

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



AGENDA

AUDIT COMMITTEE MEMBERS

John C. Speakman
Chairperson

R. Steven Wilkinson
Member

Martin J. Melia
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 Audit Committee does not reach quorum, this meeting is noticed as an informational meeting between staff and the Chair of the Audit Committee.*

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

WEDNESDAY, DECEMBER 06, 2023

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/j/82880493983>
- 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 October 25, 2023 Audit & Operations Committee Meeting Minutes

2. **Subject:** REPORT OF THE AUDIT OF PFRS FINANCIAL STATEMENTS FISCAL YEAR ENDED JUNE 30, 2023
From: Macias, Gini, & O’Connell LLP

Recommendation: **ACCEPT** Audit Report of PFRS Financial Statements for fiscal year ended June 30, 2023

3. **Subject:** ADMINISTRATIVE EXPENSES REPORT
From: Staff of the PFRS Board

Recommendation: **ACCEPT** informational report regarding PFRS administrative expenses as of October 31, 2023

4. REVIEW OF PENDING AUDIT COMMITTEE MEETING AGENDA ITEMS
5. OPEN FORUM
6. FUTURE SCHEDULING
7. ADJOURNMENT

A MEETING OF THE AUDIT & OPERATIONS COMMITTEE of the Oakland Police and Fire Retirement System (“PFRS”) was held Wednesday, October 25, 2023, at One Frank Ogawa Plaza, Hearing Room 1, 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 10:00 a.m. Pacific

1. PFRS AUDIT & OPERATIONS COMMITTEE MEETING MINUTES

Member Wilkinson made a motion to approve the September 27, 2023, Audit & Operations Committee Meeting minutes, second by Chairperson Speakman. 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 August 31, 2023. PFRS has an approved annual budget of approximately \$3.8 million and expensed just under \$200,000 to date for fiscal year 2023/2024. Membership consisted of 650 retired members and beneficiaries, which included 403 Police Members and 247 Fire Members.

MOTION: Member Wilkinson made a motion to accept the administrative expenses report as of August 31, 2023, and forward to the Board, second by Member Melia. 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 Plan Administrator & Secretary 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 October 23, 2023 and the legal review of outside counsel’s opinion was still under analysis. The working group made a commitment to meet once a month and our next meeting is scheduled prior to the December 06, 2023 Board meeting and we will bring any updates forward at that time. Item 2) Monitor & Update PFRS Board of Upcoming City Council Agendas Regarding Discussion of the 2026 Actuarial Funding Date: No updates at this time. We will provide an update once Legal Counsel has had the opportunity to review the opinion letter.

4. **OPEN FORUM** – No Report.

5. **FUTURE SCHEDULING**

The next Audit & Operations Committee Meeting will be held in-person and is tentatively scheduled to occur December 6, 2023 at One Frank Ogawa Plaza, Oakland, CA in Hearing Room 2.

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

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

The meeting adjourned at 10:07 a.m. Pacific

JOHN C. SPEAKMAN
COMMITTEE CHAIRPERSON

DATE

DRAFT

**OAKLAND POLICE AND FIRE
RETIREMENT SYSTEM**

Report to the Board of Administration
June 30, 2023

DRAFT



Certified
Public
Accountants

November __, 2023

Members of the Board of Administration
of the Oakland Police & Fire Retirement System
Oakland, California

We are pleased to present this report related to our audit of the Oakland Police & Fire Retirement System's (System) financial statements as of and for the year ended June 30, 2023. This report summarizes certain matters required by professional standards to be communicated to you in your oversight responsibility for the System's financial reporting process.

This report is intended solely for the information and use of the Board of Administration, management, and others within the System, and is not intended to be, and should not be, used by anyone other than these specified parties. It will be our pleasure to respond to any questions you have about this report. We appreciate the opportunity to continue to be of service to the System.

Walnut Creek, California

DRAFT

TABLE OF CONTENTS

Required Communications	3
Exhibits	
Exhibit A – Recent Accounting Pronouncements	7

DRAFT

REQUIRED COMMUNICATIONS

Auditing standards generally accepted in the United States of America (AU-C 260, *The Auditor's Communication With Those Charged With Governance*) require the auditor to promote effective two-way communication between the auditor and those charged with governance. Consistent with this requirement, the following summarizes our responsibilities regarding the System's financial statement audit as well as observations arising from our audit that are significant and relevant to your responsibility to oversee the financial and related compliance reporting process.

Our Responsibilities With Regard to the Financial Statement Audit

Our responsibilities under auditing standards generally accepted in the United States of America have been described in our engagement letter dated June 12, 2023. Our audit of the System's financial statements does not relieve management or those charged with governance of their responsibilities, which are also described in that letter.

Overview of the Planned Scope and Timing of the Financial Statement Audit

We conducted our audit consistent with the planned scope and timing as communicated to the Board of Administration at the June 28, 2023 board meeting.

Accounting Policies and Practices

Preferability of Accounting Policies and Practices

Under accounting principles generally accepted in the United States of America, in certain circumstances, management may select among alternative accounting practices. In our view, in such circumstances, management has selected the preferable accounting practice.

Adoption of, or Change in, Accounting Policies

Management has the ultimate responsibility for the appropriateness of the accounting policies used by the System. The System did not adopt any significant new accounting policies, nor have there been any changes in existing significant accounting policies during the current period.

Significant Accounting Policies

We did not identify any significant accounting policies in controversial or emerging areas for which there is a lack of authoritative guidance or consensus.

Significant Unusual Transactions

We did not identify any significant unusual transactions.

Management's Judgments and Accounting Estimates

Summary information about the process used by management in formulating particularly sensitive accounting estimates and about our conclusions regarding the reasonableness of those estimates are as below.

Accounting estimates are an integral part of the preparation of financial statements and are based upon management's current judgment. The process used by management encompasses their knowledge and experience about past and current events, and certain assumptions about future events. You may wish to monitor throughout the year the process used to determine and record these accounting estimates. The following summarizes the significant accounting estimates reflected in the System's June 30, 2023, financial statements.

Significant Accounting Estimates

Valuation of investments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Management's estimate of the fair value of investments is based on a hierarchy of inputs. Observable inputs are developed based on market data obtained from sources independent from the System. Unobservable inputs are developed based on the best information available about the assumptions market participants would use in pricing the asset. Investments that do not have a readily determined fair value are valued using the net asset value (NAV) as a practical expedient, which generally represents the System's ownership interest in partnership capital.

MGO evaluated the assumptions through comparative analysis with third party pricing sources, reviewing fund audited financial statements, and performing roll forward procedures of audited values to year-end values, and determined that they are reasonable.

Total pension liability

Management's estimate of the total pension liability is based on actuarial measurements performed in accordance with the parameters set forth in GASB Statement No. 67, *Financial Reporting for Pension Plans*, and actuarial standards of practice by third-party actuarial consultants. The actuarial valuation is very sensitive to the underlying assumptions, including the discount rate.

MGO evaluated the methodologies and assumptions used to develop the actuarial calculations through census data testing and evaluating the competence, capability, and objectivity of management's specialist.

Departure From the Auditor's Standard Report

Expected Emphasis of Matter Paragraph

The financial statements present only the System, which is a pension trust fund of the City of Oakland. In light of this matter, we have included a standard emphasis of matter paragraph required by auditing standards.

Emphasis of Matter

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

Audit Adjustments and Uncorrected Misstatements

There were no audit adjustments made to the original trial balance presented to us to begin our audit.

Observations About the Audit Process

Disagreements With Management

We encountered no disagreements with management over the application of significant accounting principles, the basis for management's judgments on any significant matters, the scope of the audit or significant disclosures to be included in the System's financial statements.

Consultations With Other Accountants

We are not aware of any consultations management had with other accountants about accounting or auditing matters.

Significant Issues Discussed With Management

No significant issues arising from the audit were discussed or were the subject of correspondence with management.

Significant Difficulties Encountered in Performing the Audit

We did not encounter any significant difficulties in dealing with management during the audit.

Difficult or Contentious Matters That Required Consultation

We did not encounter any significant and difficult or contentious matters that required consultation outside the engagement team.

Shared Responsibilities for Independence

Independence is a joint responsibility and is managed most effectively when management, audit committees (or their equivalents), and audit firms work together in considering compliance with American Institute of Certified Public Accountants (AICPA) and *Government Accountability Office* (GAO) independence rules. For MGO to fulfill its professional responsibility to maintain and monitor independence, management, the Board of Administration, and MGO each play an important role.

Our Responsibilities

1. AICPA and GAO rules require independence both of mind and in appearance when providing audit and other attestation services. MGO is to ensure that the AICPA and GAO's General Requirements for performing non-attest services are adhered to and included in all letters of engagement.
2. Maintain a system of quality management over compliance with independence rules and firm policies.

The System's Responsibilities

1. Timely inform MGO, before the effective date of transactions or other business changes, of the following:
 - a. New affiliates, directors, or officers.
 - b. Changes in the organizational structure or the reporting entity impacting affiliates such as subsidiaries, partnerships, related entities, investments, joint ventures, component units, jointly governed organizations.
2. Provide necessary affiliate information such as new or updated structure charts, as well as financial information required to perform materiality calculations needed for making affiliate determinations.
3. Understand and conclude on the permissibility, prior to the System and its affiliates, officers, directors, or persons in a decision-making capacity, engaging in business relationships with MGO.
4. Not entering into arrangements of nonaudit services resulting in MGO being involved in making management decisions on behalf of the System.
5. Not entering into relationships resulting in close family members of MGO covered persons, temporarily or permanently acting as an officer, director, or person in an accounting, financial reporting or compliance oversight role at the System.

DRAFT

EXHIBIT A

Recent Accounting Pronouncements

RECENT ACCOUNTING PRONOUNCEMENTS

The following accounting pronouncements have been issued as of the date of this communication but are not yet effective and may affect the future financial reporting by the System.

Pronouncement	Summary
<p>GASB Statement No. 99, <i>Omnibus 2022</i></p>	<p>The objectives of this Statement are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing (1) practice issues that have been identified during implementation and application of certain GASB Statements and (2) accounting and financial reporting for financial guarantees.</p> <p>The requirements related to financial guarantees and the classification and reporting of derivative instruments within the scope of Statement 53 are effective for the System’s fiscal year ending June 30, 2024.</p>
<p>GASB Statement No. 100, <i>Accounting Changes and Error Corrections—an amendment of GASB Statement No. 62</i></p>	<p>The primary objective of this Statement is to enhance accounting and financial reporting requirements for accounting changes and error corrections to provide more understandable, reliable, relevant, consistent, and comparable information for making decisions or assessing accountability.</p> <p>Statement No. 100 is effective for the System’s fiscal year ending June 30, 2024.</p>
<p>GASB Statement No. 101, <i>Compensated Absences</i></p>	<p>The objective of this Statement is to better meet the information needs of financial statement users by updating the recognition and measurement guidance for compensated absences. That objective is achieved by aligning the recognition and measurement guidance under a unified model and by amending certain previously required disclosures.</p> <p>Statement No. 100 is effective for the System’s fiscal year ending June 30, 2025.</p>

**OAKLAND POLICE AND FIRE
RETIREMENT SYSTEM
(A Pension Trust Fund of the City of Oakland)**

Basic Financial Statements and
Required Supplementary Information

Years Ended June 30, 2023 and 2022

DRAFT

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
(A Pension Trust Fund of the City of Oakland)
Basic Financial Statements and Required Supplementary Information
Years ended June 30, 2023 and 2022

Table of Contents

	<i>Page</i>
Independent Auditor’s Report	1
Management’s Discussion and Analysis (Unaudited)	4
Basic Financial Statements	
Statements of Fiduciary Net Position	Error! Bookmark not defined.
Statements of Changes in Fiduciary Net Position	11
Notes to the Basic Financial Statements	12
Required Supplementary Information (Unaudited)	
Schedule of Changes in the Employer’s Net Pension Liability and Related Ratios.....	28
Schedule of Employer Contributions	30
Schedule of Investment Returns.....	30
Note to Required Supplementary Information	31

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.

Walnut Creek, California
December __, 2023

DRAFT

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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%.

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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 12 and page 28, respectively.

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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
For the Years Ended June 30, 2023 and 2022

	<u>June 30</u>		<u>Change</u>	
	<u>2023</u>	<u>2022</u>	<u>Amount</u>	<u>Percentage</u>
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	<u>482,880,544</u>	<u>462,051,217</u>	<u>20,829,327</u>	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	<u>66,750,100</u>	<u>60,563,756</u>	<u>6,186,344</u>	10.2%
Net position:				
Restricted for pensions	<u>\$ 416,130,444</u>	<u>\$ 401,487,461</u>	<u>\$ 14,642,983</u>	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.

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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

Table 2
Statement 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	<u>67,119,789</u>	<u>(4,134,760)</u>	<u>71,254,549</u>	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	<u>52,476,806</u>	<u>52,910,654</u>	<u>(433,849)</u>	-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	<u>\$ 416,130,444</u>	<u>\$ 401,487,461</u>	<u>\$ 14,642,984</u>	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 %.

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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
For the Years Ended 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%
Accrued 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.

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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

Table 2
Statement 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 was \$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

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

Assets	<u>2023</u>	<u>2022</u>
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	<u>15,147,401</u>	<u>6,218,664</u>
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	158,144,788
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	<u>458,166,392</u>	<u>448,337,582</u>
Total Assets	<u>482,880,544</u>	<u>462,051,217</u>
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	<u>66,750,100</u>	<u>60,563,756</u>
Net Position Restricted for Pensions	<u>\$ 416,130,444</u>	<u>\$ 401,487,461</u>

See accompanying notes to the basic financial statements.

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

Additions	<u>2023</u>	<u>2022</u>
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	<u>(1,361,423)</u>	<u>(1,475,655)</u>
Securities Lending Income		
Securities Lending Earnings	1,905,212	264,447
Securities Lending Expenses, Net of Rebates	<u>(1,805,535)</u>	<u>(111,643)</u>
Net Securities Lending Income	<u>99,677</u>	<u>152,804</u>
Net Investment Income (Loss)	<u>34,407,789</u>	<u>(47,954,760)</u>
Total Additions	<u>67,119,789</u>	<u>(4,134,760)</u>
Deductions		
Benefits to Members and Beneficiaries:		
Retirement	30,958,511	31,495,126
Disability	18,400,366	18,418,545
Death	<u>1,491,539</u>	<u>1,536,331</u>
Total Benefits to Members and Beneficiaries	<u>50,850,416</u>	<u>51,450,001</u>
Administrative Expenses	<u>1,626,390</u>	<u>1,460,653</u>
Total Deductions	<u>52,476,806</u>	<u>52,910,654</u>
Change in Net Position	14,642,983	(57,045,414)
Net Position Restricted for Pensions		
Beginning of Year	<u>401,487,461</u>	<u>458,532,875</u>
End of Year	<u>\$ 416,130,444</u>	<u>\$ 401,487,461</u>

See accompanying notes to the basic financial statements.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

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:

	<u>2023</u>	<u>2022</u>
Retirees and beneficiaries currently receiving benefits:		
Police	404	422
Fire	250	264
Total	<u>654</u>	<u>686</u>

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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

Asset Class	Target Allocation	
	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

GASB Statement No. 67 requires the disclosure of investments in any one organization that represents 5 percent or more of the System's fiduciary net position. As of June 30, 2023, the System had investments issued by the following organizations that exceeded 5% of its fiduciary net position: Northern Trust Company (19.5%), Vanguard Group (7.1%), and Wellington Select Quality Equity, LP (5.6%). As of June 30, 2022, the System had investments issued by the following organizations that exceeded 5% of its fiduciary net position: Northern Trust Company (18.4%), Vanguard Group (7.3%), and Wellington Select Quality Equity, LP (5.2%).

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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

	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 Investments				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:

	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 Investments				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

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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.

	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	<u>\$ 196,745,269</u>		

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

	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	<u>\$ 189,938,561</u>		

* 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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 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

Investment Type	2023	Modified Duration (Years)	2022	Modified Duration (Years)
Short-Term Investment Funds	\$ 10,743,990	n/a	\$ 7,474,421	n/a
U.S. Treasury Bills *	3,576,597	0.55	-	n/a

Long-Term Investment Duration

Investment Type	2023 Fair Value	Modified Duration (Years)	2022 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	<u>59,090,868</u>		<u>55,311,341</u>	
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	<u>69,687,021</u>		<u>74,885,922</u>	
Total Fixed Income Investments	<u>\$ 132,354,487</u>	7.23	<u>\$ 130,197,263</u>	7.59
Security Lending Collateral	<u>\$ 41,016,208</u>		<u>\$ 48,345,685</u>	

* Though short-term in duration these are not included with short-term investments. These are included with Bonds in the face of the financials.

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:

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%

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

The following are the System's 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

Investment Type	2023		2022	
	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

S&P/Moody's	2023		2022	
	Fair Value	Percent of Total Fair Value	Fair Value	Percent of Total Fair Value
AAA/Aaa	\$ 50,870,963	39.5%	\$ 64,115,811	49.50%
AA/Aa	22,291,955	17.3%	27,835,706	21.10%
A/A	12,987,483	10.1%	12,809,876	9.80%
BBB/Baa	11,087,375	8.6%	15,713,952	12.10%
BB/Ba	469,751	0.4%	1,196,674	0.90%
B/B	55,102	0.0%	21,734	0.00%
CCC/CCC	9,200,988	7.1%	8,503,509	6.50%
Not Rated	1,018,279	0.8%	-70,497	0.00%
N/A	20,795,994	16.1%	0	0.00%
	\$ 128,777,890	100.00%	\$ 130,126,766	100.00%

* In the financial statements, Short-term U.S. Treasury Bills, which are rated N/A, are included with Long-Term N/A.

Security Lending Collateral

	2023	2022
	Fair Value	Fair Value
Not Rated	\$ 41,016,208	\$ 48,345,685

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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.

DRAFT

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

Foreign Currency	Fair Value	
	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

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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	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 transaction	\$ 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	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 transaction	\$ 47,308,435	\$ 7,501,824	\$ 54,810,259
Collateral Received	\$ 48,375,771	\$ 7,742,587	\$ 56,118,358

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

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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
Grand 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)
Grand 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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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			
Derivative Type / Contract	Fair Value	Maturities	
		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			
Derivative Type / Contract	Fair Value	Maturities	
		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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

	<u>June 30, 2023</u>	<u>June 30, 2022</u>
Total pension liability	\$ 533,790,040	\$ 553,287,414
Less: Plan fiduciary net position	(416,130,444)	(401,487,461)
City's net pension liability	<u>\$ 117,659,596</u>	<u>\$ 151,799,953</u>
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.

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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

Asset Class	Long-Term Expected Real Rate of Return	
	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.

	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
	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

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

	<u>2023</u>	<u>2022</u>
Retired member contribution reserve	\$ 22,350,106	\$ 24,543,634
Employer reserve	393,780,338	376,943,827
Total	<u>\$ 416,130,444</u>	<u>\$ 401,487,461</u>

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.

DRAFT

Oakland Police and Fire Retirement System
Required Supplementary Information
Years Ended June 30, 2023 and 2022

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

	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>
<u>Total Pension Liability</u>					
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
<u>Plan fiduciary net position</u>					
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 employee payroll	\$ -	\$ -	\$ -	\$ -	\$ -
Net pension liability as a percentage of covered employee payroll	N/A	N/A	N/A	N/A	N/A

Oakland Police and Fire Retirement System
Required Supplementary Information
Years Ended June 30, 2023 and 2022

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

	2018	2017	2016	2015	2014
<u>Total Pension Liability</u>					
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
<u>Plan fiduciary net position</u>					
Contributions - employer	\$ 44,860,000	\$ -	\$ -	\$ -	\$ 4,441
Net investment income	35,446,275	50,158,795	(1,418,645)	15,438,586	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 employee payroll	\$ -	\$ -	\$ -	\$ -	\$ -
Net pension liability as a percentage of covered employee payroll	N/A	N/A	N/A	N/A	N/A

Oakland Police and Fire Retirement System

Required Supplementary Information

Years Ended June 30, 2023 and 2022

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

	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017*</u>	<u>2016*</u>	<u>2015*</u>	<u>2014*</u>
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)

	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
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%

Oakland Police and Fire Retirement System

Note to Required Supplementary Information
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:

Fiscal Year	Valuation Date	Discount Rate	Cost-of-Living Adjustments	Mortality	Other Significant Assumption Changes from Prior Year
2023	6/30/2021	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.

Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Administrative Budget Spent to Date (Preliminary)

As of October 31, 2023

	Approved Budget					
		October 2023	FYTD	Remaining	Percent Remaining	
Internal Administrative Costs						
PFRS Staff Salaries	\$ 1,459,000	\$ 98,996	\$ 390,030	\$ 1,068,970	73.3%	
Board Travel Expenditures	52,500	-	2,030	50,470	96.1%	
Staff Training	20,000	-	-	20,000	100.0%	
Staff Training - Tuition Reimbursement	7,500	-	-	7,500	100.0%	
Board Hospitality	3,600	826	1,630	1,970	54.7%	
Payroll Processing Fees	40,000	-	-	40,000	100.0%	
Miscellaneous Expenditures	45,000	2,495	3,640	41,360	91.9%	
Internal Service Fees (ISF)	88,000	-	-	88,000	100.0%	
Contract Services Contingency	50,000	-	-	50,000	100.0%	
Internal Administrative Costs Subtotal :	\$ 1,765,600	\$ 102,317	\$ 397,329	\$ 1,368,271	77.5%	
Actuary and Accounting Services						
Audit	\$ 52,800	\$ 18,941	\$ 18,941	\$ 33,859	64.1%	
Actuary	49,400	-	-	49,400	100.0%	
Actuary and Accounting Subtotal:	\$ 102,200	\$ 18,941	\$ 18,941	\$ 83,259	81.5%	
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	\$ 118,415	\$ 118,415	\$ 1,234,585	91.2%	
Custodial Fee	124,500	-	-	124,500	100.0%	
Investment Consultant	100,000	-	25,000	75,000	75.0%	
Investment Subtotal:	\$ 1,577,500	\$ 118,415	\$ 143,415	\$ 1,434,085	90.9%	
Total Operating Budget	\$ 3,807,400	\$ 239,673	\$ 559,686	\$ 3,247,714	85.30%	

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of October 31, 2023

	October 2023
Beginning Cash as of 10/1/2023	\$ 10,428,199
Additions:	
City Pension Contribution - October	\$ 3,396,917
Investment Draw	\$ 1,000,000
Misc. Receipts	800
Total Additions:	\$ 4,397,717
Deductions:	
Pension Payment (September Pension Paid on 10/1/2023)	(4,231,789)
Expenditures Paid	(239,803)
Total Deductions	\$ (4,471,592)
 Ending Cash Balance as of 10/31/2023*	 \$ 10,354,324

* On 11/1/2023, October pension payment of appx \$4,218,000 will be made leaving a cash balance of \$6,136,000.

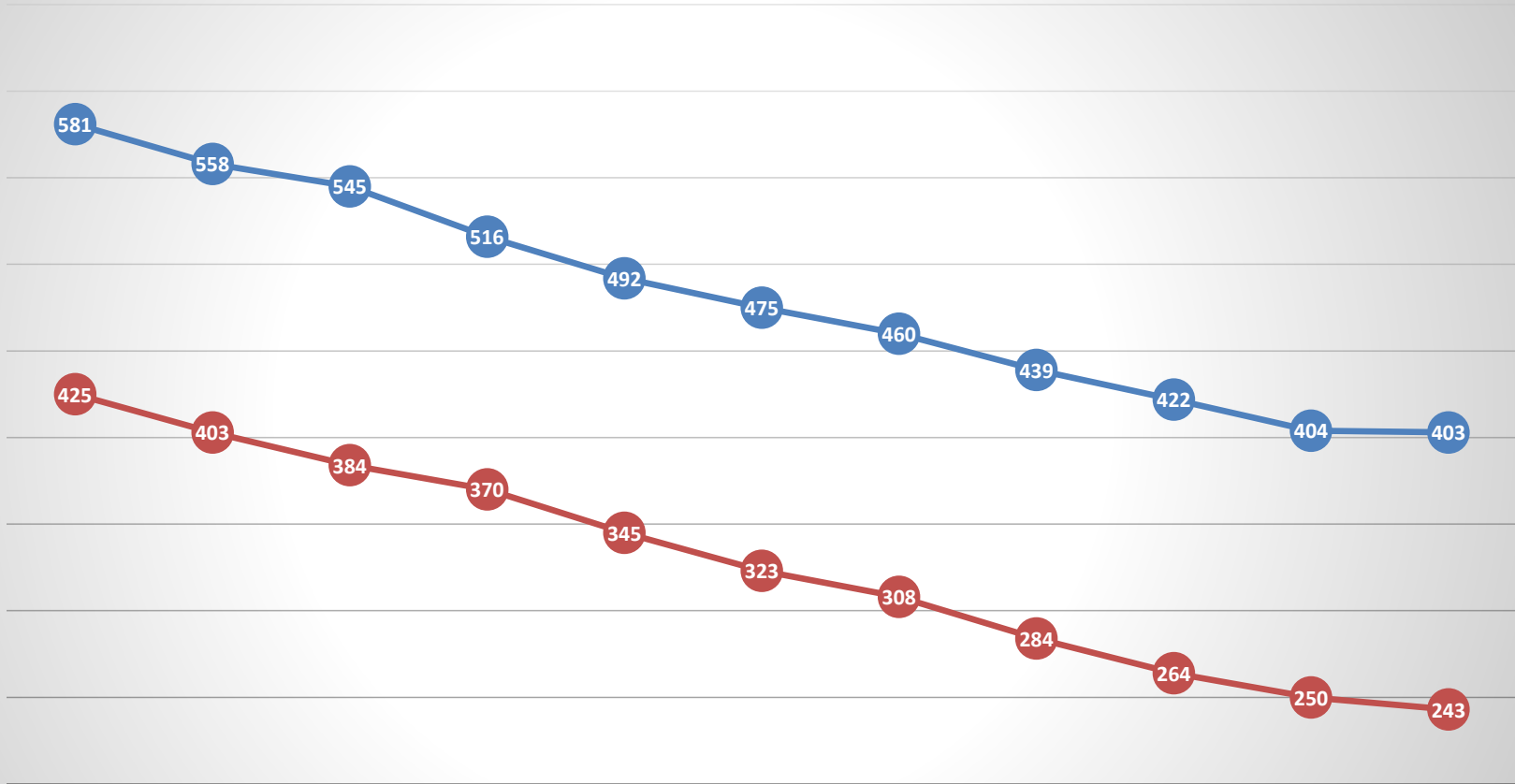
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of October 31, 2023

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	274	155	429
Beneficiary	129	88	217
<i>Total Retired Members</i>	403	243	646
<i>Total Membership:</i>	403	243	646

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	269	115	384
Disability Retirement	125	117	242
Death Allowance	9	11	20
<i>Total Retired Members:</i>	403	243	646
<i>Total Membership as of October 31, 2023:</i>	403	243	646
<i>Total Membership as of June 30, 2023:</i>	404	250	654
<i>Annual Difference:</i>	-1	-7	-8

Oakland Police and Fire Retirement System Pension Plan Membership Count As of October 31, 2023 (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	403
Fire	425	403	384	370	345	323	308	284	264	250	243
Total	1006	961	929	886	837	798	768	723	686	654	646



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: December 06, 2023

	SUBJECT	TENTATIVE SCHEDULED MTG DATE	STATUS
1	Status Report of the Ad Hoc Committee regarding Actuarial Funding date of July 1, 2026	TBD	Meeting was scheduled for 12/04/2023
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



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.*

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

WEDNESDAY, DECEMBER 06, 2023

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/j/82880493983>
- 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 October 25, 2023 Investment and Financial Matters Committee Meeting Minutes

2. **Subject:** INVESTMENT MANAGER PERFORMANCE UPDATE: RAMIREZ ASSET MANAGEMENT, INC.

From: Ramirez Asset Management, Inc.

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 Fixed Income Investment Strategy Manager Ramirez Asset Management, Inc.

3. **Subject:** INVESTMENT MANAGER PERFORMANCE REVIEW: RAMIREZ ASSET MANAGEMENT, INC.

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 Fixed Income Investment Strategy Manager Ramirez Asset Management, Inc.

4. **Subject:** RESOLUTION 8086
RESOLUTION AUTHORIZING THE EXECUTION OF A THIRD AMENDMENT TO RENEW THE PROFESSIONAL SERVICES AGREEMENT WITH RAMIREZ ASSET MANAGEMENT, INC. FOR THE PROVISION OF CORE FIXED INCOME INVESTMENT STRATEGY MANAGER SERVICES FOR THE OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

From: Staff of the PFRS Board

Recommendation: **RECOMMEND BOARD APPROVAL** of Resolution No. 8086 authorizing the execution of a third amendment to renew the professional services agreement with Ramirez Asset Management, Inc. for the provision of Core Fixed Income Investment Strategy Manager Services for the Oakland Police and Fire Retirement System

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
INVESTMENT & FINANCIAL MATTERS COMMITTEE – SPECIAL MEETING
DECEMBER 06, 2023

5. **Subject:** ECONOMIC AND INVESTMENT MARKET OVERVIEW
AS OF OCTOBER 31, 2023
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Global Investment Markets as of October 31, 2023
6. **Subject:** PRELIMINARY INVESTMENT FUND PERFORMANCE UPDATE
AS OF OCTOBER 31, 2023
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Preliminary Investment Fund Performance Update as of October 31, 2023
7. **Subject:** PFRS INVESTMENT FUND QUARTERLY PERFORMANCE UPDATE
AS OF SEPTEMBER 30, 2023
From: Meketa Investment Group

Recommendation: **ACCEPT** PFRS Investment Fund Quarterly Performance Update as of September 30, 2023
8. **Subject:** \$13.2 MILLION DRAWDOWN FOR MEMBER RETIREMENT ALLOWANCES QUARTER ENDING MARCH 31, 2024 (FISCAL YEAR 2023/2024)
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report and **RECOMMEND BOARD APPROVAL** of Meketa Investment Group's recommendation for a \$13.2 million drawdown, 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 Member Retirement Allowances from January 1, 2024 through March 31, 2024
9. **Subject:** ASSET-LIABILITY STUDY OF THE PFRS FUND (2023)
From: Meketa Investment Group

Recommendation: **RECEIVE** and **DISCUSS** informational report regarding the 2023 Asset-Liability Study of the PFRS Fund. **RECOMMEND BOARD APPROVAL** of Meketa Investment Group's recommended course of action moving forward

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
INVESTMENT & FINANCIAL MATTERS COMMITTEE – SPECIAL MEETING
DECEMBER 06, 2023**

10. SCHEDULE OF PENDING INVESTMENT COMMITTEE MEETING AGENDA ITEMS

11. NEW BUSINESS **REQUEST/RECOMMENDATION** to discuss proposing an educational item regarding investment opportunities in Africa, to be presented to the Full Board at the January 2024 Board meeting. (Member Wilkinson)

12. OPEN FORUM

13. FUTURE SCHEDULING

14. ADJOURNMENT

A MEETING OF THE INVESTMENT AND FINANCIAL MATTERS COMMITTEE of the Oakland Police and Fire Retirement System (“PFRS”) was held Wednesday, October 25, 2023, at One Frank H. Ogawa Plaza, Hearing Room 1, Oakland, CA.

Committee Members	<ul style="list-style-type: none"> ▪ Jaime T. Godfrey ▪ Robert W. Nichelini ▪ R. Steven Wilkinson 	<ul style="list-style-type: none"> Chairperson (Excused) Member Member & Acting Chairperson
Additional Attendees	<ul style="list-style-type: none"> ▪ David F. Jones ▪ Téir Jenkins ▪ Maxine Visaya ▪ Selia Warren ▪ David Sancewich ▪ Dan Ryan ▪ Jim Roccas 	<ul style="list-style-type: none"> PFRS Secretary & Plan Administrator PFRS Investment & Operations Manager PFRS Staff Member PFRS Legal Counsel Meketa Investment Group Parametric Portfolio Associates, LLC Parametric Portfolio Associates, LLC

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 September 27, 2023 Investment & Financial Matters Committee Meeting Minutes, second by Acting Chairperson Wilkinson. Motion Passed.

[GODFREY – EXCUSED / NICHELINI – Y / WILKINSON – Y]
 (AYES: 2 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 1)

2. INVESTMENT MANAGER PERFORMANCE UPDATE: PARAMETRIC PORTFOLIO ASSOCIATES, LLC

Dan Ryan and Jim Roccas of Parametric Portfolio Associates, LLC (Parametric) presented an informational report regarding a firm overview and managerial assessment; diversity and inclusion policy and practices; and investment strategy and portfolio performance of PFRS’ Covered Calls Investment Strategy. Parametric notified the Board of an upcoming organizational change regarding the retirement of Brian Langstraat, CEO at the end of 2023. It was noted they do not intend to fill the role of CEO; however, the plan moving forward is for Ranjit Kapila, Co- President/COO and Thomas Lee, Co-President/CIO to continue in their current roles and assume the day-to-day management responsibilities.

Acting Chairperson Wilkinson, Investment & Operations Manager Jenkins, & Plan Administrator Jones made inquiries to further the discussion regarding the following topics: the firm’s upcoming organizational change; investment strategy; use if AI technology in forecast modeling; and diversity and inclusion policy and practices. Parametric advised they publish an Annual DE&I Report and will forward to staff when the 2023 version becomes available.

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

[GODFREY – EXCUSED / NICHELINI – Y / WILKINSON – Y]
 (AYES: 2 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 1)

- 3. INVESTMENT MANAGER PERFORMANCE REVIEW: PARAMETRIC PORTFOLIO 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 Parametric, PFRS’ Covered Calls Investment Strategy Manager. D. Sancewich advised Parametric has performed well and as expected and Meketa has no concerns.

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

[GODFREY – EXCUSED / NICHELINI – Y / WILKINSON – Y]
(AYES: 2 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 1)

4. RESOLUTION NO. 8085

A Resolution authorizing a one-year extension of the professional services agreement with Parametric Portfolio Associates, LLC for the provision of Covered Calls Investment Strategy Manager Services for the City of Oakland Police and Fire Retirement System.

MOTION: Member Nichelini made a motion to recommend Board approval of Resolution No. 8085, second by Acting Chairperson Wilkinson. Motion passed.

[GODFREY – EXCUSED / NICHELINI – Y / WILKINSON – Y]
(AYES: 2 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 1)

5. ECONOMIC AND INVESTMENT MARKET OVERVIEW AS OF SEPTEMBER 30, 2023

David Sancewich of Meketa presented an informational report regarding the Economic and Investment Market Overview as of September 30, 2023, and highlighted Domestic Equity Returns; Foreign Equity Returns; and current factors impacting outcomes.

MOTION: Member Nichelini made a motion to accept the informational report presented by Meketa regarding the Economic and Investment Market Overview as of September 30, 2023, and forward to the Board, second by Acting Chairperson Wilkinson. Motion passed.

[GODFREY – EXCUSED / NICHELINI – Y / WILKINSON – Y]
(AYES: 2 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 1)

6. PRELIMINARY INVESTMENT PERFORMANCE UPDATE AS OF SEPTEMBER 30, 2023

David Sancewich of Meketa presented an informational report regarding the Preliminary Investment Performance Update as of September 30, 2023 and highlighted the Asset Class Performance Summary and current factors impacting outcomes.

MOTION: Member Nichelini made a motion to accept the informational report presented by Meketa regarding the Preliminary Investment Performance Update as of September 30, 2023, and forward to the Board, second by Acting Chairperson Wilkinson. Motion passed.

[GODFREY – EXCUSED / NICHELINI – Y / WILKINSON – Y]
(AYES: 2 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 1)

7. ASSET-LIABILITY STUDY OF THE PFRS FUND (2023)

Acting Chairperson Wilkinson forwarded this item to the Full Board meeting. No action was taken on this item.

8. SCHEDULE OF PENDING INVESTMENT COMMITTEE MEETING AGENDA ITEMS

David Sancewich of Meketa presented the 2023 Strategic Investment Agenda Plan for discussion and noted Meketa will bring forward the 2024 Strategic Agenda next month for review & discussion. No changes or additions were proposed.

9. OPEN FORUM – No Report

10. FUTURE SCHEDULING

The next Investment Committee Meeting will be held in-person and is tentatively scheduled to occur December 6, 2023 at One Frank Ogawa Plaza, Oakland, CA in Hearing Room 2.

11. ADJOURNMENT

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

[GODFREY – EXCUSED / NICHELINI – Y / WILKINSON – Y]
(AYES: 2 / NOES: 0 / ABSTAIN: 0 / ABSENT: 0 / EXCUSED: 1)

The meeting adjourned at 11:22 a.m. Pacific

R. STEVEN WILKINSON
ACTING COMMITTEE CHAIRPERSON

DATE

RAMIREZ ASSET MANAGEMENT



City of Oakland Police and Fire Retirement System – Portfolio Review

Materials prepared for:

City of Oakland Police and Fire Retirement System



Our Clients' Success is Essential to Ours
Integrity ♦ Experience ♦ Teamwork ♦ Performance

Ramirez Asset Management Presentation Team



James Haddon
Managing Director
Head of Marketing and Client Service
Years of Experience: 41
james.haddon@ramirezam.com



Louis Sarno
Managing Director
Portfolio Manager – Securitized Product
Years of Experience: 34
louis.sarno@ramirezam.com

Agenda

- I Firm Overview and Updates
 - II Portfolio Review – Performance and Characteristics
 - III Market Outlook and Strategic Positioning for Alpha
-

I. Firm Overview and Updates

Firm Overview – Who We Are

- Ramirez Asset Management (“RAM”) was founded in 2002 and is a certified minority-owned fixed income and equity investment manager based in New York City with offices in Chicago, IL and San Juan, PR
- RAM is an affiliate of Samuel A. Ramirez & Co. Inc., which was established in 1971, and is one of the oldest Hispanic-owned investment banks in the United States
- \$9.2 billion in firm-wide assets, as of September 30, 2023
- RAM has experienced 35% trailing 5-year annualized AUM growth
- RAM has 40 firm-wide employees with 31 fixed income professionals

Firm Updates and Developments

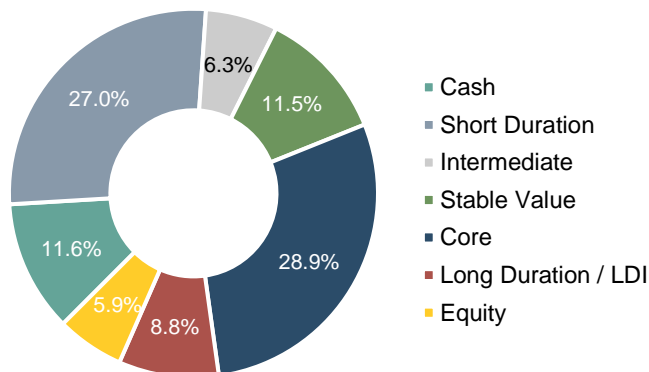
- RAM acquired Thomas White International in July 2023, a Chicago-based equity manager overseeing \$550 million
- The Ramirez Core Bond Fund and Ramirez Government Money Market Fund are set to launch in December 2023
- RAM added 13 employees this year, 4 to the fixed income team and 9 via the TWI acquisition

A Growing, Diverse List of Products and Clients

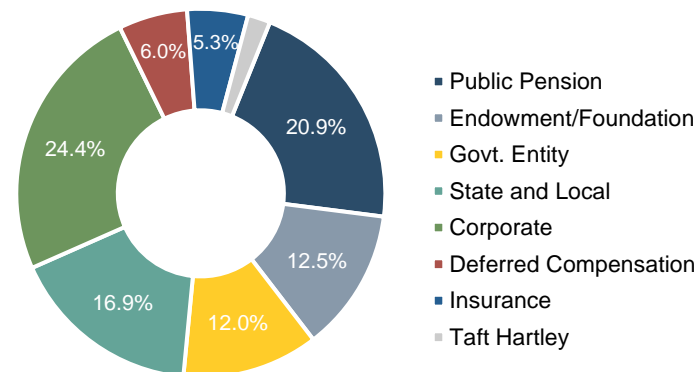
Overview

Number of Clients:	70
Number of Portfolios:	137
Average Client Size:	\$125M

Product Types



Client Types



Source: SS&C Advent as of 09/30/2023

Firm Overview – Fixed Income Professionals

Samuel Ramirez, Jr. President and CEO

Portfolio Management	Years
Samuel Ramirez, Jr. Municipals, Portfolio Manager	31
Louis Sarno Securitized Product, Portfolio Manager	34
Helen Yee, CFA Corporates, Portfolio Manager	31
Alex Bud, CFA Municipals, Asst. Portfolio Manager	23
Fundamental Research	Years
Janet Henry, CFA Corporates	43
Satyam Mallick, CFA Corporates	21
Brett Rodger Corporates	7
Zach Grob Securitized Product	4
Wilson Tran Securitized Product	7
Clyde Lane Municipals	13
Trading	Years
Mary Willis Trader	8
Macroeconomics	Years
Niso Abuaf, Ph.D.	40
Konstantin Semyonov, Ph.D.	25
Duncan Sinclair, Ph.D.	14

Client Service	Years
James Haddon Head of Marketing and Client Service	42
Dallas Ebel Marketing and Client Service	26
Michael Finck Marketing and Client Service	14
Aidan Cage Marketing and Client Service	3
Angeline Parekh Marketing and Client Service	2
Fernando Vinas Marketing and Client Service	31
Luz Signorile Marketing and Client Service	22
Operations	Years
Cheryl Fustinoni Head of Operations	18
Doris Vasquez Operations	16
Allen Khanchik Operations	14
Accounting	Years
Charles Ihonor Accounting	10

Risk Advisory Board

Compliance	Years
Peter Sigismondi Chief Compliance Officer	33
Risk Management	Years
Ira Isaguirre Chief Risk Officer	17
Maodo Ndiaye Quantitative Risk	8
David Briones Performance Analyst	4
Dmitro Golovanich, Ph.D. Systems	2

Organizational Overview

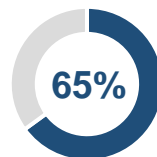
- 31** Total Team Members
- 20+** Years Average Experience
- 7+** Years Average at RAM
- 3 Locations:**
New York (28) Chicago (1) San Juan (2)

Firm Overview – Industry Leader in Social and Community Involvement

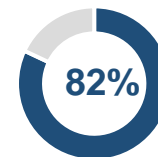
RAM is dedicated to being an industry leader in the inclusion of underrepresented communities. Our diverse array of talent and commitment to the communities in which we come from is an **essential** part of our current and future success.

Approach to Diversity Equity and Inclusion

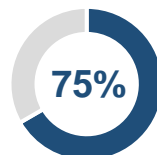
- *Client-Focused: Making an Impact Together*
- *Maintaining a Culture of Inclusivity*
- *Investing in the Community*
- *Developing Talent and Supporting the Next Generation*



of employees are minorities, women, or veterans



of the investment team is composed of minorities, women, or veterans



of senior leadership are minorities or women



of summer 2023 interns were minorities and/or women

The Next Generation

The **Ramirez Summer Internship Program** is a 8-week rotational program for undergraduate students with an interest in finance.

- **88%** of interns over the past 5 years have been minorities and/or women

Ramirez Investment Institute a training program focused on educating the next generation of finance professionals through a series of virtual training modules.



New Jersey Institute of Technology - a scholarship and mentorship initiative for minority students at NJIT.

Promoting DEI in the Industry



CEO Action for Diversity & Inclusion CEO-driven business with 2,000 business leaders making a commitment to advancing D&I within the workplace.



SIFMA is the securities industry leading trade association. Ramirez is an active participant holding seats on both the board and D&I Council.



NASP aims to foster the growth and development of minorities and MWBE firms in the securities industry.

Community Involvement



Hispanic Scholarship Fund empowers students to successfully complete a higher education, while providing support services and scholarships. Ramirez is proud to partner with the HSF on both intern and full time employment programs



ASPIRA is dedicated to the social advancement of the Latino community by supporting its youth in the pursuit of educational excellence.



Latin American Youth Center empowers a diverse population of youth to achieve a successful transition to adulthood.

Diversity Representation Survey

Diversity Representation Survey for Oakland Police and Fire

Date: 9/30/2023
Firm Name: Ramirez Asset Management
Product Name: Ramirez Core Strategy
Total No. of Employees: 40

	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%	10.0%	9.1%
Asian/Hawaiian/Pacific Islander	0.0%	22.5%	36.4%
Latino/Hispanic	50.0%	15.0%	9.1%
White	50.0%	52.5%	45.4%
American Indian/Alaska Native	0.0%	0.0%	0.0%
Other	0.0%	0.0%	0.0%
Gender			
Male	100.0%	67.5%	63.6%
Female	0.0%	32.5%	36.4%
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.

- RAM has 40 employees, of which 67.5% Male and 32.5% Female
- RAM's diverse representation among staff is
 - 10.0% African American/Black
 - 22.5% Asian/Hawaiian/Pacific Islander
 - 15% Latino/Hispanic
 - 52.5% White
 - 0% American Indian/Alaska Native

II. Portfolio Review – Performance and Characteristics

City of Oakland Police and Fire Retirement System

PORTFOLIO

- ▶ RAM manages **\$67.6M** on behalf of the City of Oakland Police and Fire Retirement System (“OPFRS”)
- ▶ The OPFRS portfolio is managed within the Ramirez Core Strategy with diversified allocations to the domestic U.S. Fixed Income market
- ▶ Inception Date: February 1, 2017

BENCHMARK

- ▶ Bloomberg U.S. Aggregate Bond Index

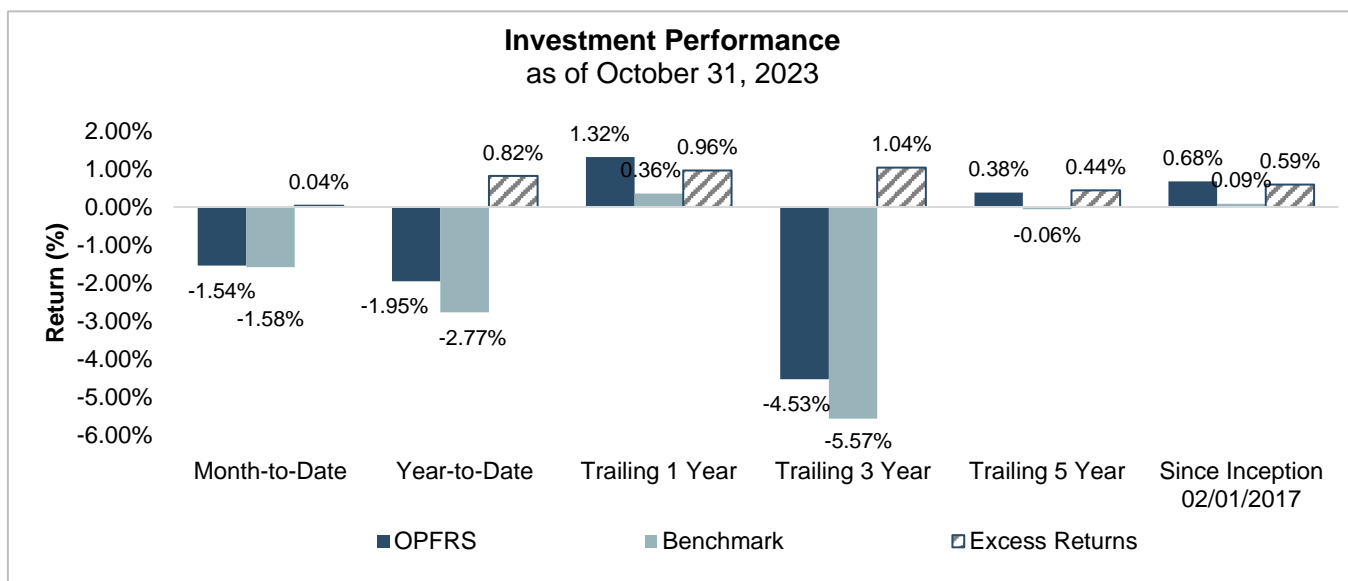
CONSTRAINTS

- Issuer:** Maximum of 10% (25% for any U.S. Government Security) allocation to any single security issue.
- Quality:** Minimum issuer rating of B by S&P/Moody’s/Fitch Ratings services.
The overall weighted average rating of the portfolio must be at minimum: “BBB” by S&P and Fitch, “B” by Moody’s.
- Maturity:** Maturities under 12 months will be viewed as “cash”
Maximum remaining term (or estimated term) to maturity, by single issue, of 31 years at the time of purchase.
The target portfolio average term to maturity is 15 years
The maximum average portfolio duration of 10 years
The targeted average portfolio duration is within the range of 3 – 8 years

Investment Performance

Oakland Police and Fire Retirement System

Core Fixed Income Portfolio



	Month-to-Date	Year-to-Date	Trailing 1-Year	Trailing 3-Year	Trailing 5-Year	Since Inception ²
Portfolio (%)	-1.54	-1.95	1.32	-4.53	0.38	0.68
Benchmark (%)	-1.58	-2.77	0.36	-5.57	-0.06	0.09
Excess Return vs. Portfolio (bps)	+4	+82	+96	+104	+44	+59

- Since February 2017, the OPFRS Core portfolio has generated **+59** basis points in excess return
- As of 10/31/2023, the OPFRS Core portfolio has **\$67.6mm** in total assets

Source: Advent, as of 10/31/2023

Benchmark: Bloomberg U.S. Aggregate Bond Index

²Since Inception Date: 02/01/2017

Performance Attribution – Trailing 1-Year

Oakland Police and Fire Retirement System Core Fixed Income Portfolio

Excess Return by Effects: +96 basis points (bps)

- Income: +108 bps
- Pay-down: -4 bps
- Term Structure: -64 bps
- Spread Total: +55bps

Sector Return Components

- Positive Contributors (+163 bps):**
 - Overweight to Taxable Municipals: +76 bps
 - ABS/RMBS/CMBS: +47 bps
 - Underweight to Corporates: +36 bps
 - Cash: +4
- Return Detractors (-67 bps):**
 - Underweight to Agency MBS: -50 bps
 - Underweight to U.S. Treasuries: +8 bps
 - Underweight to U.S. Agencies: +3 bps
 - Non-allocation Non-Corporates: -6 bps

Excess Return	Trailing 1 Years Return Attribution*				
	Total Excess Return	Income	Paydown	Term Struct. Total	Spread Total
Excess Return	0.96	1.08	(0.04)	(0.64)	0.55
Cash	0.04	0.04	0.00	(0.00)	0.00
U.S. Govt./Municipals/Credit	0.94	1.07	(0.00)	(0.58)	0.45
U.S. Governments	(0.12)	(0.34)	0.00	0.23	(0.01)
Agency	(0.03)	(0.05)	0.00	0.02	(0.00)
Treasury	(0.08)	(0.29)	0.00	0.21	(0.00)
Municipals/Credit	1.06	1.42	(0.00)	(0.81)	0.46
Taxable Municipals	0.76	1.36	(0.00)	(1.12)	0.53
Corporate	0.36	0.14	0.00	0.26	(0.04)
Sovereign	(0.02)	(0.05)	0.00	0.07	(0.04)
Supranational	(0.04)	(0.03)	0.00	(0.01)	(0.00)
Securitized Product	(0.03)	(0.03)	(0.03)	(0.06)	0.10
CMBS	0.34	0.11	0.01	0.14	0.09
ABS	0.13	0.06	0.02	0.07	(0.01)
RMBS	0.00	0.10	0.04	(0.12)	(0.02)
Pass-Thru	(0.50)	(0.30)	(0.10)	(0.15)	0.04
Corporate Subsectors	0.36	0.14	0.00	0.26	(0.04)
Industrial	0.13	0.12	0.00	0.01	0.01
Finance	0.13	0.06	0.00	0.10	(0.03)
Utility	0.09	(0.05)	0.00	0.15	(0.01)

Date	Bellwether U.S. Treasury Yields ⁽²⁾							Key Curve Changes		
	3 Mo.	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	30 Yr.	2s/30s	2s/10s	10s/30s
10/31/2022	4.22	4.66	4.45	4.27	4.18	4.10	4.22	(0.29)	(0.41)	0.12
10/31/2023	5.59	5.44	4.90	4.82	4.89	4.88	5.04	(0.03)	(0.19)	0.16
12 Mo. Change	1.37	0.78	0.45	0.55	0.71	0.78	0.82	0.26	0.22	0.04



Source: ¹BondEdge Next-Generation [®] as of 10/31/2023
²U.S. Treasury (www.treasury.gov)
 Past performance is no guarantee of future results

Portfolio Positioning

Oakland Police and Fire Retirement System

Core Fixed Income Portfolio

Characteristics	OPFRS	Benchmark	Difference
Market Value (\$M)	\$67.6	---	---
Yield-to-Worst (%)	5.99	5.68	+0.31
Eff. Duration (Yrs.)	6.02	5.87	+0.15
Quality Rating	Aa2	Aa2	--
Coupon (%)	4.15	3.03	+1.12
Maturity (Yrs.)	8.93	8.30	+0.63

Sector	Strategy	Index	Difference
U.S Govt.	21.6%	42.4%	-20.7%
Corporates	21.5%	26.9%	-5.4%
Agency MBS	14.1%	27.9%	-13.8%
RMBS	2.5%	0.0%	2.5%
CMBS	4.8%	1.8%	3.0%
ABS	3.3%	0.5%	2.8%
Taxable Municipals	31.6%	0.6%	31.0%
Cash	0.6%	0.0%	0.6%

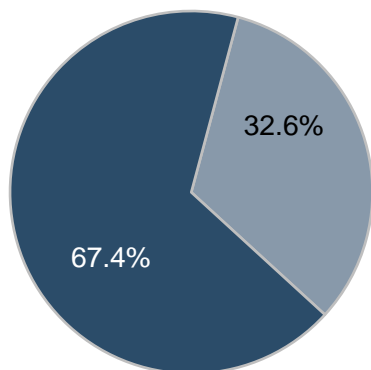
Quality	Strategy	Index	Difference
AAA	11.3%	3.7%	7.6%
AA	59.9%	71.6%	-11.6%
A	12.1%	10.3%	1.8%
BBB	15.1%	13.8%	1.3%
Below IG	0.6%	0.6%	0.0%

MWDVBE and Approved Local Broker Trading

- RAM is committed to utilizing MWDVBE and OPFRS' Approved Local Brokers
- All MWDVBE and OPFRS Approved Local Broker utilization is contingent on best execution practices

MWDVBE and Local Approved Broker Utilization

Trailing 1-Year
as of 10/31/2023



- MWDVBE and Approved Local Brokers
- Non-MWDVBE or Approved Local Brokers

MWDVBE and Approved Local Broker Dealers Utilized

Academy Securities
Alamo Capital
American Veterans
Blaylock Van*
Loop Capital*
Roberts & Ryan
Siebert
Siebert Williams Shank

III. Market Outlook and Strategic Positioning for Alpha

Current Market Outlook and Strategic Positioning for Alpha

Macroeconomic Outlook and Portfolio Positioning

- RAM is currently neutral to positive overall relative duration and emphasizing higher quality sectors and issues
 - The Federal Reserve is on hold for now as it analyzes incoming data
 - Production inflation has moved significantly lower from cyclical highs, services inflation remains elevated and “sticky”
 - RAM views the higher probability for the term structure is to re-steepen as inflation and growth come down
- RAM has moved our longer maturity exposure from underweight to neutral relative to the benchmark as yields have peaked
- Over the past year, we have increased exposure to U.S. Government sectors but remain underweight relative to benchmark
- RAM emphasizes high quality sub-sectors and issuers that will outperform in both a steady state or slowing growth scenario
- Currently, we have taken a conservative approach to credit risk and have increased the duration of U.S. Government securities while reducing duration to risk assets

Portfolio Overweights

- Taxable Municipals
- Non-Agency RMBS
- Asset Backed Securities
- Logistics CRE

Portfolio Underweights

- U.S. Treasuries
- Agency RMBS
- Investment Grade Corporates
- Office CRE

Macroeconomic Roadway

Political Risks	●	<ul style="list-style-type: none"> ⇒ Biden's meeting with Xi was a rare opportunity to neutralize relations and produce important agreements, but the bilateral relationship will continue to be defined by competition ⇒ While posing significant geopolitical risks and escalation probabilities, the Russia-Ukraine and the Israel-Hamas wars will likely fuel US economic activity and impose supply chain constraints as global armament production takes central stage
High Frequency Trends	●	<ul style="list-style-type: none"> ⇒ Rental costs continue to rise in lagged response to the significant increase in home prices. Renters are suffering while higher-income home owners are benefiting, leading to income-inequality problems <ul style="list-style-type: none"> ⇒ Homeowners who have locked in mortgages at rates below 3% are unwilling to sell, leading to significant price increases. This effect, combined with elevated mortgage rates, has moved the housing-affordability index to its lowest level since the mid-1980s
Economic Growth (US)	●	<ul style="list-style-type: none"> ⇒ US economic growth surged in Q3 as GDP rose 4.9%, more than double its long-term growth rate of slightly less than 2%. Because most of this growth was due to consumers spending at a blockbuster rate and a significant build up in private inventories, we expect that it will be difficult to sustain <ul style="list-style-type: none"> ⇒ While interest rate sensitive sectors are in a slump, government purchases as a result of the various fiscal programs and defense spending will keep the economy away from a recession ⇒ Though housing starts were up modestly in October, most of the statistics pointed to a cooling economy. Namely, jobless claims were up slightly, the Philadelphia Fed diffusion index improved to a still quite weak -5.9 and manufacturing output was down 0.7% m/m, home builder index sank, and consumers showed weakness
Labor Markets (US)	●	<ul style="list-style-type: none"> ⇒ According to the volatile JOLTS data, job openings remain strong but continue to decline in synchrony with the quits rate ⇒ The economy created 150K jobs in October, slightly lower than expected but 50% higher than what the economy needs to create to absorb new entrants ⇒ Though fears about the UAW strike have abated, a looming government shutdown may harm the labor market
Inflation	●	<ul style="list-style-type: none"> ⇒ Headline CPI unchanged m/m in October, while core and super-core services rose 0.23%, and 0.22% m/m in October. The markets rejoiced at these numbers, as they were better than expected ⇒ The PPI numbers in October also came in better than expected, with PPI for final demand declining 0.5% m/m, with the core up 0.1% m/m
Monetary Policy	●	<ul style="list-style-type: none"> ⇒ During an International Monetary Fund Conference, the Federal Reserve Chair Jerome Powell said that: "We will continue to move carefully, however, allowing us to address both the risk of being misled by a few good months of data and the risk of overtightening"
Fiscal Policy	●	<ul style="list-style-type: none"> ⇒ The US Fiscal deficit will reach almost 6% of GDP for the fiscal year 2022-2023. Moreover, this deficit has been pushed upwards by high interest rates which have in turn put pressure on the bond markets ⇒ The Treasury surprised the markets in its Quarterly Refunding Announcement by announcing that its increased issuance will be concentrated at the short end. Currently, short-dated T-bill issuance is more than 20% of total debt issuance, and may go higher still. Markets embraced this news
The Markets	●	<ul style="list-style-type: none"> ⇒ Government bond yields experience high volatility in 2021 and 2022, and the 10Y is currently around 4.43%. The 2Y10Y part of the Treasury curve remains inverted since July 2022, which in the past often signaled downturns – though it may be more correlation than causation. The current spread between the 2Y and 10Y Treasury yields narrows to about 47 bps ⇒ The S&P 500 is up by ~17.7% in 2023 and the VIX is around 14%
The Bottom Line	●	<ul style="list-style-type: none"> ⇒ Consumption and government expenditures will help the economy move along, and as Treasury Secretary Janet Yellen has stated, the economy will likely experience a soft landing with an annual GDP growth rate of 2.5% <ul style="list-style-type: none"> ⇒ Risks include developments in the commercial real estate & banking sectors, tightening financial conditions & Fed mistakes, the fiscal deficit & dysfunctional government, and geopolitics



Tailwinds



Neutral



Headwinds

Current Market Outlook and Strategic Positioning for Alpha

Market Risk	Outlook	Current Positioning
<p>Interest Rates</p> <p>Fed Funds Rate 5.25% – 5.50%</p> <p>Most recent Fed move was no movement on 11/01/23</p> <p>Next Meeting: 12/12/23</p>	<p>Fed Funds Forecasts</p> <p>Fed Forecast (as of Sep 2022 Meeting) Fed Forecast (as of Dec 2022 Meeting)</p>	<ul style="list-style-type: none"> As we enter Q4, RAM is maintaining duration neutral/modestly long overall relative to benchmarks Transitioning weighted average coupon structures lower as we layer in holdings with deep discount dollar prices Federal Reserve rate increases may be nearing a top for this cycle
<p>Term Structure</p> <p>Bear Steepener</p>	<p>Year over Year UST Yield Curve</p> <p>9/30/2022 9/30/2023</p>	<ul style="list-style-type: none"> Increase exposure to intermediate dated holdings as term structure re-steepens in tenures of 5-years and longer Consensus FED outlook envisions rate decreases beginning in mid-2024 Volatility on the term structure should subside as more clarity from the FED brings stability
<p>Risk Premiums</p> <p>Selective overweights / Range-bound</p>	<p>Historical 5-Year Bloomberg U.S. Agg. OAS</p> <p>9/30/23 52 bps</p>	<ul style="list-style-type: none"> Position credit risk with shorter overall relative duration across sectors while maintaining longer duration positioning with U.S. treasuries Expect relatively range bound risk premiums with yield carry being a primary driver of excess returns however, if economy heads into a recession expect risk premiums to move wider Continue to increase credit quality in non-government sectors Maintain strategic positioning in the taxable municipal asset class with higher credit quality and lower beta issuers

DISCLAIMER

©2023 Ramirez Asset Management, Inc.

This material is confidential.

This material is confidential and proprietary to Ramirez Asset Management, Inc. and is solely intended for the parties to whom it was provided for informational purposes only. If you have received this document in error, please securely destroy it immediately. This material has been provided for the purpose of discussion and may not be further distributed, reproduced, or disclosed to any third party or used for any other purpose without the prior written consent of Ramirez Asset Management, Inc. The information contained in this document does not constitute any agreement with Ramirez Asset Management, Inc.

Current market conditions are subject to change.

The information contained herein reflects prevailing conditions and our views as of this date, which are accordingly subject to change without prior notice. In preparing this material, we have relied upon the accuracy and completeness of information available from various sources considered reliable, but Ramirez Asset Management, Inc. has not independently verified this information and does not represent that this material is accurate, current, or complete and it should not be relied upon as such. In addition, any appraisals contained herein should be considered preliminary, suitable only for the purpose described herein and should not be disclosed or otherwise used without the prior written consent of Ramirez Asset Management, Inc.

Past performance is no guarantee of future returns.

Past returns are no promise or guarantee of future performance. The value of investments and returns are subject to change. No data which reflects past performance is an indication of future returns. Investments in fixed income securities involve certain risks, which are fully described in the firm's Form ADV Part 2 filing. All investors must receive a copy of the firm's Disclosure Document, Form ADV Part 2, prior to their initial investment with the firm and receive a copy of the firm's Annual Amendment each year thereafter. Please review carefully.

MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group (Meketa)
DATE: December 6, 2023
RE: Ramirez Core Fixed Income—Manager Update

Manager: Ramirez Asset Management

Inception Date:	February 2017	OPFRS AUM (10/31/2023):	\$67.6 million
Strategy:	Core Fixed Income	Strategy AUM (9/30/2023):	\$2.3 billion
Benchmark:	Bloomberg US Aggregate Bond Index	Firm-wide AUM (9/30/2022):	\$9.2 billion

Summary & Recommendation

Ramirez has managed a portion of OPFRS’s Core Fixed Income portfolio since January 2017. As of 10/31/2023, the portfolio is approximately \$67.6 million or about 17.1% of OPFRS’s Total Fund. The strategy has performed within expectations and guidelines for the portfolio for all time periods measured, and has experienced no major organizational changes in the portfolio management team since last review in September 2022. **Therefore, Meketa does not have any major concerns with Ramirez and recommends that the Board retains Ramirez as a Core Fixed Income manager.**

Investment Performance Review Summary

As of 10/31/2023, Ramirez Core Fixed Income portfolio has matched or outperformed benchmark over all time periods measured on both gross- and net-of-fees bases. In comparison with its peers in the eVestment US Core Fixed Income (Net) universe, it has ranked above average across all time periods.

OPFRS Portfolio Returns (as of 10/31/2023)¹

Portfolio	Balance (\$000)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	S.I. (%)	Inception Date
Ramirez Core (Gross)	67,579.0	-1.6	-2.1	1.1	-4.6	0.4	0.6	1/2017
<i>Bloomberg US Aggregate</i>	---	<i>-1.6</i>	<i>-2.8</i>	<i>0.4</i>	<i>-5.6</i>	<i>-0.1</i>	<i>0.1</i>	---
Excess Return	---	0.0	0.7	0.7	1.0	0.5	0.5	---
Ramirez Core (Net)	67,579.0	-1.6	-2.3	0.9	-4.8	0.2	0.4	1/2017
<i>Bloomberg US Aggregate</i>	---	<i>-1.6</i>	<i>-2.8</i>	<i>0.4</i>	<i>-5.6</i>	<i>-0.1</i>	<i>0.1</i>	---
Excess Return	---	0.0	0.5	0.5	0.8	0.3	0.3	---
Peer Group Rank (Net) ²		36	36	30	19	45	41	---

¹ Performance is annualized for periods longer than one year. “S.I.” signifies Since Inception.

² Peer group is eVestment US Core Fixed Income (Net) as of 10/31/2023.



Product and Organization Review Summary

Ramirez 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 Ramirez Asset Management and the Core Fixed Income strategy revealed no concerning organizational issues or changes since last review in September 2022.

Investment Summary per Manager

Ramirez is seeking active relative value credit opportunities to add incremental yield and total return. The firm allows experienced portfolio managers to make meaningful allocations to relative value anomalies that they identify. Ramirez is disciplined in adhering to overall benchmark duration, term, and credit quality risk framework. However, it is not risk constrained by credit segmentation within the benchmark. Ramirez believes utilizing credit expertise in sector rotation and security selection, in a risk-controlled framework will produce consistent risk-adjusted returns over time.

This philosophy is the foundation of each of Ramirez's investment strategies and has remained unchanged since the firm's inception. The firm's investment approach seeks to add value by:

- Taking a longer-term view on investing; less dependent on a few top-down decisions;
- Closely regulating relative duration and term structure positioning;
- Combining quantitative and qualitative factors into a bottom-up/ top-down process;
- Emphasizing active relative value allocation across domestic high grade credit sectors and securities held in the index.

Ramirez's overriding objective is to achieve consistent excess returns above the benchmark through successive market cycles. Ramirez views that a strategy which attempts to anticipate interest rates will exhibit higher levels of volatility relative to a benchmark and will result in inconsistent relative performance. A critical component of the risk management process is the maintenance of overall duration and term structure positioning, relative to the benchmark, within fairly narrow ranges utilizing key rate durations ("KRD") as the preferred measure. While Ramirez will express a bias for the directionality of interest rates, overall portfolio effective duration and KRD are kept within narrow bands relative to the benchmark, typically $\pm 10\%$ with average variances ranging between $\pm 5\%$.

Ramirez's portfolios, including the Core strategy, are actively managed with a blend of top-down macroeconomic analysis and bottom-up issuer level research. When forming the firm's macro- and microeconomic opinions, the Investment Committee, assesses both qualitative and quantitative factors. This ensures that the appropriate quantitative market indicators and metrics as well as the extensive experience of the firm's investment professionals is utilized when determining the optimal sectors positioning and security selection. This portfolio construction process has been in place and remained unchanged since the firm's founding.

DS/PN/JLC/mn



Disclosure

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.

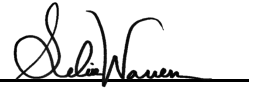
INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8086

Approved to Form
and Legality



ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION AUTHORIZING THE EXECUTION OF A THIRD AMENDMENT TO THE PROFESSIONAL SERVICES AGREEMENT WITH RAMIREZ ASSET MANAGEMENT, INC. FOR THE PROVISION OF CORE FIXED INCOME INVESTMENT STRATEGY MANAGER SERVICES FOR THE OAKLAND POLICE AND FIRE RETIREMENT SYSTEM TO RENEW THE AGREEMENT FOR AN ADDITIONAL ONE-YEAR TERM COMMENCING JANUARY 1, 2024 AND ENDING DECEMBER 31, 2024

WHEREAS, Article XVI §17 of the California Constitution, commonly referred to as the Pension Protection Act or Proposition 162, and Article XXVI of the Oakland City Charter (“Charter”) vest the Oakland Police and Fire Retirement System Board (“PFRS Board”) with exclusive control of the administration and investment of the assets of the Police and Fire Retirement Fund (the “Fund”); and

WHEREAS, the PFRS Board manages and administers the Police and Fire Retirement System (“PFRS”), pursuant to the requirements of Article XXVI of the Charter; and

WHEREAS, Charter section 2601(e) gives the Board power to make all necessary rules and regulations for its guidance and exclusive control of the administration and investment of the funds established for the maintenance and operation of the system; and

WHEREAS, Article XXVI of the Charter expressly authorizes the PFRS Board to secure competent investment counsel to provide advice and counsel regarding the investment of the Fund and further provides that discretionary powers granted to such investment counsel will be at the option of the Board; and

WHEREAS, on December 21, 2016, the PFRS Board adopted Resolution No. 6941, which awarded a professional service agreement to Ramirez Asset Management Inc. to serve as the Core Fixed Income Investment Strategy Manager for PFRS at a rate of .24 percent of the portfolio’s annual asset value for a five year term with three one-year options to renew the Agreement at the same rate; and

WHEREAS, pursuant to Resolution No. 6941, PFRS entered into an agreement with Ramirez Asset Management Inc., to serve as the Core Fixed Income Investment Strategy Manager for a five-year term commencing January 1, 2017 and ending December 31, 2021, subject to the fees and terms set forth above; and

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8086

WHEREAS, on October 27, 2021, the PFRS Board exercised their first option to renew the agreement and adopted Resolution No. 8030, which authorized a one-year extension of the agreement with Ramirez Asset Management Inc. commencing January 1, 2022 and ending December 31, 2022; and

WHEREAS, on September 28, 2022, the PFRS Board exercised their second option to renew the agreement and adopted Resolution No. 8063, which authorized a one-year extension of the agreement with Ramirez Asset Management Inc. commencing January 1, 2023 and ending December 31, 2023; and

WHEREAS, the PFRS Board now wishes to exercise its third option to renew the agreement with Ramirez Asset Management Inc. for an additional one-year term, at the existing annual fee rate of 0.24 percent of the Fund assets under management (presently valued at approximately Sixty Eight Million Dollars (\$68,000,000.00), which fees are estimated to be approximately One Hundred Sixty Two Thousand Dollars (\$162,000.00) per year commencing January 1, 2024; now, therefore, be it

RESOLVED: That PFRS staff is authorized to amend the agreement with Ramirez Asset Management Inc. for the provision of Core Fixed Income Investment Strategy Manager Services for PFRS at the annual rate of 0.24 percent of the Fund assets under management to extend the term for an additional one-year commencing January 1, 2024 and ending December 31, 2024; and be it

FURTHER RESOLVED: That the President of the PFRS Board is hereby authorized to execute, on behalf of PFRS, the second amended agreement with Ramirez Asset Management Inc.

IN BOARD MEETING, CITY HALL, OAKLAND, CA **DECEMBER 06, 2023**

PASSED BY THE FOLLOWING VOTE:

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

NOES:

ABSTAIN:

ABSENT:

ATTEST: _____
PRESIDENT

ATTEST: _____
SECRETARY

Economic and Market Update

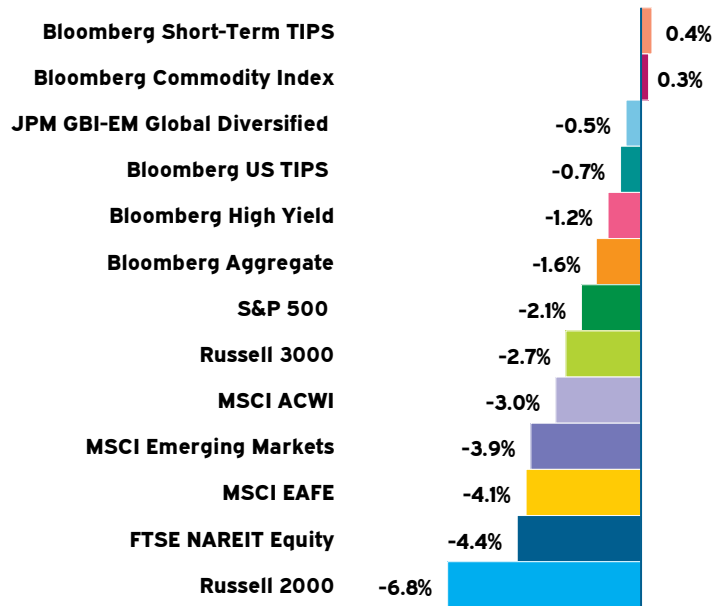
October 2023 Report

Commentary

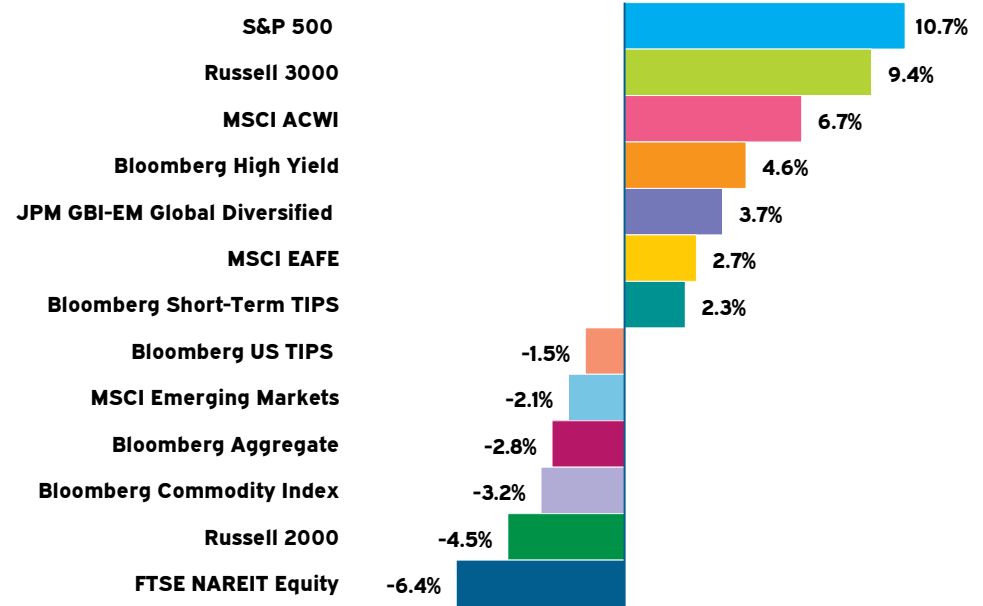
- Global markets continued to struggle in October, as expectations remained on the Fed keeping interest rates higher for longer due to resilient economic data.
- The Federal Open Markets Committee (FOMC), which increased policy rates in July by 0.25% to a range of 5.25% - 5.5%, has been on pause since. Markets are now largely expecting the FOMC to maintain interest rates at this level through the first half of next year with cuts to follow.
 - US equity markets (Russell 3000 index) fell in October (-2.7%), lowering the year-to-date gains to 9.4%. Most sectors except utilities struggled in October.
 - Non-US developed equity markets declined more than the US in October (MSCI EAFE -4.1%), with the strength of the US dollar weighing on returns. This widened the gap between US and international developed equities for the year (to 9.4% versus 2.7%).
 - Emerging market equities also fell in October (-3.9%), with negative results driven by China and the strong US dollar. Emerging markets continue to significantly trail developed market equities year-to-date, returning -2.1%, again driven by losses from China (-11.2%).
 - Interest rates generally rose in October, particularly for longer-dated maturities. The broad US bond market declined (-1.6%) in October falling further into negative territory (-2.8%) year-to-date, as higher income has offset a portion of the capital losses from rising rates.
- For the rest of this year and into 2024, the paths of inflation and monetary policy, slowing global growth, and the wars in Ukraine and Israel will all be key.

Index Returns¹

QTD



YTD



→ After a strong start to the year, the prospect of higher interest rates for longer given resilient economic data has weighed on markets from August through October.

¹ Source: Bloomberg. Data is as of October 31, 2023.

Domestic Equity Returns¹

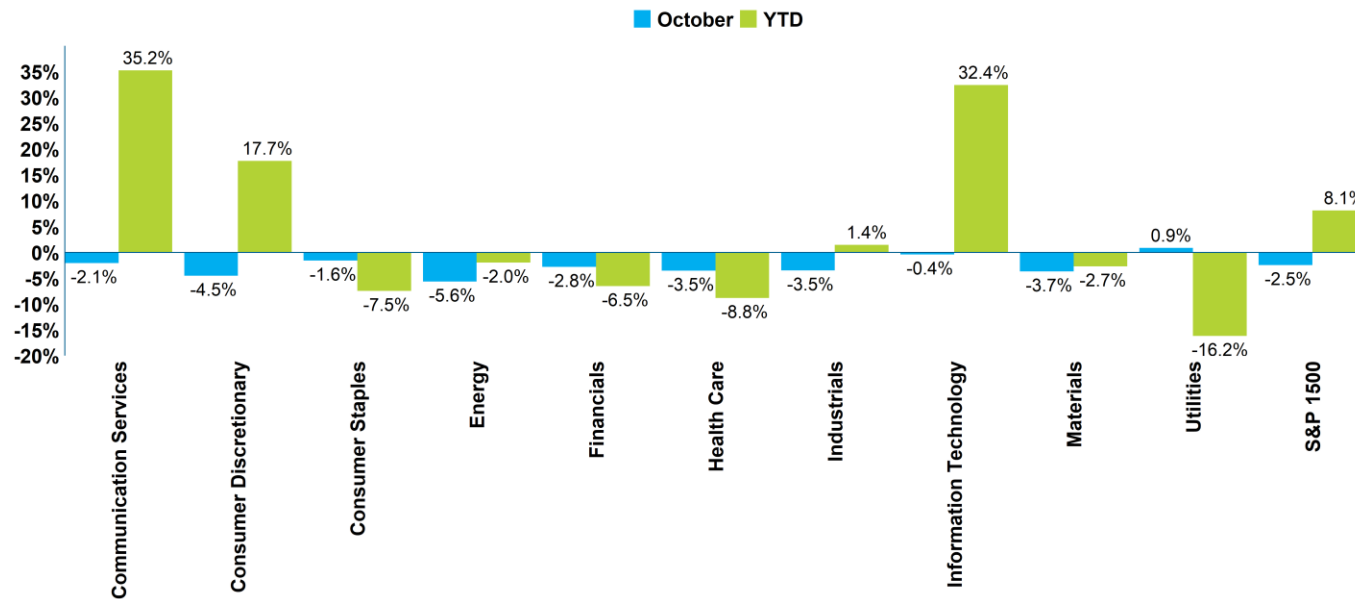
Domestic Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	-2.1	-3.3	10.7	10.1	10.3	11.0	11.2
Russell 3000	-2.7	-3.3	9.4	8.4	9.2	10.2	10.5
Russell 1000	-2.4	-3.1	10.3	9.5	9.5	10.7	10.9
Russell 1000 Growth	-1.4	-3.1	23.2	19.0	8.7	14.2	13.8
Russell 1000 Value	-3.5	-3.2	-1.8	0.1	10.2	6.6	7.6
Russell MidCap	-5.0	-4.7	-1.3	-1.0	6.0	7.1	8.0
Russell MidCap Growth	-5.1	-5.2	4.3	3.3	0.8	8.1	9.1
Russell MidCap Value	-5.0	-4.5	-4.4	-3.6	8.8	5.7	6.9
Russell 2000	-6.8	-5.1	-4.5	-8.6	3.9	3.3	5.6
Russell 2000 Growth	-7.7	-7.3	-2.9	-7.6	-1.8	2.7	5.7
Russell 2000 Value	-6.0	-3.0	-6.5	-9.9	9.7	3.3	5.2

US Equities: The Russell 3000 Index fell 2.7% in October but is up 9.4% YTD.

- A surprisingly strong September jobs report and third quarter GDP reading reinforced investors' expectations that the Federal Reserve will keep interest rates higher for longer and broadly weighed on US equities.
- The utility sector was the only sector that posted a gain during October. Energy stocks experienced the steepest fall, followed by consumer discretionary stocks.
- Large cap stocks outperformed small cap stocks during October driven by the technology sector. Microsoft and Amazon, both of which reported stronger than expected third quarter results, were significant contributors to this dynamic.

¹ Source: Bloomberg. Data is as of October 31, 2023.

S&P 1500 Sector Returns¹



→ Except for utilities all sectors were down in October.

→ So far in 2023, the communication services (+35.2%) and technology (+32.4%) sectors had the best results, helped by artificial intelligence optimism. Given the continued strength in the US consumer the consumer discretionary sector followed (+17.7%), while more traditionally defensive sectors like utilities (-16.2%), health care (-8.8%), and consumer staples (-7.5%) have trailed.

¹ Source: Bloomberg. Data is as of October 31, 2023.

Foreign Equity Returns¹

Foreign Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-4.1	-3.8	1.0	12.1	3.0	3.5	2.5
MSCI EAFE	-4.1	-4.1	2.7	14.4	5.7	4.1	3.1
MSCI EAFE (Local Currency)	-3.4	-1.3	7.0	10.4	11.0	6.4	6.0
MSCI EAFE Small Cap	-5.9	-3.5	-4.2	6.5	0.3	1.6	3.4
MSCI Emerging Markets	-3.9	-2.9	-2.1	10.8	-3.7	1.6	1.2
MSCI Emerging Markets (Local Currency)	-3.6	-1.4	0.3	9.8	-1.1	3.6	4.2
MSCI China	-4.3	-1.9	-11.2	21.1	-16.9	-2.6	1.0

Foreign Equity: Developed international equities (MSCI EAFE) fell 4.1% in October, dropping the YTD gain to 2.7%. Emerging market equities (MSCI EM) fell 3.9% in the period and were down 2.1% YTD.

- Non-US equities fell for the third consecutive month with steeper declines compared to the US market. The continued strength of the US dollar contributed to losses, as well as the ongoing geopolitical crisis in the Middle East.
- European equities struggled due to slowing growth, falling PMI, and a contraction in household and business credit supply. The UK saw greater losses, with sticky inflation, and continued wage growth suggesting that rates will be high for some time. Japan remains the best performing market year-to-date, though the TOPIX lost momentum in October.
- Emerging market equity performance was slightly better than developed international equities, but the declines for the month brought year-to-date results into negative territory. While there were some positive data out of China on industrial production and retail sales, continued weakness in real estate and new US chip restrictions weighed on market sentiment.

¹ Source: Bloomberg. Data is as of October 31, 2023.

Fixed Income Returns¹

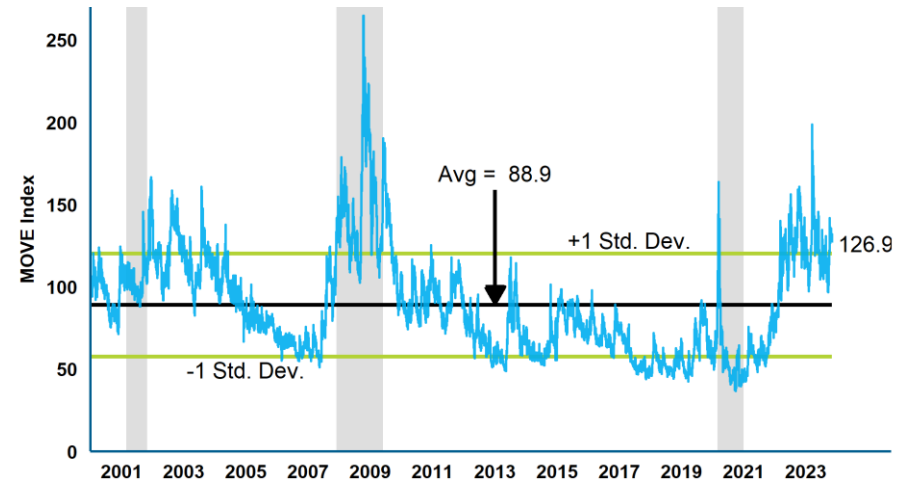
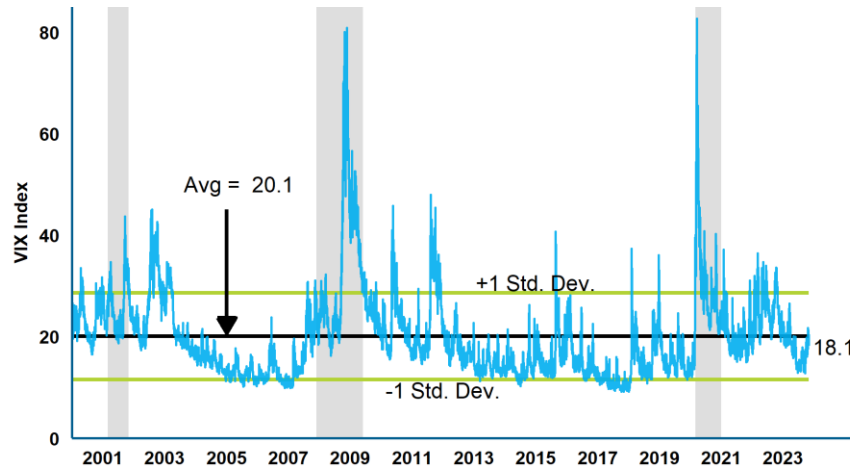
Fixed Income	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-1.5	-2.9	-2.1	1.2	-5.0	0.2	1.2	6.0	5.9
Bloomberg Aggregate	-1.6	-3.2	-2.8	0.4	-5.6	-0.1	0.9	5.6	6.1
Bloomberg US TIPS	-0.7	-2.6	-1.5	-0.7	-2.0	2.3	1.6	5.2	6.6
Bloomberg Short-term TIPS	0.4	0.4	2.3	2.6	2.1	3.0	1.7	5.4	2.5
Bloomberg High Yield	-1.2	0.5	4.6	6.2	1.2	3.0	3.9	9.5	4.0
JPM GBI-EM Global Diversified (USD)	-0.5	-3.3	3.7	13.5	-3.0	0.3	-1.2	7.0	4.9

Fixed Income: The Bloomberg Universal index declined 1.5% in October and 2.1% YTD.

- Expectations for policy rates to remain higher for longer than previously expected continued to weigh on yields in October.
- The broad US bond market (Bloomberg Aggregate) fell 1.6% in the month, driving year-to-date performance further into negative territory. The broader TIPS index fell by 0.7%, while the less interest-rate-sensitive short-term TIPS index outperformed most sectors, up 0.4%.
- High yield bonds also weakened, declining 1.2%, and emerging market bonds fell 0.5%. Volatility in both asset classes is being driven by movement in broader interest rates, but also a modest deterioration in risk appetite.

¹ Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of October 31, 2023. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.

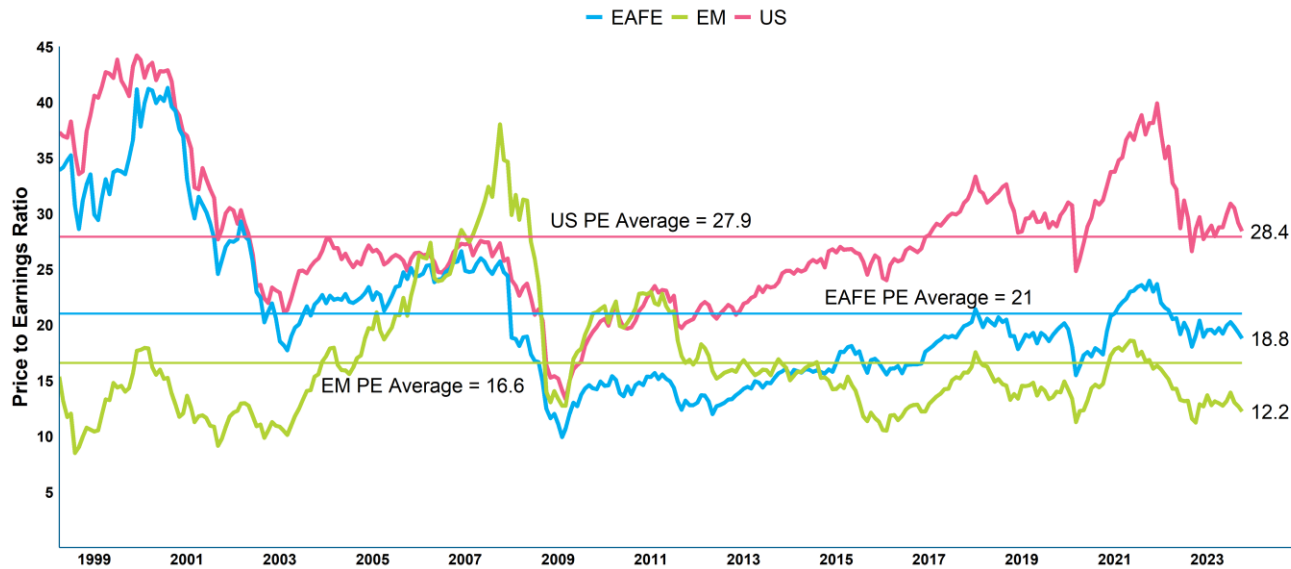
Equity and Fixed Income Volatility¹



- Volatility in equities (VIX) increased in October but finished at a level near the long-term average. The recent increase in equity volatility has largely been driven by investors coming to terms that interest rates might remain higher for a longer period.
- In comparison, volatility in the bond market (MOVE) remains well above its long-run average (88.9) after last year's historic losses and due to continued policy uncertainty. In October, fixed income volatility finished higher compared to where it started, like equities, driven by expectations for rates to stay higher for longer and increased concerns about future US debt issuance.

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 October 2023. The average line indicated is the average of the VIX and MOVE values between January 2000 and October 2023.

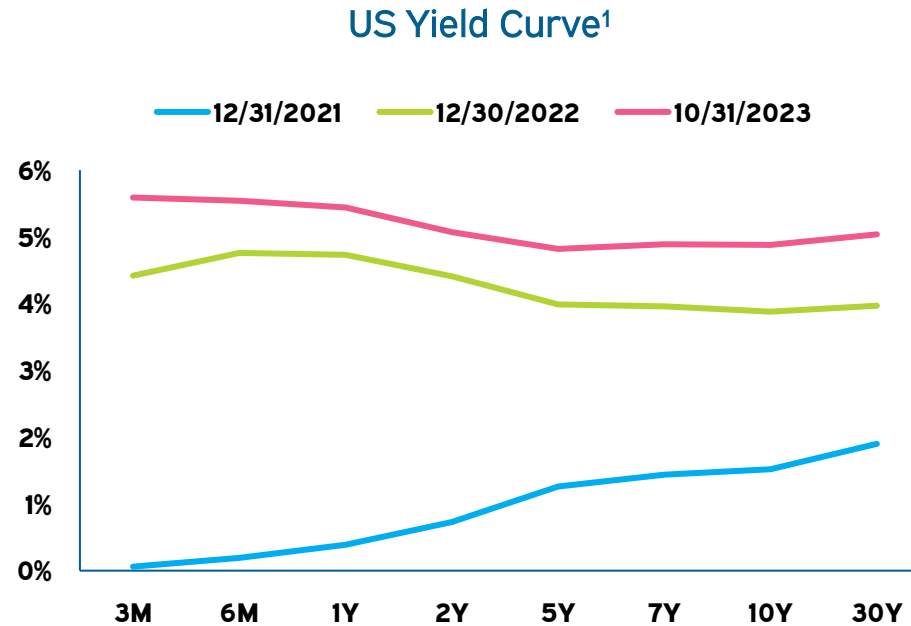
Equity Cyclically Adjusted P/E Ratios¹



→ Given the strong technology-driven rally this year, the US equity price-to-earnings ratio increased above its long-run (21st century) average. With the equity market decline in August through October, the P/E ratio fell from its recent peak.

→ International developed market valuations are below their own long-term average, with those for emerging markets the lowest and well under the long-term average (close to one standard deviation below).

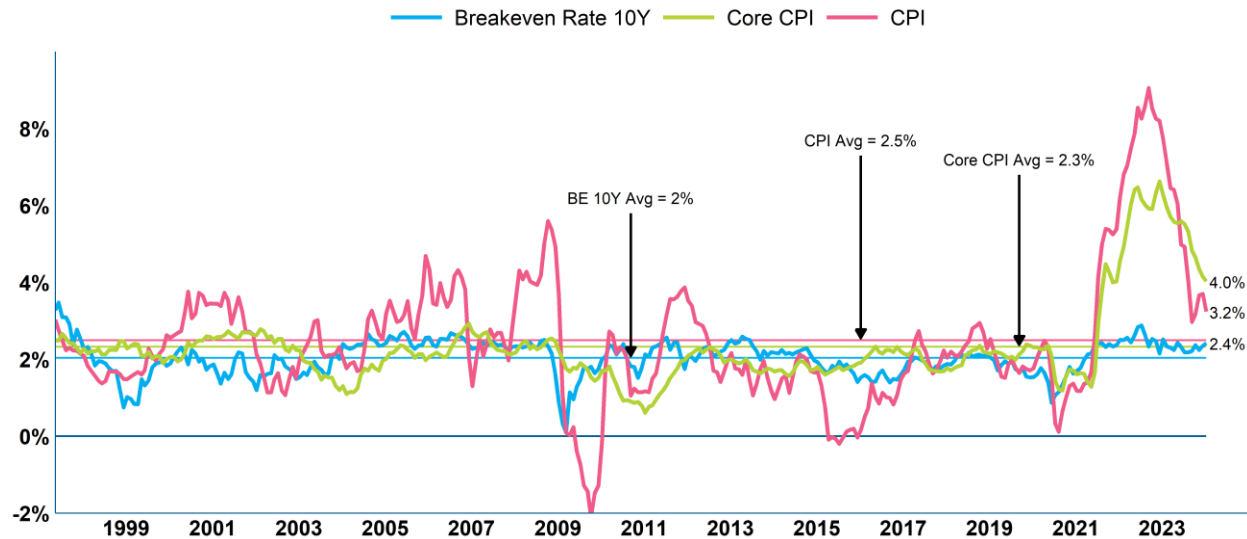
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of October 2023. 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.



- Overall rates continued to increase this year, particularly at the policy sensitive front-end of the yield curve, but at a much slower pace compared to last year.
- In October, very short-term interest rates (two years or less) increased only slightly as monetary policy has likely reached close to its terminal rate for this cycle. By contrast, longer-term rates continued their dramatic rise as investors come to terms with rates remaining higher for longer. The ten-year Treasury yield has experienced a significant increase from 3.9% to 4.9% since the beginning of the year.
- Because of the dynamic above, the yield curve's inversion decreased further with the spread between two-year and ten-year Treasuries at -0.15% at the end of October (it started the third quarter at -1.05%).

¹ Source: Bloomberg. Data is as of October 31, 2023.

Ten-Year Breakeven Inflation and CPI¹

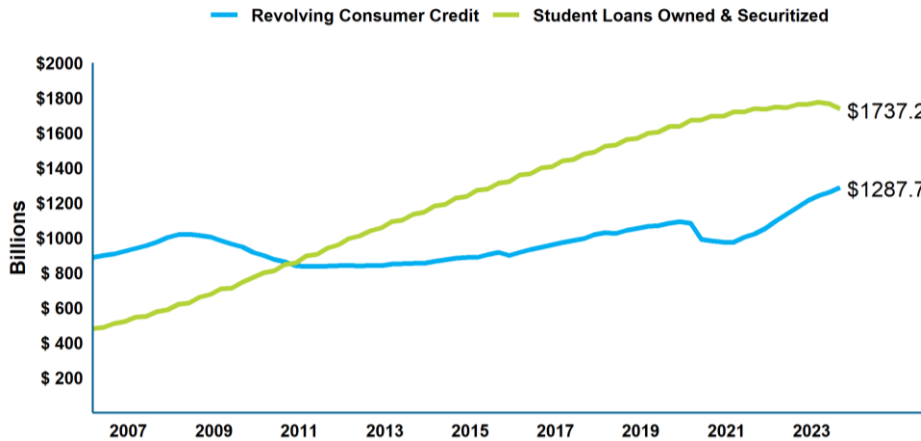


- Year-over-year headline inflation fell from 3.7% to 3.2%, coming in slightly below expectations. Declines were driven by energy, used cars and trucks, and medical services.
- Core inflation – excluding food and energy – fell slightly (4.1% to 4.0%) year-over-year. It remains stubbornly high, though, driven by shelter costs (+6.7%), particularly owners’ equivalent rent, and transportation services (+9.2%).
- Inflation expectations (breakevens) remain below current inflation as investors continue to expect inflation to track back toward the Fed’s 2% average target.

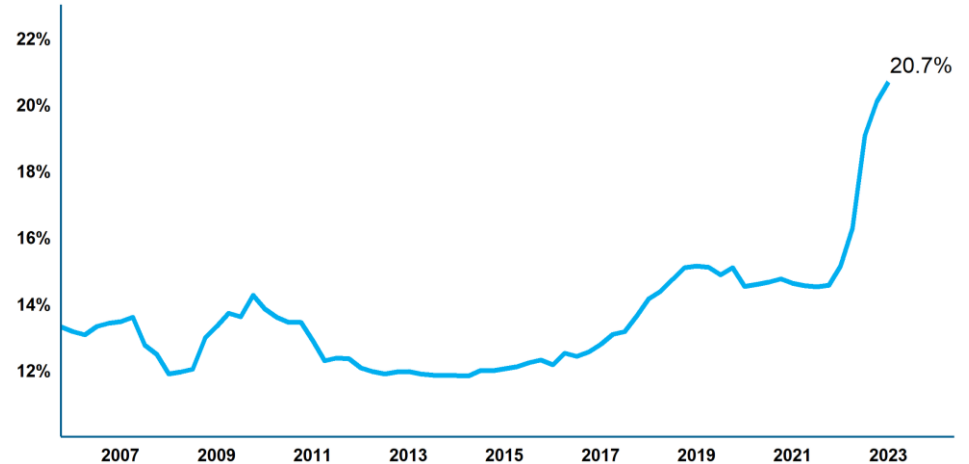
¹ Source: FRED. Data is as October 31, 2023. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

US Consumer Under Stress?¹

Revolving Consumer Credit & Student Loans (\$B)



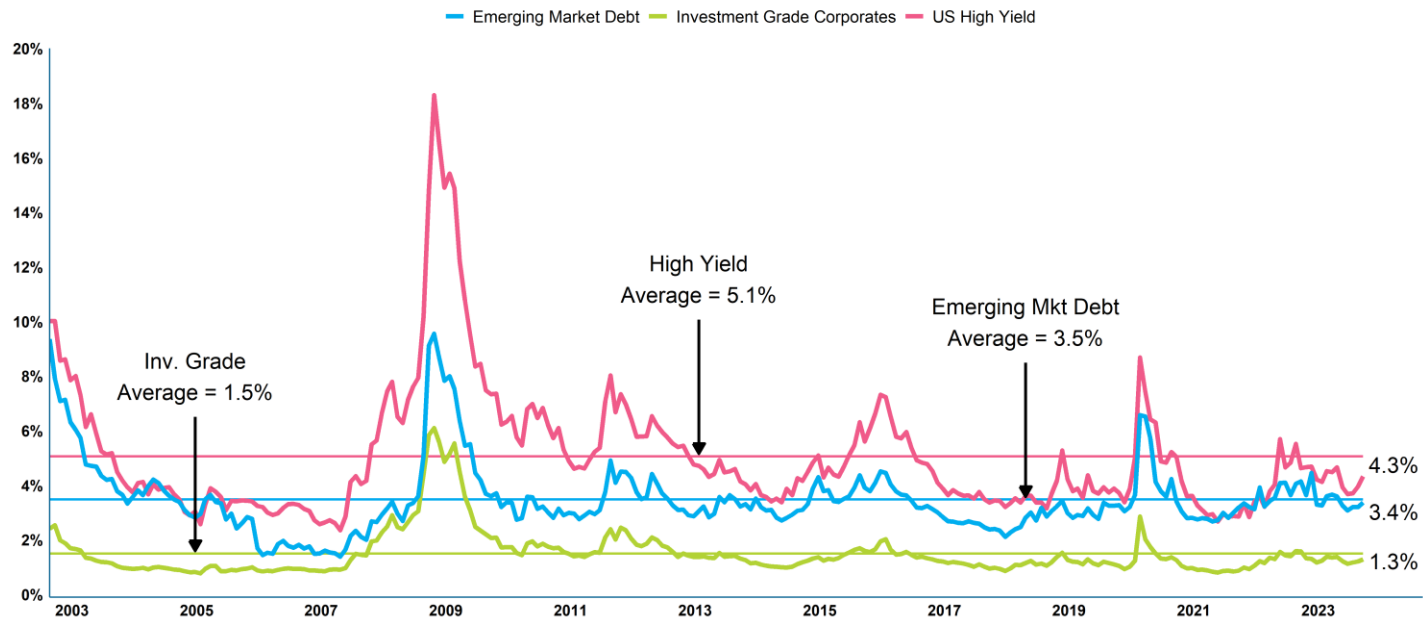
Consumer Credit Card Interest Rates (%)



- 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 an important 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).
- The return of student loan repayments after a three-year pandemic-related reprieve could add to pressures on consumers' budgets. This might be partially balanced 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. Revolving Consumer Credit and Student Loans data is as of September 30, 2023. Revolving Consumer Credit data is seasonally adjusted to remove distortions during the holiday season. Consumer Credit Card Interest Rates data is as of June 30, 2023.

Credit Spreads vs. US Treasury Bonds¹

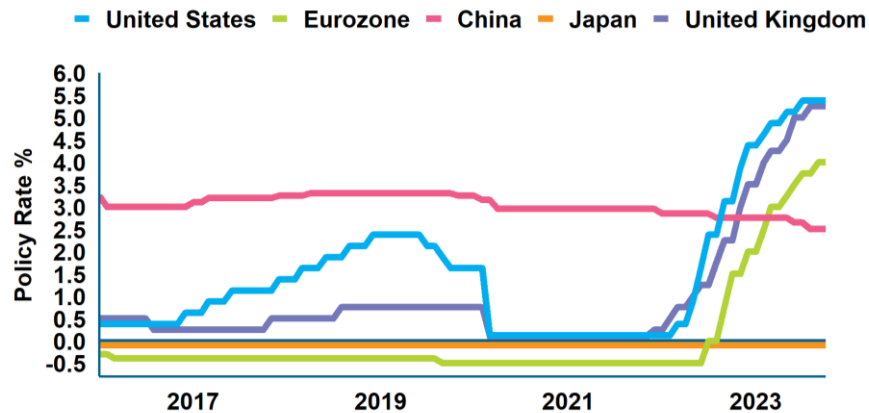


- Credit spreads (the added yield above a comparable maturity Treasury) increased in October but remained below their respective long run averages.
- High yield spreads continue to be the furthest below their long-term average given the overall risk appetite this year. Investment-grade and emerging market spreads are also below their respective long-term averages, but by smaller margins.

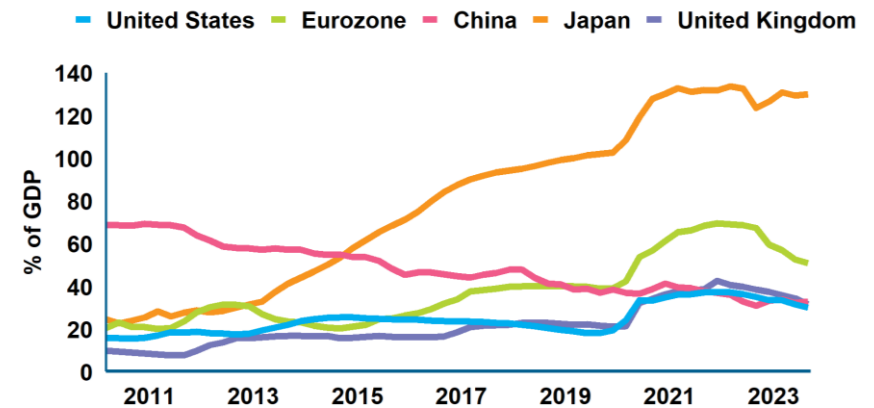
¹ Sources: Bloomberg. Data is as of October 31, 2023. Average lines denote the average of the investment grade, high yield, and emerging market spread values from September 2002 to the recent month-end, respectively.

Central Bank Response¹

Policy Rates



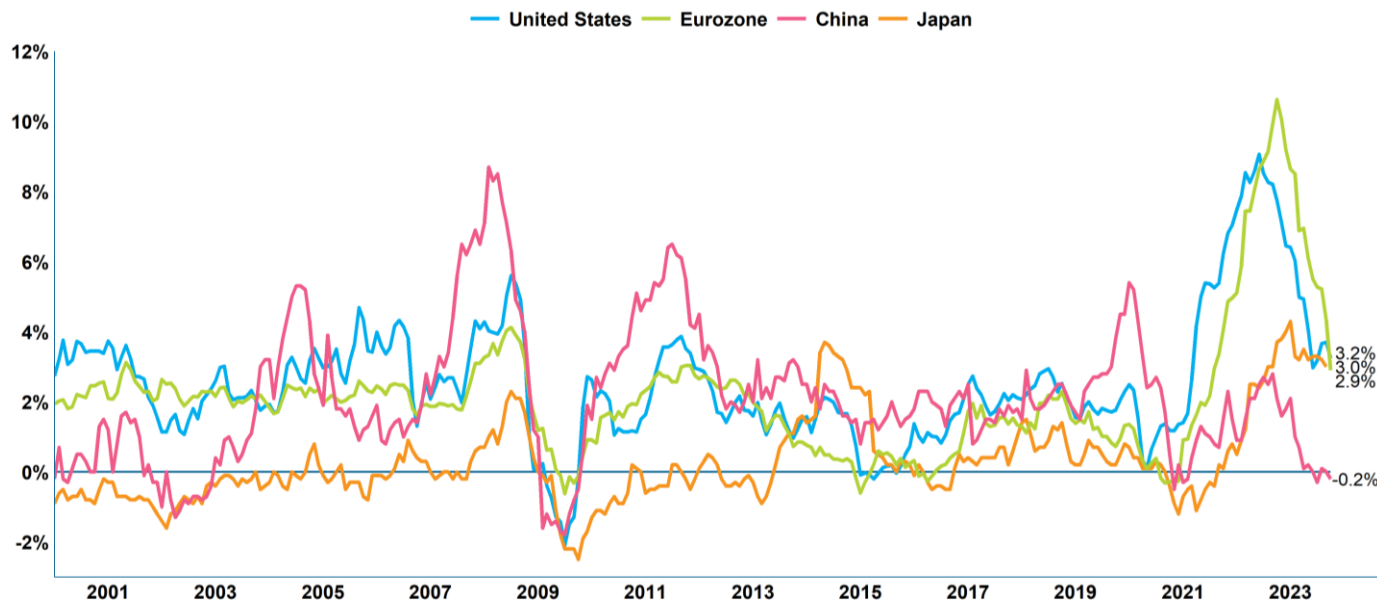
Balance Sheet as % of GDP



- Slowing inflation and growth have led to expectations for a reduction in the pace of aggressive policy tightening.
- In July, the Fed raised rates another 25 basis points to a range of 5.25% to 5.50% and then kept rates at this level at their September and October/November meetings. Markets are not expecting any additional rate hikes.
- The European Central Bank paused in October, with lower-than-expected inflation and weaker growth. 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 continued to cut interest rates and inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.
- Risks remain for a policy error as central banks attempt to balance bringing down inflation, maintaining financial stability, and supporting growth.

¹ Source: Bloomberg. Policy rate data is as of October 31, 2023. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of September 30, 2023.

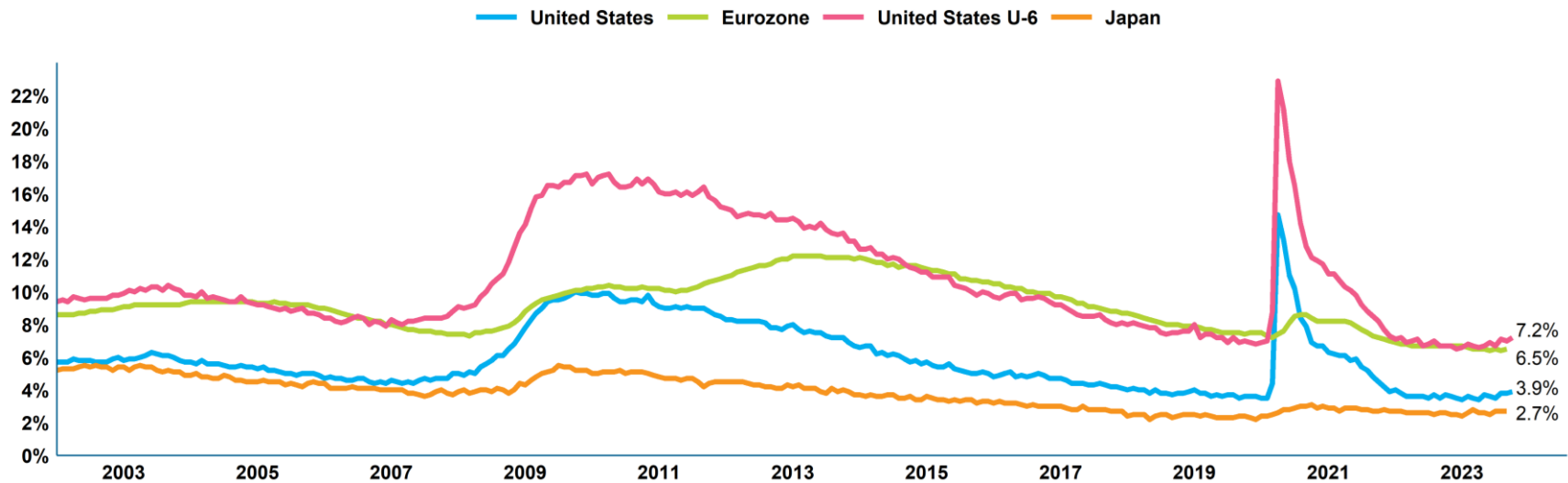
Inflation (CPI Trailing Twelve Months)¹



- The inflation picture remains mixed across the major economies.
- In the US, inflation fell from 3.7% to 3.2%, driven by falling energy prices. In the eurozone inflation experienced a dramatic decline in October (4.3% to 2.9%), to a level below the US, also driven by a decline in energy prices. Despite 2023's significant declines in the US and Europe, inflation levels remain elevated compared to central bank targets.
- Inflation in Japan, has increased to levels not seen in almost a decade, driven by food and home related items. In China, deflationary pressures returned in October, as consumption declined after the holiday earlier in the month.

¹ United States CPI and Eurozone CPI – Source: FRED. Japan CPI and China CPI - Source: Bloomberg. Data is as October 31, 2023. The most recent data for Japanese inflation is as of September 30, 2023.

Unemployment¹



- Overall, the US labor market remains healthy with the unemployment rate relatively low, wage growth now positive in real terms, and initial claims for unemployment staying subdued. The pace of wage growth has slowed though, and despite remaining elevated, the number of job openings has declined from recent highs.
- In October, US unemployment increased slightly (3.8% to 3.9%), with job gains of 150,000 coming in below expectations of 180,000. The labor force participation rate declined slightly over the month from 62.8% to 62.7%, well off the lows of the pandemic (60.1%) but not back to pre-pandemic levels (63.3%). Broader measures of unemployment (U-6) finished the quarter at 7.2%, up from the September reading of 7.0%.
- Unemployment in Europe (6.5%) remains higher than the US, while levels in Japan (2.7%) remained low through the pandemic given less layoffs.

¹ Eurozone Unemployment - Source: Bloomberg. Japan, United States, United States U-6 Unemployment – Source: FRED. Data is as October 31, 2023, for the US. The most recent data for Eurozone and Japan unemployment is as of September 30, 2023.

US Dollar versus Broad Currencies¹



- After a strong 2022, the US dollar declined late last year and into early this year as weaker economic data and lower inflation led to investors anticipating the end of FOMC tightening.
- Recently though, the dollar reversed course and appreciated against major currencies as relative growth remains strong and investors anticipate the FOMC keeping interest rates higher for longer.
- For the rest of this year, the track of inflation across economies and the corresponding monetary policies will likely be key drivers of currency moves.

¹ Source: Bloomberg. Data as of October 31, 2023.

Summary

Key Trends:

- The impact of inflation still above policy targets will remain key, 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 reduce persistent inflation while not tipping their economies into recession.
- Growth is expected to slow globally this year, with many economies forecasted to tip into recession. However, optimism has been building that some economies could experience soft landings. Inflation, monetary policy, and the war will all be key.
- In the 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.
- The key 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 the potential for recent strength in the US dollar to persist, higher inflation weighing particularly on Europe, and China's sluggish economic reopening and on-going weakness in the real estate sector. Japan's recent hint at potentially tightening monetary policy along with changes in corporate governance in the country could influence relative results.
- Recent, heightened tensions in Israel could add to overall uncertainty and drive safe haven flows.

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.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM", "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

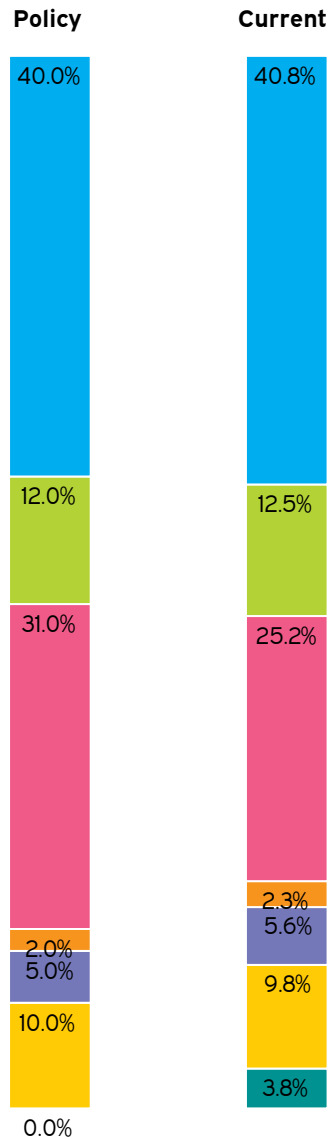
PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

Oakland Police and Fire Retirement System

December 6, 2023

October Flash Report

As of October 31, 2023



Allocation vs. Targets and Policy						
	Current Balance (\$)	Current (%)	Policy (%)	Difference (%)	Policy Range (%)	Within IPS Range?
Domestic Equity	160,899,268	40.8	40.0	0.8	30.0 - 50.0	Yes
International Equity	49,506,089	12.5	12.0	0.5	8.0 - 14.0	Yes
Fixed Income	99,350,478	25.2	31.0	-5.8	25.0 - 40.0	Yes
Credit	9,239,206	2.3	2.0	0.3	1.0 - 3.0	Yes
Covered Calls	21,913,935	5.6	5.0	0.6	5.0 - 10.0	Yes
Crisis Risk Offset	38,670,479	9.8	10.0	-0.2	5.0 - 15.0	Yes
Cash	15,083,236	3.8	0.0	3.8	0.0 - 5.0	Yes
Total	394,662,692	100.0	100.0	0.0		

Asset Class Performance Summary | As of October 31, 2023

Asset Class Performance Summary										
	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
OPFRS Total Plan	394,662,692	100.0	-2.4	2.3	4.2	3.3	4.6	5.8	6.3	Dec-88
<i>OPFRS Policy Benchmark</i>			<i>-2.2</i>	<i>3.5</i>	<i>5.6</i>	<i>3.3</i>	<i>4.7</i>	<i>5.9</i>	<i>7.6</i>	
Excess Return			-0.2	-1.2	-1.4	0.0	-0.1	-0.1	-1.3	
Domestic Equity	160,899,268	40.8	-2.7	4.1	4.0	8.0	8.7	9.7	8.4	Jun-97
<i>Russell 3000 (Blend)</i>			<i>-2.7</i>	<i>9.4</i>	<i>8.4</i>	<i>9.2</i>	<i>10.2</i>	<i>10.5</i>	<i>8.8</i>	
Excess Return			0.0	-5.3	-4.4	-1.2	-1.5	-0.8	-0.4	
International Equity	49,506,089	12.5	-4.1	4.7	15.1	4.9	4.7	3.8	4.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>-4.1</i>	<i>1.0</i>	<i>12.1</i>	<i>3.0</i>	<i>3.5</i>	<i>2.5</i>	<i>4.6</i>	
Excess Return			0.0	3.7	3.0	1.9	1.2	1.3	0.3	
Fixed Income	99,350,478	25.2	-1.8	-2.3	1.1	-4.9	0.1	1.3	4.2	Jan-94
<i>Bloomberg Universal (Blend)</i>			<i>-1.5</i>	<i>-2.1</i>	<i>1.2</i>	<i>-5.0</i>	<i>0.2</i>	<i>1.2</i>	<i>4.3</i>	
Excess Return			-0.3	-0.2	-0.1	0.1	-0.1	0.1	-0.1	
Credit	9,239,206	2.3	-1.0	7.4	8.0	4.3	3.1	--	4.4	Feb-15
<i>Blmbg. U.S. Corp: High Yield Index</i>			<i>-1.2</i>	<i>4.6</i>	<i>6.2</i>	<i>1.2</i>	<i>3.1</i>	<i>3.9</i>	<i>3.9</i>	
Excess Return			0.2	2.8	1.8	3.1	0.0	--	0.5	
Covered Calls	21,913,935	5.6	-1.1	10.6	11.3	10.6	9.1	--	8.3	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			<i>-0.7</i>	<i>6.6</i>	<i>7.3</i>	<i>8.3</i>	<i>4.0</i>	<i>5.5</i>	<i>5.1</i>	
Excess Return			-0.4	4.0	4.0	2.3	5.1	--	3.2	
Crisis Risk Offset	38,670,479	9.8	-2.0	-1.5	-2.9	-7.1	-8.4	--	-8.3	Aug-18
<i>Crisis Risk Offset Benchmark</i>			<i>-1.7</i>	<i>-1.4</i>	<i>-2.2</i>	<i>3.6</i>	<i>-0.4</i>	<i>--</i>	<i>-0.7</i>	
Excess Return			-0.3	-0.1	-0.7	-10.7	-8.0	--	-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 October 31, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
OPFRS Total Plan	394,662,692	100.0	-2.4	2.3	4.2	3.3	4.6	5.8	6.3	Dec-88
<i>OPFRS Policy Benchmark</i>			-2.2	3.5	5.6	3.3	4.7	5.9	7.6	
Excess Return			-0.2	-1.2	-1.4	0.0	-0.1	-0.1	-1.3	
Domestic Equity	160,899,268	40.8	-2.7	4.1	4.0	8.0	8.7	9.7	8.4	Jun-97
<i>Russell 3000 (Blend)</i>			-2.7	9.4	8.4	9.2	10.2	10.5	8.8	
Excess Return			0.0	-5.3	-4.4	-1.2	-1.5	-0.8	-0.4	
Northern Trust Russell 1000	76,911,746	19.5	-2.4	10.3	9.5	9.4	10.6	10.8	12.5	Jun-10
<i>Russell 1000 Index</i>			-2.4	10.3	9.5	9.5	10.7	10.9	12.6	
Excess Return			0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	
EARNEST Partners	37,974,841	9.6	-3.8	-0.3	-0.5	7.2	9.7	10.0	8.5	Apr-06
<i>Russell Midcap Index</i>			-5.0	-1.3	-1.0	6.0	7.1	8.1	7.8	
Excess Return			1.2	1.0	0.5	1.2	2.6	1.9	0.7	
Wellington Select Quality Equity	22,465,811	5.7	0.9	1.2	4.5	--	--	--	1.4	May-22
<i>Russell 1000 Index</i>			-2.4	10.3	9.5	9.5	10.7	10.9	2.1	
Excess Return			3.3	-9.1	-5.0	--	--	--	-0.7	
Brown Fundamental Small Cap Value	10,889,617	2.8	-4.2	-0.3	-0.8	--	--	--	0.5	Apr-21
<i>Russell 2000 Value Index</i>			-6.0	-6.5	-9.9	9.7	3.3	5.2	-6.2	
Excess Return			1.8	6.2	9.1	--	--	--	6.7	
Rice Hall James	12,657,253	3.2	-6.3	-5.6	-7.5	-0.2	0.8	--	3.6	Aug-17
<i>Russell 2000 Growth Index</i>			-7.7	-2.9	-7.6	-1.8	2.7	5.7	3.9	
Excess Return			1.4	-2.7	0.1	1.6	-1.9	--	-0.3	

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 October 31, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
International Equity	49,506,089	12.5	-4.1	4.7	15.1	4.9	4.7	3.8	4.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			-4.1	1.0	12.1	3.0	3.5	2.5	4.6	
Excess Return			0.0	3.7	3.0	1.9	1.2	1.3	0.3	
Vanguard Developed Markets ETF	14,144,698	3.6	-3.4	2.7	13.0	5.4	--	--	4.3	Sep-19
<i>FTSE Developed All Cap ex-U.S. Index</i>			-4.5	2.0	12.5	5.5	4.4	3.5	4.3	
Excess Return			1.1	0.7	0.5	-0.1	--	--	0.0	
SGA ACWI ex-U.S. Equity	35,361,392	9.0	-4.4	5.9	16.3	4.7	--	--	1.2	Dec-19
<i>MSCI AC World ex USA (Net)</i>			-4.1	1.0	12.1	3.0	3.5	2.5	1.4	
Excess Return			-0.3	4.9	4.2	1.7	--	--	-0.2	
Fixed Income	99,350,478	25.2	-1.8	-2.3	1.1	-4.9	0.1	1.3	4.2	Jan-94
<i>Bloomberg Universal (Blend)</i>			-1.5	-2.1	1.2	-5.0	0.2	1.2	4.3	
Excess Return			-0.3	-0.2	-0.1	0.1	-0.1	0.1	-0.1	
Ramirez	67,578,960	17.1	-1.6	-2.3	0.9	-4.8	0.2	--	0.5	Jan-17
<i>Blmbg. U.S. Aggregate Index</i>			-1.6	-2.8	0.4	-5.6	-0.1	0.9	0.1	
Excess Return			0.0	0.5	0.5	0.8	0.3	--	0.4	
Wellington Core Bond	6,399,815	1.6	-1.8	-2.0	1.3	--	--	--	-6.0	Apr-21
<i>Blmbg. U.S. Aggregate Index</i>			-1.6	-2.8	0.4	-5.6	-0.1	0.9	-5.6	
Excess Return			-0.2	0.8	0.9	--	--	--	-0.4	
Reams	25,371,703	6.4	-2.1	-2.6	1.5	-4.9	2.4	2.1	4.6	Feb-98
<i>Bloomberg Universal (Blend)</i>			-1.5	-2.1	1.2	-5.0	0.2	1.2	3.9	
Excess Return			-0.6	-0.5	0.3	0.1	2.2	0.9	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.

Asset Class & Manager Performance | As of October 31, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
Credit	9,239,206	2.3	-1.0	7.4	8.0	4.3	3.1	--	4.4	Feb-15
<i>Blmbg. U.S. Corp: High Yield Index</i>			-1.2	4.6	6.2	1.2	3.1	3.9	3.9	
Excess Return			0.2	2.8	1.8	3.1	0.0	--	0.5	
Polen Capital	9,239,206	2.3	-1.0	7.4	8.0	4.3	3.1	--	4.4	Feb-15
<i>ICE BofA High Yield Master II</i>			-1.2	4.7	5.8	1.2	2.9	3.8	3.8	
Excess Return			0.2	2.7	2.2	3.1	0.2	--	0.6	
Covered Calls	21,913,935	5.6	-1.1	10.6	11.3	10.6	9.1	--	8.3	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			-0.7	6.6	7.3	8.3	4.0	5.5	5.1	
Excess Return			-0.4	4.0	4.0	2.3	5.1	--	3.2	
Parametric BXM	11,074,176	2.8	-0.3	10.0	11.2	9.1	6.9	--	6.7	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			-0.7	6.6	7.3	8.3	4.0	5.5	5.1	
Excess Return			0.4	3.4	3.9	0.8	2.9	--	1.6	
Parametric DeltaShift	10,839,759	2.7	-1.9	11.2	11.4	11.7	10.9	--	10.0	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			-0.7	6.6	7.3	8.3	4.0	5.5	5.1	
Excess Return			-1.2	4.6	4.1	3.4	6.9	--	4.9	

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 October 31, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
Crisis Risk Offset	38,670,479	9.8	-2.0	-1.5	-2.9	-7.1	-8.4	--	-8.3	Aug-18
<i>Crisis Risk Offset Benchmark</i>			<i>-1.7</i>	<i>-1.4</i>	<i>-2.2</i>	<i>3.6</i>	<i>-0.4</i>	<i>--</i>	<i>-0.7</i>	
Excess Return			<i>-0.3</i>	<i>-0.1</i>	<i>-0.7</i>	<i>-10.7</i>	<i>-8.0</i>	<i>--</i>	<i>-7.6</i>	
Kepos Alternative Risk Premia	11,120,756	2.8	1.4	13.1	14.6	--	--	--	6.3	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>			<i>0.0</i>	<i>7.9</i>	<i>7.0</i>	<i>6.8</i>	<i>1.4</i>	<i>--</i>	<i>6.7</i>	
Excess Return			<i>1.4</i>	<i>5.2</i>	<i>7.6</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-0.4</i>	
Versor Trend Following	15,847,312	4.0	-2.0	-0.8	-8.1	--	--	--	3.5	Apr-22
<i>SG Trend Index</i>			<i>-0.1</i>	<i>0.9</i>	<i>-5.4</i>	<i>14.8</i>	<i>10.0</i>	<i>5.9</i>	<i>5.7</i>	
Excess Return			<i>-1.9</i>	<i>-1.7</i>	<i>-2.7</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-2.2</i>	
Vanguard Long-Term Treasury ETF	11,702,411	3.0	-4.9	-13.0	-9.2	-16.3	--	--	-7.6	Jul-19
<i>Blmbg. U.S. Gov Long Index</i>			<i>-4.9</i>	<i>-13.0</i>	<i>-8.4</i>	<i>-16.2</i>	<i>-3.2</i>	<i>0.1</i>	<i>-7.5</i>	
Excess Return			<i>0.0</i>	<i>0.0</i>	<i>-0.8</i>	<i>-0.1</i>	<i>--</i>	<i>--</i>	<i>-0.1</i>	
Cash	15,083,236	3.8	0.0	0.0	0.0	0.0	0.8	0.7	0.6	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.

**Cash Flow Summary
Month to Date**

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Northern Trust Russell 1000	78,815,151	-	-1,903,406	76,911,746
EARNEST Partners	39,440,769	-	-1,465,927	37,974,841
Wellington Select Quality Equity	22,275,787	-	190,024	22,465,811
Brown Fundamental Small Cap Value	11,370,103	-	-480,487	10,889,617
Rice Hall James	13,489,312	-	-832,059	12,657,253
Vanguard Developed Markets ETF	14,640,298	-	-495,600	14,144,698
SGA ACWI ex-U.S. Equity	36,967,020	-	-1,605,629	35,361,392
Ramirez	68,697,575	-	-1,118,614	67,578,960
Wellington Core Bond	6,517,141	-	-117,326	6,399,815
Reams	25,907,515	-	-535,812	25,371,703
Polen Capital	9,329,974	-	-90,768	9,239,206
Parametric BXM	11,106,210	-	-32,034	11,074,176
Parametric DeltaShift	11,051,591	-	-211,832	10,839,759
Kepos Alternative Risk Premia	10,968,295	-	152,461	11,120,756
Versor Trend Following	16,170,216	-	-322,903	15,847,312
Vanguard Long-Term Treasury ETF	12,347,478	-	-645,067	11,702,411
Cash - Money Market	5,644,014	-965,778	-	4,678,236
Cash - Treasury	10,405,000	-	-	10,405,000
Securities Lending Northern Trust	-	-12,143	12,143	-
OPFRS Total Plan	405,143,449	-977,921	-9,502,836	394,662,692

Cash - Treasury reflects September market value 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. U.S. Universal Index, 2.0% Blmbg. U.S. 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. U.S. Universal Index, 5.0% CBOE S&P 500 Buy Write Index, 2.0% Blmbg. U.S. 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. U.S. 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. U.S. 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. U.S. 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. U.S. Universal Index, 33.0% ICE BofA 3 Month U.S. 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 U.S. T-Bill
10/01/2007	08/01/2012	53.0% Russell 3000 Index, 17.0% MSCI AC World ex USA index, 30.0% Blmbg. U.S. Universal Index
04/01/2006	10/01/2007	35.0% Russell 3000 Index, 15.0% MSCI AC World ex USA index, 50.0% Blmbg. U.S. 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. U.S. Aggregate Index, 15.0% MSCI EAFE (Net)
09/01/1988	04/01/1998	40.0% S&P 500 Index, 55.0% Blmbg. U.S. 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. U.S. Universal Index
01/01/1976	04/01/2006	100.0% Blmbg. U.S. Aggregate Index
Covered Calls		
03/01/2014	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. U.S. 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

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.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

Oakland Police and Fire Retirement System

Quarterly Performance Report
as of September 30, 2023

Agenda

1. Executive Summary
2. Economic and Market Update as of September 30, 2023
3. Quarterly Performance as of September 30, 2023
4. Manager Monitoring / Probation Status
5. Appendix
6. Disclaimer, Glossary, and Notes

Executive Summary

Total Portfolio Review

The Oakland Police and Fire Retirement System (OPFRS) finished the quarter with \$405.1 million in assets after net cash flows including monthly benefit payments. All asset classes in their acceptable target allocation ranges.

Cash Flow Summary (\$ Millions)	Quarter	1 Year
Beginning Market Value	420.2	382.5
Net Cash Flows (including Benefit Payments)	-3.0	-17.6
Net Investment Change (Gain/Loss)	-12.0	40.3
Ending Market Value	405.1	405.1

Investment Performance¹

	QTD / FYTD	YTD	1 Year	3 Year	5 Year
Total Plan (Gross)	-2.8	5.0	10.9	3.9	4.2
Total Plan (Net)	-2.9	4.8	10.5	3.5	3.9
<i>Policy Benchmark</i>	-3.0	5.9	12.2	3.5	4.0
Excess Return	0.1	-1.1	-1.7	0.0	-0.1
<i>Public DB (\$250M-\$1B) Median Fund</i>	-2.8	4.5	10.2	4.4	5.0
OPFRS Total Plan (Net) vs. Peer Median Fund	-0.1	0.3	0.4	-0.8	-1.1
<i>Peer Group Percentile Rank</i>	57	42	41	80	88

¹ Fiscal year begins on July 01. Peer group is Investment Metrics Public Defined Benefit plans with \$250 million to \$1 billion in assets. The number of peers is about 80 portfolios in each time period. Please see the Benchmark History section for the Policy Benchmark's current and historical compositions.

Asset Class and Manager Highlights¹

- Total Plan's marginal quarterly outperformance was the result of domestic equity's underperformance and international equity's outperformance. For the 1-year period, domestic equity was the primary factor for Total Portfolio's underperformance.
- **Domestic equity** underperformed the Russell 3000 Index over all trailing periods.
 - EARNEST Partners and Brown Fundamental outperformed their respective benchmarks while all other active managers underperformed their respective benchmarks for the quarter.
- **International equity** outperformed the MSCI ACWI ex US (Net) for all periods except for the most recent quarter.
 - The active SGA MSCI ACWI ex US outperformed its benchmark over all time periods except since inception.
 - The passive Vanguard posted some variation² from the tracked benchmark over the periods measured.
- **Fixed income** slightly underperformed or matched its custom benchmark over the quarter, year-to-date, and 1-year time periods. The underlying managers outperformed their respective benchmarks across almost all time periods measured.
- The **Credit** segment, with Polen Capital as its only manager, outperformed the asset class's benchmark, Bloomberg US High Yield Index, for all time periods.
- **Covered Calls**, as well as both the passive BXM and the active DeltaShift strategies outperformed the CBOE S&P 500 Buy Write Index across all periods measured.
- The **Crisis Risk Offset** segment outperformed its custom benchmark over the quarter and year-to-date while underperforming over the longer time periods.
 - Among its underlying managers, Vanguard Long-Term Treasury ETF had double-digit negative returns over the quarter impacted by the rising rate environment. Its relative performance was within expectations.

¹ Please see the Benchmark History section for the custom benchmark compositions.

² Due to Vanguard's fair-value pricing methodology and timing of the international markets, the strategy's returns may deviate from its tracked index in the short-term that are expected to equalize over the longer term.

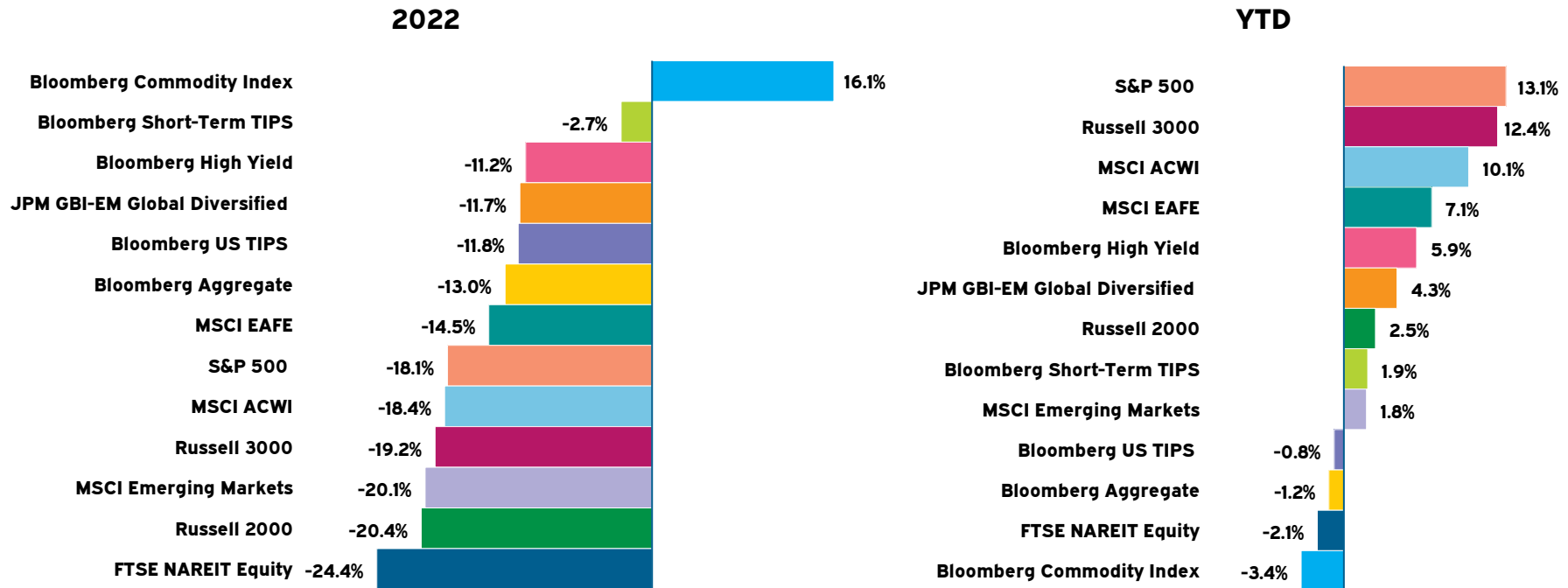
Economic and Market Update

Data as of September 30, 2023

Commentary

- After a strong July, global assets turned negative in August and September as expectations shifted to the Fed keeping interest rates higher for longer. Weakening economic data from Europe and China, as well as further instability in the Chinese real estate sector and a strong US dollar, weighed on results.
- The Federal Open Markets Committee (FOMC) increased policy rates in July by 0.25% to a range of 5.25% - 5.5% and kept rates at that level at their September meeting. Markets are now largely expecting the FOMC to maintain interest rates at this level through the first half of next year.
 - US equity markets (Russell 3000 index) fell in the third quarter (-3.3%), bringing the year-to-date gains to 12.4%. The technology sector remains the key driver of results this year, helped by artificial intelligence optimism.
 - Non-US developed equity markets declined more than the US in the third quarter (MSCI EAFE -4.1%) with the strength of the US dollar adding 2.8% to the quarterly declines. This widened the gap between US and international developed equities for the year (12.4% versus 7.1%).
 - Emerging market equities experienced the smallest declines in the third quarter (-2.9%). Negative results were driven by China and again the strong US dollar. Emerging markets continue to significantly trail developed market equities year-to-date, returning just 1.8%, again driven by China.
 - Interest rates generally rose over the quarter, particularly for longer-dated maturities. The broad US bond market fell (-3.2%) for the quarter and turned negative (-1.2%) year-to-date, as higher income has offset capital losses from rising rates.
- For the rest of this year, the paths of inflation and monetary policy, slowing global growth, and the wars in Ukraine and Israel will all be key.

Index Returns¹



→ After a particularly difficult 2022, most public market assets are up thus far in 2023, led by developed market equities.

→ While hopes for a soft landing remain in place, the prospect of higher interest rates for longer weighed on market sentiment in August and September.

¹ Source: Bloomberg. Data is as of September 30, 2023.

Domestic Equity Returns¹

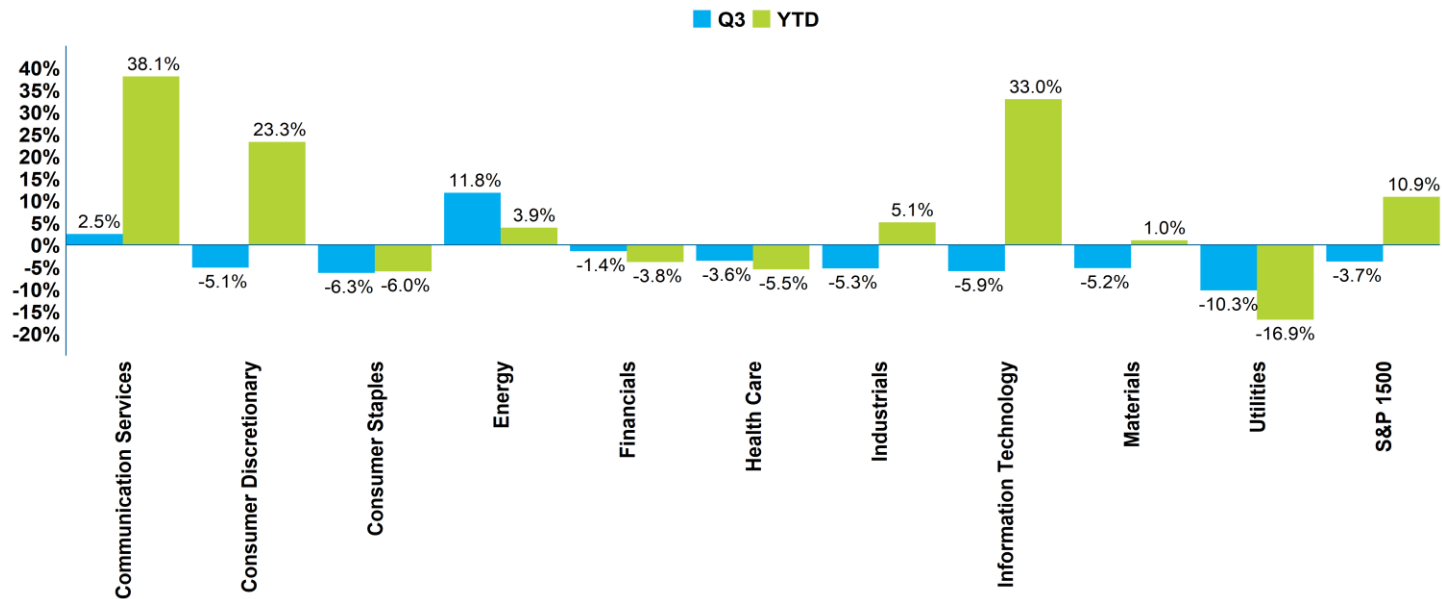
Domestic Equity	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	-4.8	-3.3	13.1	21.6	10.2	9.9	11.9
Russell 3000	-4.8	-3.3	12.4	20.5	9.4	9.1	11.3
Russell 1000	-4.7	-3.1	13.0	21.2	9.5	9.6	11.6
Russell 1000 Growth	-5.4	-3.1	25.0	27.7	8.0	12.4	14.5
Russell 1000 Value	-3.9	-3.2	1.8	14.4	11.1	6.2	8.4
Russell MidCap	-5.0	-4.7	3.9	13.4	8.1	6.4	9.0
Russell MidCap Growth	-4.9	-5.2	9.9	17.5	2.6	7.0	9.9
Russell MidCap Value	-5.1	-4.5	0.5	11.0	11.0	5.2	7.9
Russell 2000	-5.9	-5.1	2.5	8.9	7.2	2.4	6.6
Russell 2000 Growth	-6.6	-7.3	5.2	9.6	1.1	1.6	6.7
Russell 2000 Value	-5.2	-3.0	-0.5	7.8	13.3	2.6	6.2

US Equities: The Russell 3000 Index fell 3.3% in the third quarter but is up 12.4% YTD.

- US stocks fell 3.3% in the third quarter as healthy economic data and comments from the Fed caused investors to expect interest rates to remain higher for longer.
- Large cap stocks outperformed small cap stocks during the quarter, bringing their year-to-date outperformance to over 10%. The so called “Magnificent Seven” within the large cap market drove most of this outperformance despite a weak third quarter.
- Energy strongly led the way during the quarter posting double-digit gains while most other sectors declined. Oil prices rose after Saudi Arabia and Russia extended output cuts.

¹ Source: Bloomberg. Data is as of September 30, 2023.

S&P 1500 Sector Returns¹



→ Except for energy, which benefited from rising oil prices, all sectors were down in the third quarter.

→ So far in 2023, the communication services (+38.1%) and technology (+33.0%) sectors had the best results on artificial intelligence optimism. Given the continued strength in the US consumer the consumer discretionary sector followed (+23.3%), while more defensive sectors like utilities (-16.9%) and consumer staples (-6.0%) have trailed.

¹ Source: Bloomberg. Data is as of September 30, 2023.

Foreign Equity Returns¹

Foreign Equity	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-3.2	-3.8	5.3	20.4	3.7	2.6	3.3
MSCI EAFE	-3.4	-4.1	7.1	25.6	5.8	3.2	3.8
MSCI EAFE (Local Currency)	-1.1	-1.3	10.7	20.3	10.8	5.7	6.8
MSCI EAFE Small Cap	-4.4	-3.5	1.8	17.9	1.1	0.8	4.3
MSCI Emerging Markets	-2.6	-2.9	1.8	11.7	-1.7	0.6	2.1
MSCI Emerging Markets (Local Currency)	-1.8	-1.4	4.0	10.9	0.6	2.7	4.9
MSCI China	-2.8	-1.9	-7.3	5.2	-14.3	-4.2	1.7

Foreign Equity: Developed international equities (MSCI EAFE) fell 4.1% in the third quarter bringing the YTD gain to 7.1%. Emerging market equities (MSCI EM) fell 2.9% in the period, rising 1.8% YTD.

- Outside of the US, equities were also weak during the third quarter with the continued strength of the US dollar being a key driver.
- Eurozone shares felt pressure from slowing GDP growth and an interest rate hike by the ECB, although inflation continued to ease. By contrast, the UK saw modest gains amid promising economic data including slowing inflation and GDP back around pre-pandemic levels. Japan outperformed regional peers for the quarter due in part to strong earnings.
- Emerging market performance, while negative, outpaced developed peers. Chinese markets saw losses in-line with other emerging market countries, driven largely by unease surrounding property company Evergrande and a continued lackluster reopening of the economy.

¹ Source: Bloomberg. Data is as of September 30, 2023.

Fixed Income Returns¹

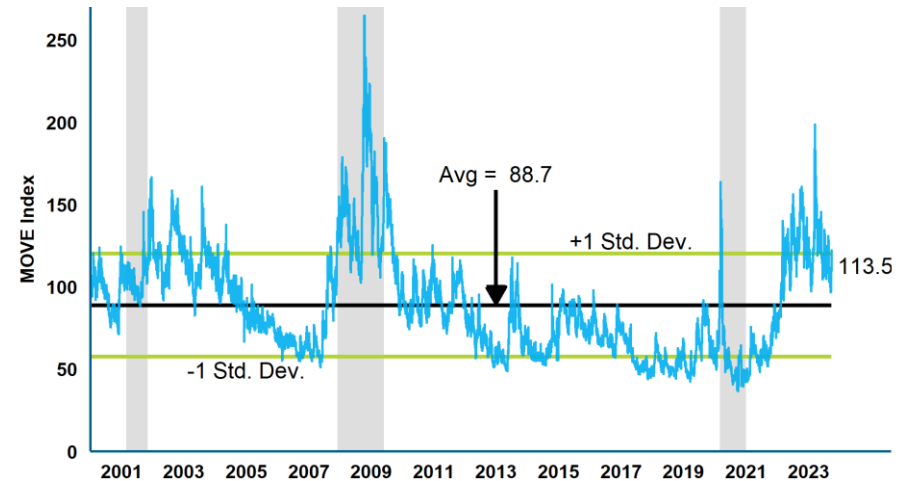
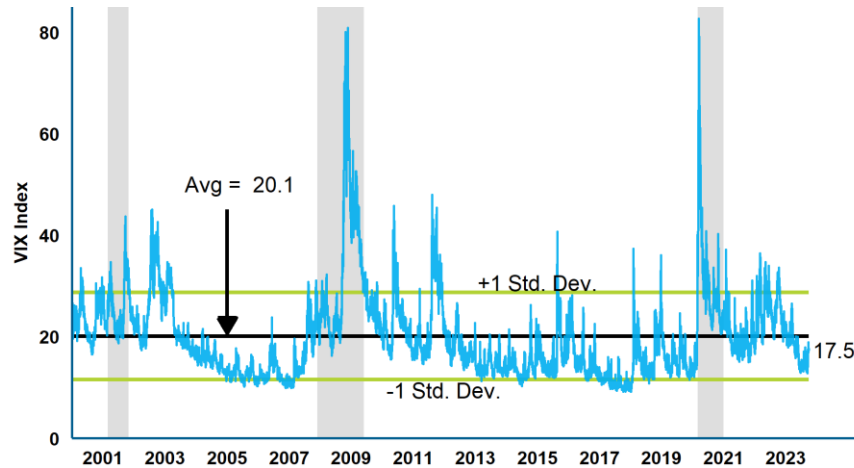
Fixed Income	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-2.4	-2.9	-0.6	1.6	-4.7	0.3	1.4	5.7	6.0
Bloomberg Aggregate	-2.5	-3.2	-1.2	0.6	-5.2	0.1	1.1	5.4	6.2
Bloomberg US TIPS	-1.8	-2.6	-0.8	1.2	-2.0	2.1	1.7	5.0	6.6
Bloomberg Short-term TIPS	-0.2	0.4	1.9	3.2	1.9	2.8	1.7	5.4	2.5
Bloomberg High Yield	-1.2	0.5	5.9	10.3	1.8	3.0	4.2	8.9	4.0
JPM GBI-EM Global Diversified (USD)	-3.4	-3.3	4.3	13.1	-2.7	0.0	-0.8	6.9	4.9

Fixed Income: The Bloomberg Universal index declined 2.9% in the third quarter and -0.6% YTD.

- The downgrade of US government debt from AAA to AA+ by Fitch combined with expectations for higher borrowing put upward pressure on longer-term rates for the quarter and weighed on overall results. Expectations for policy rates to remain higher for longer than previously expected also contributed to the decline in bonds.
- The broad US bond market (Bloomberg Aggregate) fell 3.2% for the quarter bringing YTD results into negative territory. The broader TIPS index fell by 2.6%, while the less interest-rate-sensitive short-term TIPS index outperformed most sectors, up 0.4%.
- High yield bonds were the strongest quarterly performers, up 0.5%, while emerging market bonds were the weakest performer, falling 3.3%. The two asset classes remain the top performers for the year as risk appetite in credit markets remains robust.

¹ Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of September 30, 2023. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.

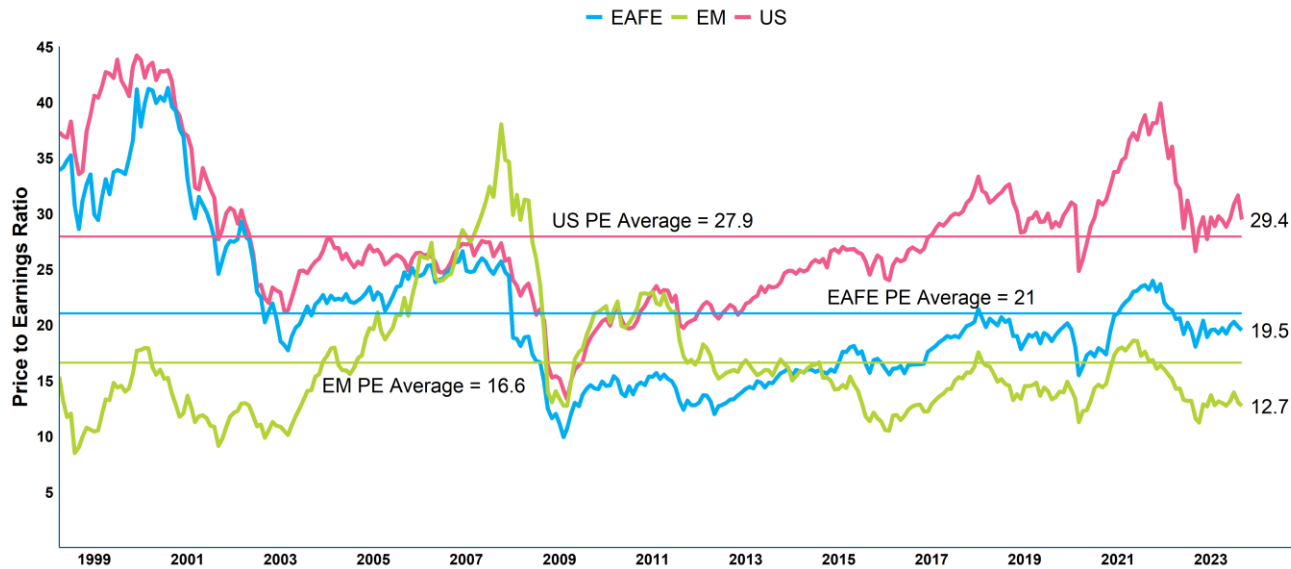
Equity and Fixed Income Volatility¹



- Volatility in equities (VIX) increased over the quarter but finished at a level below the long-term average. The recent increase in equity volatility has largely been driven by investors coming to terms that interest rates might remain higher for a longer period.
- In comparison, volatility in the bond market (MOVE) remains well above its long-run average (88.7) after last year's historic losses and due to continued policy uncertainty. Over the quarter, fixed income volatility finished slightly higher compared to where it started, like equities, driven by expectations for rates to stay higher for longer.

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 September 2023. The average line indicated is the average of the VIX and MOVE values between January 2000 and September 2023.

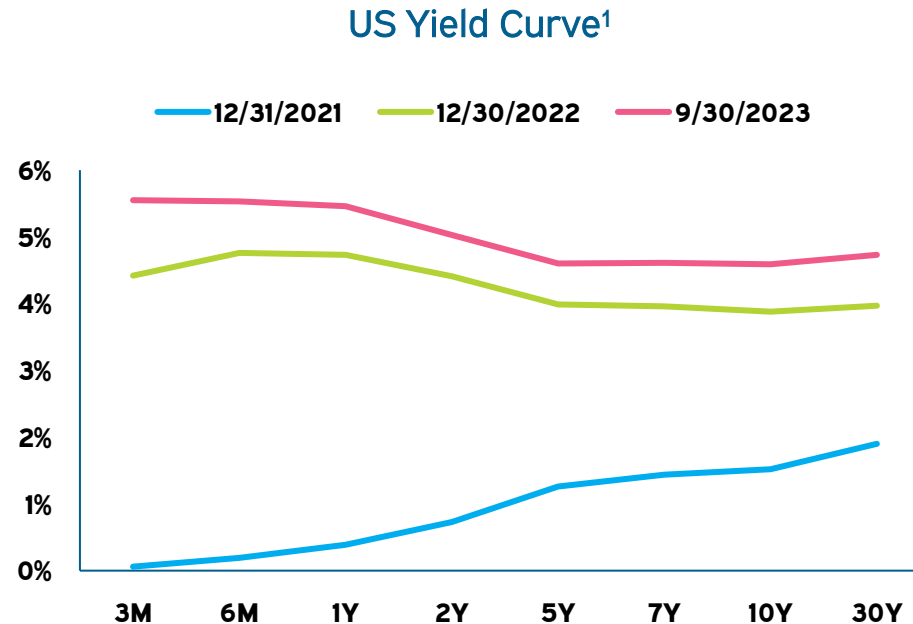
Equity Cyclically Adjusted P/E Ratios¹



→ Given the strong technology-driven rally this year, the US equity price-to-earnings ratio increased above its long-run (21st century) average. With the equity market decline in August and September the P/E ratio fell from its recent peak.

→ International developed market valuations are below their own long-term average, with those for emerging markets the lowest and well under the long-term average (close to one standard deviation below).

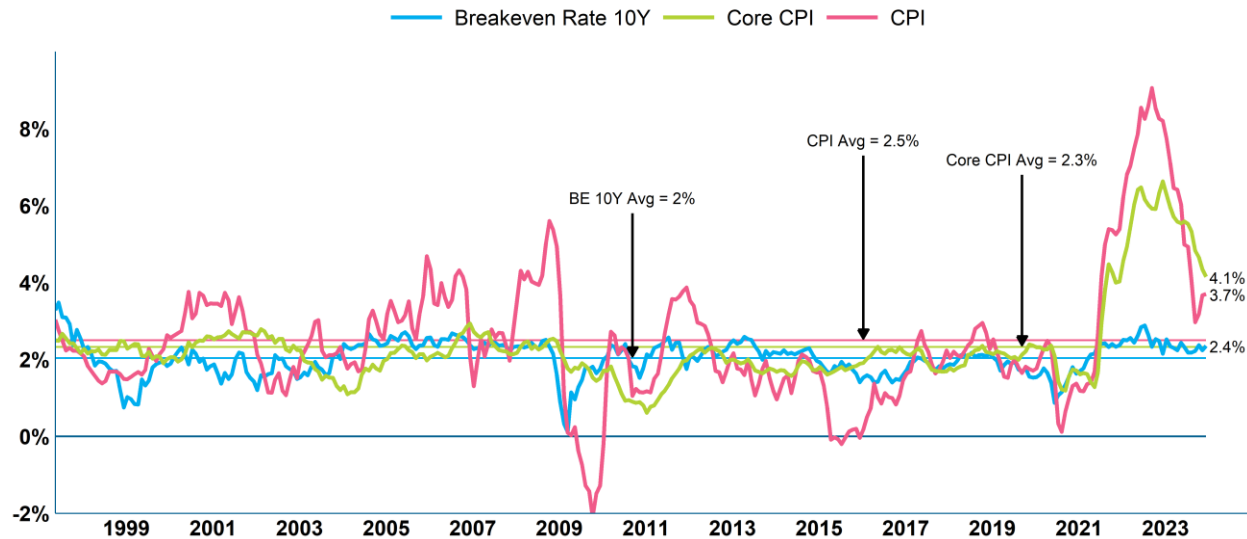
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of September 2023. 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.



- Overall rates have continued to increase this year, particularly at the policy sensitive front-end of the yield curve, but at much slower pace compared to last year.
- Over the quarter, very short-term interest rates (two years or less) increased only slightly as monetary policy has likely reached close to its terminal rate for this cycle. By contrast, longer-term rates rose dramatically as US debt was downgraded and investors came to terms with rates remaining higher for longer. The ten-year Treasury yield increased from 3.8% to 4.6% over the quarter.
- Because of the dynamic above, the yield curve's inversion decreased with the spread between two-year and ten-year Treasuries finishing the quarter at -0.47% (it started the quarter at -1.05%).

¹ Source: Bloomberg. Data is as of September 30, 2023.

Ten-Year Breakeven Inflation and CPI¹

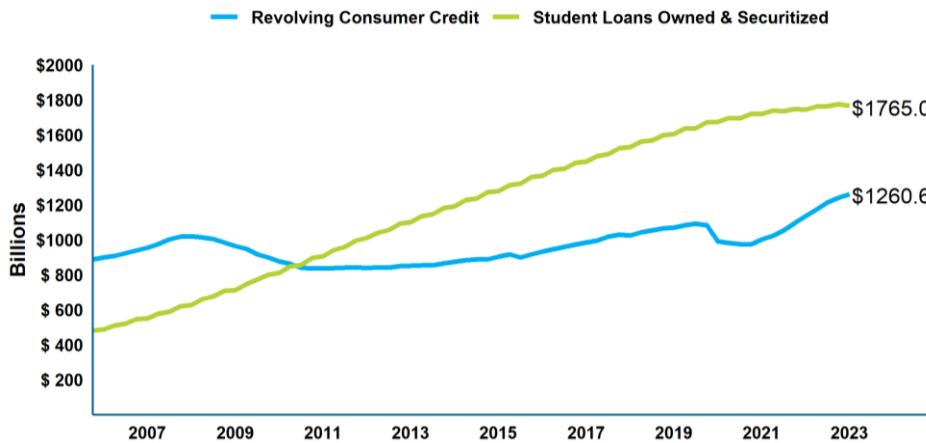


- After the steady decline in inflation from the June 2022 peak, consumer prices recently increased driven by energy prices.
- Year-over-year headline inflation was flat at 3.7% coming in slightly higher than expectations as improvements in energy prices were offset by higher shelter costs.
- Core inflation – excluding food and energy – continued its decline (4.3% to 4.1%) year-over-year. It remains stubbornly high, though, driven by shelter costs (+7.2%), particularly owners’ equivalent rent, and transportation services (+9.1%).
- Inflation expectations (breakevens) remain well below current inflation as investors continue to expect inflation to track back toward the Fed’s 2% average target.

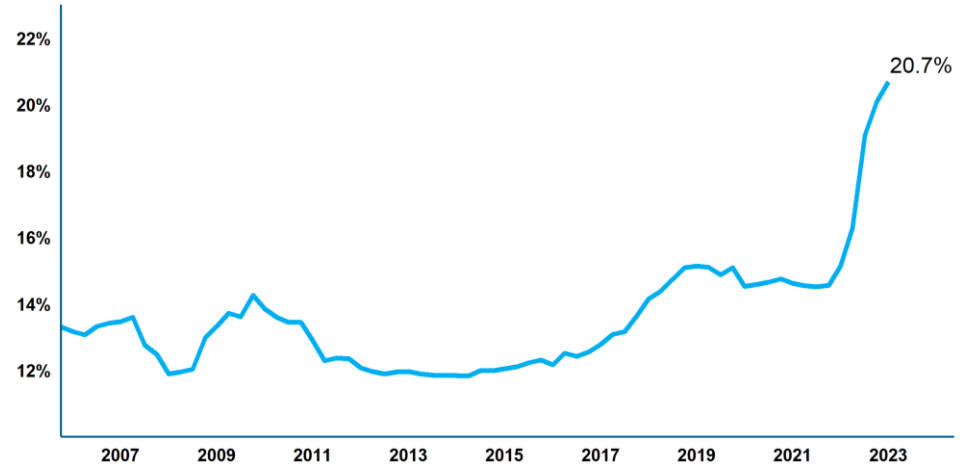
¹ Source: FRED. Data is as September 30, 2023. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

US Consumer Under Stress¹

Revolving Consumer Credit & Student Loans (\$B)



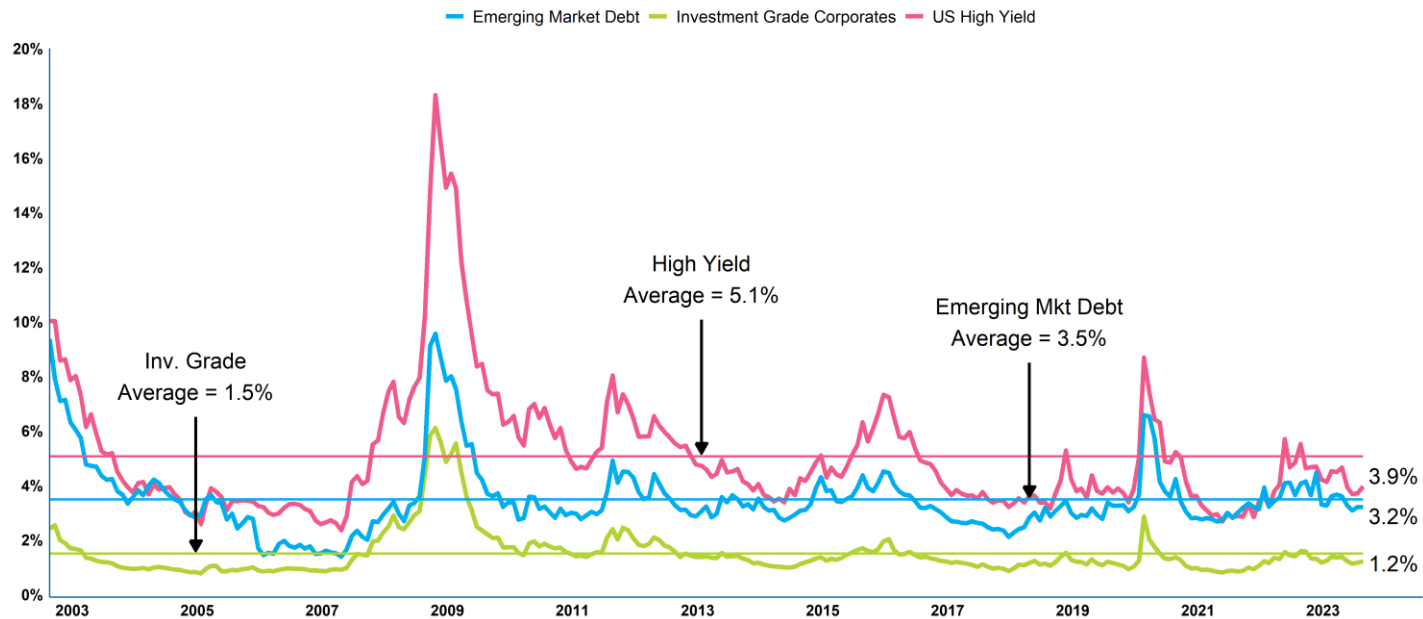
Consumer Credit Card Interest Rates (%)



- 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 an important 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).
- The return of student loan repayments after a three-year pandemic-related reprieve could add to pressures on consumers' budgets. This might be partially balanced by recently initiated repayment and forgiveness programs.
- As we look ahead, the strength of the US consumers will remain key as they make up most of domestic growth (GDP).

¹ Source: FRED. The most recent data is as June 30, 2023. Revolving Consumer Credit data is seasonally adjusted to remove distortions during the holiday season.

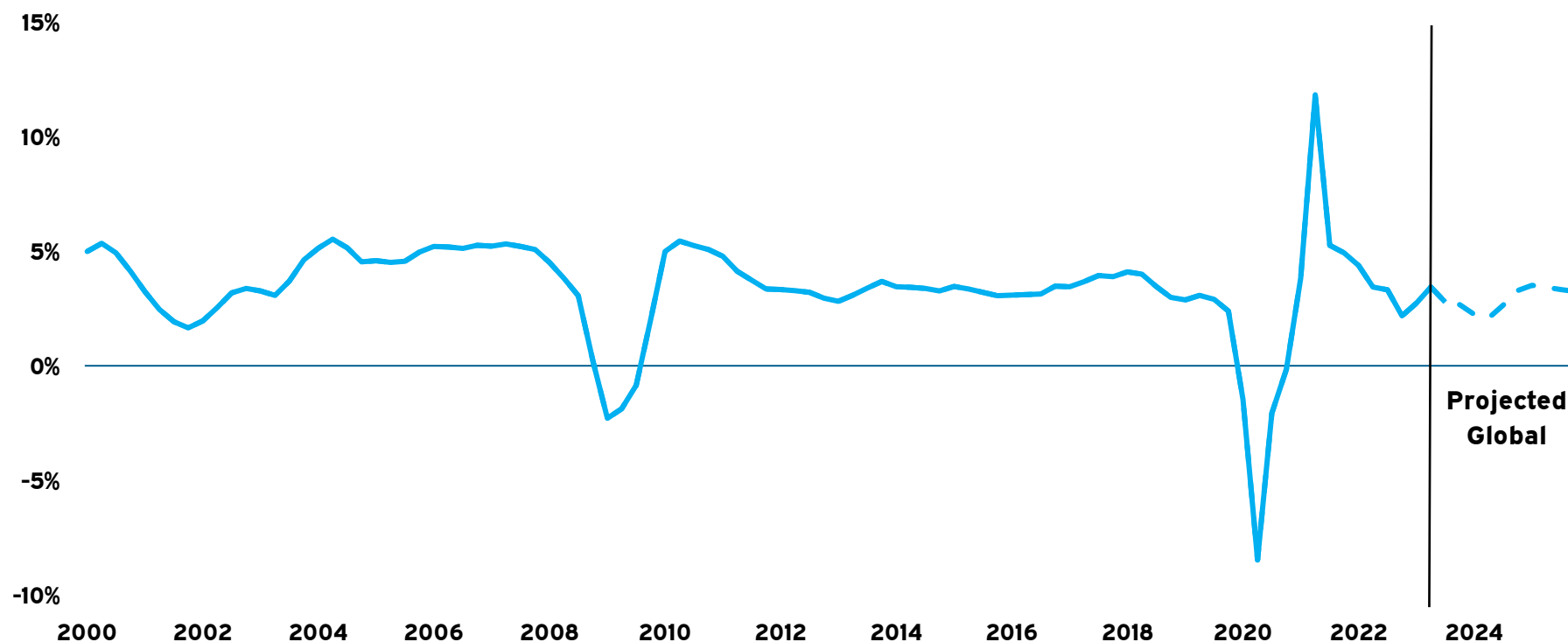
Credit Spreads vs. US Treasury Bonds¹



- Credit spreads (the added yield above a comparable maturity Treasury) largely remained unchanged over the quarter.
- High yield spreads remain well below the long-term average given the overall risk appetite this year. Investment grade and emerging market spreads are also below their respective long-term averages, but by smaller margins.

¹ Sources: Bloomberg. Data is as of September 30, 2023. 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.

Global Real Gross Domestic Product (GDP) Growth¹

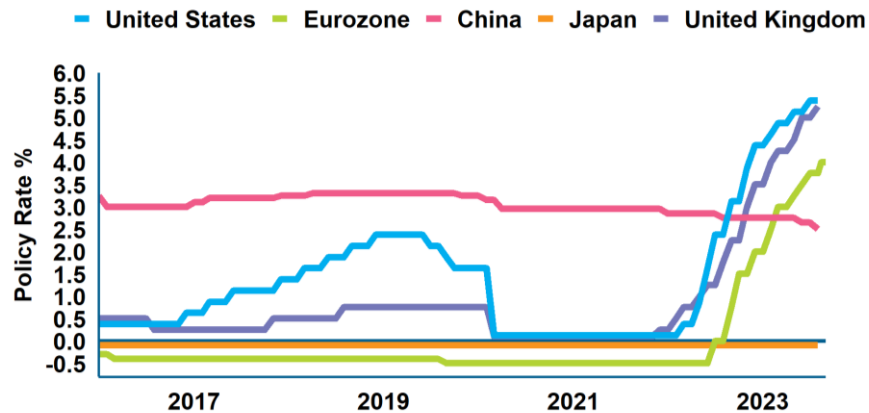


- Global economies are expected to slow this year compared to 2022. The risk of recession remains elevated given policymakers' aggressive tightening, but optimism has started to grow over some central banks potentially navigating a soft landing.
- The delicate balancing act of central banks trying to reduce inflation without dramatically disrupting labor markets and depressing economic growth, will remain key.

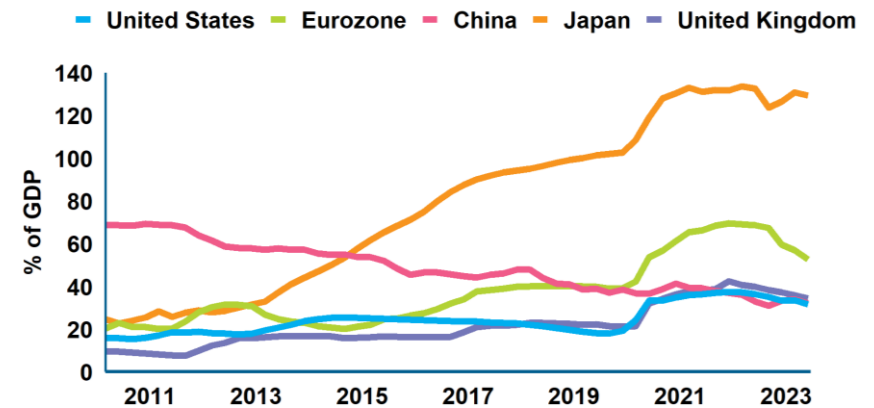
¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, real, % change YoY). Updated September 2023.

Central Bank Response¹

Policy Rates



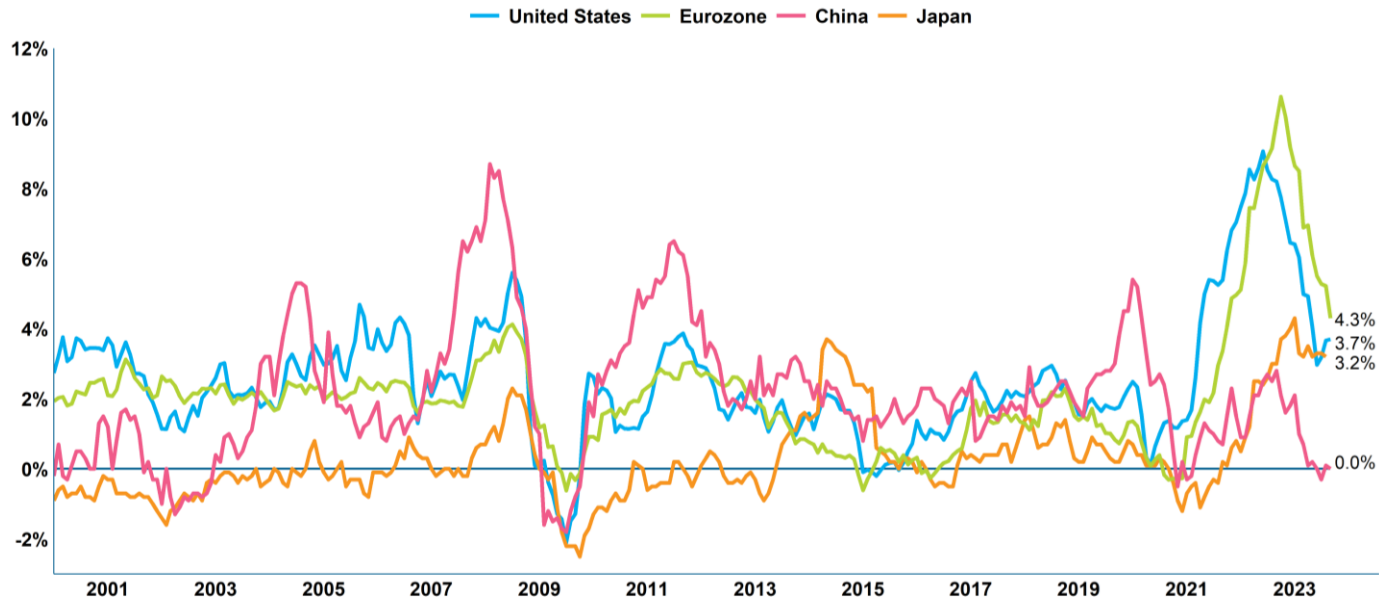
Balance Sheet as % of GDP



- Slowing inflation and growth have led to expectations for a reduction in the pace of aggressive policy tightening.
- In July the Fed raised rates another 25 basis points to a range of 5.25% to 5.50% and then kept rates at this level at their September meeting. Markets are expecting at most one more hike later this year.
- The European Central Bank also increased rates in July, with an additional hike in September, but rates remain lower than in the US. In Japan, expectations have increased that the BOJ will end its negative interest rate policy due to rising inflation.
- The central bank in China has continued to cut interest rates and inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.
- Risks remain for a policy error as central banks attempt to balance bringing down inflation, maintaining financial stability, and supporting growth.

¹ Source: Bloomberg. Policy rate data is as of September 30, 2023. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of June 30, 2023.

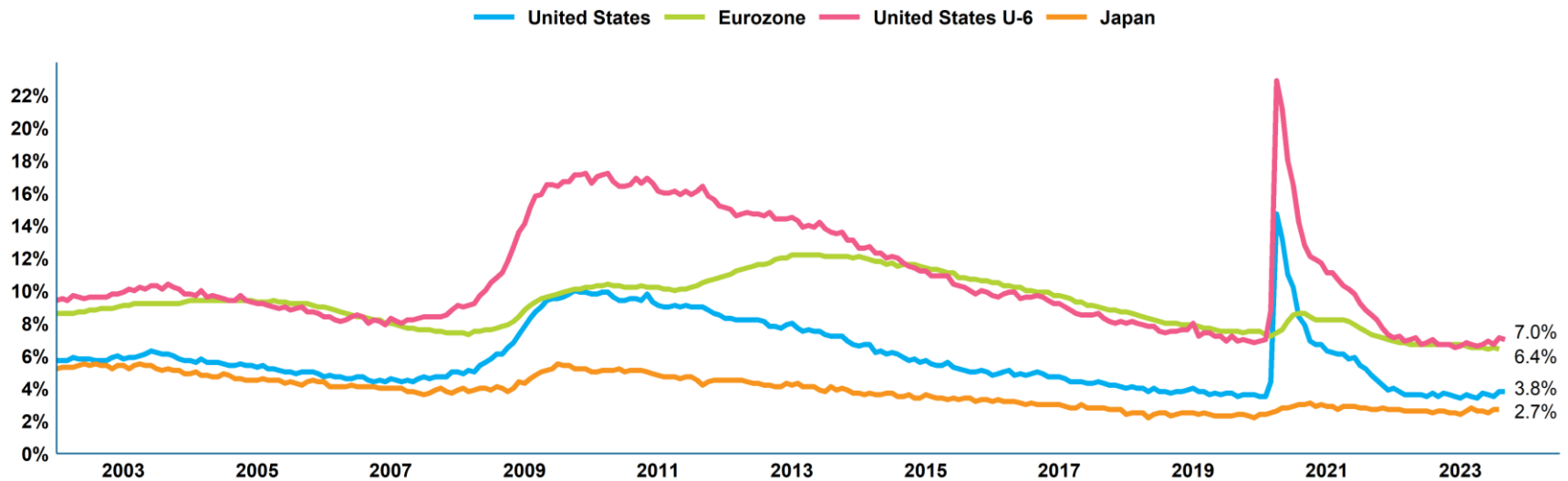
Inflation (CPI Trailing Twelve Months)¹



- The inflation picture remains mixed across the major economies.
- In the US, inflation was flat at 3.7%, influenced by rising shelter costs, while eurozone inflation remained higher than the US at 4.3%, a level well off its peak, however. Despite 2023's significant declines in the US and Europe, inflation levels remain elevated compared to central bank targets.
- Inflation in Japan has increased to levels not seen in almost a decade largely driven by food and home related items. In China, deflationary pressures eased but prices were flat from a year prior.

¹ United States CPI and Eurozone CPI – Source: FRED. Japan CPI and China CPI - Source: Bloomberg. Data is as September 30, 2023. The most recent data for Japanese and Eurozone inflation is as of August 2023.

Unemployment¹



- Overall, the US labor market remains healthy with the unemployment rate relatively low, wage growth now positive in real terms, and initial claims for unemployment staying subdued. The pace of wage growth has slowed though, and despite remaining elevated, the number of job openings has declined from recent highs.
- In September, unemployment remained at 3.8%, a level only 0.2% higher than the start of the quarter. The labor force participation rate remained at 62.8% well off the lows of the pandemic (60.1%) but not back to pre-pandemic levels (63.3%). Broader measures of unemployment (U-6) finished the quarter at 7.0% up only slightly from the end of June (6.9%).
- Unemployment in Europe has also declined but remains higher than the US, while levels in Japan have been flat through the pandemic given less layoffs.

¹ Eurozone Unemployment - Source: Bloomberg. Japan, United States, United States U-6 Unemployment – Source: FRED. Data is as September 30, 2023, for the US. The most recent data for Eurozone unemployment is as of August 2023 and Japanese unemployment is as of August 2023.

US Dollar versus Broad Currencies¹



- After a strong 2022, the US dollar declined late last year and into early this year as weaker economic data and lower inflation led to investors anticipating the end of FOMC tightening.
- Recently though, the dollar reversed course and appreciated against major currencies as relative growth remains strong and investors anticipate the FOMC keeping interest rates higher for longer.
- For the rest of this year, the track of inflation across economies and the corresponding monetary policies will be key drivers of currency moves.

¹ Source: Bloomberg. Data as of September 30, 2023.

Summary

Key Trends:

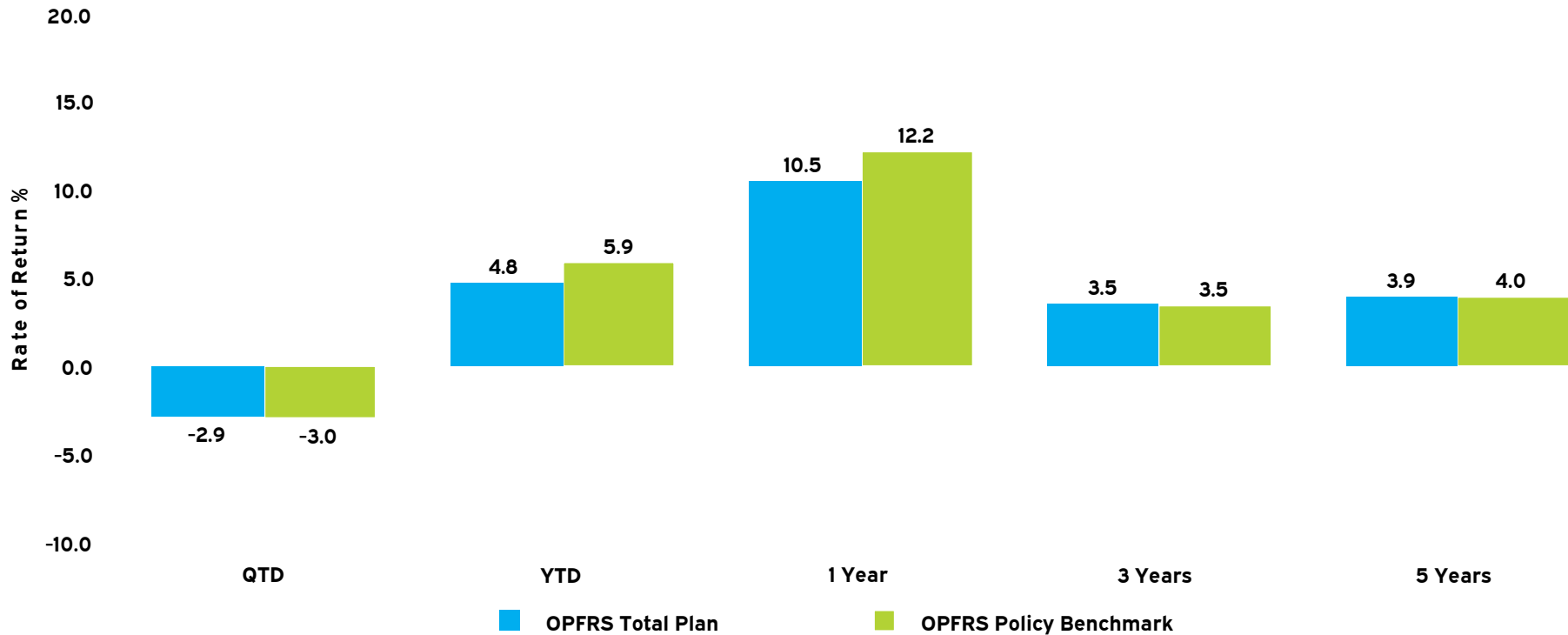
- The impact of inflation still above policy targets will remain key, with bond market volatility likely to stay high.
- Global monetary policies could diverge going forward. The risk of policy errors remains elevated as central banks try to reduce persistent inflation while not tipping their economies into recession.
- Growth is expected to slow globally this year, with many economies forecasted to tip into recession. However, optimism has been building that some economies could experience a soft landing. Inflation, monetary policy, and the war will all be key.
- In the US, consumers could feel pressure as certain components of inflation remain high (e.g., shelter), borrowing costs are elevated, and the job market may weaken.
- The key 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 the potential for recent strength in the US dollar to persist, higher inflation weighing particularly on Europe, and China's sluggish economic reopening and on-going weakness in the real estate sector. Japan's recent hint at potentially tightening monetary policy along with changes in corporate governance in the country could influence relative results.
- After month-end, heightened tensions in Israel could add to overall uncertainty and drive safe haven flows.

Quarterly **Performance**
as of September 30, 2023

Summary of Cash Flows

	QTD	1 Year
OPFRS Total Plan		
Beginning Market Value	420,170,089	382,458,040
Net Cash Flow	-3,020,018	-17,640,430
Net Investment Change	-12,006,623	40,325,838
Ending Market Value	405,143,449	405,143,449

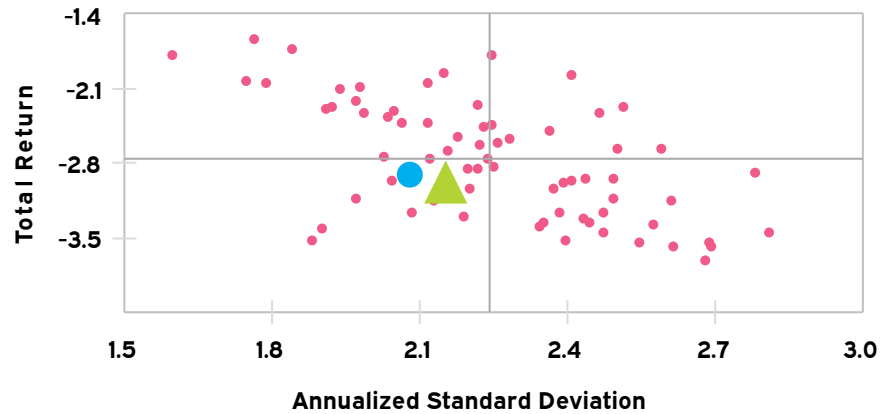
Return Summary Ending September 30, 2023



Total Plan performance is a mix of gross and net of fees; performance is gross of fees prior to January 2016 and thereafter.

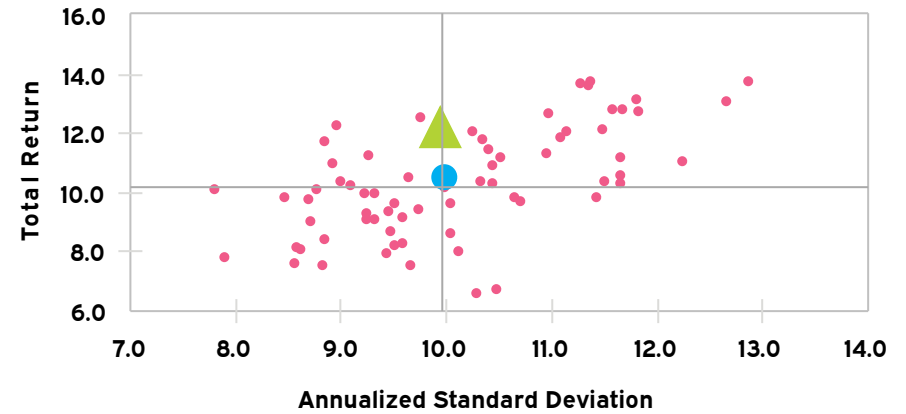
Total Plan Risk/Return Summary | As of September 30, 2023

Risk-Return Summary QTD Ending September 30, 2023



- IM Public DB \$250M-\$1B
- OPFRS Total Plan
- ▲ OPFRS Policy Benchmark

Risk-Return Summary 1 Yr Ending September 30, 2023



- IM Public DB \$250M-\$1B
- OPFRS Total Plan
- ▲ OPFRS Policy Benchmark

	Return	Standard Deviation
--	--------	--------------------

OPFRS Total Plan	-2.9	2.1
OPFRS Policy Benchmark	-3.0	2.2
Median	-2.8	2.2

	Return	Standard Deviation
--	--------	--------------------

OPFRS Total Plan	10.5	10.0
OPFRS Policy Benchmark	12.2	9.9
Median	10.2	10.0

Total Plan performance is a mix of gross and net of fees; performance is gross of fees prior to January 2016 and thereafter. Parentheses contain percentile rankings. Calculation based on monthly periodicity. Fiscal year begins on July 1. Plan Sponsor Peer Group shown is net of fees.

Asset Class Performance: Gross of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
OPFRS Total Plan (Gross)	405,143,449	100.0	-2.8	5.0	10.9	3.9	4.2	6.5	6.5	Dec-88
<i>OPFRS Policy Benchmark</i>			-3.0	5.9	12.2	3.5	4.0	6.4	7.7	
Excess Return			0.2	-0.9	-1.3	0.4	0.2	0.1	-1.2	
Domestic Equity (Gross)	165,391,122	40.8	-3.8	7.3	16.2	8.8	7.8	10.6	8.6	Jun-97
<i>Russell 3000 (Blend)</i>			-3.3	12.4	20.5	9.4	9.1	11.3	8.9	
Excess Return			-0.5	-5.1	-4.3	-0.6	-1.3	-0.7	-0.3	
International Equity (Gross)	51,607,318	12.7	-2.2	9.7	26.2	5.8	4.1	4.9	5.2	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			-3.8	5.3	20.4	3.7	2.6	3.3	4.8	
Excess Return			1.6	4.4	5.8	2.1	1.5	1.6	0.4	
Fixed Income (Gross)	101,122,231	25.0	-3.2	-0.4	1.7	-4.3	0.6	1.8	4.6	Jan-94
<i>Bloomberg Universal (Blend)</i>			-2.9	-0.6	1.6	-4.7	0.3	1.4	4.4	
Excess Return			-0.3	0.2	0.1	0.4	0.3	0.4	0.2	
Credit (Gross)	9,329,974	2.3	1.5	8.9	11.0	5.8	3.9	--	5.3	Feb-15
<i>Blmbg. U.S. Corp: High Yield Index</i>			0.5	5.9	10.3	1.8	3.0	4.2	4.1	
Excess Return			1.0	3.0	0.7	4.0	0.9	--	1.2	
Covered Calls (Gross)	22,157,801	5.5	-1.7	12.0	20.6	10.4	8.2	--	8.8	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			-2.8	7.3	14.6	7.2	3.0	6.0	5.2	
Excess Return			1.1	4.7	6.0	3.2	5.2	--	3.6	
Crisis Risk Offset (Gross)	39,485,989	9.7	-1.4	0.6	-4.2	-7.3	-8.7	--	-7.8	Aug-18
<i>Crisis Risk Offset Benchmark</i>			-2.4	0.3	1.8	3.5	-0.3	--	-0.4	
Excess Return			1.0	0.3	-6.0	-10.8	-8.4	--	-7.4	
Cash (Gross)	16,049,014	4.0	0.0	0.0	0.0	0.0	0.8	0.7	0.6	Mar-11

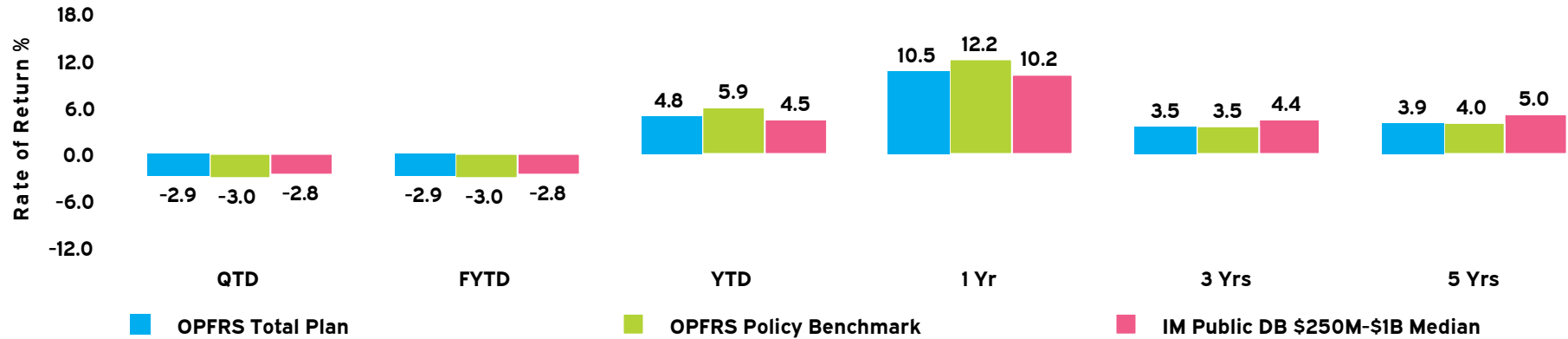
Performance shown is gross of fees. Since inception date and performance begin in the month following an investments initial funding. Fiscal year begins on July 1. Please see Benchmark History section for custom benchmark compositions.

Asset Class Performance: Net of Fees | As of September 30, 2023

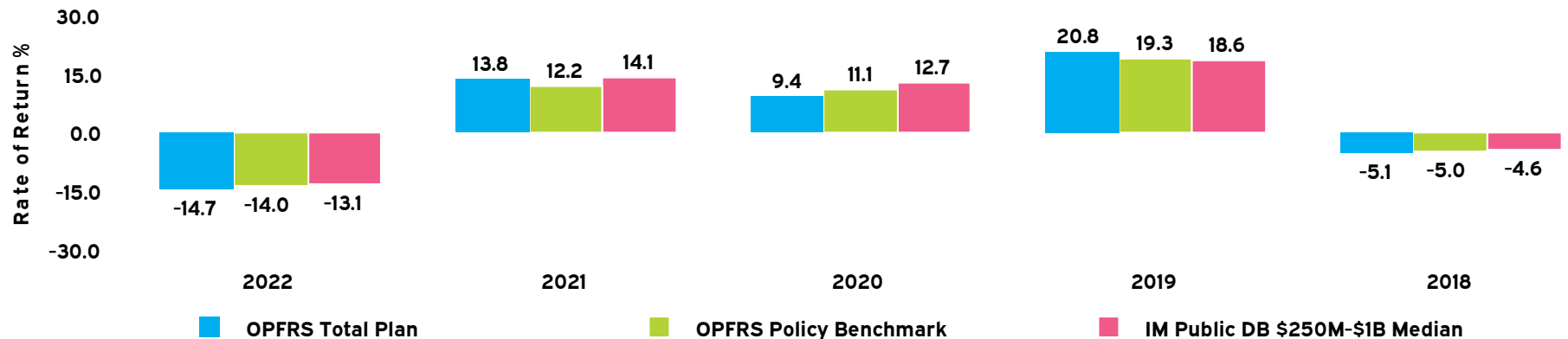
	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
OPFRS Total Plan (Net)	405,143,449	100.0	-2.9	4.8	10.5	3.5	3.9	6.3	6.4	Dec-88
<i>OPFRS Policy Benchmark</i>			-3.0	5.9	12.2	3.5	4.0	6.4	7.7	
Excess Return			0.1	-1.1	-1.7	0.0	-0.1	-0.1	-1.3	
<i>IM Public DB \$250M-\$1B Median (Net)</i>			-2.8	4.5	10.2	4.4	5.0	6.1	--	
IM Public DB \$250M-\$1B Median (Net) Rank			57	42	41	80	88	43	--	
Domestic Equity (Net)	165,391,122	40.8	-3.9	7.0	15.8	8.4	7.5	10.4	8.6	Jun-97
<i>Russell 3000 (Blend)</i>			-3.3	12.4	20.5	9.4	9.1	11.3	8.9	
Excess Return			-0.6	-5.4	-4.7	-1.0	-1.6	-0.9	-0.3	
International Equity (Net)	51,607,318	12.7	-2.3	9.2	25.5	5.2	3.6	4.5	5.0	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			-3.8	5.3	20.4	3.7	2.6	3.3	4.8	
Excess Return			1.5	3.9	5.1	1.5	1.0	1.2	0.2	
Fixed Income (Net)	101,122,231	25.0	-3.2	-0.6	1.5	-4.5	0.4	1.5	4.3	Jan-94
<i>Bloomberg Universal (Blend)</i>			-2.9	-0.6	1.6	-4.7	0.3	1.4	4.4	
Excess Return			-0.3	0.0	-0.1	0.2	0.1	0.1	-0.1	
Credit (Net)	9,329,974	2.3	1.4	8.4	10.4	5.1	3.2	--	4.6	Feb-15
<i>Blmbg. U.S. Corp: High Yield Index</i>			0.5	5.9	10.3	1.8	3.0	4.2	4.1	
Excess Return			0.9	2.5	0.1	3.3	0.2	--	0.5	
Covered Calls (Net)	22,157,801	5.5	-1.8	11.9	20.4	10.2	7.9	--	8.5	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			-2.8	7.3	14.6	7.2	3.0	6.0	5.2	
Excess Return			1.0	4.6	5.8	3.0	4.9	--	3.3	
Crisis Risk Offset (Net)	39,485,989	9.7	-1.4	0.5	-4.3	-7.4	-8.9	--	-8.1	Aug-18
<i>Crisis Risk Offset Benchmark</i>			-2.4	0.3	1.8	3.5	-0.3	--	-0.4	
Excess Return			1.0	0.2	-6.1	-10.9	-8.6	--	-7.7	
Cash (Net)	16,049,014	4.0	0.0	0.0	0.0	0.0	0.8	0.7	0.6	Mar-11

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.

Trailing Period Performance Ending September 30, 2023



Calendar Year Performance Ending December 31, 2022



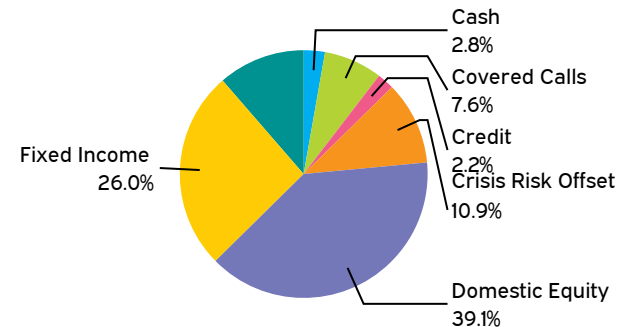
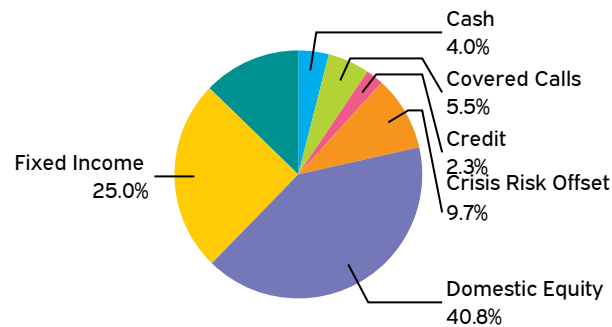
Total Plan performance is a mix of gross and net of fees; performance is gross of fees prior to January 2016 and thereafter. Fiscal year begins on July 1.

Asset Allocation | As of September 30, 2023

	Current Balance (\$)	Current Allocation (%)	Policy (%)	Difference (%)	Policy Range (%)	Within IPS Range?
Domestic Equity	165,391,122	40.8	40.0	0.8	30.0 - 50.0	Yes
International Equity	51,607,318	12.7	12.0	0.7	8.0 - 14.0	Yes
Fixed Income	101,122,231	25.0	31.0	-6.0	25.0 - 40.0	Yes
Credit	9,329,974	2.3	2.0	0.3	1.0 - 3.0	Yes
Covered Calls	22,157,801	5.5	5.0	0.5	5.0 - 10.0	Yes
Crisis Risk Offset	39,485,989	9.7	10.0	-0.3	5.0 - 15.0	Yes
Cash	16,049,014	4.0	0.0	4.0	0.0 - 5.0	Yes
Total	405,143,449	100.0	100.0	0.0		

September 30, 2023: \$405,143,448.6

September 30, 2022: \$406,308,110.42



Cash account market value includes cash balances held in ETF accounts at the custodian and residuals from terminated managers. Target weights reflect the Plan's evolving asset allocation (effective 05/31/2017).

Manager Performance - Net of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Domestic Equity	165,391,122	100.0	-3.9	7.0	15.8	8.4	7.5	10.4	8.6	Jun-97
<i>Russell 3000 (Blend)</i>			-3.3	12.4	20.5	9.4	9.1	11.3	8.9	
Excess Return			-0.6	-5.4	-4.7	-1.0	-1.6	-0.9	-0.3	
Northern Trust Russell 1000	78,815,151	47.7	-3.1	13.0	21.2	9.4	9.5	11.5	12.8	Jun-10
<i>Russell 1000 Index</i>			-3.1	13.0	21.2	9.5	9.6	11.6	12.9	
Excess Return			0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	
EARNEST Partners	39,440,769	23.8	-4.5	3.6	11.4	8.6	8.3	10.8	8.8	Apr-06
<i>Russell Midcap Index</i>			-4.7	3.9	13.4	8.1	6.4	9.0	8.2	
Excess Return			0.2	-0.3	-2.0	0.5	1.9	1.8	0.6	
eV US Mid Cap Core Equity Rank			57	60	76	66	31	17	33	
Wellington Select Quality Equity	22,275,787	13.5	-4.7	0.3	14.1	--	--	--	0.8	May-22
<i>Russell 1000 Index</i>			-3.1	13.0	21.2	9.5	9.6	11.6	4.0	
Excess Return			-1.6	-12.7	-7.1	--	--	--	-3.2	
eV US Large Cap Core Equity Rank			88	94	80	--	--	--	77	
Brown Fundamental Small Cap Value	11,370,103	6.9	0.8	4.1	16.8	--	--	--	2.3	Apr-21
<i>Russell 2000 Value Index</i>			-3.0	-0.5	7.8	13.3	2.6	6.2	-4.1	
Excess Return			3.8	4.6	9.0	--	--	--	6.4	
eV US Small Cap Value Equity Rank			12	41	33	--	--	--	23	
Rice Hall James	13,489,312	8.2	-8.3	0.7	3.7	1.8	-0.3	--	4.8	Aug-17
<i>Russell 2000 Growth Index</i>			-7.3	5.2	9.6	1.1	1.6	6.7	5.3	
Excess Return			-1.0	-4.5	-5.9	0.7	-1.9	--	-0.5	
eV US Small Cap Growth Equity Rank			73	77	80	55	95	--	91	

Performance shown is net of fees, except for the Domestic 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 Benchmark History section for custom benchmark compositions.

Manager Performance - Net of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
International Equity	51,607,318	100.0	-2.3	9.2	25.5	5.2	3.6	4.5	5.0	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			-3.8	5.3	20.4	3.7	2.6	3.3	4.8	
Excess Return			1.5	3.9	5.1	1.5	1.0	1.2	0.2	
Vanguard Developed Markets ETF	14,640,298	28.4	-4.7	5.3	22.9	5.0	--	--	5.0	Sep-19
<i>FTSE Developed All Cap ex-U.S. Index</i>			-3.9	6.7	24.2	5.8	3.5	4.3	5.6	
Excess Return			-0.8	-1.4	-1.3	-0.8	--	--	-0.6	
SGA ACWI ex-U.S. Equity	36,967,020	71.6	-1.4	10.8	26.5	5.1	--	--	2.5	Dec-19
<i>MSCI AC World ex USA (Net)</i>			-3.8	5.3	20.4	3.7	2.6	3.3	2.6	
Excess Return			2.4	5.5	6.1	1.4	--	--	-0.1	
eV ACWI ex-US All Cap Core Eq Rank			12	3	11	37	--	--	68	

Performance shown is net of fees, except for the 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 Benchmark History section for custom benchmark compositions.

Manager Performance - Net of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Fixed Income	101,122,231	100.0	-3.2	-0.6	1.5	-4.5	0.4	1.5	4.3	Jan-94
<i>Bloomberg Universal (Blend)</i>			-2.9	-0.6	1.6	-4.7	0.3	1.4	4.4	
Excess Return			-0.3	0.0	-0.1	0.2	0.1	0.1	-0.1	
Ramirez	68,697,575	67.9	-3.1	-0.6	1.0	-4.5	0.3	--	0.7	Feb-17
<i>Blmbg. U.S. Aggregate Index</i>			-3.2	-1.2	0.6	-5.2	0.1	1.1	0.3	
Excess Return			0.1	0.6	0.4	0.7	0.2	--	0.4	
eV US Core Fixed Inc Rank			54	35	41	22	54	--	32	
Wellington Core Bond	6,517,141	6.4	-3.1	-0.2	1.6	--	--	--	-5.5	Apr-21
<i>Blmbg. U.S. Aggregate Index</i>			-3.2	-1.2	0.6	-5.2	0.1	1.1	-5.2	
Excess Return			0.1	1.0	1.0	--	--	--	-0.3	
eV US Core Fixed Inc Rank			50	16	18	--	--	--	86	
Reams	25,907,515	25.6	-3.5	-0.5	2.6	-4.3	2.7	2.4	4.7	Feb-98
<i>Bloomberg Universal (Blend)</i>			-2.9	-0.6	1.6	-4.7	0.3	1.4	3.9	
Excess Return			-0.6	0.1	1.0	0.4	2.4	1.0	0.8	
eV US Core Plus Fixed Inc Rank			89	58	17	44	1	10	21	

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 Benchmark History section for custom benchmark compositions.

Manager Performance - Net of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Credit	9,329,974	100.0	1.4	8.4	10.4	5.1	3.2	--	4.6	Feb-15
<i>Blmbg. U.S. Corp: High Yield Index</i>			<i>0.5</i>	<i>5.9</i>	<i>10.3</i>	<i>1.8</i>	<i>3.0</i>	<i>4.2</i>	<i>4.1</i>	
Excess Return			0.9	2.5	0.1	3.3	0.2	--	0.5	
Polen Capital	9,329,974	100.0	1.4	8.4	10.4	5.1	3.2	--	4.6	Feb-15
<i>ICE BofA High Yield Master II</i>			<i>0.5</i>	<i>6.0</i>	<i>10.2</i>	<i>1.8</i>	<i>2.8</i>	<i>4.2</i>	<i>4.0</i>	
Excess Return			0.9	2.4	0.2	3.3	0.4	--	0.6	
eV US High Yield Fixed Inc Rank			13	4	30	3	31	--	14	

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

Manager Performance - Net of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Covered Calls	22,157,801	100.0	-1.8	11.9	20.4	10.2	7.9	--	8.5	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			<i>-2.8</i>	<i>7.3</i>	<i>14.6</i>	<i>7.2</i>	<i>3.0</i>	<i>6.0</i>	<i>5.2</i>	
Excess Return			1.0	4.6	5.8	3.0	4.9	--	3.3	
Parametric BXM	11,106,210	50.1	-1.0	10.3	18.1	8.5	5.8	--	6.8	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			<i>-2.8</i>	<i>7.3</i>	<i>14.6</i>	<i>7.2</i>	<i>3.0</i>	<i>6.0</i>	<i>5.2</i>	
Excess Return			1.8	3.0	3.5	1.3	2.8	--	1.6	
Parametric DeltaShift	11,051,591	49.9	-2.6	13.4	22.8	11.5	9.8	--	10.3	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			<i>-2.8</i>	<i>7.3</i>	<i>14.6</i>	<i>7.2</i>	<i>3.0</i>	<i>6.0</i>	<i>5.2</i>	
Excess Return			0.2	6.1	8.2	4.3	6.8	--	5.1	

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

Manager Performance - Net of Fees | As of September 30, 2023

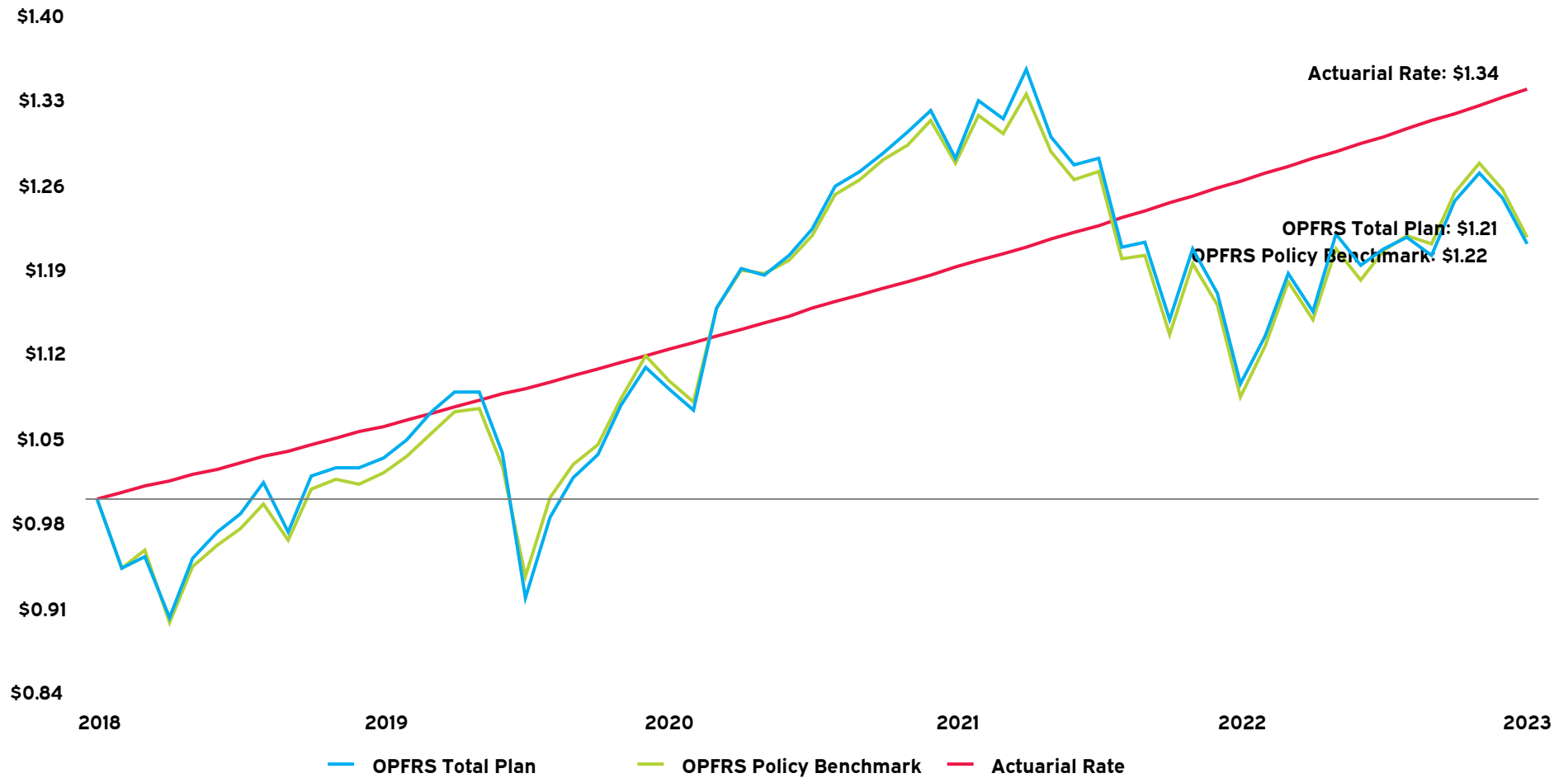
	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Crisis Risk Offset	39,485,989	100.0	-1.4	0.5	-4.3	-7.4	-8.9	--	-8.1	Aug-18
<i>Crisis Risk Offset Benchmark</i>			<i>-2.4</i>	<i>0.3</i>	<i>1.8</i>	<i>3.5</i>	<i>-0.3</i>	<i>--</i>	<i>-0.4</i>	
Over/Under			1.0	0.2	-6.1	-10.9	-8.6	--	-7.7	
Kepos Alternative Risk Premia	10,968,295	27.8	4.7	11.5	12.6	--	--	--	5.7	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>			<i>4.2</i>	<i>7.9</i>	<i>9.5</i>	<i>6.0</i>	<i>1.2</i>	<i>--</i>	<i>7.1</i>	
Over/Under			0.5	3.6	3.1	--	--	--	-1.4	
Versor Trend Following	16,170,216	41.0	4.0	1.2	-9.7	--	--	--	5.1	Apr-22
<i>SG Trend Index</i>			<i>0.8</i>	<i>0.9</i>	<i>-5.2</i>	<i>15.0</i>	<i>9.1</i>	<i>6.2</i>	<i>6.1</i>	
Over/Under			3.2	0.3	-4.5	--	--	--	-1.0	
Vanguard Long-Term Treasury ETF	12,347,478	31.3	-11.9	-8.5	-9.5	-15.8	--	--	-6.7	Jul-19
<i>Blmbg. U.S. Government: Long Term Bond Index</i>			<i>-11.8</i>	<i>-8.5</i>	<i>-9.0</i>	<i>-15.7</i>	<i>-2.8</i>	<i>0.8</i>	<i>-6.5</i>	
Over/Under			-0.1	0.0	-0.5	-0.1	--	--	-0.2	

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

**Cash Flow Summary
Quarter To Date**

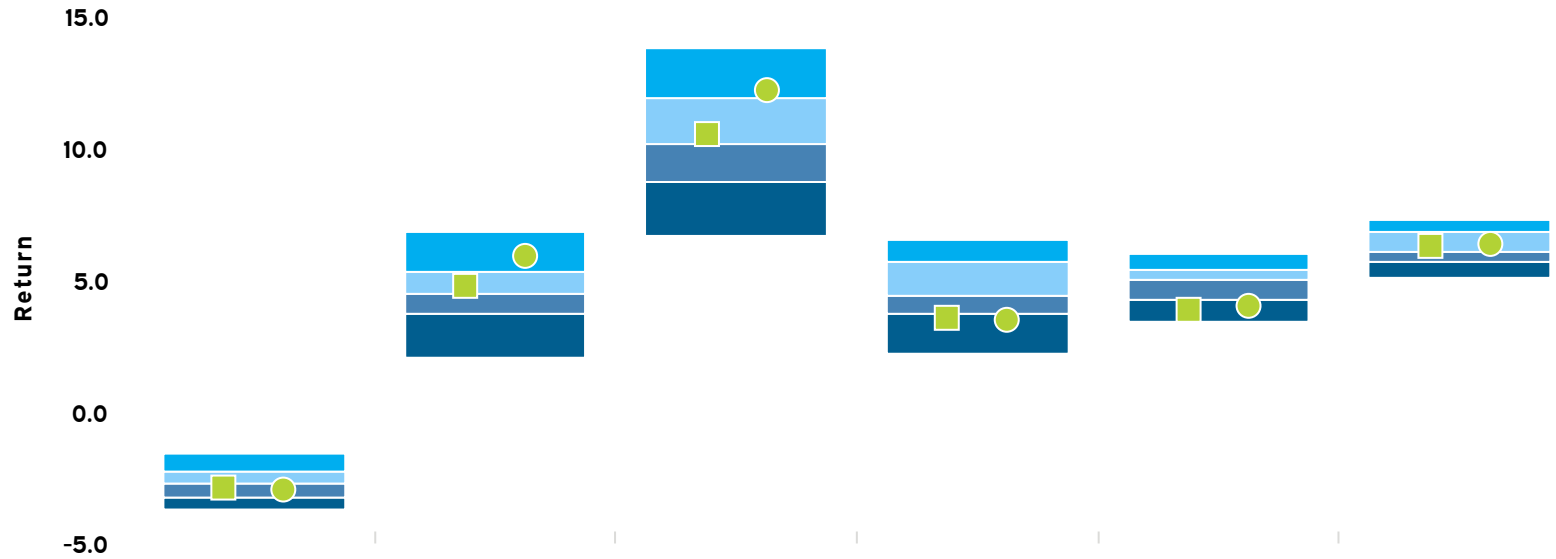
	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Northern Trust Russell 1000	81,367,541	-	-2,552,390	78,815,151
EARNEST Partners	43,238,606	-2,000,000	-1,797,837	39,440,769
Wellington Select Quality Equity	23,373,498	-	-1,097,711	22,275,787
Brown Fundamental Small Cap Value	11,278,982	-	91,121	11,370,103
Rice Hall James	14,666,153	-	-1,176,841	13,489,312
Vanguard Developed Markets ETF	15,464,066	-	-823,768	14,640,298
SGA ACWI ex-U.S. Equity	40,377,022	-3,000,000	-410,002	36,967,020
Ramirez	70,891,932	-	-2,194,358	68,697,575
Wellington Core Bond	6,726,320	-	-209,180	6,517,141
Reams	26,844,017	-	-936,502	25,907,515
Polen Capital	9,200,988	-	128,986	9,329,974
Parametric BXM	11,207,891	-	-101,681	11,106,210
Parametric DeltaShift	11,340,209	-	-288,618	11,051,591
Kepos Alternative Risk Premia	10,476,679	-	491,617	10,968,295
Versor Trend Following	15,551,785	-	618,430	16,170,216
Vanguard Long-Term Treasury ETF	14,131,423	-	-1,783,945	12,347,478
Cash - Money Market	4,357,977	1,286,037	-	5,644,014
Cash - Treasury	9,675,000	730,000	-	10,405,000
Securities Lending Northern Trust	-	-36,055	36,055	-
OPFRS Total Plan	420,170,089	-3,020,018	-12,006,623	405,143,449

Growth of a Dollar 5 Years ending September 30, 2023



The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently.

Plan Sponsor Peer Group Performance Comparison vs. InvMetrics Public DB \$250M-\$1B Net



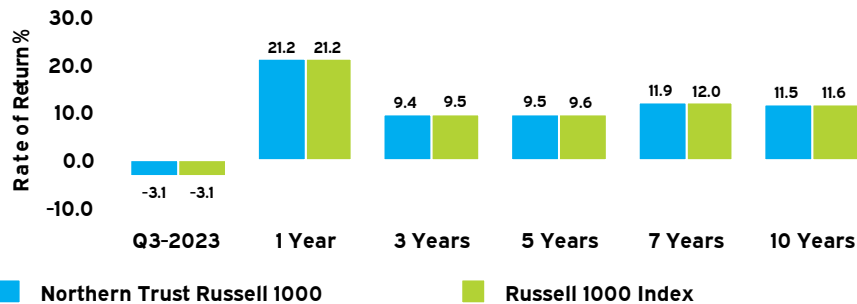
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
■ OPFRS Total Plan	-2.9 (57)	4.8 (42)	10.5 (41)	3.5 (80)	3.9 (88)	6.3 (43)
● OPFRS Policy Benchmark	-3.0 (63)	5.9 (14)	12.2 (20)	3.5 (80)	4.0 (88)	6.4 (42)
5th Percentile	-1.6	6.8	13.8	6.5	6.0	7.3
1st Quartile	-2.3	5.3	11.9	5.7	5.4	6.8
Median	-2.8	4.5	10.2	4.4	5.0	6.1
3rd Quartile	-3.3	3.7	8.7	3.7	4.3	5.7
95th Percentile	-3.7	2.0	6.6	2.2	3.4	5.1
Population	86	82	81	79	78	67

Total Plan performance is a mix of gross and net of fees; performance is gross of fees prior to January 2016 and net of fees thereafter. Parentheses contain percentile rankings. Calculation based on monthly periodicity. Fiscal year begins on July 1.

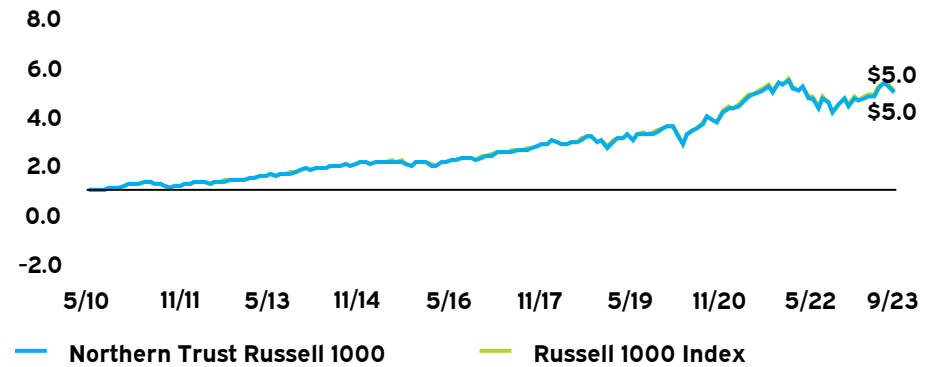
Portfolio Characteristics & Manager Profiles

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
Northern Trust Russell 1000	0.00	1.00	0.23	-0.42	0.01	1.00	99.78	99.81
Russell 1000 Index	0.00	1.00	-	-0.42	0.00	1.00	100.00	100.00

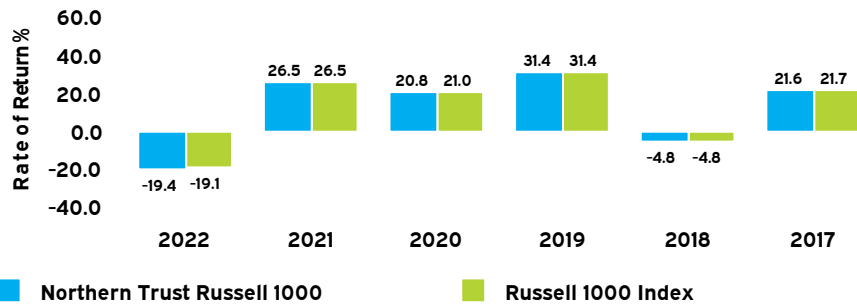
Trailing Performance



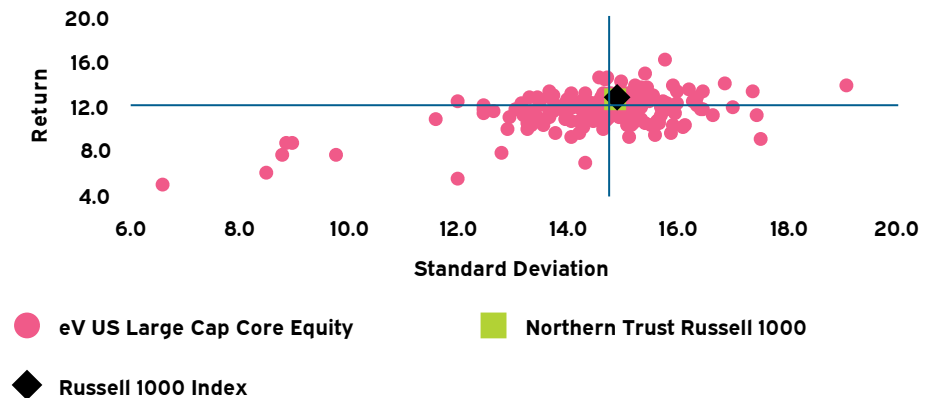
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception



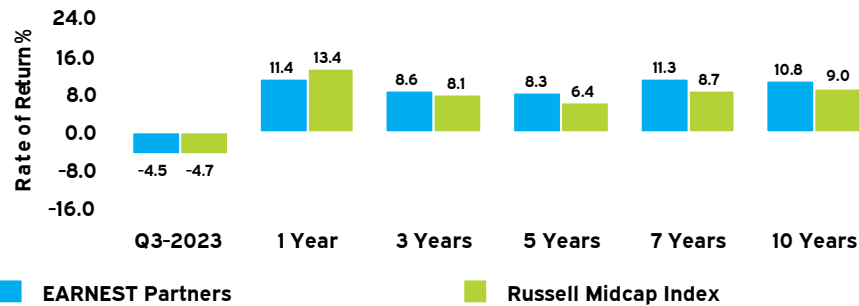
	QTD Return	QTD Risk
Northern Trust Russell 1000	-3.14	3.36
Russell 1000 Index	-3.15	3.36

Performance shown is net of fees. Risk is measured as Standard Deviation.

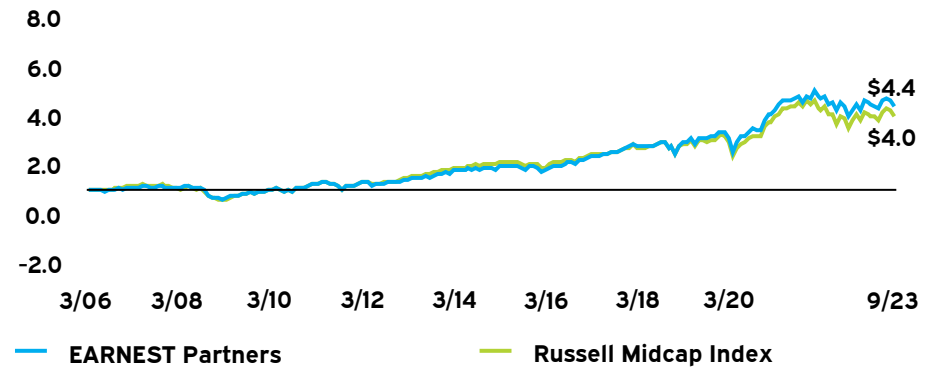
EARNEST Partners | As of September 30, 2023

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
EARNEST Partners	-0.22	0.84	0.03	-0.57	0.80	0.98	75.43	87.61
Russell Midcap Index	0.00	1.00	-	-0.49	0.00	1.00	100.00	100.00

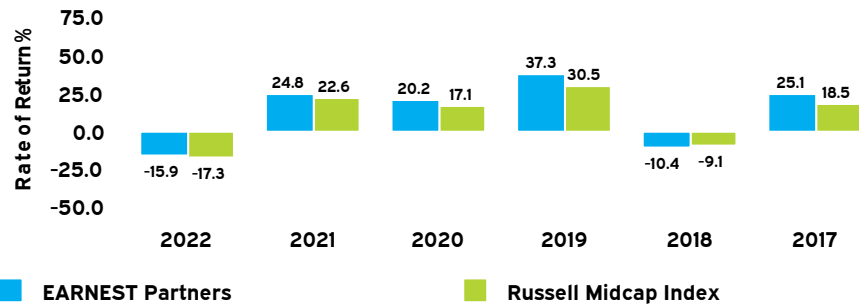
Trailing Performance



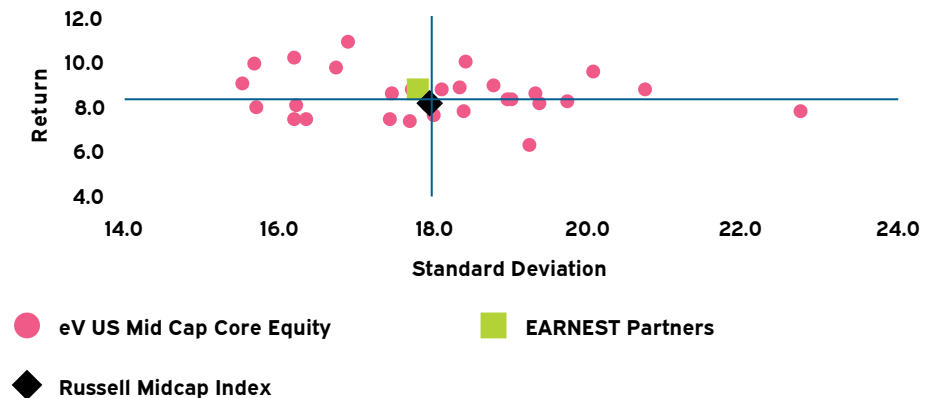
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception



	QTD Return	QTD Risk
EARNEST Partners	-4.54	3.32
Russell Midcap Index	-4.68	3.92

Performance shown is net of fees. Risk is measured as Standard Deviation.

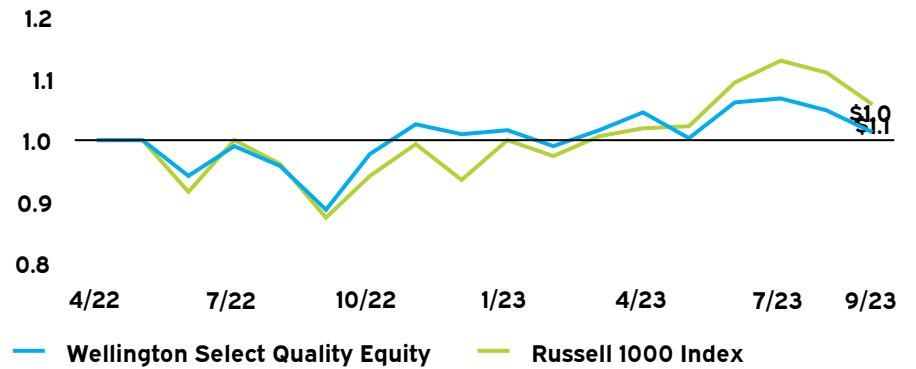
Wellington Select Quality Equity | As of September 30, 2023

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
Wellington Select Quality Equity	-1.08	0.50	-0.34	-1.18	1.70	1.00	16.61	82.19
Russell 1000 Index	0.00	1.00	-	-0.42	0.00	1.00	100.00	100.00

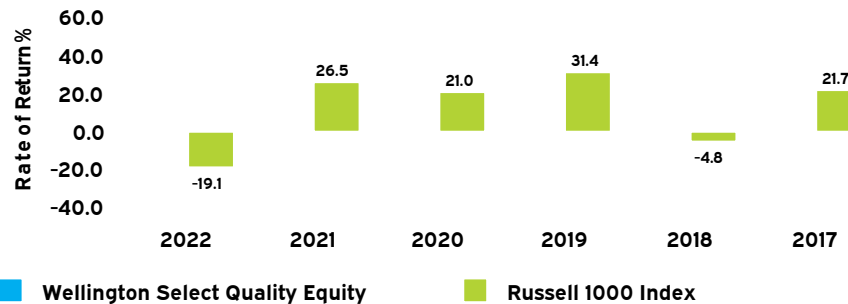
Trailing Performance



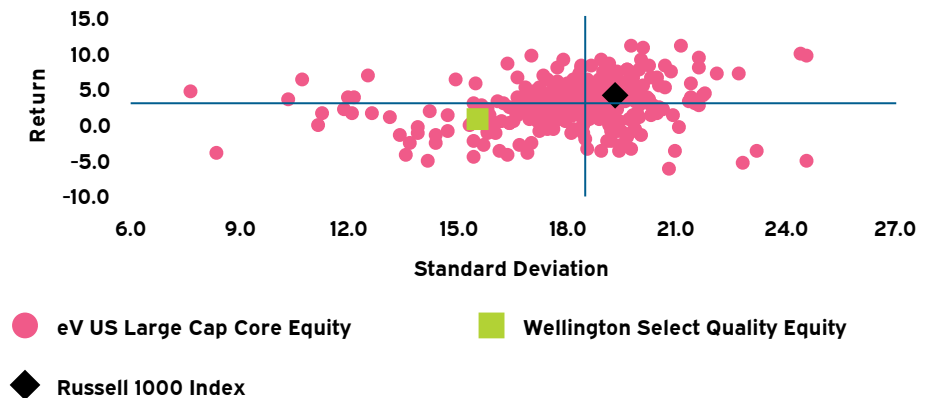
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception



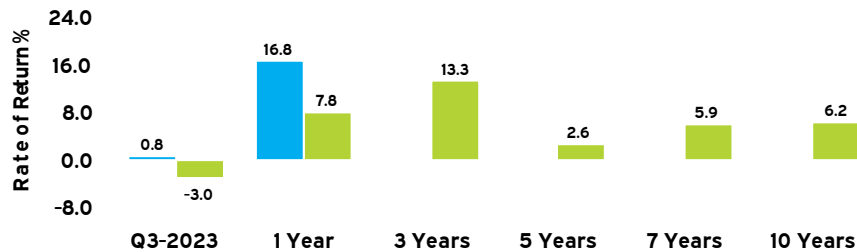
	QTD Return	QTD Risk
Wellington Select Quality Equity	-4.70	1.67
Russell 1000 Index	-3.15	3.36

Performance shown is net of fees. Risk is measured as Standard Deviation.

Brown Fundamental Small Cap Value | As of September 30, 2023

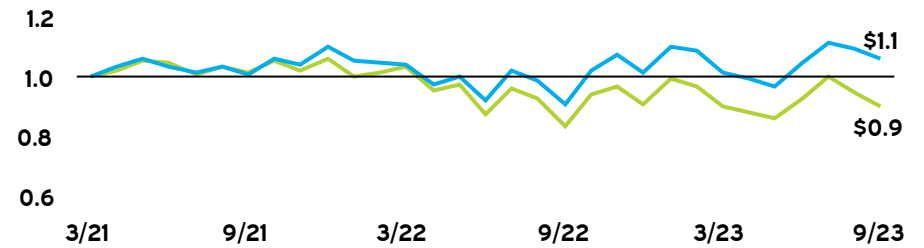
	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
Brown Fundamental Small Cap Value	0.96	0.72	0.68	-0.02	1.73	0.98	84.86	53.12
Russell 2000 Value Index	0.00	1.00	-	-0.21	0.00	1.00	100.00	100.00

Trailing Performance



■ Brown Fundamental Small Cap Value ■ Russell 2000 Value Index

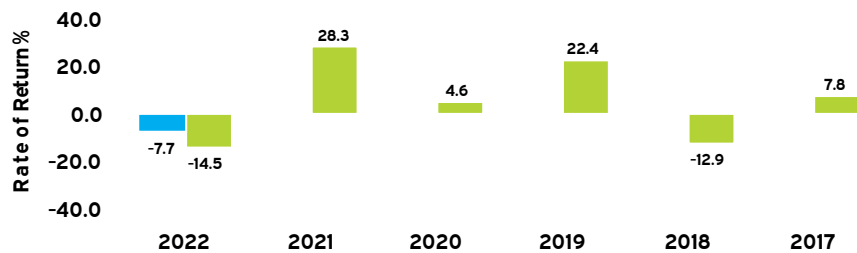
Growth of \$1 - Since Inception



— Brown Fundamental Small Cap Value

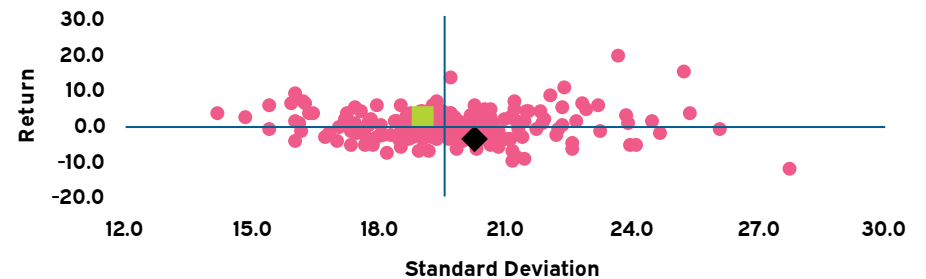
— Russell 2000 Value Index

Calendar Year Returns



■ Brown Fundamental Small Cap Value ■ Russell 2000 Value Index

Risk/Return - Since Inception



● eV US Small Cap Value Equity

■ Brown Fundamental Small Cap Value

◆ Russell 2000 Value Index

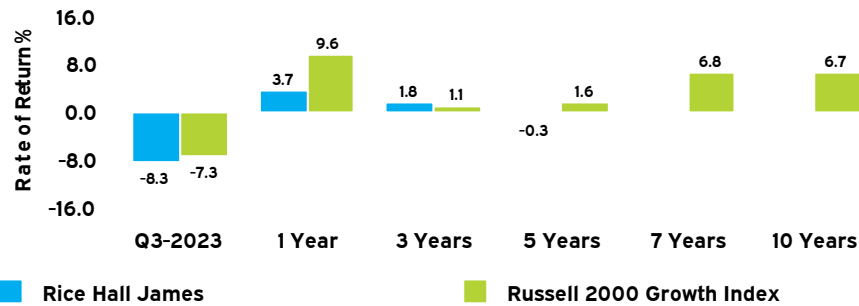
	QTD Return	QTD Risk
Brown Fundamental Small Cap Value	0.81	4.33
Russell 2000 Value Index	-2.96	5.92

Performance shown is net of fees. Risk is measured as Standard Deviation.

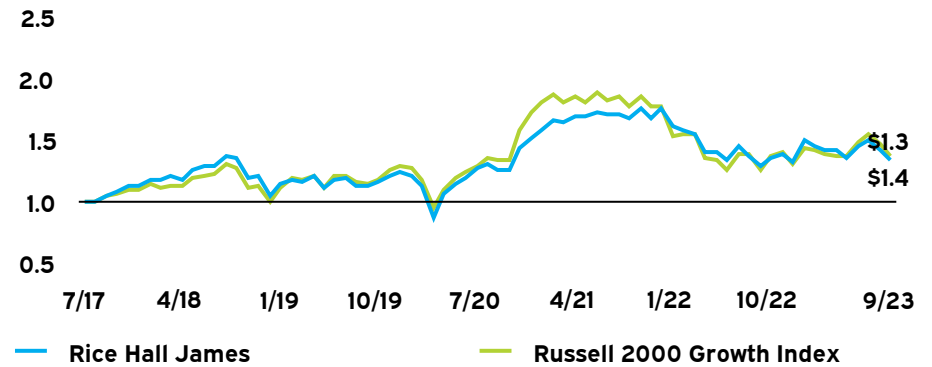
Rice Hall James | As of September 30, 2023

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
Rice Hall James	-0.77	0.83	-0.43	-0.76	0.86	1.00	67.45	96.50
Russell 2000 Growth Index	0.00	1.00	-	-0.56	0.00	1.00	100.00	100.00

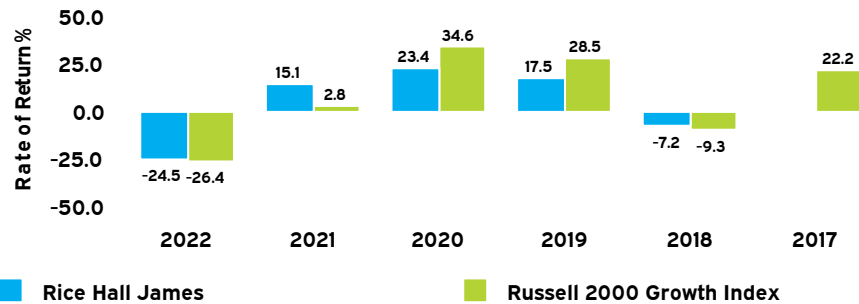
Trailing Performance



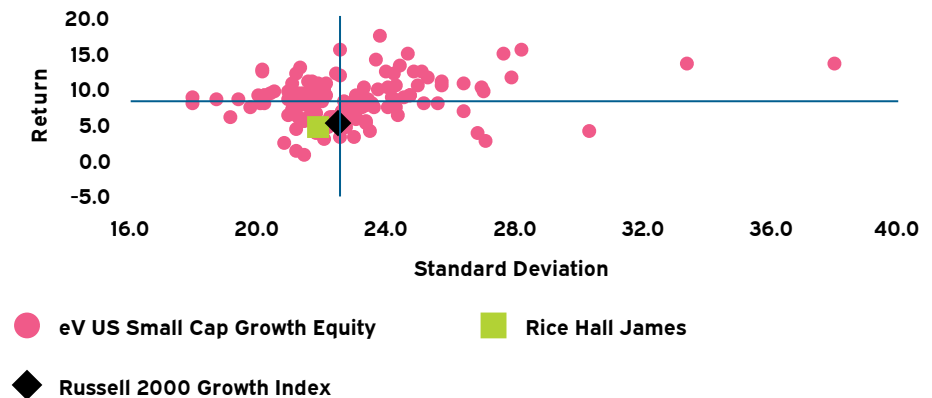
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception



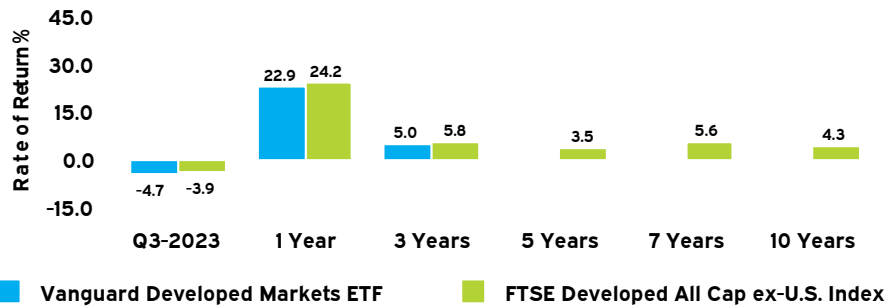
	QTD Return	QTD Risk
Rice Hall James	-8.26	4.18
Russell 2000 Growth Index	-7.32	5.02

Performance shown is net of fees. Risk is measured as Standard Deviation.

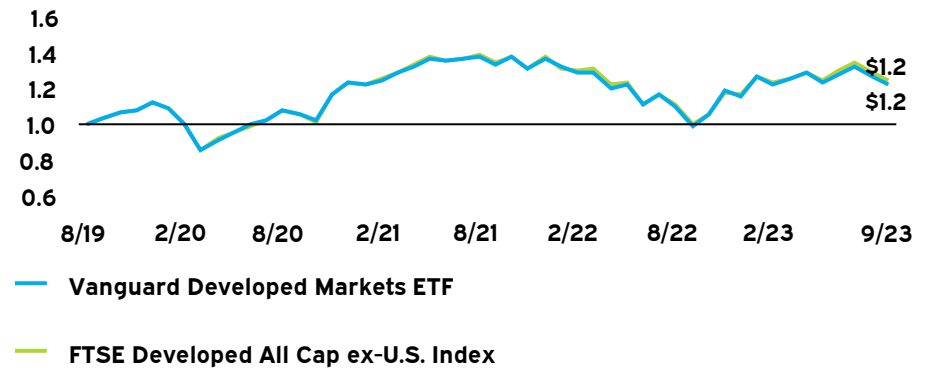
Vanguard Developed Markets ETF | As of September 30, 2023

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
Vanguard Developed Markets ETF	-0.32	0.95	-1.49	-0.59	0.18	1.00	86.72	104.23
FTSE Developed All Cap ex-U.S. Index	0.00	1.00	-	-0.49	0.00	1.00	100.00	100.00

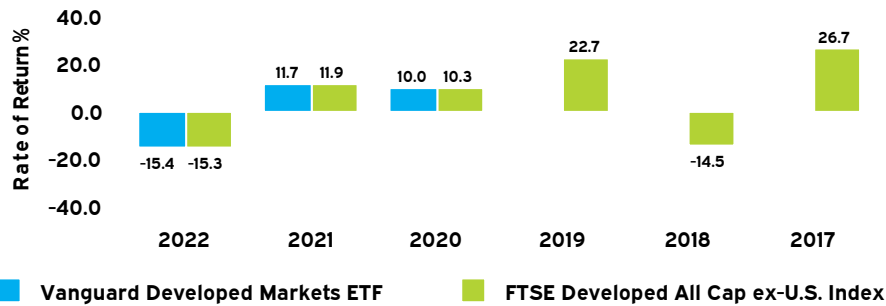
Trailing Performance



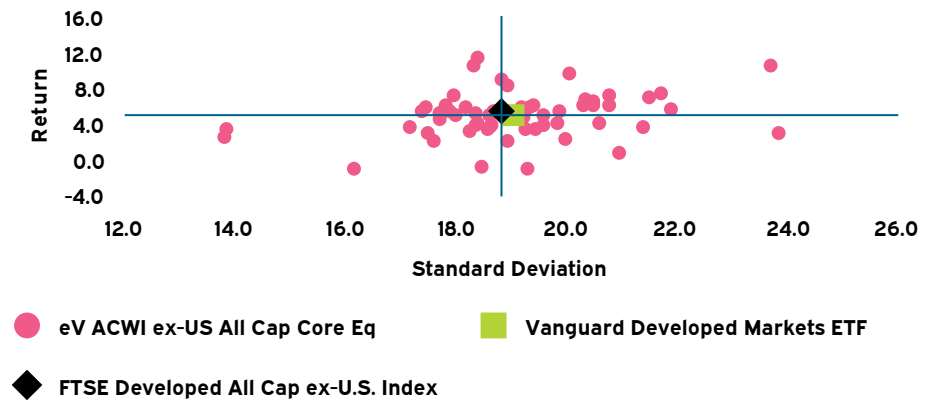
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception

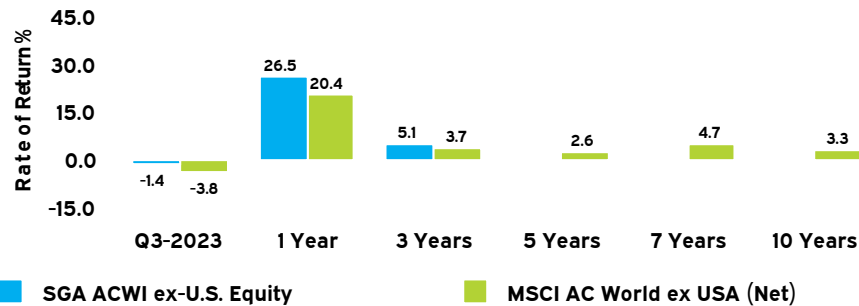


	QTD Return	QTD Risk
Vanguard Developed Markets ETF	-4.68	3.30
FTSE Developed All Cap ex-U.S. Index	-3.92	3.46

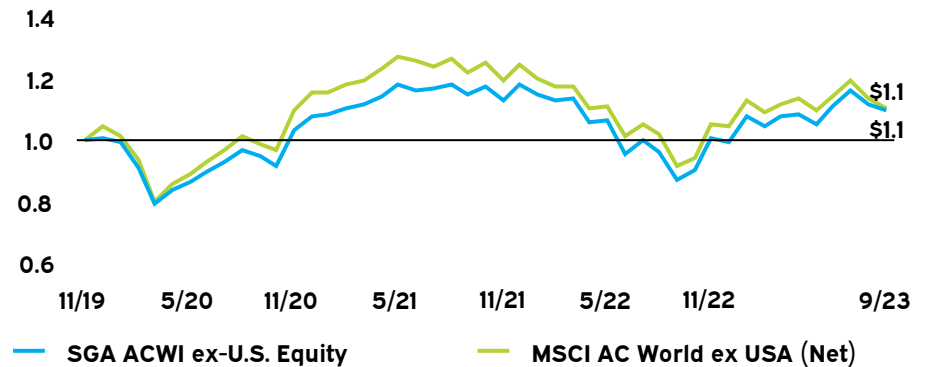
Performance shown is net of fees. Risk is measured as Standard Deviation.

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
SGA ACWI ex-U.S. Equity	0.63	0.86	1.44	-0.26	0.55	1.00	100.66	69.43
MSCI AC World ex USA (Net)	0.00	1.00	-	-0.43	0.00	1.00	100.00	100.00

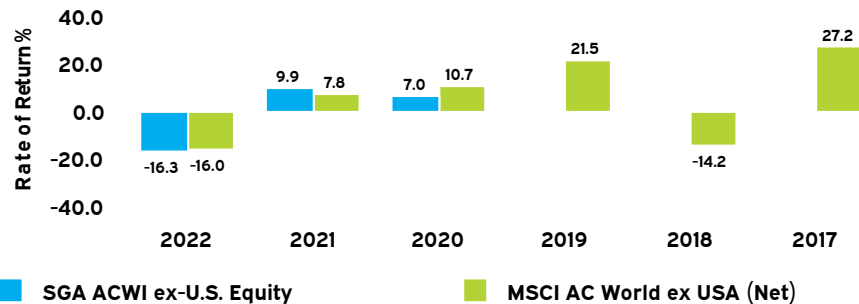
Trailing Performance



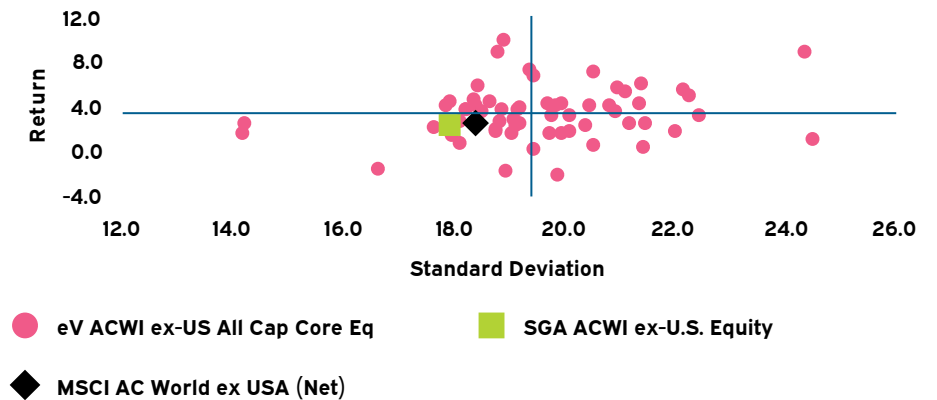
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception



	QTD Return	QTD Risk
SGA ACWI ex-U.S. Equity	-1.39	3.25
MSCI AC World ex USA (Net)	-3.77	3.77

Performance shown is net of fees. Risk is measured as Standard Deviation.

Ramirez | As of September 30, 2023

Account Information

Account Name	Ramirez
Account Structure	Separate Account
Inception Date	01/30/2017
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Aggregate Index
Peer Group	eV US Core Fixed Inc

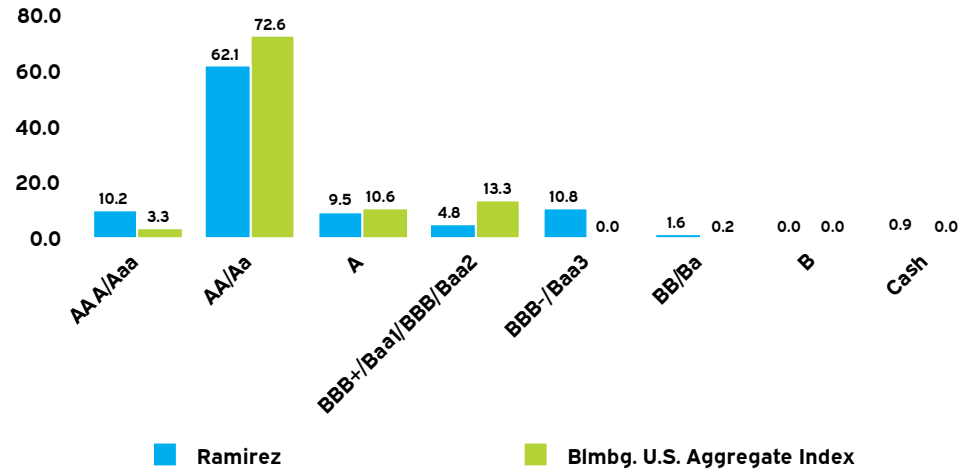
Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Ramirez	-3.1	-0.6	1.0	-4.5	0.3

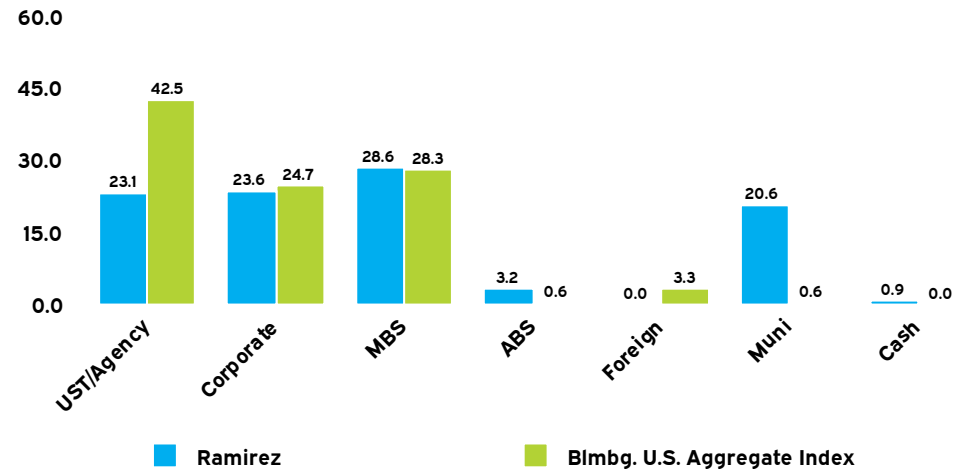
Portfolio Fixed Income Characteristics

	Q3-23 Portfolio	Q2-23 Portfolio
Yield To Maturity	5.7	5.1
Average Duration	6.2	6.1
Average Quality	AA	AA
Weighted Average Maturity	9.1	9.2

Credit Quality Allocation



Sector Allocation



Performance shown is net of fees.

Account Information

Account Name	Wellington Core Bond
Account Structure	Commingled Fund
Inception Date	04/01/2021
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Aggregate Index
Peer Group	eV US Core Fixed Inc

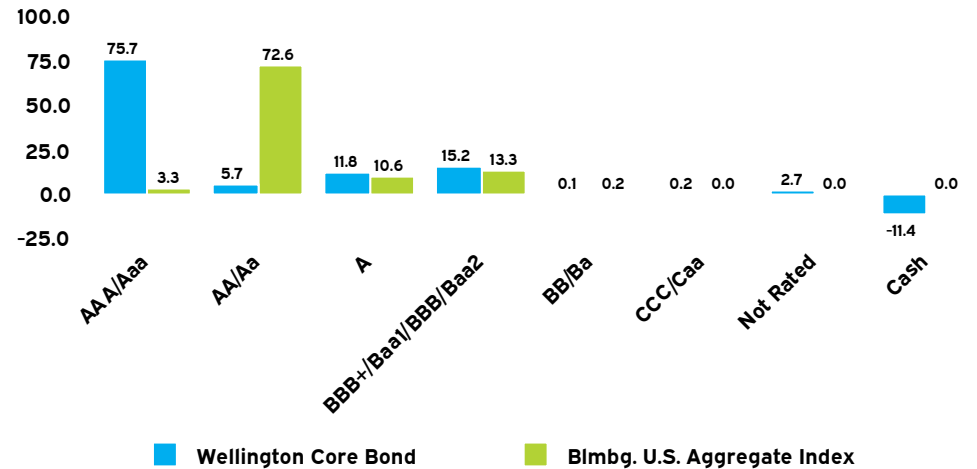
Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Wellington Core Bond	-3.1	-0.2	1.6	-	-

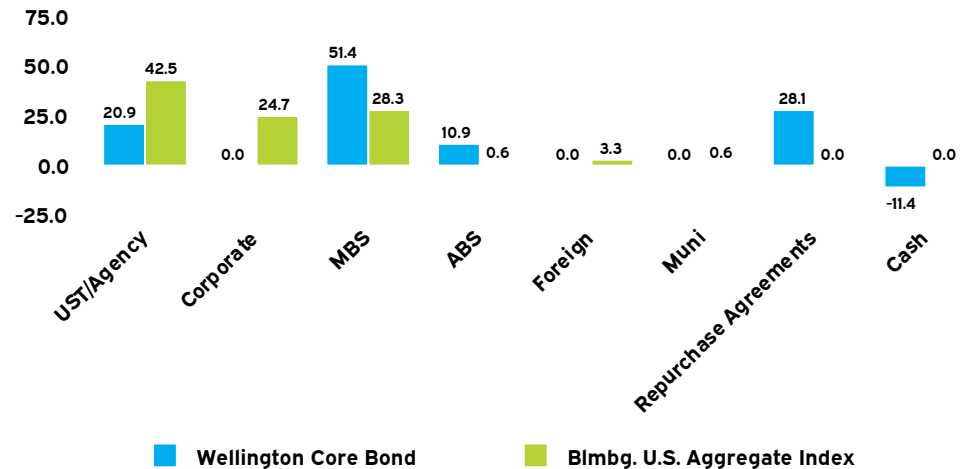
Portfolio Fixed Income Characteristics

	Q3-23 Portfolio	Q2-23 Portfolio
Yield To Maturity	5.3	5.3
Average Duration	6.7	6.8
Average Quality	AA	AA
Weighted Average Maturity	-	-

Credit Quality Allocation



Sector Allocation



Performance shown is net of fees.

Account Information

Account Name	Reams
Account Structure	Separate Account
Inception Date	01/01/1998
Asset Class	US Fixed Income
Benchmark	Bloomberg Universal (Blend)
Peer Group	eV US Core Plus Fixed Inc

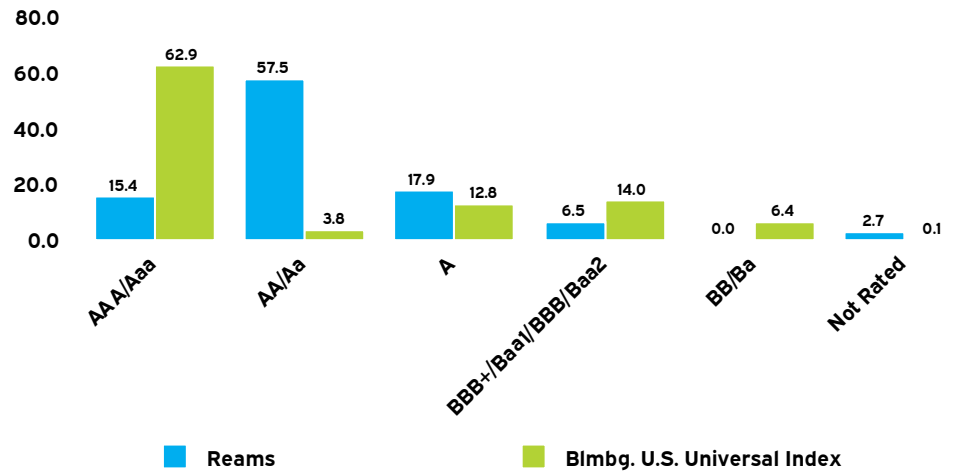
Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Reams	-3.5	-0.5	2.6	-4.3	2.7

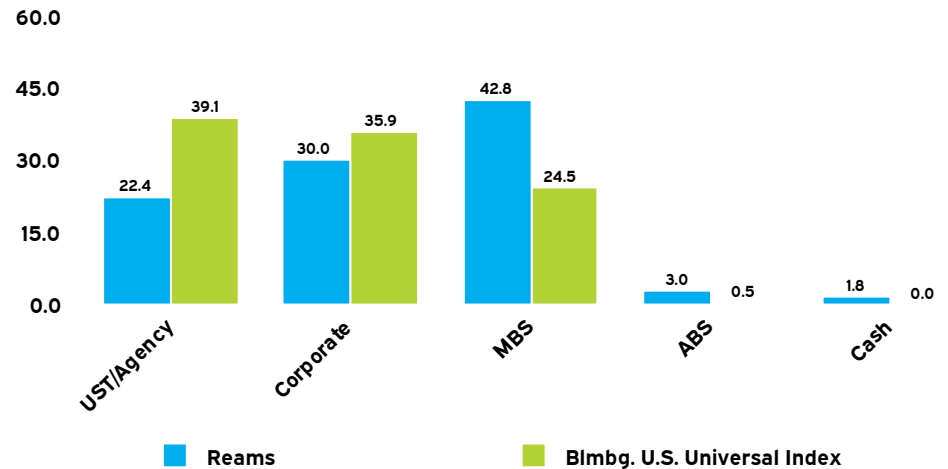
Portfolio Fixed Income Characteristics

	Q3-23 Portfolio	Q2-23 Portfolio
Yield To Maturity	6.4	5.5
Average Duration	6.9	6.7
Average Quality	AA	AA
Weighted Average Maturity	-	-

Credit Quality Allocation



Sector Allocation



Performance shown is net of fees.

Account Information

Account Name	Polen Capital
Account Structure	Commingled Fund
Inception Date	02/01/2015
Asset Class	US Fixed Income
Benchmark	ICE BofA High Yield Master II
Peer Group	eV US High Yield Fixed Inc

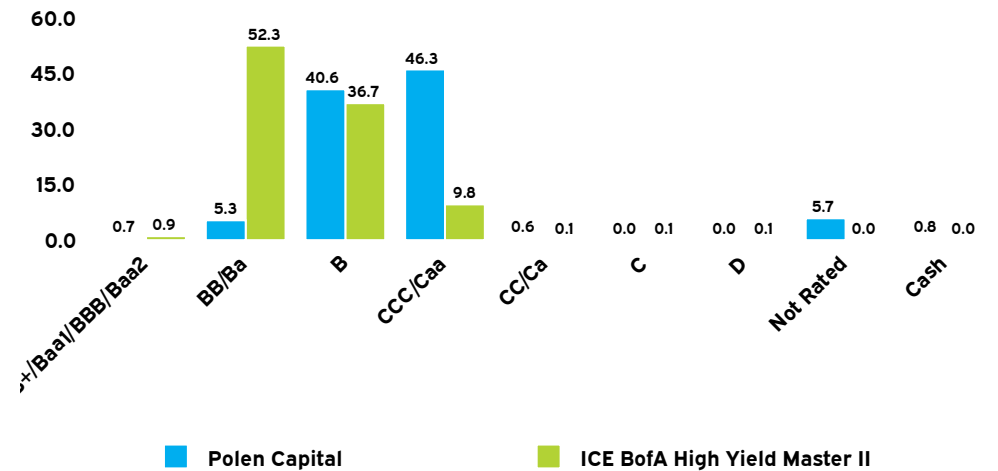
Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Polen Capital	1.4	8.4	10.4	5.1	3.2

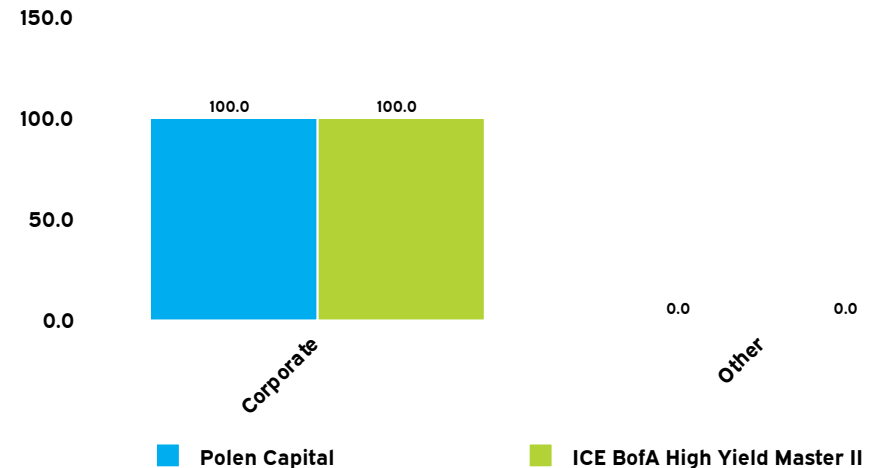
Portfolio Fixed Income Characteristics

	Q3-23 Portfolio	Q2-23 Portfolio
Yield To Maturity	10.8	11.0
Average Duration	1.8	1.8
Average Quality	BBB	BBB
Weighted Average Maturity	-	-

Credit Quality Allocation



Sector Allocation

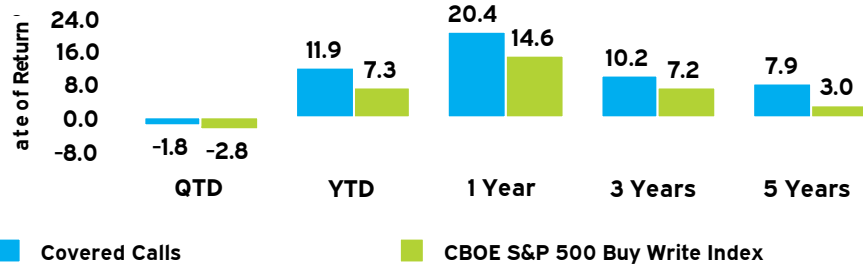


Performance shown is net of fees.

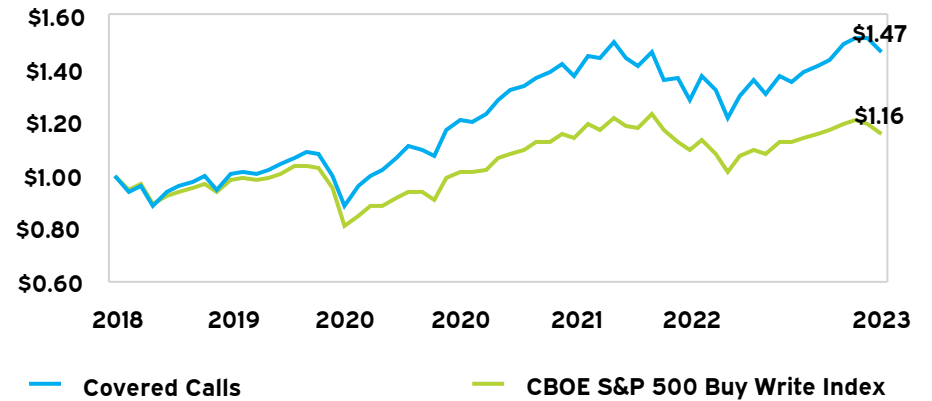
Covered Calls | As of September 30, 2023

	Return	Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Capture	Down Capture	Inception Date
Covered Calls	8.5	11.5	3.1	1.0	0.8	4.0	122.7	104.5	04/01/2014
CBOE S&P 500 Buy Write Index	5.2	10.6	0.0	1.0	-	0.0	100.0	100.0	
Parametric BXM	6.8	9.5	2.2	0.9	0.4	3.2	99.0	85.7	04/01/2014
CBOE S&P 500 Buy Write Index	5.2	10.6	0.0	1.0	-	0.0	100.0	100.0	
Parametric DeltaShift	10.3	13.9	4.2	1.2	0.8	6.2	145.4	120.6	04/01/2014
CBOE S&P 500 Buy Write Index	5.2	10.6	0.0	1.0	-	0.0	100.0	100.0	

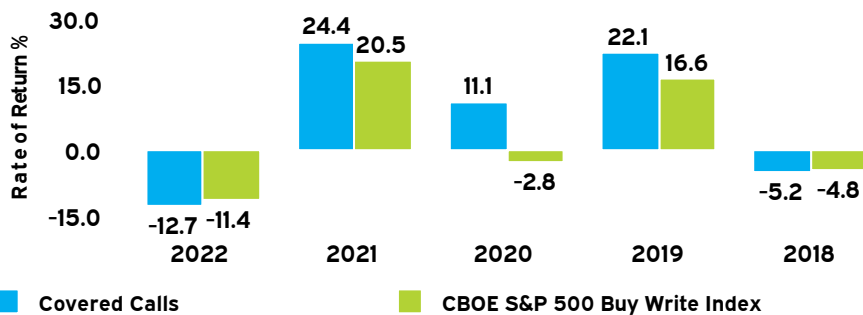
Trailing Period Performance



Growth of a Dollar



Calendar Year Performance



Performance shown is net of fees.

Crisis Risk Offset | As of September 30, 2023

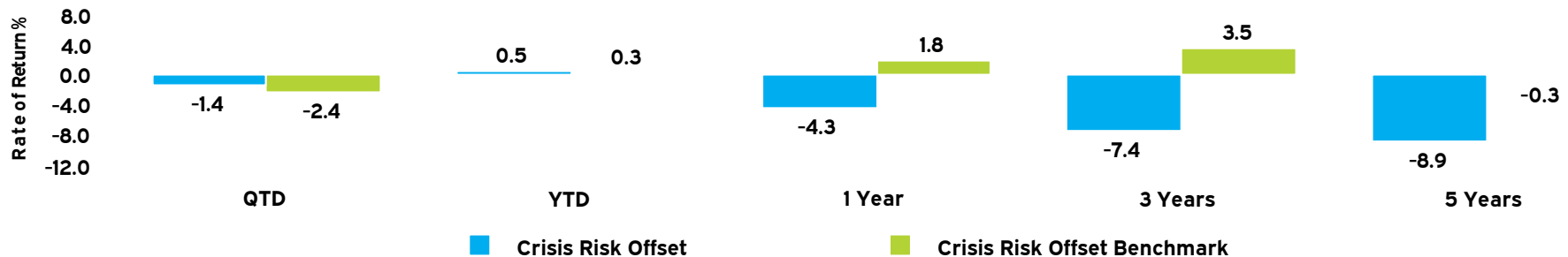
	Return	Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Capture	Down Capture	Inception Date
Crisis Risk Offset	-8.1	11.3	-7.3	0.8	-0.7	10.5	24.4	129.8	08/01/2018
Crisis Risk Offset Benchmark	-0.4	5.3	0.0	1.0	-	0.0	100.0	100.0	
Kepos Alternative Risk Premia	5.7	5.9	1.2	0.6	-0.2	5.2	68.7	49.7	02/01/2022
SG Multi Alternative Risk Premia Index	7.1	5.2	0.0	1.0	-	0.0	100.0	100.0	
Versor Trend Following	5.1	16.5	-1.5	1.2	-0.1	6.8	105.3	110.3	04/01/2022
SG Trend Index	6.1	13.1	0.0	1.0	-	0.0	100.0	100.0	
Vanguard Long-Term Treasury ETF	-6.7	14.6	-0.1	1.0	-0.1	1.1	101.9	102.1	07/01/2019
Blmbg. U.S. Government: Long Term Bond Index	-6.5	14.3	0.0	1.0	-	0.0	100.0	100.0	

Correlation Matrix

3 Months Ending September 30, 2023

	Crisis Risk Offset	MSCI AC World Index Value	S&P 500 Index	Blmbg. Global Aggregate
Crisis Risk Offset	1.00			
MSCI AC World Index Value	0.34	1.00		
S&P 500 Index	-0.11	0.89	1.00	
Blmbg. Global Aggregate	-0.15	0.88	1.00	1.00

Trailing Period Performance



Performance shown is net of fees.

Additional Information

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. U.S. Universal Index, 2.0% Blmbg. U.S. 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. U.S. Universal Index, 5.0% CBOE S&P 500 Buy Write Index, 2.0% Blmbg. U.S. 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. U.S. 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. U.S. 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. U.S. 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. U.S. Universal Index, 33.0% ICE BofA 3 Month U.S. 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 U.S. T-Bill
10/01/2007	08/01/2012	53.0% Russell 3000 Index, 17.0% MSCI AC World ex USA index, 30.0% Blmbg. U.S. Universal Index
04/01/2006	10/01/2007	35.0% Russell 3000 Index, 15.0% MSCI AC World ex USA index, 50.0% Blmbg. U.S. 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. U.S. Aggregate Index, 15.0% MSCI EAFE (Net)
09/01/1988	04/01/1998	40.0% S&P 500 Index, 55.0% Blmbg. U.S. 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. U.S. Universal Index
01/01/1976	04/01/2006	100.0% Blmbg. U.S. Aggregate Index
Covered Calls		
03/01/2014	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. U.S. 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

Manager Monitoring / Probation Status

Managers on Watch/Probation Status

Manager & Strategy	Concern Triggering Watch Status	Date of Corrective Action ¹	Months Since Placement	Performance ² Since Placement	Peer Group Rank Since Placement
Versor Trend Following	Organization / Performance	9/27/2023	0	--	--
<i>Benchmark: SG Trend Index</i>	--	--	--	--	--

Investment Manager Monitoring Criteria³

Investment managers are evaluated on ongoing and periodic basis using both quantitative performance criteria and qualitative aspects of the managers. The quantitative criteria for different asset classes are as follows.

Asset Class	Short-term (Rolling 12 months)	Medium-term (Rolling 36 months)	Long-term (60 + months)
Active Domestic Equity	Fund return < benchmark return by 3.5%	Annualized Fund return < benchmark return by 1.75% for 6 consecutive months	VRR ⁴ < 0.97 for 6 consecutive months
Active International Equity	Fund return < benchmark return by 4.5%	Annualized Fund return < benchmark return by 2.0% for 6 consecutive months	VRR < 0.97 for 6 consecutive months
Passive International Equity	Tracking Error > 0.50%	Tracking Error > 0.45% for 6 consecutive months	Annualized Fund return < benchmark return by 0.4% for 6 consecutive months
Fixed Income	Fund return < benchmark return by 1.5%	Annualized Fund return < benchmark return by 1.0% for 6 consecutive months	VRR < 0.98 for 6 consecutive months

¹ Date when the Board voted to either monitor a manager at a heightened level or place it on probation.

² Annualized performance if over one year. Performance shown is net of fees.

³ Per Investment Policy Statement and Manager Guidelines, Revised 5/31/2023, section H.

⁴ VRR (Value Relative Ratio) is calculated as manager cumulative return/ benchmark cumulative return.

Appendix

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.

Disclaimer, Glossary, and Notes

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.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. $\text{Portfolio Return} - [\text{Risk Free Rate} + \text{Beta} \times (\text{market return} - \text{Risk Free Rate})]$.

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about its future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a “basis book.” For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\% \text{ (discount)}}{5 \text{ (yrs. to maturity)}} = 1\% \text{ pro rata, plus } 5.26\% \text{ (current yield)} = 6.26\% \text{ (yield to maturity)}$$

Yield to Worst: The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

NCREIF Property Index (NPI): Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE): Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.

The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

The Russell Indices®, TM, SM are trademarks/service marks of the Frank Russell Company.

Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.

Oakland Police and Fire Retirement System

December 6, 2023

Recommendation for
Jan to Mar 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	117.8	19.6
2	Public, Accommodating of Withdrawals	124.1	20.7
3	Public, Must Plan Withdrawals	152.7	25.5
4	Closely Held	0.0	-
Total		394.7	

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 October 31, 2023

	Market Value		Target	Variance		Actual Cash Flows for Jul – Sep Benefits ¹		Suggested Cash Flows for Oct – Dec Benefits ¹	
	(\$M)	(%)	(%)	(\$M)	(%)	Inflow (\$M)	Outflow (\$M)	Inflow (\$M)	Outflow (\$M)
Northern Trust Russell 1000	76.9	19.5%	20.0%	(2.0)	(0.5%)	--	--	--	--
EARNEST Partners	38.0	9.6%	8.0%	6.4	1.6%	--	(3.0)	--	(3.0)
Wellington Select Quality Equity	22.5	5.7%	6.0%	(1.2)	(0.3%)	--	--	--	--
Rice Hall James	12.7	3.2%	3.0%	0.8	0.2%	--	--	--	--
Brown Small Cap Value	10.9	2.8%	3.0%	(1.0)	(0.2%)	--	--	--	--
Total Domestic Equity	160.9	40.8%	40.0%	3.0	0.8%	--	(3.0)	--	(3.0)
SGA MSCI ACWI ex-US	35.4	9.0%	8.4%	2.2	0.6%	--	--	--	--
Vanguard Developed ETF (BlackRock) ²	14.1	3.6%	3.6%	(0.1)	0.0%	--	--	--	--
Total International Equity	49.5	12.5%	12.0%	2.1	0.5%	--	--	--	--
Total Public Equity³	210.4	53.3%	52.0%	5.2	1.3%	--	(3.0)	--	(3.0)
Parametric	21.9	5.6%	5.0%	2.2	0.6%	--	--	--	--
Total Covered Calls	21.9	5.6%	5.0%	2.2	0.6%	--	--	--	--
Long Duration ETF (BlackRock) ²	11.7	3.0%	3.3%	(1.5)	(0.4%)	--	--	--	--
Versor Trend Following	15.8	4.0%	3.3%	2.8	0.7%	--	--	--	--
Kepos Alternative Risk Premia	11.1	2.8%	3.3%	(1.9)	(0.5%)	--	--	--	--
Total Crisis Risk Offset	38.7	9.8%	10.0%	(0.8)	(0.2%)	--	--	--	--
Ramirez	67.6	17.1%	17.0%	0.5	0.1%	--	--	--	--
Reams	25.4	6.4%	12.0%	(22.0)	(5.6%)	--	--	--	--
Wellington Core Bond	6.4	1.6%	2.0%	(1.5)	(0.4%)	--	--	--	--
Polen Capital High Yield	9.2	2.3%	2.0%	1.3	0.3%	--	--	--	--
Total Public Fixed Income	108.6	27.5%	33.0%	(21.6)	(5.5%)	--	--	--	--
Cash	15.1	3.8%	0.0%	15.1	3.8%	10.2	(10.2)	10.2	(10.2)
Total Stable³	123.7	31.3%	33.0%	(6.6)	(1.7%)	10.2	(10.2)	10.2	(10.2)
Total Portfolio	394.7	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.

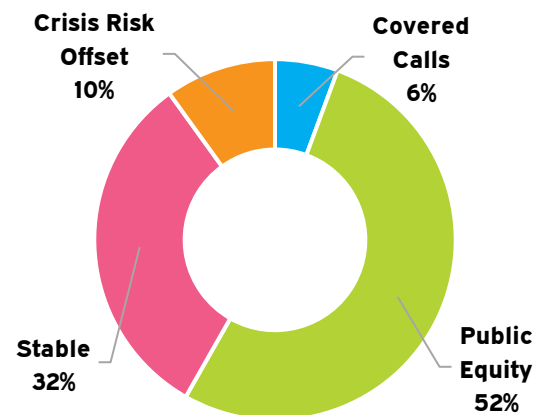
² Manager names in parentheses indicates selected, yet unfunded managers for replacement.

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	160.9
International Equity	49.5
Public Equity ¹	210.4
Covered Calls	21.9
Crisis Risk Offset	38.7
Public Fixed Income	108.6
Stable ¹	123.7
Total Portfolio	394.7

Projected Equity to Fixed Income Allocation After Cash Flows



Suggested Cash Withdrawals

Portfolio Segment	Market Value (\$M)
Cash in Treasury	10.2
EARNEST Partners	3.0
Total Withdrawal	13.2

→ Market value difference in Public Equity from 52% allocation: -\$2.3 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 March 31, 2024¹

	Estimated Market Value		Target (%)	Projected Variance from Target	
	(\$M)	(%)		(\$M)	(%)
Northern Trust Russell 1000	76.9	19.8%	20.0%	(0.8)	(0.2%)
EARNEST Partners	32.0	8.2%	6.0%	8.7	2.2%
Wellington Select Quality Equity	22.5	5.8%	8.0%	(8.6)	(2.2%)
Rice Hall James	12.7	3.3%	3.0%	1.0	0.3%
Brown Small Cap Value	10.9	2.8%	3.0%	(0.8)	(0.2%)
Total Domestic Equity	154.9	39.9%	40.0%	(0.6)	(0.1%)
SGA MSCI ACWI ex-US	35.4	9.1%	3.6%	21.4	5.5%
Vanguard Developed Markets ETF	14.1	3.6%	8.4%	(18.5)	(4.8%)
Total International Equity	49.5	12.7%	12.0%	2.9	0.7%
Total Public Equity	204.4	52.6%	52.0%	2.3	0.6%
Parametric	21.9	5.6%	5.0%	2.5	0.6%
Total Covered Calls	21.9	5.6%	5.0%	2.5	0.6%
Vanguard Long Duration ETF	11.7	3.0%	3.3%	(1.3)	(0.3%)
Versor Trend Following	15.8	4.1%	3.3%	2.9	0.7%
Kepos Alternative Risk Premia	11.1	2.9%	3.3%	(1.8)	(0.5%)
Total Crisis Risk Offset	38.7	9.9%	10.0%	(0.2)	(0.1%)
Ramirez	67.6	17.4%	12.0%	20.9	5.4%
Reams	25.4	6.5%	2.0%	17.6	4.5%
Wellington Core Bond	6.4	1.6%	19.0%	(67.4)	(17.4%)
Polen Capital High Yield	9.2	2.4%	2.0%	1.5	0.4%
Total Public Fixed Income	108.6	27.9%	33.0%	(19.7)	(5.1%)
Cash	15.1	3.9%	0.0%	15.1	3.9%
Total Stable	123.7	31.8%	33.0%	(4.6)	(1.2%)
Total Portfolio	388.7	100%	100%		

¹Benefit 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.

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.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM", "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

Oakland Police & Fire Retirement System Pension Plan

December 2023

Asset Liability Study – Part II

Agenda

- Liability driven investing concepts.
- Current overview of the pension plan's key metrics.
- Asset, liability and funded status growth expectations and volatility.

Liability Driven Investing Concepts

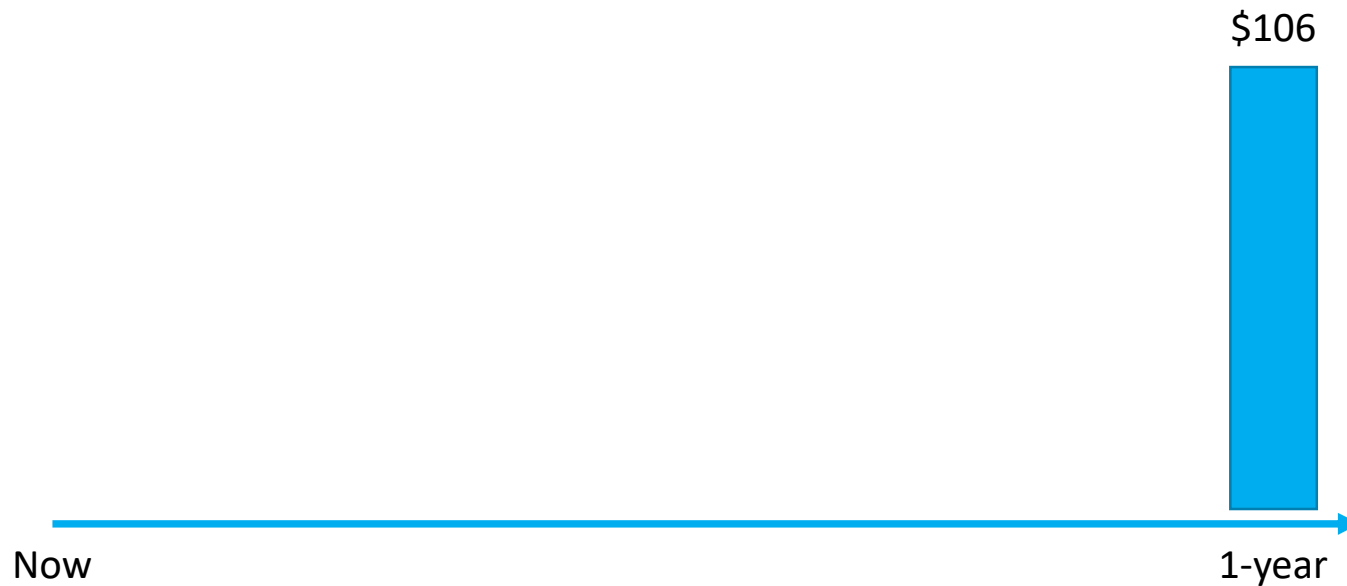
Explaining Liability Driven Investing

- Let's say you have \$100 in cash currently and you owe a friend \$105 in one year.
- The safest thing to do would be to in a US Treasury bill that yields 5% annually.
- There's a very high probability that the bill will pay you the \$5 you need, whereas other investments, such as stock, could fluctuate wildly in one year time.



Explaining Liability Driven Investing (continued)

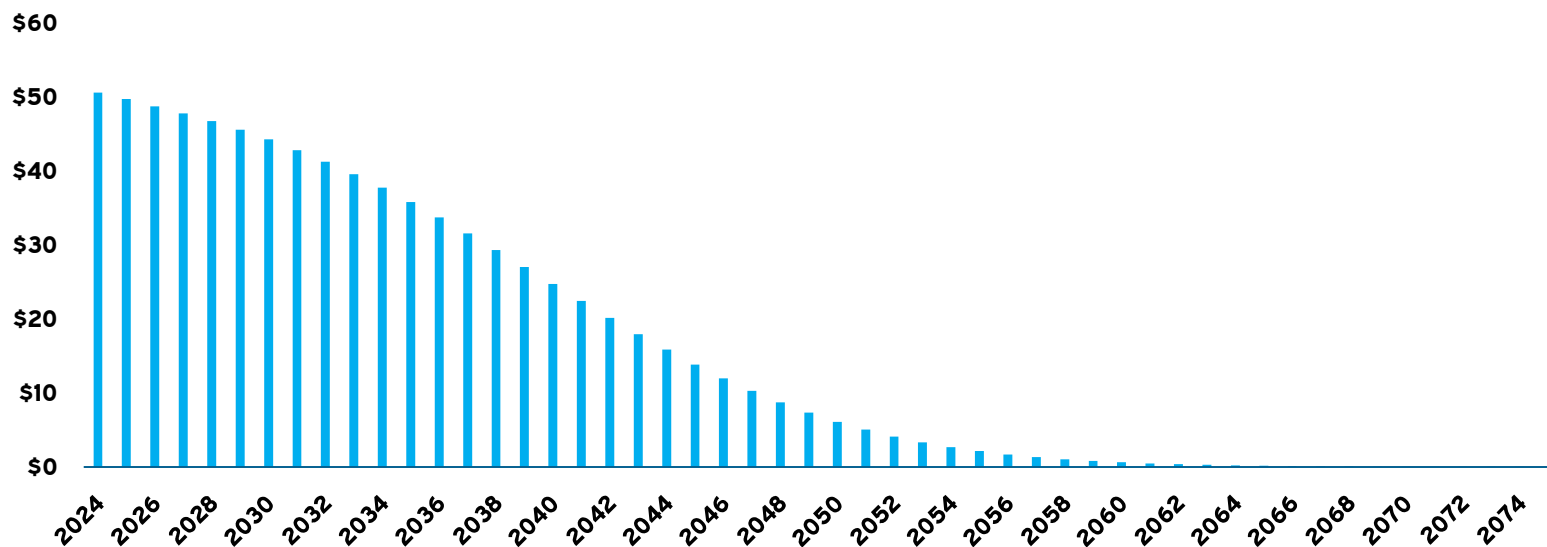
- Let's say you instead owe \$106, but the maximum yield you can get from a T-bill is 5%.
- You start looking at other bonds and what offer, eventually finding a bond issued by Company A which yields 6%.
- Company A has a credit rating of AA and is highly likely to pay all debt obligations in the next year.
- Although you are taking slightly more risk, the risk is compensated by offering the higher yield.



Explaining Liability Driven Investing (continued)

- Liability driven investing applies these same concepts, but to a much larger degree.
- The Oakland PFRS has obligations in the future that are forecasted by the actuary and are shown below.
- By combining different bonds that pay out in different lengths of time, we can minimize the amount of risk taken and meet all benefit obligations.

Expected Benefit Payments and Administrative Expenses

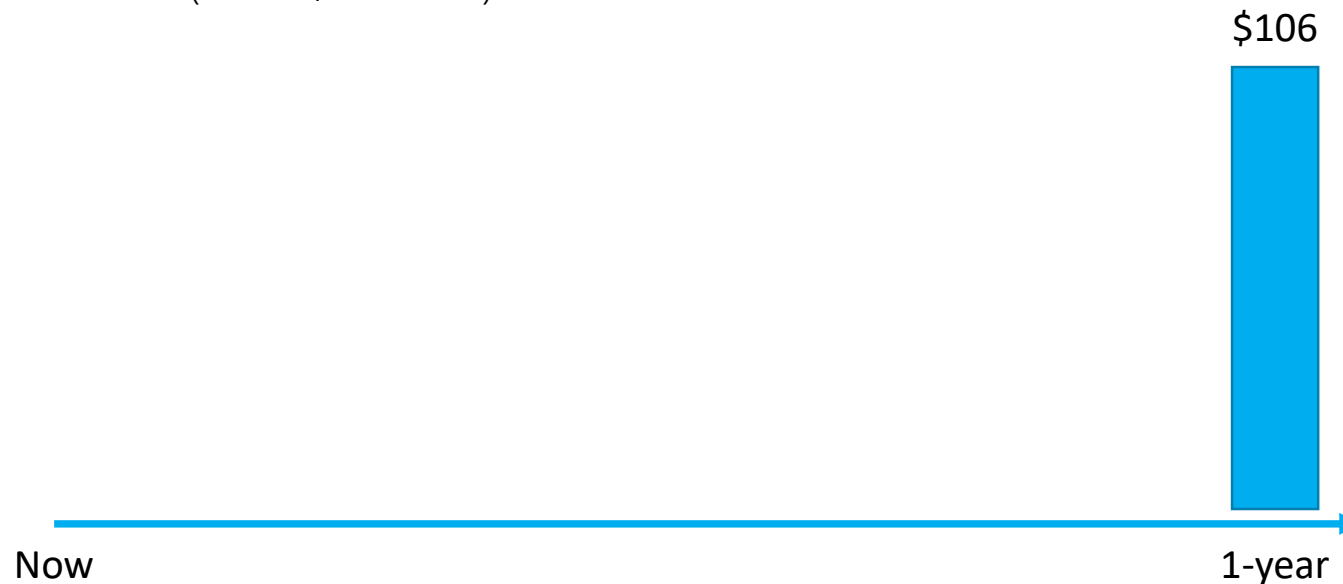


What happens if the values of the bonds change over time?

- While fixed income asset values are impacted by changes in interest rates, the value of the liabilities also change.
- So long as the bonds pay out their intended yield at maturity, changes in value of the fixed income does not matter.
- This is why credit quality is important. Bond defaults is the greatest risk to a liability driven investing strategy.

What happens if the values of the bonds change over time?

- Using the prior example, the liability is discounted using the 6% yield on the asset ($\$106 / 1.06\% = \text{present value} = \100)
- Suppose yields drop to 4% immediately. The present value of the liability increased from \$100 to \$102 ($\$106 / 1.04\% = \102).
- Because the asset you invested in is also affected by interest rate changes, the value of your bond is now \$102.
- Your “funded status” (assets / liabilities) continues to be 100%.






How do you measure how well your assets and liabilities are expected to change in harmony?

- This can be measured by shocking the assets and the liabilities to determine how sensitive each is to changes in interest rates.
- The comparison of their sensitivities is called a “hedge ratio”. A hedge ratio of 100% suggests that assets and liabilities will move \$ for \$ to interest rate changes (a 0% hedge ratio suggests no correlation).
- Oakland PFRS currently has an interest rate hedge ratio of 20%.
 - An interest rate decrease of 0.25% is expected to increase the liability by \$10M
 - Assets are only expected to change by 20% of the liability change (\$2M increase)

Asset and Liability Risks

Plan Overview

As of 9/30/2023 (\$M)		
a) Market Value of Assets	\$405	 <ul style="list-style-type: none"> ✓ Underfunded on an economic liability basis (benefit payments + administrative expenses)
b) Liability (Economic)	\$537	
c) Funded Status (a / b)¹	75%	
Annual Funded Status Growth Expectation		
d) Est. Asset Growth ³	7.3%	 <ul style="list-style-type: none"> ✓ Funded status <i>expected</i> to increase every year
e) Est. Liability Growth	5.3%	
Est. Funded Status Growth (c x d - e)	0.3%	
Policy Asset Allocation		
Risk-Mitigating Portfolio (RMP)	28%	 <ul style="list-style-type: none"> ✓ RMP includes only investment grade fixed income
Return-Seeking Portfolio	72%	

¹ Economic liability calculated by Meketa using cash flows provided by Cheiron as of 7/1/2022 and rolled forward to 9/30/2023 assuming benefits and admin expenses are paid as expected at a discount rate of 5.26%.

³ Arithmetic return, based on Meketa's 2023 10-year Capital Market Assumptions, adjusted for changes in interest rates through 9/30/2023

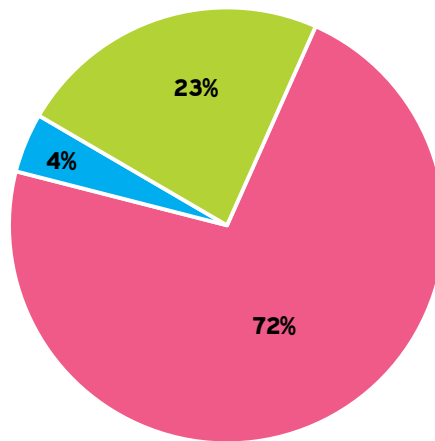
Asset Risk

→ Return-seeking assets (equities, high yield bonds, alternative risk premia, etc):

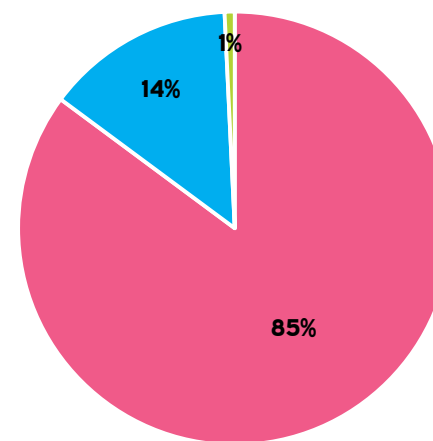
- comprise 72% of the market value of the portfolio, but
- contribute 85% of the investment risk.

→ The portfolio has an annual expected return of 7.3% and return volatility (risk) of 10.3%*

Asset Value Allocation



Asset Risk Allocation



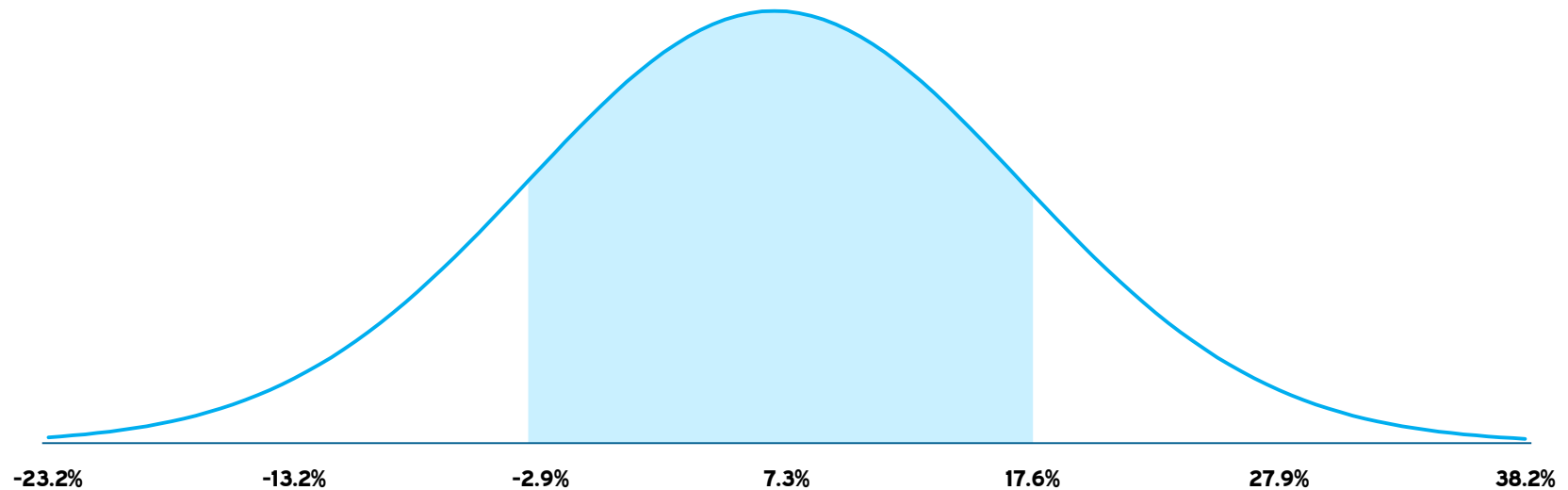
■ Return-Seeking Portfolio
 ■ Risk Mitigating - Treasury Rate
 ■ Risk Mitigating - Credit Spread

* Based on Meketa's 10-year Capital Market Assumptions, adjusted for changes in interest rates through 9/30/2023

Asset Risk – Distribution Example

- Below is a graph of the expected risk/return relationship of the current portfolio.
- The range of expected return outcomes are detailed as a normal distribution.

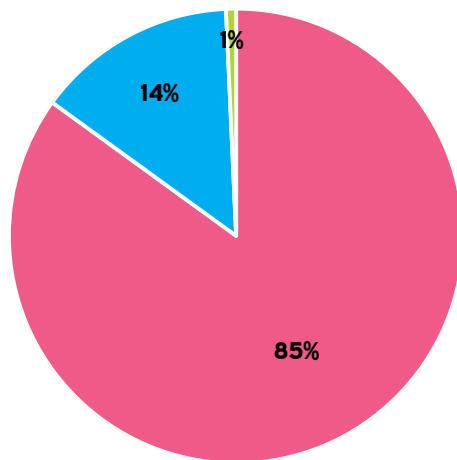
Portfolio Return Distribution (%)



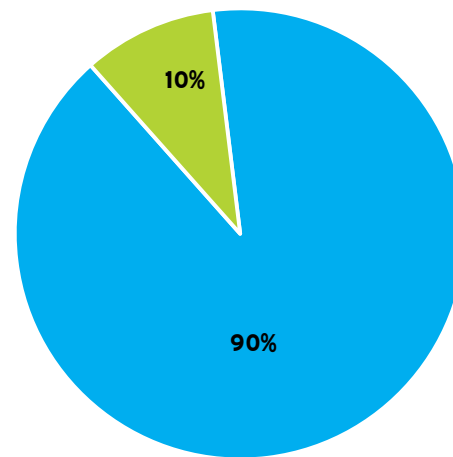
Liability Risk

- The two market-related risks that are most influential in the calculation of the liability are the interest (Treasury) rate and credit spreads.
- The liability market risks* and very different from the asset market risks creating the potential for material fluctuations in the funded status.

Asset Risk Allocation



Liability Risk Allocation



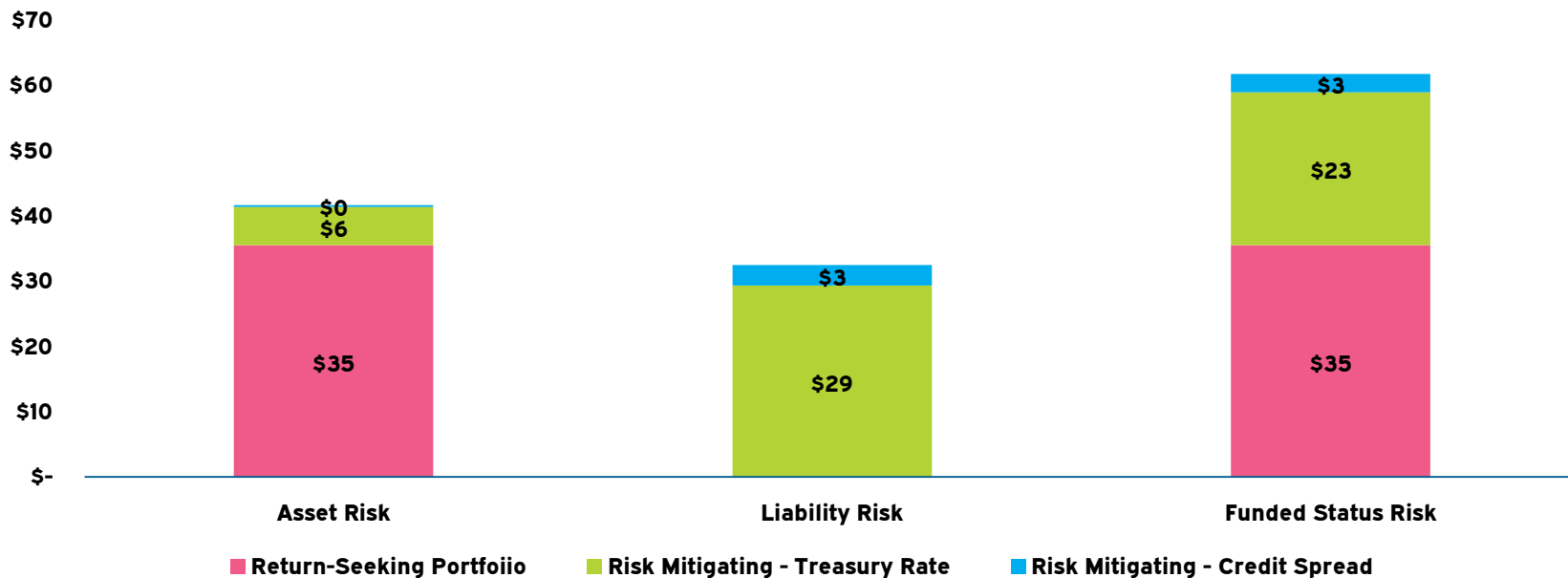
■ **Return-Seeking Portfolio** ■ **Risk Mitigating - Treasury Rate** ■ **Risk Mitigating - Credit Spread**

* Based on Meketa's 10-year Capital Market Assumptions, adjusted for changes in interest rates through 9/30/2023

Funded Status Risk in Dollars

- The risk profiles of the assets and liabilities are very different.
- Worst case scenario would be a combination of poor return-seeking asset returns coupled with interest rate declines.
- A one-standard deviation negative outcome (84th percentile) has the funded status declining by \$61M.

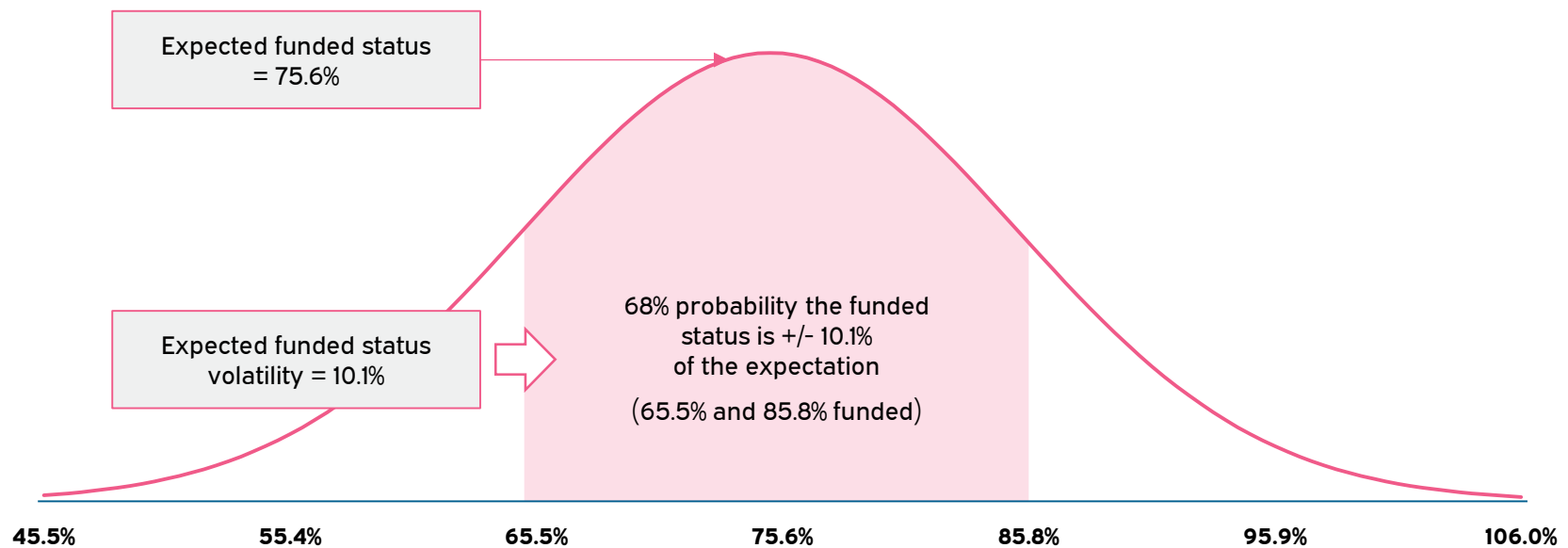
Risk Allocations (\$M)



Funded Status (%) – Distribution Example

- The funded status is 75.3% as of 9/30/2023.
- The funded status is expected to increase by 0.3% per year with a volatility of 10.1%.
- Example: Funded status (FS) in one year is expected to be 75.6% (75.3% + 0.3%).

Funded Status Distribution



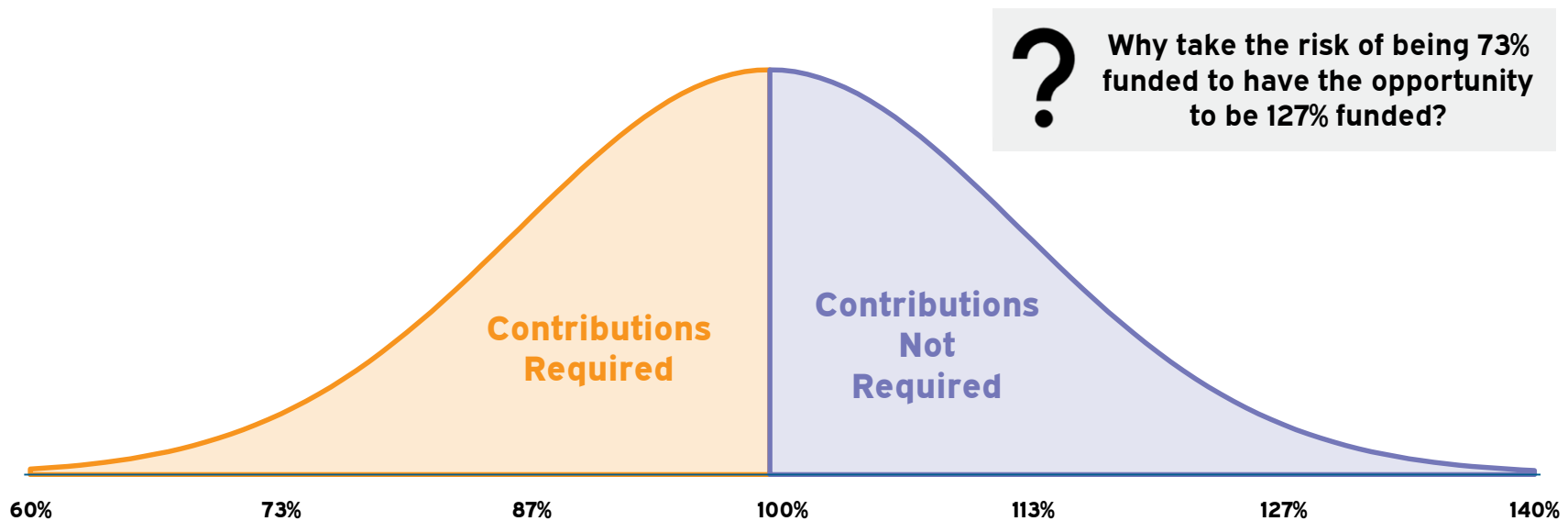
1 Based on Meketa's 2023 10-year Capital Market Assumptions, adjusted for changes in interest rates through 9/30/2023

2 Only market factors are considered, not plan factors. Ignores the impact of contributions.

Funded Status at 100% – Distribution Example

- Fast forward to 6/30/2026 when the system is anticipated to be 100% funded.
- The volatility presents the System with an important question – are the risks being compensated?
- Pension risk is asymmetric → the benefit of positive outcomes is not offset by the cost of negative outcomes.

Funded Status Distribution



Sample Objectives

→ The following policy would achieve the following objectives:

1. Lower the funded status volatility to create a predictable funded status and required contribution.
2. Portfolio diversification that is expected to return more than the liability growth.
3. Allocation to inflation protection securities to hedge a portion of impact of inflation on the expected cash flows.

→ To accomplish these objectives, we focus on assets classes that:

1. Produce income (instead of appreciation) at the pace necessary to fulfil annual cash outflow (benefit payments, expenses) until all outflow is paid out (est. 50 years).
2. Have the same duration as the liability (~ 7 years) to hedge any movements in interest rates and credit spreads.

Sample Policy

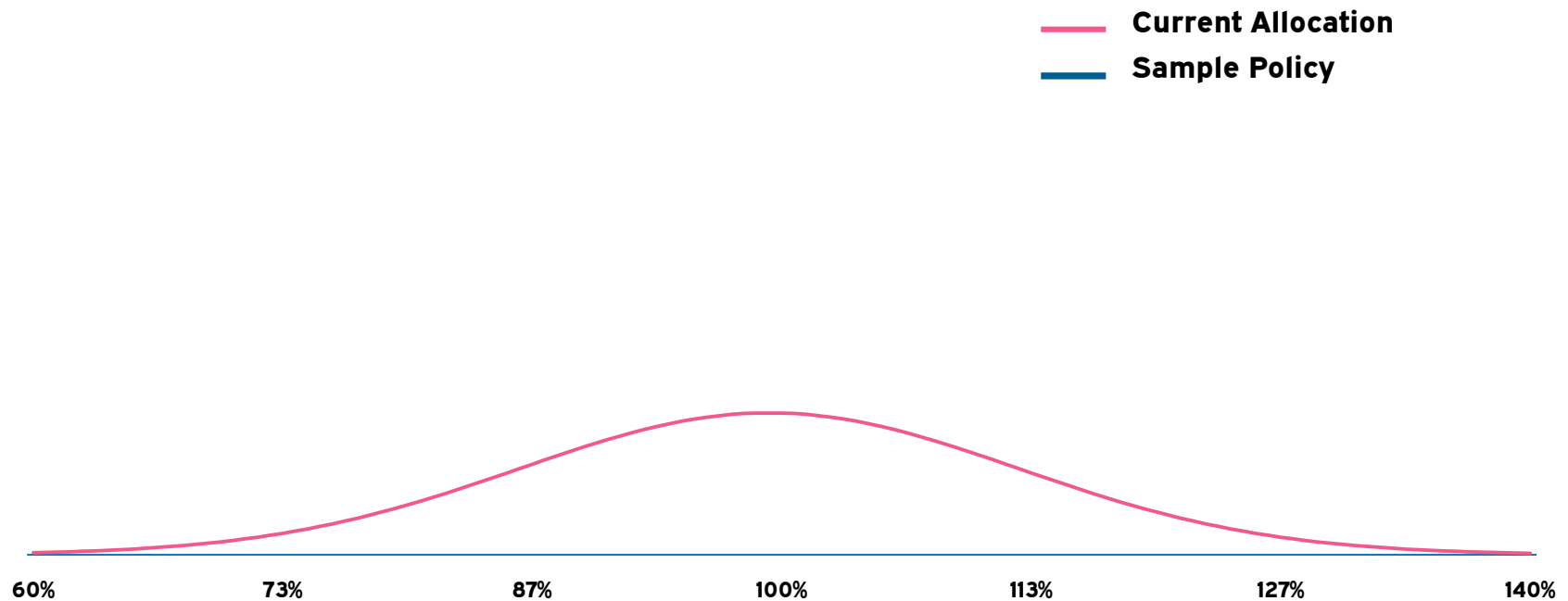
	Current Policy (%)	Sample Policy (%)	
Growth/Equity	57	7	
US Equity	40	7	
Developed Market Equity (non-US)	12	0	
Buy Write (Covered Calls)	5	0	
Credit	2	4	✓ Equities, Credit and Other provide diversification with the fixed income assets
High Yield Bonds	2	4	
Other	13	4	
CTA (Trend Following)	7	2	
Alternative Risk Premia	7	2	
Rate Sensitive	28	85	
Investment Grade Bonds	21	0	
Intermediate Investment Grade Bonds	0	32	✓ Fixed income investments aligned with the liability duration
Long-term Corporate Bonds	0	8	
Intermediate Government Bonds	0	22	
Long-term Government Bonds	7	18	
Short-term TIPS	0	5	✓ Modest target return meant to slightly exceed liability yield of 5.26%
Expected Return (10 years)	7.34	5.69	
Standard Deviation	10.3	5.3	

¹ Based on Meketa's 2023 10-year Capital Market Assumptions, updated for changes in interest rates since 9/30/2023

Funded Status Distribution – Sample

- The sample allocation “trades” the possibility of significantly high returns for the minimization of significantly negative returns.
- The outcome is a policy that maintains the high funded status.

Funded Status Distribution



* Based on 10-year expectations. Only market factors considered.

Appendix: Assumptions

Assumptions and Methods

- Capital Market Assumptions: Meketa 10-year assumptions
- Assets: Market value of assets as of September 30, 2023.
- Liabilities: Liabilities as of September 30, 2023 were estimated using the 7/1/2022 projected benefit payments supplied by Cheiron. All other assumptions, methods and plan provisions are documented in the valuation report provided by Cheiron as of 7/1/2022.
- Risk calculations: Risk calculations exclude the impact of contributions. It is assumed that the System will contribute the necessary cash to achieve a 100% funded status as of 6/30/2026.

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.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

MEMORANDUM

FTO: Oakland Police and Fire Retirement System (“OPFRS”)
FROM: Meketa Investment Group (“Meketa”)
DATE: December 6, 2023
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. Meketa welcomes any suggestions and/or modifications to the proposed timeline.

2024 Preliminary Investment Project Agenda

Expected Completion Date	Task
January 2024	Flash Performance (2023 Dec) Asset-Liability Study: Model Selection & Implementation Manager Update: Earnest Partners Contract Renewal: Earnest Partners
February 2024	Flash Performance (2024 Jan) Quarterly Performance Report (2023 Q4) Annual Diversity Survey Results Manager Update: Rice Hall James Contract Renewal: Rice Hall James
March 2024	Flash Performance (2024 Feb) Cash Flow Report (2024 Q2) Informational: 2024 Meketa Capital Market Assumptions Manager Update: Reams
April 2024	Flash Performance (2024 Mar) Manager Update: Polen
May 2024	Flash Performance (2024 Apr) Quarterly Performance Report (2024 Q1) Manager Update: Wellington Core Bonds



Expected Completion Date	Task
June 2024	Flash Performance (2024 May) Cash Flow Report (2024 Q3) Manager Update: Brown Advisory
July 2024	Flash Performance (2024 Jun) Manager Update: Kepos
August 2024	Flash Performance (2024 Jul) Quarterly Performance Report (2023 Q2) Manager Update: Strategic Global Advisors (SGA) Contract Renewal: Strategic Global Advisors (SGA)
September 2024	Flash Performance (2024 Aug) Cash Flow Report (2024 Q4) Manager Update: Parametric Contract Renewal: Parametric
October 2024	Flash Performance (2024 Sep) Thermal Coal List Update: 2024 Manager Update: Ramirez Contract Renewal: Ramirez
November 2024	Flash Performance (2024 Oct) Informational Item: TBD
December 2024	Flash Performance (2024 Nov) Quarterly Performance Report (2024 Q3) Cash Flow Report (2025 Q1) Manager Update: Versor

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



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

AGENDA

RETIREMENT BOARD MEMBERS

Walter L. Johnson, Sr.
President

Jaime T. Godfrey
Vice President

Martin J. Melia
Member

Robert W. Nichelini
Member

John C. Speakman
Member

R. Steven Wilkinson
Member

Erin Roseman
Member

SPECIAL MEETING of the BOARD OF ADMINISTRATION of the OAKLAND POLICE AND FIRE RETIREMENT SYSTEM (“PFRS”)

WEDNESDAY, DECEMBER 06, 2023

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/j/82880493983>
- 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 October 25, 2023 PFRS Board of Administration Meeting Minutes
- B. **Subject:** 2023 PRELIMINARY ACTUARIAL VALUATION AS OF JULY 1, 2023 AND EXPERIENCE STUDY / ASSUMPTION REVIEW
From: Cheiron, Inc., PFRS Plan Actuary
Recommendation: **ACCEPT** informational report regarding key findings of the preliminary valuation under the current actuarial assumptions (as of July 1, 2022) and the Experience Study/Assumption Review **APPROVE** Cheiron’s recommendations regarding updates to the mortality assumptions used to project the member’s lifespans.
- C. **AUDIT & OPERATIONS COMMITTEE AGENDA – DECEMBER 06, 2023**
- C1. **Subject:** REPORT OF THE AUDIT OF PFRS FINANCIAL STATEMENTS FISCAL YEAR ENDED JUNE 30, 2023
From: Macias, Gini, & O’Connell LLP
Recommendation: **ACCEPT** Audit Report of PFRS Financial Statements for fiscal year ended June 30, 2023
- C2. **Subject:** ADMINISTRATIVE EXPENSES REPORT
From: Staff of the PFRS Board
Recommendation: **ACCEPT** informational report regarding PFRS administrative expenses as of October 31, 2023
- D. **INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – DECEMBER 06, 2023**
- D1. **Subject:** INVESTMENT MANAGER PERFORMANCE UPDATE: RAMIREZ ASSET MANAGEMENT, INC.
From: Ramirez Asset Management, Inc.
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 Fixed Income Investment Strategy Manager Ramirez Asset Management, Inc.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
BOARD OF ADMINISTRATION - SPECIAL MEETING
DECEMBER 06, 2023

- D2. **Subject:** INVESTMENT MANAGER PERFORMANCE REVIEW:
RAMIREZ ASSET MANAGEMENT, INC.
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 Fixed Income Investment Strategy Manager Ramirez Asset Management, Inc.
- D3. **Subject:** RESOLUTION NO. 8086
RESOLUTION AUTHORIZING THE EXECUTION OF A THIRD AMENDMENT TO RENEW THE PROFESSIONAL SERVICES AGREEMENT WITH RAMIREZ ASSET MANAGEMENT, INC. FOR THE PROVISION OF CORE FIXED INCOME INVESTMENT STRATEGY MANAGER SERVICES FOR THE OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
From: Staff of the PFRS Board

Recommendation: **APPROVE** Resolution No. 8086 authorizing the execution of a third amendment to renew the professional services agreement with Ramirez Asset Management, Inc. for the provision of Core Fixed Income Investment Strategy Manager Services for the Oakland Police and Fire Retirement System
- D4. **Subject:** ECONOMIC AND INVESTMENT MARKET OVERVIEW
AS OF OCTOBER 31, 2023
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Global Investment Markets as of October 31, 2023
- D5. **Subject:** PRELIMINARY INVESTMENT FUND PERFORMANCE UPDATE
AS OF OCTOBER 31, 2023
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Preliminary Investment Fund Performance Update as of October 31, 2023
- D6. **Subject:** PFRS INVESTMENT FUND QUARTERLY PERFORMANCE UPDATE
AS OF SEPTEMBER 30, 2023
From: Meketa Investment Group

Recommendation: **ACCEPT** PFRS Investment Fund Quarterly Performance Update as of September 30, 2023

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
 BOARD OF ADMINISTRATION - SPECIAL MEETING
 DECEMBER 06, 2023

D7. **Subject:** \$13.2 MILLION DRAWDOWN FOR MEMBER RETIREMENT ALLOWANCES QUARTER ENDING MARCH 31, 2024 (FISCAL YEAR 2023/2024)

From: Meketa Investment Group

Recommendation: **APPROVE** Meketa Investment Group’s recommendation for a \$13.2 million drawdown, 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 Member Retirement Allowances from January 1, 2024 through March 31, 2024

D8. **Subject:** **ASSET-LIABILITY STUDY OF THE PFRS FUND (2023)**

From: Meketa Investment Group

Recommendation: **RECEIVE** informational report and **APPROVE** Meketa Investment Group’s recommended course of action moving forward

E. **Subject:** **MEMBER RESOLUTIONS NOS. 8087 – 8088**

From: Staff of the PFRS Board

Recommendation: **APPROVE** Member Resolution Nos. 8087 – 8088

E1. **RESOLUTION NO. 8087**

Resolution fixing the monthly allowance of the surviving spouse of the following retired members of the Oakland Police and Fire Retirement System in the amount indicated:

<u>Deceased Member</u>	<u>Surviving Spouse</u>	<u>Monthly Allowance</u>
▪ Garrett J. Kunath	Lynne Kunath	\$4,443.33
▪ Thomas C. O'Brien Jr.	Dolores O'Brien	\$5,161.35

E2. **RESOLUTION NO. 8088**

Resolution approving death benefit payments and directing warrants thereunder in the total sum of \$1,000.00 payable to the beneficiary of the following deceased members of the Oakland Police and Fire Retirement System:

- Richard J. Mahanay
- Wayne E. Schuette

F. **PENDING ITEMS**

G. **NEW BUSINESS** **REQUEST/RECOMMENDATION** to schedule January 2024 Board Agenda Item regarding an educational item on investment opportunities in Africa. (Member Wilkinson)

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, October 25, 2023, at One Frank H. Ogawa Plaza, Hearing Room 1, Oakland, CA.

- Board Members:
- Walter L. Johnson President
 - Jaime T. Godfrey Vice President (Excused)
 - Martin J. Melia Member
 - Robert W. Nichelini Member
 - Erin Roseman Member (Joined at 11:37 am)
 - 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

The meeting was called to order at 11:35 a.m. Pacific

A. CLOSED SESSION WAS NOTICED AS CANCELLED

B. REPORT OF PFRS BOARD ACTION FROM CLOSED SESSION – NO REPORT

C. APPROVAL OF THE PFRS BOARD OF ADMINISTRATION MEETING MINUTES

Member Speakman made a motion to approve the September 27, 2023 PFRS Board of Administration Meeting Minutes, second by Member Nichelini. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / MELIA: Y / NICHELINI: Y / ROSEMAN: ABSENT / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 5 / NOES: 0 / ABSENT: 1 / ABSTAIN: 0 / EXCUSED: 1)

D. AUDIT AND OPERATIONS COMMITTEE AGENDA – OCTOBER 25, 2023

D1. ADMINISTRATIVE EXPENSES REPORT

Investment & Operations Manager Jenkins presented an informational report on PFRS’ administrative expenditures as of August 31, 2023. PFRS has an approved annual budget of approximately \$3.8 million and have expensed approximately \$200,000 to date for fiscal year 2023/2024. Membership consisted of 650 retired members and beneficiaries, which included 403 Police Members and 247 Fire Members.

MOTION: Member Speakman made a motion to accept the informational report regarding the Administrative Expenses Report, second by Member Melia. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 6 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 1)

E. INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – OCTOBER 25, 2023

- E1. INVESTMENT MANAGER PERFORMANCE UPDATE: PARAMETRIC PORTFOLIO ASOCIATES, LLC**
Member Wilkinson presented a brief overview of the presentation provided by Parametric Portfolio Associates, LLC (Parametric), PFRS' Covered Calls Investment Strategy Investment Manager and noted the firm's upcoming organizational change regarding the retirement of Brain Langstraat, CEO and their confidence there will be no major impact to the organization moving forward as they have strong management and a strong culture. Plan Administrator Jones noted it was refreshing to hear they have a written DE&I policy and publish an annual report which will be provided when available.

MOTION: Member Speakman made a motion to accept the informational report provided by Parametric, second by Member Nichelini. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 6 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 1)

- E2. INVESTMENT MANAGER PERFORMANCE REVIEW: PARAMETRIC PORTFOLIO ASOCIATES, LLC**
David Sancewich of Meketa Investment Group ("Meketa") presented an overview memo regarding a firm overview and managerial assessment; peer ranking; and investment portfolio performance of Parametric, PFRS' Covered Calls Investment Strategy Manager. D. Sancewich advised Parametric outperformed the benchmark over the past one-year period, therefore Meketa has no concerns as they continue to do well.

MOTION: Member Nichelini made a motion to accept Meketa's evaluation of Parametric, second by Member Speakman. Motion Passed.

[JOHNSON: Y / GODFREY: EXCUSED / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 6 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 1)

- E3. RESOLUTION NO. 8085**
A Resolution authorizing a one-year extension of the professional services agreement with Parametric Portfolio Associates, LLC for the provision of Covered Calls Investment Strategy Manager Services for the City of Oakland Police and Fire Retirement System.

MOTION: Member Nichelini made a motion to approve Resolution No. 8085, second by Member Speakman. Motion Passed.

[JOHNSON: Y / GODFREY: EXCUSED / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 6 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 1)

E4. ECONOMIC AND INVESTMENT MARKET OVERVIEW AS OF SEPTEMBER 30, 2023

David Sancewich of Meketa presented an informational report regarding the Economic and Investment Market Overview as of September 30, 2023 and highlighted Fixed Income Returns; U.S. Yield Curve; and current factors impacting outcomes.

MOTION: Member Speakman made a motion to accept the informational report provided by Meketa regarding the Economic and Investment Market Overview as of September 30, 2023, second by Member Nichelini. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 6 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 1)

E5. PRELIMINARY INVESTMENT FUND PERFORMANCE UPDATE AS OF SEPTEMBER 30, 2023

David Sancewich of Meketa presented the Preliminary Investment Fund Performance Update as of September 30, 2023 and highlighted Allocation vs. Targets and Policy and the Asset Class Performance Summary.

MOTION: Member Speakman made a motion to accept the informational report provided by Meketa regarding the Preliminary Investment Fund Performance Update as of September 30, 2023, second by Member Wilkinson. Motion Passed.

[JOHNSON: Y / GODFREY: EXCUSED / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 6 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 1)

E6. ASSET-LIABILITY STUDY OF THE PFRS FUND (2023)

David Sancewich of Meketa presented an informational report regarding the 2023 Asset-Liability Study of the PFRS Fund. D. Sancewich noted this presentation is intended to be informational to familiarize the Board with key risks associated with the PFRS Plan and focused on risk isolation of investments, inflation, cash inflow, and longevity and provided a brief actuarial background and pension strategies to consider moving forward.

MOTION: Member Nichelini made a motion to accept Meketa's informational report regarding the 2023 Asset-Liability Study of the PFRS Fund, second by Member Speakman. Motion Passed.

[JOHNSON: Y / GODFREY: EXCUSED / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 6 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 1)

F. PENDING ITEMS – President Johnson requested staff add an ongoing pending list item for the Board to receive updates from the Ad Hoc Committee regarding the 2026 Actuarial Funding Date.

G. NEW BUSINESS – None

H. OPEN FORUM – No Speaker Cards were submitted

I. FUTURE SCHEDULING

The next Regular Board Meeting will be held in-person and is tentatively scheduled to occur December 6, 2023 at One Frank Ogawa Plaza, Oakland, CA in Hearing Room 2.

J. ADJOURNMENT

Member Speakman made a motion to adjourn, second by Member Melia. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / MELIA: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / WILKINSON: Y]
(AYES: 6 / NOES: 0 / ABSENT: 0 / ABSTAIN: 0 / EXCUSED: 1)

The meeting adjourned at 12:18 p.m.

DAVID F. JONES
PLAN ADMINISTRATOR & SECRETARY

DATE

DRAFT

A wide-angle photograph of the Oakland skyline across a large body of water. The foreground is filled with out-of-focus red flowers. The sky is clear and blue. The text is centered over the water.

**Oakland Police and Fire
Retirement System**

**Preliminary Actuarial Valuation
as of July 1, 2023
and Assumption Review**



What is the system's current condition?

Membership,
Liabilities, Assets
and Funded
Status

Contribution
Requirements

How did it get here?

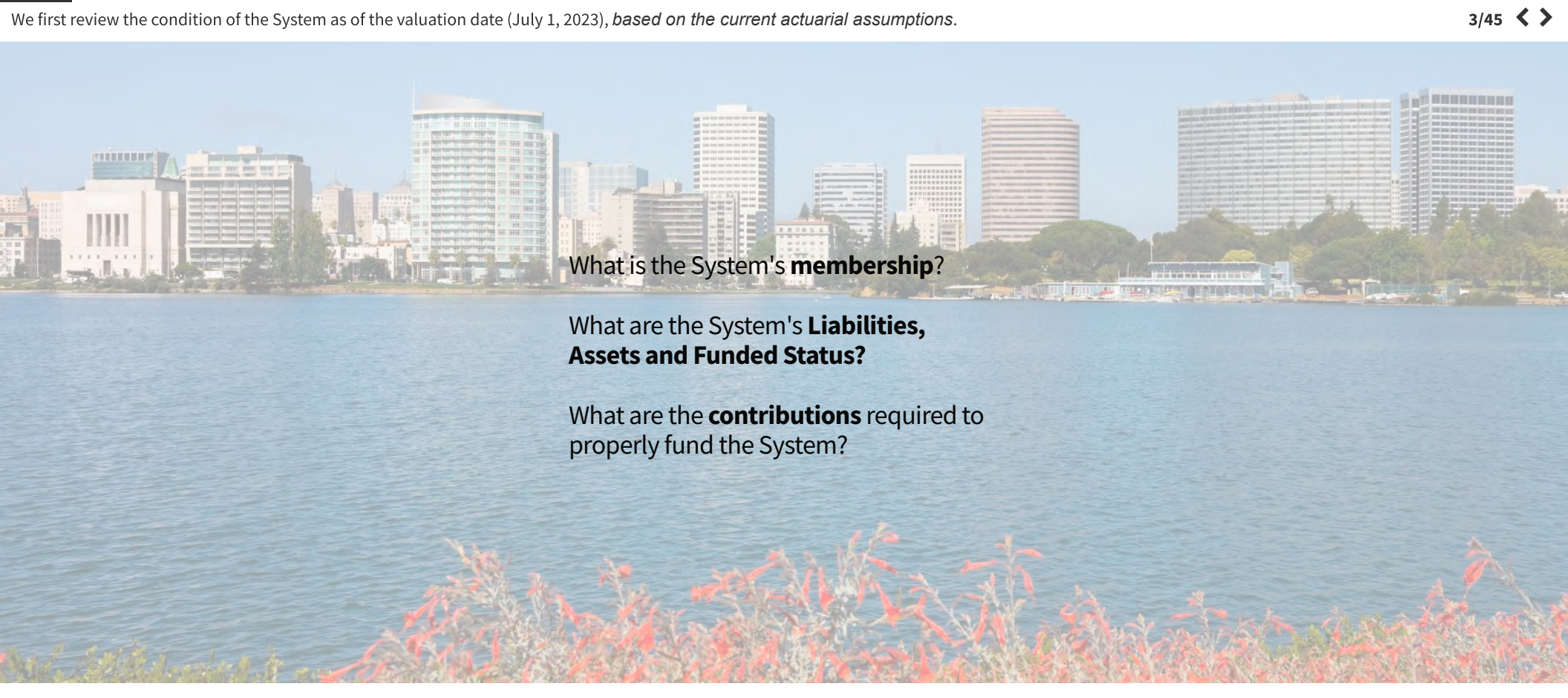
What happened
since last year?

History and
Trends

Where is it going?

What's expected?

Mortality
Assumptions

A scenic view of a city skyline across a body of water, with red flowers in the foreground. The skyline features several tall, modern buildings of varying heights and architectural styles. The water is a deep blue, and the sky is clear and light blue. In the foreground, there are out-of-focus red flowers, likely from a coastal plant species.

What is the System's **membership**?

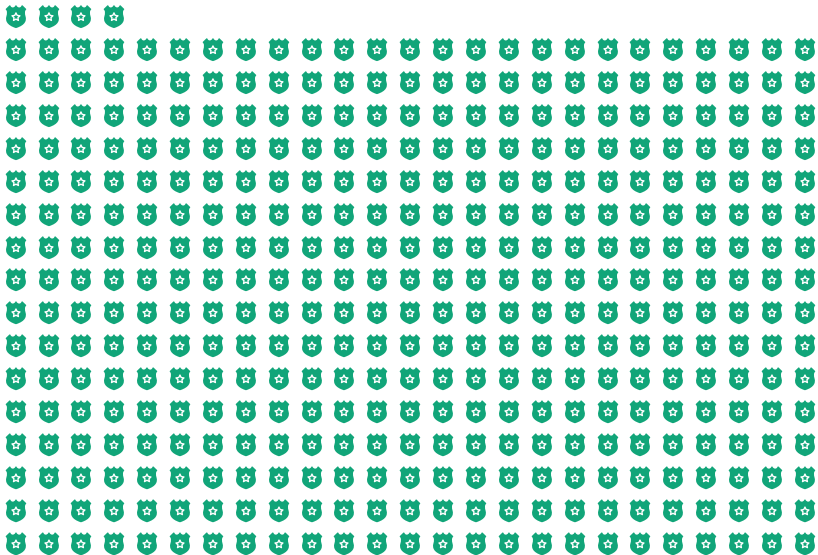
What are the System's **Liabilities, Assets and Funded Status**?

What are the **contributions** required to properly fund the System?

As of July 1, 2023 the System had 654 members, with slightly more than 60% police retirees and their beneficiaries and the rest firefighters.

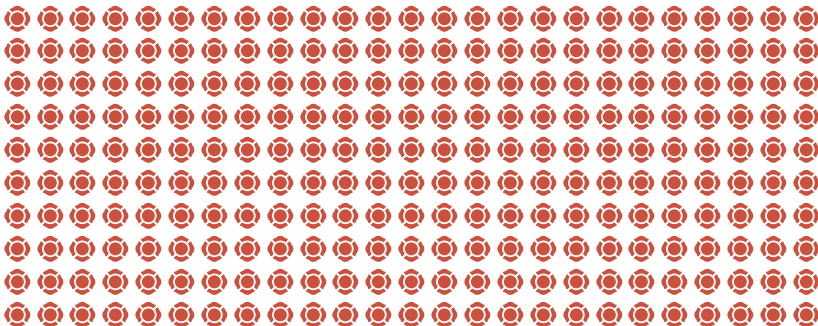
👤 = 1 🟢 Police 🔴 Fire

404



Police

250



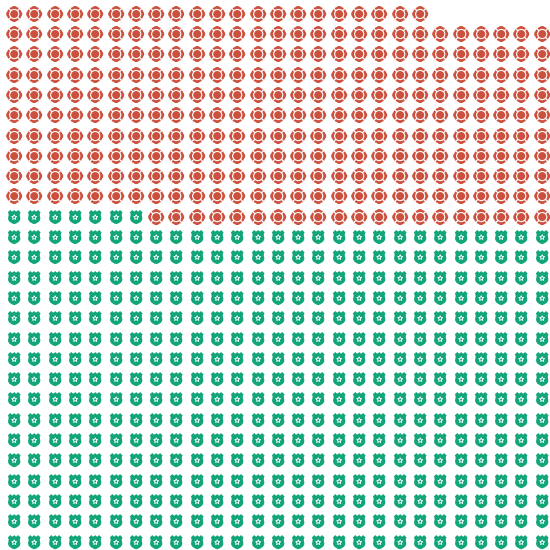
Fire

2023

The System is **closed** (with no active members or new entrants), so the population declines each year.

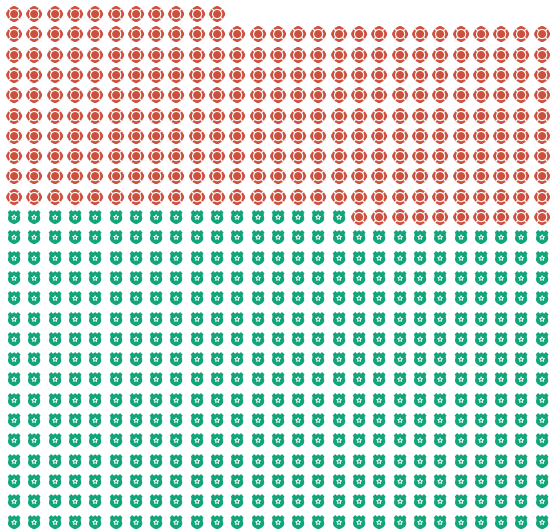
👤 = 1 🟢 Police 🔴 Fire

723



2021

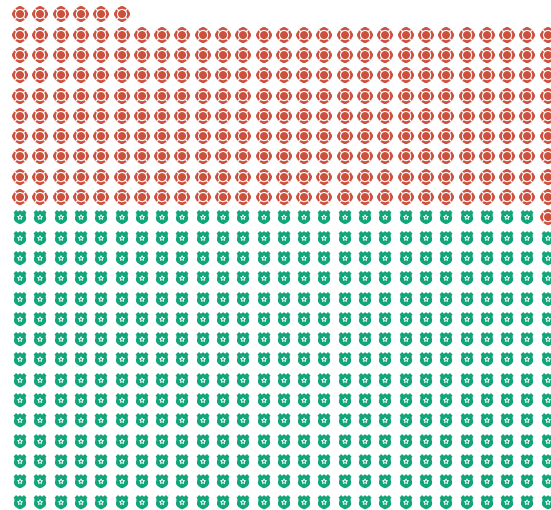
686



2022

Year

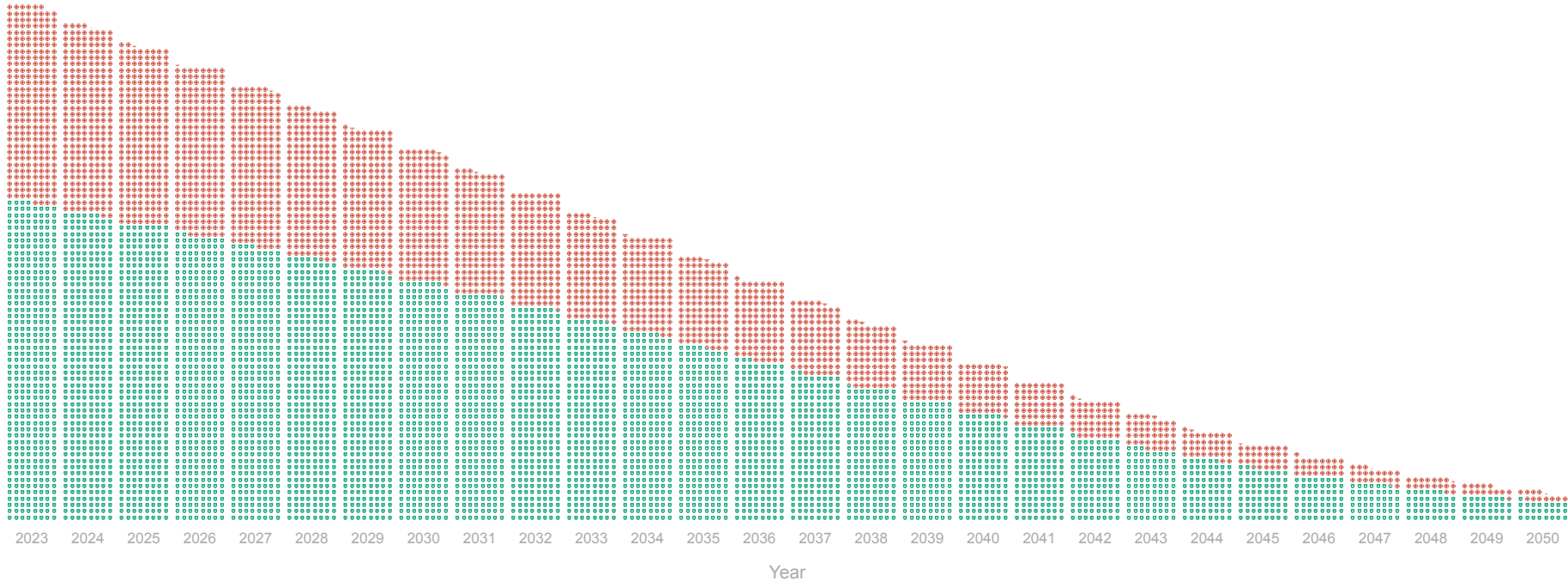
654



2023

To calculate the liabilities we project the remaining population

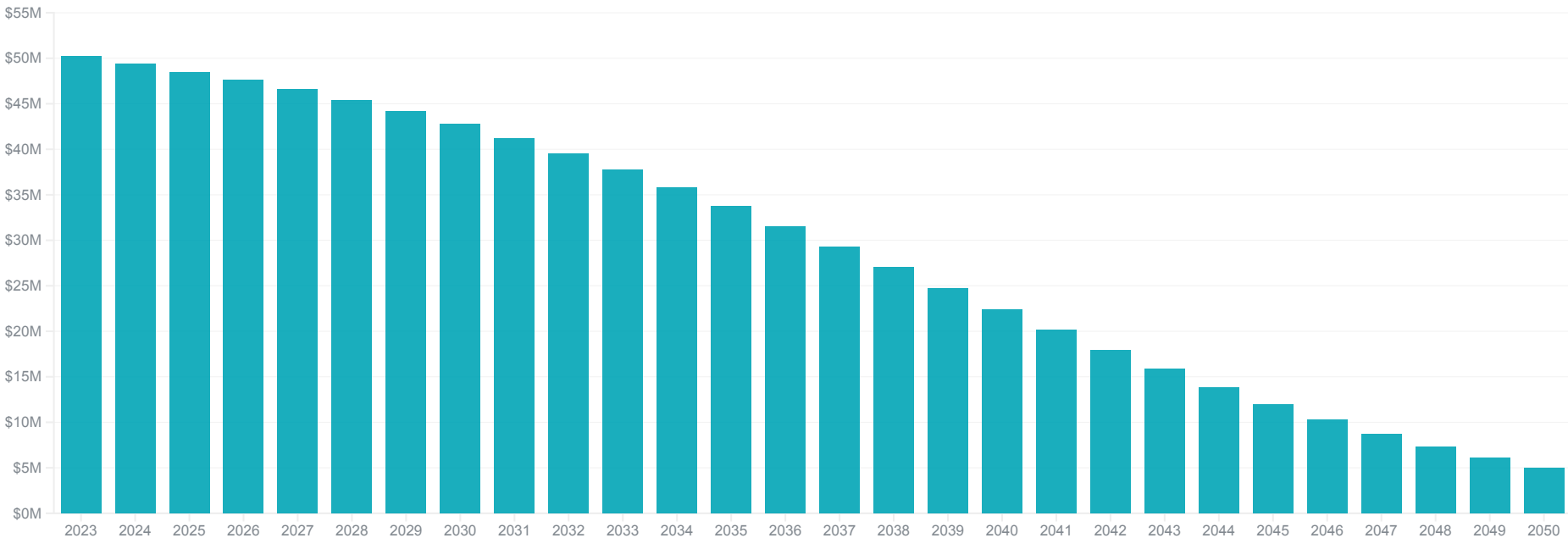
👤 = 1 🟢 Police 🔴 Fire



We then project the expected benefit payments for those members and their beneficiaries

Projected Benefit Payments

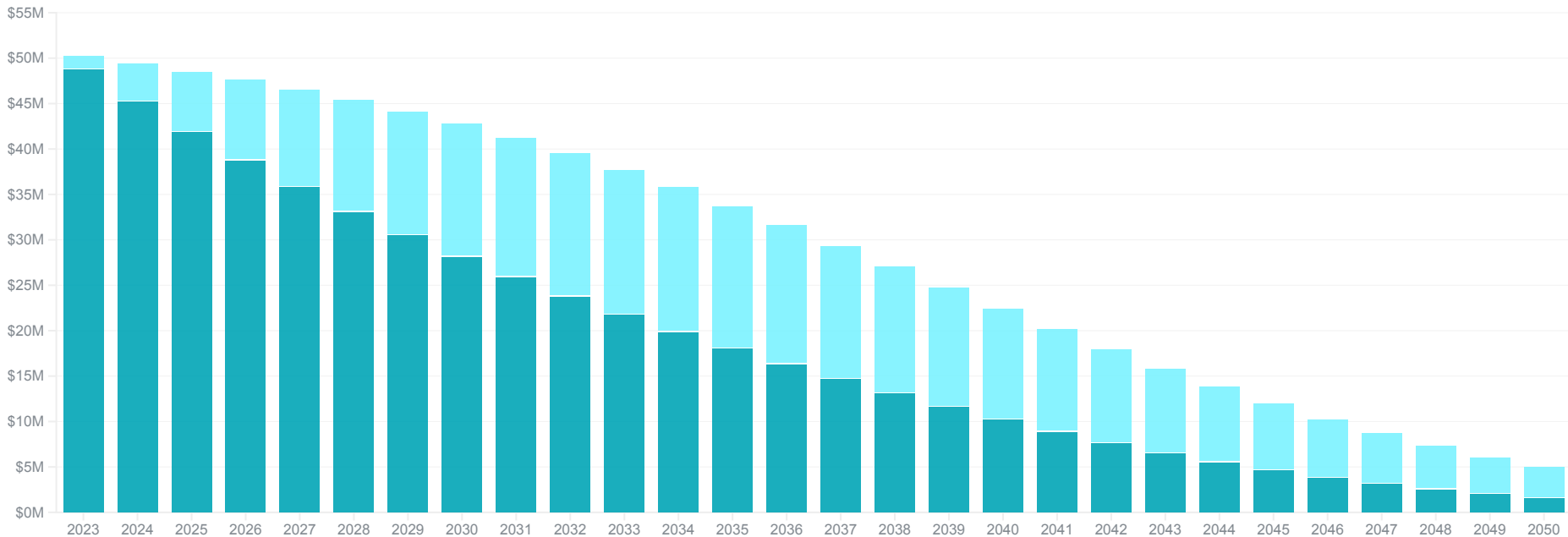
Base ■ Projected Benefits ■ Discounted Benefits ■ Interest Discount



Next, we apply an **interest discount** based on the assumed rate of return on assets, which reduces the value of future benefits because of the **time value of money**.

Projected Benefit Payments

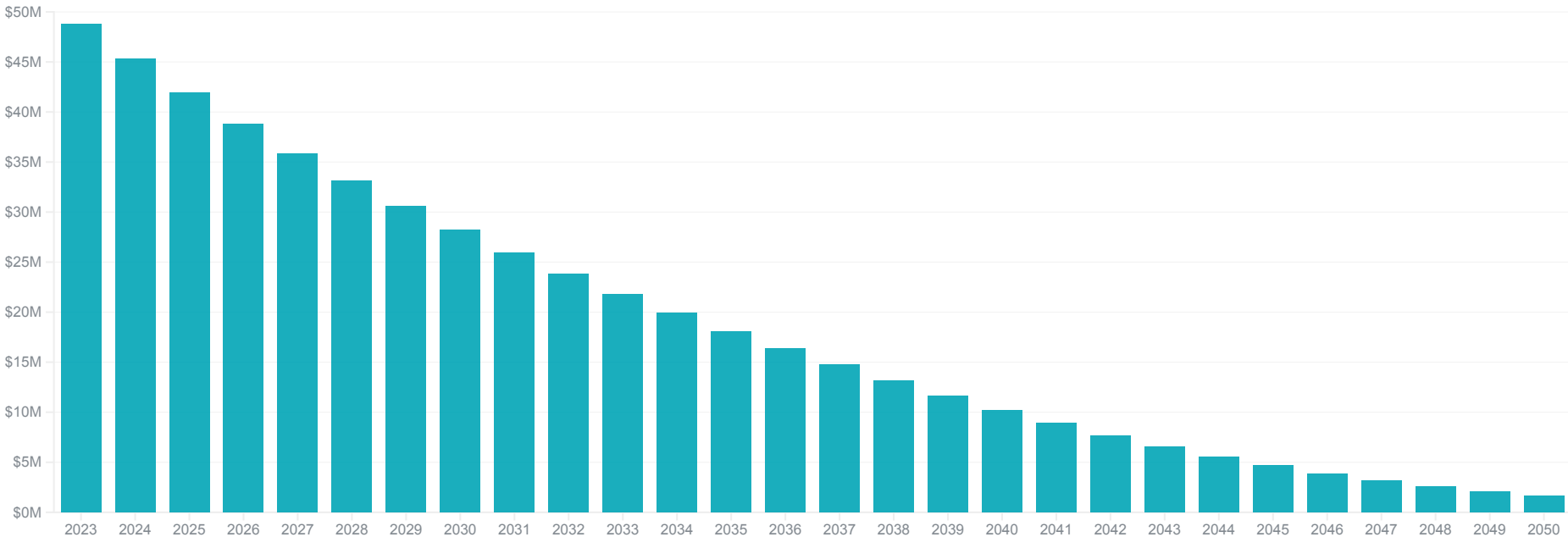
Base Projected Benefits Discounted Benefits Interest Discount



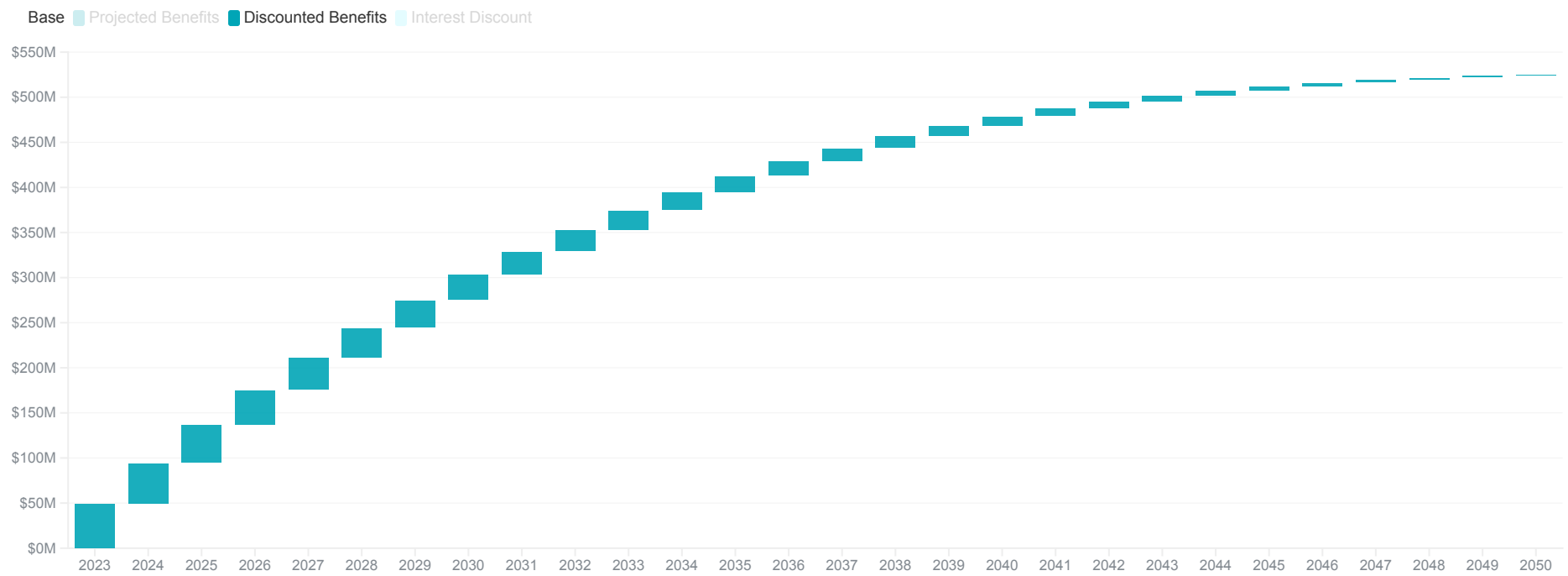
Reducing by the interest discount, leaves us with the **value in today's dollars**.

Projected Benefit Payments

Base ■ Projected Benefits ■ Discounted Benefits ■ Interest Discount

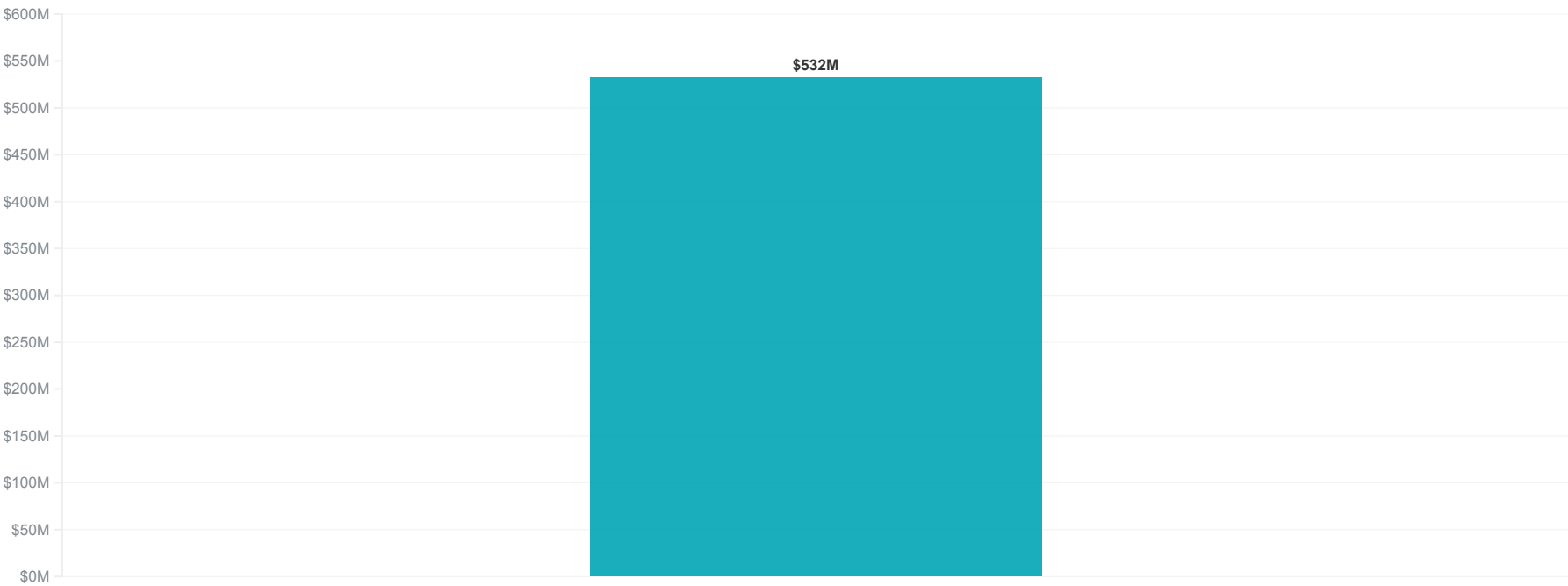


Projected Benefit Payments



...and express as a single sum as of July 1, 2023, the **Present Value of Benefits (PVB)**. For PFRS, this is also known as the **Actuarial Liability**, because all benefits have been fully earned/accrued. 11/45 < >

■ Current Assumptions ■ New Mortality Assumptions



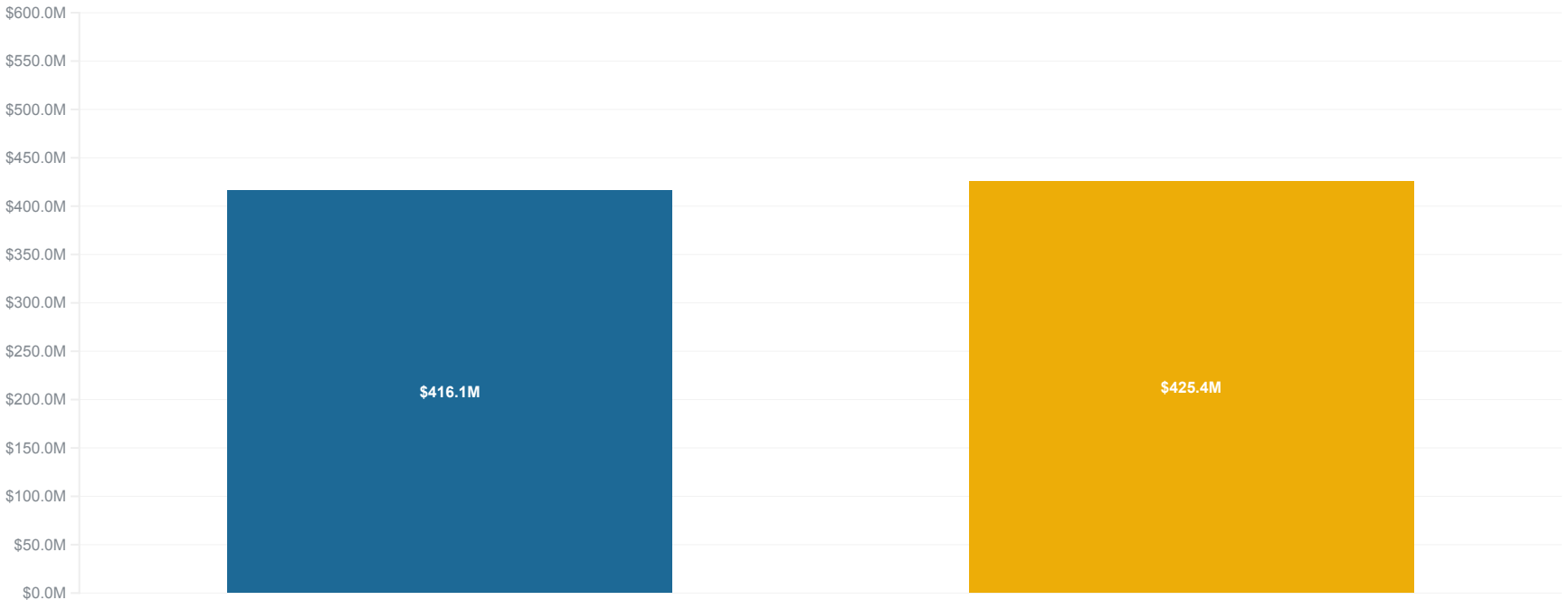
Next, we turn to the Plan's assets. The **Market Value of Assets** is the **Fair Value** as of the **Measurement Date**, June 30, 2023.

■ Market Value of Assets ■ Actuarial Value of Assets (before corridor) ■ Actuarial Value of Assets (after corridor)



The Market Value can fluctuate significantly from year to year because of rapid changes in the investment markets. We also calculate a smoothed value, the **Actuarial Value of Assets**, to reduce volatility in the contributions and better understand trends in funded status.

■ Market Value of Assets ■ Actuarial Value of Assets (before corridor) ■ Actuarial Value of Assets (after corridor)



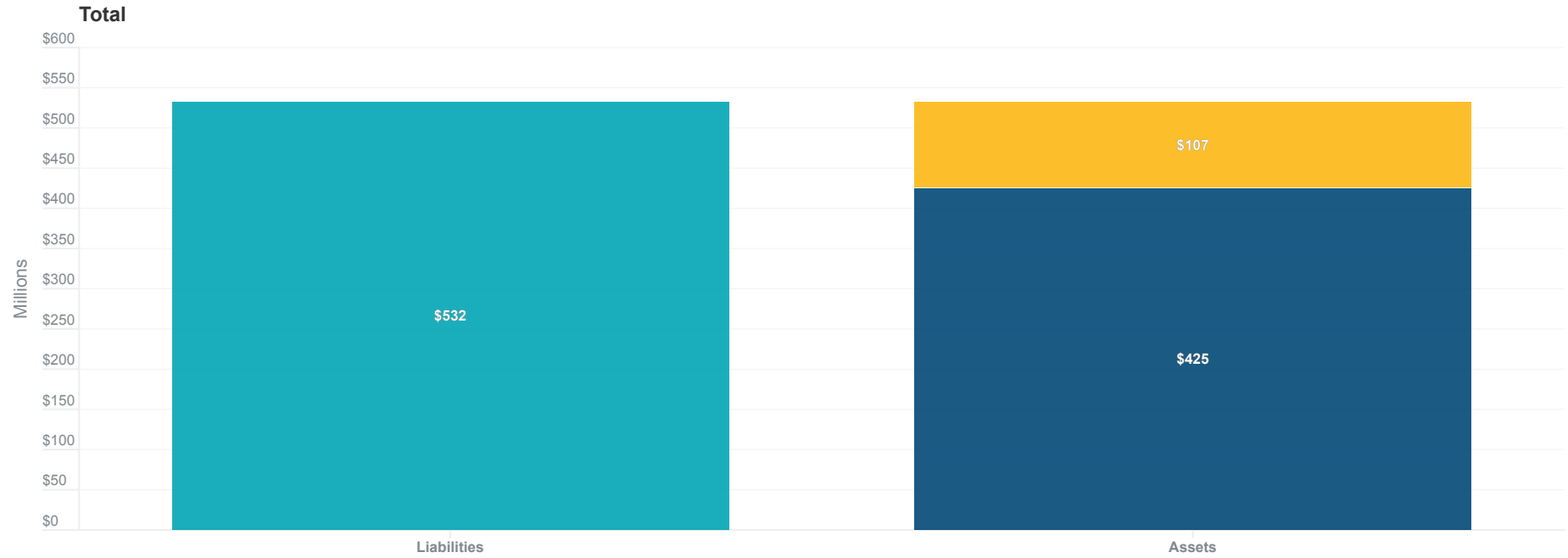
However, the Actuarial value is limited to be within a 10% corridor of the Market Value. This year, there are some deferred losses from prior years (about \$9M), but the Actuarial Value is still within 10% of the Market Value, so the corridor does not come into play.

■ Market Value of Assets ■ Actuarial Value of Assets (before corridor) ■ Actuarial Value of Assets (after corridor)



Next, we review the **Funded Status** of the System. The **Unfunded Actuarial Liability (UAL)** is calculated by subtracting the **Actuarial Value of Assets** from the **Actuarial Liability**. The **Funded Ratio** is calculated by dividing the assets by the liabilities: **79.9% as of July 1, 2023** (compared to **76.5%** last year).

■ Accrued Liability ■ Assets (AVA) ■ UAL (AVA) ■ Assets (MVA) ■ UAL (MVA)



We also show these results on a **Market Value** basis, which is used in the System's financial reporting (GASB). The funded ratio was **78.2%** as of July 1, 2023 on this basis, up from **72.6%** last year. **16/45** < >

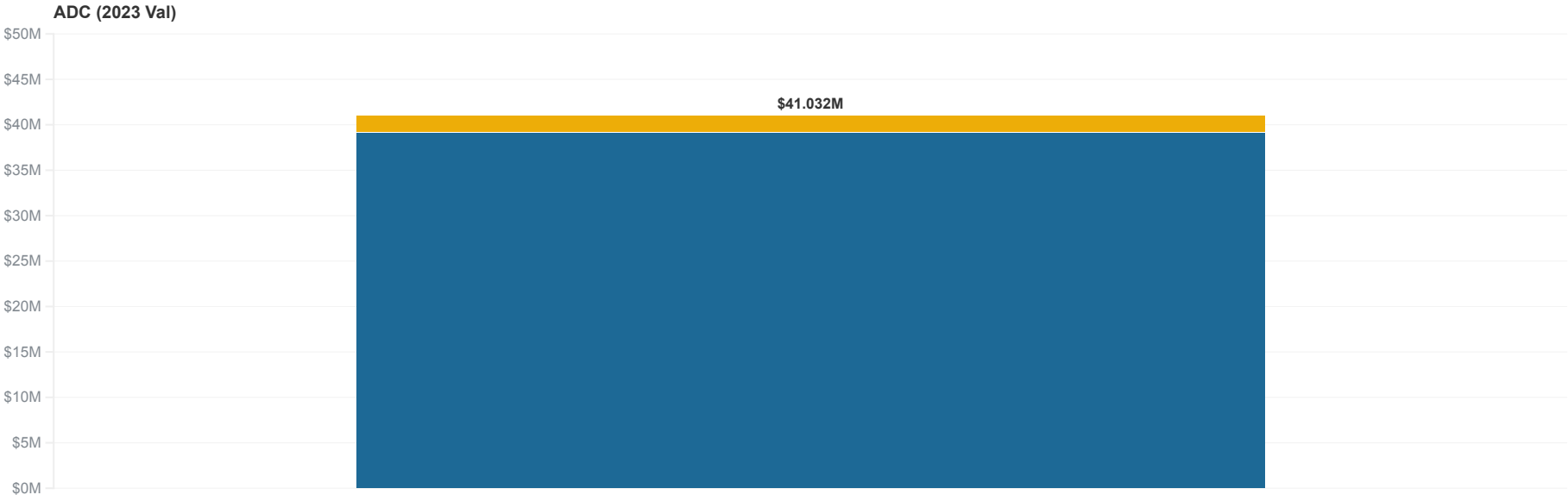
■ Accrued Liability ■ Assets (AVA) ■ UAL (AVA) ■ Assets (MVA) ■ UAL (MVA)



Next, we review the **Actuarially Determined Contributions (ADC)** for the Plan, shown for Fiscal Year 2024-2025 as a *dollar amount*. The contributions are made up of the **Unfunded Actuarial Liability Amortization** payment, or the amount needed to pay off the unfunded liability by the required full funding date (7/1/2026), plus a smaller payment to cover the Plan's **Administrative Expenses**.

ADC (2023 Val) ▾

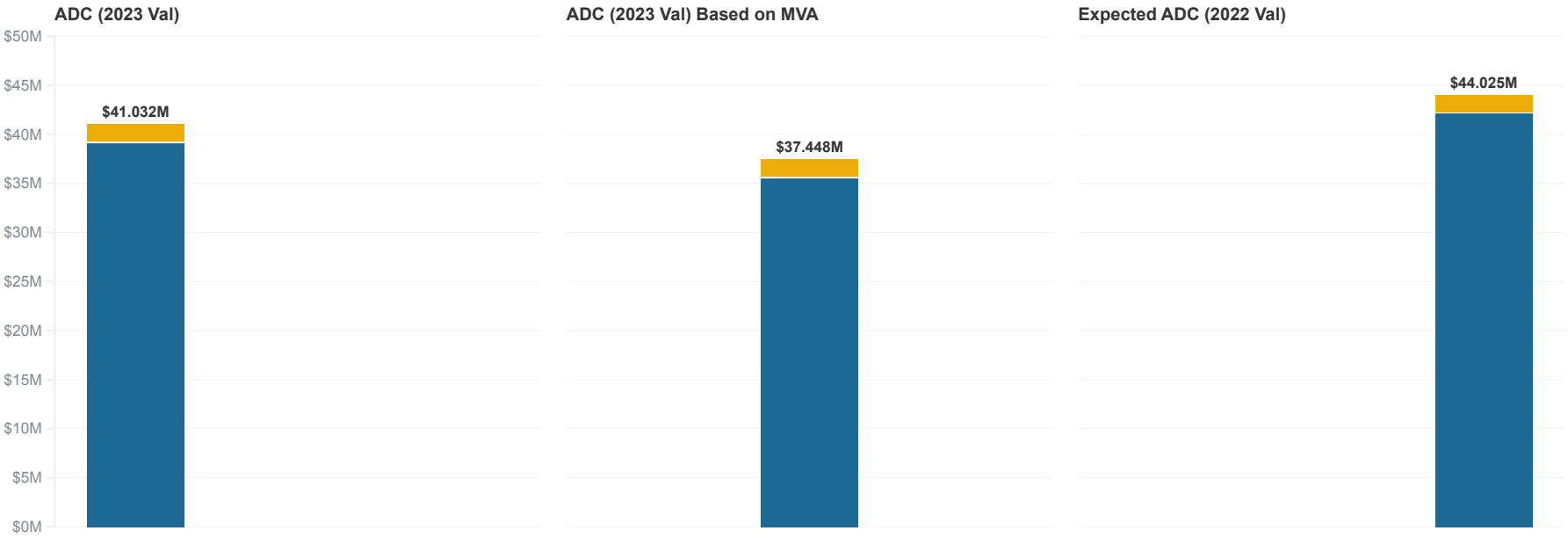
■ UAL Amortization ■ Administrative Expense

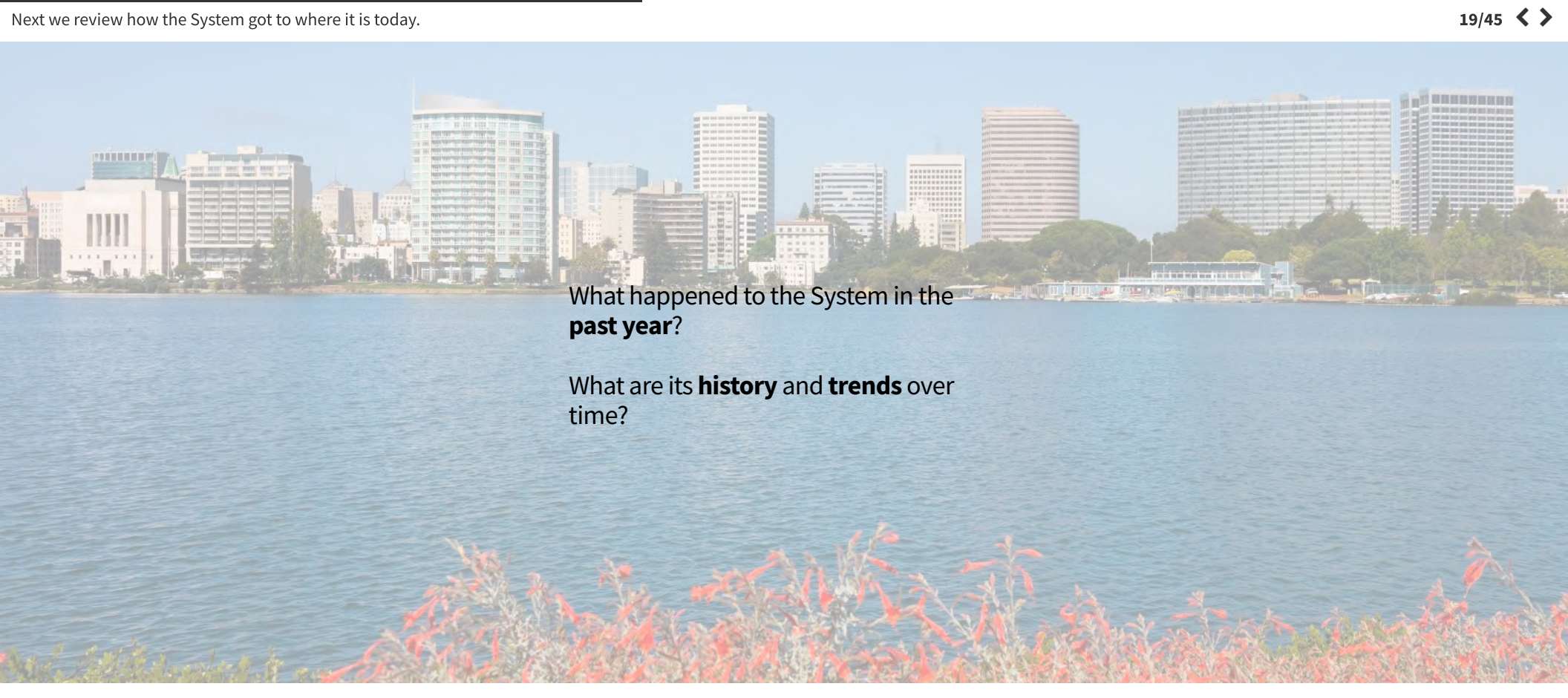


We also compare the FY2024-2025 ADC to the amount that would be required if we used the Market Value of Assets (instead of the smoothed value) and the expected ADC for FY2024-2025 from the 2022 valuation.

All ▾

■ UAL Amortization ■ Administrative Expense

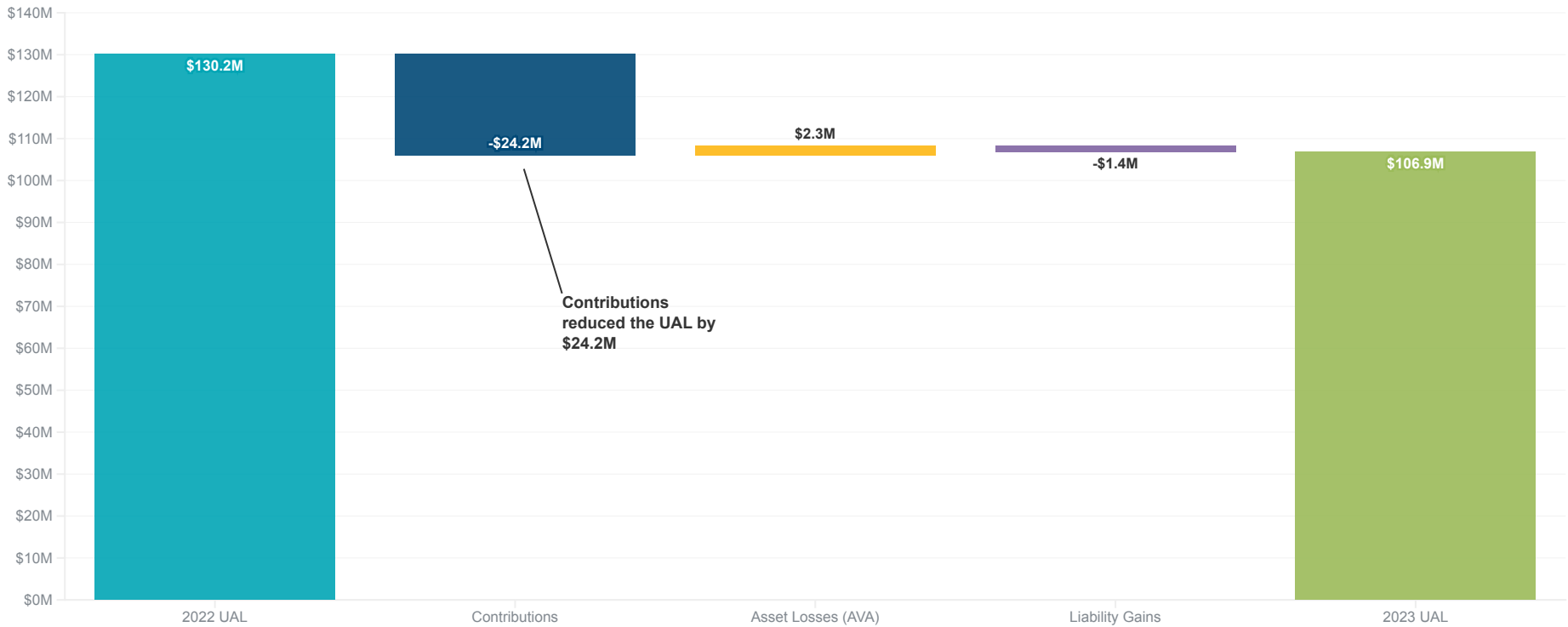


A scenic view of a city skyline across a body of water, with red flowers in the foreground. The skyline features several tall, modern buildings of varying heights and colors, including a prominent white building on the left and a tall, cylindrical building in the center. The water is a deep blue, and the sky is clear and light blue. In the foreground, there are red flowers, possibly salvia, in focus.

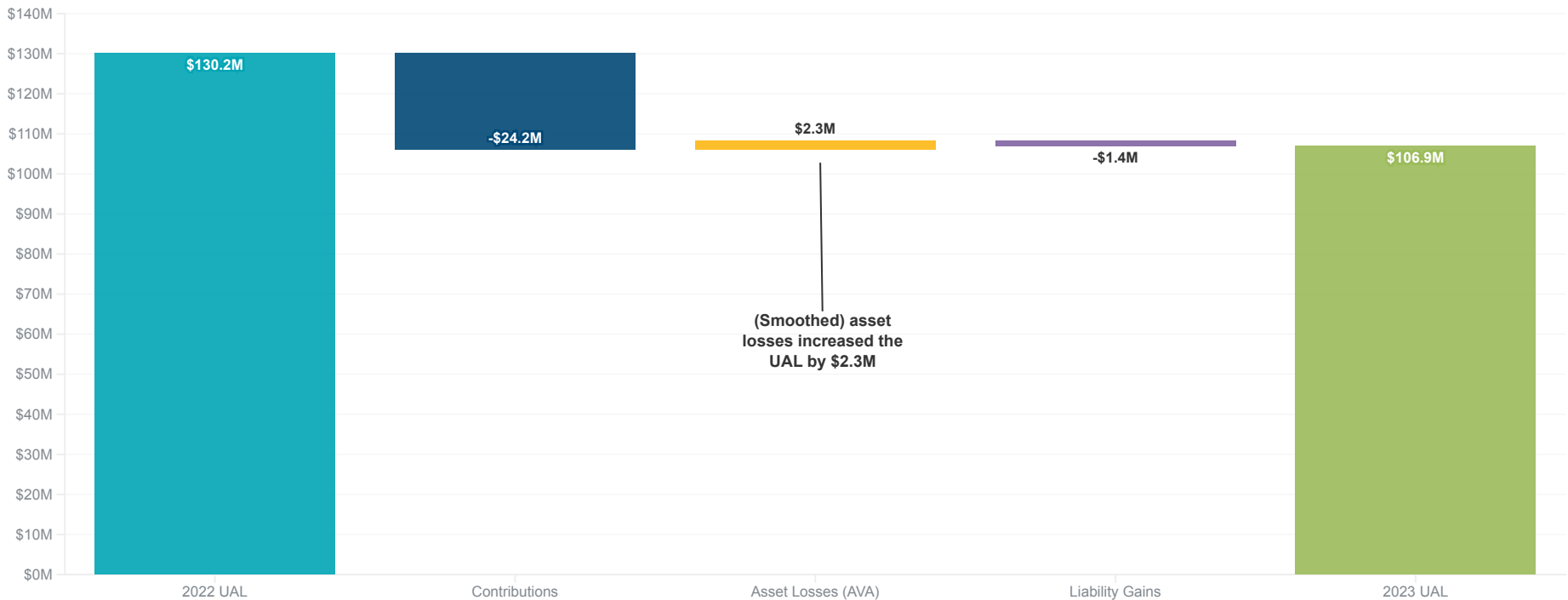
What happened to the System in the **past year**?

What are its **history** and **trends** over time?

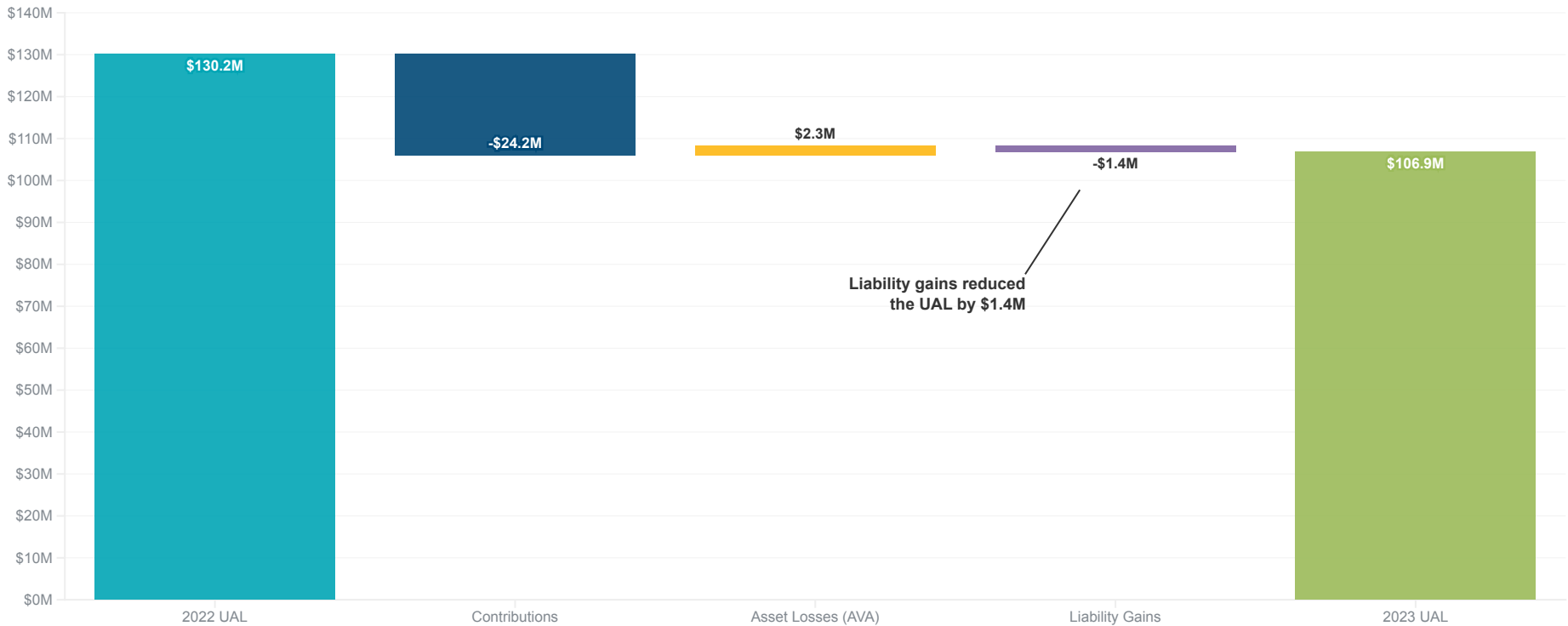
We review the change in UAL over the past year. Contributions exceeded the interest on the UAL plus the admin expenses, thus reducing the UAL.



Assets returned more than expected (8.8%) on a market basis, but because of deferred losses they earned less than the assumption (5.4%) on a smoothed basis - increasing the UAL.

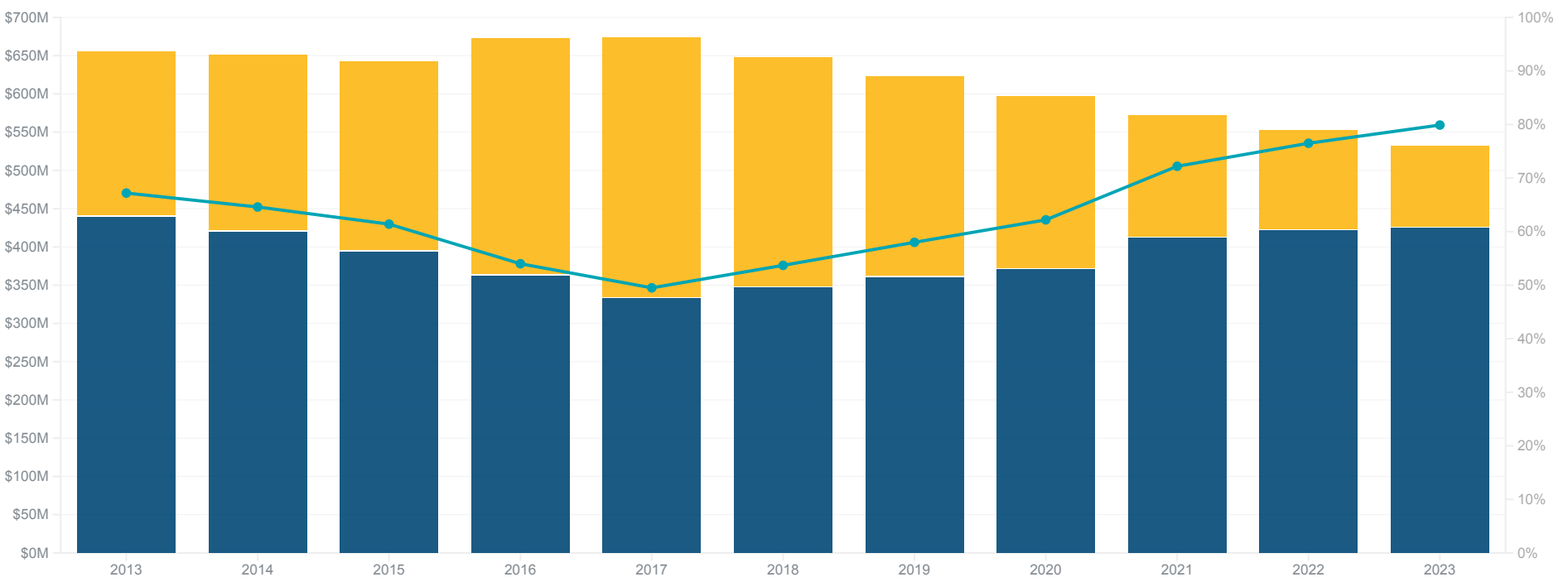


There were more deaths than anticipated among beneficiaries, reducing the liabilities slightly.



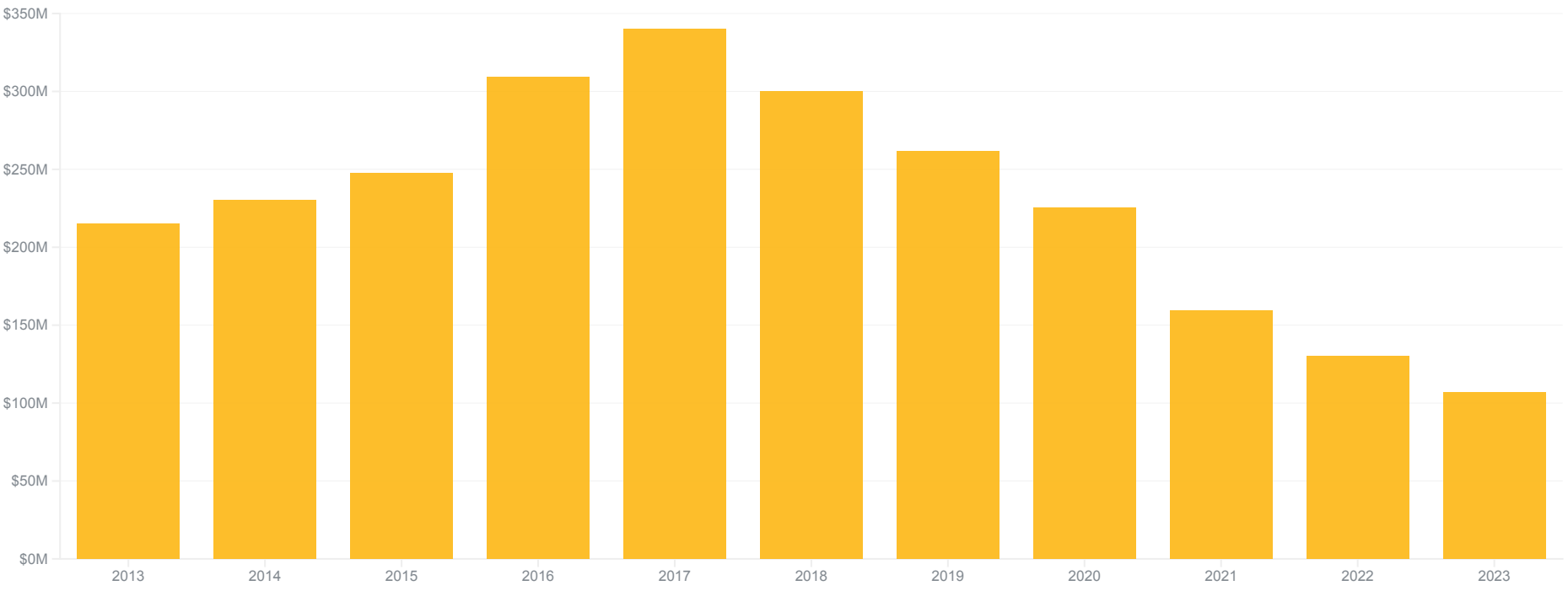
Next, we review the history of the unfunded liability over the past ten years. The line shows the funded ratio, with the scale shown along the right-hand axis.

Funded Ratio Actuarial Value of Assets Unfunded Actuarial Liability

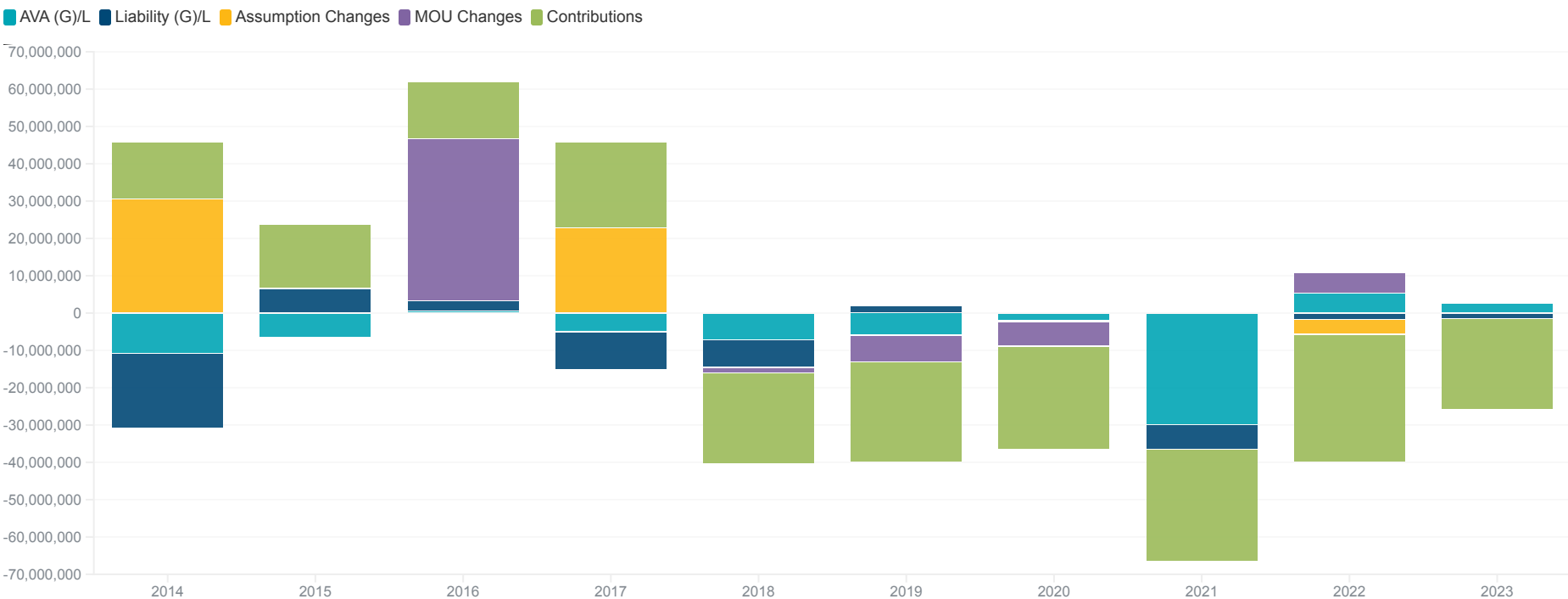


Overall, the UAL has decreased by \$108M during this period.

Funded Ratio Actuarial Value of Assets Unfunded Actuarial Liability




This chart breaks down the change in UAL for each year. After a period of no contributions (following a Pension Obligation Bond in 2013), contributions began again in FYE 2018 and have reduced the UAL each of the last six years.





What is **expected** to happen to the System?

What are the **risks** going forward?

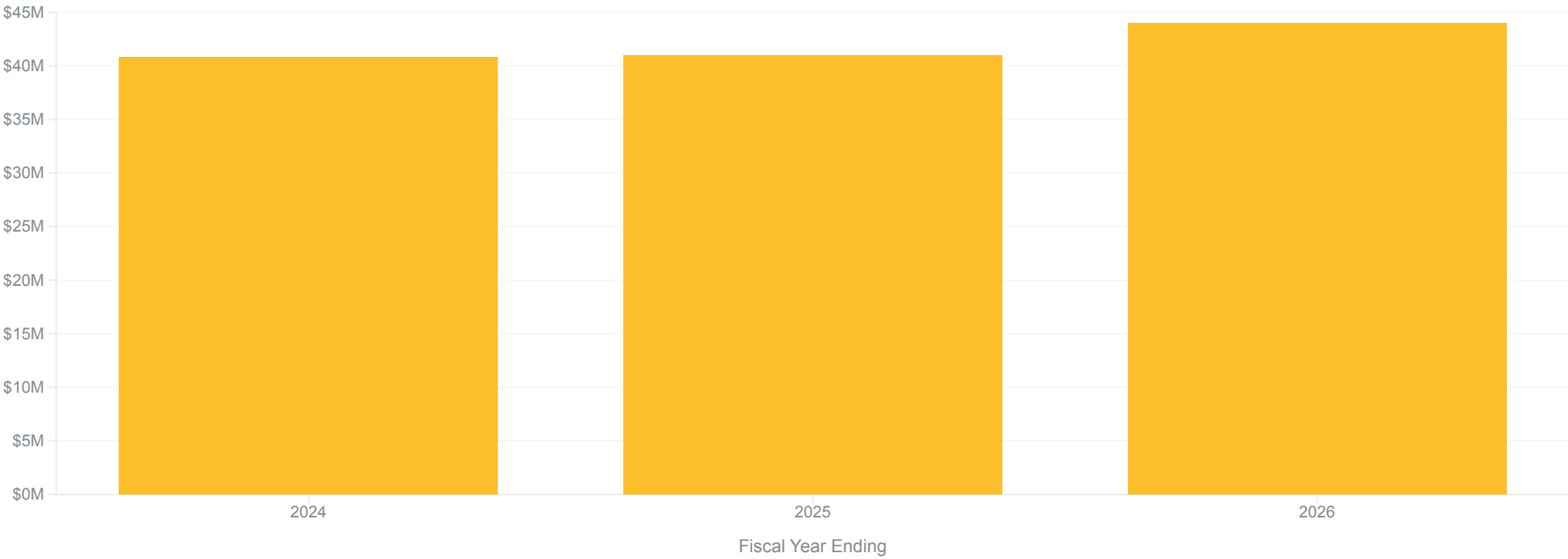


The projections assume all assumptions are met, including a 6.00% return each year through 2026.

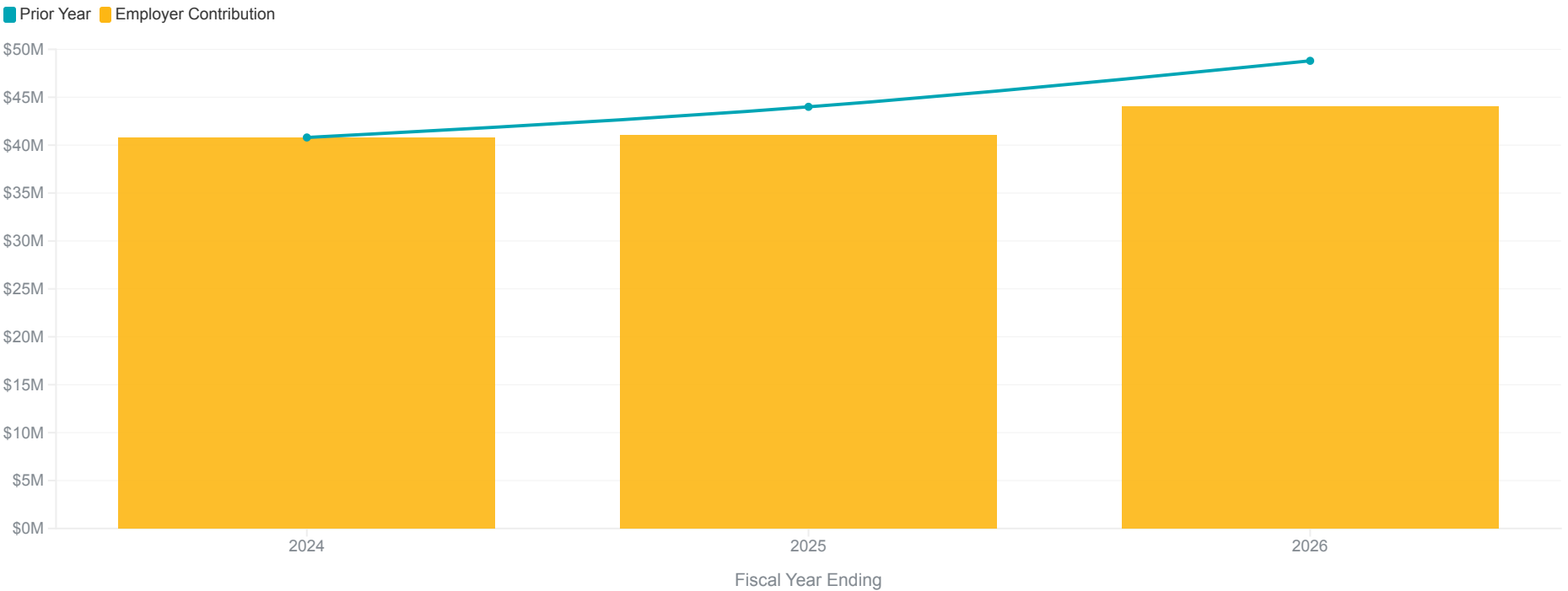
After 2026, the assumed rate of return on assets is assumed to decline each year by 0.275% each year until it reaches an ultimate rate of 3.25% in 2036.

Here is a projection of the contributions through the full funding date. If the assumed return is earned each year, there should only be small contribution (< \$5M) required after FYE 2026, to cover the administrative expenses and some residual deferred losses based on the current smoothing method.

Prior Year Employer Contribution

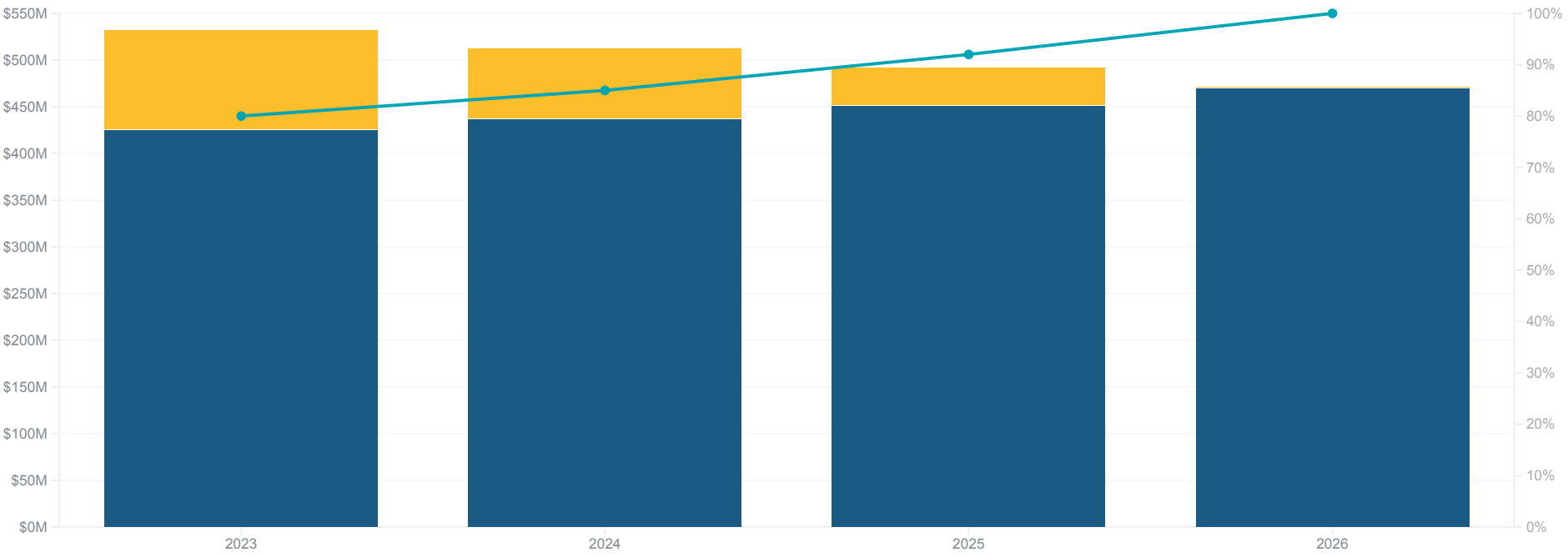


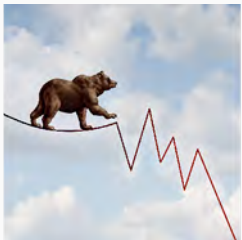
For comparison, we show the projected contributions from last year's valuation. The projected contributions have decreased as a result of the current year asset returns and liability gain.



This projection of assets and liabilities shows that the funded ratio (right axis) is expected to continue to improve until the System reaches full funding, as a result of ongoing contributions.

Funded Ratio Actuarial Value of Assets Unfunded Actuarial Liability





Investment Risk

The potential for returns to be different than expected.



Assumption Risk

The potential for the environment to change such that future valuation assumptions are different than the current assumptions.

Assumption changes can have a major impact on the Plan.
The economic assumptions (including the discount rate) will be reviewed at a future meeting.

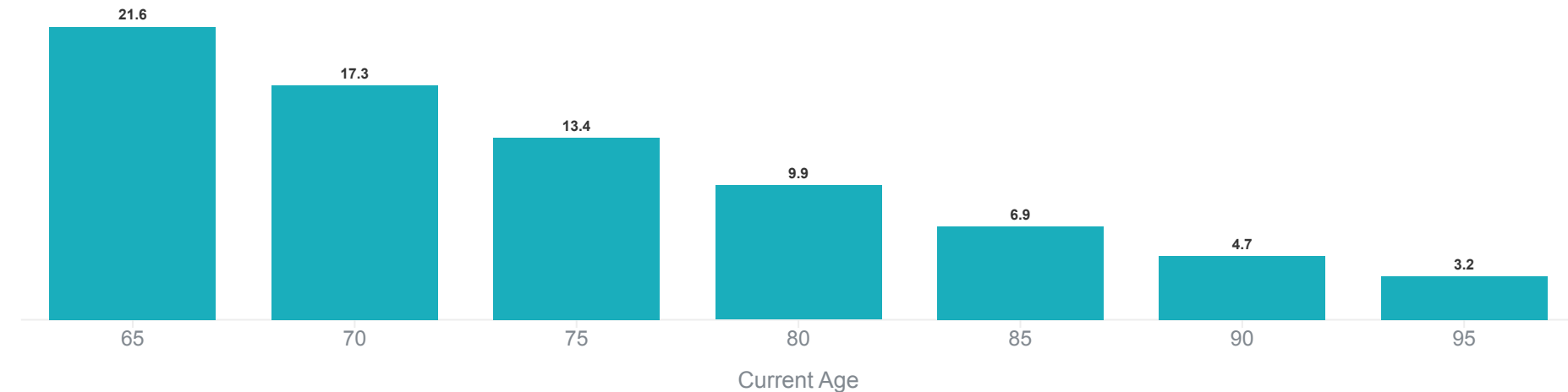


Today, we review the assumptions used to project **mortality / longevity**. The chart below shows the expected remaining lifetime for members at various ages as of 2023 under the current assumptions.

Expected Remaining Lifetime

Healthy Male Healthy Female Disabled Male Disabled Female

Current Proposed



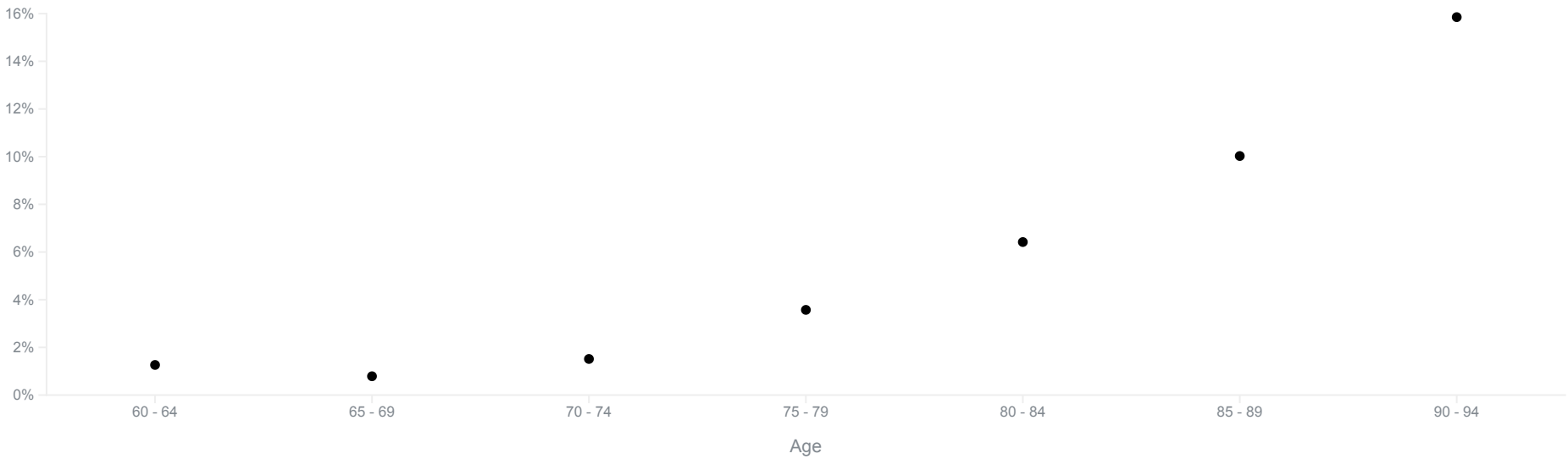
Mortality based on CalPERS Base Tables (Current: 2014, Proposed: 2017)
 Generationally Projected using MP Scale (Current: 2017, Proposed: 2021)

We reviewed the PFRS experience from 2011 through 2023, calculating the actual rates of mortality at each age, and weighting the experience by benefit amount (since members with larger benefits are expected to live longer).

PFRS Mortality Experience (2011-2023)

Healthy Male Healthy Female Disabled Male

Actual Rate Current Rate Proposed Rate Confidence Interval



Mortality based on CalPERS Tables (Base Year Current: 2014, Proposed: 2017)
Healthy Recipients / Industrially Disabled (Safety)

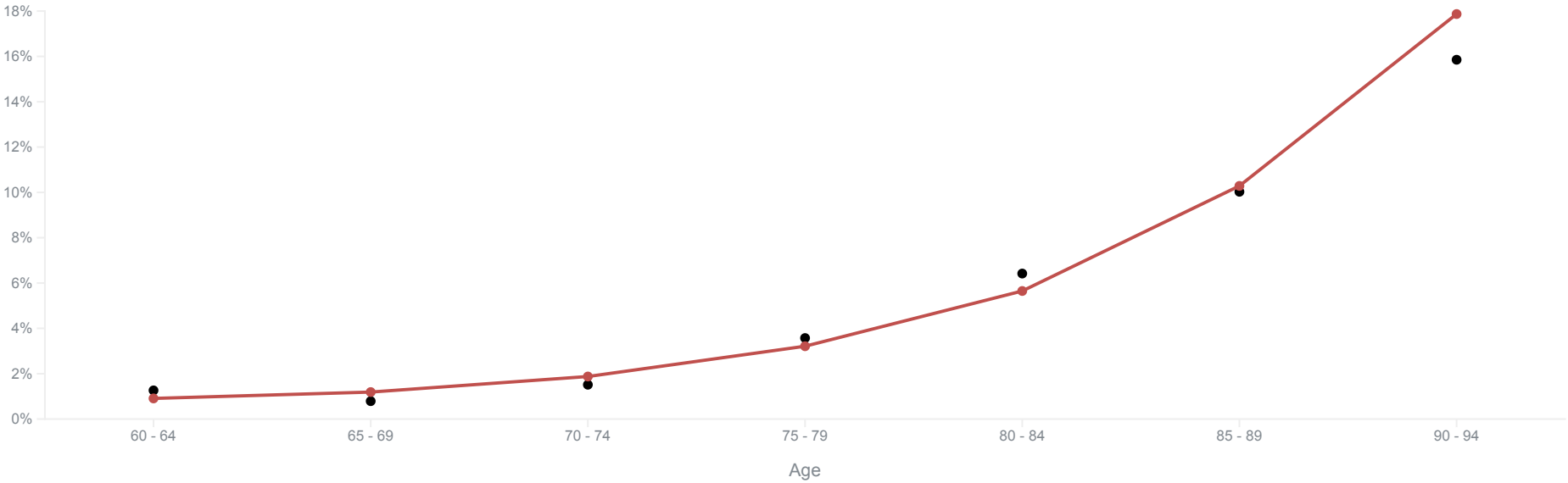


We compared the actual experience to the current assumptions, which are based on tables published by CalPERS in 2017.

PFRS Mortality Experience (2011-2023)

Healthy Male Healthy Female Disabled Male

Actual Rate Current Rate Proposed Rate Confidence Interval



Mortality based on CalPERS Tables (Base Year Current: 2014, Proposed: 2017)
Healthy Recipients / Industrially Disabled (Safety)

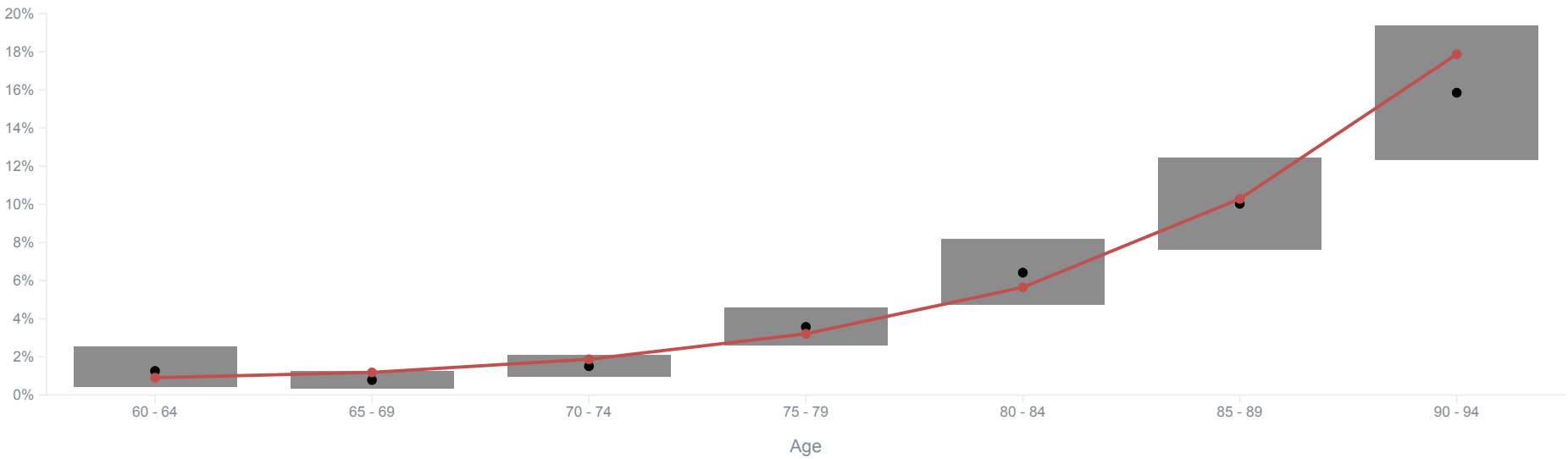


In general, the assumptions have done an excellent job of predicting mortality experience, as can be seen by fact that the assumptions all lie within the **confidence intervals** (a statistical measure indicating the range where the true assumption is expected to fall).

PFRS Mortality Experience (2011-2023)

Healthy Male Healthy Female Disabled Male

Actual Rate Current Rate Proposed Rate Confidence Interval



Mortality based on CalPERS Tables (Base Year Current: 2014, Proposed: 2017)
Healthy Recipients / Industrially Disabled (Safety)

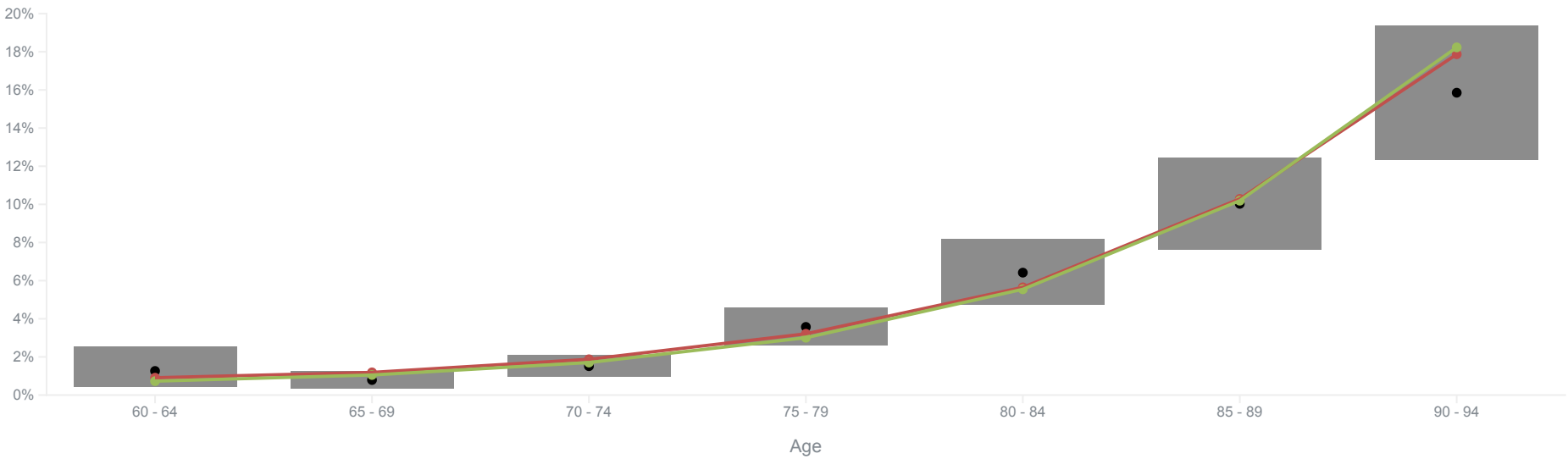


However, CalPERS published updated mortality tables in 2021, which resulted in only modest changes. We recommend updating the PFRS assumptions to use these base tables, and note that the actual experience still closely matches the new rates.

PFRS Mortality Experience (2011-2023)

Healthy Male Healthy Female Disabled Male

Actual Rate Current Rate Proposed Rate Confidence Interval



Mortality based on CalPERS Tables (Base Year Current: 2014, Proposed: 2017)
Healthy Recipients / Industrially Disabled (Safety)

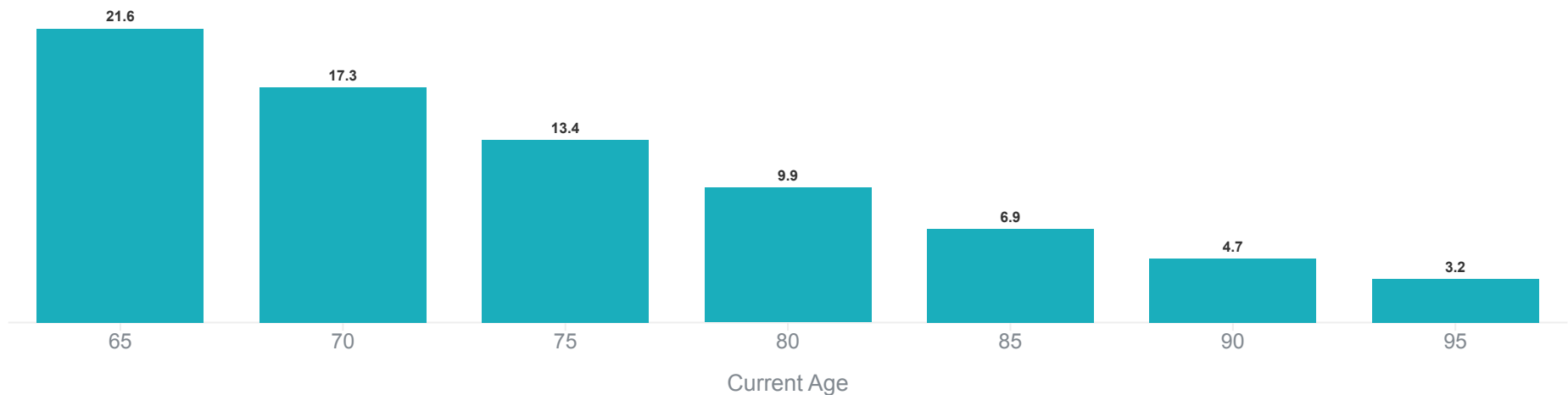


We also recommend updating the **mortality improvement scale**, which is used to project future improvements in mortality. The improvement assumptions suggested by the Society of Actuaries have gotten *less conservative* in recent years, as U.S.-wide improvements in lifespan have been slowing, even prior to the pandemic.

Expected Remaining Lifetime

Healthy Male Healthy Female Disabled Male Disabled Female

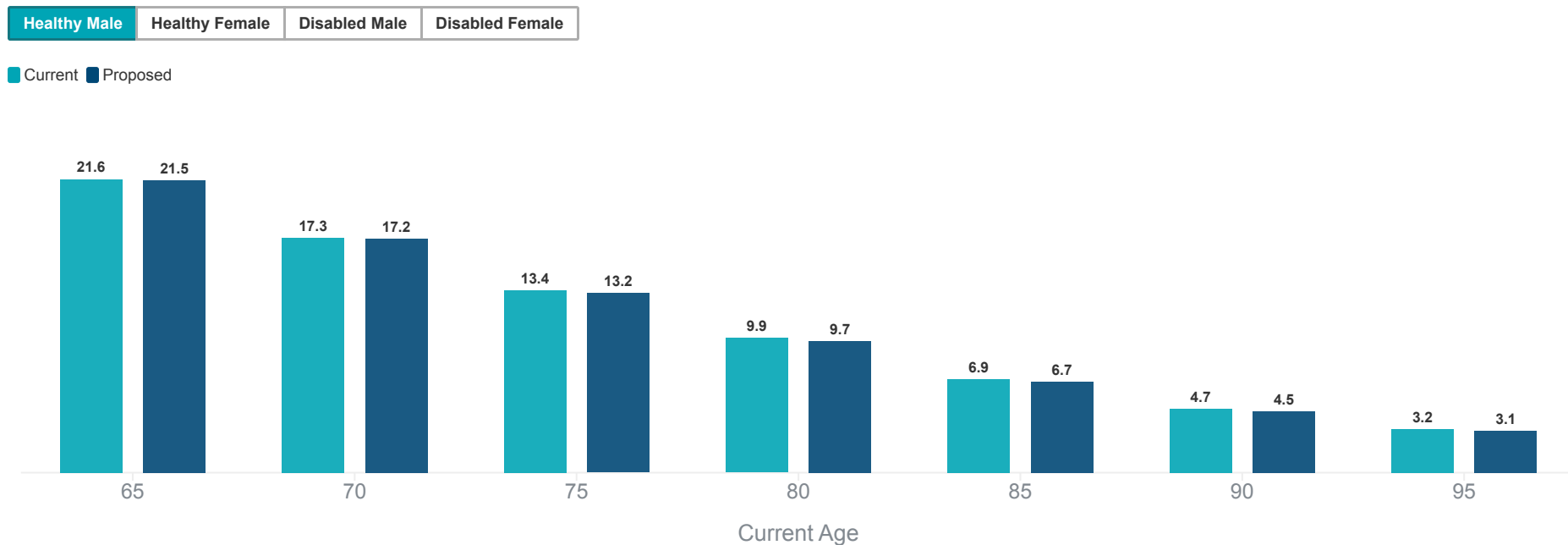
Current Proposed



Mortality based on CalPERS Base Tables (Current: 2014, Proposed: 2017)
Generationally Projected using MP Scale (Current: 2017, Proposed: 2021)



Expected Remaining Lifetime

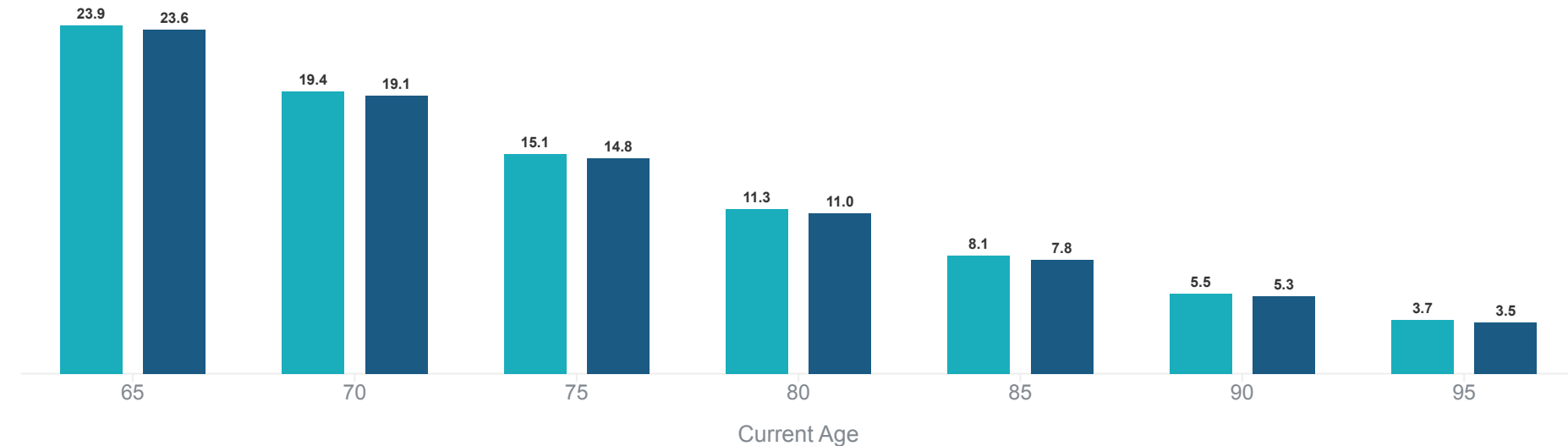


Mortality based on CalPERS Base Tables (Current: 2014, Proposed: 2017)
Generationally Projected using MP Scale (Current: 2017, Proposed: 2021)

Expected Remaining Lifetime

Healthy Male **Healthy Female** Disabled Male Disabled Female

Current Proposed



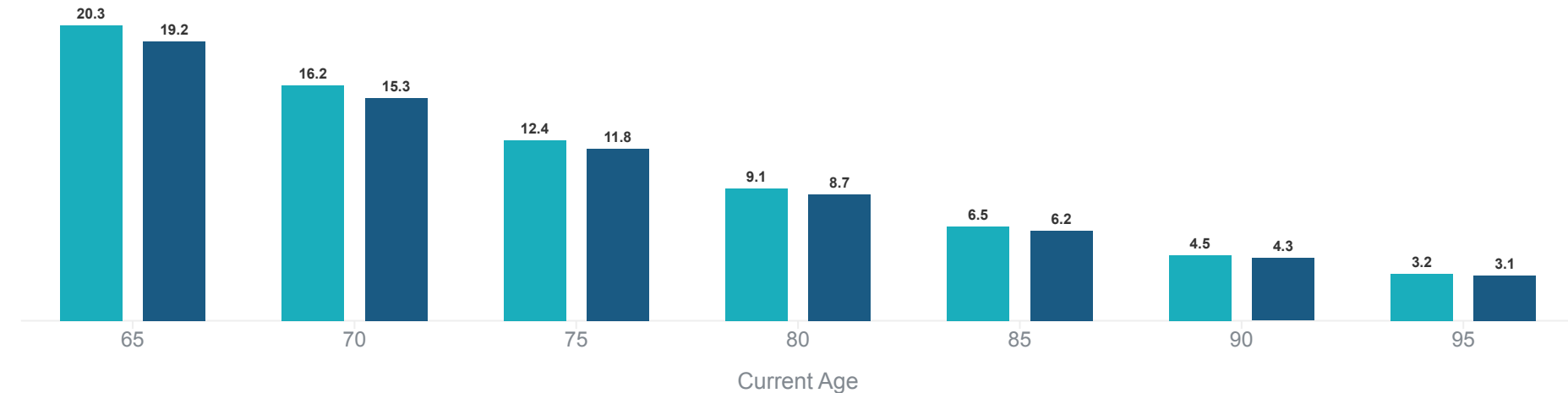
Mortality based on CalPERS Base Tables (Current: 2014, Proposed: 2017)
Generationally Projected using MP Scale (Current: 2017, Proposed: 2021)

With even larger reductions for disabled members.

Expected Remaining Lifetime

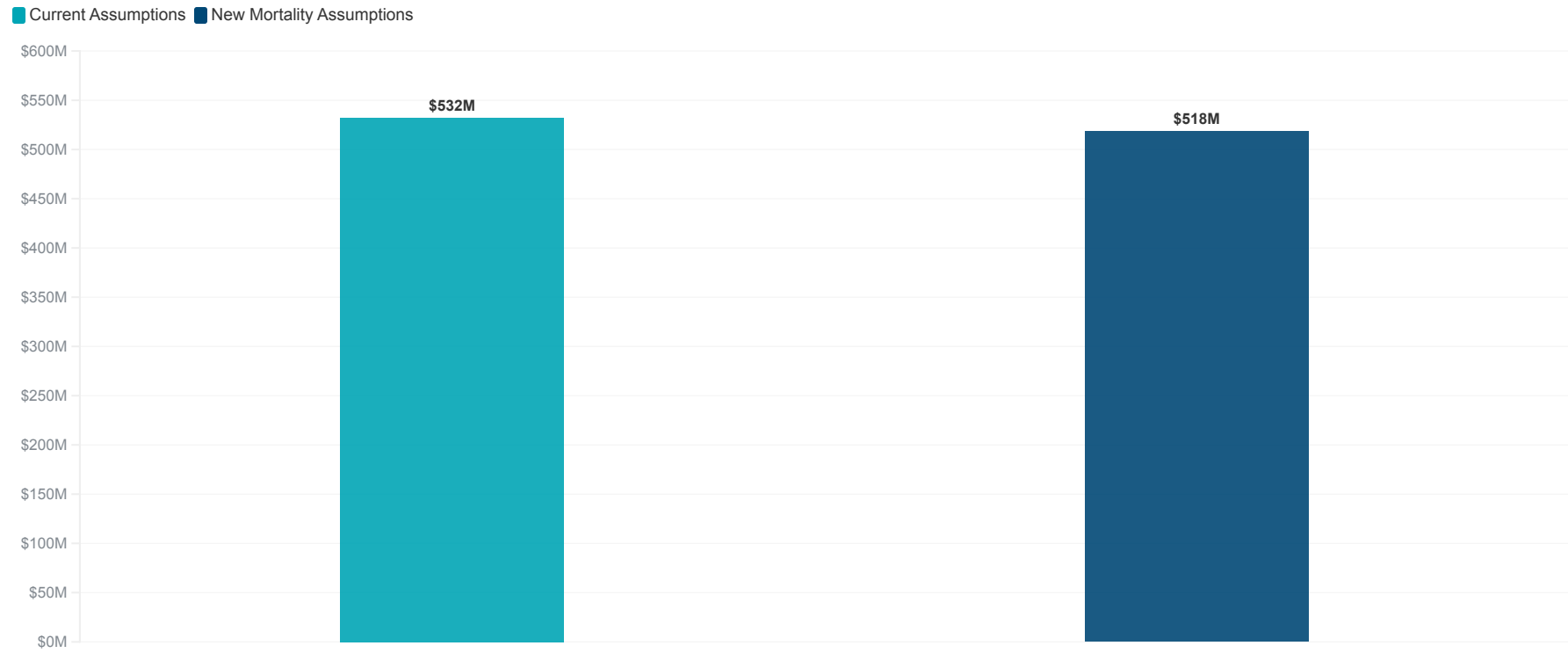
Healthy Male Healthy Female **Disabled Male** Disabled Female

Current Proposed



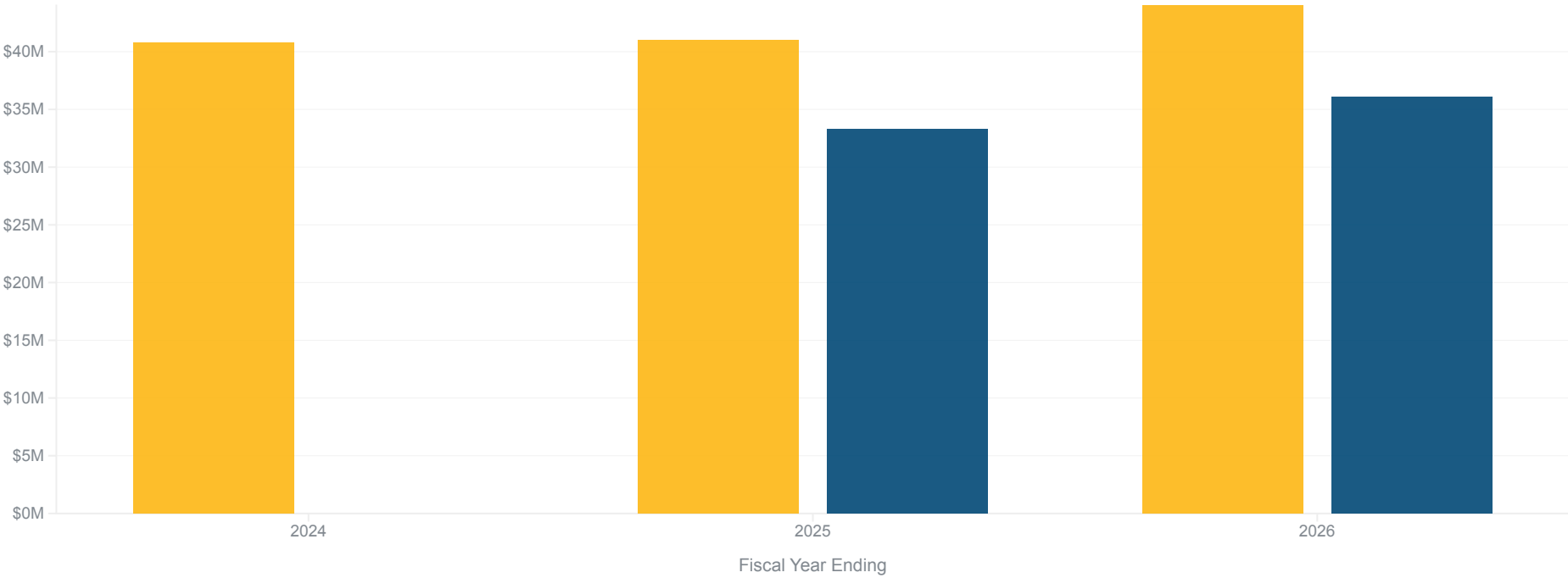
Mortality based on CalPERS Base Tables (Current: 2014, Proposed: 2017)
 Generationally Projected using MP Scale (Current: 2017, Proposed: 2021)

This would result in a reduction in the liability of about \$14.0M for the plan as of 6/30/2023, increasing the funding ratio to 82.1%.



This change would reduce the required actuarial contributions from the original baseline projections by almost \$8M for FYE 2025 and 2026.

Employer Contribution With Updated Mortality



Certification

The purpose of this report is to present the preliminary results of the Oakland PFRS actuarial valuation as of July 1, 2023.

In preparing our presentation, we relied on information (some oral and some written) supplied by PFRS. 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 projections may differ significantly from the projections presented in this presentation due to such factors as the following: plan experience different from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

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.

Projections in this presentation 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. We relied on Cheiron colleagues for the development of the model. 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.

To the best of our knowledge, this presentation and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this presentation. This presentation does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This presentation was prepared for the PFRS Retirement Board for the purposes described herein. Other users of this presentation are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

PFRS Client Team

Click card for bio or to contact



Graham Schmidt
Consulting Actuary
Lafayette, CA



Anne Harper
Principal Consulting
Actuary
San Diego, CA



Tim Doyle
Associate Actuary
Portland, OR

**OAKLAND POLICE AND FIRE
RETIREMENT SYSTEM**

Report to the Board of Administration
June 30, 2023

DRAFT



Certified
Public
Accountants

November __, 2023

Members of the Board of Administration
of the Oakland Police & Fire Retirement System
Oakland, California

We are pleased to present this report related to our audit of the Oakland Police & Fire Retirement System's (System) financial statements as of and for the year ended June 30, 2023. This report summarizes certain matters required by professional standards to be communicated to you in your oversight responsibility for the System's financial reporting process.

This report is intended solely for the information and use of the Board of Administration, management, and others within the System, and is not intended to be, and should not be, used by anyone other than these specified parties. It will be our pleasure to respond to any questions you have about this report. We appreciate the opportunity to continue to be of service to the System.

Walnut Creek, California

DRAFT

TABLE OF CONTENTS

Required Communications	3
Exhibits	
Exhibit A – Recent Accounting Pronouncements	7

DRAFT

REQUIRED COMMUNICATIONS

Auditing standards generally accepted in the United States of America (AU-C 260, *The Auditor's Communication With Those Charged With Governance*) require the auditor to promote effective two-way communication between the auditor and those charged with governance. Consistent with this requirement, the following summarizes our responsibilities regarding the System's financial statement audit as well as observations arising from our audit that are significant and relevant to your responsibility to oversee the financial and related compliance reporting process.

Our Responsibilities With Regard to the Financial Statement Audit

Our responsibilities under auditing standards generally accepted in the United States of America have been described in our engagement letter dated June 12, 2023. Our audit of the System's financial statements does not relieve management or those charged with governance of their responsibilities, which are also described in that letter.

Overview of the Planned Scope and Timing of the Financial Statement Audit

We conducted our audit consistent with the planned scope and timing as communicated to the Board of Administration at the June 28, 2023 board meeting.

Accounting Policies and Practices

Preferability of Accounting Policies and Practices

Under accounting principles generally accepted in the United States of America, in certain circumstances, management may select among alternative accounting practices. In our view, in such circumstances, management has selected the preferable accounting practice.

Adoption of, or Change in, Accounting Policies

Management has the ultimate responsibility for the appropriateness of the accounting policies used by the System. The System did not adopt any significant new accounting policies, nor have there been any changes in existing significant accounting policies during the current period.

Significant Accounting Policies

We did not identify any significant accounting policies in controversial or emerging areas for which there is a lack of authoritative guidance or consensus.

Significant Unusual Transactions

We did not identify any significant unusual transactions.

Management's Judgments and Accounting Estimates

Summary information about the process used by management in formulating particularly sensitive accounting estimates and about our conclusions regarding the reasonableness of those estimates are as below.

Accounting estimates are an integral part of the preparation of financial statements and are based upon management's current judgment. The process used by management encompasses their knowledge and experience about past and current events, and certain assumptions about future events. You may wish to monitor throughout the year the process used to determine and record these accounting estimates. The following summarizes the significant accounting estimates reflected in the System's June 30, 2023, financial statements.

Significant Accounting Estimates

Valuation of investments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Management's estimate of the fair value of investments is based on a hierarchy of inputs. Observable inputs are developed based on market data obtained from sources independent from the System. Unobservable inputs are developed based on the best information available about the assumptions market participants would use in pricing the asset. Investments that do not have a readily determined fair value are valued using the net asset value (NAV) as a practical expedient, which generally represents the System's ownership interest in partnership capital.

MGO evaluated the assumptions through comparative analysis with third party pricing sources, reviewing fund audited financial statements, and performing roll forward procedures of audited values to year-end values, and determined that they are reasonable.

Total pension liability

Management's estimate of the total pension liability is based on actuarial measurements performed in accordance with the parameters set forth in GASB Statement No. 67, *Financial Reporting for Pension Plans*, and actuarial standards of practice by third-party actuarial consultants. The actuarial valuation is very sensitive to the underlying assumptions, including the discount rate.

MGO evaluated the methodologies and assumptions used to develop the actuarial calculations through census data testing and evaluating the competence, capability, and objectivity of management's specialist.

Departure From the Auditor's Standard Report

Expected Emphasis of Matter Paragraph

The financial statements present only the System, which is a pension trust fund of the City of Oakland. In light of this matter, we have included a standard emphasis of matter paragraph required by auditing standards.

Emphasis of Matter

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

Audit Adjustments and Uncorrected Misstatements

There were no audit adjustments made to the original trial balance presented to us to begin our audit.

Observations About the Audit Process

Disagreements With Management

We encountered no disagreements with management over the application of significant accounting principles, the basis for management's judgments on any significant matters, the scope of the audit or significant disclosures to be included in the System's financial statements.

Consultations With Other Accountants

We are not aware of any consultations management had with other accountants about accounting or auditing matters.

Significant Issues Discussed With Management

No significant issues arising from the audit were discussed or were the subject of correspondence with management.

Significant Difficulties Encountered in Performing the Audit

We did not encounter any significant difficulties in dealing with management during the audit.

Difficult or Contentious Matters That Required Consultation

We did not encounter any significant and difficult or contentious matters that required consultation outside the engagement team.

Shared Responsibilities for Independence

Independence is a joint responsibility and is managed most effectively when management, audit committees (or their equivalents), and audit firms work together in considering compliance with American Institute of Certified Public Accountants (AICPA) and *Government Accountability Office* (GAO) independence rules. For MGO to fulfill its professional responsibility to maintain and monitor independence, management, the Board of Administration, and MGO each play an important role.

Our Responsibilities

1. AICPA and GAO rules require independence both of mind and in appearance when providing audit and other attestation services. MGO is to ensure that the AICPA and GAO's General Requirements for performing non-attest services are adhered to and included in all letters of engagement.
2. Maintain a system of quality management over compliance with independence rules and firm policies.

The System's Responsibilities

1. Timely inform MGO, before the effective date of transactions or other business changes, of the following:
 - a. New affiliates, directors, or officers.
 - b. Changes in the organizational structure or the reporting entity impacting affiliates such as subsidiaries, partnerships, related entities, investments, joint ventures, component units, jointly governed organizations.
2. Provide necessary affiliate information such as new or updated structure charts, as well as financial information required to perform materiality calculations needed for making affiliate determinations.
3. Understand and conclude on the permissibility, prior to the System and its affiliates, officers, directors, or persons in a decision-making capacity, engaging in business relationships with MGO.
4. Not entering into arrangements of nonaudit services resulting in MGO being involved in making management decisions on behalf of the System.
5. Not entering into relationships resulting in close family members of MGO covered persons, temporarily or permanently acting as an officer, director, or person in an accounting, financial reporting or compliance oversight role at the System.

DRAFT

EXHIBIT A

Recent Accounting Pronouncements

RECENT ACCOUNTING PRONOUNCEMENTS

The following accounting pronouncements have been issued as of the date of this communication but are not yet effective and may affect the future financial reporting by the System.

Pronouncement	Summary
<p>GASB Statement No. 99, <i>Omnibus 2022</i></p>	<p>The objectives of this Statement are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing (1) practice issues that have been identified during implementation and application of certain GASB Statements and (2) accounting and financial reporting for financial guarantees.</p> <p>The requirements related to financial guarantees and the classification and reporting of derivative instruments within the scope of Statement 53 are effective for the System’s fiscal year ending June 30, 2024.</p>
<p>GASB Statement No. 100, <i>Accounting Changes and Error Corrections—an amendment of GASB Statement No. 62</i></p>	<p>The primary objective of this Statement is to enhance accounting and financial reporting requirements for accounting changes and error corrections to provide more understandable, reliable, relevant, consistent, and comparable information for making decisions or assessing accountability.</p> <p>Statement No. 100 is effective for the System’s fiscal year ending June 30, 2024.</p>
<p>GASB Statement No. 101, <i>Compensated Absences</i></p>	<p>The objective of this Statement is to better meet the information needs of financial statement users by updating the recognition and measurement guidance for compensated absences. That objective is achieved by aligning the recognition and measurement guidance under a unified model and by amending certain previously required disclosures.</p> <p>Statement No. 100 is effective for the System’s fiscal year ending June 30, 2025.</p>

**OAKLAND POLICE AND FIRE
RETIREMENT SYSTEM
(A Pension Trust Fund of the City of Oakland)**

Basic Financial Statements and
Required Supplementary Information

Years Ended June 30, 2023 and 2022

DRAFT

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
(A Pension Trust Fund of the City of Oakland)
Basic Financial Statements and Required Supplementary Information
Years ended June 30, 2023 and 2022

Table of Contents

	<i>Page</i>
Independent Auditor’s Report	1
Management’s Discussion and Analysis (Unaudited)	4
Basic Financial Statements	
Statements of Fiduciary Net Position	Error! Bookmark not defined.
Statements of Changes in Fiduciary Net Position	11
Notes to the Basic Financial Statements	12
Required Supplementary Information (Unaudited)	
Schedule of Changes in the Employer’s Net Pension Liability and Related Ratios.....	28
Schedule of Employer Contributions	30
Schedule of Investment Returns.....	30
Note to Required Supplementary Information	31

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.

Walnut Creek, California
December __, 2023

DRAFT

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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%.

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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 12 and page 28, respectively.

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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
For the Years Ended June 30, 2023 and 2022

	<u>June 30</u>		<u>Change</u>	
	<u>2023</u>	<u>2022</u>	<u>Amount</u>	<u>Percentage</u>
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	<u>482,880,544</u>	<u>462,051,217</u>	<u>20,829,327</u>	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	<u>66,750,100</u>	<u>60,563,756</u>	<u>6,186,344</u>	10.2%
Net position:				
Restricted for pensions	<u>\$ 416,130,444</u>	<u>\$ 401,487,461</u>	<u>\$ 14,642,983</u>	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.

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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

Table 2
Statement 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	<u>67,119,789</u>	<u>(4,134,760)</u>	<u>71,254,549</u>	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	<u>52,476,806</u>	<u>52,910,654</u>	<u>(433,849)</u>	-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	<u>\$ 416,130,444</u>	<u>\$ 401,487,461</u>	<u>\$ 14,642,984</u>	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%.

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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
For the Years Ended 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%
Accrued 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.

Oakland Police and Fire Retirement System
Management's Discussion and Analysis – Unaudited
June 30, 2023 and 2022

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

Table 2
Statement of Changes in Fiduciary Net Position
For the Years Ended June 30, 2022 and 2021

	<u>June 30</u>		<u>Change</u>	
	<u>2022</u>	<u>2021</u>	<u>Amount</u>	<u>Percentage</u>
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	<u>(4,134,760)</u>	<u>133,840,217</u>	<u>(137,974,977)</u>	<u>-103.1%</u>
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	<u>52,910,654</u>	<u>54,282,032</u>	<u>(1,371,378)</u>	<u>-2.5%</u>
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	<u>\$ 401,487,461</u>	<u>\$ 458,532,875</u>	<u>\$ (57,045,414)</u>	<u>-12.4%</u>

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 was \$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

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

Assets	<u>2023</u>	<u>2022</u>
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	<u>15,147,401</u>	<u>6,218,664</u>
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	158,144,788
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	<u>458,166,392</u>	<u>448,337,582</u>
Total Assets	<u>482,880,544</u>	<u>462,051,217</u>
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	<u>66,750,100</u>	<u>60,563,756</u>
Net Position Restricted for Pensions	<u>\$ 416,130,444</u>	<u>\$ 401,487,461</u>

See accompanying notes to the basic financial statements.

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

Additions	<u>2023</u>	<u>2022</u>
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	<u>(1,361,423)</u>	<u>(1,475,655)</u>
Securities Lending Income		
Securities Lending Earnings	1,905,212	264,447
Securities Lending Expenses, Net of Rebates	<u>(1,805,535)</u>	<u>(111,643)</u>
Net Securities Lending Income	<u>99,677</u>	<u>152,804</u>
Net Investment Income (Loss)	<u>34,407,789</u>	<u>(47,954,760)</u>
Total Additions	<u>67,119,789</u>	<u>(4,134,760)</u>
Deductions		
Benefits to Members and Beneficiaries:		
Retirement	30,958,511	31,495,126
Disability	18,400,366	18,418,545
Death	<u>1,491,539</u>	<u>1,536,331</u>
Total Benefits to Members and Beneficiaries	<u>50,850,416</u>	<u>51,450,001</u>
Administrative Expenses	<u>1,626,390</u>	<u>1,460,653</u>
Total Deductions	<u>52,476,806</u>	<u>52,910,654</u>
Change in Net Position	14,642,983	(57,045,414)
Net Position Restricted for Pensions		
Beginning of Year	<u>401,487,461</u>	<u>458,532,875</u>
End of Year	<u>\$ 416,130,444</u>	<u>\$ 401,487,461</u>

See accompanying notes to the basic financial statements.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

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:

	<u>2023</u>	<u>2022</u>
Retirees and beneficiaries currently receiving benefits:		
Police	404	422
Fire	250	264
Total	<u>654</u>	<u>686</u>

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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

Asset Class	Target Allocation	
	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

GASB Statement No. 67 requires the disclosure of investments in any one organization that represents 5 percent or more of the System's fiduciary net position. As of June 30, 2023, the System had investments issued by the following organizations that exceeded 5% of its fiduciary net position: Northern Trust Company (19.5%), Vanguard Group (7.1%), and Wellington Select Quality Equity, LP (5.6%). As of June 30, 2022, the System had investments issued by the following organizations that exceeded 5% of its fiduciary net position: Northern Trust Company (18.4%), Vanguard Group (7.3%), and Wellington Select Quality Equity, LP (5.2%).

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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

	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 Investments				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:

	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 Investments				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

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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.

	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	<u>\$ 196,745,269</u>		

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

	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	<u>\$ 189,938,561</u>		

* 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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 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

Investment Type	2023	Modified Duration (Years)	2022	Modified Duration (Years)
Short-Term Investment Funds	\$ 10,743,990	n/a	\$ 7,474,421	n/a
U.S. Treasury Bills *	3,576,597	0.55	-	n/a

Long-Term Investment Duration

Investment Type	2023 Fair Value	Modified Duration (Years)	2022 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	<u>59,090,868</u>		<u>55,311,341</u>	
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	<u>69,687,021</u>		<u>74,885,922</u>	
Total Fixed Income Investments	<u>\$ 132,354,487</u>	7.23	<u>\$130,197,263</u>	7.59
Security Lending Collateral	<u>\$ 41,016,208</u>		<u>\$ 48,345,685</u>	

* Though short-term in duration these are not included with short-term investments. These are included with Bonds in the face of the financials.

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:

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%

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

The following are the System's 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

Investment Type	2023		2022	
	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

S&P/Moody's	2023		2022	
	Fair Value	Percent of Total Fair Value	Fair Value	Percent of Total Fair Value
AAA/Aaa	\$ 50,870,963	39.5%	\$ 64,115,811	49.50%
AA/Aa	22,291,955	17.3%	27,835,706	21.10%
A/A	12,987,483	10.1%	12,809,876	9.80%
BBB/Baa	11,087,375	8.6%	15,713,952	12.10%
BB/Ba	469,751	0.4%	1,196,674	0.90%
B/B	55,102	0.0%	21,734	0.00%
CCC/CCC	9,200,988	7.1%	8,503,509	6.50%
Not Rated	1,018,279	0.8%	-70,497	0.00%
N/A	20,795,994	16.1%	0	0.00%
	\$ 128,777,890	100.00%	\$ 130,126,766	100.00%

* In the financial statements, Short-term U.S. Treasury Bills, which are rated N/A, are included with Long-Term N/A.

Security Lending Collateral

	2023	2022
	Fair Value	Fair Value
Not Rated	\$ 41,016,208	\$ 48,345,685

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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.

DRAFT

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

Foreign Currency	Fair Value	
	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	<u>\$ 36,082,479</u>	<u>\$ 29,788,264</u>

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

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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	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 transaction	\$ 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	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 transaction	\$ 47,308,435	\$ 7,501,824	\$ 54,810,259
Collateral Received	\$ 48,375,771	\$ 7,742,587	\$ 56,118,358

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

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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
Grand 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)
Grand 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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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			
Derivative Type / Contract	Fair Value	Maturities	
		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			
Derivative Type / Contract	Fair Value	Maturities	
		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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

	June 30, 2023	June 30, 2022
Total pension liability	\$ 533,790,040	\$ 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.

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.

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

Asset Class	Long-Term Expected Real Rate of Return	
	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.

	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

	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

Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2023 and 2022

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:

	<u>2023</u>	<u>2022</u>
Retired member contribution reserve	\$ 22,350,106	\$ 24,543,634
Employer reserve	393,780,338	376,943,827
Total	<u>\$ 416,130,444</u>	<u>\$ 401,487,461</u>

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.

DRAFT

Oakland Police and Fire Retirement System
Required Supplementary Information
Years Ended June 30, 2023 and 2022

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

	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>
<u>Total Pension Liability</u>					
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
<u>Plan fiduciary net position</u>					
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 employee payroll	\$ -	\$ -	\$ -	\$ -	\$ -
Net pension liability as a percentage of covered employee payroll	N/A	N/A	N/A	N/A	N/A

Oakland Police and Fire Retirement System
Required Supplementary Information
Years Ended June 30, 2023 and 2022

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

	2018	2017	2016	2015	2014
<u>Total Pension Liability</u>					
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
<u>Plan fiduciary net position</u>					
Contributions - employer	\$ 44,860,000	\$ -	\$ -	\$ -	\$ 4,441
Net investment income	35,446,275	50,158,795	(1,418,645)	15,438,586	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 employee payroll	\$ -	\$ -	\$ -	\$ -	\$ -
Net pension liability as a percentage of covered employee payroll	N/A	N/A	N/A	N/A	N/A

Oakland Police and Fire Retirement System

Required Supplementary Information

Years Ended June 30, 2023 and 2022

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

	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017*</u>	<u>2016*</u>	<u>2015*</u>	<u>2014*</u>
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)

	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
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%

Oakland Police and Fire Retirement System

Note to Required Supplementary Information
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:

Fiscal Year	Valuation Date	Discount Rate	Cost-of-Living Adjustments	Mortality	Other Significant Assumption Changes from Prior Year
2023	6/30/2021	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.

Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Administrative Budget Spent to Date (Preliminary)

As of October 31, 2023

	Approved Budget				
		October 2023	FYTD	Remaining	Percent Remaining
Internal Administrative Costs					
PFRS Staff Salaries	\$ 1,459,000	\$ 98,996	\$ 390,030	\$ 1,068,970	73.3%
Board Travel Expenditures	52,500	-	2,030	50,470	96.1%
Staff Training	20,000	-	-	20,000	100.0%
Staff Training - Tuition Reimbursement	7,500	-	-	7,500	100.0%
Board Hospitality	3,600	826	1,630	1,970	54.7%
Payroll Processing Fees	40,000	-	-	40,000	100.0%
Miscellaneous Expenditures	45,000	2,495	3,640	41,360	91.9%
Internal Service Fees (ISF)	88,000	-	-	88,000	100.0%
Contract Services Contingency	50,000	-	-	50,000	100.0%
Internal Administrative Costs Subtotal :	\$ 1,765,600	\$ 102,317	\$ 397,329	\$ 1,368,271	77.5%
Actuary and Accounting Services					
Audit	\$ 52,800	\$ 18,941	\$ 18,941	\$ 33,859	64.1%
Actuary	49,400	-	-	49,400	100.0%
Actuary and Accounting Subtotal:	\$ 102,200	\$ 18,941	\$ 18,941	\$ 83,259	81.5%
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	\$ 118,415	\$ 118,415	\$ 1,234,585	91.2%
Custodial Fee	124,500	-	-	124,500	100.0%
Investment Consultant	100,000	-	25,000	75,000	75.0%
Investment Subtotal:	\$ 1,577,500	\$ 118,415	\$ 143,415	\$ 1,434,085	90.9%
Total Operating Budget	\$ 3,807,400	\$ 239,673	\$ 559,686	\$ 3,247,714	85.30%

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of October 31, 2023

	October 2023
Beginning Cash as of 10/1/2023	\$ 10,428,199
Additions:	
City Pension Contribution - October	\$ 3,396,917
Investment Draw	\$ 1,000,000
Misc. Receipts	800
Total Additions:	\$ 4,397,717
Deductions:	
Pension Payment (September Pension Paid on 10/1/2023)	(4,231,789)
Expenditures Paid	(239,803)
Total Deductions	\$ (4,471,592)
 Ending Cash Balance as of 10/31/2023*	 \$ 10,354,324

* On 11/1/2023, October pension payment of appx \$4,218,000 will be made leaving a cash balance of \$6,136,000.

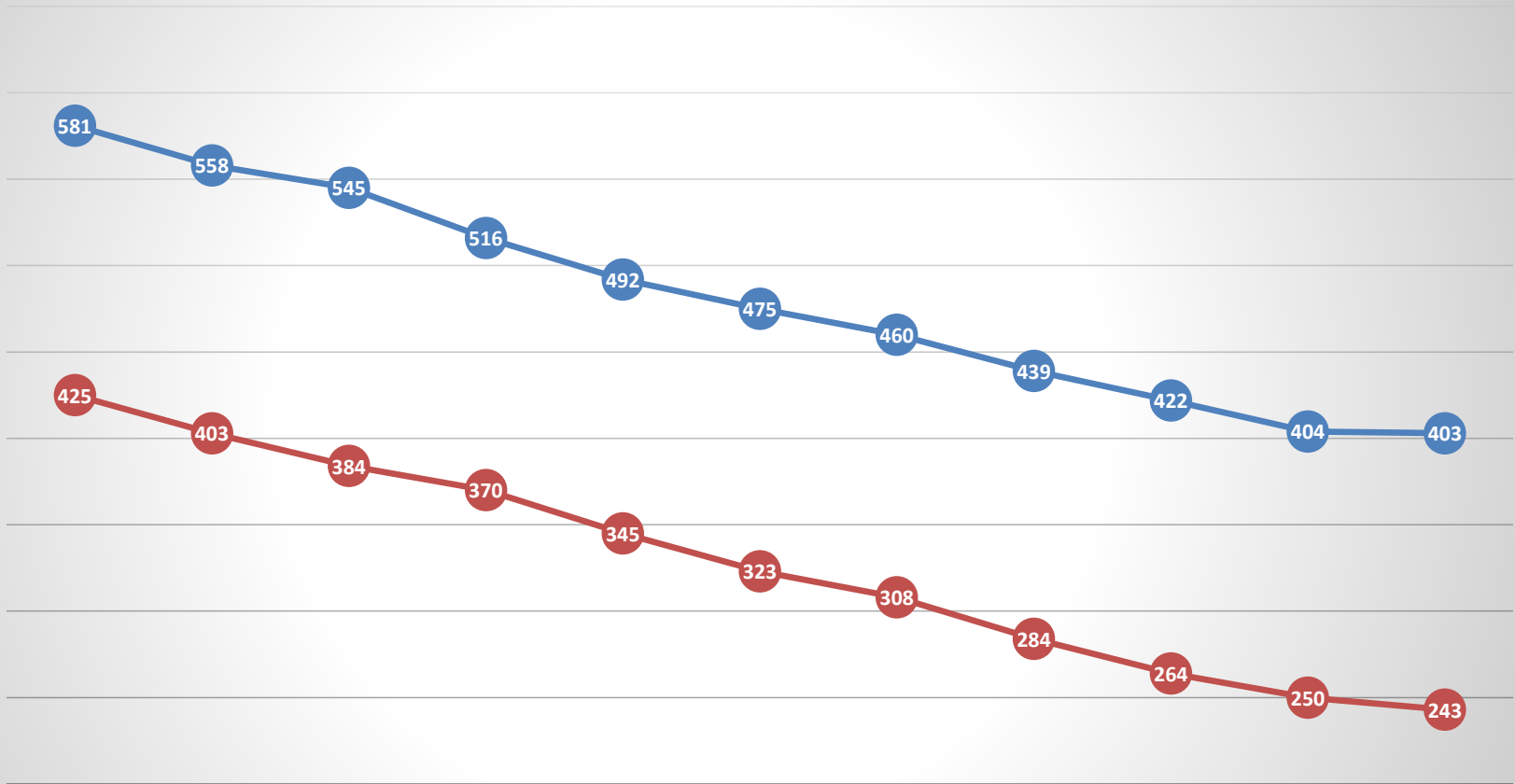
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of October 31, 2023

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	274	155	429
Beneficiary	129	88	217
<i>Total Retired Members</i>	403	243	646
<i>Total Membership:</i>	403	243	646

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	269	115	384
Disability Retirement	125	117	242
Death Allowance	9	11	20
<i>Total Retired Members:</i>	403	243	646
<i>Total Membership as of October 31, 2023:</i>	403	243	646
<i>Total Membership as of June 30, 2023:</i>	404	250	654
<i>Annual Difference:</i>	-1	-7	-8

Oakland Police and Fire Retirement System Pension Plan Membership Count As of October 31, 2023 (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	403
Fire	425	403	384	370	345	323	308	284	264	250	243
Total	1006	961	929	886	837	798	768	723	686	654	646

RAMIREZ ASSET MANAGEMENT



City of Oakland Police and Fire Retirement System – Portfolio Review

Materials prepared for:

City of Oakland Police and Fire Retirement System



Our Clients' Success is Essential to Ours
Integrity ♦ Experience ♦ Teamwork ♦ Performance

Ramirez Asset Management Presentation Team



James Haddon
Managing Director
Head of Marketing and Client Service
Years of Experience: 41
james.haddon@ramirezam.com



Louis Sarno
Managing Director
Portfolio Manager – Securitized Product
Years of Experience: 34
louis.sarno@ramirezam.com

Agenda

- I Firm Overview and Updates
 - II Portfolio Review – Performance and Characteristics
 - III Market Outlook and Strategic Positioning for Alpha
-

I. Firm Overview and Updates

Firm Overview – Who We Are

- Ramirez Asset Management (“RAM”) was founded in 2002 and is a certified minority-owned fixed income and equity investment manager based in New York City with offices in Chicago, IL and San Juan, PR
- RAM is an affiliate of Samuel A. Ramirez & Co. Inc., which was established in 1971, and is one of the oldest Hispanic-owned investment banks in the United States
- \$9.2 billion in firm-wide assets, as of September 30, 2023
- RAM has experienced 35% trailing 5-year annualized AUM growth
- RAM has 40 firm-wide employees with 31 fixed income professionals

Firm Updates and Developments

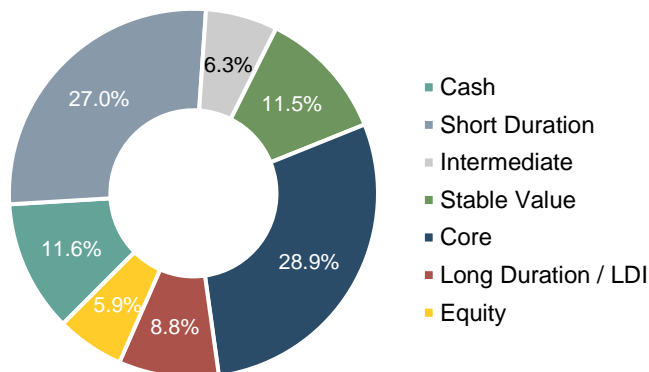
- RAM acquired Thomas White International in July 2023, a Chicago-based equity manager overseeing \$550 million
- The Ramirez Core Bond Fund and Ramirez Government Money Market Fund are set to launch in December 2023
- RAM added 13 employees this year, 4 to the fixed income team and 9 via the TWI acquisition

A Growing, Diverse List of Products and Clients

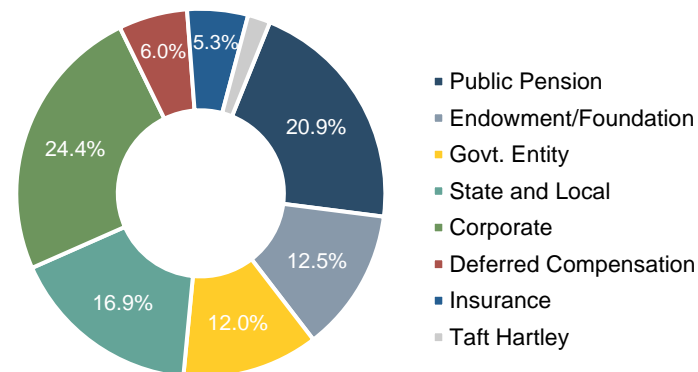
Overview

Number of Clients:	70
Number of Portfolios:	137
Average Client Size:	\$125M

Product Types



Client Types



Source: SS&C Advent as of 09/30/2023

Firm Overview – Fixed Income Professionals

Samuel Ramirez, Jr. President and CEO

Portfolio Management	Years
Samuel Ramirez, Jr. Municipals, Portfolio Manager	31
Louis Sarno Securitized Product, Portfolio Manager	34
Helen Yee, CFA Corporates, Portfolio Manager	31
Alex Bud, CFA Municipals, Asst. Portfolio Manager	23
Fundamental Research	Years
Janet Henry, CFA Corporates	43
Satyam Mallick, CFA Corporates	21
Brett Rodger Corporates	7
Zach Grob Securitized Product	4
Wilson Tran Securitized Product	7
Clyde Lane Municipals	13
Trading	Years
Mary Willis Trader	8
Macroeconomics	Years
Niso Abuaf, Ph.D.	40
Konstantin Semyonov, Ph.D.	25
Duncan Sinclair, Ph.D.	14

Client Service	Years
James Haddon Head of Marketing and Client Service	42
Dallas Ebel Marketing and Client Service	26
Michael Finck Marketing and Client Service	14
Aidan Cage Marketing and Client Service	3
Angeline Parekh Marketing and Client Service	2
Fernando Vinas Marketing and Client Service	31
Luz Signorile Marketing and Client Service	22
Operations	Years
Cheryl Fustinoni Head of Operations	18
Doris Vasquez Operations	16
Allen Khanchik Operations	14
Accounting	Years
Charles Ihonor Accounting	10

Risk Advisory Board

Compliance	Years
Peter Sigismondi Chief Compliance Officer	33
Risk Management	Years
Ira Isaguirre Chief Risk Officer	17
Maodo Ndiaye Quantitative Risk	8
David Briones Performance Analyst	4
Dmitro Golovanich, Ph.D. Systems	2

Organizational Overview

- 31** Total Team Members
- 20+** Years Average Experience
- 7+** Years Average at RAM
- 3 Locations:**
New York (28) Chicago (1) San Juan (2)

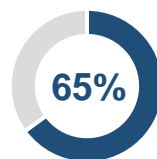


Firm Overview – Industry Leader in Social and Community Involvement

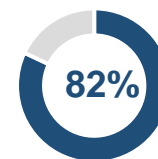
RAM is dedicated to being an industry leader in the inclusion of underrepresented communities. Our diverse array of talent and commitment to the communities in which we come from is an **essential** part of our current and future success.

Approach to Diversity Equity and Inclusion

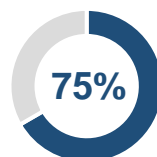
- *Client-Focused: Making an Impact Together*
- *Maintaining a Culture of Inclusivity*
- *Investing in the Community*
- *Developing Talent and Supporting the Next Generation*



of employees are minorities, women, or veterans



of the investment team is composed of minorities, women, or veterans



of senior leadership are minorities or women



of summer 2023 interns were minorities and/or women

The Next Generation

The **Ramirez Summer Internship Program** is a 8-week rotational program for undergraduate students with an interest in finance.

- **88%** of interns over the past 5 years have been minorities and/or women

Ramirez Investment Institute a training program focused on educating the next generation of finance professionals through a series of virtual training modules.



New Jersey Institute of Technology - a scholarship and mentorship initiative for minority students at NJIT.

Promoting DEI in the Industry



CEO Action for Diversity & Inclusion CEO-driven business with 2,000 business leaders making a commitment to advancing D&I within the workplace.



SIFMA is the securities industry leading trade association. Ramirez is an active participant holding seats on both the board and D&I Council.



NASP aims to foster the growth and development of minorities and MWBE firms in the securities industry.

Community Involvement



Hispanic Scholarship Fund empowers students to successfully complete a higher education, while providing support services and scholarships. Ramirez is proud to partner with the HSF on both intern and full time employment programs



ASPIRA is dedicated to the social advancement of the Latino community by supporting its youth in the pursuit of educational excellence.



Latin American Youth Center empowers a diverse population of youth to achieve a successful transition to adulthood.

Diversity Representation Survey

Diversity Representation Survey for Oakland Police and Fire

Date: 9/30/2023
Firm Name: Ramirez Asset Management
Product Name: Ramirez Core Strategy
Total No. of Employees: 40

	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%	10.0%	9.1%
Asian/Hawaiian/Pacific Islander	0.0%	22.5%	36.4%
Latino/Hispanic	50.0%	15.0%	9.1%
White	50.0%	52.5%	45.4%
American Indian/Alaska Native	0.0%	0.0%	0.0%
Other	0.0%	0.0%	0.0%
Gender			
Male	100.0%	67.5%	63.6%
Female	0.0%	32.5%	36.4%
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.

- RAM has 40 employees, of which 67.5% Male and 32.5% Female
- RAM's diverse representation among staff is
 - 10.0% African American/Black
 - 22.5% Asian/Hawaiian/Pacific Islander
 - 15% Latino/Hispanic
 - 52.5% White
 - 0% American Indian/Alaska Native

II. Portfolio Review – Performance and Characteristics

City of Oakland Police and Fire Retirement System

PORTFOLIO

- ▶ RAM manages **\$67.6M** on behalf of the City of Oakland Police and Fire Retirement System (“OPFRS”)
- ▶ The OPFRS portfolio is managed within the Ramirez Core Strategy with diversified allocations to the domestic U.S. Fixed Income market
- ▶ Inception Date: February 1, 2017

BENCHMARK

- ▶ Bloomberg U.S. Aggregate Bond Index

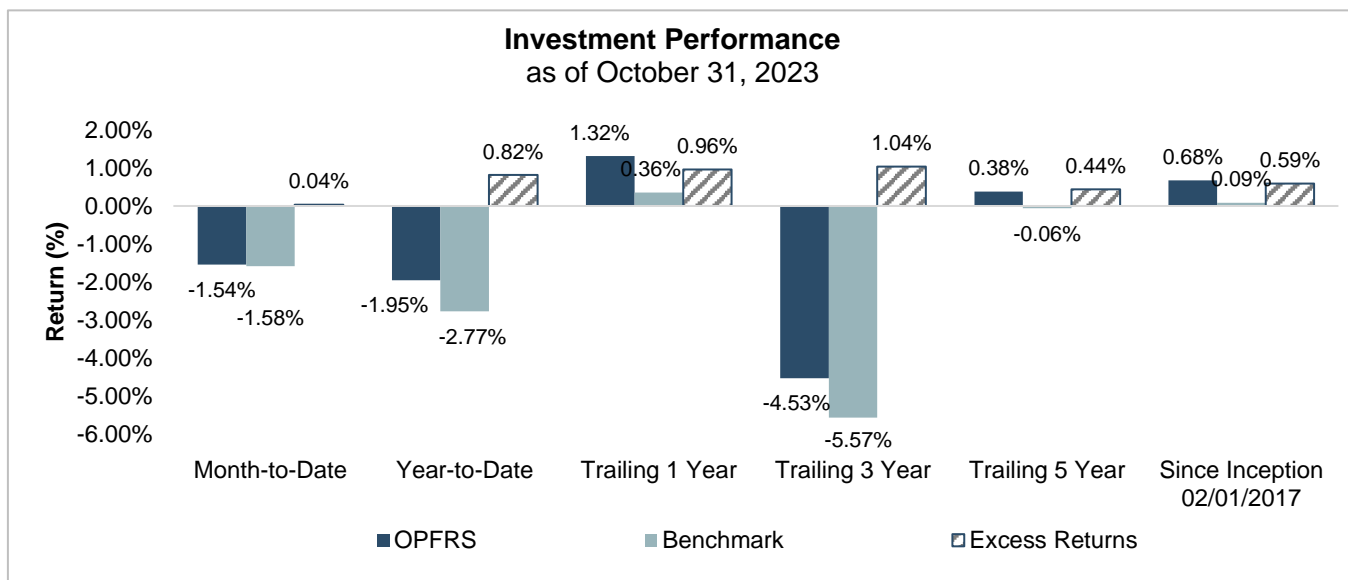
CONSTRAINTS

- Issuer:** Maximum of 10% (25% for any U.S. Government Security) allocation to any single security issue.
- Quality:** Minimum issuer rating of B by S&P/Moody’s/Fitch Ratings services.
The overall weighted average rating of the portfolio must be at minimum: “BBB” by S&P and Fitch, “B” by Moody’s.
- Maturity:** Maturities under 12 months will be viewed as “cash”
Maximum remaining term (or estimated term) to maturity, by single issue, of 31 years at the time of purchase.
The target portfolio average term to maturity is 15 years
The maximum average portfolio duration of 10 years
The targeted average portfolio duration is within the range of 3 – 8 years

Investment Performance

Oakland Police and Fire Retirement System

Core Fixed Income Portfolio



	Month-to-Date	Year-to-Date	Trailing 1-Year	Trailing 3-Year	Trailing 5-Year	Since Inception ²
Portfolio (%)	-1.54	-1.95	1.32	-4.53	0.38	0.68
Benchmark (%)	-1.58	-2.77	0.36	-5.57	-0.06	0.09
Excess Return vs. Portfolio (bps)	+4	+82	+96	+104	+44	+59

- Since February 2017, the OPFRS Core portfolio has generated **+59** basis points in excess return
- As of 10/31/2023, the OPFRS Core portfolio has **\$67.6mm** in total assets

Performance Attribution – Trailing 1-Year

Oakland Police and Fire Retirement System Core Fixed Income Portfolio

Excess Return by Effects: +96 basis points (bps)

- Income: +108 bps
- Pay-down: -4 bps
- Term Structure: -64 bps
- Spread Total: +55bps

Sector Return Components

- Positive Contributors (+163 bps):**
 - Overweight to Taxable Municipals: +76 bps
 - ABS/RMBS/CMBS: +47 bps
 - Underweight to Corporates: +36 bps
 - Cash: +4
- Return Detractors (-67 bps):**
 - Underweight to Agency MBS: -50 bps
 - Underweight to U.S. Treasuries: +8 bps
 - Underweight to U.S. Agencies: +3 bps
 - Non-allocation Non-Corporates: -6 bps

Excess Return	Trailing 1 Years Return Attribution*				
	Total Excess Return	Income	Paydown	Term Struct. Total	Spread Total
Excess Return	0.96	1.08	(0.04)	(0.64)	0.55
Cash	0.04	0.04	0.00	(0.00)	0.00
U.S. Govt./Municipals/Credit	0.94	1.07	(0.00)	(0.58)	0.45
U.S. Governments	(0.12)	(0.34)	0.00	0.23	(0.01)
Agency	(0.03)	(0.05)	0.00	0.02	(0.00)
Treasury	(0.08)	(0.29)	0.00	0.21	(0.00)
Municipals/Credit	1.06	1.42	(0.00)	(0.81)	0.46
Taxable Municipals	0.76	1.36	(0.00)	(1.12)	0.53
Corporate	0.36	0.14	0.00	0.26	(0.04)
Sovereign	(0.02)	(0.05)	0.00	0.07	(0.04)
Supranational	(0.04)	(0.03)	0.00	(0.01)	(0.00)
Securitized Product	(0.03)	(0.03)	(0.03)	(0.06)	0.10
CMBS	0.34	0.11	0.01	0.14	0.09
ABS	0.13	0.06	0.02	0.07	(0.01)
RMBS	0.00	0.10	0.04	(0.12)	(0.02)
Pass-Thru	(0.50)	(0.30)	(0.10)	(0.15)	0.04
Corporate Subsectors	0.36	0.14	0.00	0.26	(0.04)
Industrial	0.13	0.12	0.00	0.01	0.01
Finance	0.13	0.06	0.00	0.10	(0.03)
Utility	0.09	(0.05)	0.00	0.15	(0.01)

Date	Bellwether U.S. Treasury Yields ⁽²⁾							Key Curve Changes		
	3 Mo.	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	30 Yr.	2s/30s	2s/10s	10s/30s
10/31/2022	4.22	4.66	4.45	4.27	4.18	4.10	4.22	(0.29)	(0.41)	0.12
10/31/2023	5.59	5.44	4.90	4.82	4.89	4.88	5.04	(0.03)	(0.19)	0.16
12 Mo. Change	1.37	0.78	0.45	0.55	0.71	0.78	0.82	0.26	0.22	0.04

Source: ¹BondEdge Next-Generation [®] as of 10/31/2023
²U.S. Treasury (www.treasury.gov)
 Past performance is no guarantee of future results

Portfolio Positioning

Oakland Police and Fire Retirement System

Core Fixed Income Portfolio

Characteristics	OPFRS	Benchmark	Difference
Market Value (\$M)	\$67.6	---	---
Yield-to-Worst (%)	5.99	5.68	+0.31
Eff. Duration (Yrs.)	6.02	5.87	+0.15
Quality Rating	Aa2	Aa2	--
Coupon (%)	4.15	3.03	+1.12
Maturity (Yrs.)	8.93	8.30	+0.63

Sector	Strategy	Index	Difference
U.S Govt.	21.6%	42.4%	-20.7%
Corporates	21.5%	26.9%	-5.4%
Agency MBS	14.1%	27.9%	-13.8%
RMBS	2.5%	0.0%	2.5%
CMBS	4.8%	1.8%	3.0%
ABS	3.3%	0.5%	2.8%
Taxable Municipals	31.6%	0.6%	31.0%
Cash	0.6%	0.0%	0.6%

Quality	Strategy	Index	Difference
AAA	11.3%	3.7%	7.6%
AA	59.9%	71.6%	-11.6%
A	12.1%	10.3%	1.8%
BBB	15.1%	13.8%	1.3%
Below IG	0.6%	0.6%	0.0%



Source: Bloomberg, BondEdge Next-Generation

¹Benchmark: Bloomberg U.S. Aggregate Bond Index

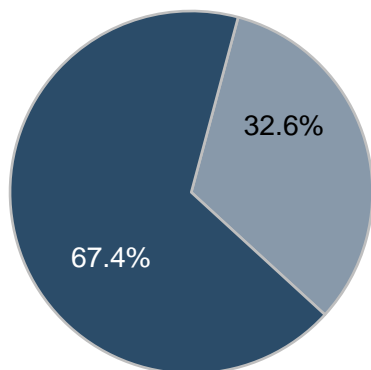
²BondEdge Next-Generation uses the lower of NRSRO Ratings when determining credit quality.

MWDVBE and Approved Local Broker Trading

- RAM is committed to utilizing MWDVBE and OPFRS' Approved Local Brokers
- All MWDVBE and OPFRS Approved Local Broker utilization is contingent on best execution practices

MWDVBE and Local Approved Broker Utilization

Trailing 1-Year
as of 10/31/2023



- MWDVBE and Approved Local Brokers
- Non-MWDVBE or Approved Local Brokers

MWDVBE and Approved Local Broker Dealers Utilized

Academy Securities
Alamo Capital
American Veterans
Blaylock Van*
Loop Capital*
Roberts & Ryan
Siebert
Siebert Williams Shank

III. Market Outlook and Strategic Positioning for Alpha

Current Market Outlook and Strategic Positioning for Alpha

Macroeconomic Outlook and Portfolio Positioning

- RAM is currently neutral to positive overall relative duration and emphasizing higher quality sectors and issues
 - The Federal Reserve is on hold for now as it analyzes incoming data
 - Production inflation has moved significantly lower from cyclical highs, services inflation remains elevated and “sticky”
 - RAM views the higher probability for the term structure is to re-steepen as inflation and growth come down
- RAM has moved our longer maturity exposure from underweight to neutral relative to the benchmark as yields have peaked
- Over the past year, we have increased exposure to U.S. Government sectors but remain underweight relative to benchmark
- RAM emphasizes high quality sub-sectors and issuers that will outperform in both a steady state or slowing growth scenario
- Currently, we have taken a conservative approach to credit risk and have increased the duration of U.S. Government securities while reducing duration to risk assets

Portfolio Overweights

- Taxable Municipals
- Non-Agency RMBS
- Asset Backed Securities
- Logistics CRE

Portfolio Underweights

- U.S. Treasuries
- Agency RMBS
- Investment Grade Corporates
- Office CRE

Macroeconomic Roadway

Political Risks	●	<ul style="list-style-type: none"> ⇒ Biden's meeting with Xi was a rare opportunity to neutralize relations and produce important agreements, but the bilateral relationship will continue to be defined by competition ⇒ While posing significant geopolitical risks and escalation probabilities, the Russia-Ukraine and the Israel-Hamas wars will likely fuel US economic activity and impose supply chain constraints as global armament production takes central stage
High Frequency Trends	●	<ul style="list-style-type: none"> ⇒ Rental costs continue to rise in lagged response to the significant increase in home prices. Renters are suffering while higher-income home owners are benefiting, leading to income-inequality problems <ul style="list-style-type: none"> ⇒ Homeowners who have locked in mortgages at rates below 3% are unwilling to sell, leading to significant price increases. This effect, combined with elevated mortgage rates, has moved the housing-affordability index to its lowest level since the mid-1980s
Economic Growth (US)	●	<ul style="list-style-type: none"> ⇒ US economic growth surged in Q3 as GDP rose 4.9%, more than double its long-term growth rate of slightly less than 2%. Because most of this growth was due to consumers spending at a blockbuster rate and a significant build up in private inventories, we expect that it will be difficult to sustain <ul style="list-style-type: none"> ⇒ While interest rate sensitive sectors are in a slump, government purchases as a result of the various fiscal programs and defense spending will keep the economy away from a recession ⇒ Though housing starts were up modestly in October, most of the statistics pointed to a cooling economy. Namely, jobless claims were up slightly, the Philadelphia Fed diffusion index improved to a still quite weak -5.9 and manufacturing output was down 0.7% m/m, home builder index sank, and consumers showed weakness
Labor Markets (US)	●	<ul style="list-style-type: none"> ⇒ According to the volatile JOLTS data, job openings remain strong but continue to decline in synchrony with the quits rate ⇒ The economy created 150K jobs in October, slightly lower than expected but 50% higher than what the economy needs to create to absorb new entrants ⇒ Though fears about the UAW strike have abated, a looming government shutdown may harm the labor market
Inflation	●	<ul style="list-style-type: none"> ⇒ Headline CPI unchanged m/m in October, while core and super-core services rose 0.23%, and 0.22% m/m in October. The markets rejoiced at these numbers, as they were better than expected ⇒ The PPI numbers in October also came in better than expected, with PPI for final demand declining 0.5% m/m, with the core up 0.1% m/m
Monetary Policy	●	<ul style="list-style-type: none"> ⇒ During an International Monetary Fund Conference, the Federal Reserve Chair Jerome Powell said that: "We will continue to move carefully, however, allowing us to address both the risk of being misled by a few good months of data and the risk of overtightening"
Fiscal Policy	●	<ul style="list-style-type: none"> ⇒ The US Fiscal deficit will reach almost 6% of GDP for the fiscal year 2022-2023. Moreover, this deficit has been pushed upwards by high interest rates which have in turn put pressure on the bond markets ⇒ The Treasury surprised the markets in its Quarterly Refunding Announcement by announcing that its increased issuance will be concentrated at the short end. Currently, short-dated T-bill issuance is more than 20% of total debt issuance, and may go higher still. Markets embraced this news
The Markets	●	<ul style="list-style-type: none"> ⇒ Government bond yields experience high volatility in 2021 and 2022, and the 10Y is currently around 4.43%. The 2Y10Y part of the Treasury curve remains inverted since July 2022, which in the past often signaled downturns – though it may be more correlation than causation. The current spread between the 2Y and 10Y Treasury yields narrows to about 47 bps ⇒ The S&P 500 is up by ~17.7% in 2023 and the VIX is around 14%
The Bottom Line	●	<ul style="list-style-type: none"> ⇒ Consumption and government expenditures will help the economy move along, and as Treasury Secretary Janet Yellen has stated, the economy will likely experience a soft landing with an annual GDP growth rate of 2.5% <ul style="list-style-type: none"> ⇒ Risks include developments in the commercial real estate & banking sectors, tightening financial conditions & Fed mistakes, the fiscal deficit & dysfunctional government, and geopolitics



Tailwinds



Neutral



Headwinds

Current Market Outlook and Strategic Positioning for Alpha

Market Risk Outlook Current Positioning

<p>Interest Rates</p> <p>Fed Funds Rate 5.25% – 5.50%</p> <p>Most recent Fed move was no movement on 11/01/23</p> <p>Next Meeting: 12/12/23</p>	<p>Fed Funds Forecasts</p> <p>Fed Forecast (as of Sep 2022 Meeting) Fed Forecast (as of Dec 2022 Meeting)</p>	<ul style="list-style-type: none"> As we enter Q4, RAM is maintaining duration neutral/modestly long overall relative to benchmarks Transitioning weighted average coupon structures lower as we layer in holdings with deep discount dollar prices Federal Reserve rate increases may be nearing a top for this cycle
--	--	---

<p>Term Structure</p> <p>Bear Steepener</p>	<p>Year over Year UST Yield Curve</p> <p>9/30/2022 9/30/2023</p>	<ul style="list-style-type: none"> Increase exposure to intermediate dated holdings as term structure re-steepens in tenures of 5-years and longer Consensus FED outlook envisions rate decreases beginning in mid-2024 Volatility on the term structure should subside as more clarity from the FED brings stability
--	---	--

<p>Risk Premiums</p> <p>Selective overweights / Range-bound</p>	<p>Historical 5-Year Bloomberg U.S. Agg. OAS</p> <p>9/30/23 52 bps</p>	<ul style="list-style-type: none"> Position credit risk with shorter overall relative duration across sectors while maintaining longer duration positioning with U.S. treasuries Expect relatively range bound risk premiums with yield carry being a primary driver of excess returns however, if economy heads into a recession expect risk premiums to move wider Continue to increase credit quality in non-government sectors Maintain strategic positioning in the taxable municipal asset class with higher credit quality and lower beta issuers
--	---	--



Source: Federal Reserve; Bloomberg; U.S. Dept. of Treasury & Internal Data

DISCLAIMER

©2023 Ramirez Asset Management, Inc.

This material is confidential.

This material is confidential and proprietary to Ramirez Asset Management, Inc. and is solely intended for the parties to whom it was provided for informational purposes only. If you have received this document in error, please securely destroy it immediately. This material has been provided for the purpose of discussion and may not be further distributed, reproduced, or disclosed to any third party or used for any other purpose without the prior written consent of Ramirez Asset Management, Inc. The information contained in this document does not constitute any agreement with Ramirez Asset Management, Inc.

Current market conditions are subject to change.

The information contained herein reflects prevailing conditions and our views as of this date, which are accordingly subject to change without prior notice. In preparing this material, we have relied upon the accuracy and completeness of information available from various sources considered reliable, but Ramirez Asset Management, Inc. has not independently verified this information and does not represent that this material is accurate, current, or complete and it should not be relied upon as such. In addition, any appraisals contained herein should be considered preliminary, suitable only for the purpose described herein and should not be disclosed or otherwise used without the prior written consent of Ramirez Asset Management, Inc.

Past performance is no guarantee of future returns.

Past returns are no promise or guarantee of future performance. The value of investments and returns are subject to change. No data which reflects past performance is an indication of future returns. Investments in fixed income securities involve certain risks, which are fully described in the firm's Form ADV Part 2 filing. All investors must receive a copy of the firm's Disclosure Document, Form ADV Part 2, prior to their initial investment with the firm and receive a copy of the firm's Annual Amendment each year thereafter. Please review carefully.

MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group (Meketa)
DATE: December 6, 2023
RE: Ramirez Core Fixed Income—Manager Update

Manager: Ramirez Asset Management

Inception Date:	February 2017	OPFRS AUM (10/31/2023):	\$67.6 million
Strategy:	Core Fixed Income	Strategy AUM (9/30/2023):	\$2.3 billion
Benchmark:	Bloomberg US Aggregate Bond Index	Firm-wide AUM (9/30/2022):	\$9.2 billion

Summary & Recommendation

Ramirez has managed a portion of OPFRS’s Core Fixed Income portfolio since January 2017. As of 10/31/2023, the portfolio is approximately \$67.6 million or about 17.1% of OPFRS’s Total Fund. The strategy has performed within expectations and guidelines for the portfolio for all time periods measured, and has experienced no major organizational changes in the portfolio management team since last review in September 2022. **Therefore, Meketa does not have any major concerns with Ramirez and recommends that the Board retains Ramirez as a Core Fixed Income manager.**

Investment Performance Review Summary

As of 10/31/2023, Ramirez Core Fixed Income portfolio has matched or outperformed benchmark over all time periods measured on both gross- and net-of-fees bases. In comparison with its peers in the eVestment US Core Fixed Income (Net) universe, it has ranked above average across all time periods.

OPFRS Portfolio Returns (as of 10/31/2023)¹

Portfolio	Balance (\$000)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	S.I. (%)	Inception Date
Ramirez Core (Gross)	67,579.0	-1.6	-2.1	1.1	-4.6	0.4	0.6	1/2017
<i>Bloomberg US Aggregate</i>	---	<i>-1.6</i>	<i>-2.8</i>	<i>0.4</i>	<i>-5.6</i>	<i>-0.1</i>	<i>0.1</i>	---
Excess Return	---	0.0	0.7	0.7	1.0	0.5	0.5	---
Ramirez Core (Net)	67,579.0	-1.6	-2.3	0.9	-4.8	0.2	0.4	1/2017
<i>Bloomberg US Aggregate</i>	---	<i>-1.6</i>	<i>-2.8</i>	<i>0.4</i>	<i>-5.6</i>	<i>-0.1</i>	<i>0.1</i>	---
Excess Return	---	0.0	0.5	0.5	0.8	0.3	0.3	---
Peer Group Rank (Net) ²		36	36	30	19	45	41	---

¹ Performance is annualized for periods longer than one year. “S.I.” signifies Since Inception.

² Peer group is eVestment US Core Fixed Income (Net) as of 10/31/2023.



Product and Organization Review Summary

Ramirez 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 Ramirez Asset Management and the Core Fixed Income strategy revealed no concerning organizational issues or changes since last review in September 2022.

Investment Summary per Manager

Ramirez is seeking active relative value credit opportunities to add incremental yield and total return. The firm allows experienced portfolio managers to make meaningful allocations to relative value anomalies that they identify. Ramirez is disciplined in adhering to overall benchmark duration, term, and credit quality risk framework. However, it is not risk constrained by credit segmentation within the benchmark. Ramirez believes utilizing credit expertise in sector rotation and security selection, in a risk-controlled framework will produce consistent risk-adjusted returns over time.

This philosophy is the foundation of each of Ramirez's investment strategies and has remained unchanged since the firm's inception. The firm's investment approach seeks to add value by:

- Taking a longer-term view on investing; less dependent on a few top-down decisions;
- Closely regulating relative duration and term structure positioning;
- Combining quantitative and qualitative factors into a bottom-up/ top-down process;
- Emphasizing active relative value allocation across domestic high grade credit sectors and securities held in the index.

Ramirez's overriding objective is to achieve consistent excess returns above the benchmark through successive market cycles. Ramirez views that a strategy which attempts to anticipate interest rates will exhibit higher levels of volatility relative to a benchmark and will result in inconsistent relative performance. A critical component of the risk management process is the maintenance of overall duration and term structure positioning, relative to the benchmark, within fairly narrow ranges utilizing key rate durations ("KRD") as the preferred measure. While Ramirez will express a bias for the directionality of interest rates, overall portfolio effective duration and KRD are kept within narrow bands relative to the benchmark, typically $\pm 10\%$ with average variances ranging between $\pm 5\%$.

Ramirez's portfolios, including the Core strategy, are actively managed with a blend of top-down macroeconomic analysis and bottom-up issuer level research. When forming the firm's macro- and microeconomic opinions, the Investment Committee, assesses both qualitative and quantitative factors. This ensures that the appropriate quantitative market indicators and metrics as well as the extensive experience of the firm's investment professionals is utilized when determining the optimal sectors positioning and security selection. This portfolio construction process has been in place and remained unchanged since the firm's founding.

DS/PN/JLC/mn



Disclosure

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.

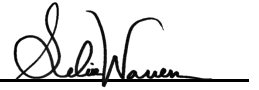
INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8086

Approved to Form
and Legality



ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION AUTHORIZING THE EXECUTION OF A THIRD AMENDMENT TO THE PROFESSIONAL SERVICES AGREEMENT WITH RAMIREZ ASSET MANAGEMENT, INC. FOR THE PROVISION OF CORE FIXED INCOME INVESTMENT STRATEGY MANAGER SERVICES FOR THE OAKLAND POLICE AND FIRE RETIREMENT SYSTEM TO RENEW THE AGREEMENT FOR AN ADDITIONAL ONE-YEAR TERM COMMENCING JANUARY 1, 2024 AND ENDING DECEMBER 31, 2024

WHEREAS, Article XVI §17 of the California Constitution, commonly referred to as the Pension Protection Act or Proposition 162, and Article XXVI of the Oakland City Charter (“Charter”) vest the Oakland Police and Fire Retirement System Board (“PFRS Board”) with exclusive control of the administration and investment of the assets of the Police and Fire Retirement Fund (the “Fund”); and

WHEREAS, the PFRS Board manages and administers the Police and Fire Retirement System (“PFRS”), pursuant to the requirements of Article XXVI of the Charter; and

WHEREAS, Charter section 2601(e) gives the Board power to make all necessary rules and regulations for its guidance and exclusive control of the administration and investment of the funds established for the maintenance and operation of the system; and

WHEREAS, Article XXVI of the Charter expressly authorizes the PFRS Board to secure competent investment counsel to provide advice and counsel regarding the investment of the Fund and further provides that discretionary powers granted to such investment counsel will be at the option of the Board; and

WHEREAS, on December 21, 2016, the PFRS Board adopted Resolution No. 6941, which awarded a professional service agreement to Ramirez Asset Management Inc. to serve as the Core Fixed Income Investment Strategy Manager for PFRS at a rate of .24 percent of the portfolio’s annual asset value for a five year term with three one-year options to renew the Agreement at the same rate; and

WHEREAS, pursuant to Resolution No. 6941, PFRS entered into an agreement with Ramirez Asset Management Inc., to serve as the Core Fixed Income Investment Strategy Manager for a five-year term commencing January 1, 2017 and ending December 31, 2021, subject to the fees and terms set forth above; and

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8086

WHEREAS, on October 27, 2021, the PFRS Board exercised their first option to renew the agreement and adopted Resolution No. 8030, which authorized a one-year extension of the agreement with Ramirez Asset Management Inc. commencing January 1, 2022 and ending December 31, 2022; and

WHEREAS, on September 28, 2022, the PFRS Board exercised their second option to renew the agreement and adopted Resolution No. 8063, which authorized a one-year extension of the agreement with Ramirez Asset Management Inc. commencing January 1, 2023 and ending December 31, 2023; and

WHEREAS, the PFRS Board now wishes to exercise its third option to renew the agreement with Ramirez Asset Management Inc. for an additional one-year term, at the existing annual fee rate of 0.24 percent of the Fund assets under management (presently valued at approximately Sixty Eight Million Dollars (\$68,000,000.00), which fees are estimated to be approximately One Hundred Sixty Two Thousand Dollars (\$162,000.00) per year commencing January 1, 2024; now, therefore, be it

RESOLVED: That PFRS staff is authorized to amend the agreement with Ramirez Asset Management Inc. for the provision of Core Fixed Income Investment Strategy Manager Services for PFRS at the annual rate of 0.24 percent of the Fund assets under management to extend the term for an additional one-year commencing January 1, 2024 and ending December 31, 2024; and be it

FURTHER RESOLVED: That the President of the PFRS Board is hereby authorized to execute, on behalf of PFRS, the second amended agreement with Ramirez Asset Management Inc.

IN BOARD MEETING, CITY HALL, OAKLAND, CA **DECEMBER 06, 2023**

PASSED BY THE FOLLOWING VOTE:

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

NOES:

ABSTAIN:

ABSENT:

ATTEST: _____
PRESIDENT

ATTEST: _____
SECRETARY

Economic and Market Update

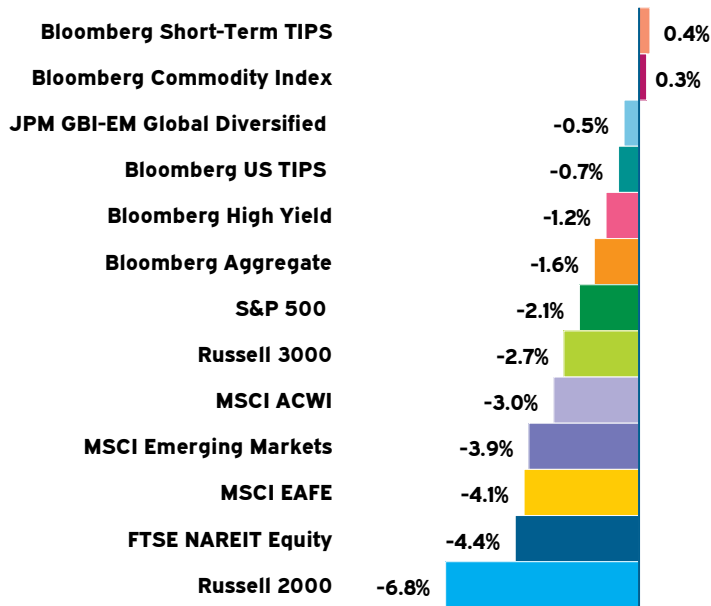
October 2023 Report

Commentary

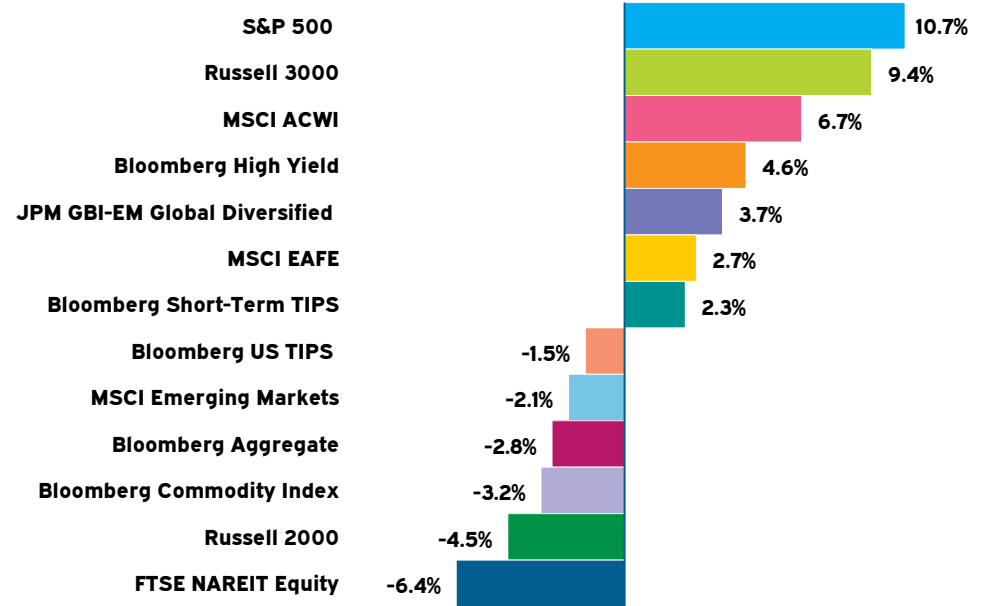
- Global markets continued to struggle in October, as expectations remained on the Fed keeping interest rates higher for longer due to resilient economic data.
- The Federal Open Markets Committee (FOMC), which increased policy rates in July by 0.25% to a range of 5.25% - 5.5%, has been on pause since. Markets are now largely expecting the FOMC to maintain interest rates at this level through the first half of next year with cuts to follow.
 - US equity markets (Russell 3000 index) fell in October (-2.7%), lowering the year-to-date gains to 9.4%. Most sectors except utilities struggled in October.
 - Non-US developed equity markets declined more than the US in October (MSCI EAFE -4.1%), with the strength of the US dollar weighing on returns. This widened the gap between US and international developed equities for the year (to 9.4% versus 2.7%).
 - Emerging market equities also fell in October (-3.9%), with negative results driven by China and the strong US dollar. Emerging markets continue to significantly trail developed market equities year-to-date, returning -2.1%, again driven by losses from China (-11.2%).
 - Interest rates generally rose in October, particularly for longer-dated maturities. The broad US bond market declined (-1.6%) in October falling further into negative territory (-2.8%) year-to-date, as higher income has offset a portion of the capital losses from rising rates.
- For the rest of this year and into 2024, the paths of inflation and monetary policy, slowing global growth, and the wars in Ukraine and Israel will all be key.

Index Returns¹

QTD



YTD



→ After a strong start to the year, the prospect of higher interest rates for longer given resilient economic data has weighed on markets from August through October.

¹ Source: Bloomberg. Data is as of October 31, 2023.

Domestic Equity Returns¹

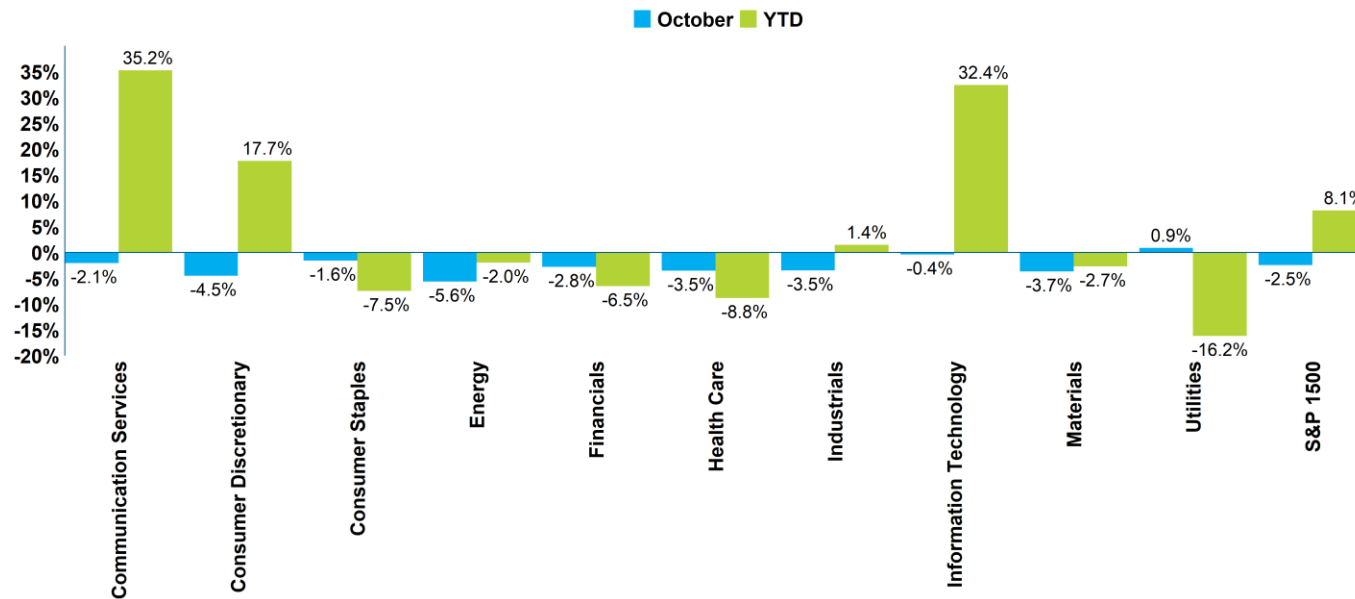
Domestic Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	-2.1	-3.3	10.7	10.1	10.3	11.0	11.2
Russell 3000	-2.7	-3.3	9.4	8.4	9.2	10.2	10.5
Russell 1000	-2.4	-3.1	10.3	9.5	9.5	10.7	10.9
Russell 1000 Growth	-1.4	-3.1	23.2	19.0	8.7	14.2	13.8
Russell 1000 Value	-3.5	-3.2	-1.8	0.1	10.2	6.6	7.6
Russell MidCap	-5.0	-4.7	-1.3	-1.0	6.0	7.1	8.0
Russell MidCap Growth	-5.1	-5.2	4.3	3.3	0.8	8.1	9.1
Russell MidCap Value	-5.0	-4.5	-4.4	-3.6	8.8	5.7	6.9
Russell 2000	-6.8	-5.1	-4.5	-8.6	3.9	3.3	5.6
Russell 2000 Growth	-7.7	-7.3	-2.9	-7.6	-1.8	2.7	5.7
Russell 2000 Value	-6.0	-3.0	-6.5	-9.9	9.7	3.3	5.2

US Equities: The Russell 3000 Index fell 2.7% in October but is up 9.4% YTD.

- A surprisingly strong September jobs report and third quarter GDP reading reinforced investors' expectations that the Federal Reserve will keep interest rates higher for longer and broadly weighed on US equities.
- The utility sector was the only sector that posted a gain during October. Energy stocks experienced the steepest fall, followed by consumer discretionary stocks.
- Large cap stocks outperformed small cap stocks during October driven by the technology sector. Microsoft and Amazon, both of which reported stronger than expected third quarter results, were significant contributors to this dynamic.

¹ Source: Bloomberg. Data is as of October 31, 2023.

S&P 1500 Sector Returns¹



→ Except for utilities all sectors were down in October.

→ So far in 2023, the communication services (+35.2%) and technology (+32.4%) sectors had the best results, helped by artificial intelligence optimism. Given the continued strength in the US consumer the consumer discretionary sector followed (+17.7%), while more traditionally defensive sectors like utilities (-16.2%), health care (-8.8%), and consumer staples (-7.5%) have trailed.

¹ Source: Bloomberg. Data is as of October 31, 2023.

Foreign Equity Returns¹

Foreign Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-4.1	-3.8	1.0	12.1	3.0	3.5	2.5
MSCI EAFE	-4.1	-4.1	2.7	14.4	5.7	4.1	3.1
MSCI EAFE (Local Currency)	-3.4	-1.3	7.0	10.4	11.0	6.4	6.0
MSCI EAFE Small Cap	-5.9	-3.5	-4.2	6.5	0.3	1.6	3.4
MSCI Emerging Markets	-3.9	-2.9	-2.1	10.8	-3.7	1.6	1.2
MSCI Emerging Markets (Local Currency)	-3.6	-1.4	0.3	9.8	-1.1	3.6	4.2
MSCI China	-4.3	-1.9	-11.2	21.1	-16.9	-2.6	1.0

Foreign Equity: Developed international equities (MSCI EAFE) fell 4.1% in October, dropping the YTD gain to 2.7%. Emerging market equities (MSCI EM) fell 3.9% in the period and were down 2.1% YTD.

- Non-US equities fell for the third consecutive month with steeper declines compared to the US market. The continued strength of the US dollar contributed to losses, as well as the ongoing geopolitical crisis in the Middle East.
- European equities struggled due to slowing growth, falling PMI, and a contraction in household and business credit supply. The UK saw greater losses, with sticky inflation, and continued wage growth suggesting that rates will be high for some time. Japan remains the best performing market year-to-date, though the TOPIX lost momentum in October.
- Emerging market equity performance was slightly better than developed international equities, but the declines for the month brought year-to-date results into negative territory. While there were some positive data out of China on industrial production and retail sales, continued weakness in real estate and new US chip restrictions weighed on market sentiment.

¹ Source: Bloomberg. Data is as of October 31, 2023.

Fixed Income Returns¹

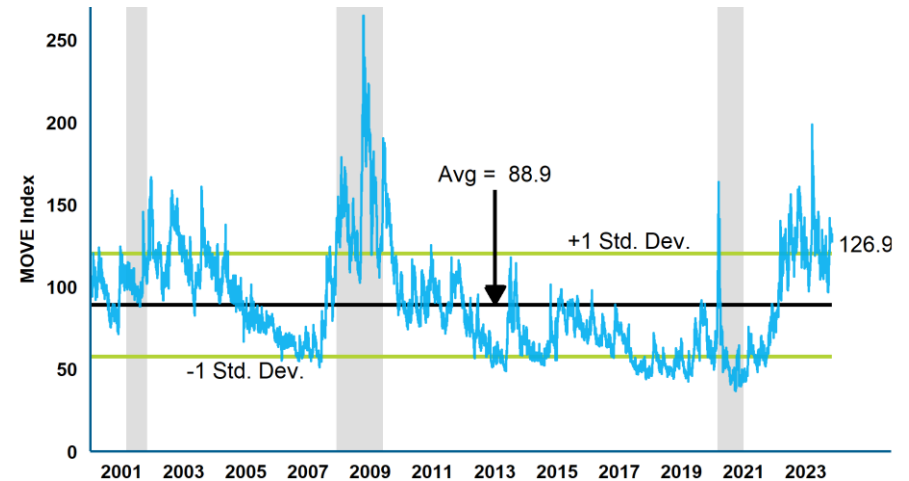
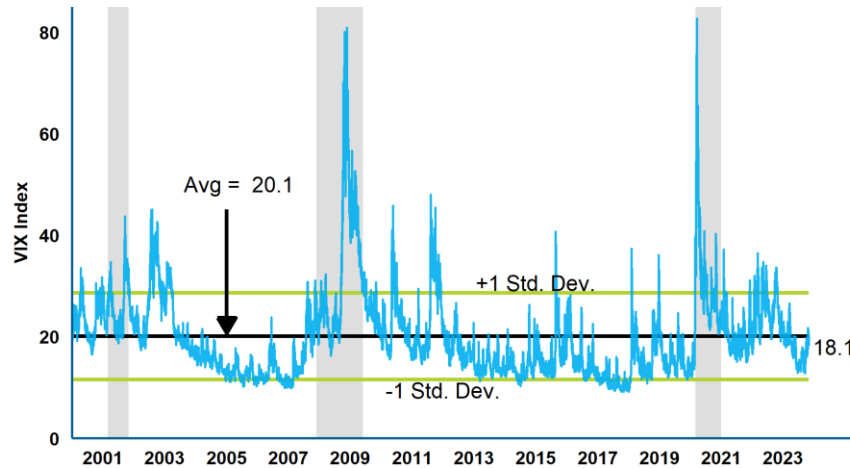
Fixed Income	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-1.5	-2.9	-2.1	1.2	-5.0	0.2	1.2	6.0	5.9
Bloomberg Aggregate	-1.6	-3.2	-2.8	0.4	-5.6	-0.1	0.9	5.6	6.1
Bloomberg US TIPS	-0.7	-2.6	-1.5	-0.7	-2.0	2.3	1.6	5.2	6.6
Bloomberg Short-term TIPS	0.4	0.4	2.3	2.6	2.1	3.0	1.7	5.4	2.5
Bloomberg High Yield	-1.2	0.5	4.6	6.2	1.2	3.0	3.9	9.5	4.0
JPM GBI-EM Global Diversified (USD)	-0.5	-3.3	3.7	13.5	-3.0	0.3	-1.2	7.0	4.9

Fixed Income: The Bloomberg Universal index declined 1.5% in October and 2.1% YTD.

- Expectations for policy rates to remain higher for longer than previously expected continued to weigh on yields in October.
- The broad US bond market (Bloomberg Aggregate) fell 1.6% in the month, driving year-to-date performance further into negative territory. The broader TIPS index fell by 0.7%, while the less interest-rate-sensitive short-term TIPS index outperformed most sectors, up 0.4%.
- High yield bonds also weakened, declining 1.2%, and emerging market bonds fell 0.5%. Volatility in both asset classes is being driven by movement in broader interest rates, but also a modest deterioration in risk appetite.

¹ Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of October 31, 2023. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.

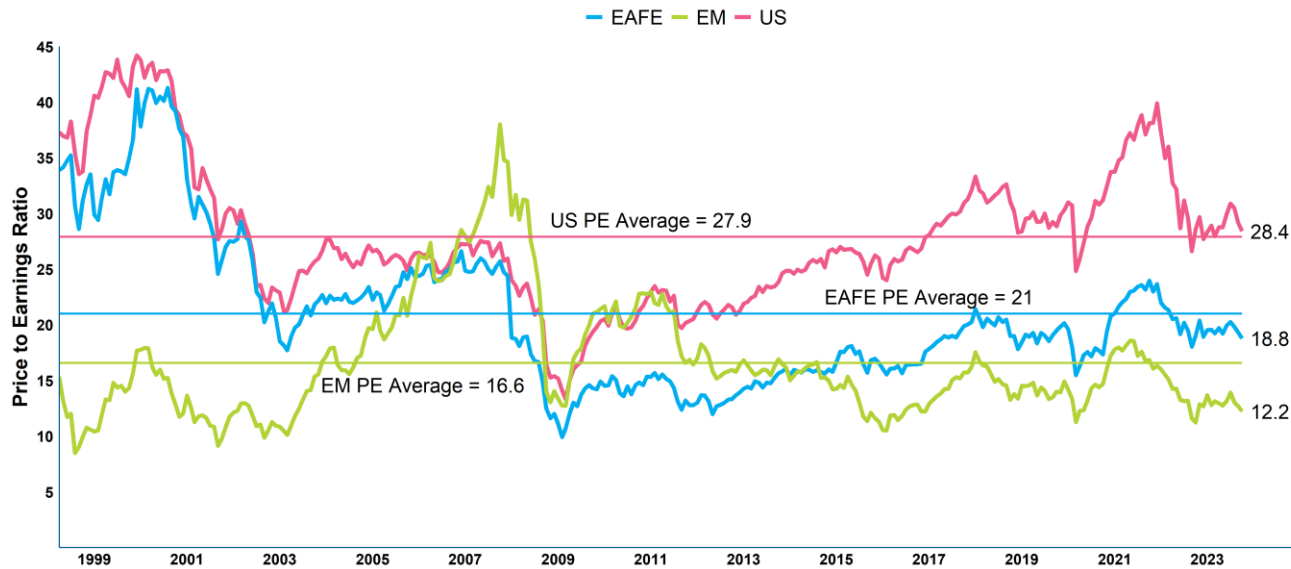
Equity and Fixed Income Volatility¹



- Volatility in equities (VIX) increased in October but finished at a level near the long-term average. The recent increase in equity volatility has largely been driven by investors coming to terms that interest rates might remain higher for a longer period.
- In comparison, volatility in the bond market (MOVE) remains well above its long-run average (88.9) after last year's historic losses and due to continued policy uncertainty. In October, fixed income volatility finished higher compared to where it started, like equities, driven by expectations for rates to stay higher for longer and increased concerns about future US debt issuance.

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 October 2023. The average line indicated is the average of the VIX and MOVE values between January 2000 and October 2023.

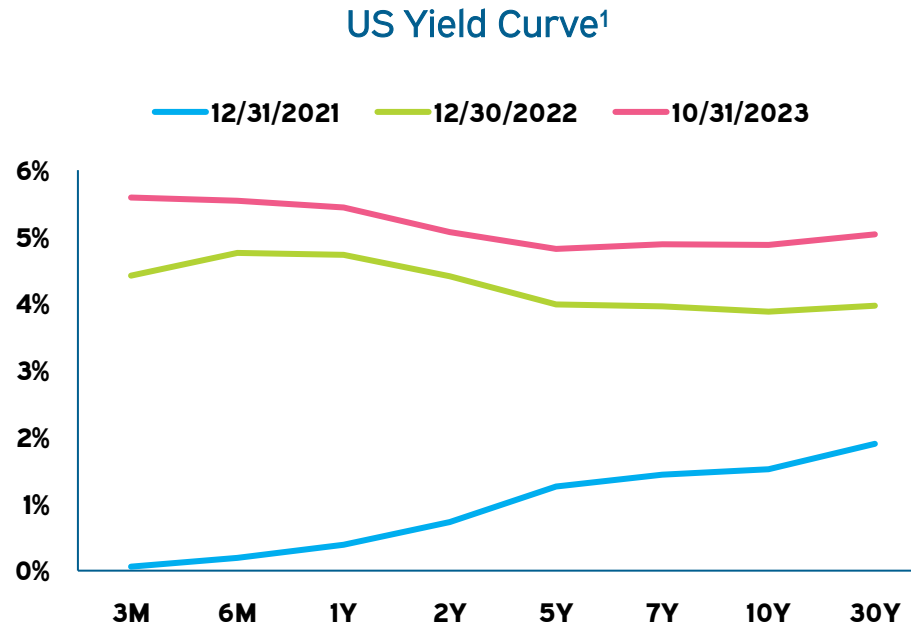
Equity Cyclically Adjusted P/E Ratios¹



→ Given the strong technology-driven rally this year, the US equity price-to-earnings ratio increased above its long-run (21st century) average. With the equity market decline in August through October, the P/E ratio fell from its recent peak.

→ International developed market valuations are below their own long-term average, with those for emerging markets the lowest and well under the long-term average (close to one standard deviation below).

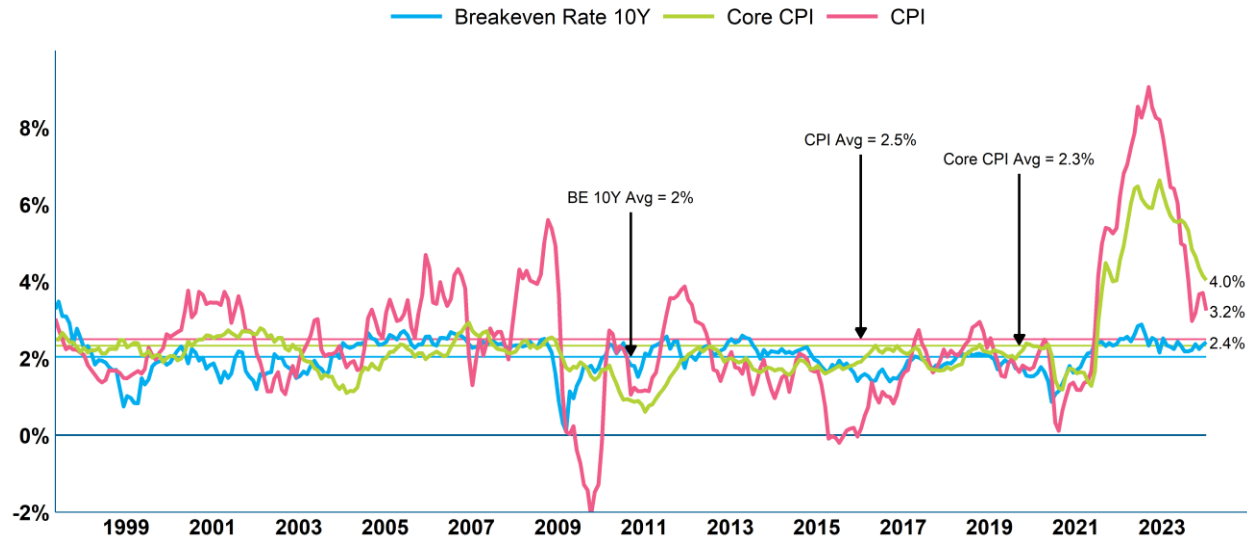
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of October 2023. 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.



- Overall rates continued to increase this year, particularly at the policy sensitive front-end of the yield curve, but at a much slower pace compared to last year.
- In October, very short-term interest rates (two years or less) increased only slightly as monetary policy has likely reached close to its terminal rate for this cycle. By contrast, longer-term rates continued their dramatic rise as investors come to terms with rates remaining higher for longer. The ten-year Treasury yield has experienced a significant increase from 3.9% to 4.9% since the beginning of the year.
- Because of the dynamic above, the yield curve's inversion decreased further with the spread between two-year and ten-year Treasuries at -0.15% at the end of October (it started the third quarter at -1.05%).

¹ Source: Bloomberg. Data is as of October 31, 2023.

Ten-Year Breakeven Inflation and CPI¹

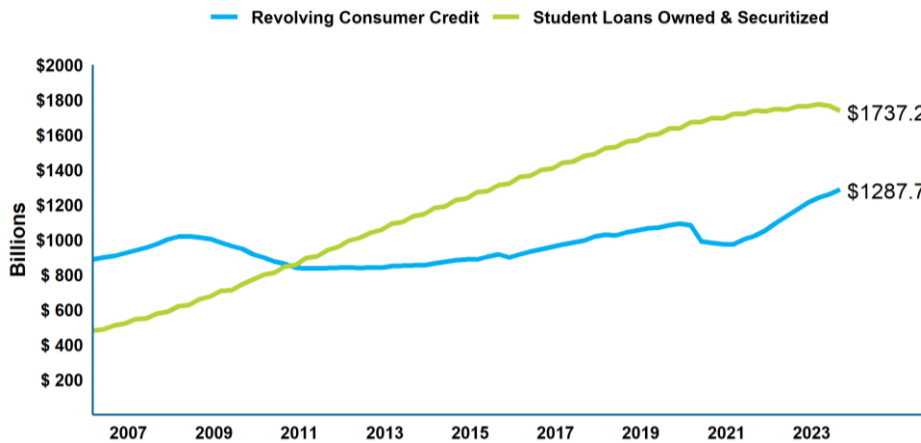


- Year-over-year headline inflation fell from 3.7% to 3.2%, coming in slightly below expectations. Declines were driven by energy, used cars and trucks, and medical services.
- Core inflation – excluding food and energy – fell slightly (4.1% to 4.0%) year-over-year. It remains stubbornly high, though, driven by shelter costs (+6.7%), particularly owners’ equivalent rent, and transportation services (+9.2%).
- Inflation expectations (breakevens) remain below current inflation as investors continue to expect inflation to track back toward the Fed’s 2% average target.

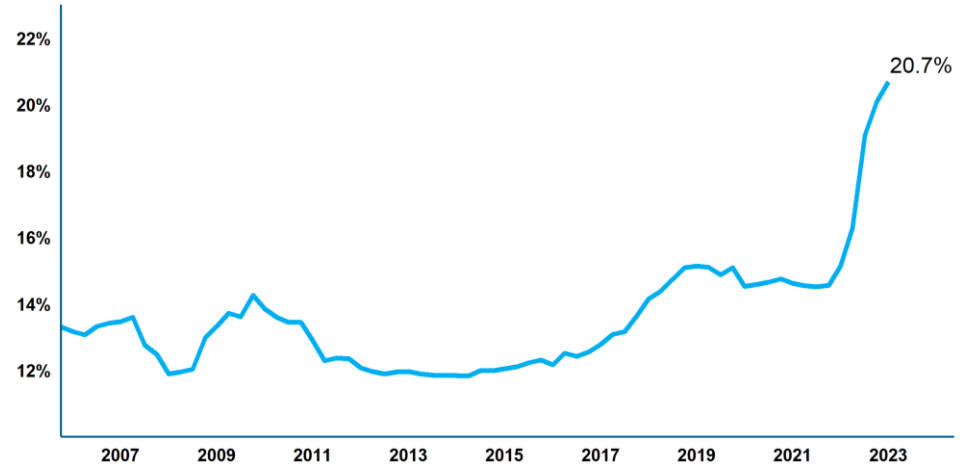
¹ Source: FRED. Data is as October 31, 2023. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

US Consumer Under Stress?¹

Revolving Consumer Credit & Student Loans (\$B)



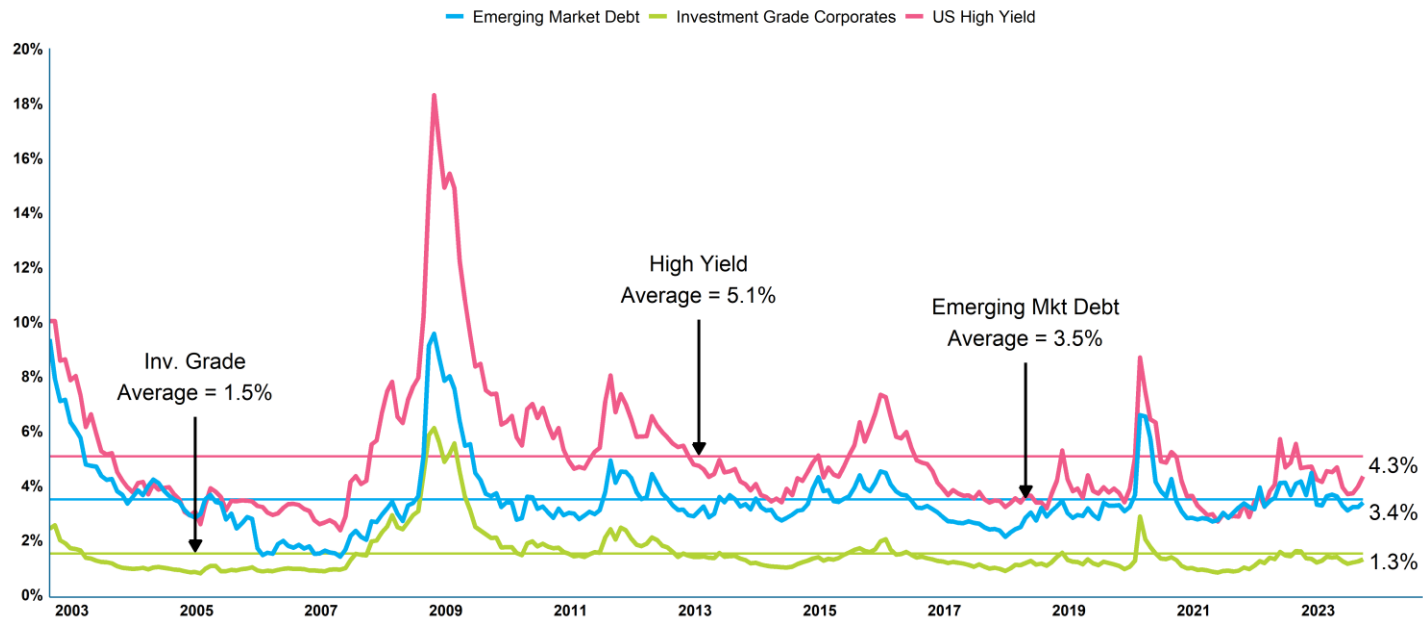
Consumer Credit Card Interest Rates (%)



- 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 an important 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).
- The return of student loan repayments after a three-year pandemic-related reprieve could add to pressures on consumers' budgets. This might be partially balanced 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. Revolving Consumer Credit and Student Loans data is as of September 30, 2023. Revolving Consumer Credit data is seasonally adjusted to remove distortions during the holiday season. Consumer Credit Card Interest Rates data is as of June 30, 2023.

Credit Spreads vs. US Treasury Bonds¹

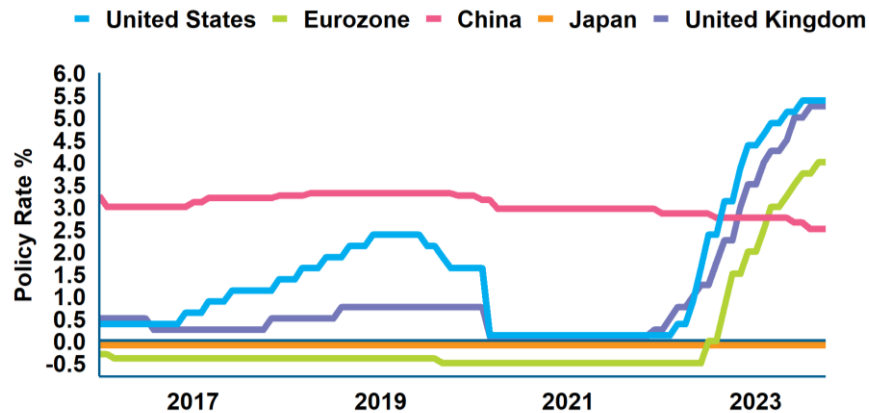


- Credit spreads (the added yield above a comparable maturity Treasury) increased in October but remained below their respective long run averages.
- High yield spreads continue to be the furthest below their long-term average given the overall risk appetite this year. Investment-grade and emerging market spreads are also below their respective long-term averages, but by smaller margins.

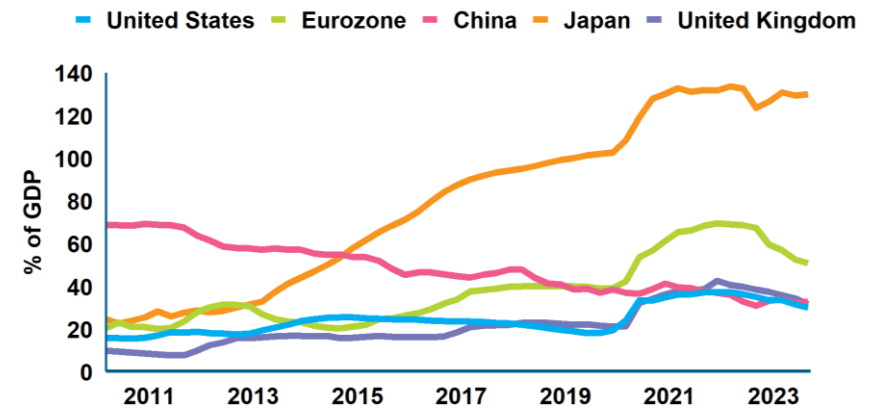
¹ Sources: Bloomberg. Data is as of October 31, 2023. Average lines denote the average of the investment grade, high yield, and emerging market spread values from September 2002 to the recent month-end, respectively.

Central Bank Response¹

Policy Rates



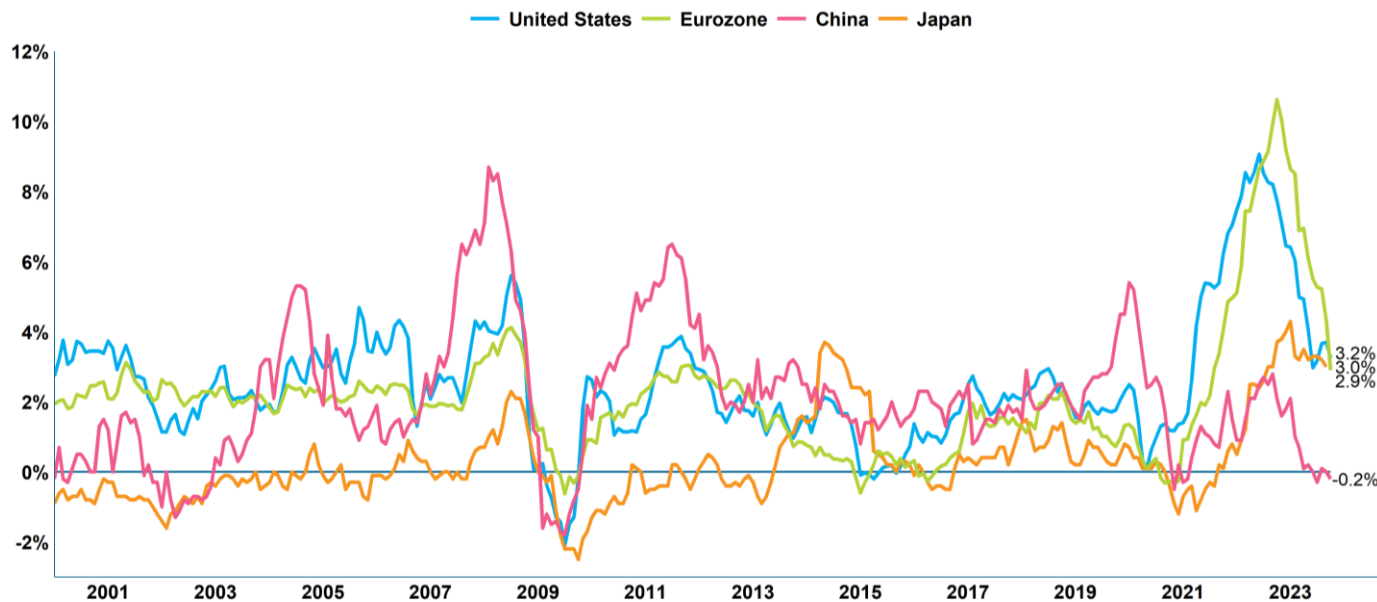
Balance Sheet as % of GDP



- Slowing inflation and growth have led to expectations for a reduction in the pace of aggressive policy tightening.
- In July, the Fed raised rates another 25 basis points to a range of 5.25% to 5.50% and then kept rates at this level at their September and October/November meetings. Markets are not expecting any additional rate hikes.
- The European Central Bank paused in October, with lower-than-expected inflation and weaker growth. 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 continued to cut interest rates and inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.
- Risks remain for a policy error as central banks attempt to balance bringing down inflation, maintaining financial stability, and supporting growth.

¹ Source: Bloomberg. Policy rate data is as of October 31, 2023. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of September 30, 2023.

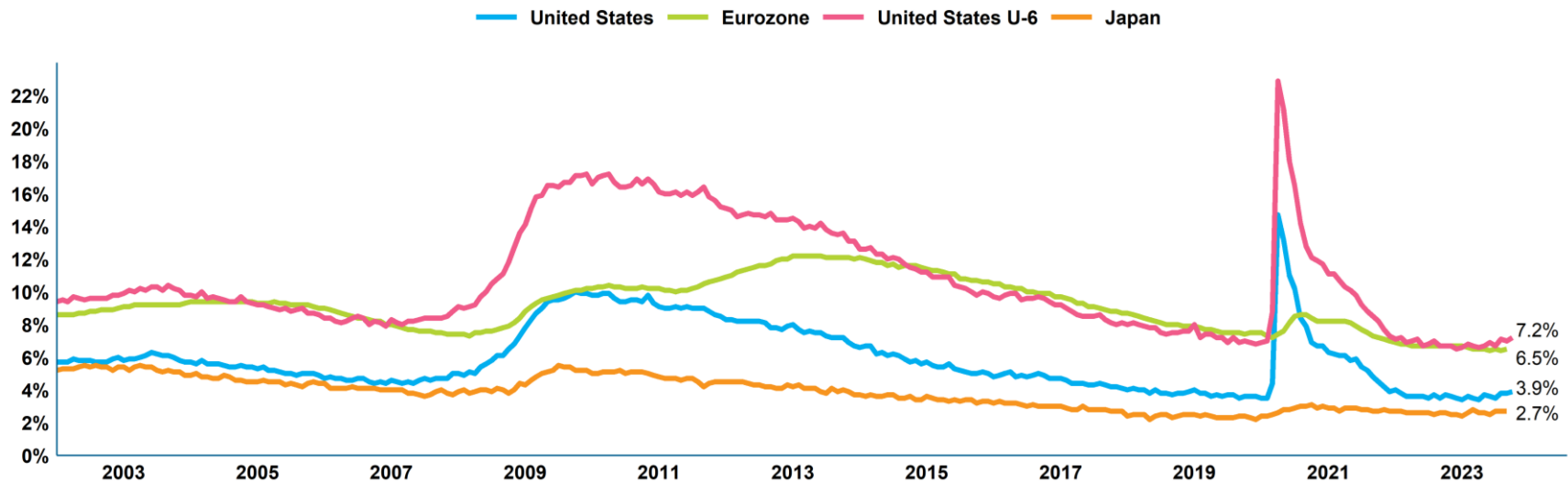
Inflation (CPI Trailing Twelve Months)¹



- The inflation picture remains mixed across the major economies.
- In the US, inflation fell from 3.7% to 3.2%, driven by falling energy prices. In the eurozone inflation experienced a dramatic decline in October (4.3% to 2.9%), to a level below the US, also driven by a decline in energy prices. Despite 2023's significant declines in the US and Europe, inflation levels remain elevated compared to central bank targets.
- Inflation in Japan, has increased to levels not seen in almost a decade, driven by food and home related items. In China, deflationary pressures returned in October, as consumption declined after the holiday earlier in the month.

¹ United States CPI and Eurozone CPI – Source: FRED. Japan CPI and China CPI - Source: Bloomberg. Data is as October 31, 2023. The most recent data for Japanese inflation is as of September 30, 2023.

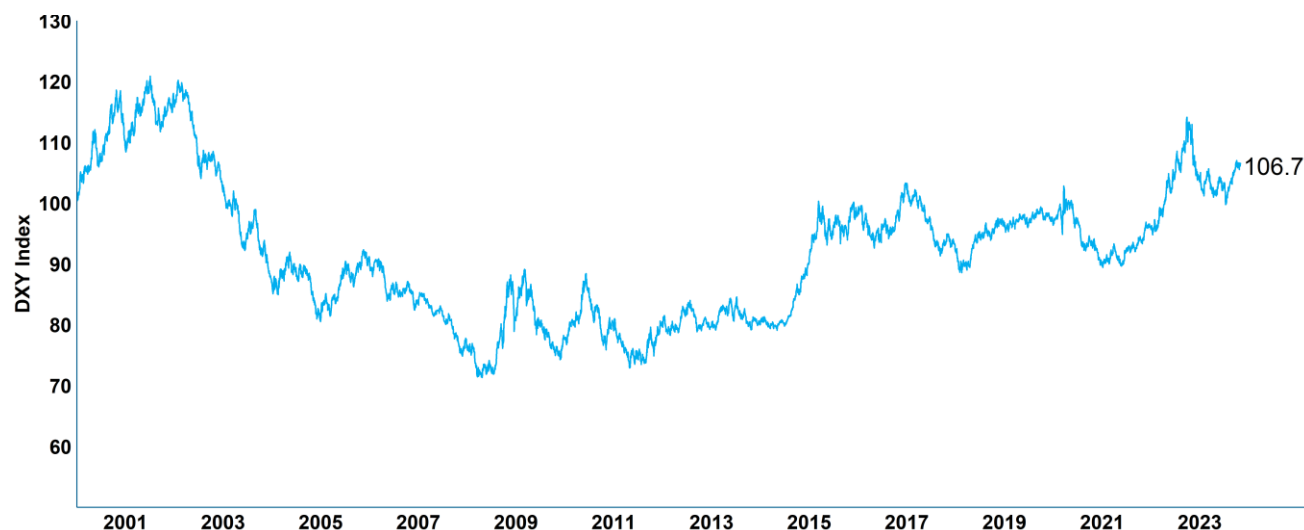
Unemployment¹



- Overall, the US labor market remains healthy with the unemployment rate relatively low, wage growth now positive in real terms, and initial claims for unemployment staying subdued. The pace of wage growth has slowed though, and despite remaining elevated, the number of job openings has declined from recent highs.
- In October, US unemployment increased slightly (3.8% to 3.9%), with job gains of 150,000 coming in below expectations of 180,000. The labor force participation rate declined slightly over the month from 62.8% to 62.7%, well off the lows of the pandemic (60.1%) but not back to pre-pandemic levels (63.3%). Broader measures of unemployment (U-6) finished the quarter at 7.2%, up from the September reading of 7.0%.
- Unemployment in Europe (6.5%) remains higher than the US, while levels in Japan (2.7%) remained low through the pandemic given less layoffs.

¹ Eurozone Unemployment - Source: Bloomberg. Japan, United States, United States U-6 Unemployment – Source: FRED. Data is as October 31, 2023, for the US. The most recent data for Eurozone and Japan unemployment is as of September 30, 2023.

US Dollar versus Broad Currencies¹



- After a strong 2022, the US dollar declined late last year and into early this year as weaker economic data and lower inflation led to investors anticipating the end of FOMC tightening.
- Recently though, the dollar reversed course and appreciated against major currencies as relative growth remains strong and investors anticipate the FOMC keeping interest rates higher for longer.
- For the rest of this year, the track of inflation across economies and the corresponding monetary policies will likely be key drivers of currency moves.

¹ Source: Bloomberg. Data as of October 31, 2023.

Summary

Key Trends:

- The impact of inflation still above policy targets will remain key, 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 reduce persistent inflation while not tipping their economies into recession.
- Growth is expected to slow globally this year, with many economies forecasted to tip into recession. However, optimism has been building that some economies could experience soft landings. Inflation, monetary policy, and the war will all be key.
- In the 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.
- The key 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 the potential for recent strength in the US dollar to persist, higher inflation weighing particularly on Europe, and China's sluggish economic reopening and on-going weakness in the real estate sector. Japan's recent hint at potentially tightening monetary policy along with changes in corporate governance in the country could influence relative results.
- Recent, heightened tensions in Israel could add to overall uncertainty and drive safe haven flows.

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.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM", "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

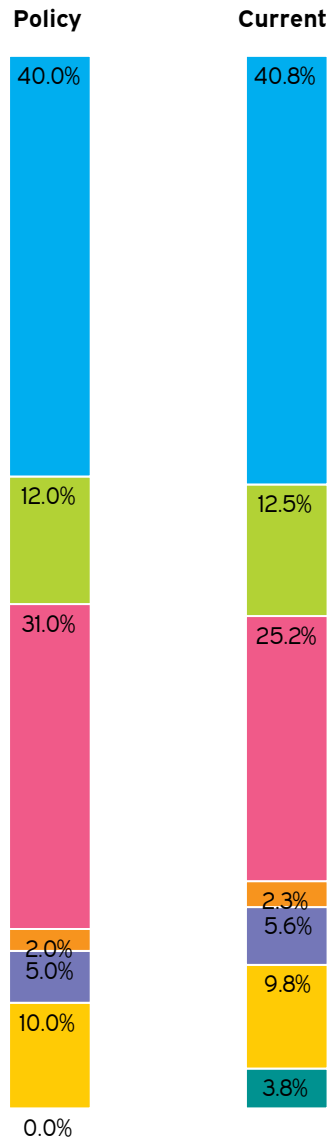
PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

Oakland Police and Fire Retirement System

December 6, 2023

October Flash Report

As of October 31, 2023



Allocation vs. Targets and Policy						
	Current Balance (\$)	Current (%)	Policy (%)	Difference (%)	Policy Range (%)	Within IPS Range?
Domestic Equity	160,899,268	40.8	40.0	0.8	30.0 - 50.0	Yes
International Equity	49,506,089	12.5	12.0	0.5	8.0 - 14.0	Yes
Fixed Income	99,350,478	25.2	31.0	-5.8	25.0 - 40.0	Yes
Credit	9,239,206	2.3	2.0	0.3	1.0 - 3.0	Yes
Covered Calls	21,913,935	5.6	5.0	0.6	5.0 - 10.0	Yes
Crisis Risk Offset	38,670,479	9.8	10.0	-0.2	5.0 - 15.0	Yes
Cash	15,083,236	3.8	0.0	3.8	0.0 - 5.0	Yes
Total	394,662,692	100.0	100.0	0.0		

Asset Class Performance Summary | As of October 31, 2023

Asset Class Performance Summary										
	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
OPFRS Total Plan	394,662,692	100.0	-2.4	2.3	4.2	3.3	4.6	5.8	6.3	Dec-88
<i>OPFRS Policy Benchmark</i>			<i>-2.2</i>	<i>3.5</i>	<i>5.6</i>	<i>3.3</i>	<i>4.7</i>	<i>5.9</i>	<i>7.6</i>	
Excess Return			-0.2	-1.2	-1.4	0.0	-0.1	-0.1	-1.3	
Domestic Equity	160,899,268	40.8	-2.7	4.1	4.0	8.0	8.7	9.7	8.4	Jun-97
<i>Russell 3000 (Blend)</i>			<i>-2.7</i>	<i>9.4</i>	<i>8.4</i>	<i>9.2</i>	<i>10.2</i>	<i>10.5</i>	<i>8.8</i>	
Excess Return			0.0	-5.3	-4.4	-1.2	-1.5	-0.8	-0.4	
International Equity	49,506,089	12.5	-4.1	4.7	15.1	4.9	4.7	3.8	4.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>-4.1</i>	<i>1.0</i>	<i>12.1</i>	<i>3.0</i>	<i>3.5</i>	<i>2.5</i>	<i>4.6</i>	
Excess Return			0.0	3.7	3.0	1.9	1.2	1.3	0.3	
Fixed Income	99,350,478	25.2	-1.8	-2.3	1.1	-4.9	0.1	1.3	4.2	Jan-94
<i>Bloomberg Universal (Blend)</i>			<i>-1.5</i>	<i>-2.1</i>	<i>1.2</i>	<i>-5.0</i>	<i>0.2</i>	<i>1.2</i>	<i>4.3</i>	
Excess Return			-0.3	-0.2	-0.1	0.1	-0.1	0.1	-0.1	
Credit	9,239,206	2.3	-1.0	7.4	8.0	4.3	3.1	--	4.4	Feb-15
<i>Blmbg. U.S. Corp: High Yield Index</i>			<i>-1.2</i>	<i>4.6</i>	<i>6.2</i>	<i>1.2</i>	<i>3.1</i>	<i>3.9</i>	<i>3.9</i>	
Excess Return			0.2	2.8	1.8	3.1	0.0	--	0.5	
Covered Calls	21,913,935	5.6	-1.1	10.6	11.3	10.6	9.1	--	8.3	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			<i>-0.7</i>	<i>6.6</i>	<i>7.3</i>	<i>8.3</i>	<i>4.0</i>	<i>5.5</i>	<i>5.1</i>	
Excess Return			-0.4	4.0	4.0	2.3	5.1	--	3.2	
Crisis Risk Offset	38,670,479	9.8	-2.0	-1.5	-2.9	-7.1	-8.4	--	-8.3	Aug-18
<i>Crisis Risk Offset Benchmark</i>			<i>-1.7</i>	<i>-1.4</i>	<i>-2.2</i>	<i>3.6</i>	<i>-0.4</i>	<i>--</i>	<i>-0.7</i>	
Excess Return			-0.3	-0.1	-0.7	-10.7	-8.0	--	-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 October 31, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
OPFRS Total Plan	394,662,692	100.0	-2.4	2.3	4.2	3.3	4.6	5.8	6.3	Dec-88
<i>OPFRS Policy Benchmark</i>			-2.2	3.5	5.6	3.3	4.7	5.9	7.6	
Excess Return			-0.2	-1.2	-1.4	0.0	-0.1	-0.1	-1.3	
Domestic Equity	160,899,268	40.8	-2.7	4.1	4.0	8.0	8.7	9.7	8.4	Jun-97
<i>Russell 3000 (Blend)</i>			-2.7	9.4	8.4	9.2	10.2	10.5	8.8	
Excess Return			0.0	-5.3	-4.4	-1.2	-1.5	-0.8	-0.4	
Northern Trust Russell 1000	76,911,746	19.5	-2.4	10.3	9.5	9.4	10.6	10.8	12.5	Jun-10
<i>Russell 1000 Index</i>			-2.4	10.3	9.5	9.5	10.7	10.9	12.6	
Excess Return			0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	
EARNEST Partners	37,974,841	9.6	-3.8	-0.3	-0.5	7.2	9.7	10.0	8.5	Apr-06
<i>Russell Midcap Index</i>			-5.0	-1.3	-1.0	6.0	7.1	8.1	7.8	
Excess Return			1.2	1.0	0.5	1.2	2.6	1.9	0.7	
Wellington Select Quality Equity	22,465,811	5.7	0.9	1.2	4.5	--	--	--	1.4	May-22
<i>Russell 1000 Index</i>			-2.4	10.3	9.5	9.5	10.7	10.9	2.1	
Excess Return			3.3	-9.1	-5.0	--	--	--	-0.7	
Brown Fundamental Small Cap Value	10,889,617	2.8	-4.2	-0.3	-0.8	--	--	--	0.5	Apr-21
<i>Russell 2000 Value Index</i>			-6.0	-6.5	-9.9	9.7	3.3	5.2	-6.2	
Excess Return			1.8	6.2	9.1	--	--	--	6.7	
Rice Hall James	12,657,253	3.2	-6.3	-5.6	-7.5	-0.2	0.8	--	3.6	Aug-17
<i>Russell 2000 Growth Index</i>			-7.7	-2.9	-7.6	-1.8	2.7	5.7	3.9	
Excess Return			1.4	-2.7	0.1	1.6	-1.9	--	-0.3	

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 October 31, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
International Equity	49,506,089	12.5	-4.1	4.7	15.1	4.9	4.7	3.8	4.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			-4.1	1.0	12.1	3.0	3.5	2.5	4.6	
Excess Return			0.0	3.7	3.0	1.9	1.2	1.3	0.3	
Vanguard Developed Markets ETF	14,144,698	3.6	-3.4	2.7	13.0	5.4	--	--	4.3	Sep-19
<i>FTSE Developed All Cap ex-U.S. Index</i>			-4.5	2.0	12.5	5.5	4.4	3.5	4.3	
Excess Return			1.1	0.7	0.5	-0.1	--	--	0.0	
SGA ACWI ex-U.S. Equity	35,361,392	9.0	-4.4	5.9	16.3	4.7	--	--	1.2	Dec-19
<i>MSCI AC World ex USA (Net)</i>			-4.1	1.0	12.1	3.0	3.5	2.5	1.4	
Excess Return			-0.3	4.9	4.2	1.7	--	--	-0.2	
Fixed Income	99,350,478	25.2	-1.8	-2.3	1.1	-4.9	0.1	1.3	4.2	Jan-94
<i>Bloomberg Universal (Blend)</i>			-1.5	-2.1	1.2	-5.0	0.2	1.2	4.3	
Excess Return			-0.3	-0.2	-0.1	0.1	-0.1	0.1	-0.1	
Ramirez	67,578,960	17.1	-1.6	-2.3	0.9	-4.8	0.2	--	0.5	Jan-17
<i>Blmbg. U.S. Aggregate Index</i>			-1.6	-2.8	0.4	-5.6	-0.1	0.9	0.1	
Excess Return			0.0	0.5	0.5	0.8	0.3	--	0.4	
Wellington Core Bond	6,399,815	1.6	-1.8	-2.0	1.3	--	--	--	-6.0	Apr-21
<i>Blmbg. U.S. Aggregate Index</i>			-1.6	-2.8	0.4	-5.6	-0.1	0.9	-5.6	
Excess Return			-0.2	0.8	0.9	--	--	--	-0.4	
Reams	25,371,703	6.4	-2.1	-2.6	1.5	-4.9	2.4	2.1	4.6	Feb-98
<i>Bloomberg Universal (Blend)</i>			-1.5	-2.1	1.2	-5.0	0.2	1.2	3.9	
Excess Return			-0.6	-0.5	0.3	0.1	2.2	0.9	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.

Asset Class & Manager Performance | As of October 31, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
Credit	9,239,206	2.3	-1.0	7.4	8.0	4.3	3.1	--	4.4	Feb-15
<i>Blmbg. U.S. Corp: High Yield Index</i>			-1.2	4.6	6.2	1.2	3.1	3.9	3.9	
Excess Return			0.2	2.8	1.8	3.1	0.0	--	0.5	
Polen Capital	9,239,206	2.3	-1.0	7.4	8.0	4.3	3.1	--	4.4	Feb-15
<i>ICE BofA High Yield Master II</i>			-1.2	4.7	5.8	1.2	2.9	3.8	3.8	
Excess Return			0.2	2.7	2.2	3.1	0.2	--	0.6	
Covered Calls	21,913,935	5.6	-1.1	10.6	11.3	10.6	9.1	--	8.3	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			-0.7	6.6	7.3	8.3	4.0	5.5	5.1	
Excess Return			-0.4	4.0	4.0	2.3	5.1	--	3.2	
Parametric BXM	11,074,176	2.8	-0.3	10.0	11.2	9.1	6.9	--	6.7	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			-0.7	6.6	7.3	8.3	4.0	5.5	5.1	
Excess Return			0.4	3.4	3.9	0.8	2.9	--	1.6	
Parametric DeltaShift	10,839,759	2.7	-1.9	11.2	11.4	11.7	10.9	--	10.0	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			-0.7	6.6	7.3	8.3	4.0	5.5	5.1	
Excess Return			-1.2	4.6	4.1	3.4	6.9	--	4.9	

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 October 31, 2023

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	Inception Date
Crisis Risk Offset	38,670,479	9.8	-2.0	-1.5	-2.9	-7.1	-8.4	--	-8.3	Aug-18
<i>Crisis Risk Offset Benchmark</i>			<i>-1.7</i>	<i>-1.4</i>	<i>-2.2</i>	<i>3.6</i>	<i>-0.4</i>	<i>--</i>	<i>-0.7</i>	
Excess Return			<i>-0.3</i>	<i>-0.1</i>	<i>-0.7</i>	<i>-10.7</i>	<i>-8.0</i>	<i>--</i>	<i>-7.6</i>	
Kepos Alternative Risk Premia	11,120,756	2.8	1.4	13.1	14.6	--	--	--	6.3	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>			<i>0.0</i>	<i>7.9</i>	<i>7.0</i>	<i>6.8</i>	<i>1.4</i>	<i>--</i>	<i>6.7</i>	
Excess Return			<i>1.4</i>	<i>5.2</i>	<i>7.6</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-0.4</i>	
Versor Trend Following	15,847,312	4.0	-2.0	-0.8	-8.1	--	--	--	3.5	Apr-22
<i>SG Trend Index</i>			<i>-0.1</i>	<i>0.9</i>	<i>-5.4</i>	<i>14.8</i>	<i>10.0</i>	<i>5.9</i>	<i>5.7</i>	
Excess Return			<i>-1.9</i>	<i>-1.7</i>	<i>-2.7</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-2.2</i>	
Vanguard Long-Term Treasury ETF	11,702,411	3.0	-4.9	-13.0	-9.2	-16.3	--	--	-7.6	Jul-19
<i>Blmbg. U.S. Gov Long Index</i>			<i>-4.9</i>	<i>-13.0</i>	<i>-8.4</i>	<i>-16.2</i>	<i>-3.2</i>	<i>0.1</i>	<i>-7.5</i>	
Excess Return			<i>0.0</i>	<i>0.0</i>	<i>-0.8</i>	<i>-0.1</i>	<i>--</i>	<i>--</i>	<i>-0.1</i>	
Cash	15,083,236	3.8	0.0	0.0	0.0	0.0	0.8	0.7	0.6	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.

**Cash Flow Summary
Month to Date**

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Northern Trust Russell 1000	78,815,151	-	-1,903,406	76,911,746
EARNEST Partners	39,440,769	-	-1,465,927	37,974,841
Wellington Select Quality Equity	22,275,787	-	190,024	22,465,811
Brown Fundamental Small Cap Value	11,370,103	-	-480,487	10,889,617
Rice Hall James	13,489,312	-	-832,059	12,657,253
Vanguard Developed Markets ETF	14,640,298	-	-495,600	14,144,698
SGA ACWI ex-U.S. Equity	36,967,020	-	-1,605,629	35,361,392
Ramirez	68,697,575	-	-1,118,614	67,578,960
Wellington Core Bond	6,517,141	-	-117,326	6,399,815
Reams	25,907,515	-	-535,812	25,371,703
Polen Capital	9,329,974	-	-90,768	9,239,206
Parametric BXM	11,106,210	-	-32,034	11,074,176
Parametric DeltaShift	11,051,591	-	-211,832	10,839,759
Kepos Alternative Risk Premia	10,968,295	-	152,461	11,120,756
Versor Trend Following	16,170,216	-	-322,903	15,847,312
Vanguard Long-Term Treasury ETF	12,347,478	-	-645,067	11,702,411
Cash - Money Market	5,644,014	-965,778	-	4,678,236
Cash - Treasury	10,405,000	-	-	10,405,000
Securities Lending Northern Trust	-	-12,143	12,143	-
OPFRS Total Plan	405,143,449	-977,921	-9,502,836	394,662,692

Cash - Treasury reflects September market value 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. U.S. Universal Index, 2.0% Blmbg. U.S. 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. U.S. Universal Index, 5.0% CBOE S&P 500 Buy Write Index, 2.0% Blmbg. U.S. 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. U.S. 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. U.S. 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. U.S. 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. U.S. Universal Index, 33.0% ICE BofA 3 Month U.S. 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 U.S. T-Bill
10/01/2007	08/01/2012	53.0% Russell 3000 Index, 17.0% MSCI AC World ex USA index, 30.0% Blmbg. U.S. Universal Index
04/01/2006	10/01/2007	35.0% Russell 3000 Index, 15.0% MSCI AC World ex USA index, 50.0% Blmbg. U.S. 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. U.S. Aggregate Index, 15.0% MSCI EAFE (Net)
09/01/1988	04/01/1998	40.0% S&P 500 Index, 55.0% Blmbg. U.S. 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. U.S. Universal Index
01/01/1976	04/01/2006	100.0% Blmbg. U.S. Aggregate Index
Covered Calls		
03/01/2014	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. U.S. 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

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.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

Oakland Police and Fire Retirement System

Quarterly Performance Report
as of September 30, 2023

Agenda

1. Executive Summary
2. Economic and Market Update as of September 30, 2023
3. Quarterly Performance as of September 30, 2023
4. Manager Monitoring / Probation Status
5. Appendix
6. Disclaimer, Glossary, and Notes

Executive Summary

Total Portfolio Review

The Oakland Police and Fire Retirement System (OPFRS) finished the quarter with \$405.1 million in assets after net cash flows including monthly benefit payments. All asset classes in their acceptable target allocation ranges.

Cash Flow Summary (\$ Millions)	Quarter	1 Year
Beginning Market Value	420.2	382.5
Net Cash Flows (including Benefit Payments)	-3.0	-17.6
Net Investment Change (Gain/Loss)	-12.0	40.3
Ending Market Value	405.1	405.1

Investment Performance¹

	QTD / FYTD	YTD	1 Year	3 Year	5 Year
Total Plan (Gross)	-2.8	5.0	10.9	3.9	4.2
Total Plan (Net)	-2.9	4.8	10.5	3.5	3.9
<i>Policy Benchmark</i>	-3.0	5.9	12.2	3.5	4.0
Excess Return	0.1	-1.1	-1.7	0.0	-0.1
<i>Public DB (\$250M-\$1B) Median Fund</i>	-2.8	4.5	10.2	4.4	5.0
OPFRS Total Plan (Net) vs. Peer Median Fund	-0.1	0.3	0.4	-0.8	-1.1
<i>Peer Group Percentile Rank</i>	57	42	41	80	88

¹ Fiscal year begins on July 01. Peer group is Investment Metrics Public Defined Benefit plans with \$250 million to \$1 billion in assets. The number of peers is about 80 portfolios in each time period. Please see the Benchmark History section for the Policy Benchmark's current and historical compositions.

Asset Class and Manager Highlights¹

- Total Plan's marginal quarterly outperformance was the result of domestic equity's underperformance and international equity's outperformance. For the 1-year period, domestic equity was the primary factor for Total Portfolio's underperformance.
- **Domestic equity** underperformed the Russell 3000 Index over all trailing periods.
 - EARNEST Partners and Brown Fundamental outperformed their respective benchmarks while all other active managers underperformed their respective benchmarks for the quarter.
- **International equity** outperformed the MSCI ACWI ex US (Net) for all periods except for the most recent quarter.
 - The active SGA MSCI ACWI ex US outperformed its benchmark over all time periods except since inception.
 - The passive Vanguard posted some variation² from the tracked benchmark over the periods measured.
- **Fixed income** slightly underperformed or matched its custom benchmark over the quarter, year-to-date, and 1-year time periods. The underlying managers outperformed their respective benchmarks across almost all time periods measured.
- The **Credit** segment, with Polen Capital as its only manager, outperformed the asset class's benchmark, Bloomberg US High Yield Index, for all time periods.
- **Covered Calls**, as well as both the passive BXM and the active DeltaShift strategies outperformed the CBOE S&P 500 Buy Write Index across all periods measured.
- The **Crisis Risk Offset** segment outperformed its custom benchmark over the quarter and year-to-date while underperforming over the longer time periods.
 - Among its underlying managers, Vanguard Long-Term Treasury ETF had double-digit negative returns over the quarter impacted by the rising rate environment. Its relative performance was within expectations.

¹ Please see the Benchmark History section for the custom benchmark compositions.

² Due to Vanguard's fair-value pricing methodology and timing of the international markets, the strategy's returns may deviate from its tracked index in the short-term that are expected to equalize over the longer term.

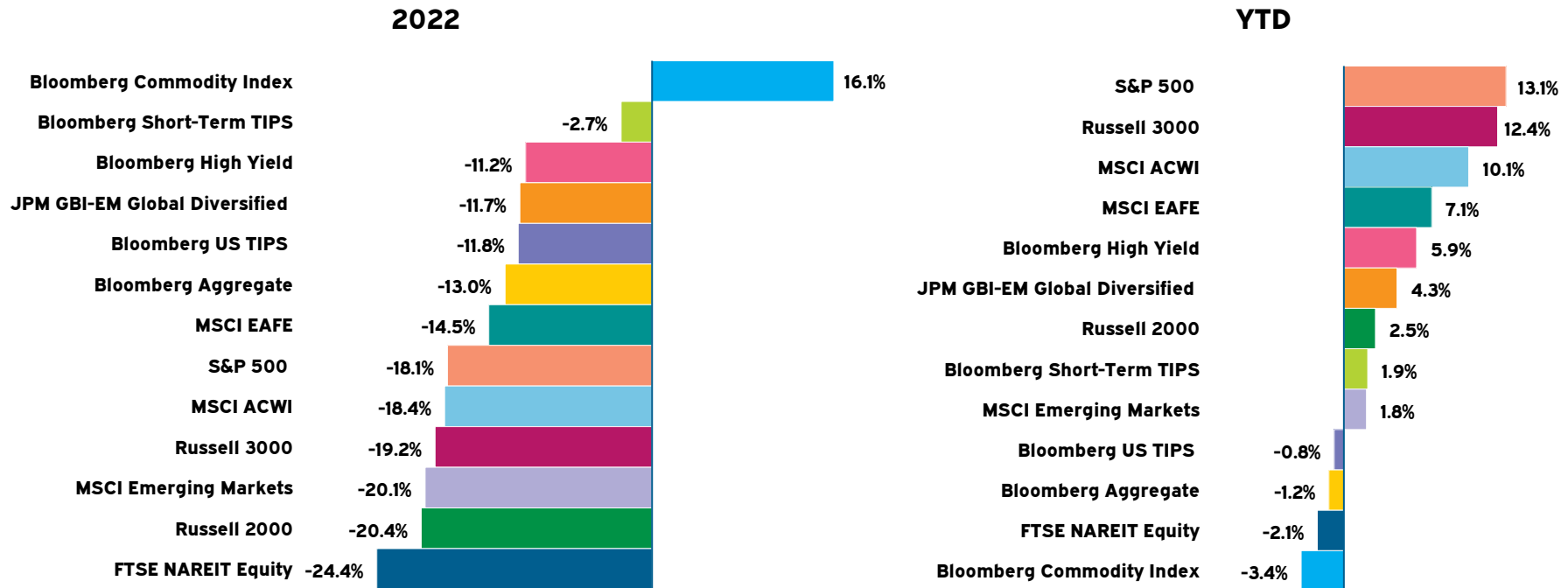
Economic and Market Update

Data as of September 30, 2023

Commentary

- After a strong July, global assets turned negative in August and September as expectations shifted to the Fed keeping interest rates higher for longer. Weakening economic data from Europe and China, as well as further instability in the Chinese real estate sector and a strong US dollar, weighed on results.
- The Federal Open Markets Committee (FOMC) increased policy rates in July by 0.25% to a range of 5.25% - 5.5% and kept rates at that level at their September meeting. Markets are now largely expecting the FOMC to maintain interest rates at this level through the first half of next year.
 - US equity markets (Russell 3000 index) fell in the third quarter (-3.3%), bringing the year-to-date gains to 12.4%. The technology sector remains the key driver of results this year, helped by artificial intelligence optimism.
 - Non-US developed equity markets declined more than the US in the third quarter (MSCI EAFE -4.1%) with the strength of the US dollar adding 2.8% to the quarterly declines. This widened the gap between US and international developed equities for the year (12.4% versus 7.1%).
 - Emerging market equities experienced the smallest declines in the third quarter (-2.9%). Negative results were driven by China and again the strong US dollar. Emerging markets continue to significantly trail developed market equities year-to-date, returning just 1.8%, again driven by China.
 - Interest rates generally rose over the quarter, particularly for longer-dated maturities. The broad US bond market fell (-3.2%) for the quarter and turned negative (-1.2%) year-to-date, as higher income has offset capital losses from rising rates.
- For the rest of this year, the paths of inflation and monetary policy, slowing global growth, and the wars in Ukraine and Israel will all be key.

Index Returns¹



→ After a particularly difficult 2022, most public market assets are up thus far in 2023, led by developed market equities.

→ While hopes for a soft landing remain in place, the prospect of higher interest rates for longer weighed on market sentiment in August and September.

¹ Source: Bloomberg. Data is as of September 30, 2023.

Domestic Equity Returns¹

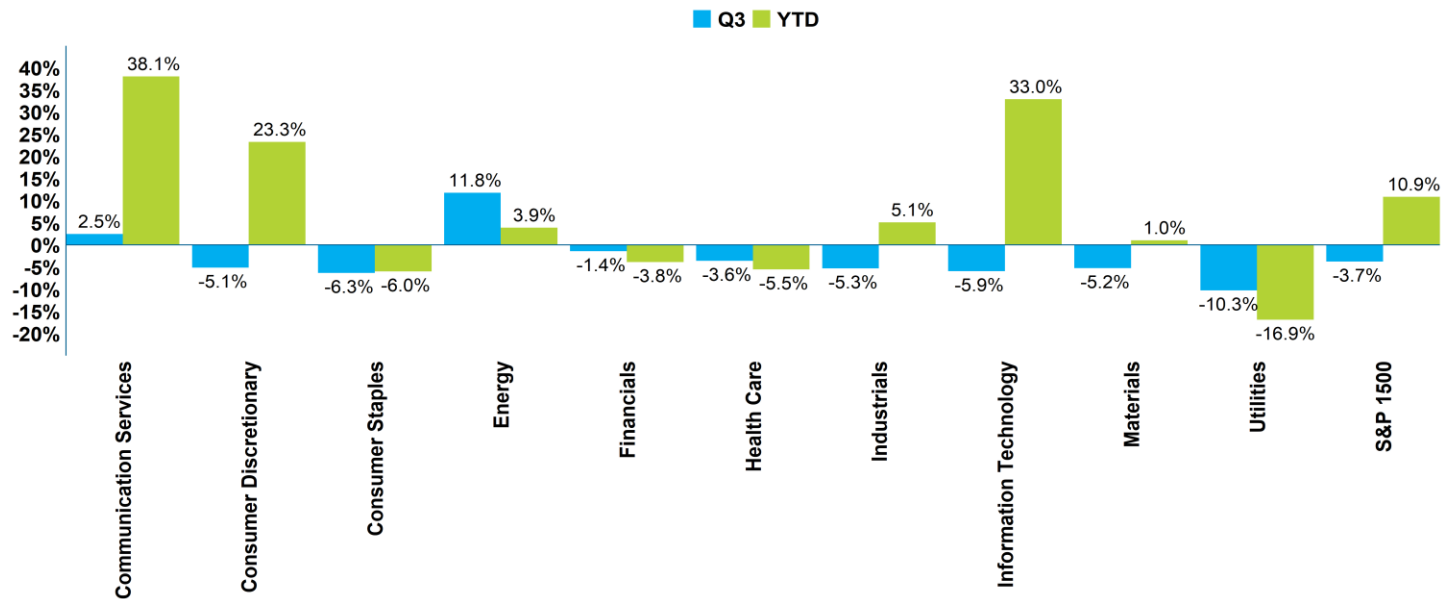
Domestic Equity	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	-4.8	-3.3	13.1	21.6	10.2	9.9	11.9
Russell 3000	-4.8	-3.3	12.4	20.5	9.4	9.1	11.3
Russell 1000	-4.7	-3.1	13.0	21.2	9.5	9.6	11.6
Russell 1000 Growth	-5.4	-3.1	25.0	27.7	8.0	12.4	14.5
Russell 1000 Value	-3.9	-3.2	1.8	14.4	11.1	6.2	8.4
Russell MidCap	-5.0	-4.7	3.9	13.4	8.1	6.4	9.0
Russell MidCap Growth	-4.9	-5.2	9.9	17.5	2.6	7.0	9.9
Russell MidCap Value	-5.1	-4.5	0.5	11.0	11.0	5.2	7.9
Russell 2000	-5.9	-5.1	2.5	8.9	7.2	2.4	6.6
Russell 2000 Growth	-6.6	-7.3	5.2	9.6	1.1	1.6	6.7
Russell 2000 Value	-5.2	-3.0	-0.5	7.8	13.3	2.6	6.2

US Equities: The Russell 3000 Index fell 3.3% in the third quarter but is up 12.4% YTD.

- US stocks fell 3.3% in the third quarter as healthy economic data and comments from the Fed caused investors to expect interest rates to remain higher for longer.
- Large cap stocks outperformed small cap stocks during the quarter, bringing their year-to-date outperformance to over 10%. The so called “Magnificent Seven” within the large cap market drove most of this outperformance despite a weak third quarter.
- Energy strongly led the way during the quarter posting double-digit gains while most other sectors declined. Oil prices rose after Saudi Arabia and Russia extended output cuts.

¹ Source: Bloomberg. Data is as of September 30, 2023.

S&P 1500 Sector Returns¹



→ Except for energy, which benefited from rising oil prices, all sectors were down in the third quarter.

→ So far in 2023, the communication services (+38.1%) and technology (+33.0%) sectors had the best results on artificial intelligence optimism. Given the continued strength in the US consumer the consumer discretionary sector followed (+23.3%), while more defensive sectors like utilities (-16.9%) and consumer staples (-6.0%) have trailed.

¹ Source: Bloomberg. Data is as of September 30, 2023.

Foreign Equity Returns¹

Foreign Equity	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-3.2	-3.8	5.3	20.4	3.7	2.6	3.3
MSCI EAFE	-3.4	-4.1	7.1	25.6	5.8	3.2	3.8
MSCI EAFE (Local Currency)	-1.1	-1.3	10.7	20.3	10.8	5.7	6.8
MSCI EAFE Small Cap	-4.4	-3.5	1.8	17.9	1.1	0.8	4.3
MSCI Emerging Markets	-2.6	-2.9	1.8	11.7	-1.7	0.6	2.1
MSCI Emerging Markets (Local Currency)	-1.8	-1.4	4.0	10.9	0.6	2.7	4.9
MSCI China	-2.8	-1.9	-7.3	5.2	-14.3	-4.2	1.7

Foreign Equity: Developed international equities (MSCI EAFE) fell 4.1% in the third quarter bringing the YTD gain to 7.1%. Emerging market equities (MSCI EM) fell 2.9% in the period, rising 1.8% YTD.

- Outside of the US, equities were also weak during the third quarter with the continued strength of the US dollar being a key driver.
- Eurozone shares felt pressure from slowing GDP growth and an interest rate hike by the ECB, although inflation continued to ease. By contrast, the UK saw modest gains amid promising economic data including slowing inflation and GDP back around pre-pandemic levels. Japan outperformed regional peers for the quarter due in part to strong earnings.
- Emerging market performance, while negative, outpaced developed peers. Chinese markets saw losses in-line with other emerging market countries, driven largely by unease surrounding property company Evergrande and a continued lackluster reopening of the economy.

¹ Source: Bloomberg. Data is as of September 30, 2023.

Fixed Income Returns¹

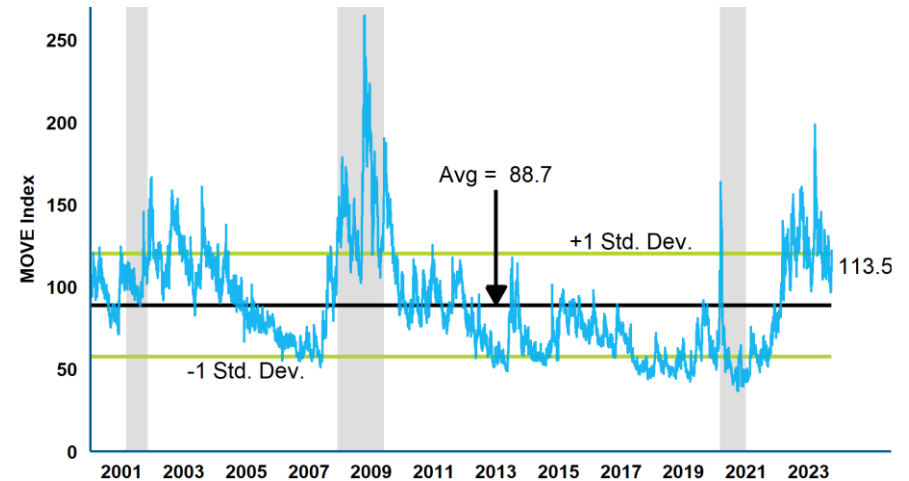
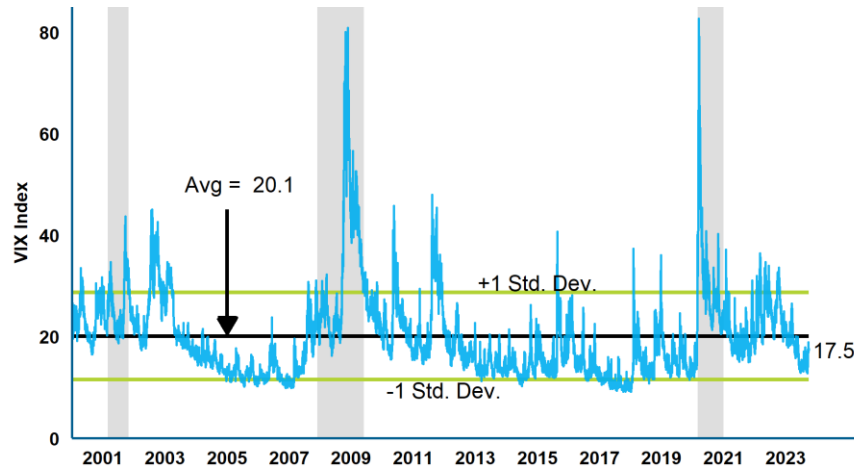
Fixed Income	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-2.4	-2.9	-0.6	1.6	-4.7	0.3	1.4	5.7	6.0
Bloomberg Aggregate	-2.5	-3.2	-1.2	0.6	-5.2	0.1	1.1	5.4	6.2
Bloomberg US TIPS	-1.8	-2.6	-0.8	1.2	-2.0	2.1	1.7	5.0	6.6
Bloomberg Short-term TIPS	-0.2	0.4	1.9	3.2	1.9	2.8	1.7	5.4	2.5
Bloomberg High Yield	-1.2	0.5	5.9	10.3	1.8	3.0	4.2	8.9	4.0
JPM GBI-EM Global Diversified (USD)	-3.4	-3.3	4.3	13.1	-2.7	0.0	-0.8	6.9	4.9

Fixed Income: The Bloomberg Universal index declined 2.9% in the third quarter and -0.6% YTD.

- The downgrade of US government debt from AAA to AA+ by Fitch combined with expectations for higher borrowing put upward pressure on longer-term rates for the quarter and weighed on overall results. Expectations for policy rates to remain higher for longer than previously expected also contributed to the decline in bonds.
- The broad US bond market (Bloomberg Aggregate) fell 3.2% for the quarter bringing YTD results into negative territory. The broader TIPS index fell by 2.6%, while the less interest-rate-sensitive short-term TIPS index outperformed most sectors, up 0.4%.
- High yield bonds were the strongest quarterly performers, up 0.5%, while emerging market bonds were the weakest performer, falling 3.3%. The two asset classes remain the top performers for the year as risk appetite in credit markets remains robust.

¹ Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of September 30, 2023. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.

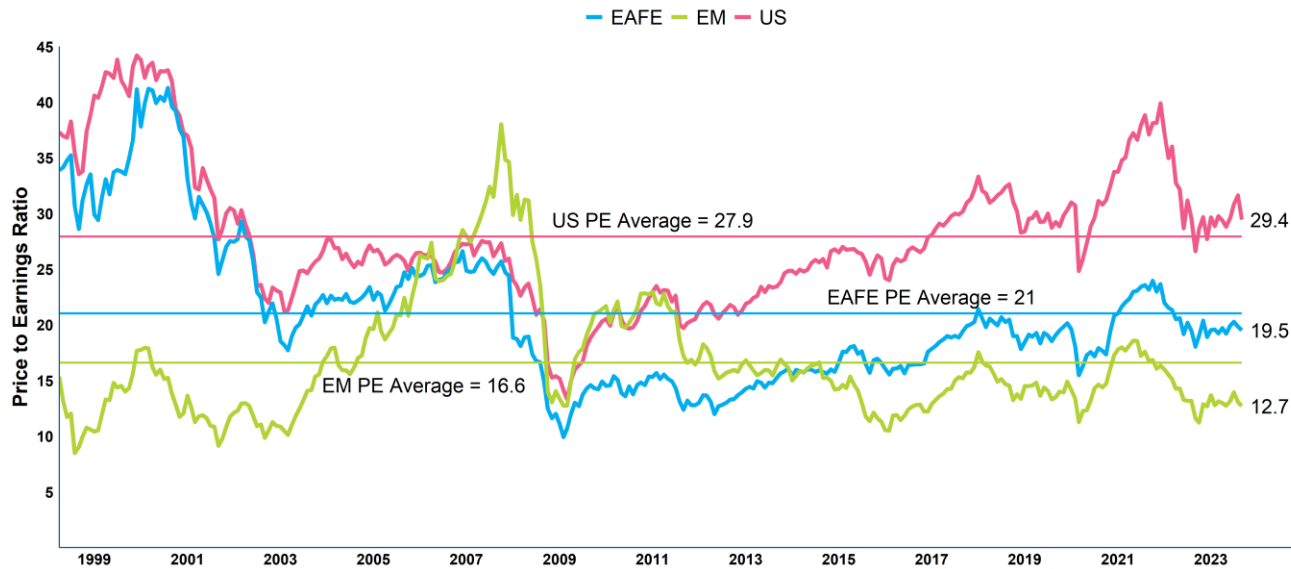
Equity and Fixed Income Volatility¹



- Volatility in equities (VIX) increased over the quarter but finished at a level below the long-term average. The recent increase in equity volatility has largely been driven by investors coming to terms that interest rates might remain higher for a longer period.
- In comparison, volatility in the bond market (MOVE) remains well above its long-run average (88.7) after last year's historic losses and due to continued policy uncertainty. Over the quarter, fixed income volatility finished slightly higher compared to where it started, like equities, driven by expectations for rates to stay higher for longer.

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 September 2023. The average line indicated is the average of the VIX and MOVE values between January 2000 and September 2023.

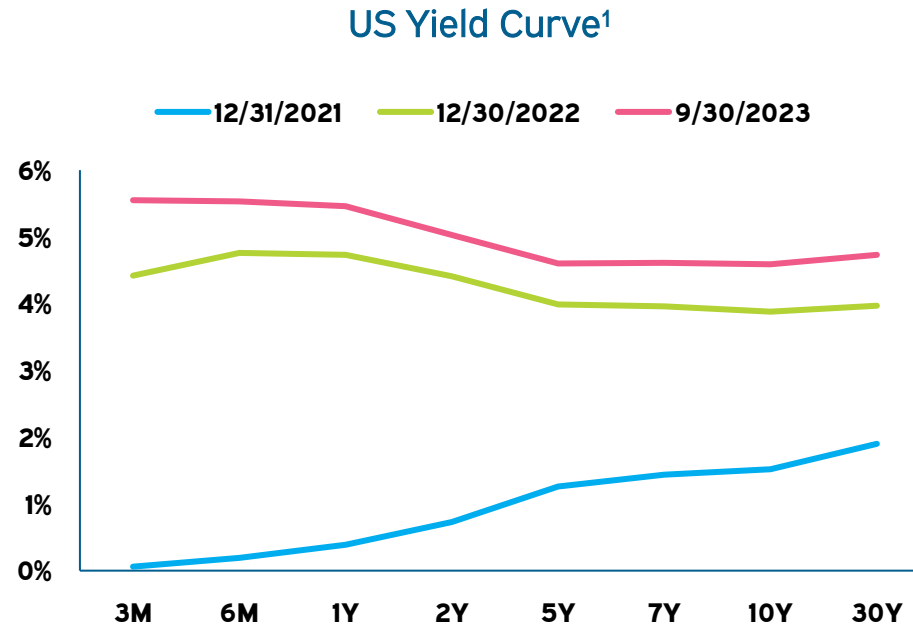
Equity Cyclically Adjusted P/E Ratios¹



→ Given the strong technology-driven rally this year, the US equity price-to-earnings ratio increased above its long-run (21st century) average. With the equity market decline in August and September the P/E ratio fell from its recent peak.

→ International developed market valuations are below their own long-term average, with those for emerging markets the lowest and well under the long-term average (close to one standard deviation below).

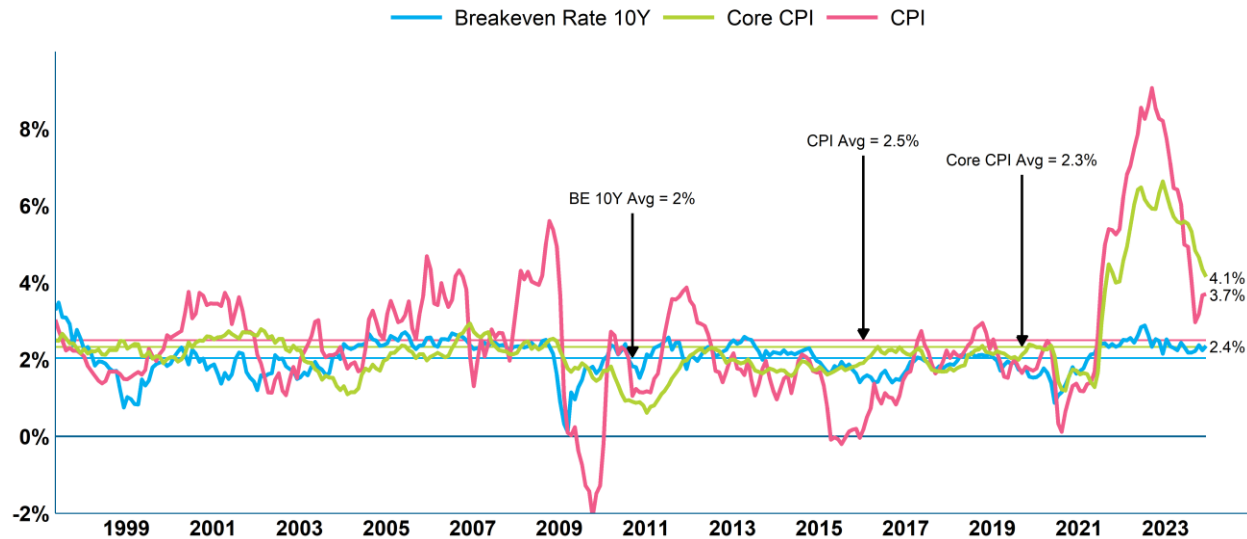
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of September 2023. 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.



- Overall rates have continued to increase this year, particularly at the policy sensitive front-end of the yield curve, but at much slower pace compared to last year.
- Over the quarter, very short-term interest rates (two years or less) increased only slightly as monetary policy has likely reached close to its terminal rate for this cycle. By contrast, longer-term rates rose dramatically as US debt was downgraded and investors came to terms with rates remaining higher for longer. The ten-year Treasury yield increased from 3.8% to 4.6% over the quarter.
- Because of the dynamic above, the yield curve's inversion decreased with the spread between two-year and ten-year Treasuries finishing the quarter at -0.47% (it started the quarter at -1.05%).

¹ Source: Bloomberg. Data is as of September 30, 2023.

Ten-Year Breakeven Inflation and CPI¹

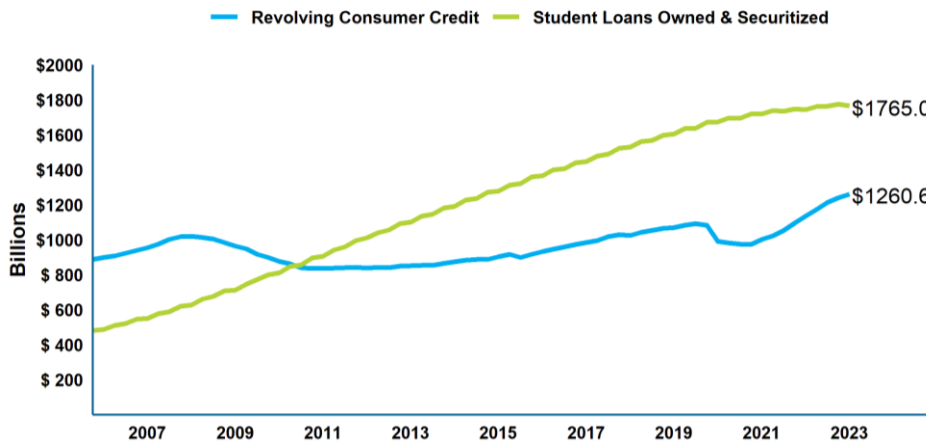


- After the steady decline in inflation from the June 2022 peak, consumer prices recently increased driven by energy prices.
- Year-over-year headline inflation was flat at 3.7% coming in slightly higher than expectations as improvements in energy prices were offset by higher shelter costs.
- Core inflation – excluding food and energy – continued its decline (4.3% to 4.1%) year-over-year. It remains stubbornly high, though, driven by shelter costs (+7.2%), particularly owners’ equivalent rent, and transportation services (+9.1%).
- Inflation expectations (breakevens) remain well below current inflation as investors continue to expect inflation to track back toward the Fed’s 2% average target.

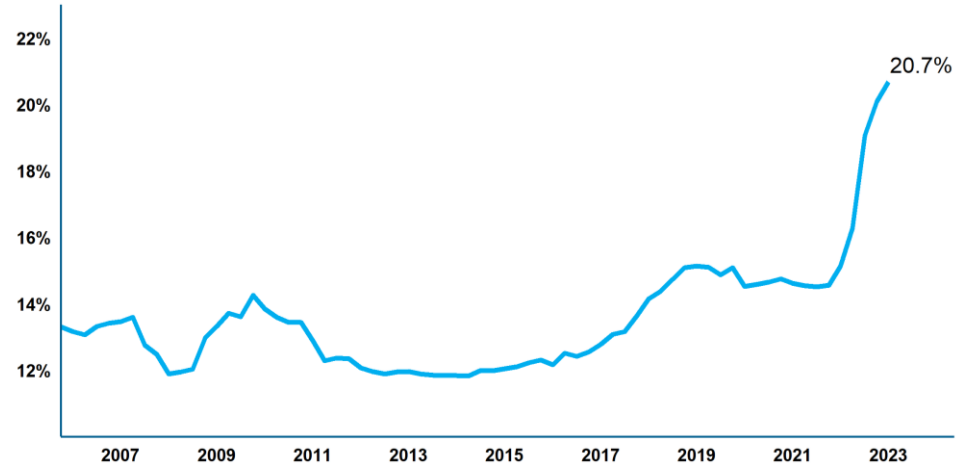
¹ Source: FRED. Data is as September 30, 2023. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

US Consumer Under Stress¹

Revolving Consumer Credit & Student Loans (\$B)



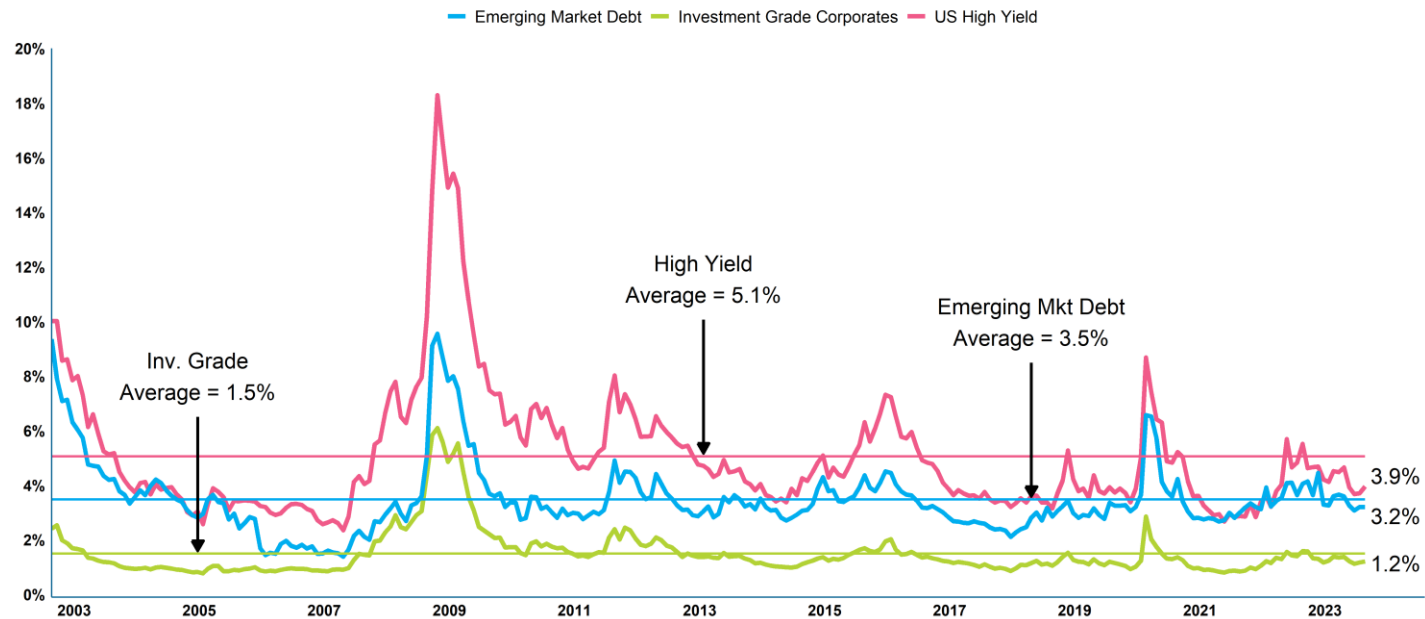
Consumer Credit Card Interest Rates (%)



- 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 an important 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).
- The return of student loan repayments after a three-year pandemic-related reprieve could add to pressures on consumers' budgets. This might be partially balanced by recently initiated repayment and forgiveness programs.
- As we look ahead, the strength of the US consumers will remain key as they make up most of domestic growth (GDP).

¹ Source: FRED. The most recent data is as June 30, 2023. Revolving Consumer Credit data is seasonally adjusted to remove distortions during the holiday season.

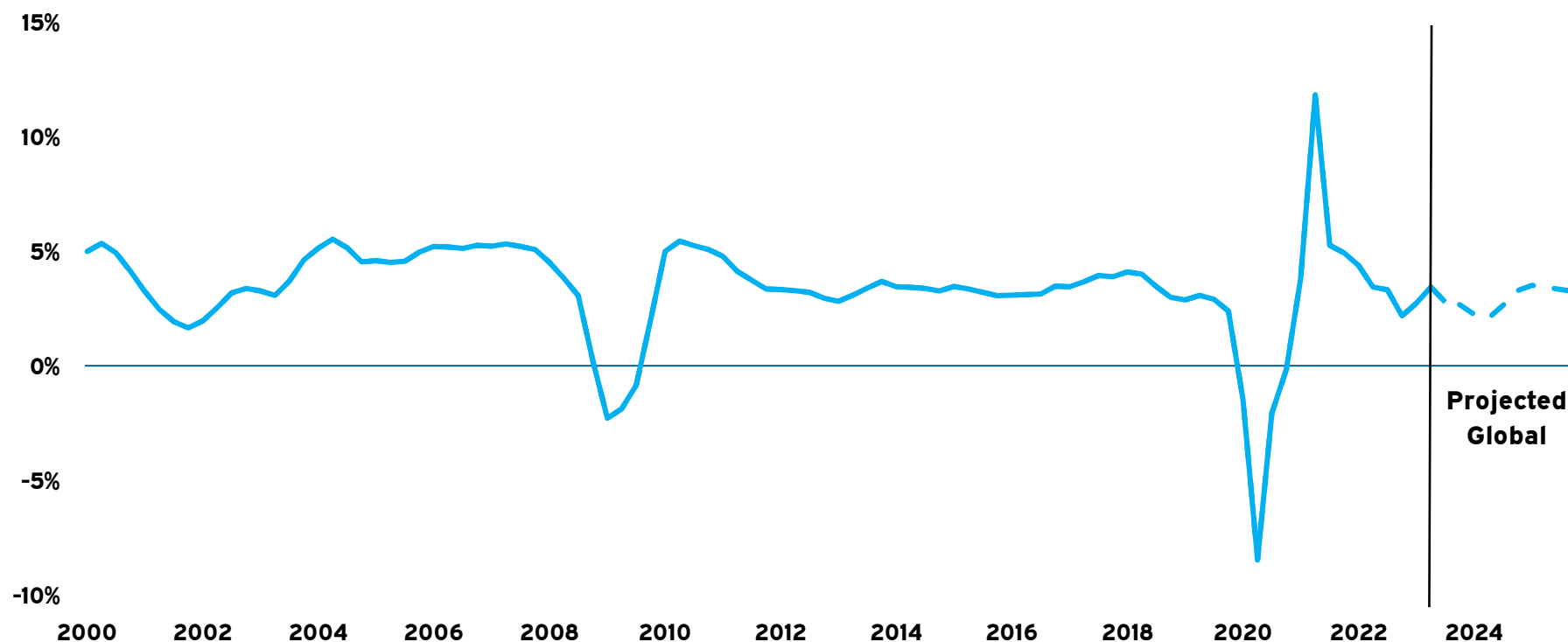
Credit Spreads vs. US Treasury Bonds¹



- Credit spreads (the added yield above a comparable maturity Treasury) largely remained unchanged over the quarter.
- High yield spreads remain well below the long-term average given the overall risk appetite this year. Investment grade and emerging market spreads are also below their respective long-term averages, but by smaller margins.

¹ Sources: Bloomberg. Data is as of September 30, 2023. 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.

Global Real Gross Domestic Product (GDP) Growth¹

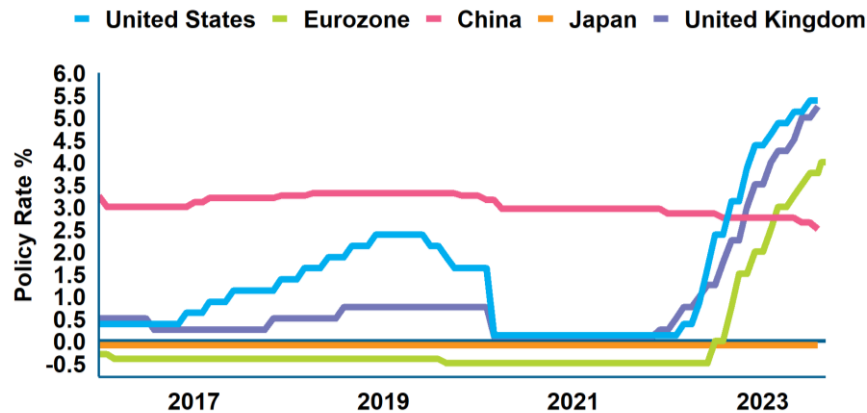


- Global economies are expected to slow this year compared to 2022. The risk of recession remains elevated given policymakers' aggressive tightening, but optimism has started to grow over some central banks potentially navigating a soft landing.
- The delicate balancing act of central banks trying to reduce inflation without dramatically disrupting labor markets and depressing economic growth, will remain key.

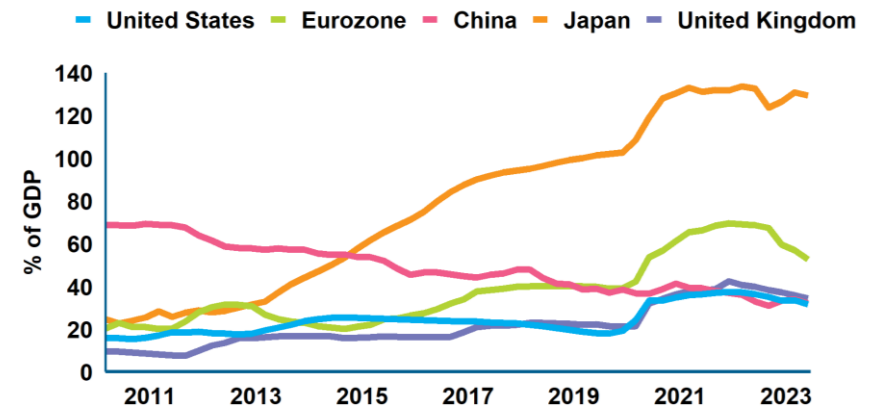
¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, real, % change YoY). Updated September 2023.

Central Bank Response¹

Policy Rates



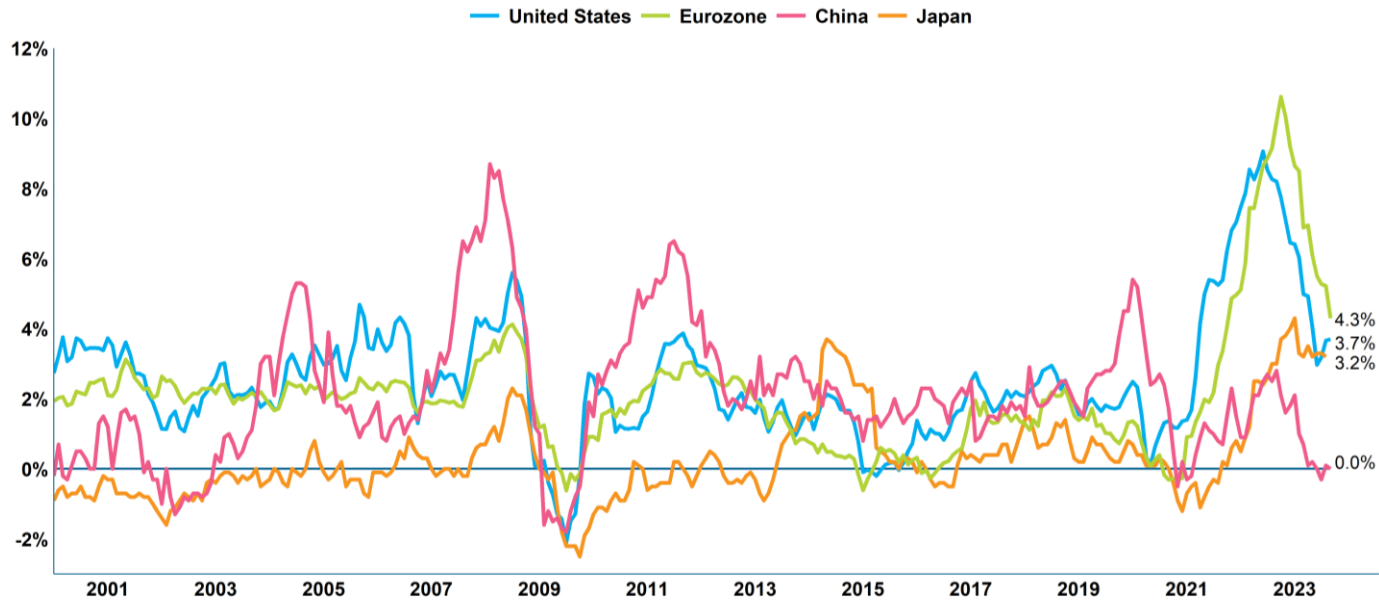
Balance Sheet as % of GDP



- Slowing inflation and growth have led to expectations for a reduction in the pace of aggressive policy tightening.
- In July the Fed raised rates another 25 basis points to a range of 5.25% to 5.50% and then kept rates at this level at their September meeting. Markets are expecting at most one more hike later this year.
- The European Central Bank also increased rates in July, with an additional hike in September, but rates remain lower than in the US. In Japan, expectations have increased that the BOJ will end its negative interest rate policy due to rising inflation.
- The central bank in China has continued to cut interest rates and inject liquidity into the banking system, as weaker than expected economic data appears to indicate a widespread slowdown.
- Risks remain for a policy error as central banks attempt to balance bringing down inflation, maintaining financial stability, and supporting growth.

¹ Source: Bloomberg. Policy rate data is as of September 30, 2023. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of June 30, 2023.

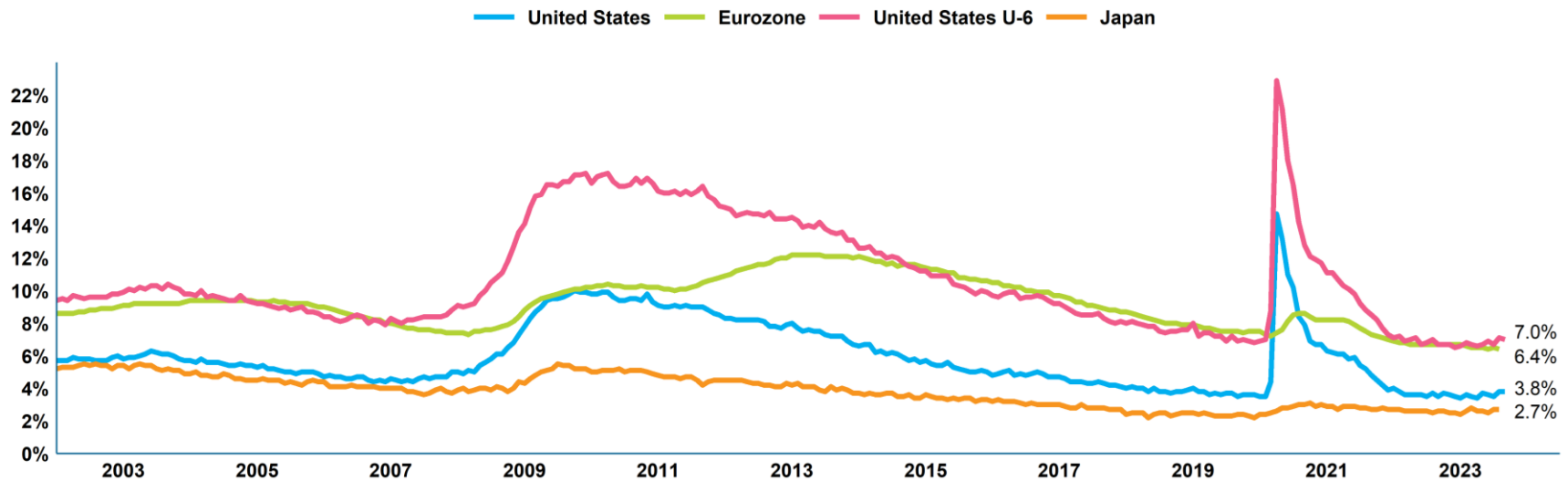
Inflation (CPI Trailing Twelve Months)¹



- The inflation picture remains mixed across the major economies.
- In the US, inflation was flat at 3.7%, influenced by rising shelter costs, while eurozone inflation remained higher than the US at 4.3%, a level well off its peak, however. Despite 2023's significant declines in the US and Europe, inflation levels remain elevated compared to central bank targets.
- Inflation in Japan has increased to levels not seen in almost a decade largely driven by food and home related items. In China, deflationary pressures eased but prices were flat from a year prior.

¹ United States CPI and Eurozone CPI – Source: FRED. Japan CPI and China CPI - Source: Bloomberg. Data is as September 30, 2023. The most recent data for Japanese and Eurozone inflation is as of August 2023.

Unemployment¹



- Overall, the US labor market remains healthy with the unemployment rate relatively low, wage growth now positive in real terms, and initial claims for unemployment staying subdued. The pace of wage growth has slowed though, and despite remaining elevated, the number of job openings has declined from recent highs.
- In September, unemployment remained at 3.8%, a level only 0.2% higher than the start of the quarter. The labor force participation rate remained at 62.8% well off the lows of the pandemic (60.1%) but not back to pre-pandemic levels (63.3%). Broader measures of unemployment (U-6) finished the quarter at 7.0% up only slightly from the end of June (6.9%).
- Unemployment in Europe has also declined but remains higher than the US, while levels in Japan have been flat through the pandemic given less layoffs.

¹ Eurozone Unemployment - Source: Bloomberg. Japan, United States, United States U-6 Unemployment – Source: FRED. Data is as September 30, 2023, for the US. The most recent data for Eurozone unemployment is as of August 2023 and Japanese unemployment is as of August 2023.

US Dollar versus Broad Currencies¹



- After a strong 2022, the US dollar declined late last year and into early this year as weaker economic data and lower inflation led to investors anticipating the end of FOMC tightening.
- Recently though, the dollar reversed course and appreciated against major currencies as relative growth remains strong and investors anticipate the FOMC keeping interest rates higher for longer.
- For the rest of this year, the track of inflation across economies and the corresponding monetary policies will be key drivers of currency moves.

¹ Source: Bloomberg. Data as of September 30, 2023.

Summary

Key Trends:

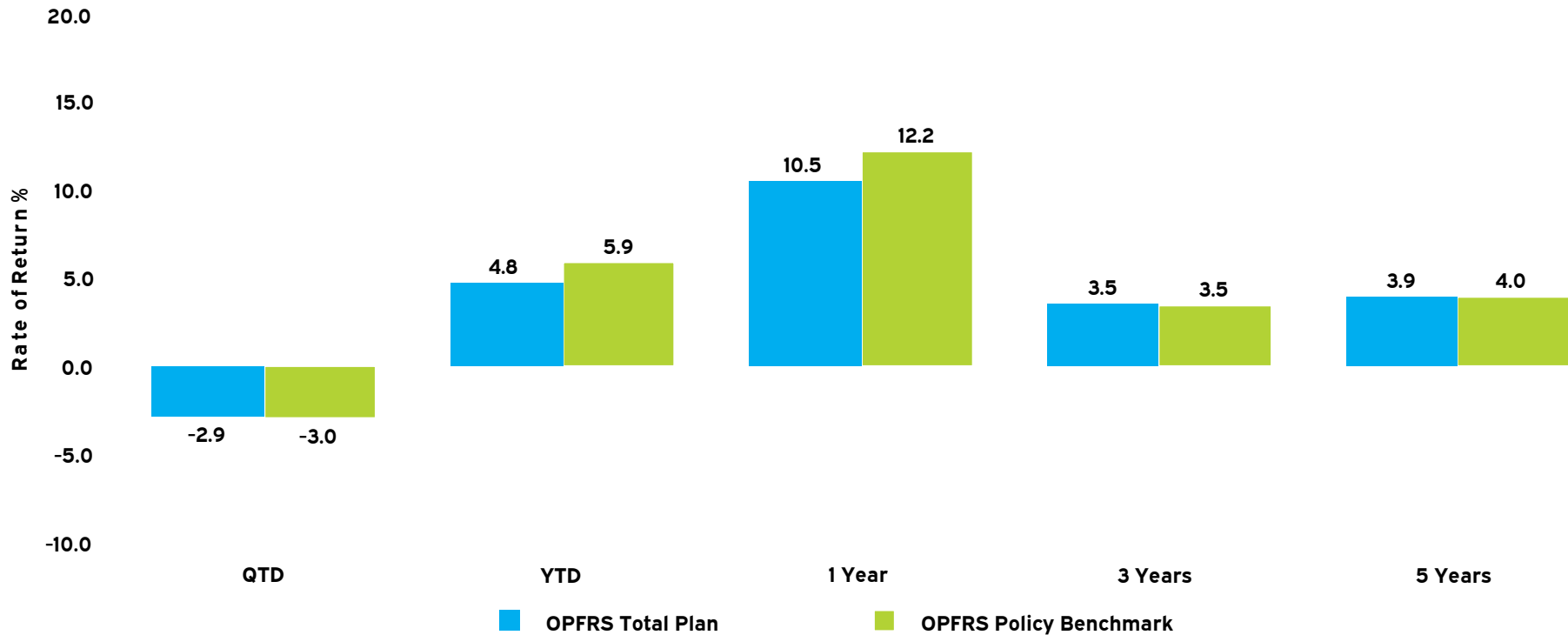
- The impact of inflation still above policy targets will remain key, with bond market volatility likely to stay high.
- Global monetary policies could diverge going forward. The risk of policy errors remains elevated as central banks try to reduce persistent inflation while not tipping their economies into recession.
- Growth is expected to slow globally this year, with many economies forecasted to tip into recession. However, optimism has been building that some economies could experience a soft landing. Inflation, monetary policy, and the war will all be key.
- In the US, consumers could feel pressure as certain components of inflation remain high (e.g., shelter), borrowing costs are elevated, and the job market may weaken.
- The key 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 the potential for recent strength in the US dollar to persist, higher inflation weighing particularly on Europe, and China's sluggish economic reopening and on-going weakness in the real estate sector. Japan's recent hint at potentially tightening monetary policy along with changes in corporate governance in the country could influence relative results.
- After month-end, heightened tensions in Israel could add to overall uncertainty and drive safe haven flows.

Quarterly **Performance**
as of September 30, 2023

Summary of Cash Flows

	QTD	1 Year
OPFRS Total Plan		
Beginning Market Value	420,170,089	382,458,040
Net Cash Flow	-3,020,018	-17,640,430
Net Investment Change	-12,006,623	40,325,838
Ending Market Value	405,143,449	405,143,449

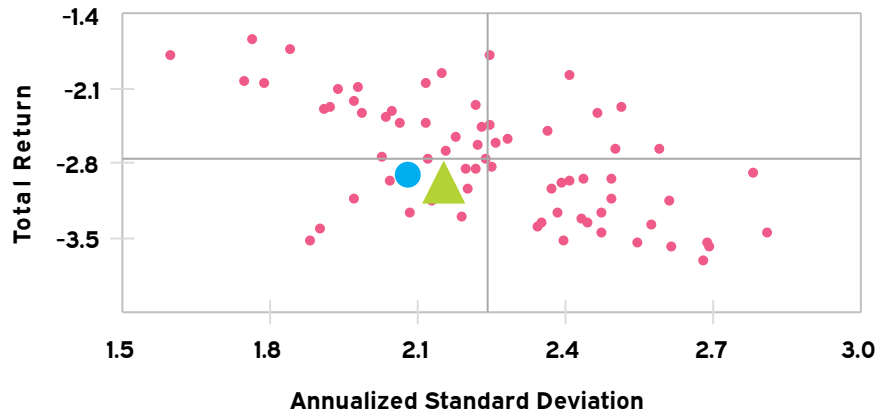
Return Summary Ending September 30, 2023



Total Plan performance is a mix of gross and net of fees; performance is gross of fees prior to January 2016 and thereafter.

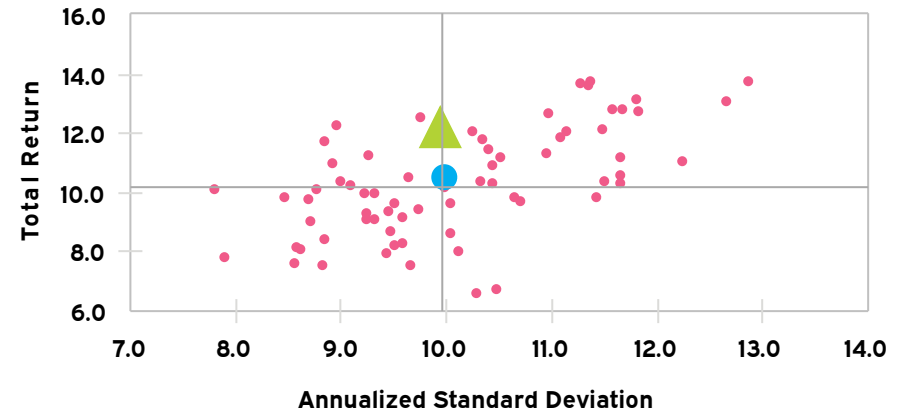
Total Plan Risk/Return Summary | As of September 30, 2023

Risk-Return Summary QTD Ending September 30, 2023



- IM Public DB \$250M-\$1B
- OPFRS Total Plan
- ▲ OPFRS Policy Benchmark

Risk-Return Summary 1 Yr Ending September 30, 2023



- IM Public DB \$250M-\$1B
- OPFRS Total Plan
- ▲ OPFRS Policy Benchmark

	Return	Standard Deviation
--	--------	--------------------

OPFRS Total Plan	-2.9	2.1
OPFRS Policy Benchmark	-3.0	2.2
Median	-2.8	2.2

	Return	Standard Deviation
--	--------	--------------------

OPFRS Total Plan	10.5	10.0
OPFRS Policy Benchmark	12.2	9.9
Median	10.2	10.0

Total Plan performance is a mix of gross and net of fees; performance is gross of fees prior to January 2016 and thereafter. Parentheses contain percentile rankings. Calculation based on monthly periodicity. Fiscal year begins on July 1. Plan Sponsor Peer Group shown is net of fees.

Asset Class Performance: Gross of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
OPFRS Total Plan (Gross)	405,143,449	100.0	-2.8	5.0	10.9	3.9	4.2	6.5	6.5	Dec-88
<i>OPFRS Policy Benchmark</i>			-3.0	5.9	12.2	3.5	4.0	6.4	7.7	
Excess Return			0.2	-0.9	-1.3	0.4	0.2	0.1	-1.2	
Domestic Equity (Gross)	165,391,122	40.8	-3.8	7.3	16.2	8.8	7.8	10.6	8.6	Jun-97
<i>Russell 3000 (Blend)</i>			-3.3	12.4	20.5	9.4	9.1	11.3	8.9	
Excess Return			-0.5	-5.1	-4.3	-0.6	-1.3	-0.7	-0.3	
International Equity (Gross)	51,607,318	12.7	-2.2	9.7	26.2	5.8	4.1	4.9	5.2	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			-3.8	5.3	20.4	3.7	2.6	3.3	4.8	
Excess Return			1.6	4.4	5.8	2.1	1.5	1.6	0.4	
Fixed Income (Gross)	101,122,231	25.0	-3.2	-0.4	1.7	-4.3	0.6	1.8	4.6	Jan-94
<i>Bloomberg Universal (Blend)</i>			-2.9	-0.6	1.6	-4.7	0.3	1.4	4.4	
Excess Return			-0.3	0.2	0.1	0.4	0.3	0.4	0.2	
Credit (Gross)	9,329,974	2.3	1.5	8.9	11.0	5.8	3.9	--	5.3	Feb-15
<i>Blmbg. U.S. Corp: High Yield Index</i>			0.5	5.9	10.3	1.8	3.0	4.2	4.1	
Excess Return			1.0	3.0	0.7	4.0	0.9	--	1.2	
Covered Calls (Gross)	22,157,801	5.5	-1.7	12.0	20.6	10.4	8.2	--	8.8	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			-2.8	7.3	14.6	7.2	3.0	6.0	5.2	
Excess Return			1.1	4.7	6.0	3.2	5.2	--	3.6	
Crisis Risk Offset (Gross)	39,485,989	9.7	-1.4	0.6	-4.2	-7.3	-8.7	--	-7.8	Aug-18
<i>Crisis Risk Offset Benchmark</i>			-2.4	0.3	1.8	3.5	-0.3	--	-0.4	
Excess Return			1.0	0.3	-6.0	-10.8	-8.4	--	-7.4	
Cash (Gross)	16,049,014	4.0	0.0	0.0	0.0	0.0	0.8	0.7	0.6	Mar-11

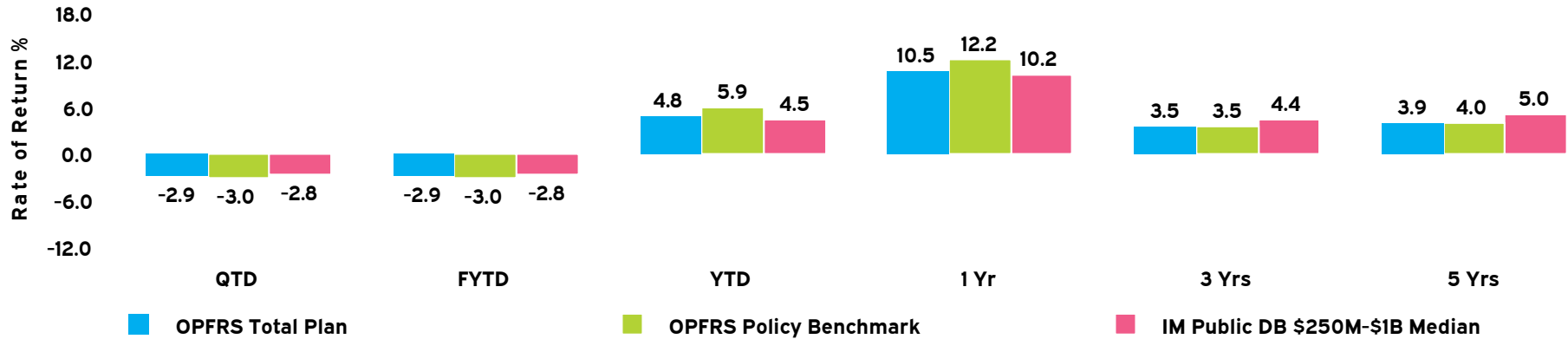
Performance shown is gross of fees. Since inception date and performance begin in the month following an investments initial funding. Fiscal year begins on July 1. Please see Benchmark History section for custom benchmark compositions.

Asset Class Performance: Net of Fees | As of September 30, 2023

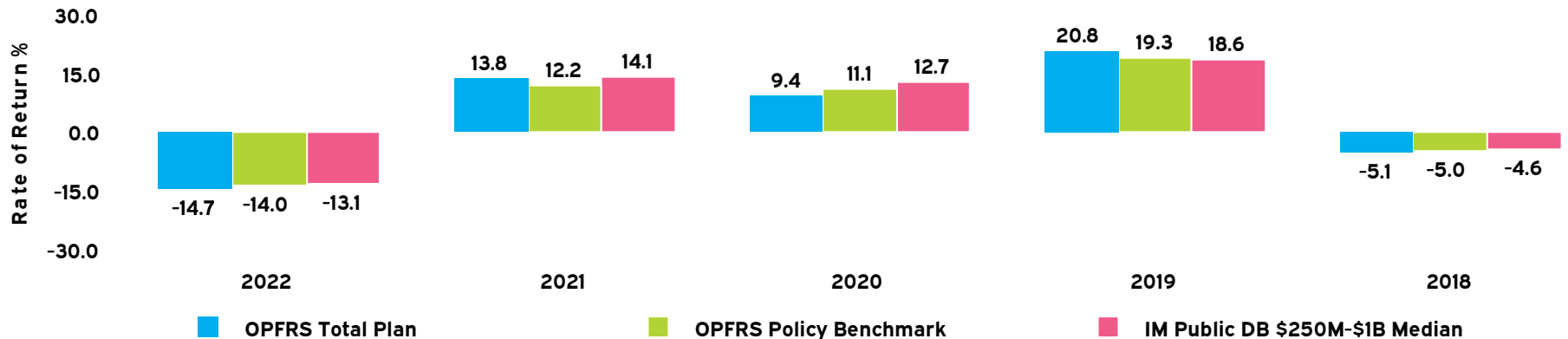
	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
OPFRS Total Plan (Net)	405,143,449	100.0	-2.9	4.8	10.5	3.5	3.9	6.3	6.4	Dec-88
<i>OPFRS Policy Benchmark</i>			-3.0	5.9	12.2	3.5	4.0	6.4	7.7	
Excess Return			0.1	-1.1	-1.7	0.0	-0.1	-0.1	-1.3	
<i>IM Public DB \$250M-\$1B Median (Net)</i>			-2.8	4.5	10.2	4.4	5.0	6.1	--	
IM Public DB \$250M-\$1B Median (Net) Rank			57	42	41	80	88	43	--	
Domestic Equity (Net)	165,391,122	40.8	-3.9	7.0	15.8	8.4	7.5	10.4	8.6	Jun-97
<i>Russell 3000 (Blend)</i>			-3.3	12.4	20.5	9.4	9.1	11.3	8.9	
Excess Return			-0.6	-5.4	-4.7	-1.0	-1.6	-0.9	-0.3	
International Equity (Net)	51,607,318	12.7	-2.3	9.2	25.5	5.2	3.6	4.5	5.0	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			-3.8	5.3	20.4	3.7	2.6	3.3	4.8	
Excess Return			1.5	3.9	5.1	1.5	1.0	1.2	0.2	
Fixed Income (Net)	101,122,231	25.0	-3.2	-0.6	1.5	-4.5	0.4	1.5	4.3	Jan-94
<i>Bloomberg Universal (Blend)</i>			-2.9	-0.6	1.6	-4.7	0.3	1.4	4.4	
Excess Return			-0.3	0.0	-0.1	0.2	0.1	0.1	-0.1	
Credit (Net)	9,329,974	2.3	1.4	8.4	10.4	5.1	3.2	--	4.6	Feb-15
<i>Blmbg. U.S. Corp: High Yield Index</i>			0.5	5.9	10.3	1.8	3.0	4.2	4.1	
Excess Return			0.9	2.5	0.1	3.3	0.2	--	0.5	
Covered Calls (Net)	22,157,801	5.5	-1.8	11.9	20.4	10.2	7.9	--	8.5	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			-2.8	7.3	14.6	7.2	3.0	6.0	5.2	
Excess Return			1.0	4.6	5.8	3.0	4.9	--	3.3	
Crisis Risk Offset (Net)	39,485,989	9.7	-1.4	0.5	-4.3	-7.4	-8.9	--	-8.1	Aug-18
<i>Crisis Risk Offset Benchmark</i>			-2.4	0.3	1.8	3.5	-0.3	--	-0.4	
Excess Return			1.0	0.2	-6.1	-10.9	-8.6	--	-7.7	
Cash (Net)	16,049,014	4.0	0.0	0.0	0.0	0.0	0.8	0.7	0.6	Mar-11

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.

Trailing Period Performance Ending September 30, 2023



Calendar Year Performance Ending December 31, 2022



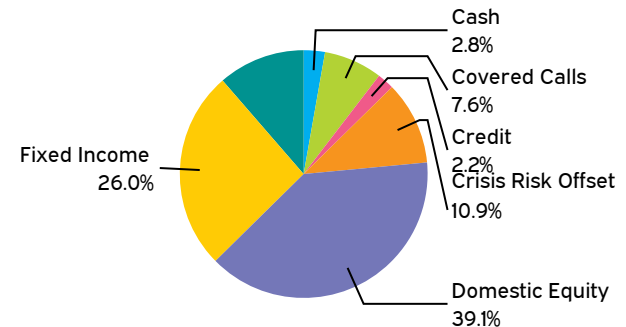
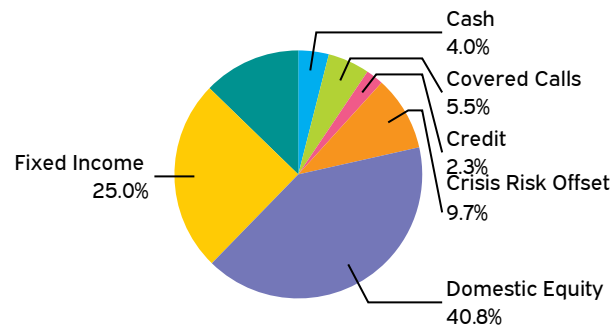
Total Plan performance is a mix of gross and net of fees; performance is gross of fees prior to January 2016 and thereafter. Fiscal year begins on July 1.

Asset Allocation | As of As of September 30, 2023

	Current Balance (\$)	Current Allocation (%)	Policy (%)	Difference (%)	Policy Range (%)	Within IPS Range?
Domestic Equity	165,391,122	40.8	40.0	0.8	30.0 - 50.0	Yes
International Equity	51,607,318	12.7	12.0	0.7	8.0 - 14.0	Yes
Fixed Income	101,122,231	25.0	31.0	-6.0	25.0 - 40.0	Yes
Credit	9,329,974	2.3	2.0	0.3	1.0 - 3.0	Yes
Covered Calls	22,157,801	5.5	5.0	0.5	5.0 - 10.0	Yes
Crisis Risk Offset	39,485,989	9.7	10.0	-0.3	5.0 - 15.0	Yes
Cash	16,049,014	4.0	0.0	4.0	0.0 - 5.0	Yes
Total	405,143,449	100.0	100.0	0.0		

September 30, 2023: \$405,143,448.6

September 30, 2022: \$406,308,110.42



Cash account market value includes cash balances held in ETF accounts at the custodian and residuals from terminated managers. Target weights reflect the Plan's evolving asset allocation (effective 05/31/2017).

Manager Performance - Net of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Domestic Equity	165,391,122	100.0	-3.9	7.0	15.8	8.4	7.5	10.4	8.6	Jun-97
<i>Russell 3000 (Blend)</i>			-3.3	12.4	20.5	9.4	9.1	11.3	8.9	
Excess Return			-0.6	-5.4	-4.7	-1.0	-1.6	-0.9	-0.3	
Northern Trust Russell 1000	78,815,151	47.7	-3.1	13.0	21.2	9.4	9.5	11.5	12.8	Jun-10
<i>Russell 1000 Index</i>			-3.1	13.0	21.2	9.5	9.6	11.6	12.9	
Excess Return			0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	
EARNEST Partners	39,440,769	23.8	-4.5	3.6	11.4	8.6	8.3	10.8	8.8	Apr-06
<i>Russell Midcap Index</i>			-4.7	3.9	13.4	8.1	6.4	9.0	8.2	
Excess Return			0.2	-0.3	-2.0	0.5	1.9	1.8	0.6	
eV US Mid Cap Core Equity Rank			57	60	76	66	31	17	33	
Wellington Select Quality Equity	22,275,787	13.5	-4.7	0.3	14.1	--	--	--	0.8	May-22
<i>Russell 1000 Index</i>			-3.1	13.0	21.2	9.5	9.6	11.6	4.0	
Excess Return			-1.6	-12.7	-7.1	--	--	--	-3.2	
eV US Large Cap Core Equity Rank			88	94	80	--	--	--	77	
Brown Fundamental Small Cap Value	11,370,103	6.9	0.8	4.1	16.8	--	--	--	2.3	Apr-21
<i>Russell 2000 Value Index</i>			-3.0	-0.5	7.8	13.3	2.6	6.2	-4.1	
Excess Return			3.8	4.6	9.0	--	--	--	6.4	
eV US Small Cap Value Equity Rank			12	41	33	--	--	--	23	
Rice Hall James	13,489,312	8.2	-8.3	0.7	3.7	1.8	-0.3	--	4.8	Aug-17
<i>Russell 2000 Growth Index</i>			-7.3	5.2	9.6	1.1	1.6	6.7	5.3	
Excess Return			-1.0	-4.5	-5.9	0.7	-1.9	--	-0.5	
eV US Small Cap Growth Equity Rank			73	77	80	55	95	--	91	

Performance shown is net of fees, except for the Domestic 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 Benchmark History section for custom benchmark compositions.

Manager Performance - Net of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
International Equity	51,607,318	100.0	-2.3	9.2	25.5	5.2	3.6	4.5	5.0	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			-3.8	5.3	20.4	3.7	2.6	3.3	4.8	
Excess Return			1.5	3.9	5.1	1.5	1.0	1.2	0.2	
Vanguard Developed Markets ETF	14,640,298	28.4	-4.7	5.3	22.9	5.0	--	--	5.0	Sep-19
<i>FTSE Developed All Cap ex-U.S. Index</i>			-3.9	6.7	24.2	5.8	3.5	4.3	5.6	
Excess Return			-0.8	-1.4	-1.3	-0.8	--	--	-0.6	
SGA ACWI ex-U.S. Equity	36,967,020	71.6	-1.4	10.8	26.5	5.1	--	--	2.5	Dec-19
<i>MSCI AC World ex USA (Net)</i>			-3.8	5.3	20.4	3.7	2.6	3.3	2.6	
Excess Return			2.4	5.5	6.1	1.4	--	--	-0.1	
eV ACWI ex-US All Cap Core Eq Rank			12	3	11	37	--	--	68	

Performance shown is net of fees, except for the 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 Benchmark History section for custom benchmark compositions.

Manager Performance - Net of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Fixed Income	101,122,231	100.0	-3.2	-0.6	1.5	-4.5	0.4	1.5	4.3	Jan-94
<i>Bloomberg Universal (Blend)</i>			-2.9	-0.6	1.6	-4.7	0.3	1.4	4.4	
Excess Return			-0.3	0.0	-0.1	0.2	0.1	0.1	-0.1	
Ramirez	68,697,575	67.9	-3.1	-0.6	1.0	-4.5	0.3	--	0.7	Feb-17
<i>Blmbg. U.S. Aggregate Index</i>			-3.2	-1.2	0.6	-5.2	0.1	1.1	0.3	
Excess Return			0.1	0.6	0.4	0.7	0.2	--	0.4	
eV US Core Fixed Inc Rank			54	35	41	22	54	--	32	
Wellington Core Bond	6,517,141	6.4	-3.1	-0.2	1.6	--	--	--	-5.5	Apr-21
<i>Blmbg. U.S. Aggregate Index</i>			-3.2	-1.2	0.6	-5.2	0.1	1.1	-5.2	
Excess Return			0.1	1.0	1.0	--	--	--	-0.3	
eV US Core Fixed Inc Rank			50	16	18	--	--	--	86	
Reams	25,907,515	25.6	-3.5	-0.5	2.6	-4.3	2.7	2.4	4.7	Feb-98
<i>Bloomberg Universal (Blend)</i>			-2.9	-0.6	1.6	-4.7	0.3	1.4	3.9	
Excess Return			-0.6	0.1	1.0	0.4	2.4	1.0	0.8	
eV US Core Plus Fixed Inc Rank			89	58	17	44	1	10	21	

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 Benchmark History section for custom benchmark compositions.

Manager Performance - Net of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Credit	9,329,974	100.0	1.4	8.4	10.4	5.1	3.2	--	4.6	Feb-15
<i>Blmbg. U.S. Corp: High Yield Index</i>			<i>0.5</i>	<i>5.9</i>	<i>10.3</i>	<i>1.8</i>	<i>3.0</i>	<i>4.2</i>	<i>4.1</i>	
Excess Return			0.9	2.5	0.1	3.3	0.2	--	0.5	
Polen Capital	9,329,974	100.0	1.4	8.4	10.4	5.1	3.2	--	4.6	Feb-15
<i>ICE BofA High Yield Master II</i>			<i>0.5</i>	<i>6.0</i>	<i>10.2</i>	<i>1.8</i>	<i>2.8</i>	<i>4.2</i>	<i>4.0</i>	
Excess Return			0.9	2.4	0.2	3.3	0.4	--	0.6	
eV US High Yield Fixed Inc Rank			13	4	30	3	31	--	14	

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

Manager Performance - Net of Fees | As of September 30, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Covered Calls	22,157,801	100.0	-1.8	11.9	20.4	10.2	7.9	--	8.5	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			<i>-2.8</i>	<i>7.3</i>	<i>14.6</i>	<i>7.2</i>	<i>3.0</i>	<i>6.0</i>	<i>5.2</i>	
Excess Return			1.0	4.6	5.8	3.0	4.9	--	3.3	
Parametric BXM	11,106,210	50.1	-1.0	10.3	18.1	8.5	5.8	--	6.8	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			<i>-2.8</i>	<i>7.3</i>	<i>14.6</i>	<i>7.2</i>	<i>3.0</i>	<i>6.0</i>	<i>5.2</i>	
Excess Return			1.8	3.0	3.5	1.3	2.8	--	1.6	
Parametric DeltaShift	11,051,591	49.9	-2.6	13.4	22.8	11.5	9.8	--	10.3	Apr-14
<i>CBOE S&P 500 Buy Write Index</i>			<i>-2.8</i>	<i>7.3</i>	<i>14.6</i>	<i>7.2</i>	<i>3.0</i>	<i>6.0</i>	<i>5.2</i>	
Excess Return			0.2	6.1	8.2	4.3	6.8	--	5.1	

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

Manager Performance - Net of Fees | As of September 30, 2023

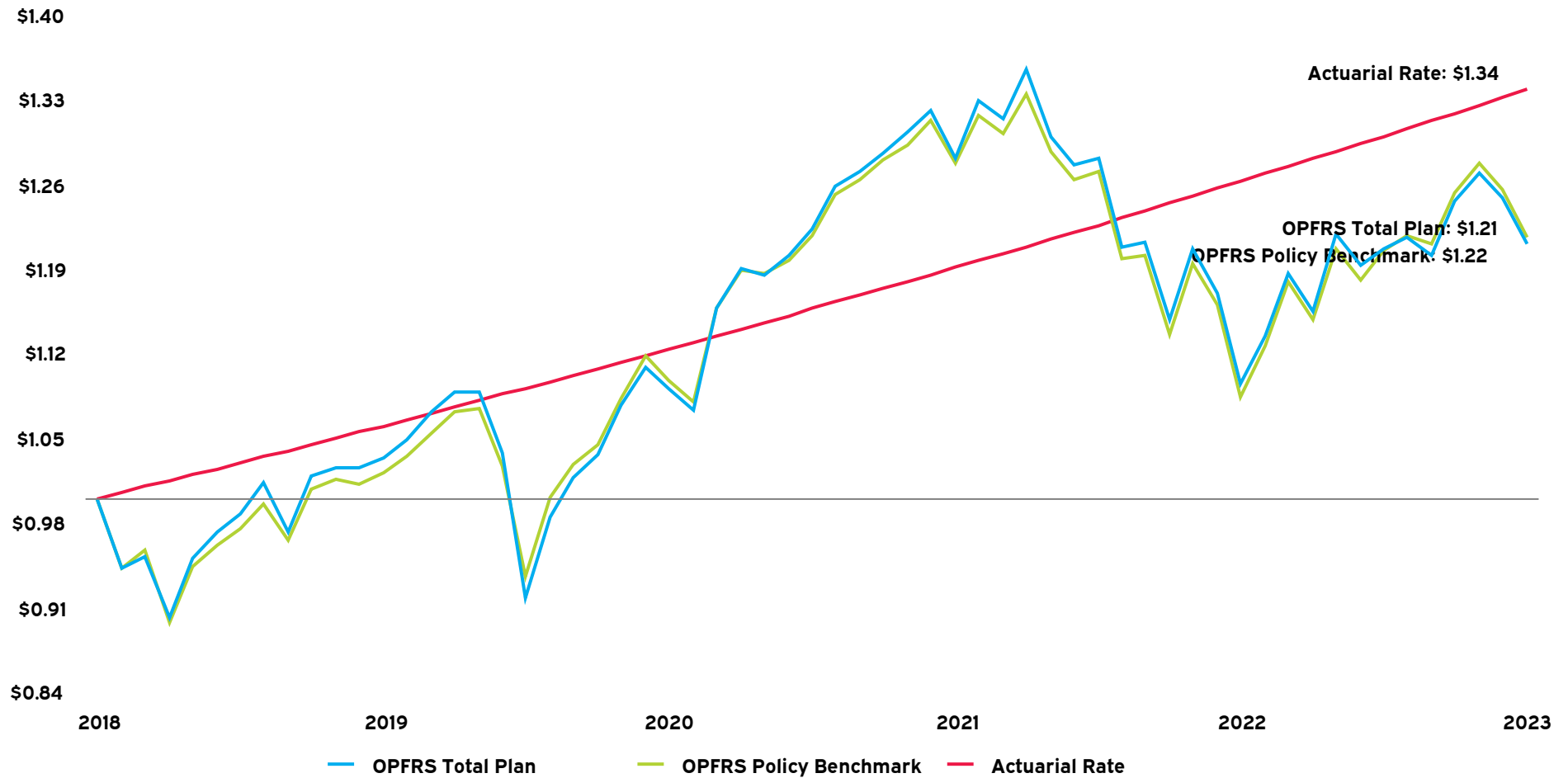
	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Crisis Risk Offset	39,485,989	100.0	-1.4	0.5	-4.3	-7.4	-8.9	--	-8.1	Aug-18
<i>Crisis Risk Offset Benchmark</i>			<i>-2.4</i>	<i>0.3</i>	<i>1.8</i>	<i>3.5</i>	<i>-0.3</i>	<i>--</i>	<i>-0.4</i>	
Over/Under			1.0	0.2	-6.1	-10.9	-8.6	--	-7.7	
Kepos Alternative Risk Premia	10,968,295	27.8	4.7	11.5	12.6	--	--	--	5.7	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>			<i>4.2</i>	<i>7.9</i>	<i>9.5</i>	<i>6.0</i>	<i>1.2</i>	<i>--</i>	<i>7.1</i>	
Over/Under			0.5	3.6	3.1	--	--	--	-1.4	
Versor Trend Following	16,170,216	41.0	4.0	1.2	-9.7	--	--	--	5.1	Apr-22
<i>SG Trend Index</i>			<i>0.8</i>	<i>0.9</i>	<i>-5.2</i>	<i>15.0</i>	<i>9.1</i>	<i>6.2</i>	<i>6.1</i>	
Over/Under			3.2	0.3	-4.5	--	--	--	-1.0	
Vanguard Long-Term Treasury ETF	12,347,478	31.3	-11.9	-8.5	-9.5	-15.8	--	--	-6.7	Jul-19
<i>Blmbg. U.S. Government: Long Term Bond Index</i>			<i>-11.8</i>	<i>-8.5</i>	<i>-9.0</i>	<i>-15.7</i>	<i>-2.8</i>	<i>0.8</i>	<i>-6.5</i>	
Over/Under			-0.1	0.0	-0.5	-0.1	--	--	-0.2	

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

**Cash Flow Summary
Quarter To Date**

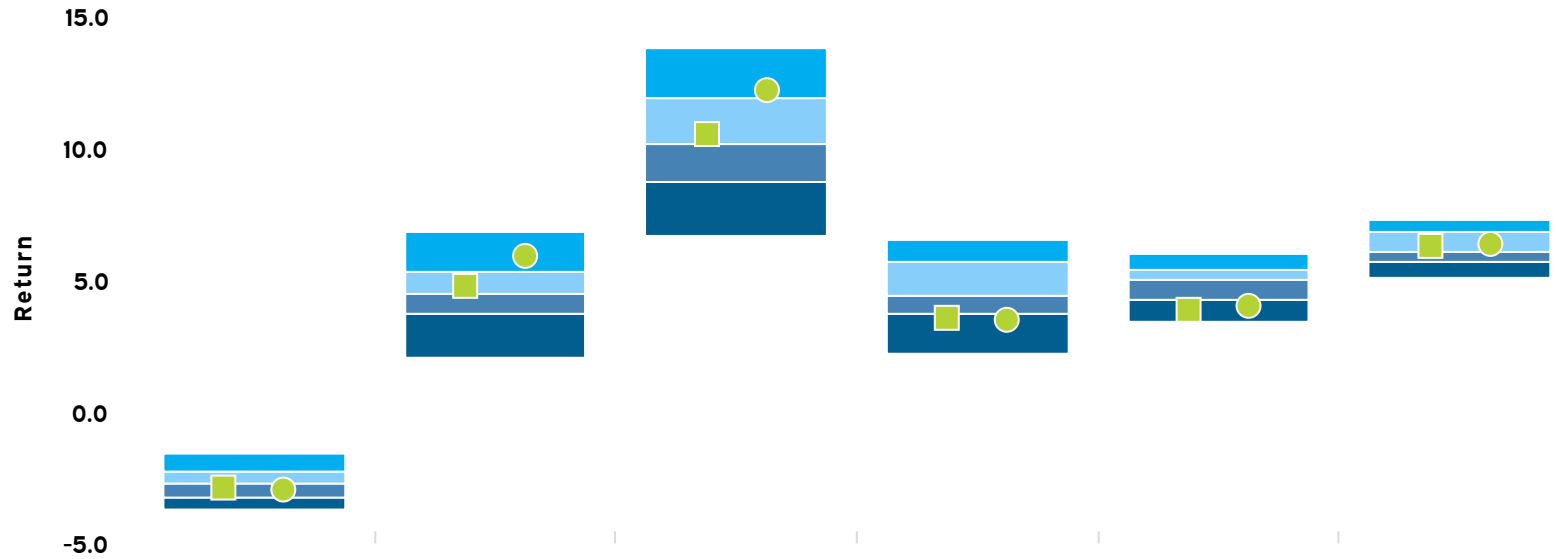
	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Northern Trust Russell 1000	81,367,541	-	-2,552,390	78,815,151
EARNEST Partners	43,238,606	-2,000,000	-1,797,837	39,440,769
Wellington Select Quality Equity	23,373,498	-	-1,097,711	22,275,787
Brown Fundamental Small Cap Value	11,278,982	-	91,121	11,370,103
Rice Hall James	14,666,153	-	-1,176,841	13,489,312
Vanguard Developed Markets ETF	15,464,066	-	-823,768	14,640,298
SGA ACWI ex-U.S. Equity	40,377,022	-3,000,000	-410,002	36,967,020
Ramirez	70,891,932	-	-2,194,358	68,697,575
Wellington Core Bond	6,726,320	-	-209,180	6,517,141
Reams	26,844,017	-	-936,502	25,907,515
Polen Capital	9,200,988	-	128,986	9,329,974
Parametric BXM	11,207,891	-	-101,681	11,106,210
Parametric DeltaShift	11,340,209	-	-288,618	11,051,591
Kepos Alternative Risk Premia	10,476,679	-	491,617	10,968,295
Versor Trend Following	15,551,785	-	618,430	16,170,216
Vanguard Long-Term Treasury ETF	14,131,423	-	-1,783,945	12,347,478
Cash - Money Market	4,357,977	1,286,037	-	5,644,014
Cash - Treasury	9,675,000	730,000	-	10,405,000
Securities Lending Northern Trust	-	-36,055	36,055	-
OPFRS Total Plan	420,170,089	-3,020,018	-12,006,623	405,143,449

Growth of a Dollar 5 Years ending September 30, 2023



The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently.

Plan Sponsor Peer Group Performance Comparison vs. InvMetrics Public DB \$250M-\$1B Net



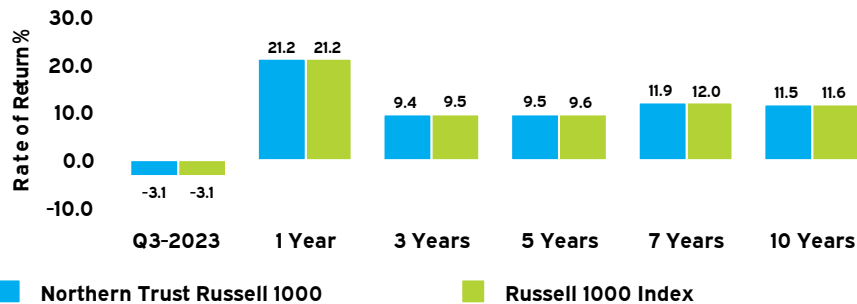
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
■ OPFRS Total Plan	-2.9 (57)	4.8 (42)	10.5 (41)	3.5 (80)	3.9 (88)	6.3 (43)
● OPFRS Policy Benchmark	-3.0 (63)	5.9 (14)	12.2 (20)	3.5 (80)	4.0 (88)	6.4 (42)
5th Percentile	-1.6	6.8	13.8	6.5	6.0	7.3
1st Quartile	-2.3	5.3	11.9	5.7	5.4	6.8
Median	-2.8	4.5	10.2	4.4	5.0	6.1
3rd Quartile	-3.3	3.7	8.7	3.7	4.3	5.7
95th Percentile	-3.7	2.0	6.6	2.2	3.4	5.1
Population	86	82	81	79	78	67

Total Plan performance is a mix of gross and net of fees; performance is gross of fees prior to January 2016 and net of fees thereafter. Parentheses contain percentile rankings. Calculation based on monthly periodicity. Fiscal year begins on July 1.

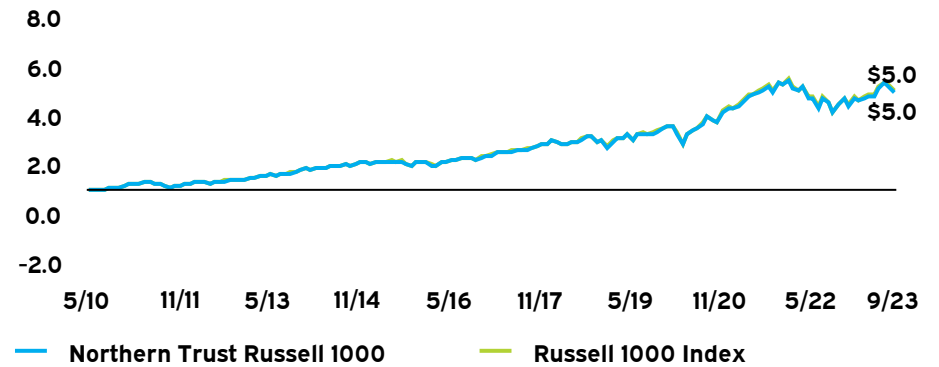
Portfolio Characteristics & Manager Profiles

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
Northern Trust Russell 1000	0.00	1.00	0.23	-0.42	0.01	1.00	99.78	99.81
Russell 1000 Index	0.00	1.00	-	-0.42	0.00	1.00	100.00	100.00

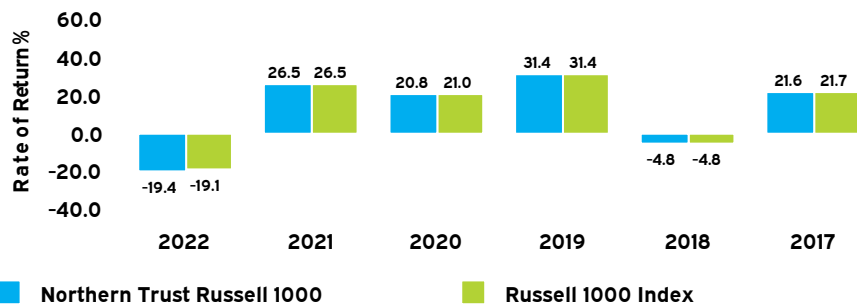
Trailing Performance



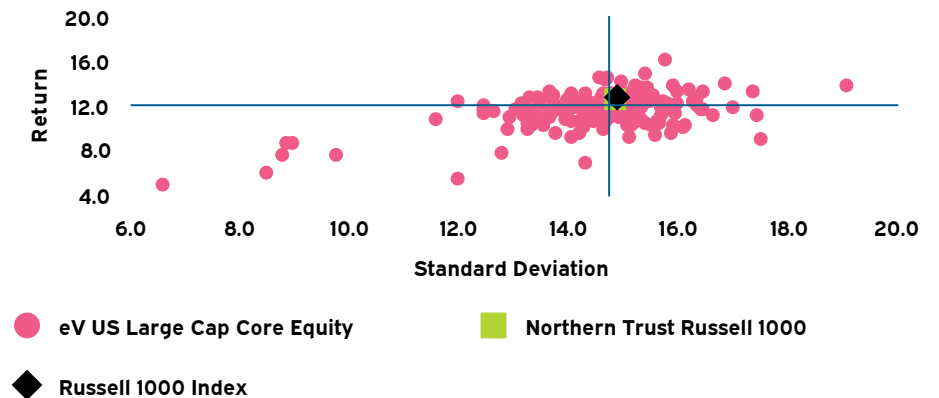
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception



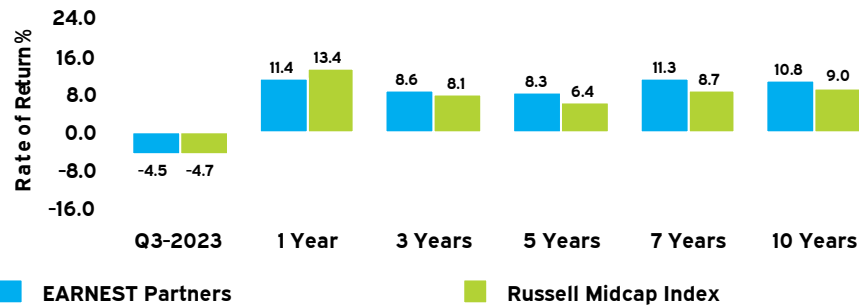
	QTD Return	QTD Risk
Northern Trust Russell 1000	-3.14	3.36
Russell 1000 Index	-3.15	3.36

Performance shown is net of fees. Risk is measured as Standard Deviation.

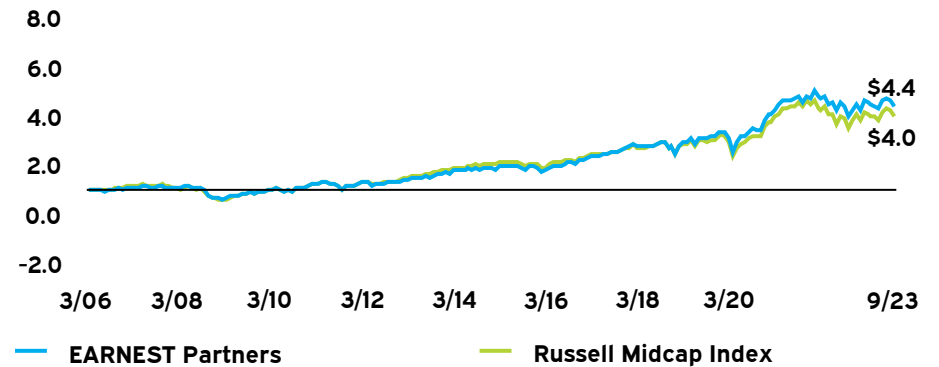
EARNEST Partners | As of September 30, 2023

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
EARNEST Partners	-0.22	0.84	0.03	-0.57	0.80	0.98	75.43	87.61
Russell Midcap Index	0.00	1.00	-	-0.49	0.00	1.00	100.00	100.00

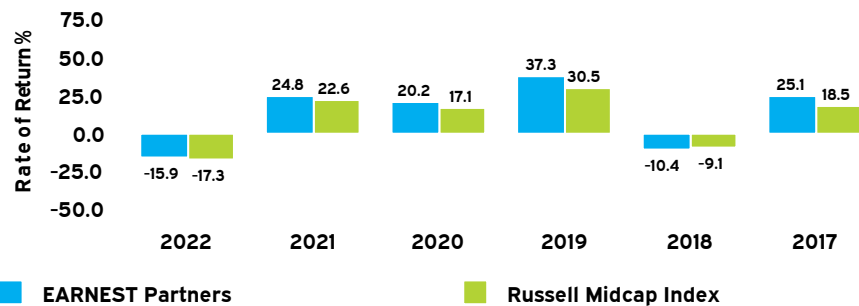
Trailing Performance



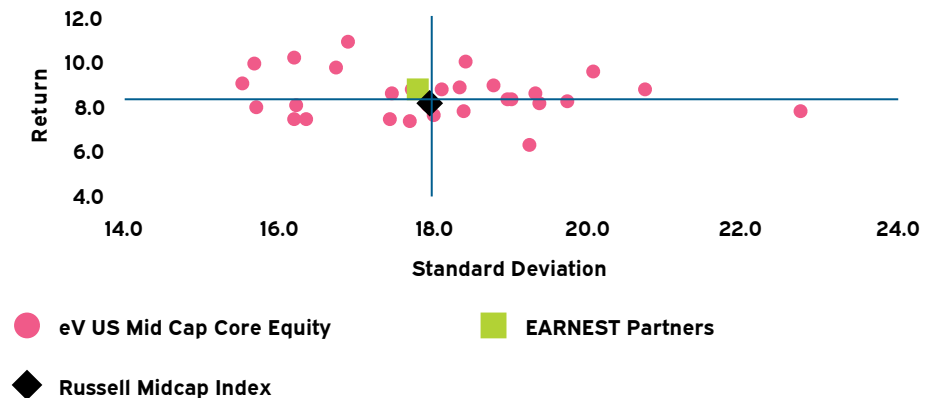
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception



	QTD Return	QTD Risk
EARNEST Partners	-4.54	3.32
Russell Midcap Index	-4.68	3.92

Performance shown is net of fees. Risk is measured as Standard Deviation.

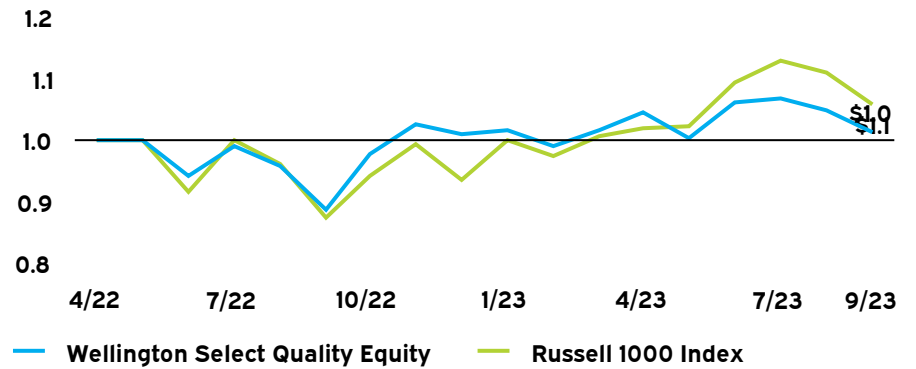
Wellington Select Quality Equity | As of September 30, 2023

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
Wellington Select Quality Equity	-1.08	0.50	-0.34	-1.18	1.70	1.00	16.61	82.19
Russell 1000 Index	0.00	1.00	-	-0.42	0.00	1.00	100.00	100.00

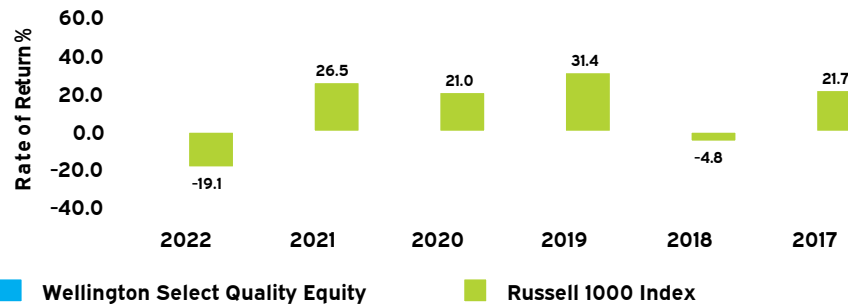
Trailing Performance



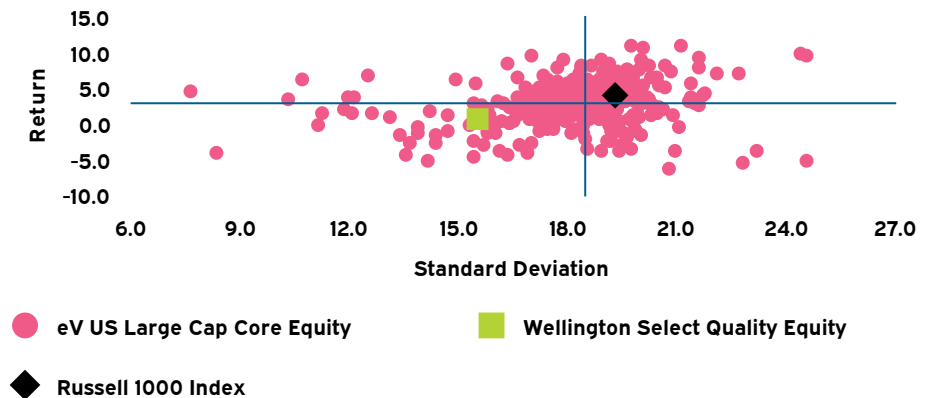
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception



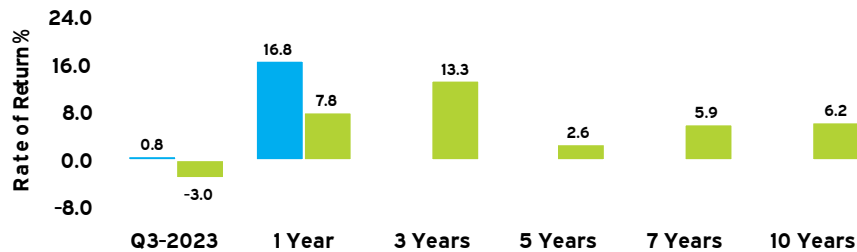
	QTD Return	QTD Risk
Wellington Select Quality Equity	-4.70	1.67
Russell 1000 Index	-3.15	3.36

Performance shown is net of fees. Risk is measured as Standard Deviation.

Brown Fundamental Small Cap Value | As of September 30, 2023

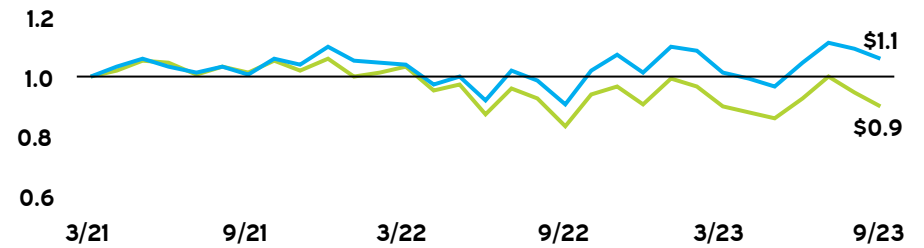
	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
Brown Fundamental Small Cap Value	0.96	0.72	0.68	-0.02	1.73	0.98	84.86	53.12
Russell 2000 Value Index	0.00	1.00	-	-0.21	0.00	1.00	100.00	100.00

Trailing Performance



■ Brown Fundamental Small Cap Value ■ Russell 2000 Value Index

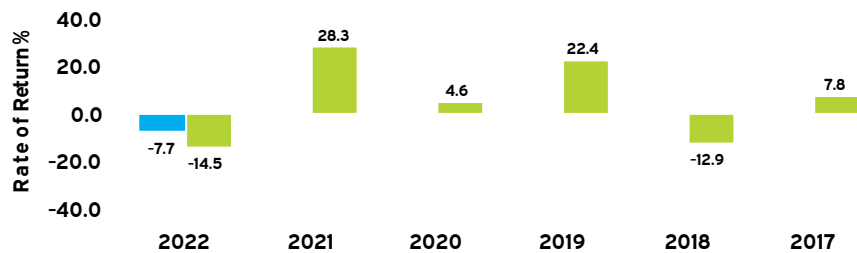
Growth of \$1 - Since Inception



— Brown Fundamental Small Cap Value

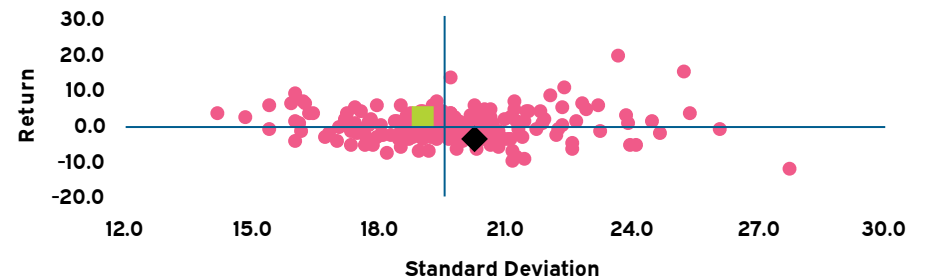
— Russell 2000 Value Index

Calendar Year Returns



■ Brown Fundamental Small Cap Value ■ Russell 2000 Value Index

Risk/Return - Since Inception



● eV US Small Cap Value Equity

■ Brown Fundamental Small Cap Value

◆ Russell 2000 Value Index

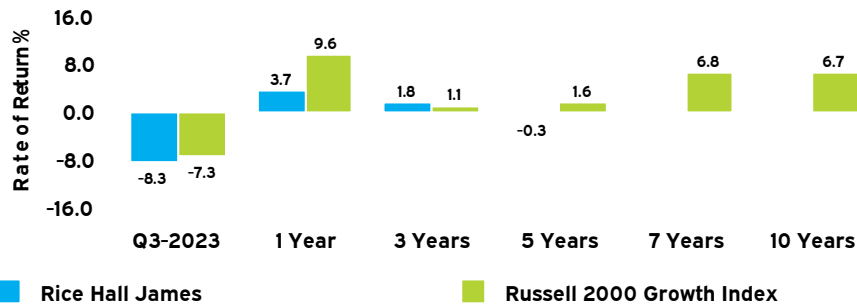
	QTD Return	QTD Risk
Brown Fundamental Small Cap Value	0.81	4.33
Russell 2000 Value Index	-2.96	5.92

Performance shown is net of fees. Risk is measured as Standard Deviation.

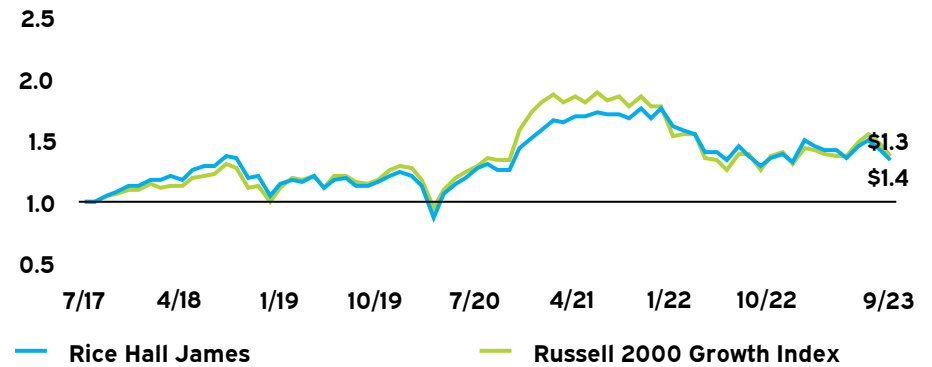
Rice Hall James | As of September 30, 2023

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
Rice Hall James	-0.77	0.83	-0.43	-0.76	0.86	1.00	67.45	96.50
Russell 2000 Growth Index	0.00	1.00	-	-0.56	0.00	1.00	100.00	100.00

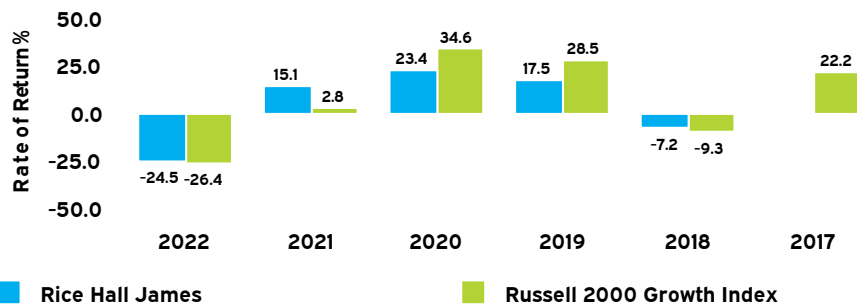
Trailing Performance



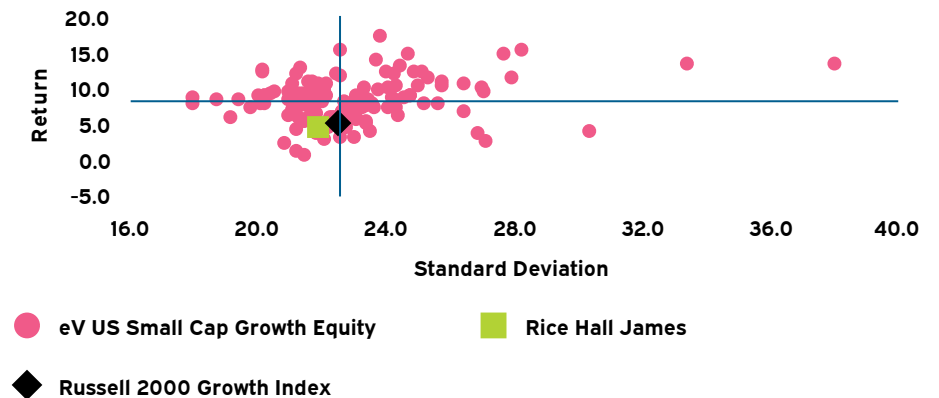
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception



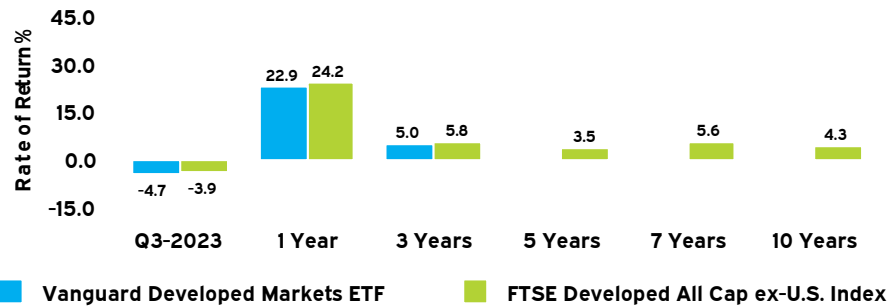
	QTD Return	QTD Risk
Rice Hall James	-8.26	4.18
Russell 2000 Growth Index	-7.32	5.02

Performance shown is net of fees. Risk is measured as Standard Deviation.

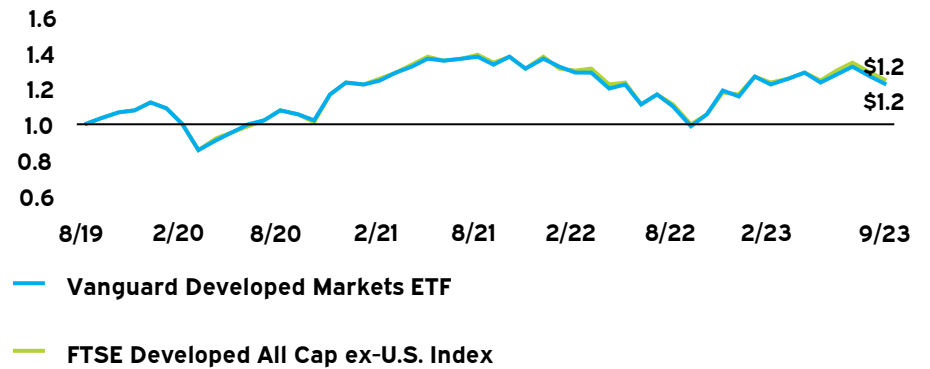
Vanguard Developed Markets ETF | As of September 30, 2023

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
Vanguard Developed Markets ETF	-0.32	0.95	-1.49	-0.59	0.18	1.00	86.72	104.23
FTSE Developed All Cap ex-U.S. Index	0.00	1.00	-	-0.49	0.00	1.00	100.00	100.00

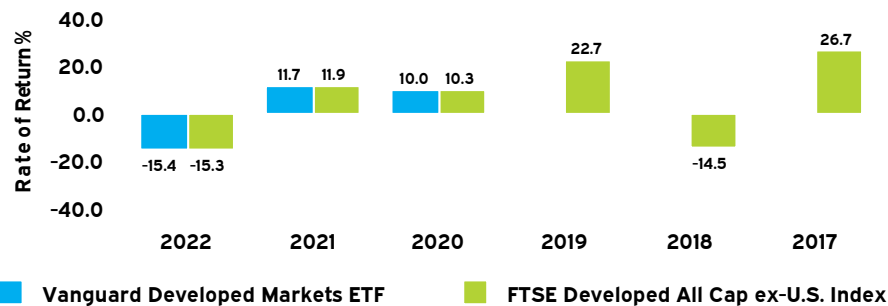
Trailing Performance



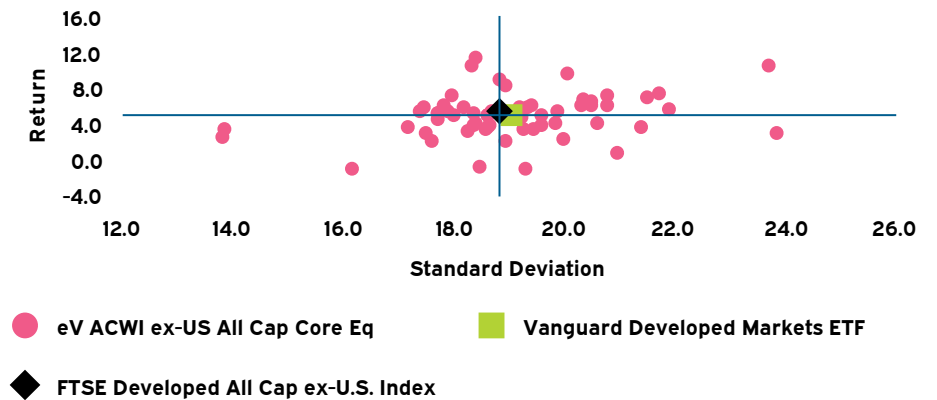
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception

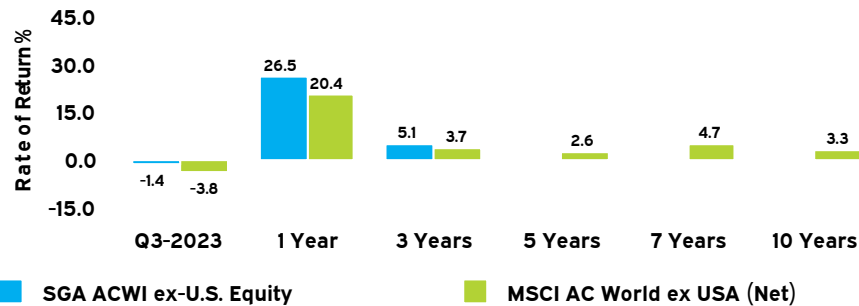


	QTD Return	QTD Risk
Vanguard Developed Markets ETF	-4.68	3.30
FTSE Developed All Cap ex-U.S. Index	-3.92	3.46

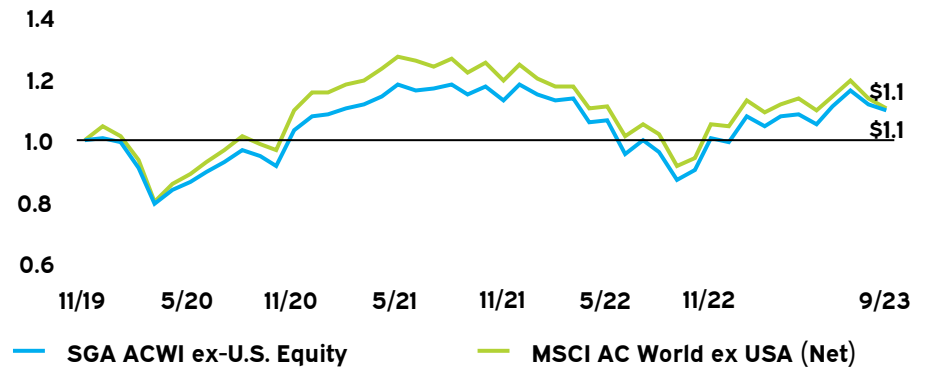
Performance shown is net of fees. Risk is measured as Standard Deviation.

	Alpha	Beta	Information Ratio	Sharpe Ratio	Tracking Error	R-Squared	Up Capture	Down Capture
SGA ACWI ex-U.S. Equity	0.63	0.86	1.44	-0.26	0.55	1.00	100.66	69.43
MSCI AC World ex USA (Net)	0.00	1.00	-	-0.43	0.00	1.00	100.00	100.00

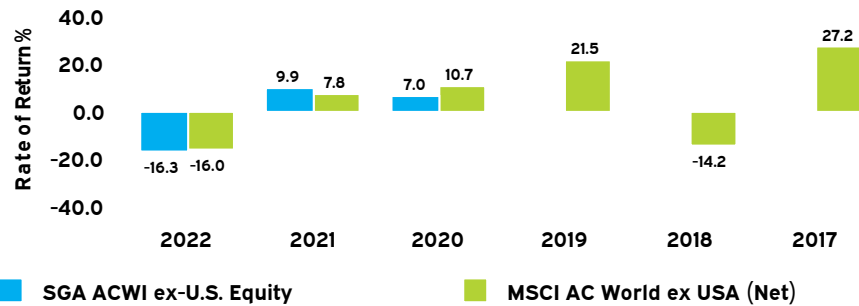
Trailing Performance



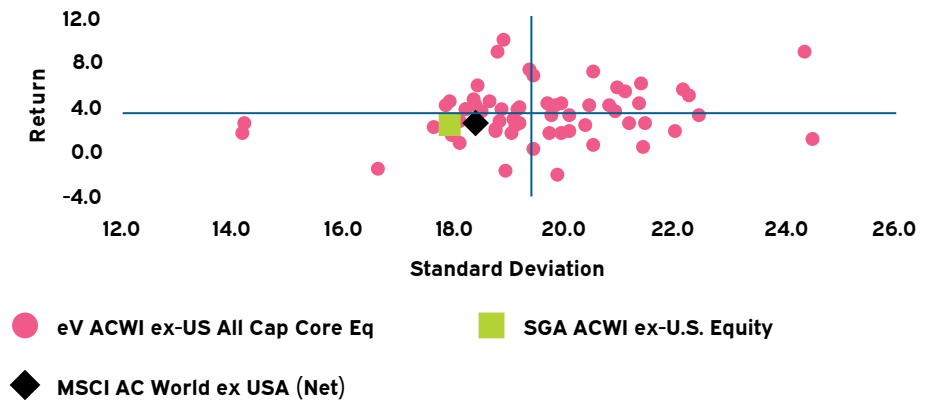
Growth of \$1 - Since Inception



Calendar Year Returns



Risk/Return - Since Inception



	QTD Return	QTD Risk
SGA ACWI ex-U.S. Equity	-1.39	3.25
MSCI AC World ex USA (Net)	-3.77	3.77

Performance shown is net of fees. Risk is measured as Standard Deviation.

Ramirez | As of September 30, 2023

Account Information

Account Name	Ramirez
Account Structure	Separate Account
Inception Date	01/30/2017
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Aggregate Index
Peer Group	eV US Core Fixed Inc

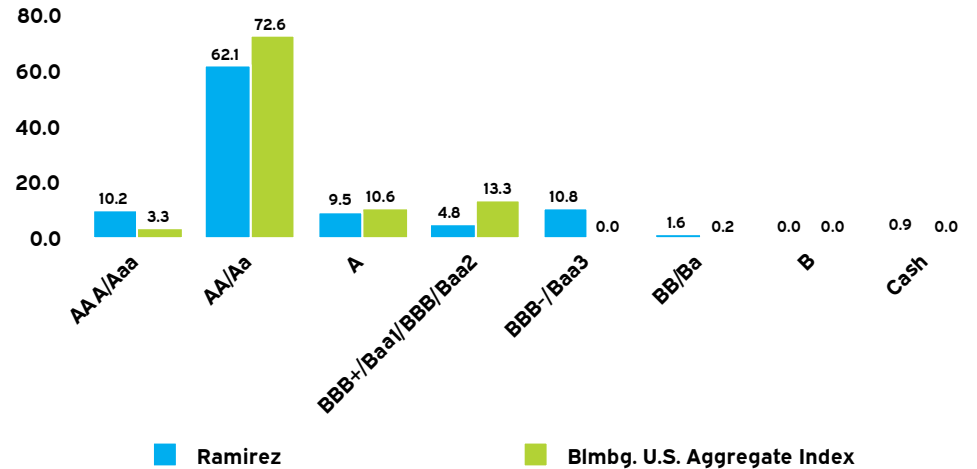
Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Ramirez	-3.1	-0.6	1.0	-4.5	0.3

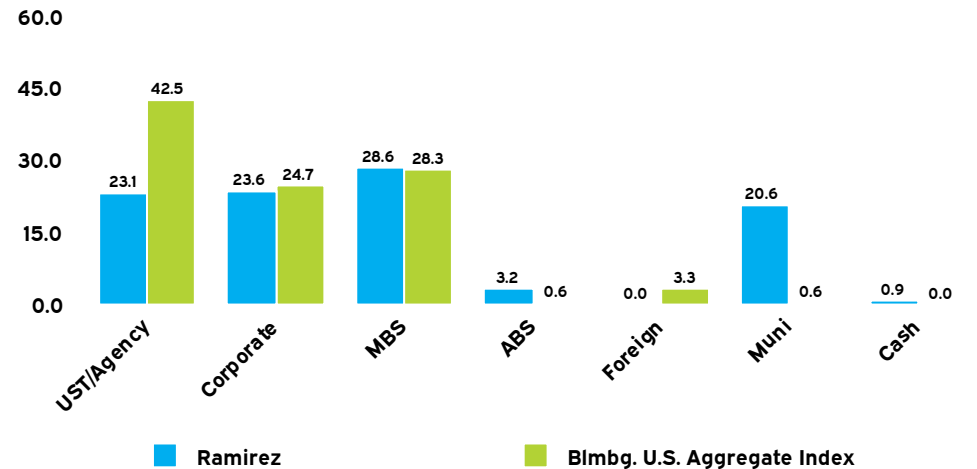
Portfolio Fixed Income Characteristics

	Q3-23 Portfolio	Q2-23 Portfolio
Yield To Maturity	5.7	5.1
Average Duration	6.2	6.1
Average Quality	AA	AA
Weighted Average Maturity	9.1	9.2

Credit Quality Allocation



Sector Allocation



Performance shown is net of fees.

Account Information

Account Name	Wellington Core Bond
Account Structure	Commingled Fund
Inception Date	04/01/2021
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Aggregate Index
Peer Group	eV US Core Fixed Inc

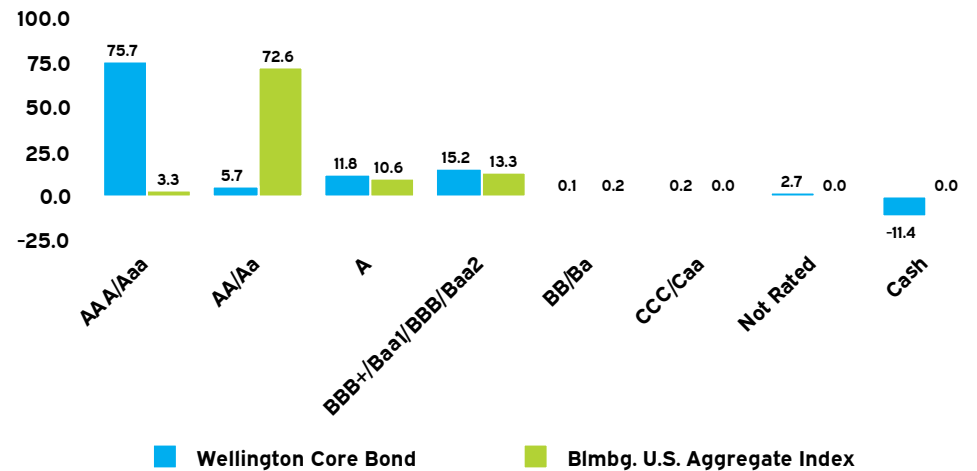
Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Wellington Core Bond	-3.1	-0.2	1.6	-	-

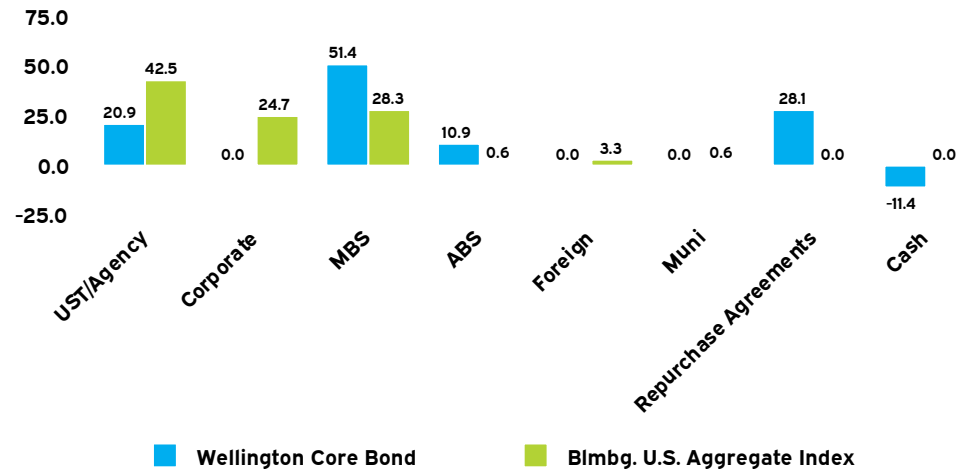
Portfolio Fixed Income Characteristics

	Q3-23 Portfolio	Q2-23 Portfolio
Yield To Maturity	5.3	5.3
Average Duration	6.7	6.8
Average Quality	AA	AA
Weighted Average Maturity	-	-

Credit Quality Allocation



Sector Allocation



Performance shown is net of fees.

Account Information

Account Name	Reams
Account Structure	Separate Account
Inception Date	01/01/1998
Asset Class	US Fixed Income
Benchmark	Bloomberg Universal (Blend)
Peer Group	eV US Core Plus Fixed Inc

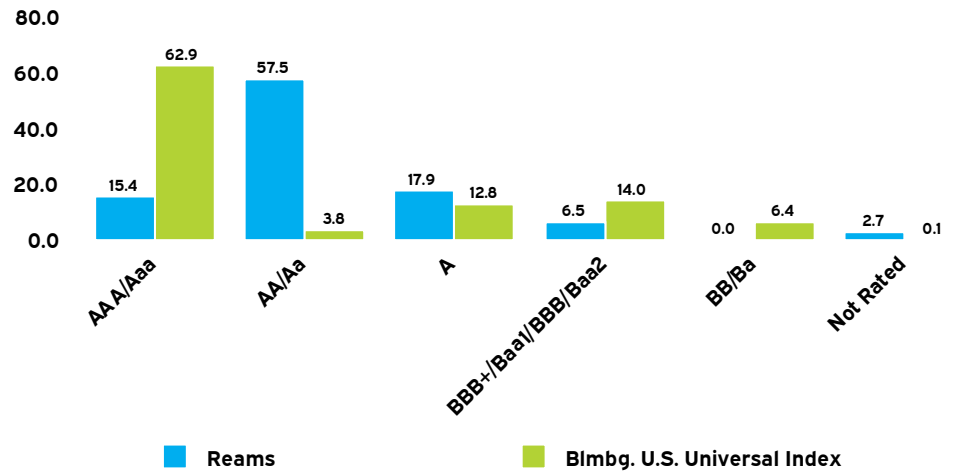
Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Reams	-3.5	-0.5	2.6	-4.3	2.7

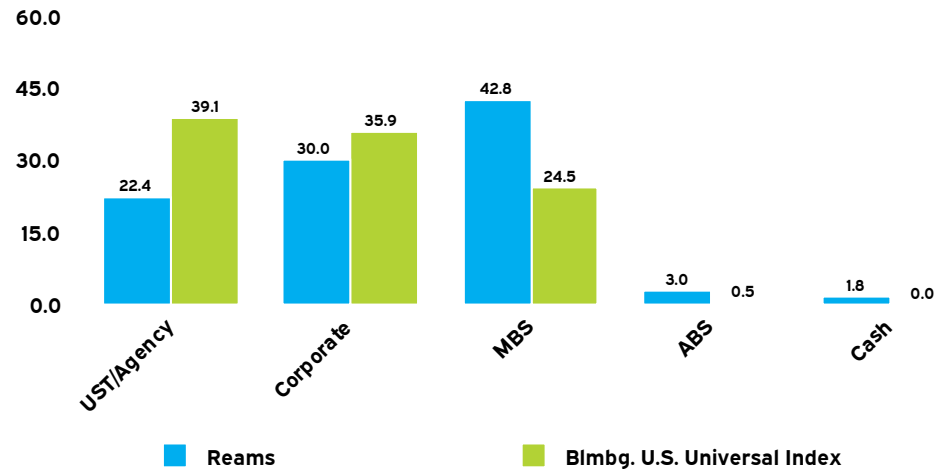
Portfolio Fixed Income Characteristics

	Q3-23 Portfolio	Q2-23 Portfolio
Yield To Maturity	6.4	5.5
Average Duration	6.9	6.7
Average Quality	AA	AA
Weighted Average Maturity	-	-

Credit Quality Allocation



Sector Allocation



Performance shown is net of fees.

Account Information

Account Name	Polen Capital
Account Structure	Commingled Fund
Inception Date	02/01/2015
Asset Class	US Fixed Income
Benchmark	ICE BofA High Yield Master II
Peer Group	eV US High Yield Fixed Inc

Portfolio Performance Summary

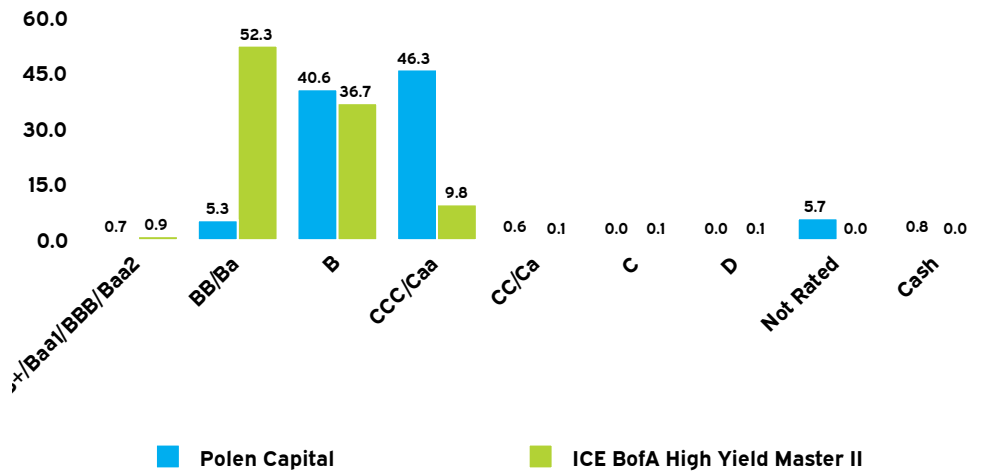
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Polen Capital	1.4	8.4	10.4	5.1	3.2

Portfolio Fixed Income Characteristics

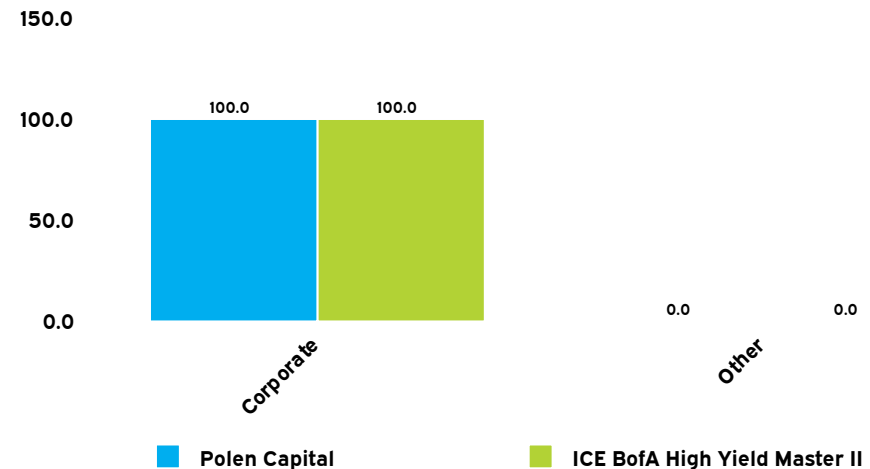
	Q3-23 Portfolio	Q2-23 Portfolio
Yield To Maturity	10.8	11.0
Average Duration	1.8	1.8
Average Quality	BBB	BBB
Weighted Average Maturity	-	-

Performance shown is net of fees.

Credit Quality Allocation



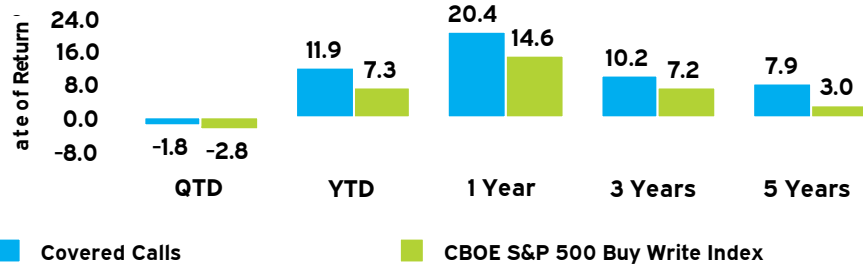
Sector Allocation



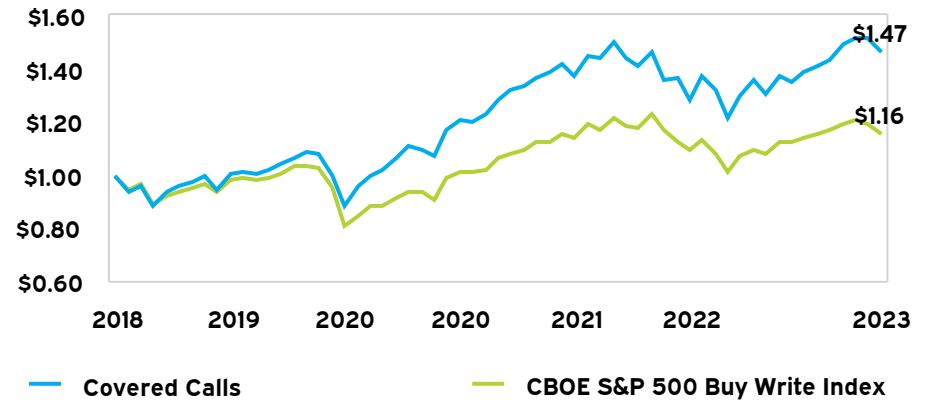
Covered Calls | As of September 30, 2023

	Return	Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Capture	Down Capture	Inception Date
Covered Calls	8.5	11.5	3.1	1.0	0.8	4.0	122.7	104.5	04/01/2014
CBOE S&P 500 Buy Write Index	5.2	10.6	0.0	1.0	-	0.0	100.0	100.0	
Parametric BXM	6.8	9.5	2.2	0.9	0.4	3.2	99.0	85.7	04/01/2014
CBOE S&P 500 Buy Write Index	5.2	10.6	0.0	1.0	-	0.0	100.0	100.0	
Parametric DeltaShift	10.3	13.9	4.2	1.2	0.8	6.2	145.4	120.6	04/01/2014
CBOE S&P 500 Buy Write Index	5.2	10.6	0.0	1.0	-	0.0	100.0	100.0	

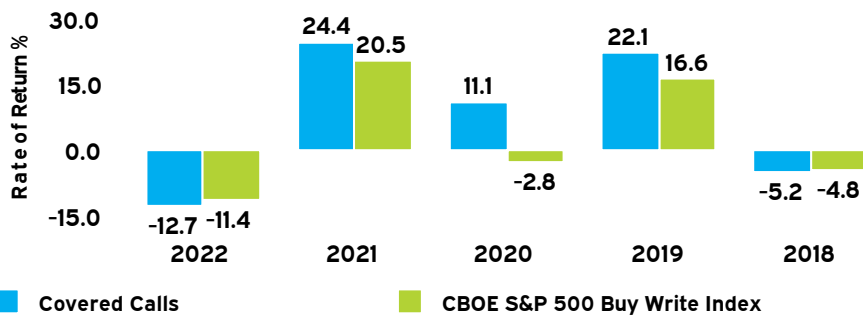
Trailing Period Performance



Growth of a Dollar



Calendar Year Performance



Performance shown is net of fees.

Crisis Risk Offset | As of September 30, 2023

	Return	Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Capture	Down Capture	Inception Date
Crisis Risk Offset	-8.1	11.3	-7.3	0.8	-0.7	10.5	24.4	129.8	08/01/2018
Crisis Risk Offset Benchmark	-0.4	5.3	0.0	1.0	-	0.0	100.0	100.0	
Kepos Alternative Risk Premia	5.7	5.9	1.2	0.6	-0.2	5.2	68.7	49.7	02/01/2022
SG Multi Alternative Risk Premia Index	7.1	5.2	0.0	1.0	-	0.0	100.0	100.0	
Versor Trend Following	5.1	16.5	-1.5	1.2	-0.1	6.8	105.3	110.3	04/01/2022
SG Trend Index	6.1	13.1	0.0	1.0	-	0.0	100.0	100.0	
Vanguard Long-Term Treasury ETF	-6.7	14.6	-0.1	1.0	-0.1	1.1	101.9	102.1	07/01/2019
Blmbg. U.S. Government: Long Term Bond Index	-6.5	14.3	0.0	1.0	-	0.0	100.0	100.0	

Correlation Matrix

3 Months Ending September 30, 2023

	Crisis Risk Offset	MSCI AC World Index Value	S&P 500 Index	Blmbg. Global Aggregate
Crisis Risk Offset	1.00			
MSCI AC World Index Value	0.34	1.00		
S&P 500 Index	-0.11	0.89	1.00	
Blmbg. Global Aggregate	-0.15	0.88	1.00	1.00

Trailing Period Performance



Performance shown is net of fees.

Additional Information

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. U.S. Universal Index, 2.0% Blmbg. U.S. 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. U.S. Universal Index, 5.0% CBOE S&P 500 Buy Write Index, 2.0% Blmbg. U.S. 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. U.S. 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. U.S. 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. U.S. 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. U.S. Universal Index, 33.0% ICE BofA 3 Month U.S. 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 U.S. T-Bill
10/01/2007	08/01/2012	53.0% Russell 3000 Index, 17.0% MSCI AC World ex USA index, 30.0% Blmbg. U.S. Universal Index
04/01/2006	10/01/2007	35.0% Russell 3000 Index, 15.0% MSCI AC World ex USA index, 50.0% Blmbg. U.S. 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. U.S. Aggregate Index, 15.0% MSCI EAFE (Net)
09/01/1988	04/01/1998	40.0% S&P 500 Index, 55.0% Blmbg. U.S. 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. U.S. Universal Index
01/01/1976	04/01/2006	100.0% Blmbg. U.S. Aggregate Index
Covered Calls		
03/01/2014	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. U.S. 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

Manager Monitoring / Probation Status

Managers on Watch/Probation Status

Manager & Strategy	Concern Triggering Watch Status	Date of Corrective Action ¹	Months Since Placement	Performance ² Since Placement	Peer Group Rank Since Placement
Versor Trend Following	Organization / Performance	9/27/2023	0	--	--
<i>Benchmark: SG Trend Index</i>	--	--	--	--	--

Investment Manager Monitoring Criteria³

Investment managers are evaluated on ongoing and periodic basis using both quantitative performance criteria and qualitative aspects of the managers. The quantitative criteria for different asset classes are as follows.

Asset Class	Short-term (Rolling 12 months)	Medium-term (Rolling 36 months)	Long-term (60 + months)
Active Domestic Equity	Fund return < benchmark return by 3.5%	Annualized Fund return < benchmark return by 1.75% for 6 consecutive months	VRR ⁴ < 0.97 for 6 consecutive months
Active International Equity	Fund return < benchmark return by 4.5%	Annualized Fund return < benchmark return by 2.0% for 6 consecutive months	VRR < 0.97 for 6 consecutive months
Passive International Equity	Tracking Error > 0.50%	Tracking Error > 0.45% for 6 consecutive months	Annualized Fund return < benchmark return by 0.4% for 6 consecutive months
Fixed Income	Fund return < benchmark return by 1.5%	Annualized Fund return < benchmark return by 1.0% for 6 consecutive months	VRR < 0.98 for 6 consecutive months

¹ Date when the Board voted to either monitor a manager at a heightened level or place it on probation.

² Annualized performance if over one year. Performance shown is net of fees.

³ Per Investment Policy Statement and Manager Guidelines, Revised 5/31/2023, section H.

⁴ VRR (Value Relative Ratio) is calculated as manager cumulative return/ benchmark cumulative return.

Appendix

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.

Disclaimer, Glossary, and Notes

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.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. $\text{Portfolio Return} - [\text{Risk Free Rate} + \text{Beta} * (\text{market return} - \text{Risk Free Rate})]$.

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about its future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a “basis book.” For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\% \text{ (discount)}}{5 \text{ (yrs. to maturity)}} = 1\% \text{ pro rata, plus } 5.26\% \text{ (current yield)} = 6.26\% \text{ (yield to maturity)}$$

Yield to Worst: The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

NCREIF Property Index (NPI): Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE): Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.

The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

The Russell Indices®, TM, SM are trademarks/service marks of the Frank Russell Company.

Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.

Oakland Police and Fire Retirement System

December 6, 2023

Recommendation for
Jan to Mar 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	117.8	19.6
2	Public, Accommodating of Withdrawals	124.1	20.7
3	Public, Must Plan Withdrawals	152.7	25.5
4	Closely Held	0.0	-
Total		394.7	

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 October 31, 2023

	Market Value		Target	Variance		Actual Cash Flows for Jul – Sep Benefits ¹		Suggested Cash Flows for Oct – Dec Benefits ¹	
	(\$M)	(%)	(%)	(\$M)	(%)	Inflow (\$M)	Outflow (\$M)	Inflow (\$M)	Outflow (\$M)
Northern Trust Russell 1000	76.9	19.5%	20.0%	(2.0)	(0.5%)	--	--	--	--
EARNEST Partners	38.0	9.6%	8.0%	6.4	1.6%	--	(3.0)	--	(3.0)
Wellington Select Quality Equity	22.5	5.7%	6.0%	(1.2)	(0.3%)	--	--	--	--
Rice Hall James	12.7	3.2%	3.0%	0.8	0.2%	--	--	--	--
Brown Small Cap Value	10.9	2.8%	3.0%	(1.0)	(0.2%)	--	--	--	--
Total Domestic Equity	160.9	40.8%	40.0%	3.0	0.8%	--	(3.0)	--	(3.0)
SGA MSCI ACWI ex-US	35.4	9.0%	8.4%	2.2	0.6%	--	--	--	--
Vanguard Developed ETF (BlackRock) ²	14.1	3.6%	3.6%	(0.1)	0.0%	--	--	--	--
Total International Equity	49.5	12.5%	12.0%	2.1	0.5%	--	--	--	--
Total Public Equity³	210.4	53.3%	52.0%	5.2	1.3%	--	(3.0)	--	(3.0)
Parametric	21.9	5.6%	5.0%	2.2	0.6%	--	--	--	--
Total Covered Calls	21.9	5.6%	5.0%	2.2	0.6%	--	--	--	--
Long Duration ETF (BlackRock) ²	11.7	3.0%	3.3%	(1.5)	(0.4%)	--	--	--	--
Versor Trend Following	15.8	4.0%	3.3%	2.8	0.7%	--	--	--	--
Kepos Alternative Risk Premia	11.1	2.8%	3.3%	(1.9)	(0.5%)	--	--	--	--
Total Crisis Risk Offset	38.7	9.8%	10.0%	(0.8)	(0.2%)	--	--	--	--
Ramirez	67.6	17.1%	17.0%	0.5	0.1%	--	--	--	--
Reams	25.4	6.4%	12.0%	(22.0)	(5.6%)	--	--	--	--
Wellington Core Bond	6.4	1.6%	2.0%	(1.5)	(0.4%)	--	--	--	--
Polen Capital High Yield	9.2	2.3%	2.0%	1.3	0.3%	--	--	--	--
Total Public Fixed Income	108.6	27.5%	33.0%	(21.6)	(5.5%)	--	--	--	--
Cash	15.1	3.8%	0.0%	15.1	3.8%	10.2	(10.2)	10.2	(10.2)
Total Stable³	123.7	31.3%	33.0%	(6.6)	(1.7%)	10.2	(10.2)	10.2	(10.2)
Total Portfolio	394.7	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.

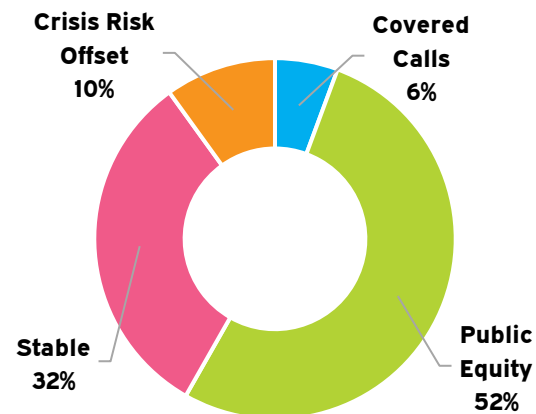
² Manager names in parentheses indicates selected, yet unfunded managers for replacement.

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	160.9
International Equity	49.5
Public Equity ¹	210.4
Covered Calls	21.9
Crisis Risk Offset	38.7
Public Fixed Income	108.6
Stable ¹	123.7
Total Portfolio	394.7

Projected Equity to Fixed Income Allocation After Cash Flows



Suggested Cash Withdrawals

Portfolio Segment	Market Value (\$M)
Cash in Treasury	10.2
EARNEST Partners	3.0
Total Withdrawal	13.2

→ Market value difference in Public Equity from 52% allocation: -\$2.3 million underweight.

¹Public 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 March 31, 2024¹

	Estimated Market Value		Target (%)	Projected Variance from Target	
	(\$M)	(%)		(\$M)	(%)
Northern Trust Russell 1000	76.9	19.8%	20.0%	(0.8)	(0.2%)
EARNEST Partners	32.0	8.2%	6.0%	8.7	2.2%
Wellington Select Quality Equity	22.5	5.8%	8.0%	(8.6)	(2.2%)
Rice Hall James	12.7	3.3%	3.0%	1.0	0.3%
Brown Small Cap Value	10.9	2.8%	3.0%	(0.8)	(0.2%)
Total Domestic Equity	154.9	39.9%	40.0%	(0.6)	(0.1%)
SGA MSCI ACWI ex-US	35.4	9.1%	3.6%	21.4	5.5%
Vanguard Developed Markets ETF	14.1	3.6%	8.4%	(18.5)	(4.8%)
Total International Equity	49.5	12.7%	12.0%	2.9	0.7%
Total Public Equity	204.4	52.6%	52.0%	2.3	0.6%
Parametric	21.9	5.6%	5.0%	2.5	0.6%
Total Covered Calls	21.9	5.6%	5.0%	2.5	0.6%
Vanguard Long Duration ETF	11.7	3.0%	3.3%	(1.3)	(0.3%)
Versor Trend Following	15.8	4.1%	3.3%	2.9	0.7%
Kepos Alternative Risk Premia	11.1	2.9%	3.3%	(1.8)	(0.5%)
Total Crisis Risk Offset	38.7	9.9%	10.0%	(0.2)	(0.1%)
Ramirez	67.6	17.4%	12.0%	20.9	5.4%
Reams	25.4	6.5%	2.0%	17.6	4.5%
Wellington Core Bond	6.4	1.6%	19.0%	(67.4)	(17.4%)
Polen Capital High Yield	9.2	2.4%	2.0%	1.5	0.4%
Total Public Fixed Income	108.6	27.9%	33.0%	(19.7)	(5.1%)
Cash	15.1	3.9%	0.0%	15.1	3.9%
Total Stable	123.7	31.8%	33.0%	(4.6)	(1.2%)
Total Portfolio	388.7	100%	100%		

¹Benefit 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.

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.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM", "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

Oakland Police & Fire Retirement System Pension Plan

December 2023

Asset Liability Study – Part II

Agenda

- Liability driven investing concepts.
- Current overview of the pension plan's key metrics.
- Asset, liability and funded status growth expectations and volatility.

Liability Driven Investing Concepts

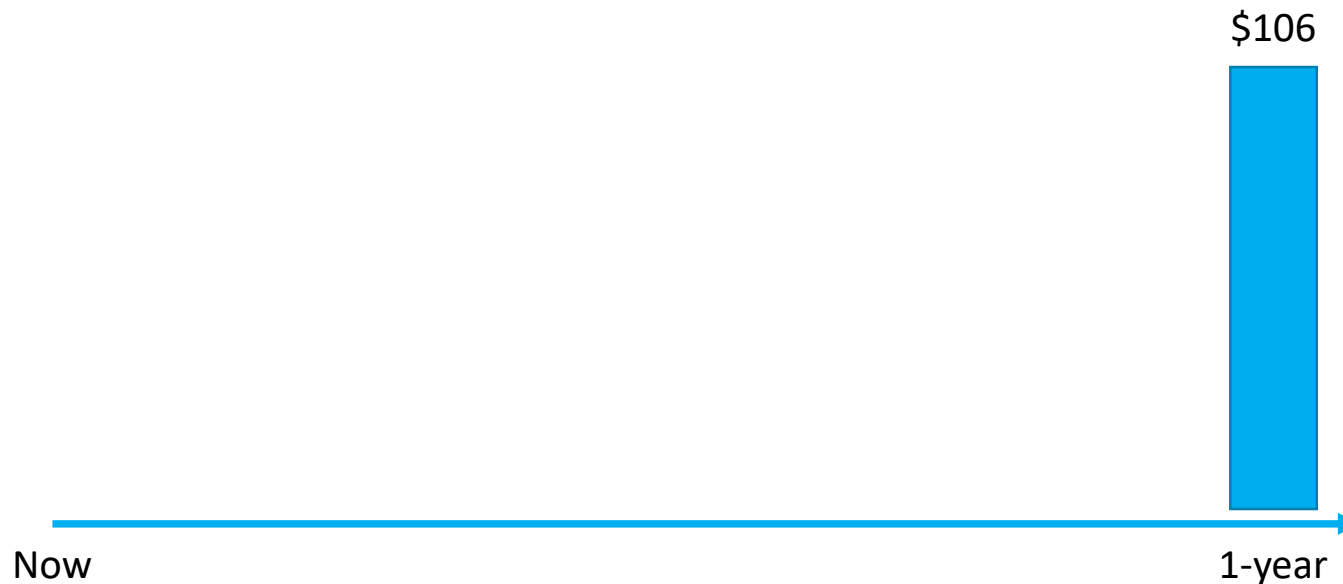
Explaining Liability Driven Investing

- Let's say you have \$100 in cash currently and you owe a friend \$105 in one year.
- The safest thing to do would be to in a US Treasury bill that yields 5% annually.
- There's a very high probability that the bill will pay you the \$5 you need, whereas other investments, such as stock, could fluctuate wildly in one year time.



Explaining Liability Driven Investing (continued)

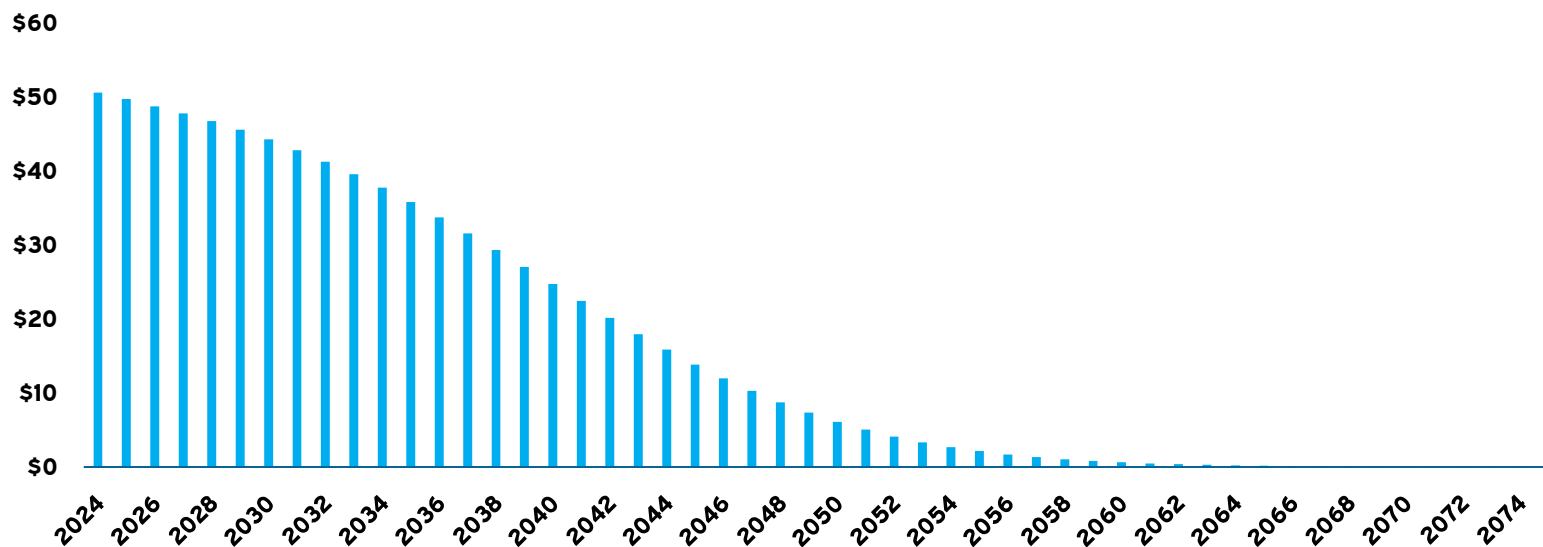
- Let's say you instead owe \$106, but the maximum yield you can get from a T-bill is 5%.
- You start looking at other bonds and what offer, eventually finding a bond issued by Company A which yields 6%.
- Company A has a credit rating of AA and is highly likely to pay all debt obligations in the next year.
- Although you are taking slightly more risk, the risk is compensated by offering the higher yield.



Explaining Liability Driven Investing (continued)

- Liability driven investing applies these same concepts, but to a much larger degree.
- The Oakland PFRS has obligations in the future that are forecasted by the actuary and are shown below.
- By combining different bonds that pay out in different lengths of time, we can minimize the amount of risk taken and meet all benefit obligations.

Expected Benefit Payments and Administrative Expenses

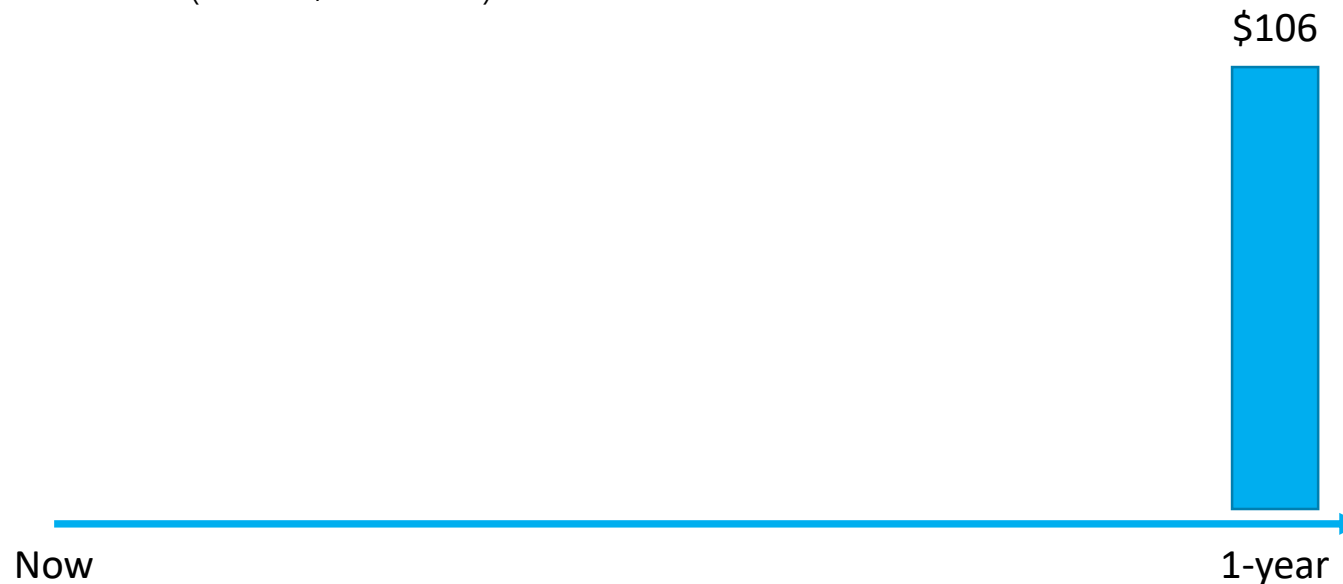


What happens if the values of the bonds change over time?

- While fixed income asset values are impacted by changes in interest rates, the value of the liabilities also change.
- So long as the bonds pay out their intended yield at maturity, changes in value of the fixed income does not matter.
- This is why credit quality is important. Bond defaults is the greatest risk to a liability driven investing strategy.

What happens if the values of the bonds change over time?

- Using the prior example, the liability is discounted using the 6% yield on the asset ($\$106 / 1.06\% = \text{present value} = \100)
- Suppose yields drop to 4% immediately. The present value of the liability increased from \$100 to \$102 ($\$106 / 1.04\% = \102).
- Because the asset you invested in is also affected by interest rate changes, the value of your bond is now \$102.
- Your “funded status” (assets / liabilities) continues to be 100%.



How do you measure how well your assets and liabilities are expected to change in harmony?

- This can be measured by shocking the assets and the liabilities to determine how sensitive each is to changes in interest rates.
- The comparison of their sensitivities is called a “hedge ratio”. A hedge ratio of 100% suggests that assets and liabilities will move \$ for \$ to interest rate changes (a 0% hedge ratio suggests no correlation).
- Oakland PFRS currently has an interest rate hedge ratio of 20%.
 - An interest rate decrease of 0.25% is expected to increase the liability by \$10M
 - Assets are only expected to change by 20% of the liability change (\$2M increase)

Asset and Liability Risks

Plan Overview

As of 9/30/2023 (\$M)		
a) Market Value of Assets	\$405	✓ Underfunded on an economic liability basis (benefit payments + administrative expenses)
b) Liability (Economic)	\$537	
c) Funded Status (a / b)¹	75%	
Annual Funded Status Growth Expectation		
d) Est. Asset Growth ³	7.3%	✓ Funded status <i>expected</i> to increase every year
e) Est. Liability Growth	5.3%	
Est. Funded Status Growth (c x d - e)	0.3%	
Policy Asset Allocation		
Risk-Mitigating Portfolio (RMP)	28%	✓ RMP includes only investment grade fixed income
Return-Seeking Portfolio	72%	

¹ Economic liability calculated by Meketa using cash flows provided by Cheiron as of 7/1/2022 and rolled forward to 9/30/2023 assuming benefits and admin expenses are paid as expected at a discount rate of 5.26%.

³ Arithmetic return, based on Meketa's 2023 10-year Capital Market Assumptions, adjusted for changes in interest rates through 9/30/2023

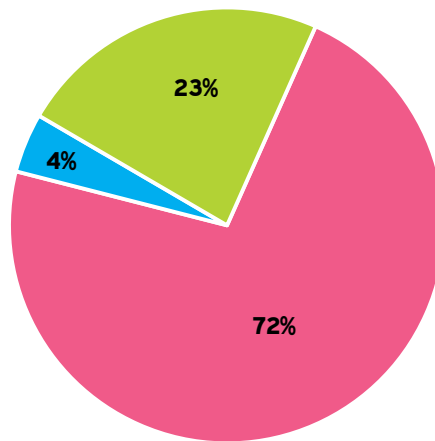
Asset Risk

→ Return-seeking assets (equities, high yield bonds, alternative risk premia, etc):

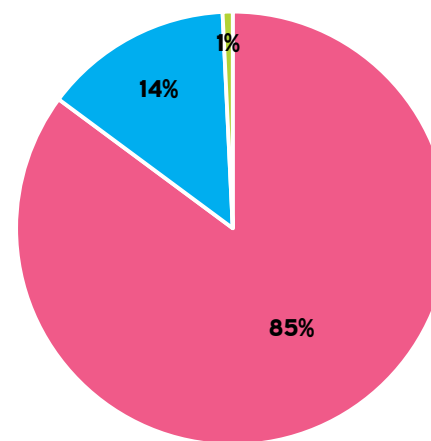
- comprise 72% of the market value of the portfolio, but
- contribute 85% of the investment risk.

→ The portfolio has an annual expected return of 7.3% and return volatility (risk) of 10.3%*

Asset Value Allocation



Asset Risk Allocation



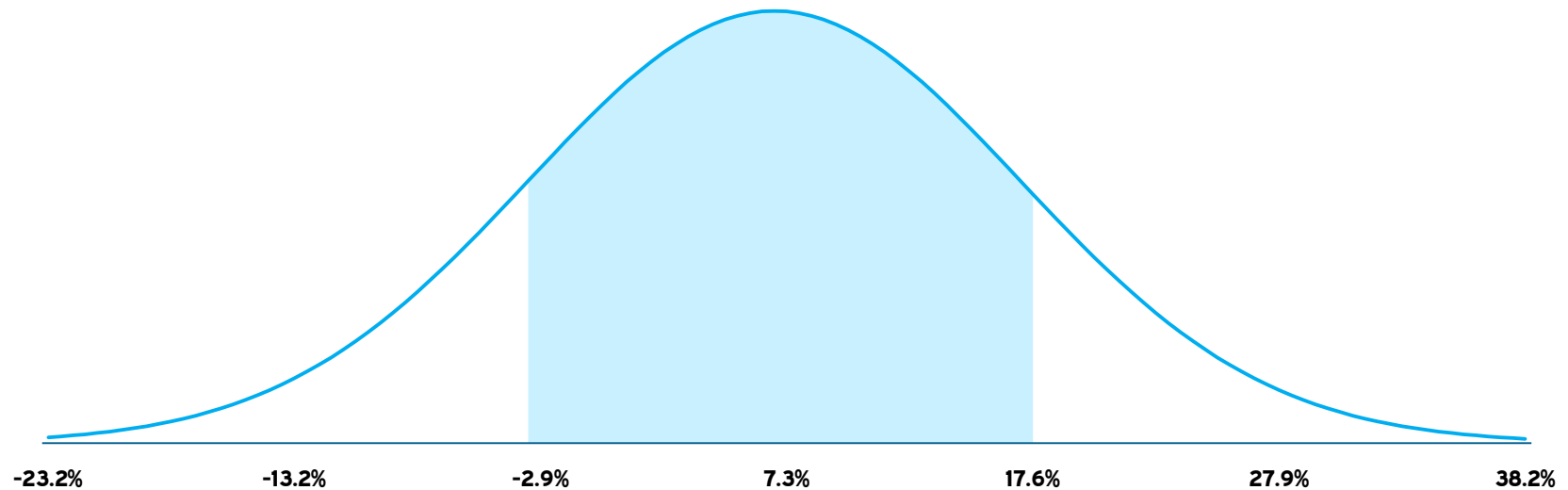
■ Return-Seeking Portfolio
 ■ Risk Mitigating - Treasury Rate
 ■ Risk Mitigating - Credit Spread

* Based on Meketa's 10-year Capital Market Assumptions, adjusted for changes in interest rates through 9/30/2023

Asset Risk – Distribution Example

- Below is a graph of the expected risk/return relationship of the current portfolio.
- The range of expected return outcomes are detailed as a normal distribution.

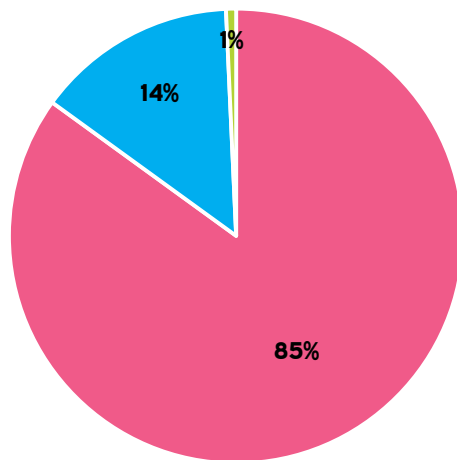
Portfolio Return Distribution (%)



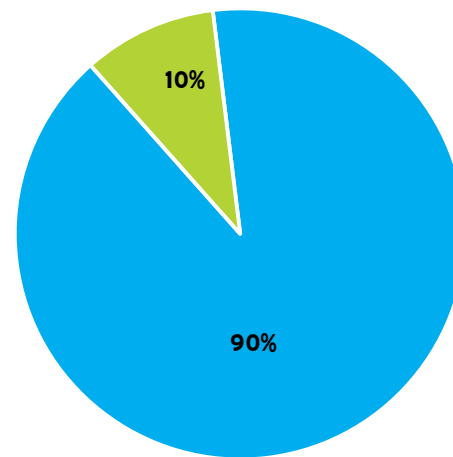
Liability Risk

- The two market-related risks that are most influential in the calculation of the liability are the interest (Treasury) rate and credit spreads.
- The liability market risks* and very different from the asset market risks creating the potential for material fluctuations in the funded status.

Asset Risk Allocation



Liability Risk Allocation



■ **Return-Seeking Portfolio** ■ **Risk Mitigating - Treasury Rate** ■ **Risk Mitigating - Credit Spread**

* Based on Meketa's 10-year Capital Market Assumptions, adjusted for changes in interest rates through 9/30/2023

Funded Status Risk in Dollars

- The risk profiles of the assets and liabilities are very different.
- Worst case scenario would be a combination of poor return-seeking asset returns coupled with interest rate declines.
- A one-standard deviation negative outcome (84th percentile) has the funded status declining by \$61M.

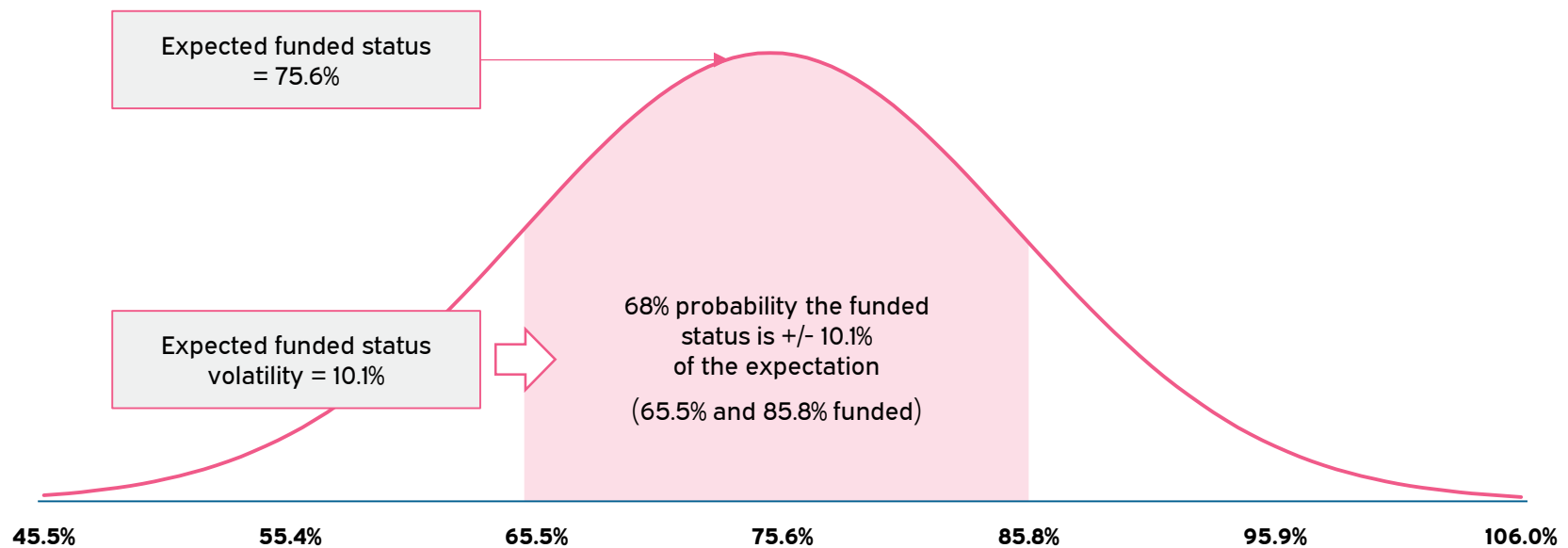
Risk Allocations (\$M)



Funded Status (%) – Distribution Example

- The funded status is 75.3% as of 9/30/2023.
- The funded status is expected to increase by 0.3% per year with a volatility of 10.1%.
- Example: Funded status (FS) in one year is expected to be 75.6% (75.3% + 0.3%).

Funded Status Distribution



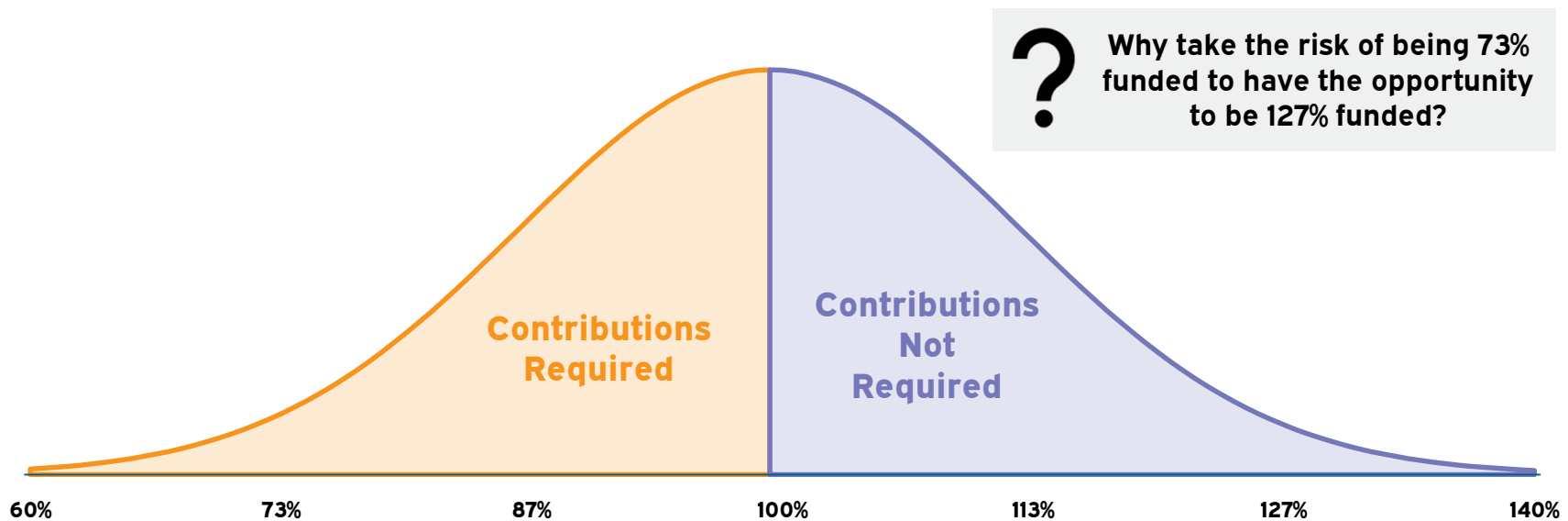
1 Based on Meketa's 2023 10-year Capital Market Assumptions, adjusted for changes in interest rates through 9/30/2023

2 Only market factors are considered, not plan factors. Ignores the impact of contributions.

Funded Status at 100% – Distribution Example

- Fast forward to 6/30/2026 when the system is anticipated to be 100% funded.
- The volatility presents the System with an important question – are the risks being compensated?
- Pension risk is asymmetric → the benefit of positive outcomes is not offset by the cost of negative outcomes.

Funded Status Distribution



Sample Objectives

→ The following policy would achieve the following objectives:

1. Lower the funded status volatility to create a predictable funded status and required contribution.
2. Portfolio diversification that is expected to return more than the liability growth.
3. Allocation to inflation protection securities to hedge a portion of impact of inflation on the expected cash flows.

→ To accomplish these objectives, we focus on assets classes that:

1. Produce income (instead of appreciation) at the pace necessary to fulfil annual cash outflow (benefit payments, expenses) until all outflow is paid out (est. 50 years).
2. Have the same duration as the liability (~ 7 years) to hedge any movements in interest rates and credit spreads.

Sample Policy

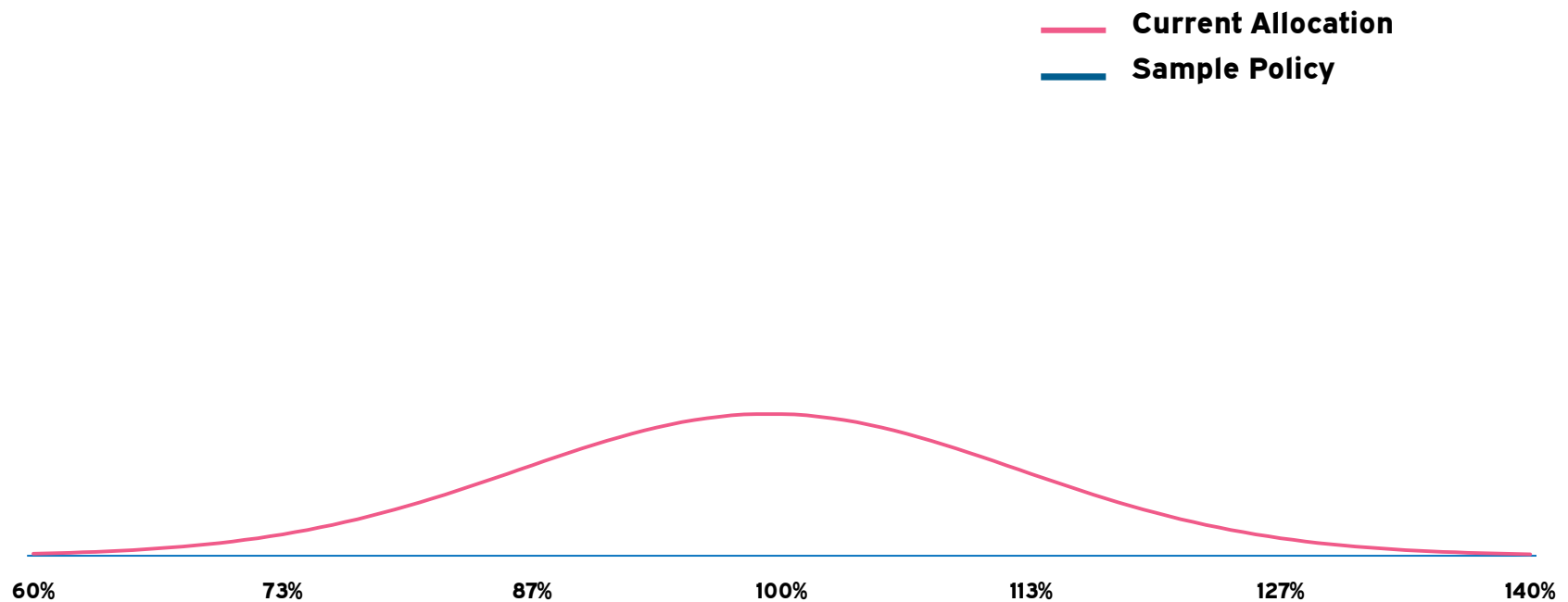
	Current Policy (%)	Sample Policy (%)	
Growth/Equity	57	7	
US Equity	40	7	
Developed Market Equity (non-US)	12	0	
Buy Write (Covered Calls)	5	0	
Credit	2	4	✓ Equities, Credit and Other provide diversification with the fixed income assets
High Yield Bonds	2	4	
Other	13	4	
CTA (Trend Following)	7	2	
Alternative Risk Premia	7	2	
Rate Sensitive	28	85	
Investment Grade Bonds	21	0	
Intermediate Investment Grade Bonds	0	32	✓ Fixed income investments aligned with the liability duration
Long-term Corporate Bonds	0	8	
Intermediate Government Bonds	0	22	
Long-term Government Bonds	7	18	
Short-term TIPS	0	5	✓ Modest target return meant to slightly exceed liability yield of 5.26%
Expected Return (10 years)	7.34	5.69	
Standard Deviation	10.3	5.3	

¹ Based on Meketa's 2023 10-year Capital Market Assumptions, updated for changes in interest rates since 9/30/2023

Funded Status Distribution – Sample

- The sample allocation “trades” the possibility of significantly high returns for the minimization of significantly negative returns.
- The outcome is a policy that maintains the high funded status.

Funded Status Distribution



* Based on 10-year expectations. Only market factors considered.

Appendix: Assumptions

Assumptions and Methods

- Capital Market Assumptions: Meketa 10-year assumptions
- Assets: Market value of assets as of September 30, 2023.
- Liabilities: Liabilities as of September 30, 2023 were estimated using the 7/1/2022 projected benefit payments supplied by Cheiron. All other assumptions, methods and plan provisions are documented in the valuation report provided by Cheiron as of 7/1/2022.
- Risk calculations: Risk calculations exclude the impact of contributions. It is assumed that the System will contribute the necessary cash to achieve a 100% funded status as of 6/30/2026.

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.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8087

Approved to Form and Legality

[Signature]

ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION FIXING THE MONTHLY ALLOWANCE OF LYNNE KUNATH, SURVIVING SPOUSE OF GARRETT J. KUNATH; AND DOLORES O'BRIEN, SURVIVING SPOUSE OF THOMAS C. O'BRIEN JR.; 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 allowance that said surviving spouses shall receive beginning on the dates shown in Column (4):

Table with 7 columns: (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. Rows include Garrett J. Kunath and Thomas C. O'Brien Jr.

IN BOARD MEETING, CITY HALL, OAKLAND, CA _____ DECEMBER 06, 2023

PASSED BY THE FOLLOWING VOTE:

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

NOES:

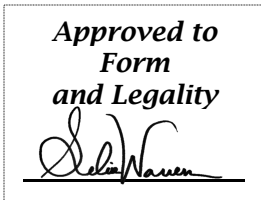
ABSTAIN:

EXCUSED:

ATTEST: _____ PRESIDENT

ATTEST: _____ SECRETARY

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8088



ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION APPROVING DEATH BENEFIT PAYMENTS AND DIRECTING WARRANTS THEREUNDER IN THE AMOUNT OF \$1,000.00 PAYABLE TO THE BENEFICIARIES OF DECEASED CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM MEMBERS RICHARD J. MAHANAY AND WAYNE E. SCHUETTE.

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 members of the Oakland Police or Fire Department identified in Column (1) below; and

WHEREAS, the beneficiaries to whom the death benefit provided in Charter Section 2612 is payable, are the people whose names are 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 beneficiaries; now, therefore, be it

RESOLVED: That the Police and Fire Retirement System Board does hereby approve the Death Benefit payments to the people 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 people whose names appears in Column (2):

(1) Name of Deceased Member	(2) Names of Beneficiaries	(3) Death Benefit Amount
Richard J. Mahanay	Estate of Richard J. Mahanay	\$1,000.00
Wayne E. Schuette	Stefanie Price and Georgia Schuette	\$1,000.00

IN BOARD MEETING, CITY HALL, OAKLAND, CA DECEMBER 06, 2023

PASSED BY THE FOLLOWING VOTE:

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

NOES:

EXCUSED:

ATTEST: _____
PRESIDENT

ATTEST: _____
SECRETARY



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:** December 06, 2023

	SUBJECT	TENTATIVE SCHEDULED MTG DATE	STATUS
1	Status Report of the Ad Hoc Committee regarding Actuarial Funding date of July 1, 2026	TBD	Ad Hoc Meeting was scheduled for 12/04/2023

Respectfully submitted,

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