accordance with the custodial credit risk disclosure requirements of GASB Statement No. 40. At June 30, 2023, and 2022, all of the System's investments in derivative instruments are held in the System's name and are not exposed to custodial credit risk.

Interest Rate Risk

The tables below describe the maturity periods of the derivative instruments exposed to interest rate risk at June 30, 2023 and 2022.

Derivative Interest Rate Risk as of June 30, 2023

		Maturities	
Derivative Type / Contract	**Fair Value**	**Less than 1 Year**	**1-5 years**
Options			
Equity Contracts	(290,565)	(290,565)	-
Swaps			
Credit Contracts	43,921	-	43,921
Total	$ (246,644)	$ (290,565)	$ 43,921

Derivative Interest Rate Risk as of June 30, 2022

		Maturities	
Derivative Type / Contract	**Fair Value**	**Less than 1 Year**	**1-5 years**
Options			
Equity Contracts	$ (243,640)	$ (243,640)	$ -
Swaps			
Credit Contracts	(70,497)	-	(70,497)
Total	$ (314,137)	$ (243,640)	$ (70,497)

Foreign Currency Risk

At June 30, 2023, the System had no foreign currency risk. At June 30, 2022 the System had no foreign risk.

Contingent Features

At June 30, 2023 and 2022, the System held no positions in derivatives containing contingent features.

5. Net Pension Liability

The components of the net pension liability of the City at June 30, 2023 and 2022, are as follows:

Net Pension Liability of the City
At June 30, 2023 and 2022

	June 30, 2023	June 30, 2022
Total pension liability	$ 553,790,040	$ 553,287,414
Less: Plan fiduciary net position	(416,130,444)	(401,487,461)
City's net pension liability	$ 117,659,596	$ 151,799,953
Plan fiduciary net position as a percentage of the total pension liability	78.0%	72.6%

a) Actuarial Method and Assumptions

The total pension liability as of June 30, 2023 was determined based on an actuarial valuation as of June 30, 2022, using the entry age normal actuarial cost method and the following actuarial assumptions, applied to all periods included in the measurement.

Actuarial Assumptions	
Investment Rate of Return	5.09%
Inflation Rate, U.S.	2.75%
Inflation Rate, Bay Area	2.85%
Long-term Post-Retirement Benefit Increases	3.25%

Measurements as of the June 30, 2023, are based on the fair value of assets as of June 30, 2023, and the total pension liability as of the valuation date, June 30, 2022, updated to June 30, 2023. There were no significant events between the valuation date and the measurement date. The update only included the addition of interest cost, offset by actual benefit payments. There are no active members of the plan, and thus no service cost.

Mortality rates for healthy lives were based on the CalPERS Healthy Table from the 2012-2015 Experience Study, excluding the 15-year projection using 90% of Scale MP-2016. Mortality rates for disabled lives were based on the CalPERS Industrial Disability Mortality Table from the 2012-2015 Experience Study, excluding the 15-year projection using 90% of Scale MP-2016. The mortality tables are projected to improve with MP-2017 generational mortality improvement tables, with improvements projected from a base year of 2014 (the mid-point of the CalPERS base tables).

The total pension liability as of June 30, 2022, was determined based on an actuarial valuation as of June 30, 2021, updated to June 30, 2022, using the entry age normal actuarial cost method and the actuarial assumptions as described above for the June 30, 2022, valuation, except for the assumed investment rate of return was 5.19%. Measurements as of June 30, 2022, are based on the fair value of assets as of June 30, 2022, and the total pension liability as of the valuation date, June 30, 2021, updated to June 30, 2022.

The actuarial assumptions used in the June 30, 2022 and 2021 valuations were based on the results of actuarial experience studies for the period of July 1, 2014 through June 30, 2017.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimates ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target allocation percentage and by adding expected inflation.

Best estimates of geometric real rates of return for each major class included in the pension plan's target asset allocation as of June 30, 2023 and 2022 are summarized in the following table:

	Long-Term Expected Real Rate of Return	
Asset Class	**June 30, 2023**	**June 30, 2022**
Fixed Income	4.7%	0.20%
Domestic Equity	8.7	4.60
International Equity	9.8	5.50
Covered Calls	7.2	3.58
Crisis Risk Offset	5.1	1.83
Credit	7.3	2.30
Cash	2.9	(0.50)

b) Discount Rate

The discount rates used to measure the total pension liability were 5.09% and 5.19% as of June 30, 2023 and 2022, respectively. The projection of cash flows used to determine the discount rate assumed that the City would contribute to the Plan based on its July 1, 2012 funding agreement with the System. This agreement suspended City contributions until the fiscal year beginning July 1, 2017, after which they would resume, based upon the recommendation of the actuary, with a City Charter requirement that the Plan's liabilities be fully funded by July 1, 2026. A cash flow projection showed that the projected fiduciary net position would be greater than or equal to the benefit payments projected for each future period. Therefore, the long-term expected rate of return on Plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

c) Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the City, calculated using the discount rate, as well as what the Plan's net pension liability would be if it were calculated using a discount rate of 1-percentage-point lower or 1-percentage-point higher than the discount rate.

City's Net Pension Liability June 30, 2023			
	1% Decrease (4.09%)	Current Discount Rate (5.09%)	1% increase (6.09%)
City's net pension liability	$162,542,274	$117,659,596	$78,687,321

City's Net Pension Liability June 30, 2022			
	1% Decrease (4.19%)	Current Discount Rate (5.19%)	1% increase (6.19%)
City's net pension liability	$199,655,233	$151,799,953	$110,388,515

6. Reserves

Retired Member Contribution Reserve represents the total accumulated transfers from active member contributions and investments, less payments to retired members and beneficiaries.

Employer Reserve represents the total accumulated employer contributions for retirement payments. Additions include contributions from the employer, investment earnings and other income; deductions include payments to retired members and beneficiaries and administrative expenses.

The aggregate total of the System's major reserves as of June 30, 2023 and 2022 equals net position restricted for pensions and comprises the following:

Aggregate Total of the System's Major Reserves		
	2023	2022
Retired member contribution reserve	$ 22,350,106	$ 24,543,634
Employer reserve	393,780,338	376,943,827
Total	$ 416,130,444	$ 401,487,461

7. Administrative Expenses

The City provides the System with accounting and other administrative services. Staff salaries included in administrative expenses for the years ended June 30, 2023, and 2022 were $1,626,390 and $1,460,653, respectively.

Required Supplementary Information

For Years Ended June 30, 2023 and 2022

Schedule of Changes in the Employer's Net Pension Liability and Related Ratios (Unaudited)

	2023	2022	2021	2020	2019
Total Pension Liability					
Interest (includes interest on service cost	$ 31,458,384	$ 33,193,734	$ 34,680,418	$ 36,078,037	$ 37,621,301
Differences between expected and actual experience	3,820,811	(7,035,509)	(7,375,711)	(5,699,459)	(7,915,210)
Changes of assumptions	(3,926,153)	-	-	-	(1,475,030)
Benefit payments, including refunds of member contributions	(50,850,416)	(51,450,001)	(52,697,378)	(54,619,079)	(56,212,013)
Net change in total pension liability	(19,497,734)	(25,291,776)	(25,392,671)	(24,240,501)	(27,980,952)
Total pension liability – beginning	553,287,414	578,579,190	603,971,861	628,212,362	656,193,314
Total pension liability – ending (a)	$ 533,790,040	$553,287,414	$578,579,190	$603,971,861	$628,212,362
Plan Fiduciary Net Position					
Contributions - employer	$ 32,712,000	$ 43,820,000	$ 43,648,000	$ 43,409,000	$ 44,821,000
Net investment income	34,407,789	(47,954,760)	90,191,309	6,996,833	21,557,961
Benefit payments, including refunds of member contributions	(50,850,416)	(51,450,001)	(52,697,378)	(54,619,079)	(56,212,013)
Administrative expense	(1,626,390)	(1,460,653)	(1,584,654)	(1,522,910)	(1,446,361)
Claims and settlements	-	-	908	132	13,856
Net change in plan fiduciary net position	14,642,983	(57,045,414)	79,558,185	(5,736,024)	8,734,443
Plan fiduciary net position – beginning	401,487,461	458,532,875	378,974,690	384,710,714	375,976,271
Plan fiduciary net position – ending (b)	$ 416,130,444	$401,487,461	$458,532,875	$378,974,690	$384,710,714
City's net pension liability – ending (a) – (b)	$ 117,659,596	$151,799,953	$120,046,315	$224,997,171	$243,501,648
Plan fiduciary net position as a percentage of the total pension liability	78%	73%	79%	63%	61%
Covered payroll	$ -	$ -	$ -	$ -	$ -
Net pension liability as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A

Required Supplementary Information

For Years Ended June 30, 2023 and 2022

Schedule of Changes in the Employer's Net Pension Liability and Related Ratios (Unaudited)

	2018	2017	2016	2015	2014
Total Pension Liability					
Interest (includes interest on service cost	$ 44,320,094	$ 44,931,829	$ 42,480,394	$ 41,262,826	$ 42,333,496
Differences between expected and actual experience	(10,656,139)	3,027,944	6,977,470	(21,208,627)	-
Changes of assumptions	17,858,013	-	43,480,232	34,219,433	-
Benefit payments, including refunds of member contributions	(55,998,595)	(57,375,815)	(58,441,353)	(59,007,536)	(57,409,113)
Net change in total pension liability	(4,476,627)	(9,416,042)	34,496,743	(4,733,904)	(15,075,617)
Total pension liability – beginning	660,669,941	670,085,983	635,589,240	640,323,144	655,398,761
Total pension liability – ending (a)	$656,193,314	$660,669,941	$670,085,983	$635,589,240	$640,323,144
Plan Fiduciary Net Position					
Contributions - employer	$ 44,860,000	$ -	$ -	$ -	$ 4,441
Net investment income	35,446,275	50,158,795	(1,418,645)	5,438,586	66,392,409
Benefit payments, including refunds of member contributions	(55,998,595)	(57,375,815)	(58,441,353)	(59,007,536)	(57,409,113)
Administrative expense	(1,543,412)	(1,261,641)	(1,375,749)	(985,227)	(776,112)
Claims and settlements	9,145	70,282	3,593,096	-	-
Net change in plan fiduciary net position	22,773,413	(8,408,379)	(57,642,651)	(44,554,177)	8,211,625
Plan fiduciary net position – beginning	353,202,858	361,611,237	419,253,888	463,808,065	455,596,440
Plan fiduciary net position – ending (b)	$375,976,271	$353,202,858	$361,611,237	$419,253,888	$463,808,065
City's net pension liability – ending (a) – (b)	$280,217,043	$307,467,083	$308,474,746	$216,335,352	$176,515,079
Plan fiduciary net position as a percentage of the total pension liability	57%	53%	54%	66%	72%
Covered payroll	$ -	$ -	$ -	$ -	$ -
Net pension liability as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A

Required Supplementary Information

For Years Ended June 30, 2023 and 2022

Schedule of Employer Contributions (Unaudited) (dollars in millions)

	2023	2022	2021	2020	2019	2018	2017*	2016*	2015*	2014*
Actuarially determined contribution	$ 32.7	$ 43.8	$ 43.6	$ 43.4	$ 44.8	$ 44.9	N/A	N/A	N/A	$ 20.3
Contributions in relation to the actuarially determined contribution	$ 32.7	$ 43.8	$ 43.6	$ 43.4	$ 44.8	$ 44.9	$ -	$ -	$ -	$ -
Contribution deficiency/(excess)	$ -	$ -	$ -	$ -	$ -	$ -	N/A	N/A	N/A	$ 20.3
Covered payroll	$ -	$ -	$	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* Actuarially determined contributions are calculated based on the actuarial valuation one year prior to the beginning of the fiscal year. Although actuarial valuations were performed as of June 30, 2014, June 30, 2015, and June 30, 2016, the System did not determine an actuarially determined contribution for FY 2015-2017, based on the City's funding policy.

Schedule of Investment Returns (Unaudited)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return net of investment expense	8.84%	-10.24%	24.43%	2.04%	6.10%	10.57%	15.57%	-0.75%	3.90%	16.40%

Note to Required Supplementary Information

For Years Ended June 30, 2023 and 2022

Note to Schedule of Employer Contributions

Actuarially determined contribution rates are calculated based on the actuarial valuation one year prior to the beginning of the fiscal year in which contributions are reported. Methods and assumptions used to determine contribution rates are:

Methods and Assumptions Used to Determine Contribution Rates

Fiscal Year	Valuation Date	Discount Rate	Cost-of-Living Adjustments	Mortality	Other Significant Assumption Changes from Prior Year
2023	06/30/2021	5.09%	3.25%	CalPERS Mortality Table from the 2012-2015 experience study, excluding the 15-year projection using 90% of Scale MP-2016	None
2022	6/30/2020	5.19%	3.25%		None
2021	6/30/2019	5.50%	3.25%		None
2020	6/30/2018	5.50%	3.25%		Longevity Pay assumption for Fire Members was added
2019	6/30/2017	5.50%	3.25%		None
2018	6/30/2016	6.44%	3.25%		None
2017	6/30/2015	6.50%	3.25%	CalPERS Mortality Table from the 2006-2011 experience study, excluding the 20-year projection using Scale BB	None
2016	6/30/2014	6.54%	3.25%		None
2015	6/30/2013	6.75%	3.975%	RP-2000 Mortality Table from the 1997-2007 experience study, projected with Scale AA	None
2014	6/30/2012	6.75%	3.975%		None

A complete description of the methods and assumptions used to determine contribution rates can be found in the corresponding actuarial valuation reports.

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Section 3
Investment

Ignatius G. Chinn
Sergeant

Served with Oakland Police Department
November 1970 to March 1991

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MEKETA

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March 4, 2024

Retirement Board
City of Oakland Police and Fire Retirement System
150 Frank Ogawa Plaza
Oakland, CA 94612

Dear Board Members:

This letter reviews the investment performance of the City of Oakland Police and Fire Retirement System ("the System" or "OPFRS") for the fiscal year ended June 30, 2023. During this 12-month period, the OPFRS total investment portfolio has grown by 8.6% on a money-weighted, net of fees basis, though it underperformed against the Policy Benchmark's time-weighted return of 10.4%.

Meketa serves as OPFRS's independent investment consultant. Performance data is provided by the System's custodian, Northern Trust, and is independently calculated by Meketa's performance measurement team.

A major factor influencing overall investment performance is the allocation of the OPFRS portfolio across major asset classes. As of June 30, 2023, the Domestic Equity, International Equity, and Cash were overweight, while Fixed Income was moderately underweight relative to the policy targets.

Over the latest 3-year period, the OPFRS portfolio produced an annualized money-weighted, net of fee return of 6.6%, outperforming its benchmark's time-weighted return of 6.2% by 40 basis points (0.4% points). Over the latest 5-year period, OPFRS's average annual money-weighted net return of 5.7% outperformed its benchmark by 20 basis points (0.2% points). The System has been effective in using its resources in a cost-effective manner to ensure that benefits continue to flow to plan participants.

OPFRS Annualized Money-Weighted Returns as of 06/30/2023

	1 Year	3 Years	5 Years
Total Portfolio[1]	8.6	6.6	5.7
Policy Benchmark[2]	*10.4*	*6.2*	*5.5*
Excess Return	**-1.8**	**0.4**	**0.2**

Sincerely,

David Sancewich, Managing Principal, Meketa Investment Group

[1] Money-weighted & net of fees. Performance since 2005 includes securities lending.
[2] The time-weighted Policy Benchmark is composed of 40% Russell 3000 Index, 12% MSCI ACWI ex US (Net), 31% Bloomberg US Universal Index, 2% Bloomberg US Corp. High Yield Index, 5% CBOE S&P 500 Buy Write Index (BXM), 10% Crisis Risk Offset Benchmark since 01/01/ 2019. Crisis Risk Offset Benchmark is composed of 100% SG Multi Alternative Risk Premia Index through 12/31/2022; 33.34% SG Trend Index, 33.33% SG Multi Alternative Risk Premia Index, and 33.33% Bloomberg US Government Long Term Bond Index thereafter.

BOSTON CHICAGO LONDON MIAMI NEW YORK PORTLAND SAN DIEGO

List of Investment Professionals

Domestic Equity Managers
- Brown Advisory
- Earnest Partners
- Northern Trust Investments
- Rice Hall James and Associates
- Wellington Management

International Equity Managers
- Strategic Global Advisors

Covered Calls
- Parametric Portfolio Associates

Crisis Risk Offset
- Kepos Capital
- Versor Investments

Fixed Income Managers
- Polen Capital Credit
- Ramirez Asset Management
- Reams Asset Management
- Wellington Management

Investment Consultant
- Meketa Investment Group

Custodian
- Northern Trust

Security Lending
- Northern Trust

Investment Manager Fees and Other Investment Expenses

Years Ended June 30, 2023 and June 30, 2022

	2023	2022
Investment Manager Fees		
Domestic Equity Managers	$ 534,225	$ 595,488
International Equity Managers	240,883	261,104
Domestic Fixed Income Managers	279,305	276,287
Covered Calls	84,510	126,276
Total Investment Manager Fees	**$ 1,138,923**	**$ 1,259,155**
Other Investment Fees		
Investment Consulting	$ 100,000	$ 100,000
Custodian Fees	122,500	116,500
Total Other Investment Fees	**$ 222,500**	**$ 216,500**
Total Investment Fees	**$ 1,361,423**	**$ 1,475,655**

Largest Stock Holdings (by Market Value)
As of June 30, 2023

	Stock	Market Value
1.	Apple	$ 1,754,265
2.	Microsoft	1,548,776
3.	Republic Services	1,245,578
4.	Synopsys	1,119,875
5.	Entegris	1,059,107
6.	Darden Restaurants	1,038,569
7.	Keysight Technologies	1,021,780
8.	CBRE Group	980,384
9.	Ansys	946,554
10.	Masco	946,254

Note: The above schedules do not reflect holdings in index funds. A complete list is available upon request.

Largest Bond Holdings (by Market Value)
As of June 30, 2023

	Description	Interest Rate	Maturity Date	Market Value
1.	FNMA	2.88%	08/25/2053	$ 3,661,842.38
2.	FNMA	5.50%	08/25/2053	2,477,550.00
3.	FHLMC	3.00%	10/01/2052	1,382,340.34
4.	FNMA	3.00%	11/01/2049	1,379,276.54
5.	FNMA	2.50%	01/01/2052	1,349,592.32
6.	FNMA	2.50%	02/01/2052	1,287,689.39
7.	FNMA	4.00%	09/01/2052	1,171,647.25
8.	North Shore Long Island Jewish Health Care	6.15%	11/01/2043	1,102,357.43
9.	FNMA	4.50%	08/25/2053	774,309.38
10.	Treasury	1.13%	01/15/2033	719,067.30

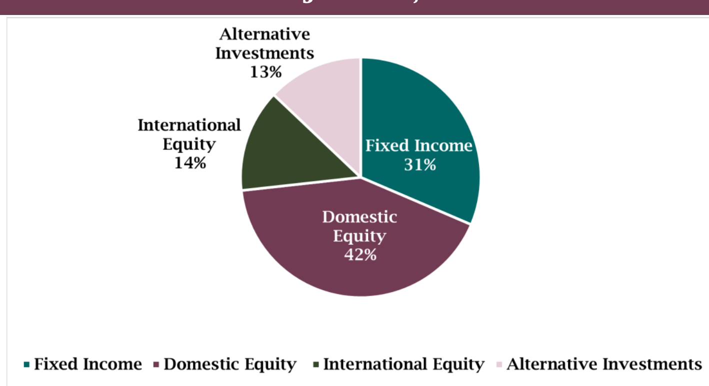
Note: The above schedules do not reflect holdings in index funds. A complete list is available upon request.

Investments by Manager/Exchange-Traded Funds (ETF)

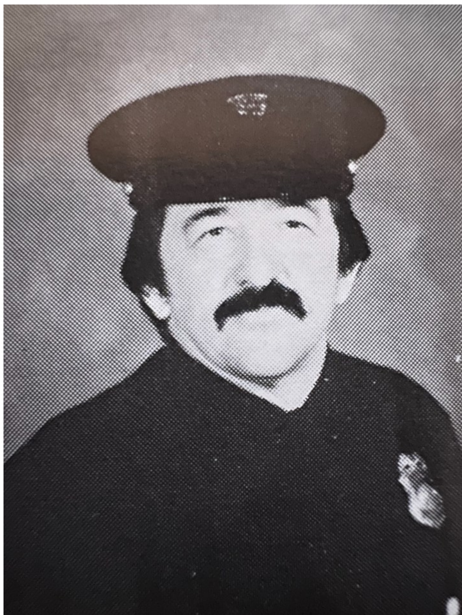
Investment Firm	Portfolio Type		Amount
Fixed Income Managers			
Reams Asset Management	Core Plus	$	34,489,106
Ramirez Asset Management	Core		70,409,388
Vanguard Long-Term Treasury Index Fund ETF	Long Duration		10,300,716
Wellington Management	Core		6,726,320
Polen Capital Credit, LLC	High Yield/Bank Loans		9,201,084
Total Fixed Income		**$**	**131,126,614**
Domestic Equity Managers			
Northern Trust Investments	Large Cap Core	$	81,367,105
EARNEST Partners	Mid Cap Core		43,193,428
Rice Hall James and Associates	Small Cap Growth		14,670,767
Brown Advisory	Small Cap Value		11,242,430
Wellington Management	Defensive Equity		23,373,498
Transition Account	Short-Term		592,951
Total Domestic Equity		**$**	**174,440,179**
International Equity Managers			
Strategic Global Advisors	International	$	$40,479,787
Vanguard Developed Markets Index Fund ETF	International		17,230,325
Total International Equity		**$**	**57,710,112**
Alternative Managers			
Parametric Portfolio Associates	Covered Calls	$	27,851,639
Kepos Capital	Crisis Risk Offset		10,476,679
Versor Investments	Crisis Risk Offset	$	15,551,785
Total Alternative Investments			**53,880,103**
Total Investments		**$**	**$417,157,008**

The amounts presented above may vary from the amounts presented in the financial statements due to the investments by manager summary including cash and cash equivalents and presenting amounts at the manager level and the financial statements presenting amounts at the security level.

Asset Allocation
As of June 30, 2023



Section 4
Actuarial



Gary G. Gerner
Firefighter

Served with Oakland Fire Department
August 1966 to June 2000

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Classic Values, Innovative Advice

Via Electronic Mail

February 19, 2024

Actuarial Certification

This is the Actuary's Certification Letter for the Actuarial Section of the Annual Report for the Oakland Police and Fire Retirement System (PFRS, the Plan) as of June 30, 2023. This letter includes references to two documents produced by Cheiron for the Plan: the Actuarial Valuation report as of June 30, 2022 (transmitted December 6, 2022) and the GASB 67/68 report as of June 30, 2023 (transmitted November 13, 2023).

Actuarial Valuation Report as of June 30, 2022

The purpose of the annual actuarial valuation report as of June 30, 2022 is to determine the actuarial funding status of the Plan on that date and to calculate an actuarially determined contribution amount in accordance with the Plan's funding agreement with the City of Oakland. The prior review was conducted by Cheiron as of June 30, 2021.

Actuarial funding is based on the Entry Age Normal Cost Method. Under this method, the employer contribution amount provides for current cost (normal cost and expected administrative expenses) plus an amount to amortize the Unfunded Actuarial Liability (UAL). All members of the Plan have retired; therefore, no normal cost has been computed, and the actuarially determined contributions are equal to the unfunded liability amortization payment plus administrative expenses.

As part of the funding agreement with the City, the UAL is expected to be amortized as level percentage of overall City Safety payroll, with payments commencing in the fiscal year beginning July 1, 2017, and completed in the year ending June 30, 2026.

For actuarial valuation purposes, Plan assets are valued at actuarial value. Under this method, the Actuarial Value of Assets recognizes one-fifth of the difference between the expected asset value (based on the 6.00% return assumption for the current Plan year) and the actual market value each year. The actuarial value is restricted to fall between 90% and 110% of the market value.

The Retirement System Board is responsible for establishing and maintaining the funding policy of the Plan.

We prepared the following schedules, which we understand will be used in the Actuarial Section of the 2023 PFRS Annual Report, based on the June 30, 2022 actuarial valuation.

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Actuarial Certification
February 19, 2024
Page 2

- Statement of Actuarial Assumptions and Methods
- Summary of Participant Data
- Development of Actuarial Gain/Loss (Analysis of Financial Experience)
- Schedule of Funding Status
- Summary of Plan Provisions

The assumptions used in this report reflect the results of an experience study performed by Cheiron covering the period from July 1, 2014 through June 30, 2017 and adopted by the Board. The assumptions used are intended to produce results that, in aggregate, reasonably approximate the anticipated future experience of the Plan.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for funding purposes meet the requirements of the Actuarial Standards of Practice, in particular Standards No. 4, 27, 35, and 44.

GASB 67/68 Report as of June 30, 2023

The purpose of the GASB 67/68 report as of June 30, 2023 is to provide accounting and financial reporting information under GASB 67 for the Plan and under GASB 68 for the City of Oakland. This report is not appropriate for other purposes, including the measurement of funding requirements for the Plan.

For financial reporting purposes, the Total Pension Liability (TPL) is based on the June 30, 2022 actuarial valuation updated to the measurement date of June 30, 2023. The update included the addition of interest cost offset by actual benefit payments.

Beginning of year measurements are based on the actuarial valuation as of June 30, 2021, updated to the measurement date of June 30, 2022. The June 30, 2023 Total Pension Liability (TPL) presented in the GASB 67/68 report was based upon the same data, plan provisions, actuarial methods, and assumptions as were used in the actuarial valuation report as of June 30, 2022.

Please refer to our GASB 67 report as of June 30, 2023 for additional information related to the financial reporting of the System. We prepared the following schedules for inclusion in the Financial Section of the 2023 PFRS Annual Report based on the June 30, 2023 GASB 67/68 report:

- Change in Net Pension Liability
- Sensitivity of Net Pension Liability to Changes in Discount Rate
- Schedule of Changes in Net Pension Liability and Related Ratios
- Schedule of Employer Contributions
- Notes to the Schedule of Employer Contributions

CHEIRON

Actuary’s Certification Letter

Actuarial Certification
February 19, 2024
Page 3

We certify that the letter was performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for disclosure purposes have been prepared in accordance with our understanding of generally accepted accounting principles as promulgated by the GASB.

Disclaimers

In preparing our reports, we relied on information (some oral and some written) supplied by the Plan. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and, changes in plan provisions or applicable law.

Cheiron utilizes ProVal, an actuarial valuation application leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect our reports.

These reports are for the use of the Plan, the participating employer, and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of these reports is not an intended user and is considered a third party.

Cheiron’s reports were prepared solely for the Plan for the purposes described herein, except that the Plan and its auditors may rely on these reports solely for the purpose of completing an audit related to the matters herein. Other users of these reports are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. These reports do not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

Respectfully Submitted,
Cheiron

Graham A. Schmidt, FSA, EA, FCA, MAAA
Principal Consulting Actuary
703-893-1456, x1137
gschmidt@cheiron.us

Timothy S. Doyle, ASA, EA, MAAA
Associate Actuary
703-893-1456, x1140
tdoyle@cheiron.us

CHEIRON

Summary of Actuarial Value, Assumptions and Funding Methods

PURPOSE OF ACTUARIAL VALUATION

The Oakland Police and Fire Retirement System (PFRS) is a closed defined benefit pension plan. It was closed to new members on June 30, 1976. As of June 30, 2023, there are no active members. All members are retirees and beneficiaries.

The actual costs of a defined benefit plan are determined entirely by the amount of the benefit promise, the actual salaries and service of the plan participants, and how long they and their beneficiaries live to receive payments. In addition, the actuarial methodology provides a reasonable plan, or method, towards funding the expected costs of the plan. This information assists the plan trustees so they can make informed decisions regarding plan investments and how much in contributions will be required from the employer to eventually fully pay for the plan's costs.

The most recent actuarial valuation was as of June 30, 2022. The key results of the actuarial valuation are as follows:

- The actuarially determined employer contribution amount for Fiscal Year 2023-2024 is $40.8 million, based on projecting the Actuarial Liabilities and the Actuarial Value of Assets to the end of the 2022-2023 Fiscal Year. This represents an increase of $10.0 million from the estimated amount in the prior valuation for the same Fiscal Year. The contribution is assumed to be paid in equal installments throughout the year, or on average at approximately January 1, 2024.

- During the year ended June 30, 2022, the return on Plan assets was -10.56% on a market value basis net of investment expenses, as compared to the 6.00% assumption for the 2021-2022 Plan year. This resulted in a market value loss on investments of $75.2 million. The Actuarial Value of Assets (AVA) is calculated as the expected AVA plus 20% of the difference between the market value and the expected AVA, which is restricted to be between 90% and 110% of the MVA. This smoothed value of assets returned 4.70%, for an actuarial asset loss of $5.3 million.

- The Plan experienced a gain on the Actuarial Liability of $1.8 million, the net result of changes in the population and changes in benefits. The primary factor was an excess of deaths above the number expected. Combining the liability gain and asset loss, the Plan experienced a total loss of $3.5 million.

- New Memorandums of Understanding (MOUs) went into effect for both Fire and Police members since the previous valuation, changing the retirees' Cost-of-Living Adjustments (COLAs). This change in COLAs increased the Fire Actuarial Liability by $6.8 million since the scheduled increases under the new MOUs were higher than the amounts originally assumed, in aggregate, while the Police Actuarial Liability decreased by $1.4 million due to the new MOUs increasing benefits less than originally assumed.

- The assumption that 30% of all disabled retiree deaths were duty-related was removed. This change decreased the Actuarial Liability by $3.9 million.

- The Plan's smoothed funded ratio, the ratio of Actuarial Value of Assets over Actuarial Liability, increased from 72.2% last year to 76.5% as of June 30, 2022.

- .The Plan's funded ratio decreased from 80.2% to 72.6% on a Market Value of Assets (MVA) basis.

- The Unfunded Actuarial Liability (UAL) is the excess of the Plan's Actuarial Liability over the Actuarial Value of Assets. The Plan experienced a decrease in the UAL from $159.3 million to $130.2 million as of July 1, 2022.

- Overall participant membership decreased compared to last year. 29 members died, 10 of whom had their benefits continue to a surviving spouse. In addition, 18 surviving beneficiaries died. There are no active members of the Plan.

- If the contribution were determined using a projected asset value based on the current market (i.e., non-smoothed) value of assets, the contribution for FY 2023-2024 would be $47.1 million. The contribution is larger than that determined using the projected AVA, because the current market value reflects the full amount of prior investment losses, while under the AVA projection a portion of those losses are deferred until years after FY 2023-2024.

VALUATION SUMMARY

Table I-1 summarizes all the key results of the valuation with respect to membership, assets and liabilities, and contributions. The results are presented and compared for both the current and prior plan year.

Table I-1
Summary of Principal Plan Results
($ in Thousands)

	July 1, 2021	July 1, 2022	% Change
Participant Counts			
Active Participants	0	0	
Participants Receiving a Benefit	723	686	-5.1%
Total	**723**	686	**-5.1%**
Total Annual Benefits	$ 78,806	$ 81,463	3.4%
Assets and Liabilities			
Actuarial Liability (AL)	$ 571,942	$ 552,966	-3.3%
Actuarial Value of Assets (AVA)	$ 412,680	$ 422,762	2.4%
Unfunded Actuarial Liability (UAL)	$ 159,262	$ 130,204	-18.2%
Funded Ratio (AVA)	72.2 %	76.5 %	4.3%
Funded Ratio (MVA)	80.2%	72.6%	-7.6%
Contributions			
Employer Contribution (FY2022-23)	$ 32,712	N/A	
Employer Contribution (FY2023-24)	$ 30,803	$ 40,763	32.3%

ACTUARIAL DEFINITIONS

The **Present Value of Future Benefits** (PVFB) is used for measuring all future Plan obligations, the obligations of the Plan earned as of the valuation date and those to be earned in the future by current plan participants under the current Plan provisions, if all assumptions are met.

The **Actuarial Liability** (AL) is used for funding calculations, this liability is calculated taking the Present Value of Future Benefits and subtracting the Present Value of Future Normal Costs under an acceptable actuarial funding method. Because the Plan has no active members, the Actuarial Liability is equal to the Present Value of Future Benefits (i.e., all benefits are fully accrued).

The **Unfunded Actuarial Liability** (UAL) is the excess of the Actuarial Liability over the Actuarial Value of Assets.

The **Actuarial Value of Assets** (AVA) is the value of cash, investments, and other property belonging to a pension plan as used by the actuary for the purpose of an actuarial valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values.

ACTUARIAL METHODS AND ASSUMPTIONS

ACTUARIAL METHODS

The actuarial funding method used to determine the normal cost and the Unfunded Actuarial Liability is the Entry Age Normal Cost Method.

The normal cost rate is determined with the normal cost percentage equal to the total Projected Value of Benefits at Entry Age, divided by Present Value of Future Salary at Entry Age. Since there are no longer any active employees, the normal cost for this plan is $0.

The excess of the Plan's Actuarial Liability (AL) over the Actuarial Value of Assets (AVA) is the Unfunded Actuarial Liability (UAL). In accordance with the Plan's funding agreement with the City of Oakland, the UAL must be amortized by July 1, 2026, with contributions resuming in the 2017-2018 fiscal year. The projected fiscal year 2023-2024 contribution has been calculated using level percent of pay amortization, based on total projected City payroll for all Safety employees.

ACTUARIAL VALUE OF PLAN ASSETS

In determining the recommended employer contribution to the PFRS, we use a smoothed Actuarial Value of Assets. The asset smoothing method dampens the volatility in asset values that could occur because of the fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process. Assets are assumed to be used exclusively for the provision of retirement benefits and expenses.

ACTUARIAL ASSUMPTIONS

The assumptions used in this report reflect the results of an Experience Study performed by Cheiron covering the period from July 1, 2014 through June 30, 2017 and adopted by the Board. More details on the rationale for the demographic and economic assumptions can be found in the Experience Analysis presented to the Board on February 28, 2018.

Rate of Return

The expected annual rates of return, net of investment expenses, on all Plan assets are shown in the table below. The equivalent single discount rate for these returns using the Plan's expected projected benefit payments is 5.19%.

Benefit Payment Year	Expected Return
2022 - 2026	6.000 %
2027	5.725 %
2028	5.450 %
2029	5.175 %
2030	4.900 %
2031	4.625 %
2032	4.350 %
2033	4.075 %
2034	3.800 %
2035	3.525 %
2036+	3.250 %

Cost-of-Living Adjustments and Long-Term Salary Increases

Cost–of-living adjustments are based on salary increases for a retiree's rank at retirement. The long-term rate of salary increase is assumed to be 3.25% (2.85% inflation plus 0.4% productivity). This rate is used to project cost of living increases after the expiration of the current contracts, as well as representing the expected level of overall Safety payroll growth used to calculate the unfunded liability amortization payment. The following schedule shows salary increases based on the current Police and Fire contracts that expire on June 30, 2026. All increases shown after that date are assumptions.

Post-Retirement Benefit Increases (Based on Salary Increases for Rank at Retirement)		
Date of Increase	**Police**	**Fire**
July 1, 2022	3.50%	3.50%
July 1, 2023	3.50%	3.50%
July 1, 2024	3.00%	3.00%
July 1, 2025	3.00%	3.00%
Annual Increases Starting July 1, 2026	3.25%	3.25%

Inflation

The assumed rate of general inflation is 2.75% (entire US) and local inflation is 2.85% (Bay Area). The general inflation rate is used in the determination of the investment return assumptions. The local inflation rate is used in the determination of the growth in expenses and salaries (which determine the COLA increases).

Rates of Termination, Disability and Retirement

None

Rates of Mortality for Healthy Lives

(for service retirees and beneficiaries)

CalPERS Healthy Annuitant Table from the 2012-2015 Experience Study, excluding the 15-year projection using 90% of Scale MP-2016.

Rates of Mortality for Disabled Retirees

CalPERS Industrial Disability Mortality Table from the 2012-2015 Experience Study, excluding the 15-year projection using 90% of Scale MP-2016.

Mortality Improvement

The mortality tables are projected to improve with the MP-2017 generational mortality improvement tables, with improvements projected from a base year of 2014 (the mid-point of the CalPERS base tables).

Survivor Continuance

All retirees with a Benefit Form of "J&S" in the raw data are assumed to receive a 66-2/3% continuance.

Changes in Assumptions since the Last Valuation

The assumption that 30% of all disabled retiree deaths are duty-related and the associated survivors would receive a 100% continuance was removed; all future beneficiaries are now assumed to receive a 66-2/3% continuance.

Administrative Expenses

Administrative expenses for the Fiscal Year Ending June 30, 2023 are assumed to be $1,740,736, growing at 2.85% per year.

Membership Information

Service Retired Participants

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	$0	0	$0	0	$0
50-54	0	$0	0	$0	0	$0
55-59	0	$0	0	$0	0	$0
60-64	0	$0	0	$0	0	$0
65-69	10	$828,375	0	$0	10	$828,375
70-74	47	$4,199,209	8	$607,418	55	$4,806,627
75-79	91	$7,142,202	34	$2,985,590	125	$10,127,792
80-84	43	$3,604,990	16	$1,377,508	59	$4,982,498
85-89	10	$1,067,084	11	$1,079,456	21	$2,146,540
90-94	7	$610,810	8	$700,516	15	$1,311,326
95-99	0	$0	3	$248,231	3	$248,231
100+	1	$103,088	1	$67,402	2	$170,490
Total	**209**	**$17,555,758**	**81**	**$7,066,121**	**290**	**$24,621,879**

Disability Retired Participants

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	$0	0	$0	0	$0
50-54	0	$0	0	$0	0	$0
55-59	0	$0	0	$0	0	$0
60-64	0	$0	0	$0	0	$0
65-69	0	$0	0	$0	0	$0
70-74	25	$2,098,696	24	$1,834,759	49	$3,933,455
75-79	40	$3,046,081	31	$2,502,282	71	$5,548,363
80-84	13	$1,078,059	22	$1,928,506	35	$3,006,565
85-89	5	$397,807	7	$614,779	12	$1,012,587
90-94	2	$199,239	2	$183,278	4	$382,517
95-99	0	$0	0	$0	0	$0
100+	0	$0	0	$0	0	$0
Total	**85**	**$6,819,882**	**86**	**$7,063,604**	**171**	**$13,883,487**

Membership Information

Beneficiaries

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	$0	0	$0	0	$0
50-54	0	$0	0	$0	0	$0
55-59	1	$54,175	0	$0	1	$54,175
60-64	2	$127,560	2	$155,679	4	$283,239
65-69	7	$463,906	7	$468,590	14	$932,496
70-74	25	$1,334,943	13	$850,382	38	$2,185,325
75-79	32	$1,815,652	14	$861,685	46	$2,677,337
80-84	24	$1,369,104	17	$1,057,484	41	$2,426,588
85-89	13	$822,468	22	$1,327,729	35	$2,150,197
90-94	13	$873,190	16	$977,380	29	$1,850,570
95-99	9	$494,129	4	$257,715	13	$751,844
100+	2	$135,171	2	$123,255	4	$258,426
Total	**128**	**$7,490,298**	**97**	**$6,079,899**	**225**	**$13,570,200**

Membership Information

Participant Data Summary

	July 1, 2021			July 1, 2022		
	Police	Fire	Total	Police	Fire	Total
Active Participants						
Number	0	0	0	0	0	0
Number Vested	0	0	0	0	0	0
Average Age	00.0	00.0	00.0	00.0	00.0	00.0
Average Service	00.0	00.0	00.0	00.0	00.0	00.0
Average Pay	$0	$0	$0	$0	$0	$0
Service Retirees						
Number	220	90	310	209	81	290
Average Age	77.5	81.8	78.7	78.2	82.0	79.2
Average Annual Benefit	$81,398	$84,427	$82,277	$83,999	$87,236	$84,903
Disabled Retirees						
Number	88	92	180	85	97	225
Average Age	76.7	78.0	77.4	77.6	78.5	78.1
Average Annual Benefit	$77,184	$78,644	$77,931	$80,234	$82,135	$81,190
Beneficiaries						
Number	131	102	233	128	97	225
Average Age	80.2	82.7	81.3	80.8	82.9	81.7
Average Annual Benefit	$55,989	$58,723	$57,186	$58,518	$62,679	$60,312
All Inactive						
Number	439	284	723	442	264	686
Average Age	78.1	80.9	79.2	78.8	81.2	79.8
Average Annual Benefit	$72,971	$73,322	$73,109	$75,512	$76,552	$75,912

Data pertaining to active and inactive Members and their beneficiaries as of the valuation date was supplied by the Plan Administrator.

In Memoriam

Oakland Police and Fire Department Retiree & Beneficiary Deaths Fiscal Year 2022—2023

Fire Members

David Catano	Retiree
Agnes Comunelli	Beneficiary
Dale Criswell	Retiree
Noriko Gurnari	Beneficiary
Earleen Hamlin	Beneficiary
George Hannaford	Retiree
Daryl Hylton	Retiree
Diana F. Kenton	Beneficiary
Dorothy Larson	Beneficiary
John Lucich	Retiree
Marilyn G. McHugh	Beneficiary
Dorothy Myers	Beneficiary
Bonnie W. Peakes	Beneficiary
Violet Piplica	Beneficiary
Filbert Silva	Retiree
John Tashjian	Retiree
Diane M. Taylor	Beneficiary
James Williams	Retiree
Georgina Wood	Beneficiary

Police Members

Norbert Banach	Retiree
Edith F. Brown	Beneficiary
Mary Callaway	Beneficiary
Richard Castle	Retiree
Herbert Coffman	Retiree
Robert P. Crawford	Retiree
George Eberhardt	Retiree
Wilford Fugler	Retiree
Ronald Hansen	Retiree
Donald Jensen	Retiree
Pearl A. Jensen	Beneficiary
Vera Kelsey	Beneficiary
James Kimzey	Retiree
Kenneth Lewis	Retiree
Sandra Lee Marr	Beneficiary
Frankie Miller	Beneficiary
Charles Peaker	Retiree
Harold Pendergrass	Retiree
William Richards	Retiree
Larry Rodrigue	Retiree
Barbara J. Stevenson	Beneficiary
Clyde Walker	Retiree
Barry Whalley	Retiree
Adelaide Williams	Beneficiary
Leland Williams	Retiree

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CITY OF OAKLAND

AGENDA REPORT

TO:	Oakland Police and Fire Retirement System Audit & Operations Committee	**FROM:**	David F. Jones Plan Administrator & Secretary
SUBJECT:	Audit Committee Agenda Pending List	**DATE:**	March 27, 2024

	SUBJECT	**TENTATIVE SCHEDULED MTG DATE**	**STATUS**
1	Status Report of the Ad Hoc Committee regarding Actuarial Funding date of July 1, 2026	03/25/2024	Ongoing
2	Monitor & Update PFRS Board of Upcoming City Council Agendas Regarding Discussion of the July 1, 2026 Actuarial Funding Date	Ongoing	Ongoing

Respectfully submitted,

David F. Jones
Plan Administrator & Secretary
Police & Fire Retirement Systems

Due to the termination of the statewide COVID-19 State of Emergency by the Governor of California, effective March 1, 2023, all meetings of the Oakland Police & Fire Retirement System Board and its Committees will be conducted in person.

Meetings are held in wheelchair accessible facilities.

The Board may take action on items not on the agenda only if findings pursuant to the Sunshine Ordinance and Brown Act are made that the matter is urgent or an emergency.

For additional information, contact the Retirement Unit by calling (510) 238-7295. or send an email to mvisaya@oaklandca.gov

CITY OF OAKLAND

Retirement Unit
150 Frank H. Ogawa Plaza
Oakland, California 94612

AGENDA

INVESTMENT COMMITTEE MEMBERS

Jaime T. Godfrey
Chairperson

R. Steven Wilkinson
Member

Robert W. Nichelini
Member

**In the event a quorum of the Board participates in the Committee meeting, the meeting is noticed as a Special Meeting of the Board; however, no final Board action can be taken. In the event that the Investment Committee does not reach quorum, this meeting is noticed as an informational meeting between staff and the Chair of the Investment Committee.*

MEETING of the INVESTMENT AND FINANCIAL MATTERS COMMITTEE of the OAKLAND POLICE AND FIRE RETIREMENT SYSTEM ("PFRS")

WEDNESDAY, MARCH 27, 2024
10:30 AM
ONE FRANK H. OGAWA PLAZA, HEARING ROOM 2
OAKLAND, CA 94612

OBSERVE

- To observe the meeting by video conference, please click on this link: https://us02web.zoom.us/j/82880493983 at the noticed meeting time.
- To listen to the meeting by phone, please call the numbers below at the noticed meeting time: Dial (for higher quality, dial a number based on your current location):
- iPhone one-tap: US: +16699006833, 82880493983# or +13462487799, 82880493983#
- US: +1 669 900 6833 or +1 346 248 7799 or +1 253 215 8782 or +1 301 715 8592 or +1 312 626 6799 or +1 929 205 6099
- International numbers available: https://us02web.zoom.us/u/kctrX35uax
- Webinar ID: 828 8049 3983.
- If asked for a participant ID or code, press #.

PUBLIC COMMENTS

There are two ways to submit public comments.

- Speaker Card: All persons wishing to address the Board must complete a speaker's card, stating their name and the agenda item they wish to address, including "Open Forum".
- eComment: To send your comment directly to staff BEFORE the meeting starts, please email to mvisaya@oaklandca.gov with "PFRS Board Meeting Public Comment" in the subject line for the corresponding meeting. Please note that eComment submission **closes two (2) hours before posted meeting time**.

If you have any questions, please email Maxine Visaya, Administrative Assistant II at mvisaya@oaklandca.gov

ORDER OF BUSINESS

1. **Subject:** **POLICE AND FIRE RETIREMENT SYSTEM ("PFRS") INVESTMENT AND FINANCIAL MATTERS COMMITTEE MEETING MINUTES**
   From: Staff of the PFRS Board
   Recommendation: **APPROVE** the February 28, 2024 Investment and Financial Matters Committee Meeting Minutes

2. **Subject:** **INVESTMENT MANAGER PERFORMANCE UPDATE: REAMS ASSET MANAGEMENT**
   From: Reams Asset Management
   Recommendation: **ACCEPT** informational report regarding a firm overview and managerial assessment; diversity and inclusion policy and practices; local brokerage usage; and investment strategy and portfolio performance of PFRS' Core Plus Fixed Income Investment Strategy Manager Reams Asset Management

3. **Subject:** **INVESTMENT MANAGER PERFORMANCE REVIEW: REAMS ASSET MANAGEMENT**
   From: Meketa Investment Group
   Recommendation: **ACCEPT** Meketa Investment Group's review and evaluation regarding a firm overview and managerial assessment; peer ranking; and investment portfolio performance of PFRS' Core Plus Fixed Income Investment Strategy Manager Reams Asset Management

4. **Subject:** **ECONOMIC AND INVESTMENT MARKET OVERVIEW AS OF FEBRUARY 29, 2024**
   From: Meketa Investment Group
   Recommendation: **ACCEPT** informational report regarding the Global Investment Markets as of February 29, 2024

5. **Subject:** **PRELIMINARY INVESTMENT FUND PERFORMANCE UPDATE AS OF FEBRUARY 29, 2024**
   From: Meketa Investment Group
   Recommendation: **ACCEPT** informational report regarding the Preliminary Investment Fund Performance Update as of February 29, 2024

6. **Subject:** **$13.2 MILLION DRAWDOWN FOR PFRS MEMBER RETIREMENT ALLOWANCES FROM APRIL 1, 2024 THROUGH JUNE 30, 2024**
   From: Meketa Investment Group
   Recommendation: **ACCEPT** informational report and **RECOMMEND BOARD APPROVAL** of Meketa Investment Group's recommended drawdown of $13.2 million, which includes a $10.2 Million contribution from the City of Oakland and a $3.0 Million contribution from the PFRS Investment Fund, to be used to pay PFRS Member Retirement Allowances from April 1, 2024 through June 30, 2024 for Fiscal Year 2023/2024

7. **Subject:** **MEKETA 2024 CAPITAL MARKETS EXPECTATIONS AND PFRS LONG TERM INVESTMENT RETURN EXPECTATIONS**
   From: Meketa Investment Group
   Recommendation: **ACCEPT** informational report regarding Meketa Investment Group's 2024 Capital Markets Expectations and Long-Term Investment Return Expectations of the PFRS Fund

8. **Subject:** **ASSET-LIABILITY STUDY OF THE PFRS FUND**
   From: Meketa Investment Group
   Recommendation: **RECEIVE and DISCUSS** Meketa Investment Group's recommended revised asset allocation policy and implementation schedule based on the results of the 2023 Asset-Liability Study of the PFRS Fund. **RECOMMEND BOARD APPROVAL** to adopt Meketa Investment Group's recommended revised asset allocation policy of the PFRS Fund and implementation schedule.

9. **SCHEDULE OF PENDING INVESTMENT COMMITTEE MEETING AGENDA ITEMS**
10. **NEW BUSINESS**
11. **OPEN FORUM**
12. **FUTURE SCHEDULING**
13. **ADJOURNMENT**

A MEETING OF THE INVESTMENT AND FINANCIAL MATTERS COMMITTEE of the Oakland Police and Fire Retirement System ("PFRS") was held Wednesday, February 28, 2024, at One Frank H. Ogawa Plaza, Hearing Room 2, Oakland, CA.

Committee Members	▪ Jaime T. Godfrey	Chairperson
	▪ Robert W. Nichelini	Member
	▪ R. Steven Wilkinson	Member & Acting Chairperson
Additional Attendees	▪ David F. Jones	PFRS Secretary & Plan Administrator
	▪ Téir Jenkins	PFRS Investment & Operations Manager
	▪ Maxine Visaya	PFRS Staff Member
	▪ Selia Warren	PFRS Legal Counsel
	▪ David Sancewich	Meketa Investment Group
	▪ Yossi Lipsker	Rice Hall James & Associates, LLC
	▪ Bintou Kabore	Institutional Investor Network on behalf of USAID (via Zoom)
	▪ Eric Osiakwan	Chanzo Capital (via Zoom)
	▪ Kathy Hahn	Casey Family Programs (via Zoom)
	▪ Papa M Ndiaye	AFIG Funds (via Zoom)

The meeting was called to order at 10:30 a.m. Pacific

1. APPROVAL OF INVESTMENT & FINANCIAL MATTERS COMMITTEE MEETING MINUTES

Member Nichelini made a motion to approve the January 31, 2024 Investment & Financial Matters Committee Meeting Minutes as submitted, second by Member Wilkinson. Motion Passed.

[GODFREY – Y / NICHELINI – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

2. INVESTMENT MANAGER PERFORMANCE UPDATE: RICE HALL JAMES & ASSOCIATES , LLC

Yossi Lipsker of Rice Hall James & Associates, LLC (RHJ) presented an informational report regarding a firm overview and managerial assessment; diversity and inclusion policy and practices; local brokerage usage; and investment strategy and portfolio performance of PFRS' Domestic Equity Small-Cap Growth Investment Strategy.

Chairperson Godfrey and Member Wilkinson made inquiries to further the discussion regarding the following topics: the firm's diversity and inclusion practices and investment strategy.

MOTION: Member Wilkinson made a motion to accept the informational report from RHJ and forward to the Board, second by Member Nichelini. Motion passed.

[GODFREY – Y / NICHELINI – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

3. INVESTMENT MANAGER PERFORMANCE REVIEW: RICE HALL JAMES & ASSOCIATES , LLC

David Sancewich of Meketa Investment Group ("Meketa") presented an informational memo regarding a firm overview and managerial assessment; peer ranking; and investment portfolio performance of RHJ, PFRS' Domestic Equity Small-Cap Growth Investment Strategy and noted Meketa has no concerns with RHJ as a portfolio manager.

MOTION: Member Wilkinson made a motion to accept Meketa's evaluation of RHJ and forward to the Board, second by Member Nichelini. Motion passed.

[GODFREY – Y / NICHELINI – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

4. RESOLUTION NO. 8093

A Resolution authorizing the execution of a one-year extension of professional services agreement with Rice Hall James & Associates, LLC for the provision of Domestic Equity Small-Cap Growth Investment Strategy Manager Services for the City of Oakland Police and Fire Retirement System.

MOTION: Chairperson Godfrey made a motion to recommend Board approval of Resolution No. 8093, second by Member Nichelini. Motion passed.

[GODFREY – Y / NICHELINI – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

5. INFORMATIONAL OVERVIEW: INVESTMENT OPPORTUNITIES IN AFRICA

Representatives on behalf of Casey Family Programs, Advanced Finance & Investment Group (AFIG Funds), U.S. Agency for International Development (USAID), and Chanzo Capital presented an informational overview regarding investment opportunities in Africa via Zoom.

MOTION: Member Nichelini made a motion to accept the informational report presented by Meketa regarding the Economic and Investment Market Overview as of December 31, 2023, and forward to the Board, second by Acting Chairperson Wilkinson. Motion passed.

[GODFREY – Y / NICHELINI – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

6. ECONOMIC AND INVESTMENT MARKET OVERVIEW AS OF JANUARY 31, 2024

Chairperson Godfrey recommended this item be moved to the full Board in the interest of time.

MOTION: Chairperson Godfrey made a motion to forward this item to the full Board, second by Member Wilkinson.

[GODFREY – Y / NICHELINI – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

7. PRELIMINARY INVESTMENT PERFORMANCE UPDATE AS OF JANUARY 31, 2024

Chairperson Godfrey recommended this item be moved to the full Board in the interest of time.

MOTION: Chairperson Godfrey made a motion to forward this item to the full Board, second by Member Wilkinson.

[GODFREY – Y / NICHELINI – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

8. PFRS INVESTMENT FUND QUARTERLY PERFORMANCE UPDATE AS OF DECEMBER 31, 2023

Chairperson Godfrey recommended this item be moved to the full Board in the interest of time.

MOTION: Chairperson Godfrey made a motion to forward this item to the full Board, second by Member Wilkinson.

[GODFREY – Y / NICHELINI – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

9. MEKETA INVESTMENT GROUP ANNUAL DIVERSITY, EQUITY, & INCLUSION REPORT

Chairperson Godfrey recommended this item be moved to the full Board in the interest of time.

MOTION: Chairperson Godfrey made a motion to forward this item to the full Board, second by Member Wilkinson. Motion passed.

[GODFREY – Y / NICHELINI – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

10. ASSET-LIABILITY STUDY OF THE PFRS FUND

Chairperson Godfrey recommended this item be moved to the full Board in the interest of time.

MOTION: Chairperson Godfrey made a motion to forward this item to the full Board, second by Member Wilkinson. Motion passed.

[GODFREY – Y / NICHELINI – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

11. SCHEDULE OF PENDING INVESTMENT COMMITTEE MEETING AGENDA ITEMS

There was no discussion regarding this item.

12. NEW BUSINESS – None

13. OPEN FORUM – No Report

14. FUTURE SCHEDULING

The next PFRS Investment Committee Meeting will be held in-person and is tentatively scheduled to occur March 27, 2024 at One Frank Ogawa Plaza, Hearing Room 2, Oakland, CA.

15. ADJOURNMENT

Chairperson Godfrey made a motion to adjourn, second by Member Nichelini. Motion passed.

[GODFREY – Y / NICHELINI – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 0)

The meeting adjourned at 11:38 a.m. Pacific

JAIME T. GODFREY **COMMITTEE CHAIRPERSON**	**DATE**

Presented to:

City of Oakland Police and Fire Retirement System

March 27, 2024

Presented by:

Clark Holland, CFA
Portfolio Manager

Presenter Biography

Clark Holland, CFA

Portfolio Manager

Clark Holland is a portfolio manager at Reams Asset Management. Clark has over 25 years of experience as a portfolio manager, analyst, and client service specialist. Prior to joining Reams in 2002, Clark was a portfolio manager and investment product specialist at Wells Fargo Investment Management Group. Mr. Holland earned his master's in business administration from Rice University and his bachelor's degree from Taylor University. He holds the Chartered Financial Analyst (CFA) designation and is a member of the CFA Institute.

Table of Contents

Firm Overview

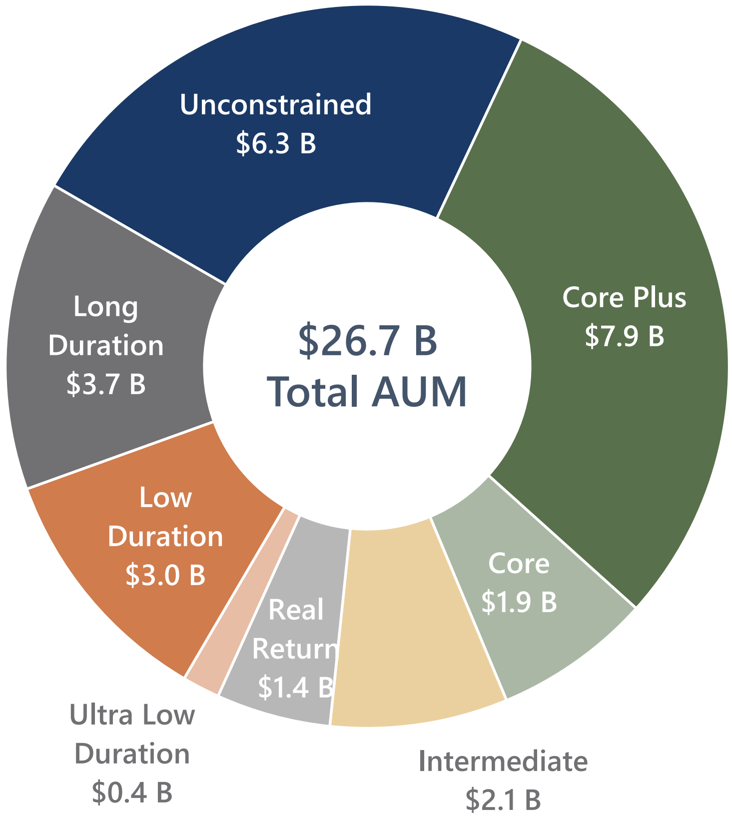
Reams at a Glance

- Founded in 1981
- Headquartered in Indianapolis, Indiana
- $26.7 billion in assets under management
- 8 fixed income strategies along with extensive custom separate account capabilities
- Affiliate of Raymond James Investment Management, a subsidiary of Raymond James Financial, since November 2017

Data as of
December 31, 2023

Firm Overview

Strategy Lineup



Available Investment Vehicles

Separate Accounts

- All Strategies

U.S. Institutional Commingled Funds:

- Columbus Core Plus Bond Fund
- Columbus Unconstrained Bond Fund

U.S. Institutional Mutual Funds (sub-advised):

- Core Strategy
- Core Plus Strategy
- Unconstrained Strategy

Non-U.S. Commingled Fund (sub-advised):

- Raymond James Funds Reams Unconstrained Bond SICAV (Class A USD | SCUCBDA LX)

Data as of
December 31, 2023

Firm Overview

Representative Client List

Corporate

American Honda Motor Company
Cummins Inc.
Emerson Electric Company
Meritor, Inc.
Omaha Public Power District
S.C. Johnson & Son, Inc.

Health Care

University of Colorado Health
NorthShore University HealthSystem
Northwestern Memorial HealthCare
OhioHealth Corporation
Shirley Ryan AbilityLab

Non-Profit

American Heart Association
Archdiocese of Miami
Board of Pensions/Presbyterian Church, USA
Cleveland Museum of Art
Veterans of Foreign Wars of the U.S.
Eiteljorg Museum of American Indians and Western Art

Sub-Advisory

Prudential Retirement Insurance & Annuity Co.
Russell Investment Management Company

Public

Arkansas Teacher Retirement System
Employees' Retirement System of Baltimore County
Indiana State Police Pension Trust
Los Angeles Fire & Police Pensions
City of Milwaukee Employes' Retirement System
City of Oakland Police & Fire Retirement System
Sacramento County Employees Retirement System
San Francisco Bay Area Rapid Transit District
Sonoma County Employees' Retirement Association
Spokane Firefighters' Pension Fund
Ventura County Employees' Retirement Association

Taft-Hartley

Carpenters District Council of Kansas City Pension Fund
Carpenters Pension Fund of Illinois
Gulf Coast Carpenters and Millwrights Health Trust
IBEW 8th District Electrical Pension Trust
Teamster Members Retirement Plan
Ohio Operating Engineers Pension Plan

University/Endowment/Foundation

Trustees of Indiana University
University of Kentucky
Purdue University
Regents of the University of Minnesota
Engelstad Foundation

Data as of
December 31, 2023

This Representative Client List includes institutional clients whose permission has been received for inclusion. No specific selection criteria were used. It is not known whether or not the listed clients approve of the advisory services provided by Reams Asset Management or Scout Investments.

Firm Overview

Investment Team

Investment Committee

Mark Egan, CFA
Chief Investment Officer
Managing Director
(37 years / 33 years)

Todd Thompson, CFA
Deputy Chief Investment Officer
Managing Director
Credit Team Leader
(29 years / 22 years)

Dimitri Silva, CFA
Managing Director
Global Rates & Currencies Team Leader
(16 years / 2 years)

Senior Advisor

Bob Crider, CFA
Co-Founder
(46 years / 42 years)

Credit Team

Todd Thompson, CFA

Jason Hoyer, CFA
Portfolio Manager
(20 years / 8 years)

Clark Holland, CFA
Portfolio Manager
(29 years / 21 years)

Scott Rosener, CFA
Head of Trading
(26 years / 18 years)

Trey Harrison, CFA, ASA
Fixed Income Analyst/Actuary
(29 years / 13 years)

Reed Clark, CFA
Fixed Income Analyst
(4 years / 2 years)

Sydney Owen, CFA
Fixed Income Analyst
(5 years / 1 year)

Securitized Team

Neil Aggarwal
Portfolio Manager
Securitized Team Leader
(20 years / 1 year)

Kevin Salsbery, CFA
Fixed Income Analyst
(22 years / 18 years)

Patrick Laughlin
Fixed Income Analyst
(28 years / 19 years)

Ben Byrd, CFA
Fixed Income Analyst
(3 years / 1 year)

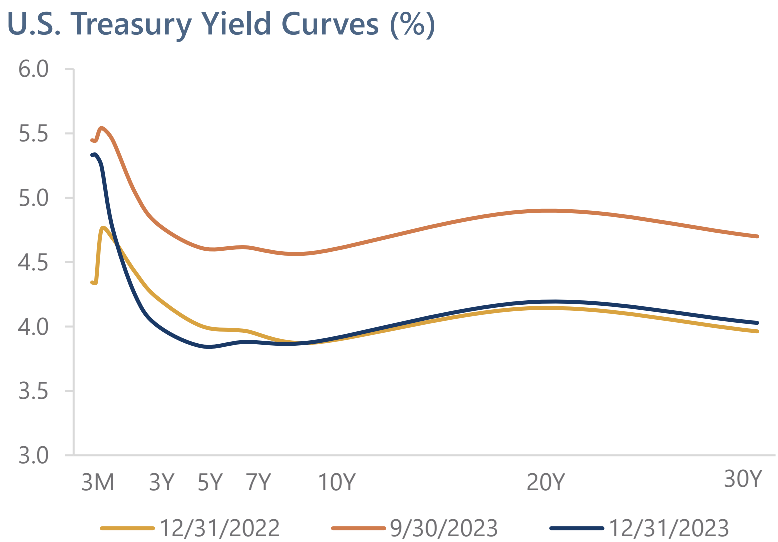
Global Rates & Currencies Team

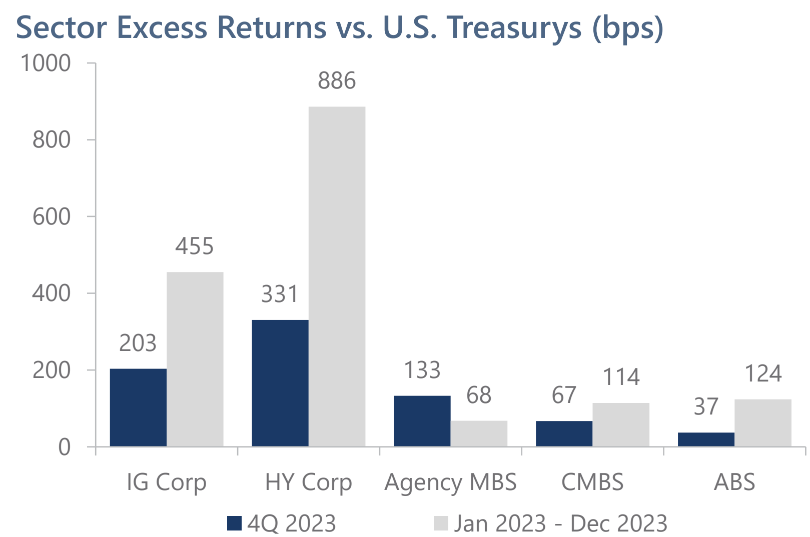
Dimitri Silva, CFA

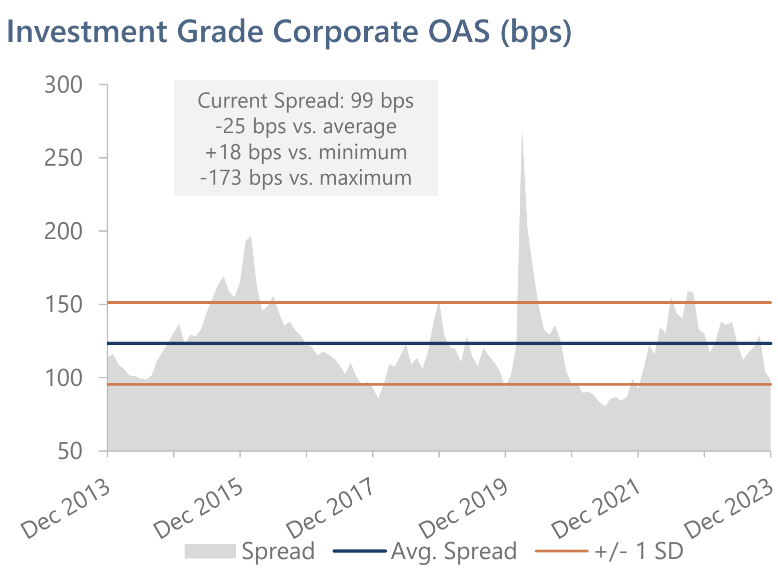
Antonina Tarassiouk
Fixed Income Analyst
(9 years / 1 year)

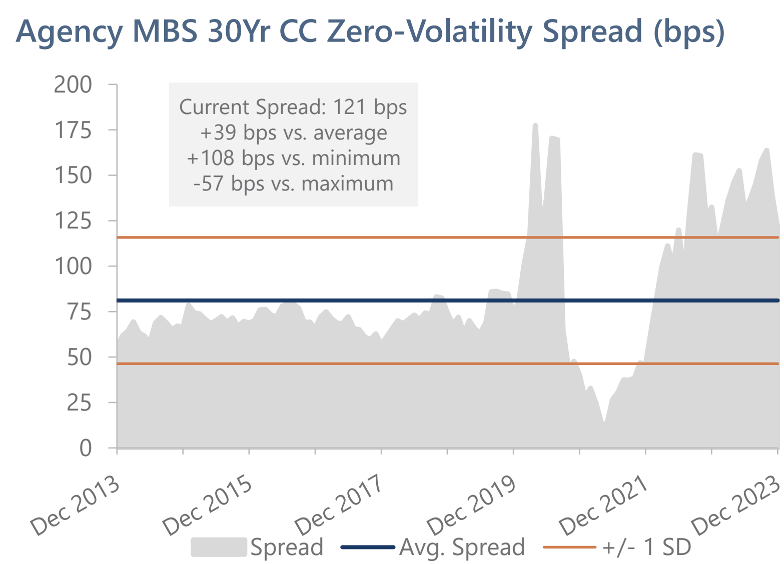
(Years of Industry Experience / Reams Tenure)
Please see Investment Professional Biographies section for detailed biographies

Fixed Income Dashboard







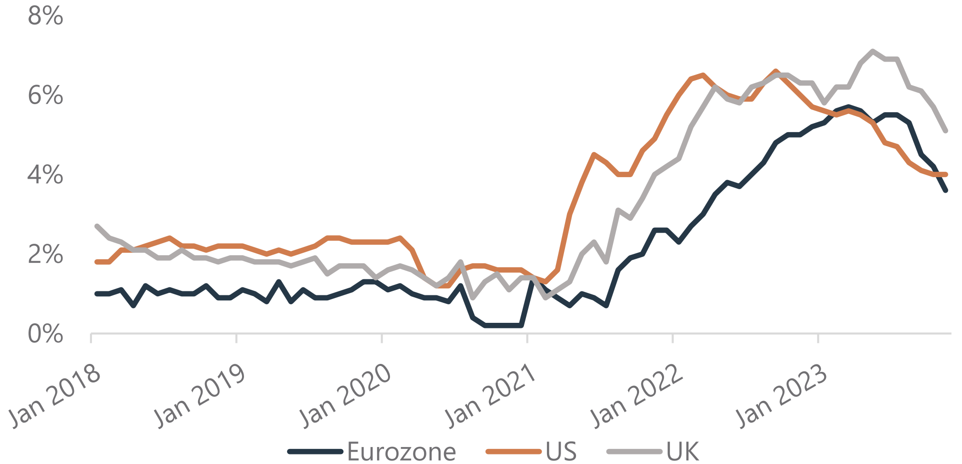


Data as of
December 31, 2023

Source: Bloomberg Index Services Limited; Bloomberg L.P. as of 12/31/2023

Market Insights

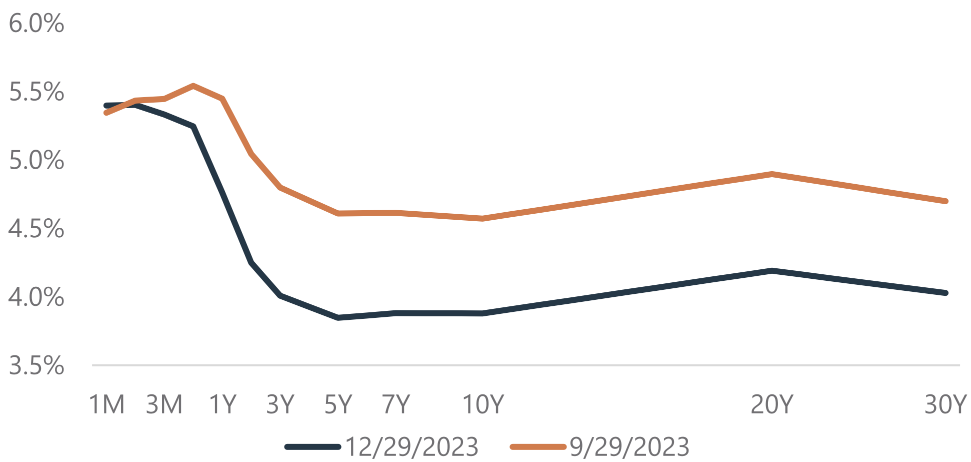
Year-over-Year Core CPI (%)



Source: Bloomberg as of 12/31/2023

Disinflation, as measured by year-over-year Core CPI, was evident first in the U.S. but has taken hold in Europe and the U.K. as well. Recently, Core CPI has flattened out in the U.S. due to the lag impact of housing, which is likely to remain stubbornly elevated in the near term.

Yield Curve Change (%)



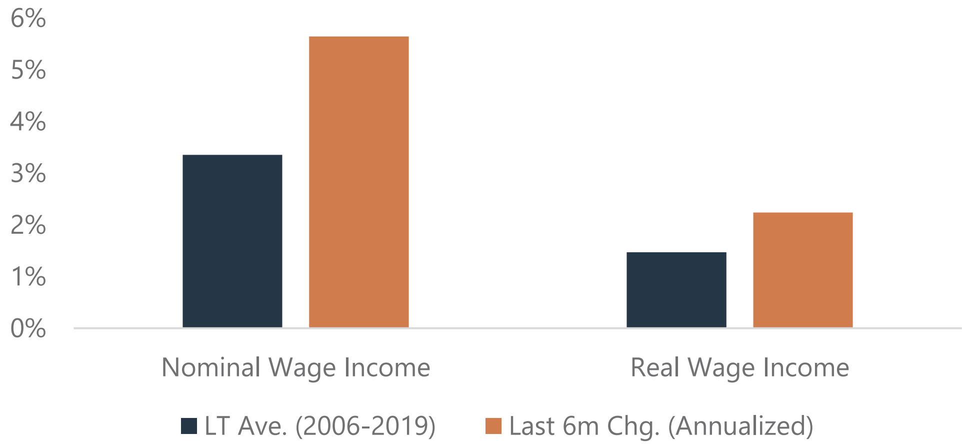
Source: Bloomberg as of 12/31/2023

Sentiment shift from "higher for longer" to expectations of significant Fed rate cuts in 2024 led to a more inverted curve at year end. Treasury rates ended the year in a somewhat vulnerable position as expectations for the Fed to deliver rate cuts continue to pile up.

Data as of
December 31, 2023

Market Insights

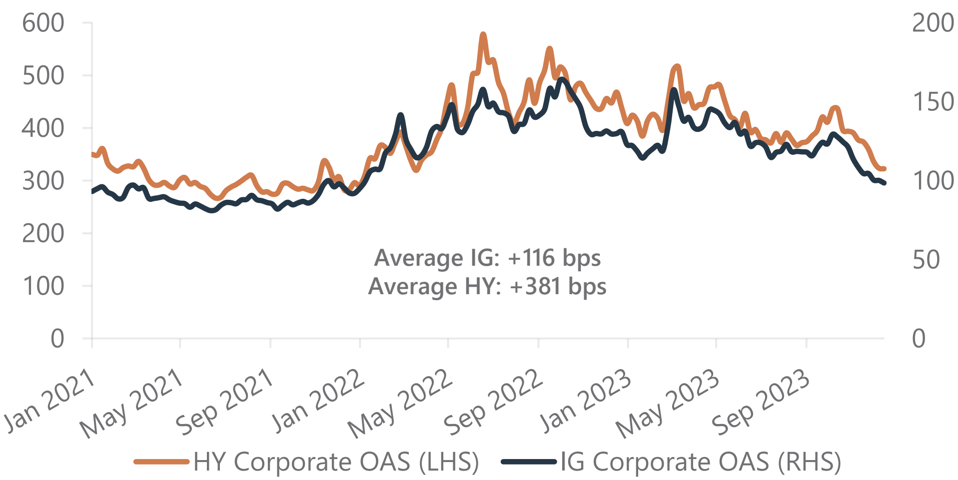
Wage Income Growth (% Change Annualized)



Source: Bloomberg as of 12/31/2023

Although nominal wages have grown well ahead of long-term averages recently, real wage growth has been more modest. Real wages have been growing above the long-term average, but not at a pace that puts any significant pressure on prices.

U.S. IG Corporate OAS vs. U.S. HY Corporate OAS (bps)



Source: Bloomberg as of 12/31/2023

Both investment grade and high yield corporate spreads steadily tightened following the regional banking crisis in the first quarter of 2023 but are now near longer-term averages. This implies reasonable valuations currently, although they are less attractive than they have been over much of the previous two years.

Data as of
December 31, 2023

Investment Themes

What happened

- The market's initial focus was on higher inflation and ramping Treasury supply, which led to a "higher for longer" view of rates, but sentiment hit a sharp inflection point late in October. Two primary causes for the shift were the Treasury moderating its message on longer term issuance and inflation data cooling.
- Rates rallied steadily in the last two months of the quarter as an increasingly dovish Federal Reserve (Fed) was taken into account. Intermediate and long Treasury rates declined approximately 100 basis points from highs around 5% in mid-October.
- Inflation cooled notably in Europe and the U.K. in the second half of the quarter, providing cover for central bankers to project an end to rate hikes. This also supported a more dovish stance in the Fed's tone domestically.

What we think

- Both risk-free and risk markets appear vulnerable, in the near term, due to lofty expectations. Risk-free rates have moved in anticipation of significant Fed cuts, and risk markets are looking through short-term challenging economic activity to the benefits of lower interest rates. Longer term, the scope for interest rates remains skewed to the downside.
- Economic growth (Gross Domestic Product, "GDP") and employment are at loggerheads as indicators point to slowing GDP, but employment does not seem willing to crack.
- Real yields are somewhat attractive, but there remains much debate about whether financial conditions have tightened enough to fully subdue inflation.
- Inflation has improved, but it is not yet at the Fed's target. An economic slowdown will likely be required to get there.

What we did

- In general, we maintained significant agency Mortgage-Backed Securities (MBS) positions as spreads remain at relatively wide levels.
- We moderated our credit positions as agency MBS was more attractive on a risk-adjusted basis.
- As real rates declined in the second half of the quarter, we tempered our duration position in many strategies.

Investment Objective and Guidelines

Objective

- To exceed the Bloomberg Universal Index, net of fees, over a complete market cycle.

Investment Guidelines

- Maximum average portfolio duration is 10 years with a targeted average portfolio duration in the range of 3 to 8 years.
- Maximum remaining term to maturity (per single issue) is 31 years at purchase.
- No single issue shall exceed 10% of the portfolio, excluding government and agency issues.
- No single issue shall account for more than 10% of the outstanding issue, excluding government and agency issuers.
- The portfolio must have an overall weighted average quality of at least BBB-.
- All securities must have a rating of B- or higher (S&P, Moody's or Fitch), using the middle of three or lower of two ratings.
- Credit default swaps are limited to a notional value of 10% of the portfolio.
- Coal-Related Companies are restricted from purchase in the portfolio.

Source: OPFRS Investment Guidelines (Rev. 9/1/2016)

Relationship Summary

City of Oakland Police and Fire Retirement System

Relationship Inception	February 1, 1998
Investment Style	Core Plus Fixed Income
Performance Benchmark	Bloomberg Universal Index
Financial Data as of December 31, 2023	
Initial Investment	$97.5 million
Contributions	$146.0 million
(Withdrawals)	($338.2 million)
Portfolio Gains	$122.4 million
Portfolio Value	$27.7 million

Performance Review

For Periods Ending December 31, 2023

	Percent Gain or Loss						
	Quarter Ending	Last 12 Months	Two Years (annualized)	Three Years (annualized)	Five Years (annualized)	Ten Years (annualized)	Since Inception* (annualized)
City of Oakland Police and Fire Retirement System (a)	7.09	6.97	(3.14)	(2.51)	3.82	3.32	5.16
City of Oakland Police and Fire Retirement System (b)	7.03	6.75	(3.33)	(2.70)	3.63	3.12	4.95
Benchmark**	6.83	6.17	(3.89)	(2.97)	1.44	2.08	4.17

* Inception Date: 2/1/1998

**The benchmark consists of the Bloomberg Barclays U.S. Aggregate Index from 2/1/1998 - 6/30/2006 and the Bloomberg Universal Index as of 7/1/2006.

(a) Gross of Investment Management Fees

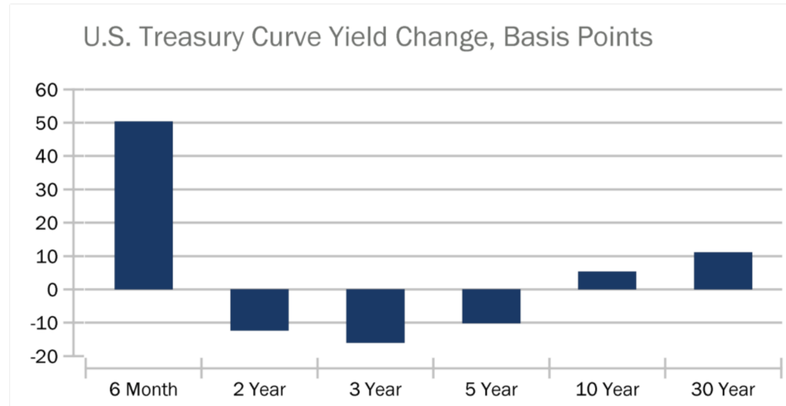
(b) Net of Investment Management Fees (recorded on cash basis)

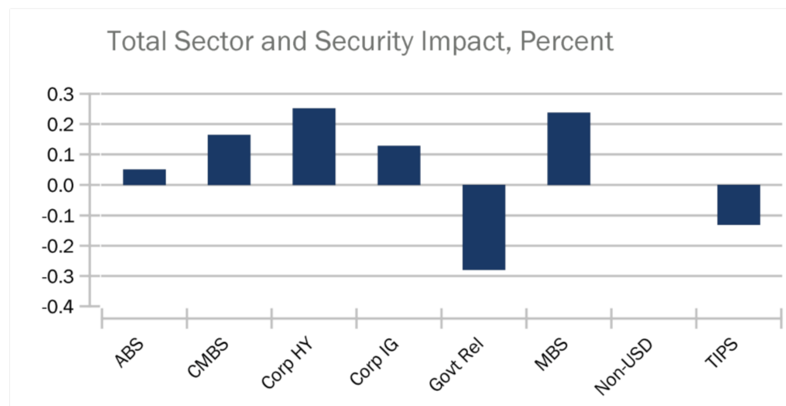
Excess Return Detail

City of Oakland Police and Fire Retirement System: 1/1/2023 - 12/31/2023

	Portfolio (%)
Total Return	6.97
Index Return	6.17
Excess Return	0.80
Duration	0.42
Curve	-0.04
Total Macro	0.37
Sector Selection	0.21
Security Selection	0.21
Total Selection	0.42

Sector	Sector Impact	Security Impact	Total Impact
ABS	0.05	-0.00	0.05
CMBS	0.05	0.12	0.16
Corp HY	0.36	-0.11	0.25
Corp IG	-0.10	0.23	0.13
Govt Rel	-0.28	0.00	-0.28
MBS	0.26	-0.02	0.24
Non-USD	0.00	0.00	0.00
TIPS	-0.13	0.00	-0.13
	0.21	0.21	0.42





Portfolio Characteristics

CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM 12/31/2023

Portfolio Characteristics

	Portfolio	Index	*Prior*
Market Value ($)	27,738,863	31,172 B	*25,903,097*
Duration (Yrs)	6.2	6.0	*6.9*
Spread Duration (Yrs)	3.9	3.8	*4.8*
Convexity	0.3	0.5	*0.5*
Yield to Worst (%)	5.1	4.8	*6.3*
Maturity (Yrs)	9.8	8.2	*10.7*
Quality	Aa3	Aa3	*Aa3*

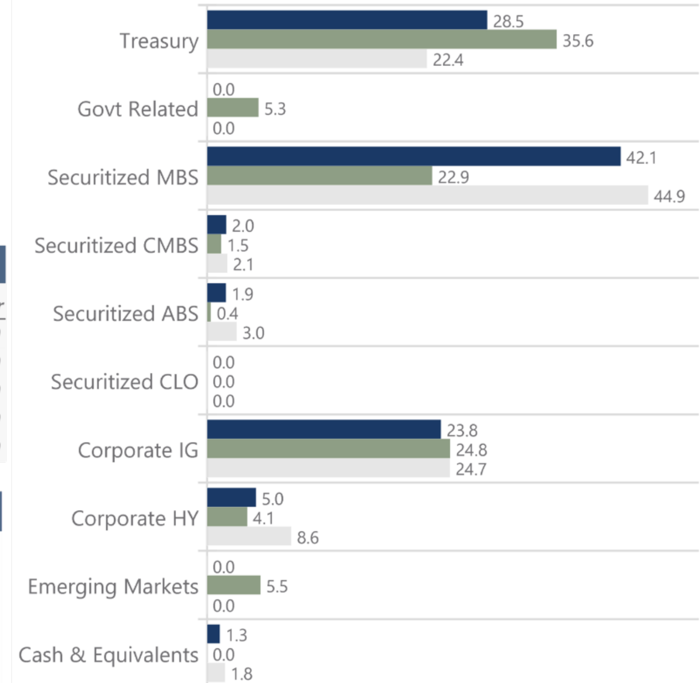
Corporate Industry Exposure (%)

	Portfolio	Index	*Prior*
Industrials	12.0	17.2	*16.3*
Financials	11.2	9.5	*11.2*
Utilities	5.6	2.2	*5.8*

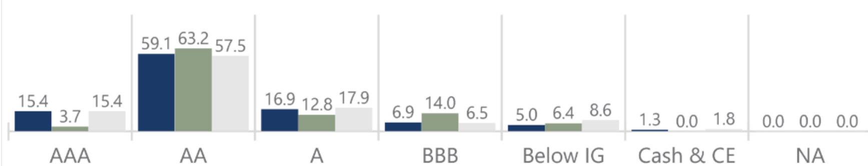
Currency Exposure (%)

	Portfolio	*Prior*
USD	100.0	*100.0*
G10	0.0	*0.0*
EM-Asia	0.0	*0.0*
EM-LATAM	0.0	*0.0*
EM-EMEA	0.0	*0.0*

Sector Exposure (%)



Quality Exposure (%)



Interest Rate Duration Exposure (Years)

Spread Duration Exposure (Years)

	Portfolio	Index	*Prior*
Govt Related	0.0	0.3	*0.0*
Securitized MBS	2.1	1.3	*2.6*
Securitized CMBS	0.0	0.1	*0.0*
Securitized ABS	0.1	0.0	*0.1*
Securitized CLO	0.0	0.0	*0.0*
Corporate IG	1.4	1.7	*1.5*
Corporate HY	0.2	0.1	*0.4*
Emerging Markets	0.0	0.3	*0.0*
Cash & Equivalents	0.1	0.0	*0.1*

Diversity at Reams

Diversity Representation Survey for Oakland Police and Fire

DATA AS OF 12/31/2023

Firm Name	Reams Asset Management, a Division of Scout Investments, Inc.
Product Name	Core Plus Fixed Income
Total No. of Employees	38

	Percentage (%) of Board of Directors / Managing Members	Percentage(%) of Firm (Entire Staff)	Percentage (%) of Firm (Investment Professionals)
Race and Ethnicity*			
African American/Black	0.0%	0.0%	0.0%
Asian/Hawaiian/Pacific Islander	0.0%	11.0%	13.0%
Latino/Hispanic	0.0%	3.0%	7.0%
White	100.0%	83.0%	73.0%
American Indian/Alaska Native	0.0%	0.0%	0.0%
Other/Not Disclosed	0.0%	3.0%	7.0%
Gender			
Male	67.0%	58.0%	87.0%
Female	33.0%	42.0%	13.0%
Non-Identified/Other	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%
	100.0%	100.0%	100.0%

* Racial/ethnic categories appear as defined by EEOC guidance.

Diversity at Reams

- As an affiliate of Raymond James Investment Management, a division of Raymond James, Reams Asset Management is committed to fostering a diverse and inclusive workplace, welcoming to all cultures and backgrounds. This is consistent with our values-based culture upon which the firm was founded.

- For more information on the extensive inclusion efforts of our parent firm, Raymond James Financial (RJF), including outreach, career development and recruitment, and community efforts, please visit:

  - https://www.raymondjames.com/-/media/rj/dotcom/files/pdfs/2023_corp_responsibility_report.pdf

- Reams Asset Management currently has 38 employees, of which 16 (42%) are female, including key leadership positions:

  - Head of Operations
  - Head of Client Service

- Reams has several employees in various ethnic groups, and has taken concrete steps to address historical lack of diversity on its long-tenured investment team.

Diversity at Reams – Executing the Hiring Action Plan

- Currently utilizing the hiring resources of the larger Raymond James organization
  - Directly resulted in progress of diverse hiring
  - Improved collaboration with Reams will influence future hiring

- Office relocation – Indianapolis, IN
  - Completed – February 2022
  - New location has been major influence in recent hiring

- Early results of the plan bearing fruit in more diverse team
  - Significant increase in diversity among investment team members since announcement and execution of office relocation
  - Depth of experience on team being maintained while incrementally improving diversity

Diversity at Reams – Office Relocation Impact

- Reams relocated its primary office from Columbus, IN to Indianapolis two year ago:
  - Office is located in downtown Indianapolis, the hub of business in the state
  - New location provides easier access for clients, consultants, management teams, and other guests/visitors
  - New office has raised the Reams profile and stature within the city and the investment community
- Most critically, the new office location has aided recruitment and retention of professionals for a first-class investment firm:
  - Reams established a 5-year staffing plan concurrent with the office relocation that intended to build out investment and support teams at all levels of the organization.
  - The Indianapolis location has increased the applicant pool and has contributed to recent success in hiring diverse staff

Oakland-Based Brokerage Summary

- There was no activity during 2023.
- There was no activity during 2022.
- Approximately 90% of Reams trades are conducted in a competitive format on electronic trading platforms. We encourage regional and/or minority-owned brokerage firms to participate on these platforms.
- All trading is done on best execution, without exception. Reams benefits from strong counterparty relationships with brokerage firms that enable Reams to participate in new syndicate debt offerings and trade the portfolio efficiently and in a cost-effective manner.

Definitions

Upside / Downside Market Capture: the proportion of the annualized, compounded total rate of return "captured" by the product versus given benchmark, with benchmark returns grouped by positive (upside) and negative (downside) observations

Portfolio Duration: the weighted average duration of all securities held in a portfolio, whereby duration represents the average life of a bond's cash flows

Portfolio Convexity: the weighted average convexity of all securities held in a portfolio, whereby convexity represents the expected change in a bond's duration for a given change in interest rates

Avg Yield to Worst: the weighted average yield to worst of all securities held in a portfolio, whereby yield to worst represents the expected internal rate of return of a bond that equilibrates the current price to all future anticipated cash flows, assuming the most disadvantageous retirement date

Avg Maturity: the weighted average maturity of all securities held in a portfolio, whereby maturity represents the final principle cash flow retirement date

Avg Quality: the weighted credit quality of all securities held in a portfolio, whereby credit quality represents a security's aggregated rating assigned by the Nationally Recognized Statistical Rating Organizations ("NRSROs")

Contribution to Duration: measurement of how much a risk factor contributes to the portfolio's total duration, calculated as factor weight times factor duration

Spread Duration: the amount of total duration that is derived from spread sector exposure; alternatively read as the portfolio's exposure to general spread movements

Excess Return: total return of a risky security relative to like-duration U.S. Treasury returns

Basis Points: industry nomenclature for referencing performance, expressed as hundredths of 1%

Yield Curve: the term structure of interest rates depicted in a linear curve format, from shortest tenor to longest

Government Related: the sector designation that includes Agency, Supranational, Sovereign and Foreign Agencies

MBS: the sector designation that includes both residential and commercial mortgage pass-through securities

ABS: the sector designation that includes secured debt of non-first mortgage home loans, including credit card, auto, home equity and auto dealer inventory

IG Credit: the sector designation that includes investment grade corporate debt

HY Credit: the sector designation that includes corporate debt rated below investment grade, as measured by the ratings from NRSROs

Non USD: the class designation that includes non-dollar debt and currency forwards

Spread Sector: nongovernmental fixed income investments with higher yields at greater risk than governmental instruments

TIPS: the class designation for Treasury Inflation Protected Securities

Source: Bloomberg, Investopedia

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MEKETA

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MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group (Meketa)
DATE: March 27, 2024
RE: Reams Asset Management—Manager Update

Manager: Reams Asset Management ("Reams")			
Inception Date:	February 1998	**OPFRS AUM (02/29/2024):**	$27.4 million
Strategy:	Core Plus Fixed Income	**Strategy AUM (12/31/2023):**	$7.9 billion
Benchmark:	Bloomberg Universal (Blend)[1]	**Firm-wide AUM (12/31/2023):**	$26.6 billion

Summary & Recommendation

Reams Asset Management ("Reams") has managed a part of OPFRS's fixed income portfolio since February 1998. As of 02/29/2024, the portfolio is approximately $27.4 million or about 6% of OPFRS's total plan. The strategy has performed within expectations and guidelines for the portfolio, and no major organizational changes or personnel turnover in the portfolio management team have been observed since the last review. ***Therefore, Meketa does not have any major concerns with Reams and the Core Plus Fixed Income strategy.***

Investment Performance Review Summary

As of 02/29/2024, Reams Core Plus Fixed Income strategy has matched or outperformed its benchmark on both gross- and net-of-fees basis over all time periods measured except for the 1-year trailing period. In comparison with other US Core Plus Fixed Income managers, it ranks above average over the longer 3- and 5-year periods and since inception though it ranks below average for the 1-year and shorter periods.

OPFRS Portfolio Annualized Returns (as of 02/29/2024)[2]

Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception (%)
Reams (Gross)	-1.4	4.1	-2.1	3.4	5.1
Bbg Universal (Blend)[1]	*-1.4*	*4.1*	*-2.8*	*0.8*	*4.1*
Excess Return	0.0	0.0	0.7	2.6	1.0
Reams (Net)	-1.4	3.9	-2.3	3.2	4.8
Bbg Universal (Blend)[1]	*-1.4*	*4.1*	*-2.8*	*0.8*	*4.1*
Excess Return	0.0	-0.2	0.5	2.4	0.7
Peer Group Rank (Net)[3]	67	58	19	2	32

[1] Benchmark consists of Bloomberg US Aggregate Bond Index from inception to 06/30/2006, and Bloomberg Universal Index thereafter.
[2] Performance is annualized for periods longer than one year.
[3] Peer group is eVestment US Core Plus Fixed Income (Net) as of 02/29/2024.

Product and Organization Review Summary

Reams Asset Management	Areas of Potential Impact				
	Level of Concern	Investment Process	Investment Team	Performance Track Record	Team/Firm Culture
Product					
Key people changes	None				
Changes to team structure or individuals' roles	None				
Product client gain/losses	None				
Changes to investment process	None				
Personnel turnover	None				
Organization					
Ownership changes	None				
Key people changes	None				
Firm wide client gain/losses	None				
Recommended Action	**None - X**	**Watch Status**		**Termination**	

A review of Reams Asset Management and the Core Plus Fixed Income strategy revealed no concerning organizational issues or changes since last review in January 2023.

Investment Philosophy & Process[4]

Reams Core Plus seeks to maximize total return, minimize risk, and preserve capital utilizing all sectors of the fixed income market. Core Plus portfolios are well diversified, and consist of high quality investment grade, high yield, and non-dollar securities, with an average portfolio duration generally between three to six years.

Reams' investment philosophy is based on the premise that volatility is a key driver of performance in the fixed income market. Volatility is usually higher than commonly perceived and is often mispriced in the marketplace. This core belief leads the firm to focus on long-term value and "total return;" employ macro and bottom-up strategies to uncover unique opportunities; and react opportunistically to valuation discrepancies and volatility in the bond market.

Reams manages portfolios using three basis steps, which are best described as a combination of top-down and bottom-up.

DS/PN/JLC/mn

[4] Source: eVestment, as of 12/31/2023. Abridged.

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MEKETA

Economic and Market Update

February 2024 Report

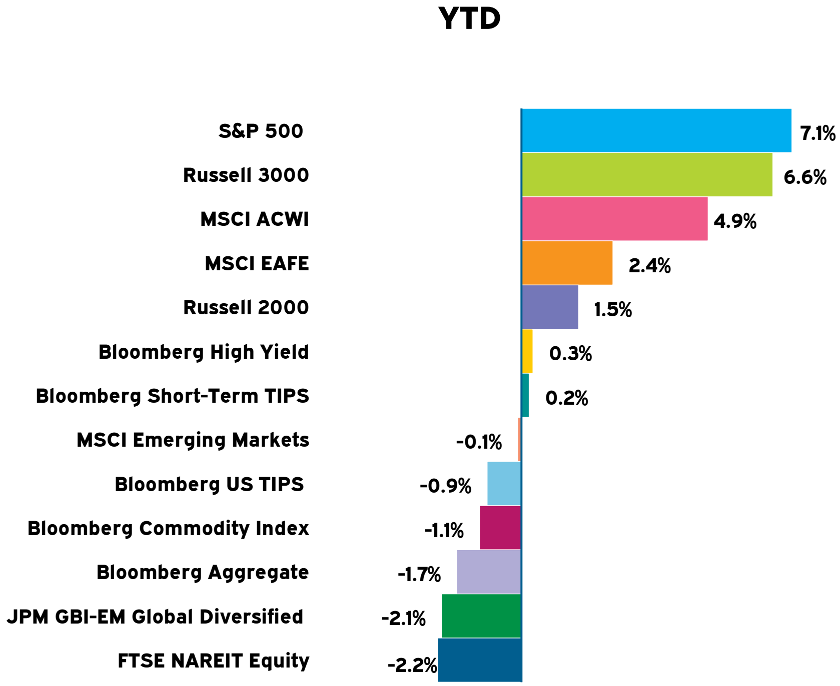
Commentary

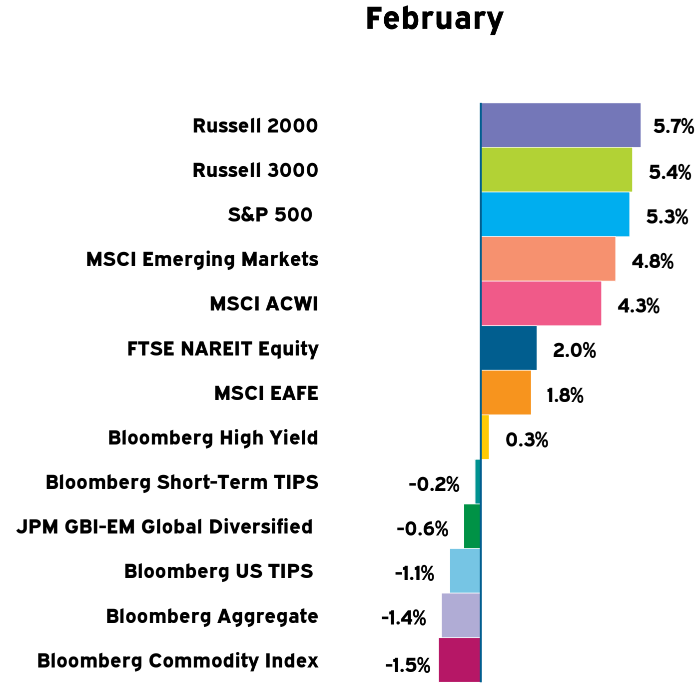
→ Markets were mixed in February. Resilient economic data drove global equities higher and pushed out the timing of expected first rate cut, weighing on bonds.

- Major central banks have largely paused interest rate hikes with expectations that many will cut rates this year. The timing and pace of interest rate cuts has been downgraded for many economies given the continued strength of economic data and stubborn inflation.
- In general, inflation pressures have eased in most countries, but some uncertainty remains and levels are still above central bank targets. Headline inflation in the US unexpectedly rose in February (3.1% to 3.2%), while core inflation fell (3.9% to 3.8%) but came in above expectations. Notably, China moved out of deflationary territory in February (0.7%) after four months of declining prices.
- US equity markets (Russell 3000 index) rose 5.4% in February after a very strong 2023 (+26.0%). The technology and consumer discretionary sectors continued to perform well.
- Non-US developed equity markets gained 1.8% in February, helped by Japanese equities which hit multi-decade highs during the month. A strengthening US dollar contributed to the weaker relative results for US investors in foreign markets.
- Policy efforts to support mainland stock prices saw Chinese equities return 8.4%, driving emerging market equities higher (4.8%). The stronger dollar also weighed on emerging market equities with returns in local currency terms 0.3% higher.
- Rising interest rates weighed on bonds with the broad US bond market declining 1.4% for the month.

→ Looking to the rest of this year, the paths of inflation and monetary policy, China's economic disorder and slowing economic growth, the many looming elections, and the wars in Ukraine and Israel, will be key.

Index Returns[1]





→ In February global equity markets produced strong results with the US leading the way.

→ Resilient economic data weighed on bond markets domestically and dashed any hopes of a near-term cut in interest rates.

[1] Source: Bloomberg. Data is as of February 29, 2024.

Domestic Equity Returns[1]

Domestic Equity	February (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	5.3	7.1	30.5	11.9	14.8	12.7
Russell 3000	5.4	6.6	28.6	9.9	13.9	12.0
Russell 1000	5.4	6.9	29.8	10.6	14.4	12.4
Russell 1000 Growth	6.8	9.5	45.9	12.5	18.8	15.6
Russell 1000 Value	3.7	3.8	14.0	8.4	9.4	8.7
Russell MidCap	5.6	4.1	15.5	5.5	10.3	9.4
Russell MidCap Growth	7.5	6.9	25.0	3.1	11.6	10.9
Russell MidCap Value	4.8	2.9	10.9	6.8	8.9	8.2
Russell 2000	5.7	1.5	10.0	-0.9	6.9	7.1
Russell 2000 Growth	8.1	4.7	14.2	-4.6	6.5	7.3
Russell 2000 Value	3.3	-1.4	5.6	2.5	6.6	6.5

US Equities: The Russell 3000 increased 5.4% in February bringing the year-to-date gain to 6.6%.

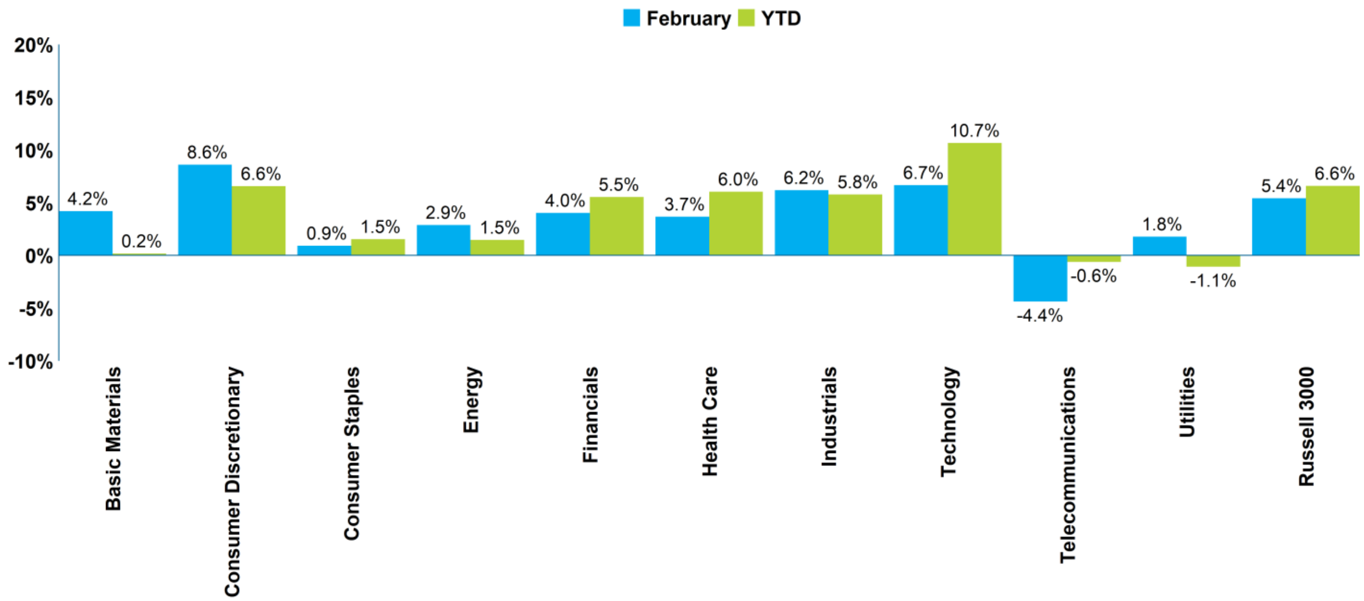
→ US equities rose further during February, fueled by continued optimism over artificial intelligence related stocks and strong economic data. The highest quintile price-to-earnings stocks outperformed all other groups and accounted for half of the return of the Russell 3000 index.

→ Small cap stocks slightly outperformed mid cap and large cap stocks.

→ Growth outperformed value across the market cap spectrum, particularly in small cap.

[1] Source: Bloomberg. Data is as of February 29, 2024.

Russell 3000 Sector Returns[1]



→ So far in 2024, the sectors that drove results last year continue to lead the way. Technology led by the so-called "Magnificent Seven" gained 10.7% through February, with the continued strength of the US consumer putting consumer discretionary second at 6.6%.

→ In February, all sectors except for telecommunications posted positive returns with consumer discretionary (+8.6%), technology (+6.7%), and industrials (+6.2%) leading the way. Traditionally defensive sectors like utilities (+1.8%) and consumer staples (+0.9%) trailed for the month.

[1] Source: Bloomberg. Data is as of February 29, 2024.

Foreign Equity Returns[1]

Foreign Equity	February (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	2.5	1.5	12.5	1.3	5.4	4.0
MSCI EAFE	1.8	2.4	14.4	4.4	6.8	4.4
MSCI EAFE (Local Currency)	3.0	5.7	14.8	9.8	8.8	7.2
MSCI EAFE Small Cap	0.4	-1.3	6.3	-1.8	4.2	4.3
MSCI Emerging Markets	4.8	-0.1	8.7	-6.3	1.9	3.0
MSCI Emerging Markets (Local Currency)	5.1	1.4	9.7	-3.6	4.0	5.6
MSCI China	8.4	-3.1	-14.1	-20.9	-6.1	1.0

Foreign Equity: Developed international equities (MSCI EAFE) gained 1.8% in February and had a year-to-date return of 2.4%. Emerging market equities (MSCI EM) rose 4.8% in February and are down slightly year-to-date (-0.1%).

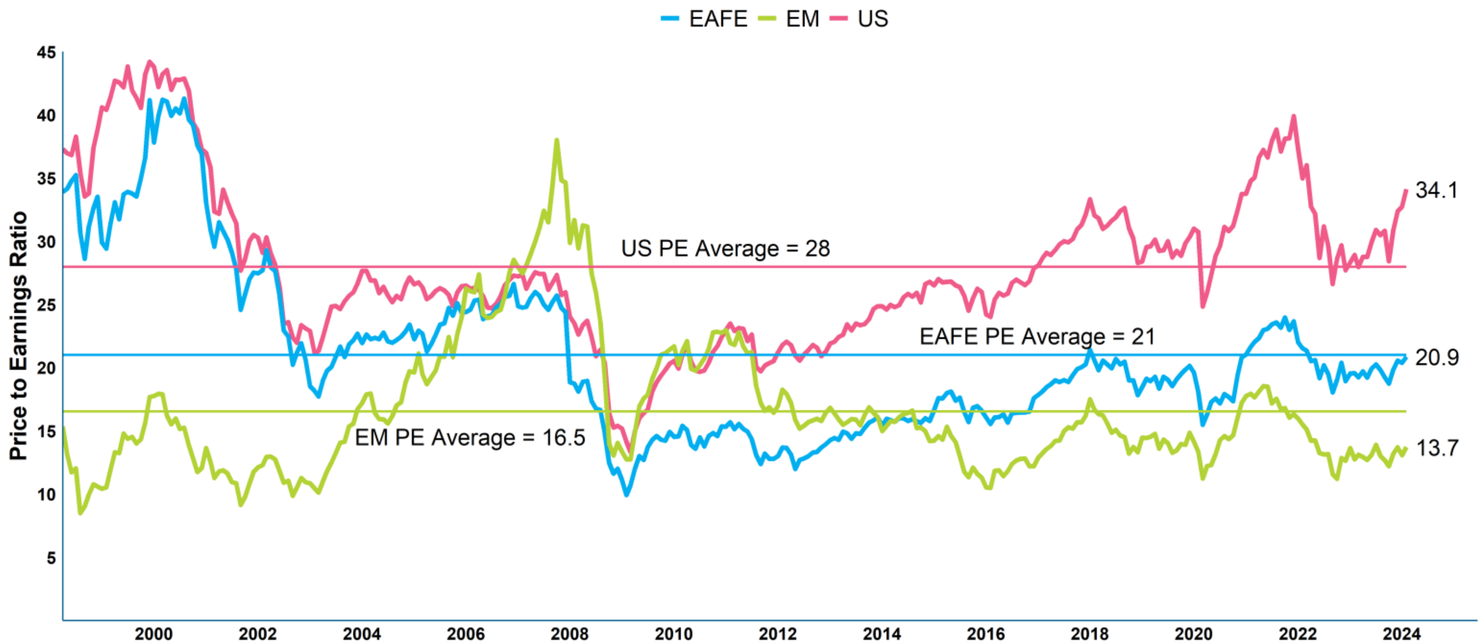
→ February saw solid positive performance in foreign developed markets, while emerging markets experienced stronger relative results driven by large gains in China.

→ Eurozone equities underperformed in February relative to other developed markets, and the UK saw slightly negative returns. Hawkish statements from the ECB and BoE earlier in the month weighed on returns. Japan continued to perform strongly, with the Nikkei 225 surpassing its 1989 peak. A strong US dollar also hurt overall results for US investors with local currency returns 1.2% higher for the month.

→ Emerging market equities benefitted from a strong rebound in China (the highest-performing country for the month at 8.4%). The Chinese recovery was driven by government buying programs, a cut on the five-year loan prime rate, new regulations on short-selling, and the Lunar New Year holiday's boost to consumer spending.

[1] Source: Bloomberg. Data is as of February 29, 2024.

Equity Cyclically Adjusted P/E Ratios[1]



- → In February, the US equity price-to-earnings ratio increased further above its 21st century average due to strong price appreciation.
- → International market valuations rose slightly in February and remain well below the US. In the case of developed markets, valuations are now close to the long-term average, while emerging market valuations remain well below its long-term average.

[1] US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of February 2024. The average line is the long-term average of the US, EM, and EAFE PE values from April 1998 to the recent month-end respectively.

Fixed Income Returns[1]

Fixed Income	February (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-1.2	-1.4	4.1	-2.8	0.8	1.7	5.2	6.0
Bloomberg Aggregate	-1.4	-1.7	3.3	-3.2	0.6	1.4	4.9	6.2
Bloomberg US TIPS	-1.1	-0.9	2.5	-0.9	2.7	2.1	4.6	6.9
Bloomberg Short-term TIPS	-0.2	0.2	4.5	2.2	3.2	1.9	4.8	2.5
Bloomberg High Yield	0.3	0.3	11.0	1.8	4.2	4.3	7.9	3.7
JPM GBI-EM Global Diversified (USD)	-0.6	-2.1	9.3	-2.6	-0.1	0.0	6.3	5.0

Fixed Income: The Bloomberg Universal index fell -1.2% in February bringing the year-to-date decline to -1.4%.

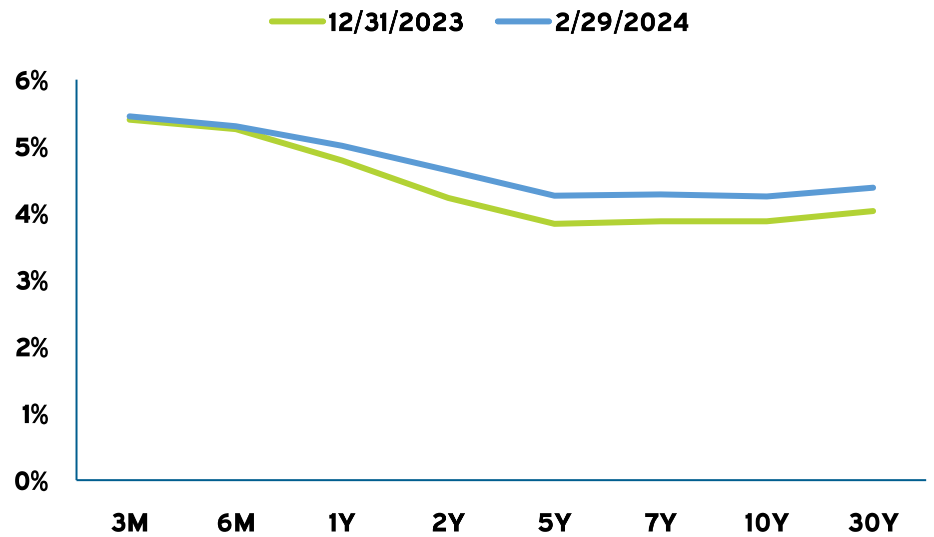
→ Strong economic data for the last two months and comments by policy makers hinting that rate cuts were not imminent, drove rates up over the month and weighed on bond prices.

→ The broad US bond market (Bloomberg Aggregate), as well as TIPS, fell due to the repricing of stronger growth expectations.

→ High yield bonds, however, provided slightly positive returns as risk appetite remains robust for high yield credit.

[1] Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of February 29, 2024. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.

US Yield Curve[1]



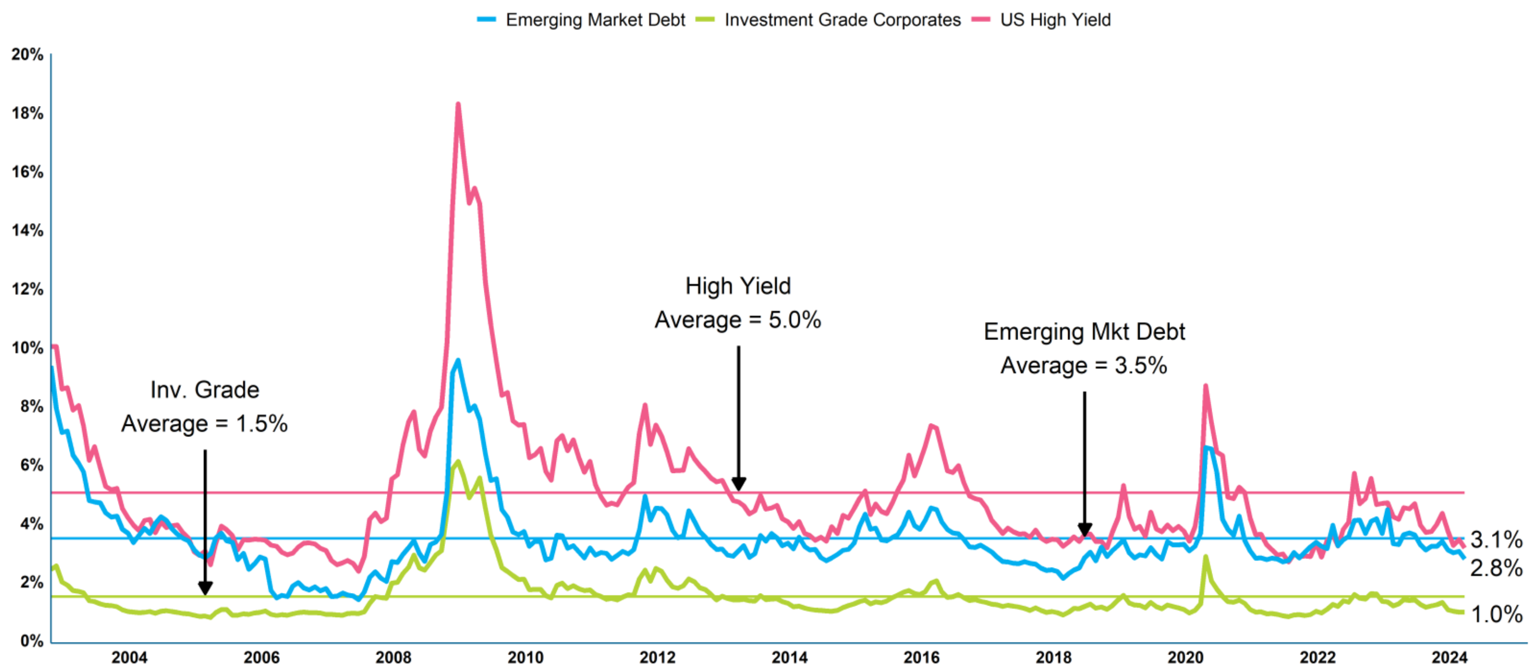
→ Both short-term and long-term maturity yields ended the month higher, largely from strong economic data and shifts in monetary policy expectations.

→ For the month, the more policy sensitive two-year Treasury yield increased from 4.2% to 4.6% while 10-year Treasury yields rose from 3.9% to 4.3%.

→ The yield curve remained inverted at month-end despite a recent flattening trend. The yield spread between the two-year and ten-year Treasury was -0.37% at the end of February.

[1] Source: Bloomberg. Data is as of February 29, 2024.

Credit Spreads vs. US Treasury Bonds[1]



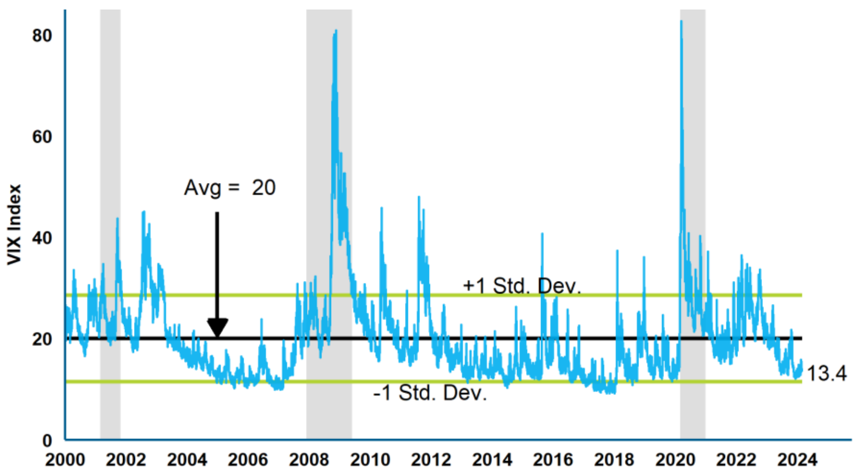
→ A positive economic outlook along with expectations of lower interest rates has led to an increased risk appetite. This has benefited credit, with spreads (the added yield above a comparable maturity Treasury) narrowing.

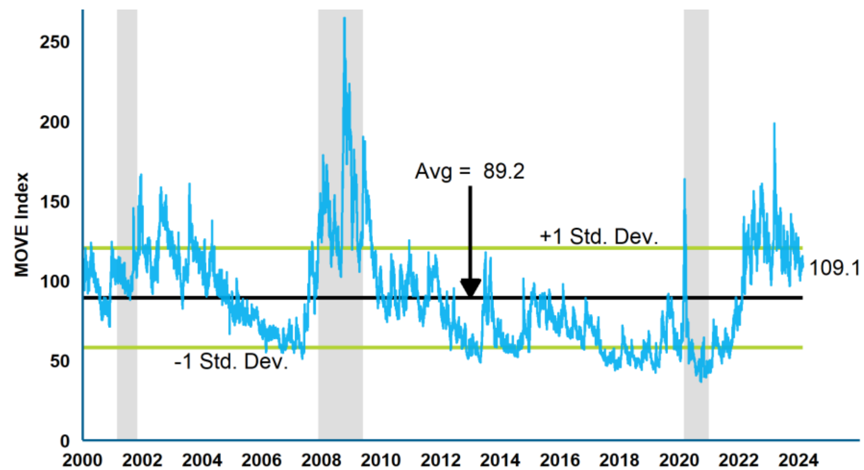
→ Credit spreads narrowed in February for high yield (3.4% to 3.1%) and emerging market bonds (3.0% to 2.8%) while spreads for investment grade corporate bonds remained the same.

→ All spreads remain below their respective long-run averages, particularly within high yield.

[1] Source: Bloomberg. Data is as of February 29, 2024. Average lines denote the average of the investment grade, high yield, and emerging market spread values from September 2002 to the recent month-end, respectively.

Equity and Fixed Income Volatility[1]



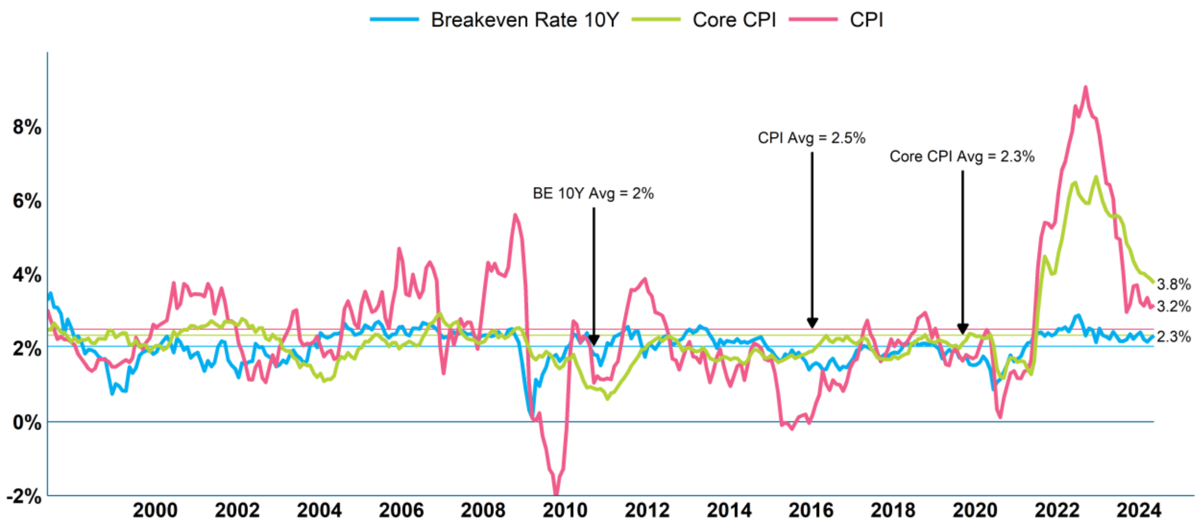


→ Volatility in equities (VIX) remains close to one standard deviation below the long-term average as the focus shifted late last year to peaking policy rates and the potential for a soft landing.

→ Although volatility in the bond market (MOVE) remains above its long-run average (89.2) it has declined recently given falling inflation, growth expectations, and a likely cut in interest rates.

[1] Equity Volatility – Source: FRED. Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of February 2024. The average line indicated is the average of the VIX and MOVE values between January 2000 and February 2024.

US Ten-Year Breakeven Inflation and CPI[1]



→ Year-over-year headline inflation rose in February (3.1% to 3.2%), coming in slightly above expectations. Inflation in services sectors, particularly shelter, remains a key reason consumer inflation is still above the Fed's 2% average target.

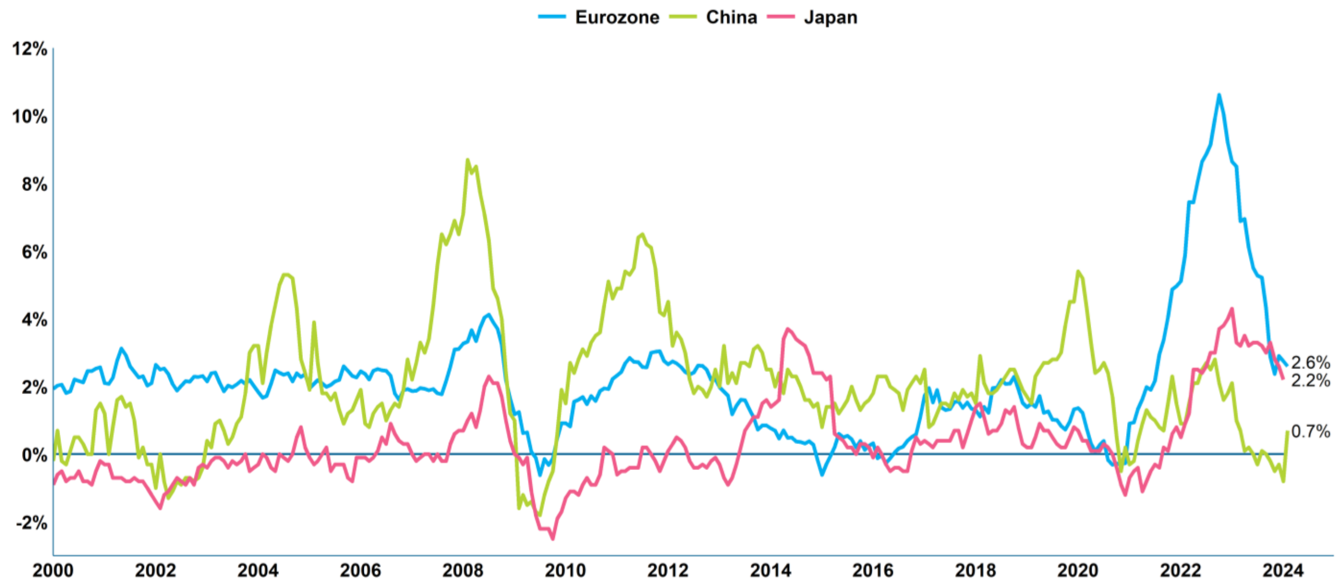
→ Month-over-month inflation rose to 0.4% from the 0.3% January reading again driven by shelter costs. Food prices were flat from a month prior, while increases in gas prices drove energy higher.

→ Core inflation-excluding food and energy-fell slightly from 3.9% to 3.8 but also came in above expectations.

→ Inflation expectations (breakevens) have remained stable despite the recent significant volatility in inflation.

[1] Source: FRED. Data is as February 2024. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

Global Inflation (CPI Trailing Twelve Months)[1]



→ Outside the US, inflation is also falling across major economies from the recent peaks.

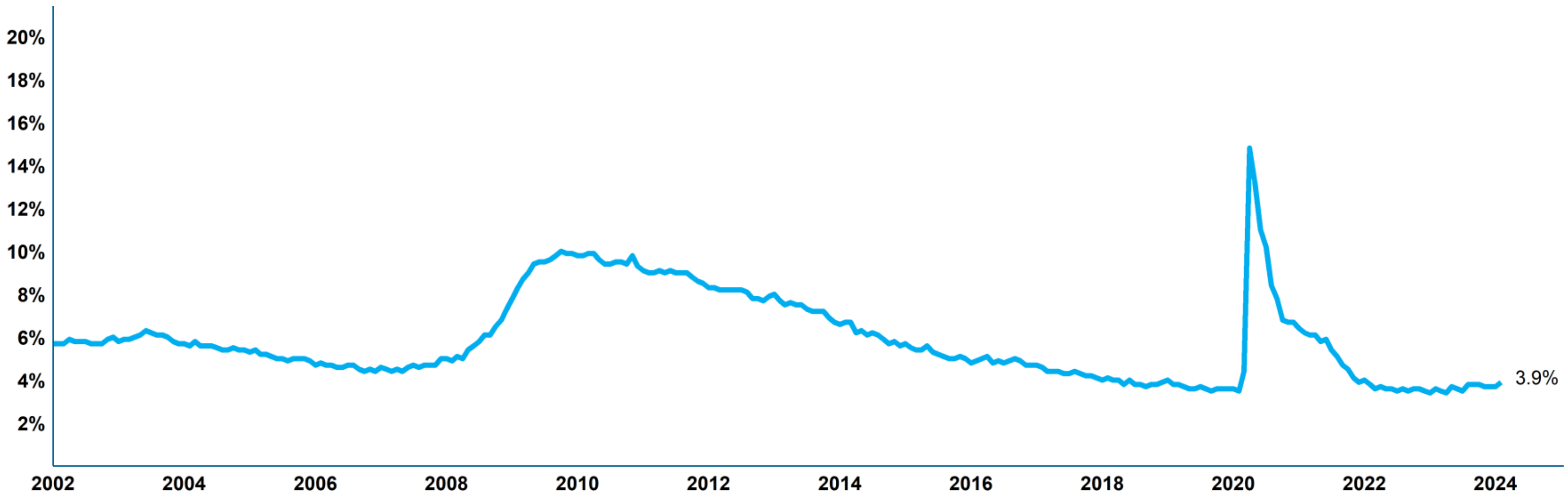
→ In the eurozone, prices experienced a dramatic decline last year but remains above the central bank's 2% target. In February, inflation fell further (2.8% to 2.6%), a level below the 3.2% year-over-year reading in the US.

→ Inflation in Japan has slowly declined from the early 2023 peak of 4.3%, but it remains near levels not seen in a decade, driven by food prices.

→ China emerged from deflationary pressures in February with the first positive reading (0.7%) since last September, driven largely by spending during the Lunar New Year holiday.

[1] Source: FRED for United States CPI and Eurozone CPI. Source: Bloomberg for Japan CPI, China CPI, and Eurozone CPI. Data is as February 29, 2024, except Japan which is as of January 31, 2024.

US Unemployment[1]



→ Overall, the US labor market remains healthy, with the unemployment rate low, wage growth now positive in real terms, and initial claims for unemployment staying subdued.

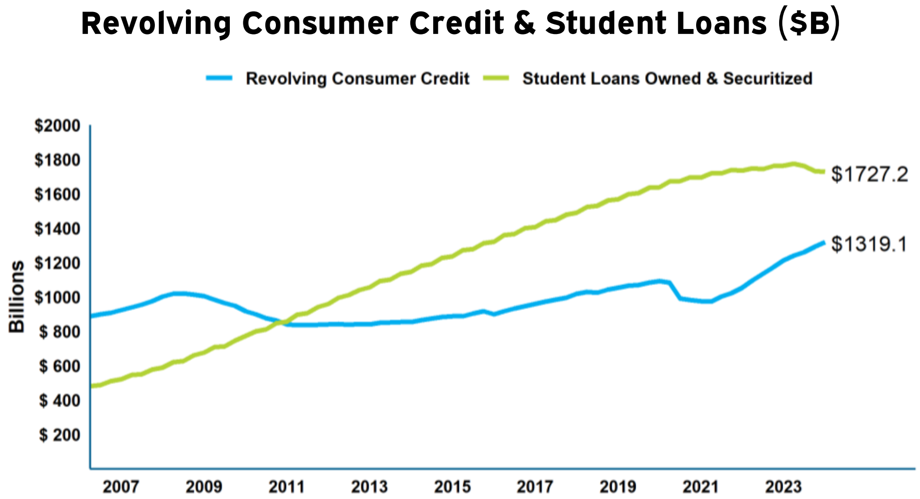
→ In February, the number of jobs added in the US was stronger than expected (275,000 versus 200,000) but with significant revisions to December and January data. The healthcare, government, and food service sectors added the most jobs for the month.

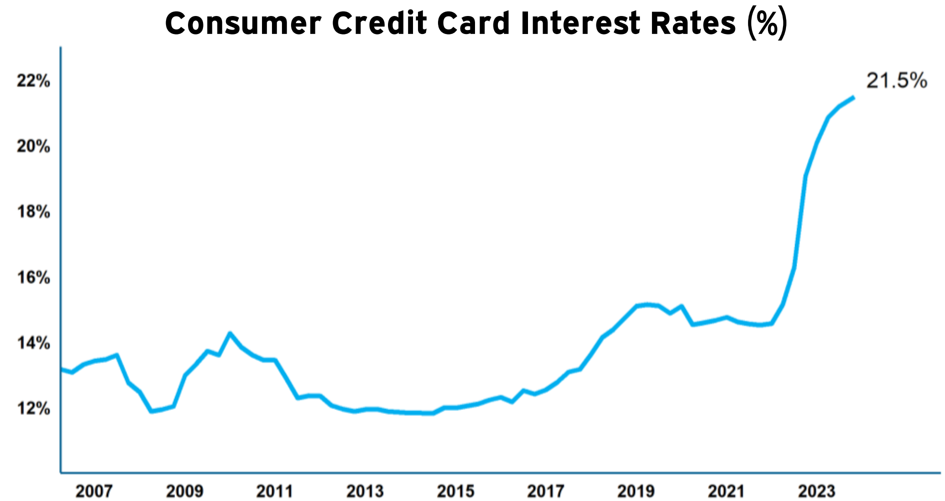
→ The unemployment rate rose from 3.7% to 3.9%, while wage growth came in at 4.3% compared to a year prior, a level well off the 6.0% peak but above inflation levels.

→ Quit rates have declined, and layoffs are stable, with 1.4 available workers per job opening.

[1] Source: FRED. Data is as February 29, 2024.

US Consumer Under Stress?[1]

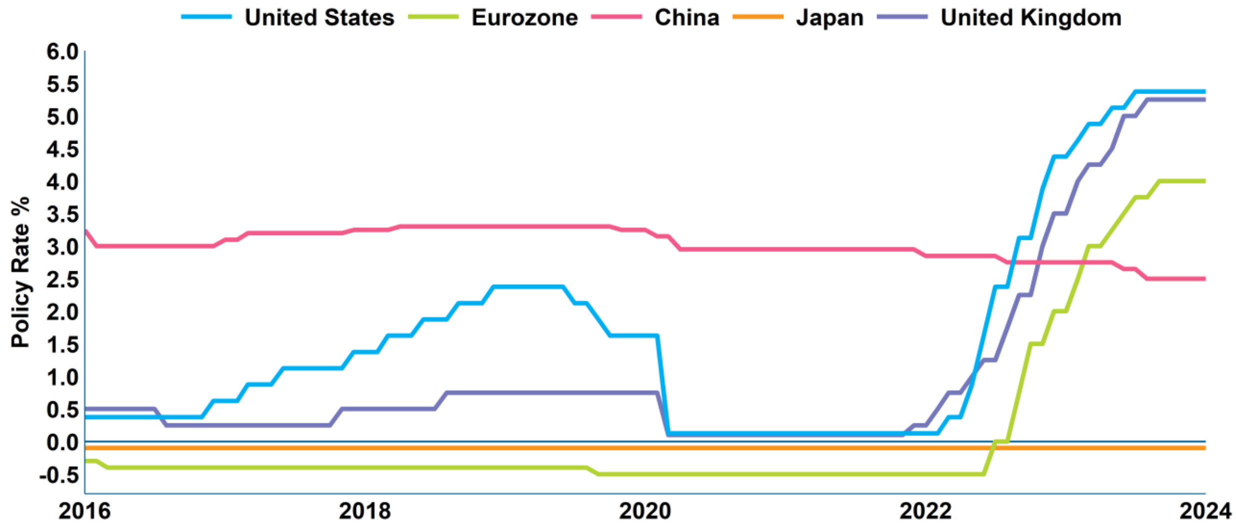




- → Despite the strong labor market and higher wages, pressures have started to build on the US consumer. This is an important consideration as consumer spending has been a key driver of economic growth.
- → Revolving consumer credit surged to new highs in 2023 even as credit card interest rates hit levels not seen before (the prior peak was around 19% in the 1980s). Recently, we have also seen payment delinquencies on credit cards start to increase.
- → The return of student loan repayments after a three-year pandemic-related reprieve could add to pressures on consumers' budgets. This might be partially mitigated by recently initiated repayment and forgiveness programs.
- → As we look ahead, the strength of the US consumer will remain key as this sector makes up most of the domestic economy (GDP).

[1] Source: FRED. Data is as of December 31, 2023. Consumer Credit Card Rate data is as of November 30, 2023. Revolving Consumer Credit data is seasonally adjusted to remove distortions during the holiday season.

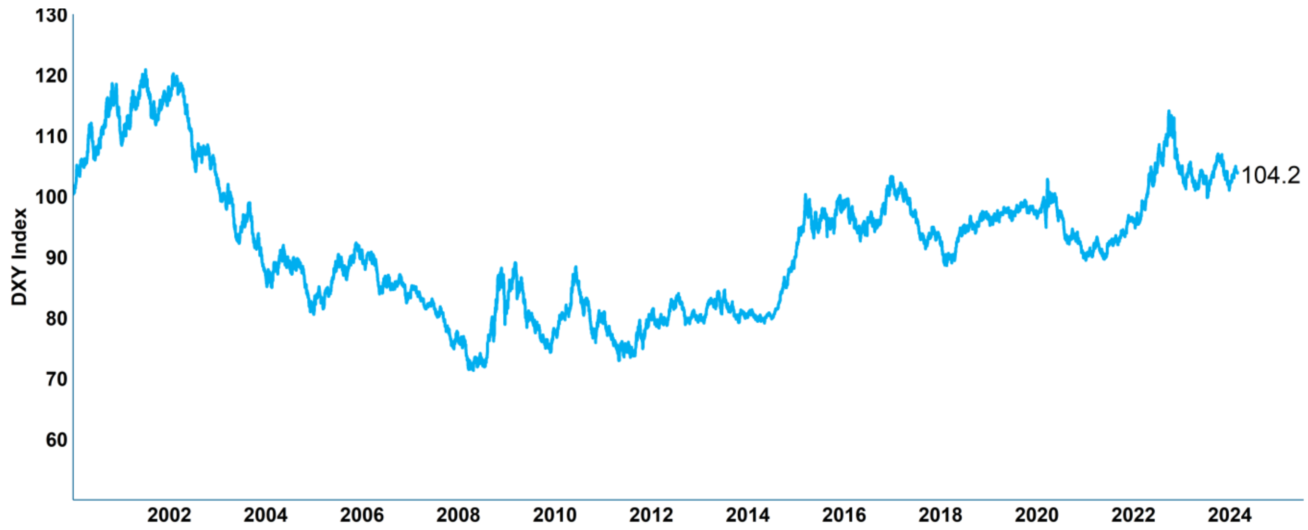
Policy Rates[1]



- → The Fed has been on hold since July 2023 when it raised rates to a range of 5.25%-5.50%. Markets are now pricing in slightly less than three rate cuts this year down from close to seven late last year as economic data has come in better than expectations. Market pricing for the first rate cut has also moved out from originally March to the summer or early fall.
- → The European and UK central banks also recently paused their rate increases on slowing inflation with cuts likely to follow this year. In Japan, the BoJ has further relaxed its yield curve control on the 10-year bond, and expectations for further policy normalization are rising.
- → The central bank in China has maintained interest rates at record low levels and continues to inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.

[1] Source: Bloomberg. Data is as of February 29, 2024.

US Dollar vs. Broad Currencies[1]



→ Overall, the dollar finished last year only slightly below where it started but it was a volatile year for the US currency as expectations related to monetary policy evolved.

→ Strong economic data in the US may delay policy rate cuts this year, which could contribute to upward pressure on the dollar as other countries pivot to rate cuts.

[1] Source: Bloomberg. Data as of February 29, 2024.

Summary

Key Trends:

→ The impact of inflation still above policy targets will remain important, with bond market volatility likely to stay high.

→ Global monetary policies could diverge going forward. The risk of policy errors remains elevated as central banks try to further reduce inflation toward targets while not tipping their economies into recession.

→ Global growth is expected to slow this year, with some economies forecasted to enter recessions. However, optimism has been building that certain economies could experience soft landings. Inflation, monetary policy, and geopolitical issues will remain key in 2024.

→ US consumers could feel pressure as certain components of inflation (e.g., shelter) remain high, borrowing costs are elevated, and the job market may weaken.

→ A focus for US equities going forward will be whether earnings can remain resilient if growth continues to slow. Also, the future paths of the large technology companies that have driven market gains will be important.

→ Equity valuations remain lower in emerging and developed markets, but risks remain, including China's economic uncertainty and on-going weakness in the real estate sector which could spill over into key trading partners' economies. Japan's recent hint at potentially tightening monetary policy along with changes in corporate governance in the country could influence relative results.

WE HAVE PREPARED THIS REPORT (THIS “REPORT”) FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE “RECIPIENT”).

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

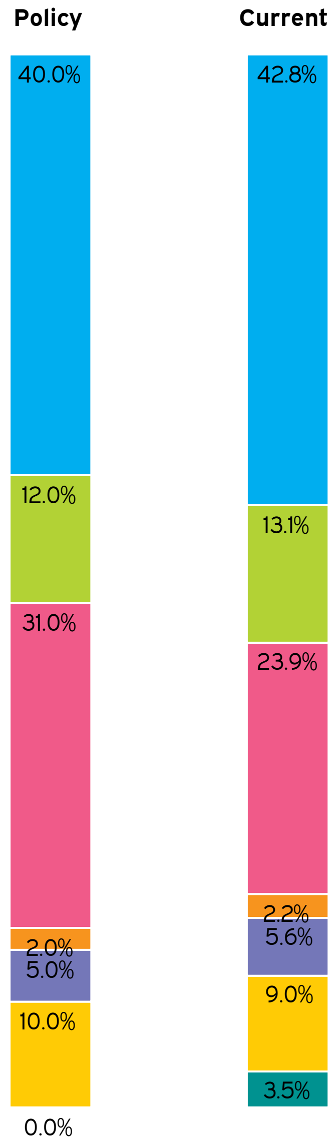
MEKETA

Oakland Police and Fire Retirement System

March 27, 2024

February Flash Report

As of February 29, 2024



Allocation vs. Targets and Policy

	Current Balance ($)	Current (%)	Policy (%)	Difference (%)	Policy Range (%)	Within IPS Range?
Domestic Equity	190,477,195	42.8	40.0	2.8	30.0 - 50.0	Yes
International Equity	58,249,804	13.1	12.0	1.1	8.0 - 14.0	Yes
Fixed Income	106,620,856	23.9	31.0	-7.1	25.0 - 40.0	No
Credit	9,831,585	2.2	2.0	0.2	1.0 - 3.0	Yes
Covered Calls	24,801,925	5.6	5.0	0.6	5.0 - 10.0	Yes
Crisis Risk Offset	40,034,891	9.0	10.0	-1.0	5.0 - 15.0	Yes
Cash	15,422,343	3.5	0.0	3.5	0.0 - 5.0	Yes
Total	**445,438,600**	**100.0**	**100.0**	**0.0**		

Asset Class Performance Summary

	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
OPFRS Total Plan	**445,438,600**	**100.0**	**2.4**	**2.6**	**7.9**	**12.8**	**3.8**	**6.7**	**6.6**	**6.7**	**Dec-88**
OPFRS Policy Benchmark			*2.4*	*2.8*	*8.4*	*15.0*	*4.3*	*7.2*	*6.9*	*8.0*	
Excess Return			0.0	-0.2	-0.5	-2.2	-0.5	-0.5	-0.3	-1.3	
Domestic Equity	**190,477,195**	**42.8**	**4.7**	**5.1**	**13.2**	**20.4**	**8.1**	**12.0**	**10.9**	**9.1**	**Jun-97**
Russell 3000 (Blend)			*5.4*	*6.6*	*15.6*	*28.6*	*9.9*	*13.9*	*12.0*	*9.5*	
Excess Return			-0.7	-1.5	-2.4	-8.2	-1.8	-1.9	-1.1	-0.4	
International Equity	**58,249,804**	**13.1**	**3.4**	**3.3**	**10.4**	**17.2**	**4.0**	**7.1**	**5.2**	**5.5**	**Jan-98**
MSCI ACWI ex US (Blend)			*2.5*	*1.5*	*7.2*	*12.5*	*1.3*	*5.4*	*4.0*	*5.2*	
Excess Return			0.9	1.8	3.2	4.7	2.7	1.7	1.2	0.3	
Fixed Income	**106,620,856**	**23.9**	**-1.3**	**-1.3**	**1.9**	**3.6**	**-2.6**	**0.9**	**1.9**	**4.4**	**Jan-94**
Bloomberg Universal (Blend)			*-1.2*	*-1.4*	*2.3*	*4.1*	*-2.8*	*0.8*	*1.7*	*4.5*	
Excess Return			-0.1	0.1	-0.4	-0.5	0.2	0.1	0.2	-0.1	
Credit	**9,831,585**	**2.2**	**0.5**	**1.4**	**6.9**	**10.1**	**3.7**	**4.4**	**--**	**5.0**	**Feb-15**
Blmbg. U.S. Corp: High Yield Index			*0.3*	*0.3*	*8.0*	*11.0*	*1.8*	*4.2*	*4.3*	*4.7*	
Excess Return			0.2	1.1	-1.1	-0.9	1.9	0.2	--	0.3	
Covered Calls	**24,801,925**	**5.6**	**2.8**	**4.2**	**9.8**	**21.3**	**10.0**	**11.3**	**--**	**9.3**	**Apr-14**
CBOE S&P 500 Buy Write Index			*1.9*	*3.7*	*5.0*	*11.5*	*7.0*	*6.0*	*5.8*	*5.8*	
Excess Return			0.9	0.5	4.8	9.8	3.0	5.3	--	3.5	
Crisis Risk Offset	**40,034,891**	**9.0**	**1.3**	**1.5**	**0.5**	**1.3**	**-3.0**	**-7.1**	**--**	**-7.2**	**Aug-18**
Crisis Risk Offset Benchmark			*1.7*	*2.3*	*2.0*	*3.3*	*5.7*	*0.4*	*--*	*0.4*	
Excess Return			-0.4	-0.8	-1.5	-2.0	-8.7	-7.5	--	-7.6	

Performance shown is net of fees, except for Total Plan, Domestic Equity, and International Equity composites which have a mix of gross and net of fees performance. Please see the Addendum for more details.
Since inception date and performance begin in the month following an investments initial funding. Fiscal year begins on July 1. Please see Benchmark History section for custom benchmark compositions.

Asset Class & Manager Performance | As of February 29, 2024

	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
OPFRS Total Plan	**445,438,600**	**100.0**	**2.4**	**2.6**	**7.9**	**12.8**	**3.8**	**6.7**	**6.6**	**6.7**	**Dec-88**
OPFRS Policy Benchmark			*2.4*	*2.8*	*8.4*	*15.0*	*4.3*	*7.2*	*6.9*	*8.0*	
Excess Return			0.0	-0.2	-0.5	-2.2	-0.5	-0.5	-0.3	-1.3	
Domestic Equity	**190,477,195**	**42.8**	**4.7**	**5.1**	**13.2**	**20.4**	**8.1**	**12.0**	**10.9**	**9.1**	**Jun-97**
Russell 3000 (Blend)			*5.4*	*6.6*	*15.6*	*28.6*	*9.9*	*13.9*	*12.0*	*9.5*	
Excess Return			-0.7	-1.5	-2.4	-8.2	-1.8	-1.9	-1.1	-0.4	
Northern Trust Russell 1000	94,305,625	21.2	5.4	6.9	15.9	29.8	10.5	14.3	12.3	13.8	Jun-10
Russell 1000 Index			*5.4*	*6.9*	*15.9*	*29.8*	*10.7*	*14.4*	*12.4*	*13.9*	
Excess Return			0.0	0.0	0.0	0.0	-0.2	-0.1	-0.1	-0.1	
EARNEST Partners	41,584,534	9.3	3.9	3.1	10.9	12.5	6.6	12.0	11.1	9.5	Apr-06
Russell Midcap Index			*5.6*	*4.1*	*11.9*	*15.5*	*5.5*	*10.3*	*9.5*	*9.0*	
Excess Return			-1.7	-1.0	-1.0	-3.0	1.1	1.7	1.6	0.5	
Wellington Select Quality Equity	25,401,537	5.7	2.7	3.9	8.7	16.7	--	--	--	8.1	May-22
Russell 1000 Index			*5.4*	*6.9*	*15.9*	*29.8*	*10.7*	*14.4*	*12.4*	*13.7*	
Excess Return			-2.7	-3.0	-7.2	-13.1	--	--	--	-5.6	
Brown Fundamental Small Cap Value	13,030,895	2.9	2.9	1.5	15.5	11.7	--	--	--	6.8	Apr-21
Russell 2000 Value Index			*3.3*	*-1.4*	*10.3*	*5.6*	*2.5*	*6.6*	*6.5*	*0.8*	
Excess Return			-0.4	2.9	5.2	6.1	--	--	--	6.0	
Rice Hall James	16,154,605	3.6	6.9	5.2	9.4	10.0	-1.5	6.1	--	7.3	Aug-17
Russell 2000 Growth Index			*8.1*	*4.7*	*9.4*	*14.2*	*-4.6*	*6.5*	*7.3*	*7.7*	
Excess Return			-1.2	0.5	0.0	-4.2	3.1	-0.4	--	-0.4	

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Asset Class & Manager Performance | As of February 29, 2024

	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
International Equity	**58,249,804**	**13.1**	**3.4**	**3.3**	**10.4**	**17.2**	**4.0**	**7.1**	**5.2**	**5.5**	**Jan-98**
MSCI ACWI ex US (Blend)			*2.5*	*1.5*	*7.2*	*12.5*	*1.3*	*5.4*	*4.0*	*5.2*	
Excess Return			0.9	1.8	3.2	4.7	2.7	1.7	1.2	0.3	
Vanguard Developed Markets ETF	16,301,228	3.7	2.7	1.6	7.5	13.9	3.7	--	--	7.6	Sep-19
FTSE Developed All Cap ex-U.S. Index			*1.8*	*1.4*	*8.1*	*13.8*	*3.8*	*7.0*	*4.8*	*7.8*	
Excess Return			0.9	0.2	-0.6	0.1	-0.1	--	--	-0.2	
SGA ACWI ex-U.S. Equity	41,948,576	9.4	3.6	3.9	11.5	19.0	4.1	--	--	5.2	Dec-19
MSCI AC World ex USA (Net)			*2.5*	*1.5*	*7.2*	*12.5*	*1.3*	*5.4*	*4.0*	*4.9*	
Excess Return			1.1	2.4	4.3	6.5	2.8	--	--	0.3	
Fixed Income	**106,620,856**	**23.9**	**-1.3**	**-1.3**	**1.9**	**3.6**	**-2.6**	**0.9**	**1.9**	**4.4**	**Jan-94**
Bloomberg Universal (Blend)			*-1.2*	*-1.4*	*2.3*	*4.1*	*-2.8*	*0.8*	*1.7*	*4.5*	
Excess Return			-0.1	0.1	-0.4	-0.5	0.2	0.1	0.2	-0.1	
Ramirez	72,345,424	16.2	-1.3	-1.3	1.9	3.4	-2.7	0.9	--	1.5	Jan-17
Blmbg. U.S. Aggregate Index			*-1.4*	*-1.7*	*1.6*	*3.3*	*-3.2*	*0.6*	*1.4*	*1.0*	
Excess Return			0.1	0.4	0.3	0.1	0.5	0.3	--	0.5	
Wellington Core Bond	6,909,762	1.6	-1.2	-1.2	2.7	4.6	--	--	--	-2.8	Apr-21
Blmbg. U.S. Aggregate Index			*-1.4*	*-1.7*	*1.6*	*3.3*	*-3.2*	*0.6*	*1.4*	*-2.8*	
Excess Return			0.2	0.5	1.1	1.3	--	--	--	0.0	
Reams	27,365,670	6.1	-1.2	-1.4	1.8	3.9	-2.3	3.2	2.8	4.8	Feb-98
Bloomberg Universal (Blend)			*-1.2*	*-1.4*	*2.3*	*4.1*	*-2.8*	*0.8*	*1.7*	*4.1*	
Excess Return			0.0	0.0	-0.5	-0.2	0.5	2.4	1.1	0.7	

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	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
Credit	**9,831,585**	**2.2**	**0.5**	**1.4**	**6.9**	**10.1**	**3.7**	**4.4**	**--**	**5.0**	**Feb-15**
Blmbg. U.S. Corp: High Yield Index			*0.3*	*0.3*	*8.0*	*11.0*	*1.8*	*4.2*	*4.3*	*4.7*	
Excess Return			0.2	1.1	-1.1	-0.9	1.9	0.2	--	0.3	
Polen Capital	9,831,585	2.2	0.5	1.4	6.9	10.1	3.7	4.4	--	5.0	Feb-15
ICE BofA High Yield Master II			*0.3*	*0.3*	*8.0*	*11.0*	*1.9*	*4.0*	*4.3*	*4.7*	
Excess Return			0.2	1.1	-1.1	-0.9	1.8	0.4	--	0.3	
Covered Calls	**24,801,925**	**5.6**	**2.8**	**4.2**	**9.8**	**21.3**	**10.0**	**11.3**	**--**	**9.3**	**Apr-14**
CBOE S&P 500 Buy Write Index			*1.9*	*3.7*	*5.0*	*11.5*	*7.0*	*6.0*	*5.8*	*5.8*	
Excess Return			0.9	0.5	4.8	9.8	3.0	5.3	--	3.5	
Parametric BXM	12,105,012	2.7	2.2	3.8	7.9	17.2	8.2	8.5	--	7.4	Apr-14
CBOE S&P 500 Buy Write Index			*1.9*	*3.7*	*5.0*	*11.5*	*7.0*	*6.0*	*5.8*	*5.8*	
Excess Return			0.3	0.1	2.9	5.7	1.2	2.5	--	1.6	
Parametric DeltaShift	12,696,913	2.9	3.3	4.7	11.8	25.4	11.6	13.9	--	11.4	Apr-14
CBOE S&P 500 Buy Write Index			*1.9*	*3.7*	*5.0*	*11.5*	*7.0*	*6.0*	*5.8*	*5.8*	
Excess Return			1.4	1.0	6.8	13.9	4.6	7.9	--	5.6	

Performance shown is net of fees. Since inception date and performance begin in the month following an investments initial funding. Fiscal year begins on July 1. Please see the Benchmark History for custom benchmark compositions.

Asset Class & Manager Performance | As of February 29, 2024

	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
Crisis Risk Offset	**40,034,891**	**9.0**	**1.3**	**1.5**	**0.5**	**1.3**	**-3.0**	**-7.1**	**--**	**-7.2**	**Aug-18**
Crisis Risk Offset Benchmark			*1.7*	*2.3*	*2.0*	*3.3*	*5.7*	*0.4*	*--*	*0.4*	
Excess Return			-0.4	-0.8	-1.5	-2.0	-8.7	-7.5	--	-7.6	
Kepos Alternative Risk Premia	11,564,437	2.6	2.8	6.2	10.4	13.1	--	--	--	7.2	Feb-22
SG Multi Alternative Risk Premia Index			*0.8*	*3.7*	*6.6*	*7.9*	*7.5*	*1.5*	*--*	*6.8*	
Excess Return			2.0	2.5	3.8	5.2	--	--	--	0.4	
Versor Trend Following	15,382,261	3.5	3.5	3.3	-1.1	-2.2	--	--	--	1.3	Apr-22
SG Trend Index			*6.5*	*7.8*	*3.2*	*2.8*	*11.7*	*11.3*	*6.2*	*6.0*	
Excess Return			-3.0	-4.5	-4.3	-5.0	--	--	--	-4.7	
Vanguard Long-Term Treasury ETF	13,088,193	2.9	-2.3	-4.1	-5.1	-3.4	-10.1	--	--	-4.6	Jul-19
Blmbg. U.S. Gov Long Index			*-2.3*	*-4.4*	*-5.0*	*-2.8*	*-9.9*	*-2.0*	*1.2*	*-4.4*	
Excess Return			0.0	0.3	-0.1	-0.6	-0.2	--	--	-0.2	
Cash	**15,422,343**	**3.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**	**0.7**	**0.5**	**Mar-11**

Performance shown is net of fees. Since inception date and performance begin in the month following an investments initial funding. Fiscal year begins on July 1. Please see the Benchmark History for custom benchmark compositions.
Versor Trend Following's market value is estimated using the manager return due to statement availability.

Cash Flow Summary
Month to Date

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Northern Trust Russell 1000	89,480,556	-	4,825,069	94,305,625
EARNEST Partners	40,982,252	-1,000,000	1,602,282	41,584,534
Wellington Select Quality Equity	24,728,360	-	673,177	25,401,537
Brown Fundamental Small Cap Value	12,661,004	-	369,891	13,030,895
Rice Hall James	15,101,023	-	1,053,582	16,154,605
Vanguard Developed Markets ETF	15,865,904	-	435,325	16,301,228
SGA ACWI ex-U.S. Equity	40,448,042	-	1,500,534	41,948,576
Ramirez	73,300,154	-	-954,729	72,345,424
Wellington Core Bond	6,990,373	-	-80,612	6,909,762
Reams	27,703,298	-	-337,628	27,365,670
Polen Capital	9,783,813	-	47,773	9,831,585
Parametric BXM	11,839,199	-	265,814	12,105,012
Parametric DeltaShift	12,289,741	-	407,172	12,696,913
Kepos Alternative Risk Premia	11,252,325	-	312,112	11,564,437
Versor Trend Following	14,858,122	-	524,139	15,382,261
Vanguard Long-Term Treasury ETF	13,441,868	-	-353,675	13,088,193
Cash - Money Market	5,076,456	90,887	-	5,167,343
Cash - Treasury	10,267,000	-12,000	-	10,255,000
Securities Lending Northern Trust	-	-14,784	14,784	-
OPFRS Total Plan	**436,069,490**	**-935,897**	**10,305,007**	**445,438,600**

Versor Trend Following's market value is estimated using the manager return due to statement availability.

Benchmark History

From Date	To Date	Benchmark
OPFRS Total Plan		
06/01/2022	Present	40.0% Russell 3000 Index, 12.0% MSCI AC World ex USA (Net), 31.0% Blmbg. US Universal Index, 2.0% Blmbg. US Corp: High Yield Index, 5.0% CBOE S&P 500 Buy Write Index, 10.0% Crisis Risk Offset Benchmark
01/01/2019	06/01/2022	40.0% Russell 3000 Index, 12.0% MSCI AC World ex USA index, 31.0% Blmbg. US Universal Index, 5.0% CBOE S&P 500 Buy Write Index, 2.0% Blmbg. US Treasury: Long, 10.0% Crisis Risk Offset Benchmark
05/01/2016	01/01/2019	48.0% Russell 3000 Index, 12.0% MSCI AC World ex USA index, 20.0% Blmbg. US Universal Index, 20.0% CBOE BXM
10/01/2015	05/01/2016	43.0% Russell 3000 Index, 12.0% MSCI AC World ex USA index, 20.0% Blmbg. US Universal Index, 15.0% CBOE BXM, 10.0% CPI - All Urban Consumers (unadjusted) +3%
01/01/2014	10/01/2015	48.0% Russell 3000 Index, 12.0% MSCI AC World ex USA index, 20.0% Blmbg. US Universal Index, 10.0% CBOE BXM, 10.0% CPI - All Urban Consumers (unadjusted) +3%
03/01/2013	01/01/2014	40.0% Russell 3000 Index, 10.0% MSCI AC World ex USA index, 17.0% Blmbg. US Universal Index, 33.0% ICE BofA 3 Month US T-Bill
08/01/2012	03/01/2013	20.0% Russell 3000 Index, 7.0% MSCI AC World ex USA index, 18.0% Blmbg. U.S. Universal Index, 55.0% ICE BofA 3 Month US T-Bill
10/01/2007	08/01/2012	53.0% Russell 3000 Index, 17.0% MSCI AC World ex USA index, 30.0% Blmbg. US Universal Index
04/01/2006	10/01/2007	35.0% Russell 3000 Index, 15.0% MSCI AC World ex USA index, 50.0% Blmbg. US Universal Index
01/01/2005	04/01/2006	35.0% Russell 3000 Index, 50.0% Blmbg. U.S. Aggregate Index, 15.0% MSCI AC World ex USA index
04/01/1998	01/01/2005	20.0% Russell 1000 Value Index, 10.0% Russell 1000 Index, 5.0% Russell Midcap Index, 50.0% Blmbg. US Aggregate Index, 15.0% MSCI EAFE (Net)
09/01/1988	04/01/1998	40.0% S&P 500 Index, 55.0% Blmbg. US Aggregate Index, 5.0% FTSE 3 Month T-Bill

Benchmark History

From Date	To Date	Benchmark
Domestic Equity		
01/01/2005	Present	100.0% Russell 3000 Index
04/01/1998	01/01/2005	57.1% Russell 1000 Value Index, 28.6% Russell 1000 Index, 14.3% Russell Midcap Index
09/01/1988	04/01/1998	100.0% S&P 500 Index
International Equity		
01/01/2005	Present	100.0% MSCI AC World ex USA (Net)
01/01/1998	01/01/2005	100.0% MSCI EAFE Index
Fixed Income		
04/01/2006	Present	100.0% Blmbg. US Universal Index
01/01/1976	04/01/2006	100.0% Blmbg. US Aggregate Index
Covered Calls		
04/01/2014	Present	CBOE S&P 500 Buy Write Index
Crisis Risk Offset		
01/01/2023	Present	33.3% SG Trend Index, 33.3% SG Multi Alternative Risk Premia Index, 33.3% Blmbg. US Government: Long Term Bond Index
08/01/2018	01/01/2023	100.0% SG Multi Alternative Risk Premia Index
Cash		
03/01/2011	Present	FTSE 3 Month T-Bill

Additional Information

Performance Return Types: Performance shown is net of fees, except for OPFRS Total Plan, Domestic Equity, and International Equity Composites, which have a mix of gross and net of fees performance. Performance shown for OPFRS Total Plan and International Equity composite is gross of fees prior to January 2016. Performance shown for Domestic Equity composite is gross of fees prior to January 2017.

Inception Date: Since inception date and performance begin in the month following an investments initial funding.

Fiscal Year: Fiscal year begins on July 1.

Fair Value Pricing Methodology: Though Vanguard Developed Markets ETF is a passive strategy, short-term performance may appear to diverge from the index it tracks more than would be expected. This is due to Fair Value Pricing (FVP) adjustments that address the pricing discrepancies that may arise from time-zone differences among global securities markets. The resulting temporary divergence is expected to correct itself when the foreign markets reopen.

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MEKETA

Oakland Police and Fire Retirement System

March 27, 2024

Recommendation for Apr to Jun 2024 Cash Flows

Asset Class / Manager Liquidity

Asset Class	Fund	Liquidity Tier
Domestic Equity	Northern Trust Russell 1000	1
Domestic Equity	EARNEST Partners	3
Domestic Equity	Wellington Select Quality Equity	3
Domestic Equity	Rice Hall James	3
Domestic Equity	Brown Small Cap Value	3
International Equity	SGA MSCI ACWI ex-US	3
International Equity	Vanguard Developed ETF	1
Domestic Fixed Income	Ramirez	2
Domestic Fixed Income	Reams	2
Domestic Fixed Income	Wellington Core Bond	3
Credit	Polen Capital High Yield	2
Covered Calls	Parametric	2
Crisis Risk Offset	Vanguard Long Duration ETF	1
Crisis Risk Offset	Versor Trend Following	3
Crisis Risk Offset	Kepos Alternative Risk Premia	3
Cash	Cash	1

Description of Liquidity Tiers

Tier	Description	Market Value ($M)	In Months[1]
1	Public, Scheduled Withdrawal Allowances	139.1	23.2
2	Public, Accommodating of Withdrawals	134.3	22.4
3	Public, Must Plan Withdrawals	172.0	28.7
4	Closely Held	0.0	---
	Total	**445.4**	

[1] Illustrates Liquidity in Months assuming a net outflow of $6 million per month; that is, the illustrated figure demonstrates the number of months it would take to withdraw $6 million per month from each liquidity tier.

Oakland PFRS Asset Allocation as of February 29, 2024[1]

	Market Value		Target	Variance		Actual Cash Flows for Jan – Mar Benefits		Suggested Cash Flows for Apr – Jun Benefits[1]	
						Inflow	Outflow	Inflow	Outflow
	($M)	(%)	(%)	($M)	(%)	($M)	($M)	($M)	($M)
Northern Trust Russell 1000	94.3	21.2%	20.0%	5.2	1.2%	--	--	--	--
EARNEST Partners	41.6	9.3%	8.0%	5.9	1.3%	--	(3.0)	--	--
Wellington Select Quality Equity	25.4	5.7%	6.0%	(1.3)	(0.3%)	--	--	--	--
Rice Hall James	16.2	3.6%	3.0%	2.8	0.6%	--	--	--	--
Brown Small Cap Value	13.0	2.9%	3.0%	(0.3)	(0.1%)	--	--	--	--
Total Domestic Equity	**190.5**	**42.8%**	**40.0%**	**12.3**	**2.8%**	**--**	**(3.0)**	**--**	**--**
SGA MSCI ACWI ex-US	41.9	9.4%	8.4%	4.5	1.0%	--	--	--	--
Vanguard Developed ETF (BlackRock)[2]	16.3	3.7%	3.6%	0.3	0.1%	--	--	--	--
Total International Equity	**58.2**	**13.1%**	**12.0%**	**4.8**	**1.1%**	**--**	**--**	**--**	**--**
Total Public Equity[3]	**248.7**	**55.8%**	**52.0%**	**17.1**	**3.8%**	**--**	**(3.0)**	**--**	**--**
Parametric	24.8	5.6%	5.0%	2.5	0.6%	--	--	--	(3.0)
Total Covered Calls	**24.8**	**5.6%**	**5.0%**	**2.5**	**0.6%**	**--**	**--**	**--**	**(3.0)**
Long Duration ETF (BlackRock)[2]	13.1	2.9%	3.3%	(1.8)	(0.4%)	--	--	--	--
Versor Trend Following	15.4	3.5%	3.3%	0.7	0.2%	--	--	--	--
Kepos Alternative Risk Premia	11.6	2.6%	3.3%	(3.1)	(0.7%)	--	--	--	--
Total Crisis Risk Offset	**40.0**	**9.0%**	**10.0%**	**(4.5)**	**(1.0%)**	**--**	**--**	**--**	**--**
Ramirez	72.3	16.2%	17.0%	(3.4)	(0.8%)	--	--	--	--
Reams	27.4	6.1%	12.0%	(26.1)	(5.9%)	--	--	--	--
Wellington Core Bond	6.9	1.6%	2.0%	(2.0)	(0.4%)	--	--	--	--
Polen Capital High Yield	9.8	2.2%	2.0%	0.9	0.2%	--	--	--	--
Total Public Fixed Income	**116.5**	**26.1%**	**33.0%**	**(30.5)**	**(6.9%)**	**--**	**--**	**--**	**--**
Cash	15.4	3.5%	0.0%	15.4	3.5%	10.2	(10.2)	10.2	(10.2)
Total Stable[3]	**131.9**	**29.6%**	**33.0%**	**(15.1)**	**(3.4%)**	**10.2**	**(10.2)**	**10.2**	**(10.2)**
Total Portfolio	**445.4**	**100.0%**	**100.0%**	**--**	**--**	**10.2**	**(13.2)**	**10.2**	**(13.2)**

[1] Benefit payments estimated at $13.2 million quarterly for FYE2024 per OPFRS. The report reflects estimated quarterly contributions from the City of $10.2 million for FYE2024, estimated based on prior fiscal year's actuarial valuations; the annual required contribution for FYE2024 is $40.8 million. Benefits are payable on first of each month. The targets reflect the incumbent targets adopted in 2019 pending the Board's resolution to adopt the recommendations from 2024 Asset Liability Study.

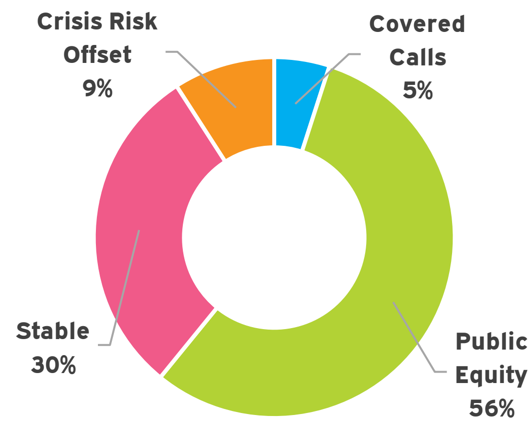
[2] Manager names in parentheses indicates selected, yet unfunded managers for replacement.

[3] Public Equity is the sum of Domestic Equity and International Equity; Stable is the sum of Public Fixed Income and Cash.

Market Value by Portfolio Segment Before Cash Flows

Portfolio Segment	Market Value ($M)
Domestic Equity	190.5
International Equity	58.2
Public Equity[1]	248.7
Covered Calls	24.8
Crisis Risk Offset	40.0
Public Fixed Income	116.5
Stable[1]	131.9
Total Portfolio	**445.4**

Projected Equity to Fixed Income Allocation After Cash Flows



Suggested Cash Withdrawals

Portfolio Segment	Market Value ($M)
Cash in Treasury	10.2
Parametric	3.0
Total Withdrawal	**13.2**

→ Market value difference in Public Equity from 52% allocation: -$17.2 million underweight.

[1] Public Equity is the sum of Domestic Equity and International Equity; Stable is the sum of Public Fixed Income and Cash (not shown on this page).

Projected OPFRS Asset Allocation as of June 30, 2024[1]

	Estimated Market Value ($M)	Estimated Market Value (%)	Target (%)	Projected Variance from Target ($M)	Projected Variance from Target (%)
Northern Trust Russell 1000	94.3	21.5%	20.0%	6.4	1.5%
EARNEST Partners	38.6	8.8%	6.0%	12.2	2.8%
Wellington Select Quality Equity	25.4	5.8%	8.0%	(9.8)	(2.2%)
Rice Hall James	16.2	3.7%	3.0%	3.0	0.7%
Brown Small Cap Value	13.0	3.0%	3.0%	(0.2)	(0.0%)
Total Domestic Equity	**187.5**	**42.7%**	**40.0%**	**11.7**	**2.7%**
SGA MSCI ACWI ex-US	41.9	9.5%	3.6%	26.1	5.9%
Vanguard Developed Markets ETF	16.3	3.7%	8.4%	(20.6)	(4.7%)
Total International Equity	**58.2**	**13.3%**	**12.0%**	**5.5**	**1.3%**
Total Public Equity	**245.7**	**55.9%**	**52.0%**	**17.2**	**3.9%**
Parametric	21.8	5.0%	5.0%	(0.2)	(0.0%)
Total Covered Calls	**21.8**	**5.0%**	**5.0%**	**(0.2)**	**(0.0%)**
Vanguard Long Duration ETF	13.1	3.0%	3.3%	(1.6)	(0.4%)
Versor Trend Following	15.4	3.5%	3.3%	0.7	0.2%
Kepos Alternative Risk Premia	11.6	2.6%	3.3%	(3.1)	(0.7%)
Total Crisis Risk Offset	**40.0**	**9.1%**	**10.0%**	**(3.9)**	**(0.9%)**
Ramirez	72.3	16.5%	12.0%	19.6	4.5%
Reams	27.4	6.2%	2.0%	18.6	4.2%
Wellington Core Bond	6.9	1.6%	19.0%	(76.6)	(17.4%)
Polen Capital High Yield	9.8	2.2%	2.0%	1.0	0.2%
Total Public Fixed Income	**116.5**	**26.5%**	**35.0%**	**(37.4)**	**(8.5%)**
Cash	15.4	3.5%	0.0%	15.4	3.5%
Total Stable	**131.9**	**30.0%**	**33.0%**	**(13.1)**	**(3.0%)**
Total Portfolio	**439.4**	**100.0%**	**100.0%**	**---**	**---**

[1] Benefit payments estimated at $13.2M on a quarterly basis per OPFRS. Report reflects quarterly City contributions of $10.2M. The City's current quarterly contribution amount is based on FYE2024 actuarial annual required contribution of $40.8M.

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MEKETA

Oakland Police and Fire Retirement System

March 27, 2024

2024 Capital Markets Expectations

Table of Contents

Executive Summary

Executive Summary

→ We update our capital markets expectations each year in January.

- Changes are driven by many factors, including interest rates, credit spreads, cap rates, and equity prices.

→ 2023 was a volatile year for most investors, but ultimately most asset classes experienced positive returns, including double-digit gains for many risky assets.

→ With the notable exception of China's markets, global bond and equity markets rallied at the end of the year, posting strong gains as inflation pressures eased and central banks appeared to be turning away from tightening policies.

- Despite short-term interest rates climbing, the yield on most Treasury bonds finished the year near where they started it.
- Credit spreads tightened, especially for lower quality credit such as high yield. The result is lower expected returns for many credit-oriented assets.
- Most equity markets rallied in 2023, generally at a much faster pace than the gain in earnings. Hence many equity markets were trading at higher valuations at year-end, thus reducing their forward-looking returns.

→ Our 10-year CMEs continue to be lower than our 20-year CMEs for the vast majority of asset classes, partly due to a higher assumed "risk-free" rate in the future.

→ The net result is a meaningful decrease in return assumptions for most assets over the 10-year horizon, with much more mixed and modest changes at the 20-year horizon.

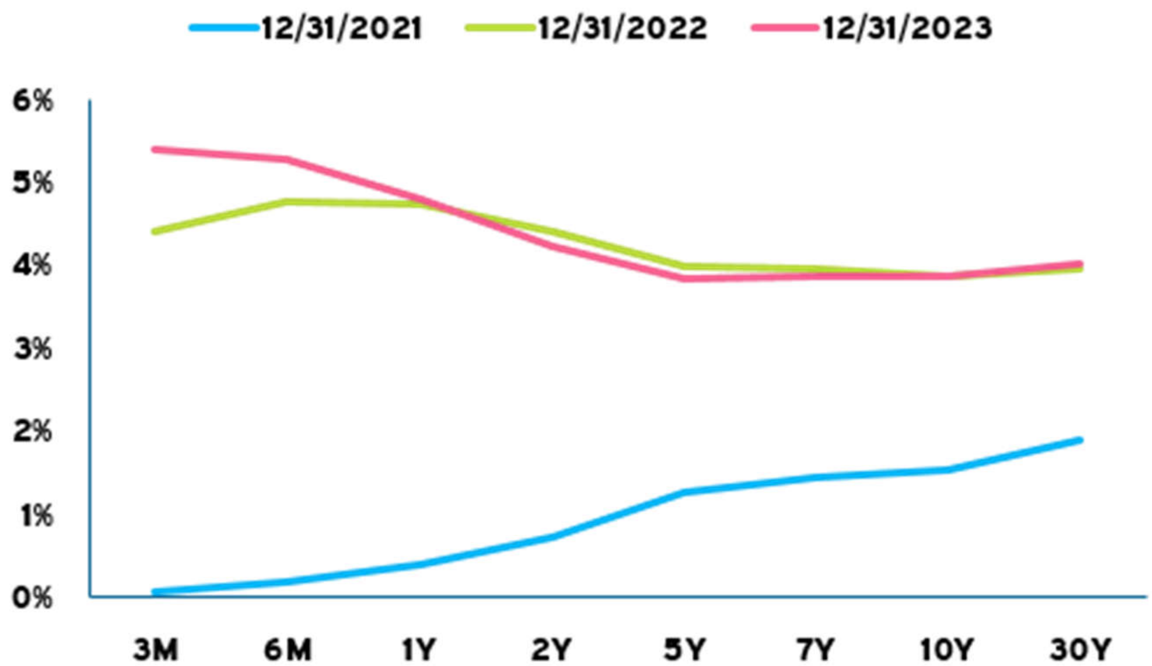
Market Overview

Rising Interest Rates

→ Except for the short end of the curve, the US Treasury yield curve was little changed in 2023 from where it began the year.

→ The market expects the Federal Reserve to reverse course and start lowering short-term rates in 2024, believing that the actions taken thus far to fight inflation have been sufficient.

US Yield Curve



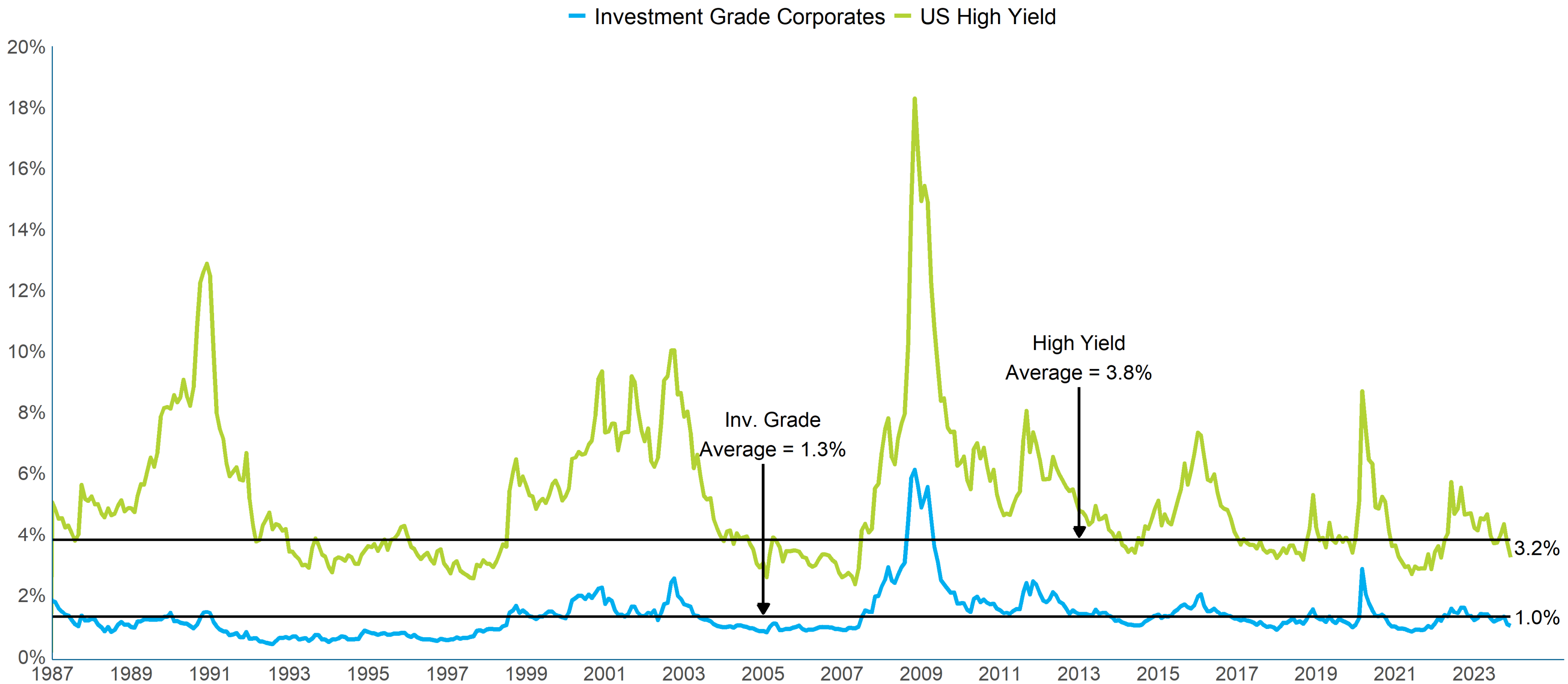
Source: Bloomberg. Data is as of December 31, 2023.

Narrower Credit Spreads

→ Credit spreads tightened slightly in 2023, though they remain close to their long-term averages.

- Lower quality credit spreads experienced a more substantial tightening. The spread for high yield bonds declined from 469 bp to 323 bp.

US Investment Grade and High Yield Credit Spreads



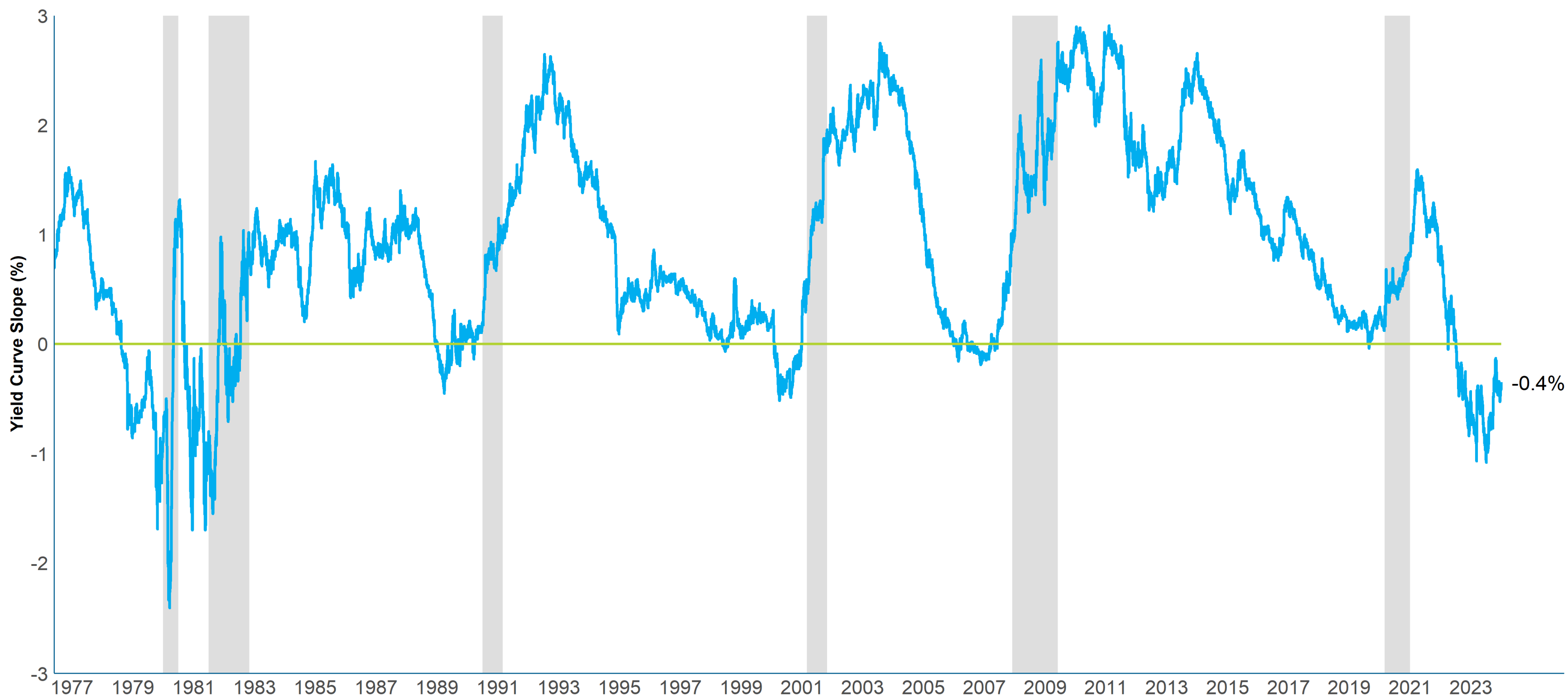
Source: Bloomberg. High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index. Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year US Treasury yield. Data is as of December 31, 2023.

Inverted Yield Curve

→ The yield curve began the year in inverted territory, and it remained there throughout the year.

- The 2-10 spread has not been inverted for such an extended period in over forty years.

Yield Curve Slope (Ten Minus Two)



Source: FRED. Yield curve slope is calculated as the difference between the 10-Year US Treasury Yield and 2-Year US Treasury Yield. Data is as of December 31, 2023.

Similar or Lower Yields

→ Short-term interest rates are higher than one year ago, while the 10-year Treasury yield ended the year where it started it.

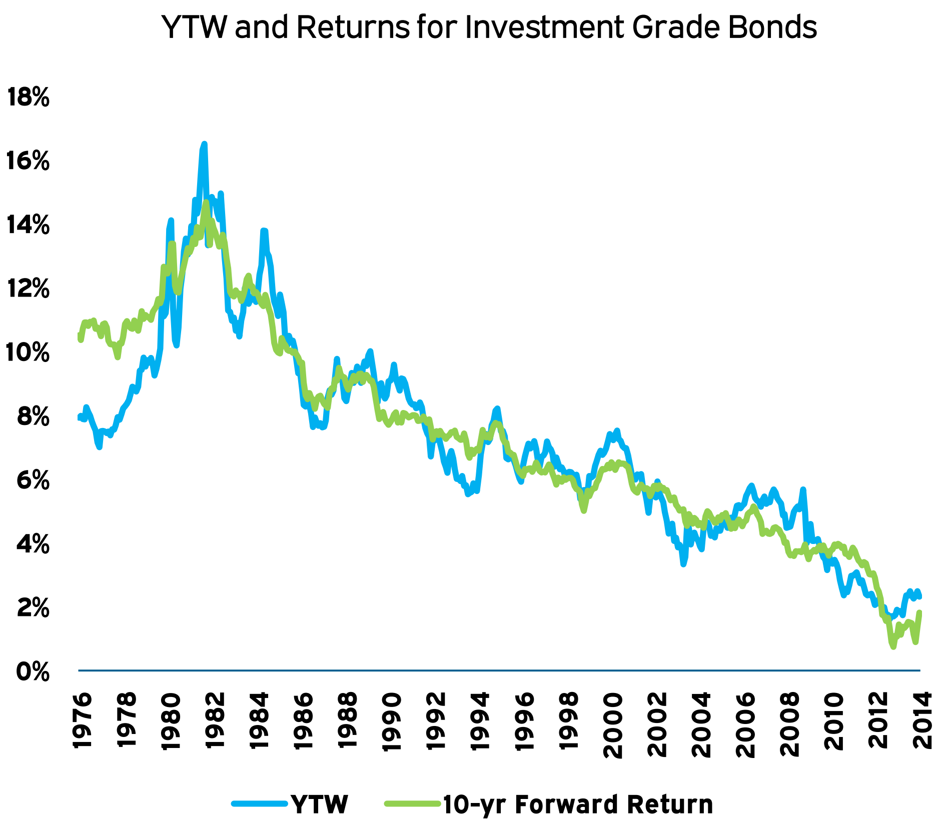
→ Similar levels of interest rates combined with tighter credit spreads to result in slightly lower yields for most sectors of the global bond market.

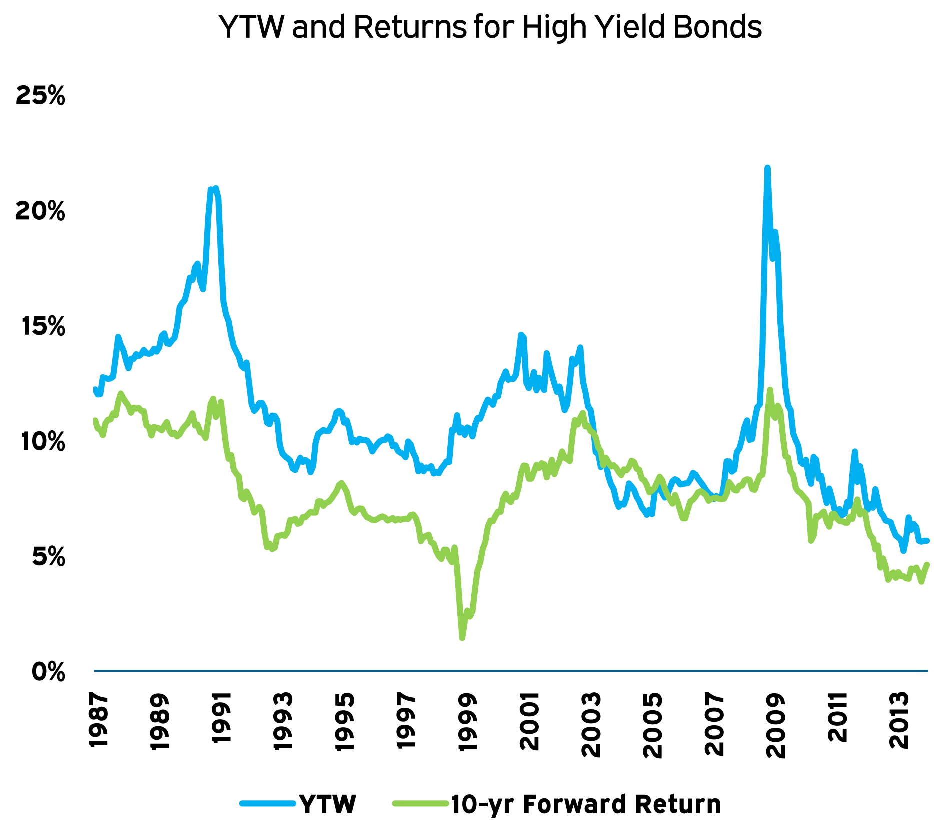
Index	Yield to Worst 12/31/23 (%)	Yield to Worst 12/31/22 (%)
Fed Funds Rate	5.25-5.50	4.25-4.50
10-year Treasury	3.88	3.88
Bloomberg Aggregate	4.53	4.68
Bloomberg Corporate	5.06	5.42
Bloomberg Securitized	4.72	4.75
Bloomberg Global Aggregate	3.51	3.73
Bloomberg EM Local Currency Government	4.08	4.42
Bloomberg EM Hard Currency Aggregate	6.77	7.26
Bloomberg US Corporate High Yield	7.59	8.96

Source: Bloomberg. Data is as of December 31, 2023 and December 31, 2022.

Yields Drive Future Returns

→ Changes in interest rates matter because yields are a very good predictor of future returns for bonds[1], at least over a 10-year horizon.





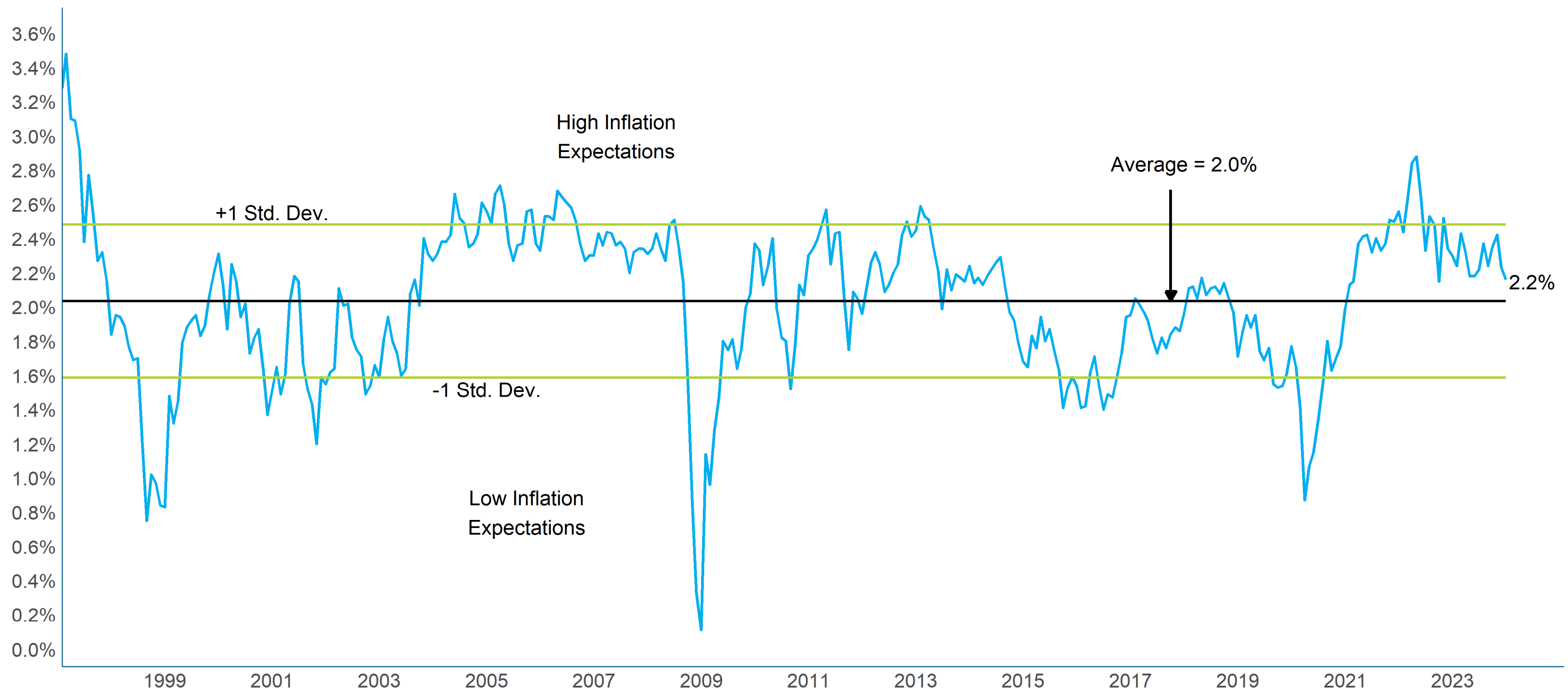
[1] When predicting returns for bonds, default risk should also be taken into account. For example, defaults are why the return for high yield bonds have generally been below the starting yield.
Source: Bloomberg Aggregate and Bloomberg High yield indices. Data is as of December 31, 2023.

Slightly Lower Inflation Expectations

→ After substantial changes in inflation expectations in recent years, the market's expectations for inflation were little changed at the end of 2023.

- The 10-year BEI rate dropped from 2.3% to 2.2%. The 5-year BEI was slightly lower, at 2.1%.

Ten-Year Breakeven Inflation



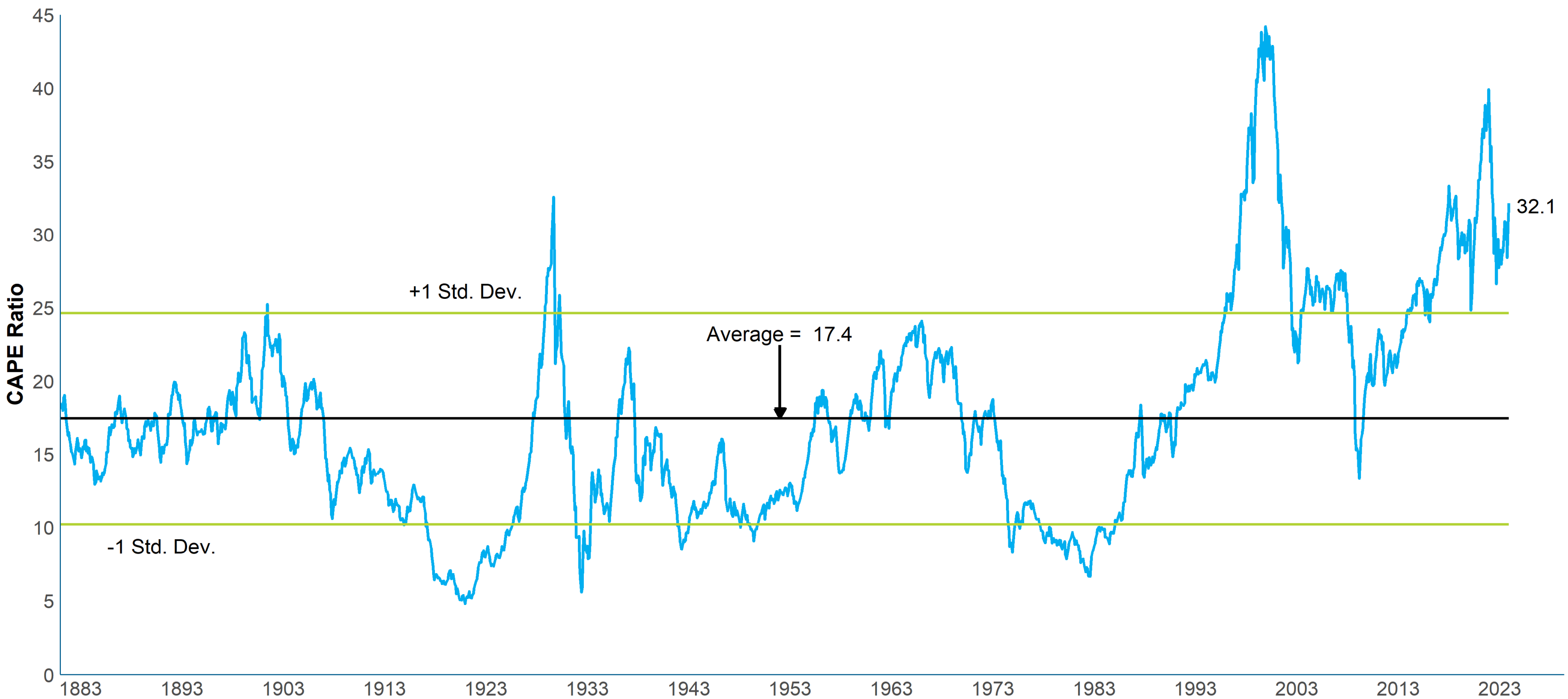
Source: US Treasury and Federal Reserve. Inflation is measured by the Consumer Price Index (CPI-U NSA). Data is as of December 31, 2023.

Higher Prices for US Equities

→ US stocks had a very good year, with the S&P 500 index gaining 26.3%.

→ Valuations increased and remain elevated relative to their long-term history, though they are much nearer their average for the past 30 years.

US Equity Cyclically Adjusted P/E



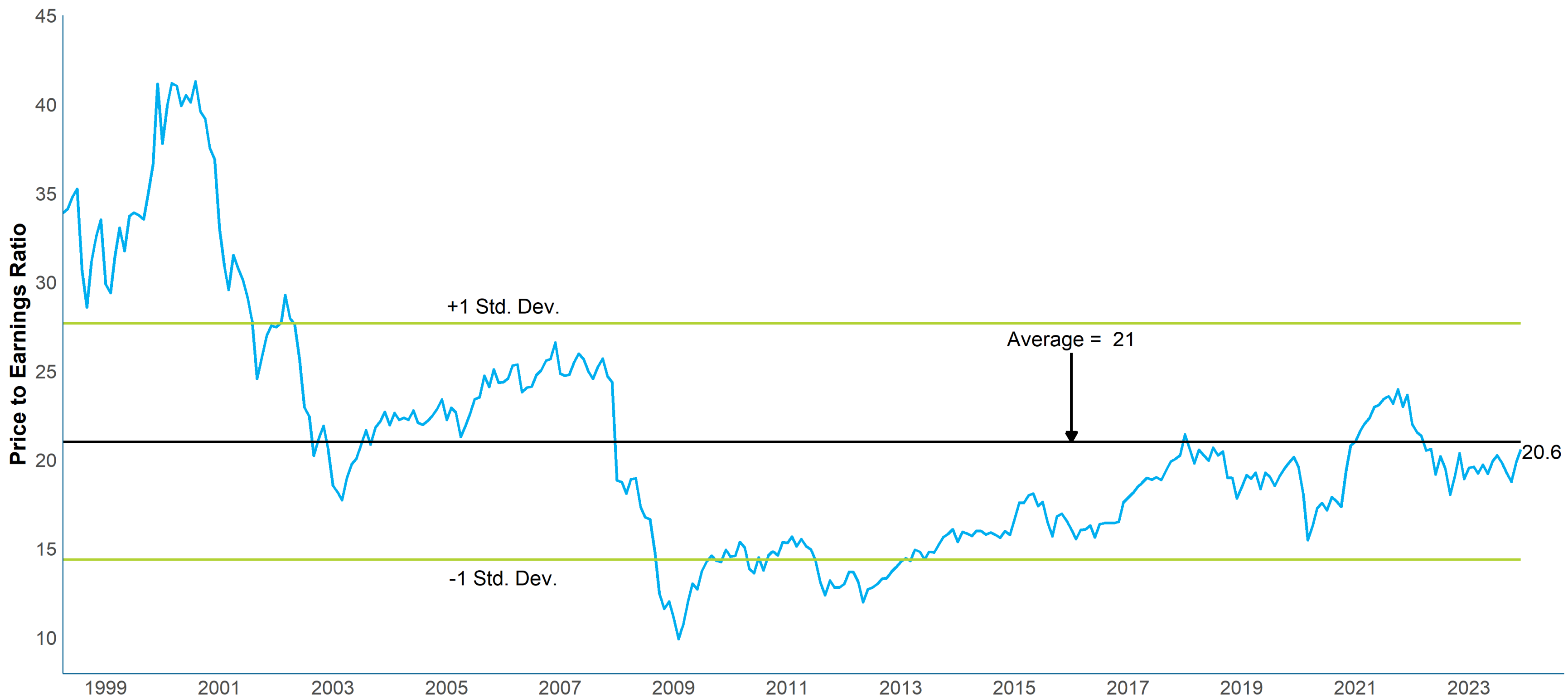
Source: Robert Shiller, Yale University, and Meketa Investment Group. Data is as of December 31, 2023 for the S&P 500 Index.

Slightly Higher Prices in Non-US Equities, too

→ EAFE equities gained 18.2% in USD terms in 2023, benefiting slightly from a currency tailwind.

→ Despite increasing from one year ago, EAFE valuations remain close to their 25-year historical average.

Developed International Equity Cyclically Adjusted P/E



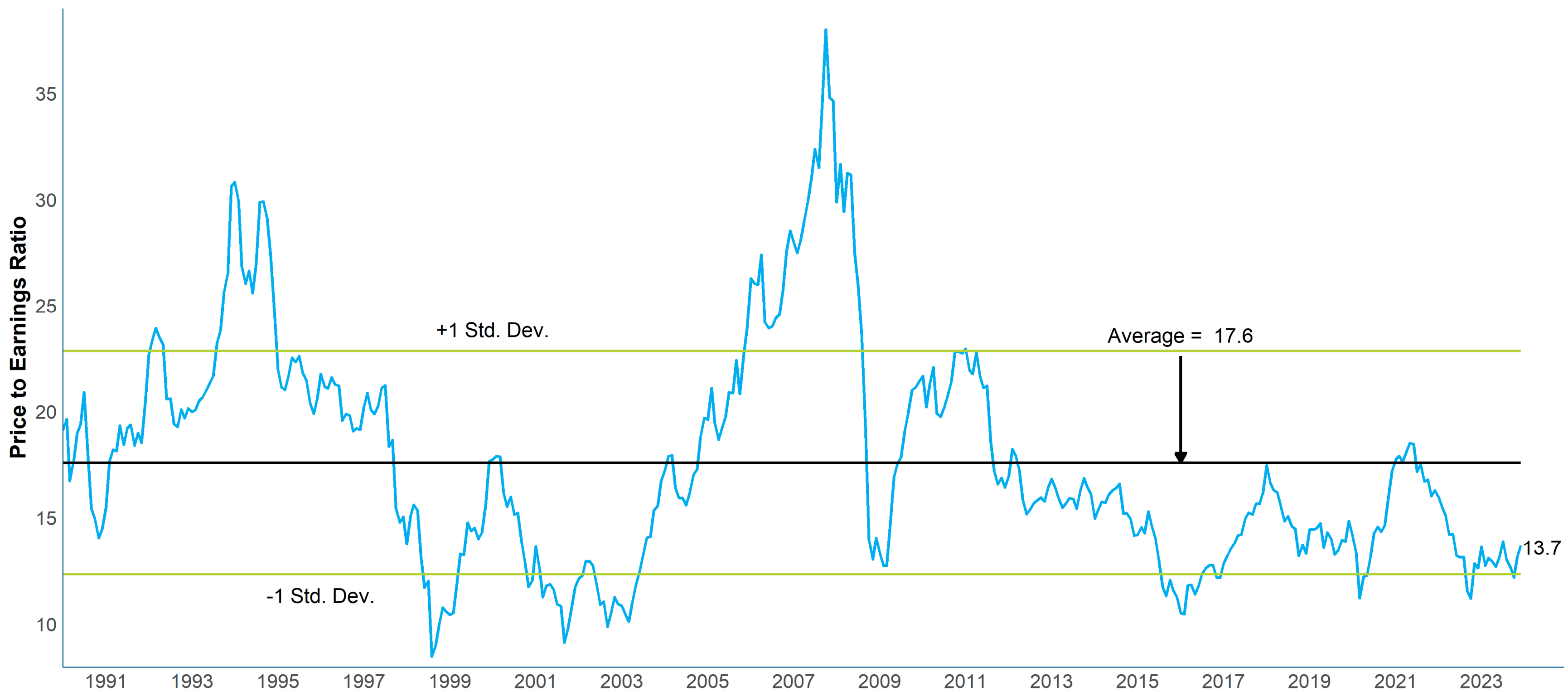
Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of December 31, 2023.

And Slightly Higher Prices in Emerging Market Equities

→ Emerging market equities gained 9.8% in 2023, despite Chinese equities declining 11.2%.

→ EM equity valuations remain well below their long-term average, though there is a significant difference between EM ex-China and China valuations.

Emerging Market Equity Cyclically Adjusted P/E



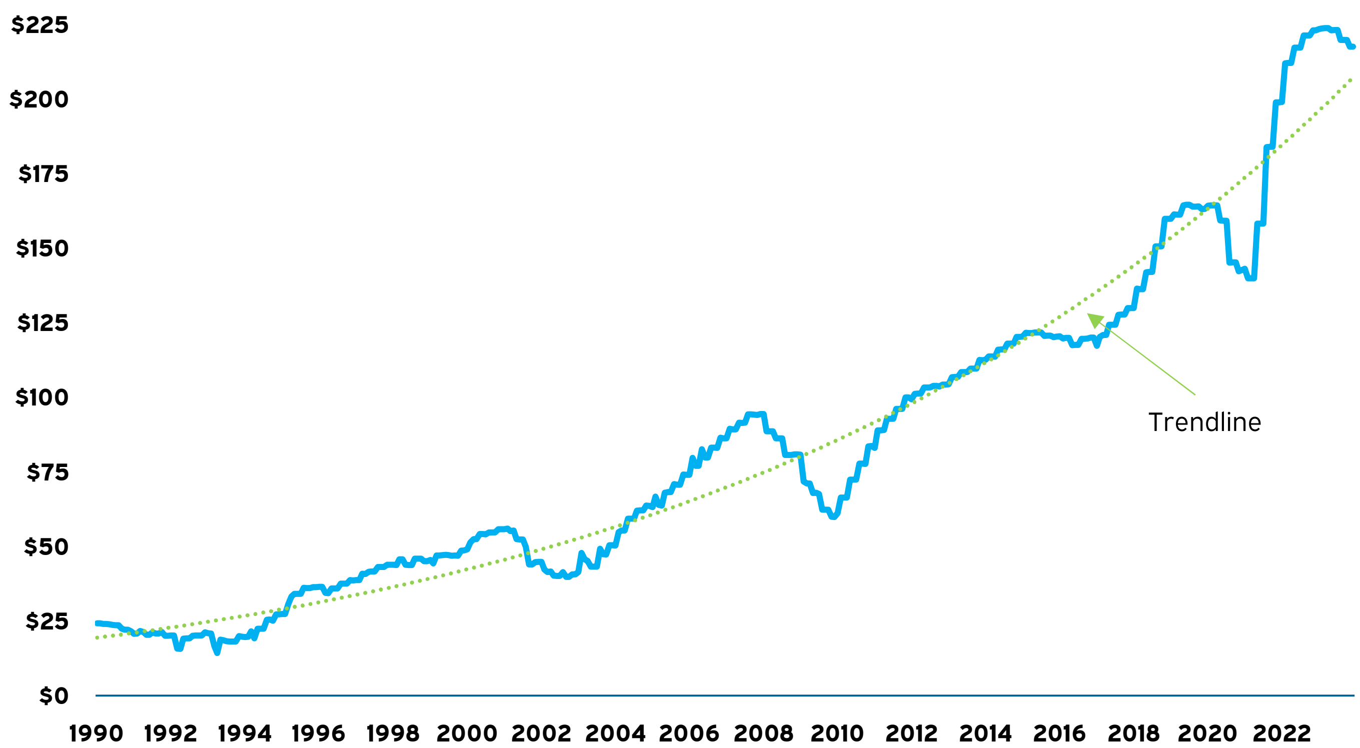
Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years.. Data is as of December 31, 2023.

US Earnings Growth

→ S&P 500 earnings (EPS) growth was relatively flat for the year.

- EPS peaked in 2q23 and appears to have declined slightly since.

S&P 500 Earnings Per Share



Source: S&P 500 Index data from Bloomberg. Represents trailing 12-month "as reported" earnings per share. Data is as of December 31, 2023.

The Link between Economic Growth and Expected Returns

→ We have long assumed that long-term earnings growth is linked to economic growth.

- However, either one can exceed the other.

	US Nominal GDP Growth Per Annum	US Corporate Earnings Growth Per Annum	S&P 500 EPS Growth Per Annum
Since 1990	4.8%	6.9%	6.8%
Since 2010	4.7%	5.2%	9.9%

→ Corporate profits can comprise a higher or lower share of the GDP pie.

- In the US, corporate profits have grown faster than the rest of the economy.

→ Net issuance vs buybacks affects EPS.

- In the US, net shareholder buybacks have resulted in EPS growing faster than earnings.

→ Intervention by the state & structural inefficiencies also affect earnings growth.

- The degree to which maximizing shareholder wealth is a primary motivation varies by market.
  - This can take many different forms, such as state-owned enterprises, state-controlled enterprises, and direct intervention by the state (see China).
- Corruption, graft, nepotism, lack of property rights or clear rule of law, can all affect the link between economic growth and earnings growth.

Source: Federal Reserve Economic Data, S&P. Corporate earnings defined as Corporate Profits After Tax (with IVA and CCAdj). Seasonally Adjusted Annual Rate for Nominal GDP. Data is as of September 30, 2023.

Earnings Growth

→ EPS has grown faster than earnings in the US in recent years, acting as a tailwind.

→ This is primarily due to companies using excess cash to buy back their shares.[1]

EPS with no change in shares	EPS with 2% reduction in shares
$1,578 bil / 10.5 mil shares	$1,578 bil / 10.3 mil shares
= $150.3 per share	= $153.2 per share

→ Over ten years, this can have a significant compounding effect.

EPS with 2% reduction in shares for ten years
$1,578 bil / 8.6 mil shares
= $183.9 per share[2]

→ Data shows that this trend is almost two decades long.[3]

→ This bucks the longer-term trend (still common in non-US markets) of companies being net issuers of shares.

[1] Buying back shares reduces the denominator in the Earnings per Share equation, thus increasing the result of the calculation. The example shown is illustrative.
[2] Throughout this document, numbers may not sum due to rounding
[3] Source: Yardeni research

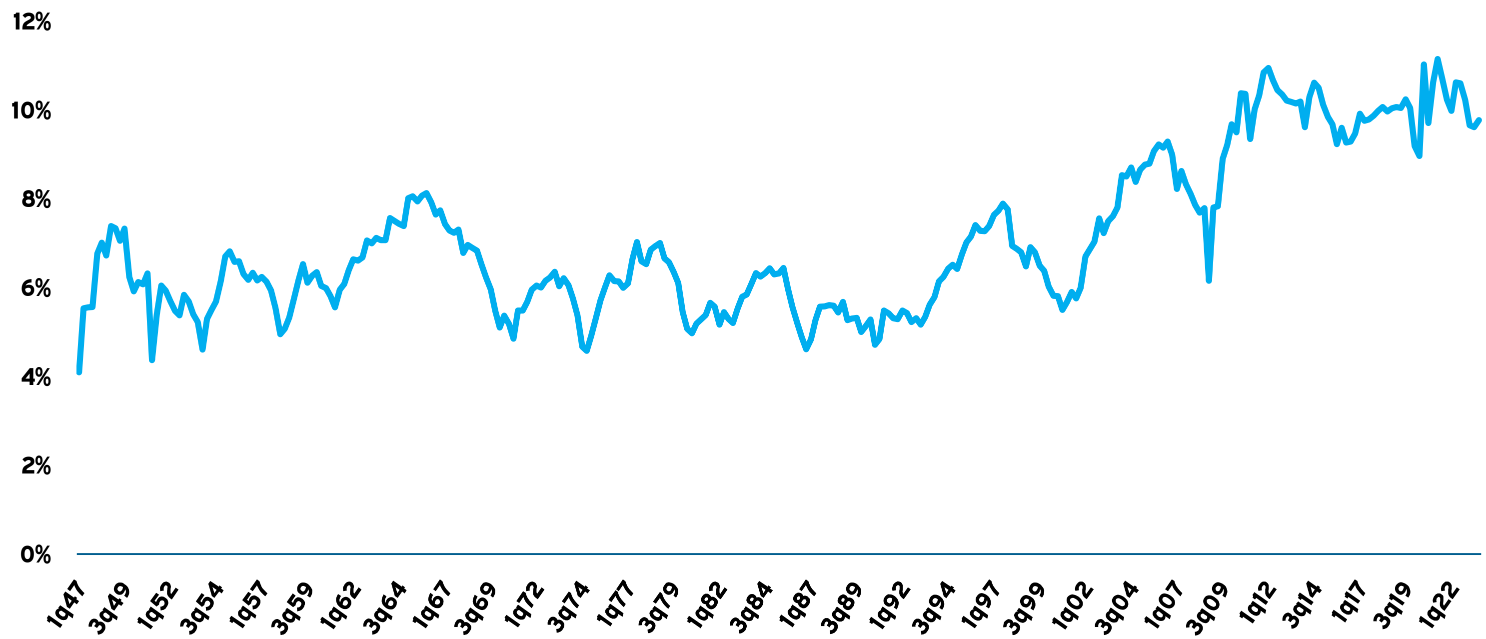
US Profitability

→ The strong post-2000 growth in US earnings is linked in part to profits consuming a greater proportion of the economic pie.

- Since 2000, corporate profits averaged 9.1% of GDP, vs 6.1% prior to that.

→ Justifying higher future earnings growth implies that profits will continue to comprise a higher percentage of GDP.

Corporate Profits as a % of GDP



Source: Meketa analysis of FRED data. Series uses Seasonally Adjusted Annual Rate for Nominal GDP and Corporate Profits After Tax with Inventory Valuation Adjustment (IVA) and Capital Consumption Adjustment (CCAdj). Data is from 1q1947 through 3q2023.

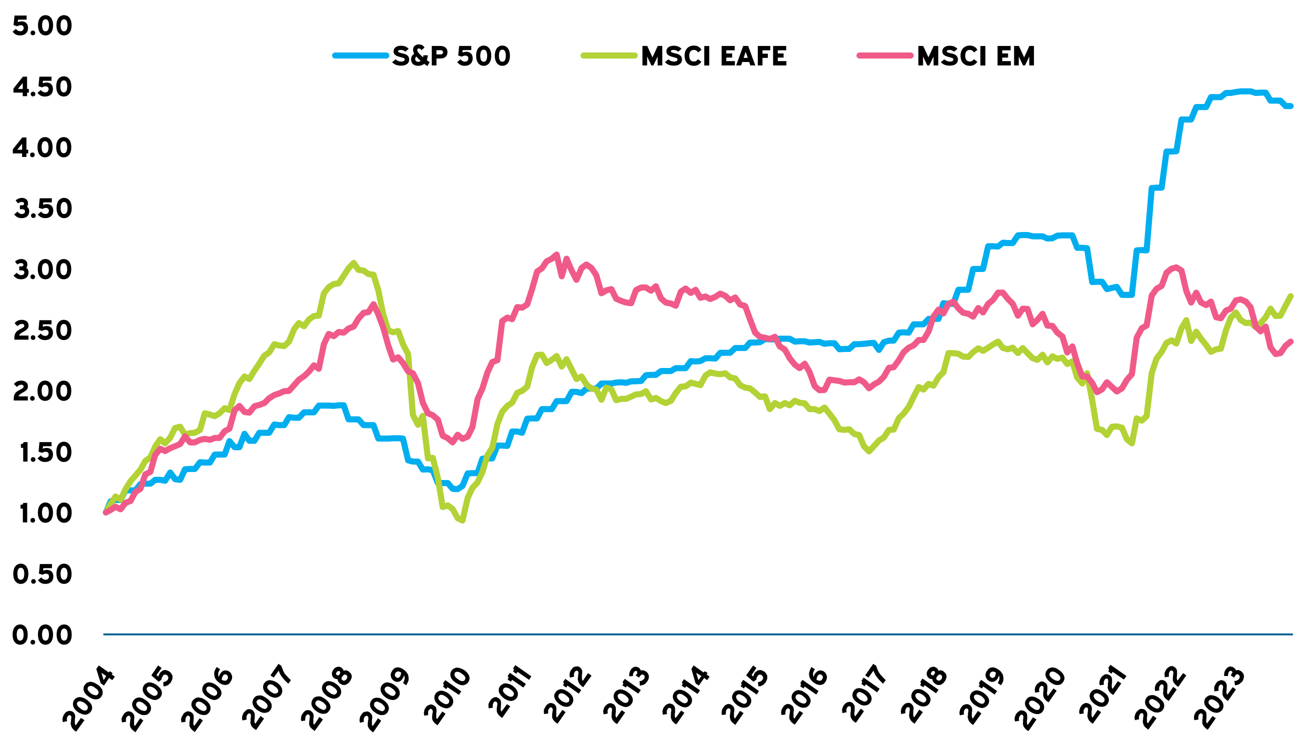
EPS Growth

→ EPS growth for the EAFE and Emerging Markets indices has been essentially zero since 2011.

- Meanwhile, US EPS growth has been strong over the past two decades.

→ There has been a meaningful difference in EPS growth for the US versus other global markets, and it has not been due to a difference in GDP growth.

20-Year EPS Growth, indexed to $1



Source: Meketa analysis of MSCI and Bloomberg data. Series uses Trailing 12-month earnings per share in local currency. As of December 31, 2023.

Impact of Interest Rates on Equity Valuations

→ Looking at price-earnings (or PE10, or PB) ratios alone results in many equity markets looking expensive, at least relative to their historical average.

- The picture may look somewhat different when accounting for interest rates.

→ The level of interest rates affects valuations when discounting future cash flows (or earnings).

→ This time value of money concept can be quantified by using the dividend discount model (DDM).

- The DDM calculates a present value for the stock market based on interest rates.

→ The low rates of the 2010's drove up valuations, a trend that was reversed by the sharp increase in rates in 2022.

→ Using the DDM approach, developed equity markets look more attractively priced than they do from a PE10 perspective, despite the higher rates of the last two years.

Correction in Prices Needed to Return to Historical Average

	US Equities (%)	EAFE Equities (%)	EM Equities (%)
Using PE10	-21.2	-10.3	3.9
Adjusting for Rates	-6.1	-7.9	-6.9

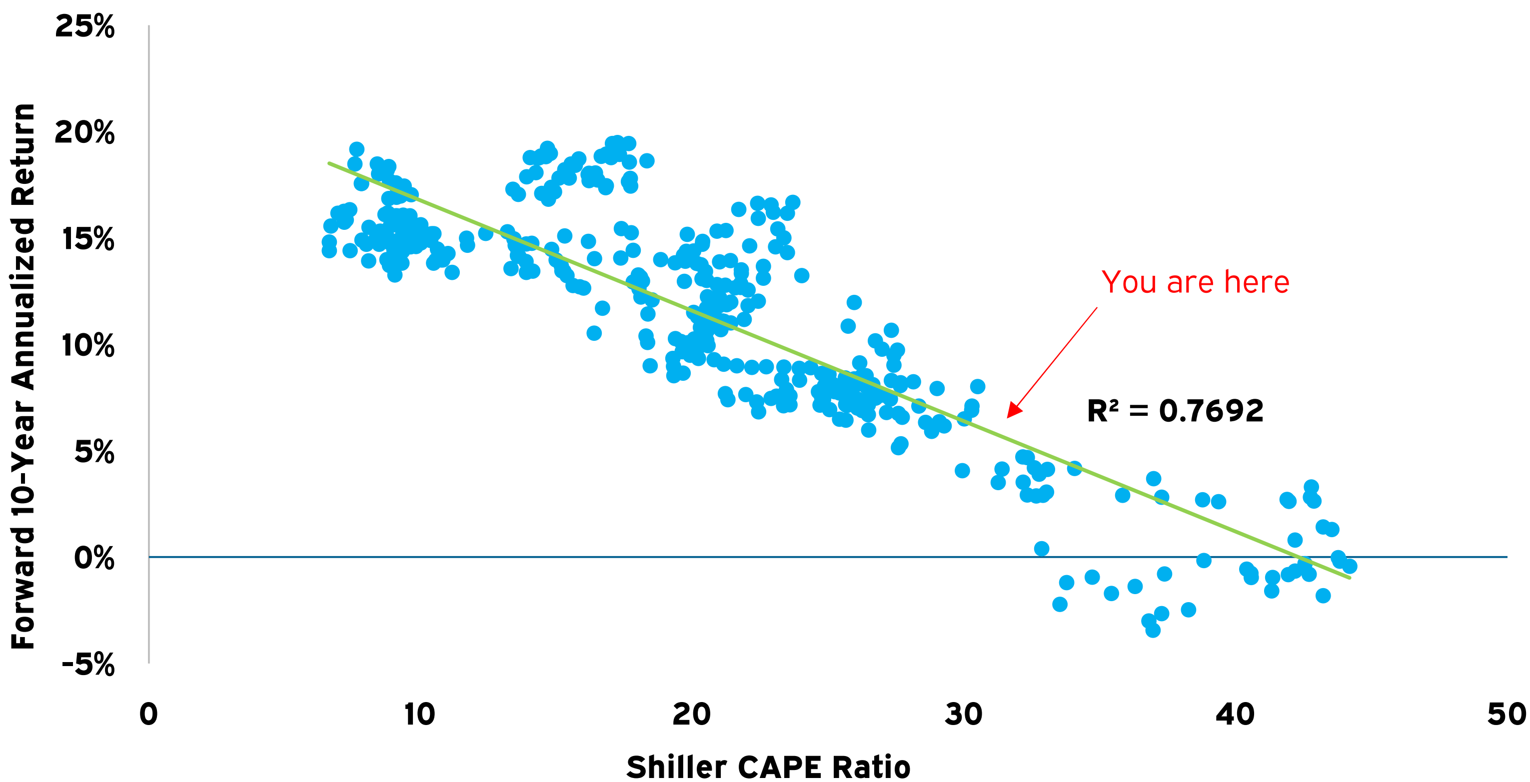
Source: Meketa analysis of MSCI and Bloomberg data.

Impact of Equity Prices on Returns

→ Relative prices have been indicative of future equity returns.

→ Higher prices have led to lower future returns, and vice versa.

US Equities: Shiller CAPE vs. Forward 10-Year Returns



Source: Robert Shiller, Yale University, and Meketa Investment Group. Data is based on monthly returns and Cyclically Adjusted P/E ratio on S&P 500 Index for the period from January 1980 through December 2023.

Valuations High for Growth Stocks

→ After a reversal of the trend in 2022, large growth stocks outperformed large value by more than 30% in 2023.

→ Value stocks appear to have better relative valuations, though the gap in pricing is still far from the peaks of the dot-com bubble.

US Growth P/E vs. Value P/E

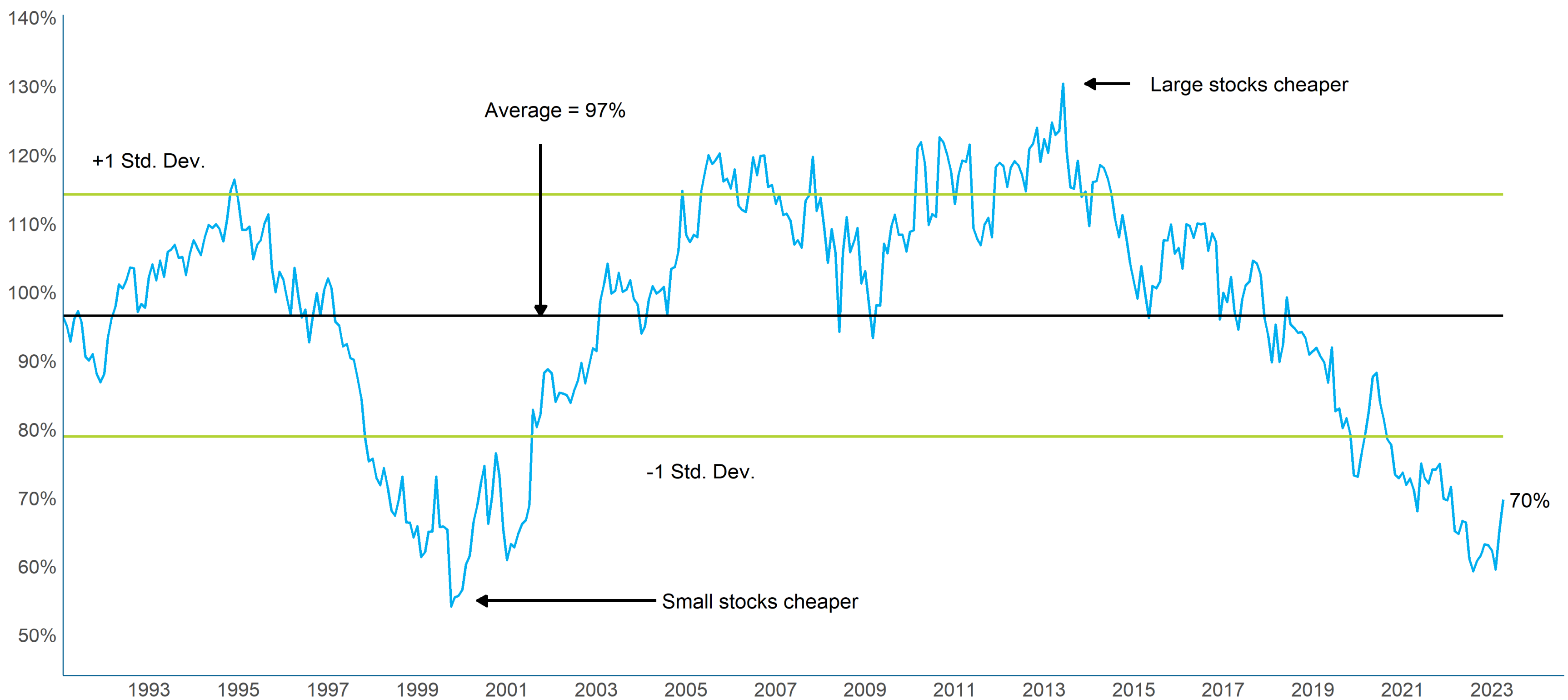
Source: Bloomberg, Russell, and Meketa Investment Group. Growth P/E (Russell 3000 Growth Index) vs. Value P/E. (Russell 3000 Value Index). Earnings figures represent 12-month "as reported" earnings. Data as of December 31, 2023.

Small Cap Valuations Remain Low

→ Large cap stocks outperformed small cap stocks in 2023.

→ Small cap stocks continue to trade at low valuations relative to their long-term history versus large cap stocks.

US Small Cap P/E vs. Large Cap P/E



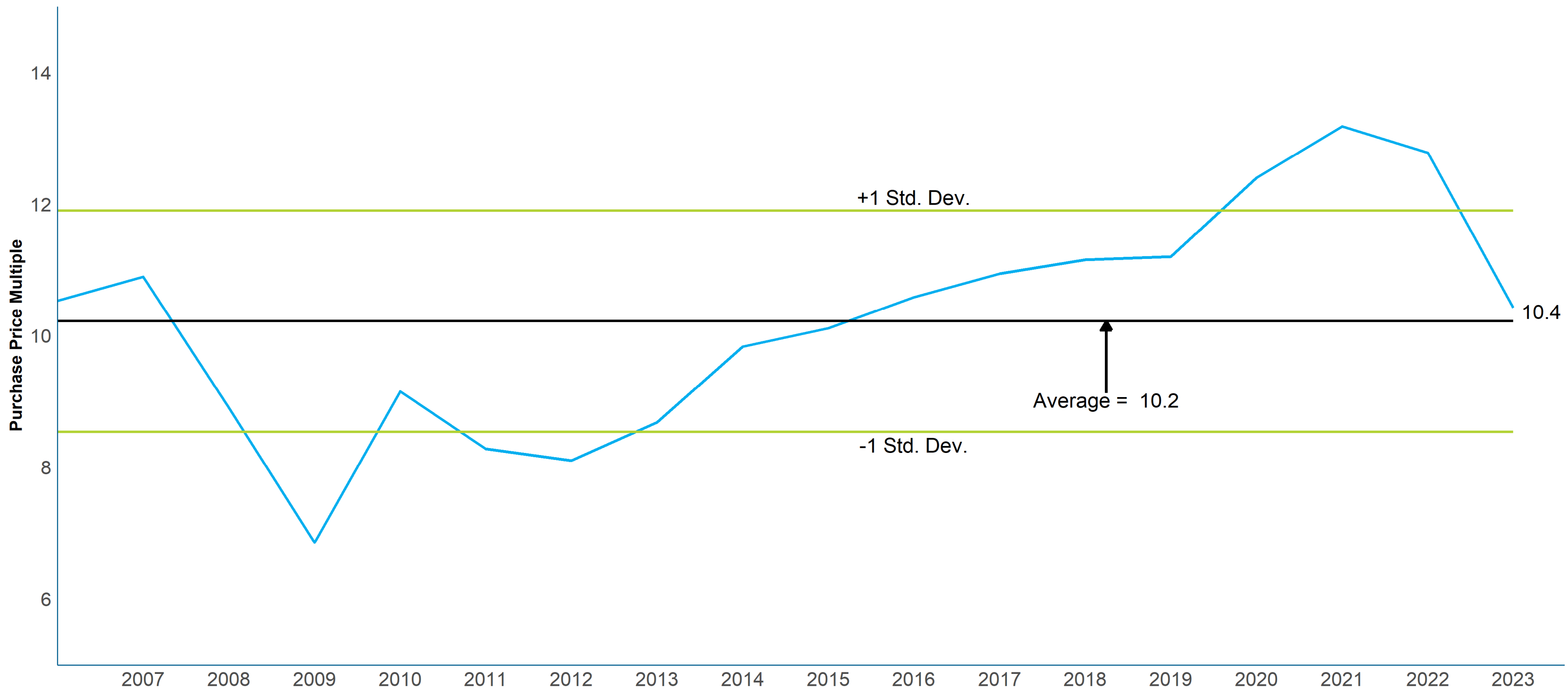
Source: Bloomberg, Russell, and Meketa Investment Group. Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index). Earnings figures represent 12-month "as reported" earnings. Data as of December 31, 2023.

Private Equity Prices Coming Back Down

→ EBITDA multiples fell in the first half of 2023 for buyouts.

- Valuations remained above their post-GFC average.

Private Equity Multiples



Source: Preqin Median EBITDA Multiples Paid in All LBOs, as of June 30, 2023.

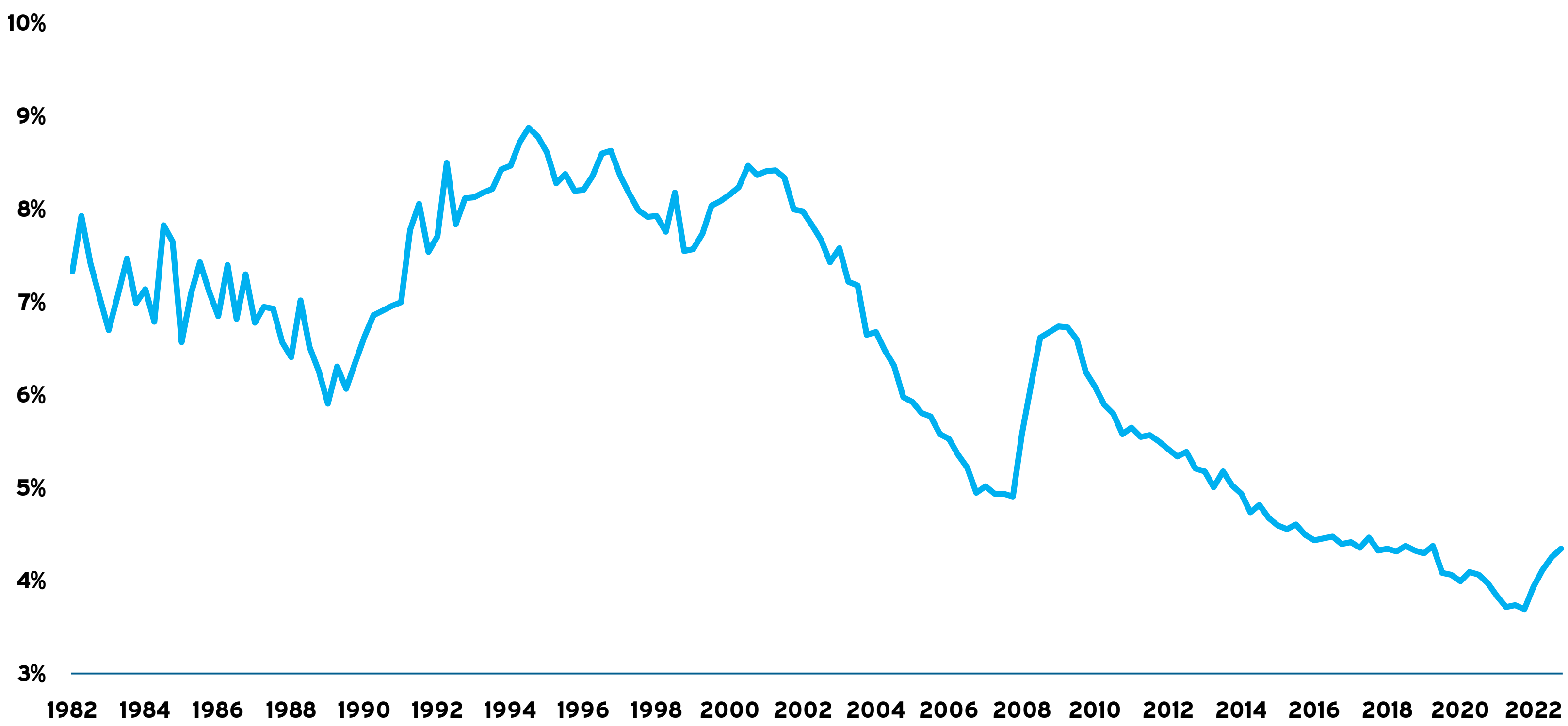
Real Estate Valuations Improving

→ After a nearly 30-year decline, cap rates for core real estate appear to have bottomed in 2022.

- Cap rates rebounded in 2023, reflecting changes in valuations.

→ Cap rates are similar to an earnings yield for equities in that they may be indicative of future returns.

Core Real Estate Cap Rates



Source: NCREIF NPI value-weighted cap rates. As of September 30, 2023.

2024 Expected Returns and Changes from Prior Years

10-year Geometric Expected Returns
Rate Sensitive

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Cash Equivalents	2.4	3.1	-0.7	Lower projected short-term rates
Short-term Investment Grade Bonds	3.8	3.8	0.0	
Investment Grade (Core) Bonds	4.6	4.8	-0.2	Slightly lower yields
Intermediate Government Bonds	4.0	3.7	0.3	Slightly higher yields
Long-term Government Bonds	4.3	4.3	0.0	
Mortgage-Backed Securities	4.7	4.7	0.0	
Investment Grade Corporate Bonds	5.2	5.6	-0.4	Tighter spreads
Long-term Corporate Bonds	5.2	5.3	-0.1	Tighter spreads
Short-term TIPS	3.8	3.9	-0.1	Slightly lower inflation expectations
TIPS	4.3	4.3	0.0	
Long-term TIPS	4.7	4.7	0.0	
Global ILBs	4.3	4.7	-0.4	Slightly lower inflation expectations
Foreign Bonds	3.1	3.8	-0.7	Slightly lower yields
US Inflation	*2.4*	*2.5*	*-0.1*	*Slightly lower near-term economist and market projections*

10-year Geometric Expected Returns
Credit

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
High Yield Bonds	6.5	8.0	-1.5	Tighter spreads
Higher Quality High Yield	6.0	7.1	-1.1	Tighter spreads
Bank Loans	6.5	7.6	-1.1	Tighter spreads
Collateralized Loan Obligations(CLOs)	8.1	8.0	0.1	Slightly higher yields
Convertible Bonds	5.2	6.1	-0.9	Tighter spreads
Emerging Market Bonds (major)	7.0	6.7	0.3	Higher yields
Emerging Market Bonds (local)	6.3	6.4	-0.1	
Private Debt	9.2	9.4	-0.2	Less extreme distressed pricing
Direct Lending	8.2	8.5	-0.3	Lower assumed leverage
Asset Based Lending	9.7	9.4	0.3	Lower average fees
Special Situations Lending	9.7	10.8	-1.1	Less extreme distressed pricing

10-year Geometric Expected Returns
Equities

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
US Equity	6.9	7.8	-0.9	Higher valuations
US Small Cap	8.4	8.7	-0.3	Higher valuations
Developed Non-US (EAFE) Equity	7.7	10.1	-2.4	Higher valuations, lower projected earnings growth
Dev. Non-US Small Cap	8.8	10.5	-1.7	Higher valuations
Emerging Market Equity	7.6	10.3	-2.7	Higher valuations, lower projected earnings growth
Emerging Market Small Cap	7.4	10.0	-2.6	Higher valuations, lower dividend yields
Emerging Market ex-China	7.8	10.7	-2.9	Higher valuations, lower projected earnings growth
China Equity	7.1	9.0	-1.9	Lower projected earnings growth
Frontier Market Equity	9.6	11.2	-1.6	Higher valuations, lower projected growth & dividends
Global Equity	7.2	8.8	-1.6	Higher valuations
Low Volatility Equity	6.5	7.9	-1.4	Higher valuations
Private Equity	9.9	9.7	0.2	Mixed valuations and slightly lower borrowing costs
Buyouts	9.5	9.4	0.1	Mixed valuations and slightly lower borrowing costs
Growth Equity	10.4	10.1	0.3	Mixed valuations and slightly lower borrowing costs
Venture Capital	10.8	10.4	0.4	Lower valuations

10-year Geometric Expected Returns
Real Estate & Infrastructure

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Real Estate	6.3	5.9	0.4	Higher cap rates
US REITs	5.6	6.4	-0.8	Lower yields, some price reversion expected
Core Private Real Estate	4.8	4.3	0.5	Higher cap rates
Value-Added Real Estate	7.3	6.5	0.8	Higher cap rates
Opportunistic Real Estate	8.4	7.6	0.8	Higher cap rates
Infrastructure	7.4	6.9	*0.5*	Lower borrowing costs, model changes
Infrastructure (Public)	8.0	8.0	0.0	
Infrastructure (Core Private)	6.5	6.4	0.1	
Infrastructure (Non-Core Private)	8.0	7.4	0.6	Lower borrowing costs

10-year Geometric Expected Returns
Natural Resources & Commodities

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Natural Resources	7.8	NA		90% private, 10% public
Natural Resources (Public)	8.3	7.8	0.5	Improved relative valuations
Natural Resources (Private)	7.7	8.6	-0.9	Higher valuations
Energy	9.1	9.3	-0.2	
Mining	8.6	9.8	-1.2	Higher valuations
Timberland	5.5	5.7	-0.2	Slightly higher valuations
Farmland	5.0	3.9	1.1	Improved valuations, higher income expectations
Sustainability	8.4	9.2	-0.8	Higher valuations
MLPs	6.6	5.2	1.4	Improved relative valuations
Gold Mining	8.0	9.0	-1.0	Higher valuations
Gold (Metal)	2.4	2.5	-0.1	Slightly lower inflation expectations
Commodities	4.9	6.3	-1.4	Lower projected cash yield, negative roll return

10-year Geometric Expected Returns
Alternative Strategies (Other)

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Hedge Funds	4.5	5.4	-0.9	Lower cash/credit yield, higher valuations
Long-Short	3.2	4.2	-1.0	Higher valuations, lower projected cash yield
Event Driven	7.0	7.7	-0.7	Higher valuations, lower projected cash yield
Global Macro	4.2	5.2	-1.0	Higher valuations, lower yield, tighter spreads
CTA – Trend Following	3.8	3.9	-0.1	
Fixed Income/L-S Credit	5.0	6.3	-1.3	Tighter spreads
Relative Value/Arbitrage	5.6	6.2	-0.6	Lower projected cash yield
Long Vol	0.7	1.0	-0.3	
Insurance Linked Strategies	5.3	5.7	-0.4	Lower yield
Alternative Risk Premia	4.8	5.5	-0.7	Lower projected cash yield
Risk Parity (10% vol)	6.3	7.8	-1.5	Higher equity valuations, tighter spreads
TAA	5.3	5.6	-0.3	Higher equity valuations, tighter spreads
Digital Currencies	2.4	2.4	0.0	

20-year Geometric Expected Returns
Rate Sensitive

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Cash Equivalents	2.5	2.9	-0.4	Lower projected short-term rates
Short-term Investment Grade Bonds	3.7	3.5	0.2	
Investment Grade (Core) Bonds	4.8	4.7	0.1	
Intermediate Government Bonds	4.1	3.7	0.4	Slightly higher yields
Long-term Government Bonds	5.0	5.0	0.0	
Mortgage Backed Securities	4.9	4.6	0.3	
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TIPS	4.7	4.5	0.2	
Long-term TIPS	5.2	5.2	0.0	
Global ILBs	4.7	4.7	0.0	
Foreign Bonds	3.9	4.0	-0.1	Slightly lower yields
US Inflation	*2.8*	*2.6*	*0.2*	Higher long-term inflation expectations

20-year Geometric Expected Returns
Credit

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
High Yield Bonds	6.8	7.3	-0.5	Tighter spreads
Higher Quality High Yield	6.4	6.7	-0.3	Tighter spreads
Bank Loans	6.6	7.0	-0.4	Tighter spreads
Collateralized Loan Obligations (CLOs)	7.2	7.2	0.0	
Convertible Bonds	6.2	6.4	-0.2	Tighter spreads
Emerging Market Bonds (major)	6.8	6.4	0.4	Higher yields
Emerging Market Bonds (local)	6.2	6.0	0.2	
Private Debt	9.2	9.0	0.2	
Direct Lending	8.4	8.3	0.1	Lower assumed leverage
Asset Based Lending	9.4	9.0	0.4	Lower average fees
Special Situations Lending	9.9	10.2	-0.3	Less extreme distressed pricing

20-year Geometric Expected Returns
Equities

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
US Equity	8.5	8.7	-0.2	Higher valuations
US Small Cap	9.4	9.3	0.1	
Developed Non-US (EAFE) Equity	8.9	9.8	-0.9	Higher valuations, lower projected earnings growth
Dev. Non-US Small Cap	9.5	10.1	-0.6	Higher valuations
Emerging Market Equity	8.9	10.0	-1.1	Higher valuations, lower projected earnings growth
Emerging Market Small Cap	8.9	10.0	-1.1	Higher valuations, lower dividend yields
Emerging Market ex-China	9.0	10.3	-1.3	Higher valuations, lower projected earnings growth
China Equity	8.6	9.3	-0.7	Lower projected earnings growth
Frontier Market Equity	10.0	10.7	-0.7	Higher valuations, lower projected growth & dividends
Global Equity	8.7	9.2	-0.5	Higher valuations
Low Volatility Equity	7.8	8.3	-0.5	Higher valuations
Private Equity	11.2	11.0	0.2	Mixed valuations and slightly lower borrowing costs
Buyouts	10.8	10.7	0.1	Mixed valuations and slightly lower borrowing costs
Growth Equity	11.5	11.2	0.3	Mixed valuations and slightly lower borrowing costs
Venture Capital	12.0	11.6	0.4	Lower valuations

20-year Geometric Expected Returns
Real Estate & Infrastructure

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Real Estate	8.0	7.8	0.2	Higher cap rates
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Value-Added Real Estate	9.0	8.3	0.7	Higher cap rates
Opportunistic Real Estate	10.3	9.6	0.7	Higher cap rates
Infrastructure	9.0	8.3	0.7	Lower borrowing costs, model changes
Infrastructure (Public)	9.1	8.8	0.3	
Infrastructure (Core Private)	8.0	7.8	0.2	
Infrastructure (Non-Core Private)	10.0	9.5	0.5	Lower borrowing costs

20-year Geometric Expected Returns
Natural Resources & Commodities

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Natural Resources	9.3	NA		90% private, 10% public
Natural Resources (Public)	9.2	8.7	0.5	Improved relative valuations
Natural Resources (Private)	9.3	9.8	-0.5	Higher valuations
Energy	10.4	10.4	0.0	
Mining	9.9	10.2	-0.3	Higher valuations
Timberland	7.3	7.4	-0.1	
Farmland	7.0	6.5	0.5	Improved valuations, higher income expectations
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MLPs	8.4	7.4	1.0	Improved relative valuations
Gold Mining	9.5	9.7	-0.2	Higher valuations
Gold (Metal)	3.5	3.3	0.2	Slightly higher long-term inflation expectations
Commodities	5.3	5.7	-0.4	Lower cash yield

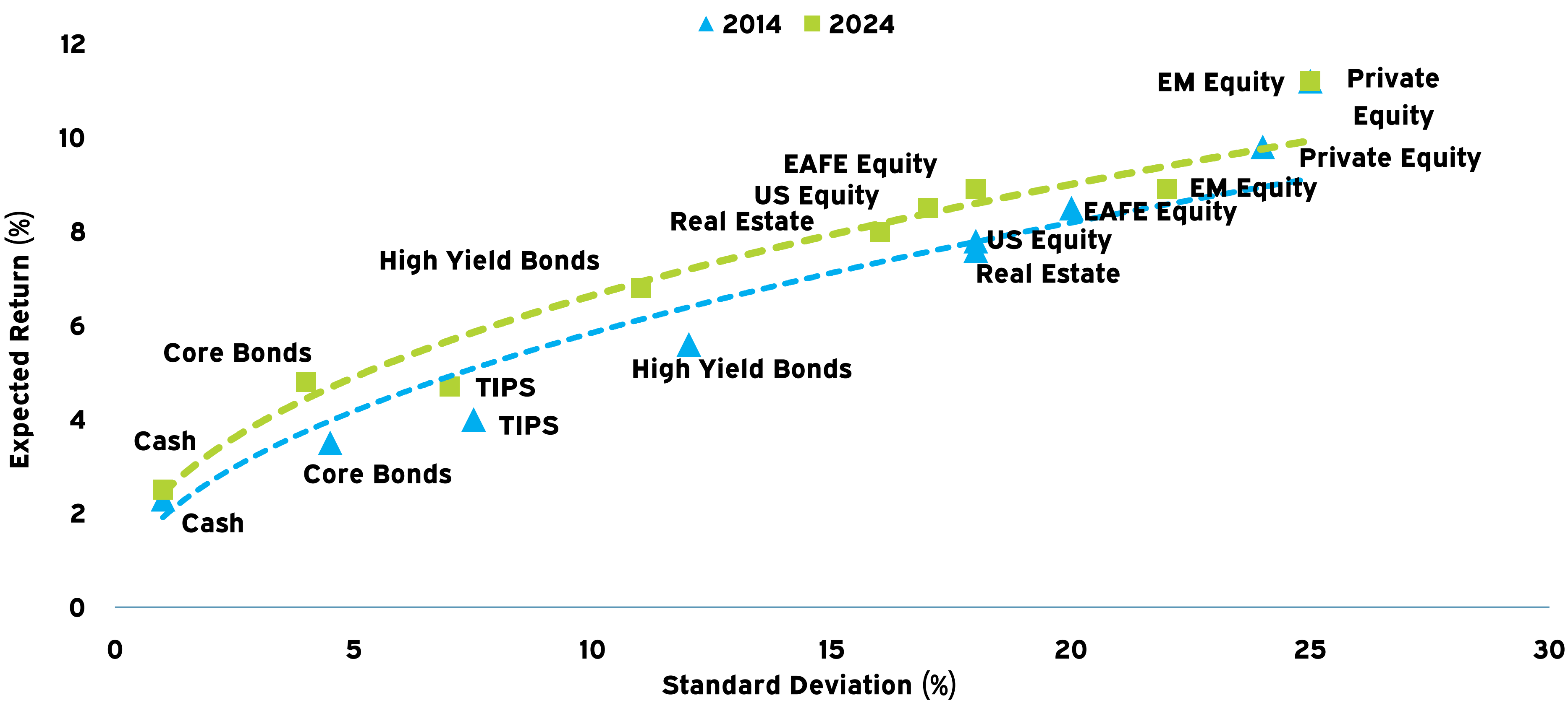
20-year Geometric Expected Returns
Alternative Strategies (Other)

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Hedge Funds	5.8	6.1	-0.3	Lower cash/credit yield, higher equity valuations
Long-Short	5.3	5.6	-0.3	Higher valuations, lower projected cash yield
Event Driven	7.6	7.7	-0.1	Higher valuations, lower projected cash yield
Global Macro	5.4	5.7	-0.3	Higher valuations, lower cash yield, tighter spreads
CTA – Trend Following	4.7	4.8	-0.1	
Fixed Income/L-S Credit	6.1	6.5	-0.4	Tighter spreads
Relative Value/Arbitrage	6.5	6.7	-0.2	Lower projected cash yield
Long Vol	1.2	1.1	0.1	
Insurance Linked Strategies	6.2	6.2	0.0	
Alternative Risk Premia	5.2	5.6	-0.4	Lower projected cash yield
Risk Parity (10% vol)	7.2	7.7	-0.5	Higher equity valuations, tighter credit spreads
TAA	6.1	5.7	0.4	Model changes
Digital Currencies	3.5	3.3	0.2	

The Big Picture: Higher Return for Similar Risk[1]

→ The relationship between long-term return expectations and the level of risk accepted is not static.

→ The higher interest rates of the last two years mean that many investors should be able to take on less risk than they have over the past decade if they want to achieve their target returns.



[1] Expected return and standard deviation are based upon Meketa Investment Group's 2014 and 2024 20-year capital market expectations.

Structural Changes and FAQs

Structural Changes for 2024

→ We added the following "asset classes" (total now at 109):

- Short-term government bonds
- Municipal bonds

→ We added several private market "aggregates" to distinguish between those that include and exclude a public markets component:

- Real estate (private)
- Natural resources
- Infrastructure (private)

Model Changes for 2024

→ We reweighted multiple composites to reflect a blend of the market opportunity and a typical Meketa portfolio.

→ New weightings for Infrastructure composite.

- Decreased core and increased non-core.

→ New weightings for Private Debt composite.

- Decreased direct lending, increased asset based lending.

→ New weightings for Real Estate composite.

- Decreased opportunistic, increased debt.

→ New weightings for Natural Resources composite.

- Decreased Energy, increased timber and farmland.

→ New weightings for TAA composite.

- Added bank loans and foreign bonds
- Increased US equity, decreased non-US equities, high yield, and TIPS.

Model Changes for 2024 (continued)

→ We reduced the cap for the magnitude of currency impact from +/- 100 bp to +/- 50 bp per annum.

- Currency movements are the portion of our CME's that we probably have the least confidence in (hence why we have capped them historically).
- This affects any asset class that has foreign currency exposure. There are a few asset classes (e.g., foreign bonds, foreign equities, EMD local) that are 100% non-USD and hence feel the full 50 bp impact.
- There are ~25 other asset classes that have some sort of global component (e.g., global equities, buyouts, natural resources) and hence experienced a more modest impact of 0-20 bp.

→ We increased the % of GDP growth that translates to EPS growth for the US (which flowed through to a smaller increase for global equities) and for EAFE small cap, while decreasing it for all other equity markets.

- Over the past twenty years, most markets have seen EPS growth keep pace with GDP growth.
- However, this has not been the case for the past ten years, and the US has been an outlier in this regard.
  - Over the past ten years, US earnings per share has continued to grow faster than nominal GDP (6.8% per annum versus 5.0%).
  - Annualized EPS growth over the ten years for EAFE was 3.1% and for EM was -1.4% (with China at -2.8%).

→ We added fintech to our VC valuation model.

→ We added Taiwan and deleted Russia from our currency impact models.

→ For measuring historical volatility (and correlations), we extended our look-back period from 15 years to 20 years, so as to continue to include the GFC in our analysis.

→ In addition, Bloomberg changed the way they calculated earnings, which resulted in varied impacts on our equity models.

FAQs for 2024

How do these CMEs compare to prior years' assumptions?

→ To help evaluate this, we created a weighted average of expected returns for the asset classes that comprise a typical institutional portfolio.[1]

→ The value of the expected return for the portfolio is not a precise expected return (i.e., it has not been run via MVO), but the magnitude of the change is what is relevant.

→ In short, the average of 20-year expected returns is 20 basis points lower than last January.

Year	Weighted Average Expected Return (%)	Change from Prior Year (%)
2024	8.0	-0.2
2023	8.2	+1.7
2022	6.5	+0.4
2021	6.1	-0.7
2020	6.8	-0.6
2019	7.4	+0.7
2018	6.7	-0.2

[1] The weights are as follows: 10% investment grade bonds, 3% LT government bonds, 4% TIPS, 3% high yield, 2% bank loans, 3% EM debt, 3% private debt, 25% US equity, 12% EAFE equity, 8% EM equity, 10% private equity, 10% real estate, 2% natural resources, 3% infrastructure, 2% hedge funds.

FAQs for 2024 (continued)

What is driving the changes from last year?

→ The changes relative to last year are being driven by what happened in the market.

→ Credit spreads tightened, leading to lower yields, thus decreasing expected returns for fixed income assets.

→ Most equity markets rallied, pushing them to higher valuations, thus reducing their forward-looking returns.

→ Lower anticipated borrowing costs had a positive impact on assets that use leverage.

→ Lower anticipated cash yields hurt expected returns for hedge funds and related asset classes.

→ The long downward trend in cap rates for real estate reversed, pushing up their expected returns.

→ Higher anticipated long-term interest rates also provide a tailwind in our 20-year projections, as the bridge from 10 to 20 years is made via a risk premium being added to a (higher) future risk-free rate.

- The risk-free rate jumped from 4.17% to 4.64%.

How do Meketa's CMEs compare to peers?

→ We believe our CMEs are in the same ballpark as our peers.

→ We generally cite the survey conducted each year by Horizon Actuarial Services for making peer comparisons, as it is the most comprehensive survey of CMEs of which we are aware.

- However, this survey is usually not published until July or August.

→ It is important to distinguish between intermediate term assumptions (e.g., 7-10 years) and long-term assumptions (e.g., 20-30 years) when making these comparisons.

FAQs for 2024 (continued)

Did volatility expectations change?

→ Not systematically, though many public equity asset classes saw a 1% drop in expected volatility.

→ The biggest change was a 5% increase in the broad infrastructure category. This was entirely due to our change in the composite weighting that substantially increased non-core versus core infrastructure.

→ Our methodology includes a 20-year look back, which includes the volatile years of 2022, 2020 and 2008.

Did Meketa make any qualitative adjustments?

→ As usual, we made some qualitative adjustments to the CMEs.

→ We made a decrease to high yield real estate debt, as our model relies upon public markets data that is limited and perhaps not fully representative.

→ We made an adjustment to farmland as the high inflation of the last two years was causing the real income portion of our model to predict long-term income that seemed unrealistic.

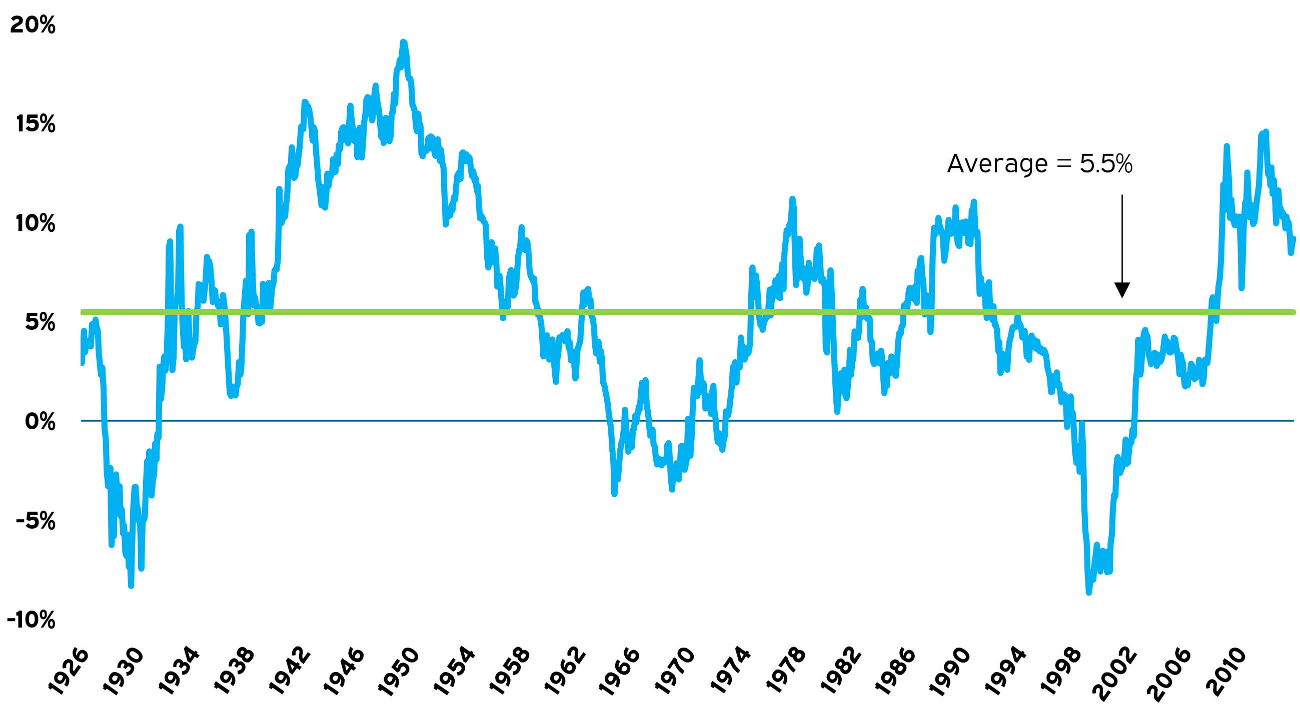
FAQs for 2024 (continued)

Is Meketa comfortable with the equity risk premium implied by the CMEs?

→ Yes. We assume a 5.5% risk premium for US equities over 10-year Treasuries.

→ Historically, the risk premium for the S&P 500 over the yield for the 10-year Treasury has averaged 5.5%, though the range has varied considerably.

US Equity Risk Premium over 10-year Treasury[1]



[1] Represents the ten-year risk premium for the S&P 500 index over the 10-year Treasury yield at the start of the period. Data is through December 31, 2023.

FAQs for 2024 (continued)

Is Meketa assuming that interest rates will go up or down?

→ We use the market's projections for future rates, based on what was priced in at the time of our analysis.

→ For example, the market is projecting that the ten-year Treasury will be yielding approximately 4.6% in ten years, versus 4.2% as of 12/31/23.

→ By contrast, the FOMC is expecting the Fed Funds Rate to fall to ~2.9% by 2026, implying a return to a more normally shaped yield curve.

What is the steepness of the yield curve you imply?

→ Just as our equity models assume mean reversion in pricing, our bond models assume a kind of mean reversion in the shape of the yield curve over the next ten years.

- The yield on the 10-year Treasury has averaged 150 bp over that for T-bills since 1934.
- The 2-10 spread has averaged 88 bp since 1976.

Why is the expected return for cash dropping when short-term rates increased during 2023?

→ Our expected returns are long-term projections, not just what we are projecting for the next year or two.

→ Many economists (and futures markets) are expecting short-term rates to drop rather significantly over the next 18-24 months.

→ Most of the horizon will be at these new, lower rates (i.e., rates that are lower than they were one year ago).

FAQs for 2024 (continued)

Why do longer duration fixed income assets have a higher 20-year versus 10-year expected return, while the reverse is the case for shorter duration bonds?

→ The majority of asset classes have a higher return assumption for the 20-year period due to the increase in the risk-free rate (recall that we use a risk premia approach for years 11-20).

→ This tends not to be the case for our shorter duration fixed income assets due to the return to a more normally shape yield curve over the next ten years that is implied by the model.

- That is, the higher risk premia we use for longer duration bonds implies a more normal term structure to the yield curve in years 11-20.

Why did the 10-year expected returns for private real estate increase while it went down for REITs?

→ For the second year in a row, cap rates and REIT yields moved in opposite directions.

- Cap rates are now back above REIT yields.

→ Higher cap rates pushed up our expected returns for core and non-core real estate, while lower yields pushed down our expected returns for REITs.

FAQs for 2024 (continued)

How does Meketa arrive at its inflation assumption? Is it based on a combination of breakeven rates and other data?

→ Most of our economic projections come from the IMF's World Economic Outlook. Their inflation projections are in the table below.

- They are projecting slightly elevated inflation for the US in 2024, followed by benign levels thereafter.

→ We combine the five-year average for the US with the 5-year-5 inflation swap (i.e., what the market is projecting 5-year inflation will be five years from now), to arrive at our 10-year number.

Inflation Estimates

	2024	2025	2026	2027	2028	5-Year Average	5-yr-5 Inflation Swap	10-year Inflation Estimate
US	2.8	2.4	2.2	2.1	2.1	2.3	2.5	2.4
Euro Area	3.7	2.4	2.2	2.0	2.0	2.5	2.3	2.4
UK	3.7	2.1	2.0	2.0	2.0	2.4	3.4	2.8
Japan	2.9	1.9	1.6	1.6	1.6	1.9		1.6
China	1.7	2.2	2.2	2.2	2.2	2.1		2.9

Sources: IMF World Economic Outlook, October 2023; Bloomberg.

FAQs for 2024 (continued)

Why did the spread for private equity over public equity increase?

→ Valuations increased to a greater extent for public equities (e.g., PE ratios) than they did for private equity (e.g., EBITDA multiples).

→ Of note, the private equity data (as always) is through 9/30.

- It is possible that buyout multiples will "catch up" with public equity valuations in 2024, but this has not always been the case historically.

How does Meketa look at valuations for venture capital?

→ Venture capital tends to be focused on a smaller part of the broad economy, concentrating mostly on a few sectors such as technology and healthcare.

→ To get a feel for how VC is currently priced, we create a proxy composed of public market indices that focus on these sectors.

→ The proxy is currently composed of: the NASDAQ; Pharma, Biotech & Life Sciences; IT Services; financial technology; and Clean Tech/Environment. The composition and weightings have changed over time.

→ That said, we take our VC model with a large grain of salt, as there is very little private market data available.

FAQs for 2024 (continued)

Do we still expect US earnings to grow faster than the broad economy?

→ Yes, until/unless there is a structural shift, perhaps due to political events, US companies are likely to earn a greater share of economic growth than they have over the post-WWII era.

What is causing the significant decrease in 10-year expected returns for non-US equities?

→ First, the reduction in our cap on foreign exchange impact is effectively cutting 50 bp from each asset class that is primarily denominated in a currency other than USD.

→ There was a bit of a disconnect in most overseas markets this past year, with prices rising much more than earnings grew. Hence valuations are higher, which lowers expected returns.

→ We also reduced the % of GDP growth that we expect to translate to EPS growth by varying degrees for foreign markets (many have produced little to no EPS growth over the past ten years).

How is your outlook on China affecting your expected returns?

→ Our outlook for China has continued to decline due to a number of factors, including:

- The lack of a post-Covid re-opening economic rebound
- A shift in prioritization by the CCP to favor Marxism over growth
- Geopolitical tensions and "de-risking" by Western investors
- Real estate and debt challenges

→ As a result, we are placing a greater discount on Chinese (and hence, emerging market) growth translating to EPS growth.

- This serves as a drag on expected returns for EM and Chinese equities.

FAQs for 2024 (continued)

What effect do we expect net buybacks to have, if any?

→ We believe US companies will continue to be net buyers of their shares over the next decade, but to a lesser extent than they have for the past decade. This will be a net tailwind.

→ We expect other markets to be net issuers of shares (i.e., this will be dilutive to shareholder wealth). This is most pronounced in emerging markets, due to their anticipated growth.

Why do we believe US companies will be net buyers of their stock for an extended period, and why does that matter?

→ There are several reasons why we can/should believe US companies will be net buyers of their stock for an extended period (e.g., the next ten years), and why that may change.

→ First, it would be a continuation of a nearly two-decade trend that CFOs have decided it is in their interest to prioritize buybacks over dividends or other uses of cash.

- This could obviously change, but the catalyst for this is not obvious nor apparently on the horizon.

→ The second factor is if labor finally starts clawing back a larger portion of GDP.

- This clearly could happen, but despite an incredibly tight labor market, it is not happening (at least not yet). Rather, companies have had success passing on their higher labor costs to their customers and hence maintaining their profitability.

→ This matters in our models because it impacts what portion of GDP growth translates to EPS growth.

- If companies are more profitable and they are buying back shares, this will be much more beneficial to EPS than if companies are less profitable and are diluting their shares (e.g., via new issuance).

FAQs for 2024 (continued)

Do we consider inflation when building expected returns for real assets like real estate, infrastructure, and natural resources?

→ Yes, inflation is a component for the vast majority of these assets, and their growth is generally linked to inflation in our models.

How are you accounting for the distinctly non-linear return profile of Long Vol?

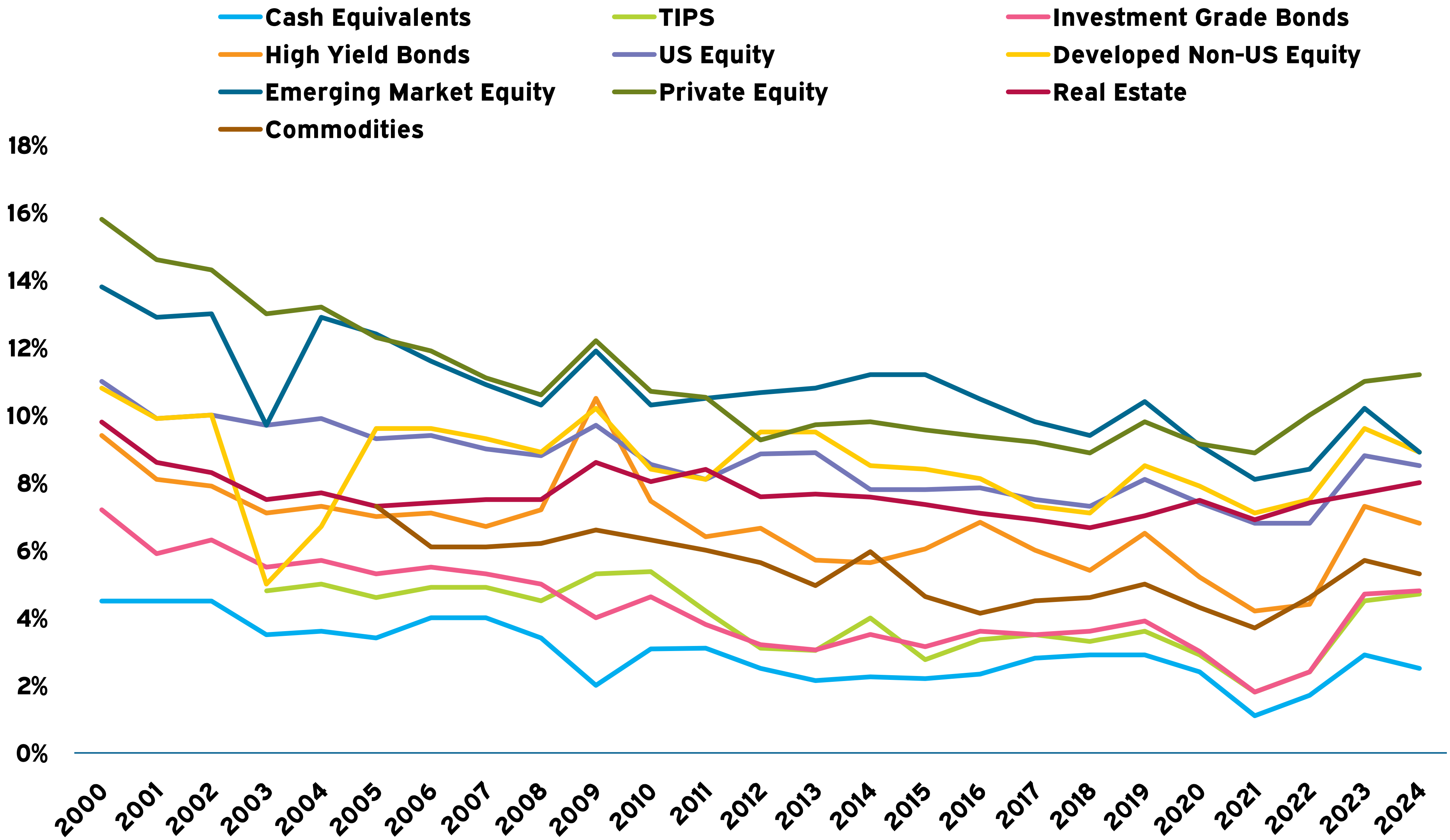
→ We assume that the payoff of a long vol strategy is significantly and positively skewed during periods of poor equity market returns.

- In particular, we analyze the historical distribution of returns during periods when equity markets increase or decrease by 10%.

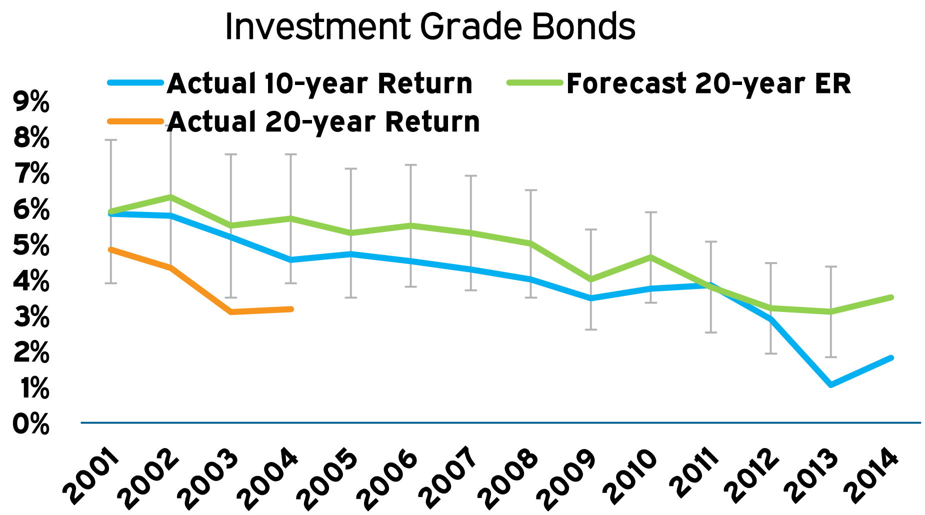
→ However, the average return in most years is driven by the effective "insurance premium" investors pay for this strategy.

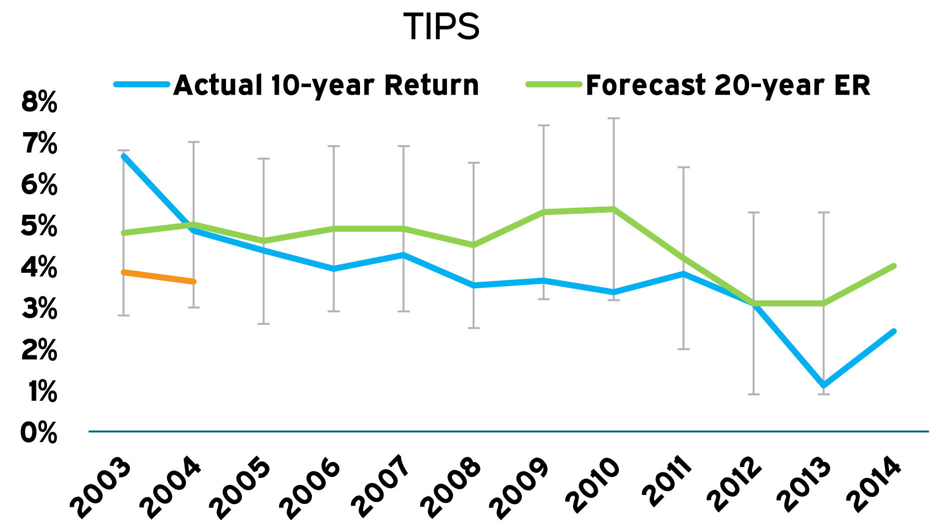
MEKETA

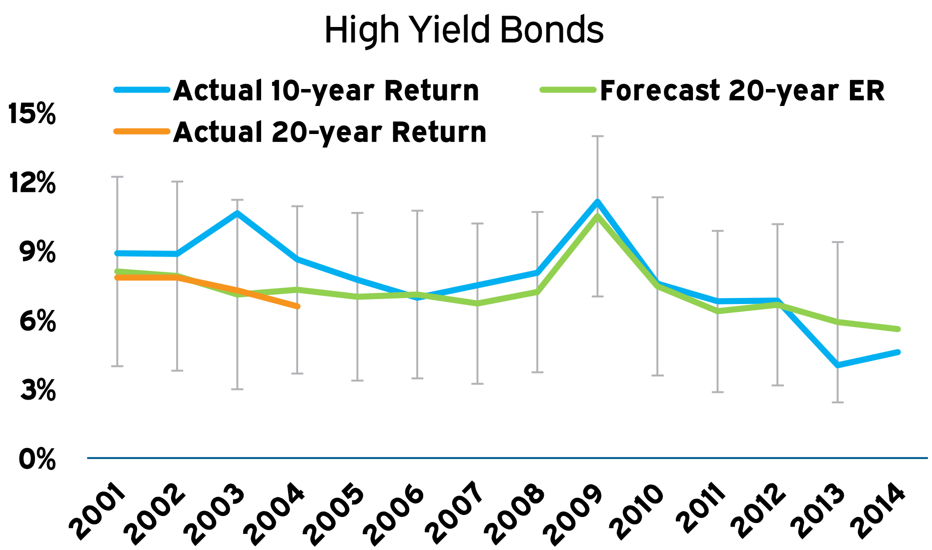
Our 20-year CMEs since 2000



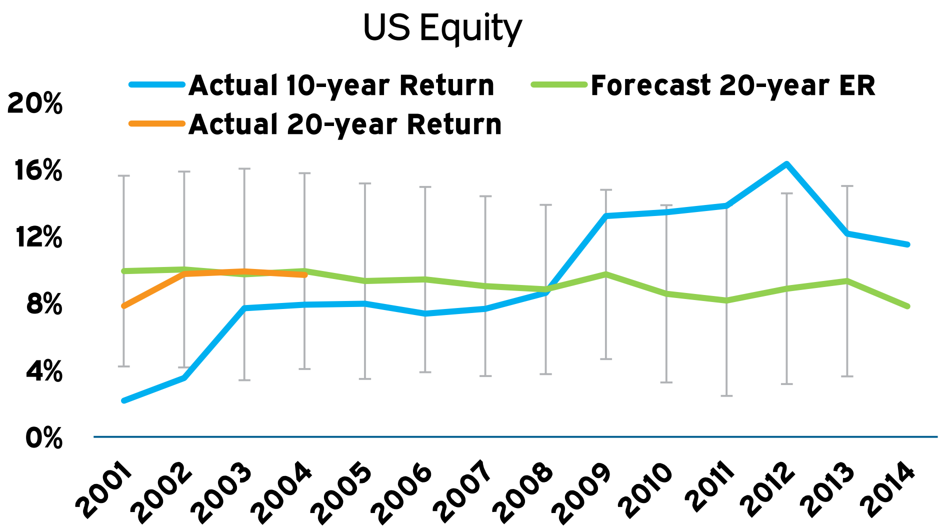
Our Track Record

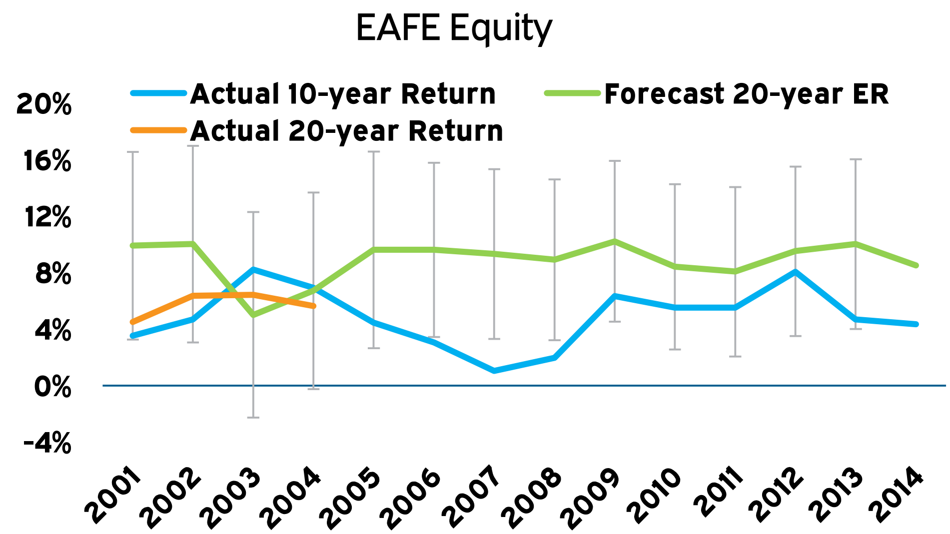


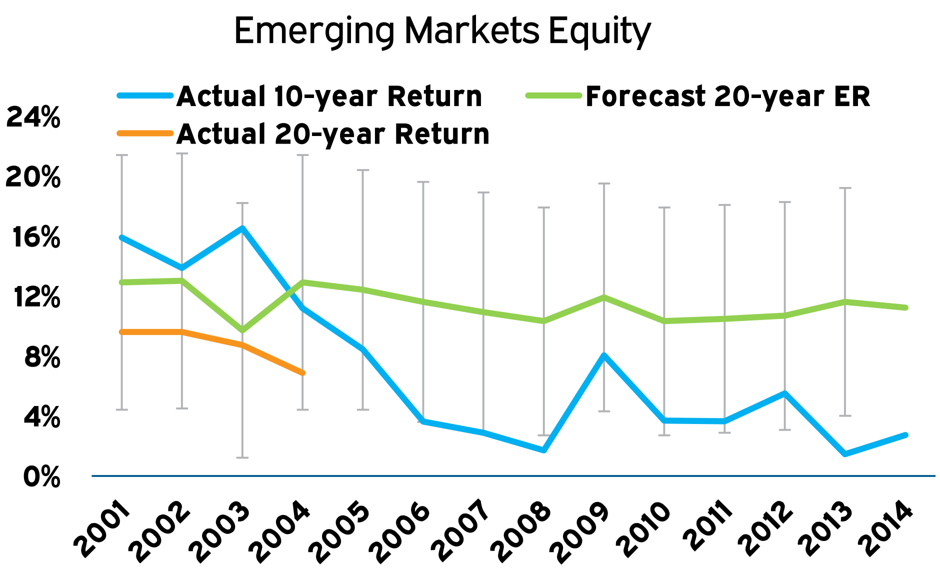


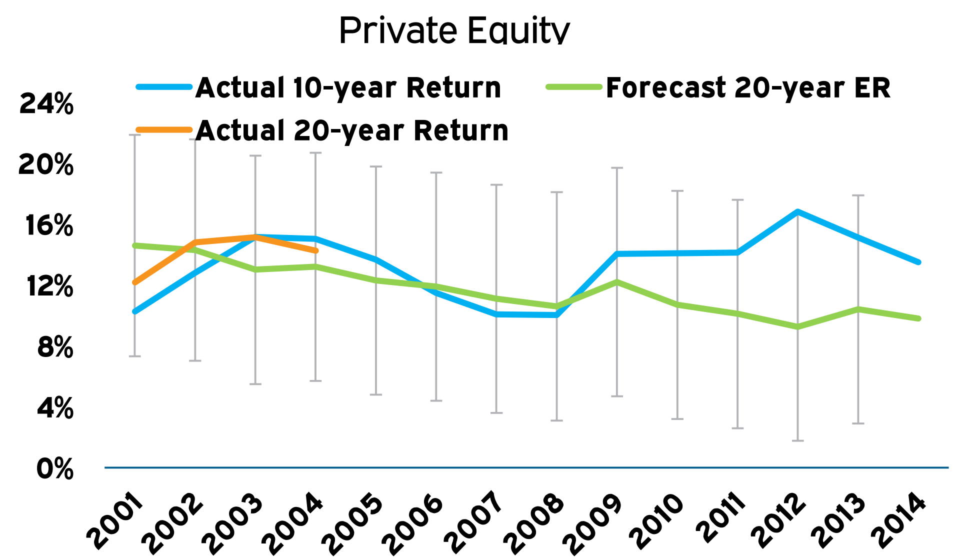


Our Track Record (continued)









Three Long-term Themes:

The Impact of AI, China and Deglobalization

Thinking about Broad AI Impacts

Prepare for Multiple Futures

Note: this graphic was created using generative AI.

- → Developments in AI since 2017 have been occurring at a rapid pace and with unexpected discoveries (i.e., "emergent capabilities").
- → Predicting what the actual developments will be and their corresponding impacts on economies/societies will be very challenging.
- → Staying up-to-date on major developments and preparing for multiple futures is prudent.
- → Research and predictions from industry insiders, economists, political scientists, etc., all indicate a high degree of uncertainty regarding impacts of AI.

"Automation Anxiety"

→ History is full of examples of workers fearing their jobs would be displaced by technology.

→ While this fear has been a continual occurrence, research has shown that it tends to be overstated, especially during the initial introduction of the technology.[1]

→ This is not to say that all jobs will be safe – any form of technological advance will displace certain jobs.

→ The difference with generative AI, however, is that it is the first technology that will likely impact "white collar" jobs and possibly even the arts and other creative industries.

[1] For example, a 2016 paper by a Boston University economist examined 271 occupations that were listed in the 1950 census. Only one was eliminated by 2010. "*How Computer Automation Affects Occupations: Technology, Jobs, and Skills,"* *James Bessen, Boston University School of Law, Revised Working Paper, October 2016*

Replacement vs. Augmentation

- While job replacement is an understandable fear, it is better to think of it as a spectrum of replacement to augmentation.
- *"Our findings indicate that approximately 80% of the U.S. workforce could have at least 10% of their work tasks affected by the introduction of GPTs, while around 19% of workers may see at least 50% of their tasks impacted. The influence spans all wage levels, with higher-income jobs potentially facing greater exposure."*[1]

Replacement[2]

- Routine and repetitive work
- Rules-based decision making
- Data/document processing
- Information retrieval
- Translation/conversion

Augmentation

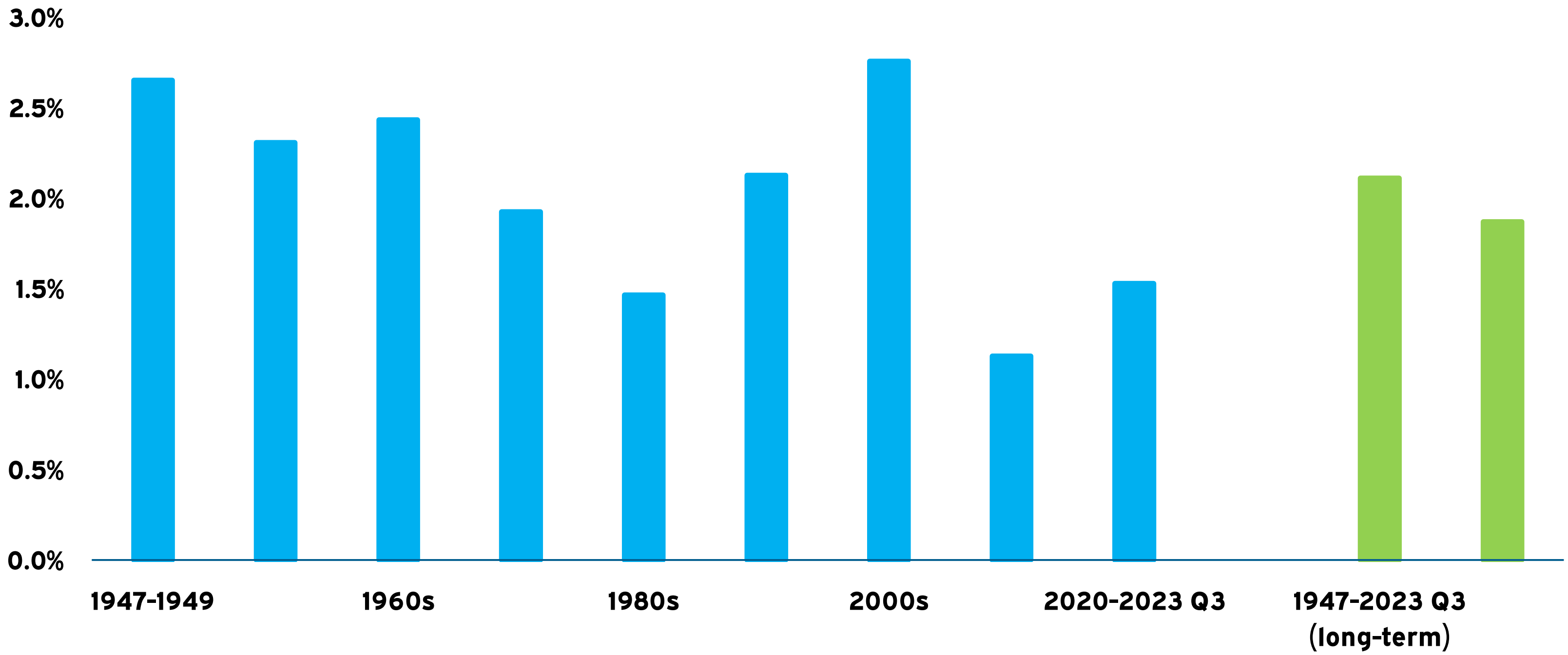
- Leadership/management
- Complex problem solving
- Unstructured environments
- Ethical/moral judgement
- Strategy design/setting
- Crisis management

[1] Source: OpenAI (creator of ChatGPT), GPTs are GPTs: An early look at the labor market impact potential of large language models, Open AI, March 2023.
[2] Concepts regarding replacement and augmentation are adapted from presentations from Toffler Associates.

Impact on Productivity

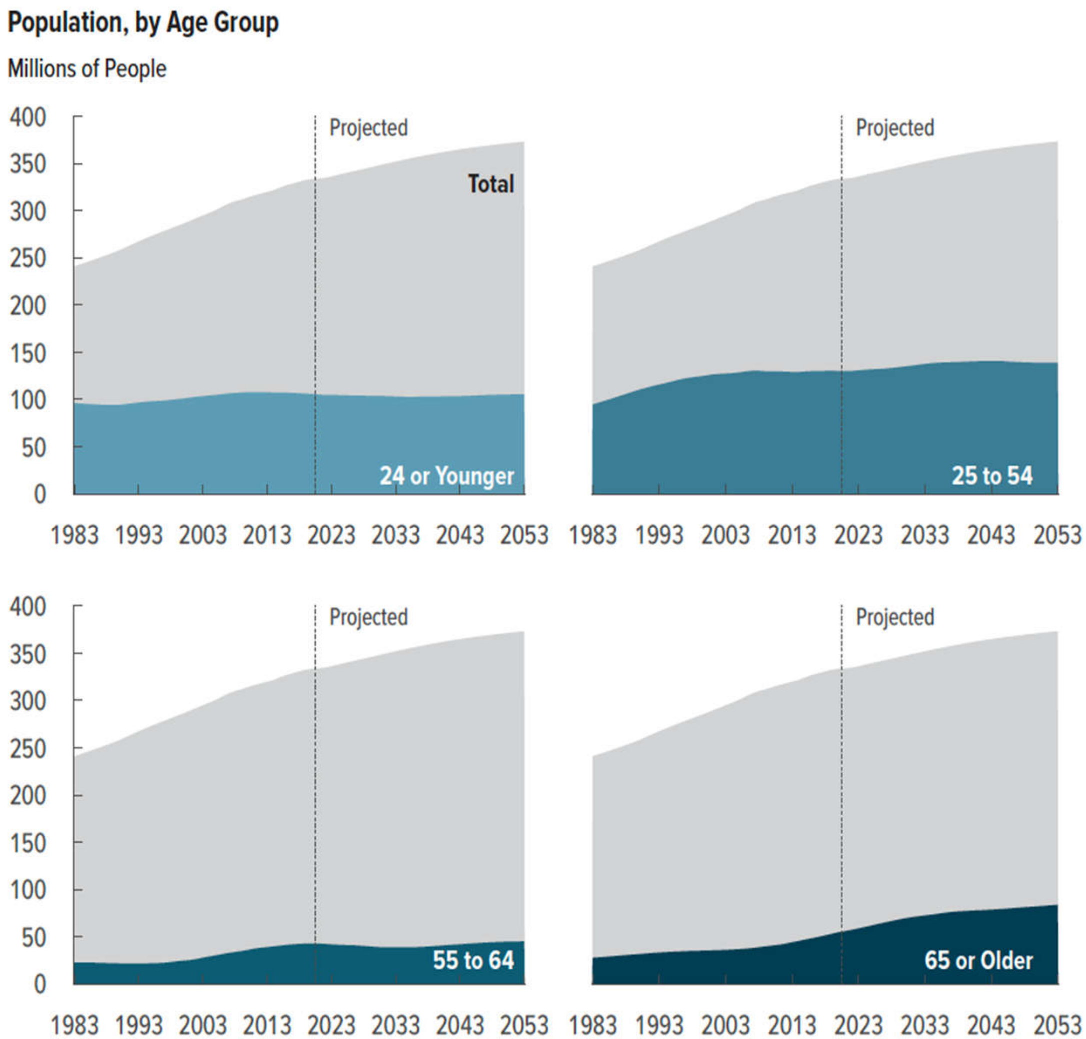
- → Any form of automation/labor savings inherently improves productivity.
- → As discussed earlier, accurate forecasts for the impact of AI are challenging.
- → Example productivity forecast impacts are currently in the 0-1% range, per annum.
- → This would represent a meaningful increase from the long-term historical average (~2.1%).

Annualized Nonfarm Business Sector Productivity, 1947 - 2023 Q3[1]



[1]Source: FRED. Represents Nonfarm Business Sector: Labor Productivity (Output per Hour) for All Workers, Index 2012=100, Quarterly, Seasonally Adjusted.

Silver Lining of AI Potential



- → Even excluding potential discoveries that may benefit society (e.g., healthcare, biotech, climate emissions, etc.), there is an underdiscussed benefit of AI: mitigating the demographic headwinds faced by many developed nations.
- → For example, the aging population of the United States (highlighted in the graphics on the left) will require a reconfiguration of the nation's workforce.
- → AI can help fill positions/tasks that societies may be unable to fill otherwise.

Source: Congressional Budget Office and US Census Bureau, as of January 2023

China

Why the Pessimism on China?

→ The anticipated economic rebound from exiting zero-COVID did not materialize.

→ Real estate bubble is getting worse, not better.

→ Investors have responded by voting with their feet.

→ Xi's policies seem to be backfiring.

Chinese Growth Disappointed in 2023

- → China exited their zero-COVID policy in late 2022.
- → Many investors and economists alike anticipated a surge in growth as the economy re-opened.
- → But the economic rebound did not materialize.
- → Growth projections are being ratcheted down.
- → Major causes include:
  - → Debt overhang in the property sector – nearly ¼ of China's economy.
  - → Exports are lagging.

China Real GDP Growth (Q-o-Q)

Source: FactSet as of December 31,2023. Represents quarter-over-quarter Real GDP growth, seasonally adjusted, provided by the China National Bureau of Statistics.

Property Market Turns from Tailwind to Headwind

→ The issue is systemic.

→ Both the private and public sectors are heavily indebted.

→ The worst problems are with property developers and local governments.

→ In 2021, it was Evergrande; in 2023, it is Country Garden.

→ Old model:

- CCP sold land to developers, filling local government coffers in the process.
- This allowed CCP to spend freely while taking on more debt themselves.
- Local governments are responsible for ~85% of expenditures.
- Developers borrowed heavily and pre-sold properties to finance their acquisitions.
- No other good savings options, so ~70% of household wealth is tied up in the property market.

→ Current status:

- Housing prices falling.
- Some property owners now refusing to make payments on unfinished properties.
- This can turn into a vicious cycle where developers do not have the cash flow to complete projects.

CCP Reaction Has Not Been Helpful

- → Focus has become national security, not growth.
- → Emphasizing nationalistic policies and self-sufficiency.
- → CCP has clamped down on foreign businesses (e.g., office raid, iPhone restrictions).
- → Wants to reign in the debt bubble, so little/no support for property developers.
- → PBoC providing minimal stimulus.
- → Relationships with trading partners and neighbors are becoming increasingly strained.
- → Many investors and business have responded by seeking to reduce their ties to China.
- → Missing and replaced ministers signal challenges at the top of party leadership.

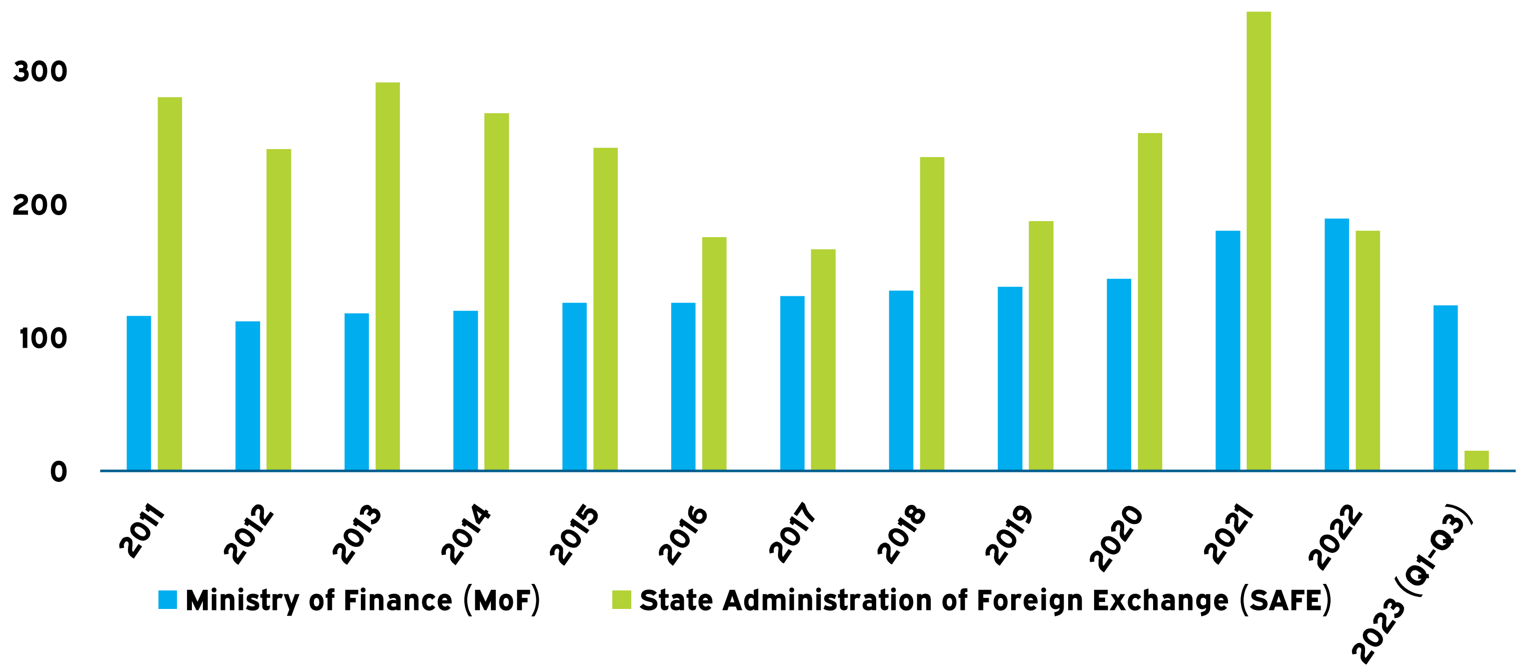
If growth continues to falter, China will face a choice:

backtrack or double down on security and repression

Investor Concerns turn into Portfolio Flows

→ In Q3 2023, China recorded its first quarterly decline in direct investments since 1998 (-$11.8B).[1]

Foreign Direct Investment Inflows to China 2011-2023 (USD in Billions)[2]



[1] Source: Reuters, "West's de-risking starts to bite China's prospects," November 27, 2023. Article based on preliminary balance of payment data as of September 30, 2023.
[2] Source: Peterson Institute for International Economics, N. Lardy "Foreign direct investment is exiting China, new data show," November 17, 2023. SAFE tracks net FDI while the Ministry of Finance tracks gross inflows.

Cheap…for a Reason?

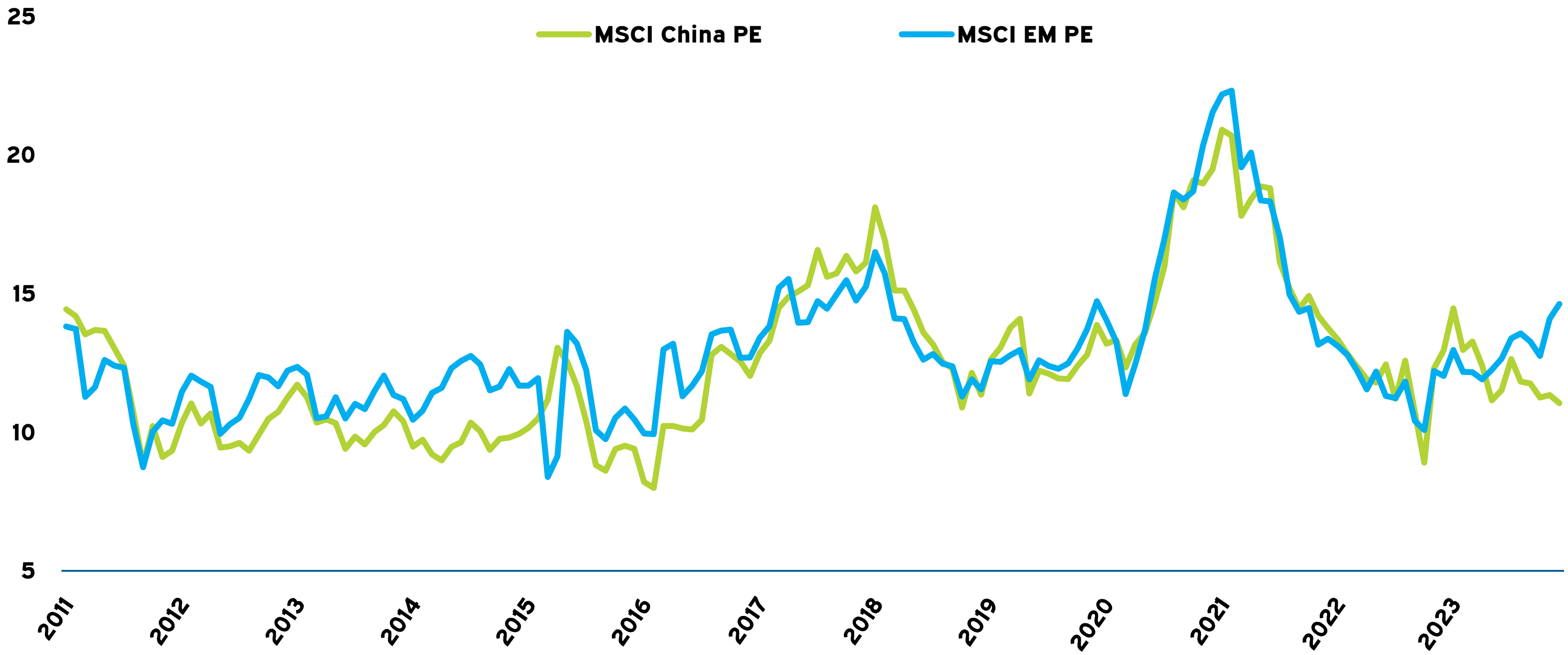
→ Investors' lack of confidence in the economy and CCP policies continues to weigh on Chinese asset prices.

→ While the general mood has clearly soured on Chinese equities, pricing has grown more attractive.

  → P-E ratios for China and the broader emerging market index diverged in 2023.

→ An important question is: Do valuations fairly represent the risks?

Emerging Market and Chinese P-E Ratios[1]



[1] Source: Bloomberg, as of December 31, 2023. Indices used: MSCI China, MSCI Emerging Markets.

Deglobalization

Introduction: Deglobalization

→ We may be entering a period of deglobalization.

→ The primary catalysts were COVID and the war in Ukraine.

- Corporations and countries want to better secure their interests.
- Many are seeking to “de-risk” their supply chains.
- They are doing so both by limiting and changing with whom they trade.

→ More recently, national security policy is placing limits on trade, particularly of technology.

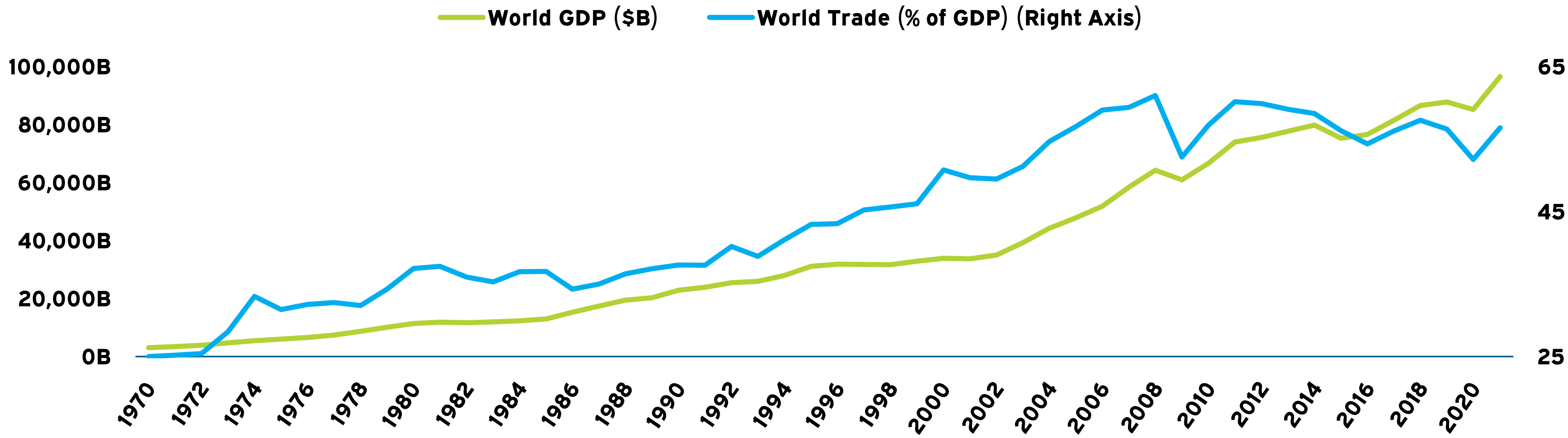
→ The result may be a halt or even an outright reversal of the globalization.

- The historical benefits of globalization included higher growth and lower prices.

→ Hence, deglobalization may affect price stability, interest rates, economic growth, and investment returns.

Historical Impact of Globalization: Trade & Growth

Annual Global Trade and GDP (1970 – 2021)

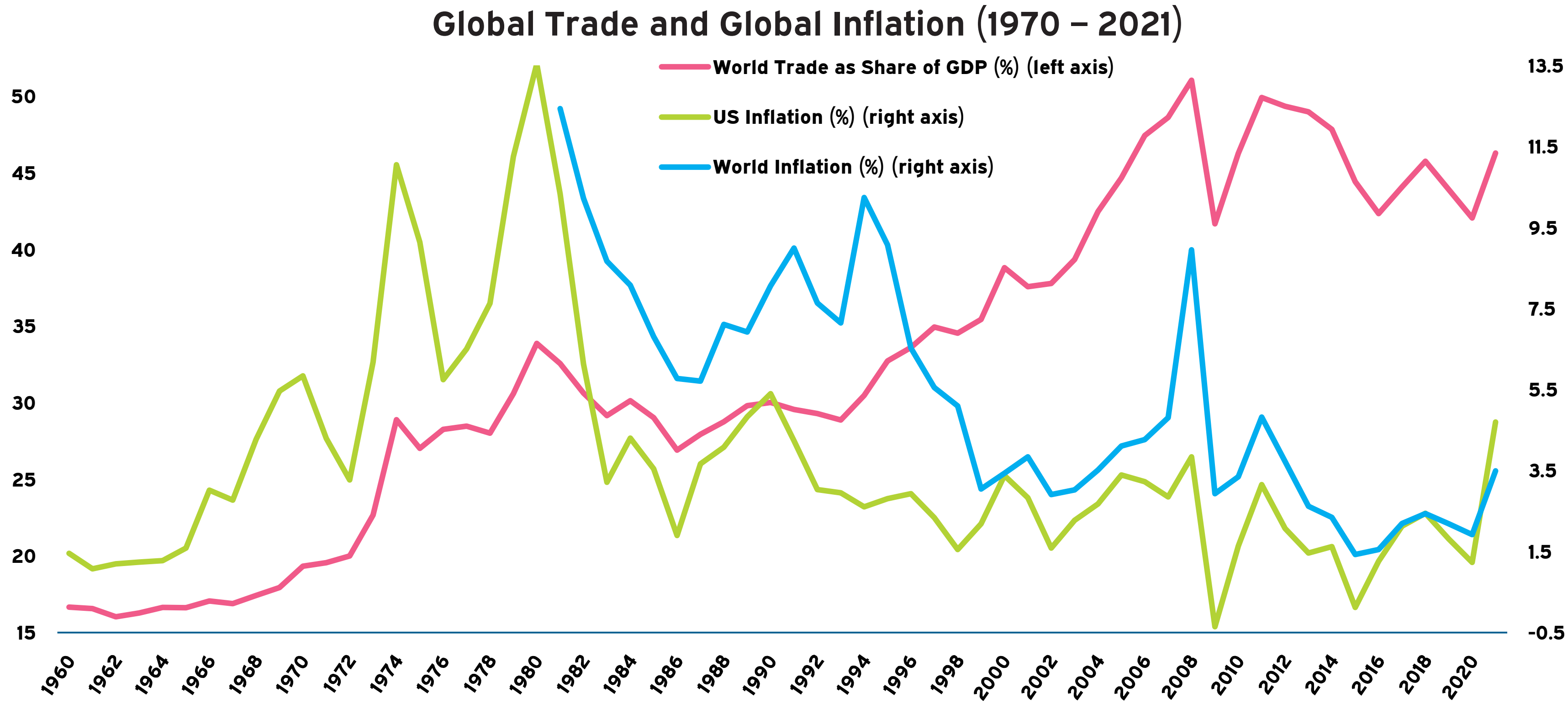


→ The fifty-year period that started in 1970 saw extraordinary growth in trade and GDP.

- Global trade grew from 20% of global GDP in 1970 to a peak of over 50% in 2008.
  - Trade accelerated in the 1990s as countries adopted trade liberalization policies.
- Global GDP grew from $2.9 T to $85.1 T between 1970 and 2020.
  - Developing nations were able to compete on the basis of comparative advantage.
  - Multinationals took advantage of low-cost goods and labor, as well as new markets.

Sources: World Bank and United Nations Conference on Trade & Development Trade Analysis Information System (“UNCATD TRAINS”) and FRED as of December 2022.

Historical Impact of Globalization: Inflation & Global Capital Markets



→ Globalization increased competition across borders and helped drive down prices for labor and goods.
- Between 1980 and 2021, the US enjoyed its longest period of low and stable inflation in modern history.
- Between 2000 and 2020, global inflation averaged just 3.4% well below its post-WWII levels.

→ Economic stability and falling inflation helped foster global capital markets.
- The MSCI ACWI index grew from 2,187 companies in 2000 to 2,966 companies in 2021.

Sources: World Bank and United Nations Conference on Trade & Development Trade Analysis Information System ("UNCATD TRAINS") and FRED. Inflation, consumer prices for the World. Annual data as of September 2022.

Historical Impact of Globalization: Growth & Profitability

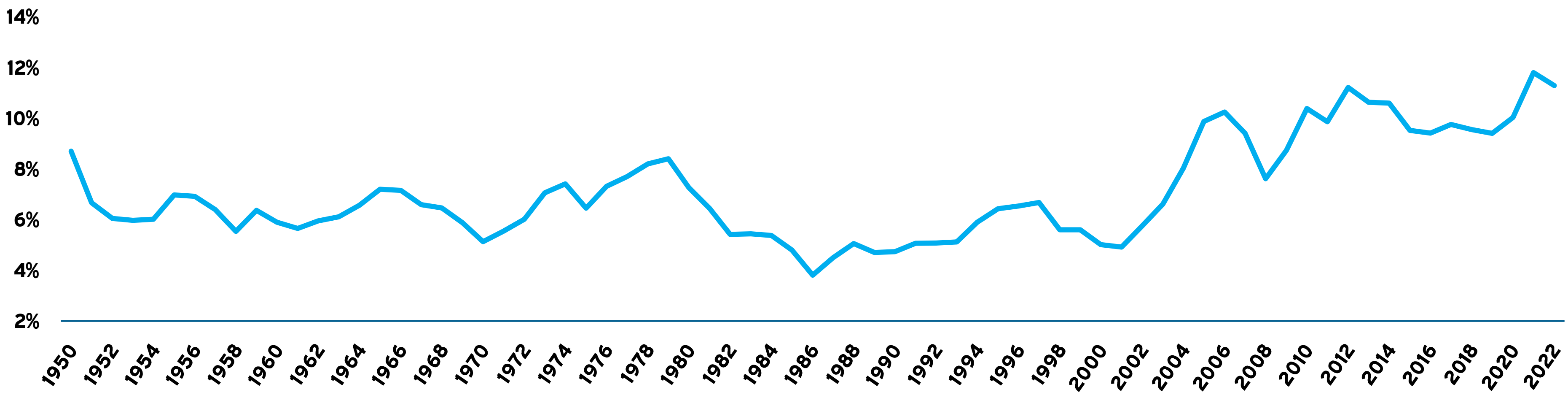
→ Globalization helped increase living standards and reduce global poverty.

- The percent of the global population living on less than $2 a day declined from 42% to less than 10% .
- China saw over 400 million people move out of extreme poverty between 1980 and 2013.

→ Global corporate profits also rose, due in large part to the lower relative costs for materials and labor.

- US corporate profits increased from 5% of US GDP in the early 1980s to over 10% of US GDP in 2022.

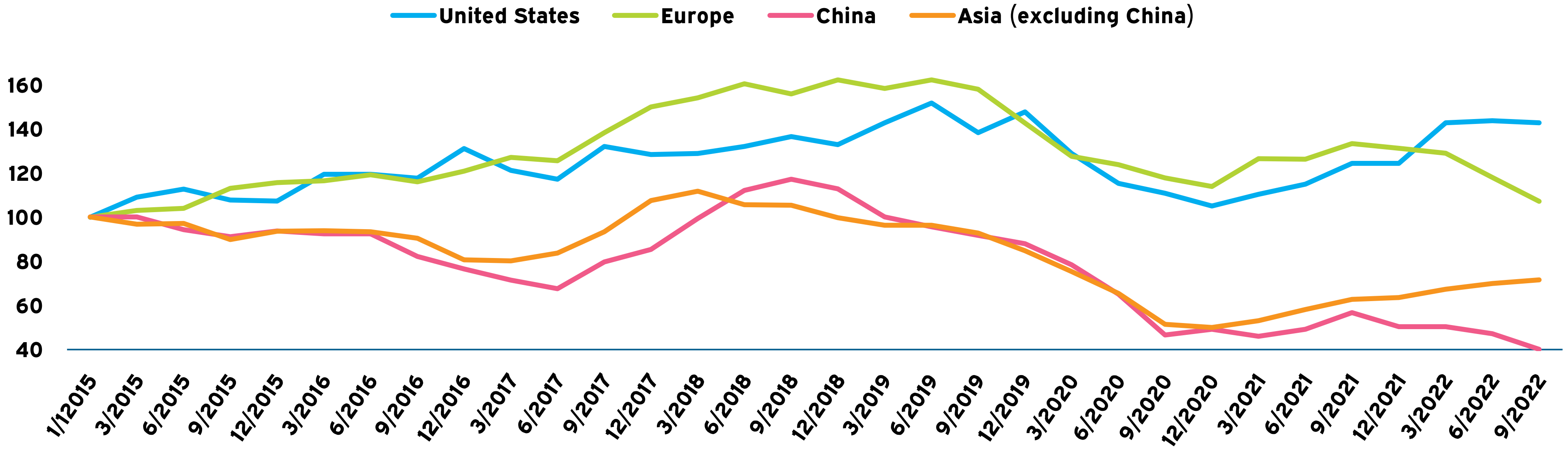
US Corporate Profits as Share of GDP



Source: World Bank UNCATD TRAINS as of March 2023. Annual data through 2019.
Source: IMF, S. Jain-Chandra et al., "Inequality in China - Trends, Drivers, and Policy Remedies," June 2018. Between 1980 and 2015 the number of Chinese people in the lowest decile of income declined by 86%.
Source: Meketa analysis of data from FRED. Corporate Profits After Tax (without IVA and CCAdj), Seasonally Adjusted Annual Rate, and Gross Domestic Product, Seasonally Adjusted Annual Rate.

Shift Away From China

Number of Global Foreign Direct Investments By Region (2015 – 2022)



→ The global pandemic revealed dependence on China for critical supplies and goods.

→ Global corporations shift to China +1, China +2, and friend-shoring strategies.

- Prioritizing supply chain resiliency over low-cost suppliers.

→ Much of the relocated distribution has remained in Southeast Asia.

Source: IMF World Economic Outlook April 2023. Chapter 4. Geoeconomic Fragmentation and Foreign Direct Investment. Number of investments with four-quarter moving average.

Resource Security & National Security

- → Specialization and efficiency dominated corporate and public investment decisions since the 1990s.
  - But this also introduced fragility, leaving supply chains vulnerable to shocks.
- → Russia's invasion created food and energy insecurity.
- → Nations reacted by focusing on self-sufficiency.
  - Europe decoupled itself from Russian natural gas.
- → Nations are also re-drawing trade and political relationships based on shared security concerns.
- → The Russian invasion re-invigorated NATO.
- → The US attitude to China's rise has shifted from engagement and cooperation to strategic decoupling.
  - China's trade practices reduced the US appetite for diplomatic and economic engagement.
  - Protectionist policies that were implemented during the Trump administration were extended by Biden.
- → The Biden administration has gone further by embracing policies that re-shoring.
  - The CHIPS Act and Inflation Reduction Act (IRA) mark re-emergence of US national industrial policies.

Deglobalization's Likely Economic Ramifications

→ A reversal in the half-century trend toward globalization is likely to have major consequences.

→ The tailwinds that drove down costs for labor and raw materials might turn into headwinds.

→ Companies are increasingly willing to trade efficiency for greater resiliency in their supply chains.

- Further, geopolitical tensions and sanctions are guiding investment decisions.
- New supply chain configurations demand new investment and sourcing from friendly suppliers.

→ Reconfiguring supply chains can be costly.

- Reshoring or friend-shoring production may incur additional labor and capex costs.
- It may also result in lower return on investment for corporations.

→ The higher cost of capital and higher wages could negatively impact corporate earnings.

- Likewise, they could lead to higher levels of global inflation.

Deglobalization's Risks to Investment Returns

→ The pace and depth of deglobalization is unknowable.

→ We modeled possible outcomes of deglobalization using scenario analysis.

→ We considered four potential deglobalization scenarios.

- Our most optimistic scenario is that governments will rediscover their pro-trade multilateralism, which could reboot globalization.
- Our next scenario resembles the current situation, extending the current drift of regionalism and rerouting of global trade and capital flows within trade blocs.
- Our third scenario considers what might happen if outright deglobalization becomes prevalent.
- Our final scenario is the most bearish, as it ponders the consequences of a military blockade and embargoes related to a military conflict over Taiwan.

→ Based on our analysis, a well-diversified institutional portfolio might experience a decline in expected returns of between -0.5% and -1.5% per annum in all but the worst-case scenario.

Conclusions

→ A reversal in the half-century trend toward globalization is likely to have major consequences.

→ Deglobalization could have significant impacts on global growth, inflation, and politics.

- Reduced economic integration could lead to a decline in trade, investment, and innovation.
  - This could ultimately lead to slower economic growth.
- Reduced economic integration could lead to higher prices.
  - Companies will likely face higher production costs and trade barriers.
- Deglobalization could lead to a rise in nationalism and protectionism.
  - Countries may seek to protect domestic industries and reduce dependence on foreign trade.

→ The combination of lower growth and higher inflation would pose challenges for investors.

Summary Data

Return and Risk Data

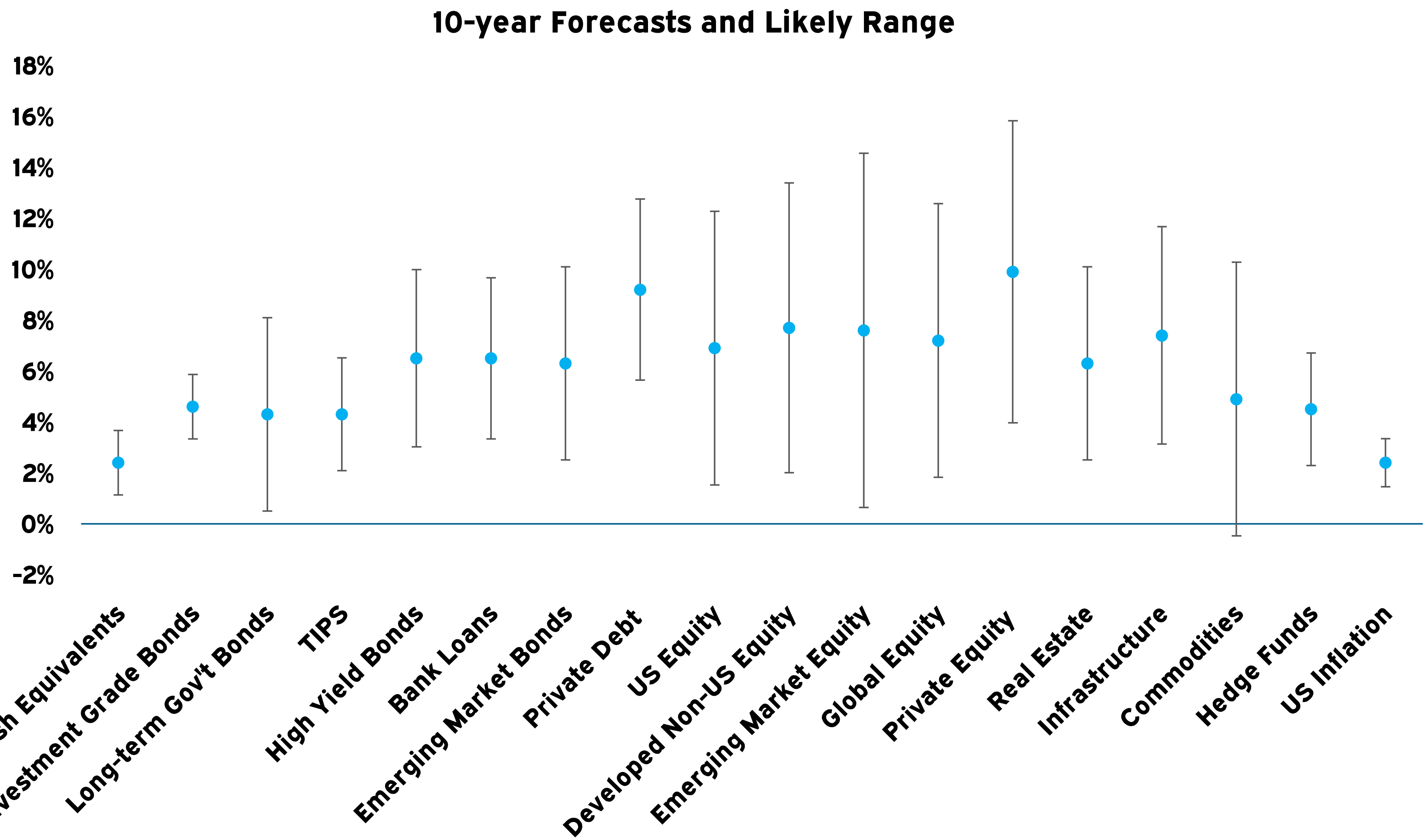
Asset Class	10-year Expected Return (%)	20-year Expected Return (%)	Standard Deviation (%)	11-20 year Risk Premia[1] (%)
Cash Equivalents	2.4	2.5	1.0	-2.0
Investment Grade Bonds	4.6	4.8	4.0	0.4
Long-term Government Bonds	4.3	5.0	12.0	1.0
TIPS	4.3	4.7	7.0	0.4
High Yield Bonds	6.5	6.8	11.0	2.5
Bank Loans	6.5	6.6	10.0	2.0
Emerging Market Debt (local)	6.3	6.2	12.0	1.5
Private Debt	9.2	9.2	15.0	4.6
US Equity	6.9	8.5	17.0	5.5
Developed Non-US Equity	7.7	8.9	18.0	5.4
Emerging Non-US Equity	7.6	8.9	22.0	5.5
Global Equity	7.2	8.7	17.0	5.5
Private Equity	9.9	11.2	25.0	7.8
Real Estate	6.3	8.0	16.0	5.3
Infrastructure	7.4	9.0	18.0	6.1
Commodities	4.9	5.3	17.0	1.0
Hedge Funds	4.5	5.8	7.0	2.5
Inflation	2.4	2.8		-1.5

[1] Risk Premia are calculated relative to the market's projection for the yield on the 10-year Treasury in ten years..

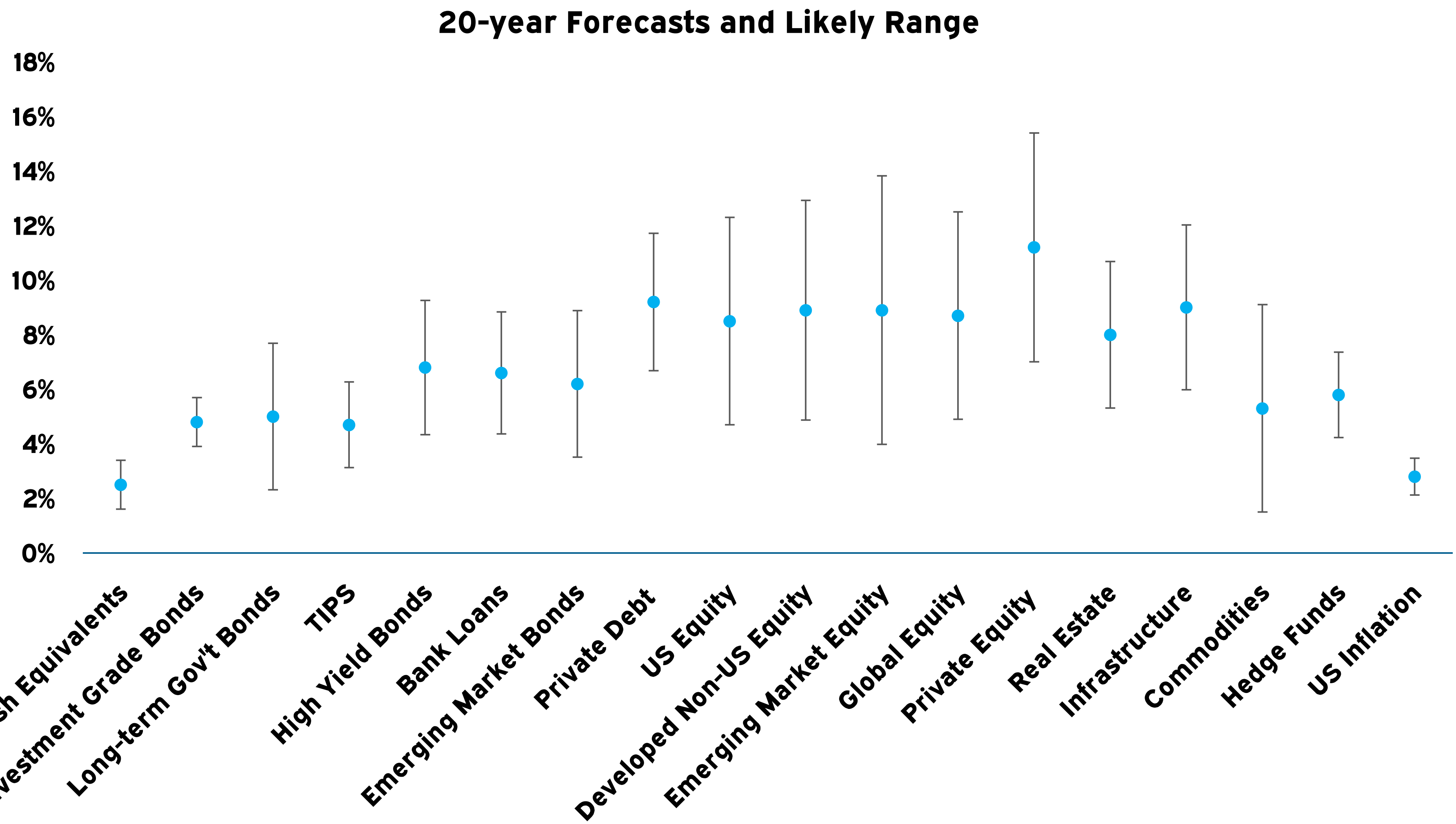
Correlation Data

	Inv. Grade Bonds	Long-term Gov't Bonds	TIPS	High Yield Bonds	US Equity	Dev. Non-US Equity	Em. Market Equity	Private Equity	Real Estate	Commod.	Infra.	Hedge Funds
Investment Grade Bonds	1.00											
Long-term Government Bonds	0.86	1.00										
TIPS	0.77	0.61	1.00									
High Yield Bonds	0.35	-0.04	0.46	1.00								
US Equity	0.22	-0.10	0.30	0.76	1.00							
Developed Non-US Equity	0.26	-0.09	0.33	0.76	0.88	1.00						
Emerging Market Equity	0.27	-0.05	0.36	0.72	0.74	0.86	1.00					
Private Equity	0.00	-0.10	0.03	0.66	0.90	0.83	0.79	1.00				
Real Estate	0.26	0.06	0.17	0.56	0.53	0.49	0.43	0.49	1.00			
Commodities	0.00	-0.23	0.28	0.47	0.46	0.55	0.58	0.23	0.15	1.00		
Infrastructure	0.31	0.14	0.32	0.65	0.64	0.68	0.60	0.51	0.61	0.41	1.00	
Hedge Funds	0.12	-0.20	0.30	0.78	0.80	0.83	0.81	0.53	0.47	0.64	0.61	1.00

10-Year Return Expectations



20-Year Return Expectations



2023 Peer Survey

→ Annually, Horizon Actuarial Services, LLC publishes a survey of capital market assumptions that they collect from various investment advisors.[1]

→ The Horizon survey is a useful tool to determine whether a consultant's expectations for returns (and risk) are reasonable.

Asset Class	Horizon 10-Year Average (%)	Meketa 10-Year (%)	Horizon 20-Year Average (%)	Meketa 20-Year (%)
Cash Equivalents	3.4	3.1	3.2	2.9
TIPS	4.1	4.3	4.1	4.5
US Core Bonds	4.7	4.8	4.8	4.7
US High Yield Bonds	6.4	8.0	6.5	7.3
Emerging Market Debt	6.3	6.5	6.4	6.2
Private Debt	8.2	9.4	8.2	9.0
US Equity (large cap)	6.9	7.8	7.4	8.7
Developed Non-US Equity	7.5	10.1	7.8	9.8
Emerging Non-US Equity	8.2	10.3	8.6	10.0
Private Equity	9.5	9.7	10.1	11.0
Real Estate	6.0	5.9	6.3	7.8
Infrastructure	7.0	6.9	7.1	8.3
Commodities	5.0	6.3	4.9	5.7
Hedge Funds	6.0	5.4	6.2	6.1
Inflation	2.6	2.5	2.5	2.6

[1] The 10-year horizon included all 42 respondents to the survey, and the 20-year horizon included 27 respondents. Figures are based on Meketa's 2023 CMEs.

These materials are intended solely for the recipient and may contain information that is not suitable for all investors. This presentation is provided by Meketa Investment Group ("Meketa") for informational purposes only and no statement is to be construed as a solicitation or offer to buy or sell a security, or the rendering of personalized investment advice. The views expressed within this document are subject to change without notice. These materials include general market views and each client may have unique circumstances and investment goals that require tactical investments that may differ from the views expressed within this document. There is no agreement or understanding that Meketa will provide individual advice to any advisory client in receipt of this document. There can be no assurance the views and opinions expressed herein will come to pass. Any data and/or graphics presented herein is obtained from what are considered reliable sources; however, its delivery does not warrant that the information contained is correct. Any reference to a market index is included for illustrative purposes only, as an index is not a security in which an investment can be made and are provided for informational purposes only. For additional information about Meketa, please consult the Firm's Form ADV disclosure documents, the most recent versions of which are available on the SEC's Investment Adviser Public Disclosure website (www.adviserinfo.sec.gov) and may otherwise be made available upon written request.

MEKETA

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Meketa.com

MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)

FROM: Meketa Investment Group (Meketa)

DATE: March 27, 2024

RE: Total Portfolio Expected Return Update – 2024 Assumptions

Summary

At least once per year, Meketa generates forward-looking capital market assumptions ("CMAs") to provide clients with our best estimates of long-term returns, volatilities, and correlations across a wide range of asset classes/strategies. These CMAs are then used in complex asset-liabilities studies as well as in more straight-forward asset allocation reviews. Additionally, one of the primary uses of these updated CMAs is to allow clients to review the expected return and volatility of their long-term policy target portfolios. Through this exercise, clients are able to obtain a general understanding of the positioning of their policy portfolio and whether it is still aligned with their long-term objectives.

Based on Meketa's 2024 Capital Market Assumptions, the OPFRS investment portfolio is well structured to perform above its 6.00% actuarial objective and over its 5% in the long-term.

Discussion

OPFRS completed the comprehensive Asset-Liability Study in February 2024 that culminated in a new long-term policy portfolio.

At the beginning of each year, Meketa develops capital market assumptions for a wide range of asset classes/strategies (in 2024 this equated to 112 different asset classes/strategies). These assumptions are developed using a multitude of quantitative and qualitative inputs, and this development process is updated each year with additional data sets and more refined approaches/models. Meketa develops assumptions for both 10-year (i.e., intermediate) and 20-year (i.e., long-term) timeframes. For the purposes of this memorandum, Meketa mapped the 10-year and 20-year assumptions to both the long-term policy targets in order to generate expected return and volatility metrics for the respective portfolios.[1] The long-term policy targets that were used can be found on the following page. The expected return and volatility metrics for the long-term policy targets are also presented. The underlying assumptions that were used are presented in this document.

Policy Targets and Expected Return/Risk

Classes/Strategies	2024 Long-term Policy Targets (%)
Return Seeking Assets	**40**
U.S. Equity	25
International Equity	5
High Yield	10
FIXED INCOME	**51**
CRISIS RISK OFFSET	**9**
Total	*100*
Expected Return (10-year)*	5.8
Expected Return (20-year)*	6.5
Annual Volatility	6.9

* Expected returns consist of passive management in liquid markets classes and median net performance in illiquid markets classes.

As detailed in the table above, the OPFRS investment portfolio is positioned to generate an expected return of 5.8%-6.5% depending on the investment horizon. When examining the portfolio from holistic perspective, Meketa believes that the portfolio remains prudently constructed to achieve and/or modestly exceed the actuarial rate without assuming unnecessary risk. It is important to note that the expected return of the portfolio and the actuarial assumed investment return do not need to be equal at all times, however, they should be similar to one another and directionally track over time.

2024 Return Assumptions*

Composite/Asset Class /Strategy	2024 Expected Return: 20-Year Geometric (%)
Return Seeking	
U.S. Equity	8.5
International Equity	8.9
High Yield	6.8
Fixed Income	
Investment Grade Bonds	4.8
Crisis Risk Offset	
Long US Treasuries	5.0
Systematic Trend Following	4.7
Alternative Risk Premia	5.2
Total Portfolio	**6.5**

*Expected returns consist of passive management in liquid markets classes and median net performance in illiquid markets classes.

DS/PN/JL/mn

MEKETA

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MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group (Meketa)
DATE: March 27, 2024
RE: Implementation Plan: Newly Adopted 2024 Strategic Allocation Targets

Summary

At its February 2024 meeting, the OPFRS Board approved a new long-term strategic allocation policy (see table below). Based on several projection statistics highlighted in the table, this new policy should maintain the likelihood of achieving the Plan's actuarial rate of return, while significantly lowering the portfolio's risk.

Comparison of OPFRS's current policy with new Long-term Allocation

Strategic Classes	Current	New	Change
Return-Seeking Assets			
US Equity	40.0	25.0	-15.0
Developed Market Equity (non-US)	12.0	5.0	-7.0
Buy Write (Covered Calls)	5.0	0.0	-5.0
High Yield Bonds	2.0	10.0	8.0
Crisis Risk Offset			
CTA (Trend Following)	3.3	3.0	-0.3
Alternative Risk Premia (ARP)	3.3	3.0	-0.3
Long-Term Government Bonds	3.3	3.0	-0.3
Fixed Income			
Investment Grade Bonds	31.0	51.0	20.0

Stats	Current (%)	New (%)	Change (%)
10-Year Geometric Return	7.1	6.2	-0.9
Return Volatility (Std. Dev.)	10.2	6.8	-3.4
Sharpe Ratio	0.39	0.46	0.07

From an allocation perspective, the biggest change is a decrease in return-seeking assets (U.S. and International public equity mandates) in favor of a significant increase in fixed income investments (Investment Grade Bonds). Additional notable items will include the elimination of the two Covered Calls strategies currently held in the Plan, a slight downward adjustment to the Crisis Risk Offset class, and an increase to high yield securities (through new Core Plus managers). These changes, as described in further detail below, will occur following class reviews and over the next 24 months so as not to disrupt the portfolio's return/diversification production capabilities in the near term.

Strategic Classes	Current Allocation	2H 2024	1H 2025	2H 2025	Long-Term Target
Return-Seeking Assets					
US Equity	40.0	35.0	30.0	25.0	25.0
Developed Market Equity (non-US)	12.0	10.0	8.0	6.0	5.0
Buy Write (Covered Calls)	5.0	0.0	0.0	0.0	0.0
High Yield Bonds	2.0	4.0	6.0	8.0	10.0
Crisis Risk Offset					
CTA (Trend Following)	3.3	3.0	3.0	3.0	3.0
Alternative Risk Premia (ARP)	3.3	3.0	3.0	3.0	3.0
Long-Term Government Bonds	3.3	3.0	3.0	3.0	3.0
Fixed Income					
Investment Grade Bonds	21.0	31.0	41.0	51.0	51.0

An Evolving Strategic Policy

As highlighted above, one feature of adopting the new strategic policy is that it will require a significant amount of change, both from an asset adjustment standpoint and from the perspective of updating and searching for new potential managers. When working with other clients in similar positions, Meketa has found that it can be challenging to keep the actual portfolio aligned with the intended long-term policy portfolio. Specifically, some moves/adjustments toward policy allocations take significant time, resulting in an actual portfolio that may deviate significantly from its policy benchmark, from both investment performance and asset allocation perspectives.

To help resolve and/or manage this issue, Meketa is recommending an "evolving policy" (see table above). Under an evolving policy framework, the policy portfolio is allowed to adjust over time, reflecting the incremental funding nature that many of the minor classes require to achieve their policy targets.

PN/DS/JLC/mn

MEKETA

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MEMORANDUM

FTO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group (Meketa)
DATE: March 27, 2024
RE: 2024 Ongoing Strategic Investment Agenda

On an ongoing (monthly) basis, Meketa develops a list of projects that we expect to work closely with OPFRS to complete over the calendar year (see table below). In an attempt to coordinate the scheduling of these tasks, this memo details a Preliminary Investment Project Agenda by calendaring and prioritizing the expected tasks and deliverables that would be required to fulfill the Agenda. The proposed timeline is subject to revisions and change based upon OPFRS's emerging needs. Meketa welcomes any suggestions or modifications to the proposed timeline.

2024 Preliminary Investment Project Agenda

Month	Task
April 2024	Flash Performance (2024 Mar) Manager Presentation: TBD Investment Policy Statement (IPS) Updates
May 2024	Flash Performance (2024 Apr) Quarterly Performance Report (2024 Q1) Manager Presentation: TBD
June 2024	Flash Performance (2024 May) Cash Flow Report (2024 Q3) Manager Presentation: TBD
July 2024	Flash Performance (2024 Jun) Manager Presentation: TBD
August 2024	Flash Performance (2024 Jul) Quarterly Performance Report (2023 Q2) Manager Presentation: TBD
September 2024	Flash Performance (2024 Aug) Cash Flow Report (2024 Q4) Manager Presentation: TBD

Month	Task
October 2024	Flash Performance (2024 Sep) Thermal Coal List Update: 2024 Manager Update: **Ramirez** Contract Renewal: Ramirez
November 2024	Flash Performance (2024 Oct) Manager Presentation: TBD
December 2024	Flash Performance (2024 Nov) Quarterly Performance Report (2024 Q3) Cash Flow Report (2025 Q1) Manager Presentation: TBD

This agenda includes only major strategic items. Meketa also expects to work with the Staff and Board to complete more routine tasks and projects, as expected.

DS/PN/JLC/mn

Due to the termination of the statewide COVID-19 State of Emergency by the Governor of California, effective March 1, 2023, all meetings of the Oakland Police & Fire Retirement System Board and its Committees will be conducted in person.

Meetings are held in wheelchair accessible facilities.

The Board may take action on items not on the agenda only if findings pursuant to the Sunshine Ordinance and Brown Act are made that the matter is urgent or an emergency.

For additional information, contact the Retirement Unit by calling (510) 238-7295. or send an email to mvisaya@oaklandca.gov

CITY OF OAKLAND

Retirement Unit
150 Frank H. Ogawa Plaza
Oakland, California 94612

AGENDA

MEETING of the BOARD OF ADMINISTRATION of the OAKLAND POLICE AND FIRE RETIREMENT SYSTEM (“PFRS”)

WEDNESDAY, MARCH 27, 2024
11:30 AM
ONE FRANK H. OGAWA PLAZA, HEARING ROOM 2
OAKLAND, CA 94612

OBSERVE

- To observe the meeting by video conference, please click on this link: https://us02web.zoom.us/j/82880493983 at the noticed meeting time.
- To listen to the meeting by phone, please call the numbers below at the noticed meeting time: Dial (for higher quality, dial a number based on your current location):
- iPhone one-tap: US: +16699006833, 82880493983# or +13462487799, 82880493983#
- US: +1 669 900 6833 or +1 346 248 7799 or +1 253 215 8782 or +1 301 715 8592 or +1 312 626 6799 or +1 929 205 6099
- International numbers available: https://us02web.zoom.us/u/kctrX35uax
- Webinar ID: 828 8049 3983.
- If asked for a participant ID or code, press #.

PUBLIC COMMENTS

There are two ways to submit public comments.

- Speaker Card: All persons wishing to address the Board must complete a speaker’s card, stating their name and the agenda item they wish to address, including “Open Forum”.
- eComment: To send your comment directly to staff BEFORE the meeting starts, please email to mvisaya@oaklandca.gov with “PFRS Board Meeting Public Comment” in the subject line for the corresponding meeting. Please note that eComment submission **closes two (2) hours before posted meeting time**.

If you have any questions, please email Maxine Visaya, Administrative Assistant II at mvisaya@oaklandca.gov

ORDER OF BUSINESS

A. Subject: **POLICE AND FIRE RETIREMENT SYSTEM ("PFRS") BOARD OF ADMINISTRATION MEETING MINUTES**
From: Staff of the PFRS Board
Recommendation: **APPROVE** the February 28, 2024 PFRS Board of Administration Meeting Minutes

B. Subject: **PFRS ACTUARY VALUATION REPORT AS OF JULY 1, 2023**
From: Cheiron, Inc.
Recommendation: **APPROVE** the PFRS Actuary Valuation Report as of July 1, 2023

C. AUDIT & OPERATIONS COMMITTEE AGENDA – MARCH 27, 2024

C1. Subject: **ADMINISTRATIVE EXPENSES REPORT**
From: Staff of the PFRS Board
Recommendation: **ACCEPT** informational report regarding PFRS administrative expenses as of January 31, 2024

C2. Subject: **PFRS MID-CYCLE ADMINISTRATIVE BUDGET ADJUSTMENT FY 2023/2024 and 2024/2025**
From: Staff of the PFRS Board
Recommendation: **APPROVE** proposed mid-cycle adjustment to PFRS FY 2024/2025 Administrative Expenses Budget

C3. Subject: **RESOLUTION NO. 8095**
TRAVEL REQUEST: JAIME T. GODFREY
From: Staff of the PFRS Board
Recommendation: **RECOMMEND BOARD APPROVAL** of Resolution No. 8085 authorizing request of Oakland Police and Fire Retirement System Board Member Jaime T. Godfrey to travel and attend Pension Bridge The Annual 2024 conference from April 15, 2024 through April 17, 2024 in Half Moon Bay, CA and authorizing reimbursement of registration fees and travel-related expenses in an amount not to exceed one-thousand five hundred fifty dollars ($1,500.00)

C4. Subject: **PFRS ANNUAL REPORT**
FISCAL YEAR ENDED JUNE 30, 2023
From: Staff of the PFRS Board
Recommendation: **APPROVE** printing and publication of the Annual Report of the Oakland Police & Fire Retirement System for Fiscal Year Ended June 30, 2023

D. INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – MARCH 27, 2024

D1. **Subject:** **INVESTMENT MANAGER PERFORMANCE UPDATE: REAMS ASSET MANAGEMENT**

From: Reams Asset Management

Recommendation: **ACCEPT** informational report regarding a firm overview and managerial assessment; diversity and inclusion policy and practices; local brokerage usage; and investment strategy and portfolio performance of PFRS' Core Plus Fixed Income Investment Strategy Manager Reams Asset Management

D2. **Subject:** **INVESTMENT MANAGER PERFORMANCE REVIEW: REAMS ASSET MANAGEMENT**

From: Meketa Investment Group

Recommendation: **ACCEPT** Meketa Investment Group's review and evaluation regarding a firm overview and managerial assessment; peer ranking; and investment portfolio performance of PFRS' Core Plus Fixed Income Investment Strategy Manager Reams Asset Management

D3. **Subject:** **ECONOMIC AND INVESTMENT MARKET OVERVIEW AS OF FEBRUARY 29, 2024**

From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Global Investment Markets as of February 29, 2024

D4. **Subject:** **PRELIMINARY INVESTMENT FUND PERFORMANCE UPDATE AS OF FEBRUARY 29, 2024**

From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Preliminary Investment Fund Performance Update as of February 29, 2024

D5. **Subject:** **$13.2 MILLION DRAWDOWN FOR PFRS MEMBER RETIREMENT ALLOWANCES FROM APRIL 1, 2024 THROUGH JUNE 30, 2024**

From: Meketa Investment Group

Recommendation: **ACCEPT** informational report and **APPROVE** Meketa Investment Group's recommended drawdown of $13.2 million, which includes a $10.2 Million contribution from the City of Oakland and a $3.0 Million contribution from the PFRS Investment Fund, to be used to pay PFRS Member Retirement Allowances from April 1, 2024 through June 30, 2024 for Fiscal Year 2023/2024

D6. **Subject:** **MEKETA 2024 CAPITAL MARKETS EXPECTATIONS AND PFRS LONG TERM INVESTMENT RETURN EXPECTATIONS**
From: Meketa Investment Group
Recommendation: **ACCEPT** informational report regarding Meketa Investment Group's 2024 Capital Markets Expectations and Long-Term Investment Return Expectations of the PFRS Fund

D7. **Subject:** **ASSET-LIABILITY STUDY OF THE PFRS FUND**
From: Meketa Investment Group
Recommendation: **RECEIVE and DISCUSS** Meketa Investment Group's recommended revised asset allocation policy and implementation schedule based on the results of the 2023 Asset-Liability Study of the PFRS Fund. **APPROVE** to adopt Meketa Investment Group's recommended revised asset allocation policy of the PFRS Fund and implementation schedule.

E. **Subject:** **MEMBER RESOLUTION NOS. 8096 – 8097**
From: Staff of the PFRS Board
Recommendation: **APPROVE** Member Resolution Nos. 8096 – 8097

E1. **RESOLUTION NO. 8096**

Resolution fixing the monthly allowance of the surviving spouse of the following retired members of the Oakland Police and Fire Retirement System in the amounts indicated:

Deceased Member	Surviving Spouse	Monthly Allowance
▪ Alfred A. Piggee	Carol A. Piggee	$4,317.50
▪ Richard Randall	Carolyn Randall	$5,120.13

E2. **RESOLUTION NO. 8097**

Resolution approving death benefit payment and directing a warrant thereunder in the total sum of $1,000.00 payable to the beneficiary of the following deceased member of the Oakland Police and Fire Retirement System:

- John L. Haubner

F. **PENDING ITEMS**

G. **NEW BUSINESS**

H. **OPEN FORUM**

I. **FUTURE SCHEDULING**

J. **ADJOURNMENT**

A MEETING OF THE OAKLAND POLICE AND FIRE RETIREMENT SYSTEM ("PFRS") BOARD OF ADMINISTRATION was held on Wednesday, February 28, 2024, at One Frank H. Ogawa Plaza, Hearing Room 2, Oakland, CA.

Board Members:	▪ Walter L. Johnson	President
	▪ Jaime T. Godfrey	Vice President
	▪ Martin J. Melia	Member
	▪ Robert W. Nichelini	Member
	▪ Erin Roseman	Member
	▪ John C. Speakman	Member
	▪ R. Steven Wilkinson	Member
Additional Attendees:	▪ David F. Jones	PFRS Secretary & Plan Administrator
	▪ Téir Jenkins	PFRS Investment & Operations Manager
	▪ Maxine Visaya	PFRS Staff Member
	▪ Selia Warren	PFRS Legal Counsel
	▪ David Sancewich	Meketa Investment Group
	▪ Graham Schmidt	Cheiron, Inc.

The meeting was called to order at 11:43 a.m. Pacific

A. APPROVAL OF THE PFRS BOARD OF ADMINISTRATION MEETING MINUTES

Member Nichelini made a motion to approve the January 31, 2023 PFRS Board of Administration Meeting Minutes, second by Member Speakman. Motion passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

B. AUDIT AND OPERATIONS COMMITTEE AGENDA – FEBRUARY 28, 2024

B1. ADMINISTRATIVE EXPENSES REPORT

Investment & Operations Manager Jenkins presented an informational report on PFRS' administrative expenditures as of December 31, 2023. PFRS has an approved annual budget of $3.8 million and have expensed approximately $935,000 to date for fiscal year 2023/2024. Membership consisted of 640 retired members and beneficiaries, which included 399 Police Members and 241 Fire Members.

MOTION: Member Speakman made a motion to accept the informational report regarding PFRS' Administrative Expenses Report, second by Member Melia. Motion passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

C. INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – FEBRUARY 28, 2024

C1. INVESTMENT MANAGER PERFORMANCE UPDATE: RICE HALL JAMES & ASSOCIATES, LLC

Chairperson Godfrey presented a brief overview of the presentation provided by Rice Hall James & Associates, LLC (RHJ), PFRS' Domestic Equity Small-Cap Core Investment Strategy Manager.

MOTION: Vice President Godfrey made a motion to accept the informational report provided by RHJ, second by Member Wilkinson. Motion passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

C2. INVESTMENT MANAGER PERFORMANCE REVIEW: RICE HALL JAMES & ASSOCIATES, LLC

David Sancewich of Meketa Investment Group ("Meketa") presented an informational memo regarding a firm overview and managerial assessment; peer ranking; and investment portfolio performance of RHJ, PFRS' Domestic Equity Small-Cap Core Investment Strategy Manager and advised Meketa has no concerns at this time.

MOTION: Vice President Godfrey made a motion to accept Meketa's evaluation of RHJ, second by Member Melia. Motion Passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

C3. RESOLUTION NO. 8093

A Resolution authorizing the execution of a one-year extension of professional services agreement with Rice Hall James & Associates, LLC for the provision of Domestic Equity Small-Cap Growth Investment Strategy Manager Services for the City of Oakland Police and Fire Retirement System.

MOTION: Vice President Godfrey made a motion to approve Resolution No. 8093, second by Member Nichelini. Motion Passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED:)

C4. INFORMATIONAL OVERVIEW: INVESTMENT OPPORTUNITIES IN AFRICA

Vice President Godfrey and Member Wilkinson provided an overview of the presentation regarding investment opportunities in Africa via Zoom.

MOTION: Vice President Godfrey made a motion to accept the informational overview regarding investment opportunities in Africa, second by Member Speakman. Motion Passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

C5. ECONOMIC AND INVESTMENT MARKET OVERVIEW AS OF JANUARY 31, 2024

David Sancewich of Meketa presented an informational report regarding the Economic and Investment Market Overview as of January 31, 2024 and highlighted Domestic Equity Returns, Foreign Equity Returns, and current factors impacting outcomes.

MOTION: Member Nichelini made a motion to accept the informational report provided by Meketa regarding the Economic and Investment Market Overview as of January 31, 2024, second by Member Speakman. Motion passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

C6. PRELIMINARY INVESTMENT FUND PERFORMANCE UPDATE AS OF DECEMBER 31, 2024

David Sancewich of Meketa presented the Preliminary Investment Fund Performance Update as of January 31, 2024 and highlighted Allocation vs. Targets and Policy and the Asset Class Performance Summary.

MOTION: Member Nichelini made a motion to accept the informational report provided by Meketa regarding the Preliminary Investment Fund Performance Update as of January 31, 2024, second by Member Melia. Motion Passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

C7. PFRS INVESTMENT FUND QUARTERLY PERFORMANCE UPDATE AS OF DECEMBER 31, 2023

David Sancewich of Meketa presented the PFRS Investment Fund Quarterly Performance Update as of December 31, 2023 and highlighted the Total Portfolio Review.

MOTION: Vice President Godfrey made a motion to accept the PFRS Investment Fund Quarterly Performance Update as of December 31, 2023, second by Member Speakman. Motion Passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

C8. MEKETA INVESTMENT GROUP ANNUAL DIVERSITY, EQUITY, & INCLUSION REPORT

David Sancewich of Meketa presented Meketa Investment Group's Annual Diversity, Equity & Inclusion Report regarding diversity representation of PFRS' Investment Managers as of December 31, 2023.

MOTION: Member Nichelini made a motion to accept the informational report provided by Meketa regarding diversity representation of PFRS' Investment Managers as of December 31, 2023, second by Member Speakman. Motion Passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

C9. ASSET-LIABILITY STUDY OF THE PFRS FUND

David Sancewich of Meketa presented a Strategic Policy Selection memo based on the results of the ongoing Asset-Liability Study of the PFRS Fund. The memo included potential new long-term allocation models and D. Sancewich highlighted the Reduced Volatility and Balanced allocations as viable options to diversify the portfolio and reduce volatility and recommended the Board adopt the Balanced portfolio policy allocation and implement the changes over the next 24 months. Graham Schmidt of Cheiron contributed to the presentation to provide additional information regarding the actuarial outlook of the PFRS Fund.

FIRST MOTION: Member Speakman made a motion to accept Meketa's recommendation to change the current portfolio policy allocation and adopt and implement the Balanced portfolio policy allocation over the next 24 months, second by Member Nichelini . Motion Passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: N]
(AYES: 6 / NOES: 1 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

SECOND MOTION: Member Wilkinson made a motion for Meketa and Cheiron to provide additional analysis of real risk-free rates and expected performance of the Reduced Volatility and Balanced portfolios over 5 and 10 years before the Board makes a final decision. There was no second to the motion. Motion Failed.

D. MEMBER RESOLUTIONS NOS. 8094

Resolution fixing the monthly allowance of surviving spouse of the following retired member of the Oakland Police and Fire Retirement System in the amount indicated:

Deceased Member	Surviving Spouse	Monthly Allowance
▪ Richard Randall	Carolyn Randall	$5,120.13

MOTION: Member Nichelini made a motion to approve Resolution No. 8094, second by Member Speakman. Motion Passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

E. PENDING ITEMS – Plan Administrator Jones advised the Ad Hoc Committee met February 26, 2024. Legal Counsel Warren advised the outside legal opinion regarding the Property Tax Override has been finalized and progress is being made towards a public facing position. Additionally, there was discussion regarding proposed charter changes to change the membership of the Board and reduce the frequency of meetings. It was agreed both are needed but it is not urgent and can wait until the 2026 election cycle. The Ad Hoc Committee will continue to research and discuss the matter and anticipates it will bring forward a matter for the agenda at a future date regarding the need to change the Board membership and seek direction from the Board.

F. NEW BUSINESS – Cheiron requested Board direction regarding the assumed rate of return to finalize the 2023 Actuarial Valuation Report. Vice-President Godfrey made a motion to forward the matter to the Audit & Operations Committee for discussion prior to seeking Board direction.

MOTION: Vice President Godfrey made a motion to forward this matter to the Audit & Operations Committee, second by Member Speakman. Motion Passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

G. OPEN FORUM – No Speaker Cards were submitted.

H. FUTURE SCHEDULING

The next Regular Board Meeting will be held in-person and is tentatively scheduled to occur March 27, 2024 at One Frank Ogawa Plaza, Hearing Room 2, Oakland, CA.

I. ADJOURNMENT

Member Melia made a motion to adjourn, second by Member Speakman. Motion passed.

[JOHNSON: Y / GODFREY: Y / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 7 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 0)

The meeting adjourned at 1:15 p.m.

DAVID F. JONES **PLAN ADMINISTRATOR & SECRETARY**	**DATE**

Classic Values, Innovative Advice

Oakland Police and Fire Retirement System

Actuarial Valuation Report as of July 1, 2023

Produced by Cheiron

March 2024

TABLE OF CONTENTS

March 15, 2024

City of Oakland Police and Fire
Retirement System Board
150 Frank H. Ogawa Plaza
Oakland, CA 94612

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the Oakland Police and Fire Retirement System (PFRS, the Plan) as of July 1, 2023. This report contains information on the Plan's assets and liabilities. This report also discloses the employer contributions in accordance with the funding agreement between the City of Oakland and PFRS, based on the current financial status of the Plan. Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

The purpose of this report is to present the results of the annual actuarial valuation of the Plan. This report is for the use of the Retirement Board and the auditors in preparing financial reports in accordance with applicable law and accounting requirements. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

The demographic and economic assumptions proposed for use in this report were reviewed at the December 6, 2023 and February 28, 2024 Board meetings based on recommendations from our experience study covering plan experience for the period from July 1, 2011 through June 30, 2023. We believe these assumptions are reasonable for the purpose of the valuation.

The funding ratios in this report are for the purpose of establishing contribution rates. These measures are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

Cheiron utilizes ProVal actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have a basic understanding of ProVal and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this valuation.

Deterministic and stochastic projections in this valuation report were developed using R-scan, a proprietary tool used to illustrate the impact of changes in assumptions, methods, plan provisions, or actual experience (particularly investment experience) on the future financial status of the Plan and assessing the probability of different outcomes based on a range of potential investment returns. R-scan uses standard roll-forward techniques. Because R-scan does not automatically capture how changes in one variable affect all other variables, some scenarios may not be consistent.

We relied on Cheiron colleagues for the development of the model. The stochastic projections of investment returns assume that each future year's investment return is independent from all other years and is identically distributed according to a lognormal distribution. The standard deviation used in the stochastic projection of investment returns was provided by the Plan's investment consultant.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and, changes in plan provisions or applicable law.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

Sincerely,
Cheiron

Graham Schmidt

Graham A. Schmidt, FSA, EA, FCA, MAAA
Principal Consulting Actuary

Anne Harper

Anne D. Harper, FSA, EA, MAAA
Principal Consulting Actuary

FOREWORD

Cheiron has performed the actuarial valuation of the Oakland Police and Fire Retirement System (PFRS, the Plan) as of July 1, 2023. The valuation is organized as follows:

- In Section I, the **Executive Summary,** we describe the purpose of an actuarial valuation, summarize the key results found in this valuation, and disclose important trends.

- The **Main Body** of the report presents details on the Plan's

  - Section II – Identification and Assessment of Risks
  - Section III – Assets
  - Section IV – Liabilities
  - Section V – Contributions
  - Section VI – Head Count and Benefit Payment Projections

- In the **Appendices**, we conclude our report with detailed information describing plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent plan provisions (Appendix C), and a glossary of key actuarial terms (Appendix D).

The results of this report rely on future experience conforming to the underlying assumptions. To the extent that actual plan experience deviates from the underlying assumptions, the results would vary accordingly.

In preparing our report, we relied on information (some oral and some written) supplied by the Plan's staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

SECTION I – EXECUTIVE SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe, and identify the following as of the valuation date:

- The financial condition of the Plan,
- Past and expected trends in the financial progress of the Plan,
- Calculation of the actuarially determined contributions for years beginning in Fiscal Year 2024-2025, and
- An assessment and disclosure of key risks.

In the balance of this Executive Summary, we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the Plan.

A. Valuation Basis

This valuation estimates the projected employer contributions in accordance with the funding agreement dated July 1, 2012 between the City of Oakland and the PFRS. Based on that agreement, employer contributions were suspended until fiscal year 2017-2018, at which time they resumed at a level based upon the recommendation of the actuary. Section V of this report shows the development of the employer contribution for fiscal year 2024-2025.

The Plan's funding policy is to contribute an amount equal to the sum of:

- The normal cost under the Entry Age Normal Cost Method (which is zero, as there are no active members),
- Amortization of the Unfunded Actuarial Liability, and
- The Plan's expected administrative expenses.

This valuation was prepared based on the plan provisions shown in Appendix C. There have been no changes in plan provisions since the prior valuation.

A summary of the assumptions and methods used in the current valuation is shown in Appendix B. The assumed rates of mortality, the mortality improvement scale, and the expected annual rate of return have been changed since the prior valuation following an experience study covering plan experience for the period from July 1, 2011 through June 30, 2023.

B. Key Findings of this Valuation

The key results of the July 1, 2023 actuarial valuation are as follows:

- The actuarially determined employer contribution amount for Fiscal Year 2024-2025 is $34.8 million, based on projecting the Actuarial Liabilities and the Actuarial Value of Assets to the end of the 2023-2024 Fiscal Year. This represents a decrease of $9.2 million from the estimated amount in the prior valuation for the same Fiscal Year. The contribution is assumed to be paid in equal installments throughout the year, or on average at approximately January 1, 2025.

- During the year ended June 30, 2023, the return on Plan assets was 8.79% on a market value basis net of investment expenses, as compared to the 6.00% assumption for the 2022-2023 Plan year. This resulted in a market value gain on investments of $10.9 million. The Actuarial Value of Assets (AVA) is calculated as the expected AVA plus 20% of the difference between the market value and the expected AVA, which is restricted to be between 90% and 110% of the MVA. This smoothed value of assets returned 5.44%, for an actuarial asset loss of $2.3 million.

- The Plan experienced a gain on the Actuarial Liability of $1.6 million, the net result of changes in the population and changes in benefits. The primary factor was an excess of deaths above the number expected. Combining the liability gain and asset loss, the Plan experienced a total loss of $0.8 million.

- Assumption changes proposed as part of the experience study reduced the Actuarial Liability by $9.8 million. The changes to the base mortality rates and the mortality improvement assumptions reduced the liability by $14.5 million. This was partially offset by a $4.7 million increase in the liability resulting from the change in the discount rate from a selected and ultimate assumption (equivalent to a 5.09% single rate) to a flat rate of 5.00%.

- The Plan's smoothed funded ratio, the ratio of Actuarial Value of Assets over Actuarial Liability, increased from 76.5% last year to 81.4% as of June 30, 2023. The Plan's funded ratio increased from 72.6% to 79.6% on a Market Value of Assets (MVA) basis.

- The Unfunded Actuarial Liability (UAL) is the excess of the Plan's Actuarial Liability over the Actuarial Value of Assets. The Plan experienced a decrease in the UAL from $130.2 million to $97.0 million as of July 1, 2023.

- Overall participant membership decreased compared to last year, as is expected for a closed plan. 25 members died, 10 of whom had their benefits continue to a surviving spouse. In addition, 18 surviving beneficiaries died. There are no active members of the Plan.

SECTION I – EXECUTIVE SUMMARY

- If the contribution were determined using a projected asset value based on the current market (i.e., non-smoothed) value of assets, the contribution for FY 2024-2025 would be $38.9 million. The contribution is larger than that determined using the projected AVA, because the current market value reflects the full amount of prior net investment losses, while under the AVA projection, a portion of those losses are deferred until years after FY 2024-2025.

Below we present Table I-1 that summarizes all the key results of the valuation with respect to membership, assets and liabilities, and contributions. The results are presented and compared for both the current and prior plan year.

TABLE I-1
Summary of Principal Plan Results
($ in thousands)

	July 1, 2022	July 1, 2023	% Change
Participant Counts			
Active Participants	0	0	
Participants Receiving a Benefit	686	653	-4.8%
Total	**686**	**653**	**-4.8%**
Total Annual Benefits	$ 52,076	$ 51,217	
Assets and Liabilities			
Actuarial Liability (AL)	$ 552,966	$ 522,457	-5.5%
Actuarial Value of Assets (AVA)	422,762	425,449	0.6%
Unfunded Actuarial Liability (UAL)	$ 130,204	$ 97,008	-25.5%
Funded Ratio (AVA)	76.5%	81.4%	5.0%
MarketValue of Assets (MVA)	$ 401,487	$ 416,130	
Funded Ratio (MVA)	72.6%	79.6%	7.0%
Contributions			
Employer Contribution (FY2023-24)	$ 40,763	N/A	
Employer Contribution (FY2024-25)	$ 44,025	$ 34,845	-20.9%

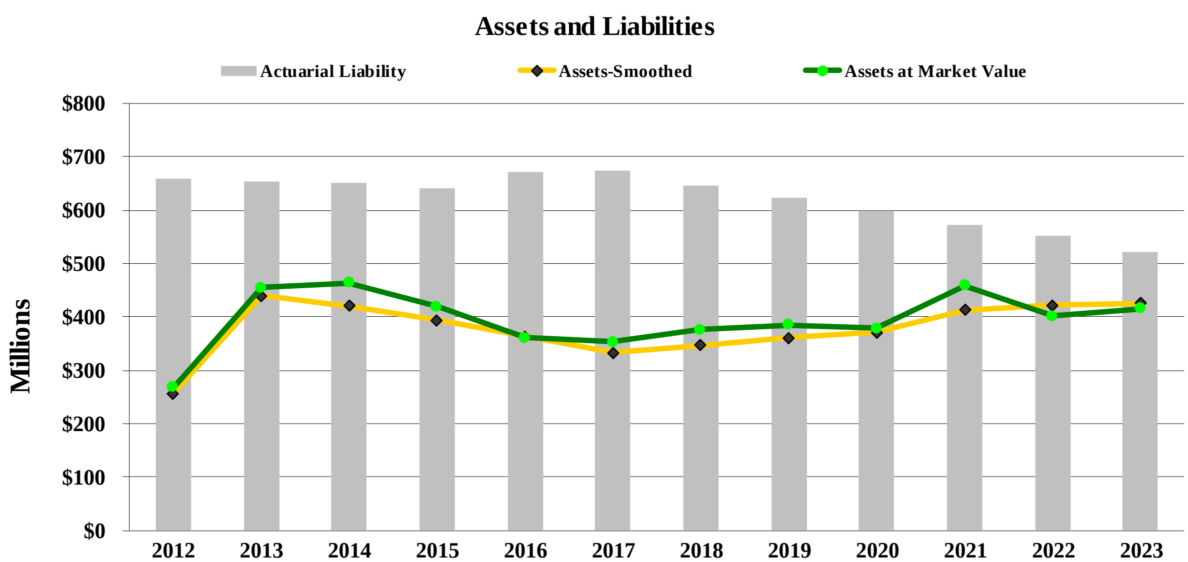
C. Historical Trends

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular, the size of the current Unfunded Actuarial Liability and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation results relative to historical trends, as well as trends expected into the future.

<u>Assets and Liabilities</u>

The chart below compares the Market Value of Assets (MVA) and Actuarial Value of Assets (AVA) to the Actuarial Liabilities. The percentages shown in the table below the chart are the ratios of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). We note that for the GASB disclosure report, this ratio is disclosed using the MVA.

The funded ratio increased between 2012 and 2013 due to a $210 million contribution in July 2012. The funded ratio decreased from 67.2% to 49.5% between 2013 and 2017 due to assumption changes, liability losses, new Police MOUs, and the lack of contributions since the July 2012 payment. The funded ratio has increased from 49.5% to 81.4% over the past six years due to recommencement of contributions, the FYE 2021 asset gain, and to a lesser extent other asset and liability gains and assumption changes.

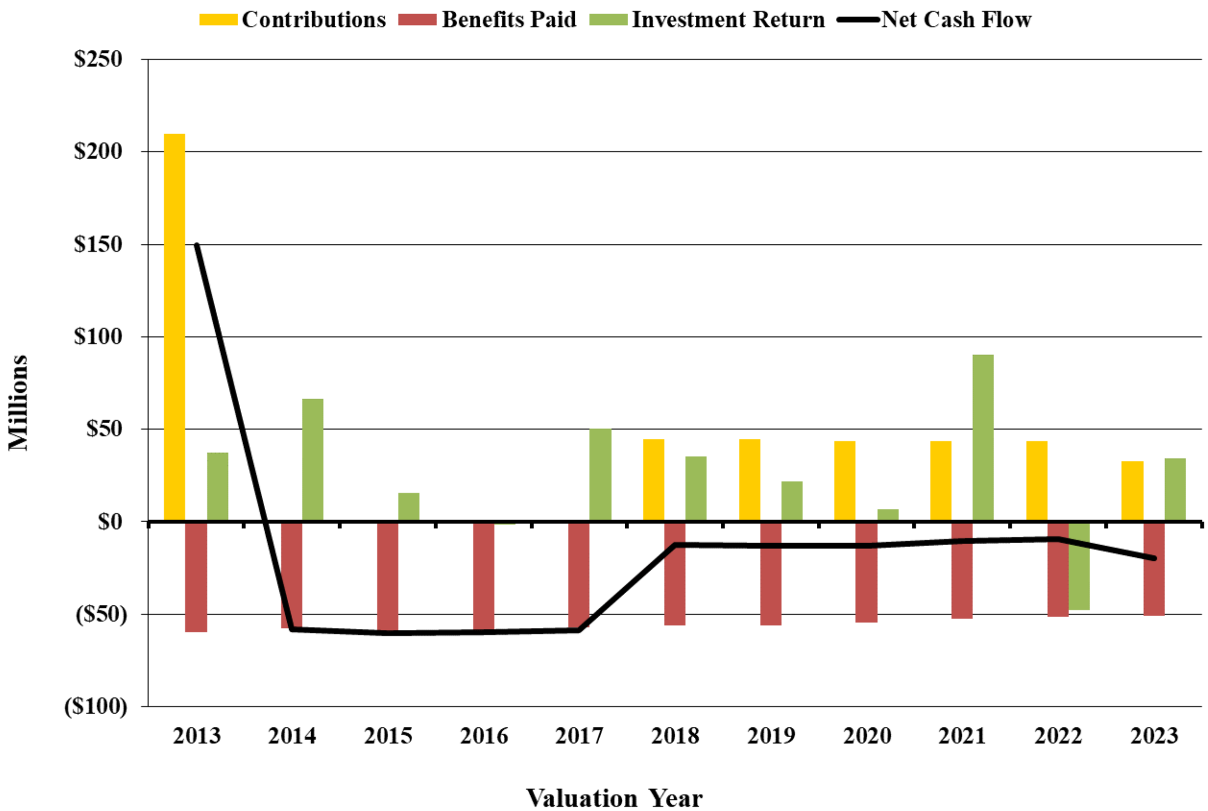


AVA Funded Ratio	39.1%	67.2%	64.6%	61.4%	54.0%	49.5%	53.7%	58.0%	62.2%	72.2%	76.5%	81.4%
UAL (Millions)	$ 401.1	$ 215.0	$ 230.2	$ 247.5	$ 309.4	$ 340.1	$ 299.8	$ 261.8	$ 225.5	$ 159.3	$ 130.2	$ 97.0

SECTION I – EXECUTIVE SUMMARY

Cash Flows

The chart below shows the Plan's net cash flow, excluding investment returns (i.e., contributions less benefit payments and expenses). This is a critical measure, as it reflects the ability to have funds available to meet benefit payments without having to make difficult investment decisions, especially during volatile markets.



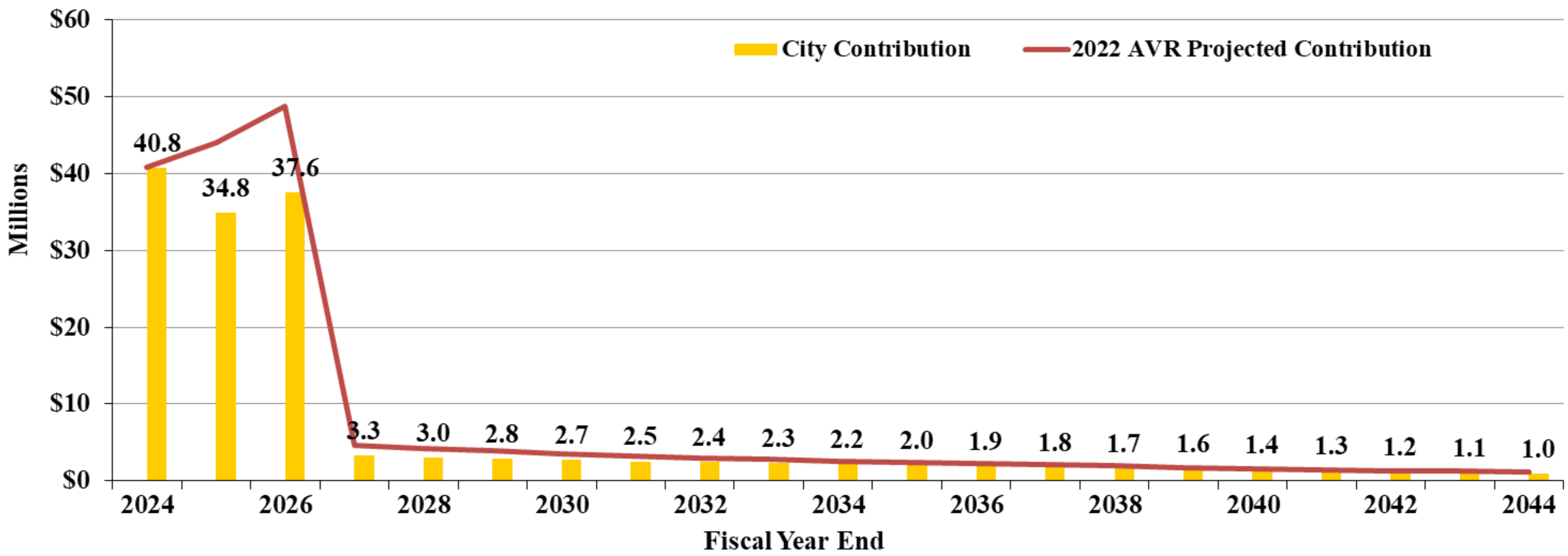
The contributions, benefit payments, investment returns, and Net Cash Flow (NCF) excluding investment returns and related investment expenses are represented by the scale on the left. The Plan's net cash flow has been negative 10 of the last 11 fiscal years, most notably during 2014-2017 when contributions were not made to the Plan following the Pension Obligation Bond in 2013. Even with the recommencing of contributions in 2018 under the Plan's funding policy, benefit payments exceeded contributions for the prior six years, with a negative cash flow rate of around 2-3% of plan assets per year for 2018 through 2022 and around 5% for 2023.

A negative cash flow magnifies the losses during a market decline, hindering the Plan in its ability to absorb market fluctuations. The implications of a plan in negative cash flow are that the impact of market fluctuations can be more severe: as assets are being depleted to pay benefits in down markets, there is less principal available to be reinvested during favorable return periods. The Plan is expected to have a growing negative cash flow position going forward, since the Plan is closed and the assets are expected to decline as the remaining benefits are paid out.

D. Future Expected Financial Trends

The analysis of projected financial trends is perhaps the most important component of this valuation. In this section, we present our assessment of the implications of the July 1, 2023 valuation results in terms of benefit security (assets over liabilities) and contribution levels. All the projections in this section are based on the assumption that the Plan will exactly achieve the assumed rate of return each year of 5.0%.

Projection of Employer Contributions



The above graph shows a projection of the City's required contributions compared to the same projections from last year's report. The City's required contribution decreased from $40.8 million in fiscal year 2024 to $34.8 million in fiscal year 2025, and then is expected to increase by about $2.8 million the following year after as the current unfunded liability is fully amortized and recent net asset losses are recognized. This assumes that the annual payments by the City will equal the administrative expenses, plus an amount needed to amortize the remaining unfunded liability as a level percentage of overall Safety payroll by July 1, 2026, as is required under the City's charter.

SECTION I – EXECUTIVE SUMMARY

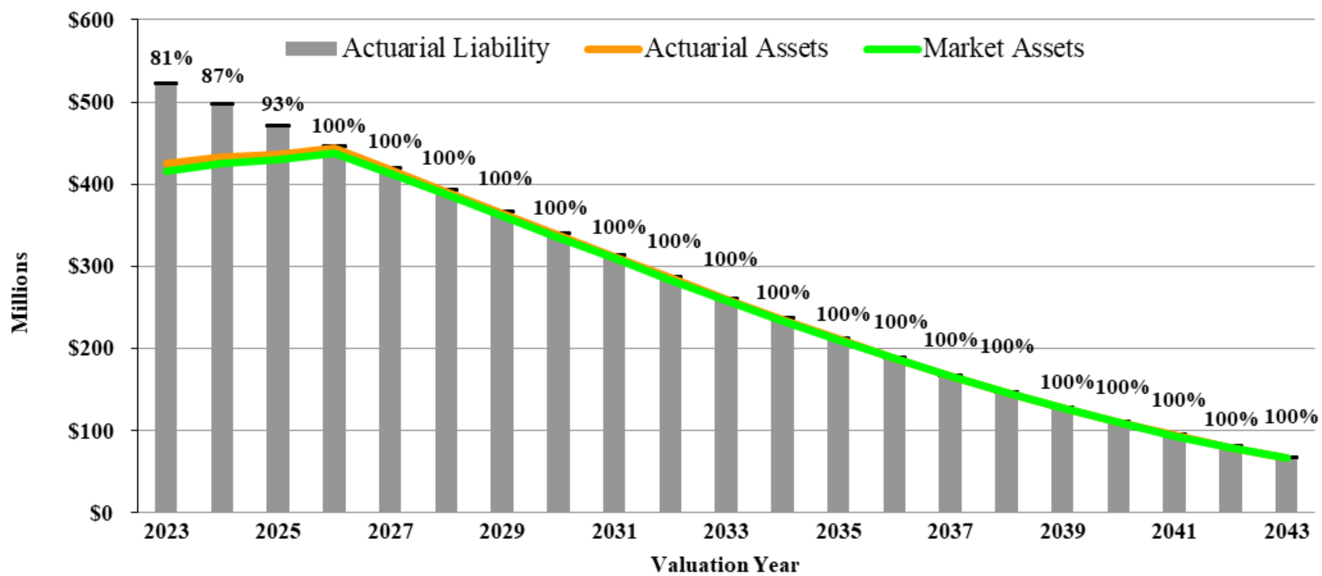
After July 1, 2026, the UAL is expected to be fully amortized, and the contribution would generally be equal to the administrative expense, beginning in 2026-2027. However, under the current asset smoothing method there are still expected to be some deferred asset losses, which will not be recognized until after 2026; the deferred recognition of these losses is expected to result in a low level of additional contributions in addition to the administrative expenses in the years after FYE 2026 in the graph on the previous page.

Note that the graph on the previous page does not forecast any future actuarial gains or losses or changes to the amortization policy. Even relatively modest losses could push the employer contribution over $40 million in the next year. We also note that the occurrence of any future gains or losses in the years leading up to or following the required full amortization date (July 1, 2026) may require a reconsideration of the funding policy for those gains or losses, as otherwise these changes would need to be recognized over an extremely short period.

Asset and Liability Projections:

The following graph shows the projection of assets and liabilities, assuming that assets will earn the assumed rate of return each year during the projection period.

Projection of Assets and Liabilities



The graph shows that the projected funded status increases as the current unfunded liability is fully amortized, assuming all actuarial assumptions are met. Once the Plan is projected to reach 100% funding, both the assets and liabilities are expected to decline as the Plan continues to pay out benefits to the remaining members.

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may be significantly different. This section of the report is intended to identify the primary risks to the plan, provide some background information about those risks, and provide an assessment of those risks.

Identification of Risks

The fundamental risk to a pension plan is that the contributions needed to pay the benefits become unaffordable. While the Plan cannot determine on its own what contribution level is unaffordable, we can project expected contributions and illustrate the potential impact of key sources of risk on those contribution rates so the City can assess affordability. While there are a number of factors that could lead to contribution amounts becoming unaffordable, we believe the primary sources are:

- Investment risk,
- COLA risk,
- Longevity risk, and
- Contribution risk.

Other risks that we have not identified may also turn out to be important.

Investment Risk is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the Unfunded Actuarial Liability, necessitating higher contributions in the future unless there are other gains that offset these investment losses. In contrast, higher investment returns than anticipated may create a potentially significant surplus that could be difficult to use until all benefits have been paid. Expected future investment returns and their potential volatility are determined by the Plan's asset allocation.

COLA Risk is the potential for future COLAs to increase contributions. Retirement allowances are based on the pensionable compensation attached to the average rank held during the three years immediately preceding retirement. Cost-of-living adjustments are therefore based on salary increases for current employees with the retiree's same rank at retirement. Salary increases less than or greater than those assumed cause gains or losses, respectively. COLA increases different from those expected over the last 10 years are reflected in the "MOU Changes" column in the chart on the next page.

Longevity risk is the potential for mortality experience to be different than expected. Generally, longevity risk emerges slowly over time and is often exceeded by other changes, particularly those due to investment returns. However, for a closed plan such as PFRS, the mortality experience will have a significant impact on future cash flows. The chart on the next page shows the liability gains and losses over the last 11 years compared to the total change in the UAL for each year, a portion of which is associated with mortality experience.

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Contribution risk is the potential for actual future actuarially determined contributions to deviate from expected future contributions. The City Charter sets the Plan's contribution policy. It requires the unfunded liability of the plan to be fully amortized by June 30, 2026. The Actuarially Determined Contribution (ADC) is based on a short remaining amortization period. As a result, a significant loss or change in assumptions may cause a large increase in the ADC.

The table below shows an 11-year history of changes in the UAL by source.

Table II-1
UAL Change by Source
($ in Thousands)

FYE	MOU Changes	Assumption Changes	Contributions vs. Tread Water	Investments	Liability Experience	Total UAL Change
2013	4,091	0	(188,922)	(3,803)	2,592	(186,042)
2014	0	30,598	15,146	(10,729)	(19,869)	15,147
2015	0	0	17,023	(6,171)	6,522	17,374
2016	43,480	0	15,033	486	2,830	61,829
2017	0	22,730	22,888	(4,958)	(9,959)	30,702
2018	(1,475)	0	(24,214)	(7,128)	(7,467)	(40,284)
2019	(7,173)	0	(26,691)	(5,919)	1,797	(37,986)
2020	(6,541)	0	(27,417)	(1,877)	(417)	(36,252)
2021	0	0	(29,775)	(29,872)	(6,637)	(66,284)
2022	5,389	(3,926)	(34,056)	5,319	(1,784)	(29,059)
2023	0	(9,758)	(24,191)	2,330	(1,576)	(33,195)
Total	**$ 37,771**	**$ 39,643**	**$ (285,174)**	**$ (62,322)**	**$ (33,968)**	**$ (304,050)**

The UAL was reduced by approximately $304.1 million over the last 11 years. Contributions in excess of the "tread water" level (i.e., interest on the UAL plus administrative expenses) reduced the UAL by $285.2 million, liability experience reduced the UAL by $34.0 million, and investment returns decreased the UAL by $62.3 million. Meanwhile changes to MOUs increased the UAL by $37.8 million and assumption changes increased the UAL by $39.6 million.

Plan Maturity Measures

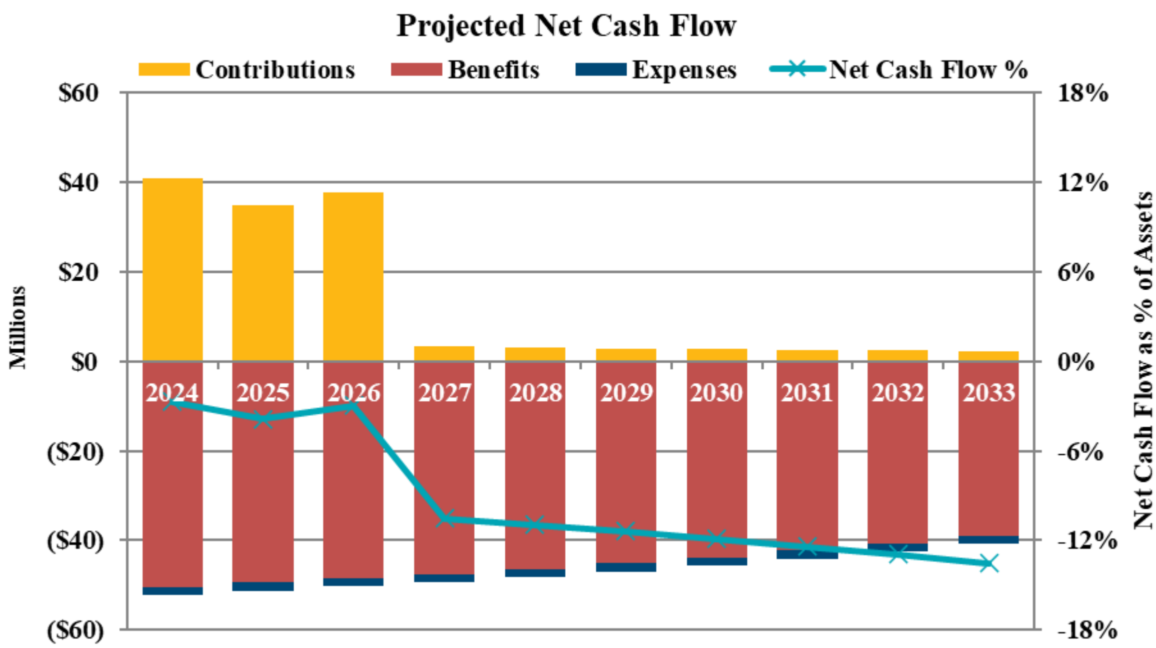
The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of the plan.

Plan maturity can be measured in a variety of ways, but they all get at one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. Given that the Plan has been closed to new entrants since 1976 with no remaining active members, the Plan considered as a standalone entity is very mature, though because of the diminishing benefit cash flows it is expected to have a declining impact on overall City finances.

Net Cash Flow

The net cash flow of the plan as a percentage of the beginning of year assets indicates the sensitivity of the plan to short-term investment returns. Net cash flow is equal to contributions less benefit payments and administrative expenses. Mature plans can have large amounts of benefit payments compared to contributions, particularly if they are well funded.

The chart below shows the projected net cash flow for the next 10 fiscal years. The bars represent the dollar amounts of the different components of the projected net cash flow, and the line represents the net cash flow as a percentage of the assets as of the beginning of the fiscal year.



The Plan's contributions are expected to drop significantly following the 2025-2026 Fiscal Year once the unfunded liability has been paid off, with the exception of some residual losses resulting from the current asset smoothing policy. Beyond that point, the negative net cash flows are expected to continue until all benefits are paid.

The first issue this change presents to the Plan is a need for liquidity in the investments so that benefits can be paid. When the cash flow was positive or close to neutral, benefits could be paid out of contributions without liquidating investments. As net cash flow becomes increasingly negative, the benefit payments will require liquidation of some investments.

The other change of note is the sensitivity to short-term investment returns. Investment losses in the short term are compounded by the net withdrawal from the plan leaving a smaller asset base to try to recover from the investment losses. On the other hand, large investment gains in the

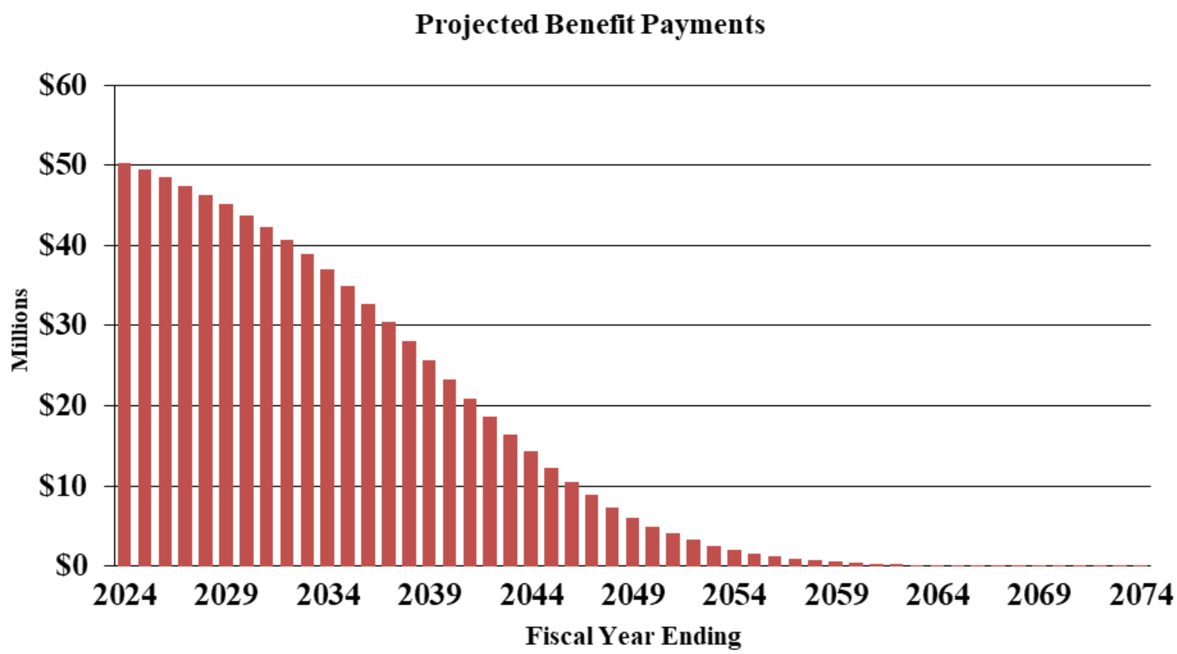
SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

short term also tend to have a longer beneficial effect as any future losses are relative to a smaller liability base due to the negative cash flow.

Assessing Costs and Risks

A closed pension plan will ultimately either end up with excess assets after all benefits have been paid or run out of assets before all benefits have been paid. The Board adopted a change in the strategic asset allocation at their February 28, 2024 meeting to reduce the risk in their portfolio by lowering their exposure to return-seeking equities and increasing their holdings in bonds. This allocation adopted by the Board pursues a strategy of de-risking the Plan to minimize the likelihood of a significant surplus or deficit occurring.

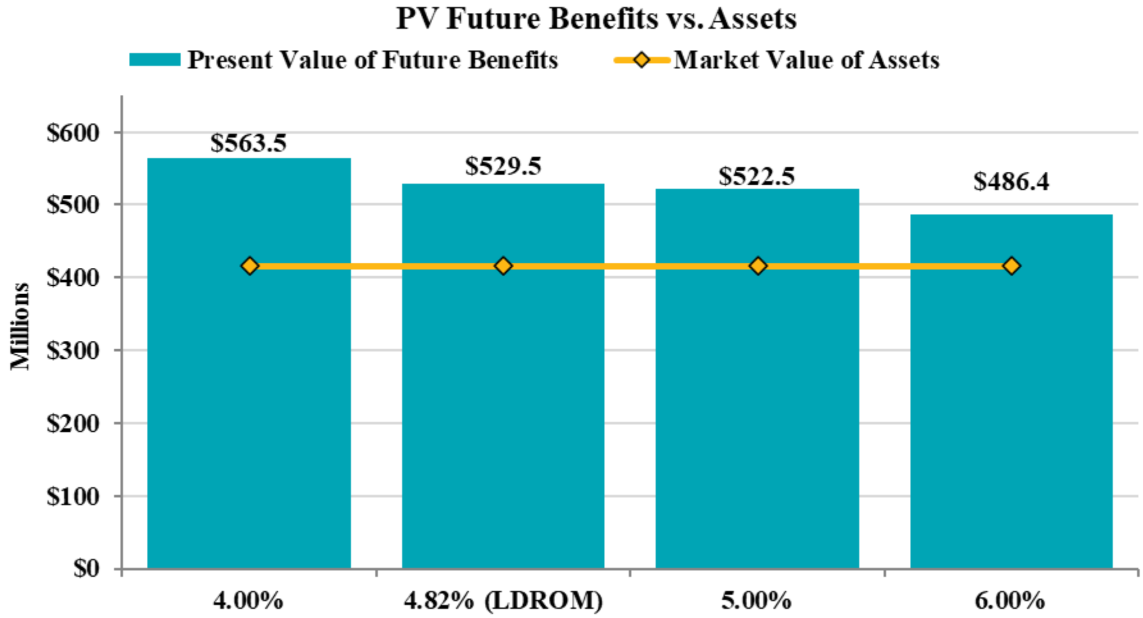
However, even if the Plan were to run out of assets, PFRS would be forced to pay benefits directly on a pay-as-you-go basis. As long as PFRS (and the City) can afford the pay-as-you-go costs, benefits would remain secure. The chart below shows a projection of expected benefit payments for the closed plan.



Sensitivity to Investment Returns

The chart on the next page compares assets to the present value of all projected future benefits discounted at the current expected rates of return of 5.0% and at investment returns 100 basis points above and below the expected rates of return for all years. We have added another measurement this year, the Low Default Risk Obligation Measure (LDROM), which is the Actuarial Liability (equal to the total present value of future benefits, for a plan with no active members) using a discount rate derived from low-default-risk fixed income securities that approximately match the benefit payments of the plan. The present value of future benefits is shown as a teal bar and the Market Value of Assets is shown by the gold line.

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS



If actual investment returns meet the expected returns annually, the Plan would need approximately $523 million in assets today to pay all projected benefits compared to current assets of $416 million. If investment returns are 100 basis points lower each year, the Plan would need approximately $564 million in assets today, and if investment returns are 100 basis points higher, the Plan would need approximately $486 million in assets today.

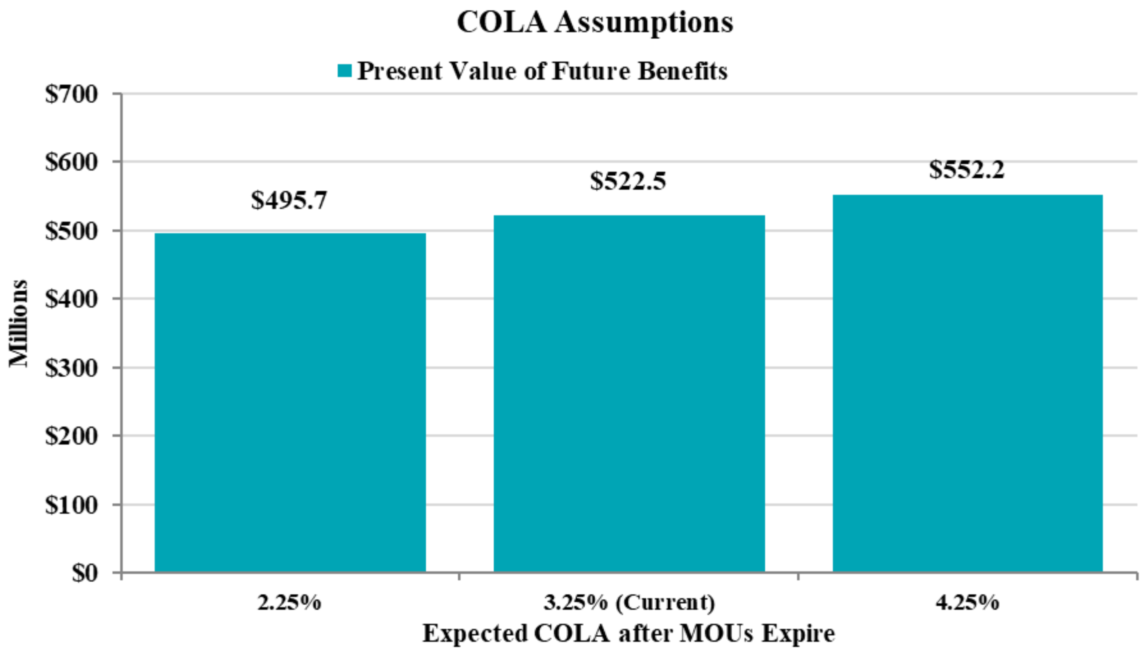
A low-risk portfolio for a pension plan would be composed entirely of low-default-risk fixed income securities whose cash flows approximately match the benefit cash flows of the plan. Based on the FTSE Pension Liability discount curve as of June 30, 2023, the single equivalent rate for such a portfolio would be approximately 4.82%. The Low-Default-Risk Obligation Measure (LDROM) represents what the liability would be if the Plan's assets were invested in such a portfolio. As of June 30, 2023, the LDROM is $529.5 million compared to the liability of $522.5 million calculated at the 5.00% assumed rate of return. The measures are close to each other, as can be expected since the PFRS Board has taken significant steps to de-risk the plan.

Sensitivity to COLA Changes

The present value of future benefits shown above assumes annual COLA increases of 3.25% per year once the current MOUs have expired. If COLA inflation is higher (because of higher-than-expected increases in the salaries of active employees); more assets would be needed to pay the benefits, and if COLA inflation is lower; fewer assets would be needed to pay benefits.

The chart on the next page shows the present value of all projected future benefits (discounted using the current expected rates of return) based on annual COLA increases of 3.25% per year once the current MOUs have expired – and at COLA increases 100 basis points above and below the current COLA assumptions.

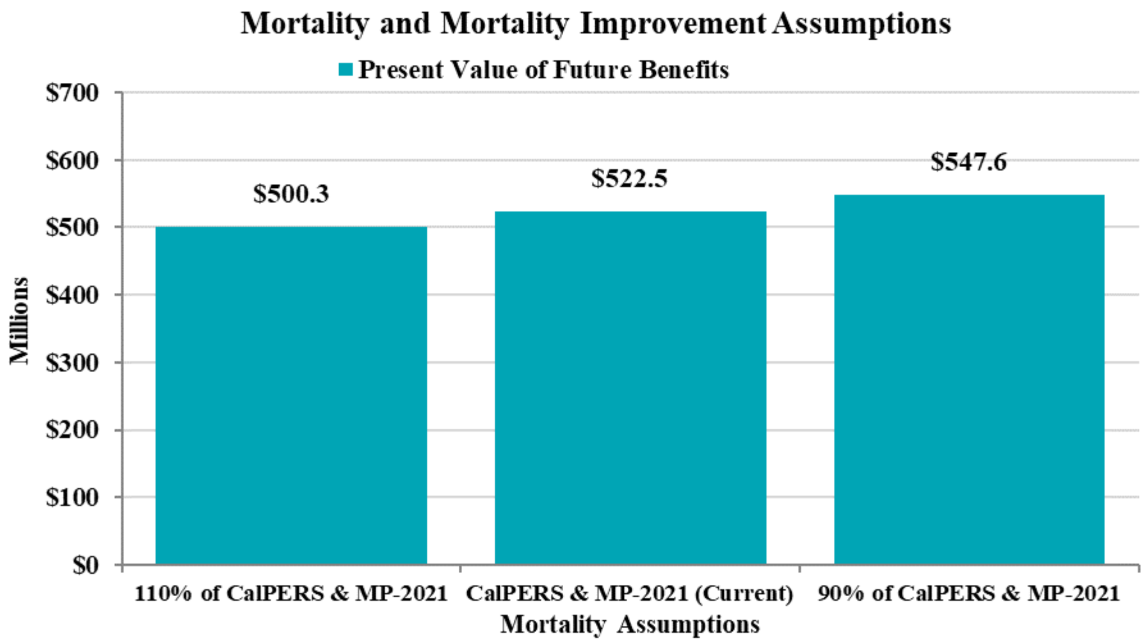
SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS



Sensitivity to Mortality Assumption Changes

The chart on the next page shows the sensitivity of the Plan to longevity / mortality experience. In the second bar, we have shown the present value of benefits using the Plan's current mortality assumptions (i.e., using the CalPERS mortality assumptions from their 2021 experience study, with projections for generational improvements using the Society of Actuary's MP-2021 improvement scales). In the first and third bars, we have shown results reflecting the newly elected mortality assumption base rates multiplied by 110% and 90%, respectively. As always, actual experience will drive costs, but this exhibit provides an example of the level of sensitivity of the Plan's liabilities to possible changes in mortality.

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

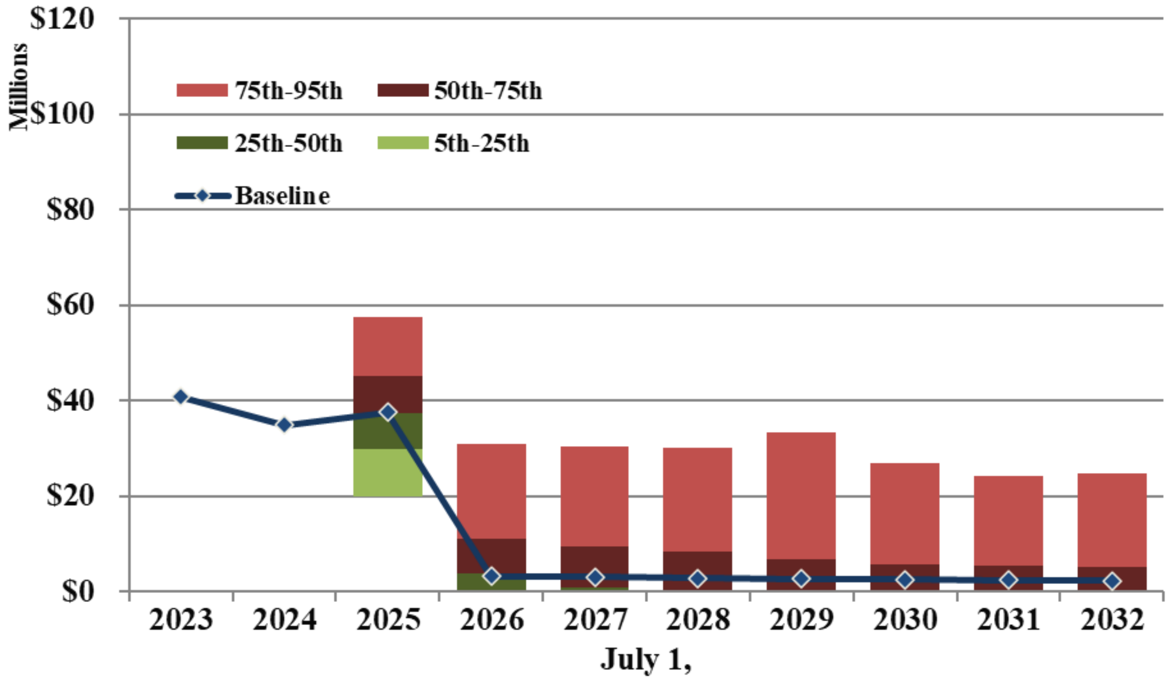


Stochastic Projections

The stochastic projections of contributions in the chart on the following page show 10 years of contribution amounts. The projections beyond June 30, 2026 are based on the current funding method – a one-year amortization period with a 12-month period between the end of the fiscal year and when the payment is made. The 2025 result shows a narrower range in future ADC's than in last year's projections. This range is driven by the volatility (or standard deviation) of investment returns, which is assumed to be 6.8% in these projections based on the asset allocation chosen and information provided by Meketa at the February 28, 2024 Board meeting, and which is considerably lower than the 10.2% standard deviation used in the prior valuation under the previous strategic investment allocation.

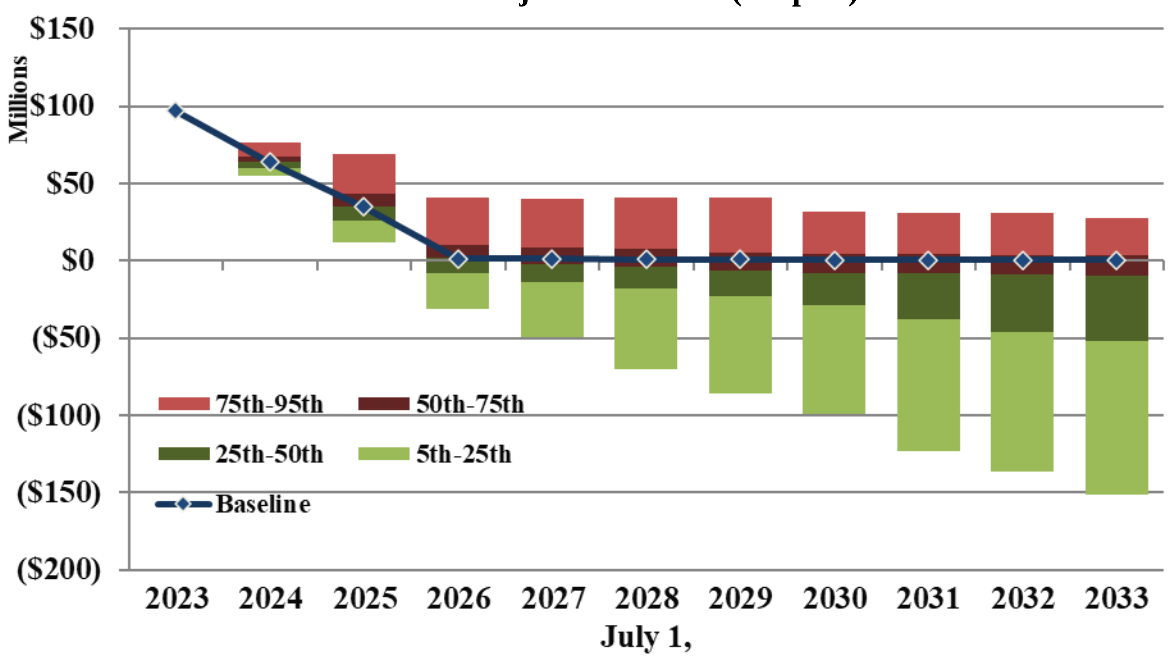
SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Stochastic Projection of Actuarially Determined Contribution (ADC)



The chart below shows the projection of the UAL for the next 10 years. While the UAL is projected in the baseline to be essentially eliminated by 2026, because of the statutory requirement to fully fund the Plan by that time, there is still a wide range of potential outcomes, though, again, narrower than in the previous year's projections.

Stochastic Projection of UAL/(Surplus)



SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

More Detailed Assessment

A detailed assessment of risk would be valuable in understanding the risks identified above, especially given the closed nature of the plan. We encourage the Board to consider a more detailed analysis of some of the risks identified above, particularly for developing a funding strategy to deal with changes in the UAL after the required full funding date.

SECTION III – ASSETS

Pension Plan assets play a key role in the financial operation of the Plan and in the decisions the Board may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of Plan assets as of June 30, 2022 and June 30, 2023,
- Statement of the **changes** in market values during the year, and
- Development of the **Actuarial Value of Assets**.

Disclosure

There are two types of asset values disclosed in the valuation, the Market Value of Assets and the Actuarial Value of Assets. The market value represents "snapshot" or "cash out" values, which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are sometimes not as suitable for long-range planning as the Actuarial Value of Assets, which reflects smoothing of annual investment returns.

Table III-1 discloses and compares each component of the market asset value as of June 30, 2022 and June 30, 2023.

TABLE III-1
Statement of Assets at Market Value
June 30,
(in thousands)

		2022		**2023**
Cash and Cash Equivalents	$	7,495	$	9,567
Receivables		6,219		15,147
Investments, at Fair Value		448,338		458,166
Total Assets	$	462,051	$	482,881
Liabilities		60,564		66,750
Market Value of Assets	**$**	**401,487**	**$**	**416,130**

SECTION III – ASSETS

TABLE III-1
Statement of Assets at Market Value
June 30,
(in thousands)

		2022		2023
Cash and Cash Equivalents:	$	7,495	$	9,567
Receivables:				
Interest Receivable	$	813	$	851
Dividends Receivable		280		185
Investments Receivable		4,912		13,862
Retired Members and Beneficiaries		103		102
Miscellaneous		111		147
Total Receivables		6,219		15,147
Investments, at Fair Value:				
Short-term Investments		7,474		10,744
Bonds		130,127		132,354
Domestic Equities and Mutual Funds		158,145		169,857
International Equities and Mutual Funds		47,911		55,731
Alternative Investments		56,335		48,464
Securities Lending Collateral		48,346		41,016
Total Investments		448,338		458,166
Total Assets		462,051		482,881
Liabilities:				
Accounts Payable		3		43
Benefits Payable		4,184		4,132
Investments Payable		7,701		21,517
Accrued Investment Management Fees		301		364
Securities Lending Liabilities		48,376		40,693
Total Liabilities		60,564		66,750
Market Value of Assets	**$**	**401,487**	**$**	**416,130**

Changes in Market Value

The components of asset change are:

- Contributions (employer and employee),
- Benefit payments,
- Administrative Expenses, and
- Investment income (realized and unrealized, net of investment expenses).

Table III-2 below shows the components of a change in the Market Value of Assets during 2022 and 2023.

TABLE III-2
Changes in Market Values
June 30,
(in thousands)

	2022	2023
Contributions		
Contributions of Plan Members	$ 0	$ 0
Contributions from the City	43,820	32,712
Total Contributions	43,820	32,712
Investment Income		
Miscellaneous Income	0	0
Investment Income	(47,955)	34,408
Total Investment Income	(47,955)	34,408
Disbursements		
Benefit Payments	(51,450)	(50,850)
Administrative Expenses	(1,461)	(1,626)
Total Disbursements	(52,911)	(52,477)
Net increase (Decrease)	(57,045)	14,643
Net Assets Held in Trust for Benefits:		
Beginning of Year	458,533	401,487
End of Year	$ 401,487	$ 416,130
Approximate Return	-10.56%	8.79%

Actuarial Value of Assets (AVA)

The Actuarial Value of Assets represents a "smoothed" value developed by the actuary to reduce the volatile results, which could develop due to short-term fluctuations in the Market Value of Assets. For this Plan, the Actuarial Value of Assets is calculated on a modified market-related value. The Actuarial Value of Assets recognizes one-fifth of the difference between the expected asset value (based on the 6.00% return assumption from 2022-2023) and the actual market value each year. The actuarial value is restricted to fall between 90% and 110% of the market value.

TABLE III-3
Development of Actuarial Value of Assets
(in thousands)

1. Calculate Expected Actuarial Value of Assets		
a. Value of Actuarial Value of Assets - July 1, 2022	$	422,762
b. Total Contributions and Misc Income		32,712
c. Administrative Expense		(1,626)
d. Benefit Payments		(50,850)
e. Expected Investment Earnings		24,781
f. Expected Actuarial Value of Assets - July 1, 2023 [1a + 1b + 1c + 1d + 1e]	$	427,779
2. Calculate Final Actuarial Value of Assets		
a. Value of Market Value of Assets - July 1, 2023	$	416,130
b. Excess of MVA over Expected AVA [2a - 1f]		(11,648)
c. Preliminary AVA [1f + 0.2 * 2b]		425,449
d. 90% of MVA [90% * 2a]		374,517
e. 110% of MVA [110% * 2a]		457,743
3. Final Actuarial Value of Assets [2c, not less than 2d or greater than 2e]	**$**	**425,449**

SECTION III – ASSETS

Investment Performance

The following table calculates the investment related gain/loss for the plan year on both a market value and an actuarial value basis. The market value gain/loss is an appropriate measure for comparing the actual asset performance to the previous valuation's 6.00% assumption.

TABLE III-4
Asset Gain/(Loss)
(in thousands)

	Market Value	Actuarial Value
July 1, 2022 value	**$ 401,487**	**$ 422,762**
Contributions of Plan Members	0	0
Contributions from the City	32,712	32,712
Benefit Payments	(50,850)	(50,850)
Administrative Expenses	(1,626)	(1,626)
Expected Investment Earnings (6.00%)	23,505	24,781
Expected Value June 30, 2023	**$ 405,228**	**$ 427,779**
Investment Gain / (Loss)	10,903	(2,330)
July 1, 2023 value	**416,130**	**$ 425,449**
Return	8.79%	5.44%

SECTION IV – LIABILITIES

In this section, we present detailed information on Plan liabilities including:

- **Disclosure** of Plan liabilities on July 1, 2022 and July 1, 2023
- Statement of **changes** in these liabilities during the year

Disclosure

Several types of liabilities are typically shown in an actuarial valuation report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them. Note that these liabilities are not applicable for settlement purposes, including the purchase of annuities and the payment of lump sums.

- **Present Value of Future Benefits:** Used for measuring all future Plan obligations, the obligations of the Plan earned as of the valuation date and those to be earned in the future by current plan participants under the current Plan provisions, if all assumptions are met.

- **Actuarial Liability:** Used for funding calculations, this liability is calculated taking the present value of future benefits and subtracting the present value of future normal costs under an acceptable actuarial funding method. Because the Plan has no active members, the Actuarial Liability is equal to the present value of future benefits (i.e., all benefits are fully accrued).

- **Unfunded Actuarial Liability:** The excess of the Actuarial Liability over the Actuarial Value of Assets.

Table IV-1 on the next page discloses each of these liabilities for the current and prior valuations.

SECTION IV – LIABILITIES

TABLE IV-1
Liabilities/Net (Surplus)/Unfunded
(in thousands)

	July 1, 2022	July 1, 2023
Present Value of Future Benefits		
Active Participant Benefits	$ 0	$ 0
Retiree and Inactive Benefits	552,966	522,457
Present Value of Future Benefits (PVB)	**$ 552,966**	**$ 522,457**
Actuarial Liability		
Present Value of Future Benefits (PVB)	$ 552,966	$ 522,457
Present Value of Future Normal Costs (PVFNC)	0	0
Actuarial Liability (AL = PVB – PVFNC)	**$ 552,966**	**$ 522,457**
Actuarial Value of Assets (AVA)	422,762	425,449
Net (Surplus)/Unfunded (AL – AVA)	**$ 130,204**	**$ 97,008**

SECTION IV – LIABILITIES

Changes in Liabilities

Each of the liabilities disclosed in the prior table is expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation (not applicable for this Plan)
- Benefits accrued since the last valuation (not applicable for this Plan)
- Plan amendments
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, dying, or receiving COLA adjustments at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method or software

Unfunded liabilities will change because of all of the above and also due to changes in Plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

TABLE IV-2
Changes in Actuarial Liability
(in thousands)

Actuarial Liability at July 1, 2022	$	552,966
Actuarial Liability at July 1, 2023	$	522,457
Liability Increase (Decrease)	$	(30,509)
Change due to:		
Plan Design Changes (MOU)	$	0
Assumption Change		(9,758)
Accrual of Benefits		0
Actual Benefit Payments		(50,850)
Interest		31,675
Data Corrections		0
Actuarial Liability (Gain)/Loss	$	(1,576)

SECTION IV – LIABILITIES

TABLE IV-3
Liabilities by Group as of July 1, 2023
(in thousands)

	Police	Fire	Total
Actuarial Accrued Liability			
Active	$ 0	$ 0	$ 0
Service Retirees	192,803	64,026	256,829
Disabled Retirees	70,741	70,852	141,594
Beneficiaries	74,134	49,901	124,035
Total Accrued Liability	$ 337,678	$ 184,779	$ 522,457

SECTION IV – LIABILITIES

TABLE IV-4
Development of Actuarial Gain / (Loss)
(in thousands)

1. Unfunded Actuarial Liability at Start of Year (not less than zero)	$	130,204
2. Employer Normal Cost at Start of Year		0
3. Interest on 1. and 2. to End of Year		7,812
4. Contributions and Miscellaneous Income for Prior Year		32,712
5. Administrative Expenses		(1,626)
6. Interest on 4. and 5. to End of Year		919
7. Change in Unfunded Actuarial Liability Due to Changes in Assumptions		(9,758)
8. Change in Unfunded Actuarial Liability Due to Changes in Actuarial Methods		0
9. Change in Unfunded Actuarial Liability Due to Changes in Plan Design		0
10. Change in Unfunded Actuarial Liability Due to Data Corrections		0
11. Expected Unfunded Actuarial Liability at End of Year [1. + 2. + 3. - 4. - 5. - 6. + 7. + 8. + 9. + 10.]	$	96,253
12. Actual Unfunded Actuarial Liability at End of Year (not less than zero)		97,008
13. Unfunded Actuarial Liability Gain / (Loss) [11. – 12.]	$	(755)

SECTION V – CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that is both stable and predictable.

For this Plan, the actuarial funding method used to determine the normal cost and the Unfunded Actuarial Liability is the **Entry Age Normal Cost Method**.

The normal cost rate is determined with the normal cost percentage equal to the total projected value of benefits at entry age, divided by present value of future salary at entry age. Since there are no longer any active employees, the normal cost for this plan is $0.

The Unfunded Actuarial Liability is the difference between the EAN Actuarial Liability and the Actuarial Value of Assets. For the contribution projections, the UAL payment is based on the unfunded liability of the Plan being fully amortized by June 30, 2026, in accordance with the City Charter. Amortization payments are determined based on an assumption that payments will increase by 3.25% each year, reflecting the assumed ultimate rate of increase in overall City Safety member salaries.

An amount equal to the expected administrative expenses for the Plan is added directly to the actuarial cost calculation.

Table V-1 on the next page shows the employer contribution amount for the 2024-2025 Fiscal Year. The projected assets and liabilities assume that all actuarial assumptions are met and that contributions are made as expected between now and June 30, 2024.

For this calculation, we have shown the contribution amount using both the projected actuarial and Market Value of Assets. The current funding policy uses the AVA to determine the UAL and the associated amortization payment. We have included the contribution amount as determined using the current Market Value of Assets to demonstrate what the actuarial cost would be if all deferred asset losses were fully recognized at the time the contributions commence. In both cases, the contribution is based on an assumption that the investment returns will exactly equal the assumed rate of return during the 2023-2024 Fiscal Year.

SECTION V – CONTRIBUTIONS

TABLE V-I
Development of Projected 2024-2025 Employer Contribution Amount
(in thousands)

	Actuarial Value of Assets	Market Value of Assets
1. Value of Assets at June 30, 2023:	$ 425,449	$ 416,130
a. Expected Contributions and Misc Income	$ 40,763	$ 40,763
b. Expected Administrative Expense	$ (1,790)	$ (1,790)
c. Expected Benefit Payments	$ (50,155)	$ (50,155)
d. Expected Investment Earnings	$ 20,996	$ 20,530
2. Expected Value of Assets at June 30, 2024:	$ 435,263	$ 425,478
a. Excess of Expected MVA over Expected AVA	$ (9,785)	
b. Preliminary AVA [Expected AVA + 20% * 2a]	$ 433,306	
c. 90% of Expected MVA	$ 382,930	
d. 110% of Expected MVA	$ 468,026	
3. Final Expected AVA [2b, not less than 2c or greater than 2d]	$ 433,306	$ 425,478
4. Entry Age Liability at June 30, 2023	$ 522,457	$ 522,457
5. Expected Benefit Payments	$ (50,155)	$ (50,155)
6. Expected Interest	$ 24,884	$ 24,884
7. Expected Entry Age Liability at June 30, 2024	$ 497,186	$ 497,186
8. Projected Unfunded Actuarial Liability: (7) - (3)	$ 63,881	$ 71,708
9. Funded Ratio: (3) / (7)	87.2%	85.6%
10. Unfunded Actuarial Liability Amortization at Middle of Year as a Level Percentage of Payroll (2 Years Remaining) as of June 30, 2024	$ 33,004	$ 37,048
11. Expected Administrative Expenses for Fiscal 2024-2025	$ 1,841	$ 1,841
12. Total Contribution: (10) + (11)	$ 34,845	$ 38,890

SECTION VI – HEADCOUNT AND BENEFIT PAYMENT PROJECTIONS

TABLE VI-1
Benefit Payment and Headcount Projection

Fiscal Year Ending June 30,	Police Count	Police Benefits (in thousands)	Fire Count	Fire Benefits (in thousands)	Total Count	Total Benefits (in thousands)
2024	403.0	$ 30,884	250.0	$ 19,271	653.0	$ 50,155
2025	389.1	$ 30,539	237.7	$ 18,735	626.7	$ 49,274
2026	375.1	$ 30,137	225.2	$ 18,154	600.3	$ 48,291
2027	361.0	$ 29,738	212.9	$ 17,576	573.8	$ 47,314
2028	346.5	$ 29,260	200.6	$ 16,958	547.1	$ 46,218
2029	331.8	$ 28,693	188.4	$ 16,302	520.1	$ 44,995
2030	316.5	$ 28,030	176.3	$ 15,610	492.9	$ 43,641
2031	300.9	$ 27,265	164.5	$ 14,886	465.4	$ 42,151
2032	284.7	$ 26,392	152.8	$ 14,131	437.6	$ 40,524
2033	268.1	$ 25,409	141.4	$ 13,346	409.5	$ 38,755
2034	251.0	$ 24,312	130.1	$ 12,532	381.1	$ 36,844
2035	233.5	$ 23,106	119.0	$ 11,692	352.5	$ 34,798
2036	215.7	$ 21,801	108.2	$ 10,830	323.9	$ 32,631
2037	197.7	$ 20,409	97.7	$ 9,957	295.4	$ 30,366
2038	179.8	$ 18,947	87.5	$ 9,080	267.3	$ 28,028
2039	162.1	$ 17,434	77.7	$ 8,211	239.8	$ 25,645
2040	144.8	$ 15,891	68.4	$ 7,359	213.2	$ 23,251
2041	128.1	$ 14,344	59.7	$ 6,536	187.8	$ 20,879
2042	112.2	$ 12,813	51.6	$ 5,750	163.7	$ 18,563
2043	97.2	$ 11,325	44.1	$ 5,010	141.3	$ 16,335
2044	83.3	$ 9,900	37.4	$ 4,324	120.7	$ 14,225
2045	70.6	$ 8,559	31.4	$ 3,698	102.0	$ 12,256
2046	59.2	$ 7,315	26.1	$ 3,133	85.2	$ 10,448
2047	49.0	$ 6,180	21.5	$ 2,632	70.4	$ 8,812
2048	40.1	$ 5,161	17.5	$ 2,191	57.6	$ 7,353
2049	32.4	$ 4,262	14.1	$ 1,810	46.6	$ 6,071
2050	26.0	$ 3,480	11.3	$ 1,483	37.3	$ 4,963
2051	20.5	$ 2,813	9.0	$ 1,207	29.5	$ 4,020
2052	16.1	$ 2,252	7.1	$ 977	23.2	$ 3,228
2053	12.5	$ 1,787	5.6	$ 786	18.1	$ 2,573

SECTION VI – HEADCOUNT AND BENEFIT PAYMENT PROJECTIONS

TABLE VI-1
Benefit Payment and Headcount Projection (Continued)

Fiscal Year Ending June 30,	Police Count	Police Benefits (in thousands)	Fire Count	Fire Benefits (in thousands)	Total Count	Total Benefits (in thousands)
2054	9.6	$ 1,407	4.3	$ 629	14.0	$ 2,036
2055	7.4	$ 1,099	3.4	$ 501	10.7	$ 1,600
2056	5.6	$ 853	2.6	$ 397	8.1	$ 1,250
2057	4.2	$ 658	2.0	$ 312	6.2	$ 970
2058	3.1	$ 504	1.5	$ 244	4.6	$ 748
2059	2.3	$ 383	1.1	$ 190	3.5	$ 573
2060	1.7	$ 289	0.8	$ 146	2.6	$ 436
2061	1.3	$ 216	0.6	$ 112	1.9	$ 328
2062	0.9	$ 160	0.5	$ 84	1.4	$ 244
2063	0.6	$ 116	0.3	$ 62	1.0	$ 179
2064	0.5	$ 84	0.2	$ 46	0.7	$ 129
2065	0.3	$ 59	0.2	$ 33	0.5	$ 92
2066	0.2	$ 41	0.1	$ 23	0.3	$ 64
2067	0.1	$ 28	0.1	$ 16	0.2	$ 43
2068	0.1	$ 18	0.1	$ 11	0.1	$ 29
2069	0.1	$ 12	0.0	$ 7	0.1	$ 18
2070	0.0	$ 7	0.0	$ 4	0.1	$ 11
2071	0.0	$ 4	0.0	$ 3	0.0	$ 7
2072	0.0	$ 2	0.0	$ 1	0.0	$ 4
2073	0.0	$ 1	0.0	$ 1	0.0	$ 2
2074	0.0	$ 0	0.0	$ 0	0.0	$ 1
2075	0.0	$ 0	0.0	$ 0	0.0	$ 0
2076	0.0	$ 0	0.0	$ 0	0.0	$ 0
2077	0.0	$ 0	0.0	$ 0	0.0	$ 0
2078	0.0	$ 0	0.0	$ 0	0.0	$ 0
2079	0.0	$ 0	0.0	$ 0	0.0	$ 0
2080	0.0	$ 0	0.0	$ 0	0.0	$ 0
2081	0.0	$ 0	0.0	$ 0	0.0	$ 0
2082	0.0	$ 0	0.0	$ 0	0.0	$ 0

APPENDIX A – MEMBERSHIP INFORMATION

Summary of Participant Data as of

	July 1, 2022			July 1, 2023		
Active Participants	**Police**	**Fire**	**Total**	**Police**	**Fire**	**Total**
Number	0	0	0	0	0	0
Number Vested	0	0	0	0	0	0
Average Age	0.0	0.0	0.0	0.0	0.0	0.0
Average Service	0.0	0.0	0.0	0.0	0.0	0.0
Average Pay	$0	$0	$0	$0	$0	$0
Service Retirees						
Number	209	81	290	196	75	271
Average Age	78.2	82.0	79.2	78.9	82.2	79.8
Average Annual Benefit	$83,999	$87,236	$84,903	$86,776	$90,603	$87,835
Disabled Retirees						
Number	85	86	171	81	84	165
Average Age	77.6	78.5	78.1	78.4	79.3	78.9
Average Annual Benefit	$80,234	$82,135	$81,190	$83,502	$84,933	$84,231
Beneficiaries						
Number	128	97	225	126	91	217
Average Age	80.8	82.9	81.7	80.8	83.5	81.9
Average Annual Benefit	$58,518	$62,679	$60,312	$60,935	$64,148	$62,283
All Inactives						
Number	422	264	686	403	250	653
Average Age	78.8	81.2	79.8	79.4	81.7	80.3
Average Annual Benefit	$75,512	$76,552	$75,912	$78,039	$79,068	$78,433

Data pertaining to active and inactive Members and their beneficiaries as of the valuation date was supplied by the Plan Administrator.

APPENDIX A – MEMBERSHIP INFORMATION

Changes in Plan Membership: Police

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2022	0	209	85	128	422
Retired	0	0	0	0	0
Disabled	0	(1)	1	0	0
Deceased	0	(12)	(5)	(7)	(24)
New Beneficiary	0	0	0	5	5
July 1, 2023	**0**	**196**	**81**	**126**	**403**

Changes in Plan Membership: Fire

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2022	0	81	86	97	264
Retired	0	0	0	0	0
Disabled	0	0	0	0	0
Deceased	0	(6)	(2)	(11)	(19)
New Beneficiary	0	0	0	5	5
July 1, 2023	**0**	**75**	**84**	**91**	**250**

Changes in Plan Membership: All

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2022	0	290	171	225	686
Retired	0	0	0	0	0
Disabled	0	(1)	1	0	0
Deceased	0	(18)	(7)	(18)	(43)
New Beneficiary	0	0	0	10	10
July 1, 2023	**0**	**271**	**165**	**217**	**653**

APPENDIX A – MEMBERSHIP INFORMATION

Service Retired Participants

	Police		Fire		Total	
Age	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	$0	0	$0	0	$0
50-54	0	$0	0	$0	0	$0
55-59	0	$0	0	$0	0	$0
60-64	0	$0	0	$0	0	$0
65-69	2	$201,908	0	$0	2	$201,908
70-74	39	$3,574,157	5	$350,678	44	$3,924,834
75-79	82	$6,802,822	28	$2,467,004	110	$9,269,826
80-84	55	$4,593,520	22	$2,048,336	77	$6,641,856
85-89	11	$1,207,043	11	$1,105,956	22	$2,312,999
90-94	6	$522,056	6	$542,092	12	$1,064,148
95-99	0	$0	3	$281,125	3	$281,125
100+	1	$106,641	0	$0	1	$106,641
Total	196	$17,008,147	75	$6,795,190	271	$23,803,337

Disability Retired Participants

	Police		Fire		Total	
Age	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	$0	0	$0	0	$0
50-54	0	$0	0	$0	0	$0
55-59	0	$0	0	$0	0	$0
60-64	0	$0	0	$0	0	$0
65-69	0	$0	0	$0	0	$0
70-74	15	$1,324,027	17	$1,321,454	32	$2,645,480
75-79	41	$3,325,838	36	$3,012,872	77	$6,338,710
80-84	17	$1,416,677	21	$1,835,982	38	$3,252,660
85-89	7	$570,862	7	$717,580	14	$1,288,441
90-94	1	$126,275	3	$246,469	4	$372,743
95-99	0	$0	0	$0	0	$0
100+	0	$0	0	$0	0	$0
Total	81	$6,763,678	84	$7,134,357	165	$13,898,034

APPENDIX A – MEMBERSHIP INFORMATION

Beneficiaries

	Police		Fire		Total	
Age	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	$0	0	$0	0	$0
50-54	0	$0	0	$0	0	$0
55-59	0	$0	0	$0	0	$0
60-64	4	$257,282	1	$96,102	5	$353,384
65-69	5	$365,083	5	$302,120	10	$667,203
70-74	21	$1,190,804	13	$869,455	34	$2,060,259
75-79	36	$2,124,226	13	$890,187	49	$3,014,412
80-84	26	$1,508,179	17	$1,028,555	43	$2,536,734
85-89	13	$827,922	18	$1,119,931	31	$1,947,853
90-94	11	$841,133	17	$1,059,910	28	$1,901,043
95-99	7	$401,482	6	$408,257	13	$809,739
100+	3	$161,739	1	$62,971	4	$224,710
Total	126	$7,677,852	91	$5,837,487	217	$13,515,339

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the actuarial valuation as of June 30, 2023 are based on an experience study covering the period through June 30, 2023 as presented to the Board at their meetings on December 6, 2023 and February 28, 2024. Please refer to materials presented at those meetings for the rationale for each assumption.

Contribution Allocation Procedure

The contribution allocation procedure primarily consists of an actuarial cost method, an asset valuation method, and an amortization method as described below. This contribution allocation procedure, combined with reasonable assumptions, produces a Reasonable Actuarially Determined Contribution as defined in Actuarial Standard of Practice No. 4. The contribution allocation procedure was selected to balance benefit security, intergenerational equity, and the stability of actuarially determined contributions. The selection also considered the demographics of plan members, the funding goals and objectives of the Board, and the need to accumulate assets to make benefit payments when due. There were no changes to the contribution allocation procedures from the prior valuation.

Actuarial Cost and Amortization Method

The Entry Age Normal Actuarial Cost Method is used. Under this method, the Plan's Actuarial Liability (AL) is determined as the Present Value of Future Benefits (PVFB) less the Present Value of Future Normal Costs (PVFNC). Since all of the Plan's members are retired, the AL and the PVFB are the same.

The excess of the AL over the Actuarial Value of Assets (AVA) is the Unfunded Actuarial Liability (UAL). In accordance with the Plan's funding agreement with the City of Oakland, the UAL must be amortized by July 1, 2026, with contributions resuming in the 2017-2018 fiscal year. The projected fiscal year 2024-2025 contribution has been calculated using level percent of pay amortization, based on total projected City payroll for all Safety employees.

Actuarial Value of Plan Assets

In determining the recommended employer contribution to the PFRS, we use a smoothed Actuarial Value of Assets. The asset smoothing method dampens the volatility in asset values that could occur because of the fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process. Assets are assumed to be used exclusively for the provision of retirement benefits and expenses.

The Actuarial Value of Assets is equal to 100% of the *expected Actuarial Value of Assets* plus 20% of the difference between the current Market Value of Assets and the expected Actuarial Value of Assets. In no event will the Actuarial Value of Assets ever be less than 90% of the Market Value of Assets or greater than 110% of the Market Value of Assets. The expected Actuarial Value of Assets is equal to the prior year's Actuarial Value of Assets increased with actual contributions made, decreased with actual disbursements made, all items (prior assets, contributions, and disbursements) further adjusted with expected investment returns for the year.

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

1. Rate of Return

The expected annual rate of return, net of investment expenses, on all Plan assets is 5.0%.

2. Inflation

The assumed rate of general inflation is 2.75% (entire US) and local inflation is 2.85% (Bay Area). The general inflation rate is used in the determination of the investment return assumptions. The local inflation rate is used in the determination of the growth in expenses and salaries (which determine the COLA increases).

3. Administrative Expenses

Administrative expenses for the Fiscal Year Ending June 30, 2024 are assumed to be $1,790,347, growing at 2.85% per year.

4. Cost-of-Living Adjustments and Long-Term Salary Increases

Cost-of-living adjustments are based on salary increases for a retiree's rank at retirement.

The long-term rate of salary increase is assumed to be 3.25% (2.85% inflation plus 0.4% productivity). This rate is used to project cost-of-living increases after the expiration of the current contracts, as well as representing the expected level of overall Safety payroll growth used to calculate the unfunded liability amortization payment. The following schedule shows salary increases based on the current Police and Fire contracts that expire on June 30, 2026. All increases shown after that date are assumptions.

Post-Retirement Benefit Increases
(Based on Salary Increases for Rank at Retirement)

Date of Increase	Police	Fire
July 1, 2023	3.50%	3.50%
July 1, 2024	3.00%	3.00%
July 1, 2025	3.00%	3.00%
Annual Increases Starting July 1, 2026	3.25%	3.25%

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

5. Rates of Termination

None.

6. Rates of Disability

None.

7. Rates of Retirement

None.

8. Rates of Mortality for Healthy Lives

Mortality rates for healthy annuitants are based on the sex distinct 2021 CalPERS Healthy Annuitant Mortality Table, with generational mortality improvements projected from 2017 using Projection Scale MP-2021.

9. Rates of Mortality for Disabled Retirees

Mortality rates for Safety disabled annuitants are based on the sex distinct 2021 CalPERS Industrially Disabled Mortality Table, with generational mortality improvements projected from 2017 using Projection of Scale MP-2021.

10. Mortality Improvement

The mortality tables are projected to improve with MP-2021 generational mortality improvement tables, projected from a base year of 2017 (the mid-point of the CalPERS mortality tables from their 2021 study).

11. Survivor Continuance

All retirees with a Benefit Form of "J&S" in the raw data are assumed to receive a 66-2/3% continuance.

12. Changes in Assumptions Since the Last Valuation

The expected annual rate of return was updated from a select and ultimate discount rate (6.0% per year until 2027, then trending down to an annual return of 3.25% over 10 years) to a single discount rate of 5.0%.

The mortality tables were updated from CalPERS tables from the 2012-2015 experience study, to CalPERS tables from the 2021 experience study and the mortality improvement scale was updated from MP-2017 to MP-2021 due to an experience study.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

1. Plan Year

July 1 to June 30.

2. Membership

The Plan has been closed to new members since June 30, 1976.

3. Salary

Retirement allowances are based on the pensionable compensation attached to the average rank held during the three years immediately preceding retirement.

4. Employee Contributions

There are no active employees in the Plan, and thus no employee contributions.

5. Service Retirement

Eligibility
25 years of service, or 20 years of service and age 55, or age 65. A reduced early retirement is available with 20 years of service.

Benefit Amount
50% of Salary plus 1.67% for each additional year of service beyond that required for service retirement eligibility, to a maximum of 10 years. For retirements with less than 20 years of service, benefits are pro-rated.

6. Duty-Related Disability Retirement

Equivalent to service retirement benefit if 25 or more years of service.

7. Non-Duty Related Disability Retirement

Equivalent to service retirement benefit if age 55 is attained.

8. Post-Retirement Death Benefit

For retirees without a spouse at death, a $1,000 lump sum is paid to designated beneficiary.

9. Cost-of-Living Adjustments

Benefit increases are based on increases in salary for rank at retirement (see above definition of Salary).

APPENDIX C – SUMMARY OF PLAN PROVISIONS

10. Benefit Forms

Benefit is paid for the lifetime of the member. For deaths following a service retirement or non-duty disability, a 66-2/3% continuance is paid for the lifetime of the spouse. If the member retired under a duty-related disability, a continuance of 100% is paid.

11. Changes in Plan Provisions Since the Last Valuation

None.

APPENDIX D – GLOSSARY

1. **Actuarial Assumptions**

   Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation, and rates of investment return.

2. **Actuarial Cost Method**

   A procedure for determining the actuarial present value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a normal cost and an Actuarial Liability.

3. **Actuarial Gain (Loss)**

   The difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

4. **Actuarial Liability**

   The portion of the actuarial present value of projected benefits that will not be paid by future normal costs. It represents the value of the past normal costs with interest to the valuation date.

5. **Actuarial Present Value (Present Value)**

   The value as of a given date of a future amount or series of payments. The actuarial present value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

6. **Actuarial Valuation**

   The determination, as of a specified date, of the normal cost, Actuarial Liability, Actuarial Value of Assets, and related actuarial present values for a pension plan.

7. **Actuarial Value of Assets**

   The value of cash, investments, and other property belonging to a pension plan as used by the actuary for the purpose of an actuarial valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values.

8. **Actuarially Equivalent**

   Of equal actuarial present value, determined as of a given date, with each value based on the same set of actuarial assumptions.

APPENDIX D – GLOSSARY

9. Amortization Payment

The portion of the pension plan contribution that is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

11. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

12. Normal Cost

That portion of the actuarial present value of pension plan benefits and expenses that is allocated to a valuation year by the actuarial cost method.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of actuarial assumptions, taking into account such items as increases in future compensation and service credits.

14. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.

CHEIRON

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Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Administrative Budget Spent to Date (Preliminary)

As of January 31, 2024

	Approved Budget	January 2024	FYTD	Remaining	Percent Remaining
Internal Administrative Costs					
PFRS Staff Salaries	$ 1,459,000	$ 111,918	$ 693,491	$ 765,509	52.5%
Board Travel Expenditures	52,500	-	2,239	50,261	95.7%
Staff Training	20,000	-	-	20,000	100.0%
Staff Training - Tuition Reimbursement	7,500	-	-	7,500	100.0%
Board Hospitality	3,600	178	1,982	1,618	44.9%
Payroll Processing Fees	40,000	-	-	40,000	100.0%
Miscellaneous Expenditures	45,000	3,367	10,868	34,132	75.8%
Internal Service Fees (ISF)	88,000	-	41,500	46,500	52.8%
Contract Services Contingency	50,000	250	750	49,250	98.5%
Internal Administrative Costs Subtotal :	**$ 1,765,600**	**$ 115,713**	**$ 750,830**	**$ 1,014,770**	**57.5%**
Actuary and Accounting Services					
Audit	$ 52,800	$ -	$ 18,941	$ 33,859	64.1%
Actuary	49,400	11,584	11,584	37,816	76.6%
Actuary and Accounting Subtotal:	**$ 102,200**	**$ 11,584**	**$ 30,525**	**$ 71,675**	**70.1%**
Legal Services					
City Attorney Salaries	$ 212,100	$ -	$ -	$ 212,100	100.0%
Legal Contingency	150,000	-	-	150,000	100.0%
Legal Services Subtotal:	**$ 362,100**	**$ -**	**$ -**	**$ 362,100**	**100.0%**
Investment Services					
Money Manager Fees	$ 1,353,000	$ 85,951	$ 341,887	$ 1,011,113	74.7%
Custodial Fee	124,500	62,250	62,250	62,250	50.0%
Investment Consultant	100,000	25,000	50,000	50,000	50.0%
Investment Subtotal:	**$ 1,577,500**	**$ 173,201**	**$ 454,137**	**$ 1,123,363**	**71.2%**
Total Operating Budget	**$ 3,807,400**	**$ 300,498**	**$ 1,235,493**	**$ 2,571,907**	**67.55%**

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of January 31, 2024

		January 2024
Beginning Cash as of 1/1/2024	$	10,537,707
Additions:		
City Pension Contribution - January		3,396,917
Investment Draw		1,000,000
Misc. Receipts		800
Total Additions:	$	4,397,717
Deductions:		
Pension Payment (December Pension Paid on 1/2/2024)		(4,175,192)
Expenditures Paid		(362,254)
Total Deductions	$	(4,537,446)
Ending Cash Balance as of 1/31/2024*	$	10,397,977

** On 2/1/2024, January pension payment of appx $4,183,000 will be made leaving a cash balance of $6,215,000.*

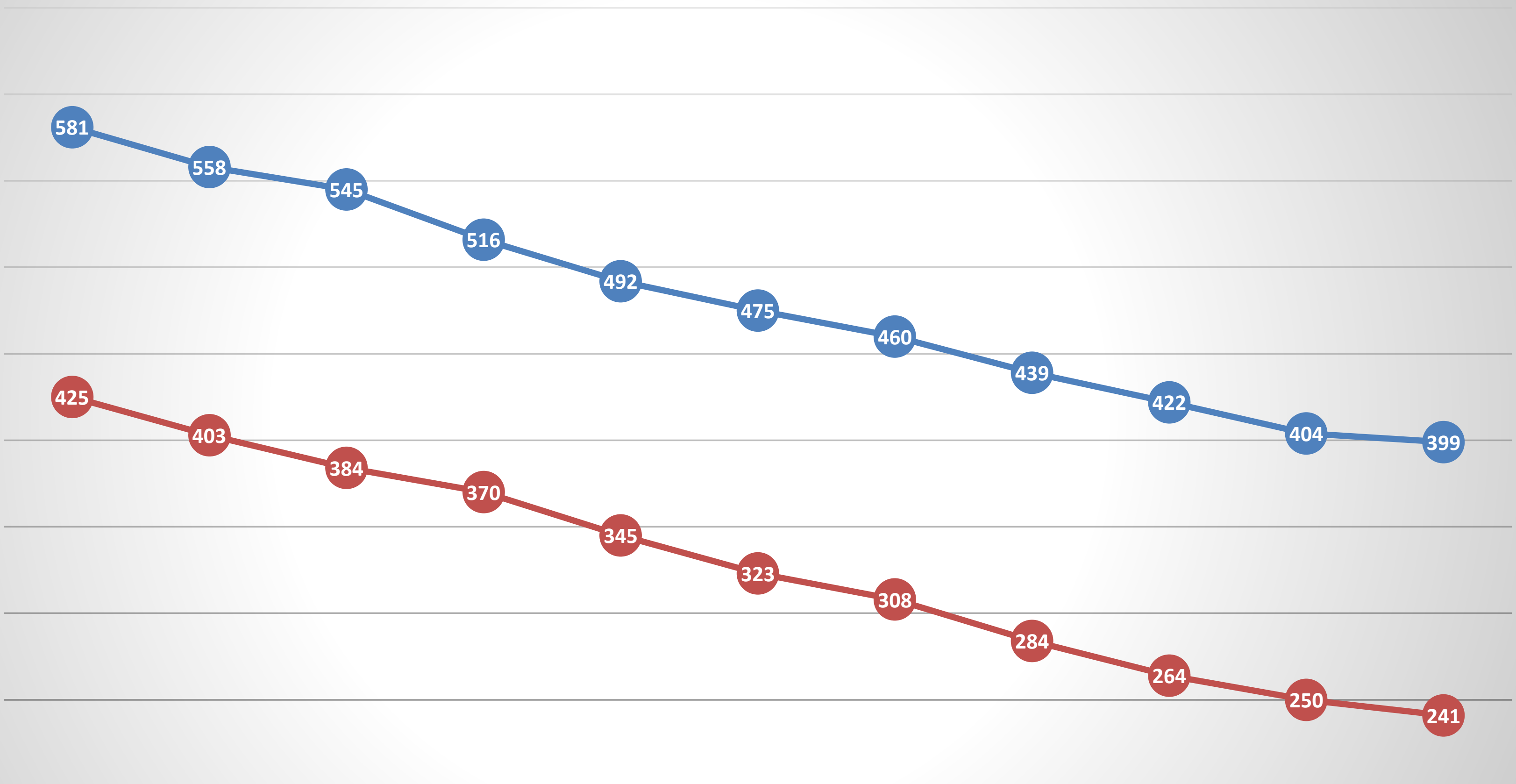
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of January 31, 2024

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	271	153	424
Beneficiary	128	88	216
Total Retired Members	**399**	**241**	**640**
Total Membership:	**399**	**241**	**640**

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	267	113	380
Disability Retirement	124	117	241
Death Allowance	8	11	19
Total Retired Members:	**399**	**241**	**640**
Total Membership as of January 31, 2024:	**399**	**241**	**640**
Total Membership as of June 30, 2023:	**404**	**250**	**654**
Annual Difference:	**-5**	**-9**	**-14**

Oakland Police and Fire Retirement System
Pension Plan Membership Count
As of January 31, 2024 (FY 2014 - FY 2024)



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024 FYTD
Police	581	558	545	516	492	475	460	439	422	404	399
Fire	425	403	384	370	345	323	308	284	264	250	241
Total	1006	961	929	886	837	798	768	723	686	654	640

CITY OF OAKLAND

AGENDA REPORT

TO:	Oakland Police and Fire Retirement System Board	**FROM:**	David F. Jones Plan Administrator
SUBJECT:	PFRS FY2023-2025 Administrative Expenses Budget Mid-Cycle Adjustment	**DATE:**	March 27, 2024

SUMMARY

Staff has analyzed the Oakland Police and Fire Retirement System's ("PFRS") previously approved two-year budgets for FY 2023-2024 and FY 2024-2025. As a result, staff is recommending some adjustments to the budgeted line items. Staff recommends that the Board approve the nominal budget increase for FY 2024-2025 as attached in **Table 1**.

BACKGROUND

At their April 27, 2022 Board meeting, the Oakland Police and Fire Retirement System Board ("PFRS Board") approved a 2-year PFRS Administrative Budget of $3,807,400 for FY 2023-2024 and $3,878,100 for FY 2024-2025.

PROPOSED CHANGES

Staff recommends proposed changes to the FY 2024-2025 budgets as shown in **Table 1**. The proposed changes adjust budgeted funds to accurately reflect expected costs. The total annual proposed budget is approximately 0.92% of the Plan's existing investment portfolio.

KEY CHANGES

The Internal Administrative Budget is proposed to increase by $166,000 in FY 2024-2025, an overall increase of 4.3%. Staff is seeking authority from the Board to hire an additional administrative staff member to support the Oakland Police and Fire Retirement System. This additional staff member will be critical in improving the overall efficiency of the Retirement Unit, providing additional back office administrative support, and archiving critical files and data.

Every year PFRS budget includes an amount of $150,000 to assist with any potential lawsuits and to pay for Outside Counsel services, as needed. This budgeted line item has not been used in several years. Staff is seeking authority to utilize a portion of the existing Legal Contingency budget to pay for needed Outside Counsel to assist the City Attorney's office regarding Trusts, Estates and Power of Attorney's (POA). As PFRS members continue to age, staff is seeing an increase of POAs and would like to utilize Outside Counsel to review current processes, provide staff training, and assist on special cases when needed. Staff would also like to obtain Outside Counsel to assist with Investment Manager contracts, when needed.

The Budgeted funds are already available in the PFRS internal Cash in Treasury Pool and no additional transfers are required per City of Oakland Charter, Article XXVI; Police & Fire Retirement System, Section 2601 (d).

Respectfully submitted,

David F. Jones, Plan Administrator
Oakland Police and Fire Retirement System

Attachment (1):
Table 1: *Oakland Police and Fire Retirement System – Proposed Mid-Cycle Administrative Budget Changes*

Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Proposed Mid-Cycle Administrative Budget Changes
FY 2023-2024 and FY 2024-2025

	Approved Budget		Proposed Changes		Proposed Revised Budgets	
	FY 2023-2024	FY 2024-2025	FY 2023-2024	FY 2024-2025	FY 2023-2024	FY 2024-2025
Internal Administrative Costs						
PFRS Staff Salaries	$ 1,459,000	$ 1,518,000	$ -	$ 166,000	$ 1,459,000	$ 1,684,000
Board Travel Expenditures	52,500	52,500	-	-	52,500	52,500
Staff Training	20,000	20,000	-	-	20,000	20,000
Staff Training - Tuition Reimbursement	7,500	7,500	-	-	7,500	7,500
Board Hospitality	3,600	3,600	-	-	3,600	3,600
Payroll Processing Fees	40,000	40,000	-	-	40,000	40,000
Miscellaneous Expenditures	45,000	45,000	-	-	45,000	45,000
Internal Service Fees (ISF)	88,000	88,000	-	-	88,000	88,000
Contract Services Contingency	50,000	50,000	-	-	50,000	50,000
Internal Administrative Subtotal :	**$ 1,765,600**	**$ 1,824,600**	**$ -**	**$ 166,000**	**$ 1,765,600**	**$ 1,990,600**
Actuary and Accounting Services						
Audit	$ 52,800	$ 54,400	$ -	$ -	$ 52,800	$ 54,400
Actuary	49,400	50,900	-	-	49,400	50,900
Actuary and Accounting Subtotal:	**$ 102,200**	**$ 105,300**	**$ -**	**$ -**	**$ 102,200**	**$ 105,300**
Legal Services						
City Attorney Salaries	$ 212,100	$ 220,700	$ -	$ -	$ 212,100	$ 220,700
Legal Contingency	150,000	150,000	-	-	150,000	150,000
Legal Services Subtotal:	**$ 362,100**	**$ 370,700**	**$ -**	**$ -**	**$ 362,100**	**$ 370,700**
Investment Services						
Money Manager Fees	$ 1,353,000	$ 1,353,000	$ -	$ -	$ 1,353,000	$ 1,353,000
Custodial Fee: (Northern Trust)	124,500	124,500	-	-	124,500	124,500
Investment Consultant (Meketa)	100,000	100,000	-	-	100,000	100,000
Investment Services Subtotal:	**$ 1,577,500**	**$ 1,577,500**	**$ -**	**$ -**	**$ 1,577,500**	**$ 1,577,500**
					-	-
Total Operating Budget	**$ 3,807,400**	**$ 3,878,100**	**$ -**	**$ 166,000**	**$ 3,807,400**	**$ 4,044,100**
Percentage increase					**0.0%**	**4.3%**

CITY OF OAKLAND

AGENDA REPORT

TO:	Oakland Police and Fire Retirement System Board (PFRS)	**FROM:**	David F. Jones Plan Administrator & Secretary
SUBJECT:	Authorization and Reimbursement of Board Member Wilkinson's Travel/Education Expenses	**DATE:**	March 27, 2024

Jaime T. Godfrey, Board Member of the **Oakland Police and Fire Retirement System** Board, requests authorization for reimbursement of travel and/or board education related funds for the event detailed below. Staff has verified that budgeted funds are available for this Board Member to be reimbursed.

Staff recommends the reimbursement of travel/education funds for the event below be approved by board motion.

Travel/Education Event:	Pension Bridge The Annual 2024
Event Location:	Ritz-Carlton in Half Moon Bay, CA
Event Date:	April 15, 2024 – April 17, 2024
Estimated Event Expense:	$1,500.00
Notes:	

* If enrollment, registration or admission expenses are required, the fund will process a check in advance and pay vendor directly; all other board-approved reimbursements will be made upon delivery of receipts to staff by the travelling party. Cancellation of event attendance requires return of all reimbursed funds paid to attendee to the fund.

Respectfully submitted,

David F. Jones
Plan Administrator & Secretary
Oakland Police & Fire Retirement Systems

For questions, please contact Maxine Visaya, Administrative Assistant II, at 510.238.7295

Attachments:
(1) Resolution 8095
(2) Conference Agenda

ATTACHMENT 1

RESOLUTION NO. 8095

Approved to Form and Legality

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION NO. 8095

ON MOTION OF MEMBER ______________________ SECONDED BY MEMBER ___________________________

RESOLUTION APPROVING REQUEST OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM BOARD MEMBER JAIME T. GODFREY TO TRAVEL AND ATTEND PENSION BRIDGE THE ANNUAL 2024 CONFERENCE FROM APRIL 15, 2024 THROUGH APRIL 17, 2024 IN HALF MOON BAY, CA AND AUTHORIZING REIMBURSEMENT OF REGISTRATION FEES AND TRAVEL-RELATED EXPENSES IN AN AMOUNT NOT TO EXCEED ONE-THOUSAND FIVE HUNDRED FIFTY DOLLARS ($1,500.00)

WHEREAS, the Oakland Police and Fire Retirement System (PFRS) Education and Travel Policy ("Travel Policy") requires that PFRS Board members and staff obtain prior Board approval of all education and travel-related expenses that will be reimbursed by PFRS; and;

WHEREAS, PFRS Board Member Godfrey would like to attend Pension Bridge The Annual 2024 conference from April 15, 2024 through April 17, 2024 in Half Moon Bay, CA; and

WHEREAS, in compliance with Section IV(13)(c) of the Travel Policy, Member Godfrey has submitted documentation showing the registration fees and estimated travel-related expenses to attend the Conference will be approximately One-Thousand Five Hundred Fifty Dollars ($1,500.00); and, therefore be it

RESOLVED: That PFRS Board Member Jaime T. Godfrey's request to attend Pension Bridge The Annual 2024 conference in Half Moon Bay, CA from April 15, 2024 through April 17, 2024 at an estimated cost of One-Thousand Five Hundred Dollars ($1,500.00) is approved; and be it

FURTHER RESOLVED: That the PFRS Board authorizes reimbursement of the registration fees and travel-related expensed in an amount not to exceed One-Thousand Five Hundred Dollars ($1,500.00) for Member Godfrey's attendance at Pension Bridge The Annual 2024 conference.

IN BOARD MEETING, CITY HALL, OAKLAND, CA ____________ MARCH 27, 2024 ____________

PASSED BY THE FOLLOWING VOTE:

AYES: MELIA, NICHELINI, ROSEMAN, SPEAKMAN, WILKINSON, & PRESIDENT JOHNSON
NOES:
ABSTAIN: GODFREY
ABSENT:

ATTEST: ________________________
PRESIDENT

ATTEST: ________________________
SECRETARY

ATTACHMENT 2

Conference Agenda

Pension Bridge
The Annual
2024

Search Session

All Days Mon Apr 15 Tue Apr 16 Wed Apr 17

All Sessions (52) My Interests

Mon **Apr 15**

1:00 PM

LOG IN

1:00 PM - 1:40 PM PDT (40 Min)

Analyst Workshop | Registration

1:40 PM

1:40 PM - 2:20 PM PDT (40 Min)

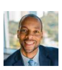
Analyst Workshop | Portfolio Construction: Building for the Future

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  1(https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

2:20 PM

2:20 PM - 3:00 PM PDT (40 Min)

Analyst Workshop | Analysts in the Hotseat

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  4(https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

3:00 PM

3:00 PM - 3:55 PM PDT (55 Min)

Registration and Refreshments

3:55 PM

3:55 PM - 4:05 PM PDT (10 Min)

Opening Remarks

4:05 PM

4:05 PM - 4:30 PM PDT (25 Min)

Keynote Interview

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  (35) (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

4:30 PM

(52)

4:30 PM - 6:00 PM PDT (1 Hour, 30 Min)

Networking Cocktail Reception

7:00 PM

7:00 PM - 7:00 PM PDT (0 Min)

End of Day One

Tue **Apr 16**

7:30 AM

7:30 AM - 8:30 AM PDT
(1 Hour)

Allocator-Only Breakfast: Diversity, Inclusion and Talent

8:30 AM

8:30 AM - 8:35 AM PDT (5 Min)

Opening Remarks

8:35 AM

8:35 AM - 8:55 AM PDT (20 Min)

Fireside Chat with Asset Owner CIO

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  (19) (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

8:55 AM

8:55 AM - 9:30 AM PDT (35 Min)

What-Landing? Portfolios and America's Economic Future

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  2(513)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

9:30 AM

(52)

9:30 AM - 10:05 AM PDT (35 Min)

Asset Allocation: A Material Change...

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  34(34)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

10:05 AM

10:05 AM - 10:25 AM PDT (20 Min)

Headline Presentation

10:25 AM

10:25 AM - 10:55 AM PDT (30 Min)

Networking Coffee

10:55 AM

10:55 AM - 11:30 AM PDT (35 Min)

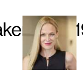
The Looming Credit Crisis: Fail to Prepare...

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speakers/32019(24)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

11:30 AM

11:30 AM - 12:05 PM PDT (35 Min)

The Digitalization of Everything

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  19(31)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

12:05 PM

12:05 PM - 12:40 PM PDT (35 Min)

Scenario Setting: Private Credit in a Recessionary Environment

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  3(47)(https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

12:40 PM

12:40 PM - 1:40 PM PDT (1 Hour)

(52)

Networking Lunch

1:40 PM

1:40 PM - 2:15 PM PDT
(35 Min)

Emerging Markets: Back from the Dead?

Emerging markets are in one of their longest bear markets. The MSCI Emerging Markets Index is down by about 40% of its February 2021 highs. China's economic woes have largely driven this poor performance, from lockdowns to deflation and dampened post-Covid growth to debt crises. Yet the long-term
Read More (https://events.withintelligence.com/pensionbridgetheannual/agenda/session/1243870)

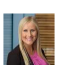
 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  7(85)(https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

2:15 PM

2:15 PM - 2:50 PM PDT
(35 Min)

Infrastructure: Defense is the Best Offense

Secular trends such as decarbonization and digitalization are driving infrastructure growth. That the asset class is inflation-hedging is a boon. Yet dry powder levels are high, competition for the best deals is rife, and long-duration fixed income products with higher yields threaten demand.
Read More (https://events.withintelligence.com/pensionbridgetheannual/agenda/session/1260533)

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  3(32)(https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

2:50 PM

2:50 PM - 3:25 PM PDT
(35 Min)

Carbon Credits: An Eye to 2050

According to the World Bank, carbon markets and Emission Trading Systems (ETS) reached a record high of $95 billion in 2023. Increased volumes in this space have led to renewed activity, with recent carbon credit auctions generating new opportunities for investors, but also risk as the carbon certification schemes
Read More (https://events.withintelligence.com/pensionbridgetheannual/agenda/session/1243872)

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  3(16)ttps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

(52)

3:25 PM

3:25 PM - 4:00 PM PDT
(35 Min)

Distressed: Hitting the Wall

The check for a decade-long borrowing binge is about to be cashed. Debt piles accumulated in the pandemic are due for repayment and with current high costs of financing, over-leveraged firms have little options, other than asset sales, to service their debt. But with pain comes opportunity.
Read More (https://events.withintelligence.com/pensionbridgetheannual/agenda/session/1260535)


Allan Schweitzer
Portfolio Manager
Beach Point Capital Management
Speaker
(https://events.withintelligence.com/pensionbridgetheannual/agenda/speakers/3240143)

4:00 PM

4:00 PM - 4:30 PM PDT (30 Min)

Networking Coffee Break

4:30 PM

4:30 PM - 4:50 PM PDT (20 Min)

Headline Presentation


Raffaele Savi
Senior Managing Director, Global Head of BlackRock Systematic (BSYS) and Co-CIO and Co-Head of...
BlackRock
Speaker
(https://events.withintelligence.com/pensionbridgetheannual/agenda/speakers/3241945)

4:50 PM

4:50 PM - 5:25 PM PDT (35 Min)

The GP-LP Relationship: The Times, they are A Changin'

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  0(903)s://events.withintelligence.com/pensionbridgetheannual/agenda/speake

5:25 PM

5:25 PM - 5:30 PM PDT (5 Min)

Closing Remarks

5:30 PM

5:30 PM - 7:30 PM PDT (2 Hours)

Wine Tasting Reception

(52)

7:30 PM

7:30 PM - 8:00 PM PDT (30 Min)

End of Day Two

Wed **Apr 17**

7:40 AM

7:40 AM - 8:40 AM PDT (1 Hour)

Breakfast for All Attendees

8:40 AM

8:40 AM - 8:45 AM PDT (5 Min)

Welcome Remarks

8:45 AM

8:45 AM - 9:20 AM PDT (35 Min)

Exit the Dragon: US-China Decoupling and Portfolios

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  2778) (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

9:20 AM

9:20 AM - 9:55 AM PDT (35 Min)

Fixed Income: A Defining Moment...

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  3(10) (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

9:55 AM

9:55 AM - 10:15 AM PDT (20 Min)

(52)

Headline Presentation

Mr. Brett Hickey
Founder & CEO
Star Mountain Capital
Speaker

(https://events.withintelligence.com/pensionbridgetheannual/agenda/speakers/3227571)

10:15 AM

10:15 AM - 10:50 AM PDT (35 Min)

Secondaries Wave: Will the Surf Ever Stop?

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  3(82) (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

10:50 AM

10:50 AM - 11:20 AM PDT (30 Min)

Networking Coffee Break

11:20 AM

11:20 AM - 11:55 AM PDT (35 Min)

Pension Bridge Debates: ESG and Fiduciary Duty—For or Against?

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  3(78) (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake

11:55 AM

11:55 AM - 12:15 PM PDT (20 Min)

Keynote Interview

12:15 PM

12:15 PM - 1:15 PM PDT (1 Hour)

Networking Lunch

1:15 PM

1:15 PM - 1:50 PM PDT (35 Min)

Pension Bridge Triva Round

(52)

1:50 PM

1:50 PM - 2:25 PM PDT (35 Min)

The Energy Transition: Tapping the Megatrend

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  2(56)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

2:25 PM

2:25 PM - 3:00 PM PDT (35 Min)

Networking Coffee Break

3:00 PM

3:00 PM - 3:35 PM PDT (35 Min)

Scenario Setting: Equities and the Fed

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  1(68)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

3:35 PM

3:35 PM - 4:10 PM PDT (35 Min)

CIO Closing Panel: Building 2030's Portfolio Today

 (https://events.withintelligence.com/pensionbridgetheannual/agenda/speake  7(18)ps://events.withintelligence.com/pensionbridgetheannual/agenda/speake

Add to calendar:

Google (https://www.google.com/calendar/render?

action=TEMPLATE&text=Pension%20Bridge%20The%20Annual%202024&dates=20240415T150000/20240417T200000&details=%0A%0Ahttps%3A%2F%2Fevents.withintelligenc

Carlton%2C%20Half%20Moon%20Bay%2C%20Miramontes%20Point%20Road%2C%20Half%20Moon%20Bay%2C%20CA%2C%20USA&sprop=&sprop=name:&ctz=America/Los_

CITY OF OAKLAND

AGENDA REPORT

TO:	Oakland Police and Fire Retirement System Board (PFRS)	**FROM:**	David F. Jones Plan Administrator & Secretary
SUBJECT:	Approve Printing & Distribution of PFRS Annual Report for the Fiscal Year Ended June 30, 2023	**DATE:**	March 27, 2024

RECOMMENDATION

The PFRS Annual Report for the Fiscal Year ended June 30, 2023 has been completed and is submitted here for the Board approval for printing and distribution.

Respectfully submitted,

David F. Jones
Plan Administrator & Secretary
Oakland Police & Fire Retirement Systems

Attachement:
(1) PFRS Annual Report FYE June 30, 2023

City Of Oakland

Police & Fire Retirement System

ANNUAL REPORT

Fiscal Year Ended June 30, 2023

CONTENTS

CONTENTS
(Continued)

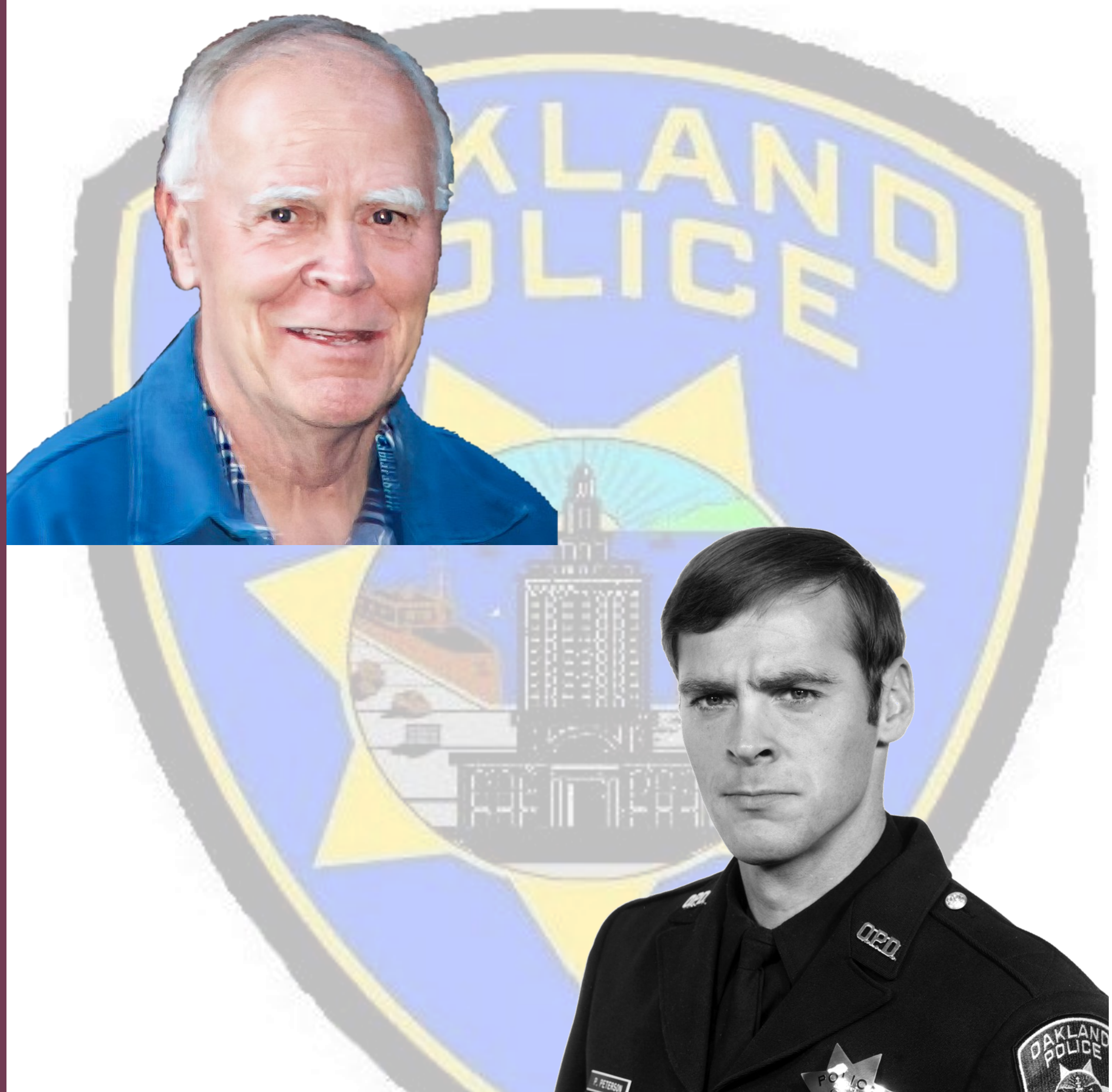
SECTION 4: ACTUARIAL

IN MEMORIAM

Production Credits

-Layout: Maxine Visaya, Retirement Systems, City of Oakland
-Print Production: City of Oakland Copy Services
-Photo: Vincent James Photography

Section 1
Introduction



Peter P. Peterson
Lieutenant

Served with Oakland Police Department
December 1970 to August 1998

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LETTERS OF TRANSMITTAL

CITY OF OAKLAND

150 FRANK H.OGAWA PLAZA, SUITE 3349 · OAKLAND, CALIFORNIA 94612-2021

Finance Department
Treasury Bureau
Retirement Unit

(510) 238-3307
FAX (510) 238-7129
CA RELAY 711

March 27, 2024

Oakland City Council
1 Frank H. Ogawa Plaza
Oakland, CA 94612

Honorable Mayor Thao and Members of the City Council:

I am pleased to present the annual report of the Oakland Police and Fire Retirement System for the fiscal year ended June 30, 2023. Provided in this report are the Plan's Financial Information, Investment Performance, and Actuarial Valuations and Statistical Information for the corresponding year.

The members of the Board express their appreciation to the Mayor and City Council, City Administrator, City Attorney, the various City Agencies and Departments and the members of their staff for their cooperation and assistance.

Respectfully submitted,

Walter L. Johnson, Sr., President
Oakland Police and Fire Retirement System

LETTERS OF TRANSMITTAL

CITY OF OAKLAND

150 FRANK H.OGAWA PLAZA, SUITE 3349 · OAKLAND, CALIFORNIA 94612-2021

Finance Department
Treasury Bureau
Retirement Unit

(510) 238-3307
FAX (510) 238-7129
CA RELAY 711

March 27, 2024

Oakland Police and Fire Retirement Board
150 Frank H. Ogawa Plaza, Suite 3349
Oakland CA 94612

Board of Trustees:

I am pleased to present the Annual Report of the Oakland Police and Fire Retirement System for the fiscal year ended June 30, 2023.

ACCOUNTING SYSTEM

The accompanying financial statements have been prepared in compliance with the City Charter and in accordance with the accounting and reporting requirements of the Governmental Accounting Standards Board (GASB) and the reporting requirements prescribed by the Government Finance Officers' Association of the United States and Canada (GFOA).

The method for recording revenues and expenses is on an accrual basis. Revenue is taken into account when earned, regardless of the date of the collection, and expenses are recorded when the corresponding liabilities are incurred instead of when payment is made. Amortization of bond premiums and discounts are over the life of the investment security and actuarial reserves are funded via the entry age normal cost method.

ADDITIONS

Additions to the plan includes all income received into the Plan for the Fiscal Year. Pension Plan's sources of income include items such as contributions and investment income. Total additions for the fiscal year ended June 30, 2023 were $67,119,789.

This amount includes a net investment gain of $34,407,789. Net investment includes appreciation or depreciation in fair value of investments, interest income and dividend income less investment expenses during the fiscal year. In addition, the City contributed $32,712,000 during the fiscal year. As of June 30, 2023, all the System's members are retired.

DEDUCTIONS

Total deductions to the plan in the fiscal year ended June 30, 2023 were $52,476,806. This amount includes deductions of $50,850,416 for pension payments to members and qualified beneficiaries.

RESERVES AND FUNDING

The Police and Fire Retirement System most recent actuarial study values the Plan as of July 1, 2022. Details regarding this actuarial study can be found in Section 4 of this annual report.

As of the most recent actuary study dated July 1, 2022, the System's Unfunded Actuarial Liability is approximately $130.2 million, and the System had a Funded Ratio of 72.6 percent on a Market Value of Assets (MVA) basis. During fiscal year 2023, the City of Oakland contributed $32.7 million to the System. The next required City contribution is projected to be approximately $40.8 million in FY 2023-2024.

INVESTMENTS

The Police and Fire Retirement System Investment Policy is used as a guideline for all investment activities. The Investment Policy includes an asset allocation plan. The plan consists of six asset classes: Domestic Stocks, International Stocks, Fixed Income Instruments, Credit, Covered Calls and Crisis Risk Offset (CRO). In addition, the Policy also allocates among the different investment management styles.

Total Investment Income resulted in a gain of $34,407,789 in fiscal year 2023. The actual money-weighted annual investment return for fiscal year 2023 was 8.84%. GASB requires that investments be reported at fair value. The appreciation (depreciation) in fair value of investments held by PFRS is recorded as an increase (decrease) in investment income based on the valuation of investments at year-end.

The historical annualized money-weighted rates of return on the portfolios are as follows:

	Total Returns %		
	1 Year	3 Year	5 Year
Total Fund	8.84%	6.94%	5.74%

ACKNOWLEDGEMENTS

The compilation of this report reflects the combined efforts of the Retirement System Administration Staff, the Board of Trustees, and various professional consultants. Its intent is to provide complete and reliable information to the beneficiaries of the Plan, to serve as a basis for making management decisions, and to ensure compliance with legal provisions affecting the administration of the Plan.

Respectfully submitted,

David F. Jones
Plan Administrator

MEMBERS OF THE BOARD OF ADMINISTRATION

Walter L. Johnson, Sr.
President
Community Representative

Jaime T. Godfrey
Vice President
Bank Representative

John C. Speakman
Fire Department Representative

Plan Administrator
David F. Jones
Treasury Administrator

Legal Advisor, City of Oakland

Selia Warren
Supervising Deputy City Attorney

R. Steven Wilkinson
Insurance Representative

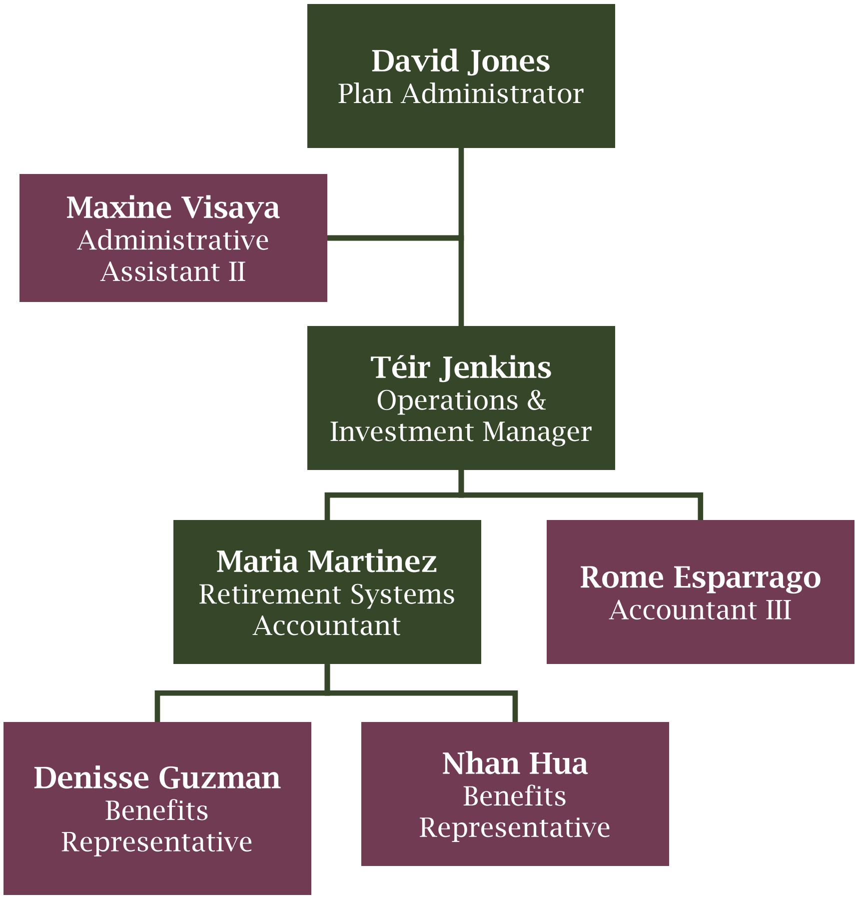
Martin J. Melia
Alternating Fire/Police Department Representative

Robert W. Nichelini
Police Representative

Erin Roseman
Mayoral Designate

ADMINISTRATIVE STAFF

Retirement Unit



PROFESSIONAL SERVICES

Over the past year the Board of Administration has engaged the following consultants to

Actuary	Cheiron, Inc.
Auditors	Macias Gini & O'Connell LLP
Custodial Service	The Northern Trust Company
Investment Consultant	Meketa Investment Group

assist in making investments and in developing a sound retirement plan:

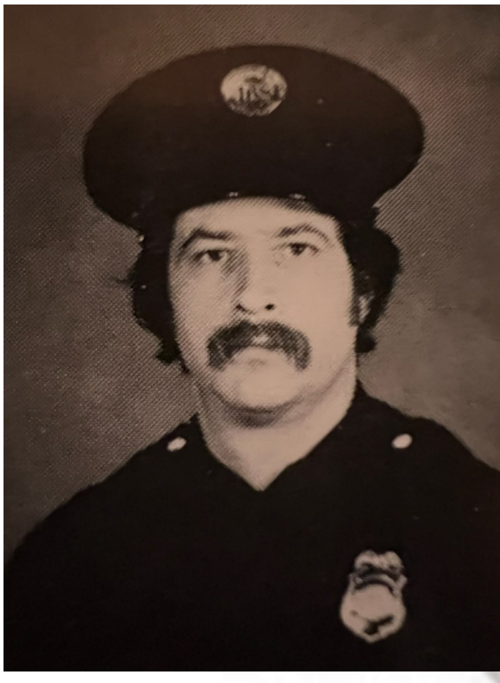
A complete list of Investment Professionals is included on page 56 of this Annual Report.

BOARD MEETING INFORMATION

On-Site Meeting Location	1 Frank H. Ogawa Plaza, Oakland, CA 94612
Virtual Meeting	Zoom Webinar
Date	Last Wednesday of each month

For more information, visit our website at:
City of Oakland | Oakland Police & Fire Retirement System Board (PFRS) (oaklandca.gov)

Section 2
Financial



Dennis Holmes
Firefighter

Served with Oakland Fire Department
March 1974 to March 1988

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MGO. Certified Public Accountants

Independent Auditor's Report

Board of Administration
Oakland Police and Fire Retirement System
Oakland, California

Opinion

We have audited the financial statements of the Oakland Police and Fire Retirement System (System), a pension trust fund of the City of Oakland, California (City), as of and for the years ended June 30, 2023, and 2022, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System as of June 30, 2023, and 2022, and the changes in its fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the System and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matter

As described in Note 1, the financial statements present only the Oakland Police and Fire Retirement System and do not purport to, and do not, present fairly the financial position of the City as of June 30, 2023, and the changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Macias Gini & O'Connell LLP
2121 N. California Boulevard, Suite 750
Walnut Creek, CA 94596

www.mgocpa.com

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we

- exercise professional judgment and maintain professional skepticism throughout the audit.
- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, no such opinion is expressed.
- evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, the schedule of changes in the employer's net pension liability and related ratios, the schedule of employer contributions, and the schedule of investment returns as listed in the table of contents be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the introductory, investment, actuarial, and the in-memoriam section but does not include the basic financial statements and our auditor's report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Macias Gini & O'Connell LLP

Walnut Creek, California
December 5, 2023

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Management's Discussion & Analysis
(Unaudited)

As management of the Oakland Police and Fire Retirement System (System), we offer readers of the System's financial statements this narrative overview and analysis of the financial activities of the System for the years ended June 30, 2023 and 2022. We encourage readers to consider the information presented here in conjunction with the System's financial statements that follow this section. These discussions and analyses are presented in the following sections:

- Organizational Overview and Highlights
- Financial Statement Overview
- Financial Analysis: 2023 vs. 2022
- Financial Analysis: 2022 vs. 2021
- Requests for Additional Information

ORGANIZATIONAL OVERVIEW AND HIGHLIGHTS

The City of Oakland City Charter established the System and provides for its funding. Accordingly, the System is an integral part of the City of Oakland (City) and its operations have been reported as a Pension Trust Fund in the City's basic financial statements. The System is a closed, single employer, defined benefit pension plan that provides retirement, disability and survivor benefits for eligible sworn safety employees of the City. The System serves the City's sworn employees hired prior to July 1, 1976, who have not transferred to the California Public Employees' Retirement System (CalPERS). The System is governed by a board of seven trustees: the Mayor or his/her designate, three Mayoral appointees approved by the City Council, an elected active or retired member of the Police Department, an elected active or retired member from the Fire Department, and an elected member position which alternates between the Police Department and Fire Department membership. Trustees receive no compensation.

The System has been funded by periodic employee and City contributions at actuarially determined amounts sufficient to accumulate the necessary assets to pay benefits when due as specified by the City Charter, unless the Board and the City have agreed to other funding options. In accordance with the City Charter, active members hired after July 1, 1951, and prior to July 1, 1976, contribute a percentage of their earned salaries based upon entry age as determined by consulting actuaries. During the years ended June 30, 2023, and 2022, the employee contribution rate was 0% for both years. There are no active participants in the Plan as of June 30, 2023, and 2022.

In July 2012, the City deposited $210 million in pension obligation bond proceeds into the System and entered into a funding agreement with the System Board, which suspended contributions until the fiscal year beginning July 1, 2017.

As of June 30, 2023, the total pension liability of $533.8 million less the fiduciary net position of $416.1 million results in a net pension liability of approximately $117.7 million. The fiduciary net position as a percentage of the total pension liability is 78.0%.

As of June 30, 2022, the total pension liability of $553.3 million less the fiduciary net position of $401.5 million results in a net pension liability of approximately $151.8 million. The fiduciary net position as a percentage of the total pension liability is 72.6%.

The System membership at June 30, 2023, is 654, which includes 436 retirees and 218 beneficiaries. The System membership at June 30, 2022, is 686. The following are the significant assumptions used to compute contribution requirements in the July 1, 2022, Actuarial Valuation Report:

- Select and ultimate rates, equal to 5.09% single equivalent investment rate of return
- 2.75% inflation rate, U.S.
- 2.85% inflation rate, Bay Area
- 3.25% long-term post-retirement benefit increases

City contributions are based on spreading costs as a level percentage of the City's total uniform payroll to July 1, 2026. The System uses the entry age normal cost method for its disclosure and reporting. During fiscal years 2023 and 2022, the City contributions were $32.7 million and $43.8 million respectively to the System. The next required City contribution is projected to be approximately $40.8 million in fiscal year 2024 .

FINANCIAL STATEMENT OVERVIEW

This annual financial report consists of three parts – management's discussion and analysis (this section), the basic financial statements and required supplementary information. The basic financial statements include *Statements of Fiduciary Net Position; Statements of Changes in Fiduciary Net Position*; and the *Notes to the Basic Financial Statements.*

The *Statements of Fiduciary Net Position* and the *Statements of Changes in Fiduciary Net Position* report information to assist readers in determining whether the System's finances as a whole have improved or deteriorated as a result of the year's activities. These statements report the net position of the System and the activities that caused the changes in the net position during the year, respectively.

The *Statements of Fiduciary Net Position* present information on all System assets and liabilities, with the difference between the two reported as net position restricted for pensions. Over time, increases or decreases in net position restricted for pensions may serve as a useful indicator of whether the financial condition of the System is improving or deteriorating.

While the *Statements of Fiduciary Net Position* provide information about the nature and amount of resources and obligations at year-end, the *Statements of Changes in Fiduciary Net Position* present the results of the System's activities during the fiscal year and information on the change in the net position restricted for pensions during the fiscal year. The *Statements of Changes in Fiduciary Net Position* measure the results of the System's investment performance as well as its additions from contributions and investment income and deductions for payment of benefits and administrative expenses. The *Statements of Changes in Fiduciary Net Position* can be viewed as indicators of the System's progress on the set goals of fully funding all current and past service costs and possessing sufficient additional resources to pay for current refunds of contributions and administrative and investment expenses.

The *Notes to the Basic Financial Statements* and *Required Supplementary Information* provide explanations and other information that is helpful to a full understanding of the data provided in the financial statements. The *Notes to the Basic Financial Statements* and *Required Supplementary Information* are found starting on page **26** and page **48**. respectively.

FINANCIAL ANALYSIS
2023 vs. 2022

Table 1 summarizes net position restricted for pensions as of June 30, 2023 and 2022:

Table 1
Statements of Fiduciary Net Position
As of June 30, 2023 and 2022

	June 30		Change	
	2023	2022	Amount	Percentage
Assets				
Cash and Deposits	$ 9,566,751	$ 7,494,971	$ 2,071,780	27.6%
Receivables	15,147,401	6,218,664	8,928,737	143.6%
Investments	458,166,392	448,337,582	9,828,810	2.2%
Total Assets	482,880,544	462,051,217	20,829,327	4.5%
Liabilities				
Accounts payable	42,821	3,200	39,621	1238.0%
Benefits payable	4,132,458	4,183,604	(51,145)	-1.2%
Investments payable	21,517,405	7,700,505	13,816,900	179.4%
Accrued investment management fees	364,389	300,676	63,713	21.2%
Securities lending liabilities	40,693,027	48,375,771	(7,682,745)	-15.9%
Total liabilities	66,750,100	60,563,756	6,186,344	10.2%
Net Position				
Restricted for pensions	$ 416,130,444	$ 401,487,461	$ 14,642,983	3.6%

Net position restricted for pensions increased $14.6 million from June 30, 2022, to June 30, 2023. The main reasons for this increase were net investment gains of $34.4 million and the City pension contribution of $32.7 million. The remaining fluctuations in receivables and investments payable are primarily due to investment trading at year-end, where the outstanding balances represent investments either sold or purchased, but not yet settled.

Table 2 summarizes changes in net position restricted for pensions for the years ended June 30, 2023 and 2022.

Table 2
Statements of Changes in Fiduciary Net Position
For the Years Ended June 30, 2023 and 2022

	June 30		Change	
	2023	2022	Amount	Percentage
Additions				
Contributions from the City	$ 32,712,000	$ 43,820,000	$ (11,108,000)	-25.3%
Net investment income/(loss)	34,407,789	(47,954,760)	82,362,549	171.8%
Total additions	67,119,789	(4,134,760)	71,254,549	1723.3%
Deductions				
Benefits to members and beneficiaries	50,850,416	51,450,001	(599,585)	-1.2%
Administrative expenses	1,626,390	1,460,653	165,736	11.3%
Total deductions	52,476,806	52,910,654	(433,849)	-0.8%
Changes in net position	14,642,983	(57,045,414)	71,688,398	125.7%
Net position restricted for pensions				
Beginning of year	401,487,461	458,532,875	(57,045,414)	-12.4%
End of year	$ 416,130,444	$ 401,487,461	$ 14,642,984	3.6%

During fiscal year 2023, the City of Oakland contributed $32.7 million to the System. In addition, the System's net investment income for the year ended June 30, 2023, was $34.4 million. The money-weighted annual return for the year ended June 30, 2023, was 8.84%, compared to a benchmark return of 10.4% and an actuarial expected rate of return of 5.09%.

FINANCIAL ANALYSIS
2022 vs. 2021

Table 3 summarizes net position restricted for pensions as of June 30, 2022 and 2021.

Table 3
Statements of Fiduciary Net Position
As of June 30, 2022 and 2021

	June 30		Change	
	2022	**2021**	**Amount**	**Percentage**
Assets				
Cash and Deposits	$ 7,494,971	$ 6,323,835	$ 1,171,136	18.5%
Receivables	6,218,664	2,469,425	3,749,239	151.8%
Investments	448,337,582	503,773,621	(55,436,039)	-11.0%
Total Assets	462,051,217	512,566,881	(50,515,664)	-9.9%
Liabilities				
Accounts payable	3,200	1,110	2,090	188.2%
Benefits payable	4,183,604	4,294,620	(111,016)	-2.6%
Investments payable	7,700,505	422,993	7,277,512	1720.5%
Investment management fees	300,676	361,228	(60,552)	-16.8%
Securities lending liabilities	48,375,771	48,954,055	(578,284)	-1.2%
Total liabilities	60,563,756	54,034,006	6,529,750	12.1%
Net Position				
Restricted for pensions	$ 401,487,461	$ 458,532,875	$ (57,045,414)	-12.4%

Net position restricted for pensions decreased $57.0 million from June 30, 2021 to June 30, 2022. The main reasons of this decrease were net investment losses of $48.0 million and benefit payments of $51.4 million exceeded the City pension contribution of $43.8 million. The remaining fluctuations in receivables and investments payable are primarily due to investment trading at year-end, where the outstanding balances represent investments either sold or purchased, but not yet settled.

Table 4 summarizes changes in net position restricted for pensions for the years ended June 30, 2022 and 2021.

Table 4
Statements of Changes in Fiduciary Net Position
For the Years Ended June 30, 2022 and 2021

	June 30		Change	
	2022	2021	Amount	Percentage
Additions				
Contributions from the City	$ 43,820,000	$ 43,648,000	$ 172,000	0.4%
Net investment income/(loss)	(47,954,760)	90,191,309	(138,146,069)	-153.2%
Other additions	-	908	(908)	-100.0%
Total additions	(4,134,760)	133,840,217	(137,974,977)	-103.1%
Deductions				
Benefits to members and beneficiaries	51,450,001	52,697,378	(1,247,377)	-2.4%
Administrative expenses	1,460,653	1,584,654	(124,001)	-7.8%
Total deductions	52,910,654	54,282,032	(1,371,378)	-2.5%
Changes in net position	(57,045,414)	79,558,185	(136,603,599)	-171.7%
Net position restricted for pensions				
Beginning of year	458,532,875	378,974,690	79,558,185	21.0%
End of year	$ 401,487,461	$ 458,532,875	$ (57,045,414)	-12.4%

During fiscal year 2022, the City of Oakland contributed $43.8 million to the System. In addition, the System's net investment losses for the year ended June 30, 2022 were $48.0 million, mainly due to net depreciation in fair value of the investment portfolio. The time-weighted annual return for the year ended June 30, 2022 was -10.4%, compared to a benchmark return of -11.9% and an actuarial expected rate of return of 5.19%.

REQUESTS FOR ADDITIONAL INFORMATION

This financial report is designed to provide a general overview of the System's finances and to account for the money that the System receives. Questions concerning any of the information provided in this report or requests for additional information should be addressed to:

Retirement System
City of Oakland
150 Frank H Ogawa Plaza, Suite 3349
Oakland, CA 94612

Financial Statements

Oakland Police and Fire Retirement System
Statements of Fiduciary Net Position
June 30, 2023 and 2022

	2023	2022
Assets		
Cash and Cash Equivalents	$ 9,566,751	$ 7,494,971
Receivables:		
Interest Receivable	851,342	813,441
Dividends Receivable	185,259	279,524
Investments Receivable	13,861,852	4,911,786
Retired Members and Beneficiaries	101,798	102,906
Miscellaneous	147,149	111,007
Total Receivables	15,147,401	6,218,664
Investments, at Fair Value:		
Short-Term Investments	10,743,990	7,474,421
Bonds	132,354,487	130,126,766
Domestic Equities and Mutual Funds	169,856,809	158,144,787
International Equities and Mutual Funds	55,731,256	47,911,190
Alternative Investments	48,463,642	56,334,733
Securities Lending Collateral	41,016,208	48,345,685
Total Investments	458,166,392	448,337,582
Total Assets	**482,880,544**	**462,051,217**
Liabilities		
Accounts Payable	42,821	3,200
Benefits Payable	4,132,458	4,183,604
Investments Payable	21,517,405	7,700,505
Investment Management Fees Payable	364,389	300,676
Securities Lending Liabilities	40,693,027	48,375,771
Total Liabilities	**66,750,100**	**60,563,756**
Net Position Restricted for Pensions	**$ 416,130,444**	**$ 401,487,461**

See accompanying notes to the basic financial statements.

Financial Statements

Oakland Police and Fire Retirement System
Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2023 and 2022

	2023	2022
Additions		
Contributions from the City	$ 32,712,000	$ 43,820,000
Investment Income:		
Net Appreciation/(Depreciation) in Fair Value of Investments	27,639,783	(54,534,753)
Interest	4,897,976	4,134,111
Dividends	3,131,776	3,768,733
Less: Investment Expenses	(1,361,423)	(1,475,655)
Securities Lending Income:		
Securities Lending Earnings	1,905,212	264,447
Securities Lending Expenses, Net of Rebates	(1,805,535)	(111,643)
Net Securities Lending Income	99,677	152,804
Net Investment Income/(Loss)	$ 34,407,789	$ (47,954,670)
Total Additions	67,119,789	(4,134,760)
Deductions		
Benefits to Members and Beneficiaries:		
Retirement	30,958,511	31,495,125
Disability	18,400,366	18,418,545
Death	1,491,539	1,536,331
Total Benefits to Members and Beneficiaries	50,850,416	51,450,001
Administrative Expenses	1,626,390	1,460,653
Total Deductions	52,476,806	52,910,654
Change in Net Position	$ 14,642,983	$ (57,045,414)
Net Position Restricted for Pensions		
Beginning of Year	401,487,461	458,532,875
End of Year	$ 416,130,444	$ 401,487,461

See accompanying notes to the basic financial statements.

Notes to the Basic Financial Statements

For Years Ended June 30, 2023 and 2022

1. Description of the Oakland Police and Fire Retirement System

The Oakland Police and Fire Retirement System (System) is a closed, single-employer defined benefit pension plan (Plan) established by the City of Oakland (City) Charter. The System is governed by a board of seven trustees (Board); the City Mayor or his/her designate, three Mayoral appointees approved by the City Council, an elected active or retired member of the Police Department, an elected active or retired member from the Fire Department, and an elected member position which alternates between the Police Department and Fire Department membership. Trustees receive no compensation. As a result of a City Charter amendment, known as Measure R, approved by the electorate on June 8, 1976, membership in the Plan is limited to uniformed employees hired prior to July 1, 1976.

The System is exempt from the regulations of the Employee Retirement Income Security Act of 1974. The System is also exempt from federal and California income taxes.

The System is considered to be a part of the City's financial reporting entity and is included in the City's basic financial statements as a pension trust fund. The financial statements of the System are intended to present only the plan net position and changes in plan net position of the System. They do not purport to, and do not, present fairly the financial position of the City as of June 30, 2023 and 2022, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America. The City's basic financial statements can be obtained from the Finance Department, Controller's Bureau, City of Oakland, 150 Frank H. Ogawa Plaza, Suite 6353; Oakland, California 94612.

a) System Membership

At June 30, 2023, and 2022, the System membership consisted of only retirees and beneficiaries. The System's membership is as follows :

Retirees and Beneficiaries Currently Receiving Benefits		
	2023	**2022**
Police	404	422
Fire	250	264
Total	654	686

b) Basic Benefit Provisions

The City Charter establishes plan membership, contribution, and benefit provisions. The System provides that any member who completes at least 25 years of service, regardless of age, or completes 20 years of service and attains age 55, or has attained age 65, is eligible for retirement benefits. The basic retirement allowance equals 50% of the compensation attached to the average rank held during the three years immediately preceding retirement, plus an additional allowance of 1 and 2/3% of such compensation for each year of service (up to ten) subsequent to (a) qualifying for retirement and (b) July 1, 1951. However, any member retiring at age 65 with less than 20 years of service shall receive a reduced retirement allowance based upon the number of years of service. A member is eligible for early retirement benefits after 20 to 24 years of service with a retirement allowance based upon 40% to 48% of the compensation attached to the average rank held during the three years preceding retirement. Additionally, a member with 10 to 19 years of service may retire and, on or after the 25th anniversary of his/her date of employment may receive a retirement allowance based upon 20% to 38% of the compensation attached to the average rank held during the three years preceding retirement.

The System also provides for various death, disability, and survivors' benefits. Death and disability benefits are paid to eligible members who became disabled or passed away prior to retirement. If the member's death or disability is duty related, then the surviving spouse or member is paid a pension equivalent to an immediate service retirement. The duty related death or disability pension is paid at a level no less than 50% of the pay attached to the rank. If a death occurs after retirement, then a one-time payment of $1,000 is paid to the member's designated beneficiary.

After retirement, members receive benefits based on a fixed monthly dollar amount. Pension amounts change based on changes to the compensation attached to the average rank. Upon a retiree's death, benefits are continued to an eligible surviving spouse at a two-thirds level for service and non-duty disabled retirees and at a 100% level for retirements for duty disability.

2. Summary of Significant Accounting Policies

a) Basis of Presentation

The financial statements are prepared in accordance with U.S. generally accepted accounting principles as applicable to governmental organizations. The System adheres to the reporting requirements established by the Governmental Accounting Standards Board (GASB).

b) Measurement Focus and Basis of Accounting

The financial statements are prepared on a flow of economic resources measurement focus using the accrual basis of accounting. Contributions are recognized in the period in which the contributions are due pursuant to legal requirements as well as statutory or contractual requirements, and benefits and refunds are recognized when payable under plan provisions.

c) Methods Used to Value Investments

Investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Investments that do not have an established market are reported at estimated fair values based on the net asset value as determined by the fund manager based on quoted market prices of fund holdings or values provided by the custodian or the applicable money manager. Purchases and sales of investments are recorded on a trade date basis.

d) Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles in the United States of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

3. Contributions

In accordance with the City Charter, active members hired after July 1, 1951, and prior to July 1, 1976, contributed a percentage of their earned salaries based upon entry age as determined by consulting actuaries. Since fiscal year 2015, there were no remaining active members in the System.

In March 1997, the City issued pension obligation bonds and deposited $417 million into the System to pay the City's contributions through June 2011. In accordance with an agreement entered into at the time the pension obligation bonds were issued in 1997, the City was not expected to contribute until July 2011. In the year ended June 30, 2005, the City transferred excess proceeds of $17.7 million from the Oakland Joint Powers Financing Authority Refunding Revenue 2005 Series B Bond to fund a portion of the City's future obligation to the System.

Effective July 1, 2011, the City resumed contributing to the System. The City contributed $45.5 million in the year ended June 30, 2012. Using the current actuarial cost method, these contributions are based on spreading costs as a level percentage of all uniformed employees' compensation through June 30, 2026. Budgeted administrative expenses are included in the City contribution rates. The City must contribute, at a minimum, such amounts as are necessary, on an actuarial basis, to provide assets sufficient to meet benefits to be paid to plan members.

On July 30, 2012, the City contributed $210 million to the System. As a result of a funding agreement entered into between the System's Board and the City no additional contributions were required until July 1, 2017. The City resumed contributions to the System on July 1, 2017. The City contributed $32.71 million and $43.82 million in the years ended June 30, 2023, and 2022, respectively. The next required contribution for fiscal year 2024 is $40.76 million.

4. Cash, Deposits and Investments

a) Investment Policy

The System's investment policy authorizes investment in U.S. equities, international equities, U.S. fixed income instruments including U.S. Treasury notes and bonds, government agency mortgage-backed securities, U.S. corporate notes and bonds, collateralized mortgage obligations, Yankee bonds and non-U.S.-issued fixed income securities denominated in foreign currencies. The System's investment portfolio is managed by external investment managers, except for the two iShares ETF which are managed internally. During the years ended June 30, 2023, and 2022, the number of external investment managers was eleven and eleven, respectively.

The System investments are also restricted by the City Charter. In November 2006, City voters passed Measure M to amend the City Charter to allow the System's Board to invest in non-dividend paying stocks and to change the asset allocation structure from 50% equities and 50% fixed income to the Prudent Person Standard as defined by the California Constitution.

The System's investment policy limits fixed income investments to a maximum average duration of 10 years and a maximum remaining term to maturity (single issue) at purchase of 30 years, with targeted portfolio duration of between 3 to 8 years and targeted portfolio maturity of 15 years. The System's investment policy allows the fixed income managers to invest in fixed income instruments and some exposure to investments below an investment grade rating, as long as the portfolio maintains an average credit quality of BBB (investment grade using Standard & Poor's, Moody's or Fitch ratings).

The System's investment policy states that investments in securities known as collateralized mortgage obligations (CMOs) shall be limited to a maximum of 20% of a broker account's fair value with no more than 5% in any one issue. CMOs are mortgage-backed securities that create separate pools of pass-through rates for different classes of bondholders with varying maturities. The fair values of CMOs are considered sensitive to interest rate changes because they have embedded options.

The investment policy allows for each fixed income asset manager to have a maximum of 10% of any single security investment in their individual portfolios with the exception of U.S. government securities, which is allowed to have a maximum of 25% in each manager's portfolio.

The following was the Board's adopted asset allocation policy as of June 30, 2023 and 2022:

	Target Allocation	
Asset Class	**June 30, 2023**	**June 30, 2022**
Fixed Income	21%	21%
Credit	2	2
Covered Calls	5	5
Domestic Equity	40	40
International Equity	12	12
Crisis Risk Offset	20	20
Total	100%	100%

The Board's target allocation does not include cash and cash equivalents, which are designated for approved administrative budget purposes.

b) Concentrations

Concentration of credit risk is the risk of potential loss attributed to the magnitude of the System's investment in a single issuer of securities. As of June 30, 2023, there were no organizations or issuers that represent 5% or more of the total investments or the fiduciary net position .

c) Rate of Return

The money-weighted rate of return is a measure of the rate of return for an asset or portfolio of assets that incorporates the size and timing of cash flows. For the years ended June 30, 2023, and 2022, the annual money-weighted rates of return on pension plan investments, net of pension plan investment expenses, were 8.84% and -10.24%, respectively.

d) Cash and Cash Equivalents

As of June 30, 2023, and 2022, cash and cash equivalents consisted of cash in treasury held in the City's cash and investment pool as well as cash deposits held in bank and with a custodian. Funds in the City Treasury are invested according to the investment policy adopted by the City Council. Interest earned in the City Treasury is allocated monthly to all participants based on the average daily cash balance maintained by the respective funds. Information regarding the characteristics of the entire investment pool can be found in the City's June 30, 2023, and 2022 basic financial statements. As of June 30, 2023, and 2022, the System's share of the City's investment pool totaled $9,559,927 and $7,487,892, respectively. The System also had cash not included in the City's investment pool. As of June 30, 2023, and 2022, the System's cash and cash deposits not held in the City's investment pool totaled $6,824 and $7,079, respectively.

e) Hierarchy of Inputs

The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs.

The System has the following recurring fair value measurements as of June 30, 2023:

Recurring Fair Value Measurements
As of June 30, 2023

	2023			
	Level One	Level Two	Level Three	Total
Investments by fair value level:				
Short-Term Investments	$ -	$ 1,607,980	$ -	$ 1,607,980
Bonds	14,131,423	102,295,756	-	116,427,179
Domestic Equities and Mutual Funds	65,219,530	-	-	65,219,530
International Equities and Mutual Funds	55,709,361	-	21,895	55,731,256
Alternative Investments	22,435,178	-	-	22,435,178
Total investments by fair value level	$ 157,495,492	$103,903,736	$ 21,895	261,421,123
Investments measured at net asset value (NAV):				
Short-Term Investment Funds				9,136,010
Fixed Income Funds				15,927,308
Domestic Equities and Mutual Funds				104,637,279
Hedge Fund				10,476,679
Venture Capital Fund				15,551,785
Securities Lending Collateral - Short-Term Investment Fund				41,016,208
Total investments measured at NAV				196,745,269
Total investments measured at fair value				**$458,166,392**

The System has the following recurring fair value measurements as of June 30, 2022:

Recurring Fair Value Measurements
As of June 30, 2022

	2022			
	Level One	Level Two	Level Three	Total
Investments by fair value level:				
Short-Term Investments	$ -	$ 1,497,607	$ -	$ 1,497,607
Bonds	15,606,180	99,275,321	-	114,881,501
Domestic Equities and Mutual Funds	63,509,351	-	-	63,509,351
International Equities and Mutual Funds	47,543,916	-	367,274	47,911,190
Alternative Investments	30,599,372	-	-	30,599,372
Total investments by fair value level	$ 157,258,819	$100,772,928	$ 367,274	258,399,021
Investments measured at net asset value (NAV):				
Short-Term Investment Funds				5,976,814
Fixed Income Funds				15,245,265
Domestic Equities and Mutual Funds				94,635,436
Hedge Fund				9,894,309
Venture Capital Fund				15,841,052
Securities Lending Collateral - Short-Term Investment Fund				48,345,685
Total investments measured at NAV				189,938,561
Total investments measured at fair value				**$448,337,582**

Investments measured at NAV represent commingled and venture capital funds where fair value is measured based on the System's pro rata share of the total NAV .

Investments Measured at Net Asset Value As of June 30, 2023

	June 30, 2023	Redemption Frequency	Redemption Notice Period
Investments measured at net asset value (NAV):			
Short-Term Investment Funds	$ 9,136,010	n/a	n/a
Fixed Income Funds	6,726,320	n/a	n/a
Fixed Income Funds	9,200,988	n/a	15 days for < $10 million; 60 days for ≥ $10 million
Domestic Equities and Mutual Funds	23,373,498	Monthly	10 days
Domestic Equities and Mutual Funds	81,263,781	n/a	n/a
Hedge Fund	10,476,679	Monthly*	30 days
Venture Capital Fund	15,551,785	Monthly	10 days
Securities Lending Collateral - Short-Term Investment Fund	41,016,208	n/a	n/a
Total investments measured at NAV	**$ 196,745,269**		

* For full redemptions, a 5% audit holdback is applied that is then paid after the audit is finalized.

Investments Measured at Net Asset Value As of June 30, 2022

	June 30, 2022	Redemption Frequency	Redemption Notice Period
Investments measured at net asset value (NAV):			
Short-Term Investment Funds	$ 5,976,814	n/a	n/a
Fixed Income Funds	6,741,756	n/a	n/a
Fixed Income Funds	8,503,509	n/a	15 days for < $10 million; 60 days for ≥ $10 million
Domestic Equities and Mutual Funds	20,739,219	Monthly	10 days
Domestic Equities and Mutual Funds	73,896,217	n/a	n/a
Hedge Fund	9,894,309	Monthly*	30 days
Venture Capital Fund	15,841,052	Monthly	10 days
Securities Lending Collateral - Short-Term Investment Fund	48,345,685	n/a	n/a
Total investments measured at NAV	$ 189,938,561		

* For full redemptions, a 5% audit holdback is applied that is then paid after the audit is finalized.

f) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. As described previously, the System's investment policy limits fixed income investments to a maximum average duration of 10 years and a maximum remaining term to maturity (single issue) at purchase of 30 years, with targeted portfolio duration of between 3 to 8 years and targeted portfolio maturity of 15 years. The weighted average duration for the System's fixed income investment portfolio excluding fixed income short-term investments, foreign currency contracts, and securities lending investments was 7.23 years as of June 30, 2023, and 7.59 years as of June 30, 2022.

The following summarizes the System's fixed income investments by category as of June 30, 2023, and 2022. As of June 30, 2023, the System held exchange cleared swaps of $43,921 in an asset position that is included in the tables below. As of June 30, 2022, the System held exchange cleared swaps of $70,497 in a liability position that is not included in the tables below.

Short-Term Investment Duration

	2023		2022	
Investment Type	**Fair Value**	**Modified Duration (Years)**	**Fair Value**	**Modified Duration (Years)**
Short-Term Investment Funds	$ 10,743,990	n/a	$ 7,474,421	n/a
U.S. Treasury Bills*	3,576,567	0.55	-	n/a

Long-Term Investment Duration

	2023		2022	
Investment Type	**Fair Value**	**Modified Duration (Years)**	**Fair Value**	**Modified Duration (Years)**
Fixed Income Investments				
Government Bonds				
U.S. Treasuries	$ 20,795,994	8.63	$ 25,417,687	6.53
Government Agencies	38,294,874	7.57	29,893,654	8.41
Total Government Bonds	59,090,868		55,311,341	
Corporate and Other Bonds				
Corporate Bonds	69,687,021	6.96	74,807,108	7.63
Other Government Bonds	-	0.00	78,814	6.97
Total Corporate and Other Bonds	69,687,021		74,885,922	
Total Fixed Income Investments	**$ 132,354,487**	7.23	**$130,197,263**	7.59
Securities Lending	**$ 41,016,208**		**$ 48,345,685**	

* Though short-term in duration these are not included with short-term investments. These U.S. Treasury Bills are included in Bonds in the financial statements.

g) Fair Value Highly Sensitive to Change in Interest Rates

The terms of a debt investment may cause its fair value to be highly sensitive to interest rate changes. The System has invested in CMOs, which are mortgage-backed bonds that pay pass-through rates with varying maturities. The fair values of CMOs are considered sensitive to interest rate changes because they have embedded options, which are triggers related to quantities of delinquencies or defaults in the loans backing the mortgage pool. If a balance of delinquent loans reaches a certain threshold, interest and principal that would be used to pay junior bondholders is instead directed to pay off the principal balance of senior bondholders, shortening the life of the senior bonds.

The following are the System's investments in CMOs at June 30, 2023:

Investments in CMOs at June 30, 2023

Investment Type	Weighted Average Coupon Rate	Weighted Average Maturity (Years)	Fair Value	Percent of Total Investments Fair Value
Mortgage-backed securities	2.45%	27.49	$28,560,073	6.23%

The following are the System's investments in CMOs at June 30, 2022:

Investments in CMOs at June 30, 2022

Investment Type	Weighted Average Coupon Rate	Weighted Average Maturity (Years)	Fair Value	Percent of Total Investments Fair Value
Mortgage-backed securities	2.39%	24.36	$20,820,467	4.64%

h) Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation.

The following provides information concerning the credit risk of fixed income securities as of June 30, 2023 and 2022:

Short-Term Investment Ratings

	2023		2022	
Investment Type	S&P / Moody's/ Fitch Rating	Fair Value	S&P / Moody's/ Fitch Rating	Fair Value
Short-Term Investment Funds	Not Rated	$10,743,990	Not Rated	$7,474,421
U.S. Treasury Bills**	N/A	$3,576,597	N/A	-

Long-Term Investment Ratings

	2023		2022	
S&P / Moody's Rating	Fair Value	Percentage of Total Fair Value	Fair Value	Percentage of Total Fair Value
AAA/Aaa	$ 30,637,612	23.8%	$ 31,697,696	24.4%
AA/Aa	22,291,955	17.3%	27,835,706	21.1%
A/A	12,987,483	10.1%	12,809,876	9.8%
BBB/Baa	11,087,375	8.6%	15,713,952	12.1%
BB/Ba	469,751	0.4%	1,196,674	0.9%
B/B	55,102	0.0%	21,734	0.0%
CCC/CCC	9,200,988	7.1%	8,503,509	6.5%
Not Rated*	21,055,331	16.4%	9,780,847	7.5%
N/A**	20,992,293	16.3%	22,566,772	17.3%
	$ 128,777,890	100.0%	$130,126,766	100.00%

* Includes Government Mortgage-Backed Securities such as FNMA and FHLMC. These securities are issued by Government Sponsored Enterprises (GSEs) and are not rated by the rating agencies. They are implicitly guaranteed by the U.S. Government. Additionally there is $1M Corporate ABS, MBS & CMOs included

** In the financial statements, Short-term U.S. Treasury Bills, which are rated N/A, are included with Long-Term N/A. These include U.S. government obligations (Treasury Bill, Treasury Notes, and GNMA) explicitly guaranteed by the U.S. government which are not considered to have credit risk.

Securities Lending Collateral

S&P / Moody's Rating	2023 Fair Value	2022 Fair Value
Not Rated	$ 41,016,208	$ 48,345,685

i) Custodial Credit Risk

Custodial credit risk is the risk that, in the event of a failure of a depository financial institution or counterparty to a transaction, there will be an inability to recover the value of deposits, investments, or collateral securities in the possession of an outside party.

The California Government Code requires that governmental securities or first trust deed mortgage notes be used as collateral for demand deposits and certificates of deposit at 110 percent and 150 percent, respectively, of all deposits not covered by federal deposit insurance. As the City holds cash and certificates of deposit on behalf of the System, the collateral must be held by the pledging financial institution’s trust department and is considered held in the City’s name. For all other System deposits, the collateral must be held by the pledging financial institution’s trust department and is considered held in the System’s name.

The City, on behalf of the System, does not have any funds or deposits that are not covered by depository insurance, which are either uncollateralized, collateralized with securities held by the pledging financial institution, or collateralized with securities held by the pledging financial institution’s trust department or agent, but not in the City’s name. The System does not have any investments that are not registered in the name of the System and are either held by the counterparty or the counterparty’s trust department or agent but not in the System’s name.

j) Foreign Currency Risk

Foreign currency risk is the risk that changes in foreign exchange rates will adversely affect the fair values of an investment or deposit. Currency hedging is allowed under the System's investment policy for defensive purposes only. The investment policy limits currency hedging to a maximum of 25% of the portfolio value.

The following summarizes the System's investments denominated in foreign currencies as of June 30, 2023 and 2022:

Investments Denominated in Foreign Currencies
As of June 30, 2023 and 2022

	Fair Value	
Foreign Currency	**June 30, 2023**	**June 30, 2022**
Australian Dollar	$ 1,460,100	$ 1,993,400
Brazilian Real	417,399	772,622
British Pound	4,563,264	3,154,218
Canadian Dollar	2,702,222	3,290,894
Danish Krone	1,121,370	895,274
Euro	10,062,579	6,894,262
Hong Kong Dollar	4,011,826	3,464,161
Indonesian Rupiah	701,715	555,889
Japanese Yen	5,806,892	4,662,742
Malaysian Ringgit	83,557	65,343
Mexican Peso	1,059,658	375,149
New Israeli Shekel	398,428	310,309
Norwegian Krone	247,136	-
Singapore Dollar	169,966	-
South African Rand	743,005	654,291
Swedish Krona	319,868	831,667
Swiss Franc	1,659,827	1,734,147
Thai Baht	553,667	-
Turkish Lira	-	133,896
Total	$ 36,082,479	$ 29,788,264

k) Securities Lending Transactions

The System's investment policy authorizes participation in securities lending transactions, which are short-term collateralized loans of the System's securities to broker-dealers with a simultaneous agreement allowing the System to invest and receive earnings on the collateral received. All securities loans can be terminated on demand by either the System or the borrower, although the average term of loans is one week.

The administrator of the System's securities lending activities is responsible for maintaining an adequate level of collateral in an amount equal to at least 102% of market value of loaned U.S. government securities, common stock and other equity securities, bonds, debentures, corporate debt securities, notes, and mortgages or other obligations held in U.S. Dollars. The minimum collateral level is 105% of market value of loaned securities for any securities held in currencies other than the U.S. Dollar. Collateral received may include cash, letters of credit, or securities. The term to maturity of the loaned securities is generally not matched with the term to maturity of the investment of the said collateral. If securities collateral is received, the System cannot pledge or sell the collateral securities unless the borrower defaults.

As of June 30, 2023, and 2022, management believes the System has minimized its credit risk exposure to borrowers because the amounts held by the System as collateral exceeded the securities loaned by the System. The System's contract with the administrator requires it to indemnify the System if the borrowers fail to return the securities (and if the collateral is inadequate to replace the securities borrowed) or fails to pay the System for income distributions by the securities' issuers while the securities are on loan.

The following summarizes investments in securities lending transactions and collateral received at June 30, 2023 and 2022:

Securities Lending as of June 30, 2023

Investment Type	Fair Value of Loaned Securities: For Cash Collateral	For Non-Cash Collateral	Total
Securities on Loan for Cash Collateral			
U.S. Government and Agencies	$ 17,566,171	$ -	$ 17,566,171
U.S. Corporate Bonds	4,779,355	-	4,779,355
U.S. Equities	17,329,930	1,361,842	18,691,772
Non-U.S. Equities	278,878	706,079	984,957
Total investments in securities lending transactions	$ 39,954,334	$ 2,067,920	$ 42,022,254
Collateral Received	$ 40,693,027	$ 2,110,707	$ 42,803,734

Securities Lending as of June 30, 2022

Investment Type	Fair Value of Loaned Securities: For Cash Collateral	For Non-Cash Collateral	Total
Securities on Loan for Cash Collateral			
U.S. Government and Agencies	$ 8,379,326	$ -	$ 8,379,326
U.S. Corporate Bonds	10,881,429	-	10,881,429
U.S. Equities	28,047,680	7,249,351	35,297,031
Non-U.S. Equities	-	252,473	252,473
Total investments in securities lending transactions	$ 47,308,435	$ 7,501,824	$ 54,810,259
Collateral Received	$ 48,375,771	$ 7,742,587	$ 56,119,358

l) Derivative Instruments

The Retirement System reports its derivative instruments under the provisions of GASB Statement No. 53, *Accounting and Financial Reporting for Derivatives Instruments*. Pursuant to the requirements of this statement, the Retirement System has provided a summary of derivative instrument activities during the reporting periods presented and the related risks.

As of June 30, 2023 and 2022, the derivative instruments held by the Retirement System are considered investments and not hedges for accounting purposes. All investment derivatives are reported as investments at fair value in the statements of fiduciary net position. The gains and losses arising from this activity are recognized as incurred in the statement of changes in fiduciary net position. All investment derivatives discussed below are included within the investment risk schedules, which precede this subsection. Investment derivative instruments are disclosed separately to provide a comprehensive and distinct view of this activity and its impact on the overall investment portfolio valuation methods used by the System are described in more detail in Note 2.c). The fair value of the exchange traded derivative instruments, such as futures, options, rights, and warrants are based on quoted market prices. The fair values of forward foreign currency contracts are determined using a pricing service, which uses published foreign exchange rates as the primary source. The fair values of swaps are determined by the System's investment managers based on quoted market prices of the underlying investment instruments.

The tables below present the notional amounts, the fair values, and the related net appreciation (depreciation) in the fair value of derivative instruments that were outstanding at June 30, 2023 and 2022:

As of and for the Year Ended June 30, 2023

Derivative Type / Contract	Notional Amount	Fair Value	Net Appreciation (Depreciation) in Fair Value
Options			
Equity Contracts	$ 45	$ (290,565)	$ (74,660)
Swaps			
Credit Contracts	1,455,000	43,921	51,559
Total	$ 1,455,045	$ (246,645)	$ (23,101)

As of and for the Year Ended June 30, 2022

Derivative Type / Contract	Notional Amount	Fair Value	Net Appreciation (Depreciation) in Fair Value
Options			
Equity Contracts	$ 59	$ (243,640)	$ 244,104
Swaps			
Credit Contracts	2,554,200	(70,497)	(147,933)
Total	$ 2,554,259	$ (314,137)	$ 96,171

Counterparty Credit Risk

The System is not exposed to credit risk on non-exchange traded derivative instruments that are in liability positions. As of June 30, 2023, and 2022, the System held no forward currency contracts in liability positions.

Custodial Credit Risk

The custodial credit risk disclosure for exchange traded derivative instruments is made in accordance with the custodial credit risk disclosure requirements of GASB Statement No. 40. At June 30, 2023, and 2022, all of the System's investments in derivative instruments are held in the System's name and are not exposed to custodial credit risk.

Interest Rate Risk

The tables below describe the maturity periods of the derivative instruments exposed to interest rate risk at June 30, 2023 and 2022.

Derivative Interest Rate Risk as of June 30, 2023

		Maturities	
Derivative Type / Contract	**Fair Value**	**Less than 1 Year**	**1-5 years**
Options			
Equity Contracts	(290,565)	(290,565)	-
Swaps			
Credit Contracts	43,921	-	43,921
Total	$ (246,644)	$ (290,565)	$ 43,921

Derivative Interest Rate Risk as of June 30, 2022

		Maturities	
Derivative Type / Contract	**Fair Value**	**Less than 1 Year**	**1-5 years**
Options			
Equity Contracts	$ (243,640)	$ (243,640)	$ -
Swaps			
Credit Contracts	(70,497)	-	(70,497)
Total	$ (314,137)	$ (243,640)	$ (70,497)

Foreign Currency Risk

At June 30, 2023, the System had no foreign currency risk. At June 30, 2022 the System had no foreign risk.

Contingent Features

At June 30, 2023 and 2022, the System held no positions in derivatives containing contingent features.

5. Net Pension Liability

The components of the net pension liability of the City at June 30, 2023 and 2022, are as follows:

Net Pension Liability of the City
At June 30, 2023 and 2022

	June 30, 2023	June 30, 2022
Total pension liability	$ 553,790,040	$ 553,287,414
Less: Plan fiduciary net position	(416,130,444)	(401,487,461)
City's net pension liability	$ 117,659,596	$ 151,799,953
Plan fiduciary net position as a percentage of the total pension liability	78.0%	72.6%

a) Actuarial Method and Assumptions

The total pension liability as of June 30, 2023 was determined based on an actuarial valuation as of June 30, 2022, using the entry age normal actuarial cost method and the following actuarial assumptions, applied to all periods included in the measurement.

Actuarial Assumptions	
Investment Rate of Return	5.09%
Inflation Rate, U.S.	2.75%
Inflation Rate, Bay Area	2.85%
Long-term Post-Retirement Benefit Increases	3.25%

Measurements as of the June 30, 2023, are based on the fair value of assets as of June 30, 2023, and the total pension liability as of the valuation date, June 30, 2022, updated to June 30, 2023. There were no significant events between the valuation date and the measurement date. The update only included the addition of interest cost, offset by actual benefit payments. There are no active members of the plan, and thus no service cost.

Mortality rates for healthy lives were based on the CalPERS Healthy Table from the 2012-2015 Experience Study, excluding the 15-year projection using 90% of Scale MP-2016. Mortality rates for disabled lives were based on the CalPERS Industrial Disability Mortality Table from the 2012-2015 Experience Study, excluding the 15-year projection using 90% of Scale MP-2016. The mortality tables are projected to improve with MP-2017 generational mortality improvement tables, with improvements projected from a base year of 2014 (the mid-point of the CalPERS base tables).

The total pension liability as of June 30, 2022, was determined based on an actuarial valuation as of June 30, 2021, updated to June 30, 2022, using the entry age normal actuarial cost method and the actuarial assumptions as described above for the June 30, 2022, valuation, except for the assumed investment rate of return was 5.19%. Measurements as of June 30, 2022, are based on the fair value of assets as of June 30, 2022, and the total pension liability as of the valuation date, June 30, 2021, updated to June 30, 2022.

The actuarial assumptions used in the June 30, 2022 and 2021 valuations were based on the results of actuarial experience studies for the period of July 1, 2014 through June 30, 2017.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimates ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target allocation percentage and by adding expected inflation.

Best estimates of geometric real rates of return for each major class included in the pension plan's target asset allocation as of June 30, 2023 and 2022 are summarized in the following table:

	Long-Term Expected Real Rate of Return	
Asset Class	**June 30, 2023**	**June 30, 2022**
Fixed Income	4.7%	0.20%
Domestic Equity	8.7	4.60
International Equity	9.8	5.50
Covered Calls	7.2	3.58
Crisis Risk Offset	5.1	1.83
Credit	7.3	2.30
Cash	2.9	(0.50)

b) Discount Rate

The discount rates used to measure the total pension liability were 5.09% and 5.19% as of June 30, 2023 and 2022, respectively. The projection of cash flows used to determine the discount rate assumed that the City would contribute to the Plan based on its July 1, 2012 funding agreement with the System. This agreement suspended City contributions until the fiscal year beginning July 1, 2017, after which they would resume, based upon the recommendation of the actuary, with a City Charter requirement that the Plan's liabilities be fully funded by July 1, 2026. A cash flow projection showed that the projected fiduciary net position would be greater than or equal to the benefit payments projected for each future period. Therefore, the long-term expected rate of return on Plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

c) Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the City, calculated using the discount rate, as well as what the Plan's net pension liability would be if it were calculated using a discount rate of 1-percentage-point lower or 1-percentage-point higher than the discount rate.

City's Net Pension Liability
June 30, 2023

	1% Decrease (4.09%)	Current Discount Rate (5.09%)	1% increase (6.09%)
City's net pension liability	$162,542,274	$117,659,596	$78,687,321

City's Net Pension Liability
June 30, 2022

	1% Decrease (4.19%)	Current Discount Rate (5.19%)	1% increase (6.19%)
City's net pension liability	$199,655,233	$151,799,953	$110,388,515

6. Reserves

Retired Member Contribution Reserve represents the total accumulated transfers from active member contributions and investments, less payments to retired members and beneficiaries.

Employer Reserve represents the total accumulated employer contributions for retirement payments. Additions include contributions from the employer, investment earnings and other income; deductions include payments to retired members and beneficiaries and administrative expenses.

The aggregate total of the System's major reserves as of June 30, 2023 and 2022 equals net position restricted for pensions and comprises the following:

Aggregate Total of the System's Major Reserves

	2023	2022
Retired member contribution reserve	$ 22,350,106	$ 24,543,634
Employer reserve	393,780,338	376,943,827
Total	$ 416,130,444	$ 401,487,461

7. Administrative Expenses

The City provides the System with accounting and other administrative services. Staff salaries included in administrative expenses for the years ended June 30, 2023, and 2022 were $1,626,390 and $1,460,653, respectively.

Required Supplementary Information

For Years Ended June 30, 2023 and 2022

Schedule of Changes in the Employer's Net Pension Liability and Related Ratios (Unaudited)

	2023	2022	2021	2020	2019
Total Pension Liability					
Interest (includes interest on service cost	$ 31,458,384	$ 33,193,734	$ 34,680,418	$ 36,078,037	$ 37,621,301
Differences between expected and actual experience	3,820,811	(7,035,509)	(7,375,711)	(5,699,459)	(7,915,210)
Changes of assumptions	(3,926,153)	-	-	-	(1,475,030)
Benefit payments, including refunds of member contributions	(50,850,416)	(51,450,001)	(52,697,378)	(54,619,079)	(56,212,013)
Net change in total pension liability	(19,497,734)	(25,291,776)	(25,392,671)	(24,240,501)	(27,980,952)
Total pension liability – beginning	553,287,414	578,579,190	603,971,861	628,212,362	656,193,314
Total pension liability – ending (a)	$ 533,790,040	$553,287,414	$578,579,190	$603,971,861	$628,212,362
Plan Fiduciary Net Position					
Contributions - employer	$ 32,712,000	$ 43,820,000	$ 43,648,000	$ 43,409,000	$ 44,821,000
Net investment income	34,407,789	(47,954,760)	90,191,309	6,996,833	21,557,961
Benefit payments, including refunds of member contributions	(50,850,416)	(51,450,001)	(52,697,378)	(54,619,079)	(56,212,013)
Administrative expense	(1,626,390)	(1,460,653)	(1,584,654)	(1,522,910)	(1,446,361)
Claims and settlements	-	-	908	132	13,856
Net change in plan fiduciary net position	14,642,983	(57,045,414)	79,558,185	(5,736,024)	8,734,443
Plan fiduciary net position – beginning	401,487,461	458,532,875	378,974,690	384,710,714	375,976,271
Plan fiduciary net position – ending (b)	$ 416,130,444	$401,487,461	$458,532,875	$378,974,690	$384,710,714
City's net pension liability – ending (a) – (b)	$ 117,659,596	$151,799,953	$120,046,315	$224,997,171	$243,501,648
Plan fiduciary net position as a percentage of the total pension liability	78%	73%	79%	63%	61%
Covered payroll	$ -	$ -	$ -	$ -	$ -
Net pension liability as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A

Required Supplementary Information
For Years Ended June 30, 2023 and 2022

Schedule of Changes in the Employer's Net Pension Liability and Related Ratios (Unaudited)

	2018	2017	2016	2015	2014
Total Pension Liability					
Interest (includes interest on service cost	$ 44,320,094	$ 44,931,829	$ 42,480,394	$ 41,262,826	$ 42,333,496
Differences between expected and actual experience	(10,656,139)	3,027,944	6,977,470	(21,208,627)	-
Changes of assumptions	17,858,013	-	43,480,232	34,219,433	-
Benefit payments, including refunds of member contributions	(55,998,595)	(57,375,815)	(58,441,353)	(59,007,536)	(57,409,113)
Net change in total pension liability	(4,476,627)	(9,416,042)	34,496,743	(4,733,904)	(15,075,617)
Total pension liability – beginning	660,669,941	670,085,983	635,589,240	640,323,144	655,398,761
Total pension liability – ending (a)	$656,193,314	$660,669,941	$670,085,983	$635,589,240	$640,323,144
Plan Fiduciary Net Position					
Contributions - employer	$ 44,860,000	$ -	$ -	$ -	$ 4,441
Net investment income	35,446,275	50,158,795	(1,418,645)	5,438,586	66,392,409
Benefit payments, including refunds of member contributions	(55,998,595)	(57,375,815)	(58,441,353)	(59,007,536)	(57,409,113)
Administrative expense	(1,543,412)	(1,261,641)	(1,375,749)	(985,227)	(776,112)
Claims and settlements	9,145	70,282	3,593,096	-	-
Net change in plan fiduciary net position	22,773,413	(8,408,379)	(57,642,651)	(44,554,177)	8,211,625
Plan fiduciary net position – beginning	353,202,858	361,611,237	419,253,888	463,808,065	455,596,440
Plan fiduciary net position – ending (b)	$375,976,271	$353,202,858	$361,611,237	$419,253,888	$463,808,065
City's net pension liability – ending (a) – (b)	$280,217,043	$307,467,083	$308,474,746	$216,335,352	$176,515,079
Plan fiduciary net position as a percentage of the total pension liability	57%	53%	54%	66%	72%
Covered payroll	$ -	$ -	$ -	$ -	$ -
Net pension liability as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A

Required Supplementary Information

For Years Ended June 30, 2023 and 2022

Schedule of Employer Contributions (Unaudited)
(dollars in millions)

	2023	2022	2021	2020	2019	2018	2017*	2016*	2015*	2014*
Actuarially determined contribution	$ 32.7	$ 43.8	$ 43.6	$ 43.4	$ 44.8	$ 44.9	N/A	N/A	N/A	$ 20.3
Contributions in relation to the actuarially determined contribution	$ 32.7	$ 43.8	$ 43.6	$ 43.4	$ 44.8	$ 44.9	$ -	$ -	$ -	$ -
Contribution deficiency/(excess)	$ -	$ -	$ -	$ -	$ -	$ -	N/A	N/A	N/A	$ 20.3
Covered payroll	$ -	$ -	$	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* Actuarially determined contributions are calculated based on the actuarial valuation one year prior to the beginning of the fiscal year. Although actuarial valuations were performed as of June 30, 2014, June 30, 2015, and June 30, 2016, the System did not determine an actuarially determined contribution for FY 2015-2017, based on the City's funding policy.

Schedule of Investment Returns (Unaudited)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return net of investment expense	8.84%	-10.24%	24.43%	2.04%	6.10%	10.57%	15.57%	-0.75%	3.90%	16.40%

Note to Required Supplementary Information

For Years Ended June 30, 2023 and 2022

Note to Schedule of Employer Contributions

Actuarially determined contribution rates are calculated based on the actuarial valuation one year prior to the beginning of the fiscal year in which contributions are reported. Methods and assumptions used to determine contribution rates are:

Methods and Assumptions Used to Determine Contribution Rates

Fiscal Year	Valuation Date	Discount Rate	Cost-of-Living Adjustments	Mortality	Other Significant Assumption Changes from Prior Year
2023	06/30/2021	5.09%	3.25%	CalPERS Mortality Table from the 2012-2015 experience study, excluding the 15-year projection using 90% of Scale MP-2016	None
2022	6/30/2020	5.19%	3.25%		None
2021	6/30/2019	5.50%	3.25%		None
2020	6/30/2018	5.50%	3.25%		Longevity Pay assumption for Fire Members was added
2019	6/30/2017	5.50%	3.25%		None
2018	6/30/2016	6.44%	3.25%		None
2017	6/30/2015	6.50%	3.25%	CalPERS Mortality Table from the 2006-2011 experience study, excluding the 20-year projection using Scale BB	None
2016	6/30/2014	6.54%	3.25%		None
2015	6/30/2013	6.75%	3.975%	RP-2000 Mortality Table from the 1997-2007 experience study, projected with Scale AA	None
2014	6/30/2012	6.75%	3.975%		None

A complete description of the methods and assumptions used to determine contribution rates can be found in the corresponding actuarial valuation reports.

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Section 3
Investment

Ignatius G. Chinn
Sergeant

Served with Oakland Police Department
November 1970 to March 1991

MEKETA

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Suite 300
Portland, OR 97210

503.226.1050
Meketa.com

March 4, 2024

Retirement Board
City of Oakland Police and Fire Retirement System
150 Frank Ogawa Plaza
Oakland, CA 94612

Dear Board Members:

This letter reviews the investment performance of the City of Oakland Police and Fire Retirement System ("the System" or "OPFRS") for the fiscal year ended June 30, 2023. During this 12-month period, the OPFRS total investment portfolio has grown by 8.6% on a money-weighted, net of fees basis, though it underperformed against the Policy Benchmark's time-weighted return of 10.4%.

Meketa serves as OPFRS's independent investment consultant. Performance data is provided by the System's custodian, Northern Trust, and is independently calculated by Meketa's performance measurement team.

A major factor influencing overall investment performance is the allocation of the OPFRS portfolio across major asset classes. As of June 30, 2023, the Domestic Equity, International Equity, and Cash were overweight, while Fixed Income was moderately underweight relative to the policy targets.

Over the latest 3-year period, the OPFRS portfolio produced an annualized money-weighted, net of fee return of 6.6%, outperforming its benchmark's time-weighted return of 6.2% by 40 basis points (0.4% points). Over the latest 5-year period, OPFRS's average annual money-weighted net return of 5.7% outperformed its benchmark by 20 basis points (0.2% points). The System has been effective in using its resources in a cost-effective manner to ensure that benefits continue to flow to plan participants.

OPFRS Annualized Money-Weighted Returns as of 06/30/2023

	1 Year	3 Years	5 Years
Total Portfolio[1]	8.6	6.6	5.7
Policy Benchmark[2]	*10.4*	*6.2*	*5.5*
Excess Return	**-1.8**	**0.4**	**0.2**

Sincerely,

David Sancewich, Managing Principal, Meketa Investment Group

[1] Money-weighted & net of fees. Performance since 2005 includes securities lending.
[2] The time-weighted Policy Benchmark is composed of 40% Russell 3000 Index, 12% MSCI ACWI ex US (Net), 31% Bloomberg US Universal Index, 2% Bloomberg US Corp. High Yield Index, 5% CBOE S&P 500 Buy Write Index (BXM), 10% Crisis Risk Offset Benchmark since 01/01/ 2019. Crisis Risk Offset Benchmark is composed of 100% SG Multi Alternative Risk Premia Index through 12/31/2022; 33.34% SG Trend Index, 33.33% SG Multi Alternative Risk Premia Index, and 33.33% Bloomberg US Government Long Term Bond Index thereafter.

List of Investment Professionals

Domestic Equity Managers	**Fixed Income Managers**
Brown Advisory	Polen Capital Credit
Earnest Partners	Ramirez Asset Management
Northern Trust Investments	Reams Asset Management
Rice Hall James and Associates	Wellington Management
Wellington Management	
International Equity Managers	**Investment Consultant**
Strategic Global Advisors	Meketa Investment Group
Covered Calls	**Custodian**
Parametric Portfolio Associates	Northern Trust
Crisis Risk Offset	**Security Lending**
Kepos Capital	Northern Trust
Versor Investments	

Investment Manager Fees and Other Investment Expenses

Years Ended June 30, 2023 and June 30, 2022

	2023	2022
Investment Manager Fees		
Domestic Equity Managers	$ 534,225	$ 595,488
International Equity Managers	240,883	261,104
Domestic Fixed Income Managers	279,305	276,287
Covered Calls	84,510	126,276
Total Investment Manager Fees	**$ 1,138,923**	**$ 1,259,155**
Other Investment Fees		
Investment Consulting	$ 100,000	$ 100,000
Custodian Fees	122,500	116,500
Total Other Investment Fees	**$ 222,500**	**$ 216,500**
Total Investment Fees	**$ 1,361,423**	**$ 1,475,655**

Largest Stock Holdings (by Market Value)
As of June 30, 2023

	Stock	Market Value
1.	Apple	$ 1,754,265
2.	Microsoft	1,548,776
3.	Republic Services	1,245,578
4.	Synopsys	1,119,875
5.	Entegris	1,059,107
6.	Darden Restaurants	1,038,569
7.	Keysight Technologies	1,021,780
8.	CBRE Group	980,384
9.	Ansys	946,554
10.	Masco	946,254

Note: The above schedules do not reflect holdings in index funds. A complete list is available upon request.

Largest Bond Holdings (by Market Value)
As of June 30, 2023

	Description	Interest Rate	Maturity Date	Market Value
1.	FNMA	2.88%	08/25/2053	$ 3,661,842.38
2.	FNMA	5.50%	08/25/2053	2,477,550.00
3.	FHLMC	3.00%	10/01/2052	1,382,340.34
4.	FNMA	3.00%	11/01/2049	1,379,276.54
5.	FNMA	2.50%	01/01/2052	1,349,592.32
6.	FNMA	2.50%	02/01/2052	1,287,689.39
7.	FNMA	4.00%	09/01/2052	1,171,647.25
8.	North Shore Long Island Jewish Health Care	6.15%	11/01/2043	1,102,357.43
9.	FNMA	4.50%	08/25/2053	774,309.38
10.	Treasury	1.13%	01/15/2033	719,067.30

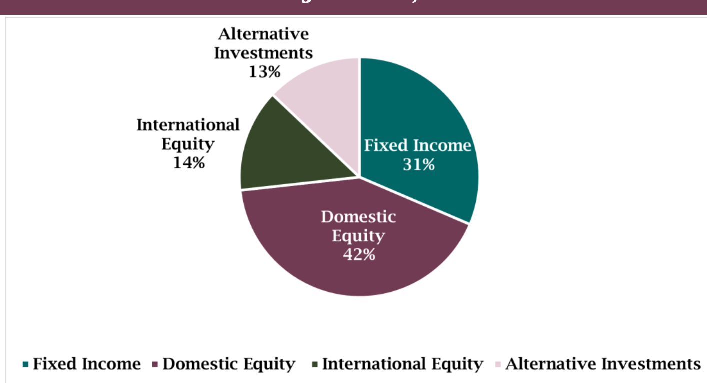
Note: The above schedules do not reflect holdings in index funds. A complete list is available upon request.

Investments by Manager/Exchange-Traded Funds (ETF)

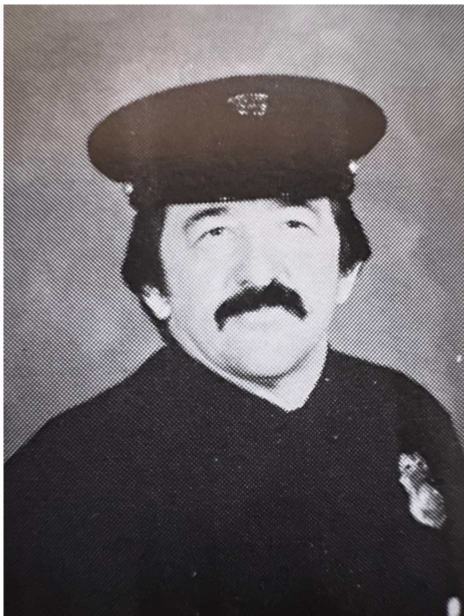
Investment Firm	Portfolio Type		Amount
Fixed Income Managers			
Reams Asset Management	Core Plus	$	34,489,106
Ramirez Asset Management	Core		70,409,388
Vanguard Long-Term Treasury Index Fund ETF	Long Duration		10,300,716
Wellington Management	Core		6,726,320
Polen Capital Credit, LLC	High Yield/Bank Loans		9,201,084
Total Fixed Income		**$**	**131,126,614**
Domestic Equity Managers			
Northern Trust Investments	Large Cap Core	$	81,367,105
EARNEST Partners	Mid Cap Core		43,193,428
Rice Hall James and Associates	Small Cap Growth		14,670,767
Brown Advisory	Small Cap Value		11,242,430
Wellington Management	Defensive Equity		23,373,498
Transition Account	Short-Term		592,951
Total Domestic Equity		**$**	**174,440,179**
International Equity Managers			
Strategic Global Advisors	International	$	$40,479,787
Vanguard Developed Markets Index Fund ETF	International		17,230,325
Total International Equity		**$**	**57,710,112**
Alternative Managers			
Parametric Portfolio Associates	Covered Calls	$	27,851,639
Kepos Capital	Crisis Risk Offset		10,476,679
Versor Investments	Crisis Risk Offset	$	15,551,785
Total Alternative Investments			**53,880,103**
Total Investments		**$**	**$417,157,008**

The amounts presented above may vary from the amounts presented in the financial statements due to the investments by manager summary including cash and cash equivalents and presenting amounts at the manager level and the financial statements presenting amounts at the security level.

Asset Allocation
As of June 30, 2023



Section 4
Actuarial



Gary G. Gerner
Firefighter

Served with Oakland Fire Department
August 1966 to June 2000

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CHEIRON *Classic Values, Innovative Advice*

Via Electronic Mail

February 19, 2024

Actuarial Certification

This is the Actuary's Certification Letter for the Actuarial Section of the Annual Report for the Oakland Police and Fire Retirement System (PFRS, the Plan) as of June 30, 2023. This letter includes references to two documents produced by Cheiron for the Plan: the Actuarial Valuation report as of June 30, 2022 (transmitted December 6, 2022) and the GASB 67/68 report as of June 30, 2023 (transmitted November 13, 2023).

Actuarial Valuation Report as of June 30, 2022

The purpose of the annual actuarial valuation report as of June 30, 2022 is to determine the actuarial funding status of the Plan on that date and to calculate an actuarially determined contribution amount in accordance with the Plan's funding agreement with the City of Oakland. The prior review was conducted by Cheiron as of June 30, 2021.

Actuarial funding is based on the Entry Age Normal Cost Method. Under this method, the employer contribution amount provides for current cost (normal cost and expected administrative expenses) plus an amount to amortize the Unfunded Actuarial Liability (UAL). All members of the Plan have retired; therefore, no normal cost has been computed, and the actuarially determined contributions are equal to the unfunded liability amortization payment plus administrative expenses.

As part of the funding agreement with the City, the UAL is expected to be amortized as level percentage of overall City Safety payroll, with payments commencing in the fiscal year beginning July 1, 2017, and completed in the year ending June 30, 2026.

For actuarial valuation purposes, Plan assets are valued at actuarial value. Under this method, the Actuarial Value of Assets recognizes one-fifth of the difference between the expected asset value (based on the 6.00% return assumption for the current Plan year) and the actual market value each year. The actuarial value is restricted to fall between 90% and 110% of the market value.

The Retirement System Board is responsible for establishing and maintaining the funding policy of the Plan.

We prepared the following schedules, which we understand will be used in the Actuarial Section of the 2023 PFRS Annual Report, based on the June 30, 2022 actuarial valuation.

www.cheiron.us 1.877.CHEIRON (243.4766)

Actuarial Certification
February 19, 2024
Page 2

- Statement of Actuarial Assumptions and Methods
- Summary of Participant Data
- Development of Actuarial Gain/Loss (Analysis of Financial Experience)
- Schedule of Funding Status
- Summary of Plan Provisions

The assumptions used in this report reflect the results of an experience study performed by Cheiron covering the period from July 1, 2014 through June 30, 2017 and adopted by the Board. The assumptions used are intended to produce results that, in aggregate, reasonably approximate the anticipated future experience of the Plan.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for funding purposes meet the requirements of the Actuarial Standards of Practice, in particular Standards No. 4, 27, 35, and 44.

GASB 67/68 Report as of June 30, 2023

The purpose of the GASB 67/68 report as of June 30, 2023 is to provide accounting and financial reporting information under GASB 67 for the Plan and under GASB 68 for the City of Oakland. This report is not appropriate for other purposes, including the measurement of funding requirements for the Plan.

For financial reporting purposes, the Total Pension Liability (TPL) is based on the June 30, 2022 actuarial valuation updated to the measurement date of June 30, 2023. The update included the addition of interest cost offset by actual benefit payments.

Beginning of year measurements are based on the actuarial valuation as of June 30, 2021, updated to the measurement date of June 30, 2022. The June 30, 2023 Total Pension Liability (TPL) presented in the GASB 67/68 report was based upon the same data, plan provisions, actuarial methods, and assumptions as were used in the actuarial valuation report as of June 30, 2022.

Please refer to our GASB 67 report as of June 30, 2023 for additional information related to the financial reporting of the System. We prepared the following schedules for inclusion in the Financial Section of the 2023 PFRS Annual Report based on the June 30, 2023 GASB 67/68 report:

- Change in Net Pension Liability
- Sensitivity of Net Pension Liability to Changes in Discount Rate
- Schedule of Changes in Net Pension Liability and Related Ratios
- Schedule of Employer Contributions
- Notes to the Schedule of Employer Contributions

CHEIRON

Actuary's Certification Letter

Actuarial Certification
February 19, 2024
Page 3

We certify that the letter was performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for disclosure purposes have been prepared in accordance with our understanding of generally accepted accounting principles as promulgated by the GASB.

Disclaimers

In preparing our reports, we relied on information (some oral and some written) supplied by the Plan. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and, changes in plan provisions or applicable law.

Cheiron utilizes ProVal, an actuarial valuation application leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect our reports.

These reports are for the use of the Plan, the participating employer, and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of these reports is not an intended user and is considered a third party.

Cheiron's reports were prepared solely for the Plan for the purposes described herein, except that the Plan and its auditors may rely on these reports solely for the purpose of completing an audit related to the matters herein. Other users of these reports are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. These reports do not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

Respectfully Submitted,
Cheiron

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CHEIRON

Summary of Actuarial Value, Assumptions and Funding Methods

PURPOSE OF ACTUARIAL VALUATION

The Oakland Police and Fire Retirement System (PFRS) is a closed defined benefit pension plan. It was closed to new members on June 30, 1976. As of June 30, 2023, there are no active members. All members are retirees and beneficiaries.

The actual costs of a defined benefit plan are determined entirely by the amount of the benefit promise, the actual salaries and service of the plan participants, and how long they and their beneficiaries live to receive payments. In addition, the actuarial methodology provides a reasonable plan, or method, towards funding the expected costs of the plan. This information assists the plan trustees so they can make informed decisions regarding plan investments and how much in contributions will be required from the employer to eventually fully pay for the plan's costs.

The most recent actuarial valuation was as of June 30, 2022. The key results of the actuarial valuation are as follows:

- The actuarially determined employer contribution amount for Fiscal Year 2023-2024 is $40.8 million, based on projecting the Actuarial Liabilities and the Actuarial Value of Assets to the end of the 2022-2023 Fiscal Year. This represents an increase of $10.0 million from the estimated amount in the prior valuation for the same Fiscal Year. The contribution is assumed to be paid in equal installments throughout the year, or on average at approximately January 1, 2024.

- During the year ended June 30, 2022, the return on Plan assets was -10.56% on a market value basis net of investment expenses, as compared to the 6.00% assumption for the 2021-2022 Plan year. This resulted in a market value loss on investments of $75.2 million. The Actuarial Value of Assets (AVA) is calculated as the expected AVA plus 20% of the difference between the market value and the expected AVA, which is restricted to be between 90% and 110% of the MVA. This smoothed value of assets returned 4.70%, for an actuarial asset loss of $5.3 million.

- The Plan experienced a gain on the Actuarial Liability of $1.8 million, the net result of changes in the population and changes in benefits. The primary factor was an excess of deaths above the number expected. Combining the liability gain and asset loss, the Plan experienced a total loss of $3.5 million.

- New Memorandums of Understanding (MOUs) went into effect for both Fire and Police members since the previous valuation, changing the retirees' Cost-of-Living Adjustments (COLAs). This change in COLAs increased the Fire Actuarial Liability by $6.8 million since the scheduled increases under the new MOUs were higher than the amounts originally assumed, in aggregate, while the Police Actuarial Liability decreased by $1.4 million due to the new MOUs increasing benefits less than originally assumed.

- The assumption that 30% of all disabled retiree deaths were duty-related was removed. This change decreased the Actuarial Liability by $3.9 million.

- The Plan's smoothed funded ratio, the ratio of Actuarial Value of Assets over Actuarial Liability, increased from 72.2% last year to 76.5% as of June 30, 2022.

- .The Plan's funded ratio decreased from 80.2% to 72.6% on a Market Value of Assets (MVA) basis.

- The Unfunded Actuarial Liability (UAL) is the excess of the Plan's Actuarial Liability over the Actuarial Value of Assets. The Plan experienced a decrease in the UAL from $159.3 million to $130.2 million as of July 1, 2022.

- Overall participant membership decreased compared to last year. 29 members died, 10 of whom had their benefits continue to a surviving spouse. In addition, 18 surviving beneficiaries died. There are no active members of the Plan.

- If the contribution were determined using a projected asset value based on the current market (i.e., non-smoothed) value of assets, the contribution for FY 2023-2024 would be $47.1 million. The contribution is larger than that determined using the projected AVA, because the current market value reflects the full amount of prior investment losses, while under the AVA projection a portion of those losses are deferred until years after FY 2023-2024.

VALUATION SUMMARY

Table I-1 summarizes all the key results of the valuation with respect to membership, assets and liabilities, and contributions. The results are presented and compared for both the current and prior plan year.

Table I-1
Summary of Principal Plan Results
($ in Thousands)

	July 1, 2021	July 1, 2022	% Change
Participant Counts			
Active Participants	0	0	
Participants Receiving a Benefit	723	686	-5.1%
Total	**723**	686	**-5.1%**
Total Annual Benefits	$ 78,806	$ 81,463	3.4%
Assets and Liabilities			
Actuarial Liability (AL)	$ 571,942	$ 552,966	-3.3%
Actuarial Value of Assets (AVA)	$ 412,680	$ 422,762	2.4%
Unfunded Actuarial Liability (UAL)	$ 159,262	$ 130,204	-18.2%
Funded Ratio (AVA)	72.2 %	76.5 %	4.3%
Funded Ratio (MVA)	80.2%	72.6%	-7.6%
Contributions			
Employer Contribution (FY2022-23)	$ 32,712	N/A	
Employer Contribution (FY2023-24)	$ 30,803	$ 40,763	32.3%

ACTUARIAL DEFINITIONS

The **Present Value of Future Benefits** (PVFB) is used for measuring all future Plan obligations, the obligations of the Plan earned as of the valuation date and those to be earned in the future by current plan participants under the current Plan provisions, if all assumptions are met.

The **Actuarial Liability** (AL) is used for funding calculations, this liability is calculated taking the Present Value of Future Benefits and subtracting the Present Value of Future Normal Costs under an acceptable actuarial funding method. Because the Plan has no active members, the Actuarial Liability is equal to the Present Value of Future Benefits (i.e., all benefits are fully accrued).

The **Unfunded Actuarial Liability** (UAL) is the excess of the Actuarial Liability over the Actuarial Value of Assets.

The **Actuarial Value of Assets** (AVA) is the value of cash, investments, and other property belonging to a pension plan as used by the actuary for the purpose of an actuarial valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values.

ACTUARIAL METHODS AND ASSUMPTIONS

ACTUARIAL METHODS

The actuarial funding method used to determine the normal cost and the Unfunded Actuarial Liability is the Entry Age Normal Cost Method.

The normal cost rate is determined with the normal cost percentage equal to the total Projected Value of Benefits at Entry Age, divided by Present Value of Future Salary at Entry Age. Since there are no longer any active employees, the normal cost for this plan is $0.

The excess of the Plan's Actuarial Liability (AL) over the Actuarial Value of Assets (AVA) is the Unfunded Actuarial Liability (UAL). In accordance with the Plan's funding agreement with the City of Oakland, the UAL must be amortized by July 1, 2026, with contributions resuming in the 2017-2018 fiscal year. The projected fiscal year 2023-2024 contribution has been calculated using level percent of pay amortization, based on total projected City payroll for all Safety employees.

ACTUARIAL VALUE OF PLAN ASSETS

In determining the recommended employer contribution to the PFRS, we use a smoothed Actuarial Value of Assets. The asset smoothing method dampens the volatility in asset values that could occur because of the fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process. Assets are assumed to be used exclusively for the provision of retirement benefits and expenses.

ACTUARIAL ASSUMPTIONS

The assumptions used in this report reflect the results of an Experience Study performed by Cheiron covering the period from July 1, 2014 through June 30, 2017 and adopted by the Board. More details on the rationale for the demographic and economic assumptions can be found in the Experience Analysis presented to the Board on February 28, 2018.

Rate of Return

The expected annual rates of return, net of investment expenses, on all Plan assets are shown in the table below. The equivalent single discount rate for these returns using the Plan's expected projected benefit payments is 5.19%.

Benefit Payment Year	Expected Return
2022 - 2026	6.000 %
2027	5.725 %
2028	5.450 %
2029	5.175 %
2030	4.900 %
2031	4.625 %
2032	4.350 %
2033	4.075 %
2034	3.800 %
2035	3.525 %
2036+	3.250 %

Cost-of-Living Adjustments and Long-Term Salary Increases

Cost–of-living adjustments are based on salary increases for a retiree's rank at retirement. The long-term rate of salary increase is assumed to be 3.25% (2.85% inflation plus 0.4% productivity). This rate is used to project cost of living increases after the expiration of the current contracts, as well as representing the expected level of overall Safety payroll growth used to calculate the unfunded liability amortization payment. The following schedule shows salary increases based on the current Police and Fire contracts that expire on June 30, 2026. All increases shown after that date are assumptions.

Post-Retirement Benefit Increases (Based on Salary Increases for Rank at Retirement)		
Date of Increase	Police	Fire
July 1, 2022	3.50%	3.50%
July 1, 2023	3.50%	3.50%
July 1, 2024	3.00%	3.00%
July 1, 2025	3.00%	3.00%
Annual Increases Starting July 1, 2026	3.25%	3.25%

Inflation

The assumed rate of general inflation is 2.75% (entire US) and local inflation is 2.85% (Bay Area). The general inflation rate is used in the determination of the investment return assumptions. The local inflation rate is used in the determination of the growth in expenses and salaries (which determine the COLA increases).

Rates of Termination, Disability and Retirement

None

Rates of Mortality for Healthy Lives

(for service retirees and beneficiaries)

CalPERS Healthy Annuitant Table from the 2012-2015 Experience Study, excluding the 15-year projection using 90% of Scale MP-2016.

Rates of Mortality for Disabled Retirees

CalPERS Industrial Disability Mortality Table from the 2012-2015 Experience Study, excluding the 15-year projection using 90% of Scale MP-2016.

Mortality Improvement

The mortality tables are projected to improve with the MP-2017 generational mortality improvement tables, with improvements projected from a base year of 2014 (the mid-point of the CalPERS base tables).

Survivor Continuance

All retirees with a Benefit Form of "J&S" in the raw data are assumed to receive a 66-2/3% continuance.

Changes in Assumptions since the Last Valuation

The assumption that 30% of all disabled retiree deaths are duty-related and the associated survivors would receive a 100% continuance was removed; all future beneficiaries are now assumed to receive a 66-2/3% continuance.

Administrative Expenses

Administrative expenses for the Fiscal Year Ending June 30, 2023 are assumed to be $1,740,736, growing at 2.85% per year.

Membership Information

Service Retired Participants

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	$0	0	$0	0	$0
50-54	0	$0	0	$0	0	$0
55-59	0	$0	0	$0	0	$0
60-64	0	$0	0	$0	0	$0
65-69	10	$828,375	0	$0	10	$828,375
70-74	47	$4,199,209	8	$607,418	55	$4,806,627
75-79	91	$7,142,202	34	$2,985,590	125	$10,127,792
80-84	43	$3,604,990	16	$1,377,508	59	$4,982,498
85-89	10	$1,067,084	11	$1,079,456	21	$2,146,540
90-94	7	$610,810	8	$700,516	15	$1,311,326
95-99	0	$0	3	$248,231	3	$248,231
100+	1	$103,088	1	$67,402	2	$170,490
Total	**209**	**$17,555,758**	**81**	**$7,066,121**	**290**	**$24,621,879**

Disability Retired Participants

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	$0	0	$0	0	$0
50-54	0	$0	0	$0	0	$0
55-59	0	$0	0	$0	0	$0
60-64	0	$0	0	$0	0	$0
65-69	0	$0	0	$0	0	$0
70-74	25	$2,098,696	24	$1,834,759	49	$3,933,455
75-79	40	$3,046,081	31	$2,502,282	71	$5,548,363
80-84	13	$1,078,059	22	$1,928,506	35	$3,006,565
85-89	5	$397,807	7	$614,779	12	$1,012,587
90-94	2	$199,239	2	$183,278	4	$382,517
95-99	0	$0	0	$0	0	$0
100+	0	$0	0	$0	0	$0
Total	**85**	**$6,819,882**	**86**	**$7,063,604**	**171**	**$13,883,487**

Membership Information

Beneficiaries

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	$0	0	$0	0	$0
50–54	0	$0	0	$0	0	$0
55–59	1	$54,175	0	$0	1	$54,175
60–64	2	$127,560	2	$155,679	4	$283,239
65–69	7	$463,906	7	$468,590	14	$932,496
70–74	25	$1,334,943	13	$850,382	38	$2,185,325
75–79	32	$1,815,652	14	$861,685	46	$2,677,337
80–84	24	$1,369,104	17	$1,057,484	41	$2,426,588
85–89	13	$822,468	22	$1,327,729	35	$2,150,197
90–94	13	$873,190	16	$977,380	29	$1,850,570
95–99	9	$494,129	4	$257,715	13	$751,844
100+	2	$135,171	2	$123,255	4	$258,426
Total	**128**	**$7,490,298**	**97**	**$6,079,899**	**225**	**$13,570,200**

Membership Information

Participant Data Summary

	July 1, 2021			July 1, 2022		
	Police	Fire	Total	Police	Fire	Total
Active Participants						
Number	0	0	0	0	0	0
Number Vested	0	0	0	0	0	0
Average Age	00.0	00.0	00.0	00.0	00.0	00.0
Average Service	00.0	00.0	00.0	00.0	00.0	00.0
Average Pay	$0	$0	$0	$0	$0	$0
Service Retirees						
Number	220	90	310	209	81	290
Average Age	77.5	81.8	78.7	78.2	82.0	79.2
Average Annual Benefit	$81,398	$84,427	$82,277	$83,999	$87,236	$84,903
Disabled Retirees						
Number	88	92	180	85	97	225
Average Age	76.7	78.0	77.4	77.6	78.5	78.1
Average Annual Benefit	$77,184	$78,644	$77,931	$80,234	$82,135	$81,190
Beneficiaries						
Number	131	102	233	128	97	225
Average Age	80.2	82.7	81.3	80.8	82.9	81.7
Average Annual Benefit	$55,989	$58,723	$57,186	$58,518	$62,679	$60,312
All Inactive						
Number	439	284	723	442	264	686
Average Age	78.1	80.9	79.2	78.8	81.2	79.8
Average Annual Benefit	$72,971	$73,322	$73,109	$75,512	$76,552	$75,912

Data pertaining to active and inactive Members and their beneficiaries as of the valuation date was supplied by the Plan Administrator.

In Memoriam

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Oakland Police and Fire Department Retiree & Beneficiary Deaths Fiscal Year 2022—2023

Fire Members

David Catano	Retiree
Agnes Comunelli	Beneficiary
Dale Criswell	Retiree
Noriko Gurnari	Beneficiary
Earleen Hamlin	Beneficiary
George Hannaford	Retiree
Daryl Hylton	Retiree
Diana F. Kenton	Beneficiary
Dorothy Larson	Beneficiary
John Lucich	Retiree
Marilyn G. McHugh	Beneficiary
Dorothy Myers	Beneficiary
Bonnie W. Peakes	Beneficiary
Violet Piplica	Beneficiary
Filbert Silva	Retiree
John Tashjian	Retiree
Diane M. Taylor	Beneficiary
James Williams	Retiree
Georgina Wood	Beneficiary

Police Members

Norbert Banach	Retiree
Edith F. Brown	Beneficiary
Mary Callaway	Beneficiary
Richard Castle	Retiree
Herbert Coffman	Retiree
Robert P. Crawford	Retiree
George Eberhardt	Retiree
Wilford Fugler	Retiree
Ronald Hansen	Retiree
Donald Jensen	Retiree
Pearl A. Jensen	Beneficiary
Vera Kelsey	Beneficiary
James Kimzey	Retiree
Kenneth Lewis	Retiree
Sandra Lee Marr	Beneficiary
Frankie Miller	Beneficiary
Charles Peaker	Retiree
Harold Pendergrass	Retiree
William Richards	Retiree
Larry Rodrigue	Retiree
Barbara J. Stevenson	Beneficiary
Clyde Walker	Retiree
Barry Whalley	Retiree
Adelaide Williams	Beneficiary
Leland Williams	Retiree

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Presented to:

City of Oakland Police and Fire Retirement System

March 27, 2024

Presented by:

Clark Holland, CFA
Portfolio Manager

Presenter Biography

Clark Holland, CFA

Portfolio Manager

Clark Holland is a portfolio manager at Reams Asset Management. Clark has over 25 years of experience as a portfolio manager, analyst, and client service specialist. Prior to joining Reams in 2002, Clark was a portfolio manager and investment product specialist at Wells Fargo Investment Management Group. Mr. Holland earned his master's in business administration from Rice University and his bachelor's degree from Taylor University. He holds the Chartered Financial Analyst (CFA) designation and is a member of the CFA Institute.

Table of Contents

Firm Overview

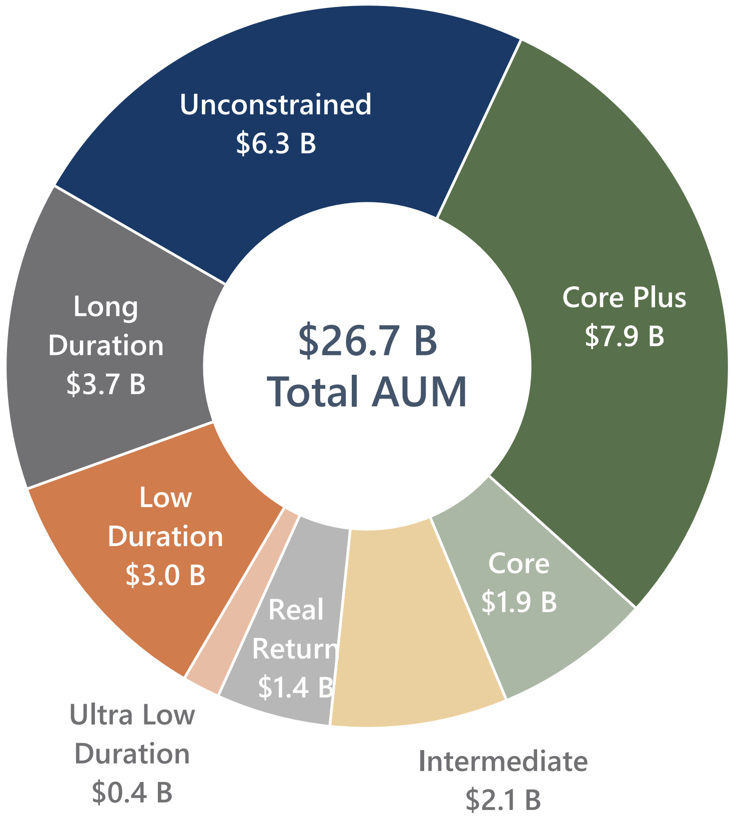
Reams at a Glance

- Founded in 1981
- Headquartered in Indianapolis, Indiana
- $26.7 billion in assets under management
- 8 fixed income strategies along with extensive custom separate account capabilities
- Affiliate of Raymond James Investment Management, a subsidiary of Raymond James Financial, since November 2017

Data as of
December 31, 2023

Firm Overview

Strategy Lineup



Available Investment Vehicles

Separate Accounts

- All Strategies

U.S. Institutional Commingled Funds:

- Columbus Core Plus Bond Fund
- Columbus Unconstrained Bond Fund

U.S. Institutional Mutual Funds (sub-advised):

- Core Strategy
- Core Plus Strategy
- Unconstrained Strategy

Non-U.S. Commingled Fund (sub-advised):

- Raymond James Funds Reams Unconstrained Bond SICAV (Class A USD | SCUCBDA LX)

Data as of
December 31, 2023

Firm Overview

Representative Client List

Corporate
American Honda Motor Company
Cummins Inc.
Emerson Electric Company
Meritor, Inc.
Omaha Public Power District
S.C. Johnson & Son, Inc.

Health Care
University of Colorado Health
NorthShore University HealthSystem
Northwestern Memorial HealthCare
OhioHealth Corporation
Shirley Ryan AbilityLab

Non-Profit
American Heart Association
Archdiocese of Miami
Board of Pensions/Presbyterian Church, USA
Cleveland Museum of Art
Veterans of Foreign Wars of the U.S.
Eiteljorg Museum of American Indians and Western Art

Sub-Advisory
Prudential Retirement Insurance & Annuity Co.
Russell Investment Management Company

Public
Arkansas Teacher Retirement System
Employees' Retirement System of Baltimore County
Indiana State Police Pension Trust
Los Angeles Fire & Police Pensions
City of Milwaukee Employes' Retirement System
City of Oakland Police & Fire Retirement System
Sacramento County Employees Retirement System
San Francisco Bay Area Rapid Transit District
Sonoma County Employees' Retirement Association
Spokane Firefighters' Pension Fund
Ventura County Employees' Retirement Association

Taft-Hartley
Carpenters District Council of Kansas City Pension Fund
Carpenters Pension Fund of Illinois
Gulf Coast Carpenters and Millwrights Health Trust
IBEW 8th District Electrical Pension Trust
Teamster Members Retirement Plan
Ohio Operating Engineers Pension Plan

University/Endowment/Foundation
Trustees of Indiana University
University of Kentucky
Purdue University
Regents of the University of Minnesota
Engelstad Foundation

Data as of December 31, 2023

This Representative Client List includes institutional clients whose permission has been received for inclusion. No specific selection criteria were used. It is not known whether or not the listed clients approve of the advisory services provided by Reams Asset Management or Scout Investments.

Firm Overview

Investment Team

Investment Committee

Mark Egan, CFA
Chief Investment Officer
Managing Director
(37 years / 33 years)

Todd Thompson, CFA
Deputy Chief Investment Officer
Managing Director
Credit Team Leader
(29 years / 22 years)

Dimitri Silva, CFA
Managing Director
Global Rates & Currencies Team Leader
(16 years / 2 years)

Senior Advisor

Bob Crider, CFA
Co-Founder
(46 years / 42 years)

Credit Team

Todd Thompson, CFA

Jason Hoyer, CFA
Portfolio Manager
(20 years / 8 years)

Clark Holland, CFA
Portfolio Manager
(29 years / 21 years)

Scott Rosener, CFA
Head of Trading
(26 years / 18 years)

Trey Harrison, CFA, ASA
Fixed Income Analyst/Actuary
(29 years / 13 years)

Reed Clark, CFA
Fixed Income Analyst
(4 years / 2 years)

Sydney Owen, CFA
Fixed Income Analyst
(5 years / 1 year)

Securitized Team

Neil Aggarwal
Portfolio Manager
Securitized Team Leader
(20 years / 1 year)

Kevin Salsbery, CFA
Fixed Income Analyst
(22 years / 18 years)

Patrick Laughlin
Fixed Income Analyst
(28 years / 19 years)

Ben Byrd, CFA
Fixed Income Analyst
(3 years / 1 year)

Global Rates & Currencies Team

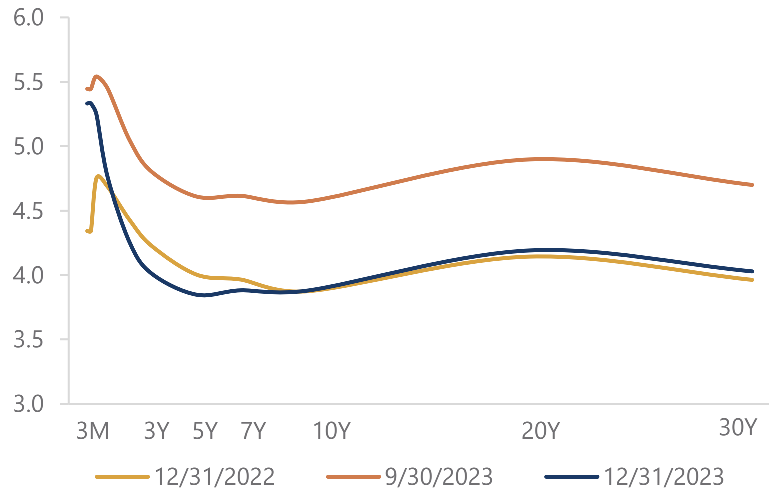
Dimitri Silva, CFA

Antonina Tarassiouk
Fixed Income Analyst
(9 years / 1 year)

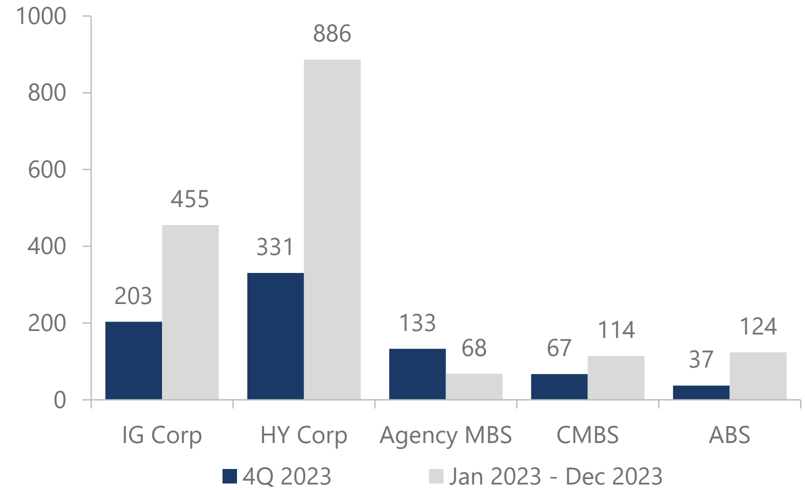
(Years of Industry Experience / Reams Tenure)
Please see Investment Professional Biographies section for detailed biographies

Fixed Income Dashboard

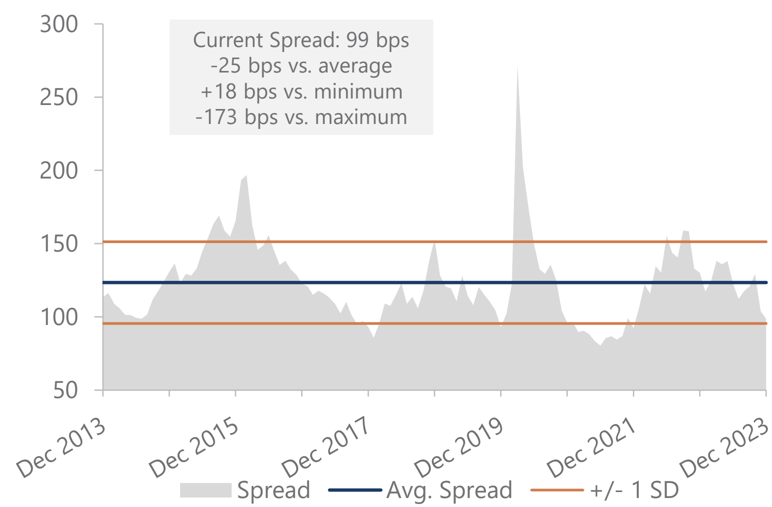
U.S. Treasury Yield Curves (%)



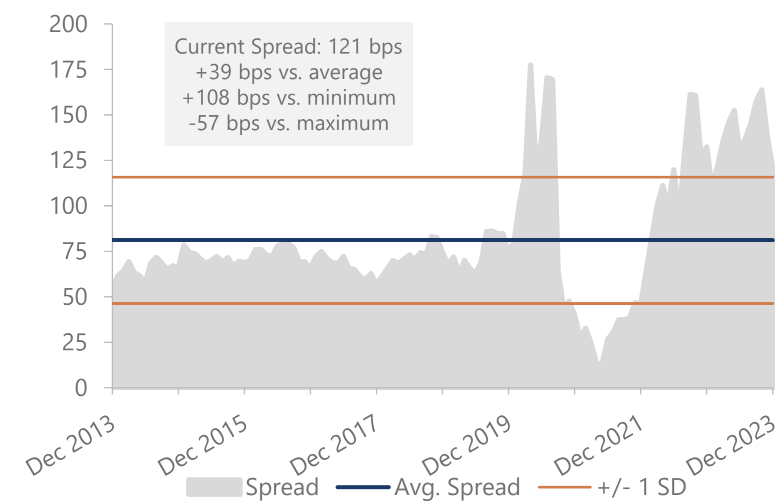
Sector Excess Returns vs. U.S. Treasurys (bps)



Investment Grade Corporate OAS (bps)



Agency MBS 30Yr CC Zero-Volatility Spread (bps)

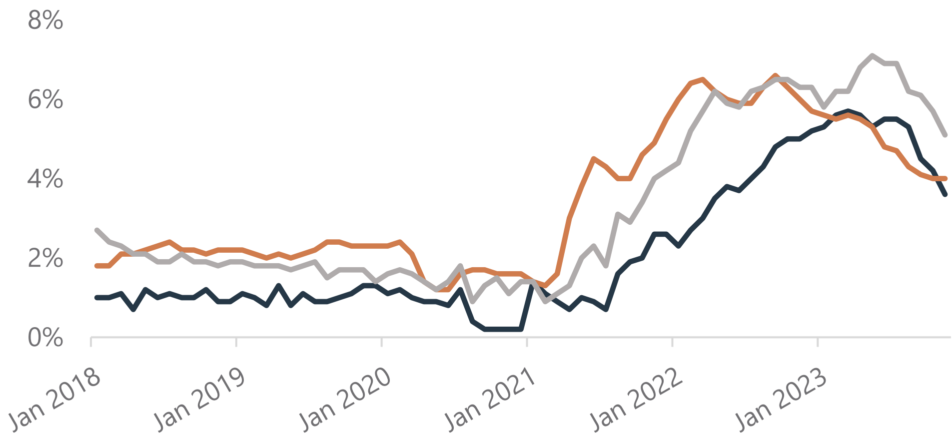


Data as of
December 31, 2023

Source: Bloomberg Index Services Limited; Bloomberg L.P. as of 12/31/2023

Market Insights

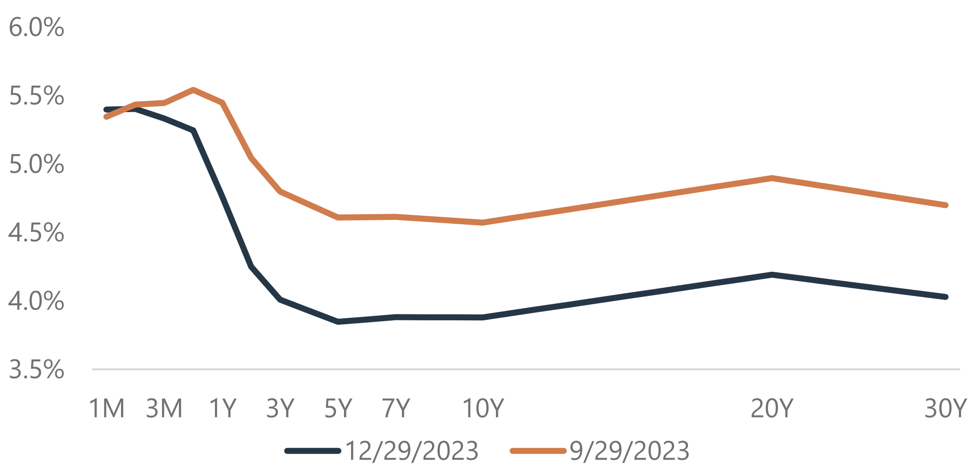
Year-over-Year Core CPI (%)



Source: Bloomberg as of 12/31/2023

Disinflation, as measured by year-over-year Core CPI, was evident first in the U.S. but has taken hold in Europe and the U.K. as well. Recently, Core CPI has flattened out in the U.S. due to the lag impact of housing, which is likely to remain stubbornly elevated in the near term.

Yield Curve Change (%)



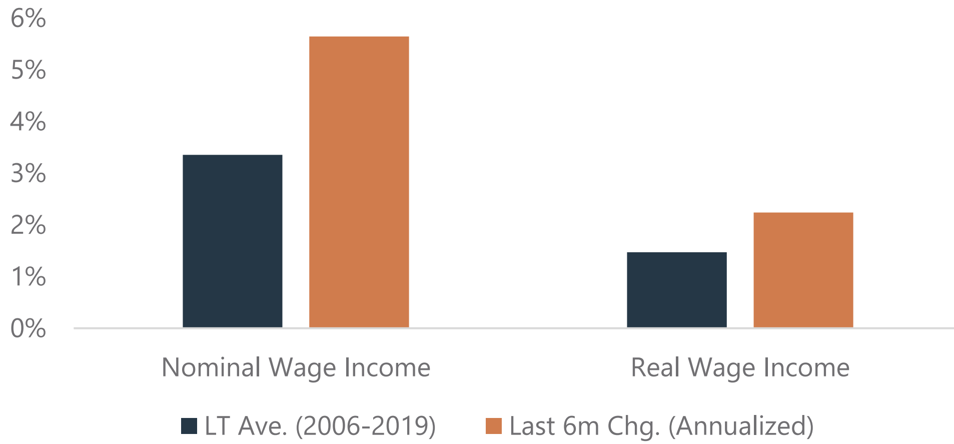
Source: Bloomberg as of 12/31/2023

Sentiment shift from "higher for longer" to expectations of significant Fed rate cuts in 2024 led to a more inverted curve at year end. Treasury rates ended the year in a somewhat vulnerable position as expectations for the Fed to deliver rate cuts continue to pile up.

Data as of
December 31, 2023

Market Insights

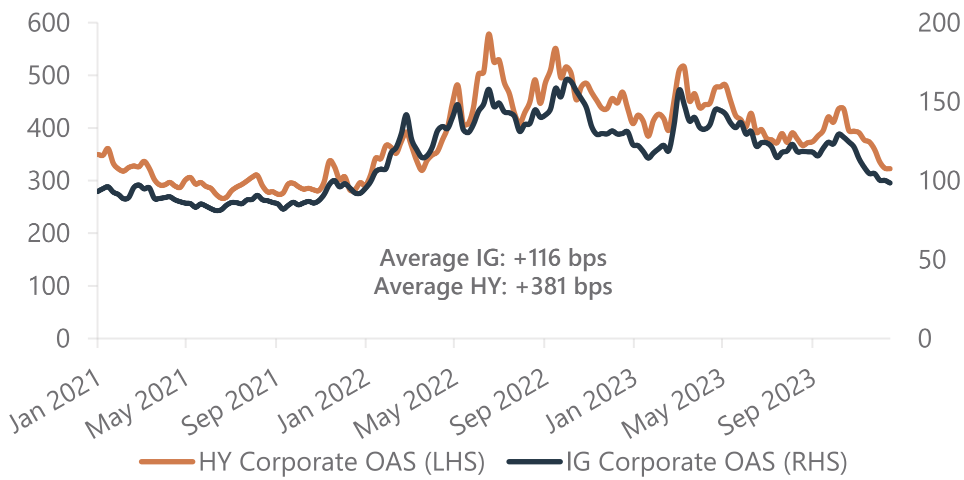
Wage Income Growth (% Change Annualized)



Source: Bloomberg as of 12/31/2023

Although nominal wages have grown well ahead of long-term averages recently, real wage growth has been more modest. Real wages have been growing above the long-term average, but not at a pace that puts any significant pressure on prices.

U.S. IG Corporate OAS vs. U.S. HY Corporate OAS (bps)



Source: Bloomberg as of 12/31/2023

Both investment grade and high yield corporate spreads steadily tightened following the regional banking crisis in the first quarter of 2023 but are now near longer-term averages. This implies reasonable valuations currently, although they are less attractive than they have been over much of the previous two years.

Data as of
December 31, 2023

Investment Themes

What happened

- The market's initial focus was on higher inflation and ramping Treasury supply, which led to a "higher for longer" view of rates, but sentiment hit a sharp inflection point late in October. Two primary causes for the shift were the Treasury moderating its message on longer term issuance and inflation data cooling.
- Rates rallied steadily in the last two months of the quarter as an increasingly dovish Federal Reserve (Fed) was taken into account. Intermediate and long Treasury rates declined approximately 100 basis points from highs around 5% in mid-October.
- Inflation cooled notably in Europe and the U.K. in the second half of the quarter, providing cover for central bankers to project an end to rate hikes. This also supported a more dovish stance in the Fed's tone domestically.

What we think

- Both risk-free and risk markets appear vulnerable, in the near term, due to lofty expectations. Risk-free rates have moved in anticipation of significant Fed cuts, and risk markets are looking through short-term challenging economic activity to the benefits of lower interest rates. Longer term, the scope for interest rates remains skewed to the downside.
- Economic growth (Gross Domestic Product, "GDP") and employment are at loggerheads as indicators point to slowing GDP, but employment does not seem willing to crack.
- Real yields are somewhat attractive, but there remains much debate about whether financial conditions have tightened enough to fully subdue inflation.
- Inflation has improved, but it is not yet at the Fed's target. An economic slowdown will likely be required to get there.

What we did

- In general, we maintained significant agency Mortgage-Backed Securities (MBS) positions as spreads remain at relatively wide levels.
- We moderated our credit positions as agency MBS was more attractive on a risk-adjusted basis.
- As real rates declined in the second half of the quarter, we tempered our duration position in many strategies.

Investment Objective and Guidelines

Objective

- To exceed the Bloomberg Universal Index, net of fees, over a complete market cycle.

Investment Guidelines

- Maximum average portfolio duration is 10 years with a targeted average portfolio duration in the range of 3 to 8 years.
- Maximum remaining term to maturity (per single issue) is 31 years at purchase.
- No single issue shall exceed 10% of the portfolio, excluding government and agency issues.
- No single issue shall account for more than 10% of the outstanding issue, excluding government and agency issuers.
- The portfolio must have an overall weighted average quality of at least BBB-.
- All securities must have a rating of B- or higher (S&P, Moody’s or Fitch), using the middle of three or lower of two ratings.
- Credit default swaps are limited to a notional value of 10% of the portfolio.
- Coal-Related Companies are restricted from purchase in the portfolio.

Source: OPFRS Investment Guidelines (Rev. 9/1/2016)

Relationship Summary

City of Oakland Police and Fire Retirement System

Relationship Inception	February 1, 1998
Investment Style	Core Plus Fixed Income
Performance Benchmark	Bloomberg Universal Index
Financial Data as of December 31, 2023	
Initial Investment	$97.5 million
Contributions	$146.0 million
(Withdrawals)	($338.2 million)
Portfolio Gains	$122.4 million
Portfolio Value	$27.7 million

Performance Review

For Periods Ending December 31, 2023

	Percent Gain or Loss						
	Quarter Ending	Last 12 Months	Two Years (annualized)	Three Years (annualized)	Five Years (annualized)	Ten Years (annualized)	Since Inception* (annualized)
City of Oakland Police and Fire Retirement System (a)	7.09	6.97	(3.14)	(2.51)	3.82	3.32	5.16
City of Oakland Police and Fire Retirement System (b)	7.03	6.75	(3.33)	(2.70)	3.63	3.12	4.95
Benchmark**	6.83	6.17	(3.89)	(2.97)	1.44	2.08	4.17

* Inception Date: 2/1/1998

**The benchmark consists of the Bloomberg Barclays U.S. Aggregate Index from 2/1/1998 - 6/30/2006 and the Bloomberg Universal Index as of 7/1/2006.

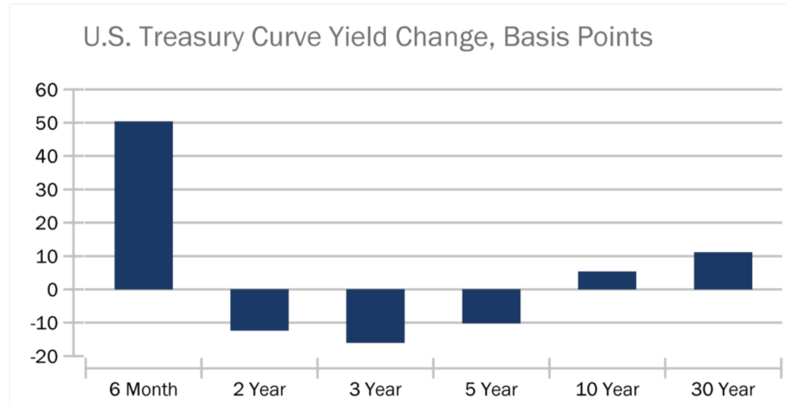
(a) Gross of Investment Management Fees

(b) Net of Investment Management Fees (recorded on cash basis)

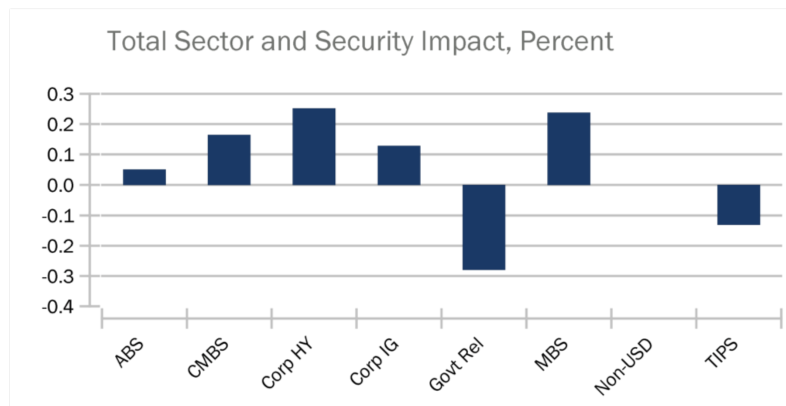
Excess Return Detail

City of Oakland Police and Fire Retirement System: 1/1/2023 - 12/31/2023

	Portfolio (%)
Total Return	6.97
Index Return	6.17
Excess Return	0.80
Duration	0.42
Curve	-0.04
Total Macro	0.37
Sector Selection	0.21
Security Selection	0.21
Total Selection	0.42



Sector	Sector Impact	Security Impact	Total Impact
ABS	0.05	-0.00	0.05
CMBS	0.05	0.12	0.16
Corp HY	0.36	-0.11	0.25
Corp IG	-0.10	0.23	0.13
Govt Rel	-0.28	0.00	-0.28
MBS	0.26	-0.02	0.24
Non-USD	0.00	0.00	0.00
TIPS	-0.13	0.00	-0.13
	0.21	0.21	0.42



Portfolio Characteristics

CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM 12/31/2023

Portfolio Characteristics

	Portfolio	Index	*Prior*
Market Value ($)	27,738,863	31,172 B	*25,903,097*
Duration (Yrs)	6.2	6.0	*6.9*
Spread Duration (Yrs)	3.9	3.8	*4.8*
Convexity	0.3	0.5	*0.5*
Yield to Worst (%)	5.1	4.8	*6.3*
Maturity (Yrs)	9.8	8.2	*10.7*
Quality	Aa3	Aa3	*Aa3*

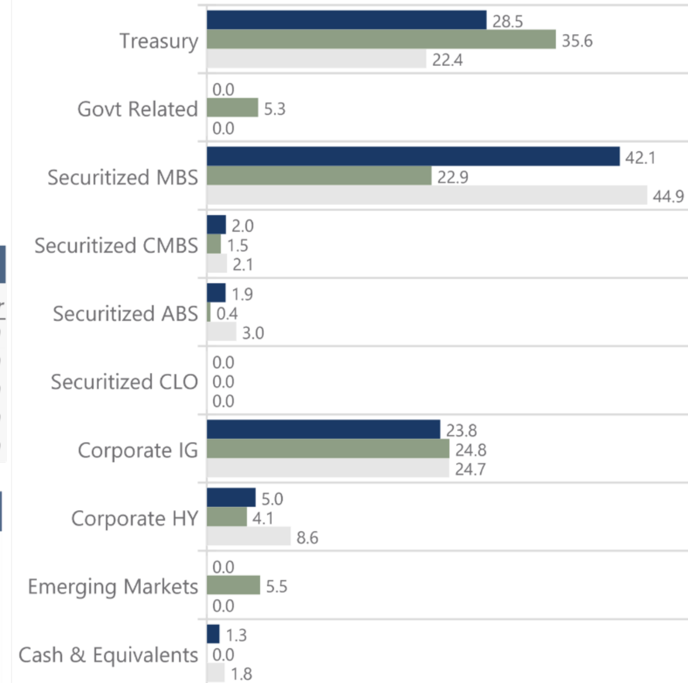
Corporate Industry Exposure (%)

	Portfolio	Index	*Prior*
Industrials	12.0	17.2	*16.3*
Financials	11.2	9.5	*11.2*
Utilities	5.6	2.2	*5.8*

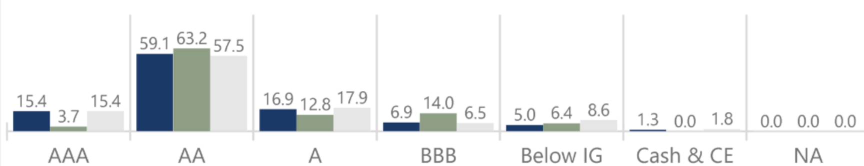
Currency Exposure (%)

	Portfolio	*Prior*
USD	100.0	*100.0*
G10	0.0	*0.0*
EM-Asia	0.0	*0.0*
EM-LATAM	0.0	*0.0*
EM-EMEA	0.0	*0.0*

Sector Exposure (%)



Quality Exposure (%)



Interest Rate Duration Exposure (Years)

Spread Duration Exposure (Years)

	Portfolio	Index	*Prior*
Govt Related	0.0	0.3	*0.0*
Securitized MBS	2.1	1.3	*2.6*
Securitized CMBS	0.0	0.1	*0.0*
Securitized ABS	0.1	0.0	*0.1*
Securitized CLO	0.0	0.0	*0.0*
Corporate IG	1.4	1.7	*1.5*
Corporate HY	0.2	0.1	*0.4*
Emerging Markets	0.0	0.3	*0.0*
Cash & Equivalents	0.1	0.0	*0.1*

Diversity at Reams

Diversity Representation Survey for Oakland Police and Fire

DATA AS OF 12/31/2023

Firm Name	**Reams Asset Management, a Division of Scout Investments, Inc.**
Product Name	**Core Plus Fixed Income**
Total No. of Employees	**38**

	Percentage (%) of Board of Directors / Managing Members	**Percentage(%) of Firm (Entire Staff)**	**Percentage (%) of Firm (Investment Professionals)**
Race and Ethnicity*			
African American/Black	0.0%	0.0%	0.0%
Asian/Hawaiian/Pacific Islander	0.0%	11.0%	13.0%
Latino/Hispanic	0.0%	3.0%	7.0%
White	100.0%	83.0%	73.0%
American Indian/Alaska Native	0.0%	0.0%	0.0%
Other/Not Disclosed	0.0%	3.0%	7.0%
Gender			
Male	67.0%	58.0%	87.0%
Female	33.0%	42.0%	13.0%
Non-Identified/Other	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%
	100.0%	100.0%	100.0%

* Racial/ethnic categories appear as defined by EEOC guidance.

Diversity at Reams

- As an affiliate of Raymond James Investment Management, a division of Raymond James, Reams Asset Management is committed to fostering a diverse and inclusive workplace, welcoming to all cultures and backgrounds. This is consistent with our values-based culture upon which the firm was founded.

- For more information on the extensive inclusion efforts of our parent firm, Raymond James Financial (RJF), including outreach, career development and recruitment, and community efforts, please visit:

  - https://www.raymondjames.com/-/media/rj/dotcom/files/pdfs/2023_corp_responsibility_report.pdf

- Reams Asset Management currently has 38 employees, of which 16 (42%) are female, including key leadership positions:

  - Head of Operations
  - Head of Client Service

- Reams has several employees in various ethnic groups, and has taken concrete steps to address historical lack of diversity on its long-tenured investment team.

Diversity at Reams – Executing the Hiring Action Plan

- Currently utilizing the hiring resources of the larger Raymond James organization
  - Directly resulted in progress of diverse hiring
  - Improved collaboration with Reams will influence future hiring

- Office relocation – Indianapolis, IN
  - Completed – February 2022
  - New location has been major influence in recent hiring

- Early results of the plan bearing fruit in more diverse team
  - Significant increase in diversity among investment team members since announcement and execution of office relocation
  - Depth of experience on team being maintained while incrementally improving diversity

Diversity at Reams – Office Relocation Impact

- Reams relocated its primary office from Columbus, IN to Indianapolis two year ago:
  - Office is located in downtown Indianapolis, the hub of business in the state
  - New location provides easier access for clients, consultants, management teams, and other guests/visitors
  - New office has raised the Reams profile and stature within the city and the investment community
- Most critically, the new office location has aided recruitment and retention of professionals for a first-class investment firm:
  - Reams established a 5-year staffing plan concurrent with the office relocation that intended to build out investment and support teams at all levels of the organization.
  - The Indianapolis location has increased the applicant pool and has contributed to recent success in hiring diverse staff

Oakland-Based Brokerage Summary

- There was no activity during 2023.
- There was no activity during 2022.
- Approximately 90% of Reams trades are conducted in a competitive format on electronic trading platforms. We encourage regional and/or minority-owned brokerage firms to participate on these platforms.
- All trading is done on best execution, without exception. Reams benefits from strong counterparty relationships with brokerage firms that enable Reams to participate in new syndicate debt offerings and trade the portfolio efficiently and in a cost-effective manner.

Definitions

Upside / Downside Market Capture: the proportion of the annualized, compounded total rate of return "captured" by the product versus given benchmark, with benchmark returns grouped by positive (upside) and negative (downside) observations

Portfolio Duration: the weighted average duration of all securities held in a portfolio, whereby duration represents the average life of a bond's cash flows

Portfolio Convexity: the weighted average convexity of all securities held in a portfolio, whereby convexity represents the expected change in a bond's duration for a given change in interest rates

Avg Yield to Worst: the weighted average yield to worst of all securities held in a portfolio, whereby yield to worst represents the expected internal rate of return of a bond that equilibrates the current price to all future anticipated cash flows, assuming the most disadvantageous retirement date

Avg Maturity: the weighted average maturity of all securities held in a portfolio, whereby maturity represents the final principle cash flow retirement date

Avg Quality: the weighted credit quality of all securities held in a portfolio, whereby credit quality represents a security's aggregated rating assigned by the Nationally Recognized Statistical Rating Organizations ("NRSROs")

Contribution to Duration: measurement of how much a risk factor contributes to the portfolio's total duration, calculated as factor weight times factor duration

Spread Duration: the amount of total duration that is derived from spread sector exposure; alternatively read as the portfolio's exposure to general spread movements

Excess Return: total return of a risky security relative to like-duration U.S. Treasury returns

Basis Points: industry nomenclature for referencing performance, expressed as hundredths of 1%

Yield Curve: the term structure of interest rates depicted in a linear curve format, from shortest tenor to longest

Government Related: the sector designation that includes Agency, Supranational, Sovereign and Foreign Agencies

MBS: the sector designation that includes both residential and commercial mortgage pass-through securities

ABS: the sector designation that includes secured debt of non-first mortgage home loans, including credit card, auto, home equity and auto dealer inventory

IG Credit: the sector designation that includes investment grade corporate debt

HY Credit: the sector designation that includes corporate debt rated below investment grade, as measured by the ratings from NRSROs

Non USD: the class designation that includes non-dollar debt and currency forwards

Spread Sector: nongovernmental fixed income investments with higher yields at greater risk than governmental instruments

TIPS: the class designation for Treasury Inflation Protected Securities

Source: Bloomberg, Investopedia

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MEKETA

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MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group (Meketa)
DATE: March 27, 2024
RE: Reams Asset Management—Manager Update

Manager: Reams Asset Management ("Reams")			
Inception Date:	February 1998	**OPFRS AUM (02/29/2024):**	$27.4 million
Strategy:	Core Plus Fixed Income	**Strategy AUM (12/31/2023):**	$7.9 billion
Benchmark:	Bloomberg Universal (Blend)[1]	**Firm-wide AUM (12/31/2023):**	$26.6 billion

Summary & Recommendation

Reams Asset Management ("Reams") has managed a part of OPFRS's fixed income portfolio since February 1998. As of 02/29/2024, the portfolio is approximately $27.4 million or about 6% of OPFRS's total plan. The strategy has performed within expectations and guidelines for the portfolio, and no major organizational changes or personnel turnover in the portfolio management team have been observed since the last review. ***Therefore, Meketa does not have any major concerns with Reams and the Core Plus Fixed Income strategy.***

Investment Performance Review Summary

As of 02/29/2024, Reams Core Plus Fixed Income strategy has matched or outperformed its benchmark on both gross- and net-of-fees basis over all time periods measured except for the 1-year trailing period. In comparison with other US Core Plus Fixed Income managers, it ranks above average over the longer 3- and 5-year periods and since inception though it ranks below average for the 1-year and shorter periods.

OPFRS Portfolio Annualized Returns (as of 02/29/2024)[2]

Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Since Inception (%)
Reams (Gross)	-1.4	4.1	-2.1	3.4	5.1
Bbg Universal (Blend)[1]	*-1.4*	*4.1*	*-2.8*	*0.8*	*4.1*
Excess Return	0.0	0.0	0.7	2.6	1.0
Reams (Net)	-1.4	3.9	-2.3	3.2	4.8
Bbg Universal (Blend)[1]	*-1.4*	*4.1*	*-2.8*	*0.8*	*4.1*
Excess Return	0.0	-0.2	0.5	2.4	0.7
Peer Group Rank (Net)[3]	67	58	19	2	32

[1] Benchmark consists of Bloomberg US Aggregate Bond Index from inception to 06/30/2006, and Bloomberg Universal Index thereafter.
[2] Performance is annualized for periods longer than one year.
[3] Peer group is eVestment US Core Plus Fixed Income (Net) as of 02/29/2024.

Product and Organization Review Summary

Reams Asset Management	Areas of Potential Impact				
	Level of Concern	Investment Process	Investment Team	Performance Track Record	Team/Firm Culture
Product					
Key people changes	None				
Changes to team structure or individuals' roles	None				
Product client gain/losses	None				
Changes to investment process	None				
Personnel turnover	None				
Organization					
Ownership changes	None				
Key people changes	None				
Firm wide client gain/losses	None				
Recommended Action	**None - X**	**Watch Status**		**Termination**	

A review of Reams Asset Management and the Core Plus Fixed Income strategy revealed no concerning organizational issues or changes since last review in January 2023.

Investment Philosophy & Process[4]

Reams Core Plus seeks to maximize total return, minimize risk, and preserve capital utilizing all sectors of the fixed income market. Core Plus portfolios are well diversified, and consist of high quality investment grade, high yield, and non-dollar securities, with an average portfolio duration generally between three to six years.

Reams' investment philosophy is based on the premise that volatility is a key driver of performance in the fixed income market. Volatility is usually higher than commonly perceived and is often mispriced in the marketplace. This core belief leads the firm to focus on long-term value and "total return;" employ macro and bottom-up strategies to uncover unique opportunities; and react opportunistically to valuation discrepancies and volatility in the bond market.

Reams manages portfolios using three basis steps, which are best described as a combination of top-down and bottom-up.

DS/PN/JLC/mn

[4] Source: eVestment, as of 12/31/2023. Abridged.

Disclosure

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Economic and Market Update

February 2024 Report

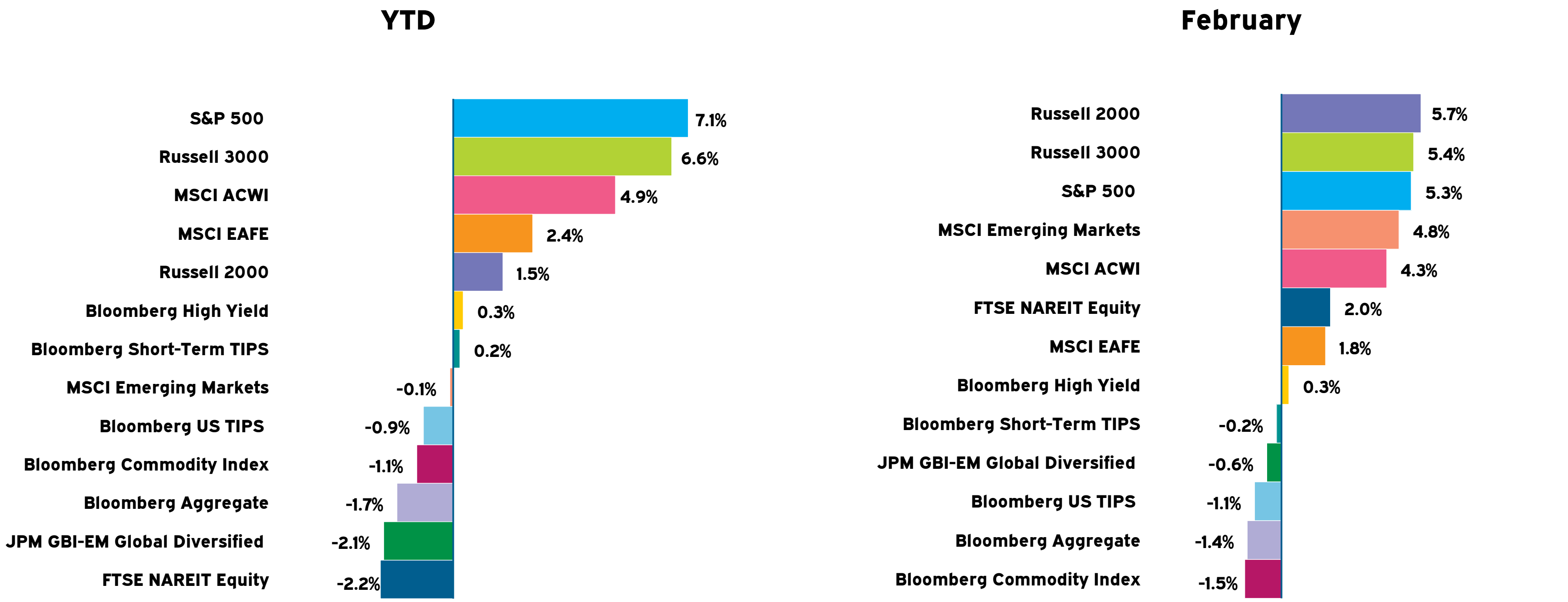
Commentary

→ Markets were mixed in February. Resilient economic data drove global equities higher and pushed out the timing of expected first rate cut, weighing on bonds.

- Major central banks have largely paused interest rate hikes with expectations that many will cut rates this year. The timing and pace of interest rate cuts has been downgraded for many economies given the continued strength of economic data and stubborn inflation.
- In general, inflation pressures have eased in most countries, but some uncertainty remains and levels are still above central bank targets. Headline inflation in the US unexpectedly rose in February (3.1% to 3.2%), while core inflation fell (3.9% to 3.8%) but came in above expectations. Notably, China moved out of deflationary territory in February (0.7%) after four months of declining prices.
- US equity markets (Russell 3000 index) rose 5.4% in February after a very strong 2023 (+26.0%). The technology and consumer discretionary sectors continued to perform well.
- Non-US developed equity markets gained 1.8% in February, helped by Japanese equities which hit multi-decade highs during the month. A strengthening US dollar contributed to the weaker relative results for US investors in foreign markets.
- Policy efforts to support mainland stock prices saw Chinese equities return 8.4%, driving emerging market equities higher (4.8%). The stronger dollar also weighed on emerging market equities with returns in local currency terms 0.3% higher.
- Rising interest rates weighed on bonds with the broad US bond market declining 1.4% for the month.

→ Looking to the rest of this year, the paths of inflation and monetary policy, China's economic disorder and slowing economic growth, the many looming elections, and the wars in Ukraine and Israel, will be key.

Index Returns[1]



→ In February global equity markets produced strong results with the US leading the way.

→ Resilient economic data weighed on bond markets domestically and dashed any hopes of a near-term cut in interest rates.

[1] Source: Bloomberg. Data is as of February 29, 2024.

Domestic Equity Returns[1]

Domestic Equity	February (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	5.3	7.1	30.5	11.9	14.8	12.7
Russell 3000	5.4	6.6	28.6	9.9	13.9	12.0
Russell 1000	5.4	6.9	29.8	10.6	14.4	12.4
Russell 1000 Growth	6.8	9.5	45.9	12.5	18.8	15.6
Russell 1000 Value	3.7	3.8	14.0	8.4	9.4	8.7
Russell MidCap	5.6	4.1	15.5	5.5	10.3	9.4
Russell MidCap Growth	7.5	6.9	25.0	3.1	11.6	10.9
Russell MidCap Value	4.8	2.9	10.9	6.8	8.9	8.2
Russell 2000	5.7	1.5	10.0	-0.9	6.9	7.1
Russell 2000 Growth	8.1	4.7	14.2	-4.6	6.5	7.3
Russell 2000 Value	3.3	-1.4	5.6	2.5	6.6	6.5

US Equities: The Russell 3000 increased 5.4% in February bringing the year-to-date gain to 6.6%.

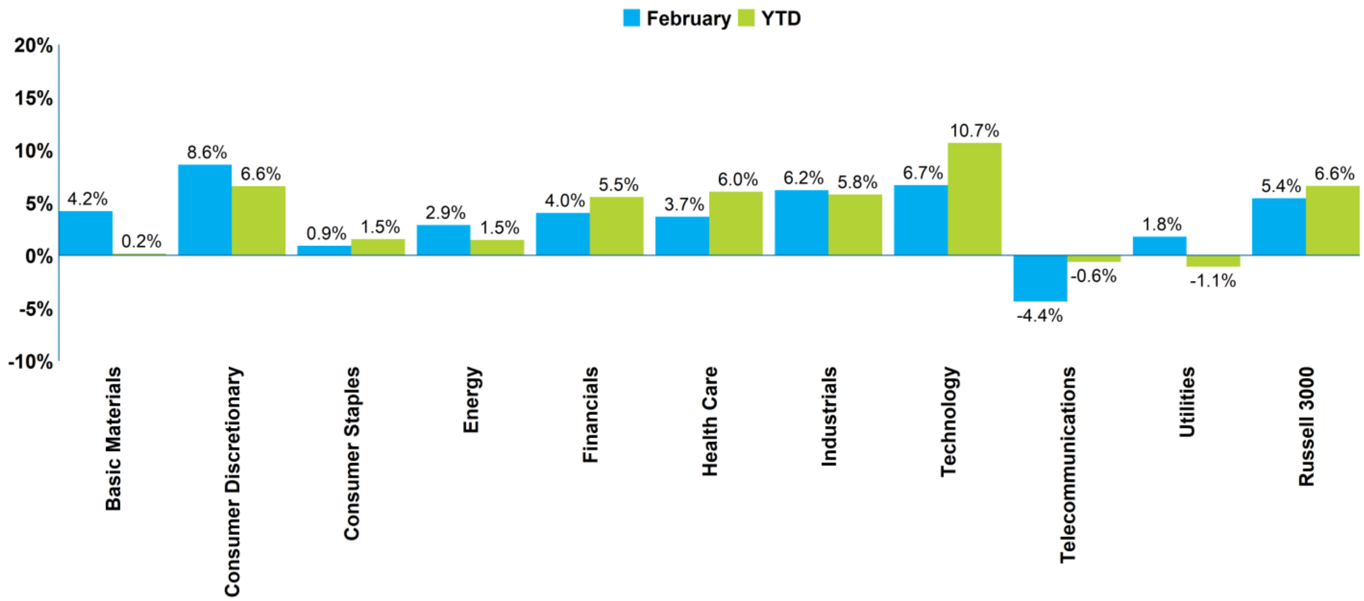
→ US equities rose further during February, fueled by continued optimism over artificial intelligence related stocks and strong economic data. The highest quintile price-to-earnings stocks outperformed all other groups and accounted for half of the return of the Russell 3000 index.

→ Small cap stocks slightly outperformed mid cap and large cap stocks.

→ Growth outperformed value across the market cap spectrum, particularly in small cap.

[1] Source: Bloomberg. Data is as of February 29, 2024.

Russell 3000 Sector Returns[1]



→ So far in 2024, the sectors that drove results last year continue to lead the way. Technology led by the so-called "Magnificent Seven" gained 10.7% through February, with the continued strength of the US consumer putting consumer discretionary second at 6.6%.

→ In February, all sectors except for telecommunications posted positive returns with consumer discretionary (+8.6%), technology (+6.7%), and industrials (+6.2%) leading the way. Traditionally defensive sectors like utilities (+1.8%) and consumer staples (+0.9%) trailed for the month.

[1] Source: Bloomberg. Data is as of February 29, 2024.

Foreign Equity Returns[1]

Foreign Equity	February (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	2.5	1.5	12.5	1.3	5.4	4.0
MSCI EAFE	1.8	2.4	14.4	4.4	6.8	4.4
MSCI EAFE (Local Currency)	3.0	5.7	14.8	9.8	8.8	7.2
MSCI EAFE Small Cap	0.4	-1.3	6.3	-1.8	4.2	4.3
MSCI Emerging Markets	4.8	-0.1	8.7	-6.3	1.9	3.0
MSCI Emerging Markets (Local Currency)	5.1	1.4	9.7	-3.6	4.0	5.6
MSCI China	8.4	-3.1	-14.1	-20.9	-6.1	1.0

Foreign Equity: Developed international equities (MSCI EAFE) gained 1.8% in February and had a year-to-date return of 2.4%. Emerging market equities (MSCI EM) rose 4.8% in February and are down slightly year-to-date (-0.1%).

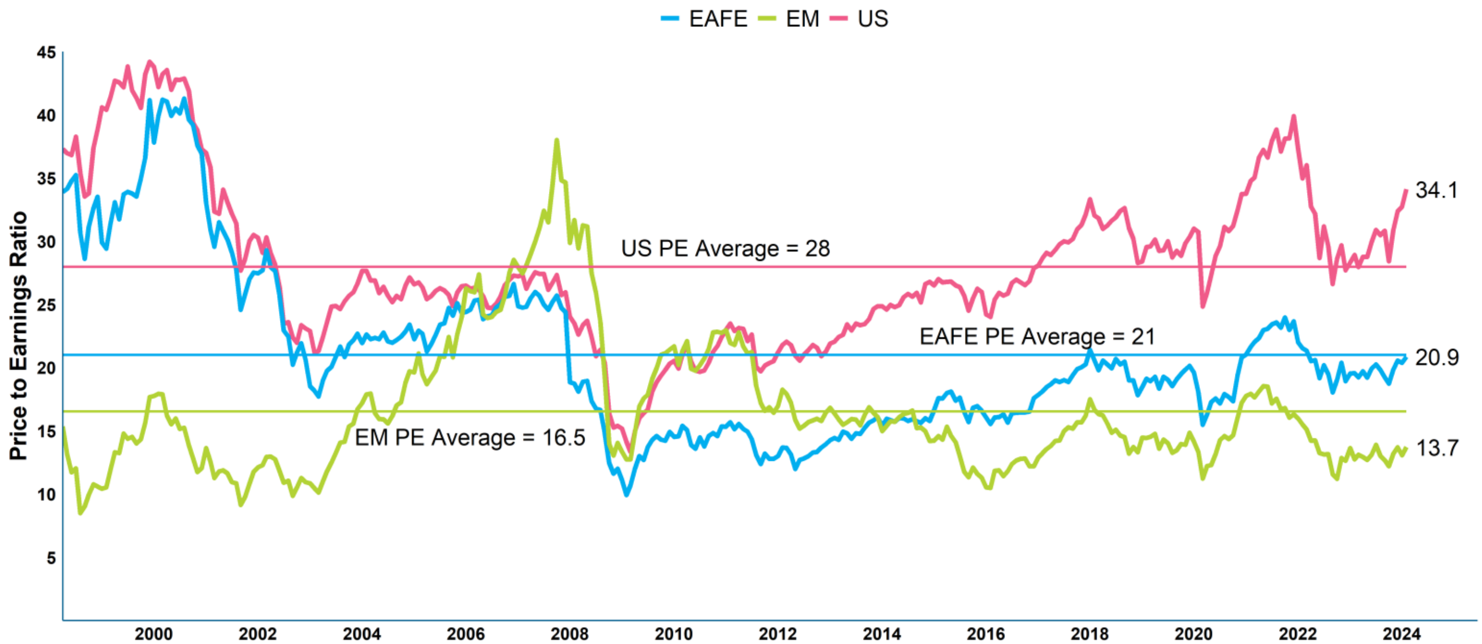
→ February saw solid positive performance in foreign developed markets, while emerging markets experienced stronger relative results driven by large gains in China.

→ Eurozone equities underperformed in February relative to other developed markets, and the UK saw slightly negative returns. Hawkish statements from the ECB and BoE earlier in the month weighed on returns. Japan continued to perform strongly, with the Nikkei 225 surpassing its 1989 peak. A strong US dollar also hurt overall results for US investors with local currency returns 1.2% higher for the month.

→ Emerging market equities benefitted from a strong rebound in China (the highest-performing country for the month at 8.4%). The Chinese recovery was driven by government buying programs, a cut on the five-year loan prime rate, new regulations on short-selling, and the Lunar New Year holiday's boost to consumer spending.

[1] Source: Bloomberg. Data is as of February 29, 2024.

Equity Cyclically Adjusted P/E Ratios[1]



→ In February, the US equity price-to-earnings ratio increased further above its 21st century average due to strong price appreciation.

→ International market valuations rose slightly in February and remain well below the US. In the case of developed markets, valuations are now close to the long-term average, while emerging market valuations remain well below its long-term average.

[1] US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of February 2024. The average line is the long-term average of the US, EM, and EAFE PE values from April 1998 to the recent month-end respectively.

Fixed Income Returns[1]

Fixed Income	February (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-1.2	-1.4	4.1	-2.8	0.8	1.7	5.2	6.0
Bloomberg Aggregate	-1.4	-1.7	3.3	-3.2	0.6	1.4	4.9	6.2
Bloomberg US TIPS	-1.1	-0.9	2.5	-0.9	2.7	2.1	4.6	6.9
Bloomberg Short-term TIPS	-0.2	0.2	4.5	2.2	3.2	1.9	4.8	2.5
Bloomberg High Yield	0.3	0.3	11.0	1.8	4.2	4.3	7.9	3.7
JPM GBI-EM Global Diversified (USD)	-0.6	-2.1	9.3	-2.6	-0.1	0.0	6.3	5.0

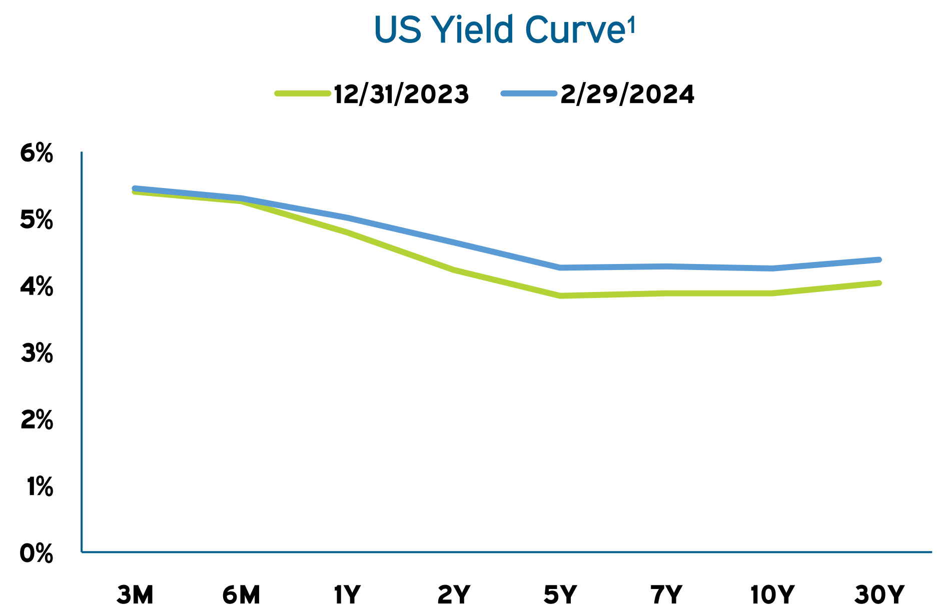
Fixed Income: The Bloomberg Universal index fell -1.2% in February bringing the year-to-date decline to -1.4%.

→ Strong economic data for the last two months and comments by policy makers hinting that rate cuts were not imminent, drove rates up over the month and weighed on bond prices.

→ The broad US bond market (Bloomberg Aggregate), as well as TIPS, fell due to the repricing of stronger growth expectations.

→ High yield bonds, however, provided slightly positive returns as risk appetite remains robust for high yield credit.

[1] Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of February 29, 2024. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.



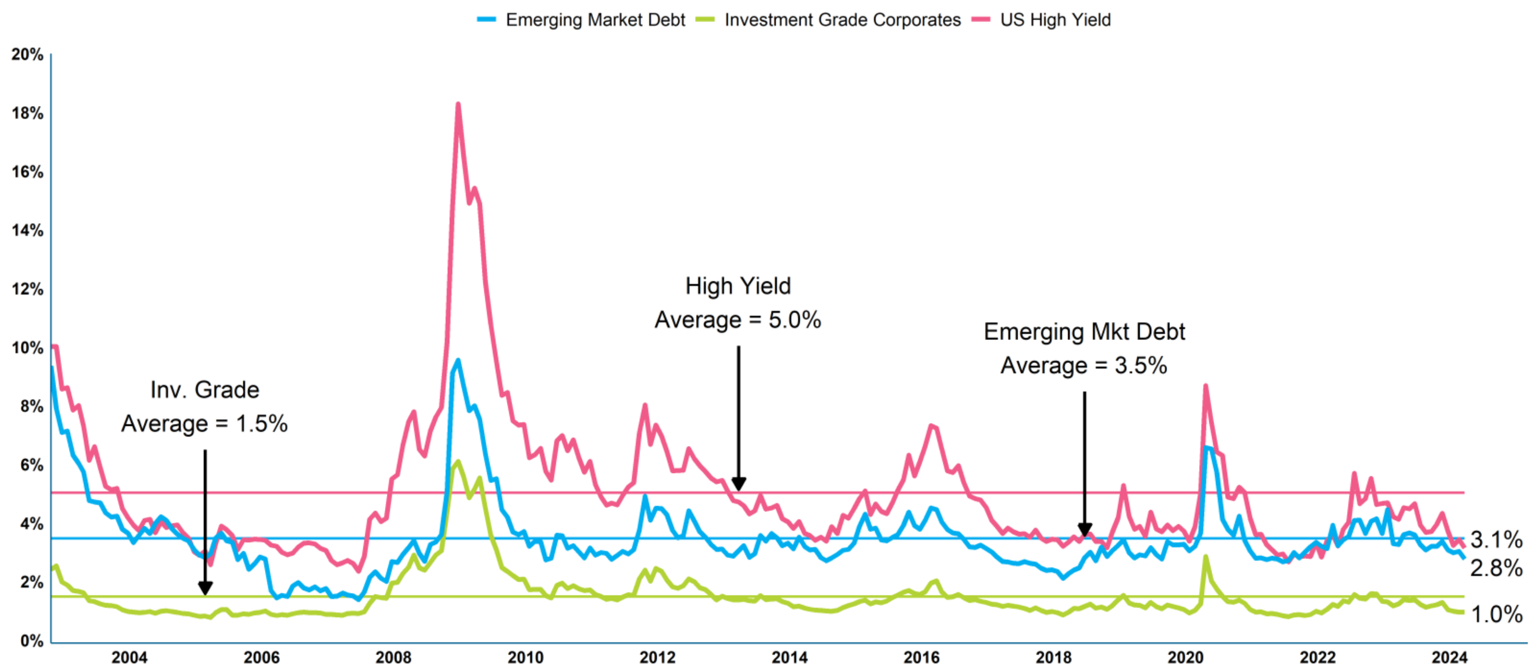
→ Both short-term and long-term maturity yields ended the month higher, largely from strong economic data and shifts in monetary policy expectations.

→ For the month, the more policy sensitive two-year Treasury yield increased from 4.2% to 4.6% while 10-year Treasury yields rose from 3.9% to 4.3%.

→ The yield curve remained inverted at month-end despite a recent flattening trend. The yield spread between the two-year and ten-year Treasury was -0.37% at the end of February.

[1] Source: Bloomberg. Data is as of February 29, 2024.

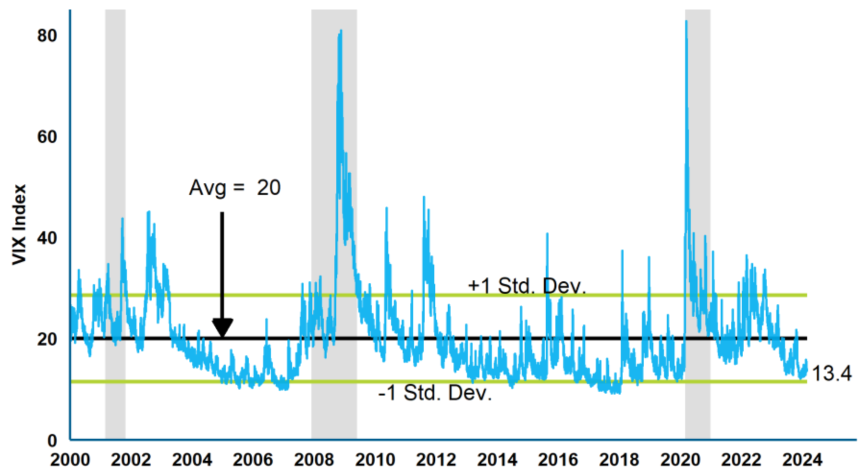
Credit Spreads vs. US Treasury Bonds[1]

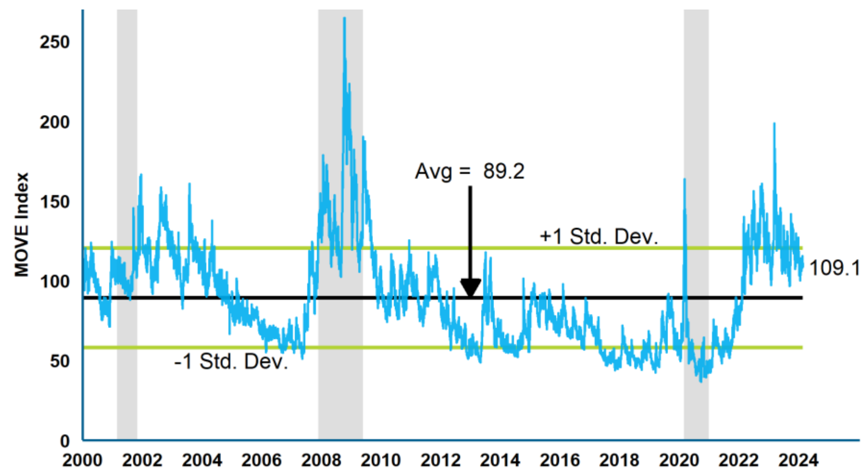


- A positive economic outlook along with expectations of lower interest rates has led to an increased risk appetite. This has benefited credit, with spreads (the added yield above a comparable maturity Treasury) narrowing.
- Credit spreads narrowed in February for high yield (3.4% to 3.1%) and emerging market bonds (3.0% to 2.8%) while spreads for investment grade corporate bonds remained the same.
- All spreads remain below their respective long-run averages, particularly within high yield.

[1] Source: Bloomberg. Data is as of February 29, 2024. Average lines denote the average of the investment grade, high yield, and emerging market spread values from September 2002 to the recent month-end, respectively.

Equity and Fixed Income Volatility[1]



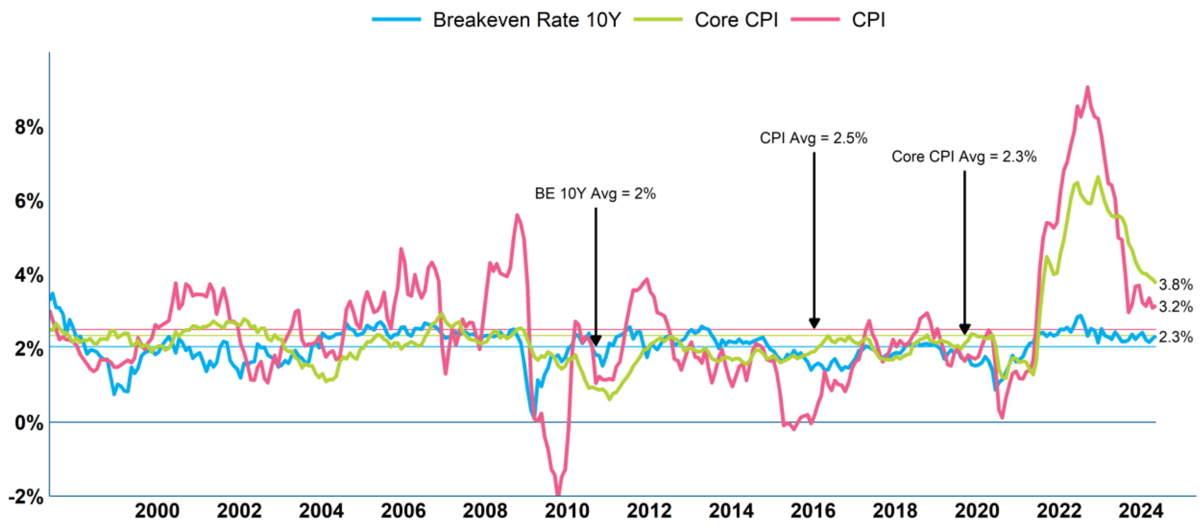


→ Volatility in equities (VIX) remains close to one standard deviation below the long-term average as the focus shifted late last year to peaking policy rates and the potential for a soft landing.

→ Although volatility in the bond market (MOVE) remains above its long-run average (89.2) it has declined recently given falling inflation, growth expectations, and a likely cut in interest rates.

[1] Equity Volatility – Source: FRED. Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of February 2024. The average line indicated is the average of the VIX and MOVE values between January 2000 and February 2024.

US Ten-Year Breakeven Inflation and CPI[1]



→ Year-over-year headline inflation rose in February (3.1% to 3.2%), coming in slightly above expectations. Inflation in services sectors, particularly shelter, remains a key reason consumer inflation is still above the Fed's 2% average target.

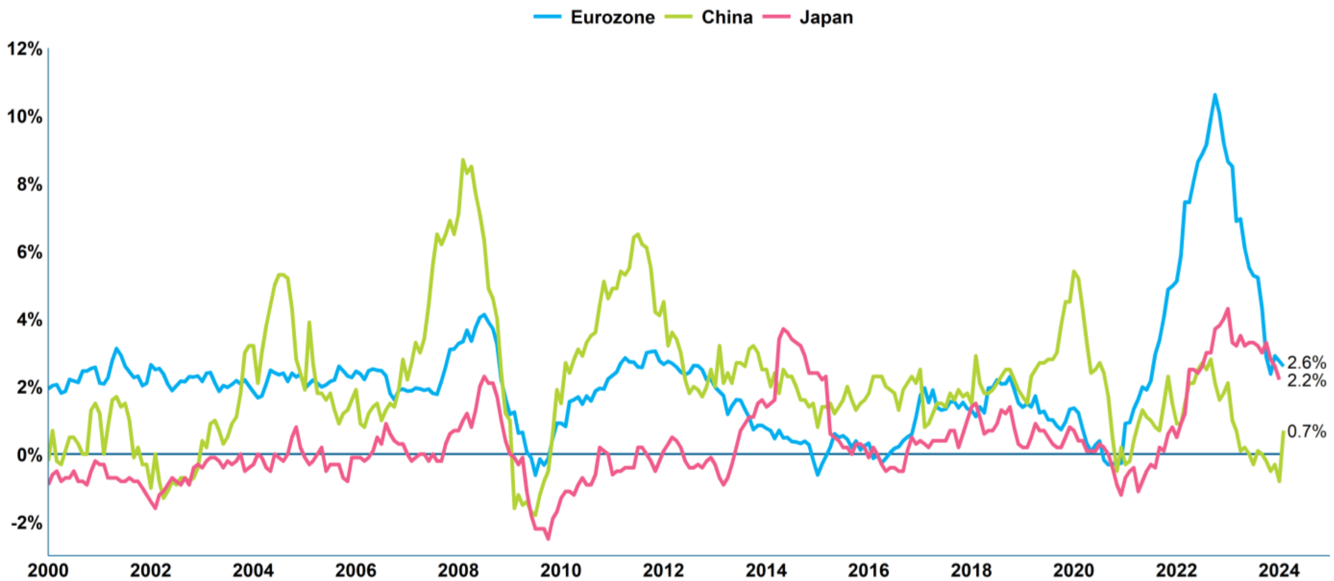
→ Month-over-month inflation rose to 0.4% from the 0.3% January reading again driven by shelter costs. Food prices were flat from a month prior, while increases in gas prices drove energy higher.

→ Core inflation-excluding food and energy-fell slightly from 3.9% to 3.8 but also came in above expectations.

→ Inflation expectations (breakevens) have remained stable despite the recent significant volatility in inflation.

[1] Source: FRED. Data is as February 2024. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

Global Inflation (CPI Trailing Twelve Months)[1]



→ Outside the US, inflation is also falling across major economies from the recent peaks.

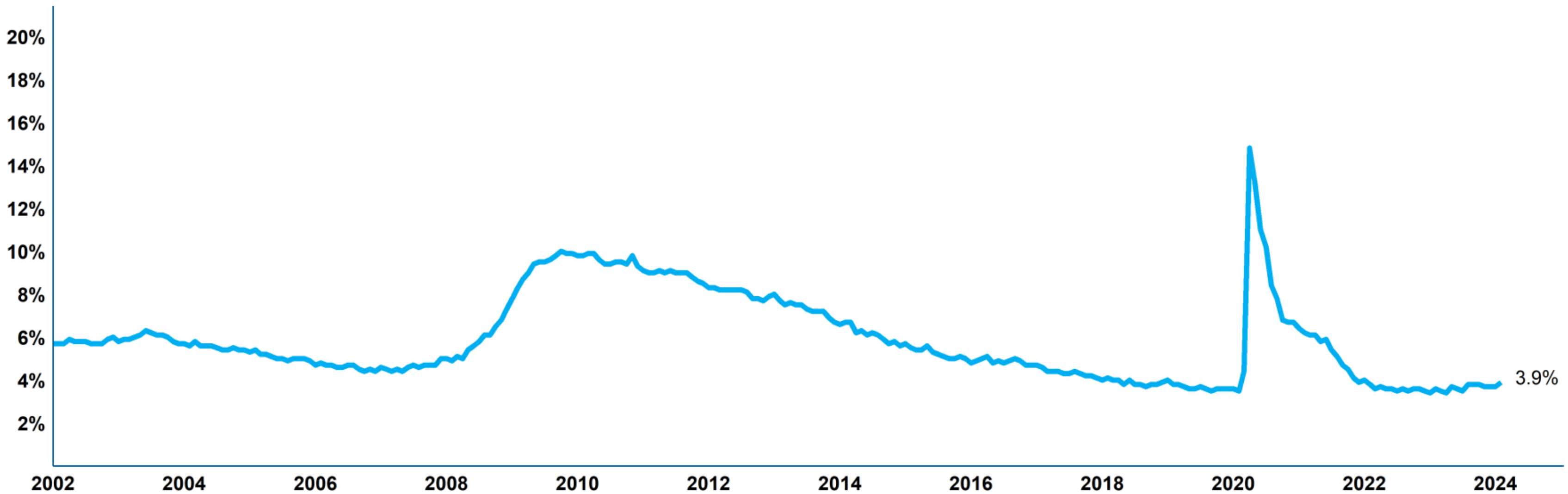
→ In the eurozone, prices experienced a dramatic decline last year but remains above the central bank's 2% target. In February, inflation fell further (2.8% to 2.6%), a level below the 3.2% year-over-year reading in the US.

→ Inflation in Japan has slowly declined from the early 2023 peak of 4.3%, but it remains near levels not seen in a decade, driven by food prices.

→ China emerged from deflationary pressures in February with the first positive reading (0.7%) since last September, driven largely by spending during the Lunar New Year holiday.

[1] Source: FRED for United States CPI and Eurozone CPI. Source: Bloomberg for Japan CPI, China CPI, and Eurozone CPI. Data is as February 29, 2024, except Japan which is as of January 31, 2024.

US Unemployment[1]



→ Overall, the US labor market remains healthy, with the unemployment rate low, wage growth now positive in real terms, and initial claims for unemployment staying subdued.

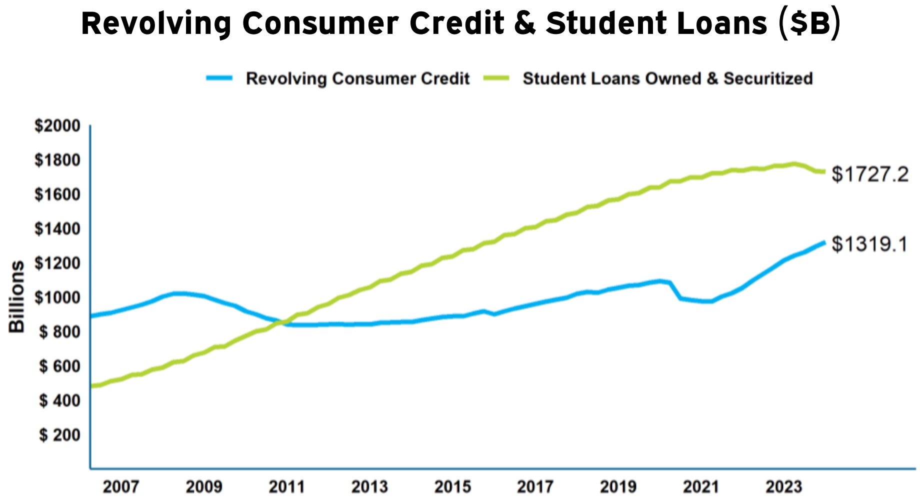
→ In February, the number of jobs added in the US was stronger than expected (275,000 versus 200,000) but with significant revisions to December and January data. The healthcare, government, and food service sectors added the most jobs for the month.

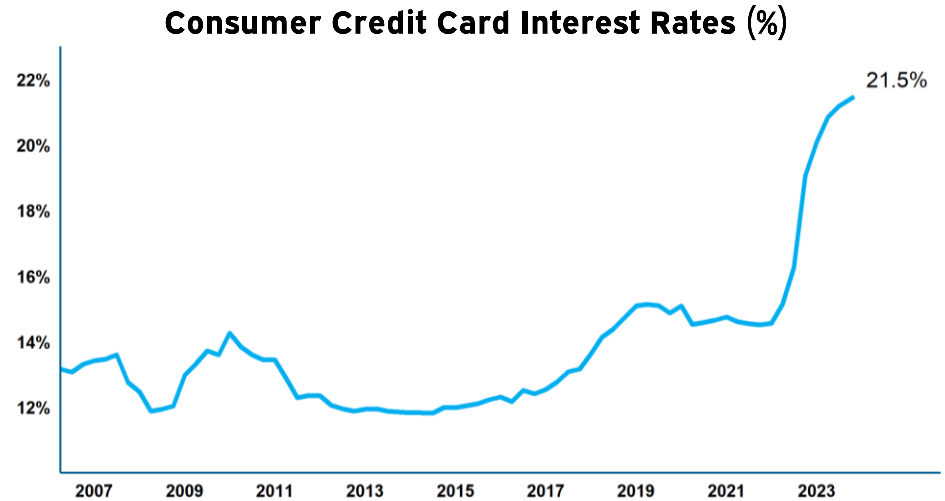
→ The unemployment rate rose from 3.7% to 3.9%, while wage growth came in at 4.3% compared to a year prior, a level well off the 6.0% peak but above inflation levels.

→ Quit rates have declined, and layoffs are stable, with 1.4 available workers per job opening.

[1] Source: FRED. Data is as February 29, 2024.

US Consumer Under Stress?[1]





→ Despite the strong labor market and higher wages, pressures have started to build on the US consumer. This is an important consideration as consumer spending has been a key driver of economic growth.

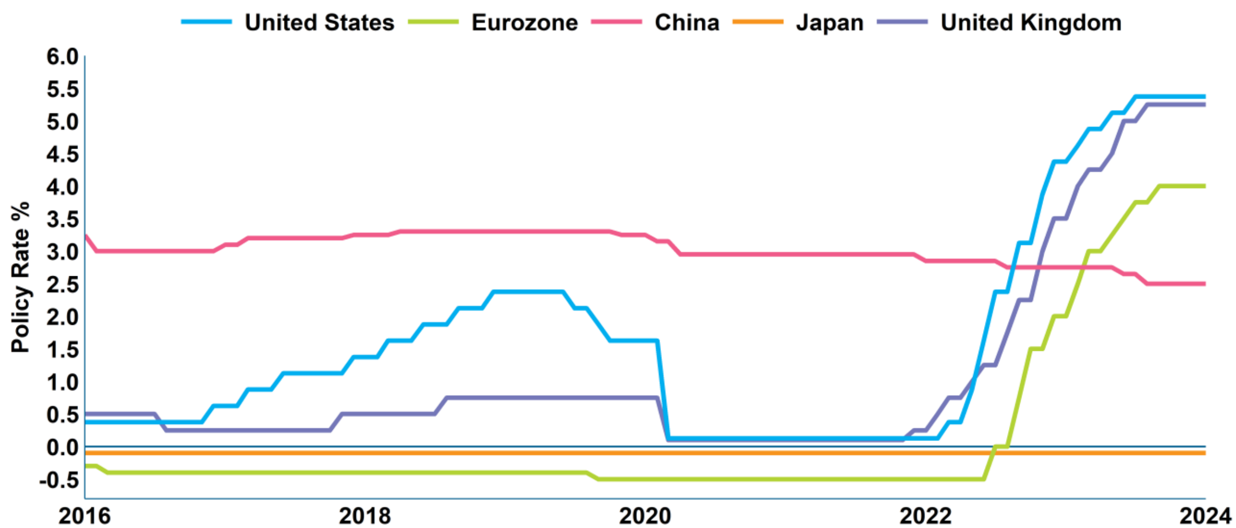
→ Revolving consumer credit surged to new highs in 2023 even as credit card interest rates hit levels not seen before (the prior peak was around 19% in the 1980s). Recently, we have also seen payment delinquencies on credit cards start to increase.

→ The return of student loan repayments after a three-year pandemic-related reprieve could add to pressures on consumers' budgets. This might be partially mitigated by recently initiated repayment and forgiveness programs.

→ As we look ahead, the strength of the US consumer will remain key as this sector makes up most of the domestic economy (GDP).

[1] Source: FRED. Data is as of December 31, 2023. Consumer Credit Card Rate data is as of November 30, 2023. Revolving Consumer Credit data is seasonally adjusted to remove distortions during the holiday season.

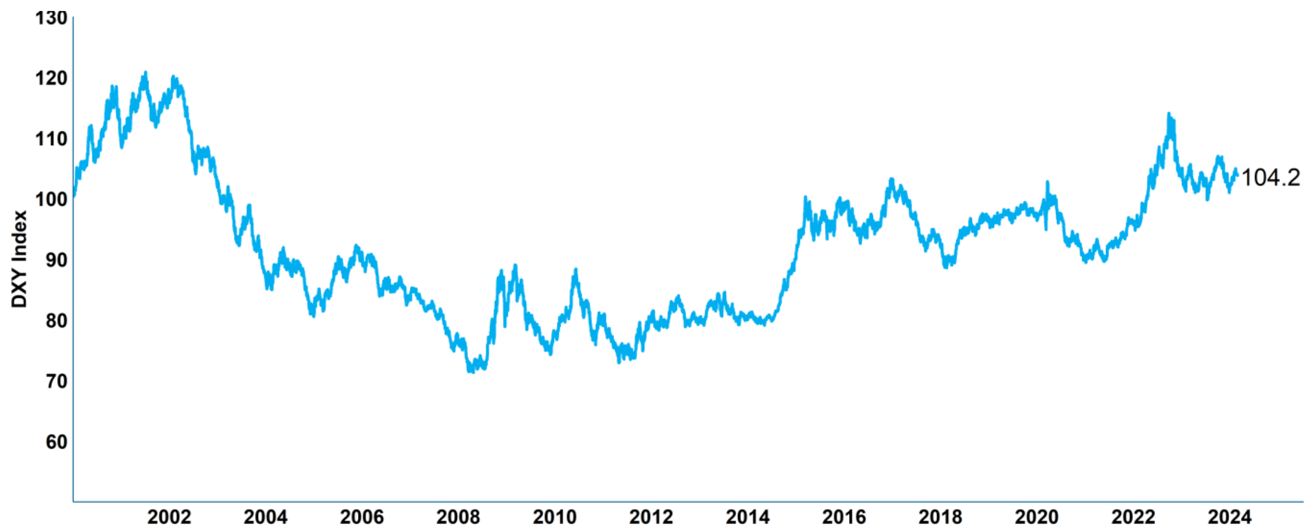
Policy Rates[1]



- The Fed has been on hold since July 2023 when it raised rates to a range of 5.25%-5.50%. Markets are now pricing in slightly less than three rate cuts this year down from close to seven late last year as economic data has come in better than expectations. Market pricing for the first rate cut has also moved out from originally March to the summer or early fall.
- The European and UK central banks also recently paused their rate increases on slowing inflation with cuts likely to follow this year. In Japan, the BoJ has further relaxed its yield curve control on the 10-year bond, and expectations for further policy normalization are rising.
- The central bank in China has maintained interest rates at record low levels and continues to inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.

[1] Source: Bloomberg. Data is as of February 29, 2024.

US Dollar vs. Broad Currencies[1]



- → Overall, the dollar finished last year only slightly below where it started but it was a volatile year for the US currency as expectations related to monetary policy evolved.
- → Strong economic data in the US may delay policy rate cuts this year, which could contribute to upward pressure on the dollar as other countries pivot to rate cuts.

[1] Source: Bloomberg. Data as of February 29, 2024.

Summary

Key Trends:

→ The impact of inflation still above policy targets will remain important, with bond market volatility likely to stay high.

→ Global monetary policies could diverge going forward. The risk of policy errors remains elevated as central banks try to further reduce inflation toward targets while not tipping their economies into recession.

→ Global growth is expected to slow this year, with some economies forecasted to enter recessions. However, optimism has been building that certain economies could experience soft landings. Inflation, monetary policy, and geopolitical issues will remain key in 2024.

→ US consumers could feel pressure as certain components of inflation (e.g., shelter) remain high, borrowing costs are elevated, and the job market may weaken.

→ A focus for US equities going forward will be whether earnings can remain resilient if growth continues to slow. Also, the future paths of the large technology companies that have driven market gains will be important.

→ Equity valuations remain lower in emerging and developed markets, but risks remain, including China's economic uncertainty and on-going weakness in the real estate sector which could spill over into key trading partners' economies. Japan's recent hint at potentially tightening monetary policy along with changes in corporate governance in the country could influence relative results.

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

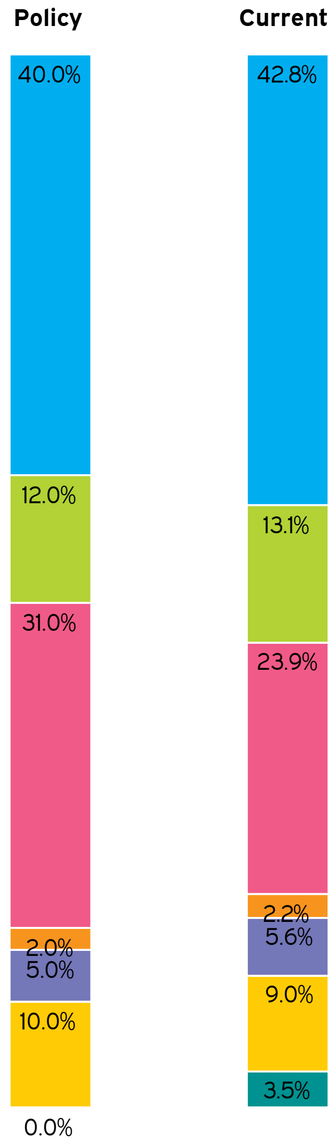
MEKETA

Oakland Police and Fire Retirement System

March 27, 2024

February Flash Report

As of February 29, 2024



Allocation vs. Targets and Policy

	Current Balance ($)	Current (%)	Policy (%)	Difference (%)	Policy Range (%)	Within IPS Range?
Domestic Equity	190,477,195	42.8	40.0	2.8	30.0 - 50.0	Yes
International Equity	58,249,804	13.1	12.0	1.1	8.0 - 14.0	Yes
Fixed Income	106,620,856	23.9	31.0	-7.1	25.0 - 40.0	No
Credit	9,831,585	2.2	2.0	0.2	1.0 - 3.0	Yes
Covered Calls	24,801,925	5.6	5.0	0.6	5.0 - 10.0	Yes
Crisis Risk Offset	40,034,891	9.0	10.0	-1.0	5.0 - 15.0	Yes
Cash	15,422,343	3.5	0.0	3.5	0.0 - 5.0	Yes
Total	**445,438,600**	**100.0**	**100.0**	**0.0**		

Asset Class Performance Summary

	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
OPFRS Total Plan	**445,438,600**	**100.0**	**2.4**	**2.6**	**7.9**	**12.8**	**3.8**	**6.7**	**6.6**	**6.7**	**Dec-88**
OPFRS Policy Benchmark			*2.4*	*2.8*	*8.4*	*15.0*	*4.3*	*7.2*	*6.9*	*8.0*	
Excess Return			0.0	-0.2	-0.5	-2.2	-0.5	-0.5	-0.3	-1.3	
Domestic Equity	**190,477,195**	**42.8**	**4.7**	**5.1**	**13.2**	**20.4**	**8.1**	**12.0**	**10.9**	**9.1**	**Jun-97**
Russell 3000 (Blend)			*5.4*	*6.6*	*15.6*	*28.6*	*9.9*	*13.9*	*12.0*	*9.5*	
Excess Return			-0.7	-1.5	-2.4	-8.2	-1.8	-1.9	-1.1	-0.4	
International Equity	**58,249,804**	**13.1**	**3.4**	**3.3**	**10.4**	**17.2**	**4.0**	**7.1**	**5.2**	**5.5**	**Jan-98**
MSCI ACWI ex US (Blend)			*2.5*	*1.5*	*7.2*	*12.5*	*1.3*	*5.4*	*4.0*	*5.2*	
Excess Return			0.9	1.8	3.2	4.7	2.7	1.7	1.2	0.3	
Fixed Income	**106,620,856**	**23.9**	**-1.3**	**-1.3**	**1.9**	**3.6**	**-2.6**	**0.9**	**1.9**	**4.4**	**Jan-94**
Bloomberg Universal (Blend)			*-1.2*	*-1.4*	*2.3*	*4.1*	*-2.8*	*0.8*	*1.7*	*4.5*	
Excess Return			-0.1	0.1	-0.4	-0.5	0.2	0.1	0.2	-0.1	
Credit	**9,831,585**	**2.2**	**0.5**	**1.4**	**6.9**	**10.1**	**3.7**	**4.4**	**--**	**5.0**	**Feb-15**
Blmbg. U.S. Corp: High Yield Index			*0.3*	*0.3*	*8.0*	*11.0*	*1.8*	*4.2*	*4.3*	*4.7*	
Excess Return			0.2	1.1	-1.1	-0.9	1.9	0.2	--	0.3	
Covered Calls	**24,801,925**	**5.6**	**2.8**	**4.2**	**9.8**	**21.3**	**10.0**	**11.3**	**--**	**9.3**	**Apr-14**
CBOE S&P 500 Buy Write Index			*1.9*	*3.7*	*5.0*	*11.5*	*7.0*	*6.0*	*5.8*	*5.8*	
Excess Return			0.9	0.5	4.8	9.8	3.0	5.3	--	3.5	
Crisis Risk Offset	**40,034,891**	**9.0**	**1.3**	**1.5**	**0.5**	**1.3**	**-3.0**	**-7.1**	**--**	**-7.2**	**Aug-18**
Crisis Risk Offset Benchmark			*1.7*	*2.3*	*2.0*	*3.3*	*5.7*	*0.4*	*--*	*0.4*	
Excess Return			-0.4	-0.8	-1.5	-2.0	-8.7	-7.5	--	-7.6	

Performance shown is net of fees, except for Total Plan, Domestic Equity, and International Equity composites which have a mix of gross and net of fees performance. Please see the Addendum for more details.
Since inception date and performance begin in the month following an investments initial funding. Fiscal year begins on July 1. Please see Benchmark History section for custom benchmark compositions.

	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
OPFRS Total Plan	**445,438,600**	**100.0**	**2.4**	**2.6**	**7.9**	**12.8**	**3.8**	**6.7**	**6.6**	**6.7**	**Dec-88**
OPFRS Policy Benchmark			*2.4*	*2.8*	*8.4*	*15.0*	*4.3*	*7.2*	*6.9*	*8.0*	
Excess Return			0.0	-0.2	-0.5	-2.2	-0.5	-0.5	-0.3	-1.3	
Domestic Equity	**190,477,195**	**42.8**	**4.7**	**5.1**	**13.2**	**20.4**	**8.1**	**12.0**	**10.9**	**9.1**	**Jun-97**
Russell 3000 (Blend)			*5.4*	*6.6*	*15.6*	*28.6*	*9.9*	*13.9*	*12.0*	*9.5*	
Excess Return			-0.7	-1.5	-2.4	-8.2	-1.8	-1.9	-1.1	-0.4	
Northern Trust Russell 1000	94,305,625	21.2	5.4	6.9	15.9	29.8	10.5	14.3	12.3	13.8	Jun-10
Russell 1000 Index			*5.4*	*6.9*	*15.9*	*29.8*	*10.7*	*14.4*	*12.4*	*13.9*	
Excess Return			0.0	0.0	0.0	0.0	-0.2	-0.1	-0.1	-0.1	
EARNEST Partners	41,584,534	9.3	3.9	3.1	10.9	12.5	6.6	12.0	11.1	9.5	Apr-06
Russell Midcap Index			*5.6*	*4.1*	*11.9*	*15.5*	*5.5*	*10.3*	*9.5*	*9.0*	
Excess Return			-1.7	-1.0	-1.0	-3.0	1.1	1.7	1.6	0.5	
Wellington Select Quality Equity	25,401,537	5.7	2.7	3.9	8.7	16.7	--	--	--	8.1	May-22
Russell 1000 Index			*5.4*	*6.9*	*15.9*	*29.8*	*10.7*	*14.4*	*12.4*	*13.7*	
Excess Return			-2.7	-3.0	-7.2	-13.1	--	--	--	-5.6	
Brown Fundamental Small Cap Value	13,030,895	2.9	2.9	1.5	15.5	11.7	--	--	--	6.8	Apr-21
Russell 2000 Value Index			*3.3*	*-1.4*	*10.3*	*5.6*	*2.5*	*6.6*	*6.5*	*0.8*	
Excess Return			-0.4	2.9	5.2	6.1	--	--	--	6.0	
Rice Hall James	16,154,605	3.6	6.9	5.2	9.4	10.0	-1.5	6.1	--	7.3	Aug-17
Russell 2000 Growth Index			*8.1*	*4.7*	*9.4*	*14.2*	*-4.6*	*6.5*	*7.3*	*7.7*	
Excess Return			-1.2	0.5	0.0	-4.2	3.1	-0.4	--	-0.4	

Performance shown is net of fees, except for Total Plan and Domestic Equity which have a mix of gross and net of fees performance. Please see the Addendum for more details. Since inception date and performance begin in the month following an investments initial funding. Fiscal year begins on July 1. Please see the Benchmark History for custom benchmark compositions.

Asset Class & Manager Performance | As of February 29, 2024

	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
International Equity	**58,249,804**	**13.1**	**3.4**	**3.3**	**10.4**	**17.2**	**4.0**	**7.1**	**5.2**	**5.5**	**Jan-98**
MSCI ACWI ex US (Blend)			*2.5*	*1.5*	*7.2*	*12.5*	*1.3*	*5.4*	*4.0*	*5.2*	
Excess Return			0.9	1.8	3.2	4.7	2.7	1.7	1.2	0.3	
Vanguard Developed Markets ETF	16,301,228	3.7	2.7	1.6	7.5	13.9	3.7	--	--	7.6	Sep-19
FTSE Developed All Cap ex-U.S. Index			*1.8*	*1.4*	*8.1*	*13.8*	*3.8*	*7.0*	*4.8*	*7.8*	
Excess Return			0.9	0.2	-0.6	0.1	-0.1	--	--	-0.2	
SGA ACWI ex-U.S. Equity	41,948,576	9.4	3.6	3.9	11.5	19.0	4.1	--	--	5.2	Dec-19
MSCI AC World ex USA (Net)			*2.5*	*1.5*	*7.2*	*12.5*	*1.3*	*5.4*	*4.0*	*4.9*	
Excess Return			1.1	2.4	4.3	6.5	2.8	--	--	0.3	
Fixed Income	**106,620,856**	**23.9**	**-1.3**	**-1.3**	**1.9**	**3.6**	**-2.6**	**0.9**	**1.9**	**4.4**	**Jan-94**
Bloomberg Universal (Blend)			*-1.2*	*-1.4*	*2.3*	*4.1*	*-2.8*	*0.8*	*1.7*	*4.5*	
Excess Return			-0.1	0.1	-0.4	-0.5	0.2	0.1	0.2	-0.1	
Ramirez	72,345,424	16.2	-1.3	-1.3	1.9	3.4	-2.7	0.9	--	1.5	Jan-17
Blmbg. U.S. Aggregate Index			*-1.4*	*-1.7*	*1.6*	*3.3*	*-3.2*	*0.6*	*1.4*	*1.0*	
Excess Return			0.1	0.4	0.3	0.1	0.5	0.3	--	0.5	
Wellington Core Bond	6,909,762	1.6	-1.2	-1.2	2.7	4.6	--	--	--	-2.8	Apr-21
Blmbg. U.S. Aggregate Index			*-1.4*	*-1.7*	*1.6*	*3.3*	*-3.2*	*0.6*	*1.4*	*-2.8*	
Excess Return			0.2	0.5	1.1	1.3	--	--	--	0.0	
Reams	27,365,670	6.1	-1.2	-1.4	1.8	3.9	-2.3	3.2	2.8	4.8	Feb-98
Bloomberg Universal (Blend)			*-1.2*	*-1.4*	*2.3*	*4.1*	*-2.8*	*0.8*	*1.7*	*4.1*	
Excess Return			0.0	0.0	-0.5	-0.2	0.5	2.4	1.1	0.7	

Performance shown is net of fees, except for International Equity composite which has a mix of gross and net of fees performance. Please see the Addendum for more details. Since inception date and performance begin in the month following an investments initial funding. Fiscal year begins on July 1. Please see the Benchmark History for custom benchmark compositions.

	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
Credit	**9,831,585**	**2.2**	**0.5**	**1.4**	**6.9**	**10.1**	**3.7**	**4.4**	**--**	**5.0**	**Feb-15**
Blmbg. U.S. Corp: High Yield Index			*0.3*	*0.3*	*8.0*	*11.0*	*1.8*	*4.2*	*4.3*	*4.7*	
Excess Return			0.2	1.1	-1.1	-0.9	1.9	0.2	--	0.3	
Polen Capital	9,831,585	2.2	0.5	1.4	6.9	10.1	3.7	4.4	--	5.0	Feb-15
ICE BofA High Yield Master II			*0.3*	*0.3*	*8.0*	*11.0*	*1.9*	*4.0*	*4.3*	*4.7*	
Excess Return			0.2	1.1	-1.1	-0.9	1.8	0.4	--	0.3	
Covered Calls	**24,801,925**	**5.6**	**2.8**	**4.2**	**9.8**	**21.3**	**10.0**	**11.3**	**--**	**9.3**	**Apr-14**
CBOE S&P 500 Buy Write Index			*1.9*	*3.7*	*5.0*	*11.5*	*7.0*	*6.0*	*5.8*	*5.8*	
Excess Return			0.9	0.5	4.8	9.8	3.0	5.3	--	3.5	
Parametric BXM	12,105,012	2.7	2.2	3.8	7.9	17.2	8.2	8.5	--	7.4	Apr-14
CBOE S&P 500 Buy Write Index			*1.9*	*3.7*	*5.0*	*11.5*	*7.0*	*6.0*	*5.8*	*5.8*	
Excess Return			0.3	0.1	2.9	5.7	1.2	2.5	--	1.6	
Parametric DeltaShift	12,696,913	2.9	3.3	4.7	11.8	25.4	11.6	13.9	--	11.4	Apr-14
CBOE S&P 500 Buy Write Index			*1.9*	*3.7*	*5.0*	*11.5*	*7.0*	*6.0*	*5.8*	*5.8*	
Excess Return			1.4	1.0	6.8	13.9	4.6	7.9	--	5.6	

Performance shown is net of fees. Since inception date and performance begin in the month following an investments initial funding. Fiscal year begins on July 1. Please see the Benchmark History for custom benchmark compositions.

	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
Crisis Risk Offset	**40,034,891**	**9.0**	**1.3**	**1.5**	**0.5**	**1.3**	**-3.0**	**-7.1**	**--**	**-7.2**	**Aug-18**
Crisis Risk Offset Benchmark			*1.7*	*2.3*	*2.0*	*3.3*	*5.7*	*0.4*	*--*	*0.4*	
Excess Return			-0.4	-0.8	-1.5	-2.0	-8.7	-7.5	--	-7.6	
Kepos Alternative Risk Premia	11,564,437	2.6	2.8	6.2	10.4	13.1	--	--	--	7.2	Feb-22
SG Multi Alternative Risk Premia Index			*0.8*	*3.7*	*6.6*	*7.9*	*7.5*	*1.5*	*--*	*6.8*	
Excess Return			2.0	2.5	3.8	5.2	--	--	--	0.4	
Versor Trend Following	15,382,261	3.5	3.5	3.3	-1.1	-2.2	--	--	--	1.3	Apr-22
SG Trend Index			*6.5*	*7.8*	*3.2*	*2.8*	*11.7*	*11.3*	*6.2*	*6.0*	
Excess Return			-3.0	-4.5	-4.3	-5.0	--	--	--	-4.7	
Vanguard Long-Term Treasury ETF	13,088,193	2.9	-2.3	-4.1	-5.1	-3.4	-10.1	--	--	-4.6	Jul-19
Blmbg. U.S. Gov Long Index			*-2.3*	*-4.4*	*-5.0*	*-2.8*	*-9.9*	*-2.0*	*1.2*	*-4.4*	
Excess Return			0.0	0.3	-0.1	-0.6	-0.2	--	--	-0.2	
Cash	**15,422,343**	**3.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**	**0.7**	**0.5**	**Mar-11**

Performance shown is net of fees. Since inception date and performance begin in the month following an investments initial funding. Fiscal year begins on July 1. Please see the Benchmark History for custom benchmark compositions.
Versor Trend Following's market value is estimated using the manager return due to statement availability.

Cash Flow Summary
Month to Date

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Northern Trust Russell 1000	89,480,556	-	4,825,069	94,305,625
EARNEST Partners	40,982,252	-1,000,000	1,602,282	41,584,534
Wellington Select Quality Equity	24,728,360	-	673,177	25,401,537
Brown Fundamental Small Cap Value	12,661,004	-	369,891	13,030,895
Rice Hall James	15,101,023	-	1,053,582	16,154,605
Vanguard Developed Markets ETF	15,865,904	-	435,325	16,301,228
SGA ACWI ex-U.S. Equity	40,448,042	-	1,500,534	41,948,576
Ramirez	73,300,154	-	-954,729	72,345,424
Wellington Core Bond	6,990,373	-	-80,612	6,909,762
Reams	27,703,298	-	-337,628	27,365,670
Polen Capital	9,783,813	-	47,773	9,831,585
Parametric BXM	11,839,199	-	265,814	12,105,012
Parametric DeltaShift	12,289,741	-	407,172	12,696,913
Kepos Alternative Risk Premia	11,252,325	-	312,112	11,564,437
Versor Trend Following	14,858,122	-	524,139	15,382,261
Vanguard Long-Term Treasury ETF	13,441,868	-	-353,675	13,088,193
Cash - Money Market	5,076,456	90,887	-	5,167,343
Cash - Treasury	10,267,000	-12,000	-	10,255,000
Securities Lending Northern Trust	-	-14,784	14,784	-
OPFRS Total Plan	**436,069,490**	**-935,897**	**10,305,007**	**445,438,600**

Versor Trend Following's market value is estimated using the manager return due to statement availability.

Benchmark History		
From Date	**To Date**	**Benchmark**
OPFRS Total Plan		
06/01/2022	Present	40.0% Russell 3000 Index, 12.0% MSCI AC World ex USA (Net), 31.0% Blmbg. US Universal Index, 2.0% Blmbg. US Corp: High Yield Index, 5.0% CBOE S&P 500 Buy Write Index, 10.0% Crisis Risk Offset Benchmark
01/01/2019	06/01/2022	40.0% Russell 3000 Index, 12.0% MSCI AC World ex USA index, 31.0% Blmbg. US Universal Index, 5.0% CBOE S&P 500 Buy Write Index, 2.0% Blmbg. US Treasury: Long, 10.0% Crisis Risk Offset Benchmark
05/01/2016	01/01/2019	48.0% Russell 3000 Index, 12.0% MSCI AC World ex USA index, 20.0% Blmbg. US Universal Index, 20.0% CBOE BXM
10/01/2015	05/01/2016	43.0% Russell 3000 Index, 12.0% MSCI AC World ex USA index, 20.0% Blmbg. US Universal Index, 15.0% CBOE BXM, 10.0% CPI - All Urban Consumers (unadjusted) +3%
01/01/2014	10/01/2015	48.0% Russell 3000 Index, 12.0% MSCI AC World ex USA index, 20.0% Blmbg. US Universal Index, 10.0% CBOE BXM, 10.0% CPI - All Urban Consumers (unadjusted) +3%
03/01/2013	01/01/2014	40.0% Russell 3000 Index, 10.0% MSCI AC World ex USA index, 17.0% Blmbg. US Universal Index, 33.0% ICE BofA 3 Month US T-Bill
08/01/2012	03/01/2013	20.0% Russell 3000 Index, 7.0% MSCI AC World ex USA index, 18.0% Blmbg. U.S. Universal Index, 55.0% ICE BofA 3 Month US T-Bill
10/01/2007	08/01/2012	53.0% Russell 3000 Index, 17.0% MSCI AC World ex USA index, 30.0% Blmbg. US Universal Index
04/01/2006	10/01/2007	35.0% Russell 3000 Index, 15.0% MSCI AC World ex USA index, 50.0% Blmbg. US Universal Index
01/01/2005	04/01/2006	35.0% Russell 3000 Index, 50.0% Blmbg. U.S. Aggregate Index, 15.0% MSCI AC World ex USA index
04/01/1998	01/01/2005	20.0% Russell 1000 Value Index, 10.0% Russell 1000 Index, 5.0% Russell Midcap Index, 50.0% Blmbg. US Aggregate Index, 15.0% MSCI EAFE (Net)
09/01/1988	04/01/1998	40.0% S&P 500 Index, 55.0% Blmbg. US Aggregate Index, 5.0% FTSE 3 Month T-Bill

Benchmark History

From Date	To Date	Benchmark
Domestic Equity		
01/01/2005	Present	100.0% Russell 3000 Index
04/01/1998	01/01/2005	57.1% Russell 1000 Value Index, 28.6% Russell 1000 Index, 14.3% Russell Midcap Index
09/01/1988	04/01/1998	100.0% S&P 500 Index
International Equity		
01/01/2005	Present	100.0% MSCI AC World ex USA (Net)
01/01/1998	01/01/2005	100.0% MSCI EAFE Index
Fixed Income		
04/01/2006	Present	100.0% Blmbg. US Universal Index
01/01/1976	04/01/2006	100.0% Blmbg. US Aggregate Index
Covered Calls		
04/01/2014	Present	CBOE S&P 500 Buy Write Index
Crisis Risk Offset		
01/01/2023	Present	33.3% SG Trend Index, 33.3% SG Multi Alternative Risk Premia Index, 33.3% Blmbg. US Government: Long Term Bond Index
08/01/2018	01/01/2023	100.0% SG Multi Alternative Risk Premia Index
Cash		
03/01/2011	Present	FTSE 3 Month T-Bill

Additional Information

Performance Return Types: Performance shown is net of fees, except for OPFRS Total Plan, Domestic Equity, and International Equity Composites, which have a mix of gross and net of fees performance. Performance shown for OPFRS Total Plan and International Equity composite is gross of fees prior to January 2016. Performance shown for Domestic Equity composite is gross of fees prior to January 2017.

Inception Date: Since inception date and performance begin in the month following an investments initial funding.

Fiscal Year: Fiscal year begins on July 1.

Fair Value Pricing Methodology: Though Vanguard Developed Markets ETF is a passive strategy, short-term performance may appear to diverge from the index it tracks more than would be expected. This is due to Fair Value Pricing (FVP) adjustments that address the pricing discrepancies that may arise from time-zone differences among global securities markets. The resulting temporary divergence is expected to correct itself when the foreign markets reopen.

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

MEKETA

Oakland Police and Fire Retirement System

March 27, 2024

Recommendation for
Apr to Jun 2024 Cash Flows

Asset Class / Manager Liquidity

Asset Class	Fund	Liquidity Tier
Domestic Equity	Northern Trust Russell 1000	1
Domestic Equity	EARNEST Partners	3
Domestic Equity	Wellington Select Quality Equity	3
Domestic Equity	Rice Hall James	3
Domestic Equity	Brown Small Cap Value	3
International Equity	SGA MSCI ACWI ex-US	3
International Equity	Vanguard Developed ETF	1
Domestic Fixed Income	Ramirez	2
Domestic Fixed Income	Reams	2
Domestic Fixed Income	Wellington Core Bond	3
Credit	Polen Capital High Yield	2
Covered Calls	Parametric	2
Crisis Risk Offset	Vanguard Long Duration ETF	1
Crisis Risk Offset	Versor Trend Following	3
Crisis Risk Offset	Kepos Alternative Risk Premia	3
Cash	Cash	1

Description of Liquidity Tiers

Tier	Description	Market Value ($M)	In Months[1]
1	Public, Scheduled Withdrawal Allowances	139.1	23.2
2	Public, Accommodating of Withdrawals	134.3	22.4
3	Public, Must Plan Withdrawals	172.0	28.7
4	Closely Held	0.0	---
	Total	**445.4**	

[1] Illustrates Liquidity in Months assuming a net outflow of $6 million per month; that is, the illustrated figure demonstrates the number of months it would take to withdraw $6 million per month from each liquidity tier.

MEKETA

Oakland PFRS Asset Allocation as of February 29, 2024[1]

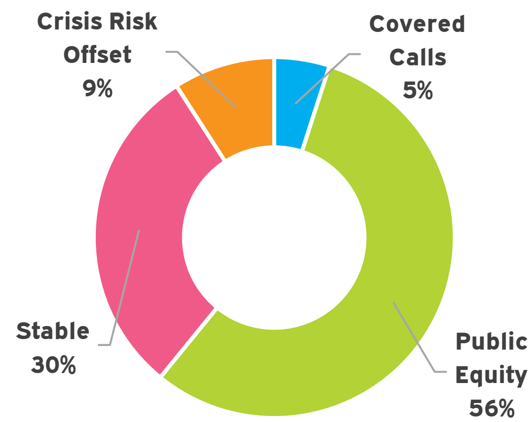
	Market Value		Target	Variance		Actual Cash Flows for Jan – Mar Benefits		Suggested Cash Flows for Apr – Jun Benefits[1]	
						Inflow	Outflow	Inflow	Outflow
	($M)	(%)	(%)	($M)	(%)	($M)	($M)	($M)	($M)
Northern Trust Russell 1000	94.3	21.2%	20.0%	5.2	1.2%	--	--	--	--
EARNEST Partners	41.6	9.3%	8.0%	5.9	1.3%	--	(3.0)	--	--
Wellington Select Quality Equity	25.4	5.7%	6.0%	(1.3)	(0.3%)	--	--	--	--
Rice Hall James	16.2	3.6%	3.0%	2.8	0.6%	--	--	--	--
Brown Small Cap Value	13.0	2.9%	3.0%	(0.3)	(0.1%)	--	--	--	--
Total Domestic Equity	**190.5**	**42.8%**	**40.0%**	**12.3**	**2.8%**	**--**	**(3.0)**	**--**	**--**
SGA MSCI ACWI ex-US	41.9	9.4%	8.4%	4.5	1.0%	--	--	--	--
Vanguard Developed ETF (BlackRock)[2]	16.3	3.7%	3.6%	0.3	0.1%	--	--	--	--
Total International Equity	**58.2**	**13.1%**	**12.0%**	**4.8**	**1.1%**	**--**	**--**	**--**	**--**
Total Public Equity[3]	**248.7**	**55.8%**	**52.0%**	**17.1**	**3.8%**	**--**	**(3.0)**	**--**	**--**
Parametric	24.8	5.6%	5.0%	2.5	0.6%	--	--	--	(3.0)
Total Covered Calls	**24.8**	**5.6%**	**5.0%**	**2.5**	**0.6%**	**--**	**--**	**--**	**(3.0)**
Long Duration ETF (BlackRock)[2]	13.1	2.9%	3.3%	(1.8)	(0.4%)	--	--	--	--
Versor Trend Following	15.4	3.5%	3.3%	0.7	0.2%	--	--	--	--
Kepos Alternative Risk Premia	11.6	2.6%	3.3%	(3.1)	(0.7%)	--	--	--	--
Total Crisis Risk Offset	**40.0**	**9.0%**	**10.0%**	**(4.5)**	**(1.0%)**	**--**	**--**	**--**	**--**
Ramirez	72.3	16.2%	17.0%	(3.4)	(0.8%)	--	--	--	--
Reams	27.4	6.1%	12.0%	(26.1)	(5.9%)	--	--	--	--
Wellington Core Bond	6.9	1.6%	2.0%	(2.0)	(0.4%)	--	--	--	--
Polen Capital High Yield	9.8	2.2%	2.0%	0.9	0.2%	--	--	--	--
Total Public Fixed Income	**116.5**	**26.1%**	**33.0%**	**(30.5)**	**(6.9%)**	**--**	**--**	**--**	**--**
Cash	15.4	3.5%	0.0%	15.4	3.5%	10.2	(10.2)	10.2	(10.2)
Total Stable[3]	**131.9**	**29.6%**	**33.0%**	**(15.1)**	**(3.4%)**	**10.2**	**(10.2)**	**10.2**	**(10.2)**
Total Portfolio	**445.4**	**100.0%**	**100.0%**	**--**	**--**	**10.2**	**(13.2)**	**10.2**	**(13.2)**

[1] Benefit payments estimated at $13.2 million quarterly for FYE2024 per OPFRS. The report reflects estimated quarterly contributions from the City of $10.2 million for FYE2024, estimated based on prior fiscal year's actuarial valuations; the annual required contribution for FYE2024 is $40.8 million. Benefits are payable on first of each month. The targets reflect the incumbent targets adopted in 2019 pending the Board's resolution to adopt the recommendations from 2024 Asset Liability Study.
[2] Manager names in parentheses indicates selected, yet unfunded managers for replacement.
[3] Public Equity is the sum of Domestic Equity and International Equity; Stable is the sum of Public Fixed Income and Cash.

Market Value by Portfolio Segment Before Cash Flows

Portfolio Segment	Market Value ($M)
Domestic Equity	190.5
International Equity	58.2
Public Equity[1]	248.7
Covered Calls	24.8
Crisis Risk Offset	40.0
Public Fixed Income	116.5
Stable[1]	131.9
Total Portfolio	**445.4**

Projected Equity to Fixed Income Allocation After Cash Flows



Suggested Cash Withdrawals

Portfolio Segment	Market Value ($M)
Cash in Treasury	10.2
Parametric	3.0
Total Withdrawal	**13.2**

→ Market value difference in Public Equity from 52% allocation: -$17.2 million underweight.

[1] Public Equity is the sum of Domestic Equity and International Equity; Stable is the sum of Public Fixed Income and Cash (not shown on this page).

Projected OPFRS Asset Allocation as of June 30, 2024[1]

	Estimated Market Value ($M)	Estimated Market Value (%)	Target (%)	Projected Variance from Target ($M)	Projected Variance from Target (%)
Northern Trust Russell 1000	94.3	21.5%	20.0%	6.4	1.5%
EARNEST Partners	38.6	8.8%	6.0%	12.2	2.8%
Wellington Select Quality Equity	25.4	5.8%	8.0%	(9.8)	(2.2%)
Rice Hall James	16.2	3.7%	3.0%	3.0	0.7%
Brown Small Cap Value	13.0	3.0%	3.0%	(0.2)	(0.0%)
Total Domestic Equity	**187.5**	**42.7%**	**40.0%**	**11.7**	**2.7%**
SGA MSCI ACWI ex-US	41.9	9.5%	3.6%	26.1	5.9%
Vanguard Developed Markets ETF	16.3	3.7%	8.4%	(20.6)	(4.7%)
Total International Equity	**58.2**	**13.3%**	**12.0%**	**5.5**	**1.3%**
Total Public Equity	**245.7**	**55.9%**	**52.0%**	**17.2**	**3.9%**
Parametric	21.8	5.0%	5.0%	(0.2)	(0.0%)
Total Covered Calls	**21.8**	**5.0%**	**5.0%**	**(0.2)**	**(0.0%)**
Vanguard Long Duration ETF	13.1	3.0%	3.3%	(1.6)	(0.4%)
Versor Trend Following	15.4	3.5%	3.3%	0.7	0.2%
Kepos Alternative Risk Premia	11.6	2.6%	3.3%	(3.1)	(0.7%)
Total Crisis Risk Offset	**40.0**	**9.1%**	**10.0%**	**(3.9)**	**(0.9%)**
Ramirez	72.3	16.5%	12.0%	19.6	4.5%
Reams	27.4	6.2%	2.0%	18.6	4.2%
Wellington Core Bond	6.9	1.6%	19.0%	(76.6)	(17.4%)
Polen Capital High Yield	9.8	2.2%	2.0%	1.0	0.2%
Total Public Fixed Income	**116.5**	**26.5%**	**35.0%**	**(37.4)**	**(8.5%)**
Cash	15.4	3.5%	0.0%	15.4	3.5%
Total Stable	**131.9**	**30.0%**	**33.0%**	**(13.1)**	**(3.0%)**
Total Portfolio	**439.4**	**100.0%**	**100.0%**	**---**	**---**

[1] Benefit payments estimated at $13.2M on a quarterly basis per OPFRS. Report reflects quarterly City contributions of $10.2M. The City's current quarterly contribution amount is based on FYE2024 actuarial annual required contribution of $40.8M.

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MEKETA

Oakland Police and Fire Retirement System

March 27, 2024

2024 Capital Markets Expectations

Table of Contents

Executive Summary

Executive Summary

→ We update our capital markets expectations each year in January.

- Changes are driven by many factors, including interest rates, credit spreads, cap rates, and equity prices.

→ 2023 was a volatile year for most investors, but ultimately most asset classes experienced positive returns, including double-digit gains for many risky assets.

→ With the notable exception of China's markets, global bond and equity markets rallied at the end of the year, posting strong gains as inflation pressures eased and central banks appeared to be turning away from tightening policies.

- Despite short-term interest rates climbing, the yield on most Treasury bonds finished the year near where they started it.
- Credit spreads tightened, especially for lower quality credit such as high yield. The result is lower expected returns for many credit-oriented assets.
- Most equity markets rallied in 2023, generally at a much faster pace than the gain in earnings. Hence many equity markets were trading at higher valuations at year-end, thus reducing their forward-looking returns.

→ Our 10-year CMEs continue to be lower than our 20-year CMEs for the vast majority of asset classes, partly due to a higher assumed "risk-free" rate in the future.

→ The net result is a meaningful decrease in return assumptions for most assets over the 10-year horizon, with much more mixed and modest changes at the 20-year horizon.

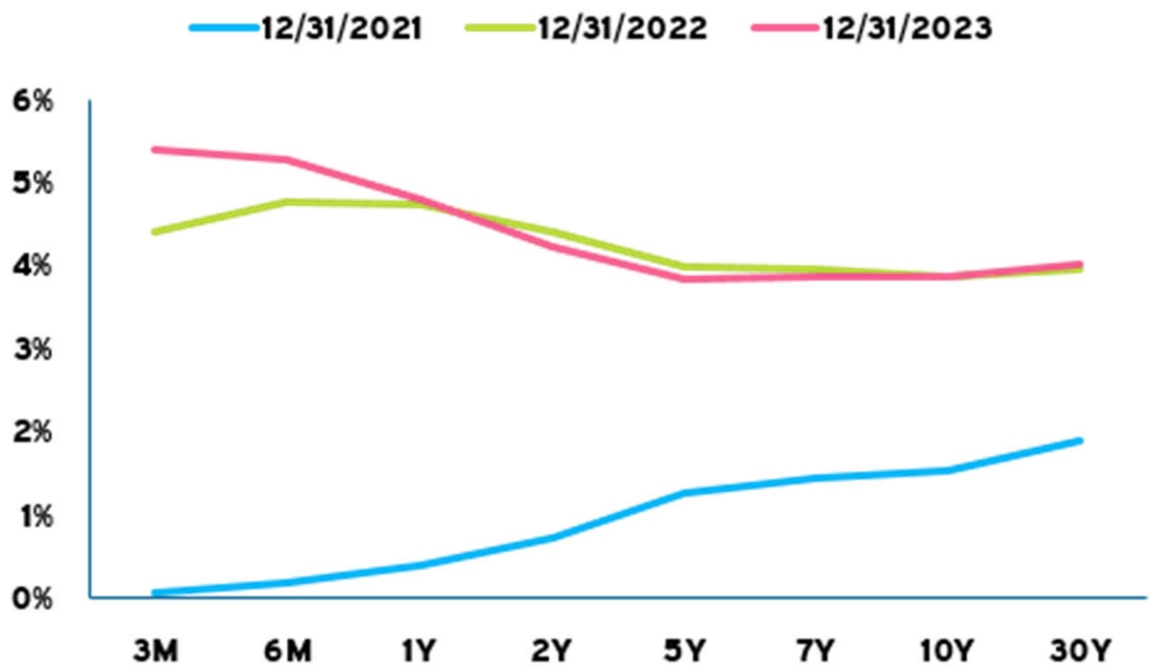
Market Overview

Rising Interest Rates

→ Except for the short end of the curve, the US Treasury yield curve was little changed in 2023 from where it began the year.

→ The market expects the Federal Reserve to reverse course and start lowering short-term rates in 2024, believing that the actions taken thus far to fight inflation have been sufficient.

US Yield Curve



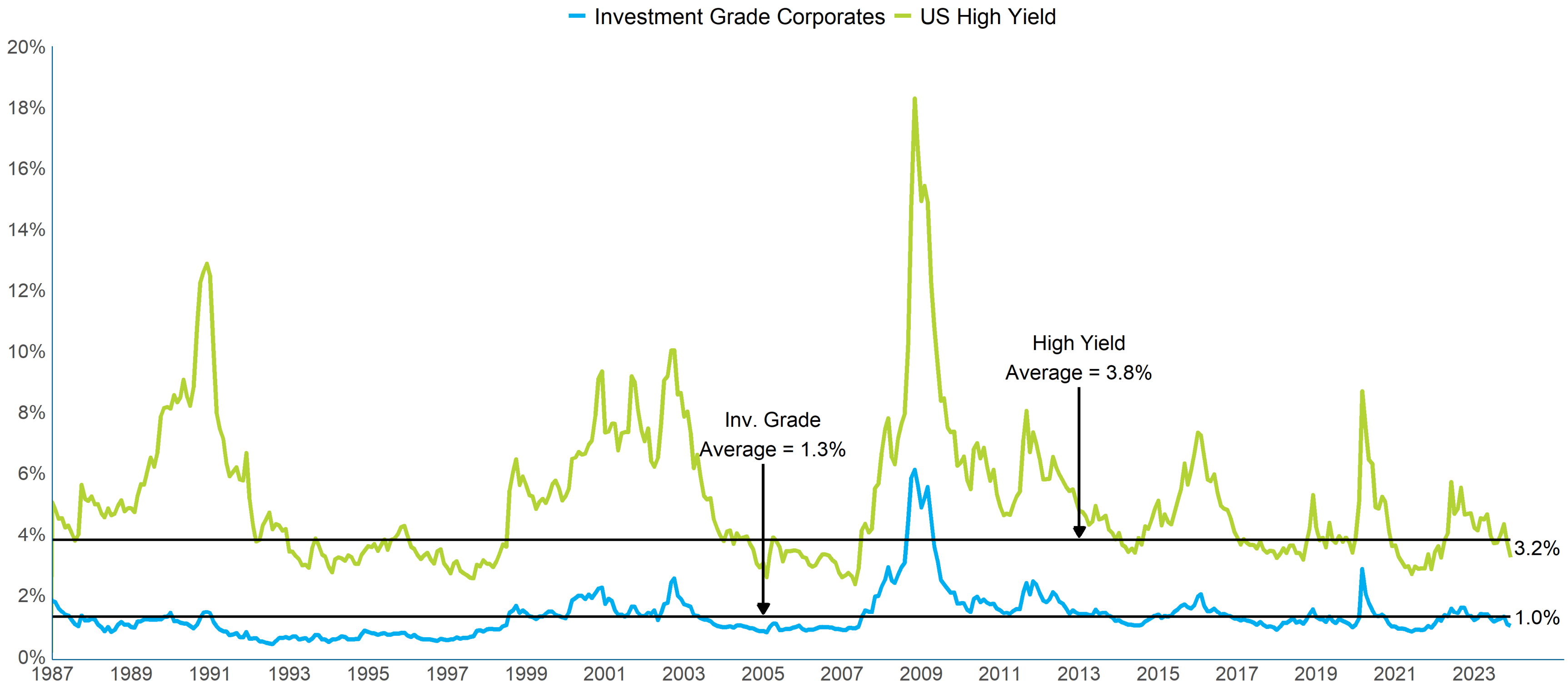
Source: Bloomberg. Data is as of December 31, 2023.

Narrower Credit Spreads

→ Credit spreads tightened slightly in 2023, though they remain close to their long-term averages.

- Lower quality credit spreads experienced a more substantial tightening. The spread for high yield bonds declined from 469 bp to 323 bp.

US Investment Grade and High Yield Credit Spreads



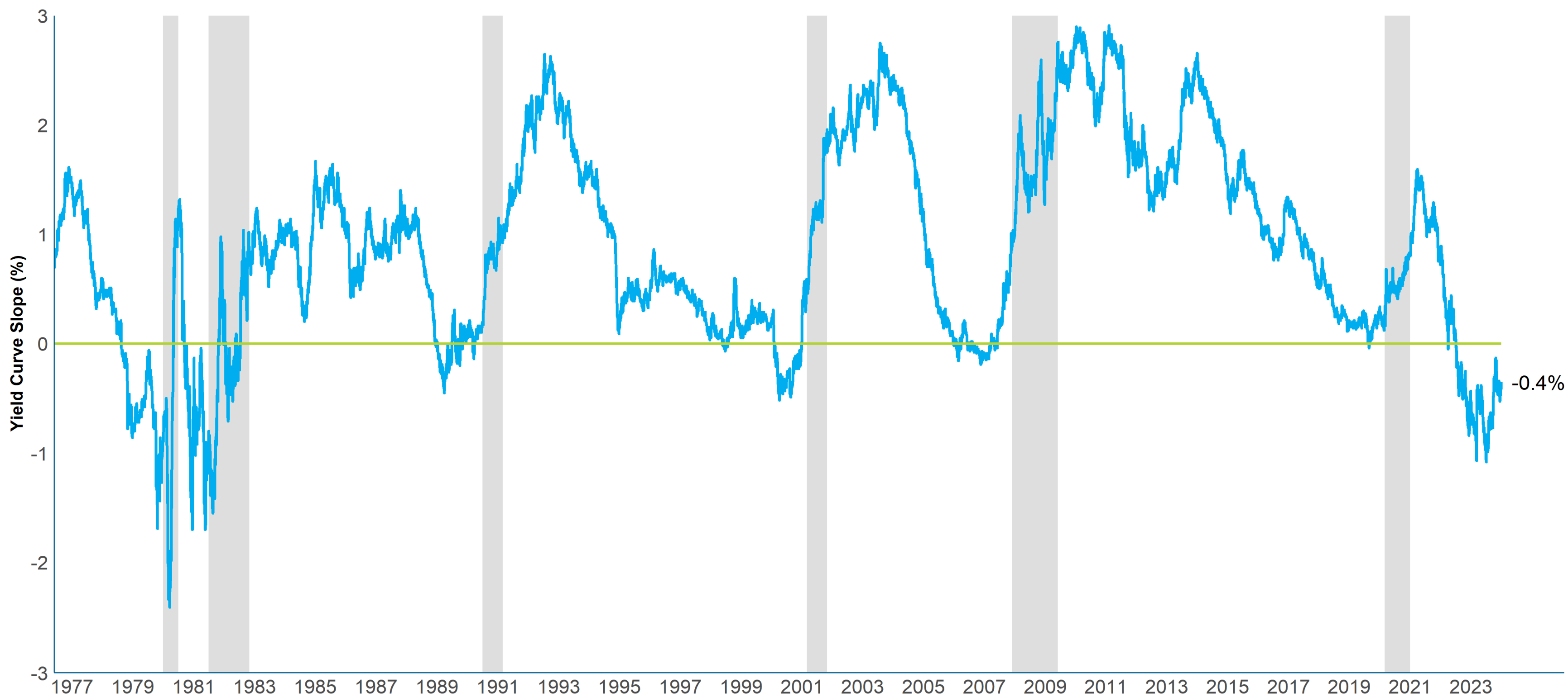
Source: Bloomberg. High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index. Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year US Treasury yield. Data is as of December 31, 2023.

Inverted Yield Curve

→ The yield curve began the year in inverted territory, and it remained there throughout the year.

- The 2-10 spread has not been inverted for such an extended period in over forty years.

Yield Curve Slope (Ten Minus Two)



Source: FRED. Yield curve slope is calculated as the difference between the 10-Year US Treasury Yield and 2-Year US Treasury Yield. Data is as of December 31, 2023.

Similar or Lower Yields

→ Short-term interest rates are higher than one year ago, while the 10-year Treasury yield ended the year where it started it.

→ Similar levels of interest rates combined with tighter credit spreads to result in slightly lower yields for most sectors of the global bond market.

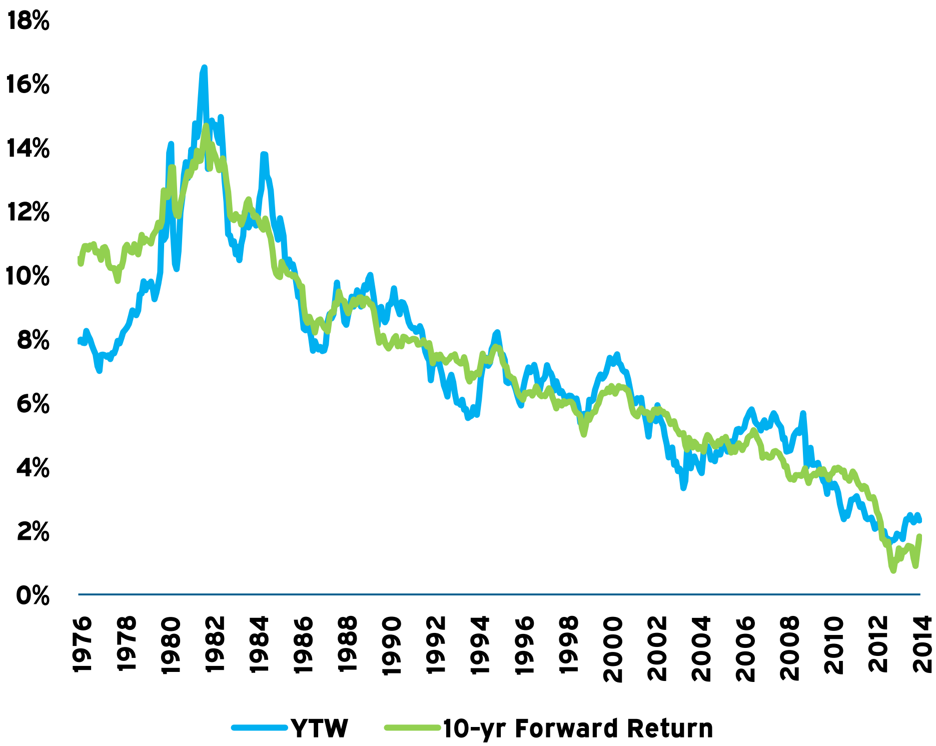
Index	Yield to Worst 12/31/23 (%)	Yield to Worst 12/31/22 (%)
Fed Funds Rate	5.25-5.50	4.25-4.50
10-year Treasury	3.88	3.88
Bloomberg Aggregate	4.53	4.68
Bloomberg Corporate	5.06	5.42
Bloomberg Securitized	4.72	4.75
Bloomberg Global Aggregate	3.51	3.73
Bloomberg EM Local Currency Government	4.08	4.42
Bloomberg EM Hard Currency Aggregate	6.77	7.26
Bloomberg US Corporate High Yield	7.59	8.96

Source: Bloomberg. Data is as of December 31, 2023 and December 31, 2022.

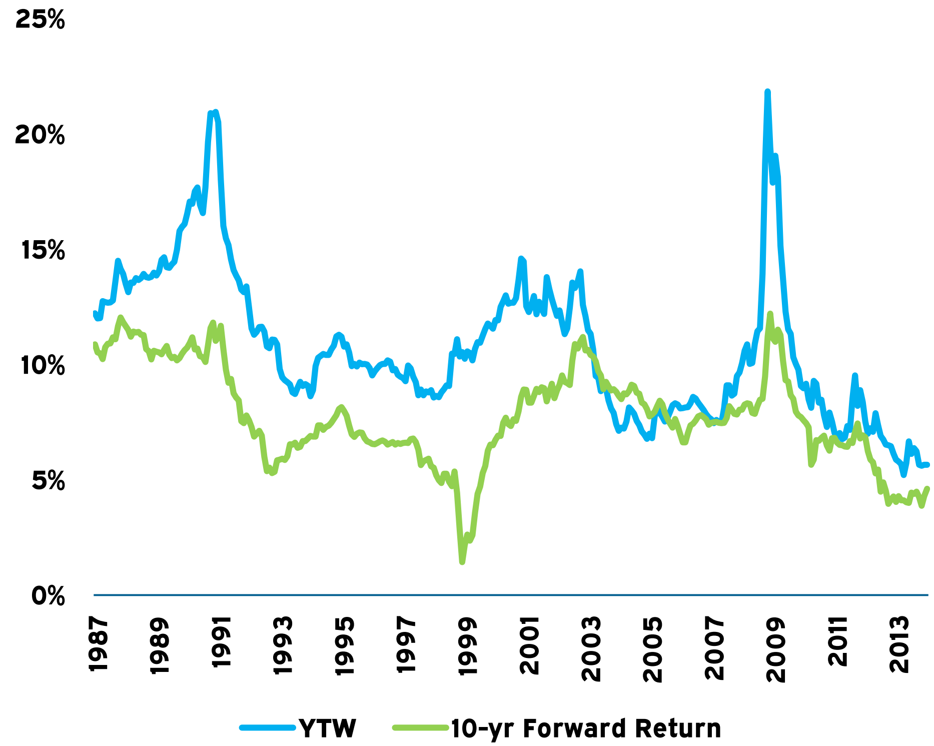
Yields Drive Future Returns

→ Changes in interest rates matter because yields are a very good predictor of future returns for bonds[1], at least over a 10-year horizon.

YTW and Returns for Investment Grade Bonds



YTW and Returns for High Yield Bonds



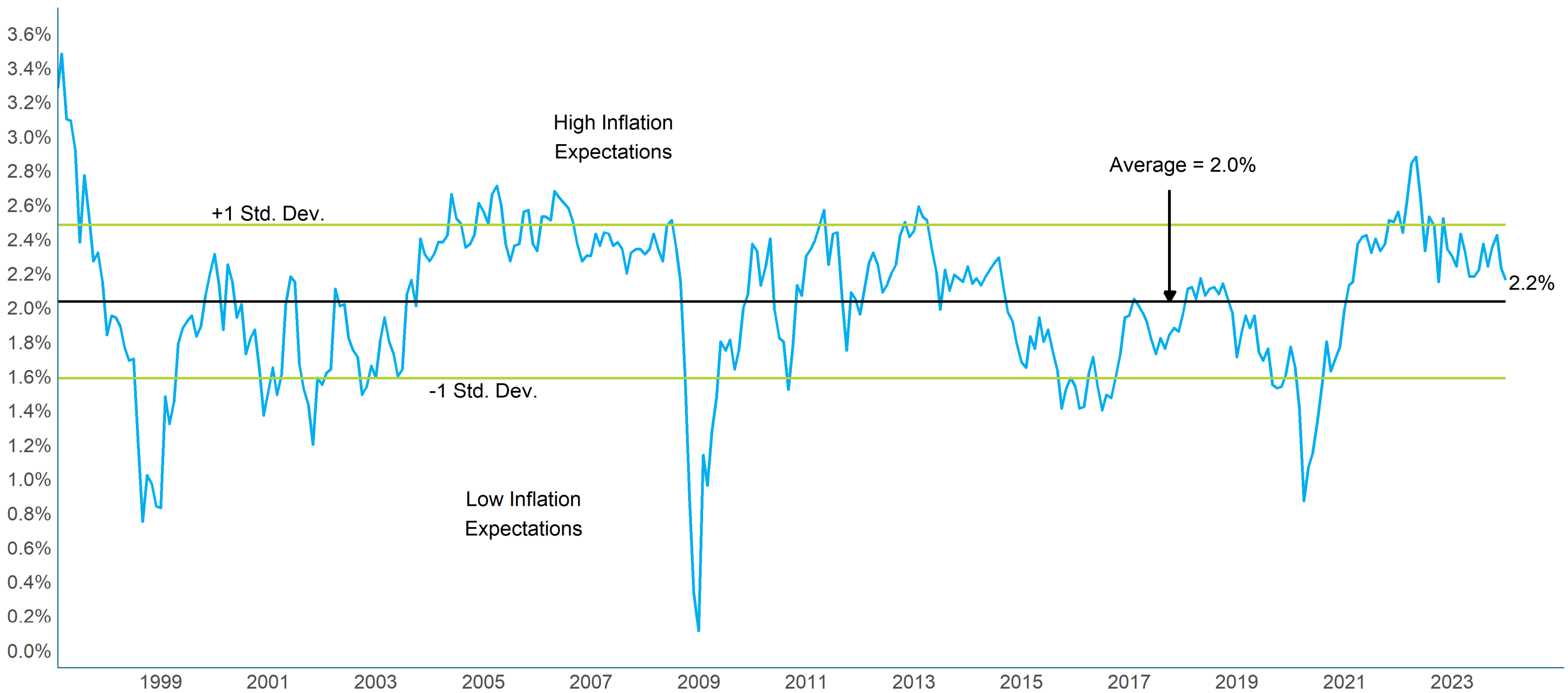
[1] When predicting returns for bonds, default risk should also be taken into account. For example, defaults are why the return for high yield bonds have generally been below the starting yield.
Source: Bloomberg Aggregate and Bloomberg High yield indices. Data is as of December 31, 2023.

Slightly Lower Inflation Expectations

→ After substantial changes in inflation expectations in recent years, the market's expectations for inflation were little changed at the end of 2023.

- The 10-year BEI rate dropped from 2.3% to 2.2%. The 5-year BEI was slightly lower, at 2.1%.

Ten-Year Breakeven Inflation



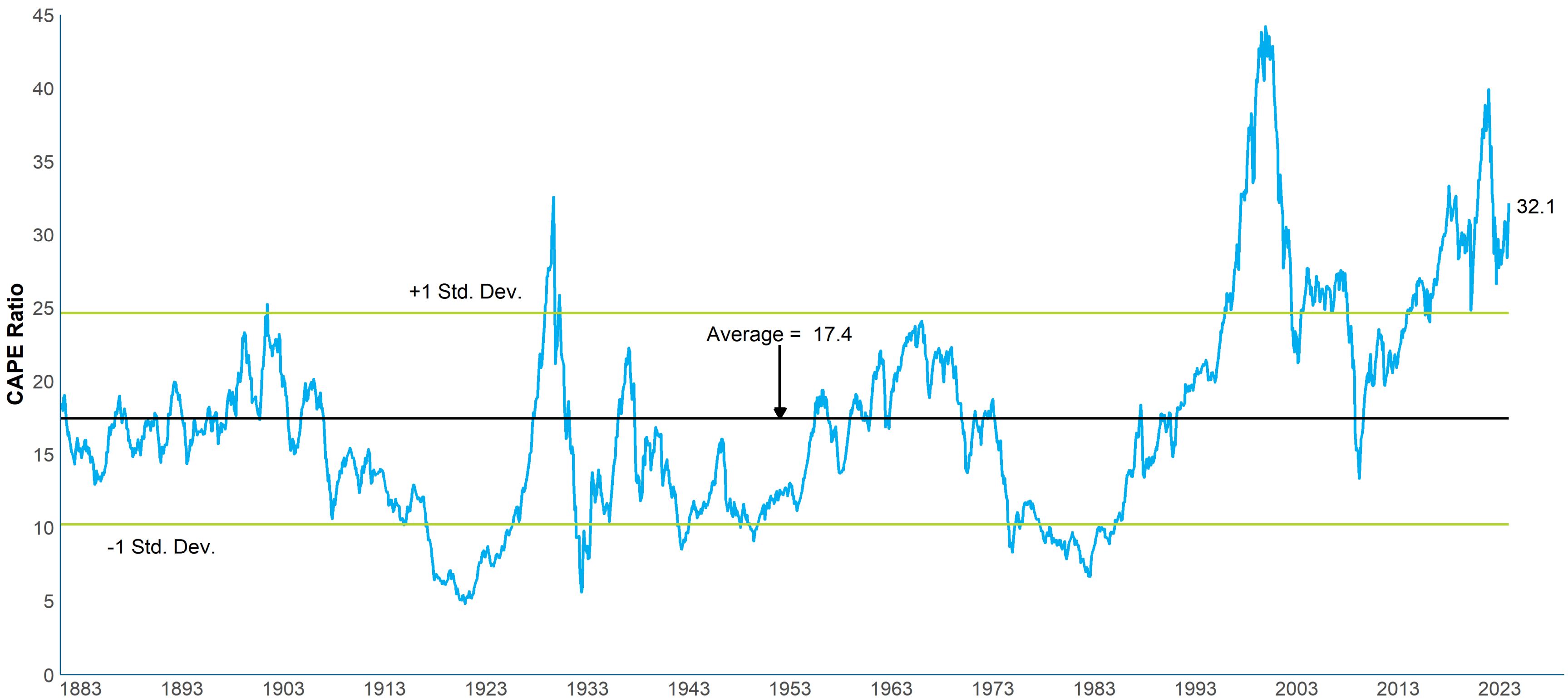
Source: US Treasury and Federal Reserve. Inflation is measured by the Consumer Price Index (CPI-U NSA). Data is as of December 31, 2023.

Higher Prices for US Equities

→ US stocks had a very good year, with the S&P 500 index gaining 26.3%.

→ Valuations increased and remain elevated relative to their long-term history, though they are much nearer their average for the past 30 years.

US Equity Cyclically Adjusted P/E



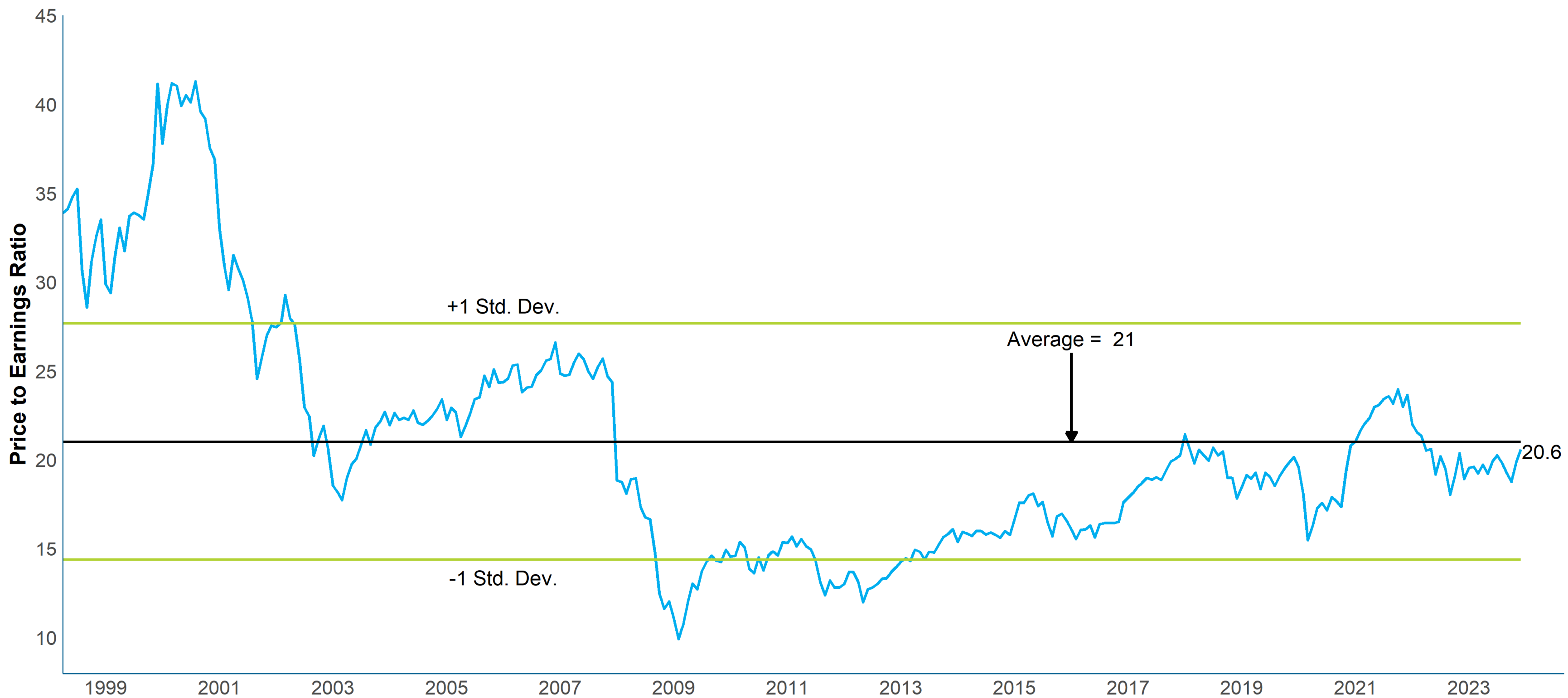
Source: Robert Shiller, Yale University, and Meketa Investment Group. Data is as of December 31, 2023 for the S&P 500 Index.

Slightly Higher Prices in Non-US Equities, too

→ EAFE equities gained 18.2% in USD terms in 2023, benefiting slightly from a currency tailwind.

→ Despite increasing from one year ago, EAFE valuations remain close to their 25-year historical average.

Developed International Equity Cyclically Adjusted P/E



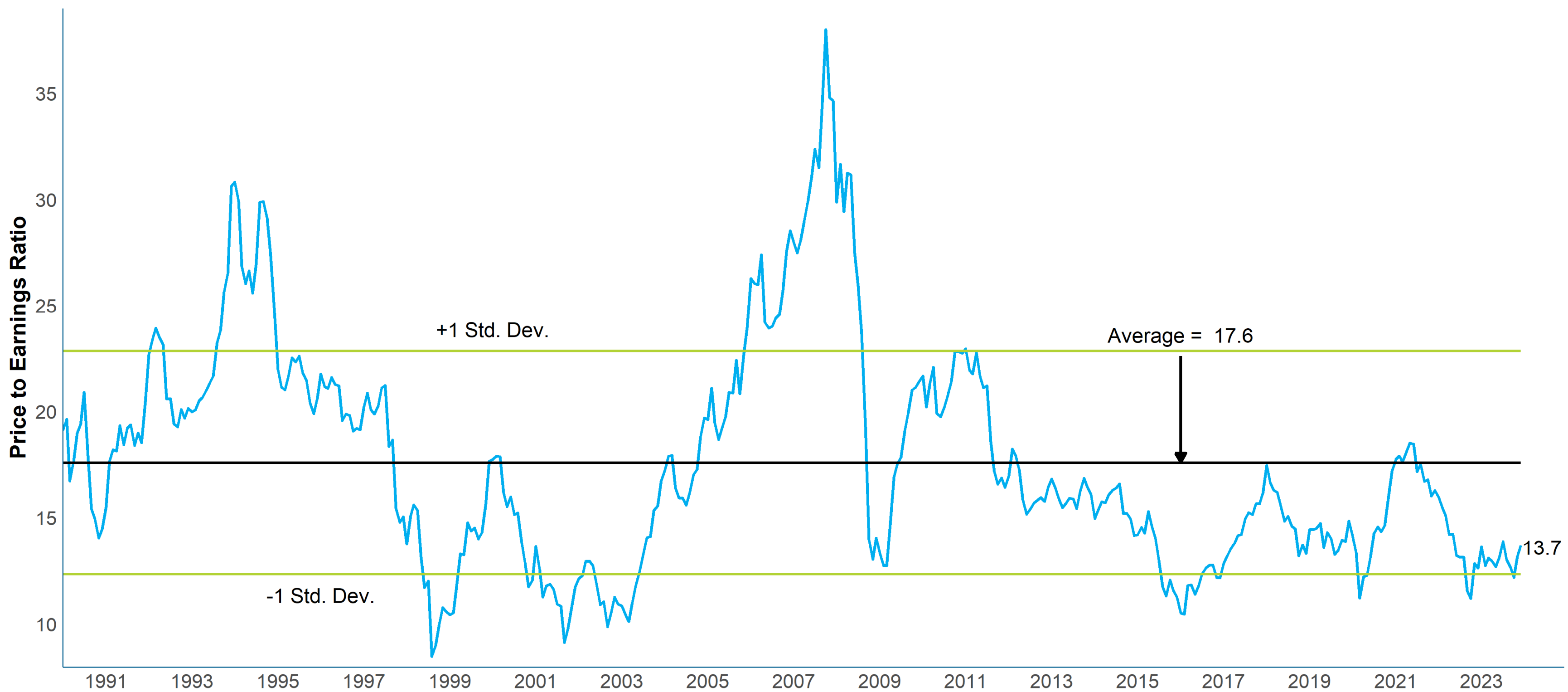
Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of December 31, 2023.

And Slightly Higher Prices in Emerging Market Equities

→ Emerging market equities gained 9.8% in 2023, despite Chinese equities declining 11.2%.

→ EM equity valuations remain well below their long-term average, though there is a significant difference between EM ex-China and China valuations.

Emerging Market Equity Cyclically Adjusted P/E



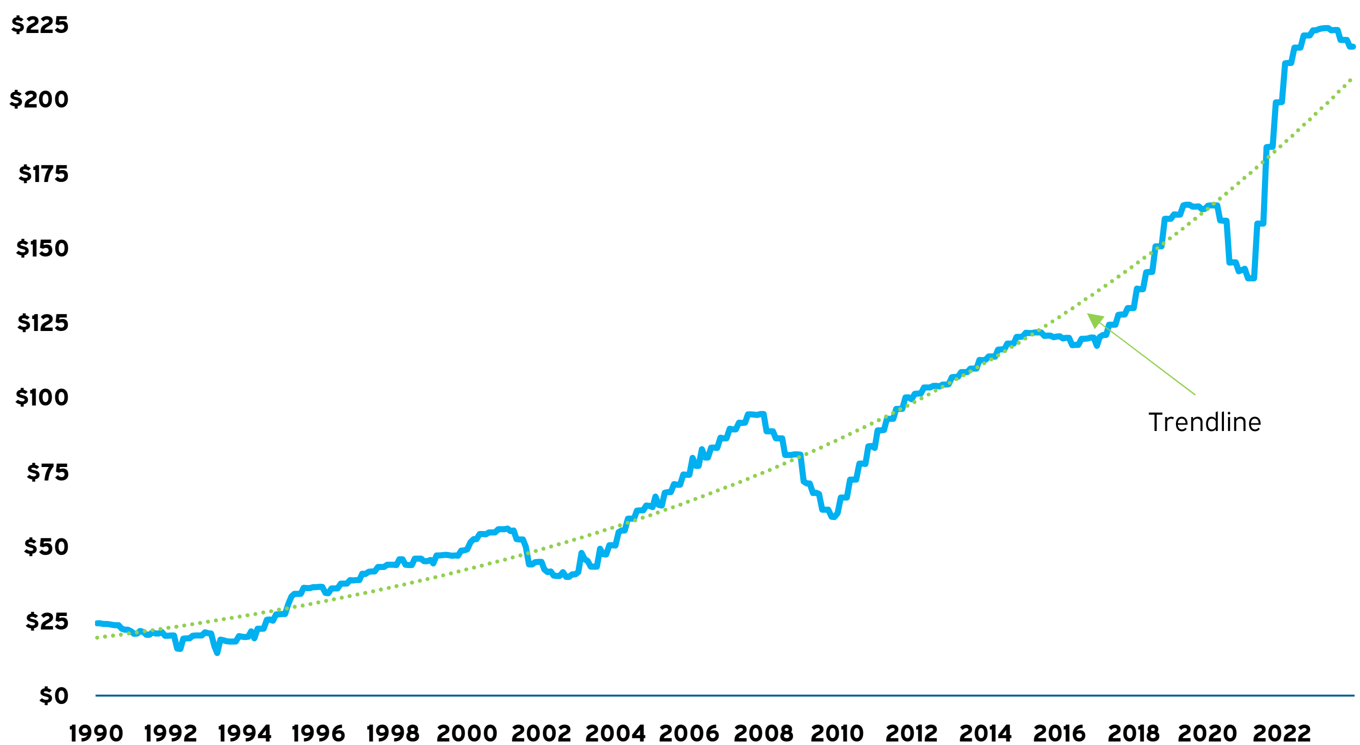
Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years.. Data is as of December 31, 2023.

US Earnings Growth

→ S&P 500 earnings (EPS) growth was relatively flat for the year.

- EPS peaked in 2q23 and appears to have declined slightly since.

S&P 500 Earnings Per Share



Source: S&P 500 Index data from Bloomberg. Represents trailing 12-month "as reported" earnings per share. Data is as of December 31, 2023.

The Link between Economic Growth and Expected Returns

→ We have long assumed that long-term earnings growth is linked to economic growth.

- However, either one can exceed the other.

	US Nominal GDP Growth Per Annum	US Corporate Earnings Growth Per Annum	S&P 500 EPS Growth Per Annum
Since 1990	4.8%	6.9%	6.8%
Since 2010	4.7%	5.2%	9.9%

→ Corporate profits can comprise a higher or lower share of the GDP pie.

- In the US, corporate profits have grown faster than the rest of the economy.

→ Net issuance vs buybacks affects EPS.

- In the US, net shareholder buybacks have resulted in EPS growing faster than earnings.

→ Intervention by the state & structural inefficiencies also affect earnings growth.

- The degree to which maximizing shareholder wealth is a primary motivation varies by market.
  - This can take many different forms, such as state-owned enterprises, state-controlled enterprises, and direct intervention by the state (see China).
- Corruption, graft, nepotism, lack of property rights or clear rule of law, can all affect the link between economic growth and earnings growth.

Source: Federal Reserve Economic Data, S&P. Corporate earnings defined as Corporate Profits After Tax (with IVA and CCAdj). Seasonally Adjusted Annual Rate for Nominal GDP. Data is as of September 30, 2023.

Earnings Growth

→ EPS has grown faster than earnings in the US in recent years, acting as a tailwind.

→ This is primarily due to companies using excess cash to buy back their shares.[1]

EPS with no change in shares	EPS with 2% reduction in shares
\$1,578 bil / 10.5 mil shares	\$1,578 bil / 10.3 mil shares
= \$150.3 per share	= \$153.2 per share

→ Over ten years, this can have a significant compounding effect.

EPS with 2% reduction in shares for ten years
\$1,578 bil / 8.6 mil shares
= \$183.9 per share[2]

→ Data shows that this trend is almost two decades long.[3]

→ This bucks the longer-term trend (still common in non-US markets) of companies being net issuers of shares.

[1] Buying back shares reduces the denominator in the Earnings per Share equation, thus increasing the result of the calculation. The example shown is illustrative.
[2] Throughout this document, numbers may not sum due to rounding
[3] Source: Yardeni research

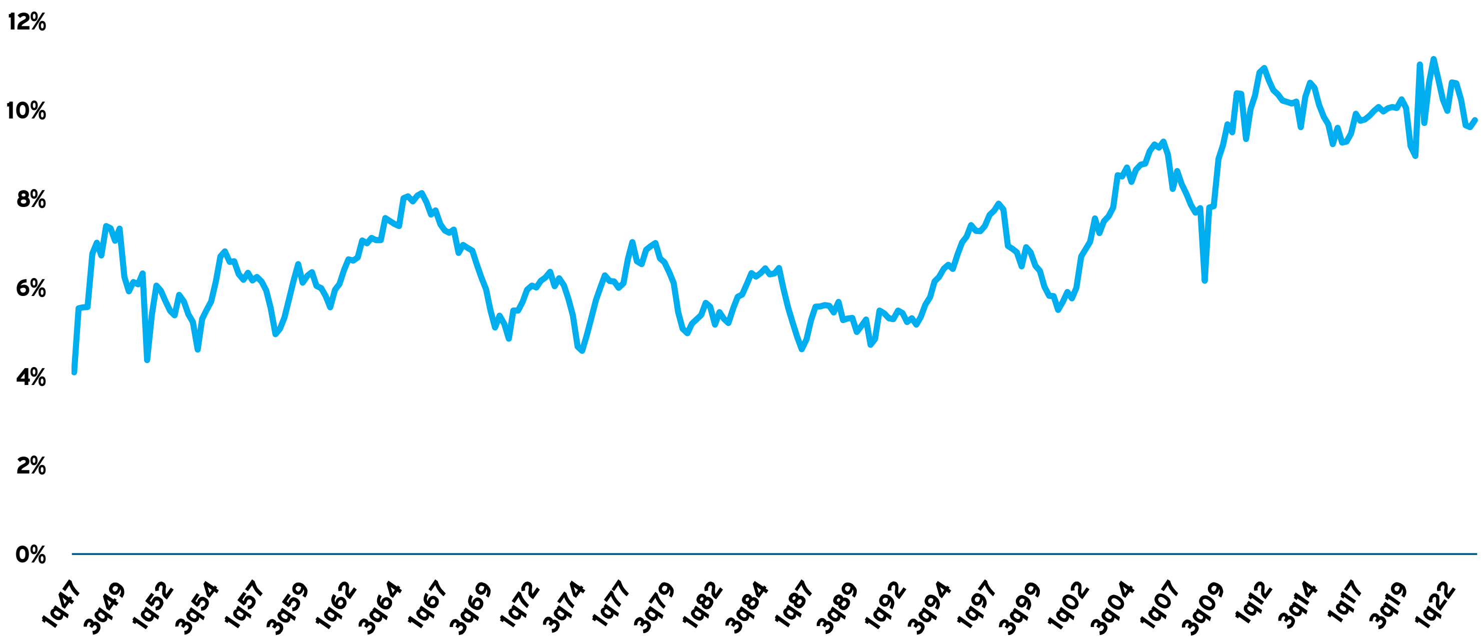
US Profitability

→ The strong post-2000 growth in US earnings is linked in part to profits consuming a greater proportion of the economic pie.

- Since 2000, corporate profits averaged 9.1% of GDP, vs 6.1% prior to that.

→ Justifying higher future earnings growth implies that profits will continue to comprise a higher percentage of GDP.

Corporate Profits as a % of GDP



Source: Meketa analysis of FRED data. Series uses Seasonally Adjusted Annual Rate for Nominal GDP and Corporate Profits After Tax with Inventory Valuation Adjustment (IVA) and Capital Consumption Adjustment (CCAdj). Data is from 1q1947 through 3q2023.

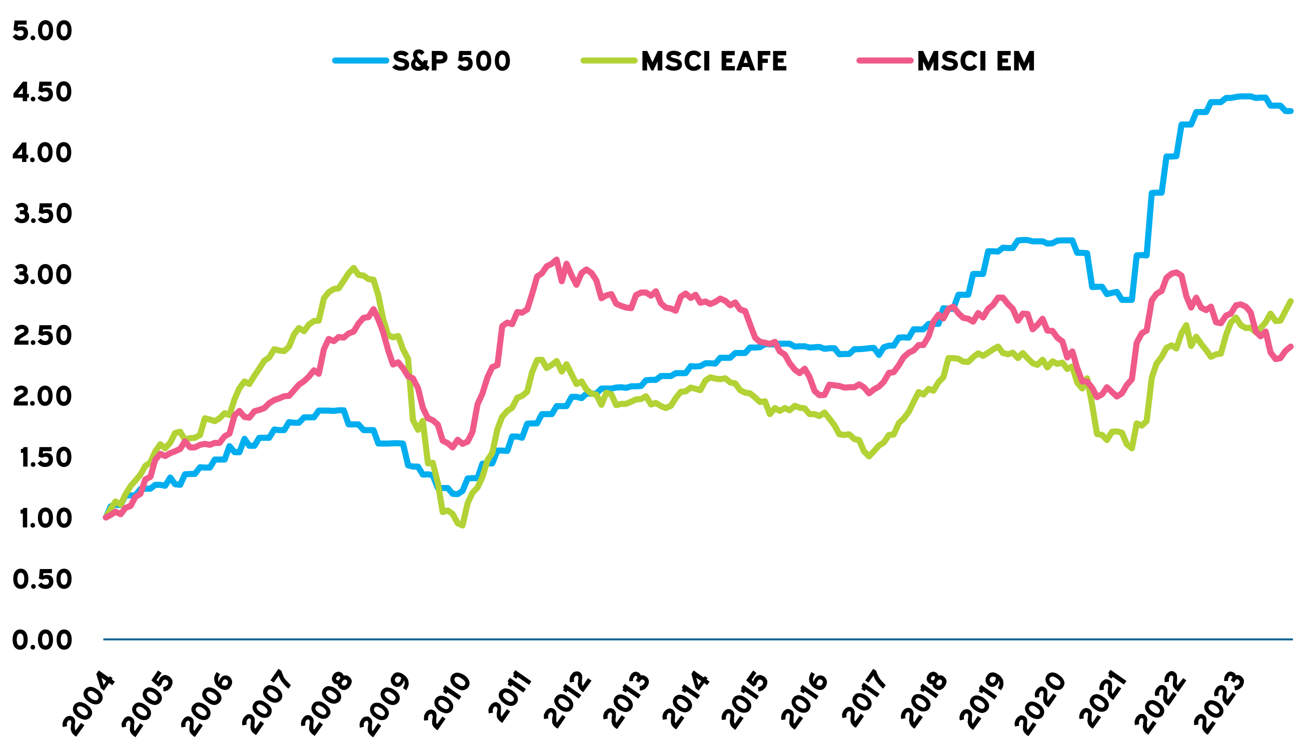
EPS Growth

→ EPS growth for the EAFE and Emerging Markets indices has been essentially zero since 2011.

- Meanwhile, US EPS growth has been strong over the past two decades.

→ There has been a meaningful difference in EPS growth for the US versus other global markets, and it has not been due to a difference in GDP growth.

20-Year EPS Growth, indexed to $1



Source: Meketa analysis of MSCI and Bloomberg data. Series uses Trailing 12-month earnings per share in local currency. As of December 31, 2023.

Impact of Interest Rates on Equity Valuations

→ Looking at price-earnings (or PE10, or PB) ratios alone results in many equity markets looking expensive, at least relative to their historical average.

- The picture may look somewhat different when accounting for interest rates.

→ The level of interest rates affects valuations when discounting future cash flows (or earnings).

→ This time value of money concept can be quantified by using the dividend discount model (DDM).

- The DDM calculates a present value for the stock market based on interest rates.

→ The low rates of the 2010's drove up valuations, a trend that was reversed by the sharp increase in rates in 2022.

→ Using the DDM approach, developed equity markets look more attractively priced than they do from a PE10 perspective, despite the higher rates of the last two years.

Correction in Prices Needed to Return to Historical Average

	US Equities (%)	EAFE Equities (%)	EM Equities (%)
Using PE10	-21.2	-10.3	3.9
Adjusting for Rates	-6.1	-7.9	-6.9

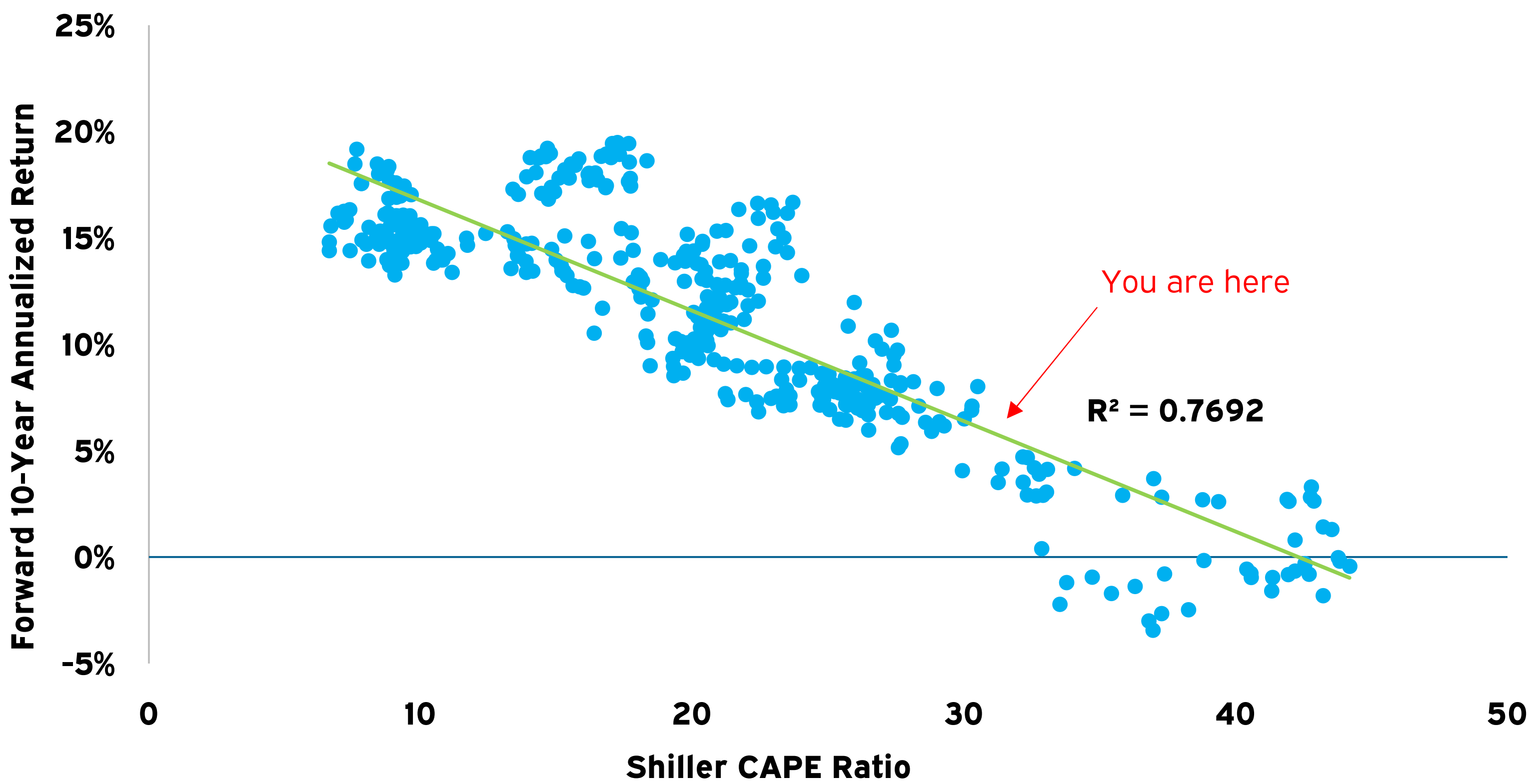
Source: Meketa analysis of MSCI and Bloomberg data.

Impact of Equity Prices on Returns

→ Relative prices have been indicative of future equity returns.

→ Higher prices have led to lower future returns, and vice versa.

US Equities: Shiller CAPE vs. Forward 10-Year Returns



Source: Robert Shiller, Yale University, and Meketa Investment Group. Data is based on monthly returns and Cyclically Adjusted P/E ratio on S&P 500 Index for the period from January 1980 through December 2023.

Valuations High for Growth Stocks

- → After a reversal of the trend in 2022, large growth stocks outperformed large value by more than 30% in 2023.
- → Value stocks appear to have better relative valuations, though the gap in pricing is still far from the peaks of the dot-com bubble.

US Growth P/E vs. Value P/E

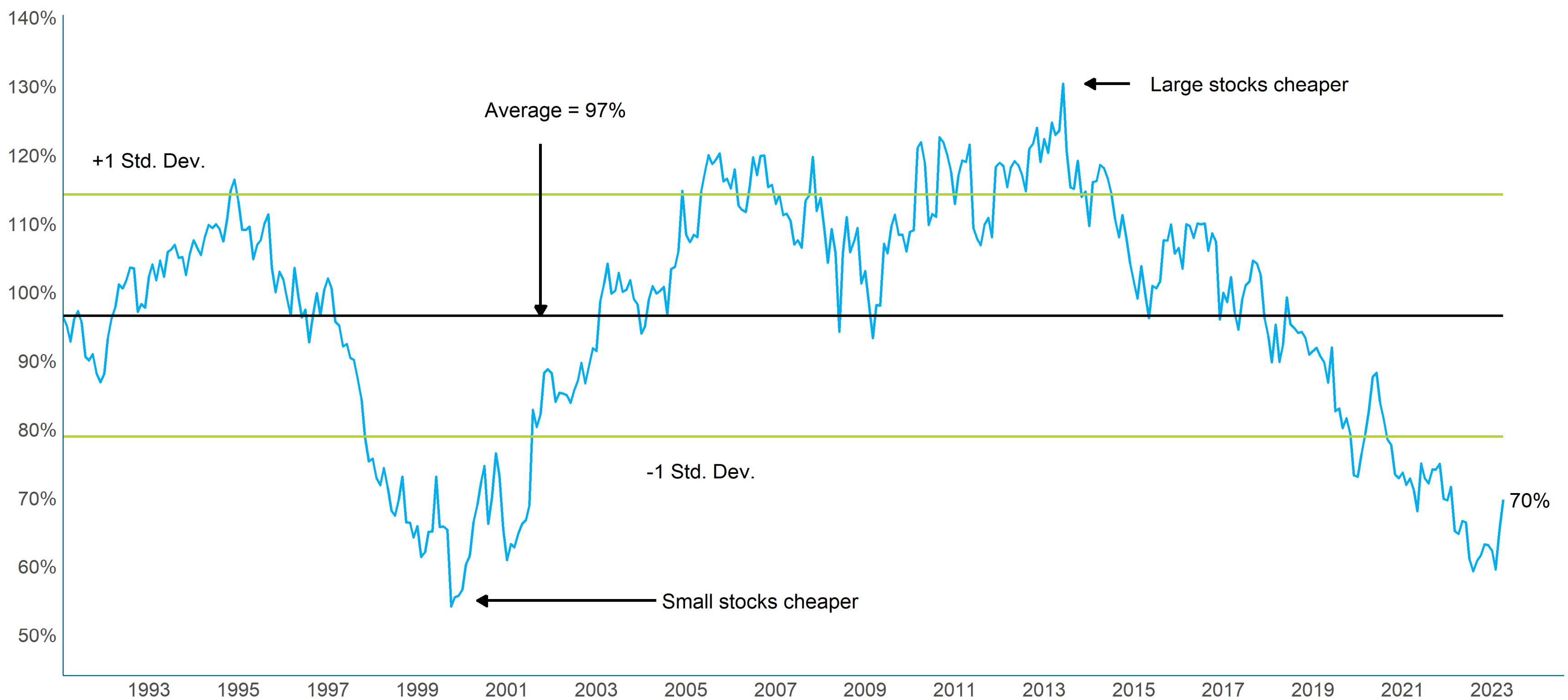
Source: Bloomberg, Russell, and Meketa Investment Group. Growth P/E (Russell 3000 Growth Index) vs. Value P/E. (Russell 3000 Value Index). Earnings figures represent 12-month "as reported" earnings. Data as of December 31, 2023.

Small Cap Valuations Remain Low

→ Large cap stocks outperformed small cap stocks in 2023.

→ Small cap stocks continue to trade at low valuations relative to their long-term history versus large cap stocks.

US Small Cap P/E vs. Large Cap P/E



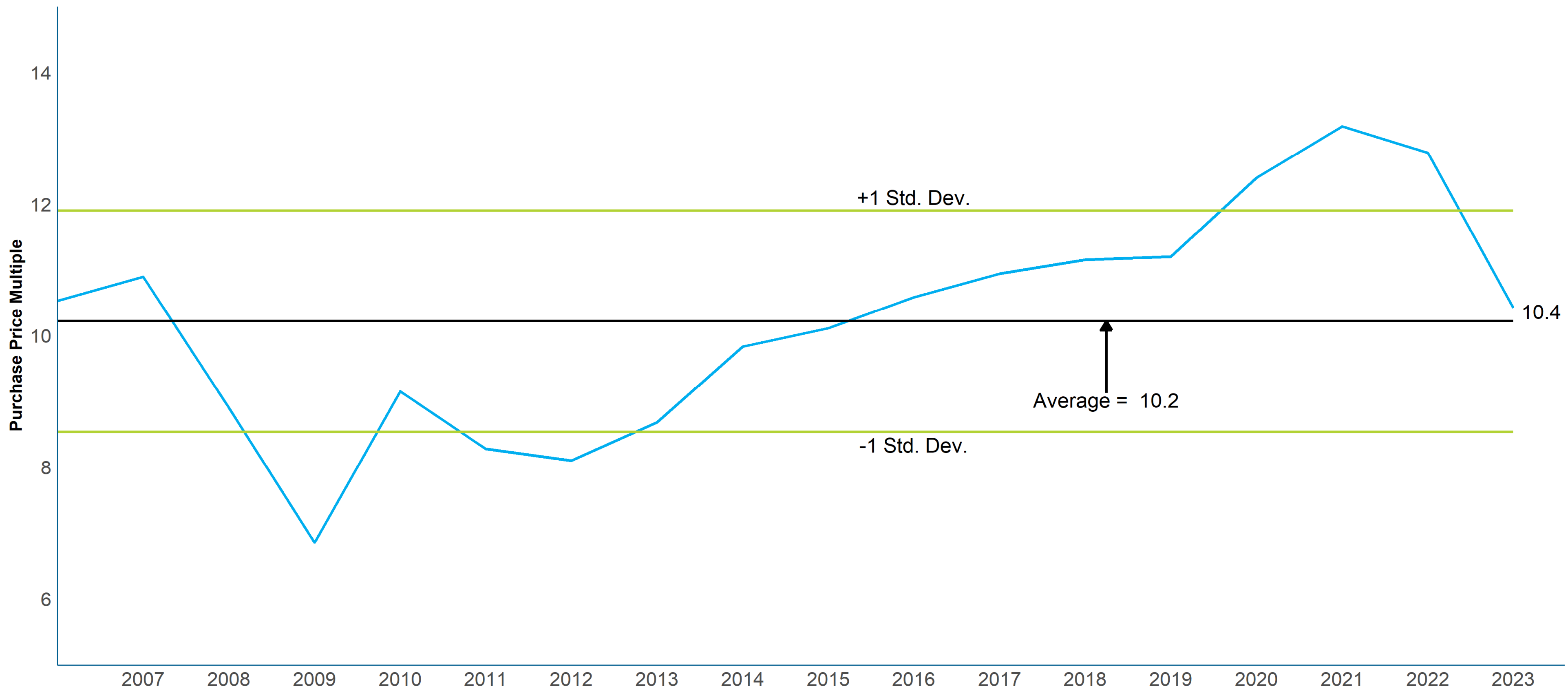
Source: Bloomberg, Russell, and Meketa Investment Group. Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index). Earnings figures represent 12-month "as reported" earnings. Data as of December 31, 2023.

Private Equity Prices Coming Back Down

→ EBITDA multiples fell in the first half of 2023 for buyouts.

- Valuations remained above their post-GFC average.

Private Equity Multiples



Source: Preqin Median EBITDA Multiples Paid in All LBOs, as of June 30, 2023.

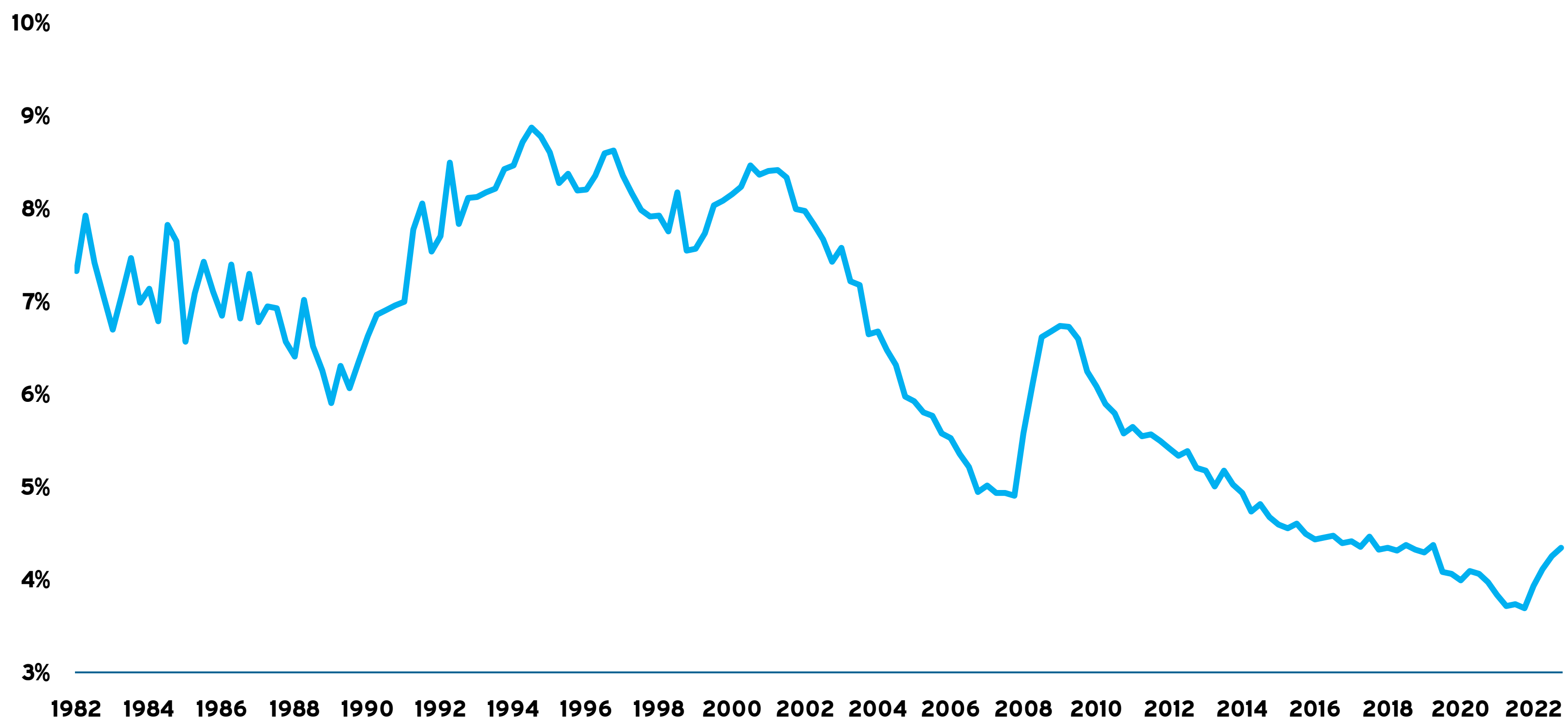
Real Estate Valuations Improving

→ After a nearly 30-year decline, cap rates for core real estate appear to have bottomed in 2022.

- Cap rates rebounded in 2023, reflecting changes in valuations.

→ Cap rates are similar to an earnings yield for equities in that they may be indicative of future returns.

Core Real Estate Cap Rates



Source: NCREIF NPI value-weighted cap rates. As of September 30, 2023.

2024 Expected Returns and Changes from Prior Years

10-year Geometric Expected Returns
Rate Sensitive

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Cash Equivalents	2.4	3.1	-0.7	Lower projected short-term rates
Short-term Investment Grade Bonds	3.8	3.8	0.0	
Investment Grade (Core) Bonds	4.6	4.8	-0.2	Slightly lower yields
Intermediate Government Bonds	4.0	3.7	0.3	Slightly higher yields
Long-term Government Bonds	4.3	4.3	0.0	
Mortgage-Backed Securities	4.7	4.7	0.0	
Investment Grade Corporate Bonds	5.2	5.6	-0.4	Tighter spreads
Long-term Corporate Bonds	5.2	5.3	-0.1	Tighter spreads
Short-term TIPS	3.8	3.9	-0.1	Slightly lower inflation expectations
TIPS	4.3	4.3	0.0	
Long-term TIPS	4.7	4.7	0.0	
Global ILBs	4.3	4.7	-0.4	Slightly lower inflation expectations
Foreign Bonds	3.1	3.8	-0.7	Slightly lower yields
US Inflation	*2.4*	*2.5*	*-0.1*	*Slightly lower near-term economist and market projections*

10-year Geometric Expected Returns
Credit

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
High Yield Bonds	6.5	8.0	-1.5	Tighter spreads
Higher Quality High Yield	6.0	7.1	-1.1	Tighter spreads
Bank Loans	6.5	7.6	-1.1	Tighter spreads
Collateralized Loan Obligations(CLOs)	8.1	8.0	0.1	Slightly higher yields
Convertible Bonds	5.2	6.1	-0.9	Tighter spreads
Emerging Market Bonds (major)	7.0	6.7	0.3	Higher yields
Emerging Market Bonds (local)	6.3	6.4	-0.1	
Private Debt	9.2	9.4	-0.2	Less extreme distressed pricing
Direct Lending	8.2	8.5	-0.3	Lower assumed leverage
Asset Based Lending	9.7	9.4	0.3	Lower average fees
Special Situations Lending	9.7	10.8	-1.1	Less extreme distressed pricing

10-year Geometric Expected Returns
Equities

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
US Equity	6.9	7.8	-0.9	Higher valuations
US Small Cap	8.4	8.7	-0.3	Higher valuations
Developed Non-US (EAFE) Equity	7.7	10.1	-2.4	Higher valuations, lower projected earnings growth
Dev. Non-US Small Cap	8.8	10.5	-1.7	Higher valuations
Emerging Market Equity	7.6	10.3	-2.7	Higher valuations, lower projected earnings growth
Emerging Market Small Cap	7.4	10.0	-2.6	Higher valuations, lower dividend yields
Emerging Market ex-China	7.8	10.7	-2.9	Higher valuations, lower projected earnings growth
China Equity	7.1	9.0	-1.9	Lower projected earnings growth
Frontier Market Equity	9.6	11.2	-1.6	Higher valuations, lower projected growth & dividends
Global Equity	7.2	8.8	-1.6	Higher valuations
Low Volatility Equity	6.5	7.9	-1.4	Higher valuations
Private Equity	9.9	9.7	0.2	Mixed valuations and slightly lower borrowing costs
Buyouts	9.5	9.4	0.1	Mixed valuations and slightly lower borrowing costs
Growth Equity	10.4	10.1	0.3	Mixed valuations and slightly lower borrowing costs
Venture Capital	10.8	10.4	0.4	Lower valuations

10-year Geometric Expected Returns
Real Estate & Infrastructure

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Real Estate	6.3	5.9	0.4	Higher cap rates
US REITs	5.6	6.4	-0.8	Lower yields, some price reversion expected
Core Private Real Estate	4.8	4.3	0.5	Higher cap rates
Value-Added Real Estate	7.3	6.5	0.8	Higher cap rates
Opportunistic Real Estate	8.4	7.6	0.8	Higher cap rates
Infrastructure	7.4	6.9	*0.5*	Lower borrowing costs, model changes
Infrastructure (Public)	8.0	8.0	0.0	
Infrastructure (Core Private)	6.5	6.4	0.1	
Infrastructure (Non-Core Private)	8.0	7.4	0.6	Lower borrowing costs

10-year Geometric Expected Returns
Natural Resources & Commodities

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Natural Resources	7.8	NA		90% private, 10% public
Natural Resources (Public)	8.3	7.8	0.5	Improved relative valuations
Natural Resources (Private)	7.7	8.6	-0.9	Higher valuations
Energy	9.1	9.3	-0.2	
Mining	8.6	9.8	-1.2	Higher valuations
Timberland	5.5	5.7	-0.2	Slightly higher valuations
Farmland	5.0	3.9	1.1	Improved valuations, higher income expectations
Sustainability	8.4	9.2	-0.8	Higher valuations
MLPs	6.6	5.2	1.4	Improved relative valuations
Gold Mining	8.0	9.0	-1.0	Higher valuations
Gold (Metal)	2.4	2.5	-0.1	Slightly lower inflation expectations
Commodities	4.9	6.3	-1.4	Lower projected cash yield, negative roll return

10-year Geometric Expected Returns
Alternative Strategies (Other)

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Hedge Funds	4.5	5.4	-0.9	Lower cash/credit yield, higher valuations
Long-Short	3.2	4.2	-1.0	Higher valuations, lower projected cash yield
Event Driven	7.0	7.7	-0.7	Higher valuations, lower projected cash yield
Global Macro	4.2	5.2	-1.0	Higher valuations, lower yield, tighter spreads
CTA – Trend Following	3.8	3.9	-0.1	
Fixed Income/L-S Credit	5.0	6.3	-1.3	Tighter spreads
Relative Value/Arbitrage	5.6	6.2	-0.6	Lower projected cash yield
Long Vol	0.7	1.0	-0.3	
Insurance Linked Strategies	5.3	5.7	-0.4	Lower yield
Alternative Risk Premia	4.8	5.5	-0.7	Lower projected cash yield
Risk Parity (10% vol)	6.3	7.8	-1.5	Higher equity valuations, tighter spreads
TAA	5.3	5.6	-0.3	Higher equity valuations, tighter spreads
Digital Currencies	2.4	2.4	0.0	

20-year Geometric Expected Returns
Rate Sensitive

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Cash Equivalents	2.5	2.9	-0.4	Lower projected short-term rates
Short-term Investment Grade Bonds	3.7	3.5	0.2	
Investment Grade (Core) Bonds	4.8	4.7	0.1	
Intermediate Government Bonds	4.1	3.7	0.4	Slightly higher yields
Long-term Government Bonds	5.0	5.0	0.0	
Mortgage Backed Securities	4.9	4.6	0.3	
Investment Grade Corporate Bonds	5.4	5.4	0.0	
Long-term Corporate Bonds	6.0	5.7	0.3	
Short-term TIPS	3.7	3.6	0.1	
TIPS	4.7	4.5	0.2	
Long-term TIPS	5.2	5.2	0.0	
Global ILBs	4.7	4.7	0.0	
Foreign Bonds	3.9	4.0	-0.1	Slightly lower yields
US Inflation	*2.8*	*2.6*	*0.2*	Higher long-term inflation expectations

20-year Geometric Expected Returns
Credit

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
High Yield Bonds	6.8	7.3	-0.5	Tighter spreads
Higher Quality High Yield	6.4	6.7	-0.3	Tighter spreads
Bank Loans	6.6	7.0	-0.4	Tighter spreads
Collateralized Loan Obligations (CLOs)	7.2	7.2	0.0	
Convertible Bonds	6.2	6.4	-0.2	Tighter spreads
Emerging Market Bonds (major)	6.8	6.4	0.4	Higher yields
Emerging Market Bonds (local)	6.2	6.0	0.2	
Private Debt	9.2	9.0	0.2	
Direct Lending	8.4	8.3	0.1	Lower assumed leverage
Asset Based Lending	9.4	9.0	0.4	Lower average fees
Special Situations Lending	9.9	10.2	-0.3	Less extreme distressed pricing

20-year Geometric Expected Returns
Equities

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
US Equity	8.5	8.7	-0.2	Higher valuations
US Small Cap	9.4	9.3	0.1	
Developed Non-US (EAFE) Equity	8.9	9.8	-0.9	Higher valuations, lower projected earnings growth
Dev. Non-US Small Cap	9.5	10.1	-0.6	Higher valuations
Emerging Market Equity	8.9	10.0	-1.1	Higher valuations, lower projected earnings growth
Emerging Market Small Cap	8.9	10.0	-1.1	Higher valuations, lower dividend yields
Emerging Market ex-China	9.0	10.3	-1.3	Higher valuations, lower projected earnings growth
China Equity	8.6	9.3	-0.7	Lower projected earnings growth
Frontier Market Equity	10.0	10.7	-0.7	Higher valuations, lower projected growth & dividends
Global Equity	8.7	9.2	-0.5	Higher valuations
Low Volatility Equity	7.8	8.3	-0.5	Higher valuations
Private Equity	11.2	11.0	0.2	Mixed valuations and slightly lower borrowing costs
Buyouts	10.8	10.7	0.1	Mixed valuations and slightly lower borrowing costs
Growth Equity	11.5	11.2	0.3	Mixed valuations and slightly lower borrowing costs
Venture Capital	12.0	11.6	0.4	Lower valuations

20-year Geometric Expected Returns
Real Estate & Infrastructure

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Real Estate	8.0	7.8	0.2	Higher cap rates
US REITs	7.8	8.0	-0.2	Lower yields
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Value-Added Real Estate	9.0	8.3	0.7	Higher cap rates
Opportunistic Real Estate	10.3	9.6	0.7	Higher cap rates
Infrastructure	9.0	8.3	0.7	Lower borrowing costs, model changes
Infrastructure (Public)	9.1	8.8	0.3	
Infrastructure (Core Private)	8.0	7.8	0.2	
Infrastructure (Non-Core Private)	10.0	9.5	0.5	Lower borrowing costs

20-year Geometric Expected Returns
Natural Resources & Commodities

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Natural Resources	9.3	NA		90% private, 10% public
Natural Resources (Public)	9.2	8.7	0.5	Improved relative valuations
Natural Resources (Private)	9.3	9.8	-0.5	Higher valuations
Energy	10.4	10.4	0.0	
Mining	9.9	10.2	-0.3	Higher valuations
Timberland	7.3	7.4	-0.1	
Farmland	7.0	6.5	0.5	Improved valuations, higher income expectations
Sustainability	10.0	10.3	-0.3	Higher valuations
MLPs	8.4	7.4	1.0	Improved relative valuations
Gold Mining	9.5	9.7	-0.2	Higher valuations
Gold (Metal)	3.5	3.3	0.2	Slightly higher long-term inflation expectations
Commodities	5.3	5.7	-0.4	Lower cash yield

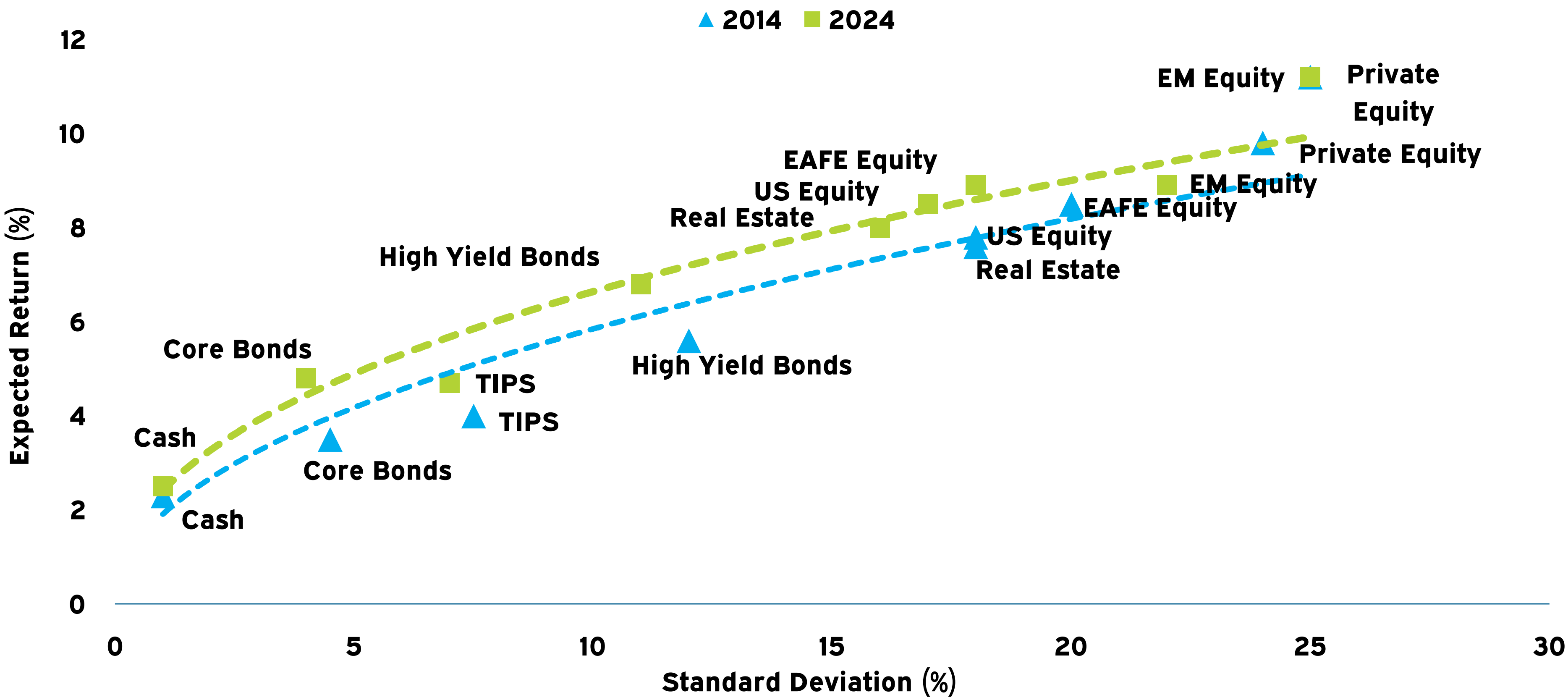
20-year Geometric Expected Returns
Alternative Strategies (Other)

	2024 E(R) (%)	2023 E(R) (%)	Δ From 2023 (%)	Notes
Hedge Funds	5.8	6.1	-0.3	Lower cash/credit yield, higher equity valuations
Long-Short	5.3	5.6	-0.3	Higher valuations, lower projected cash yield
Event Driven	7.6	7.7	-0.1	Higher valuations, lower projected cash yield
Global Macro	5.4	5.7	-0.3	Higher valuations, lower cash yield, tighter spreads
CTA – Trend Following	4.7	4.8	-0.1	
Fixed Income/L-S Credit	6.1	6.5	-0.4	Tighter spreads
Relative Value/Arbitrage	6.5	6.7	-0.2	Lower projected cash yield
Long Vol	1.2	1.1	0.1	
Insurance Linked Strategies	6.2	6.2	0.0	
Alternative Risk Premia	5.2	5.6	-0.4	Lower projected cash yield
Risk Parity (10% vol)	7.2	7.7	-0.5	Higher equity valuations, tighter credit spreads
TAA	6.1	5.7	0.4	Model changes
Digital Currencies	3.5	3.3	0.2	

The Big Picture: Higher Return for Similar Risk[1]

→ The relationship between long-term return expectations and the level of risk accepted is not static.

→ The higher interest rates of the last two years mean that many investors should be able to take on less risk than they have over the past decade if they want to achieve their target returns.



[1] Expected return and standard deviation are based upon Meketa Investment Group's 2014 and 2024 20-year capital market expectations.

Structural Changes and FAQs

Structural Changes for 2024

→ We added the following “asset classes” (total now at 109):

- Short-term government bonds
- Municipal bonds

→ We added several private market “aggregates” to distinguish between those that include and exclude a public markets component:

- Real estate (private)
- Natural resources
- Infrastructure (private)

Model Changes for 2024

→ We reweighted multiple composites to reflect a blend of the market opportunity and a typical Meketa portfolio.

→ New weightings for Infrastructure composite.

- Decreased core and increased non-core.

→ New weightings for Private Debt composite.

- Decreased direct lending, increased asset based lending.

→ New weightings for Real Estate composite.

- Decreased opportunistic, increased debt.

→ New weightings for Natural Resources composite.

- Decreased Energy, increased timber and farmland.

→ New weightings for TAA composite.

- Added bank loans and foreign bonds
- Increased US equity, decreased non-US equities, high yield, and TIPS.

Model Changes for 2024 (continued)

→ We reduced the cap for the magnitude of currency impact from +/- 100 bp to +/- 50 bp per annum.

- Currency movements are the portion of our CME's that we probably have the least confidence in (hence why we have capped them historically).
- This affects any asset class that has foreign currency exposure. There are a few asset classes (e.g., foreign bonds, foreign equities, EMD local) that are 100% non-USD and hence feel the full 50 bp impact.
- There are ~25 other asset classes that have some sort of global component (e.g., global equities, buyouts, natural resources) and hence experienced a more modest impact of 0-20 bp.

→ We increased the % of GDP growth that translates to EPS growth for the US (which flowed through to a smaller increase for global equities) and for EAFE small cap, while decreasing it for all other equity markets.

- Over the past twenty years, most markets have seen EPS growth keep pace with GDP growth.
- However, this has not been the case for the past ten years, and the US has been an outlier in this regard.
  - Over the past ten years, US earnings per share has continued to grow faster than nominal GDP (6.8% per annum versus 5.0%).
  - Annualized EPS growth over the ten years for EAFE was 3.1% and for EM was -1.4% (with China at -2.8%).

→ We added fintech to our VC valuation model.

→ We added Taiwan and deleted Russia from our currency impact models.

→ For measuring historical volatility (and correlations), we extended our look-back period from 15 years to 20 years, so as to continue to include the GFC in our analysis.

→ In addition, Bloomberg changed the way they calculated earnings, which resulted in varied impacts on our equity models.

FAQs for 2024

How do these CMEs compare to prior years' assumptions?

→ To help evaluate this, we created a weighted average of expected returns for the asset classes that comprise a typical institutional portfolio.[1]

→ The value of the expected return for the portfolio is not a precise expected return (i.e., it has not been run via MVO), but the magnitude of the change is what is relevant.

→ In short, the average of 20-year expected returns is 20 basis points lower than last January.

Year	Weighted Average Expected Return (%)	Change from Prior Year (%)
2024	8.0	-0.2
2023	8.2	+1.7
2022	6.5	+0.4
2021	6.1	-0.7
2020	6.8	-0.6
2019	7.4	+0.7
2018	6.7	-0.2

[1] The weights are as follows: 10% investment grade bonds, 3% LT government bonds, 4% TIPS, 3% high yield, 2% bank loans, 3% EM debt, 3% private debt, 25% US equity, 12% EAFE equity, 8% EM equity, 10% private equity, 10% real estate, 2% natural resources, 3% infrastructure, 2% hedge funds.

FAQs for 2024 (continued)

What is driving the changes from last year?

→ The changes relative to last year are being driven by what happened in the market.

→ Credit spreads tightened, leading to lower yields, thus decreasing expected returns for fixed income assets.

→ Most equity markets rallied, pushing them to higher valuations, thus reducing their forward-looking returns.

→ Lower anticipated borrowing costs had a positive impact on assets that use leverage.

→ Lower anticipated cash yields hurt expected returns for hedge funds and related asset classes.

→ The long downward trend in cap rates for real estate reversed, pushing up their expected returns.

→ Higher anticipated long-term interest rates also provide a tailwind in our 20-year projections, as the bridge from 10 to 20 years is made via a risk premium being added to a (higher) future risk-free rate.

- The risk-free rate jumped from 4.17% to 4.64%.

How do Meketa's CMEs compare to peers?

→ We believe our CMEs are in the same ballpark as our peers.

→ We generally cite the survey conducted each year by Horizon Actuarial Services for making peer comparisons, as it is the most comprehensive survey of CMEs of which we are aware.

- However, this survey is usually not published until July or August.

→ It is important to distinguish between intermediate term assumptions (e.g., 7-10 years) and long-term assumptions (e.g., 20-30 years) when making these comparisons.

FAQs for 2024 (continued)

Did volatility expectations change?

- → Not systematically, though many public equity asset classes saw a 1% drop in expected volatility.
- → The biggest change was a 5% increase in the broad infrastructure category. This was entirely due to our change in the composite weighting that substantially increased non-core versus core infrastructure.
- → Our methodology includes a 20-year look back, which includes the volatile years of 2022, 2020 and 2008.

Did Meketa make any qualitative adjustments?

- → As usual, we made some qualitative adjustments to the CMEs.
- → We made a decrease to high yield real estate debt, as our model relies upon public markets data that is limited and perhaps not fully representative.
- → We made an adjustment to farmland as the high inflation of the last two years was causing the real income portion of our model to predict long-term income that seemed unrealistic.

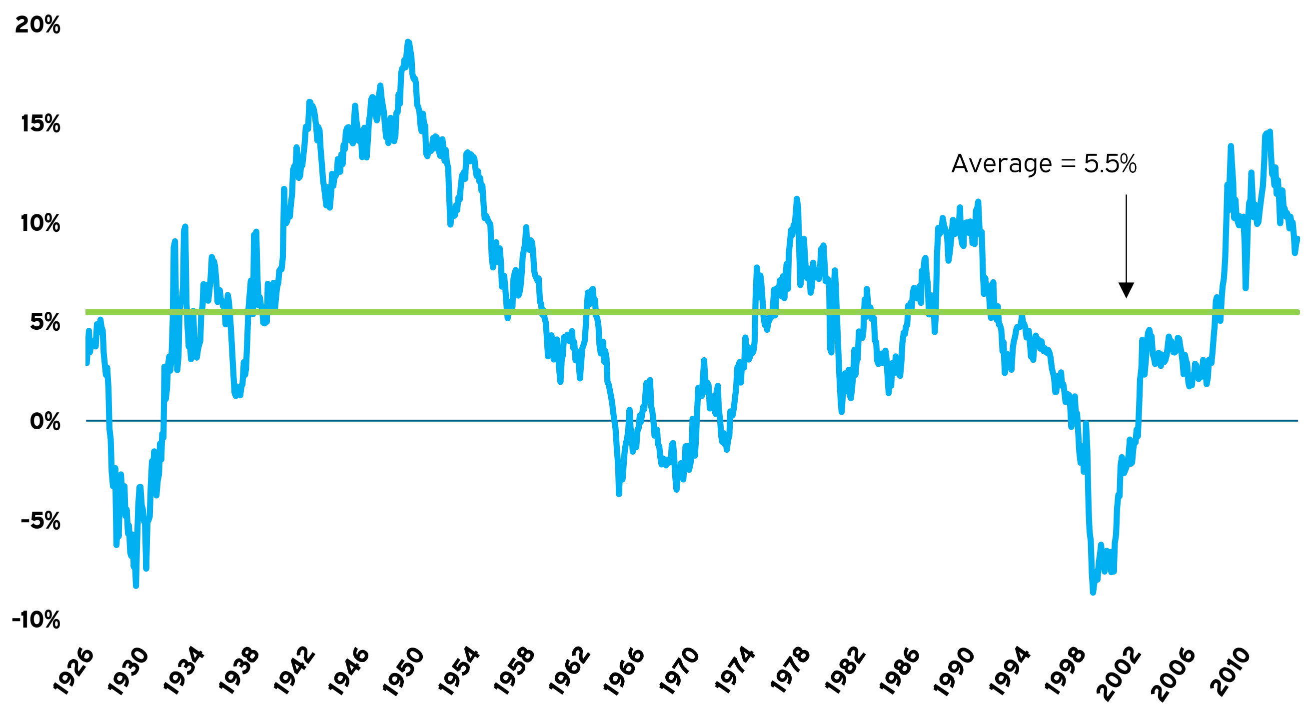
FAQs for 2024 (continued)

Is Meketa comfortable with the equity risk premium implied by the CMEs?

→ Yes. We assume a 5.5% risk premium for US equities over 10-year Treasuries.

→ Historically, the risk premium for the S&P 500 over the yield for the 10-year Treasury has averaged 5.5%, though the range has varied considerably.

US Equity Risk Premium over 10-year Treasury[1]



1 Represents the ten-year risk premium for the S&P 500 index over the 10-year Treasury yield at the start of the period. Data is through December 31, 2023.

FAQs for 2024 (continued)

Is Meketa assuming that interest rates will go up or down?

→ We use the market's projections for future rates, based on what was priced in at the time of our analysis.

→ For example, the market is projecting that the ten-year Treasury will be yielding approximately 4.6% in ten years, versus 4.2% as of 12/31/23.

→ By contrast, the FOMC is expecting the Fed Funds Rate to fall to ~2.9% by 2026, implying a return to a more normally shaped yield curve.

What is the steepness of the yield curve you imply?

→ Just as our equity models assume mean reversion in pricing, our bond models assume a kind of mean reversion in the shape of the yield curve over the next ten years.

- The yield on the 10-year Treasury has averaged 150 bp over that for T-bills since 1934.
- The 2-10 spread has averaged 88 bp since 1976.

Why is the expected return for cash dropping when short-term rates increased during 2023?

→ Our expected returns are long-term projections, not just what we are projecting for the next year or two.

→ Many economists (and futures markets) are expecting short-term rates to drop rather significantly over the next 18-24 months.

→ Most of the horizon will be at these new, lower rates (i.e., rates that are lower than they were one year ago).

FAQs for 2024 (continued)

Why do longer duration fixed income assets have a higher 20-year versus 10-year expected return, while the reverse is the case for shorter duration bonds?

→ The majority of asset classes have a higher return assumption for the 20-year period due to the increase in the risk-free rate (recall that we use a risk premia approach for years 11-20).

→ This tends not to be the case for our shorter duration fixed income assets due to the return to a more normally shape yield curve over the next ten years that is implied by the model.

- That is, the higher risk premia we use for longer duration bonds implies a more normal term structure to the yield curve in years 11-20.

Why did the 10-year expected returns for private real estate increase while it went down for REITs?

→ For the second year in a row, cap rates and REIT yields moved in opposite directions.

- Cap rates are now back above REIT yields.

→ Higher cap rates pushed up our expected returns for core and non-core real estate, while lower yields pushed down our expected returns for REITs.

FAQs for 2024 (continued)

How does Meketa arrive at its inflation assumption? Is it based on a combination of breakeven rates and other data?

→ Most of our economic projections come from the IMF's World Economic Outlook. Their inflation projections are in the table below.

- They are projecting slightly elevated inflation for the US in 2024, followed by benign levels thereafter.

→ We combine the five-year average for the US with the 5-year-5 inflation swap (i.e., what the market is projecting 5-year inflation will be five years from now), to arrive at our 10-year number.

Inflation Estimates

	2024	2025	2026	2027	2028	5-Year Average	5-yr-5 Inflation Swap	10-year Inflation Estimate
US	2.8	2.4	2.2	2.1	2.1	2.3	2.5	2.4
Euro Area	3.7	2.4	2.2	2.0	2.0	2.5	2.3	2.4
UK	3.7	2.1	2.0	2.0	2.0	2.4	3.4	2.8
Japan	2.9	1.9	1.6	1.6	1.6	1.9		1.6
China	1.7	2.2	2.2	2.2	2.2	2.1		2.9

Sources: IMF World Economic Outlook, October 2023; Bloomberg.

FAQs for 2024 (continued)

Why did the spread for private equity over public equity increase?

→ Valuations increased to a greater extent for public equities (e.g., PE ratios) than they did for private equity (e.g., EBITDA multiples).

→ Of note, the private equity data (as always) is through 9/30.

- It is possible that buyout multiples will "catch up" with public equity valuations in 2024, but this has not always been the case historically.

How does Meketa look at valuations for venture capital?

→ Venture capital tends to be focused on a smaller part of the broad economy, concentrating mostly on a few sectors such as technology and healthcare.

→ To get a feel for how VC is currently priced, we create a proxy composed of public market indices that focus on these sectors.

→ The proxy is currently composed of: the NASDAQ; Pharma, Biotech & Life Sciences; IT Services; financial technology; and Clean Tech/Environment. The composition and weightings have changed over time.

→ That said, we take our VC model with a large grain of salt, as there is very little private market data available.

FAQs for 2024 (continued)

Do we still expect US earnings to grow faster than the broad economy?

→ Yes, until/unless there is a structural shift, perhaps due to political events, US companies are likely to earn a greater share of economic growth than they have over the post-WWII era.

What is causing the significant decrease in 10-year expected returns for non-US equities?

→ First, the reduction in our cap on foreign exchange impact is effectively cutting 50 bp from each asset class that is primarily denominated in a currency other than USD.

→ There was a bit of a disconnect in most overseas markets this past year, with prices rising much more than earnings grew. Hence valuations are higher, which lowers expected returns.

→ We also reduced the % of GDP growth that we expect to translate to EPS growth by varying degrees for foreign markets (many have produced little to no EPS growth over the past ten years).

How is your outlook on China affecting your expected returns?

→ Our outlook for China has continued to decline due to a number of factors, including:

- The lack of a post-Covid re-opening economic rebound
- A shift in prioritization by the CCP to favor Marxism over growth
- Geopolitical tensions and "de-risking" by Western investors
- Real estate and debt challenges

→ As a result, we are placing a greater discount on Chinese (and hence, emerging market) growth translating to EPS growth.

- This serves as a drag on expected returns for EM and Chinese equities.

FAQs for 2024 (continued)

What effect do we expect net buybacks to have, if any?

→ We believe US companies will continue to be net buyers of their shares over the next decade, but to a lesser extent than they have for the past decade. This will be a net tailwind.

→ We expect other markets to be net issuers of shares (i.e., this will be dilutive to shareholder wealth). This is most pronounced in emerging markets, due to their anticipated growth.

Why do we believe US companies will be net buyers of their stock for an extended period, and why does that matter?

→ There are several reasons why we can/should believe US companies will be net buyers of their stock for an extended period (e.g., the next ten years), and why that may change.

→ First, it would be a continuation of a nearly two-decade trend that CFOs have decided it is in their interest to prioritize buybacks over dividends or other uses of cash.

- This could obviously change, but the catalyst for this is not obvious nor apparently on the horizon.

→ The second factor is if labor finally starts clawing back a larger portion of GDP.

- This clearly could happen, but despite an incredibly tight labor market, it is not happening (at least not yet). Rather, companies have had success passing on their higher labor costs to their customers and hence maintaining their profitability.

→ This matters in our models because it impacts what portion of GDP growth translates to EPS growth.

- If companies are more profitable and they are buying back shares, this will be much more beneficial to EPS than if companies are less profitable and are diluting their shares (e.g., via new issuance).

FAQs for 2024 (continued)

Do we consider inflation when building expected returns for real assets like real estate, infrastructure, and natural resources?

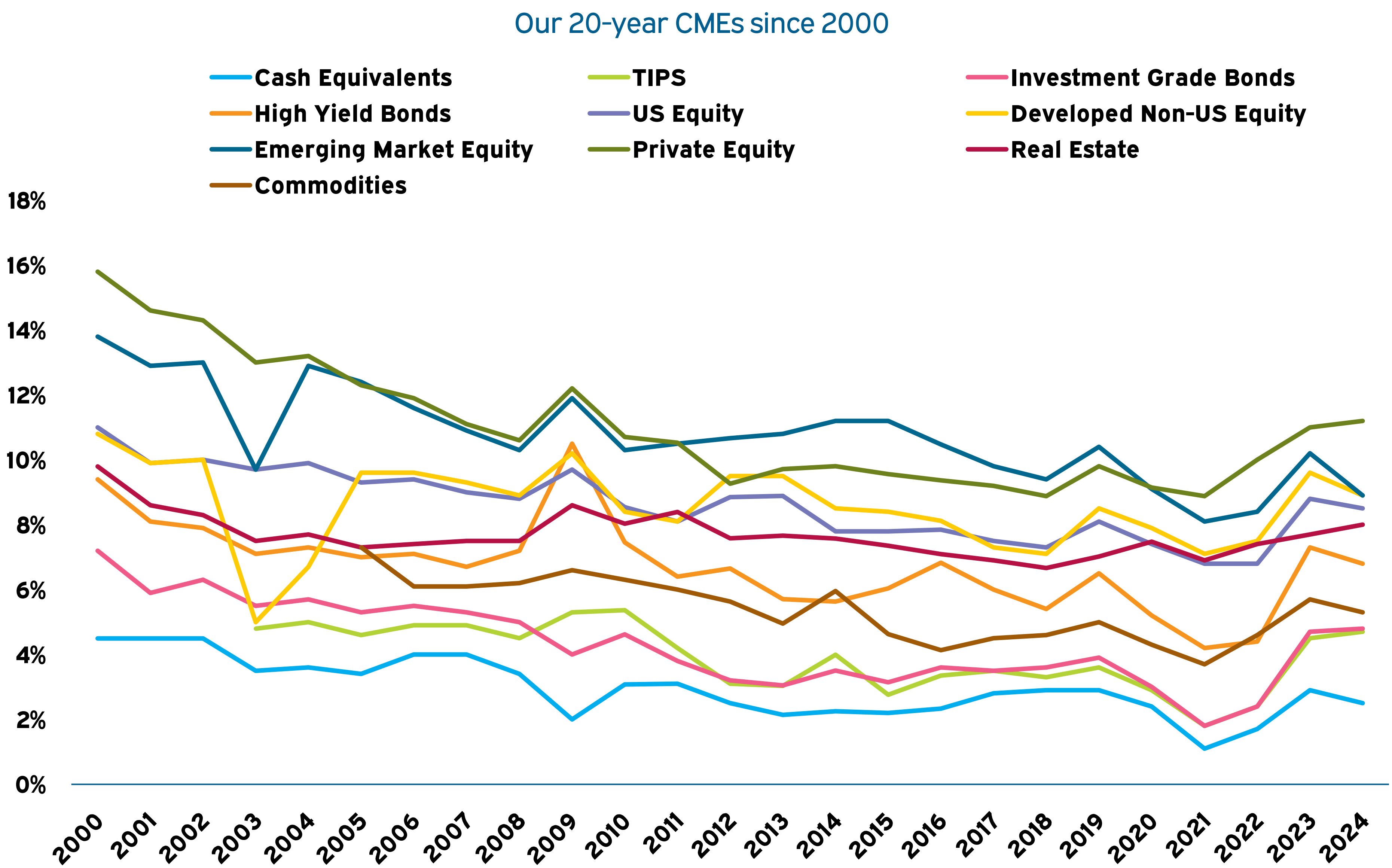
→ Yes, inflation is a component for the vast majority of these assets, and their growth is generally linked to inflation in our models.

How are you accounting for the distinctly non-linear return profile of Long Vol?

→ We assume that the payoff of a long vol strategy is significantly and positively skewed during periods of poor equity market returns.

- In particular, we analyze the historical distribution of returns during periods when equity markets increase or decrease by 10%.

→ However, the average return in most years is driven by the effective “insurance premium” investors pay for this strategy.


Our 20-year CMEs since 2000
Cash Equivalents
TIPS
Investment Grade Bonds
High Yield Bonds
US Equity
Developed Non-US Equity
Emerging Market Equity
Private Equity
Real Estate
Commodities
18%
16%
14%
12%
10%
8%
6%
4%
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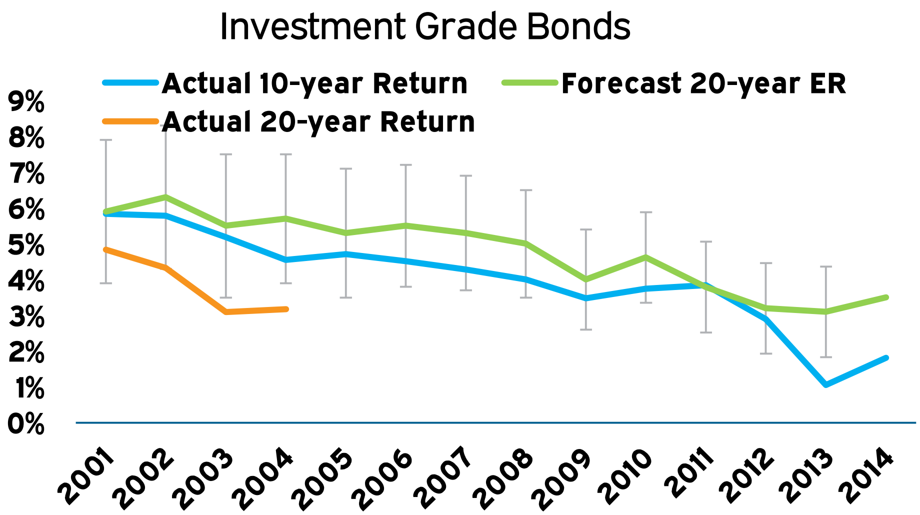
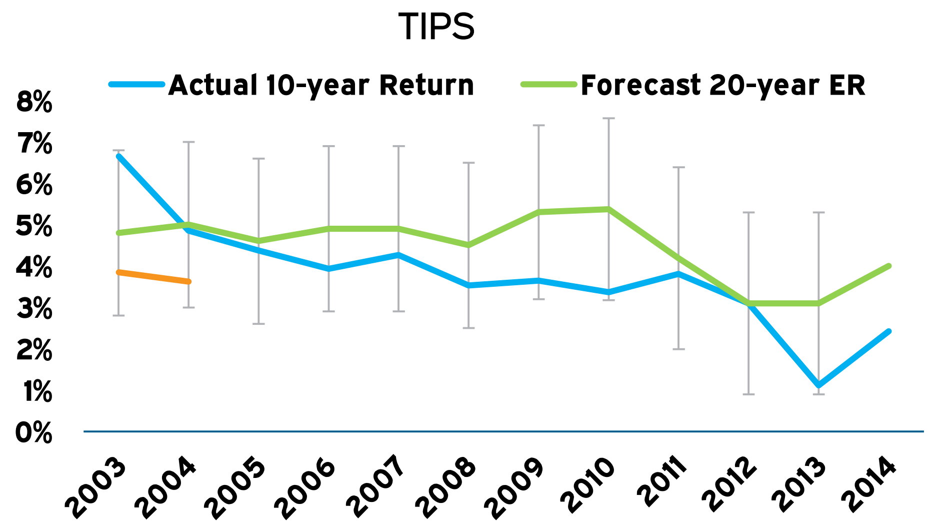
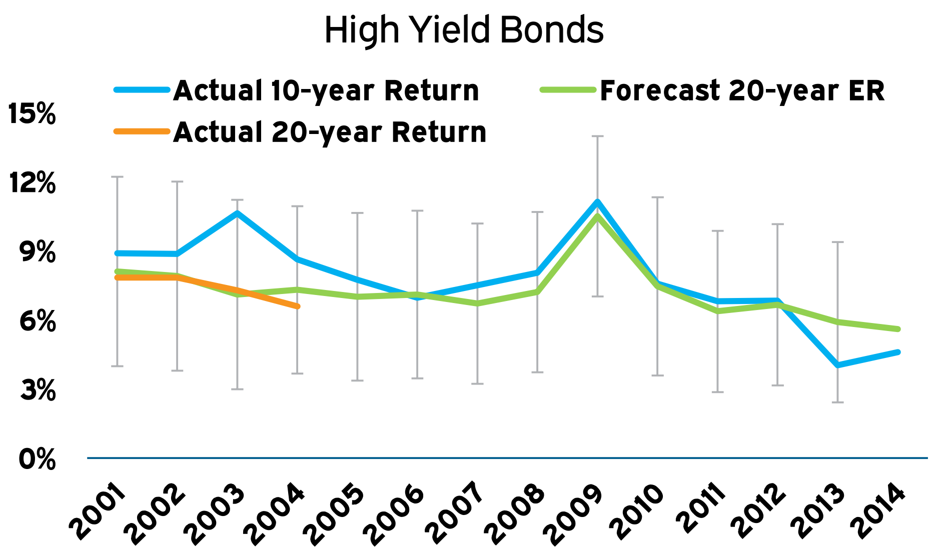
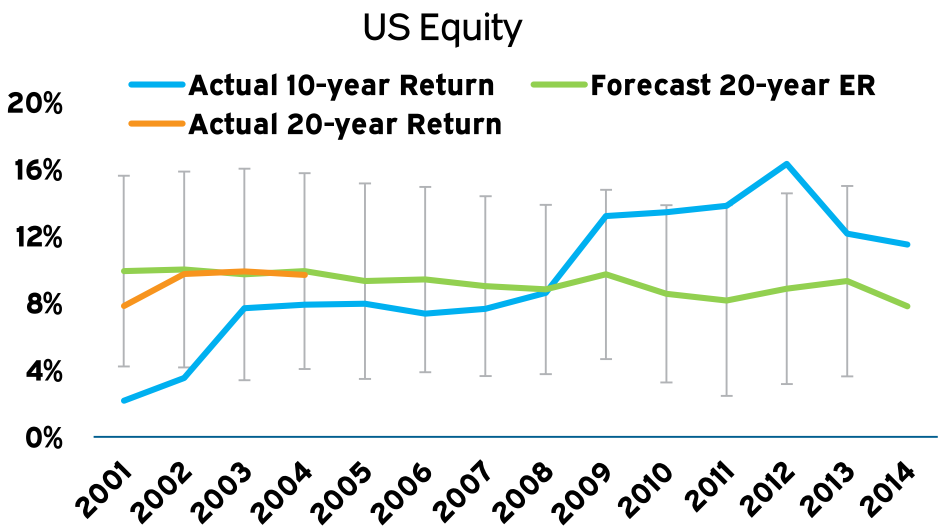
Our Track Record

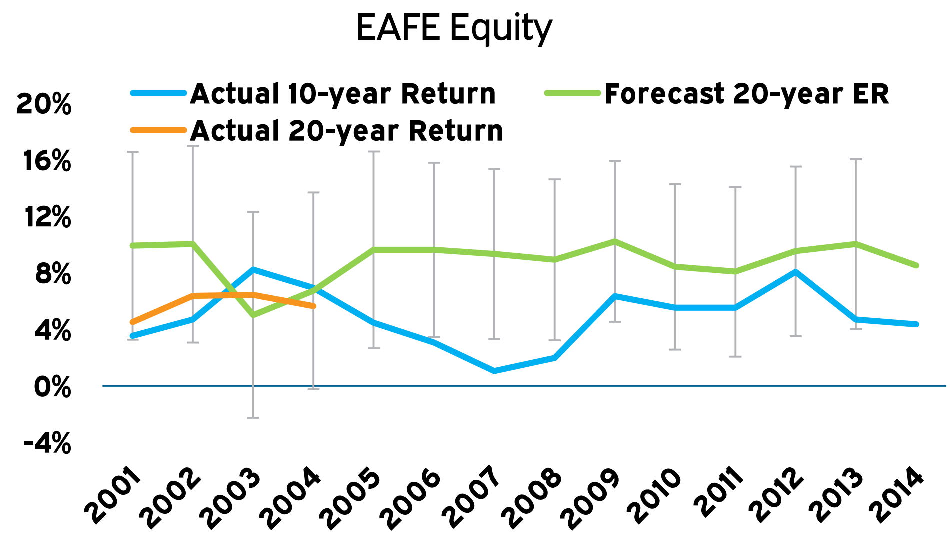


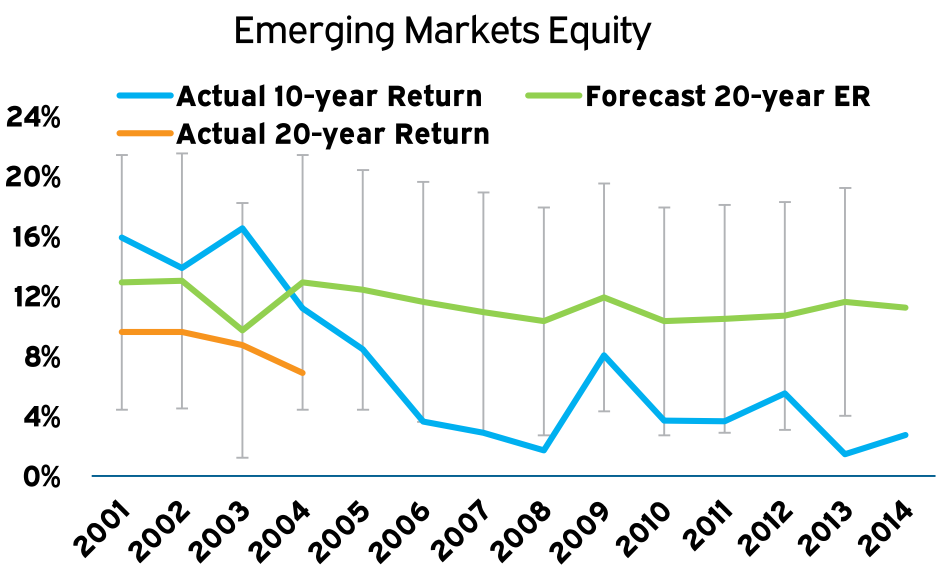


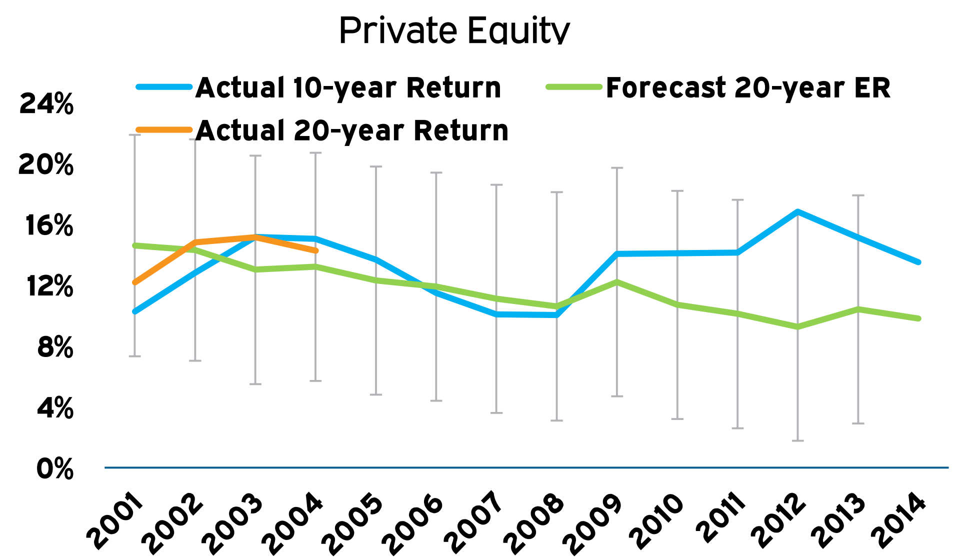


Our Track Record (continued)









Three Long-term Themes:

The Impact of AI, China and Deglobalization

Thinking about Broad AI Impacts

Prepare for Multiple Futures

Note: this graphic was created using generative AI.

→ Developments in AI since 2017 have been occurring at a rapid pace and with unexpected discoveries (i.e., "emergent capabilities").

→ Predicting what the actual developments will be and their corresponding impacts on economies/societies will be very challenging.

→ Staying up-to-date on major developments and preparing for multiple futures is prudent.

→ Research and predictions from industry insiders, economists, political scientists, etc., all indicate a high degree of uncertainty regarding impacts of AI.

"Automation Anxiety"

→ History is full of examples of workers fearing their jobs would be displaced by technology.

→ While this fear has been a continual occurrence, research has shown that it tends to be overstated, especially during the initial introduction of the technology.[1]

→ This is not to say that all jobs will be safe – any form of technological advance will displace certain jobs.

→ The difference with generative AI, however, is that it is the first technology that will likely impact "white collar" jobs and possibly even the arts and other creative industries.

[1] For example, a 2016 paper by a Boston University economist examined 271 occupations that were listed in the 1950 census. Only one was eliminated by 2010. "*How Computer Automation Affects Occupations: Technology, Jobs, and Skills,*" *James Bessen, Boston University School of Law, Revised Working Paper, October 2016*

Replacement vs. Augmentation

→ While job replacement is an understandable fear, it is better to think of it as a spectrum of replacement to augmentation.

→ *“Our findings indicate that approximately 80% of the U.S. workforce could have at least 10% of their work tasks affected by the introduction of GPTs, while around 19% of workers may see at least 50% of their tasks impacted. The influence spans all wage levels, with higher-income jobs potentially facing greater exposure.”*[1]

Replacement[2]

→ Routine and repetitive work
→ Rules-based decision making
→ Data/document processing
→ Information retrieval
→ Translation/conversion

Augmentation

→ Leadership/management
→ Complex problem solving
→ Unstructured environments
→ Ethical/moral judgement
→ Strategy design/setting
→ Crisis management

[1] Source: OpenAI (creator of ChatGPT), GPTs are GPTs: An early look at the labor market impact potential of large language models, Open AI, March 2023.
[2] Concepts regarding replacement and augmentation are adapted from presentations from Toffler Associates.

Impact on Productivity

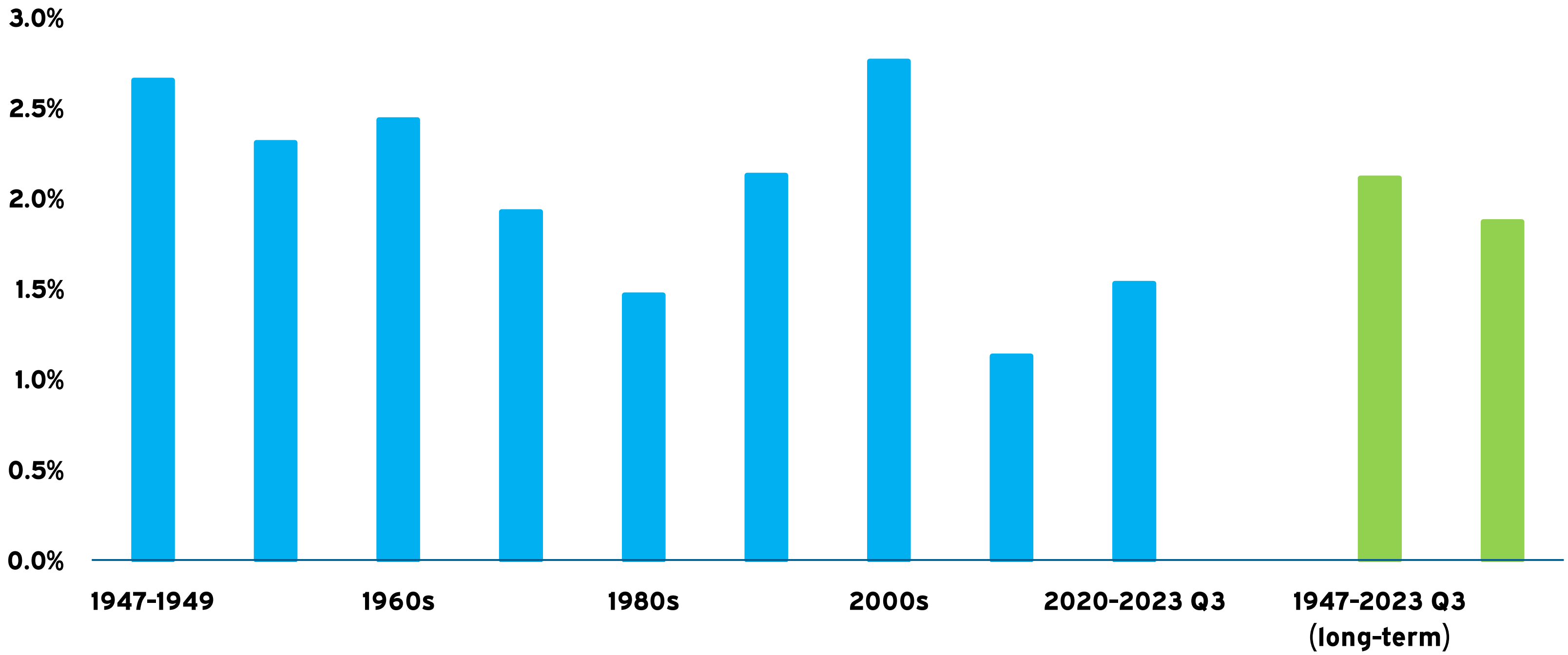
→ Any form of automation/labor savings inherently improves productivity.

→ As discussed earlier, accurate forecasts for the impact of AI are challenging.

→ Example productivity forecast impacts are currently in the 0-1% range, per annum.

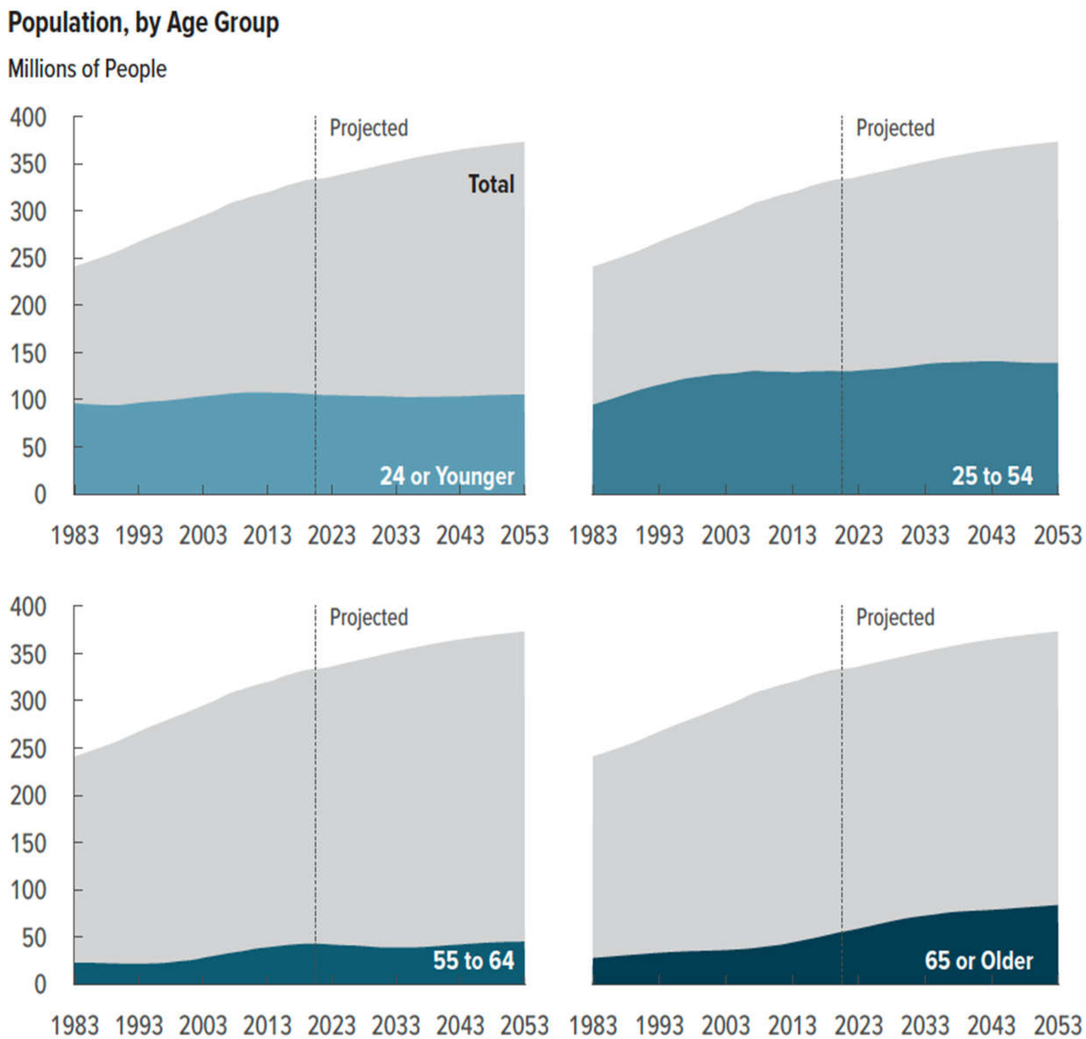
→ This would represent a meaningful increase from the long-term historical average (~2.1%).

Annualized Nonfarm Business Sector Productivity, 1947 - 2023 Q3[1]



[1]Source: FRED. Represents Nonfarm Business Sector: Labor Productivity (Output per Hour) for All Workers, Index 2012=100, Quarterly, Seasonally Adjusted.

Silver Lining of AI Potential



- → Even excluding potential discoveries that may benefit society (e.g., healthcare, biotech, climate emissions, etc.), there is an underdiscussed benefit of AI: mitigating the demographic headwinds faced by many developed nations.
- → For example, the aging population of the United States (highlighted in the graphics on the left) will require a reconfiguration of the nation's workforce.
- → AI can help fill positions/tasks that societies may be unable to fill otherwise.

Source: Congressional Budget Office and US Census Bureau, as of January 2023

China

Why the Pessimism on China?

→ The anticipated economic rebound from exiting zero-COVID did not materialize.
→ Real estate bubble is getting worse, not better.
→ Investors have responded by voting with their feet.
→ Xi's policies seem to be backfiring.

Chinese Growth Disappointed in 2023

→ China exited their zero-COVID policy in late 2022.

→ Many investors and economists alike anticipated a surge in growth as the economy re-opened.

→ But the economic rebound did not materialize.

→ Growth projections are being ratcheted down.

→ Major causes include:

  → Debt overhang in the property sector – nearly ¼ of China's economy.

  → Exports are lagging.

China Real GDP Growth (Q-o-Q)

Source: FactSet as of December 31,2023. Represents quarter-over-quarter Real GDP growth, seasonally adjusted, provided by the China National Bureau of Statistics.

Property Market Turns from Tailwind to Headwind

- → The issue is systemic.
- → Both the private and public sectors are heavily indebted.
- → The worst problems are with property developers and local governments.
- → In 2021, it was Evergrande; in 2023, it is Country Garden.
- → Old model:
  - CCP sold land to developers, filling local government coffers in the process.
  - This allowed CCP to spend freely while taking on more debt themselves.
  - Local governments are responsible for ~85% of expenditures.
  - Developers borrowed heavily and pre-sold properties to finance their acquisitions.
  - No other good savings options, so ~70% of household wealth is tied up in the property market.
- → Current status:
  - Housing prices falling.
  - Some property owners now refusing to make payments on unfinished properties.
  - This can turn into a vicious cycle where developers do not have the cash flow to complete projects.

CCP Reaction Has Not Been Helpful

- → Focus has become national security, not growth.
- → Emphasizing nationalistic policies and self-sufficiency.
- → CCP has clamped down on foreign businesses (e.g., office raid, iPhone restrictions).
- → Wants to reign in the debt bubble, so little/no support for property developers.
- → PBoC providing minimal stimulus.
- → Relationships with trading partners and neighbors are becoming increasingly strained.
- → Many investors and business have responded by seeking to reduce their ties to China.
- → Missing and replaced ministers signal challenges at the top of party leadership.

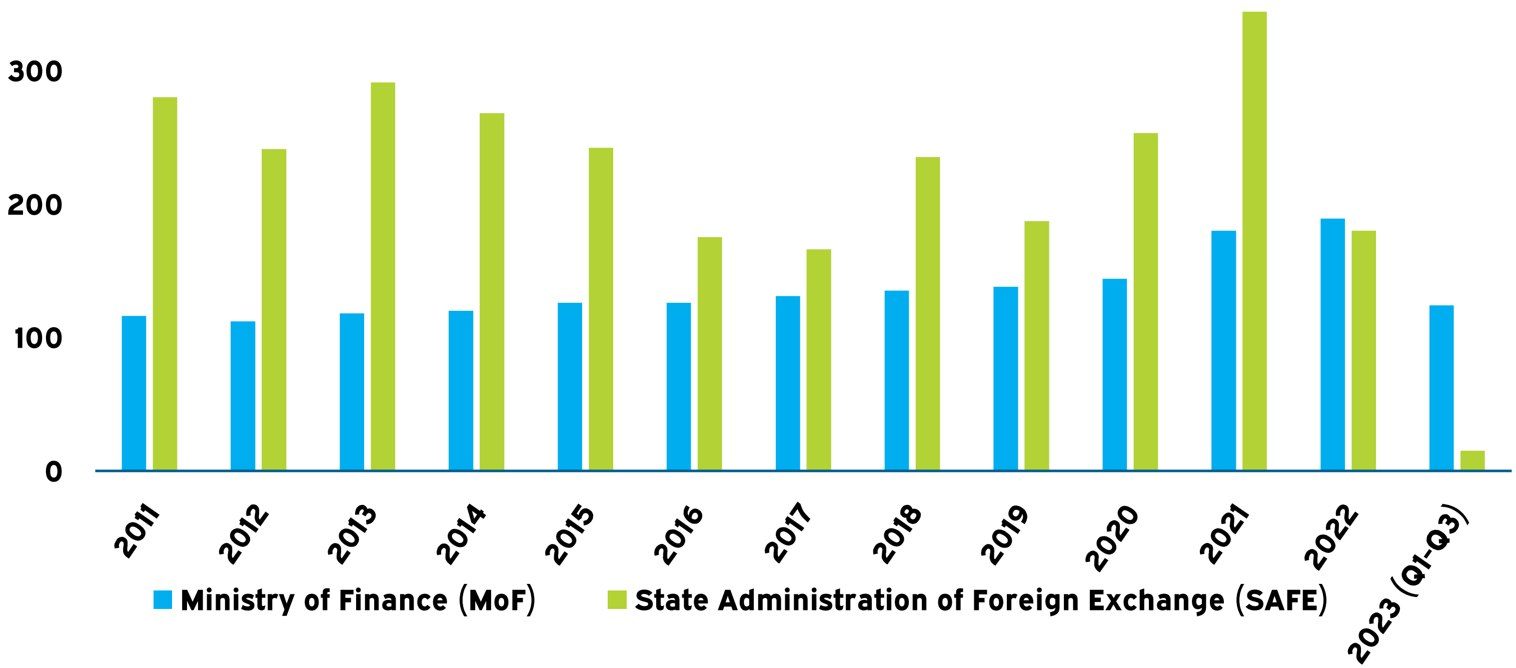
If growth continues to falter, China will face a choice:

backtrack or double down on security and repression

Investor Concerns turn into Portfolio Flows

→ In Q3 2023, China recorded its first quarterly decline in direct investments since 1998 (-$11.8B).[1]

Foreign Direct Investment Inflows to China 2011-2023 (USD in Billions)[2]

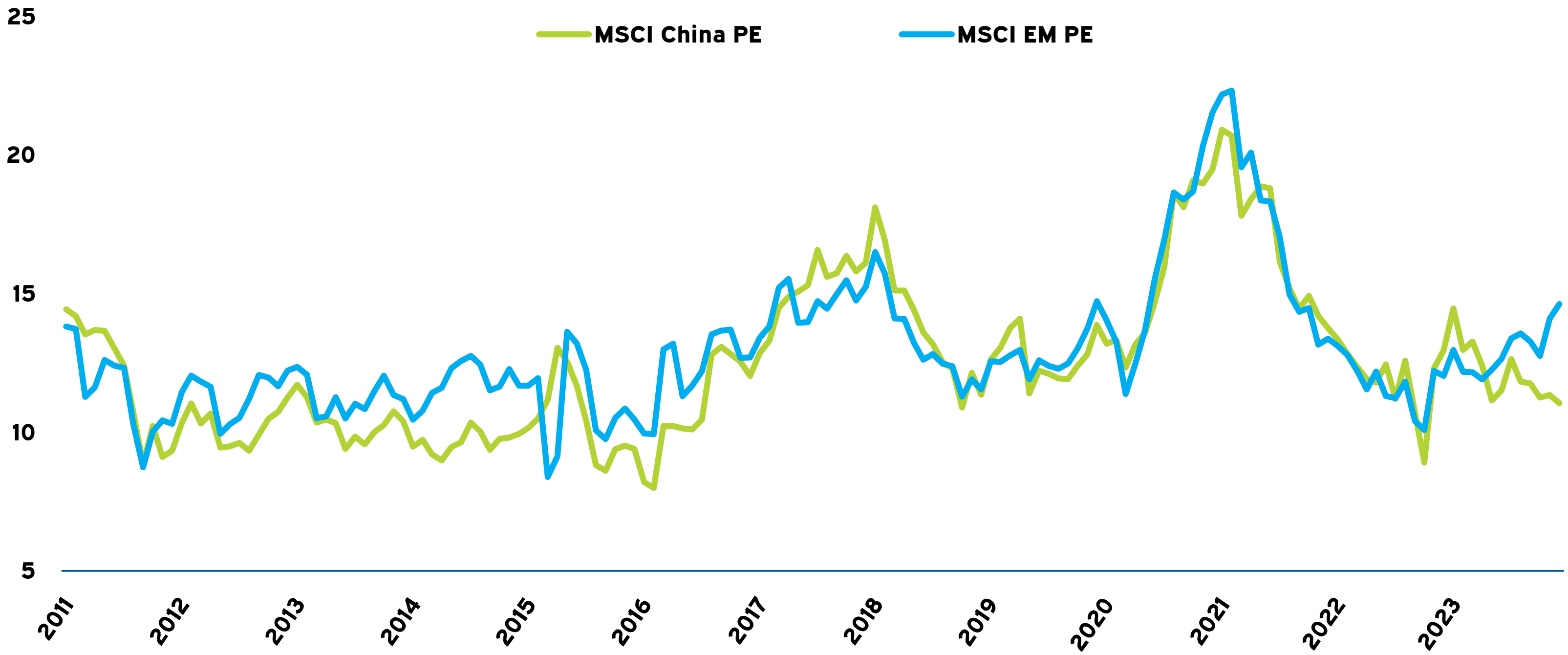


[1] Source: Reuters, "West's de-risking starts to bite China's prospects," November 27, 2023. Article based on preliminary balance of payment data as of September 30, 2023.
[2] Source: Peterson Institute for International Economics, N. Lardy "Foreign direct investment is exiting China, new data show," November 17, 2023. SAFE tracks net FDI while the Ministry of Finance tracks gross inflows.

Cheap...for a Reason?

- Investors' lack of confidence in the economy and CCP policies continues to weigh on Chinese asset prices.
- While the general mood has clearly soured on Chinese equities, pricing has grown more attractive.
  - P-E ratios for China and the broader emerging market index diverged in 2023.
- An important question is: Do valuations fairly represent the risks?

Emerging Market and Chinese P-E Ratios[1]



[1] Source: Bloomberg, as of December 31, 2023. Indices used: MSCI China, MSCI Emerging Markets.

Deglobalization

Introduction: Deglobalization

→ We may be entering a period of deglobalization.

→ The primary catalysts were COVID and the war in Ukraine.

- Corporations and countries want to better secure their interests.
- Many are seeking to “de-risk” their supply chains.
- They are doing so both by limiting and changing with whom they trade.

→ More recently, national security policy is placing limits on trade, particularly of technology.

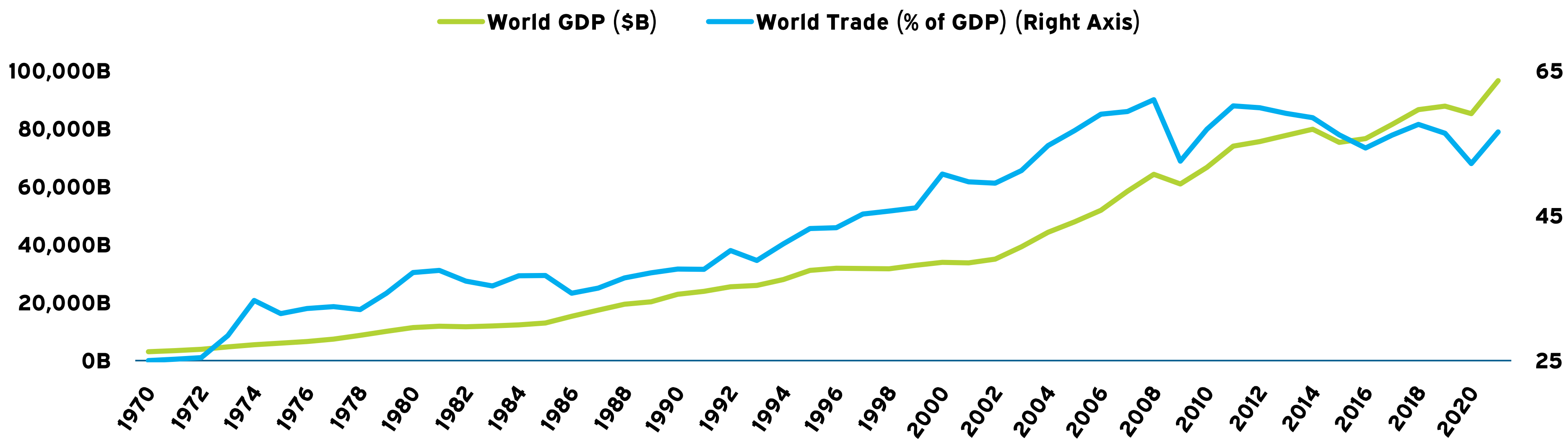
→ The result may be a halt or even an outright reversal of the globalization.

- The historical benefits of globalization included higher growth and lower prices.

→ Hence, deglobalization may affect price stability, interest rates, economic growth, and investment returns.

Historical Impact of Globalization: Trade & Growth

Annual Global Trade and GDP (1970 – 2021)

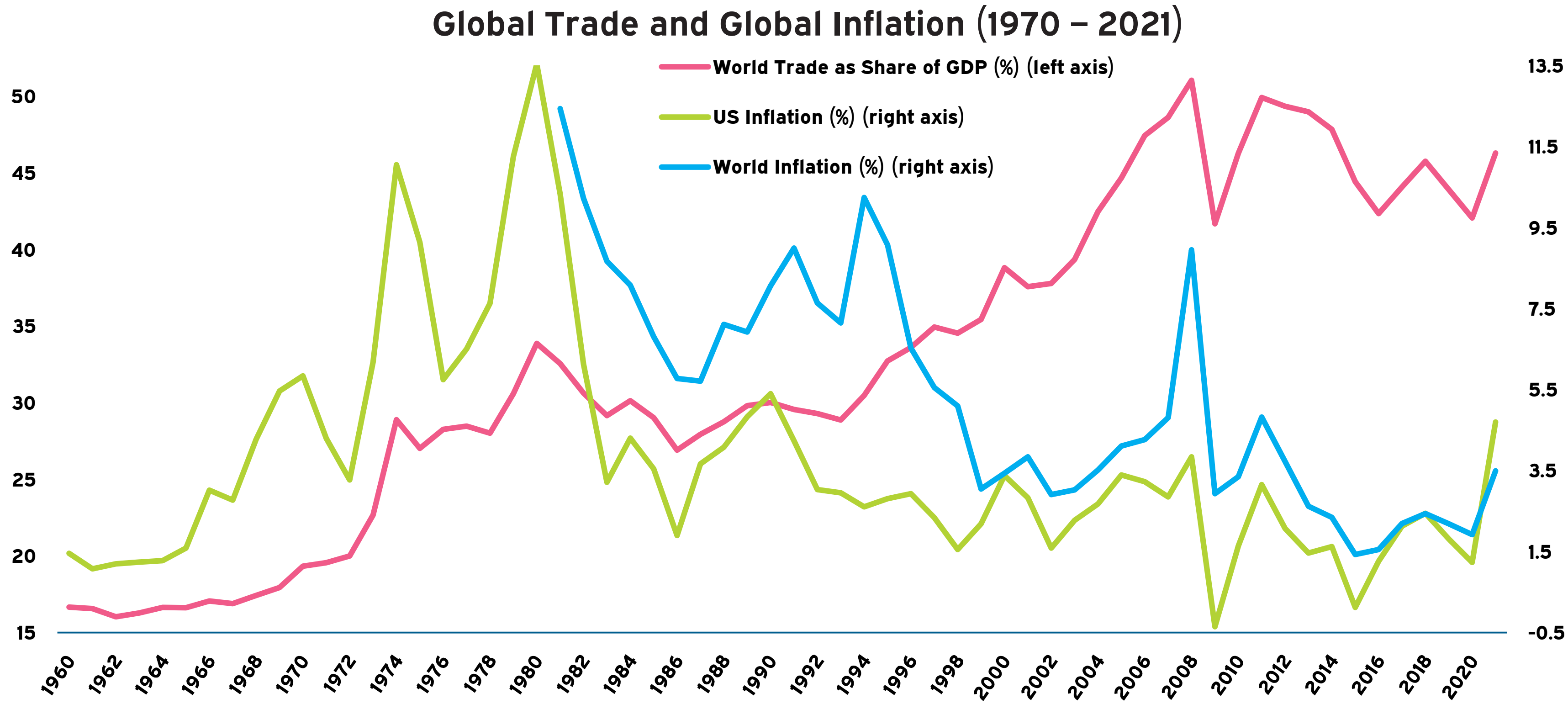


→ The fifty-year period that started in 1970 saw extraordinary growth in trade and GDP.

- Global trade grew from 20% of global GDP in 1970 to a peak of over 50% in 2008.
  - Trade accelerated in the 1990s as countries adopted trade liberalization policies.
- Global GDP grew from $2.9 T to $85.1 T between 1970 and 2020.
  - Developing nations were able to compete on the basis of comparative advantage.
  - Multinationals took advantage of low-cost goods and labor, as well as new markets.

Sources: World Bank and United Nations Conference on Trade & Development Trade Analysis Information System ("UNCATD TRAINS") and FRED as of December 2022.

Historical Impact of Globalization: Inflation & Global Capital Markets



→ Globalization increased competition across borders and helped drive down prices for labor and goods.

- Between 1980 and 2021, the US enjoyed its longest period of low and stable inflation in modern history.
- Between 2000 and 2020, global inflation averaged just 3.4% well below its post-WWII levels.

→ Economic stability and falling inflation helped foster global capital markets.

- The MSCI ACWI index grew from 2,187 companies in 2000 to 2,966 companies in 2021.

Sources: World Bank and United Nations Conference on Trade & Development Trade Analysis Information System ("UNCATD TRAINS") and FRED. Inflation, consumer prices for the World. Annual data as of September 2022.

Historical Impact of Globalization: Growth & Profitability

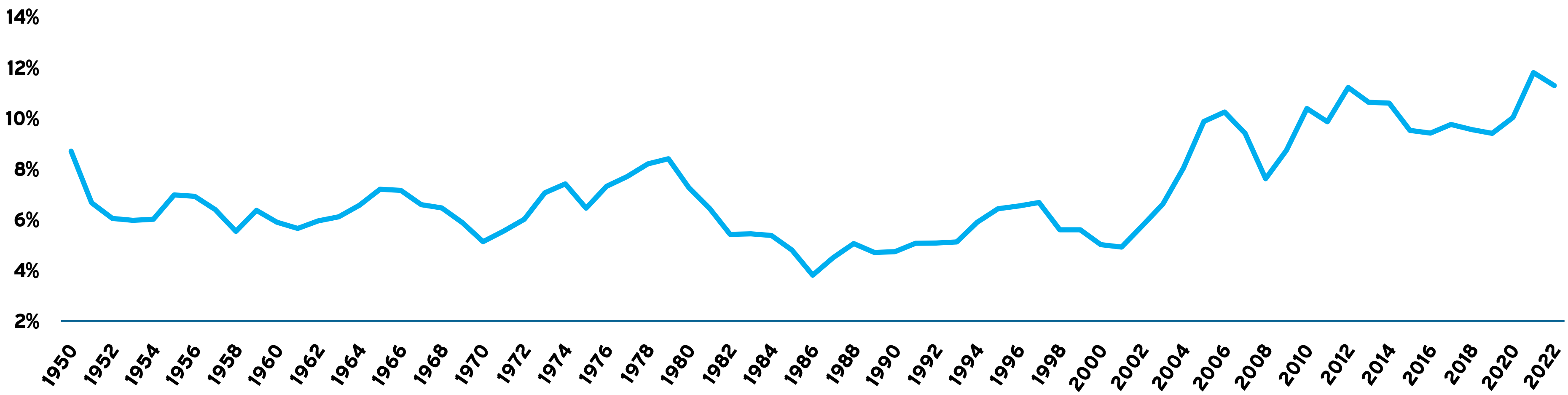
→ Globalization helped increase living standards and reduce global poverty.

- The percent of the global population living on less than $2 a day declined from 42% to less than 10% .
- China saw over 400 million people move out of extreme poverty between 1980 and 2013.

→ Global corporate profits also rose, due in large part to the lower relative costs for materials and labor.

- US corporate profits increased from 5% of US GDP in the early 1980s to over 10% of US GDP in 2022.

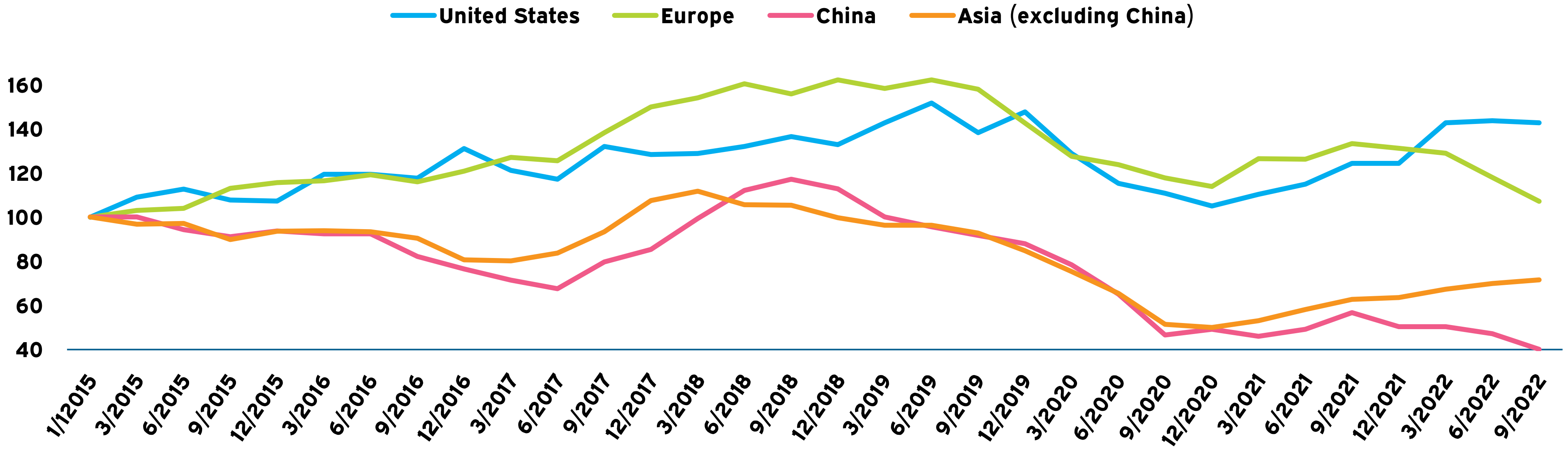
US Corporate Profits as Share of GDP



Source: World Bank UNCATD TRAINS as of March 2023. Annual data through 2019.
Source: IMF, S. Jain-Chandra et al., "Inequality in China - Trends, Drivers, and Policy Remedies," June 2018. Between 1980 and 2015 the number of Chinese people in the lowest decile of income declined by 86%.
Source: Meketa analysis of data from FRED. Corporate Profits After Tax (without IVA and CCAdj), Seasonally Adjusted Annual Rate, and Gross Domestic Product, Seasonally Adjusted Annual Rate.

Shift Away From China

Number of Global Foreign Direct Investments By Region (2015 – 2022)



→ The global pandemic revealed dependence on China for critical supplies and goods.

→ Global corporations shift to China +1, China +2, and friend-shoring strategies.

- Prioritizing supply chain resiliency over low-cost suppliers.

→ Much of the relocated distribution has remained in Southeast Asia.

Source: IMF World Economic Outlook April 2023. Chapter 4. Geoeconomic Fragmentation and Foreign Direct Investment. Number of investments with four-quarter moving average.

Resource Security & National Security

→ Specialization and efficiency dominated corporate and public investment decisions since the 1990s.
- But this also introduced fragility, leaving supply chains vulnerable to shocks.

→ Russia's invasion created food and energy insecurity.

→ Nations reacted by focusing on self-sufficiency.
- Europe decoupled itself from Russian natural gas.

→ Nations are also re-drawing trade and political relationships based on shared security concerns.

→ The Russian invasion re-invigorated NATO.

→ The US attitude to China's rise has shifted from engagement and cooperation to strategic decoupling.
- China's trade practices reduced the US appetite for diplomatic and economic engagement.
- Protectionist policies that were implemented during the Trump administration were extended by Biden.

→ The Biden administration has gone further by embracing policies that re-shoring.
- The CHIPS Act and Inflation Reduction Act (IRA) mark re-emergence of US national industrial policies.

Deglobalization's Likely Economic Ramifications

→ A reversal in the half-century trend toward globalization is likely to have major consequences.

→ The tailwinds that drove down costs for labor and raw materials might turn into headwinds.

→ Companies are increasingly willing to trade efficiency for greater resiliency in their supply chains.

- Further, geopolitical tensions and sanctions are guiding investment decisions.
- New supply chain configurations demand new investment and sourcing from friendly suppliers.

→ Reconfiguring supply chains can be costly.

- Reshoring or friend-shoring production may incur additional labor and capex costs.
- It may also result in lower return on investment for corporations.

→ The higher cost of capital and higher wages could negatively impact corporate earnings.

- Likewise, they could lead to higher levels of global inflation.

Deglobalization's Risks to Investment Returns

→ The pace and depth of deglobalization is unknowable.

→ We modeled possible outcomes of deglobalization using scenario analysis.

→ We considered four potential deglobalization scenarios.

- Our most optimistic scenario is that governments will rediscover their pro-trade multilateralism, which could reboot globalization.
- Our next scenario resembles the current situation, extending the current drift of regionalism and rerouting of global trade and capital flows within trade blocs.
- Our third scenario considers what might happen if outright deglobalization becomes prevalent.
- Our final scenario is the most bearish, as it ponders the consequences of a military blockade and embargoes related to a military conflict over Taiwan.

→ Based on our analysis, a well-diversified institutional portfolio might experience a decline in expected returns of between -0.5% and -1.5% per annum in all but the worst-case scenario.

Conclusions

→ A reversal in the half-century trend toward globalization is likely to have major consequences.

→ Deglobalization could have significant impacts on global growth, inflation, and politics.

- Reduced economic integration could lead to a decline in trade, investment, and innovation.
  - This could ultimately lead to slower economic growth.
- Reduced economic integration could lead to higher prices.
  - Companies will likely face higher production costs and trade barriers.
- Deglobalization could lead to a rise in nationalism and protectionism.
  - Countries may seek to protect domestic industries and reduce dependence on foreign trade.

→ The combination of lower growth and higher inflation would pose challenges for investors.

Summary Data

Return and Risk Data

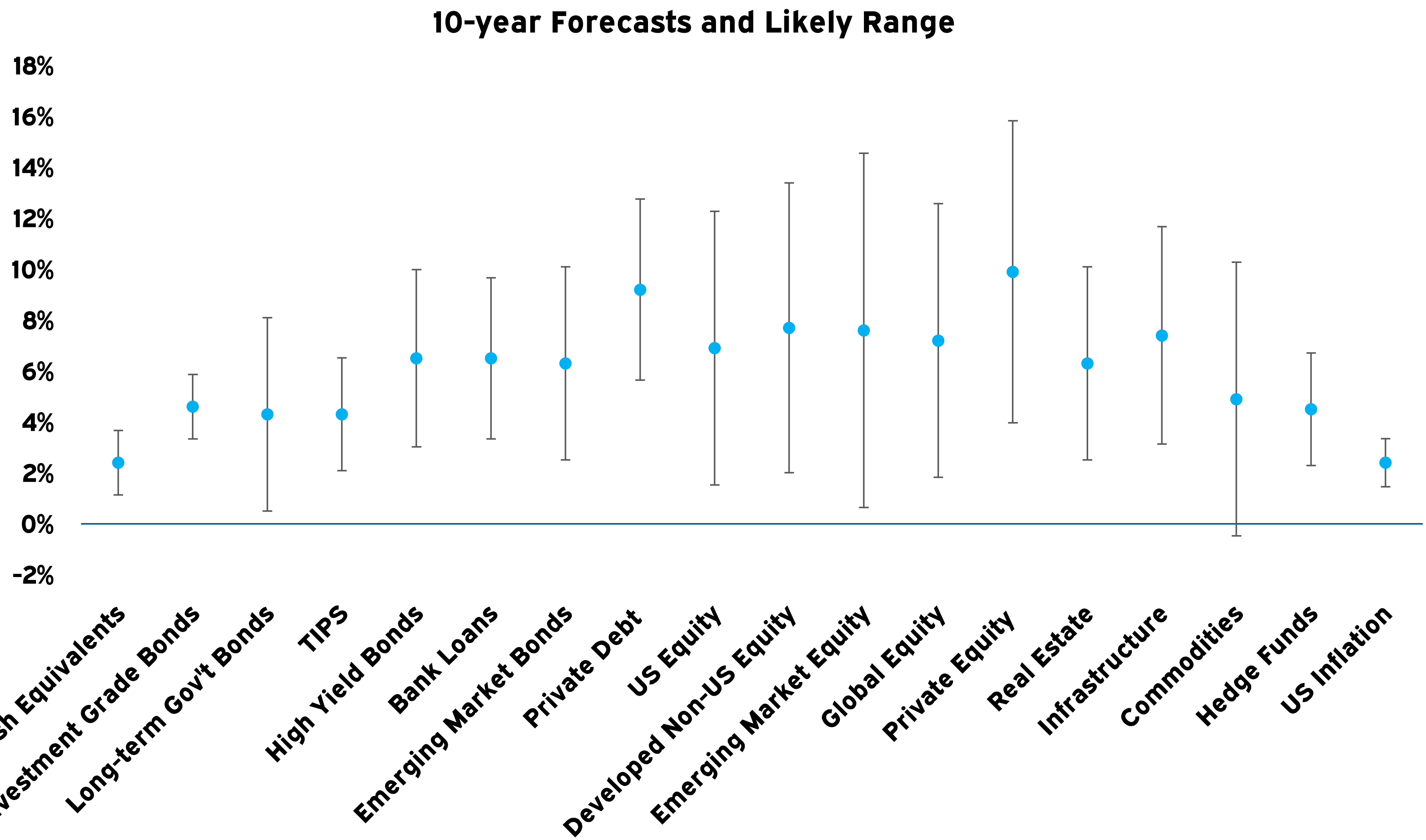
Asset Class	10-year Expected Return (%)	20-year Expected Return (%)	Standard Deviation (%)	11-20 year Risk Premia[1] (%)
Cash Equivalents	2.4	2.5	1.0	-2.0
Investment Grade Bonds	4.6	4.8	4.0	0.4
Long-term Government Bonds	4.3	5.0	12.0	1.0
TIPS	4.3	4.7	7.0	0.4
High Yield Bonds	6.5	6.8	11.0	2.5
Bank Loans	6.5	6.6	10.0	2.0
Emerging Market Debt (local)	6.3	6.2	12.0	1.5
Private Debt	9.2	9.2	15.0	4.6
US Equity	6.9	8.5	17.0	5.5
Developed Non-US Equity	7.7	8.9	18.0	5.4
Emerging Non-US Equity	7.6	8.9	22.0	5.5
Global Equity	7.2	8.7	17.0	5.5
Private Equity	9.9	11.2	25.0	7.8
Real Estate	6.3	8.0	16.0	5.3
Infrastructure	7.4	9.0	18.0	6.1
Commodities	4.9	5.3	17.0	1.0
Hedge Funds	4.5	5.8	7.0	2.5
Inflation	2.4	2.8		-1.5

[1] Risk Premia are calculated relative to the market's projection for the yield on the 10-year Treasury in ten years..

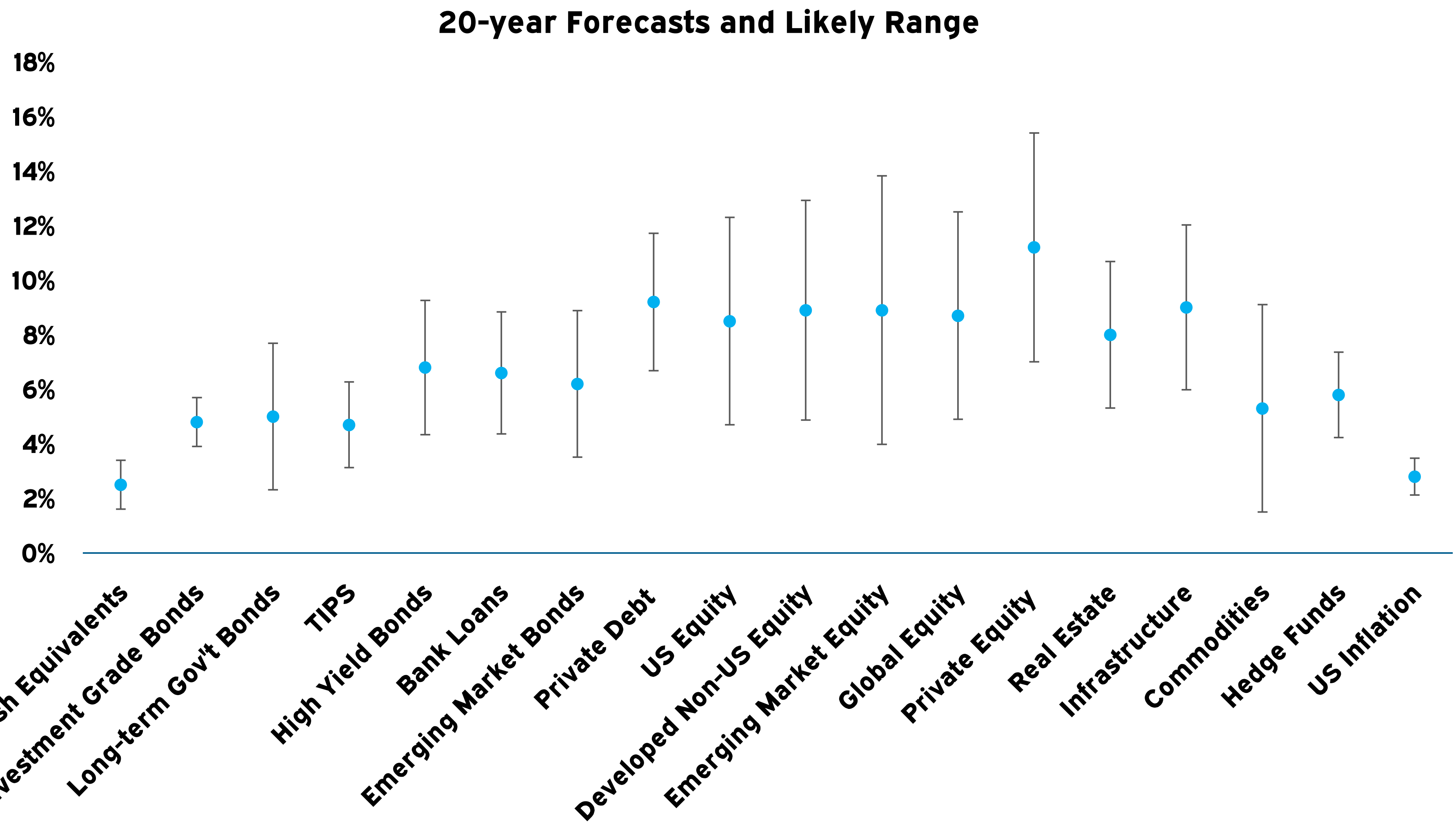
Correlation Data

	Inv. Grade Bonds	Long-term Gov't Bonds	TIPS	High Yield Bonds	US Equity	Dev. Non-US Equity	Em. Market Equity	Private Equity	Real Estate	Commod.	Infra.	Hedge Funds
Investment Grade Bonds	1.00											
Long-term Government Bonds	0.86	1.00										
TIPS	0.77	0.61	1.00									
High Yield Bonds	0.35	-0.04	0.46	1.00								
US Equity	0.22	-0.10	0.30	0.76	1.00							
Developed Non-US Equity	0.26	-0.09	0.33	0.76	0.88	1.00						
Emerging Market Equity	0.27	-0.05	0.36	0.72	0.74	0.86	1.00					
Private Equity	0.00	-0.10	0.03	0.66	0.90	0.83	0.79	1.00				
Real Estate	0.26	0.06	0.17	0.56	0.53	0.49	0.43	0.49	1.00			
Commodities	0.00	-0.23	0.28	0.47	0.46	0.55	0.58	0.23	0.15	1.00		
Infrastructure	0.31	0.14	0.32	0.65	0.64	0.68	0.60	0.51	0.61	0.41	1.00	
Hedge Funds	0.12	-0.20	0.30	0.78	0.80	0.83	0.81	0.53	0.47	0.64	0.61	1.00

10-Year Return Expectations



20-Year Return Expectations



2023 Peer Survey

→ Annually, Horizon Actuarial Services, LLC publishes a survey of capital market assumptions that they collect from various investment advisors.[1]

→ The Horizon survey is a useful tool to determine whether a consultant's expectations for returns (and risk) are reasonable.

Asset Class	Horizon 10-Year Average (%)	Meketa 10-Year (%)	Horizon 20-Year Average (%)	Meketa 20-Year (%)
Cash Equivalents	3.4	3.1	3.2	2.9
TIPS	4.1	4.3	4.1	4.5
US Core Bonds	4.7	4.8	4.8	4.7
US High Yield Bonds	6.4	8.0	6.5	7.3
Emerging Market Debt	6.3	6.5	6.4	6.2
Private Debt	8.2	9.4	8.2	9.0
US Equity (large cap)	6.9	7.8	7.4	8.7
Developed Non-US Equity	7.5	10.1	7.8	9.8
Emerging Non-US Equity	8.2	10.3	8.6	10.0
Private Equity	9.5	9.7	10.1	11.0
Real Estate	6.0	5.9	6.3	7.8
Infrastructure	7.0	6.9	7.1	8.3
Commodities	5.0	6.3	4.9	5.7
Hedge Funds	6.0	5.4	6.2	6.1
Inflation	2.6	2.5	2.5	2.6

[1] The 10-year horizon included all 42 respondents to the survey, and the 20-year horizon included 27 respondents. Figures are based on Meketa's 2023 CMEs.

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MEKETA

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MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)

FROM: Meketa Investment Group (Meketa)

DATE: March 27, 2024

RE: Total Portfolio Expected Return Update – 2024 Assumptions

Summary

At least once per year, Meketa generates forward-looking capital market assumptions ("CMAs") to provide clients with our best estimates of long-term returns, volatilities, and correlations across a wide range of asset classes/strategies. These CMAs are then used in complex asset-liabilities studies as well as in more straight-forward asset allocation reviews. Additionally, one of the primary uses of these updated CMAs is to allow clients to review the expected return and volatility of their long-term policy target portfolios. Through this exercise, clients are able to obtain a general understanding of the positioning of their policy portfolio and whether it is still aligned with their long-term objectives.

Based on Meketa's 2024 Capital Market Assumptions, the OPFRS investment portfolio is well structured to perform above its 6.00% actuarial objective and over its 5% in the long-term.

Discussion

OPFRS completed the comprehensive Asset-Liability Study in February 2024 that culminated in a new long-term policy portfolio.

At the beginning of each year, Meketa develops capital market assumptions for a wide range of asset classes/strategies (in 2024 this equated to 112 different asset classes/strategies). These assumptions are developed using a multitude of quantitative and qualitative inputs, and this development process is updated each year with additional data sets and more refined approaches/models. Meketa develops assumptions for both 10-year (i.e., intermediate) and 20-year (i.e., long-term) timeframes. For the purposes of this memorandum, Meketa mapped the 10-year and 20-year assumptions to both the long-term policy targets in order to generate expected return and volatility metrics for the respective portfolios.[1] The long-term policy targets that were used can be found on the following page. The expected return and volatility metrics for the long-term policy targets are also presented. The underlying assumptions that were used are presented in this document.

Policy Targets and Expected Return/Risk

Classes/Strategies	2024 Long-term Policy Targets (%)
Return Seeking Assets	**40**
U.S. Equity	25
International Equity	5
High Yield	10
FIXED INCOME	**51**
CRISIS RISK OFFSET	**9**
Total	*100*
Expected Return (10-year)*	5.8
Expected Return (20-year)*	6.5
Annual Volatility	6.9

* Expected returns consist of passive management in liquid markets classes and median net performance in illiquid markets classes.

As detailed in the table above, the OPFRS investment portfolio is positioned to generate an expected return of 5.8%-6.5% depending on the investment horizon. When examining the portfolio from holistic perspective, Meketa believes that the portfolio remains prudently constructed to achieve and/or modestly exceed the actuarial rate without assuming unnecessary risk. It is important to note that the expected return of the portfolio and the actuarial assumed investment return do not need to be equal at all times, however, they should be similar to one another and directionally track over time.

2024 Return Assumptions*

Composite/Asset Class /Strategy	2024 Expected Return: 20-Year Geometric (%)
Return Seeking	
U.S. Equity	8.5
International Equity	8.9
High Yield	6.8
Fixed Income	
Investment Grade Bonds	4.8
Crisis Risk Offset	
Long US Treasuries	5.0
Systematic Trend Following	4.7
Alternative Risk Premia	5.2
Total Portfolio	**6.5**

*Expected returns consist of passive management in liquid markets classes and median net performance in illiquid markets classes.

DS/PN/JL/mn

MEKETA

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MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group (Meketa)
DATE: March 27, 2024
RE: Implementation Plan: Newly Adopted 2024 Strategic Allocation Targets

Summary

At its February 2024 meeting, the OPFRS Board approved a new long-term strategic allocation policy (see table below). Based on several projection statistics highlighted in the table, this new policy should maintain the likelihood of achieving the Plan's actuarial rate of return, while significantly lowering the portfolio's risk.

Comparison of OPFRS's current policy with new Long-term Allocation

Strategic Classes	Current	New	Change
Return-Seeking Assets			
US Equity	40.0	25.0	-15.0
Developed Market Equity (non-US)	12.0	5.0	-7.0
Buy Write (Covered Calls)	5.0	0.0	-5.0
High Yield Bonds	2.0	10.0	8.0
Crisis Risk Offset			
CTA (Trend Following)	3.3	3.0	-0.3
Alternative Risk Premia (ARP)	3.3	3.0	-0.3
Long-Term Government Bonds	3.3	3.0	-0.3
Fixed Income			
Investment Grade Bonds	31.0	51.0	20.0

Stats	Current (%)	New (%)	Change (%)
10-Year Geometric Return	7.1	6.2	-0.9
Return Volatility (Std. Dev.)	10.2	6.8	-3.4
Sharpe Ratio	0.39	0.46	0.07

From an allocation perspective, the biggest change is a decrease in return-seeking assets (U.S. and International public equity mandates) in favor of a significant increase in fixed income investments (Investment Grade Bonds). Additional notable items will include the elimination of the two Covered Calls strategies currently held in the Plan, a slight downward adjustment to the Crisis Risk Offset class, and an increase to high yield securities (through new Core Plus managers). These changes, as described in further detail below, will occur following class reviews and over the next 24 months so as not to disrupt the portfolio's return/diversification production capabilities in the near term.

Strategic Classes	Current Allocation	2H 2024	1H 2025	2H 2025	Long-Term Target
Return-Seeking Assets					
US Equity	40.0	35.0	30.0	25.0	25.0
Developed Market Equity (non-US)	12.0	10.0	8.0	6.0	5.0
Buy Write (Covered Calls)	5.0	0.0	0.0	0.0	0.0
High Yield Bonds	2.0	4.0	6.0	8.0	10.0
Crisis Risk Offset					
CTA (Trend Following)	3.3	3.0	3.0	3.0	3.0
Alternative Risk Premia (ARP)	3.3	3.0	3.0	3.0	3.0
Long-Term Government Bonds	3.3	3.0	3.0	3.0	3.0
Fixed Income					
Investment Grade Bonds	21.0	31.0	41.0	51.0	51.0

An Evolving Strategic Policy

As highlighted above, one feature of adopting the new strategic policy is that it will require a significant amount of change, both from an asset adjustment standpoint and from the perspective of updating and searching for new potential managers. When working with other clients in similar positions, Meketa has found that it can be challenging to keep the actual portfolio aligned with the intended long-term policy portfolio. Specifically, some moves/adjustments toward policy allocations take significant time, resulting in an actual portfolio that may deviate significantly from its policy benchmark, from both investment performance and asset allocation perspectives.

To help resolve and/or manage this issue, Meketa is recommending an "evolving policy" (see table above). Under an evolving policy framework, the policy portfolio is allowed to adjust over time, reflecting the incremental funding nature that many of the minor classes require to achieve their policy targets.

PN/DS/JLC/mn

Approved to Form and Legality

Oakland Police and Fire Retirement Board

City of Oakland, California

Resolution No. 8096

ON MOTION OF MEMBER ______________________ SECONDED BY MEMBER __________________________

RESOLUTION FIXING THE MONTHLY ALLOWANCE OF CAROL A. PIGGEE, SURVIVING SPOUSE OF ALFRED A. PIGGEE AND CAROLYN RANDALL SURVIVING SPOUSE OF RICHARD RANDALL; RETIRED MEMBERS OF THE CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

WHEREAS, the retired members of the Police and Fire Retirement System, whose names appear in Column (1) below, died on the dates shown in Column (2) below; and

WHEREAS, the surviving spouses, whose names appear in Column (3) below, do not claim that their spouse's death was by reason of an injury received in, or illness caused by, or arising out of the performance of duty; and

WHEREAS, there is now presented to this Board, the monthly allowances shown in Column (7) below and as calculated by the Actuary in accordance with Article XXVI of the Charter of the City of Oakland; now, therefore, be it

RESOLVED: That the Police and Fire Retirement Board does hereby fix the amounts shown in Column (7) as the monthly allowances that said surviving spouses shall receive beginning on the dates shown in Column (4):

(1) **Name of Deceased Member**	(2) **Date of Death**	(3) **Name of Surviving Spouse**	(4) **Effective Date of Allowance**	(5) **Form of Retirement**	(6) **% of Compensation Attached to Avg. Rank Held**	(7) **Monthly Allowance**
Alfred A. Piggee	02/11/24	Carol A. Piggee	02/12/24	Svc	32.389%	$4,317.50
Richard Randall	02/04/24	Carolyn Randall	02/05/24	Dis	33.333%	$5,120.13

IN BOARD MEETING, CITY HALL, OAKLAND, CA ________ MARCH 27, 2024 ________

PASSED BY THE FOLLOWING VOTE:

AYES: GODFREY, MELIA, NICHELINI, ROSEMAN, SPEAKMAN, WILKINSON, & PRESIDENT JOHNSON
NOES:
ABSTAIN:
EXCUSED:

ATTEST: ______________________
PRESIDENT

ATTEST: ______________________
SECRETARY

Approved to Form and Legality

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA

RESOLUTION NO. 8097

ON MOTION OF MEMBER ______________________ SECONDED BY MEMBER __________________________

RESOLUTION APPROVING THE DEATH BENEFIT PAYMENT AND DIRECTING A WARRANT THEREUNDER IN THE AMOUNT OF $1,000.00 PAYABLE TO THE BENEFICIARY OF DECEASED CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM MEMBER JOHN L. HAUBNER.

WHEREAS, due proof having been received in accordance with Article XXVI of the Charter of the City of Oakland of the death of the retired member of the Oakland Police or Fire Department identified in Column (1) below; and

WHEREAS, the beneficiary to whom the death benefit provided in Charter Section 2612 is payable, is the person whose name is stated in Column (2) opposite the name of the deceased retired member; and

WHEREAS, the amount of said death benefit is stated in Column (3) opposite the name of the beneficiary; now, therefore, be it

RESOLVED: That the Police and Fire Retirement System Board does hereby approve the Death Benefit payment to the person named in Column (2); and be it

FURTHER RESOLVED: That the Director of Finance, be and is hereby directed to draw and sign a warrant for the amount in Column (3) payable to the person whose name appears in Column (2):

(1) **Name of Deceased Member**	(2) **Name of Beneficiary**	(3) **Death Benefit Amount**
John L. Haubner	Cheryl de Nijs	$1,000.00

IN BOARD MEETING, CITY HALL, OAKLAND, CA ________ MARCH 27, 2024 ________

PASSED BY THE FOLLOWING VOTE:

AYES: GODFREY, MELIA, NICHELINI, ROSEMAN, SPEAKMAN, WILKINSON, & PRESIDENT JOHNSON
NOES:
ABSTAIN:
ABSENT:

ATTEST: ______________________________
PRESIDENT

ATTEST: ______________________________
SECRETARY

CITY OF OAKLAND

AGENDA REPORT

TO: Oakland Police and Fire Retirement System Board (PFRS)

FROM: David F. Jones, Plan Administrator & Secretary

SUBJECT: PFRS Board of Administration Agenda Pending List

DATE: March 27, 2024

	SUBJECT	TENTATIVE SCHEDULED MTG DATE	STATUS
1	Status Report of the Ad Hoc Committee regarding Actuarial Funding date of July 1, 2026	03/25/2024	Ongoing

Respectfully submitted,

David F. Jones
Plan Administrator & Secretary
Oakland Police & Fire Retirement Systems