

Pursuant to California +Government Code section 54953(e), the Oakland Police & Fire Retirement System Board and Committee Members, as well as City staff, will participate via phone/video conference, and no physical teleconference locations are required.

Please see the agenda to participate in the meeting. For additional information, contact the Retirement Unit by calling (510) 238-7295.



**Retirement Unit**  
**150 Frank H. Ogawa Plaza**  
**Oakland, CA 94612**  
**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 14, 2022**

**9:00 AM**

**TELE-CONFERENCE BOARD MEETING  
VIA ZOOM WEBINAR**

**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 three ways to submit public comments.

- eComment. To send your comment directly to staff BEFORE the meeting starts, please email to [mvisaya@oaklandca.gov](mailto:mvisaya@oaklandca.gov) with “PFRS Board Meeting” in the subject line for the corresponding meeting. Please note that eComment submission **closes two (2) hours before posted meeting time.**

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
SPECIAL AUDIT COMMITTEE MEETING  
DECEMBER 14, 2022**

- To comment by Zoom video conference, click the “Raise Your Hand” button to request to speak when Public Comment is being taken on an eligible agenda item at the beginning of the meeting. You will be permitted to speak during your turn, allowed to comment, and after the allotted time, re-muted. Instructions on how to “Raise Your Hand” is available at: [https://support.zoom.us/hc/en-us/articles/205566129 - Raise-Hand-In-Webinar](https://support.zoom.us/hc/en-us/articles/205566129-Raise-Hand-In-Webinar).
- To comment by phone, please call on one of the above listed phone numbers. You will be prompted to “Raise Your Hand” by pressing “\*9” to speak when Public Comment is taken. You will be permitted to speak during your turn, allowed to comment, and after the allotted time, re-muted. Please unmute yourself by pressing “\*6.”

If you have any questions, please email Maxine Visaya, Administrative Assistant II at [mvisaya@oaklandca.gov](mailto:mvisaya@oaklandca.gov)

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## ORDER OF BUSINESS

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- 1. Subject: Oakland Police and Fire Retirement System (“PFRS”) Audit Committee Meeting Minutes**  
**From:** Staff of the PFRS Board  
**Recommendation:** **APPROVE** the October 26, 2022 Audit Committee Meeting Minutes
- 2. Subject: Report of the Audit of PFRS Financial Statements for the Year Ended June 30, 2022**  
**From:** Macias, Gini, & O’Connell LLP  
**Recommendation:** **ACCEPT** Audit Report of PFRS Financial Statements for the year ended June 30, 2022.
- 3. Subject: Administrative Expenses Report**  
**From:** Staff of the PFRS Board  
**Recommendation:** **ACCEPT** informational report regarding PFRS administrative expenses as of October 31, 2022
- 4. REVIEW OF PENDING AUDIT COMMITTEE MEETING AGENDA ITEMS**
- 5. OPEN FORUM**
- 6. FUTURE SCHEDULING**
- 7. ADJOURNMENT**

**A REGULAR MEETING OF THE AUDIT/OPERATIONS COMMITTEE** of the Oakland Police and Fire Retirement System (“PFRS”) was held Wednesday, October 26, 2022 via Zoom Webinar.

- |                      |                       |   |
|----------------------|-----------------------|---|
| Committee Members    | ▪ John C. Speakman    | Chairperson                                   |
|                      | ▪ Martin J. Melia     | Member  |
|                      | ▪ R. Steven Wilkinson | Member  |
| Additional Attendees | ▪ David Jones         | PFRS Secretary & Plan Administrator (EXCUSED) |
|                      | ▪ Téir Jenkins        | PFRS Staff Member & Acting Secretary          |
|                      | ▪ Maxine Visaya       | PFRS Staff Member                             |
|                      | ▪ Mitesh Bhakta       | PFRS Legal Counsel                            |

The meeting was called to order at 10:01 a.m. Pacific

- 1. PFRS Audit Committee Meeting Minutes** – Member Speakman made a motion to approve the September 28, 2022 Audit Committee Regular Meeting, second by Member Melia. Motion passed.

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

- 2. Administrative Expenses Report** – Staff Member Jenkins presented an informational report on PFRS’ administrative expenditures as of August 31, 2022. PFRS has an approved annual budget of approximately \$3.6 million and have expensed approximately \$211,000.00 to date for fiscal year 2022-2023. Membership consisted of 684 retired members, which included 420 Police Members and 264 Fire Members.

**MOTION:** Member Speakman made a motion to accept the administrative expenses report as of August 31, 2022 and forward to the Board, second by Member Wilkinson. Motion passed.

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

- 3. Review of Pending Audit Committee Meeting Agenda Items** – Staff Member Jenkins reported on the three (3) pending items on the Audit and Committee Agenda. Item 1) Staff Review of the 2006 Management Audit: This work continues to move forward to determine costs and staff anticipates to report findings in the first quarter of 2023. Item 2) Status Report of the Ad Hoc Committee regarding the Actuarial Funding Date of July 1, 2026: The first meeting was tentatively scheduled to occur November 8, 2022; however, it will be rescheduled due to schedule conflicts. Item 3) Monitor & Update PFRS Board of Upcoming City Council Agendas Regarding Discussion of the 2026 Actuarial Funding Date: Legal Counsel Bhakta advised there are no updates at this time and noted an update is pending the official report by the outside consultant.

- 4. Open Forum** – No Report.

5. **Future Scheduling** – The next regular Audit Committee meeting is tentatively scheduled to occur November 30, 2022, however staff proposed to combine the November & December meetings into one and tentatively schedule a special meeting to occur either December 7 or 14, 2022 pending further discussion at the full Board Meeting.

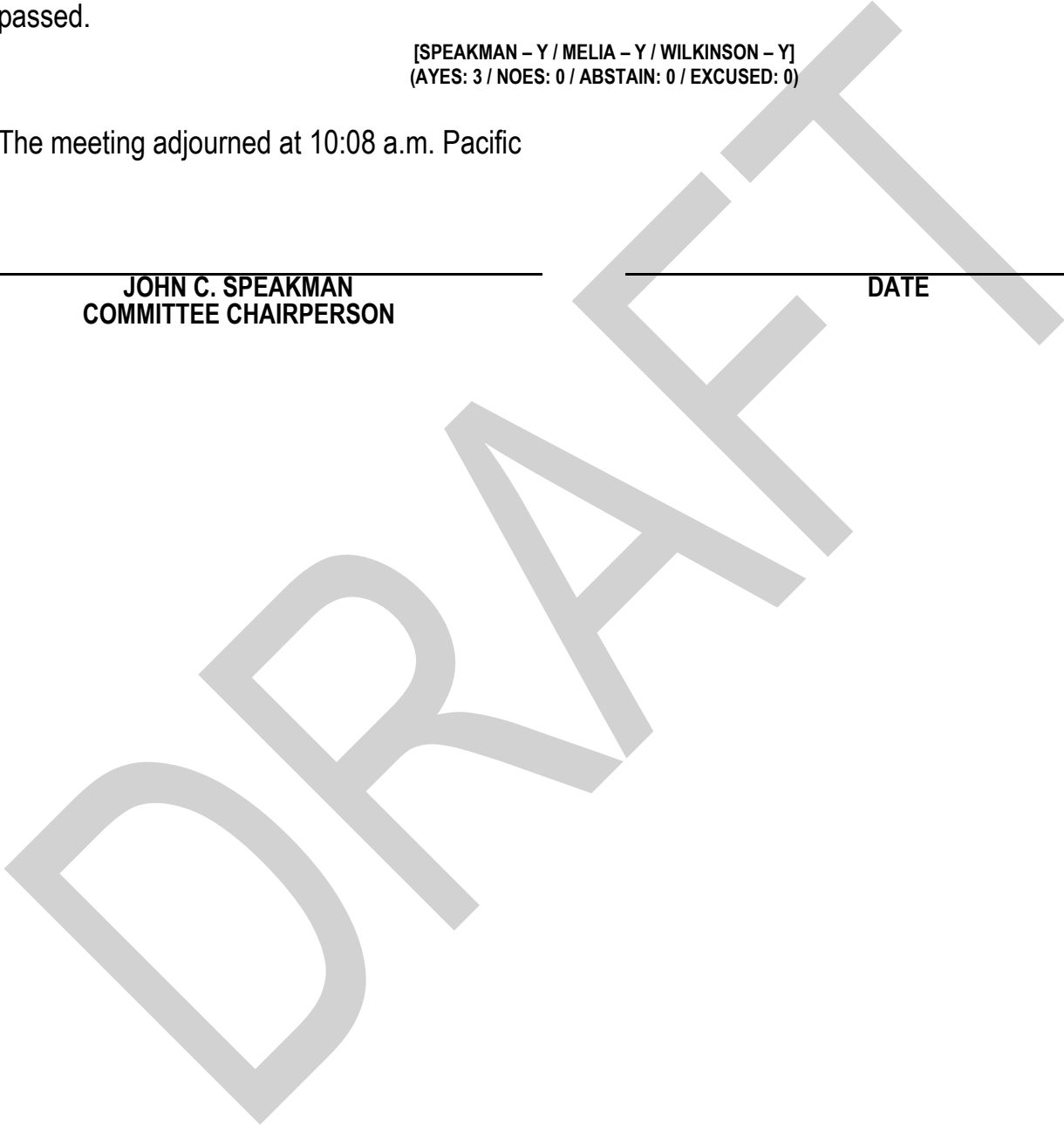
6. **Adjournment** – Chairperson Speakman made a motion to adjourn, second by Member Melia. Motion passed.

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

The meeting adjourned at 10:08 a.m. Pacific

\_\_\_\_\_  
JOHN C. SPEAKMAN  
COMMITTEE CHAIRPERSON

\_\_\_\_\_  
DATE







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

In planning and performing our audit of the basic financial statements of the Oakland Police and Fire Retirement System (System) as of and for the year ended June 30, 2022, in accordance with auditing standards generally accepted in the United States of America, we considered the System's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A reasonable possibility exists when the likelihood of an event occurring is either reasonably possible or probable as defined as follows:

- *Reasonably possible.* The chance of the future event or events occurring is more than remote but less than likely.
- *Probable.* The future event or events are likely to occur.

Our consideration of internal control was for the limited purpose described in the first paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

In addition, professional standards require that we advise you of the following matters relating to our audit.

## **1. Our Responsibility in Relation to the Financial Statement Audit**

As communicated in our engagement letter dated July 7, 2022, our responsibility, as described by professional standards, is to form and express an opinion about whether the financial statements that have been prepared by management with your oversight are presented fairly, in all material respects, in accordance with accounting principles generally accepted in the United States of America. Our audit of the financial statements does not relieve you or management of your respective responsibilities.

Our responsibility, as prescribed by professional standards, is to plan and perform our audit to obtain reasonable, rather than absolute, assurance about whether the financial statements are free of material misstatement. An audit of financial statements includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control over financial reporting. Accordingly, as part of our audit, we considered the internal control of the System solely for the purpose of determining our audit procedures and not to provide any assurance concerning such internal control.

## **Oakland Police and Fire Retirement System**

Report to the Board of Administration

For the Year Ended June 30, 2022

We are also responsible for communicating significant matters related to the audit that are, in our professional judgment, relevant to your responsibilities in overseeing the financial reporting process. However, we are not required to design procedures for the purpose of identifying other matters to communicate to you.

### **2. Planned Scope and Timing of the Audit**

We conducted our audit consistent with the planned scope and timing we previously communicated to you.

### **3. Compliance with All Ethics Requirements Regarding Independence**

The engagement team, others in our firm, as appropriate, our firm, and our network firms have complied with all relevant ethical requirements regarding independence.

### **4. Qualitative Aspects of the Entity's Significant Accounting Practices**

#### *Significant Accounting Policies*

Management has the responsibility to select and use appropriate accounting policies. A summary of the significant accounting policies adopted by the System is included in Note 2 to the financial statements. There have been no initial selection of accounting policies and no changes in significant accounting policies or their application during the year ended June 30, 2022. No matters have come to our attention that would require us, under professional standards, to inform you about (1) the methods used to account for significant unusual transactions and (2) the effect of significant accounting policies in controversial or emerging areas for which there is a lack of authoritative guidance or consensus.

#### *Significant Accounting Estimates*

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's current judgments. Those judgments are normally based on knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ markedly from management's current judgments.

The most sensitive estimates affecting the System's financial statements were:

- Fair value of investments, including derivative instruments, and related net appreciation in the fair value of investments; and
- Actuarial data of the pension plan.

Management's estimates were based on the following:

- The methodologies for determining the fair value of investments and derivative instruments are discussed in Notes 2.c) and 4.1) to the financial statements, respectively.
- The actuarial data for the pension plan is based on actuarial calculations performed in accordance with the parameters set forth in Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans – an amendment of GASB Statement No. 25*, which incorporate actuarial methods and assumptions adopted by the System's Board of Administration.

## **Oakland Police and Fire Retirement System**

Report to the Board of Administration

For the Year Ended June 30, 2022

We evaluated the key factors and assumptions used to develop these accounting estimates and determined that it is reasonable in relation to the financial statements taken as a whole.

### *Financial Statement Disclosures*

Certain financial statement disclosures involve significant judgment and are particularly sensitive because of their significance to financial statement users. The most sensitive disclosures affecting the System's financial statements relate to the investment fair value and risk disclosures in Note 4 and the City of Oakland's net pension liability in Note 5.

#### **5. Significant Difficulties Encountered during the Audit**

We encountered no significant difficulties in dealing with management relating to the performance of the audit.

#### **6. Uncorrected and Corrected Misstatements**

For purposes of this communication, professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that we believe are trivial, and communicate them to the appropriate level of management. Further, professional standards require us to also communicate the effect of uncorrected misstatements related to prior periods on the relevant classes of transactions, account balances or disclosures, and the financial statements as a whole and each applicable opinion unit. We did not identify any misstatements during the audit.

#### **7. Disagreements with Management**

For purposes of this letter, professional standards define a disagreement with management as a matter, whether or not resolved to our satisfaction, concerning a financial accounting, reporting, or auditing matter, which could be significant to the System's financial statements or the auditor's report. No such disagreements arose during the course of the audit.

#### **8. Representations Requested from Management**

We have requested certain written representations from management, that are included in the management representation letter dated December 5, 2022.

#### **9. Management's Consultations with Other Accountants**

In some cases, management may decide to consult with other accountants about auditing and accounting matters. Management informed us that, and to our knowledge, there were no consultations with other accountants regarding auditing and accounting matters.

#### **10. Other Significant Matters, Findings, or Issues**

In the normal course of our professional association with the System, we generally discuss a variety of matters, including the application of accounting principles and auditing standards, operating and regulatory conditions affecting the entity, and operational plans and strategies that may affect the risks of material misstatement. None of the matters discussed resulted in a condition to our retention as the System's auditors.

**Oakland Police and Fire Retirement System**

Report to the Board of Administration

For the Year Ended June 30, 2022

**11. Other Information in Documents Containing Audited Financial Statements**

Pursuant to professional standards, our responsibility as auditors for other information in documents containing the System's audited financial statements does not extend beyond the financial information identified in the audit report, and we are not required to perform any procedures to corroborate such other information. However, in accordance with such standards, we applied certain limited procedures to 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, which are required supplementary information (RSI) that supplements the financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

Our responsibility also includes communicating to you any information which we believe is a material misstatement of fact. Nothing came to our attention that caused us to believe that such information, or its manner of presentation, is materially inconsistent with the information, or manner of its presentation, appearing in the financial statements.

This report is intended solely for the information and use of the System Board of Administration and management of the System, and is not intended to be and should not be used by anyone other than these specified parties.



Walnut Creek, California

December 5, 2022

**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, 2022 and 2021



Certified  
Public  
Accountants

**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, 2022 and 2021

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## Independent Auditor's Report

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

### Opinion

We have audited the accompanying 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, 2022 and 2021, 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 financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System as of June 30, 2022 and 2021, 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 Opinions

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 opinions.

### 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.

*Macias Gini & O'Connell LLP*

Walnut Creek, California  
December 5, 2022



**Oakland Police and Fire Retirement System**  
Management's Discussion and Analysis – Unaudited  
June 30, 2022 and 2021

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, 2022 and 2021. 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: 2022 vs. 2021
- Financial Analysis: 2021 vs. 2020
- 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, 2022 and 2021, the employee contribution rate was 0% for both years. There are no active participants in the Plan as of June 30, 2022 and 2021.

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, 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%.

As of June 30, 2021, the total pension liability of \$578.6 million less the fiduciary net position of \$458.5 million results in a net pension liability of approximately \$120.0 million. The fiduciary net position as a percentage of the total pension liability is 79.3 %.

**Oakland Police and Fire Retirement System**  
Management's Discussion and Analysis – Unaudited  
June 30, 2022 and 2021

The System membership at June 30, 2022 is 686, which includes 461 retirees and 225 beneficiaries. The System membership at June 30, 2021 is 723. The following are the significant assumptions used to compute contribution requirements in the July 1, 2021 Actuarial Valuation Report:

- Select and ultimate rates, equal to 5.19% 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 2022 and 2021, the City contributions were \$43.8 million and \$43.6 million to the System. The next required City contribution is projected to be approximately \$32.7 million in fiscal year 2023.

### **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 11 and page 26, respectively.

**Oakland Police and Fire Retirement System**  
Management's Discussion and Analysis – Unaudited  
June 30, 2022 and 2021

**FINANCIAL ANALYSIS: 2022 VS. 2021**

Table 1 summarizes net position restricted for pensions as of June 30, 2022 and 2021:

Table 1  
Statements of Fiduciary Net Position  
As of June 30, 2022 and 2021

	<b>June 30</b>		<b>Change</b>	
	<b>2022</b>	<b>2021</b>	<b>Amount</b>	<b>Percentage</b>
<b>Assets:</b>				
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	<u>462,051,217</u>	<u>512,566,881</u>	<u>(50,515,664)</u>	-9.9%
<b>Liabilities:</b>				
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	<u>60,563,756</u>	<u>54,034,006</u>	<u>6,529,750</u>	12.1%
<b>Net position:</b>				
Restricted for pensions	<u>\$ 401,487,461</u>	<u>\$ 458,532,875</u>	<u>\$ (57,045,414)</u>	-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, 2022 and 2021

Table 2 summarizes changes in net position restricted for pensions for the years ended June 30, 2022 and 2021:

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

	<b>June 30</b>		<b>Change</b>	
	<b>2022</b>	<b>2021</b>	<b>Amount</b>	<b>Percentage</b>
<b>Additions:</b>				
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>	-103.1%
<b>Deductions:</b>				
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>	-2.5%
Changes in net position	(57,045,414)	79,558,185	(136,603,599)	-171.7%
<b>Net position restricted for pensions:</b>				
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>	-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 %.

**Oakland Police and Fire Retirement System**  
Management's Discussion and Analysis – Unaudited  
June 30, 2022 and 2021

**FINANCIAL ANALYSIS: 2021 VS. 2020**

Table 3 summarizes net position restricted for pensions as of June 30, 2021 and 2020:

Table 3  
Statements of Fiduciary Net Position  
As of June 30, 2021 and 2020

	<u>June 30</u>		<u>Change</u>	
	<u>2021</u>	<u>2020</u>	<u>Amount</u>	<u>Percentage</u>
<b>Assets:</b>				
Cash and cash equivalents	\$ 6,323,835	\$ 6,345,777	\$ (21,942)	-0.3%
Receivables	2,469,425	8,099,428	(5,630,003)	-69.5%
Investments	<u>503,773,621</u>	<u>404,700,887</u>	<u>99,072,734</u>	24.5%
<b>Total Assets</b>	<u>512,566,881</u>	<u>419,146,092</u>	<u>93,420,789</u>	22.3%
<b>Liabilities:</b>				
Accounts payable	1,110	8,161	(7,051)	-86.4%
Benefits payable	4,294,620	4,431,728	(137,108)	-3.1%
Investments payable	422,993	13,548,872	(13,125,879)	-96.9%
Investment management fees payable	361,228	278,835	82,393	29.5%
Securities lending liabilities	<u>48,954,055</u>	<u>21,903,806</u>	<u>27,050,249</u>	123.5%
<b>Total liabilities</b>	<u>54,034,006</u>	<u>40,171,402</u>	<u>13,862,604</u>	34.5%
<b>Net position:</b>				
Restricted for pensions	<u>\$ 458,532,875</u>	<u>\$ 378,974,690</u>	<u>\$ 79,558,185</u>	21.0%

Net position restricted for pensions increased \$79.6 million from June 30, 2021 to June 30, 2022. The main sources of this increase were City contribution of \$43.6 million and net investment income of \$90.2 million were more than offset by benefit payments of \$52.7 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, 2022 and 2021

Table 4 summarizes changes in net position restricted for pensions for the years ended June 30, 2021 and 2020:

Table 4  
Statements of Changes in Fiduciary Net Position  
For the Years Ended June 30, 2021 and 2020

	<b>June 30</b>		<b>Change</b>	
	<b>2021</b>	<b>2020</b>	<b>Amount</b>	<b>Percentage</b>
<b>Additions:</b>				
Contributions	\$ 43,648,000	\$ 43,409,000	\$ 239,000	0.6%
Net investment income	90,191,309	6,996,833	83,194,476	1189.0%
Other additions	908	132	776	587.9%
<b>Total additions</b>	<b>133,840,217</b>	<b>50,405,965</b>	<b>83,434,252</b>	<b>165.5%</b>
<b>Deductions:</b>				
Benefits to members and beneficiaries	52,697,378	54,619,079	(1,921,701)	-3.5%
Administrative expenses	1,584,654	1,522,910	61,744	4.1%
<b>Total deductions</b>	<b>54,282,032</b>	<b>56,141,989</b>	<b>(1,859,957)</b>	<b>-3.3%</b>
<b>Changes in net position</b>	<b>79,558,185</b>	<b>(5,736,024)</b>	<b>85,294,209</b>	<b>1487.0%</b>
<b>Net position restricted for pensions:</b>				
Beginning of year	378,974,690	384,710,714	(5,736,024)	-1.5%
End of year	<u>\$ 458,532,875</u>	<u>\$ 378,974,690</u>	<u>\$ 79,558,185</u>	21.0%

During fiscal year 2021, the City of Oakland contributed \$43.6 million to the System. In addition, the System's net investment income for the year ended June 30, 2021 was \$90.1 million, mainly due to net appreciation in fair value of the investment portfolio. The time-weighted annual return for the year ended June 30, 2021 was 24.2%, compared to a benchmark return of 22.3% and an actuarial expected rate of return of 5.29 %.

**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 Police and Fire Retirement System**

Statements of Fiduciary Net Position

June 30, 2022 and 2021

	<u>2022</u>	<u>2021</u>
<b>Assets</b>		
Cash and Cash Equivalents	\$ 7,494,971	\$ 6,323,835
Receivables:		
Interest Receivable	813,441	758,877
Dividends Receivable	279,524	271,634
Investments Receivable	4,911,786	1,228,684
Retired Members and Beneficiaries	102,906	103,688
Miscellaneous	111,007	106,542
Total Receivables	<u>6,218,664</u>	<u>2,469,425</u>
Investments, at Fair Value:		
Short-Term Investments	7,474,421	7,786,908
Bonds	130,126,766	134,380,629
Domestic Equities and Mutual Funds	158,144,787	210,506,356
International Equities and Mutual Funds	47,911,190	58,539,803
Alternative Investments	56,334,733	44,016,067
Foreign Currency Contracts, Net	-	(7,612)
Securities Lending Collateral	48,345,685	48,551,470
Total Investments	<u>448,337,582</u>	<u>503,773,621</u>
Total Assets	<u>462,051,217</u>	<u>512,566,881</u>
<b>Liabilities</b>		
Accounts Payable	3,200	1,110
Benefits Payable	4,183,604	4,294,620
Investments Payable	7,700,505	422,993
Investment Management Fees Payable	300,676	361,228
Securities Lending Liabilities	48,375,771	48,954,055
Total Liabilities	<u>60,563,756</u>	<u>54,034,006</u>
<b>Net Position Restricted for Pensions</b>	<u>\$ 401,487,461</u>	<u>\$ 458,532,875</u>

See accompanying notes to the basic financial statements.

**Oakland Police and Fire Retirement System**  
**Statements of Changes in Fiduciary Net Positions**  
**June 30, 2022 and 2021**

	<b>2022</b>	<b>2021</b>
<b>Additions</b>		
Contributions from the City	\$ 43,820,000	\$ 43,648,000
Investment Income:		
Net Appreciation/(Depreciation) in Fair Value of Investments	(54,534,753)	84,719,944
Interest	4,134,111	3,965,167
Dividends	3,768,733	2,735,230
Less: Investment Expenses	(1,475,655)	(1,354,640)
Securities Lending Income:		
Securities Lending Earnings	264,447	105,651
Securities Lending Expenses, Net of Rebates	(111,643)	19,957
Net Securities Lending Income	152,804	125,608
Net Investment Income/(Loss)	(47,954,760)	90,191,309
Claims and Settlements	-	26
Other Income	-	882
Total Additions	(4,134,760)	133,840,217
<b>Deductions</b>		
Benefits to Members and Beneficiaries:		
Retirement	31,495,125	32,157,272
Disability	18,418,545	18,803,904
Death	1,536,331	1,736,202
Total Benefits to Members and Beneficiaries	51,450,001	52,697,378
Administrative Expenses	1,460,653	1,584,654
Total Deductions	52,910,654	54,282,032
Change in Net Position	(57,045,414)	79,558,185
Net Position Restricted for Pensions		
Beginning of Year	458,532,875	378,974,690
End of Year	\$ 401,487,461	\$ 458,532,875

See accompanying notes to the basic financial statements.



## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

### 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, 2022 and 2021, 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, 2022 and 2021, the System membership consisted of only retirees and beneficiaries. The System's membership is as follows:

	<u>2022</u>	<u>2021</u>
Retirees and beneficiaries currently receiving benefits:		
Police	422	439
Fire	264	284
Total	<u>686</u>	<u>723</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 25<sup>th</sup> 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, 2022 and 2021

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, 2022 and 2021

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 \$43.82 million and \$43.65 million in the years ended June 30, 2022 and 2021, respectively. The next required contribution for fiscal year 2023 is \$32.71 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 bond iShares which are managed internally. During the years ended June 30, 2022 and 2021, the number of external investment managers was eleven and twelve, 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, 2022 and 2021

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, 2022 and 2021:

Asset Class	Target Allocation	
	June 30, 2022	June 30, 2021
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 require the disclosure of investments in any one organization that represent 5 percent or more of the System's fiduciary net position. 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%). As of June 30, 2021, the System's investment in the Northern Trust Russell 1000 Growth Index Fund represented 24.23% of its fiduciary net position.

### c) Rate of Return

The money-weighted rate of return is a measure of the rate of return for an asset or portfolio of assets that incorporates the size and timing of cash flows. For the years ended June 30, 2022 and 2021, the annual money-weighted rates of return on pension plan investments, net of pension plan investment expenses, were -10.24% and 24.43%, respectively.

### d) Cash and Cash Equivalents

As of June 30, 2022 and 2021, 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, 2022 and 2021 basic financial statements. As of June 30, 2022 and 2021, the System's share of the City's investment pool totaled \$7,487,892 and \$6,318,773, respectively. The System also had cash not included in the City's investment pool. As of June 30, 2022 and 2021, the System's cash and cash deposits not held in the City's investment pool totaled \$7,079 and \$5,062, respectively.

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

### 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, 2022:

	2022			Total
	Level One	Level Two	Level Three	
<b>Investments by fair value level:</b>				
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
<b>Investments measured at net asset value (NAV):</b>				
Short-Term Investment Funds				5,976,814
Fixed Income Funds				15,245,265
Domestic Equities and Mutual Funds				94,635,436
Hedge Fund				9,894,309
Venture Capital Fund				15,841,052
Securities Lending Collateral - Short-Term Investment Fund				48,345,685
Total investments measured at NAV				189,938,561
<b>Total investments measured at fair value</b>				<b>\$448,337,582</b>

The System has the following recurring fair value measurements as of June 30, 2021:

	2021			Total
	Level One	Level Two	Level Three	
<b>Investments by fair value level:</b>				
Bonds	\$ 12,635,465	\$ 104,543,460	\$ -	\$ 117,178,925
Domestic Equities and Mutual Funds	93,555,401	707,364	-	94,262,765
International Equities and Mutual Funds	58,539,803	-	-	58,539,803
Alternative Investments	43,940,518	75,549	-	44,016,067
Total investments by fair value level	\$ 208,671,187	\$ 105,326,373	-	313,997,560
<b>Investments measured at net asset value (NAV):</b>				
Short-Term Investment Funds				7,786,908
Fixed Income Funds				17,201,704
Domestic Equities and Mutual Funds				116,243,591
Foreign Currency Contracts, Net				(7,612)
Securities Lending Collateral - Short-Term Investment Fund				48,551,470
Total investments measured at NAV				189,776,061
<b>Total investments measured at fair value</b>				<b>\$503,773,621</b>

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

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

Investments measured at net asset value (NAV):	June 30, 2022	Redemption Frequency	Redemption Notice Period
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 7.59 years as of June 30, 2022, and 7.37 years as of June 30, 2021.

The following summarizes the System's fixed income investments by category as of June 30, 2022 and 2021. 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	2022		2021	
	Fair Value	Modified Duration (Years)	Fair Value	Modified Duration (Years)
Short-Term Investment Funds	\$ 7,474,421	n/a	\$ 7,786,908	n/a
Foreign Currency Exchange Contracts, Net	-	n/a	(7,612)	n/a

**Oakland Police and Fire Retirement System**

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

**Long-Term Investment Duration**

<b>Investment Type</b>	<b>2022</b>		<b>2021</b>	
	<b>Fair Value</b>	<b>Modified Duration (Years)</b>	<b>Fair Value</b>	<b>Modified Duration (Years)</b>
<b>Fixed Income Investments</b>				
<b>U.S. Government Bonds</b>				
U.S. Treasuries	\$ 25,417,687	6.53	\$ 18,816,292	5.79
Government Agencies	29,893,654	8.41	32,516,334	8.26
Total U.S. Government Bonds	<u>55,311,341</u>		<u>51,332,626</u>	
<b>Corporate and Other Bonds</b>				
Corporate Bonds	\$ 74,807,108	7.63	\$ 82,957,273	7.38
Other Government Bonds	78,814	6.97	90,730	7.90
Total Corporate and Other Bonds	<u>74,885,922</u>		<u>83,048,003</u>	
Total Fixed Income Investments	<u>\$130,197,263</u>	7.59	<u>\$134,380,629</u>	7.37
<b>Securities Lending Collateral</b>	<u>\$ 48,345,685</u>		<u>\$ 48,551,470</u>	

**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, 2022:

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

The following are the System's investments in CMOs at June 30, 2021:

<b>Investment Type</b>	<b>Weighted Average Coupon Rate</b>	<b>Weighted Average Maturity (Years)</b>	<b>Fair Value</b>	<b>Percent of Total Investments Fair Value</b>
Mortgage-backed securities	2.72%	23.28	\$20,789,617	4.13%

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

### 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, 2022 and 2021:

#### Short-Term Investment Ratings

Investment Type	2022		2021	
	S&P / Moody's Rating	Fair Value	S&P / Moody's Rating	Fair Value
Short-Term Investment Funds	Not Rated	\$7,474,421	Not Rated	\$7,786,908
Foreign Currency Exchange Contracts, Net	n/a	-	Not Rated	(7,612)

#### Long-Term Investment Ratings

S&P / Moody's Rating	2022		2021	
	Fair Value	Percentage of Total Fair Value	Fair Value	Percentage of Total Fair Value
AAA/Aaa	\$64,115,811	49.5%	\$ 53,058,908	39.4%
AA/Aa	27,835,706	21.1%	34,226,943	25.5%
A/A	12,809,876	9.8%	14,322,857	10.7%
BBB/Baa	15,713,952	12.1%	19,359,029	14.4%
BB/Ba	1,196,674	0.9%	1,831,903	1.4%
B/B	21,734	0.0%	9,550,906	7.1%
CCC/CCC	8,503,509	6.5%	-	-
Unrated	(70,497)	0.0%	2,030,083	1.5%
	<u>\$130,126,766</u>	<u>100.0%</u>	<u>\$ 134,380,629</u>	<u>100.0%</u>

#### Securities Lending Ratings

S&P / Moody's Rating	2022 Fair Value	2021 Fair Value
Not Rated	\$ 48,345,685	\$ 48,551,470

### 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.



## Oakland Police and Fire Retirement System

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

### j) Foreign Currency Risk

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

The following summarizes the System's investments denominated in foreign currencies as of June 30, 2022 and 2021:

Foreign Currency	Fair Value	
	June 30, 2022	June 30, 2021
Australian Dollar	\$ 1,993,400	\$ 1,456,518
Brazilian Real	772,622	901,768
British Pound	3,154,218	3,406,619
Canadian Dollar	3,290,894	3,395,211
Danish Krone	895,274	1,386,946
Euro	6,894,262	8,778,172
Hong Kong Dollar	3,464,161	3,664,544
Indonesian Rupiah	555,889	221,352
Japanese Yen	4,662,742	5,888,554
Malaysian Ringgit	65,343	-
Mexican Peso	375,149	108,650
New Israeli Shekel	310,309	-
Singapore Dollar	-	839,140
South African Rand	654,291	575,339
South Korean Won	-	212,370
Swedish Krona	831,667	1,488,233
Swiss Franc	1,734,147	2,344,951
Turkish Lira	133,896	524,786
Total	<u>\$ 29,788,264</u>	<u>\$ 35,193,153</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 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

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

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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, 2022 and 2021, 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, 2022 and 2021:

### Securities Lending as of June 30, 2022

Investment Type	Fair Value of Loaned Securities		
	For Cash Collateral	For Non-Cash Collateral	Total
<b>Securities on Loan for Cash Collateral</b>			
U.S. Government and agencies	\$ 8,379,326	\$ -	\$ 8,379,326
U.S. Corporate bonds	10,881,429	-	10,881,429
U.S. Equities	28,047,680	7,249,351	35,297,031
Non-U.S. Equities	-	252,473	252,473
Total investments in securities lending transactions	<u>\$ 47,308,435</u>	<u>\$ 7,501,824</u>	<u>\$ 54,810,259</u>
<b>Collateral Received</b>	<u>\$ 48,376,771</u>	<u>\$ 7,742,587</u>	<u>\$ 56,119,358</u>

### Securities Lending as of June 30, 2021

Investment Type	Fair Value of Loaned Securities		
	For Cash Collateral	For Non-Cash Collateral	Total
<b>Securities on Loan for Cash Collateral</b>			
U.S. Government and agencies	\$ 9,621,902	\$ 5,095,643	\$ 14,717,545
U.S. Corporate bonds	8,852,719	-	8,852,719
U.S. Equities	29,098,075	97,296	29,195,371
Non U.S. Equities	182,194	514,214	696,408
Total investments in securities lending transactions	<u>\$ 47,754,890</u>	<u>\$ 5,707,153</u>	<u>\$ 53,462,043</u>
<b>Collateral Received</b>	<u>\$ 48,954,055</u>	<u>\$ 5,840,751</u>	<u>\$ 54,794,806</u>

## l) Derivative Instruments

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

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

As of June 30, 2022 and 2021, 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, 2022 and 2021:

### 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)
<b>Total</b>	<b>\$ 2,554,259</b>	<b>\$ (314,137)</b>	<b>\$ 96,171</b>

### As of and for the Year Ended June 30, 2021

Derivative Type/ Contract	Notional Amount	Fair Value	Net Appreciation (Depreciation) in Fair Value
Forwards			
Foreign Currency Exchange Contracts	\$ -	\$ (7,612)	\$ -
Options			
Equity Contracts	72	(351,506)	(58,431)
Swaps			
Credit Contracts	1,990,000	50,816	7,768
<b>Total</b>	<b>\$ 1,990,072</b>	<b>\$ (308,302)</b>	<b>\$ (50,663)</b>

### **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, 2022 and 2021, the System held forward currency contracts in liability positions of \$0 and \$7,612, respectively. The System's counterparties to these contract held credit ratings of A or better, as assigned by one or more of the major credit rating organizations (S&P, Moody's and/or Fitch).

**Oakland Police and Fire Retirement System**

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

***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, 2022 and 2021, 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, 2022 and 2021.

**Derivative Interest Rate Risk as of June 30, 2022**

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

**Derivative Interest Rate Risk as of June 30, 2021**

<b>Derivative Type / Contract</b>	<b>Fair Value</b>	<b>Maturities</b>	
		<b>Less than 1 Year</b>	<b>1-5 years</b>
Forwards			
Forward Foreign Currency Exchange Contracts	\$ (7,612)	\$ (7,612)	\$ -
Options			
Equity Contracts	(351,506)	(351,506)	-
Swaps			
Credit Contracts	50,816	-	50,816
<b>Total</b>	<b>\$ (308,302)</b>	<b>\$ (359,118)</b>	<b>\$ 50,816</b>

***Foreign Currency Risk***

At June 30, 2022, the System had no foreign currency risk. At June 30, 2021 the System was exposed to foreign currency risk on \$7,612 of its investments in forwards denominated in the Mexican peso.

***Contingent Features***

At June 30, 2022 and 2021, the System held no positions in derivatives containing contingent features.

**Oakland Police and Fire Retirement System**

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

**5. Net Pension Liability**

The components of the net pension liability of the City at June 30, 2022 and 2021, are as follows:

	<u>June 30, 2022</u>	<u>June 30, 2021</u>
Total pension liability	\$ 553,287,414	\$ 578,579,190
Less: Plan fiduciary net position	<u>(401,487,461)</u>	<u>(458,532,875)</u>
City's net pension liability	<u>\$ 151,799,953</u>	<u>\$ 120,046,315</u>
Plan fiduciary net position as a percentage of the total pension liability	72.6%	79.3%

**a) Actuarial Method and Assumptions**

The total pension liability as of June 30, 2022 was determined based on an actuarial valuation as of June 30, 2021, 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	5.19%
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, 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. 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, 2021 was determined based on an actuarial valuation as of June 30, 2020, updated to June 30, 2021, using the entry age normal actuarial cost method and the actuarial assumptions as described above for the June 30, 2021 valuation, except for the assumed investment rate of return was 5.29%. Measurements as of June 30, 2021 are based on the fair value of assets as of June 30, 2021 and the total pension liability as of the valuation date, June 30, 2020, updated to June 30, 2021.

The actuarial assumptions used in the June 30, 2021 and 2020 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, 2022 and 2021

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, 2022 and 2021 are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	
	June 30, 2022	June 30, 2021
Fixed Income	0.20%	(0.30)%
Domestic Equity	4.60	4.70
International Equity	5.50	5.00
Covered Calls	3.58	2.60
Crisis Risk Offset	1.83	1.95
Credit	2.30	2.10
Cash	(0.50)	(1.00)

### b) Discount Rate

The discount rates used to measure the total pension liability were 5.19% and 5.29% as of June 30, 2022 and 2021, 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, 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

	June 30, 2021		
	1% Decrease (4.29%)	Current Discount Rate (5.29%)	1% increase (6.29%)
City's net pension liability	\$171,086,474	\$120,046,315	\$76,004,962

**Oakland Police and Fire Retirement System**

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

**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, 2022 and 2021 equals net position restricted for pensions and comprises the following:

	<u>2022</u>	<u>2021</u>
Retired member contribution reserve	\$ 24,543,634	\$ 26,828,201
Employer reserve	376,943,827	431,704,674
Total	<u>\$ 401,487,461</u>	<u>\$ 458,532,875</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, 2022 and 2021 were \$1,250,884 and \$1,388,825, respectively.

**Oakland Police and Fire Retirement System**  
Required Supplementary Information  
Years Ended June 30, 2022 and 2021

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

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

Note: This is a 10-year schedule. Information for additional years will be presented when available.



**Oakland Police and Fire Retirement System**  
Required Supplementary Information  
Years Ended June 30, 2022 and 2021

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

	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
<b><u>Total Pension Liability</u></b>					
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)
<b>Net change in total pension liability</b>	<b>(4,476,627)</b>	<b>(9,416,042)</b>	<b>34,496,743</b>	<b>(4,733,904)</b>	<b>(15,075,617)</b>
<b>Total pension liability – beginning</b>	<b>660,669,941</b>	<b>670,085,983</b>	<b>635,589,240</b>	<b>640,323,144</b>	<b>655,398,761</b>
<b>Total pension liability – ending (a)</b>	<b>\$ 656,193,314</b>	<b>\$ 660,669,941</b>	<b>\$ 670,085,983</b>	<b>\$ 635,589,240</b>	<b>\$ 640,323,144</b>
<b><u>Plan fiduciary net position</u></b>					
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	-	-
<b>Net change in plan fiduciary net position</b>	<b>22,773,413</b>	<b>(8,408,379)</b>	<b>(57,642,651)</b>	<b>(44,554,177)</b>	<b>8,211,625</b>
<b>Plan fiduciary net position – beginning</b>	<b>353,202,858</b>	<b>361,611,237</b>	<b>419,253,888</b>	<b>463,808,065</b>	<b>455,596,440</b>
<b>Plan fiduciary net position – ending (b)</b>	<b>\$ 375,976,271</b>	<b>\$ 353,202,858</b>	<b>\$ 361,611,237</b>	<b>\$ 419,253,888</b>	<b>\$ 463,808,065</b>
<b>City's net pension liability – ending (a) – (b)</b>	<b>\$ 280,217,043</b>	<b>\$ 307,467,083</b>	<b>\$ 308,474,746</b>	<b>\$ 216,335,352</b>	<b>\$ 176,515,079</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>57%</b>	<b>53%</b>	<b>54%</b>	<b>66%</b>	<b>72%</b>
<b>Covered employee payroll</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Net pension liability as a percentage of covered employee payroll</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

**Oakland Police and Fire Retirement System**  
Required Supplementary Information  
Years Ended June 30, 2022 and 2021

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

	<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>	<u>2013**</u>
Actuarially determined contribution	\$ 43.8	\$ 43.6	\$ 43.4	\$ 44.8	\$ 44.9	N/A	N/A	N/A	\$ 20.3	\$ 34.2
Contributions in relation to the actuarially determined contribution	<u>\$ 43.8</u>	<u>\$ 43.6</u>	<u>\$ 43.4</u>	<u>\$ 44.8</u>	<u>\$ 44.9</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 210.0</u>
Contribution deficiency/ (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>\$ 20.3</u>	<u>\$(175.8)</u>
Covered payroll	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.1
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	210000%

\* 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.

\*\* In July 2012, the City of Oakland contributed \$210 million in Pension Obligation Bond (POB) proceeds to the Plan.

**Schedule of Investment Returns (Unaudited)**

	<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>	<u>2013</u>
Annual money-weighted rate of return net of investment expense	-10.24%	24.43%	2.04%	6.10%	10.57%	15.57%	-0.75%	3.90%	16.40%	9.70%

**Oakland Police and Fire Retirement System**  
 Note to Required Supplementary Information  
 Years Ended June 30, 2022 and 2021

**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:

<b>Fiscal Year</b>	<b>Valuation Date</b>	<b>Discount Rate</b>	<b>Cost-of-Living Adjustments</b>	<b>Mortality</b>	<b>Other Significant Assumption Changes from Prior Year</b>
2022	6/30/2020	5.19%	3.25%	CalPERS Mortality Table from the 2012-2015 experience study, excluding the 15-year projection using 90% of Scale MP-2016	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
2013	6/30/2011	6.75%	3.975%		None
2012	6/30/2010	7.00%	4.50%	RP-2000 Mortality Table from the 1997-2007 experience study	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, 2022

	Approved Budget					Percent Remaining
		October 2022	FYTD	Remaining		
<b>Internal Administrative Costs</b>						
PFRS Staff Salaries	\$ 1,330,000	\$ 81,004	\$ 379,466	\$ 950,534	71.5%	
Board Travel Expenditures	52,500	-	-	52,500	100.0%	
Staff Training	20,000	-	-	20,000	100.0%	
Staff Training - Tuition Reimbursement	7,500	-	-	7,500	100.0%	
Board Hospitality	3,600	-	-	3,600	100.0%	
Payroll Processing Fees	40,000	-	-	40,000	100.0%	
Miscellaneous Expenditures	45,000	12,835	21,187	23,813	52.9%	
Internal Service Fees (ISF)	88,000	-	-	88,000	100.0%	
Contract Services Contingency	50,000	-	1,500	48,500	97.0%	
<b>Internal Administrative Costs Subtotal :</b>	<b>\$ 1,636,600</b>	<b>\$ 93,839</b>	<b>\$ 402,153</b>	<b>\$ 1,234,447</b>	<b>75.4%</b>	
<b>Actuary and Accounting Services</b>						
Audit	\$ 50,500	\$ -	\$ -	\$ 50,500	100.0%	
Actuary	47,900	2,429	2,429	45,471	94.9%	
<b>Actuary and Accounting Subtotal:</b>	<b>\$ 98,400</b>	<b>\$ 2,429</b>	<b>\$ 2,429</b>	<b>\$ 95,971</b>	<b>97.5%</b>	
<b>Legal Services</b>						
City Attorney Salaries	\$ 194,000	\$ -	\$ 28	\$ 193,972	100.0%	
Legal Contingency	150,000	-	-	150,000	100.0%	
<b>Legal Services Subtotal:</b>	<b>\$ 344,000</b>	<b>\$ -</b>	<b>\$ 28</b>	<b>\$ 343,972</b>	<b>100.0%</b>	
<b>Investment Services</b>						
Money Manager Fees	\$ 1,353,000	\$ 25,749	\$ 37,553	\$ 1,315,447	97.2%	
Custodial Fee	124,000	-	-	124,000	100.0%	
Investment Consultant	100,000	-	25,000	75,000	75.0%	
<b>Investment Subtotal:</b>	<b>\$ 1,577,000</b>	<b>\$ 25,749</b>	<b>\$ 62,553</b>	<b>\$ 1,514,447</b>	<b>96.0%</b>	
<b>Total Operating Budget</b>	<b>\$ 3,656,000</b>	<b>\$ 122,016</b>	<b>\$ 467,162</b>	<b>\$ 3,188,838</b>	<b>87.22%</b>	

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of October 31, 2022

	October 2022
<b>Beginning Cash as of 9/30/2022</b>	\$ 4,403,862
<b>Additions:</b>	
City Pension Contribution - October	\$ 2,726,000
Investment Draw	\$ 2,000,000
Misc. Receipts	800
<b>Total Additions:</b>	\$ 4,726,800
<b>Deductions:</b>	
Pension Payment (September Pension Paid on 10/1/2022)	(4,304,720)
Expenditures Paid	(167,112)
<b>Total Deductions</b>	\$ (4,471,832)
 <b>Ending Cash Balance as of 10/31/2022*</b>	 \$ 4,658,830

\* On 11/1/2022, October pension payment of appx \$4,268,000 will be made and \$2,000,000 draw will be received leaving a cash balance of \$2,391,000.

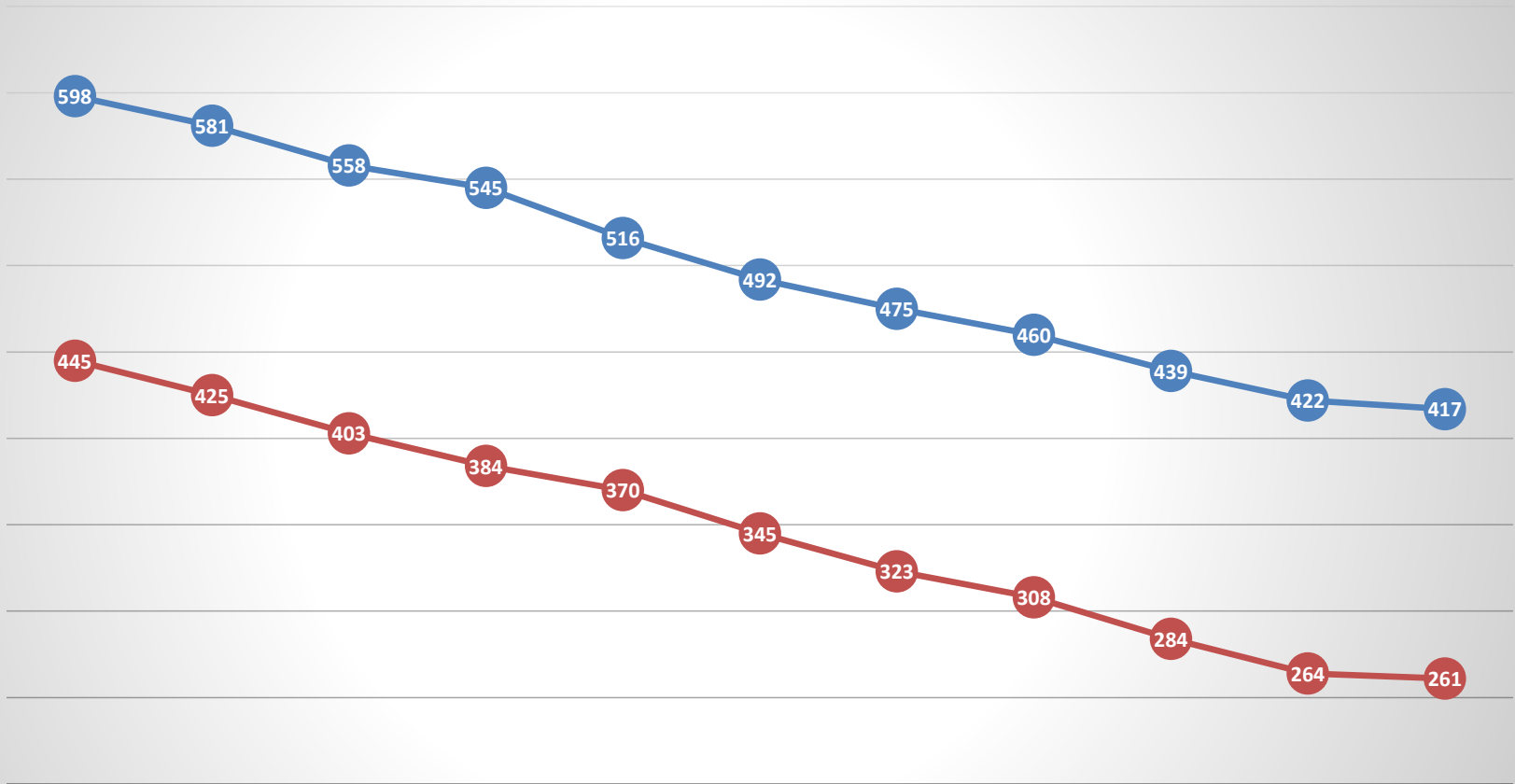
**Table 3**  
**CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM**

Census  
As of October 31, 2022

COMPOSITION	POLICE	FIRE	TOTAL
<b>Retired Member:</b>			
Retiree	290	167	457
Beneficiary	127	94	221
<b><i>Total Retired Members</i></b>	<b>417</b>	<b>261</b>	<b>678</b>
<b><i>Total Membership:</i></b>	<b>417</b>	<b>261</b>	<b>678</b>

COMPOSITION	POLICE	FIRE	TOTAL
<b>Retired Member:</b>			
Service Retirement	280	132	412
Disability Retirement	127	118	245
Death Allowance	10	11	21
<b><i>Total Retired Members:</i></b>	<b>417</b>	<b>261</b>	<b>678</b>
<b><i>Total Membership as of October 31, 2022:</i></b>	<b>417</b>	<b>261</b>	<b>678</b>
<b><i>Total Membership as of June 30, 2022:</i></b>	<b>422</b>	<b>264</b>	<b>686</b>
<b><i>Annual Difference:</i></b>	<b>-5</b>	<b>-3</b>	<b>-8</b>

## Oakland Police and Fire Retirement System Pension Plan Membership Count As of October 31, 2022 (FY 2013 - FY 2023)



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 FYTD
Police	598	581	558	545	516	492	475	460	439	422	417
Fire	445	425	403	384	370	345	323	308	284	264	261
Total	1043	1006	961	929	886	837	798	768	723	686	678



# AGENDA REPORT

**TO:** Oakland Police and Fire Retirement System Board (PFRS)      **FROM:** Téir Jenkins  
Investment & Operations Manager

**SUBJECT:** Audit Committee Agenda Pending List      **DATE:** December 14, 2022

	SUBJECT	TENTATIVE SCHEDULED MTG DATE	STATUS
1	Staff Review of the 2006 Management Audit	Report Findings 1 <sup>st</sup> Qtr. 2023	Ongoing
2	Status Report of the Ad Hoc Committee regarding Actuarial Funding date of July 1, 2026	TBD	Meeting scheduled for Jan. 26, 2023
3	Monitor & Update PFRS Board of Upcoming City Council Agendas Regarding Discussion of the July 1, 2026 Actuarial Funding Date	Ongoing	Ongoing
4	Review Options Regarding Frequency & Manner of Committee & Board Meetings	TBD	Ongoing

Respectfully submitted,

Téir Jenkins  
Investment & Operations Manager  
Oakland Police & Fire Retirement Systems



Pursuant to California Government Code section 54953(e), the Oakland Police & Fire Retirement System Board and Committee Members, as well as City staff, will participate via phone/video conference, and no physical teleconference locations are required.

Please see the agenda to participate in the meeting. For additional information, contact the Retirement Unit by calling (510) 238-7295.



**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 14, 2022**  
**9:30 AM**  
**TELE-CONFERENCE BOARD MEETING**  
**VIA ZOOM WEBINAR**

**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 three ways to submit public comments.

- To send your comment directly to staff BEFORE the meeting starts, please email to [mvisaya@oaklandca.gov](mailto:mvisaya@oaklandca.gov) with “PFRS Board Meeting” in the subject line for the corresponding meeting. Please note that eComment submission **closes two (2) hours before posted meeting time.**

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
SPECIAL INVESTMENT COMMITTEE MEETING  
DECEMBER 14, 2022**

- To comment by Zoom video conference, click the “Raise Your Hand” button to request to speak when Public Comment is being taken on an eligible agenda item at the beginning of the meeting. You will be permitted to speak during your turn, allowed to comment, and after the allotted time, re-muted. Instructions on how to “Raise Your Hand” is available at: [https://support.zoom.us/hc/en-us/articles/205566129 - Raise-Hand-In-Webinar](https://support.zoom.us/hc/en-us/articles/205566129-Raise-Hand-In-Webinar).
- To comment by phone, please call on one of the above listed phone numbers. You will be prompted to “Raise Your Hand” by pressing “\*9” to speak when Public Comment is taken. You will be permitted to speak during your turn, allowed to comment, and after the allotted time, re-muted. Please unmute yourself by pressing \*6.

If you have any questions, please email Maxine Visaya, Administrative Assistant II at [mvisaya@oaklandca.gov](mailto:mvisaya@oaklandca.gov)

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## ORDER OF BUSINESS

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- 1. Subject:** Police and Fire Retirement System (“PFRS”) Investment Committee Meeting Minutes  
**From:** Staff of the PFRS Board  

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**Recommendation:** **APPROVE** October 26, 2022 Investment Committee Meeting Minutes
  
- 2. Subject:** Investment Manager Performance Update – Strategic Global Advisors (SGA)  
**From:** Strategic Global Advisors  

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**Recommendation:** **ACCEPT** informational report regarding a firm overview and managerial assessment; diversity and inclusion policy and practices; investment strategy; and portfolio performance of Strategic Global Advisors, a PFRS Domestic Active International Equity Investment Strategy Manager
  
- 3. Subject:** Investment Manager Performance Review – Strategic Global Advisors (SGA)  
**From:** Meketa Investment Group  

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**Recommendation:** **ACCEPT** Meketa Investment Group’s review and evaluation regarding a firm overview, managerial assessment, peer ranking, and portfolio performance of Strategic Global Advisors, a PFRS Domestic Active International Equity Investment Strategy Manager

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
SPECIAL INVESTMENT COMMITTEE MEETING  
DECEMBER 14, 2022**

4. **Subject:** Investment Market Overview as of October 31, 2022  
**From:** Meketa Investment Group  

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**Recommendation:** **ACCEPT** informational report regarding the Global Investment Markets as of October 31, 2022
5. **Subject:** Preliminary Investment Fund Performance Update as of October 31, 2022  
**From:** Meketa Investment Group  

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**Recommendation:** **ACCEPT** informational report regarding the Preliminary Investment Fund Performance Update as of October 31, 2022
6. **Subject:** Investment Fund Quarterly Performance Update as of September 30, 2022  
**From:** Meketa Investment Group  

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**Recommendation:** **ACCEPT** the Investment Fund Quarterly Performance Update as of September 30, 2022
7. **Subject:** \$14.2 Million Drawdown for Member Retirement Allowances (Fiscal Year 2022/2023; Quarter Ending March 31, 2023)  
**From:** Meketa Investment Group  

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**Recommendation:** **ACCEPT** informational report and **RECOMMEND BOARD APPROVAL** of the Meketa Investment Group recommendation for a \$14.2 million drawdown, which includes a \$8.2 Million contribution from the City of Oakland and a \$6.0 Million contribution from the PFRS Investment Fund, to be used to pay the January 1, 2023 through March 31, 2023 Member Retirement Allowances
8. **Subject:** Informational Overview Regarding the Bankruptcy of FTX  
**From:** Meketa Investment Group  

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**Recommendation:** **ACCEPT** the informational overview regarding the bankruptcy of FTX and the effect on the PFRS Fund

9. **Schedule of Pending Investment Committee Meeting Agenda Items**
10. **Open Forum**
11. **Future Scheduling**
12. **Adjournment**

**A REGULAR MEETING OF THE INVESTMENT AND FINANCIAL MATTERS COMMITTEE** of the Oakland Police and Fire Retirement System (“PFRS”) was held Wednesday, October 26, 2022 via Zoom Webinar.

Committee Members	<ul style="list-style-type: none"> <li>▪ Jaime T. Godfrey</li> <li>▪ Robert W. Nichelini</li> <li>▪ R. Steven Wilkinson</li> </ul>	<ul style="list-style-type: none"> <li>Chairperson</li> <li>Member</li> <li>Member</li> </ul>
Additional Attendees	<ul style="list-style-type: none"> <li>▪ David F. Jones</li> <li>▪ Mitesh Bhakta</li> <li>▪ Téir Jenkins</li> <li>▪ Maxine Visaya</li> <li>▪ David Sancewich</li> <li>▪ Paola Nealon</li> <li>▪ Jason Leong Campbell</li> <li>▪ Yossi Lipsker</li> <li>▪ Thao Buuhoan</li> <li>▪ Tom McDowell</li> </ul>	<ul style="list-style-type: none"> <li>PFRS Secretary &amp; Plan Administrator (Excused)</li> <li>PFRS Legal Counsel</li> <li>PFRS Staff Member &amp; Acting Secretary</li> <li>PFRS Staff Member</li> <li>Meketa Investment Group</li> <li>Meketa Investment Group</li> <li>Meketa Investment Group</li> <li>Rice Hall James &amp; Associates</li> <li>Rice Hall James &amp; Associates</li> <li>Rice Hall James &amp; Associates</li> </ul>

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

1. **Approval of Investment Committee Meeting Minutes** –Member Nichelini made a motion to approve the September 28, 2022 Investment Committee Regular Meeting Minutes, as written, second by Member Wilkinson. Motion Passed.

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

2. **Investment Manager Performance Update – Rice Hall James & Associates** – Yossi Lipsker, Thao Buuhoan, and Tom McDowell of Rice Hall James & Associates, a PFRS Domestic Equity Small-Cap Growth Investment Strategy Manager, presented an informational report regarding a management and firm overview; investment philosophy and strategies; PFRS investment portfolio performance; and the firm’s Diversity, Equity, & Inclusion policy and practices.

Member Wilkinson, Chairperson Godfrey, and Staff Member Jenkins made inquiries to further discussion regarding the firm’s Diversity, Equity, & Inclusion policy and practices and investment strategies moving forward considering the current state of the markets and economy.

**MOTION:** Member Wilkinson made a motion to accept the informational report presented by Rice Hall James & Associates, and forward to the Board, second by Member Nichelini. Motion passed.

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

3. **Investment Manager Performance Review – Rice Hall James & Associates** – Jason Leong Campbell of Meketa Investment Group (“Meketa”) provided an overview memo regarding a review and evaluation of Rice Hall James & Associates (RHJ), a PFRS Domestic Equity Small-Cap Growth Investment Strategy Manager. J.L. Campbell noted RHJ investment performance is doing quite well year-to-date and over the long term; they are in the top quartile in terms of peer standing; and Meketa does not have any organizational concerns regarding RHJ at this time and recommended to remove watch status.

Member Wilkinson made inquiries further the discussion regarding when and why RHJ was placed on watch status and suggested PFRS look into the firms who are performing better over the long term and determine if there is a better manager for this investment strategy. David Sancewich of Meketa advised they can perform a review of Small-Cap Growth with a detailed comparison of RHJ’s portfolio style relative to peers in the first half of 2023. Chairperson Godfrey expressed concerns regarding the firm’s Diversity and Inclusion policy and practices.

**MOTION:** Chairperson Godfrey made a motion to accept Meketa’s informational report regarding RHJ, but continue to maintain watch status to monitor viability of long-term stability with an comprehensive peer review provided by Meketa in mid-2023 and to continue to monitor the firm’s progress with policy and practices regarding Diversity and Inclusion, second by Member Wilkinson. Motion passed.

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

4. **Resolution No. 8065** – Resolution authorizing a one-year extension of the professional services agreement with Rice Hall James & Associates for the provision of Domestic Equity Small-Cap Growth Investment Strategy Manager Services for the Oakland Police And Fire Retirement System commencing March 1, 2023 and ending March 1, 2024.

**MOTION:** Chairperson Godfrey made a motion to recommend Board Approval of Resolution 8065, second by Member Nichelini. Motion passed.

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

5. **Investment Market Overview as of September 30, 2022** Paola Nealon of Meketa presented an informational report regarding the Investment Market Overview as of September 30, 2022 and current factors impacting outcomes. P. Nealon highlighted Index Returns, Domestic Equity Returns, Foreign Equity Returns and Fixed Income Returns.

**MOTION:** Chairperson Godfrey made a motion to accept the informational report presented by Meketa regarding the Investment Market Overview as of September 30, 2022 and forward to the Board, second by Member Nichelini. Motion passed.

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

6. **Preliminary Investment Performance Update as of September 30, 2022** – Chairperson Godfrey made a motion to forward this item to the Full Board Meeting in the interest of time, second by Member Nichelini.

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

**MOTION:** No action was taken on this item, as it was forwarded to the Full Board Meeting.

7. **Thermal Coal Companies Prohibited from the PFRS Investment Portfolio – 2022 Update** – J. L. Campbell of Meketa Investment Group presented an informational report regarding Meketa Investment Group's updated list of thermal coal companies prohibited from the PFRS Investment Portfolio.

Member Nichelini inquired how much money PFRS is losing as a result of not investing with the prohibited companies. David Sancewich advised it would be a minimal amount and Staff Member Jenkins noted PFRS has not had any of the named companies in the portfolio.

**MOTION:** Member Nichelini made a motion to accept Meketa's informational regarding Meketa Investment Group's updated list of thermal coal companies prohibited from the PFRS Investment Portfolio, second by Member Wilkinson. Motion passed.

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

8. **Resolution No. 8066** – 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 commencing December 23, 2022 and ending December 23, 2023. It was noted the agenda incorrectly identified the term of the contract as 2023 – 2024, however the resolution correctly identifies the correct term as 2022-2023.

**MOTION:** Chairperson Godfrey made a motion to recommend Board Approval of Resolution 8066, second by Member Nichelini as amended. Motion passed.

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

9. **Schedule of Pending Investment Committee Meeting Agenda Items** – David Sancewich presented the 2022 Ongoing Strategic Investment Agenda for discussion and noted it is contingent upon Board action regarding the scheduling of the November and December meetings in consideration of the upcoming holidays and will work with staff on the 2023 calendar.

10. **Open Forum** – Member Wilkinson notified the Investment Committee he attended his reunion and met a gentleman who was appointed as a member of the Board of State Street Bank and noted it was shortly after PFRS conducted a review of the firm. They appointed an individual who is African American and another individual who is of Hispanic descent. I found this to be noteworthy because it is the first time in their history this has ever happened.

11. **Future Scheduling** – The next regular Investment Committee meeting is tentatively scheduled to occur November 30, 2022, however staff proposed to combine the November & December meeting into one and tentatively schedule a special meeting to occur early December 2022 pending further discussion at the full Board Meeting. Chairperson Godfrey advised he will bring forward for discussion at the Full Board Meeting to seek the Board's position regarding a change in the frequency of meetings moving forward to occur quarterly and if the Audit & Operations Committee and Legal Counsel can look into the feasibility of such a change and if it would be in conflict with the charter.
12. **Adjournment** – Chairperson Godfrey made a motion to adjourn, second by Member Nichelini. Motion passed.

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

The meeting adjourned at 11:35 a.m. Pacific

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JAIME T. GODFREY  
COMMITTEE CHAIRPERSON

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DATE



International ACWI ex U.S. Equity

City of Oakland

Police & Fire Retirement System

December 14<sup>th</sup>, 2022



Strategic Global Advisors is an independent, majority women and employee-owned investment boutique founded in 2005 and based in Newport Beach, California.

Total Assets: \$3.3 billion\*

Global Equity  
\$812M

Global Equity (MSCI World) 2013

International Equity  
\$1,883M

International Equity (EAFE) 2005  
International ADR Equity 2006  
International World ex-U.S. Equity 2013  
International ACWI ex-U.S. Equity 2015

International Small & SMID Equity  
\$629M

International SMID Cap Equity 2006  
International All Cap Equity 2008  
International Small Cap Equity 2010

## Custom Solutions

Dedicated ESG Equity

Emerging Market Equity

U.S. Equity

\*As of October 31<sup>st</sup>, 2022. Total Assets include Assets Under Management (AUM) and Assets Under Advisement (AUA) where SGA performs investment advisory services to model portfolios and platforms. Approximately 10% of Total Assets are represented by AUA.

# Portfolio Management and Research

	INVESTMENT FOCUS	INVESTMENT EXPERIENCE
<b>Cynthia Tusan, CFA</b> Chief Executive Officer, Senior Portfolio Manager (BA Bryn Mawr, MBA UCLA)	Portfolio Management and Research	33 years
<b>Gary Baierl, PhD</b> Chief Investment Officer (BA Boston University, PhD Northwestern University)	Portfolio Management and Research	24 years
<b>Mark Wimer, CFA</b> Senior Portfolio Manager (BS Purdue University, MBA Cornell University)	Portfolio Management and Research	27 years
<b>Cherie Badri, CFA</b> Director of Fundamental Research, Senior Portfolio Manager (BA Northwestern University, MBA, MS Univ. of Illinois)	Portfolio Management/ Fundamental Analysis	27 years
<b>Brendan Skarra-Corson, CFA</b> Senior Portfolio Manager (BA University of California, San Diego, MFE University of California, Berkeley)	Portfolio Management/ Quantitative Analysis	15 years
<b>David Cai, CFA</b> Director of Quantitative Research (BBA University of Wisconsin, Madison, MFE University of California, Berkeley)	Quantitative Analysis	10 years
<b>Vaibhav Kumar, CFA</b> Senior Quantitative Analyst (Integrated Masters in Mathematics and Computing, IIT, MFE UC Berkeley)	Quantitative Analysis	12 years
<b>Quang Ngu, CFA</b> Quantitative Analyst (BS University of Hawaii, Manoa, MS UCLA, MBA UCLA, MFE UC Berkeley)	Quantitative Analysis	12 years*
<b>Xiyuan Dong</b> Quantitative Analyst (BBA Chinese University of Hong Kong, MFE University of California, Los Angeles)	Quantitative Analysis	2 years
<b>Adam Hauptman, CFA</b> Senior Fundamental Analyst & Associate Portfolio Manager (BS Massachusetts Institute of Technology)	Fundamental Analysis	16 years
<b>Sylvester Malapas, CFA</b> Senior Fundamental Analyst & Associate Portfolio Manager (BA University of California, Irvine, MBA Cornell University)	Fundamental Analysis	14 years
<b>Brett Darragh, CFA</b> Senior Fundamental Analyst (BS California Polytechnic State University, San Luis Obispo)	Fundamental Analysis	7 years
<b>Stephen Smith</b> Head Trader (BA Bucknell University)	Trading	28 years
<i>Academic Advisory Board</i>		
<b>Professor Richard Frankel, PhD</b> Advisory Board Member (Beverly and James Hance Chair, Accounting Washington Univ., St. Louis)	Factor Research	29 years
<b>Professor Richard Sloan, PhD</b> Advisory Board Member (Accounting Circle Professor of Accounting at the Univ. of Southern California)	Factor Research	30 years

# Inclusion & Diversity: Embedded in our Culture

*“As a women-owned firm, SGA considers inclusion and diversity an integral part of our culture from our founding in 2005. Our team believes that better outcomes at both the firm and portfolio levels can be achieved with diversity of gender, race, background, thought, and experiences. We are committed to our diversity initiatives and understand the importance of making a conscious effort to improve.”*

–Cynthia Tusan, CFA, CEO and Senior Portfolio Manager



Logos are shown for illustrative purposes only.

# Inclusion & Diversity: Diversity Within SGA

## Organizational Composition



### Diversity Representation Survey for Oakland Police and Fire

DATA AS OF 10/31/2022

<b>Firm Name</b>	Strategic Global Advisors, LLC
<b>Product Name</b>	International ACWI ex-U.S. Equity
<b>Total Number of Employees</b>	26

<b>Race and Ethnicity*</b>	<b>Percentage (%) of Board of Directors / Managing Members**</b>	<b>Percentage(%) of Firm (Entire Staff)</b>	<b>Percentage (%) of Firm (Investment Professionals)</b>
African American/Black	20%	4%	
Asian/Hawaiian/Pacific Islander		23%	38%
Latino/Hispanic			
White	80%	73%	62%
American Indian/Alaska Native			
Other			
<b>Gender</b>			
Male	60%	62%	77%
Female	40%	38%	23%
Non-Identified/Other			

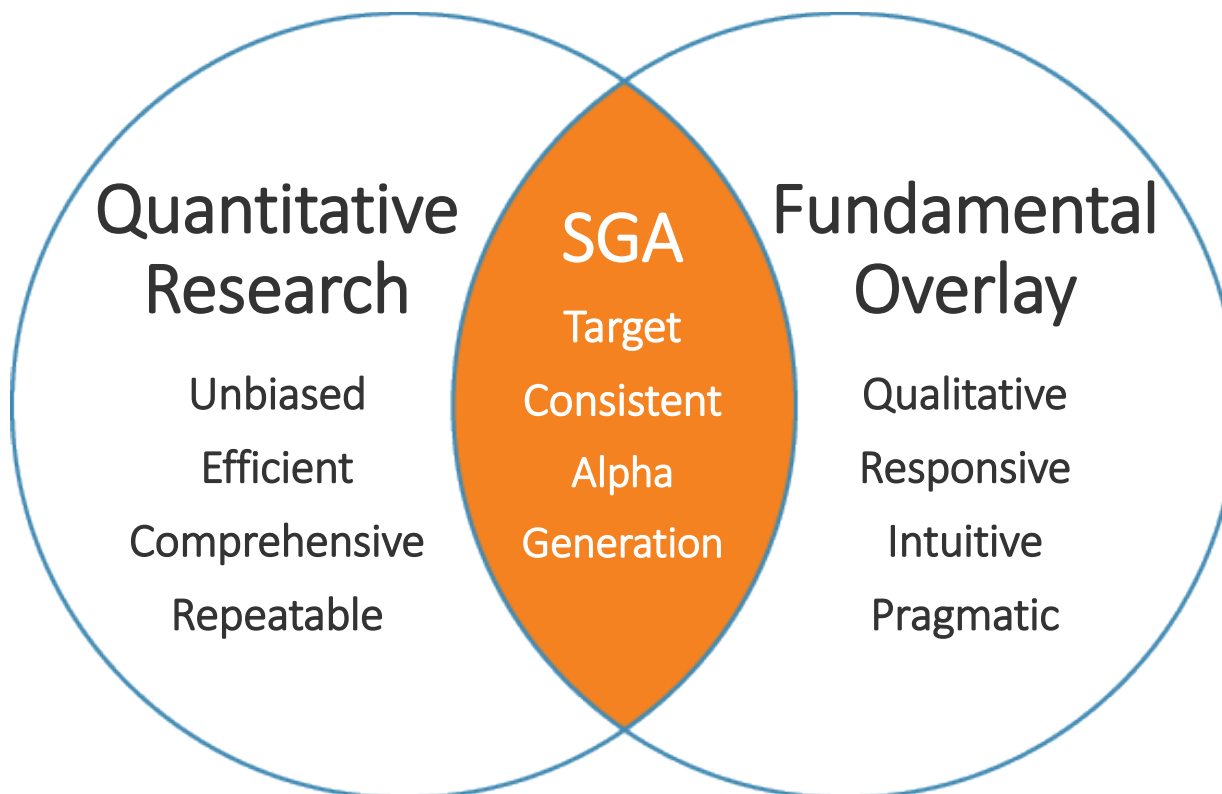
\*Racial/ethnic categories appear as defined by EEOC guidance.

\*\*Executive Committee.

# Investment Philosophy

Fundamentally Inspired. Quantitatively Driven.

SGA believes that a quantitative investment process can deliver consistent outperformance by identifying mispriced companies within each global industry through a diverse set of fundamental and behavioral factors. SGA also believes a fundamental overlay is critical as not all relevant information can be modeled.



## Step 1: Quantitative Research

Global Universe: Approximately 10,000 Publicly Traded Companies

	<b>Alpha Model</b>		<b>Risk Model</b>		
{	Valuation (2) – 30%		Sector	Growth	Crude Oil Beta
	Quality (5) – 28%		Currency	Value	Volatility
	Growth (3) – 22%		Region	Momentum	Residual
	Sentiment (4) – 20%		Size	Beta	Liquidity

Output delivers company's expected industry relative return per unit of risk

## Step 2: Daily Screening Optimization

Geographic Weights    Sector/Industry Weights    Currency Weights    Targeted Tracking Error

Identifies suggested buy/sell candidates\*

## Step 3: Fundamental Review

✓
✗

ESG

✓
✗

Macro/Political Risk

✓
✗

Competitive Forces

✓
✗

Language Processing (NLP)

✓
✗

Short Utilization

✓
✗

Refinancing Risk

A confirmation process that seeks to avoid false-positives\*

## Step 4: Final Optimization & Rebalance

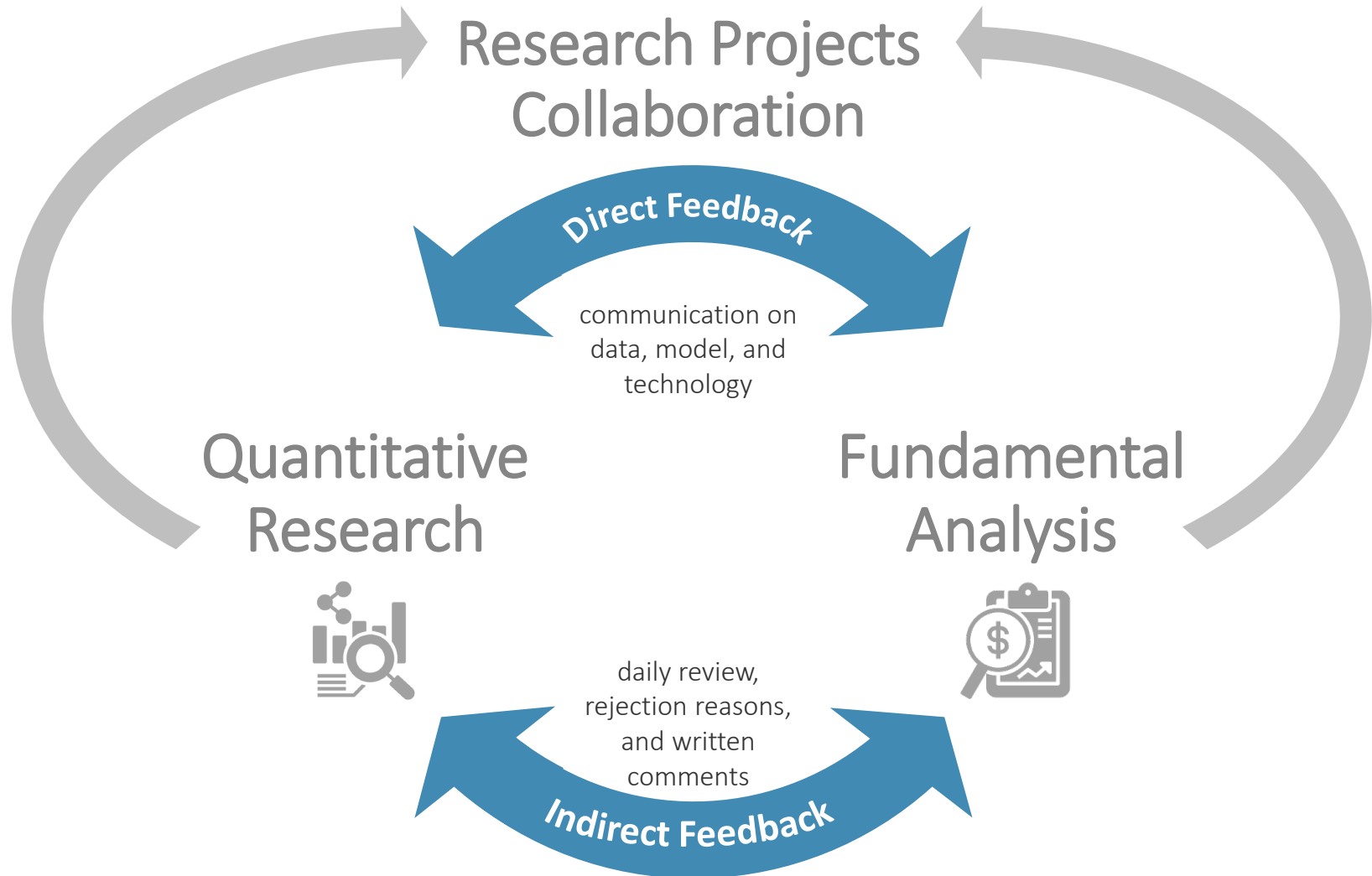
Limited to Approved Stocks - Rebalance a Function of Expected Alpha - Measured Turnover Strategy - Active Risk at Stock Level

Final Portfolio

\*Typically 1-2 new buy universe candidates per day, 10-20% of which are removed from investment universe. Please see Appendix for additional information contained in the Investment Process Disclosure.

# Creating a Valuable Feedback Loop

Insights from the Fundamental Review are Utilized in the Quantitative Process



# SGA Alpha Model Overview



Valuation Category (30%)
Residual Income
Free Cash Flow Yield <sup>1</sup>

Growth Category (22%)
Growth Consistency
Operating Cash Flow Efficiency
Intangible Assets <sup>1</sup>

Quality Category (28%)
Discretionary Accruals <sup>1,2</sup>
F Score
External Financing
Capital Expenditure Conservatism <sup>1,2</sup>
Earnings Surprise

Sentiment Category (20%)
Long Term Price Momentum
Earnings Yield Momentum
Sell-Side Earnings Estimate Revision
Net Arbitrage Position

The data in the tables above represents the Alpha Model as applied to companies outside of the Financial and Real Estate sectors as defined by GICS.

<sup>1</sup>When ranking securities in the Financials sector as defined by GICS the denoted factors are not used.

<sup>2</sup>When ranking securities in the Real Estate sector as defined by GICS the denoted factors are not used.

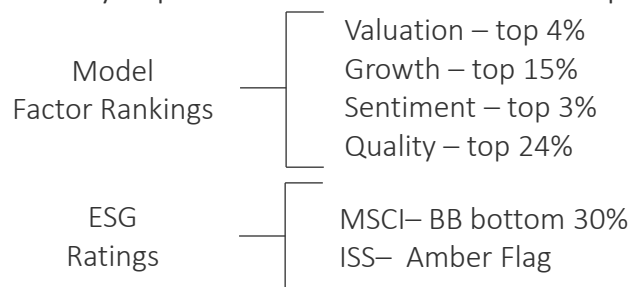
Please see Appendix for additional information contained in the Systematic Investment Risk Disclosure.



## Leading Manufacturer of Disposable Rubber Gloves Manufacturer of latex, nitrile, vinyl, surgical, and household gloves

### Stock Selection Model (November 2020)

Industry expected return ranked in the top 2%

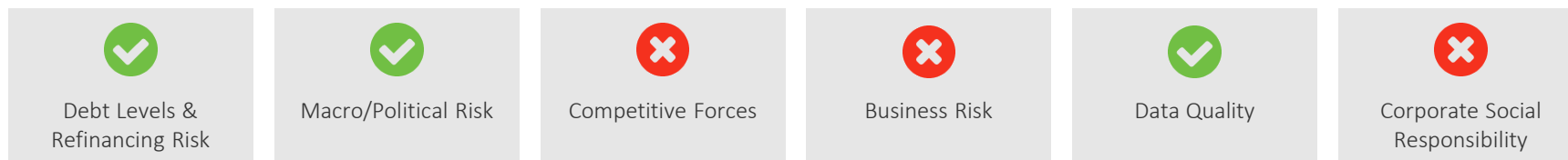


### Fundamental Analysis



1. Rejected for fundamental business reasons in combination with ESG Social concerns surrounding employee safety
2. Industry is commoditized with intense competition and low customer switching costs

### Fundamental Analysis



### Failed Fundamental Analysis: Business Risk & Social Risk

Please see Appendix for additional information contained in the Investment Process Disclosure and the Systematic Investment Risk Disclosure.

## Leading Designer, Manufacturer, and Distributor of Semiconductors Automotive Technology, Security, Wireless Infrastructure, Computing Applications

### Stock Selection Model (October 2018)

Ranked in the top 99% of Semiconductors and Equipment



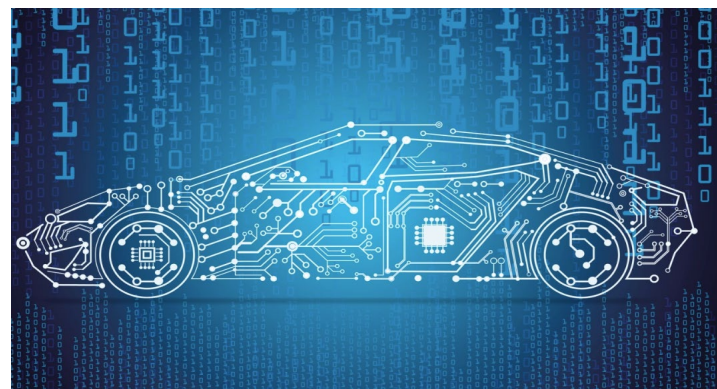
### Stock Selection Model (Feb 2021)

Rank declined to the top 32% of its subindustry



### Holding History

1. Purchased October 2018.
2. After outperforming industry peers over several years, the company's growth and quality profile weakened.
3. The model suggested to sell in Feb 2021.



Sale proceeds redeployed to improve portfolio's risk/return profile

Please see Appendix for additional information contained in the Investment Process Disclosure and the Systematic Investment Risk Disclosure.



City of Oakland Police & Fire Retirement System  
International ACWI ex-U.S. Equity

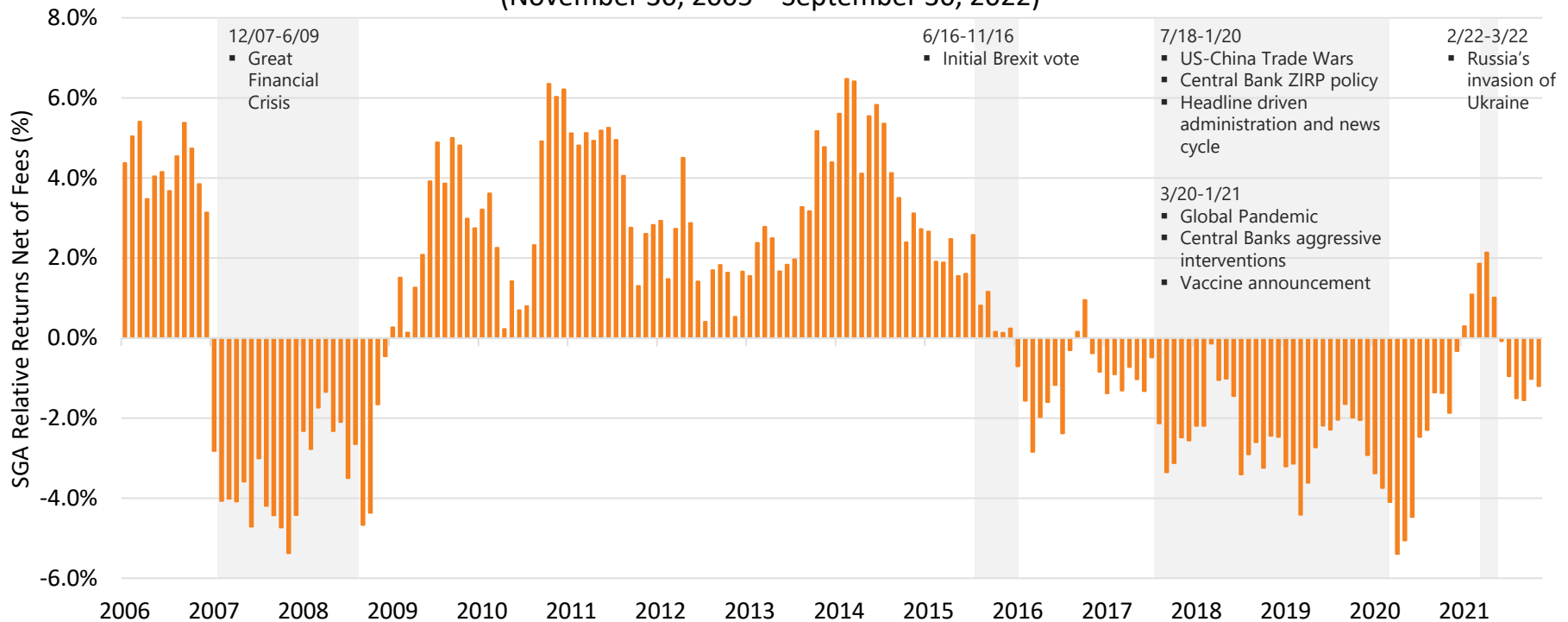
# Portfolio Overview

As of October 31<sup>st</sup>, 2022

# SGA International Equity

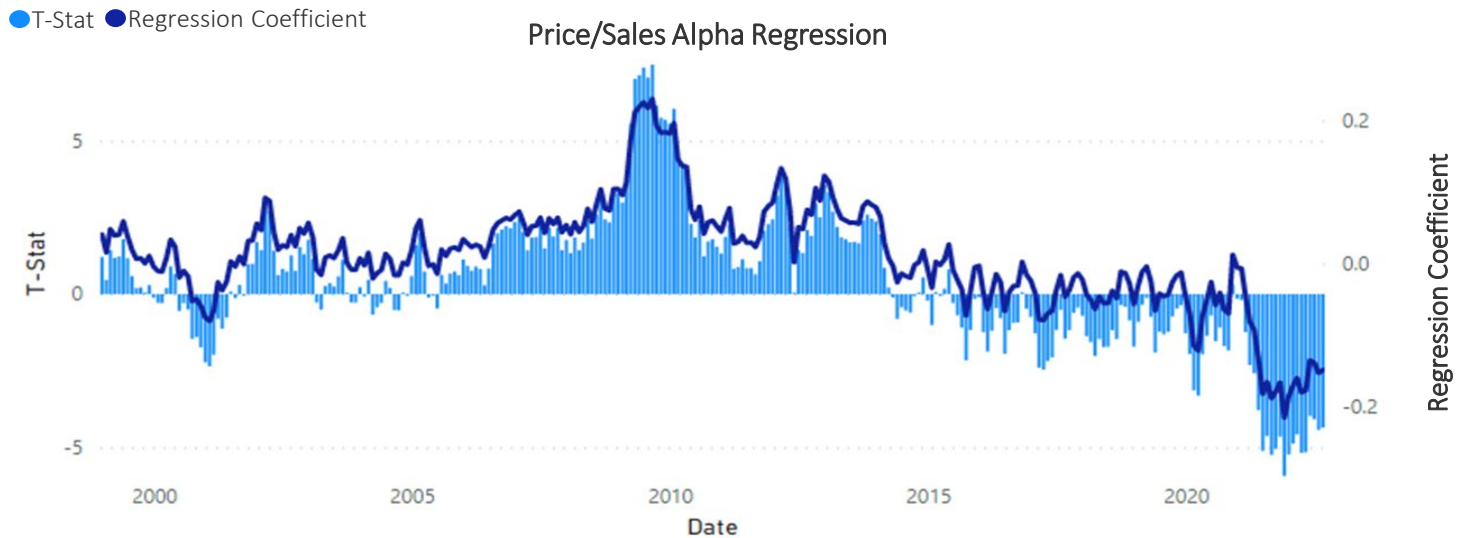
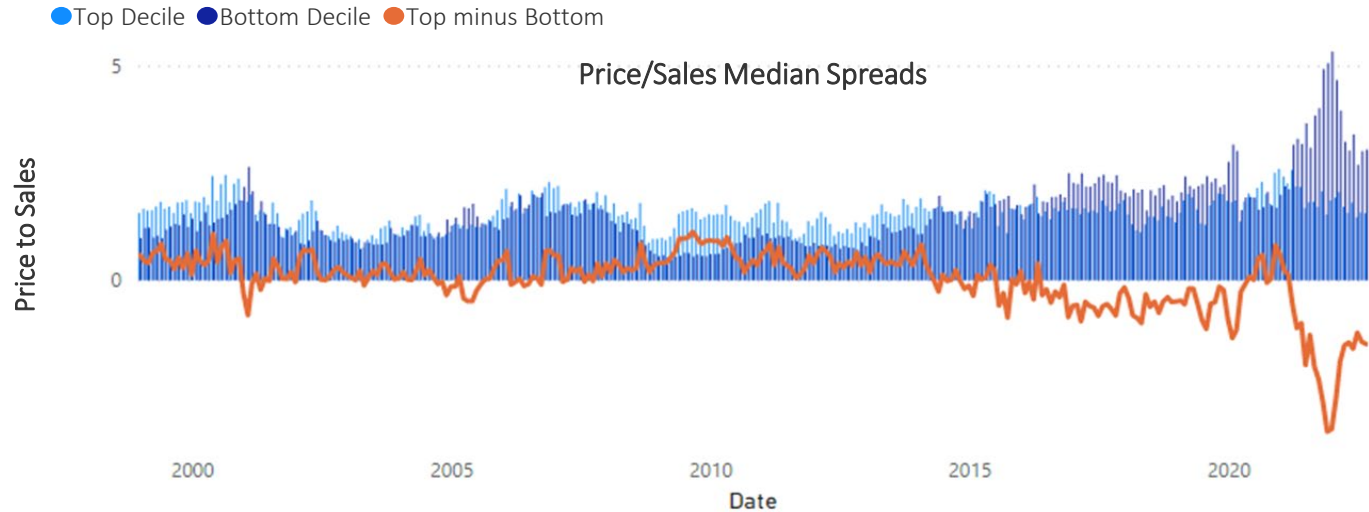
## Trailing Twelve Month Rolling Relative Returns

International Equity  
(November 30, 2005 – September 30, 2022)



Relative performance is SGA International Equity net of fees performance minus MSCI EAFE Net Index from inception, November 30, 2005, to September 30, 2022. Net of fees performance was calculated using the highest applicable annual management fee. Trailing twelve month rolling relative returns are measured monthly beginning 12 months after the inception date of the composite. Please see the GIPS® Report for information on each strategy's individual benchmark and additional information regarding product composition and performance. The GIPS® Report is located at the end of this presentation. Past performance is not indicative of future results.

# Total Alpha Model – International Equity Universe



Source: FactSet, SGA. Analysis period: December 31, 1999 through August 31, 2022. Decile characteristics are based on SGA's Stock Selection Model using the International Equity universe. See Alpha Model Factor Spreads Disclosure.

# City of Oakland Police & Fire Retirement System

## Client Portfolio Performance

As of October 31, 2022



	October*	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Since Inception (01/31/2020)
Portfolio (Gross) %	3.80	-22.52					-2.90
Portfolio (Net) %**	3.75	-23.03					-3.53
MSCI ACWI ex USA Index (Net) %	2.99	-24.73					-2.68
Net Relative Return %	0.76	1.70					-0.85

	2020*	2021	2022 YTD*
Portfolio (Gross) %	8.51	11.31	-23.64
Portfolio (Net) %**	7.86	10.59	-24.05
MSCI ACWI ex USA Index (Net) %	13.71	7.82	-24.31
Net Relative Return %	-5.85	2.76	0.26

Source: SGA, MSCI

Benchmark: MSCI ACWI ex USA Index (Net)

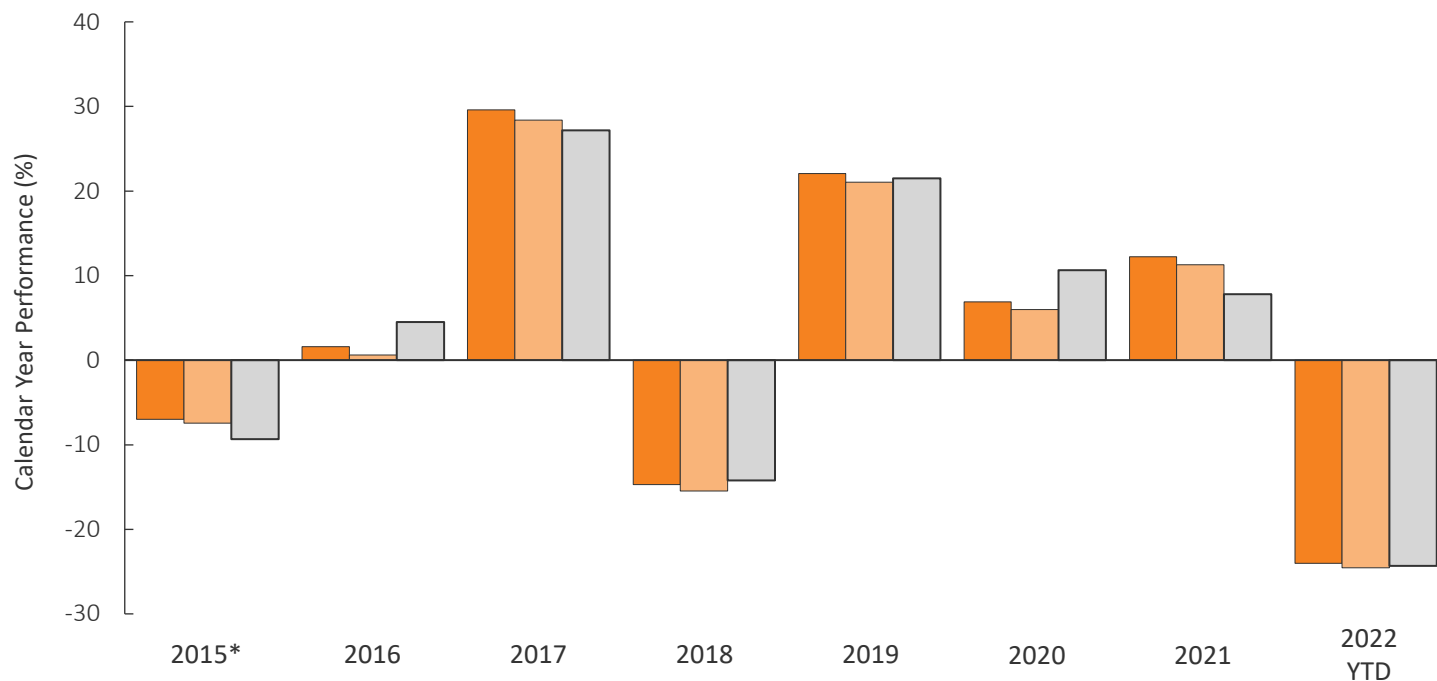
\*Returns for periods of less than one year are not annualized.

\*\*Portfolio Net Returns are net of management fees. Benchmark returns are net of foreign withholding taxes.

# SGA International ACWI ex-U.S. Equity Composite

## Calendar Year Performance

Period Ending October 31, 2022



	2015*	2016	2017	2018	2019	2020	2021	2022 YTD
International ACWI ex-U.S. Equity (Gross) %	-6.97	1.61	29.59	-14.72	22.08	6.91	12.23	-24.02
International ACWI ex-U.S. Equity (Net) %	-7.44	0.60	28.38	-15.45	21.06	5.99	11.28	-24.56
MSCI ACWI ex USA Index (Net) %	-9.32	4.50	27.19	-14.20	21.51	10.65	7.82	-24.31
Gross Excess Return %	2.35	-2.89	2.40	-0.52	0.57	-3.74	4.41	0.29

\*2015 represents partial year return starting from inception on June 30, 2015.

Net of fees performance was calculated using the highest applicable annual management fee of 0.85% applied monthly effective October 1, 2017. Prior to October 1, 2017, net of fees performance was calculated using the highest applicable annual management fee of 1.00% applied monthly; actual investment advisory fees incurred by clients may vary.

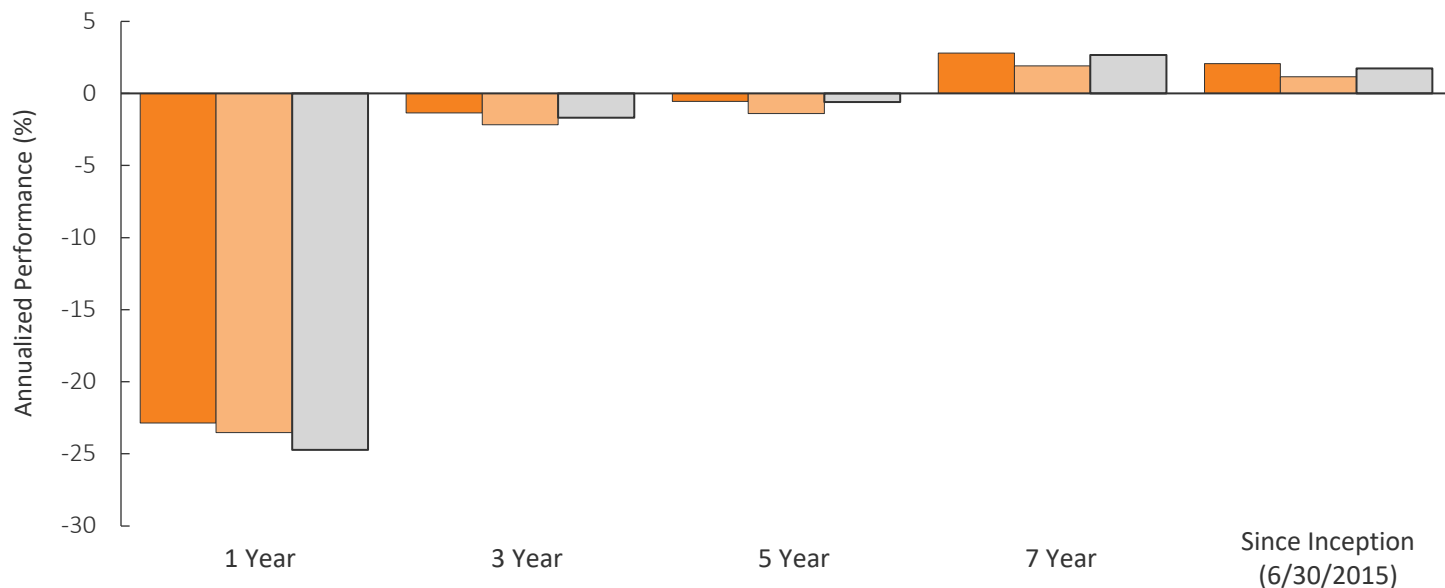
Please see Appendix for additional information contained in the GIPS® Report. Past performance is not indicative of future results.

# SGA International ACWI ex-U.S. Equity Composite

## Annualized Performance



Period Ending October 31, 2022



	1 Year	3 Year	5 Year	7 Year	Since Inception (6/30/2015)
International ACWI ex-U.S. Equity (Gross) %	-22.87	-1.34	-0.55	2.81	2.08
International ACWI ex-U.S. Equity (Net) %	-23.52	-2.18	-1.39	1.91	1.17
MSCI ACWI ex USA Index (Net) %	-24.73	-1.68	-0.60	2.67	1.74
<b>Gross Excess Return %</b>	<b>1.86</b>	<b>0.34</b>	<b>0.05</b>	<b>0.14</b>	<b>0.34</b>

Net of fees performance was calculated using the highest applicable annual management fee of 0.85% applied monthly effective October 1, 2017. Prior to October 1, 2017, net of fees performance was calculated using the highest applicable annual management fee of 1.00% applied monthly; actual investment advisory fees incurred by clients may vary. Please see Appendix for additional information contained in the GIPS® Report. Past performance is not indicative of future results.



# SGA International ACWI ex-U.S. Equity Composite

## Risk/Return Characteristics



	SGA INTL ACWI EX-U.S. EQUITY (GROSS)	SGA INTL ACWI EX-U.S. EQUITY (NET)	MSCI ACWI EX USA NET
Annualized Return	2.08%	1.17%	1.74%
Avg. Annualized 3-Year Rolling Return	5.80%	4.87%	5.78%
Monthly Batting Average	51.14%	45.45%	--
Standard Deviation	15.21%	15.21%	15.26%
Upside Market Capture	100.13%	97.25%	100%
Downside Market Capture	98.79%	100.27%	100%
Information Ratio	0.12	-0.21	--
Sharpe Ratio	0.08	0.02	0.05
Sortino Ratio	0.10	0.02	0.07
T-Statistic	0.33	-0.57	--

Characteristics are calculated since inception through October 31, 2022. Returns are calculated since inception of the strategy, June 30, 2015, through October 31, 2022. Net of fees performance was calculated using the highest applicable annual management fee. Please see the additional information contained in the GIPS® Report, which is located at the end of this presentation. Past performance is not indicative of future results.

Batting Average = The number of months in which the strategy outperformed the primary benchmark divided by the total number of months in the period.

Sortino Ratio = The downside volatility versus total volatility. This statistic is computed by subtracting the return of the risk-free index from the return of the manager to determine the risk-adjusted excess return. This excess return is then divided by the downside risk of the manager.

T-Statistic = A measure of the likelihood that the actual value of monthly excess return is not zero. The larger the absolute value of t, the less likely that the actual value of monthly excess return could be zero. It is computed by dividing average monthly excess return since inception by its standard error, where monthly excess return is monthly portfolio return minus monthly benchmark return.

# International ACWI ex-U.S. Equity

## Custom Attribution Detail

As of October 31, 2022



		Strategy		Portfolio			Strategy
		Inception through 12/31/2017	2018-2020	2021	YTD*	QTD*	Inception through 10/31/2022
Alpha Model	VALUATION	0.54	(1.80)	2.23	2.40	0.64	0.11
	GROWTH	1.08	0.66	(0.14)	(1.03)	(0.05)	0.46
	QUALITY	0.26	(0.64)	(0.26)	0.54	(0.01)	(0.13)
	SENTIMENT	0.50	0.14	0.72	(0.34)	(0.20)	0.28
	INTERACTION	(0.53)	0.59	0.44	(0.91)	(0.27)	0.01
	<b>TOTAL ALPHA MODEL</b>	<b>1.88</b>	<b>(1.04)</b>	<b>3.03</b>	<b>0.65</b>	<b>0.11</b>	<b>0.74</b>
Risk Model Style Factors	BETA	0.18	0.07	0.09	0.18	0.10	0.13
	GROWTH	0.06	0.27	(0.05)	(0.36)	(0.09)	0.07
	LIQUIDITY	(0.23)	(0.04)	0.19	0.02	0.01	(0.07)
	MOMENTUM	(0.23)	0.06	0.64	0.39	0.06	0.09
	OIL	(0.03)	0.07	0.08	(0.01)	0.05	0.03
	SPECIFIC	(0.00)	0.09	(0.15)	0.34	(0.00)	0.09
	SIZE	0.82	(0.43)	0.26	0.07	0.08	0.17
	VALUE	(0.12)	(0.54)	0.51	0.18	(0.01)	(0.17)
	VOLATILITY	0.00	(0.21)	0.11	0.06	0.01	(0.04)
	<b>TOTAL STYLE</b>	<b>0.44</b>	<b>(0.63)</b>	<b>1.72</b>	<b>0.91</b>	<b>0.20</b>	<b>0.31</b>
Total Strategy	<b>TOTAL ALPHA MODEL</b>	1.88	(1.04)	3.03	0.65	0.11	0.74
	<b>TOTAL STYLE</b>	0.44	(0.63)	1.72	0.91	0.20	0.31
	SECTOR	(0.13)	0.41	(0.65)	(0.16)	(0.06)	0.04
	REGION	0.00	(0.10)	0.04	0.10	0.44	(0.01)
	CURRENCY	0.41	(0.05)	(0.10)	0.30	0.22	0.08
	RESIDUAL	(2.07)	0.05	(0.74)	(0.61)	(0.09)	(0.94)
	<b>TOTAL EXCESS</b>	<b>0.60</b>	<b>(1.41)</b>	<b>3.48</b>	<b>0.66</b>	<b>0.82</b>	<b>0.19</b>

Portfolio Benchmark: MSCI ACWI ex USA Index (Net), Strategy Inception Date: 6/30/2015

Source: SGA, FactSet, MSCI

\*Returns for periods of less than one year are not annualized

Strategy custom attribution is shown using a representative account that may not include the same restrictions as the client portfolio. Please see Appendix for additional information contained in the Custom Attribution Disclosure.

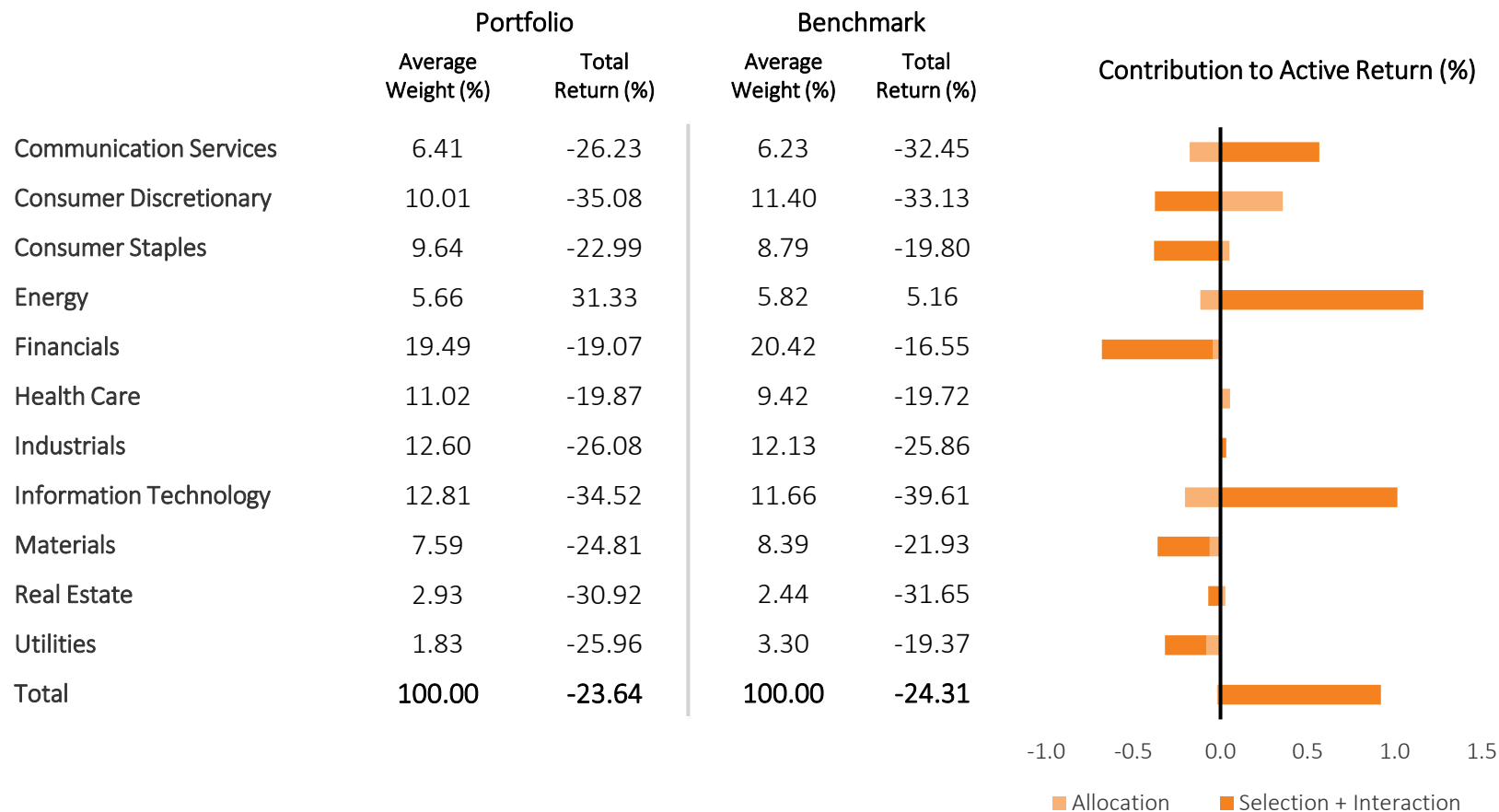
# SGA International ACWI ex-U.S. Equity vs. MSCI ACWI ex USA Index (Net)

## Year To Date Sector Attribution

As of October 31, 2022



### Year to Date Sector Attribution



Benchmark: MSCI ACWI ex USA Index (Net)  
 Source: SGA, Northern Trust, MSCI  
 All GICS sectors shown.

# SGA International ACWI ex-U.S. Equity vs. MSCI ACWI ex USA Index (Net)

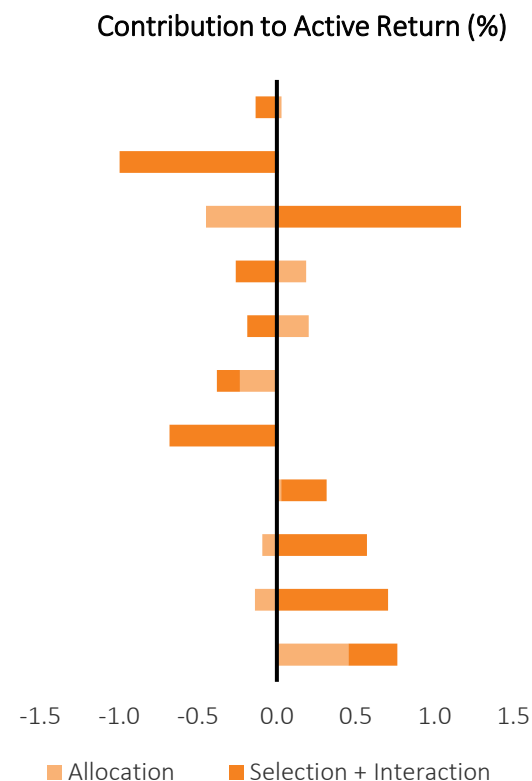
## Year To Date Country Attribution

As of October 31, 2022



### Year to Date Country Attribution

	Portfolio		Benchmark	
	Average Weight (%)	Total Return (%)	Average Weight (%)	Total Return (%)
Japan	14.23	-24.91	14.09	-24.20
United Kingdom	10.19	-22.70	9.77	-13.75
China	10.19	-34.91	9.18	-42.79
Canada	9.30	-15.84	8.13	-13.59
France	8.41	-23.77	7.17	-22.36
Germany	5.84	-32.02	5.08	-31.83
Australia	5.64	-25.85	4.93	-13.79
Switzerland	4.83	-17.97	6.51	-23.74
Republic of Korea	4.64	-27.14	3.47	-35.21
Netherlands	3.74	-22.76	2.67	-36.79
<b>Total</b>	<b>100.00</b>	<b>-23.64</b>	<b>100.00</b>	<b>-24.31</b>



Benchmark: MSCI ACWI ex USA Index (Net)  
 Source: SGA, Northern Trust, MSCI  
 Ten largest countries shown by portfolio weight.

# City of Oakland Police & Fire Retirement System

## Contributors and Detractors

As of October 31, 2022



### Year To Date

Largest Contributors	Sector	Country	Total Return (%)	Avg Portfolio Weight (%)	Avg Relative Weight (%)	Contribution to Relative Return (%)
Petroleo Brasileiro SA	Energy	Brazil	64.30	1.08	0.84	0.49
PT Bank Mandiri (Persero) Tbk	Financials	Indonesia	42.40	0.78	0.73	0.37
Fairfax Financial Holdings Limited	Financials	Canada	1.08	1.37	1.31	0.33
Shopify, Inc.	Information Technology	Canada	-75.17	0.00	-0.24	0.29
Imperial Oil Limited	Energy	Canada	52.26	0.55	0.50	0.26

Largest Detractors	Sector	Country	Total Return (%)	Avg Portfolio Weight (%)	Avg Relative Weight (%)	Contribution to Relative Return (%)
NetEase, Inc.	Communication Services	China	-38.02	0.31	0.14	-0.33
United Microelectronics Corp.	Information Technology	Taiwan	-46.20	0.99	0.91	-0.26
Pandora A/S	Consumer Discretionary	Denmark	-56.85	0.55	0.52	-0.23
Tokyo Electron Ltd.	Information Technology	Japan	-52.56	0.82	0.57	-0.21
EVRAZ plc	Materials	United Kingdom	-81.30	0.07	0.06	-0.19

Benchmark: MSCI ACWI ex USA Index (Net)

Source: SGA, FactSet, MSCI

Based on client holdings as of October 31, 2022. Returns are presented gross of fees. SGA has relied upon information derived from its internal accounting systems and vendors. Please defer to formal performance documents received from your account custodian for reconciliation of performance and tax reporting. Past performance is not indicative of future results.

## Points of Summary

### The SGA Approach



- Quantitative process grounded in rigorous fundamental research
- Incorporating ESG considerations into the investment process and firm since our founding
- Utilizing a core investment process stemming from a proprietary Alpha Model designed for security-level stock selection applied globally
- Continuity of the investment team and process
- As the market regime seems to be shifting from past years of frothy growth, which has benefitted lower quality companies disproportionately, to a market where relative value and fundamentals are more important, we believe this is an excellent entry point for SGA's Core approach

Fundamentally Inspired. Quantitatively Driven.

# Appendix

The Associates Program (“TAP”) was created as an opportunity for recent graduates to gather exposure within the asset management industry. TAP is a 12-month rotational program experience that teaches all functional areas of our business with formal rotations in Marketing, Compliance, Operations, and Investments.

At SGA, we are convinced that investing in our own employees is of vital importance. Associates will have access to a network of professionals with years of industry experience along with a variety of resources and outside opportunities for their own personal development.

We believe this is a tremendous opportunity for individuals with a keen interest in the industry and exposes participants to live scenarios that occur within our day-to-day tasks. In this program our associates are positioned to develop a working knowledge of our firm, our products & services, and the industry all together.

## OUR 2021 ASSOCIATES



### DANIEL JUAN

"My experience as a Junior Associate has exposed me to new areas of the industry that I was not aware of. During my time at SGA, I have collaborated with the Marketing and Operations team where my knowledge and understanding of the firm has expanded, along with gaining more insight of the industry as a whole. I am thankful to have the opportunity to contribute to a firm with a great work environment and a mission that resonates with me."



### LELIA KENNEDY

"I am delighted to have started in my new role as a Junior Associate at SGA. My time as an intern made me confident that I have a lot to contribute as well as a lot to learn. I am currently working with the Marketing and Client Services team where I've had the opportunity to receive great training and apply what I've learned into daily tasks. In addition, I have been exposed to the incredible company culture and the core values that are immersed in teamwork for client success."



SGA Internship Program (“SIP”) began in 2006, the summer after the firm was founded. Throughout the years SIP has developed into a more formal program filled with bright and driven individuals with an interest in the investment management industry.

SGA values diversity in the workforce, which leads our recruitment process to seek diversity of thought, experience, background, and beliefs. We are focused on creating opportunities for individuals from a variety of different backgrounds, providing exposure and opportunity to under-represented segments of our population, and bringing more diversity to our firm.

At SGA, we believe education is the heart of change. We encourage interns to participate in conferences, webinars, and SGA’s Speaker Series, making SIP a great way for interns to further develop their knowledge of the industry.

Internship experience can vary depending on what is in demand for the firm and the intern’s own interest. SIP participants have supported departments such as: Operations, Marketing, Compliance, Fundamental Research, and Quantitative Research.

Internship terms vary depending on availability and demand, typically ranging between eight and ten weeks. Intern’s may receive an offer for full-time employment, and to date SGA has hired three former interns: Quantitative Analysts Quang Ngu and Xiyuan Dong; and Marketing Associate Lelia Kennedy.

## MEET OUR RECENT INTERNS



“Interning with SGA so far has been a really great experience! The team is very welcoming and open to teaching and answering questions, and as a result I have already learned so much.”  
- Lelia Kennedy



“Working with SGA has taught me so much about teamwork, time management when executing projects, and what the marketing side of the finance world looks like. I am so grateful for this opportunity to work with a company that is sharing meaningful work with the world and a company that cares about its employees and societal factors that affect them. I have grown so much throughout my time here.”  
- Jasmine Gonzalez



“My internship with SGA was a rewarding opportunity that allowed me to take my classroom knowledge and apply it to real world scenarios. I experienced both professional and personal growth through the responsibilities I was given, the team members I got to work with, and the knowledge I gained.”  
- Tuva Oewre

# City of Oakland Police & Fire Retirement System

## Client Portfolio Characteristics

As of September 30, 2022



Characteristics	Portfolio	Benchmark
Number of Stocks	154	2,274
Price/Earnings (1-Year Forecast) <sup>1</sup>	7.9x	10.6x
Price/Book <sup>1</sup>	1.3x	1.5x
Dividend Yield	3.8%	3.6%
Historical 3-Year EPS Growth	18.1%	9.6%
Weighted Avg Market Cap	\$65.9B	\$71.0B
Weighted Median Market Cap	\$28.9B	\$35.0B
12-Month Trailing Turnover	53.1%	--
Active Share <sup>2</sup>	79%	0%

<sup>1</sup> Price/Earnings (1-Year Forecast) and Price/Book are weighted harmonic average.

<sup>2</sup> Active Share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in a portfolio versus the weight of each holding in the benchmark index and dividing by two.

Source: SGA, Northern Trust, FactSet, MSCI

Benchmark: MSCI ACWI ex USA Index (Net)

Based on gross of fees returns. Past performance is not indicative of future results.

# City of Oakland Police & Fire Retirement System

## Client Portfolio Snapshot

As of September 30, 2022



Top 10 Holdings	Weight (%)
SHELL PLC ORD EURO.07	2.27
ROCHE HLDGS AG GENUSSSCHEINE NPV	2.26
L'OREAL EURO.20	2.11
NOVO-NORDISK AS DKK0.2 SERIES'B'	1.61
3I GROUP ORD GBPO.738636	1.45
CHINA CONSTRUCTION BANK HCNV1	1.38
NETEASE INC COMSTK	1.37
ORIX CORP NPV	1.34
CONSTELLATION SOFT COM STK NPV	1.33
SANOFI EUR2	1.33
<b>Total</b>	<b>16.45</b>

Largest New Positions - Quarterly	Weight Change (%)
NETEASE INC COMSTK	1.37
RELX PLC	1.33
GRUPO FINANCIERO BANORTE S A B DE C V	0.75

Largest Exited Positions - Quarterly	Weight Change (%)
SONY GROUP CORPORA NPV	-1.06
CSL LTD NPV	-1.02
CSPC PHARMACEUTICAL GROUP LTD HKD0.10	-0.89

Largest Adds or Trims - Quarterly	Weight Change (%)
WOLTERS KLUWER EURO.12	-1.17
FAIRFAX FINL HLDGS SUB-VTG COM NPV	-1.19
NORTHLAND PWR INC COM	0.82

Source: SGA, Northern Trust, MSCI

Benchmark: MSCI ACWI ex USA Index (Net)

Based on gross of fees returns. Past performance is not indicative of future results.

# City of Oakland Police & Fire Retirement System

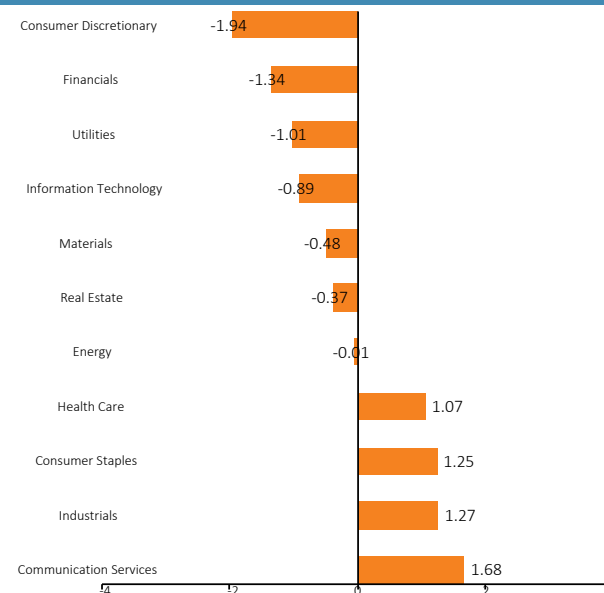
## Client Portfolio Positioning

As of September 30, 2022



Sector	Portfolio Weight (%)	Benchmark Weight (%)
Consumer Discretionary	9.49	11.44
Financials	19.33	20.68
Utilities	2.35	3.36
Information Technology	9.86	10.75
Materials	7.69	8.17
Real Estate	2.01	2.37
Energy	6.16	6.17
Health Care	10.67	9.60
Consumer Staples	10.61	9.36
Industrials	13.32	12.05
Communication Services	7.73	6.05

### 3Q 2022 Sector Relative Weight (%)



Source: SGA, Northern Trust, MSCI

Benchmark: MSCI ACWI ex USA Index (Net)

Based on gross of fees returns. Past performance is not indicative of future results.

# City of Oakland Police & Fire Retirement System

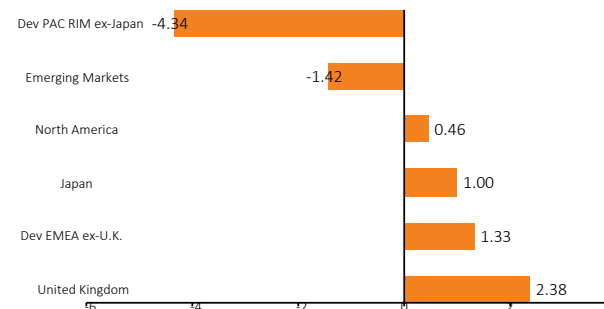
## Client Portfolio Positioning

As of September 30, 2022



Region	Portfolio Weight (%)	Benchmark Weight (%)
Dev PAC RIM ex-Japan	3.64	7.98
Emerging Markets	27.87	29.29
North America	8.71	8.25
Japan	15.14	14.13
Dev EMEA ex-U.K.	31.97	30.64
United Kingdom	12.09	9.70

### 3Q 2022 Region Relative Weight (%)

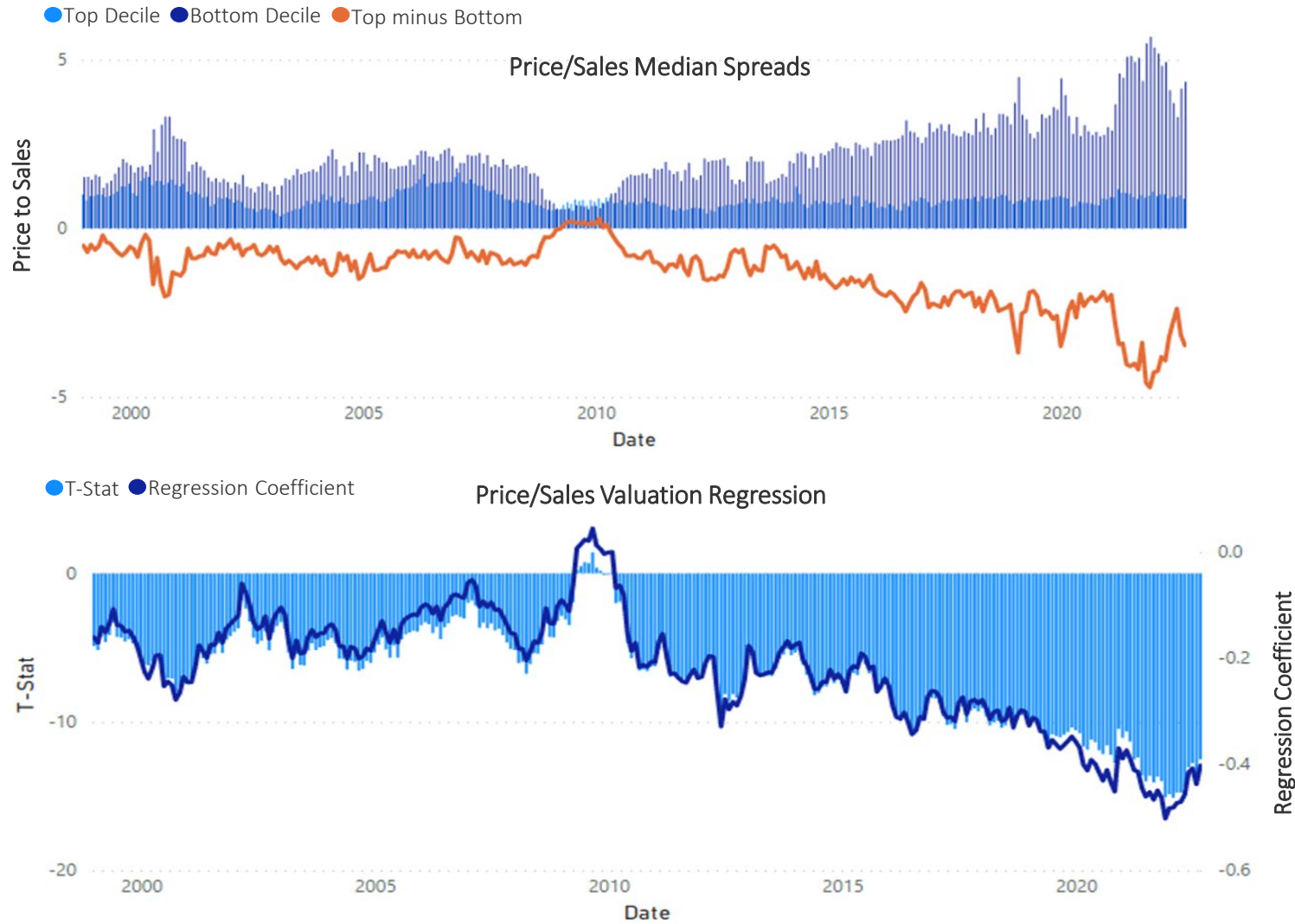


Source: SGA, Northern Trust, MSCI

Benchmark: MSCI ACWI ex USA Index (Net)

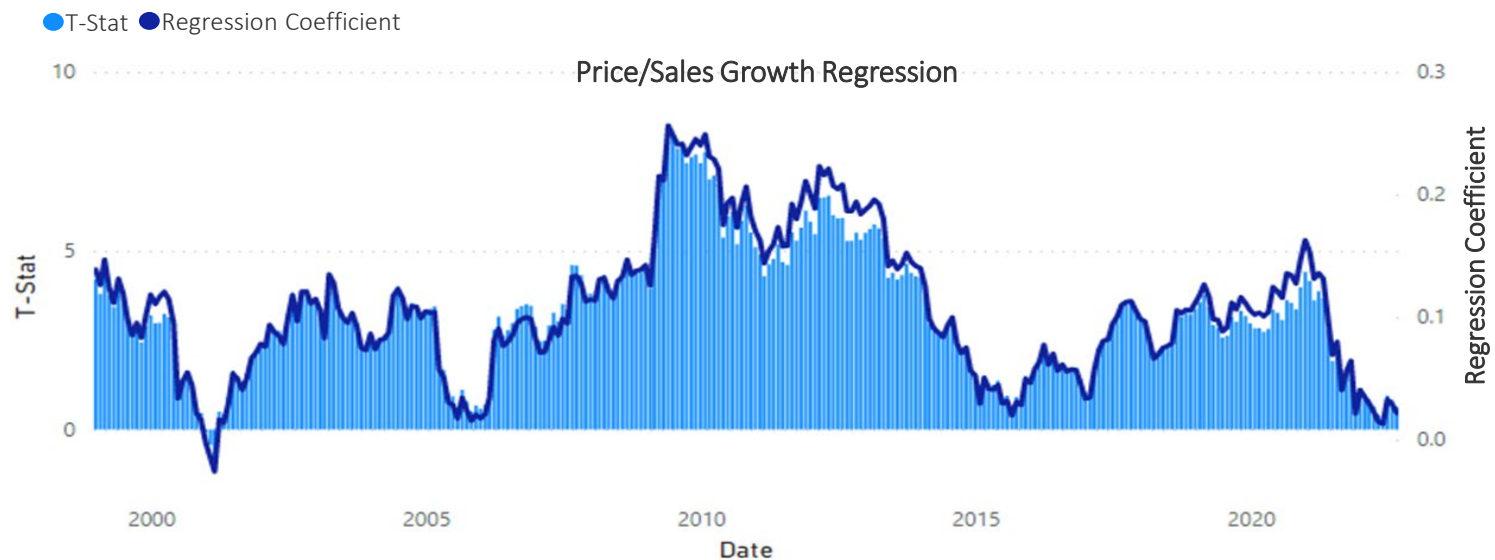
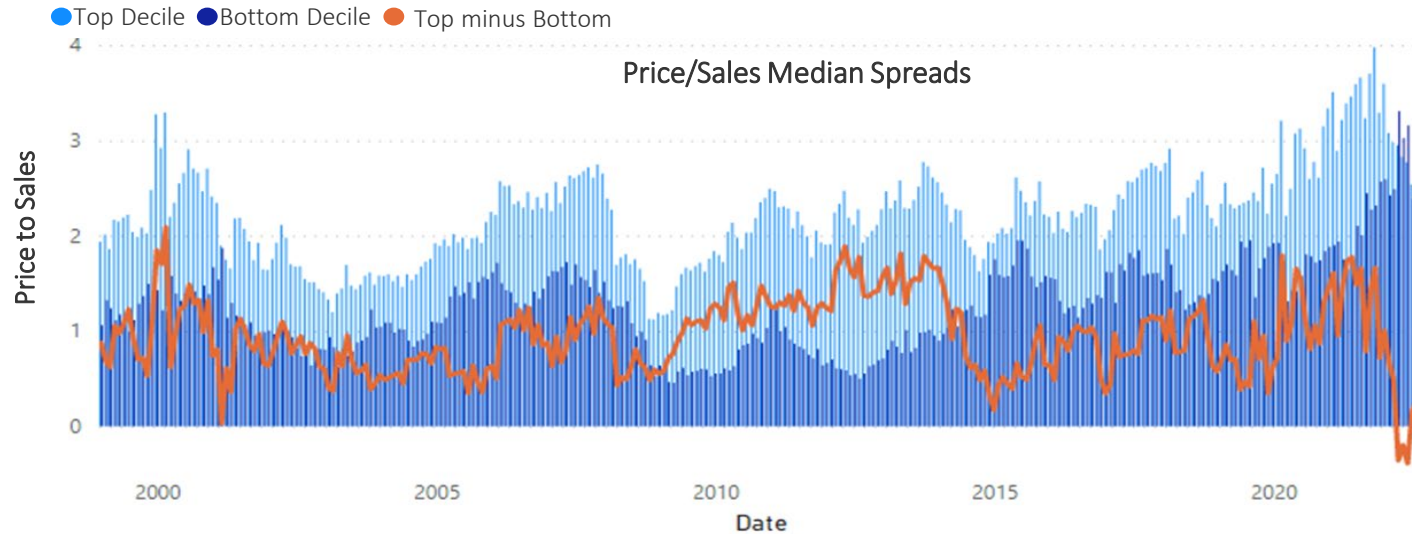
Based on gross of fees returns. Past performance is not indicative of future results.

# Alpha Model Valuation Category – International Equity Universe



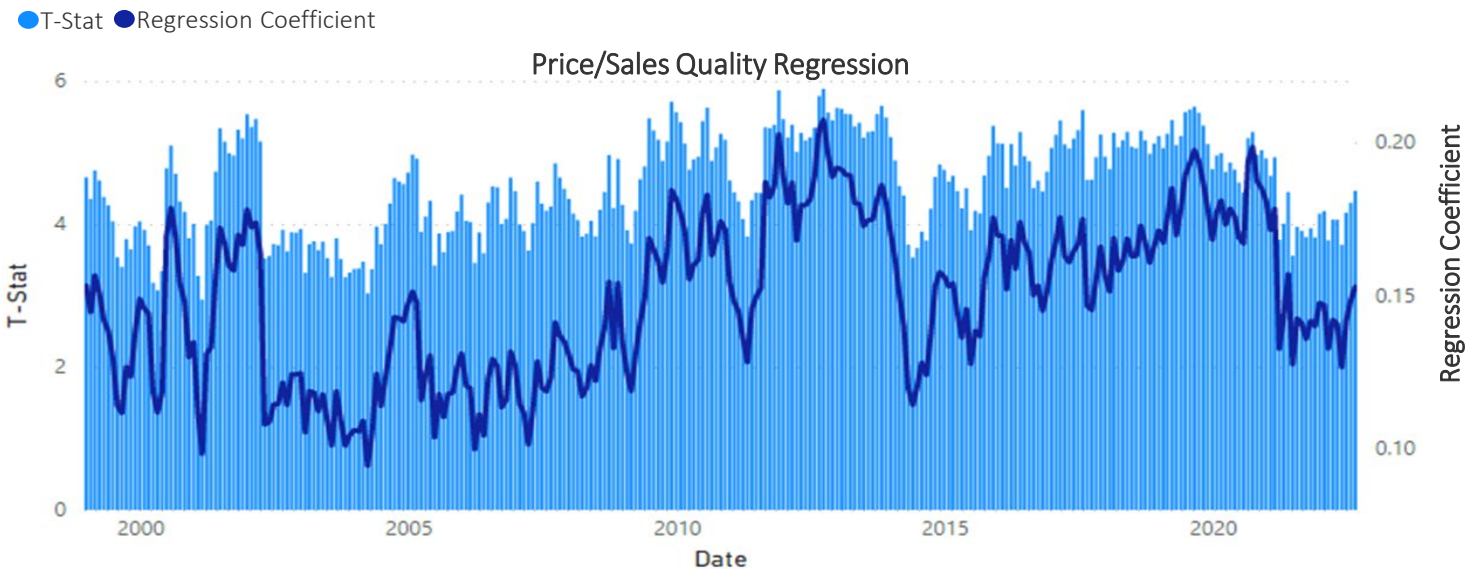
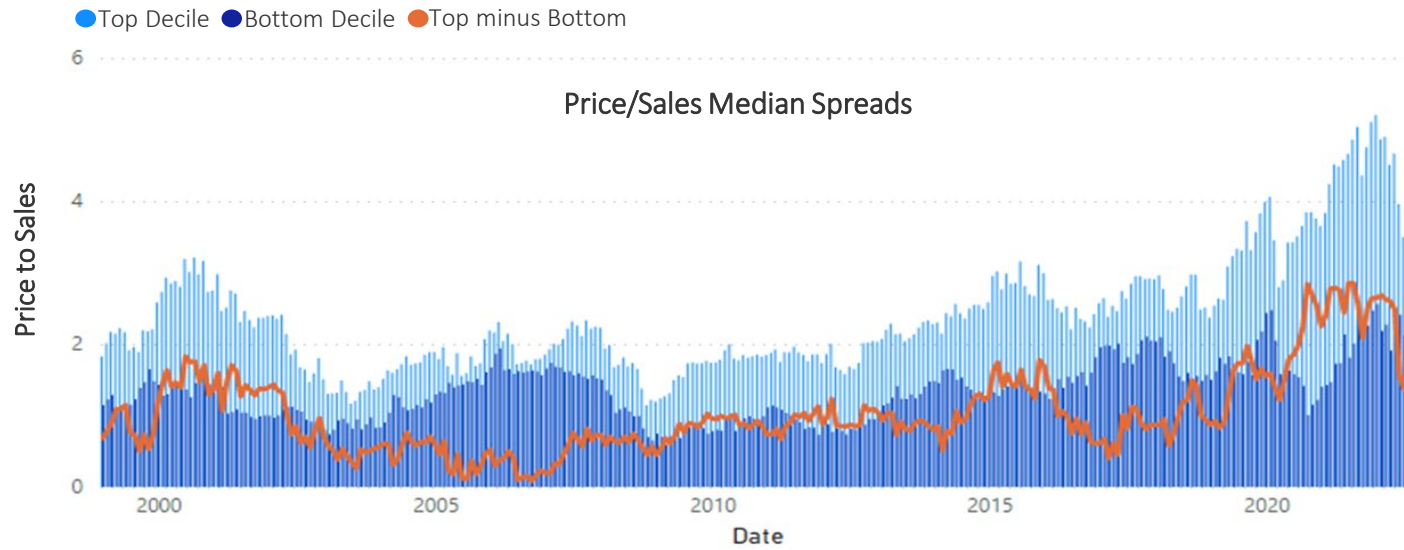
Source: FactSet, SGA. Analysis period: December 31, 1999 through August 31, 2022. Decile characteristics are based on SGA's Stock Selection Model using the International Equity universe. See Alpha Model Factor Spreads Disclosure.

# Alpha Model Quality Category – International Equity Universe



Source: FactSet, SGA. Analysis period: December 31, 1999 through August 31, 2022. Decile characteristics are based on SGA's Stock Selection Model using the International Equity universe. See Alpha Model Factor Spreads Disclosure.

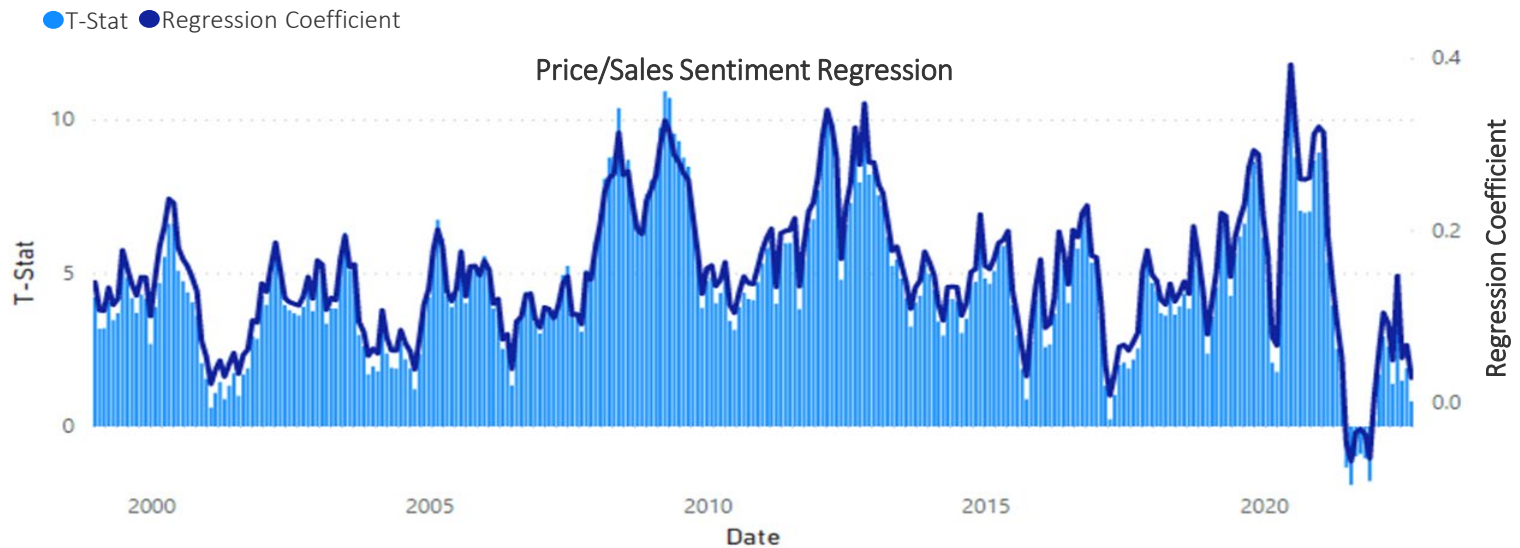
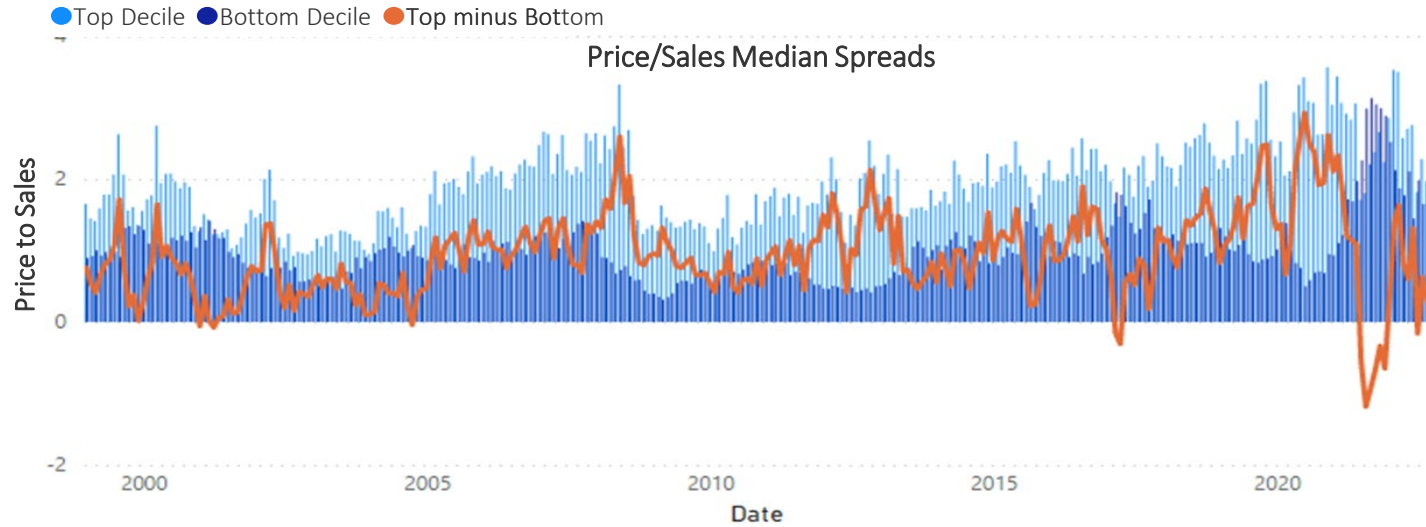
# Alpha Model Growth Category – International Equity Universe



Source: FactSet, SGA. Analysis period: December 31, 1999 through August 31, 2022. Decile characteristics are based on SGA's Stock Selection Model using the International Equity universe. See Alpha Model Factor Spreads Disclosure.



# Alpha Model Sentiment Category – International Equity Universe



Source: FactSet, SGA. Analysis period: December 31, 1999 through August 31, 2022. Decile characteristics are based on SGA's Stock Selection Model using the International Equity universe. See Alpha Model Factor Spreads Disclosure.

### **Cynthia Tusan, CFA** (33 years of Investment Experience)

Ms. Tusan is Chief Executive Officer and a Senior Portfolio Manager of SGA. Her investment career spans three decades, including 16 years with Wells Fargo where she began in 1989 as a Senior Portfolio Manager. In 1996, Ms. Tusan started the Risk Management Group for Wells Capital Management, and eventually led their international equity team in running close to \$1.5 billion in international equity assets. Ms. Tusan earned her BA in Economics from Bryn Mawr College and her MBA from the Anderson School at UCLA. She is a CFA charter holder and is a member of the CFA Society of Los Angeles and the CFA Society of Orange County.

### **Gary Baierl, PhD** (24 years of Investment Experience)

Dr. Baierl is the Chief Investment Officer of SGA. Previously, he served as the Director of Quantitative Research at Causeway Capital Management where he developed the quantitative screens and the risk model used by the firm in their stock selection and portfolio construction processes. In addition, he launched and managed their quantitative market neutral international equity hedge fund. Prior to Causeway, Dr. Baierl was Head of Quantitative Research at Hotchkis and Wiley and also was a Senior Consultant in the Research Group at Ibbotson Associates. Dr. Baierl earned his PhD in Managerial Economics and Decision Science from Northwestern University and BA in Mathematics and Economics from Boston University.

### **Mark Wimer, CFA** (27 years of Investment Experience)

Mr. Wimer joined SGA in 2008 and is a Senior Portfolio Manager. Prior to joining the firm, he was a Portfolio Manager for both quantitatively-driven domestic and international equity strategies at BMO Global Asset Management in Chicago. Previously, he developed quantitative stock selection models for Chicago Investment Analytics. Prior to that,

Mr. Wimer performed investment research in the areas of stock selection, asset allocation, and manager selection at Ibbotson Associates. He also spent three years at Barra RogersCasey, an institutional investment consulting firm. Mr. Wimer earned his BS in Computer and Electrical Engineering from Purdue University, MBA from the Johnson School at Cornell University, and is a member of the Chicago Quantitative Alliance.

### **Cherie Badri, CFA** (27 years of Investment Experience)

Ms. Badri joined SGA in 2006 and is the firm's Director of Fundamental Research and a Senior Portfolio Manager. Her responsibilities include portfolio management and fundamental company analysis. Ms. Badri spent over eight years as a Senior Associate Research Analyst at William Blair & Company in Chicago. Previously, she was an Analyst at Picoco in Newport Beach where she co-managed a fund focused on small-cap companies. Ms. Badri earned her BA in Economics from Northwestern University and both her MBA and MS in Finance from the University of Illinois at Urbana-Champaign. She is a CFA charter holder and is a member of the CFA Society of Orange County.

### **Brendan Skarra-Corson, CFA** (15 years of Investment Experience)

Mr. Skarra-Corson joined SGA in 2012 and is a Senior Portfolio Manager. His responsibilities include portfolio management and alpha model factor research. He joined the firm in 2012 after completing a Master of Financial Engineering (MFE) degree at the University of California, Berkeley. Mr. Skarra-Corson worked at INDATA Services, LLC where he led a team that implemented solutions to meet the financial technology needs of asset managers. He also earned his BA in Economics and Mathematics from University of California, San Diego. Mr. Skarra-Corson is a CFA charter holder and member of the Orange County CFA Society.

### **David Cai, CFA** (10 years of Investment Experience)

Mr. Cai joined SGA in 2015 and is Director of Quantitative Research. His responsibilities include alpha model and risk model factor research. Prior to joining the firm, Mr. Cai served as a Trader and Researcher at Henning & Carey Proprietary Trading in Chicago, where he traded U.S. fixed income products, modeled the Treasury yield curve, and researched new strategies. Mr. Cai brings skills that combine quantitative modeling, data analysis, and macroeconomic analysis to SGA. Mr. Cai earned his BBA in Finance and Mathematics from the University of Wisconsin, Madison and Master in Financial Engineering (MFE) from the University of California, Berkeley.

### **Quang Ngu, CFA** (12 years of Professional Experience)

Mr. Ngu joined SGA in 2020 as a Quantitative Analyst. He was previously an intern with the firm where his focus was on expanding the functionality of our simulation platform. His on-going responsibilities include portfolio optimization and the researching of alpha signals and risk factors. Prior to joining the firm, Mr. Ngu was a lead engineer at the Boeing Company for over a decade, where he specialized in quantitative modeling and simulation, research and software development within Boeing's Satellite Division. Mr. Ngu earned his BS in Electrical Engineering from the University of Hawaii at Manoa, a MS in Electrical Engineering and an MBA from the University of California at Los Angeles (UCLA), and a Master of Financial Engineering (MFE) from the University of California at Berkeley (UCB).

### **Vaibhav Kumar, CFA** (12 years of Investment Experience)

Mr. Kumar joined SGA in 2015 and is a Senior Quantitative Analyst. His responsibilities include alpha factor research as well as model and systems development. Prior to joining the firm, he created risk and stress testing models for Goldman Sachs' Market Risk division and co-founded Quark Analytics, a high frequency trading firm, where he developed a low latency trade execution environment for select exchanges. Mr. Kumar spent three years with Microsoft R&D as a software developer where he designed and developed network security modules for Windows 7 in C++ before pursuing a career in finance. He earned his Integrated Master in Mathematics and Computing from IIT Kharagpur and Master in Financial Engineering (MFE) from the University of California, Berkeley.

### **Xiyuan Dong** (2 year of Investment Experience)

Ms. Dong joined SGA full time in 2021 as a Quantitative Analyst. She previously worked as an intern with SGA, focusing on utilizing Machine Learning (AI) tools in investment research and improving the firm's research platform. Her on-going responsibilities include factor and portfolio research as well as systems development. Prior to joining SGA, Ms. Dong gained extensive internship experience in the investment industry as a quantitative researcher and in the insurance industry as an actuary. Ms. Dong earned her BBA in Actuarial Science and Statistics from the Chinese University of Hong Kong and Master of Financial Engineering (MFE) from the University of California, Los Angeles (UCLA).

### **Adam Hauptman, CFA** (16 years of Investment Experience)

Mr. Hauptman joined SGA in 2016 and is a Senior Fundamental Analyst and Associate Portfolio Manager. His responsibilities include performing fundamental reviews of new ideas generated by the quantitative model and portfolio management. Prior to joining the firm, he spent over five years as a Research Analyst at Kayne Anderson Capital in Los Angeles, primarily focused on large-cap global equities and equity derivatives. Mr. Hauptman was a Portfolio Manager at ASNY Asset Management. He also worked as an Analyst at Solios Asset Management. Mr. Hauptman began his career at Levitan & Associates in Boston as an Energy Economics Management Consultant. He holds a certificate in Sustainable Capitalism and ESG from the Berkeley Law Executive Education Program. He is a CFA charter holder and earned his BSc degrees in Mathematics and Philosophy from the Massachusetts Institute of Technology.

### **Sylvester Malapas, CFA** (14 years of Investment Experience)

Mr. Malapas joined SGA in 2016 and is a Senior Fundamental Analyst and Associate Portfolio Manager. His responsibilities include performing fundamental reviews of new ideas generated by the quantitative model and portfolio management. In his previous role, he was a Credit Analyst at Standard & Poor's Ratings Services in San Francisco where he focused on high yield credits within the software and services technology sector. Prior to that position, he spent four years at Merrill Lynch Bank of America where he supported the trading desk and compliance officer. Mr. Malapas earned his BA in Economics from the University of California, Irvine, and MBA from the Johnson School at Cornell University. He is a CFA charter holder and a member of the CFA Society of Orange County.

### **Brett Darragh, CFA** (7 years of Investment Experience)

Mr. Darragh joined SGA in 2019 and is a Senior Fundamental Analyst. His responsibilities include performing fundamental reviews of new ideas generated by the quantitative model. Most recently, he was an equity research associate at Northland Securities in Newport Beach, CA where he primarily focused on the energy sector. Prior to Northland Securities, he was an associate financial analyst at TCW and Space Systems Loral. Brett received his BS in Business Administration from Cal Poly San Luis Obispo and is a member of the CFA Society of Orange County.

### **Stephen Smith** (28 years of Investment Experience)

Mr. Smith joined SGA in 2016 and is Head Trader, responsible for managing the trading process for all SGA portfolios. Prior to joining the firm, Mr. Smith was Managing Director, Head of Trading for Tradewinds Global Investors, LLC where he oversaw global trading including developed, emerging, and frontier markets. Mr. Smith worked as Head Trader for Morgan Stanley's NYC based Emerging Markets Equity Trading Desk. He started his career with stints trading ASEAN region stocks from Hong Kong and Singapore for Morgan Stanley and trading NASDAQ stocks from New York City for Fleet Securities. He earned his BA from Bucknell University.

**Professor Richard Frankel** joined SGA’s Advisory Board in April 2007. Professor Frankel is the Beverly and James Hance Chair Professor of Accounting at Washington University in St. Louis and has taught at Olin since 2005. Prior to that, he was a Professor at the MIT Sloan School of Management and the University of Michigan (Ross School). At Michigan and MIT, he received the MBA Student Awards for Teaching Excellence. In 2003, he received the American Accounting Association, Notable Contribution Award with Charles Lee. He received first place awards in the I/B/E/S 25th Anniversary Global Expectation Research Competition (1996) and the Chicago Quantitative Alliance Earnings Expectation Research Competition (1995). His principal teaching interest is financial accounting and reporting. His research focuses on valuation using accounting numbers and on corporate managers’ use of conference calls, earnings forecasts, and pro-forma earnings. Professor Frankel earned his BS, MAS, and CPA from University of Illinois and his PhD from Stanford University.

**Professor Richard Sloan** joined SGA’s Advisory Board in December 2018. Professor Sloan is Accounting Circle Professor of Accounting for the Leventhal School of Accounting at the University of Southern California. Prior to that, he was Chaired Professor of Accounting at the University of California at Berkeley (Haas School of Business). From 2006 to 2009, Professor Sloan was a Managing Director in Equity Research at Barclays Global Investors. He has also held academic positions at the University of Michigan (Ross School) and the University of Pennsylvania (Wharton School). While at the University of Michigan, Professor Sloan was the founding director of the Tozzi Electronic Business and Finance Center.

His expertise has focused on the role of accounting information in investment decisions and he won the 2001 Account Literature Award for his research on earnings quality. Professor Sloan has authored numerous peer-reviewed articles, his own textbook [Equity Valuation and Analysis with eVal](#) and recently received a Lifetime Achievement Award from the American Accounting Association, Financial Accounting and Reporting Section (2018). Professor Sloan earned a Bachelor of Commerce with First Class Honors at the University of Western Australia and his MS and PhD Business Administration (Accounting and Finance) from the W.E. Simon Graduate School of Business at University of Rochester.

### **Brett Gallagher** (39 years of Investment Experience)

Mr. Gallagher is President of SGA. Prior to joining the firm, he was a partner and served as Director of Research and Acquisition at Nile Capital Group, a Los Angeles-based private equity firm. Previously, he served as Deputy CIO at Artio Global Investors/Julius Baer Investment Management where he conducted macro-economic analysis, was Co-Head of the Global Equity team, and worked closely with the risk management and trading teams. Prior to his 14 years at Artio Global Investors, Mr. Gallagher was Head of Investment Management Asia for JP Morgan Private Bank in Singapore and Head of Global Equity for Bankers Trust International Private Bank. His responsibilities included the development of asset management and research processes, global asset allocation strategies, and economic analysis. Earlier in his career, Mr. Gallagher was an Analyst with Irwin Management Company where he was responsible for the selection and evaluation of external managers, as well as financial oversight for Venture Capital investments. Mr. Gallagher has appeared numerous times on CNBC, Bloomberg, and Fox Business News as well as having been quoted in The Wall Street Journal. He was also a guest lecturer at Yale University. Mr. Gallagher received his BA in Economics from the University of Virginia and his MBA from The Darden Graduate School of Business. He is currently a member of the Board of Managers and Chair of the Investment Committee for the University of Virginia Alumni Association.

### **Joel Reynolds** (27 years of Investment Industry Experience)

Mr. Reynolds is Chief Compliance Officer at SGA and responsible for all of the firm's compliance functions. Prior to joining SGA, Mr. Reynolds was Senior Vice President, Senior Compliance Officer at PIMCO for more than eight years, where he was responsible for managing core functions related to regulatory and investment compliance, including personal trading, portfolio compliance, client certifications, and compliance training. Previously, Mr. Reynolds was a vice president in compliance at Income Research & Management and held compliance positions with Geode Capital Management and Fidelity Investments. He has 18 years of compliance experience, holds a JD from Suffolk University Law School, and an MBA from Babson College. He received his undergraduate degree in Economics from the University of Utah. He is admitted to the bar in Massachusetts and Arizona.

### **Elyse Waldinger** (26 years of Investment Industry Experience)

Ms. Waldinger is Chief Operating Officer at SGA and is responsible for the firm's operations and technology functions. Prior to joining SGA, Ms. Waldinger was Partner/Chief Operating Officer/Chief Compliance Officer at R Squared Capital Management. Previously, she was the Head of Trading and Portfolio Support, Equities at Artio Global Management. Prior to joining Artio in 2000, she was a Sales Assistant on the Municipal Bond Trading Desk at Morgan Stanley for three years and a Portfolio Assistant with Burnham Securities for two years. Ms. Waldinger received a BS from AB Freeman School of Business, Tulane University.

### **R. Barney Walker** (29 years of Investment Industry Experience)

Mr. Walker is Director of Institutional Investments, responsible for developing and managing new partnerships in the Northeastern U.S., as well as internationally. Prior to joining the firm, Mr. Walker was a Partner at Aligned Asset Managers, LLC where they provided growth equity capital and distribution expertise to their member firms. Previously, Mr. Walker was a Senior Vice President at Artio Global Investors, LLC (f/k/a Julius Baer Investment Management, LLC) where he shared leadership for new business and client service from 2002-2012. Mr. Walker started his career at Ark Asset Management, Inc. where he worked from 1996-2002 holding various institutional new business/client service roles after spending two years as a junior member of the portfolio team. He earned his BS from Boston College.

### **Ulana Blahy** (10 years of Investment Industry Experience)

Ms. Blahy joined SGA's marketing team in 2021 as a Senior Associate of Institutional Investments. She is responsible for leading SGA's Client Service efforts and supporting the firm's Northeastern U.S. and international business development initiatives. Prior to joining the firm, Ms. Blahy was Vice President of Client Service at Solus Alternative Asset Management. Previously, she gained experience in investor relations at Indus Capital Partners. Ms. Blahy earned her MBA from Gabelli School of Business at Fordham University and BA in Communications and Media Studies from Fordham University.

### **John Dewey** (21 years of Investment Industry Experience)

Mr. Dewey is Director of Institutional Investments, responsible for business development efforts with institutional plan sponsors and consulting firms throughout the Western United States. Prior to joining the firm, he led Australia-based Magellan's North American business development and client service team. Mr. Dewey's prior experience also includes serving as a product specialist in both Defined Contribution and Equities while at PIMCO, as well as helping lead the expansion of Capital Guardian's middle market institutional business. Mr. Dewey earned his MBA from Santa Clara University and BA in Political Science from the University of California, Los Angeles.

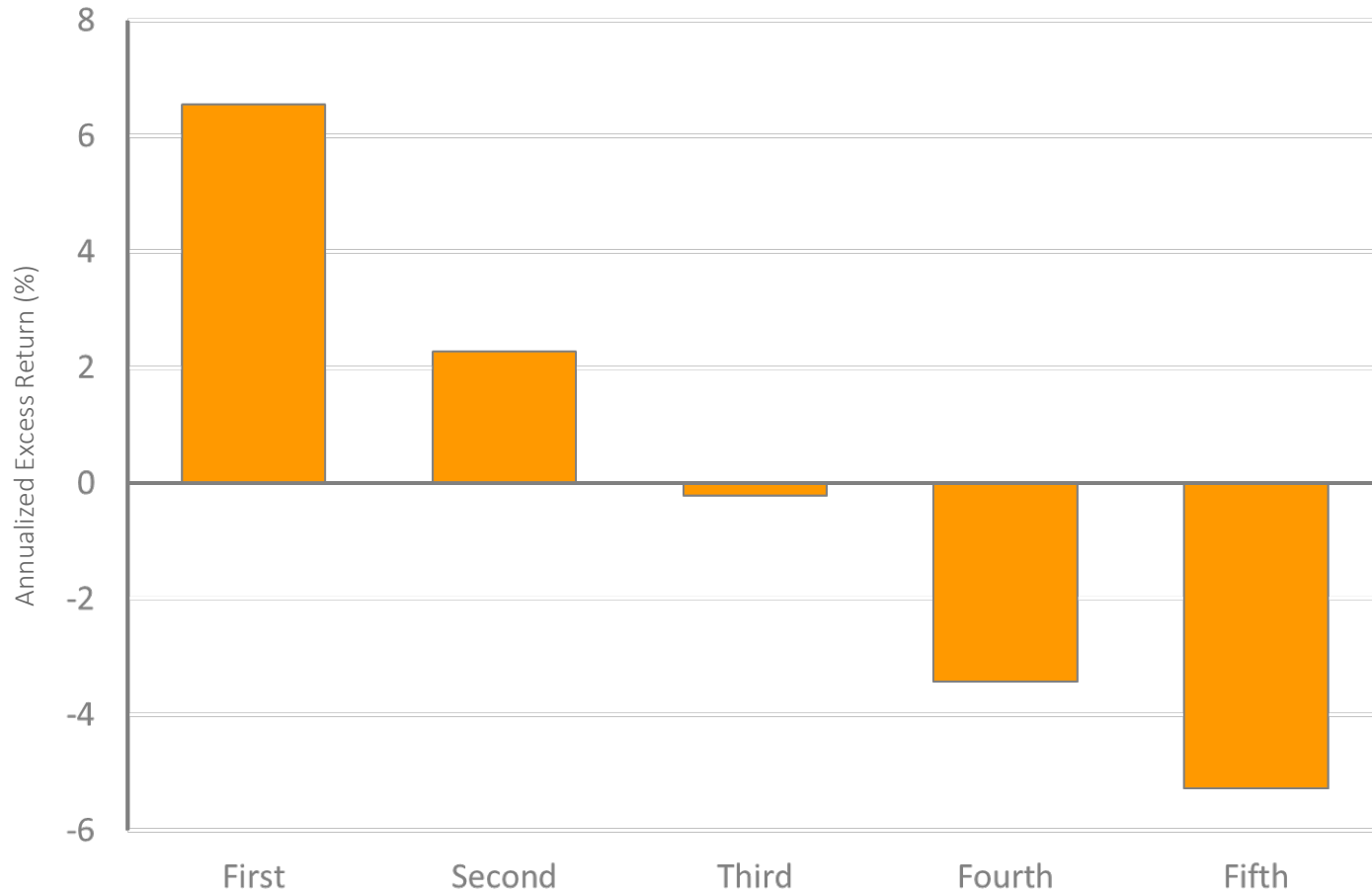
### **Anne Pillsbury** (7 years of Investment Industry Experience)

Ms. Pillsbury joined SGA in 2018 and is Head of Client Analytics. She is responsible for responding to client and prospect requests as well as producing marketing and client service analytics, commentaries and materials. Prior to joining the firm, Ms. Pillsbury was a Senior Consultant with FactSet Research Systems supporting institutional asset managers in their use of FactSet market data and analytics. Ms. Pillsbury is a CFA Level 3 candidate and earned her BS in Economics from the University of St Andrews.



### SGA Stock Selection Model Quintile Performance

Average Annualized Excess Returns Utilizing Quarterly Rebalancing From January 1988 Through September 2022



Source: FactSet, SGA

Returns are presented net of fees calculated using the highest applicable annual management fee of 0.85% applied quarterly. Quintile performance returns are based on performance of SGA's Stock Selection Model over Equal-Weighted International ACWI ex-U.S. Equity universe. Past performance is not indicative of future results. Please see the additional information contained in the GIPS® Report, which is located at the end of this presentation.



## Alpha Model International ACWI ex-U.S. Equity Universe

These Alpha Model backtests are hypothetical and do not reflect actual or intended implementation of a portfolio by SGA. They are presented as a simplified demonstration of the historical influence of the Alpha Model on SGA's investment process and were achieved by means of the retroactive application of an investment process that was designed with the benefit of hindsight. Thus, the performance results noted should not be considered indicative of the skill of the advisor or its investment professionals. The back-tested performance was compiled after the end of the period depicted and does not represent the actual investment decisions of the advisor. In addition, back-tested performance results do not involve financial risk, and no hypothetical trading record can completely account for the impact of financial risks associated with actual investing. There is no guarantee that SGA's live strategies will capture fully or in part the excess returns estimated here. Furthermore, SGA does not guarantee the accuracy of these estimates or methodology. SGA believes the backtest analysis provides important insights for SGA in thinking about and designing the firm's investment process. SGA applies both quantitative and qualitative approaches to portfolio management, which may vary depending on market conditions and impact the firm's ability to capture the alpha indicated by these backtests.

There are limitations inherent in backtested model results, particularly the fact that such results do not represent actual trading and that they may not reflect the impact that material economic and market factors might have had on portfolio decision making in a live client account. SGA did not manage any live accounts during the entire backtest period. The results portrayed reflect the reinvestment of dividends and other earnings.

International equity investing includes the possibility of loss. Equal-weighted quintile returns by SGA Alpha are compared to the equal-weighted large cap universe.

SGA encourages clients and prospects to seek independent sources of analysis in assessing SGA's returns and process. For additional information on the calculation methodology please contact Strategic Global Advisors, LLC at 949.706.2640.

- Time period January 1988 – September 2022
- Formed equal-weighted quintiles based on SGA Alphas
- Quarterly rebalancing with no transaction costs
- Included: Developed and Emerging countries
- Sector definitions used are Global Industry Classification Standard (GICS®)
- The universe of securities for SGA's ACWI ex-U.S. Equity strategy includes approximately 2,000-2,500 companies in both developed and emerging markets that meet market relative market capitalization and internal liquidity requirements.
- Market cap cutoff was determined through time this way:
  - The top 10% of companies in the universe as measured by market cap at each given period
  - The approximate number of companies in International ACWI ex-U.S. Equity universe varies significantly over time and in comparison to the universe used when constructing actual client portfolios

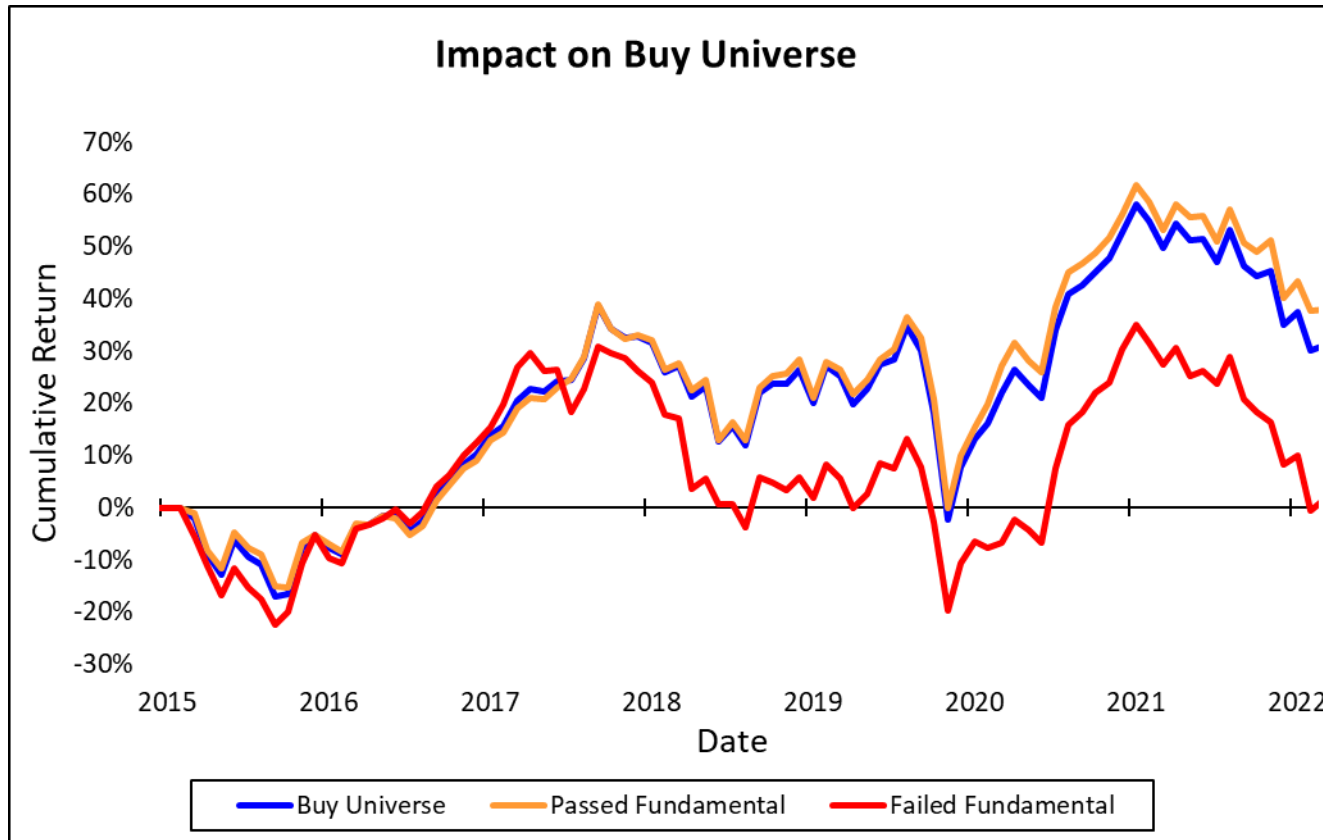
The volatility of the equal-weighted universe may be materially different from that of all quintile returns by SGA Alpha.

Source: FactSet, SGA

Past performance is not indicative of future results. Returns are presented net of fees calculated using the highest applicable annual management fee of 0.85% applied quarterly.

This is supplemental information to the GIPS® Report.

Impact of SGA Fundamental Analysis on Buy Universe, 06/2015 – 9/2022



Buy Universe includes securities which are eligible for inclusion in the SGA International ACWI ex-U.S. Equity strategy up for review as new buys in the past six months. Source: FactSet, SGA. Past performance is not indicative of future results. Buy Universe, Passed Fundamental, and Failed Fundamental are reduced by the highest applicable annual management fee of 0.85% applied monthly. Please see Appendix for additional information regarding "Fundamental Analysis and Process Performance Attribution Charts."

# SGA International ACWI ex-U.S. Equity

## Process Performance Attribution



INTERNATIONAL ACWI EX-U.S. EQUITY (6/30/2015 – 9/30/2022)	RETURN	VOLATILITY	TE
Equal-Weighted Buy Universe	2.04%	16.27%	4.49%
Equal-Weighted Passed Fundamental	2.59%	16.13%	4.61%
Equal-Weighted Failed Fundamental	-1.02%	18.48%	8.66%
SGA Strategy Composite (gross of fees)	1.56%	15.24%	2.70%
SGA Strategy Composite (net of fees)	0.66%	15.23%	2.69%
MSCI ACWI ex USA Index (Net)	1.35%	15.32%	0.00%

“Return” = annualized gross of fees return

“Volatility” = annualized standard deviation

“TE” = annualized tracking error to the strategy benchmark

Buy Universe, Passed Fundamental, and Failed Fundamental are reduced by the highest applicable annual management fee of 0.85% applied monthly. Composite net of fees performance was calculated using the highest applicable annual management fee as described in the GIPS® Report. Please see the additional information contained in the GIPS® Report, which is located at the end of this presentation. Please see Appendix for additional information regarding “Fundamental Analysis and Process Performance Attribution Charts.” Past performance is not indicative of future results.

Strategic Global Advisors, LLC (SGA) claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. SGA has been independently verified for the periods December 1, 2005 through December 31, 2021. A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. The verification report(s) is/are available upon request.

Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. Verification does not provide assurance on the accuracy of any specific performance report.

SGA's International Equity, International SMID Cap Equity, and U.S. Large Cap Equity composites have been examined from the inception of each composite through December 31, 2021. SGA's International Small Cap Equity composite has been examined from January 1, 2014 through December 31, 2021.

SGA is an independently registered investment advisor. Registration does not imply any level of skill or training. A list of all composite and pooled fund investment strategies offered by the firm, with a description of each strategy, is available upon request. The type of portfolios in which each strategy is available (segregated account, limited distribution pooled fund, or broad distribution pooled fund) is indicated in the description of each strategy. Results are based on fully discretionary accounts under management, including those accounts no longer with the firm. Composite performance is presented net of foreign withholding taxes on dividends, interest income, and capital gains. Withholding taxes may vary according to the investor's domicile. Composite returns represent investors domiciled primarily in the United States.

The U.S. dollar is the currency used to express performance. The following returns are presented gross and net of management fees and include the reinvestment of all income.

The annual composite dispersion presented is a gross of fees asset weighted standard deviation calculated for the accounts in the composite the entire year and is only presented for periods with more than five accounts in for the entire year. Policies for valuing investments, calculating performance, and preparing GIPS Reports are available upon request.

Past performance is not indicative of future results.

GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

## Systematic Investment Risk

There is potential for shortfall in any investment process due to a variety of factors including, but not limited to, data and system imperfections, analyst judgment, and the complex nature of designing and implementing portfolio construction systems and other quantitative models. Such shortfalls in systematic or quantitative processes in particular pose broader risk because they may be more pervasive in nature.

Furthermore, the Advisor's systems may not necessarily perform in a manner in which they have historically performed or were intended to perform. The Advisor recognizes that such shortfalls are inherent to both fundamental and quantitative processes and believes that combining both approaches improves the opportunity to reduce these shortfalls. However these efforts may not necessarily result in the identification of profitable investments or the management of risk.

# SGA International Equity GIPS® Report

YEAR END	TOTAL FIRM ASSETS (\$MM)	COMPOSITE ASSETS			ANNUAL PERFORMANCE RESULTS				3-YEAR ANNUALIZED EX-POST STANDARD DEVIATION***	
		USD (\$MM)	# OF ACCTS	% OF WRAP ACCOUNTS	COMPOSITE GROSS**	COMPOSITE NET	MSCI EAFE INDEX (NET)	COMPOSITE DISPERSION	COMPOSITE GROSS	MSCI EAFE INDEX (NET)
2021	4,365	1,246	7	2%	13.20%	12.35%	11.26%	N/A	17.47%	17.16%
2020	5,045	2,112	10	2%	4.87%	4.07%	7.82%	0.11%	18.25%	18.14%
2019	5,139	2,037	11	2%	19.76%	18.88%	22.01%	0.66%	11.63%	10.96%
2018	3,944	1,603	15	3%	-15.34%	-15.98%	-13.79%	0.21%	11.32%	11.40%
2017	4,085	1,996	13	2%	25.28%	24.13%	25.03%	0.62%	11.37%	12.00%
2016	3,023	955	12	6%	0.43%	-0.57%	1.00%	0.11%	12.14%	12.64%
2015	2,548	792	8	5%	2.11%	1.10%	-0.81%	0.10%	11.99%	12.64%
2014	1,141	88	6	45%	2.59%	1.57%	-4.90%	0.19%	12.26%	13.21%
2013	715	73	5	51%	26.39%	25.16%	22.78%	N/A	15.30%	16.48%
2012	441	58	5	52%	19.97%	18.80%	17.32%	N/A	18.16%	19.65%
2011	313	38	5	66%	-6.39%	-7.32%	-12.14%	N/A	21.11%	22.75%
2010	153	40	5	67%	12.47%	11.36%	7.75%	N/A	26.48%	26.61%
2009	145	35	5	66%	34.60%	33.29%	31.78%	N/A	24.44%	23.91%
2008	128	33	5	73%	-45.58%	-46.15%	-43.38%	N/A	20.99%	19.51%
2007	109	46	5	100%	8.17%	7.10%	11.17%	N/A	N/A	N/A
2006	45	24	3	100%	32.67%	31.38%	26.34%	N/A	N/A	N/A
2005*	7	<1	1	0%	5.49%	5.41%	4.65%	N/A	N/A	N/A

N/A – Information is not statistically meaningful due to an insufficient number of portfolios in the composite for the entire year.

\*Performance represents a non-annualized partial period return beginning on November 30, 2005.

\*\*Beginning January 1, 2017, pure gross returns are shown as supplemental information for bundled fee accounts and are stated gross of all fees and transaction costs.

\*\*\*The 3-year annualized ex-post standard deviation is not shown when there are not 36 monthly performance returns available.

*International Equity Composite* includes all discretionary, equity only accounts whose primary investment objective is growth, and secondarily yield, and are invested in international large cap securities. The minimum account size for this composite is \$100 thousand. Key material risks include foreign company, currency, political, and economic events unique to a country or region that may affect those markets and their issuers. Beginning January 1, 2017, accounts in this composite may contain client-imposed investment restrictions. For comparison purposes, the composite is compared to the MSCI EAFE Net Index which includes large and mid-cap companies in developed market countries, excluding the U.S. and Canada. The MSCI EAFE Net Index uses withholding tax rates applicable to Luxembourg holding companies. The International Equity Composite was created and inception on November 30, 2005. Prior to December 31, 2016, the International Equity Composite was known as the International Large Cap Core Equity Composite.

Composite net of fees performance was calculated by reducing the gross of fees return by the maximum annual management fee of 0.70% applied monthly effective July 1, 2022. Prior to July 1, 2022, composite net of fees performance was calculated by reducing the gross of fees return by the maximum annual management fee of 0.75% applied monthly. Prior to October 1, 2017, composite net of fees performance was calculated by reducing the gross of fees return by the maximum annual management fee of 1.00% applied monthly. Bundled fee (or wrap fee) accounts are included in the composite, and those accounts pay a fee based on a percentage of assets under management, which besides brokerage commissions, this fee includes portfolio monitoring, consulting services, and in some cases, custodial services. From November 30, 2005 through December 31, 2016, gross and net returns have been reduced by the fees for these services. Beginning January 1, 2017, pure gross returns are shown as supplemental information for bundled fee accounts and are stated gross of all fees and transaction costs. Please note that the maximum annual management fee for the respective period may differ from the actual investment advisory fees incurred by clients.

From September 30, 2013 to March 31, 2014, composite policy included two scenarios that require the temporary removal of any portfolio due to a client initiated significant cash inflow or outflow: 1) When the cash inflow or outflow represents from over 5% to 10% of portfolio assets and it takes longer than five trading days to reduce cash levels to less than 5%, and 2) When the cash inflow or outflow represents more than 10% of portfolio assets. The temporary removal of such an account occurs at the beginning of the month in which the significant cash flow occurs, and the account re-enters the composite at the beginning of the month after the cash level in the portfolio is reduced to less than 5%. Beginning June 1, 2019, the composite policy requires the temporary removal of any portfolio due to a client-initiated significant cash inflow or outflow, excluding securities received or delivered in kind when the cash inflow or outflow represented 10% or greater of the portfolio assets. Additional information regarding the treatment of significant cash flows is available upon request.

Past performance is not indicative of future results.

Maximum annual management fee is 0.70%; actual investment advisory fees incurred by clients may vary.

# SGA International ACWI ex-U.S. GIPS® Report

YEAR END	TOTAL FIRM ASSETS (MILLIONS)	COMPOSITE ASSETS		ANNUAL PERFORMANCE RESULTS				3-YEAR ANNUALIZED EX-POST STANDARD DEVIATION**	
		USD (MILLIONS)	NO. OF ACCOUNTS	COMPOSITE GROSS	COMPOSITE NET	MSCI ACWI EX USA INDEX (NET)	COMPOSITE DISPERSION	COMPOSITE GROSS	MSCI ACWI EX USA INDEX (NET)
2021	4,365	444	2	12.23%	11.28%	7.82%	N/A	16.64%	17.03%
2020	5,045	511	4	6.91%	5.99%	10.65%	N/A	17.81%	18.19%
2019	5,139	496	4	22.08%	21.06%	21.51%	N/A	12.27%	11.50%
2018	3,944	116	2	-14.72%	-15.45%	-14.20%	N/A	11.80%	11.54%
2017	4,085	136	2	29.59%	28.38%	27.19%	N/A	N/A	N/A
2016	3,023	105	2	1.61%	0.60%	4.50%	N/A	N/A	N/A
2015*	2,548	39	1	-6.97%	-7.44%	-9.32%	N/A	N/A	N/A

N/A – Information is not statistically meaningful due to an insufficient number of portfolios in the composite for the entire year.

\*Performance represents a non-annualized partial period return beginning on June 30, 2015.

\*\*The 3-year annualized ex-post standard deviation is not shown when there are not 36 monthly performance returns available.

*International ACWI ex-U.S. Equity Composite* includes all discretionary, investment restricted, equity only accounts whose primary investment objective is growth, and secondarily yield, and are invested in international large cap securities. The minimum account size for this composite is \$100 thousand. Key material risks include foreign company, currency, political, and economic events unique to a country or region that may affect those markets and their issuers. Moreover, investing in emerging markets securities are subject to heightened risks as these types of securities may have governments that are less stable, markets that are less liquid and economies that are less developed. For comparison purposes, the composite is compared to MSCI ACWI ex USA Net Index, which includes large and mid-cap companies outside the U.S. in developed and emerging market countries. The MSCI ACWI ex USA Net Index uses withholding tax rates applicable to Luxembourg holding companies. The International ACWI ex-U.S. Equity Composite was created and inceptioned on June 30, 2015. Prior to December 31, 2016, the International ACWI ex-U.S. Equity Composite was known as the International Large Cap Core Equity MSCI All Country World ex-U.S. Composite.

Composite net of fees performance was calculated by reducing the gross of fees return by the maximum annual management fee of 0.85% applied monthly effective October 1, 2017. Prior to October 1, 2017, composite net of fees performance was calculated by reducing the gross of fees return by the maximum annual management fee of 1.00% applied monthly. Please note that the maximum annual management fee for the respective period may differ from the actual investment advisory fees incurred by clients.

Beginning July 1, 2019, the composite policy requires the temporary removal of any portfolio due to a client-initiated significant cash inflow or outflow, excluding securities received or delivered in kind when the cash inflow or outflow represented 10% or greater of the portfolio assets. Additional information regarding the treatment of significant cash flows is available upon request.

Past performance is not indicative of future results.

Maximum annual management fee is 0.85%; actual investment advisory fees incurred by clients may vary.

### Investment Process

Pages in this presentation referring to investment process, portfolio construction, investment guidelines, research, portfolio characteristics, and portfolio positioning are for illustrative purposes only. Figures and statements on these pages are subject to change and may vary based on market conditions, strategy and client-specific constraints.

The “daily screening portfolio optimization” generally runs daily on the strategy’s universe subject to SGA’s strategy and client-specific constraints. The “Stock Selection Model” estimates industry relative score based on several factors and may be interpreted as expected relative return. The “Risk Model” estimates the risk profile of each stock based on SGA’s proprietary alpha and risk factors.

Fundamental analysis generally takes into consideration more areas than listed. The areas listed as well as areas not listed may singly or jointly impact an analyst’s decision. The judgment of experienced analysts is used to determine the importance of these areas and whether they constitute a high enough level of concern that a stock will be deemed ineligible for purchase.

Never invest based purely on our publication or information, which is provided on an “as is” basis without representations. Past performance is not indicative of future results.

### Stock Examples

Stock examples are intended for illustration purposes only. The actual company review may differ significantly in terms of model rankings, and the parameters for the fundamental review, including areas not listed on this page. Portfolio manager judgment, as well as, research accessed from a variety of sources may be used, alone and together. The rankings at the time of purchase and at the time of sale will vary significantly by security. There is no threshold by which a stock is purchased or sold and portfolio manager judgment at all times is a factor.

Percentiles are calculated for illustration purposes using SGA’s proprietary Alpha Model estimates, which are used to assess companies. Every company receives an alpha, which may be interpreted as a proxy for expected excess return or peer group rank.

Nothing published should be considered personalized investment advice, investment services or solicitation to buy, sell, or hold any securities.

Investments do not guarantee a positive return as stocks are subject to market risks, including the potential loss of principal.

# Strategic Global Advisors

## Alpha Model Factor Spreads Disclosure



Alpha Model values reflect the aggregate price to sales on SGA's historical factor category portfolios and do not reflect performance of any SGA portfolios. The referenced charts are used to illustrate the spreads between the median price to sales ratio of the highest decile ranked companies and the bottom decile ranked companies by our Alpha Model overall and within each of our four factor categories specified. SGA does not guarantee the accuracy of these estimates or methodology. SGA applies both quantitative and qualitative approaches to portfolio management, which may vary depending on market conditions.

International equity investing includes the possibility of loss.

SGA encourages clients and prospects to seek independent sources of analysis in assessing SGA's returns and process. For additional information on the calculation methodology please contact Strategic Global Advisors, LLC at 949.706.2640.

- T-Statistic = A measure of the likelihood that the actual value of the item being measured is not zero. The larger the absolute value of T, the less likely that the actual value could be zero. It is computed by dividing the average value by its standard error.
- Regression Coefficient = The coefficient that results from the univariate regression of company alpha scores (independent variable) against price to sales (dependent variable). This represents the relative cost/price of the Alpha Model, or the respective factor category, in terms of price to sales.
- The universe of securities for SGA's International Equity strategy includes approximately 2,000-2,500 companies in both developed and emerging markets that meet market relative market capitalization and internal liquidity requirements.
- Market cap cutoff was determined through time this way:
  - The top 10% of companies in the universe as measured by market cap at each given period
  - The approximate number of companies in International Equity universe varies significantly over time and in comparison to the universe used when constructing actual client portfolios
- Time period: January 1999 – August 2022
- Monthly Frequency
- Included: Developed and Emerging countries

Source: FactSet, SGA

This data in the referenced charts is to be used for illustrative purposes only and not indicative of future results.



## SGA Custom Attribution Disclosure

SGA has developed a holdings-based attribution analysis that decomposes portfolio returns into a set of categories based on SGA's proprietary risk and alpha factors. This type of performance attribution provides a different and more detailed breakdown of the sources of return than the traditional sector or country allocation versus stock selection approach. The attribution analysis provides valuable information by attempting to decompose portfolio performance into distinct categories, so the sources of performance can be identified. This attribution is unique to SGA as it uses our own internally developed software, Risk Model, and Alpha Model.

Holdings-based performance attribution, including SGA's, tends to be a better representation over longer periods such as a year or more and may be subject to errors in estimation. Over the longer time horizons, any short-term noise or temporary effect will tend to wash out and the attribution gives a more reliable analysis of the sources of return.

Prior to September 30, 2019, SGA's custom attribution was calculated by determining the pure returns to SGA's Risk and Alpha Factors by constructing a Factor Mimicking Portfolio ("FMP") for each alpha and risk factor which contemplated long and short positions. An FMP was calculated such that security weights multiplied by exposure were equal to a portfolio exposure of 1 and an exposure of 0 to all other factors. Using the weighted average of individual equity exposures, SGA attributed the monthly return of the FMP and benchmark to the SGA Risk and Alpha Factors. This process was repeated monthly and SGA calculated cumulative annualized results.

As of September 30, 2019, SGA updated the calculation methodology of its custom attribution. The FMPs were adjusted to contemplate only long positions for each alpha factor and each now has an exposure of 1 to the 3-month trailing average of the relevant SGA Alpha Factor. The change was made to ensure the return for the SGA Alpha model is relevant to the SGA strategy, which is long-only. SGA believes that using a 3-month average exposure to a factor also helps align the FMP to the SGA investment process where turnover is constrained.

As of April 30, 2021, SGA included an additional update to the calculation methodology of its custom attribution by: 1) calculating pure returns from the Sector, Region and Currency SGA Risk Model Factors; 2) then constructing long-only SGA Alpha Model FMPs to explain residual returns not explained by step 1; and 3) regressing the nine SGA Risk Model style factors on the residual returns not explained from steps 1 and 2. Prior to April 2021, SGA used a two-step

calculation process by regressing all SGA Risk Model Factors on company returns followed by calculating SGA Alpha Model FMPs to explain the residual returns from step 1. SGA believes that the update enhances the explanation of attribution and returns, particularly that the returns attributed to the SGA Alpha Model are not impacted by the SGA Risk Model style factors for which there is some correlation. For questions on the change in methodology, please contact SGA at (949) 706-2640.

SGA does not guarantee the accuracy of these estimates but believes that the additional analysis will provide important insights for investors. SGA applies both quantitative and qualitative approaches to risk management, which may vary depending on market conditions. The information in this report attributes return over this particular period to various sources and does not represent constraints or targets to risk factors. Results may look materially different over other time periods. The analysis is based on SGA's current alpha and risk factor definitions, which are subject to change over time as SGA adjusts its models. Therefore, past performance will be attributed based on current alphas and risk factors and their formulations. For allocations to historic alphas, please refer to past custom attribution reports. SGA encourages clients and prospects to seek independent sources of risk assessment and provide feedback on their risk preferences.

Time periods are noted on each Custom Attribution slide.

The results portrayed reflect the reinvestment of dividends and other earnings. International equity investing includes the possibility of loss. The volatility of the index may be materially different from that of the portfolio.

If so noted, analysis uses holdings and performance for a representative account invested in the named strategy. As with all representative portfolios, the performance may vary from other portfolios following the same strategy. The accounts are managed in a similar manner, and therefore, we believe these results accurately reflect the performance of the strategies represented.

This is supplemental information to the GIPS® Report, which is available upon request.

In preparing this presentation we have relied upon, and assumed without independent verification, the accuracy and completeness of all information available from public sources.

Source: FactSet, SGA

Past performance is not indicative of future results. Returns are presented gross of fees.

# Attribution Disclosure

## Attribution by Sector and Country



Time periods are noted on each SGA Attribution by Sector and Country slide.

Analysis uses holdings and performance for a representative account or the client's own account, as noted. In the case of a representative account, the performance may vary from other portfolios following the same strategy. The accounts are managed in a similar manner, and therefore we believe these results accurately reflect the performance of the relevant strategy.

The results portrayed reflect the reinvestment of dividends and other earnings. International equity investing includes the possibility of loss. The volatility of the index may be materially different from that of the portfolio.

The data used is derived from FactSet Portfolio Analysis. Returns will not precisely match composite returns or returns reconciled to the account's custodian due to the use of FactSet pricing, FactSet corporate actions, FactSet dividend reinvestment, and use of end of day holdings that do not account for trades not executed at closing prices.

Portfolio returns may vary from the composite returns due to several factors: holdings- rather than transaction-based attribution is used, pricing utilized MSCI net rather than actual pricing and tax withholding, and due to the fact the attribution is run on a representative portfolio rather than a composite of portfolios.

Excess returns reported by SGA are calculated by subtracting the annualized return of the benchmark from the annualized return of the SGA portfolio. Traditional attribution by FactSet is applied to cumulative returns of the benchmark versus cumulative returns of the portfolio, then annualizing the differences in cumulative return.

Due to limitations on the availability of holdings data, all benchmark data for periods prior to July 31, 2007 represent the historical returns for the benchmark holdings as of July 31, 2007.

In preparing this presentation we have relied upon and assumed without

independent verification, the accuracy and completeness of all information available from public sources.

This information is supplemental to the GIPS® Report.

Sources: FactSet, SGA

Past performance is not indicative of future results. Returns are presented gross of fees.

- Average weight: The portfolio average weight of a position reflects the average daily value of the position relative to all of the securities in the portfolio over the period.
- Total return: Total returns for the portfolio gross of fees. Total returns include the reinvestment of dividends and other earnings.
- Contribution to return: The portfolio contribution to return is calculated by multiplying the beginning weight of a security by the portfolio return.
- Allocation effect: Portion of portfolio excess return attributed to over or underweights relative to the benchmark. A group's allocation effect equals the weight of the portfolio's group minus the weight of the benchmark's group times the total return of the benchmark group minus the total return of the benchmark in aggregate.
- Selection effect: Selection effect is the portion of portfolio excess return attributable to choosing different securities within groups from the benchmark. A group's selection effect equals the weight of the benchmark's group multiplied by the total return of the portfolio's group minus the total return of the benchmark's group.
- Interaction effect: A group's interaction effect equals the weight of the portfolio's group minus the weight of the benchmark's group times the total return of the portfolio's group minus the total return of the benchmark's group.
- Total effect: The total effect represents the opportunity cost of an investment manager's investment decisions relative to the overall benchmark.

## Fundamental Analysis and Process Performance Attribution Charts

These charts represent SGA's tracking of fundamental analysis ratings, which impact the eligibility of stocks that can be considered for purchase in client portfolios. SGA began tracking fundamental analysis ratings as noted on the slide and so can not provide this information back to inception of the firm. The charts do not reflect actual or intended implementation of a portfolio by SGA. They are presented as a simplified demonstration of the historical influence of our fundamental analysis on SGA's investment process and were achieved by means of the retroactive application of an investment process that was designed with the benefit of hindsight. Thus, the performance results noted should not be considered indicative of the skill of the advisor or its investment professionals. The back-tested performance was compiled after the end of the period depicted and does not represent the actual investment decisions of the advisor. In addition, back-tested performance results do not involve financial risk, and no hypothetical trading record can completely account for the impact of financial risks associated with actual investing. There is not necessarily a correlation between the effectiveness of the fundamental review process depicted in these charts and the actual returns of client portfolios. While these charts show all potential new buys that were reviewed, client portfolios hold only a small subsection of these universes. Furthermore, there are many more factors that impact client portfolios such as optimization, which incorporates account and strategy restrictions, risk aversion assumptions, transaction costs, etc. Portfolio manager discretion will also significantly impact portfolios depending on market conditions. Nonetheless, SGA believes this analysis provides important insights into SGA's philosophy, process, and approach.

Past performance is not indicative of future results. Returns are presented net of fees calculated using the current highest applicable annual management fee applied monthly as described in the GIPS® Report.

The volatility of the index may be materially different from any portfolio or universe of securities shown.

This is supplemental information to the GIPS® Report. SGA encourages clients and prospects to seek independent sources of analysis in assessing SGA's returns and process. For additional information on the calculation methodology please contact Strategic Global Advisors, LLC at 949.706.2640.

### Methodology and Parameters:

- A "Buy Universe" is the "equal weighted portfolio" formed at the end of each month comprised only of new stocks that appear in the daily optimal portfolios for the trailing six months across related strategies. Developed market and emerging markets, as well as, securities restricted for certain client portfolios are included. The Buy Universe is then divided into two groups of "Passed Fundamental" and "Failed Fundamental" universes based on our ratings, each equally weighted. "Returns" for all three universes are calculated for the next month. At the end of that month, the universes are reformed in the same process described above, dropping names that appeared prior to the trailing six months.
- In the graphs, the monthly returns are cumulated while in the tables the cumulative returns are then annualized.
- Returns cover the time period specified in the chart title and start with the later of the product inception date or six months after the earliest month where ratings were tracked.
- Zero transaction costs.

Source: FactSet, SGA

There are limitations inherent in universe analysis, particularly the fact that such results do not represent actual trading and that they may not reflect the impact of implementation shortfall, as well as, material economic and market factors that may have an impact on portfolio decision making and market timing in a live client account. SGA did manage portfolios longer than the analysis period, however, returns only depict the time period listed on the chart. The results portrayed reflect the reinvestment of dividends and other earnings.

International equity investing includes the possibility of loss. Universe analysis is inherently a hypothetical model because it does not reflect actual trading and portfolio management decisions. Actual investor performance could be lower than the universe analysis.

Process Performance Attribution Tables follow the same methodology as used in the Fundamental Analysis Charts. Also included in the table are the corresponding SGA Strategy Composite (gross and net of fees) and the benchmark for the strategy. Statistics shown are:

- Annualized total return over the time period specified.
- Annualized total volatility (standard deviation) over the time period specified.
- Annualized tracking error (annualized standard deviation of monthly returns in excess of the relevant strategy benchmark) over the time period specified.

This is supplemental information to the GIPS® Report. SGA encourages clients and prospects to seek independent sources of analysis in assessing SGA's returns and process. For additional information on the calculation methodology please contact Strategic Global Advisors, LLC at 949.706.2640.

# Strategic Global Advisors

## Systematic Investment Risk



There is potential for shortfall in any investment process due to a variety of factors including, but not limited to, data and system imperfections, analyst judgment, and the complex nature of designing and implementing portfolio construction systems and other quantitative models. Such shortfalls in systematic or quantitative processes in particular pose broader risk because they may be more pervasive in nature.

Furthermore, the Advisor's systems may not necessarily perform in a manner in which they have historically performed or were intended to perform. The Advisor recognizes that such shortfalls are inherent to both fundamental and quantitative processes, and believes that combining both approaches improves the opportunity to reduce these shortfalls. However, these efforts may not necessarily result in the identification of profitable investments or the management of risk.

## MEMORANDUM

**TO:** Oakland Police and Fire Retirement System (“OPFRS”)  
**FROM:** Meketa Investment Group (“Meketa”)  
**DATE:** December 14, 2022  
**RE:** Strategic Global Advisors—Manager Update

### Manager: Strategic Global Advisors (“SGA”)

<b>Inception Date:</b>	December 2019	<b>OPFRS AUM (10/31/2022):</b>	\$32.5 million
<b>Strategy:</b>	International Equity	<b>Firm-wide AUM (9/30/2022):</b>	\$2.9 billion
<b>Benchmark:</b>	MSCI ACWI ex USA	<b>Strategy AUM (9/30/2022):</b>	\$716.9 million

### Summary & Recommendation

Strategic Global Advisors (“SGA”) has managed a part of OPFRS’s international equity portfolio since December 2019. As of 10/31/2022, the portfolio is approximately \$32.5 million or about 8% of OPFRS’s total plan. The strategy has performed within expectations and guidelines for the portfolio, and no major organizational changes or personnel turnover in the portfolio management team have been observed since the last review. **Therefore, Meketa does not have any major concerns with Strategic Global Partners and their International Equity strategy.**

### Investment Performance Review Summary

As of 10/31/2022, SGA’s International Equity strategy has outperformed its benchmark on both gross and net-of-fees during the calendar year-to-date and over the 1-year trailing period, and ranks in the top third among peers. Since inception in December 2019, however, it has trailed the benchmark by 1.5% net-of-fees, ranking in the bottom quartile for the period.

### OPFRS Portfolio Annualized Returns (as of 10/31/2022)<sup>1</sup>

Portfolio	Market Value (\$000)	YTD	1 YR	3 YR	5 YR	Since Inception	Inception Date
Strategic Global Advisors (Gross)	32,531	(-23.3)	(-22.5)	---	---	(-2.8)	12/2019
<i>MSCI ACWI ex US</i>	---	(-24.3)	(-24.7)	---	---	(-2.0)	---
Excess Return (Gross)	---	1.0	2.2	---	---	(-0.8)	---
Strategic Global Advisors (Net)	---	(-23.8)	(-23.1)	---	---	(-3.5)	---
Excess Return (Net)	---	0.5	1.6	---	---	(-1.5)	---
Peer Group Ranking <sup>2</sup>	---	33	29	---	---	83	---
Reference: Median Net Return	---	(-26.0)	(-26.6)	---	---	(-1.0)	---

<sup>1</sup> Performance is annualized for periods longer than one year.

<sup>2</sup> Peer group is eVestment All ACWI ex US Equity Managers Net.



### Product and Organization Review Summary

Strategic Global Advisors	Areas of Potential Impact				
	Level of Concern	Investment process (Client Portfolio)	Investment Team	Performance Track Record	Team/Firm Culture
<b>Product</b>					
Key people changes	None				
Changes to team structure/individuals' roles	None				
Product client gain/losses	None				
Changes to the investment process	None				
Personnel turnover	None				
<b>Organization</b>					
Ownership changes	None				
Key people changes	None				
Firm wide client gain/losses	None				
<b>Recommended Action</b>	<b>None</b>		<b>Watch Status</b>	<b>Termination</b>	

A review of Strategic Global Advisors and the International Equity strategy revealed no concerning organizational issues or changes since last review in 2021.

Strategic Global Advisors remains a majority employee- and woman-owned asset management firm. SGA's Founder, CEO, and Senior Portfolio Manager Cynthia Tusan, CIO Gary Baierl, and Senior Portfolio Manager Mark Wimer share the majority employee-ownership. A minority ownership stake is held by Nile Capital Group, a women-owned private equity firm.

## Investment Philosophy & Process, per Manager

The Strategic Global Advisors International ACWI ex-US strategy seeks to outperform the MSCI ACWI ex US index by 2-3.5% on an annualized basis over a full market cycle of three to five years. The securities held are generally mid to large cap equities, on a market relative basis, of companies headquartered outside the U.S. The strategy is diversified across industries, sectors, countries, and style exposures. This core approach is intended to promote consistent outperformance.

SGA's preferred approach to investing is to integrate quantitative tools with fundamental analysis subject to an active risk management process. This blends the disciplined, unemotional, and repeatable breadth of a systematic approach with the experience and qualitative judgment of the senior investment professionals involved in fundamental analysis. There have been no changes to this philosophy since the firm was founded.

SGA's process combines both quantitative and fundamental approaches to investment. SGA generates stock ideas utilizing a bottom-up stock selection process by estimating expected alphas based on global industry peer rankings and optimizing the results against the preferred benchmark. SGA's fundamental analysis team conducts ongoing research on new stock ideas identified by the quantitative process.

Applying this approach daily ensures a continuous flow of "best ideas" that must then pass SGA's fundamental review to become eligible for inclusion in the portfolio. With each rebalance, an optimal portfolio is determined with new eligible candidates, accounting for benchmark relative constraints and client objectives. During the portfolio construction process, country and sector allocations are held close to neutral, relative to benchmark weights, in order to focus active management on stock selection. All securities are subject to review by a team of portfolio managers who may make adjustments based on their experience, judgement and market conditions.

The quantitative models do not represent a simplistic "screen" which eliminates candidates, rather, SGA uses multiple models to blend a combination of growth, value, sentiment, and quality alpha factors along with their risk characteristics while assessing whether each constituent contributes positively to the current portfolio. In practice, there are infinite paths a stock might take for inclusion in the portfolio and its appropriate weighting. Once an optimized portfolio has been put forth, fundamental analysis is used to vet and approve or disapprove the ideas suggested.

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.

# Economic and Market Update

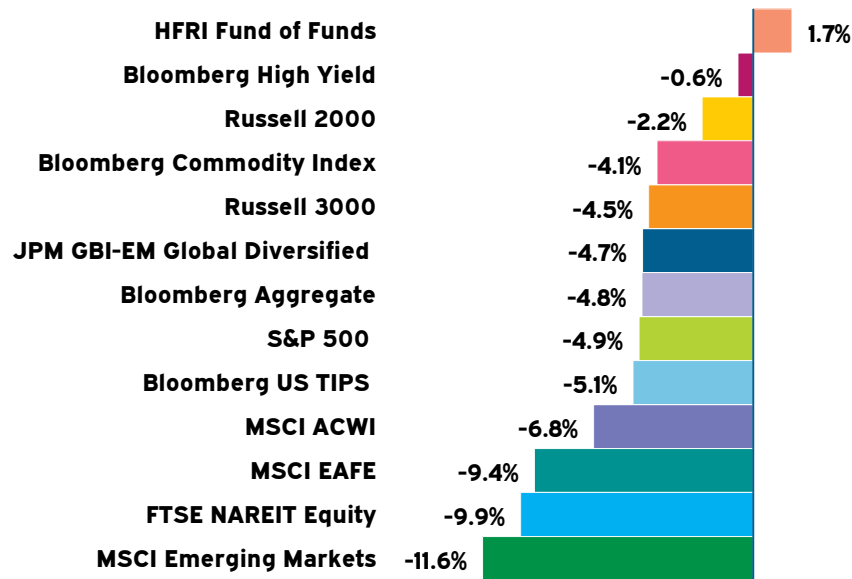
October 2022 Report

### Commentary

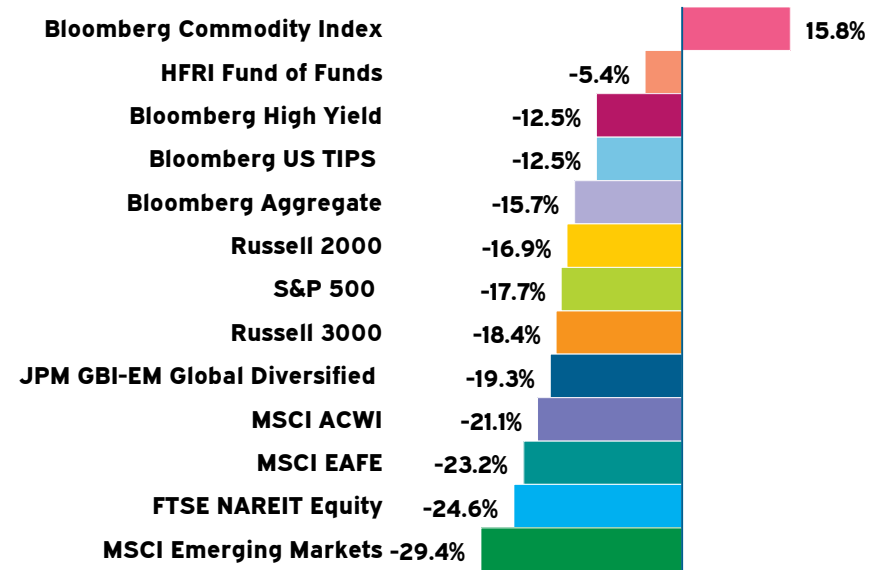
- Investor sentiment improved in October as markets repriced for continued easing of inflation risks, a potential slowing in monetary policy tightening efforts, and hopes for a soft-landing in 2023.
- After month-end, the Federal Reserve continued its aggressive tightening campaign with its fourth consecutive 75 basis point rate hike. Future hikes are expected into next year as US inflation remains high and labor markets tight.
  - In Europe, inflation hit a multi-decade high on energy prices, but manufacturing and service data in some countries surprised to the upside, lifting investor sentiment.
  - In the UK, the appointment of Rishi Sunak as the new prime minister calmed investors nerves to some extent.
  - US and developed equity markets rallied for the month, while emerging markets declined on significant China weakness (-16.8%) driven in part by political developments and continued strict COVID-19 policies.
  - Interest rates further increased across the US yield curve during October, and the curve remained inverted (ten- year yield minus the two-year yield) by 43 basis points. This year has witnessed by far the worst start to a calendar year for bond investors.
- Persistently high inflation and tightening of monetary policy, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China and recent political developments will all continue to have considerable consequences for the global economy.

### Index Returns<sup>1</sup>

#### Third Quarter



#### YTD through October



→ After broad declines in Q3 driven by expectations for further policy tightening, October produced mixed results with developed market equities posting notable gains.

→ Outside of commodities, all other public market asset classes remain significantly negative year-to-date.

<sup>1</sup> Source: Bloomberg and FactSet. Data is as of October 31, 2022.

### Domestic Equity Returns<sup>1</sup>

Domestic Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	8.1	-4.9	-17.7	-14.6	10.2	10.4	12.8
Russell 3000	8.2	-4.5	-18.4	-16.5	9.8	9.9	12.5
Russell 1000	8.0	-4.6	-18.5	-16.4	10.0	10.2	12.7
Russell 1000 Growth	5.8	-3.6	-26.6	-24.6	11.7	12.6	14.7
Russell 1000 Value	10.3	-5.6	-9.3	-7.0	7.3	7.2	10.3
Russell MidCap	8.9	-3.4	-17.5	-17.2	7.8	7.9	11.3
Russell MidCap Growth	7.9	-0.7	-26.1	-28.9	6.3	8.7	11.9
Russell MidCap Value	9.4	-4.9	-12.8	-10.2	7.5	6.5	10.4
Russell 2000	11.0	-2.2	-16.9	-18.5	7.0	5.6	9.9
Russell 2000 Growth	9.5	0.2	-22.6	-26.0	5.1	5.2	10.1
Russell 2000 Value	12.6	-4.6	-11.2	-10.7	8.1	5.3	9.4

#### US Equities: Russell 3000 Index rose 8.2% for October.

- US stocks rallied, posting strong monthly returns across all indices, rebounding from a sharp drop in September. Investors demonstrated optimism across the style and market capitalization spectrum as earnings remained resilient despite economic pressures.
- Most sectors rose in October, but there was wide dispersion. Energy's 24.8% gain led all sectors, driven by strong earnings, while consumer discretionary experienced a slightly positive gain (0.2%) given the impact of inflationary pressures on consumers.
- Value stocks continued to outperform growth stocks across the market capitalization spectrum. The rally in energy stocks and the relative underperformance of technology and consumer discretionary stocks has driven this dynamic.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.

### Foreign Equity Returns<sup>1</sup>

Foreign Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.0	-9.9	-24.3	-24.7	-1.7	-0.6	3.3
MSCI EAFE	5.4	-9.4	-23.2	-23.0	-1.3	-0.1	4.1
MSCI EAFE (Local Currency)	5.3	-3.6	-9.9	-8.4	3.7	3.3	7.9
MSCI EAFE Small Cap	4.2	-9.8	-29.2	-30.3	-2.3	-1.3	5.6
MSCI Emerging Markets	-3.1	-11.6	-29.4	-31.0	-4.4	-3.1	0.8
MSCI Emerging Markets (Local Currency)	-2.6	-8.2	-22.8	-24.2	-0.8	-0.2	4.2
MSCI China	-16.8	-22.5	-42.8	-47.9	-13.8	-9.7	-0.1

Developed International equities (MSCI EAFE) rose 5.4%, while emerging markets (MSCI EM) returned -3.1% in October, driven largely by declines in China.

- Developed markets outside of the US had a strong month in October, posting gains in Europe, the UK, and Japan. Energy and industrials led broad-sectoral gains in the Eurozone, while the UK markets reacted positively to the appointment of the new prime minister, Rishi Sunak. The Bank of Japan’s continued dovish policy stance and early signs of resilient Q3 earnings supported Japanese equities.
- China dominated headlines this month across the non-US landscape. Rising geopolitical tensions, particularly after events from the 20<sup>th</sup> Communist Party Congress, on top of the continuation of the zero COVID-19 policies, drove sharp declines for the month.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.

### Fixed Income Returns<sup>1</sup>

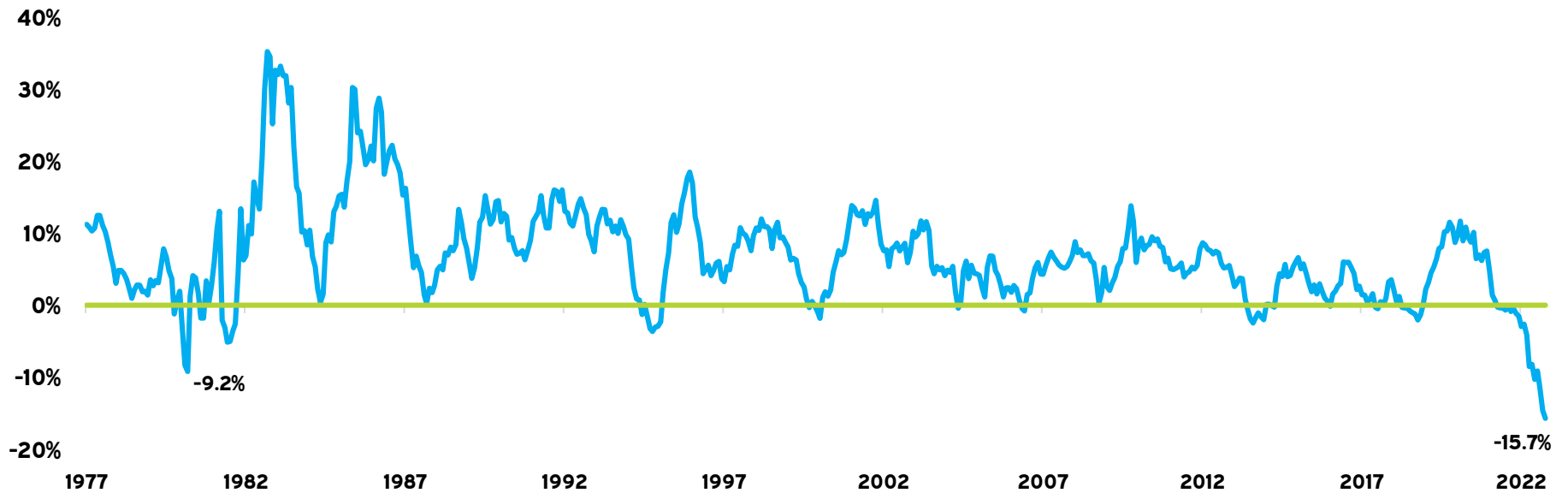
Fixed Income	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-1.1	-4.5	-15.8	-15.8	-3.6	-0.4	1.0	5.5	6.1
Bloomberg Aggregate	-1.3	-4.8	-15.7	-15.7	-3.8	-0.5	0.7	5.0	6.3
Bloomberg US TIPS	1.2	-5.1	-12.5	-11.5	1.1	2.2	1.0	4.6	6.9
Bloomberg High Yield	2.6	-0.6	-12.5	-11.8	0.3	2.0	4.1	9.1	4.5
JPM GBI-EM Global Diversified (USD)	-0.9	-5.8	-19.3	-20.3	-8.2	-3.5	-2.6	7.7	4.8

#### Fixed Income: The Bloomberg Universal declined 1.1% in October.

- A continued rise in bond yields in the US driven by the Fed reinforcing its commitment to fight inflation weighed on fixed income markets for the month. Year-to-date, the US bond market (Bloomberg Aggregate) performance is the worst on record.
- TIPS appreciated for the month but remain down double-digits for the year as real rates have experienced a steep increase too. The inflation adjustment has led to a 320 basis points smaller decline than the broad US bond market though.
- Riskier US bonds, as represented by the high yield index, produced the best fixed income results for the month (+2.6%) in the risk-on environment. Emerging market bonds finished down 0.9% in October adding to the significant declines year-to-date.

<sup>1</sup> Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of October 31, 2022.

**Bloomberg US Aggregate  
Rolling One-year Returns<sup>1</sup>**

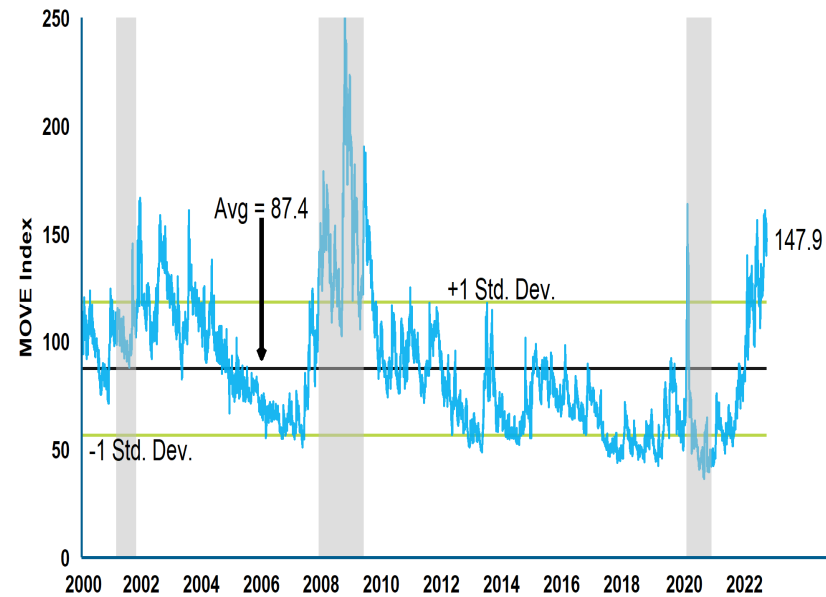
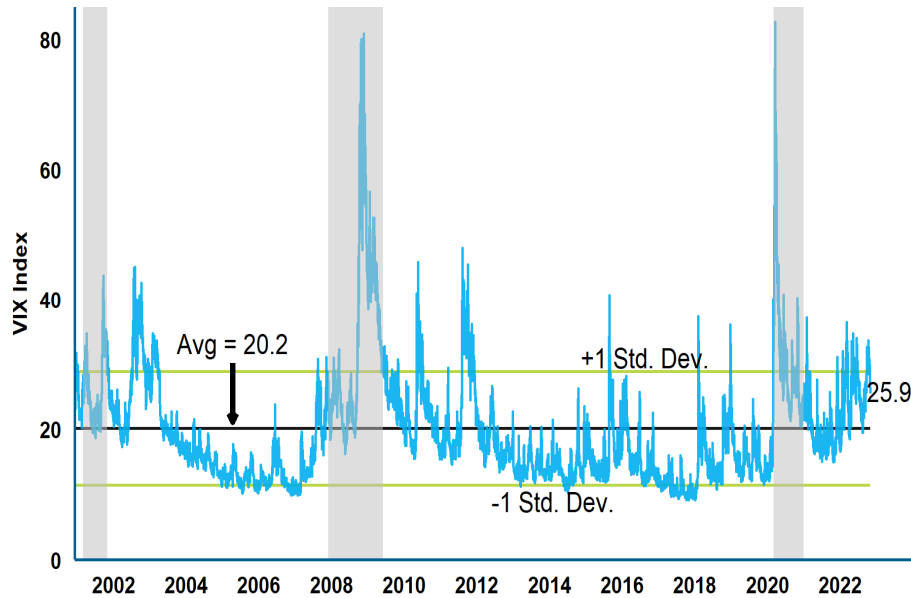


- This has been the worst rolling one-year return period for the US bond market given the historic inflation levels and the corresponding rapid rise in interest rates.
- Through October the trailing year return was -15.7% well ahead of the number two spot (-9.2%) from the early 1980s.

<sup>1</sup> Source: Bloomberg. Data is as of 10/31/2022.



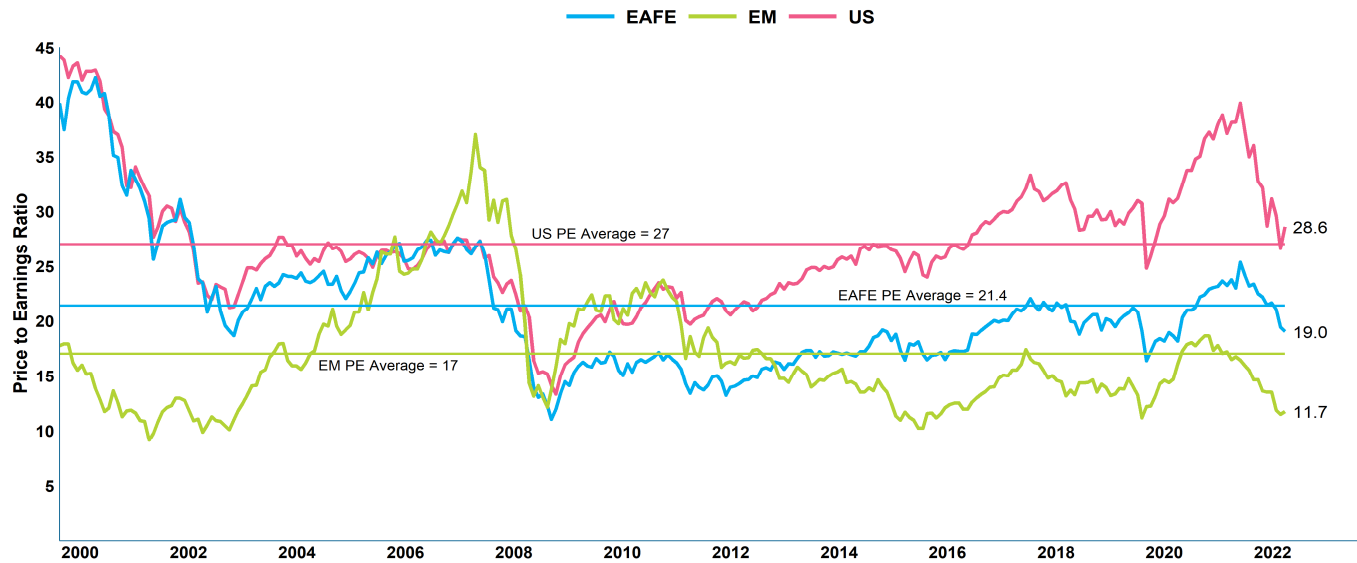
**Equity and Fixed Income Volatility<sup>1</sup>**



- Volatility in equities (VIX) and fixed income (MOVE) remained above their long-run averages in October.
- Fixed income volatility was particularly high due to the uncertain path of US interest rates as the Federal Reserve continued its hawkish stance on inflation.

<sup>1</sup> Equity and 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 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.

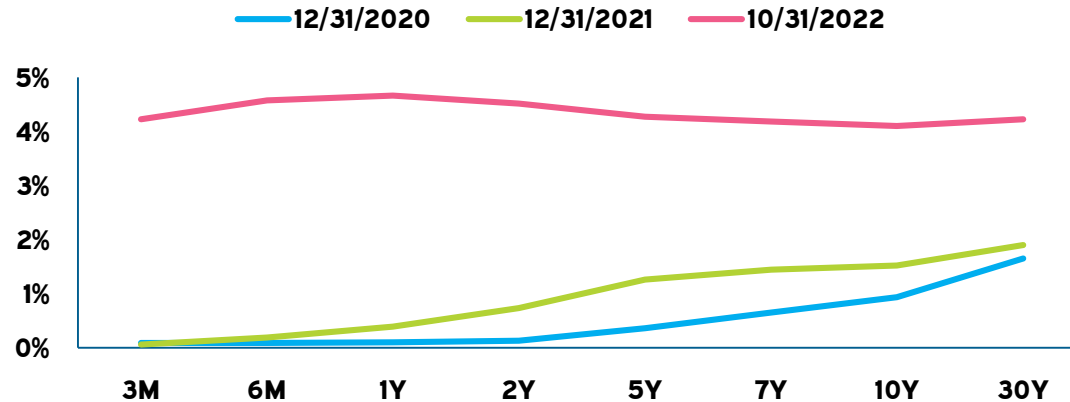
**Equity Cyclically Adjusted P/E Ratios<sup>1</sup>**



- October’s US equity rally brought the market’s price-to-earnings ratio to slightly above the long-term (21<sup>st</sup> century) average.
- International developed market valuations remain below the US and are below their own long-term average, with those for emerging markets the lowest and well under the long-term average.
- Price declines have been the main driver of recent multiple compression as earnings have remained resilient. Concerns remain over whether earnings strength will continue in the face of slowing growth.

<sup>1</sup> 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: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of October 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.

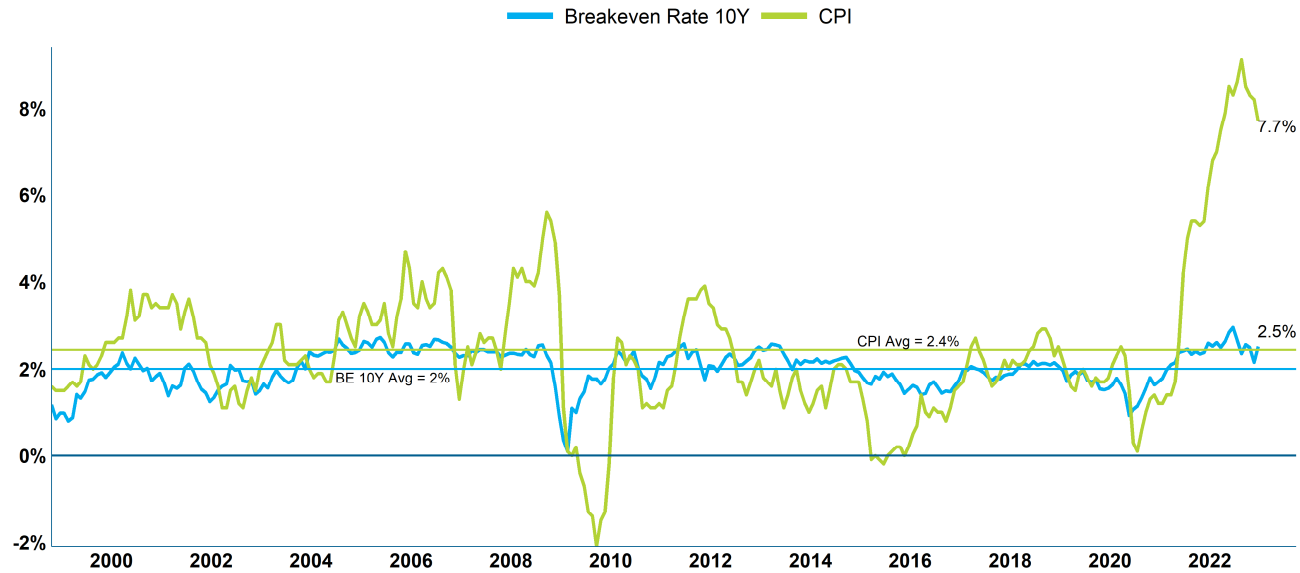
US Yield Curve<sup>1</sup>



- Rates across the yield curve remain far higher than at the start of the year.
- In October, interest rates continued to increase across the yield curve, particularly at the front-end where there is more sensitivity to policy changes. Two-year Treasury yields rose from 4.3% to 4.5% for the month, while ten-year Treasury yields climbed from 3.8% to 4.1%.
- The Fed remains strongly committed to fighting inflation, as it increased rates another 75 basis points to a range of 3.75% to 4.0% at its November meeting. This was the sixth increase this year and the fourth consecutive increase of this amount.
- The yield spread between two-year and ten-year Treasuries remained negative, finishing October at -0.42%. The more closely watched measure by the Fed of three-month and ten-year Treasuries also inverted. Historically, inversions in the yield curve have often preceded recessions.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.

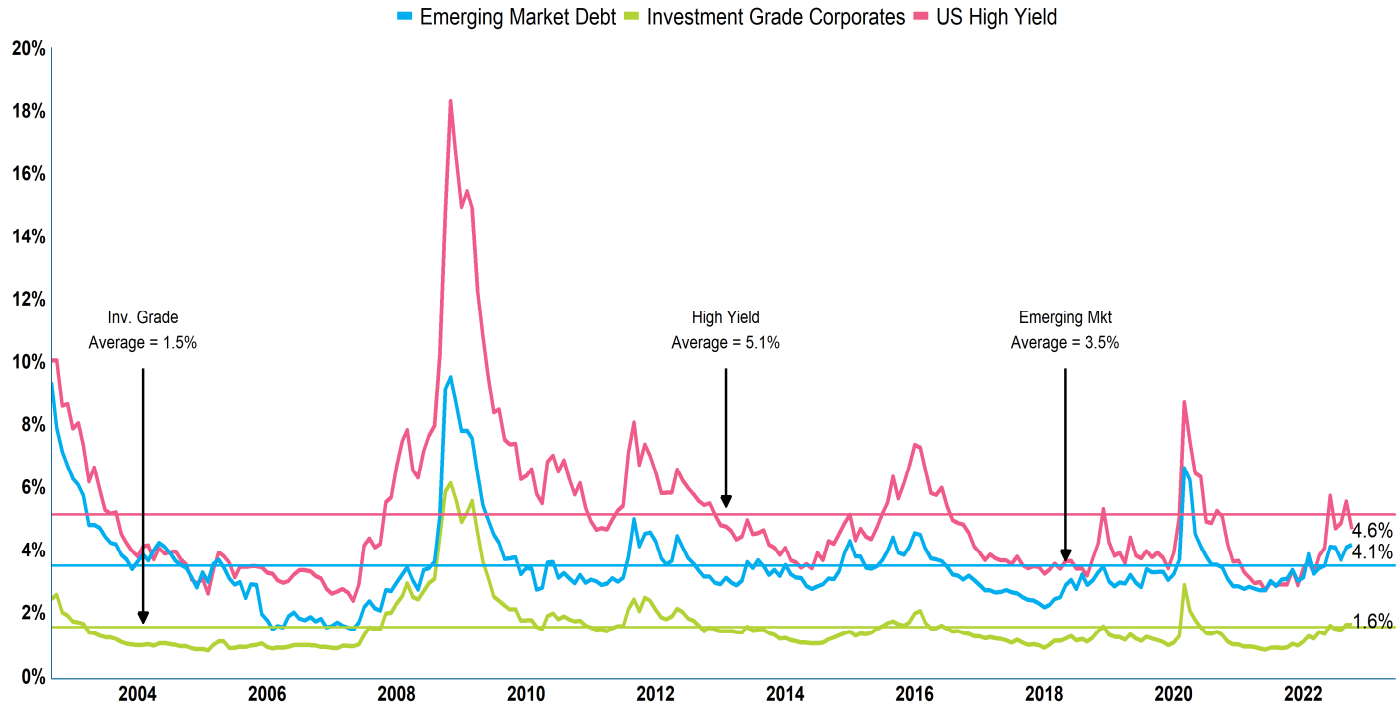
**Ten-Year Breakeven Inflation and CPI<sup>1</sup>**



- Inflation expectations (breakevens) rose slightly in October, remaining above the long-run average.
- Trailing twelve-month CPI declined in October (7.7% versus 8.2%) coming in below expectations of 7.9%. Core inflation (excluding food and energy prices) declined from its recent 40-year peak of 6.6% to 6.3% over the same period.
- Over the last year, rising prices for energy (particularly oil), food, housing, and for new and used cars remain key drivers of inflation.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative purposes.

**Credit Spreads vs. US Treasury Bonds<sup>1</sup>**



- High yield spreads (the added yield above a comparable maturity Treasury) fell in October to below their long-run average as below investment grade credit largely outperformed Treasuries in the risk-on environment.
- Investment grade spreads stayed the same in the US (1.6%), near the long-run average, while emerging market spreads increased slightly (4.1% versus 4.0%) staying above their average.

<sup>1</sup> Sources: Bloomberg. Data is as of October 31, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively.

### Global Economic Outlook

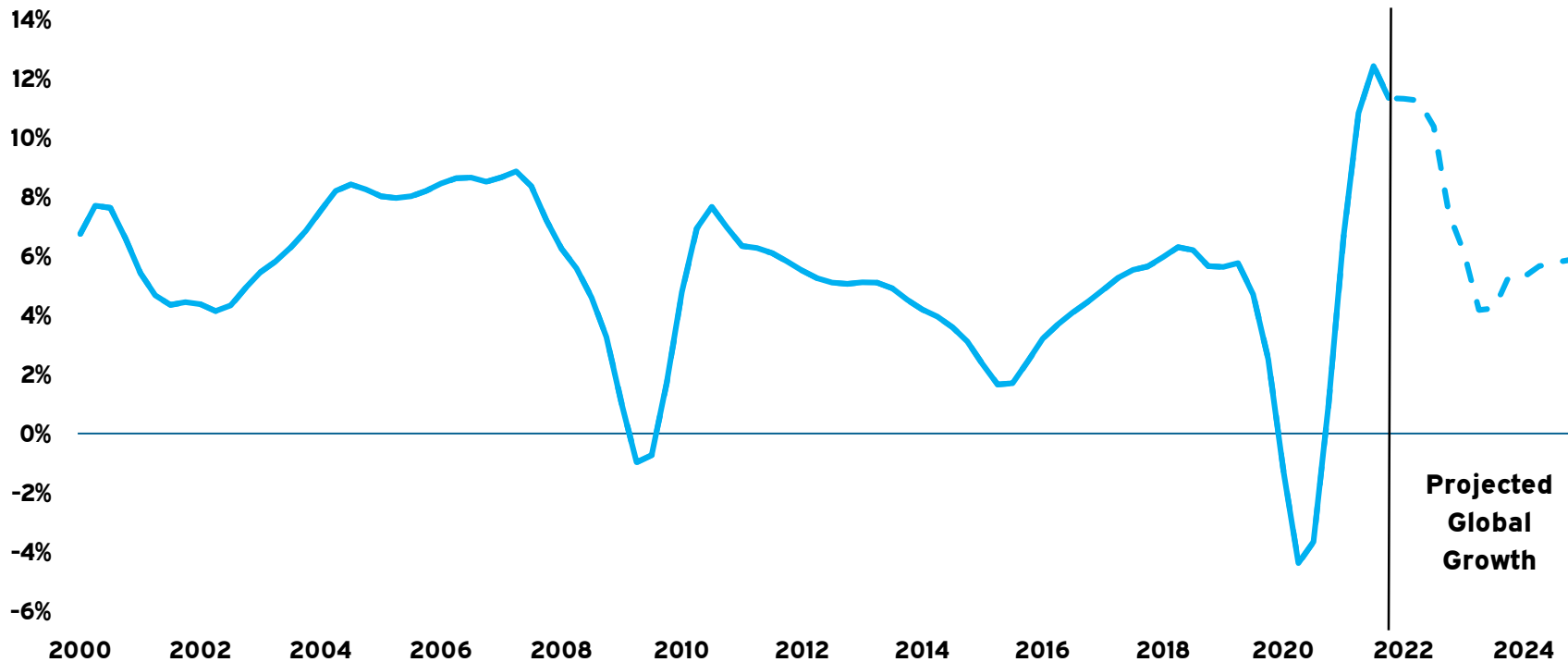
In their October update, the IMF maintained lowered global growth forecasts, driven by the economic impacts of persistent inflation and corresponding tighter policy, as well as issues related to the war in Ukraine and the lingering pandemic.

- The IMF forecasts global GDP growth to come in at 3.2% in 2022 (like the July estimate) and 2.7% in 2023 (0.2% below the prior estimate).
- In advanced economies, GDP is projected to grow 2.4% in 2022 and 1.1% in 2023. The US saw another downgrade in the 2022 (1.6% versus 2.3%) forecast largely due to accelerated policy tightening, given persistently high inflation. The euro area saw an upgrade in expected growth (3.1% versus 2.6%) on substantial fiscal stimulus in 2022 but a downgrade in 2023 (0.5% versus 1.2%) as rising energy prices weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and 1.6% in 2023.
- Growth projections for emerging markets are higher than developed markets, at 3.7% in 2022 and 2023. China’s growth was downgraded for 2022 (3.2% versus 3.3%) and 2023 (4.4% versus 4.6%) given tight COVID-19 restrictions and continued property sector problems.
- The global inflation forecast was significantly increased for 2022 (8.8% versus 7.4%).

	Real GDP (%) <sup>1</sup>			Inflation (%) <sup>1</sup>		
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average
World	3.2	2.7	3.2	8.8	6.5	3.6
Advanced Economies	2.4	1.1	1.6	7.2	4.3	1.6
US	1.6	1.0	2.1	8.1	3.5	2.0
Euro Area	3.1	0.5	1.0	8.3	5.7	1.3
Japan	1.7	1.6	0.8	2.0	1.4	0.4
Emerging Economies	3.7	3.7	4.4	9.9	8.1	5.3
China	3.2	4.4	7.3	2.2	2.2	2.4

<sup>1</sup> Source: IMF World Economic Outlook. Real GDP and Inflation forecasts from October 2022 Update. “Actual 10 Year Average” represents data from 2012 to 2021.

**Global Nominal Gross Domestic Product (GDP) Growth<sup>1</sup>**

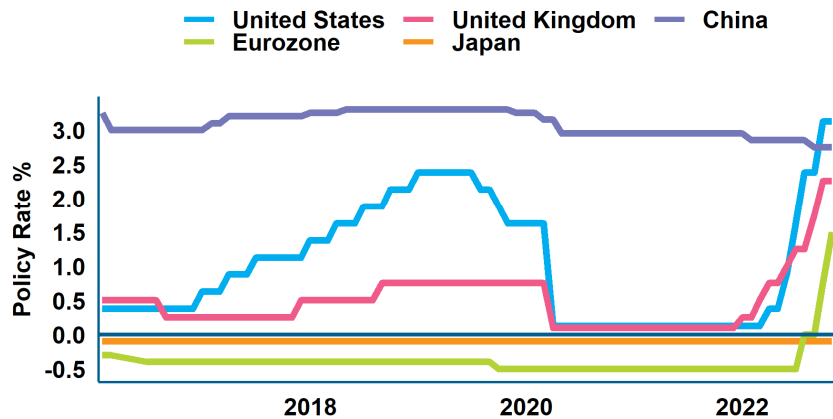


- Global economies are expected to slow in 2022 compared to 2021, with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

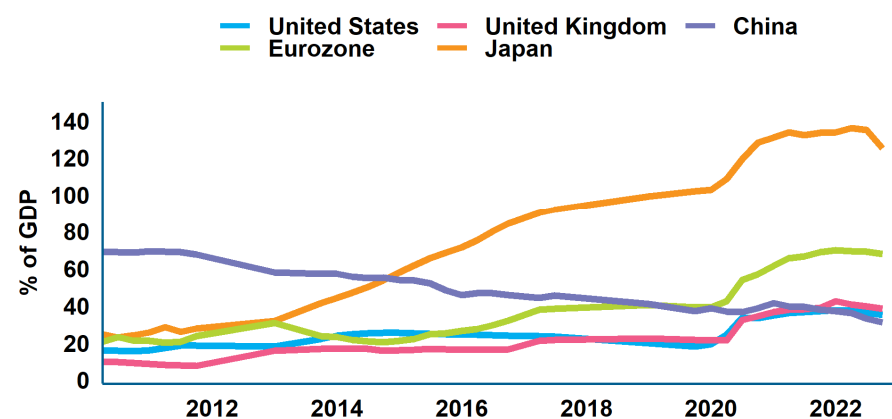
<sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated October 2022. Nominal expectations for GDP remain much higher than real GDP expectations given the elevated inflation levels.

### Central Bank Response<sup>1</sup>

#### Policy Rates



#### Balance Sheet as % of GDP

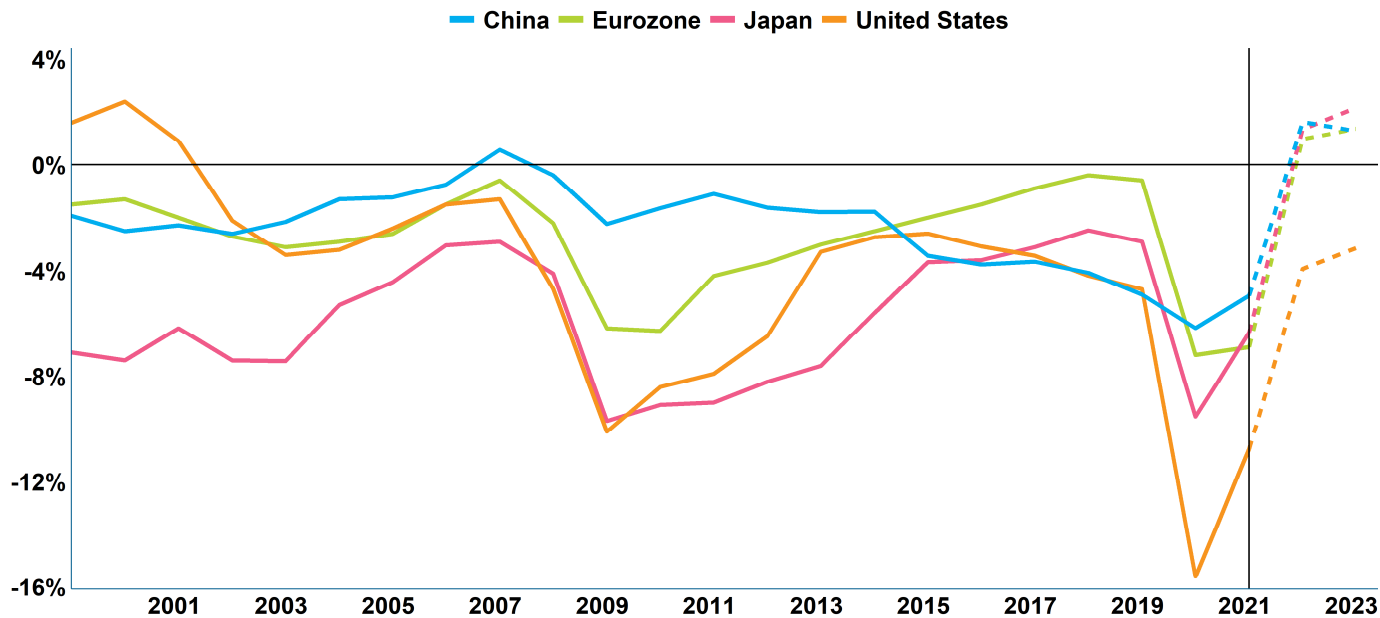


- After global central banks took extraordinary action to support economies during the pandemic, including policy rate cuts and emergency stimulus through quantitative easing (QE), many are now aggressively reducing support in the face of high inflation.
- The pace of withdrawing support varies across central banks with the US taking a more aggressive approach.
- The one notable central bank outlier is China, where the central bank has lowered rates and reserve requirements in response to slowing growth.
- The risk remains for a policy error, particularly overtightening, as record inflation, the war in Ukraine, and a tough COVID-19 policy in China could suppress global growth.

<sup>1</sup> Source: Bloomberg. Policy rate data is as of October 31, 2022. 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, 2022.



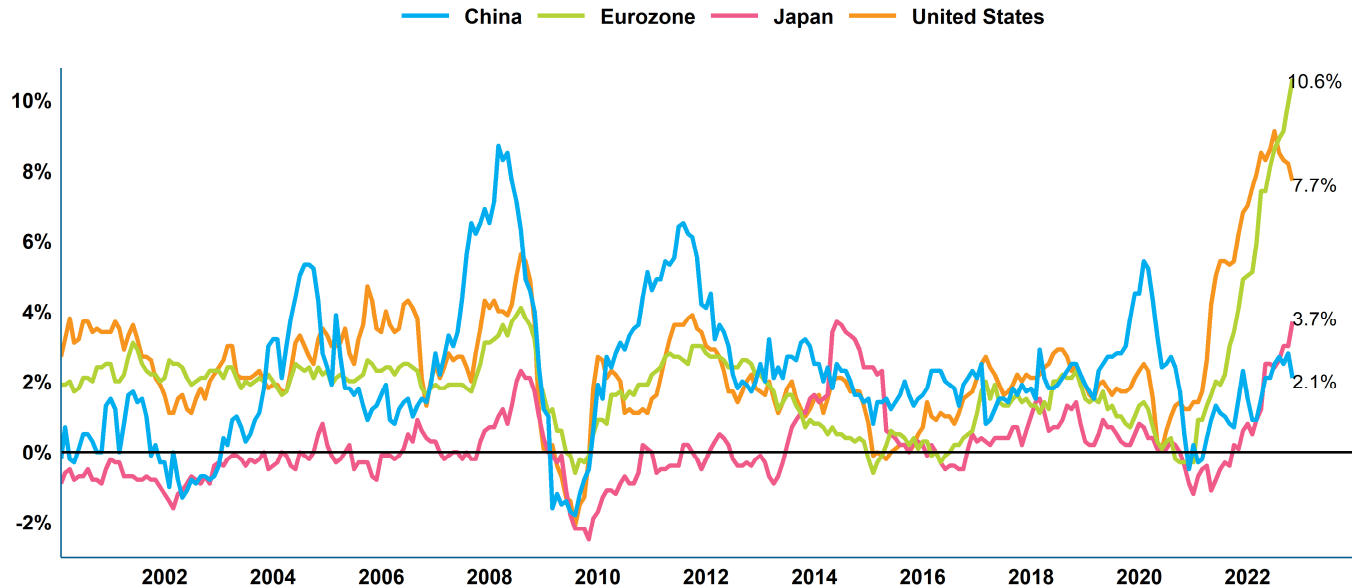
**Budget Surplus / Deficit as a Percentage of GDP<sup>1</sup>**



- Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction’s effect on tax revenue in 2020 and 2021.
- As fiscal stimulus programs end, and economic recoveries continue, deficits should improve.
- Questions remain about how some countries will respond fiscally as inflation, particularly energy prices, weigh on consumers. Policies that undermine central banks’ efforts to fight inflation could lead to additional market volatility like was seen recently in the UK.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022. Projections via IMF Forecasts from October 2022 Report. Dotted lines represent 2022 and 2023 forecasts.

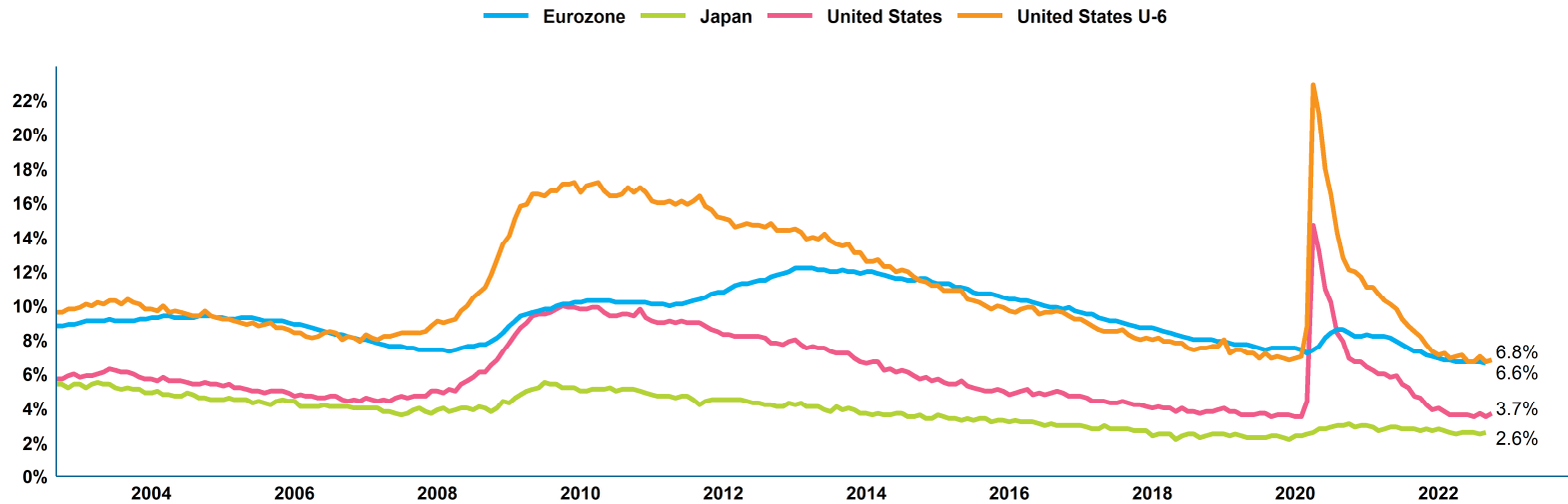
**Inflation (CPI Trailing Twelve Months)<sup>1</sup>**



- Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.
- Inflation pressures continue to grow in Europe, reaching historic levels due to skyrocketing energy prices and a weak euro.
- Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher commodity prices driven by the war in Ukraine have been key global drivers of inflation.

<sup>1</sup> Source: Bloomberg. Data is as of October 2022.

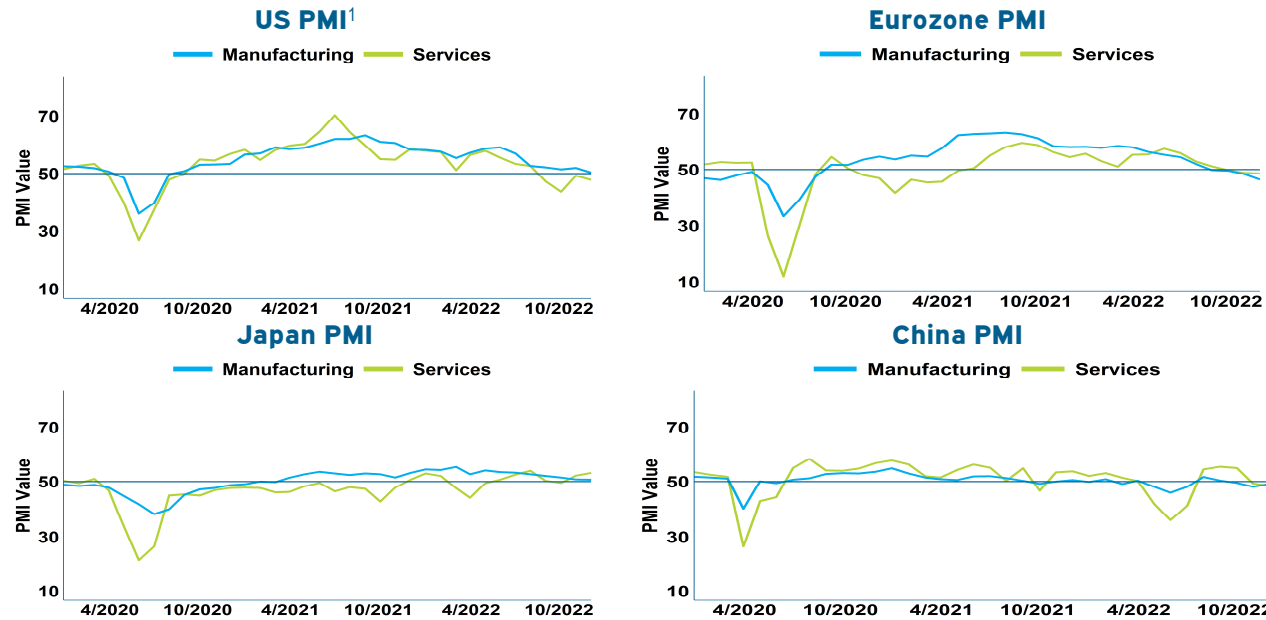
**Unemployment<sup>1</sup>**



- As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- Despite slowing growth and high inflation the US labor market remains a bright spot. Unemployment in the US, which experienced the steepest rise from the pandemic, has remained in a tight 3.5%-3.7% range for most of the year. The broader measure (U-6) that includes discouraged and underemployed workers remains much higher at 6.8%.
- The strong labor market and higher wages, although beneficial for workers, motivates the Fed’s efforts to fight inflation, likely leading to eventually higher unemployment.

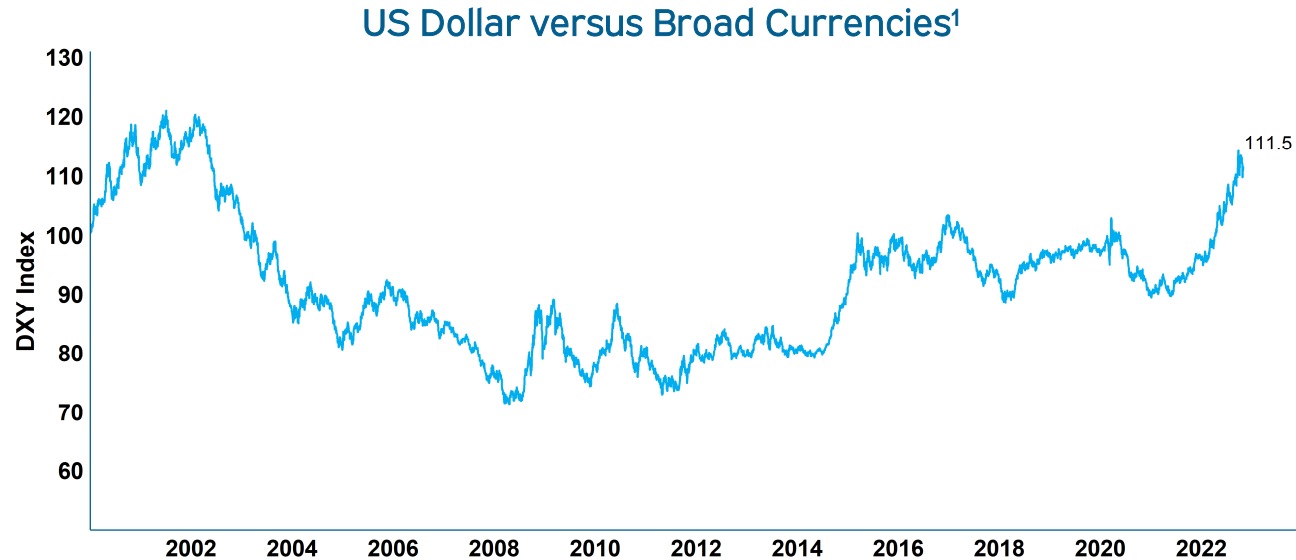
<sup>1</sup> Source: Bloomberg. Data is as October 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of September 30, 2022.

### Global PMIs



- After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced downward pressure recently.
- Service sector PMIs, except Japan (lifting COVID-19 restrictions and travel incentives have been helpful here), are all in contraction territory. The US service sector declined, remaining in negative territory, due to weak demand both domestically and abroad and softening employment.
- Manufacturing PMIs are also slowing across China and developed markets given declines in demand and inflationary pressures with the Eurozone, and China in contraction territory.

<sup>1</sup> Source: Bloomberg. US Market Services and Manufacturing PMI, Caixin Services and Manufacturing PMI, Eurozone Market Services and Manufacturing PMI, Jibun Bank Services and Manufacturing PMI. Data is as of October 2022. Readings below 50 represent economic contractions.



- Overall, the US dollar remained elevated in October but showed some signs of weakening. After month-end, the dollar weakened further.
- The increased pace of policy tightening, stronger relative growth, and safe-haven flows all contributed to the dollar’s strength this year.
- The euro, yen, pound, and yuan have all experienced significant declines versus the dollar this year, adding to inflationary pressures in those countries.

<sup>1</sup> Source: Bloomberg. Data as of October 31, 2022.

## Summary

### Key Trends in 2022:

- The impacts of record high inflation will remain key, with market volatility likely to stay high.
- The pace of monetary tightening globally will be faster than previously expected, with the risk of overtightening.
- Expect growth to slow globally for the rest of 2022 and into 2023 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- In the US the end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices will depress consumers' spending in other areas.
- Valuations have significantly declined in the US to below long-term averages, largely driven by price declines. The key going forward will be whether earnings can remain resilient if growth continues to slow.
- Outside the US, equity valuations remain lower in both emerging and developed markets, but major risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

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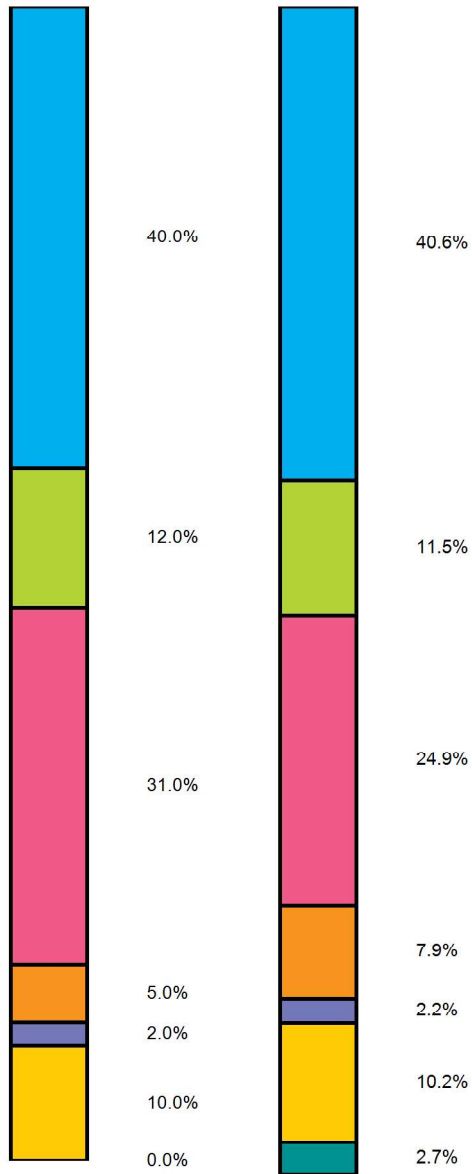
# Oakland Police and Fire Retirement System

December 14, 2022

October Flash Report

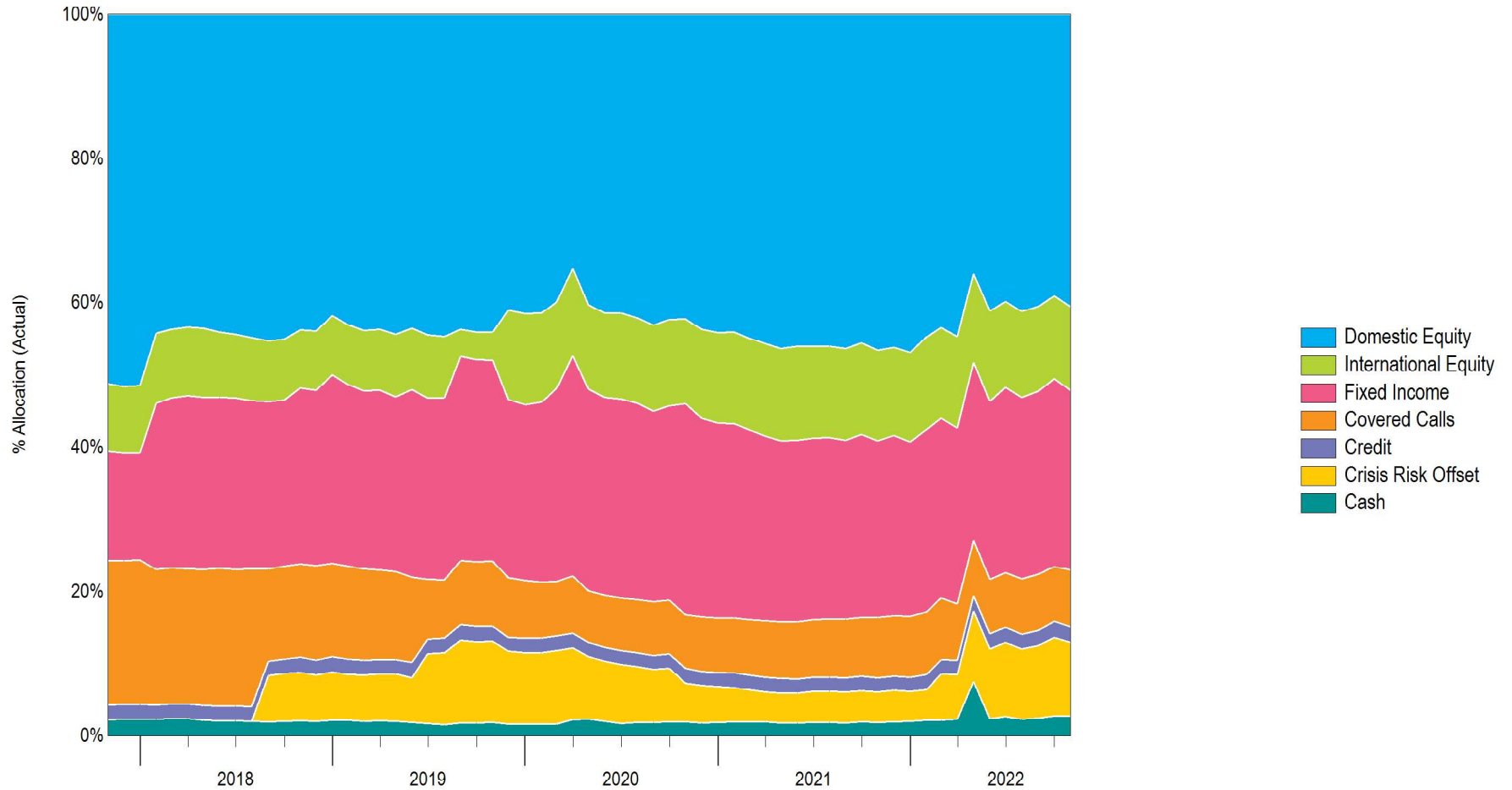


As of October 31, 2022



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
Domestic Equity	\$159,887,269	40.6%	40.0%	0.6%	30.0% - 50.0%	Yes
International Equity	\$45,447,180	11.5%	12.0%	-0.5%	8.0% - 14.0%	Yes
Fixed Income	\$98,077,927	24.9%	31.0%	-6.1%	25.0% - 40.0%	No
Covered Calls	\$31,239,449	7.9%	5.0%	2.9%	5.0% - 10.0%	Yes
Credit	\$8,551,282	2.2%	2.0%	0.2%	0.0% - 100.0%	Yes
Crisis Risk Offset	\$40,195,623	10.2%	10.0%	0.2%	5.0% - 15.0%	Yes
Cash	\$10,814,113	2.7%	0.0%	2.7%	0.0% - 5.0%	Yes
<b>Total</b>	<b>\$394,212,844</b>	<b>100.0%</b>	<b>100.0%</b>			

Asset Allocation History  
5 Years Ending October 31, 2022



Asset Class Performance Summary										
	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>OPFRS Total Plan</b>	<b>394,212,844</b>	<b>100.0</b>	<b>3.6</b>	<b>-16.0</b>	<b>-14.3</b>	<b>3.0</b>	<b>4.5</b>	<b>6.9</b>	<b>6.5</b>	<b>Dec-88</b>
<i>OPFRS Policy Benchmark</i>			<u>3.9</u>	<u>-16.2</u>	<u>-15.1</u>	<u>2.8</u>	<u>4.2</u>	<u>6.4</u>	<u>7.7</u>	<u>Dec-88</u>
Excess Return			-0.3	0.2	0.8	0.2	0.3	0.5	-1.2	
<b>Domestic Equity</b>	<b>159,887,269</b>	<b>40.6</b>	<b>8.3</b>	<b>-16.7</b>	<b>-13.9</b>	<b>9.5</b>	<b>9.4</b>	<b>12.3</b>	<b>8.7</b>	<b>Jun-97</b>
<i>Russell 3000 (Blend)</i>			<u>8.2</u>	<u>-18.4</u>	<u>-16.5</u>	<u>9.8</u>	<u>9.9</u>	<u>12.5</u>	<u>8.8</u>	<u>Jun-97</u>
Excess Return			0.1	1.7	2.6	-0.3	-0.5	-0.2	-0.1	
<b>International Equity</b>	<b>45,447,180</b>	<b>11.5</b>	<b>4.6</b>	<b>-23.4</b>	<b>-22.7</b>	<b>-1.0</b>	<b>0.3</b>	<b>4.8</b>	<b>4.6</b>	<b>Jan-98</b>
<i>MSCI ACWI ex US (Blend)</i>			<u>3.0</u>	<u>-24.3</u>	<u>-24.7</u>	<u>-1.7</u>	<u>-0.6</u>	<u>3.3</u>	<u>4.3</u>	<u>Jan-98</u>
Excess Return			1.6	0.9	2.0	0.7	0.9	1.5	0.3	
<b>Fixed Income</b>	<b>98,077,927</b>	<b>24.9</b>	<b>-1.4</b>	<b>-15.9</b>	<b>-15.7</b>	<b>-3.2</b>	<b>-0.1</b>	<b>1.2</b>	<b>4.6</b>	<b>Dec-93</b>
<i>Bloomberg Universal (Blend)</i>			<u>-1.1</u>	<u>-15.8</u>	<u>-15.8</u>	<u>-3.6</u>	<u>-0.4</u>	<u>1.0</u>	<u>4.4</u>	<u>Dec-93</u>
Excess Return			-0.3	-0.1	0.1	0.4	0.3	0.2	0.2	
<b>Credit</b>	<b>8,551,282</b>	<b>2.2</b>	<b>1.2</b>	<b>-8.3</b>	<b>-8.0</b>	<b>4.1</b>	<b>2.9</b>	<b>--</b>	<b>4.7</b>	<b>Feb-15</b>
<i>Bloomberg US High Yield TR</i>			<u>2.6</u>	<u>-12.5</u>	<u>-11.8</u>	<u>0.3</u>	<u>2.0</u>	<u>4.1</u>	<u>3.6</u>	<u>Feb-15</u>
Excess Return			-1.4	4.2	3.8	3.8	0.9		1.1	
<b>Covered Calls</b>	<b>31,239,449</b>	<b>7.9</b>	<b>7.0</b>	<b>-13.1</b>	<b>-10.1</b>	<b>7.9</b>	<b>7.6</b>	<b>--</b>	<b>8.2</b>	<b>Apr-14</b>
<i>CBOE S&amp;P 500 BuyWrite USD</i>			<u>6.1</u>	<u>-11.9</u>	<u>-10.0</u>	<u>2.1</u>	<u>3.2</u>	<u>5.5</u>	<u>4.9</u>	<u>Apr-14</u>
Excess Return			0.9	-1.2	-0.1	5.8	4.4		3.3	
<b>Crisis Risk Offset</b>	<b>40,195,623</b>	<b>10.2</b>	<b>-3.4</b>	<b>-13.2</b>	<b>-12.6</b>	<b>-14.0</b>	<b>--</b>	<b>--</b>	<b>-9.3</b>	<b>Aug-18</b>
<i>SG Multi Alternative Risk Premia Index</i>			<u>2.4</u>	<u>5.6</u>	<u>8.9</u>	<u>-1.0</u>	<u>--</u>	<u>--</u>	<u>-0.3</u>	<u>Aug-18</u>
Excess Return			-5.8	-18.8	-21.5	-13.0			-9.0	

Performance shown is gross-of-fees. Since inception date and performance begins in the month following an investments initial funding.

Fiscal year begins on July 1. Cash account market value includes cash balances held in ETF accounts at the custodian and residuals from terminated managers.

As of October 31, 2022

Performance Summary											
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>OPFRS Total Plan</b>	<b>394,212,844</b>	<b>100.0</b>	<b>--</b>	<b>3.6</b>	<b>-16.0</b>	<b>-14.3</b>	<b>3.0</b>	<b>4.5</b>	<b>6.9</b>	<b>6.5</b>	<b>Dec-88</b>
<i>OPFRS Policy Benchmark</i>				<i>3.9</i>	<i>-16.2</i>	<i>-15.1</i>	<i>2.8</i>	<i>4.2</i>	<i>6.4</i>	<i>7.7</i>	<i>Dec-88</i>
Excess Return				-0.3	0.2	0.8	0.2	0.3	0.5	-1.2	
<b>Domestic Equity</b>	<b>159,887,269</b>	<b>40.6</b>	<b>40.6</b>	<b>8.3</b>	<b>-16.7</b>	<b>-13.9</b>	<b>9.5</b>	<b>9.4</b>	<b>12.3</b>	<b>8.7</b>	<b>Jun-97</b>
<i>Russell 3000 (Blend)</i>				<i>8.2</i>	<i>-18.4</i>	<i>-16.5</i>	<i>9.8</i>	<i>9.9</i>	<i>12.5</i>	<i>8.8</i>	<i>Jun-97</i>
Excess Return				0.1	1.7	2.6	-0.3	-0.5	-0.2	-0.1	
Northern Trust Russell 1000	70,236,230	17.8	43.9	8.0	-18.8	-16.6	9.8	10.1	12.6	12.8	Jun-10
<i>Russell 1000</i>				<i>8.0</i>	<i>-18.5</i>	<i>-16.4</i>	<i>10.0</i>	<i>10.2</i>	<i>12.7</i>	<i>12.8</i>	<i>Jun-10</i>
Excess Return				0.0	-0.3	-0.2	-0.2	-0.1	-0.1	0.0	
Wellington Select Quality Equity	21,503,403	5.5	13.4	10.2	--	--	--	--	--	-2.3	May-22
<i>Russell 1000</i>				<i>8.0</i>	<i>-18.5</i>	<i>-16.4</i>	<i>10.0</i>	<i>10.2</i>	<i>12.7</i>	<i>-5.7</i>	<i>May-22</i>
Excess Return				2.2						3.4	
EARNEST Partners	43,619,613	11.1	27.3	7.8	-15.3	-10.6	11.1	11.1	13.7	10.1	Apr-06
<i>Russell MidCap</i>				<i>8.9</i>	<i>-17.5</i>	<i>-17.2</i>	<i>7.8</i>	<i>7.9</i>	<i>11.4</i>	<i>8.4</i>	<i>Apr-06</i>
Excess Return				-1.1	2.2	6.6	3.3	3.2	2.3	1.7	
Brown Fundamental Small Cap Value	10,975,659	2.8	6.9	12.8	-6.6	-2.8	--	--	--	2.2	Apr-21
<i>Russell 2000 Value</i>				<i>12.6</i>	<i>-11.2</i>	<i>-10.7</i>	<i>8.1</i>	<i>5.3</i>	<i>9.4</i>	<i>-3.8</i>	<i>Apr-21</i>
Excess Return				0.2	4.6	7.9				6.0	
Rice Hall James	13,552,363	3.4	8.5	5.3	-22.3	-22.2	6.3	5.6	--	6.7	Jul-17
<i>Russell 2000 Growth</i>				<i>9.5</i>	<i>-22.6</i>	<i>-26.0</i>	<i>5.1</i>	<i>5.2</i>	<i>10.1</i>	<i>6.3</i>	<i>Jul-17</i>
Excess Return				-4.2	0.3	3.8	1.2	0.4		0.4	

Performance shown is gross-of-fees. Since inception date and performance begins in the month following an investments initial funding.

As of October 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>International Equity</b>	<b>45,447,180</b>	<b>11.5</b>	<b>11.5</b>	<b>4.6</b>	<b>-23.4</b>	<b>-22.7</b>	<b>-1.0</b>	<b>0.3</b>	<b>4.8</b>	<b>4.6</b>	<b>Jan-98</b>
<i>MSCI ACWI ex US (Blend)</i>				<u>3.0</u>	<u>-24.3</u>	<u>-24.7</u>	<u>-1.7</u>	<u>-0.6</u>	<u>3.3</u>	<u>4.3</u>	<u>Jan-98</u>
Excess Return				1.6	0.9	2.0	0.7	0.9	1.5	0.3	
Vanguard Developed Markets ETF	12,915,743	3.3	28.4	6.1	-23.1	-23.5	-0.3	--	--	1.7	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>				<u>5.4</u>	<u>-23.3</u>	<u>-23.2</u>	<u>-0.2</u>	<u>0.5</u>	<u>4.6</u>	<u>1.8</u>	<u>Sep-19</u>
Excess Return				0.7	0.2	-0.3	-0.1			-0.1	
SGA ACWI ex-U.S. Equity	32,531,437	8.3	71.6	4.0	-23.3	-22.5	--	--	--	-2.8	Dec-19
<i>MSCI ACWI ex USA</i>				<u>3.0</u>	<u>-24.3</u>	<u>-24.7</u>	<u>-1.7</u>	<u>-0.6</u>	<u>3.3</u>	<u>-2.0</u>	<u>Dec-19</u>
Excess Return				1.0	1.0	2.2				-0.8	
<b>Fixed Income</b>	<b>98,077,927</b>	<b>24.9</b>	<b>24.9</b>	<b>-1.4</b>	<b>-15.9</b>	<b>-15.7</b>	<b>-3.2</b>	<b>-0.1</b>	<b>1.2</b>	<b>4.6</b>	<b>Dec-93</b>
<i>Bloomberg Universal (Blend)</i>				<u>-1.1</u>	<u>-15.8</u>	<u>-15.8</u>	<u>-3.6</u>	<u>-0.4</u>	<u>1.0</u>	<u>4.4</u>	<u>Dec-93</u>
Excess Return				-0.3	-0.1	0.1	0.4	0.3	0.2	0.2	
Ramirez	66,812,888	16.9	68.1	-1.6	-15.8	-15.8	-3.5	-0.1	--	0.7	Jan-17
<i>Bloomberg US Aggregate TR</i>				<u>-1.3</u>	<u>-15.7</u>	<u>-15.7</u>	<u>-3.8</u>	<u>-0.5</u>	<u>0.7</u>	<u>0.1</u>	<u>Jan-17</u>
Excess Return				-0.3	-0.1	-0.1	0.3	0.4		0.6	
Wellington Core Bond	6,315,421	1.6	6.4	-1.5	-17.2	-17.3	--	--	--	-10.2	Apr-21
<i>Bloomberg US Aggregate TR</i>				<u>-1.3</u>	<u>-15.7</u>	<u>-15.7</u>	<u>-3.8</u>	<u>-0.5</u>	<u>0.7</u>	<u>-9.2</u>	<u>Apr-21</u>
Excess Return				-0.2	-1.5	-1.6				-1.0	
Reams	24,949,618	6.3	25.4	-1.0	-15.6	-15.2	0.0	2.0	2.2	4.9	Feb-98
<i>Bloomberg Universal (Blend)</i>				<u>-1.1</u>	<u>-15.8</u>	<u>-15.8</u>	<u>-3.6</u>	<u>-0.4</u>	<u>1.0</u>	<u>4.0</u>	<u>Feb-98</u>
Excess Return				0.1	0.2	0.6	3.6	2.4	1.2	0.9	
<b>Credit</b>	<b>8,551,282</b>	<b>2.2</b>	<b>2.2</b>	<b>1.2</b>	<b>-8.3</b>	<b>-8.0</b>	<b>4.1</b>	<b>2.9</b>	<b>--</b>	<b>4.7</b>	<b>Feb-15</b>
<i>Bloomberg US High Yield TR</i>				<u>2.6</u>	<u>-12.5</u>	<u>-11.8</u>	<u>0.3</u>	<u>2.0</u>	<u>4.1</u>	<u>3.6</u>	<u>Feb-15</u>
Excess Return				-1.4	4.2	3.8	3.8	0.9		1.1	
Polen Capital	8,551,282	2.2	100.0	1.2	-8.3	-8.0	4.1	2.9	--	4.7	Feb-15
<i>ICE BofA High Yield Master TR</i>				<u>2.8</u>	<u>-12.2</u>	<u>-11.4</u>	<u>0.2</u>	<u>1.9</u>	<u>4.1</u>	<u>3.6</u>	<u>Feb-15</u>
Excess Return				-1.6	3.9	3.4	3.9	1.0		1.1	

Performance shown is gross-of-fees. Since inception date and performance begins in the month following an investments initial funding.

As of October 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Covered Calls</b>	<b>31,239,449</b>	<b>7.9</b>	<b>7.9</b>	<b>7.0</b>	<b>-13.1</b>	<b>-10.1</b>	<b>7.9</b>	<b>7.6</b>	<b>--</b>	<b>8.2</b>	<b>Apr-14</b>
<i>CBOE S&amp;P 500 BuyWrite USD</i>				<u>6.1</u>	<u>-11.9</u>	<u>-10.0</u>	<u>2.1</u>	<u>3.2</u>	<u>5.5</u>	<u>4.9</u>	<u>Apr-14</u>
Excess Return				0.9	-1.2	-0.1	5.8	4.4		3.3	
Parametric BXM	15,758,713	4.0	50.4	5.9	-10.6	-8.3	5.1	5.3	--	6.4	Apr-14
<i>CBOE S&amp;P 500 BuyWrite USD</i>				<u>6.1</u>	<u>-11.9</u>	<u>-10.0</u>	<u>2.1</u>	<u>3.2</u>	<u>5.5</u>	<u>4.9</u>	<u>Apr-14</u>
Excess Return				-0.2	1.3	1.7	3.0	2.1		1.5	
Parametric DeltaShift	15,480,736	3.9	49.6	8.1	-15.3	-11.9	10.2	9.6	--	10.2	Apr-14
<i>CBOE S&amp;P 500 BuyWrite USD</i>				<u>6.1</u>	<u>-11.9</u>	<u>-10.0</u>	<u>2.1</u>	<u>3.2</u>	<u>5.5</u>	<u>4.9</u>	<u>Apr-14</u>
Excess Return				2.0	-3.4	-1.9	8.1	6.4		5.3	
<b>Crisis Risk Offset</b>	<b>40,195,623</b>	<b>10.2</b>	<b>10.2</b>	<b>-3.4</b>	<b>-13.2</b>	<b>-12.6</b>	<b>-14.0</b>	<b>--</b>	<b>--</b>	<b>-9.3</b>	<b>Aug-18</b>
<i>SG Multi Alternative Risk Premia Index</i>				<u>2.4</u>	<u>5.6</u>	<u>8.9</u>	<u>-1.0</u>	--	--	<u>-0.3</u>	<u>Aug-18</u>
Excess Return				-5.8	-18.8	-21.5	-13.0			-9.0	
Kepos Alternative Risk Premia	9,706,958	2.5	24.1	-0.3	--	--	--	--	--	-2.4	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>				<u>2.4</u>	<u>5.6</u>	<u>8.9</u>	<u>-1.0</u>	--	--	<u>4.8</u>	<u>Feb-22</u>
Excess Return				-2.7						-7.2	
Versor Trend Following	17,249,215	4.4	42.9	-3.7	--	--	--	--	--	15.0	Apr-22
<i>SG Trend Index</i>				<u>0.2</u>	<u>45.2</u>	<u>39.0</u>	<u>19.1</u>	<u>11.5</u>	<u>7.3</u>	<u>23.4</u>	<u>Apr-22</u>
Excess Return				-3.9						-8.4	
Vanguard Long-Term Treasury ETF	13,239,450	3.4	32.9	-5.2	-32.3	-31.8	-9.9	--	--	-7.1	Jul-19
<i>Bloomberg US Govt Long TR</i>				<u>-5.5</u>	<u>-32.7</u>	<u>-31.9</u>	<u>-9.9</u>	<u>-2.7</u>	<u>0.0</u>	<u>-7.2</u>	<u>Jul-19</u>
Excess Return				0.3	0.4	0.1	0.0			0.1	
<b>Cash</b>	<b>10,814,113</b>	<b>2.7</b>	<b>2.7</b>	<b>1.9</b>	<b>4.8</b>	<b>4.8</b>	<b>2.0</b>	<b>2.1</b>	<b>1.2</b>	<b>1.0</b>	<b>Mar-11</b>
<i>FTSE T-Bill 3 Months TR</i>				<u>0.2</u>	<u>0.9</u>	<u>0.9</u>	<u>0.6</u>	<u>1.2</u>	<u>0.7</u>	<u>0.6</u>	<u>Mar-11</u>
Excess Return				1.7	3.9	3.9	1.4	0.9	0.5	0.4	
Cash	3,448,113	0.9	31.9	0.0	0.0	0.0	0.7	1.3	0.8	0.6	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<u>0.2</u>	<u>0.9</u>	<u>0.9</u>	<u>0.6</u>	<u>1.2</u>	<u>0.7</u>	<u>0.6</u>	<u>Mar-11</u>
Excess Return				-0.2	-0.9	-0.9	0.1	0.1	0.1	0.0	
Cash - Treasury	7,366,000	1.9	68.1								

As of October 31, 2022

**Cash Flow Summary**
**Month to Date**

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Brown Fundamental Small Cap Value	\$9,733,085	\$0	\$1,242,574	\$10,975,659
Cash	\$3,406,515	\$41,598	\$0	\$3,448,113
Cash - Treasury	\$7,165,000	\$0	\$201,000	\$7,366,000
EARNEST Partners	\$40,474,607	\$0	\$3,145,006	\$43,619,613
Kepos Alternative Risk Premia	\$9,742,494	\$0	-\$35,536	\$9,706,958
Northern Trust Russell 1000	\$67,029,399	-\$2,000,000	\$5,206,831	\$70,236,230
Parametric BXM	\$14,882,217	\$0	\$876,496	\$15,758,713
Parametric DeltaShift	\$14,325,499	\$0	\$1,155,236	\$15,480,736
Polen Capital	\$8,450,960	\$0	\$100,322	\$8,551,282
Ramirez	\$67,871,550	\$0	-\$1,058,662	\$66,812,888
Reams	\$25,197,341	\$0	-\$247,723	\$24,949,618
Rice Hall James	\$12,875,087	\$0	\$677,276	\$13,552,363
Securities Lending Northern Trust	\$0	-\$9,277	\$9,277	\$0
SGA ACWI ex-U.S. Equity	\$31,288,462	\$0	\$1,242,976	\$32,531,437
Vanguard Developed Markets ETF	\$12,175,691	\$0	\$740,052	\$12,915,743
Vanguard Long-Term Treasury ETF	\$14,000,185	\$0	-\$760,735	\$13,239,450
Versor Trend Following	\$17,905,977	\$0	-\$656,762	\$17,249,215
Wellington Core Bond	\$6,413,320	\$0	-\$97,898	\$6,315,421
Wellington Select Quality Equity	\$19,520,651	\$0	\$1,982,752	\$21,503,403
<b>Total</b>	<b>\$382,458,040</b>	<b>-\$1,967,678</b>	<b>\$13,722,482</b>	<b>\$394,212,844</b>

**Benchmark History**
**As of October 31, 2022**
**Total Plan x Securities Lending x Reams LD Exception Comp**

6/1/2022	Present	40% Russell 3000 / 12% MSCI ACWI ex USA / 31% Bloomberg US Universal TR / 5% CBOE BXM / 10% SG Multi Alternative Risk Premia Index / 2% Bloomberg US High Yield TR
1/1/2019	5/31/2022	40% Russell 3000 / 12% MSCI ACWI ex USA Gross / 33% Bloomberg US Universal TR / 5% CBOE BXM / 6.7% SG Multi Alternative Risk Premia Index / 3.3% Bloomberg US Treasury Long TR
5/1/2016	12/31/2018	48% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 20% CBOE BXM
10/1/2015	4/30/2016	43% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 15% CBOE BXM / 10% CPI - All Urban Consumers (unadjusted) +3%
1/1/2014	9/30/2015	48% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 10% CBOE BXM / 10% CPI - All Urban Consumers (unadjusted) +3%
3/1/2013	12/31/2013	40% Russell 3000 / 10% MSCI ACWI ex USA Gross / 17% Bloomberg US Universal TR / 33% ICE BofA 3M US Treasury TR USD
8/1/2012	2/28/2013	20% Russell 3000 / 7% MSCI ACWI ex USA Gross / 18% Bloomberg US Universal TR / 55% ICE BofA 3M US Treasury TR USD
10/1/2007	7/31/2012	53% Russell 3000 / 17% MSCI ACWI ex USA Gross / 30% Bloomberg US Universal TR
4/1/2006	9/30/2007	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% Bloomberg US Universal TR
1/1/2005	3/31/2006	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% Bloomberg US Aggregate TR
4/1/1998	12/31/2004	50% Bloomberg US Aggregate TR / 10% Russell 1000 / 20% Russell 1000 Value / 5% Russell MidCap / 15% MSCI EAFE

**Domestic Equity**

1/1/2005	Present	Russell 3000
4/1/1998	12/31/2004	28.57% Russell 1000 / 57.14% Russell 1000 Value / 14.29% Russell MidCap
6/1/1997	3/31/1998	S&P 500

**International Equity**

1/1/2005	Present	MSCI ACWI ex USA
1/1/1998	12/31/2004	MSCI EAFE Gross

**Fixed Income**

4/1/2006	Present	Bloomberg US Universal TR
12/31/1993	3/31/2006	Bloomberg US Aggregate TR



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# Oakland Police and Fire Retirement System

December 14, 2022

Quarterly Performance Report  
as of September 30, 2022

## Agenda

1. Total Portfolio Summary
2. Economic and Market Update
3. Asset Class and Manager Commentary
4. 3Q 2022 Performance as of September 30, 2022
5. Disclaimer, Glossary, and Notes

## **Total Portfolio Summary**

## Total Portfolio Summary

As of the quarter end, the City of Oakland Police and Fire Retirement System (OPFRS) portfolio had an aggregate value of \$382.5 million. This represents a \$17.9 million depreciation in investment value after \$6.0 million in net outflows over the quarter. Over the one-year period, the OPFRS Total Portfolio value faced a \$63.3 million depreciation, after withdrawals totaling \$14.0 million for benefit payments.

### Asset Allocation Trends

- The asset allocation targets throughout this report reflect those as of September 30, 2022. Target weightings reflect the interim phase (where Crisis Risk Offset component is set to 10%) of the Plan's previously approved asset allocation (effective 5/31/2017).
- Relative to policy targets, the portfolio ended the latest quarter moderate overweight in Covered Calls (+2.6%) and Cash (+2.8%), a slight overweight in Crisis Risk Offset (+0.9%), while moderate underweight in Fixed Income (-5.0%). The other asset classes have slight deviation from their respective policy targets, and all the asset classes were within acceptable allocation ranges.

### Investment Performance

- During the most recent quarter, the OPFRS portfolio generated an absolute return of -4.5%, gross of fees, outperforming its policy benchmark<sup>1</sup> by 0.1%. It has also outperformed the benchmark over the trailing 1-, 3-, and 5-year periods.

<sup>1</sup> Evolving Policy Benchmark consists of 40% Russell 3000, 12% MSCI ACWI ex U.S., 33% Bloomberg Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bloomberg Long Treasury from 1/1/2019 through 5/31/2022; and 40% Russell 3000 / 12% MSCI ACWI ex USA / 31% Bloomberg US Universal TR / 5% CBOE BXM / 10% SG Multi Alternative Risk Premia Index / 2% Bloomberg US High Yield thereafter.

### Peer Comparison

→ In comparison to its peers which are public defined benefit plans with \$250 million to \$1 billion in assets<sup>1</sup>, the portfolio has slightly lagged the median fund's return over the quarter as well as the longer 1-, 3-, and 5-year periods.

	Quarter	CYTD	1 Year	3 Year	5 Year
<b>Total Portfolio (Gross)</b>	<b>-4.5</b>	<b>-18.9</b>	<b>-14.3</b>	<b>2.2</b>	<b>4.2</b>
Policy Benchmark	-4.6	-19.3	-15.7	2.0	3.7
Excess Return	0.1	0.1	1.4	0.2	0.5
Reference: Median Fund	-4.2	-18.2	-14.6	4.1	4.8
Reference: Total Portfolio (Net) <sup>2</sup>	-4.6	-19.1	-14.5	1.9	3.8

→ It should be noted, however, that OPFRS portfolio has slightly higher risk in comparison with its peers. When adjusted for risk, the OPFRS portfolio has materially outperformed the risk-adjusted peer median return over the quarter, year-to-date, and 1-year trailing periods as the portfolio began to fully deploy all the long-term strategic asset classes and the underlying managers.

	Quarter	CYTD	1 Year	3 Year	5 Year
<b>Total Portfolio (Gross)</b>	<b>-4.5</b>	<b>-18.9</b>	<b>-14.3</b>	<b>2.2</b>	<b>4.2</b>
Risk-Adjusted Median Fund	-5.4	-19.6	-15.9	4.4	5.2
Excess Return	0.9	0.7	1.6	-2.2	-1.0

<sup>1</sup> Source: Investment Metrics peer universe as of 9/30/2022.

<sup>2</sup> Longer-term (>1 year) Net of fee returns include estimates based on OPFRS manager fee schedule (approximately 34 bps).

# **Economic and Market Update**

Data as of October 31, 2022

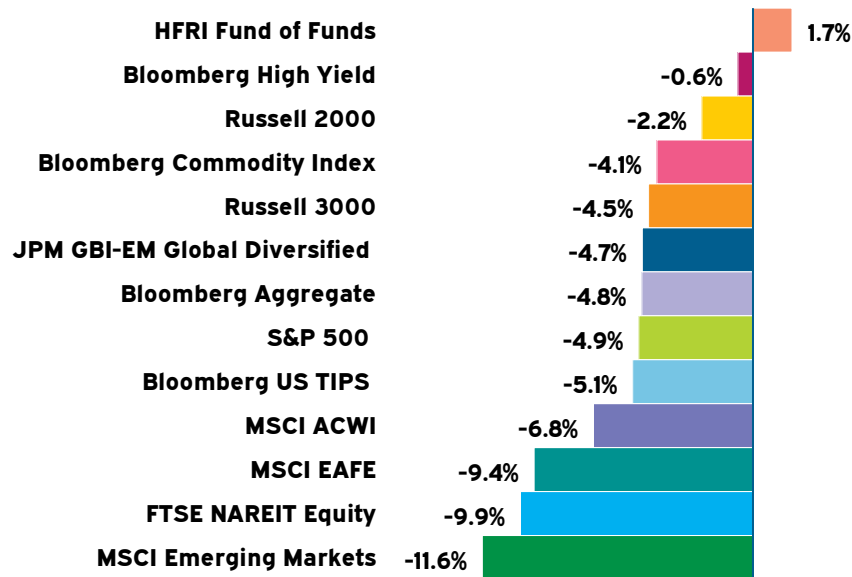
### Commentary

- Investor sentiment improved in October as markets repriced for continued easing of inflation risks, a potential slowing in monetary policy tightening efforts, and hopes for a soft-landing in 2023.
- After month-end, the Federal Reserve continued its aggressive tightening campaign with its fourth consecutive 75 basis point rate hike. Future hikes are expected into next year as US inflation remains high and labor markets tight.
  - In Europe, inflation hit a multi-decade high on energy prices, but manufacturing and service data in some countries surprised to the upside, lifting investor sentiment.
  - In the UK, the appointment of Rishi Sunak as the new prime minister calmed investors nerves to some extent.
  - US and developed equity markets rallied for the month, while emerging markets declined on significant China weakness (-16.8%) driven in part by political developments and continued strict COVID-19 policies.
  - Interest rates further increased across the US yield curve during October, and the curve remained inverted (ten- year yield minus the two-year yield) by 43 basis points. This year has witnessed by far the worst start to a calendar year for bond investors.
- Persistently high inflation and tightening of monetary policy, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China and recent political developments will all continue to have considerable consequences for the global economy.

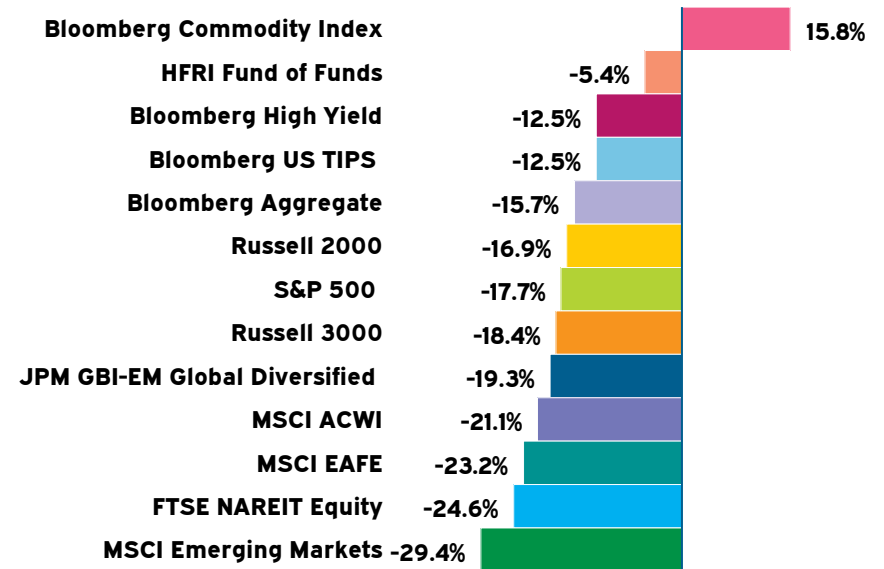


### Index Returns<sup>1</sup>

#### Third Quarter



#### YTD through October



→ After broad declines in Q3 driven by expectations for further policy tightening, October produced mixed results with developed market equities posting notable gains.

→ Outside of commodities, all other public market asset classes remain significantly negative year-to-date.

<sup>1</sup> Source: Bloomberg and FactSet. Data is as of October 31, 2022.

### Domestic Equity Returns<sup>1</sup>

Domestic Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	8.1	-4.9	-17.7	-14.6	10.2	10.4	12.8
Russell 3000	8.2	-4.5	-18.4	-16.5	9.8	9.9	12.5
Russell 1000	8.0	-4.6	-18.5	-16.4	10.0	10.2	12.7
Russell 1000 Growth	5.8	-3.6	-26.6	-24.6	11.7	12.6	14.7
Russell 1000 Value	10.3	-5.6	-9.3	-7.0	7.3	7.2	10.3
Russell MidCap	8.9	-3.4	-17.5	-17.2	7.8	7.9	11.3
Russell MidCap Growth	7.9	-0.7	-26.1	-28.9	6.3	8.7	11.9
Russell MidCap Value	9.4	-4.9	-12.8	-10.2	7.5	6.5	10.4
Russell 2000	11.0	-2.2	-16.9	-18.5	7.0	5.6	9.9
Russell 2000 Growth	9.5	0.2	-22.6	-26.0	5.1	5.2	10.1
Russell 2000 Value	12.6	-4.6	-11.2	-10.7	8.1	5.3	9.4

#### US Equities: Russell 3000 Index rose 8.2% for October.

- US stocks rallied, posting strong monthly returns across all indices, rebounding from a sharp drop in September. Investors demonstrated optimism across the style and market capitalization spectrum as earnings remained resilient despite economic pressures.
- Most sectors rose in October, but there was wide dispersion. Energy's 24.8% gain led all sectors, driven by strong earnings, while consumer discretionary experienced a slightly positive gain (0.2%) given the impact of inflationary pressures on consumers.
- Value stocks continued to outperform growth stocks across the market capitalization spectrum. The rally in energy stocks and the relative underperformance of technology and consumer discretionary stocks has driven this dynamic.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.

### Foreign Equity Returns<sup>1</sup>

Foreign Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.0	-9.9	-24.3	-24.7	-1.7	-0.6	3.3
MSCI EAFE	5.4	-9.4	-23.2	-23.0	-1.3	-0.1	4.1
MSCI EAFE (Local Currency)	5.3	-3.6	-9.9	-8.4	3.7	3.3	7.9
MSCI EAFE Small Cap	4.2	-9.8	-29.2	-30.3	-2.3	-1.3	5.6
MSCI Emerging Markets	-3.1	-11.6	-29.4	-31.0	-4.4	-3.1	0.8
MSCI Emerging Markets (Local Currency)	-2.6	-8.2	-22.8	-24.2	-0.8	-0.2	4.2
MSCI China	-16.8	-22.5	-42.8	-47.9	-13.8	-9.7	-0.1

Developed International equities (MSCI EAFE) rose 5.4%, while emerging markets (MSCI EM) returned -3.1% in October, driven largely by declines in China.

- Developed markets outside of the US had a strong month in October, posting gains in Europe, the UK, and Japan. Energy and industrials led broad-sectoral gains in the Eurozone, while the UK markets reacted positively to the appointment of the new prime minister, Rishi Sunak. The Bank of Japan’s continued dovish policy stance and early signs of resilient Q3 earnings supported Japanese equities.
- China dominated headlines this month across the non-US landscape. Rising geopolitical tensions, particularly after events from the 20<sup>th</sup> Communist Party Congress, on top of the continuation of the zero COVID-19 policies, drove sharp declines for the month.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.

### Fixed Income Returns<sup>1</sup>

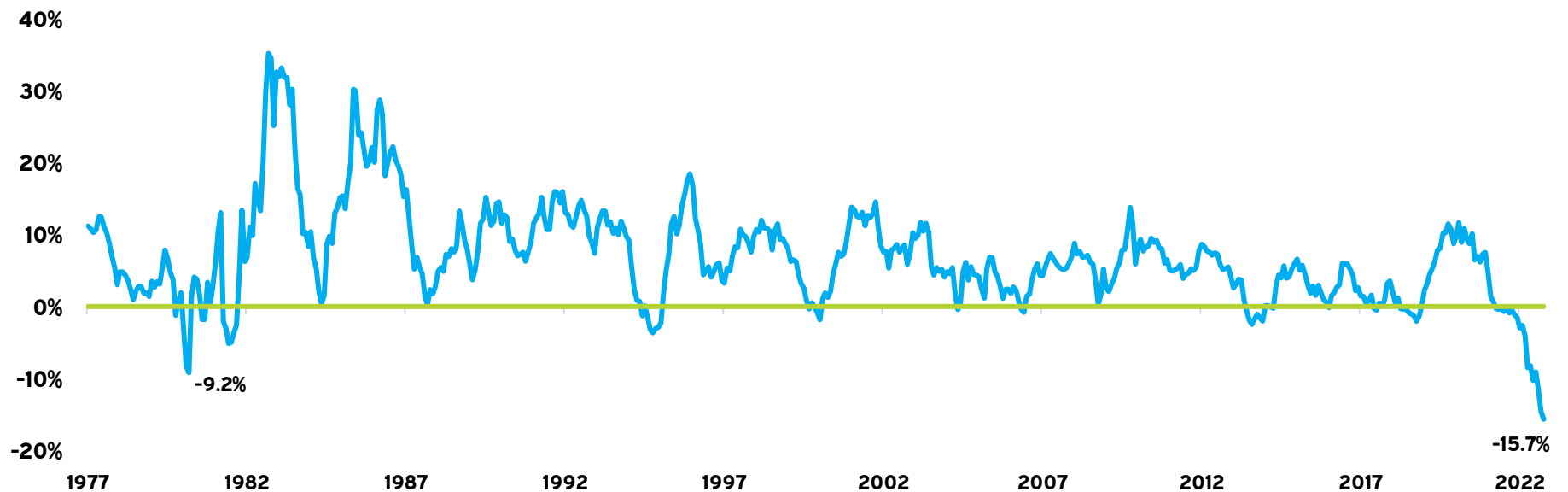
Fixed Income	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-1.1	-4.5	-15.8	-15.8	-3.6	-0.4	1.0	5.5	6.1
Bloomberg Aggregate	-1.3	-4.8	-15.7	-15.7	-3.8	-0.5	0.7	5.0	6.3
Bloomberg US TIPS	1.2	-5.1	-12.5	-11.5	1.1	2.2	1.0	4.6	6.9
Bloomberg High Yield	2.6	-0.6	-12.5	-11.8	0.3	2.0	4.1	9.1	4.5
JPM GBI-EM Global Diversified (USD)	-0.9	-5.8	-19.3	-20.3	-8.2	-3.5	-2.6	7.7	4.8

#### Fixed Income: The Bloomberg Universal declined 1.1% in October.

- A continued rise in bond yields in the US driven by the Fed reinforcing its commitment to fight inflation weighed on fixed income markets for the month. Year-to-date, the US bond market (Bloomberg Aggregate) performance is the worst on record.
- TIPS appreciated for the month but remain down double-digits for the year as real rates have experienced a steep increase too. The inflation adjustment has led to a 320 basis points smaller decline than the broad US bond market though.
- Riskier US bonds, as represented by the high yield index, produced the best fixed income results for the month (+2.6%) in the risk-on environment. Emerging market bonds finished down 0.9% in October adding to the significant declines year-to-date.

<sup>1</sup> Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of October 31, 2022.

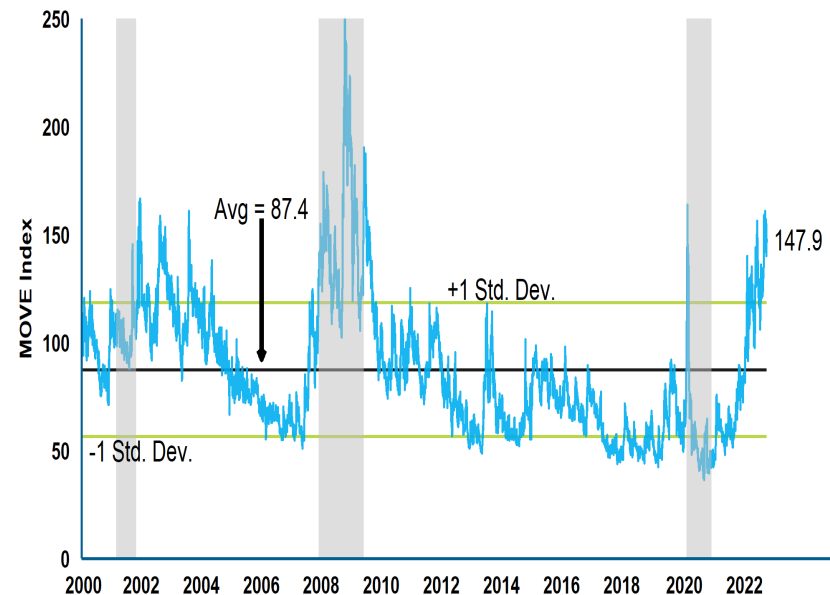
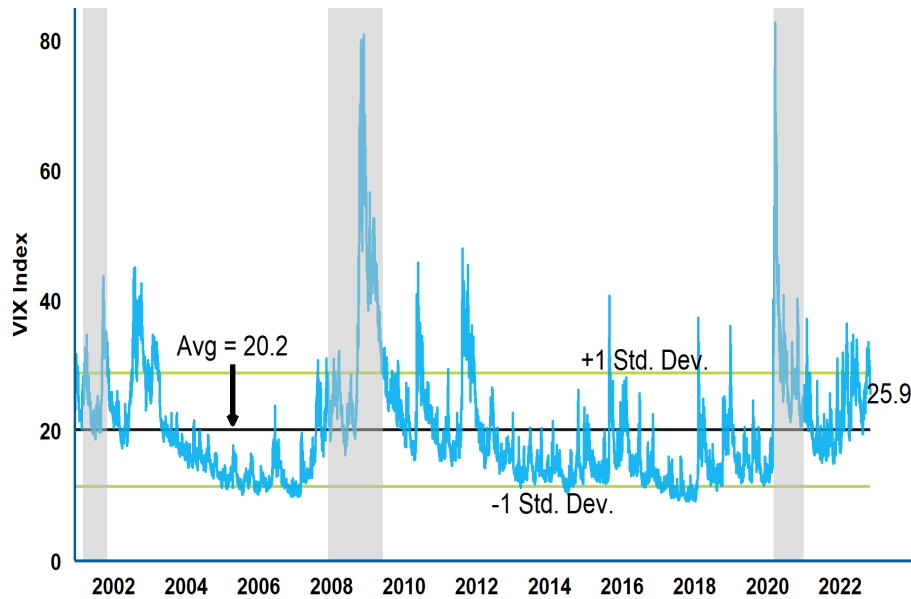
### Bloomberg US Aggregate Rolling One-year Returns<sup>1</sup>



- This has been the worst rolling one-year return period for the US bond market given the historic inflation levels and the corresponding rapid rise in interest rates.
- Through October the trailing year return was -15.7% well ahead of the number two spot (-9.2%) from the early 1980s.

<sup>1</sup> Source: Bloomberg. Data is as of 10/31/2022.

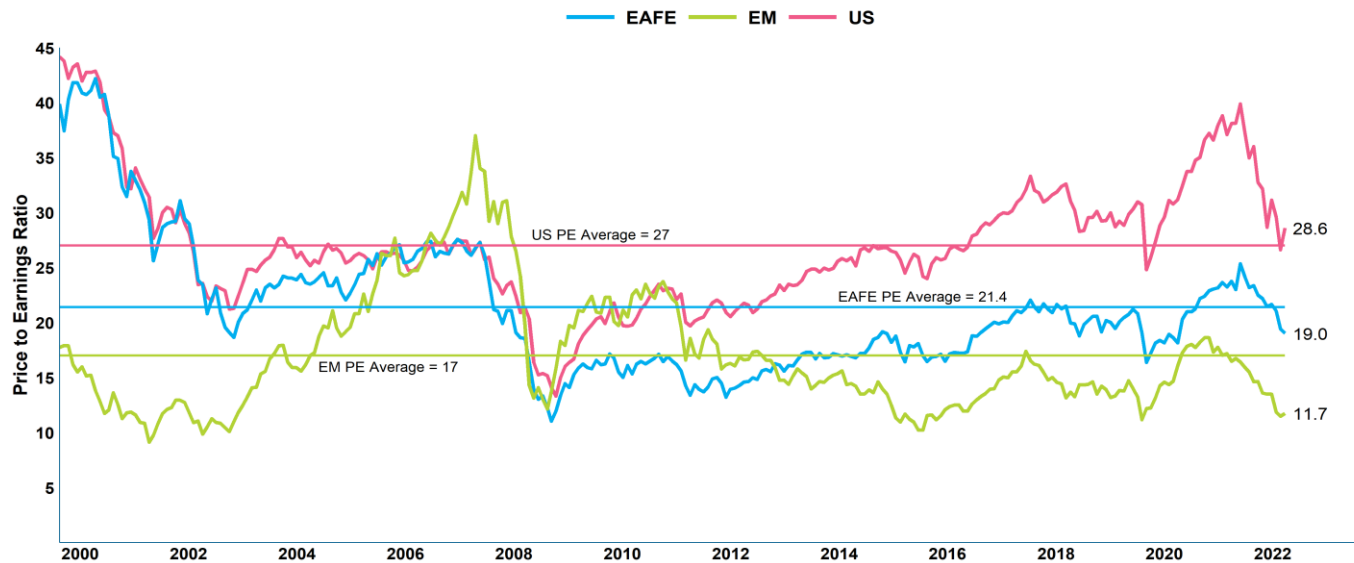
**Equity and Fixed Income Volatility<sup>1</sup>**



- Volatility in equities (VIX) and fixed income (MOVE) remained above their long-run averages in October.
- Fixed income volatility was particularly high due to the uncertain path of US interest rates as the Federal Reserve continued its hawkish stance on inflation.

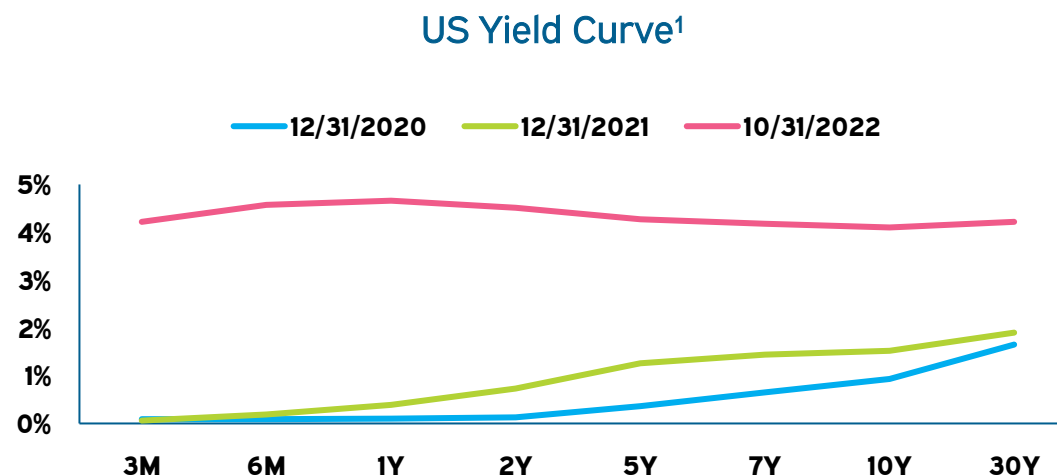
<sup>1</sup> Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of October 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.

**Equity Cyclically Adjusted P/E Ratios<sup>1</sup>**



- October’s US equity rally brought the market’s price-to-earnings ratio to slightly above the long-term (21<sup>st</sup> century) average.
- International developed market valuations remain below the US and are below their own long-term average, with those for emerging markets the lowest and well under the long-term average.
- Price declines have been the main driver of recent multiple compression as earnings have remained resilient. Concerns remain over whether earnings strength will continue in the face of slowing growth.

<sup>1</sup> 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: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of October 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.

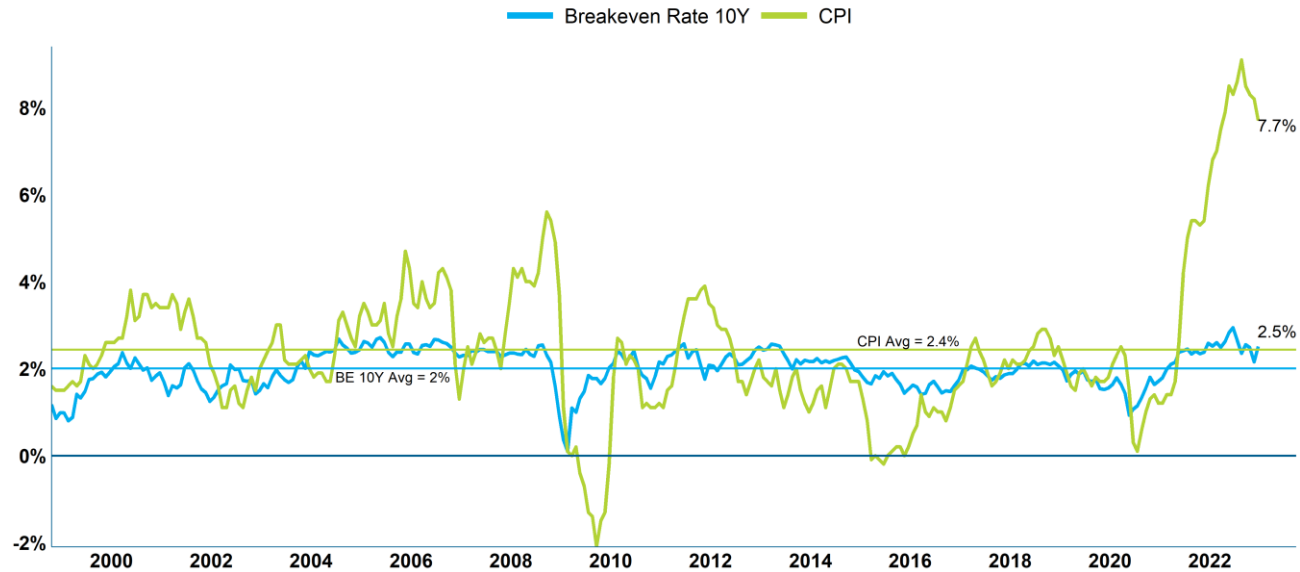


- Rates across the yield curve remain far higher than at the start of the year.
- In October, interest rates continued to increase across the yield curve, particularly at the front-end where there is more sensitivity to policy changes. Two-year Treasury yields rose from 4.3% to 4.5% for the month, while ten-year Treasury yields climbed from 3.8% to 4.1%.
- The Fed remains strongly committed to fighting inflation, as it increased rates another 75 basis points to a range of 3.75% to 4.0% at its November meeting. This was the sixth increase this year and the fourth consecutive increase of this amount.
- The yield spread between two-year and ten-year Treasuries remained negative, finishing September at -0.41%. The more closely watched measure by the Fed of three-month and ten-year Treasuries also inverted. Historically, inversions in the yield curve have often preceded recessions.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.



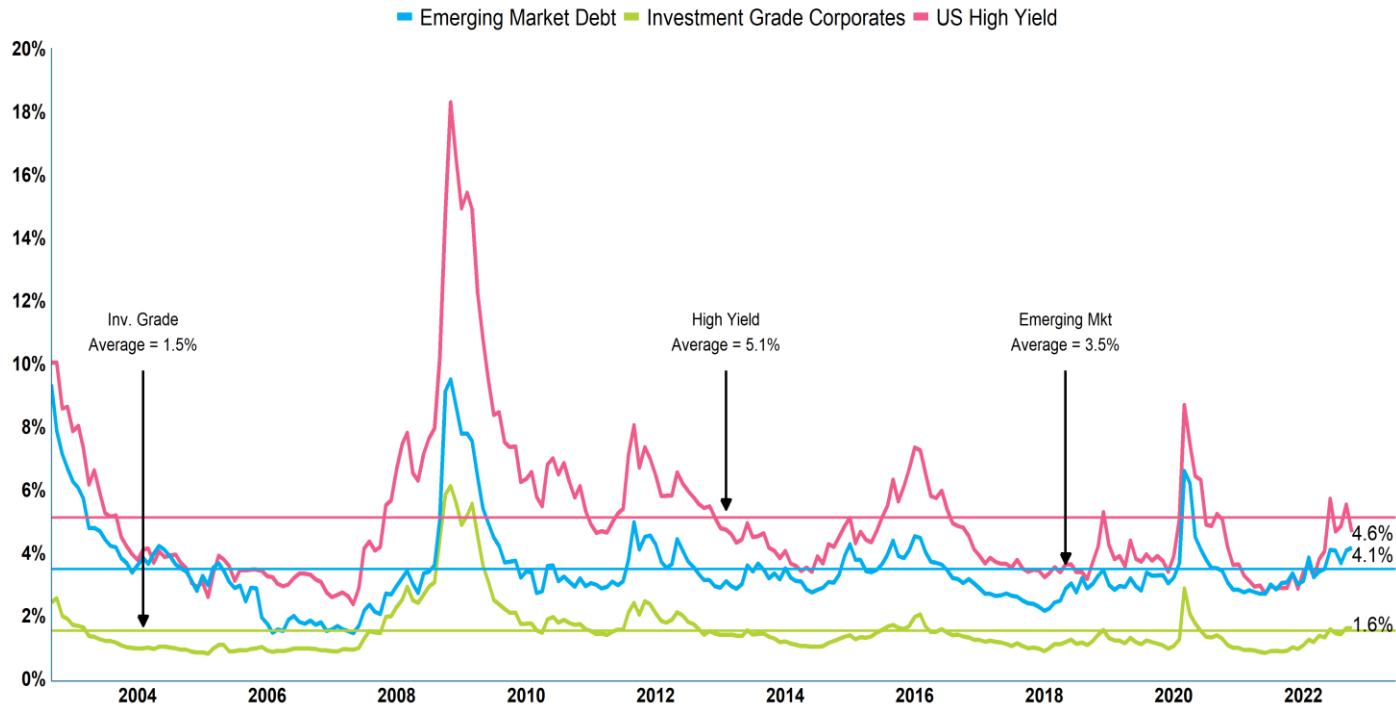
**Ten-Year Breakeven Inflation and CPI<sup>1</sup>**



- Inflation expectations (breakevens) rose slightly in October, remaining above the long-run average.
- Trailing twelve-month CPI declined in October (7.7% versus 8.2%) coming in below expectations of 7.9%. Core inflation (excluding food and energy prices) declined from its recent 40-year peak of 6.6% to 6.3% over the same period.
- Over the last year, rising prices for energy (particularly oil), food, housing, and for new and used cars remain key drivers of inflation.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative purposes.

**Credit Spreads vs. US Treasury Bonds<sup>1</sup>**



- High yield spreads (the added yield above a comparable maturity Treasury) fell in October to below their long-run average as below investment grade credit largely outperformed Treasuries in the risk-on environment.
- Investment grade spreads stayed the same in the US (1.6%), near the long-run average, while emerging market spreads increased slightly (4.1% versus 4.0%) staying above their average.

<sup>1</sup> Sources: Bloomberg. Data is as of October 31, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively.

### Global Economic Outlook

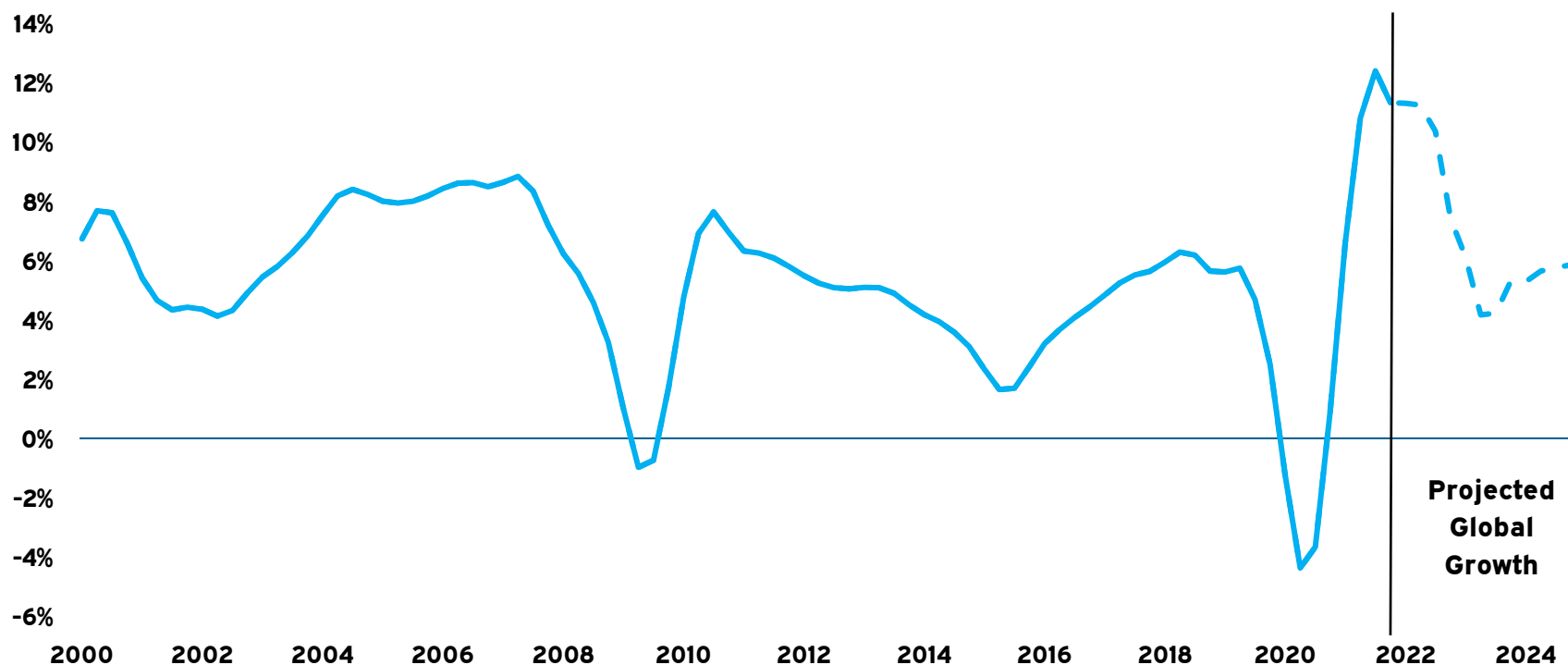
In their October update, the IMF maintained lowered global growth forecasts, driven by the economic impacts of persistent inflation and corresponding tighter policy, as well as issues related to the war in Ukraine and the lingering pandemic.

- The IMF forecasts global GDP growth to come in at 3.2% in 2022 (like the July estimate) and 2.7% in 2023 (0.2% below the prior estimate).
- In advanced economies, GDP is projected to grow 2.4% in 2022 and 1.1% in 2023. The US saw another downgrade in the 2022 (1.6% versus 2.3%) forecast largely due to accelerated policy tightening, given persistently high inflation. The euro area saw an upgrade in expected growth (3.1% versus 2.6%) on substantial fiscal stimulus in 2022 but a downgrade in 2023 (0.5% versus 1.2%) as rising energy prices weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and 1.6% in 2023.
- Growth projections for emerging markets are higher than developed markets, at 3.7% in 2022 and 2023. China's growth was downgraded for 2022 (3.2% versus 3.3%) and 2023 (4.4% versus 4.6%) given tight COVID-19 restrictions and continued property sector problems.
- The global inflation forecast was significantly increased for 2022 (8.8% versus 7.4%).

	Real GDP (%) <sup>1</sup>			Inflation (%) <sup>1</sup>		
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average
World	3.2	2.7	3.2	8.8	6.5	3.6
Advanced Economies	2.4	1.1	1.6	7.2	4.3	1.6
US	1.6	1.0	2.1	8.1	3.5	2.0
Euro Area	3.1	0.5	1.0	8.3	5.7	1.3
Japan	1.7	1.6	0.8	2.0	1.4	0.4
Emerging Economies	3.7	3.7	4.4	9.9	8.1	5.3
China	3.2	4.4	7.3	2.2	2.2	2.4

<sup>1</sup> Source: IMF World Economic Outlook. Real GDP and Inflation forecasts from October 2022 Update. "Actual 10 Year Average" represents data from 2012 to 2021.

### Global Nominal Gross Domestic Product (GDP) Growth<sup>1</sup>



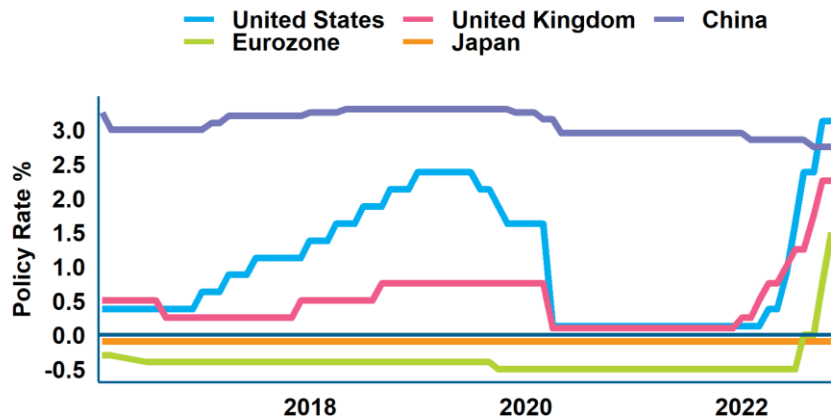
→ Global economies are expected to slow in 2022 compared to 2021, with risks of recession increasing given persistently high inflation and related tighter monetary policy.

→ The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

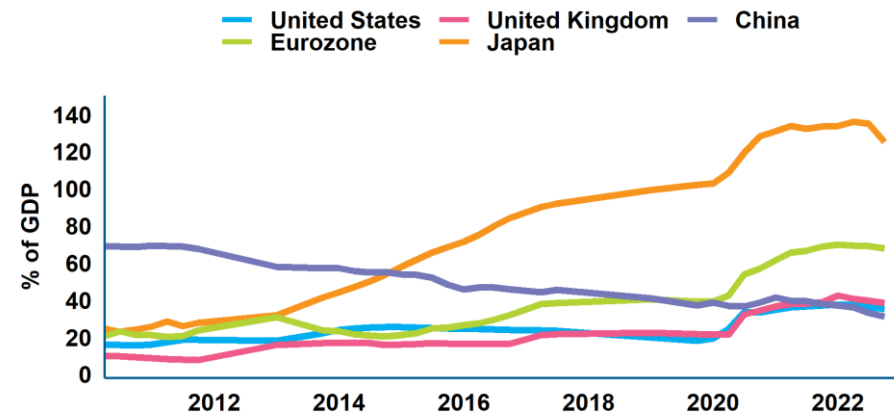
<sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated October 2022. Nominal expectations for GDP remain much higher than real GDP expectations given the elevated inflation levels.

### Central Bank Response<sup>1</sup>

#### Policy Rates



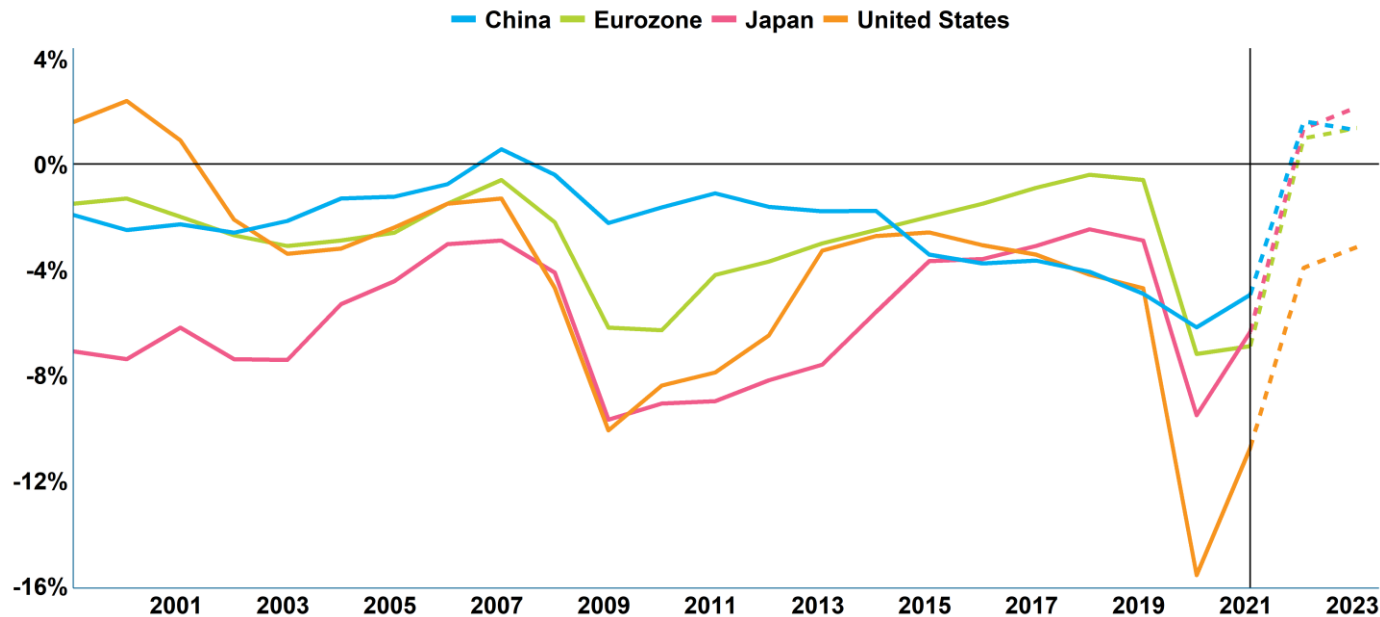
#### Balance Sheet as % of GDP



- After global central banks took extraordinary action to support economies during the pandemic, including policy rate cuts and emergency stimulus through quantitative easing (QE), many are now aggressively reducing support in the face of high inflation.
- The pace of withdrawing support varies across central banks with the US taking a more aggressive approach.
- The one notable central bank outlier is China, where the central bank has lowered rates and reserve requirements in response to slowing growth.
- The risk remains for a policy error, particularly overtightening, as record inflation, the war in Ukraine, and a tough COVID-19 policy in China could suppress global growth.

<sup>1</sup> Source: Bloomberg. Policy rate data is as of October 31, 2022. 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, 2022.

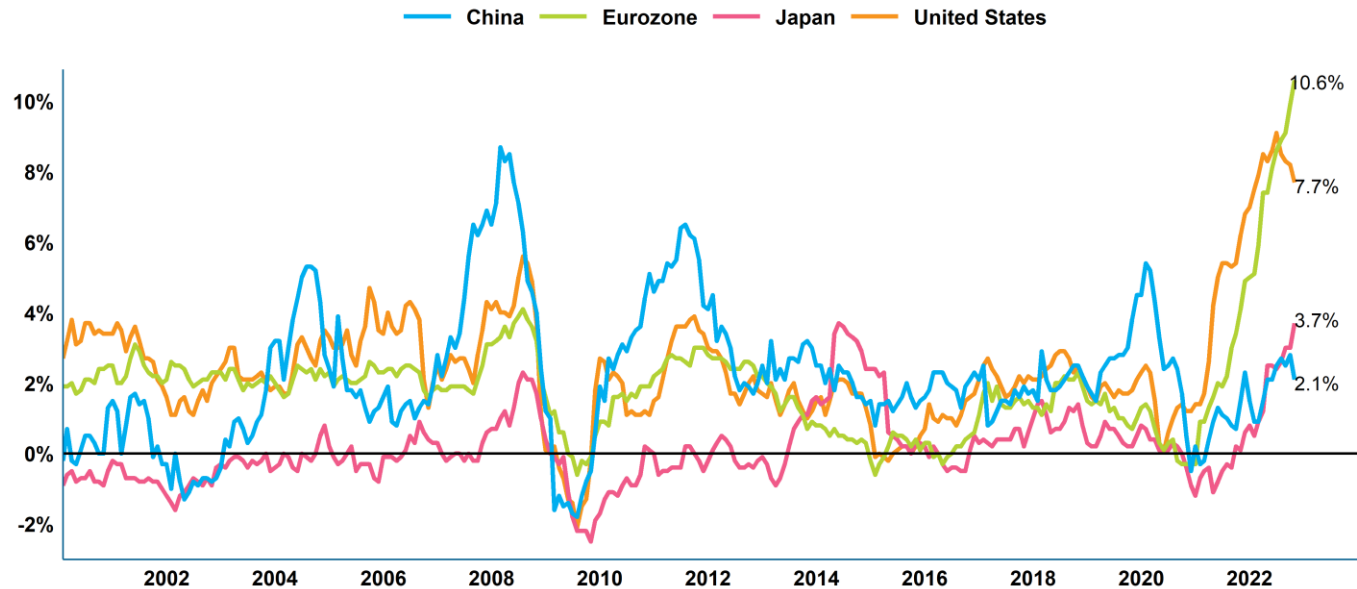
**Budget Surplus / Deficit as a Percentage of GDP<sup>1</sup>**



- Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.
- As fiscal stimulus programs end, and economic recoveries continue, deficits should improve.
- Questions remain about how some countries will respond fiscally as inflation, particularly energy prices, weigh on consumers. Policies that undermine central banks' efforts to fight inflation could lead to additional market volatility like was seen recently in the UK.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022. Projections via IMF Forecasts from October 2022 Report. Dotted lines represent 2022 and 2023 forecasts.

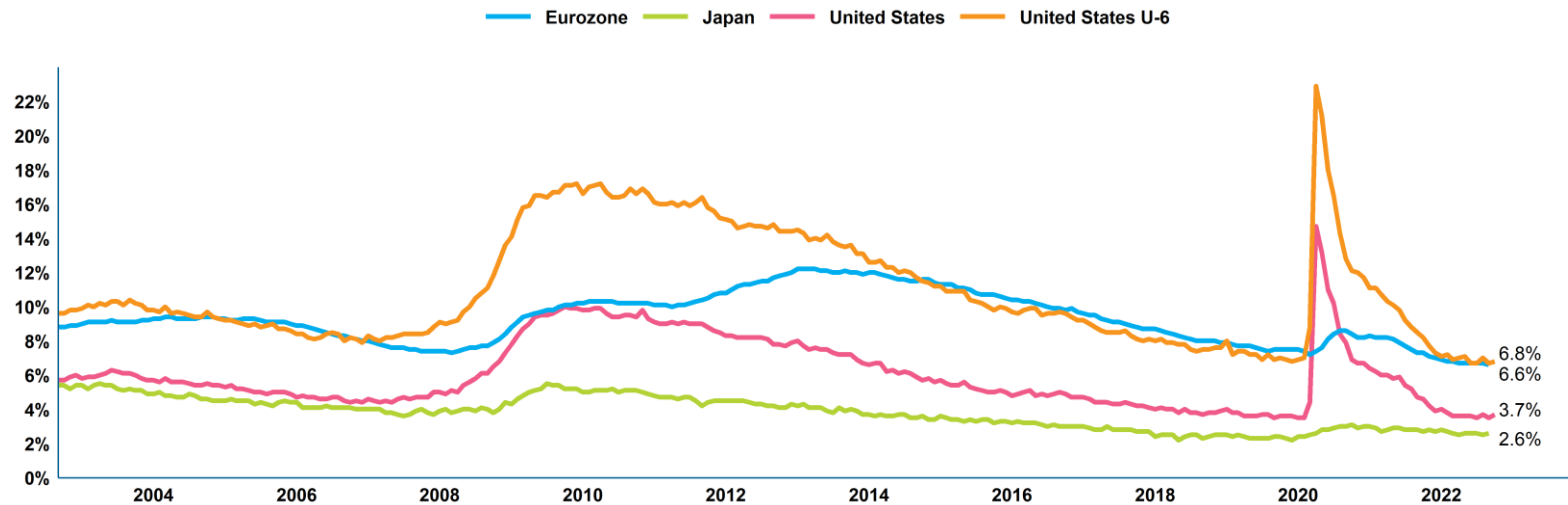
**Inflation (CPI Trailing Twelve Months)<sup>1</sup>**



- Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.
- Inflation pressures continue to grow in Europe, reaching historic levels due to skyrocketing energy prices and a weak euro.
- Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher commodity prices driven by the war in Ukraine have been key global drivers of inflation.

<sup>1</sup> Source: Bloomberg. Data is as of October 2022.

### Unemployment<sup>1</sup>

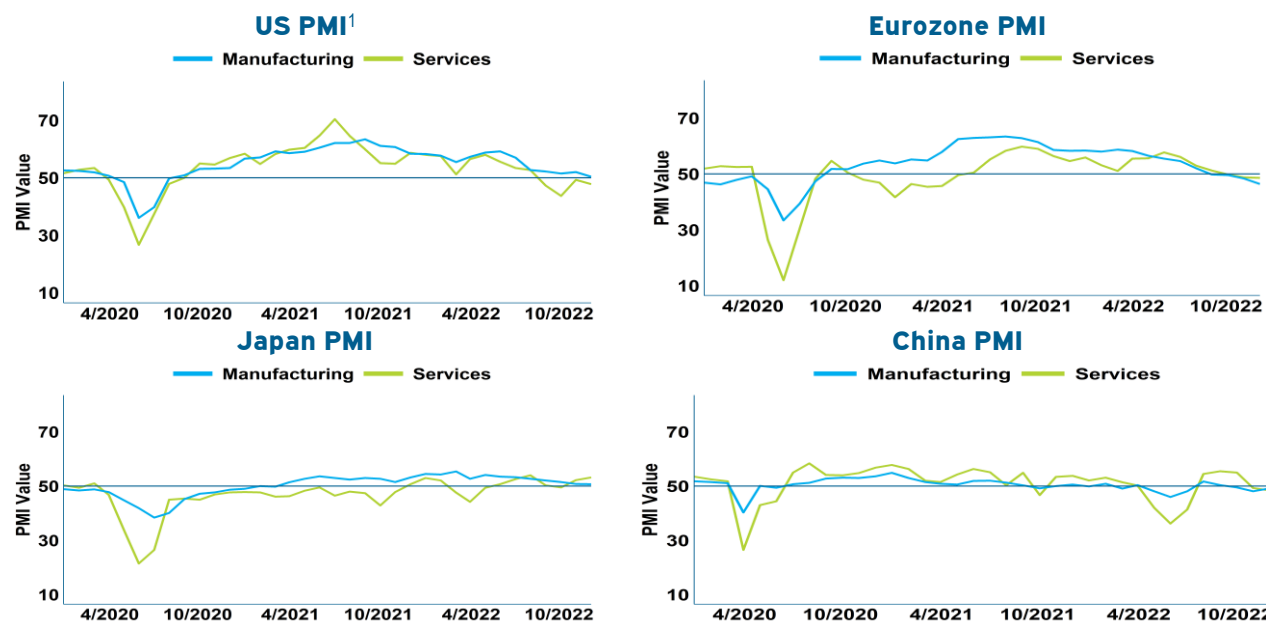


- As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- Despite slowing growth and high inflation the US labor market remains a bright spot. Unemployment in the US, which experienced the steepest rise from the pandemic, has remained in a tight 3.5%-3.7% range for most of the year. The broader measure (U-6) that includes discouraged and underemployed workers remains much higher at 6.8%.
- The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, likely leading to eventually higher unemployment.

<sup>1</sup> Source: Bloomberg. Data is as October 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of September 30, 2022.

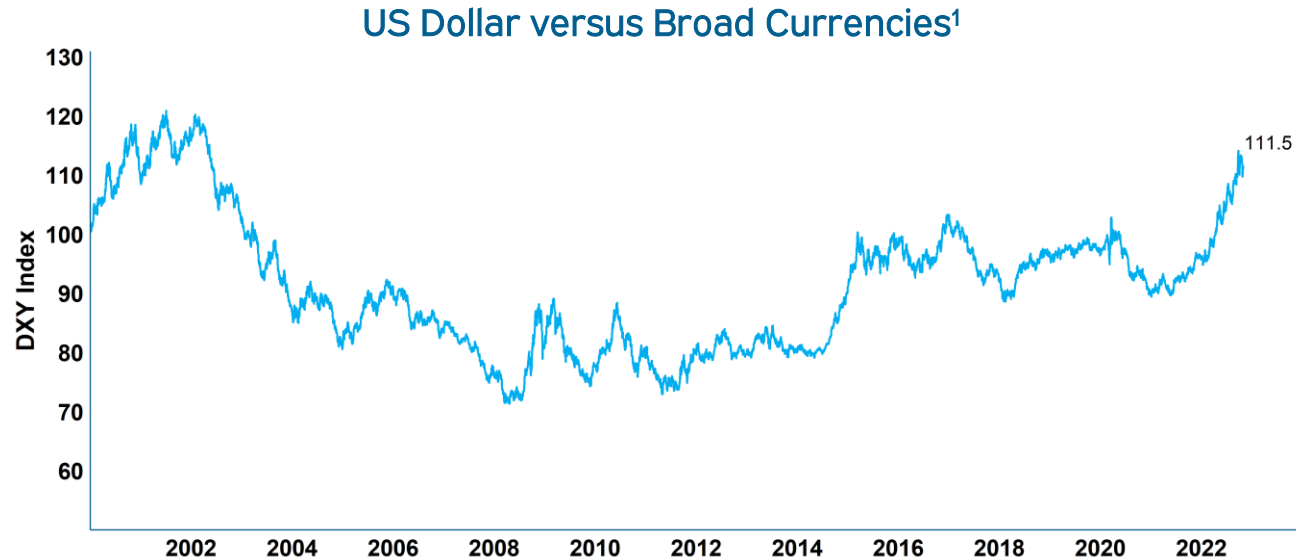


### Global PMIs



- After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced downward pressure recently.
- Service sector PMIs, except Japan (lifting COVID-19 restrictions and travel incentives have been helpful here), are all in contraction territory. The US service sector declined, remaining in negative territory, due to weak demand both domestically and abroad and softening employment.
- Manufacturing PMIs are also slowing across China and developed markets given declines in demand and inflationary pressures with the Eurozone, and China in contraction territory.

<sup>1</sup> Source: Bloomberg. US Markit Services and Manufacturing PMI, Caixin Services and Manufacturing PMI, Eurozone Markit Services and Manufacturing PMI, Jibun Bank Services and Manufacturing PMI. Data is as of October 2022. Readings below 50 represent economic contractions.



- Overall, the US dollar remained elevated in October but showed some signs of weakening. After month-end, the dollar weakened further.
- The increased pace of policy tightening, stronger relative growth, and safe-haven flows all contributed to the dollar’s strength this year.
- The euro, yen, pound, and yuan have all experienced significant declines versus the dollar this year, adding to inflationary pressures in those countries.

<sup>1</sup> Source: Bloomberg. Data as of October 31, 2022.

## Summary

### Key Trends in 2022:

- The impacts of record high inflation will remain key, with market volatility likely to stay high.
- The pace of monetary tightening globally will be faster than previously expected, with the risk of overtightening.
- Expect growth to slow globally for the rest of 2022 and into 2023 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- In the US the end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices will depress consumers' spending in other areas.
- Valuations have significantly declined in the US to below long-term averages, largely driven by price declines. The key going forward will be whether earnings can remain resilient if growth continues to slow.
- Outside the US, equity valuations remain lower in both emerging and developed markets, but major risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

## **Asset Class and Manager Commentary**

### Domestic Equity

→ Domestic equity slightly trailed the Russell 3000 benchmark during the quarter while outperforming over calendar year-to-date as well as 1-year trailing period though it slightly lagged the benchmark again over the longer trailing periods.

- Reflecting the volatile market over the quarter, all of the managers generated negative absolute returns. While only **Brown Fundamental Small Cap Value** outperformed the benchmark over the quarter, **Brown** as well as all other active managers (except for recently incepted **Wellington Select Quality**) maintained their outperformance over the calendar year-to-date and longer periods.
- **Earnest Partners**, **Wellington Select Quality**, and **Rice Hall James** all trailed their respective benchmarks and fell below average amongst its peers for the quarter. However, Earnest maintained its above average ranking for longer trailing periods.
- **Rice Hall James** also maintained its above average ranking over the 1-year trailing period. However, its historical underperformance in 2018 has kept its rank below average for the longer periods.
- **Brown Fundamental**, the Plan's active small cap value manager, outperformed its Russell 2000 Value benchmark and ranked above average amongst its small cap value peers across all time periods.

### International Equity

→ The international equity segment outperformed the MSCI ACWI ex US benchmark over the quarter as well as 1-, 3-, and 5-year trailing periods. As with domestic equity, the managers generated negative absolute returns reflecting the volatile conditions experienced during this quarter.

- **SGA MSCI ACWI ex US**, the Plan's active core international equity manager, outperformed its benchmark placing it below average compared to its international all cap core equity peers for the quarter as well as over the 1-year trailing period.
- The **Vanguard** passive international developed markets portfolio posted underperformance over the shorter time periods through the 1-year trailing period. Due to Vanguard's fair-value pricing methodology, the strategy tends to deviate from its tracked index return over the short-term; the deviation along with its excess return are expected to equalize over the longer term, and therefore the short-term deviation—both positive and negative—should not be overly scrutinized.

### Fixed Income

→ The Fixed Income aggregate trailed the Bloomberg Universal benchmark over the quarter, while it outperformed the benchmark across all other time periods. Reflecting the broad market trends, the fixed income managers in this portfolio posted negative absolute returns.

- **Ramirez** outperformed its benchmark over all time periods. Amongst its peers, **Ramirez** is above average in the most recent quarter as well as the long-term 5-year trailing period and since inception. However, it ranks in the 3rd quartile over the more intermediate 1- and 3-year periods.
- **Reams** slightly trailed its benchmark over the quarter while maintaining its outperformance over the longer trailing periods. Except for the most recent period, **Reams** ranks above average amongst its Core Plus Fixed Income peers.
- **Wellington Core Bond**, the most recently funded core fixed income manager, kept pace with its Bloomberg US Aggregate benchmark both over the quarter and trailed the benchmark over the 1-year trailing period.

#### Credit

- With **Polen Capital** as the Plan's sole **Credit** manager, the Credit portfolio outperformed the asset class's benchmark, Bloomberg US High Yield during the quarter as well as over all other time periods measured. Among its peers, **Polen** ranked above average across all periods except for the most recent quarter.
- This manager was formerly known as DDJ. As DDJ was recently acquired by Polen Capital, the manager remains on the Watchlist to monitor its progress and organization changes.



### Covered Calls

→ The **Covered Calls** portfolio strongly outperformed its CBOE S&P 500 Buy-Write Index over the quarter and the 1-, 3- and 5-year periods.

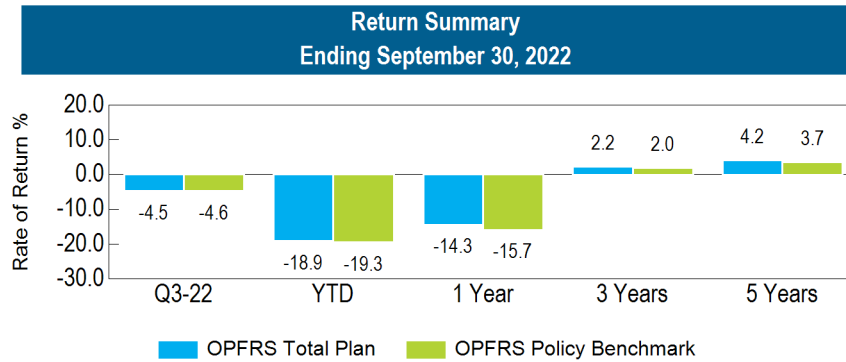
- The active covered call strategy, **Parametric DeltaShift**, in comparison with the managers in the US large cap core equity—which is an imperfect peer group for this strategy—ranked above average all time periods measure except for the longer 5-year trailing period.
- The passive covered calls strategy, **Parametric BXM**, on the other hand, ranked above average over 1-year period while ranking in the below average over the most recent quarter and the longer 3- and 5-year trailing periods. However, as noted above, no directly comparable peer group is available for the **Covered Calls** asset class and the peer universe used here is an imperfect comparison.

### **Crisis Risk Offset**

- The **Crisis Risk Offset (CRO)** is structured as a combination of multiple underlying asset types, so that the aggregate class exhibits uncorrelated returns and characteristics with the objective to diversify both the equity risk and nominal interest rate risk of the total portfolio.
- The CRO portfolio trailed its benchmark SG Multi Alternative Risk Premia Index over the quarter as well as other time periods measured.
- Even though the portfolio has trailed across all time periods, as a long-term-oriented segment of the Plan and given the recency of funding for two of the three underlying managers, the underperformance ought not to be overly scrutinized.
  - Within the segment, **Vanguard Long-Term Treasury** posted negative absolute returns, reflecting the challenges of the raising rate environment while **Versor** and **Kepos** posted positive absolute returns with outperformance over their respective benchmarks.

**3Q 2022 Performance**  
as of September 30, 2022

### OPFRS Total Plan | As of September 30, 2022



**Summary of Cash Flows**

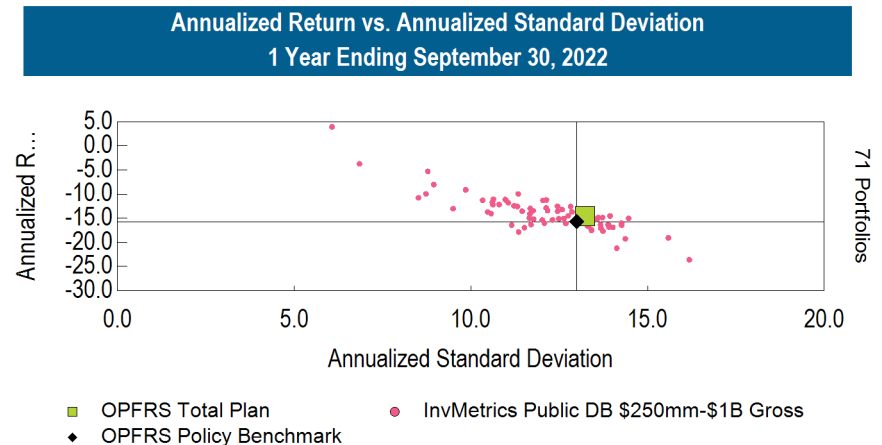
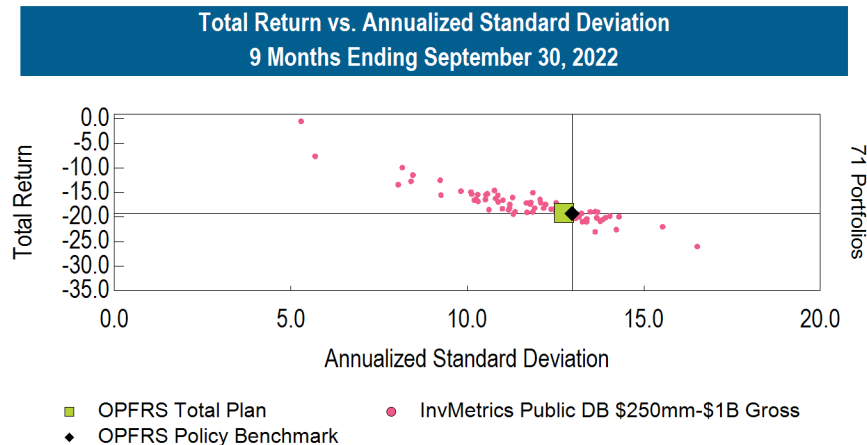
	Quarter-To-Date	One Year
Beginning Market Value	\$406,308,110	\$459,712,578
Net Cash Flow	-\$5,998,251	-\$13,971,647
Capital Appreciation	-\$17,851,820	-\$63,282,892
Ending Market Value	\$382,458,040	\$382,458,040

**YTD Ending September 30, 2022**

	Total Return	Anlzd Standard Deviation
OPFRS Total Plan	-18.9%	12.7%
OPFRS Policy Benchmark	-19.3%	13.0%

**1 Year Ending September 30, 2022**

	Anlzd Return	Anlzd Standard Deviation
OPFRS Total Plan	-14.3%	13.2%
OPFRS Policy Benchmark	-15.7%	13.0%

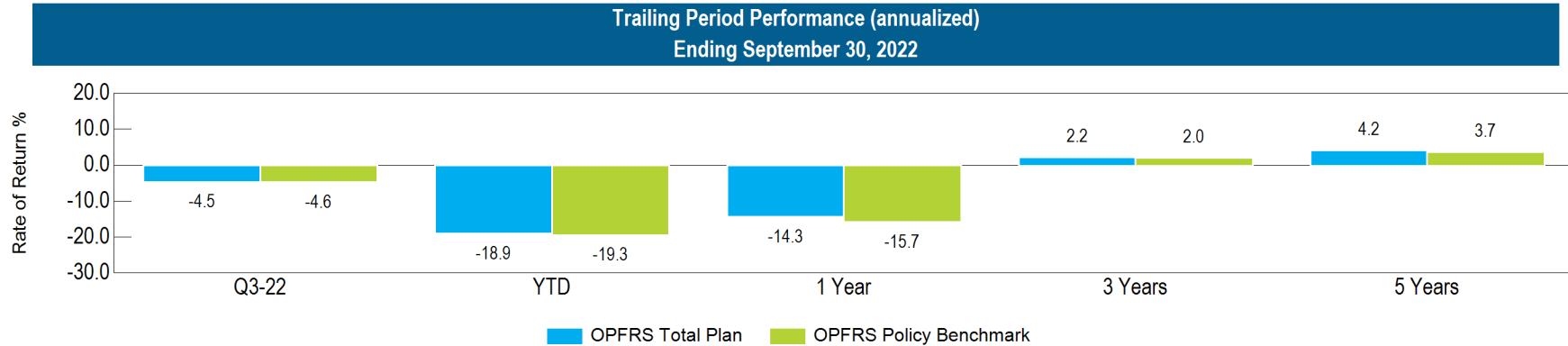


Performance shown is Gross-of-Fees.

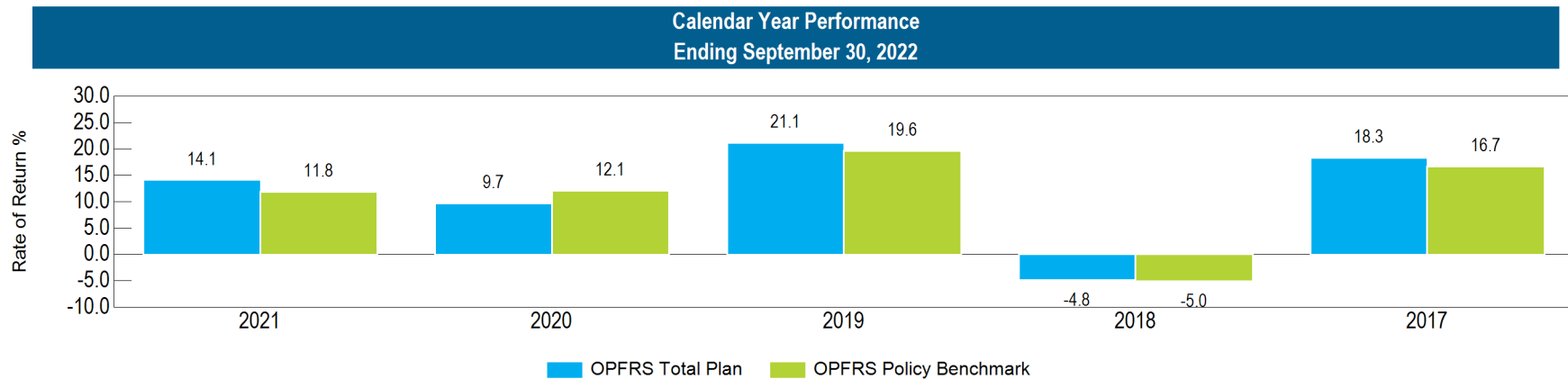
### Asset Class Performance (gross of fees) | As of September 30, 2022

	Market Value (\$)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)
<b>OPFRS Total Plan</b>	<b>382,458,040</b>	<b>-4.5</b>	<b>-18.9</b>	<b>-4.5</b>	<b>-14.3</b>	<b>2.2</b>	<b>4.2</b>	<b>6.5</b>	<b>6.5</b>	<b>6.4</b>
<i>OPFRS Policy Benchmark</i>		<u>-4.6</u>	<u>-19.3</u>	<u>-4.6</u>	<u>-15.7</u>	<u>2.0</u>	<u>3.7</u>	<u>6.1</u>	<u>6.0</u>	<u>7.6</u>
Excess Return		0.1	0.4	0.1	1.4	0.2	0.5	0.4	0.5	-1.2
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>		-4.2	-18.2	-4.2	-14.6	4.1	4.8	6.7	6.9	7.9
<b>Domestic Equity</b>	<b>149,632,829</b>	<b>-4.8</b>	<b>-23.1</b>	<b>-4.8</b>	<b>-15.6</b>	<b>7.3</b>	<b>8.3</b>	<b>10.6</b>	<b>11.3</b>	<b>8.4</b>
<i>Russell 3000 (Blend)</i>		<u>-4.5</u>	<u>-24.6</u>	<u>-4.5</u>	<u>-17.6</u>	<u>7.7</u>	<u>8.6</u>	<u>10.9</u>	<u>11.4</u>	<u>8.5</u>
Excess Return		-0.3	1.5	-0.3	2.0	-0.4	-0.3	-0.3	-0.1	-0.1
<b>International Equity</b>	<b>43,464,153</b>	<b>-9.6</b>	<b>-26.7</b>	<b>-9.6</b>	<b>-24.2</b>	<b>-1.3</b>	<b>-0.2</b>	<b>4.1</b>	<b>4.4</b>	<b>4.4</b>
<i>MSCI ACWI ex US (Blend)</i>		<u>-9.9</u>	<u>-26.5</u>	<u>-9.9</u>	<u>-25.2</u>	<u>-1.5</u>	<u>-0.8</u>	<u>3.3</u>	<u>3.0</u>	<u>4.2</u>
Excess Return		0.3	-0.2	0.3	1.0	0.2	0.6	0.8	1.4	0.2
<b>Fixed Income</b>	<b>99,482,210</b>	<b>-4.6</b>	<b>-14.7</b>	<b>-4.6</b>	<b>-14.6</b>	<b>-2.7</b>	<b>0.3</b>	<b>1.3</b>	<b>1.4</b>	<b>4.7</b>
<i>Bloomberg Universal (Blend)</i>		<u>-4.5</u>	<u>-14.9</u>	<u>-4.5</u>	<u>-14.9</u>	<u>-3.1</u>	<u>-0.2</u>	<u>0.9</u>	<u>1.2</u>	<u>4.5</u>
Excess Return		-0.1	0.2	-0.1	0.3	0.4	0.5	0.4	0.2	0.2
<b>Credit</b>	<b>8,450,960</b>	<b>-0.5</b>	<b>-9.4</b>	<b>-0.5</b>	<b>-8.9</b>	<b>3.3</b>	<b>2.9</b>	<b>5.1</b>	<b>--</b>	<b>4.5</b>
<i>Bloomberg US High Yield TR</i>		<u>-0.6</u>	<u>-14.7</u>	<u>-0.6</u>	<u>-14.1</u>	<u>-0.5</u>	<u>1.6</u>	<u>4.1</u>	<u>--</u>	<u>3.3</u>
Excess Return		0.1	5.3	0.1	5.2	3.8	1.3	1.0		1.2
<b>Covered Calls</b>	<b>29,207,716</b>	<b>-5.1</b>	<b>-18.8</b>	<b>-5.1</b>	<b>-11.3</b>	<b>6.2</b>	<b>6.4</b>	<b>8.5</b>	<b>--</b>	<b>7.4</b>
<i>CBOE S&amp;P 500 BuyWrite USD</i>		<u>-7.6</u>	<u>-17.0</u>	<u>-7.6</u>	<u>-11.2</u>	<u>0.7</u>	<u>2.1</u>	<u>4.5</u>	<u>--</u>	<u>4.2</u>
Excess Return		2.5	-1.8	2.5	-0.1	5.5	4.3	4.0		3.2
<b>Crisis Risk Offset</b>	<b>41,648,656</b>	<b>0.0</b>	<b>-10.1</b>	<b>0.0</b>	<b>-7.8</b>	<b>-12.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-8.7</b>
<i>SG Multi Alternative Risk Premia Index</i>		<u>0.9</u>	<u>3.2</u>	<u>0.9</u>	<u>4.7</u>	<u>-2.1</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>-0.9</u>
Excess Return		-0.9	-13.3	-0.9	-12.5	-10.8				-7.8

Performance shown is gross-of-fees. Fiscal year begins on July 1.



	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)	2021 (%)
<b>OPFRS Total Plan</b>	<b>-4.5</b>	<b>-4.5</b>	<b>-14.3</b>	<b>2.2</b>	<b>4.2</b>	<b>18.3</b>	<b>-4.8</b>	<b>21.1</b>	<b>9.7</b>	<b>14.1</b>
<i>OPFRS Policy Benchmark</i>	<i>-4.6</i>	<i>-4.6</i>	<i>-15.7</i>	<i>2.0</i>	<i>3.7</i>	<i>16.7</i>	<i>-5.0</i>	<i>19.6</i>	<i>12.1</i>	<i>11.8</i>
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>	<i>-4.2</i>	<i>-4.2</i>	<i>-14.6</i>	<i>4.1</i>	<i>4.8</i>	<i>15.8</i>	<i>-4.1</i>	<i>18.6</i>	<i>13.1</i>	<i>13.6</i>

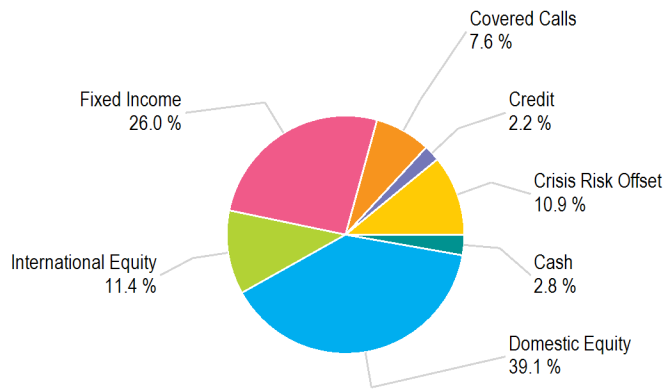


Fiscal year begins on July 1.

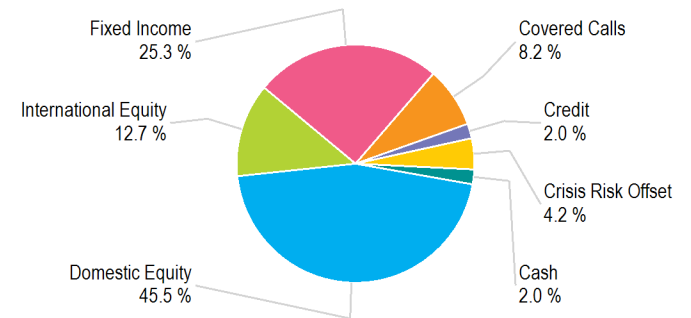
#### Asset Allocation vs. Target As Of September 30, 2022

	Current	%	Policy	Difference*
Domestic Equity	\$149,632,829	39.1%	40.0%	-0.9%
International Equity	\$43,464,153	11.4%	12.0%	-0.6%
Fixed Income	\$99,482,210	26.0%	31.0%	-5.0%
Covered Calls	\$29,207,716	7.6%	5.0%	2.6%
Credit	\$8,450,960	2.2%	2.0%	0.2%
Crisis Risk Offset	\$41,648,656	10.9%	10.0%	0.9%
Cash	\$10,571,515	2.8%	0.0%	2.8%
<b>Total</b>	<b>\$382,458,040</b>	<b>100.0%</b>	<b>100.0%</b>	

September 30, 2022: \$382,458,040



September 30, 2021: \$449,834,415



Cash account market value includes cash balances held in ETF accounts at the custodian and residuals from terminated managers.

Target weightings reflect the Plan's evolving asset allocation (effective 5/31/2017).

### Manager Performance - Gross of Fees | As of September 30, 2022

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>Domestic Equity</b>	<b>149,632,829</b>	<b>100.0</b>	<b>-4.8</b>	<b>-23.1</b>	<b>-15.6</b>	<b>7.3</b>	<b>8.3</b>	<b>8.4</b>	<b>Jun-97</b>
<i>Russell 3000 (Blend)</i>			<i>-4.5</i>	<i>-24.6</i>	<i>-17.6</i>	<i>7.7</i>	<i>8.6</i>	<i>8.5</i>	<i>Jun-97</i>
Excess Return			-0.3	1.5	2.0	-0.4	-0.3	-0.1	
Northern Trust Russell 1000	67,029,399	44.8	-4.6	-24.8	-17.5	7.8	8.9	12.2	Jun-10
<i>Russell 1000</i>			<i>-4.6</i>	<i>-24.6</i>	<i>-17.2</i>	<i>7.9</i>	<i>9.0</i>	<i>12.2</i>	<i>Jun-10</i>
Excess Return			0.0	-0.2	-0.3	-0.1	-0.1	0.0	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>42</i>	<i>76</i>	<i>82</i>	<i>49</i>	<i>52</i>	<i>51</i>	<i>Jun-10</i>
EARNEST Partners	40,474,607	27.0	-5.6	-21.4	-12.5	8.8	10.1	9.6	Apr-06
<i>Russell MidCap</i>			<i>-3.4</i>	<i>-24.3</i>	<i>-19.4</i>	<i>5.2</i>	<i>6.5</i>	<i>7.9</i>	<i>Apr-06</i>
Excess Return			-2.2	2.9	6.9	3.6	3.6	1.7	
<i>eV US Mid Cap Core Equity Gross Rank</i>			<i>92</i>	<i>46</i>	<i>26</i>	<i>14</i>	<i>12</i>	<i>27</i>	<i>Apr-06</i>
Wellington Select Quality Equity	19,520,651	13.0	-5.9	--	--	--	--	-11.3	May-22
<i>Russell 1000</i>			<i>-4.6</i>	--	--	--	--	<i>-12.7</i>	<i>May-22</i>
Excess Return			-1.3					1.4	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>81</i>	--	--	--	--	<i>37</i>	<i>May-22</i>
Rice Hall James	12,875,087	8.6	-4.3	-26.2	-22.8	5.5	5.3	5.7	Jul-17
<i>Russell 2000 Growth</i>			<i>0.2</i>	<i>-29.3</i>	<i>-29.3</i>	<i>2.9</i>	<i>3.6</i>	<i>4.6</i>	<i>Jul-17</i>
Excess Return			-4.5	3.1	6.5	2.6	1.7	1.1	
<i>eV US Small Cap Growth Equity Gross Rank</i>			<i>88</i>	<i>16</i>	<i>15</i>	<i>66</i>	<i>84</i>	<i>87</i>	<i>Jul-17</i>
Brown Fundamental Small Cap Value	9,733,085	6.5	-1.6	-17.3	-9.1	--	--	-5.6	Apr-21
<i>Russell 2000 Value</i>			<i>-4.6</i>	<i>-21.1</i>	<i>-17.7</i>	--	--	<i>-11.3</i>	<i>Apr-21</i>
Excess Return			3.0	3.8	8.6			5.7	
<i>eV US Small Cap Value Equity Gross Rank</i>			<i>9</i>	<i>24</i>	<i>16</i>	--	--	<i>26</i>	<i>Apr-21</i>

Performance shown is gross-of-fees.



	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>International Equity</b>	<b>43,464,153</b>	<b>100.0</b>	<b>-9.6</b>	<b>-26.7</b>	<b>-24.2</b>	<b>-1.3</b>	<b>-0.2</b>	<b>4.4</b>	<b>Jan-98</b>
<i>MSCI ACWI ex US (Blend)</i>			<i>-9.9</i>	<i>-26.5</i>	<i>-25.2</i>	<i>-1.5</i>	<i>-0.8</i>	<i>4.2</i>	<i>Jan-98</i>
Excess Return			0.3	-0.2	1.0	0.2	0.6	0.2	
SGA ACWI ex-U.S. Equity	31,288,462	72.0	-9.1	-26.2	-23.9	--	--	-4.2	Dec-19
<i>MSCI ACWI ex USA</i>			<i>-9.9</i>	<i>-26.5</i>	<i>-25.2</i>	--	--	<i>-3.1</i>	<i>Dec-19</i>
Excess Return			0.8	0.3	1.3			-1.1	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>42</i>	<i>36</i>	<i>28</i>	--	--	<i>94</i>	<i>Dec-19</i>
Vanguard Developed Markets ETF	12,175,691	28.0	-10.6	-27.5	-25.6	-1.2	--	-0.2	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>			<i>-9.5</i>	<i>-27.2</i>	<i>-25.3</i>	<i>-0.8</i>	--	<i>0.2</i>	<i>Sep-19</i>
Excess Return			-1.1	-0.3	-0.3	-0.4		-0.4	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>84</i>	<i>46</i>	<i>51</i>	<i>84</i>	--	<i>80</i>	<i>Sep-19</i>

Performance shown is gross-of-fees.

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>Fixed Income</b>	<b>99,482,210</b>	<b>100.0</b>	<b>-4.6</b>	<b>-14.7</b>	<b>-14.6</b>	<b>-2.7</b>	<b>0.3</b>	<b>4.7</b>	<b>Dec-93</b>
<i>Bloomberg Universal (Blend)</i>			<i>-4.5</i>	<i>-14.9</i>	<i>-14.9</i>	<i>-3.1</i>	<i>-0.2</i>	<i>4.5</i>	<i>Dec-93</i>
Excess Return			-0.1	0.2	0.3	0.4	0.5	0.2	
Ramirez	67,871,550	68.2	-4.4	-14.5	-14.5	-2.9	0.3	0.9	Jan-17
<i>Bloomberg US Aggregate TR</i>			<i>-4.8</i>	<i>-14.6</i>	<i>-14.6</i>	<i>-3.3</i>	<i>-0.3</i>	<i>0.3</i>	<i>Jan-17</i>
Excess Return			0.4	0.1	0.1	0.4	0.6	0.6	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>43</i>	<i>58</i>	<i>60</i>	<i>70</i>	<i>42</i>	<i>33</i>	<i>Jan-17</i>
Reams	25,197,341	25.3	-4.9	-14.8	-14.4	0.4	2.2	5.0	Feb-98
<i>Bloomberg Universal (Blend)</i>			<i>-4.5</i>	<i>-14.9</i>	<i>-14.9</i>	<i>-3.1</i>	<i>-0.2</i>	<i>4.0</i>	<i>Feb-98</i>
Excess Return			-0.4	0.1	0.5	3.5	2.4	1.0	
<i>eV US Core Plus Fixed Inc Gross Rank</i>			<i>92</i>	<i>47</i>	<i>40</i>	<i>5</i>	<i>4</i>	<i>44</i>	<i>Feb-98</i>
Wellington Core Bond	6,413,320	6.4	-4.8	-15.9	-16.0	--	--	-9.8	Apr-21
<i>Bloomberg US Aggregate TR</i>			<i>-4.8</i>	<i>-14.6</i>	<i>-14.6</i>	<i>--</i>	<i>--</i>	<i>-8.9</i>	<i>Apr-21</i>
Excess Return			0.0	-1.3	-1.4			-0.9	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>88</i>	<i>97</i>	<i>97</i>	<i>--</i>	<i>--</i>	<i>98</i>	<i>Apr-21</i>

Performance shown is gross-of-fees.

## Oakland Police and Fire Retirement System Total Plan

### Manager Performance - Gross of Fees | As of September 30, 2022

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>Credit</b>	<b>8,450,960</b>	<b>100.0</b>	<b>-0.5</b>	<b>-9.4</b>	<b>-8.9</b>	<b>3.3</b>	<b>2.9</b>	<b>4.5</b>	<b>Feb-15</b>
<i>Bloomberg US High Yield TR</i>			<i>-0.6</i>	<i>-14.7</i>	<i>-14.1</i>	<i>-0.5</i>	<i>1.6</i>	<i>3.3</i>	<i>Feb-15</i>
Excess Return			0.1	5.3	5.2	3.8	1.3	1.2	
Polen Capital	8,450,960	100.0	-0.5	-9.4	-8.9	3.3	2.9	4.5	Feb-15
<i>ICE BofA High Yield Master TR</i>			<i>-0.7</i>	<i>-14.6</i>	<i>-14.1</i>	<i>-0.7</i>	<i>1.4</i>	<i>3.3</i>	<i>Feb-15</i>
Excess Return			0.2	5.2	5.2	4.0	1.5	1.2	
<i>eV US High Yield Fixed Inc Gross Rank</i>			<i>55</i>	<i>22</i>	<i>23</i>	<i>4</i>	<i>14</i>	<i>12</i>	<i>Feb-15</i>

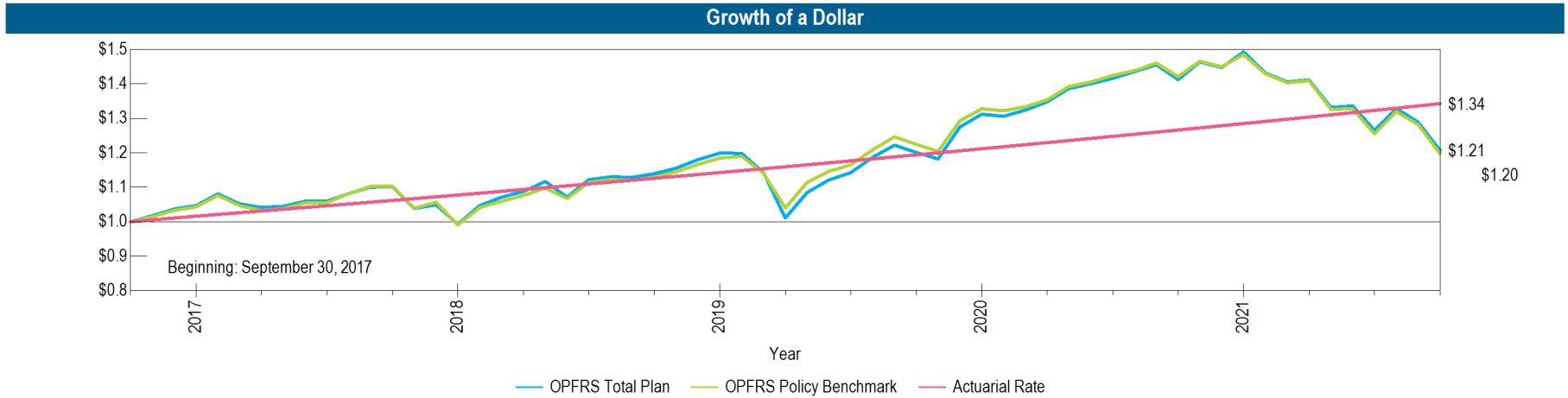
Performance shown is gross-of-fees.

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>Covered Calls</b>	<b>29,207,716</b>	<b>100.0</b>	<b>-5.1</b>	<b>-18.8</b>	<b>-11.3</b>	<b>6.2</b>	<b>6.4</b>	<b>7.4</b>	<b>Apr-14</b>
<i>CBOE S&amp;P 500 BuyWrite USD</i>			<i>-7.6</i>	<i>-17.0</i>	<i>-11.2</i>	<i>0.7</i>	<i>2.1</i>	<i>4.2</i>	<i>Apr-14</i>
Excess Return			2.5	-1.8	-0.1	5.5	4.3	3.2	
Parametric BXM	14,882,217	51.0	-5.5	-15.6	-9.8	3.7	4.2	5.8	Apr-14
<i>CBOE S&amp;P 500 BuyWrite USD</i>			<i>-7.6</i>	<i>-17.0</i>	<i>-11.2</i>	<i>0.7</i>	<i>2.1</i>	<i>4.2</i>	<i>Apr-14</i>
Excess Return			2.1	1.4	1.4	3.0	2.1	1.6	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>70</i>	<i>9</i>	<i>19</i>	<i>95</i>	<i>98</i>	<i>98</i>	<i>Apr-14</i>
Parametric DeltaShift	14,325,499	49.0	-4.6	-21.6	-13.0	8.2	8.2	9.3	Apr-14
<i>CBOE S&amp;P 500 BuyWrite USD</i>			<i>-7.6</i>	<i>-17.0</i>	<i>-11.2</i>	<i>0.7</i>	<i>2.1</i>	<i>4.2</i>	<i>Apr-14</i>
Excess Return			3.0	-4.6	-1.8	7.5	6.1	5.1	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>42</i>	<i>37</i>	<i>36</i>	<i>41</i>	<i>64</i>	<i>64</i>	<i>Apr-14</i>

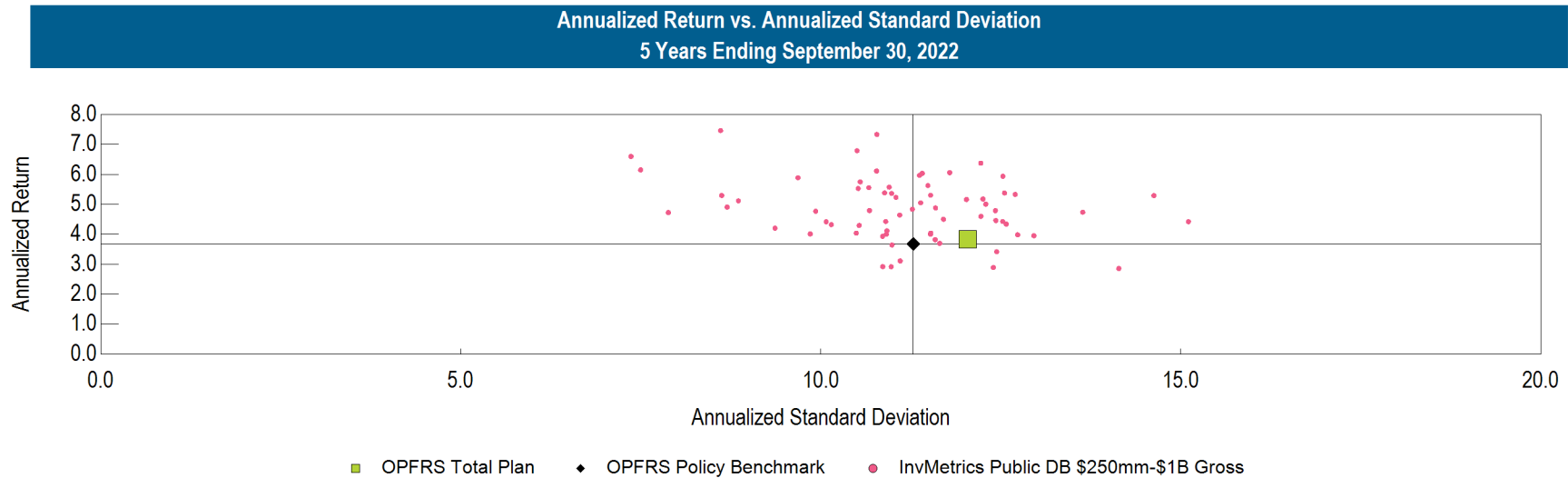
Performance shown is gross-of-fees.

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>Crisis Risk Offset</b>	<b>41,648,656</b>	<b>100.0</b>	<b>0.0</b>	<b>-10.1</b>	<b>-7.8</b>	<b>-12.9</b>	<b>--</b>	<b>-8.7</b>	<b>Aug-18</b>
<i>SG Multi Alternative Risk Premia Index</i>			<i>0.9</i>	<i>3.2</i>	<i>4.7</i>	<i>-2.1</i>	<i>--</i>	<i>-0.9</i>	<i>Aug-18</i>
Excess Return			-0.9	-13.3	-12.5	-10.8		-7.8	
Versor Trend Following	17,905,977	43.0	7.8	--	--	--	--	19.4	Apr-22
<i>SG Trend Index</i>			<i>5.3</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>23.1</i>	<i>Apr-22</i>
Excess Return			2.5					-3.7	
Vanguard Long-Term Treasury ETF	14,000,185	33.6	-9.7	-28.5	-26.7	-8.6	--	-5.8	Jul-19
<i>Bloomberg US Govt Long TR</i>			<i>-9.6</i>	<i>-28.8</i>	<i>-26.6</i>	<i>-8.5</i>	<i>--</i>	<i>-5.7</i>	<i>Jul-19</i>
Excess Return			-0.1	0.3	-0.1	-0.1		-0.1	
<i>eV US Long Duration - Gov/Cred Fixed Inc Gross Rank</i>			<i>96</i>	<i>35</i>	<i>26</i>	<i>99</i>	<i>--</i>	<i>99</i>	<i>Jul-19</i>
Kepos Alternative Risk Premia	9,742,494	23.4	2.3	--	--	--	--	-2.1	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>			<i>0.9</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>2.4</i>	<i>Feb-22</i>
Excess Return			1.4					-4.5	

Performance shown is gross-of-fees.

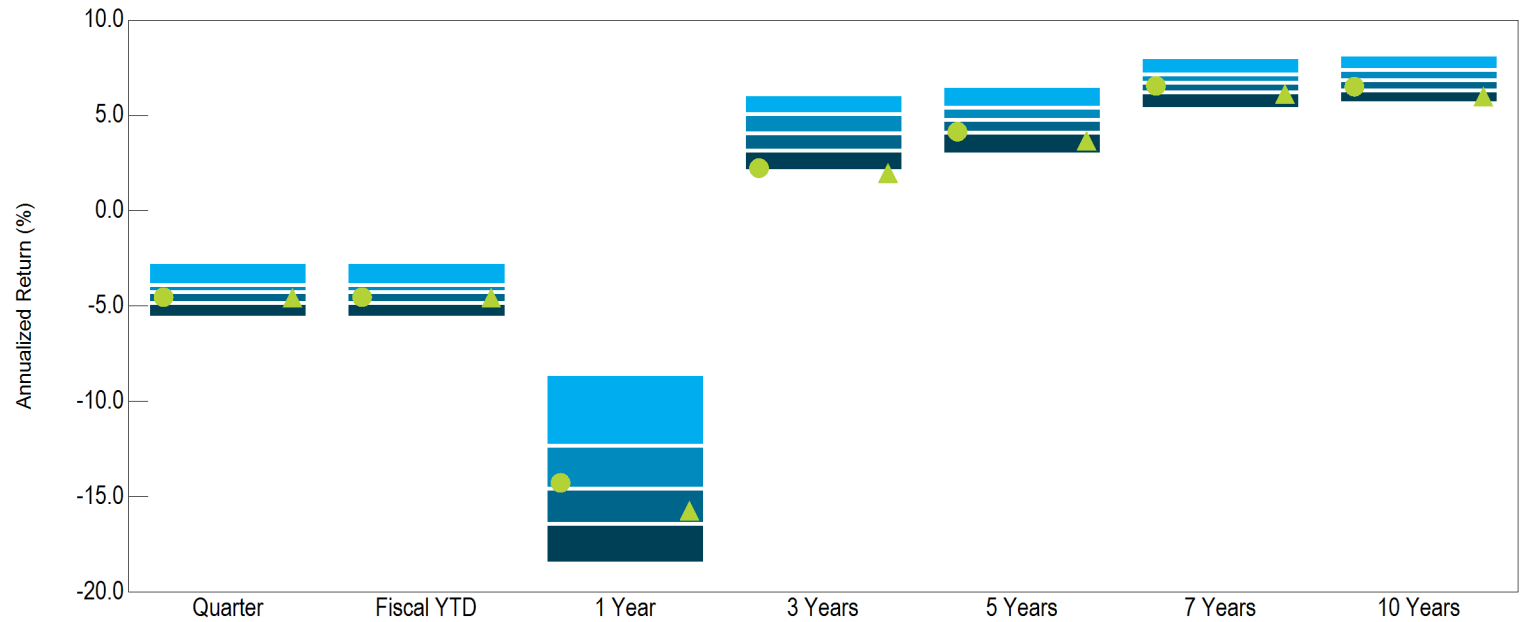


The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently



Performance shown is gross-of-fees.

#### InvMetrics Public DB \$250mm-\$1B Gross Return Comparison



	Quarter		Fiscal YTD		1 Year		3 Years		5 Years		7 Years		10 Years	
<b>5th Percentile</b>	-2.7		-2.7		-8.6		6.1		6.5		8.0		8.2	
<b>25th Percentile</b>	-3.9		-3.9		-12.3		5.1		5.4		7.2		7.4	
<b>Median</b>	-4.2		-4.2		-14.6		4.1		4.8		6.7		6.9	
<b>75th Percentile</b>	-4.8		-4.8		-16.4		3.2		4.1		6.2		6.3	
<b>95th Percentile</b>	-5.6		-5.6		-18.5		2.1		3.0		5.4		5.6	
<b># of Portfolios</b>	71		71		71		70		68		67		64	
<b>● OPFRS Total Plan</b>	-4.5	(59)	-4.5	(59)	-14.3	(48)	2.2	(95)	4.2	(75)	6.5	(62)	6.5	(74)
<b>▲ OPFRS Policy Benchmark</b>	-4.6	(60)	-4.6	(60)	-15.7	(68)	2.0	(96)	3.7	(91)	6.1	(78)	6.0	(87)

Fiscal year begins on July 1.

### Manager Monitoring/Probation Status

#### Return vs. Benchmark since Corrective Action

Portfolio	Status	Concern Triggering the Watch Status	Months Since Corrective Action	Performance <sup>1</sup> Since Corrective Action	Peer Group Percentile Ranking <sup>2</sup>	Date of Corrective Action <sup>3</sup>
Polen Capital <sup>4</sup>	On Watch	Performance/Org changes	39	2.4	24	5/29/2019
ICE BofAML US High Yield				0.5		
Rice Hall James	On Watch	Performance	39	5.5	20	5/29/2019
Russell 2000 Growth				3.6		

#### Investment Performance Criteria for Manager Monitoring/Probation Status

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 <sup>5</sup> < 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

<sup>1</sup> Annualized performance if over one year. Performance shown is gross-of-fees.

<sup>2</sup> Ranking over most recent quarter if on watch for less than 1 year, or over 1 year if on watch for more than a year. Peer group comparison is gross-of-fees.

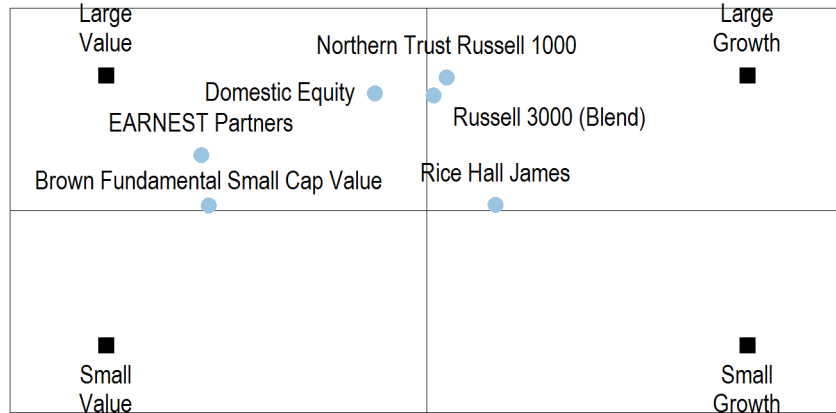
<sup>3</sup> Approximate date based on when the Board voted to either monitor a manager at a heightened level or place it on probation.

<sup>4</sup> Polen Capital High Yield strategy was formerly known as DDJ High Yield prior to 2022.

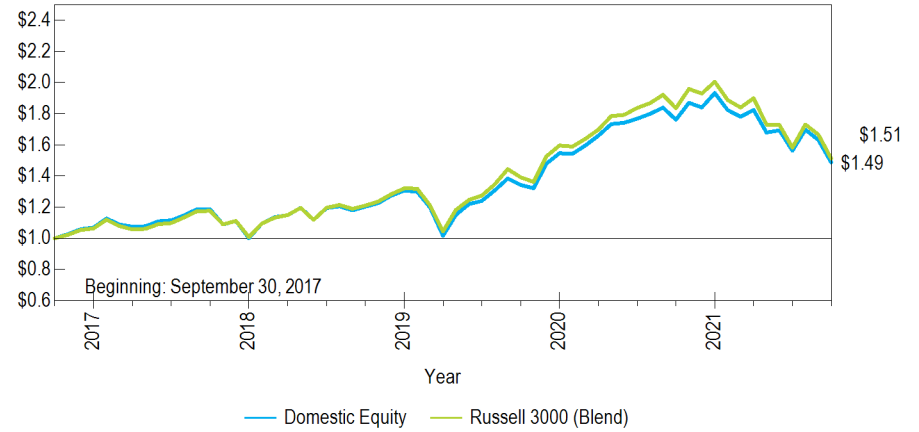
<sup>5</sup> VRR (Value Relative Ratio) is calculated as manager cumulative return/ benchmark return.



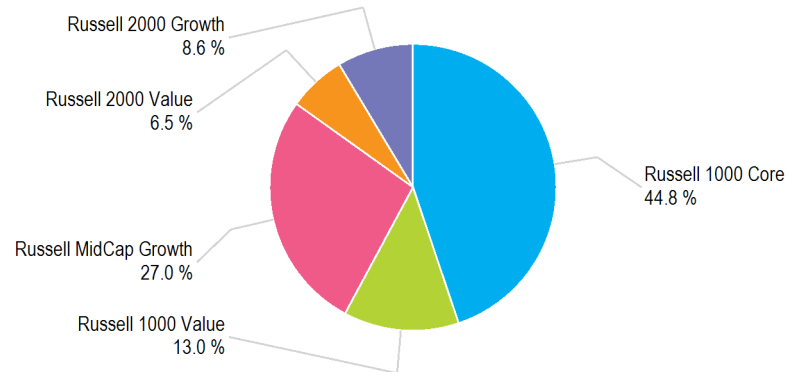
#### U.S. Effective Style Map



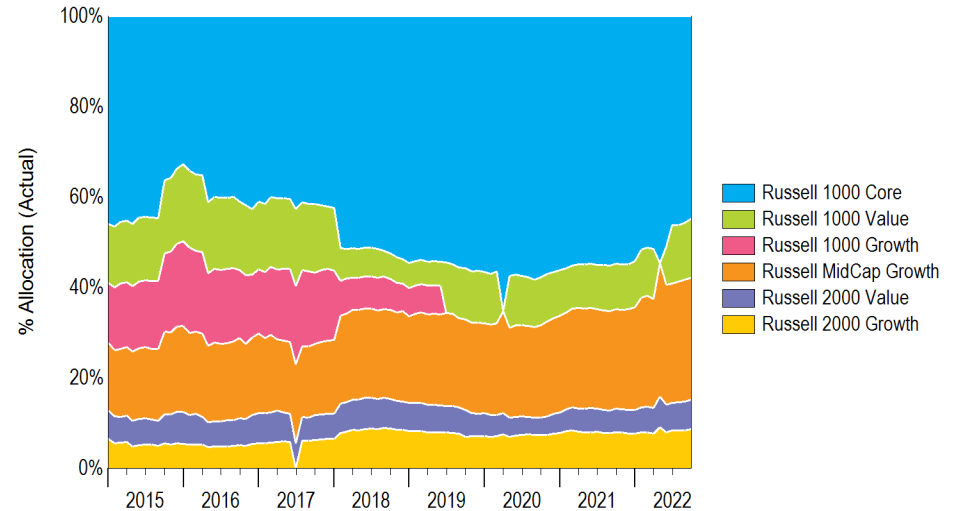
#### Growth of a Dollar



#### Style Exposure

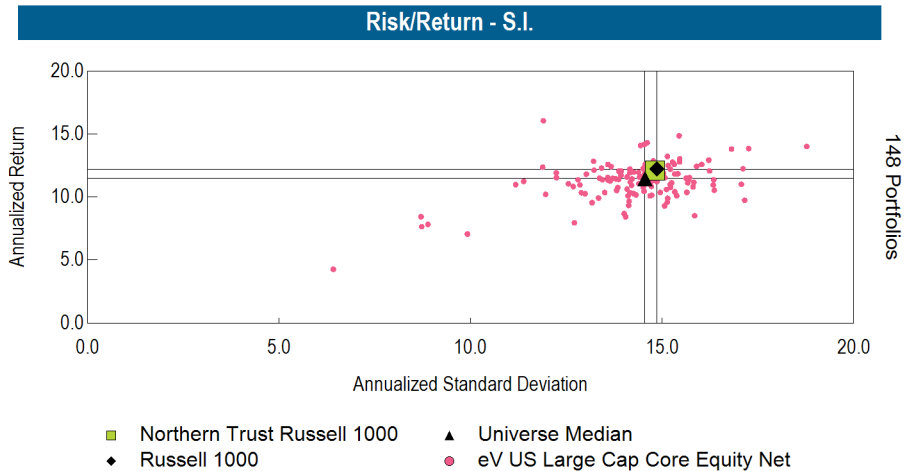
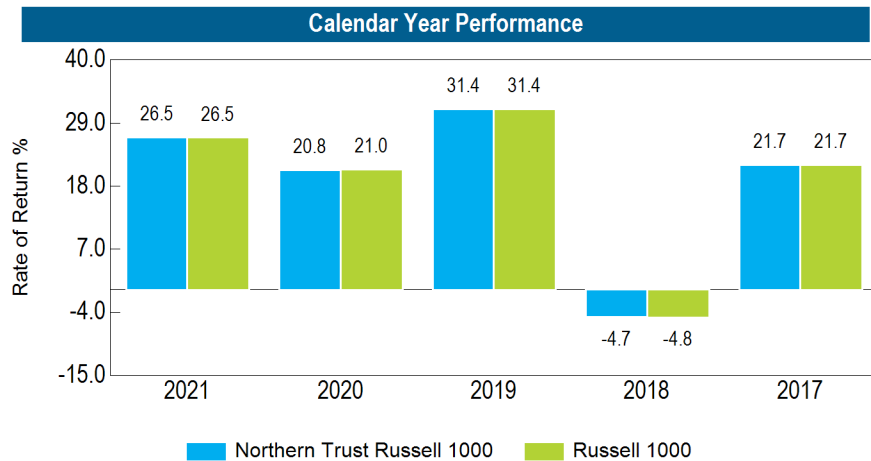
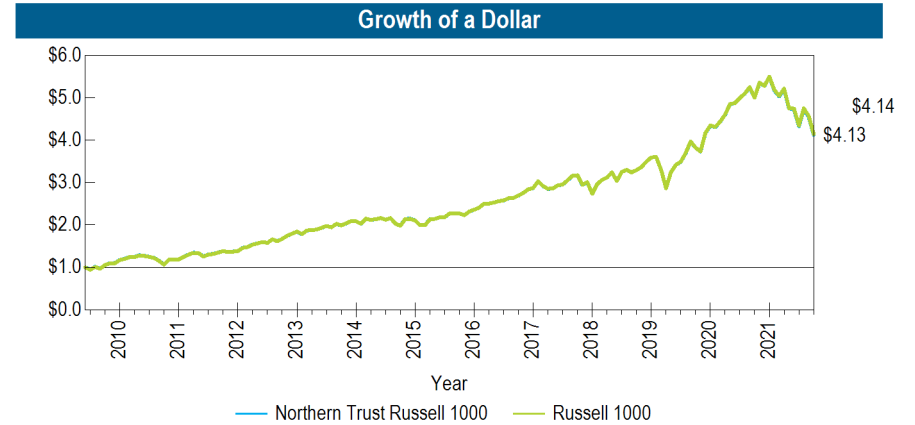
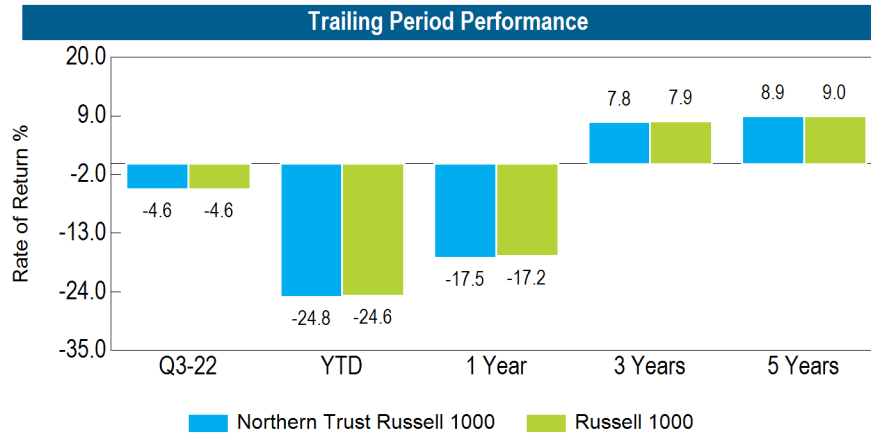


#### Style History (5-Year)



### Northern Trust Russell 1000 | As of September 30, 2022

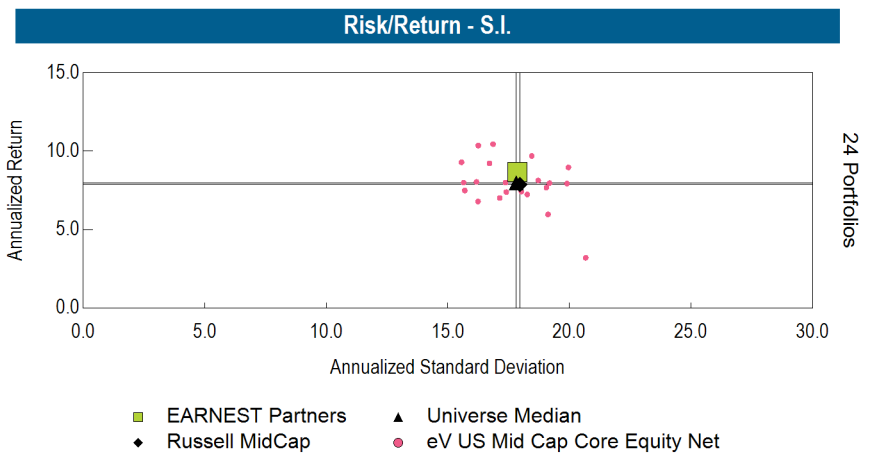
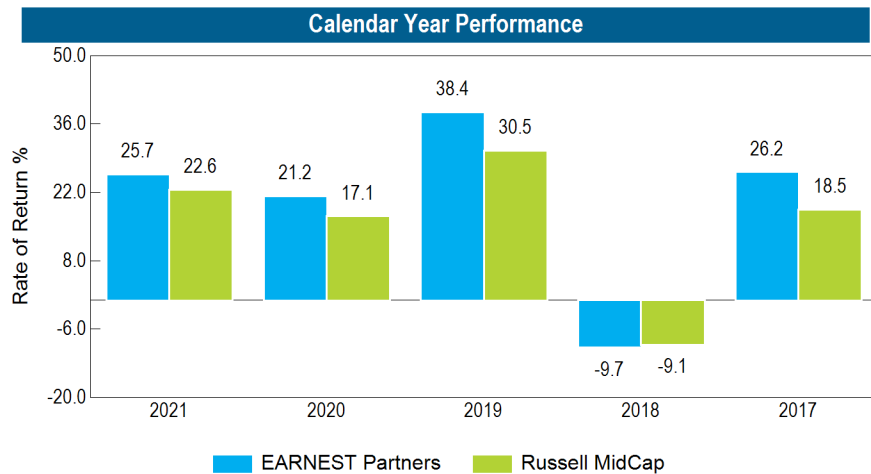
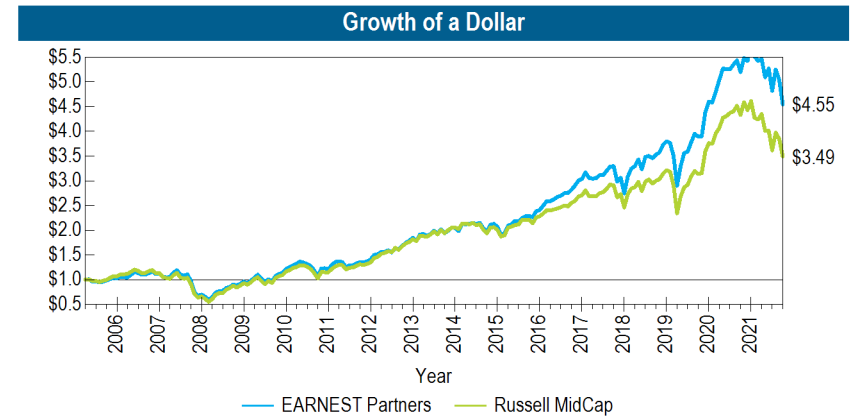
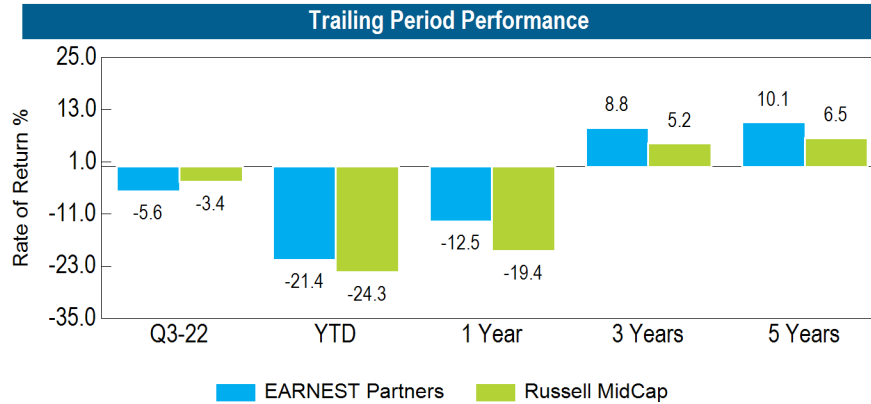
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust Russell 1000	12.1%	14.8%	0.0%	1.0	-0.6	0.2%	98.5%	100.0%
Russell 1000	12.2%	14.9%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

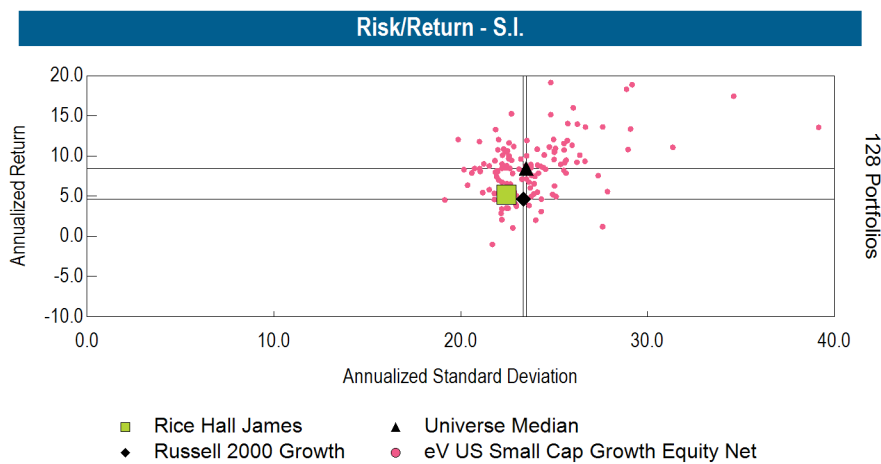
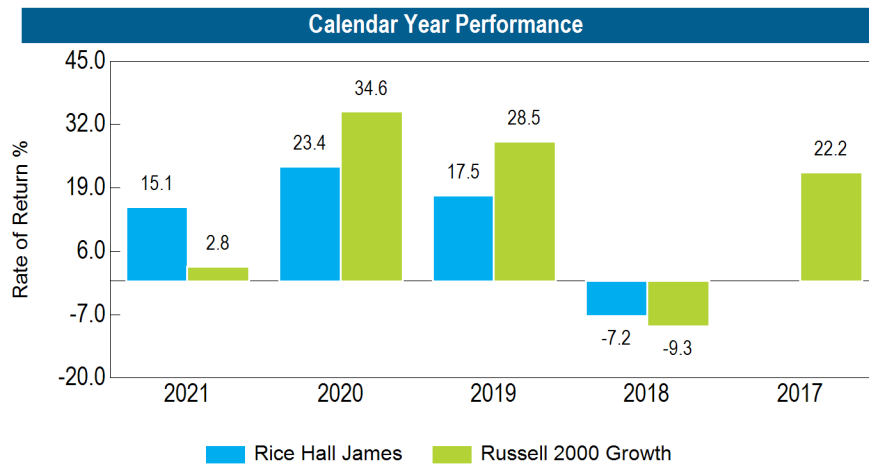
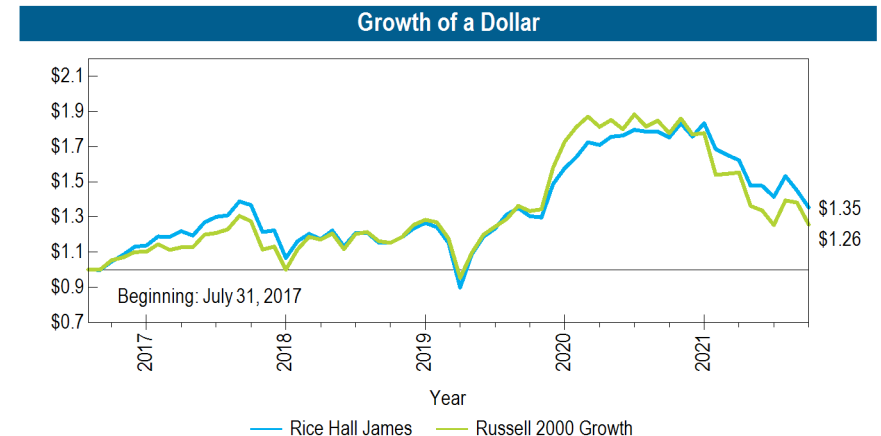
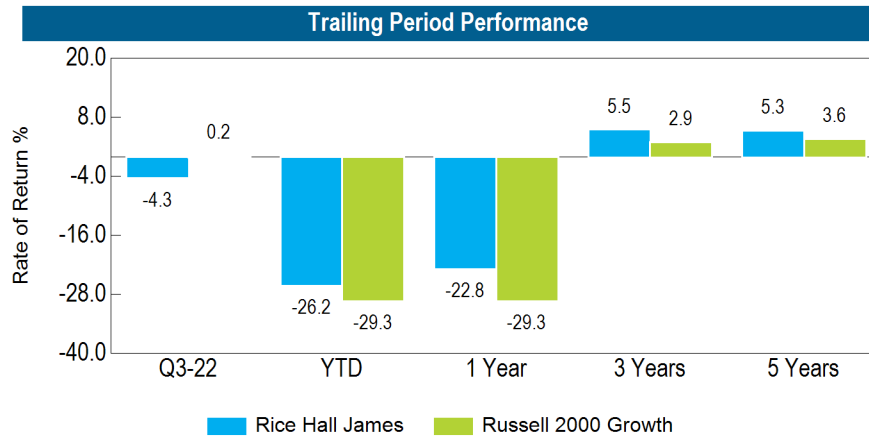
### EARNEST Partners | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
EARNEST Partners	8.7%	17.9%	0.1%	1.0	0.2	3.6%	95.2%	99.2%
Russell MidCap	7.9%	18.0%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

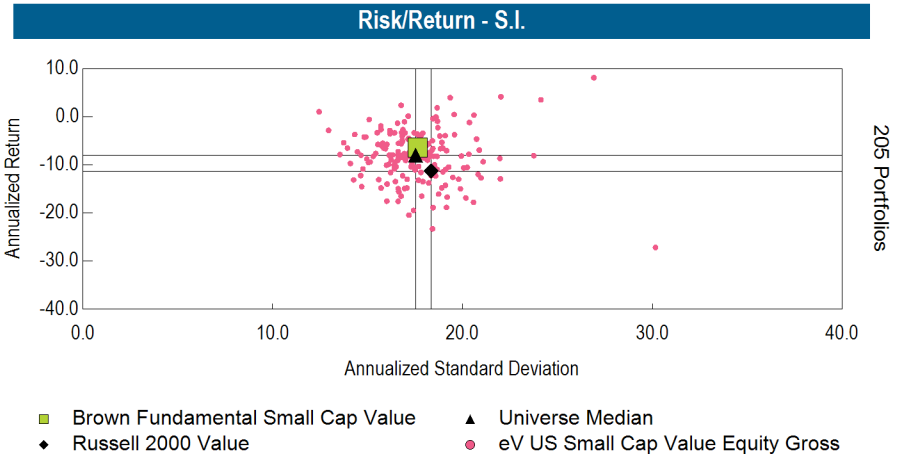
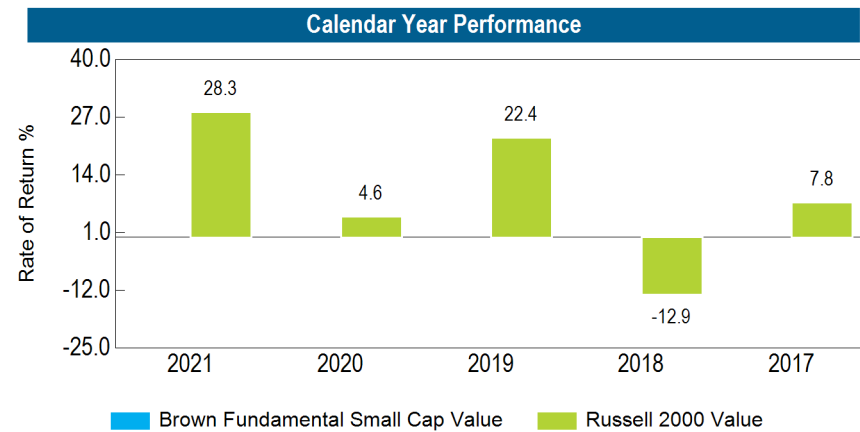
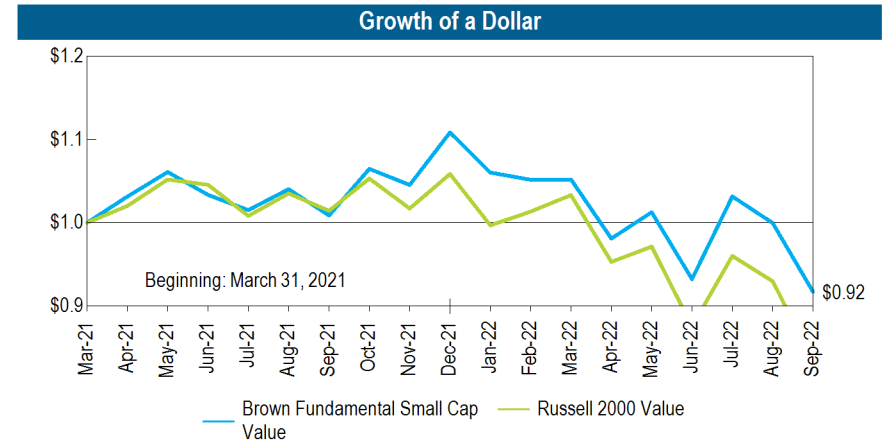
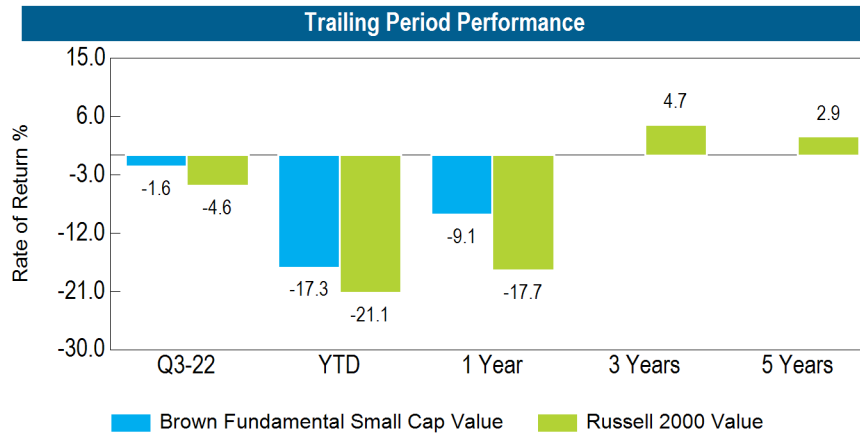
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Rice Hall James	5.0%	22.3%	0.1%	0.9	0.1	7.6%	81.6%	93.6%
Russell 2000 Growth	4.5%	23.2%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

### Brown Fundamental Small Cap Value | As of September 30, 2022

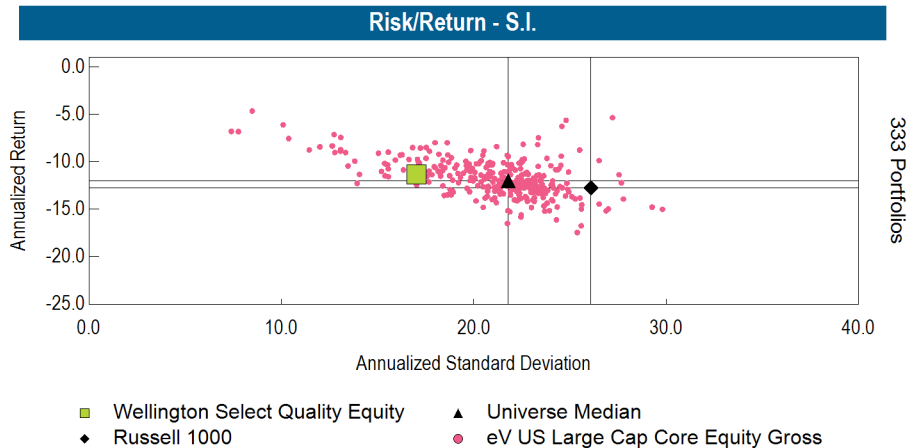
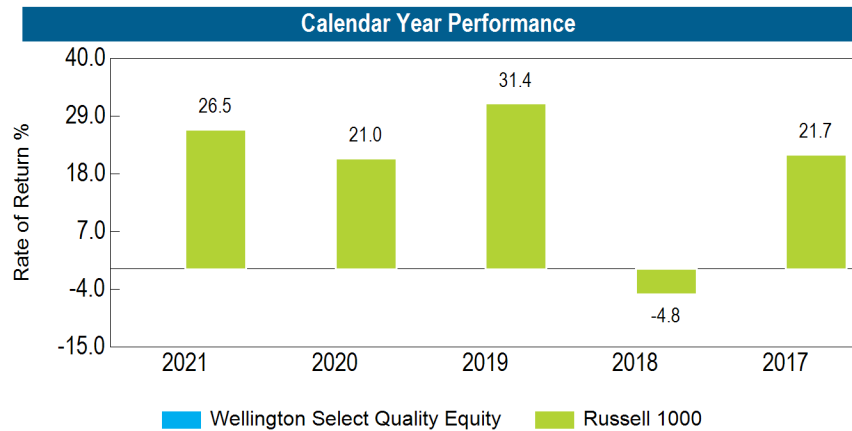
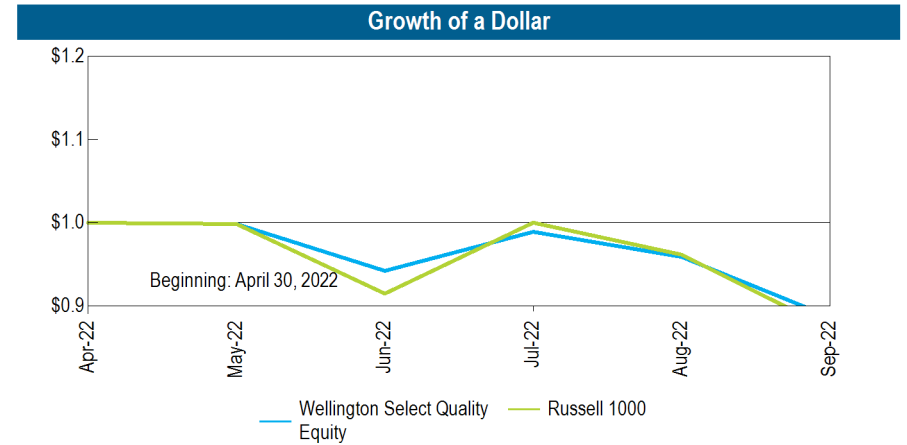
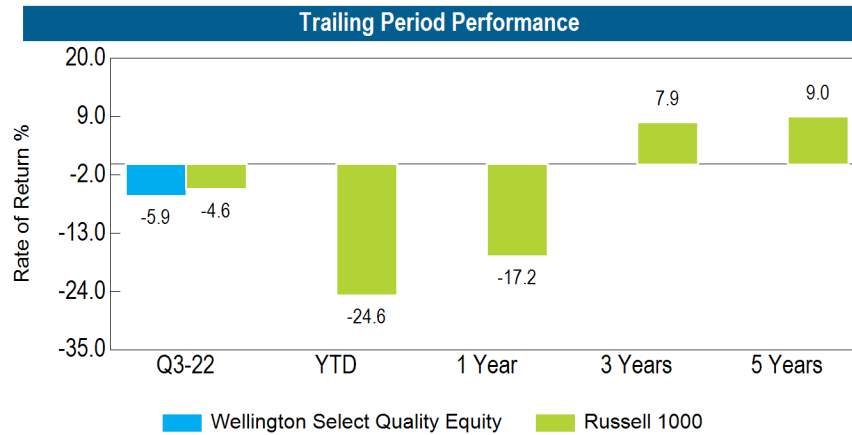
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Brown Fundamental Small Cap Value	-6.4%	17.6%	0.4%	0.9	1.0	5.2%	105.1%	88.7%
Russell 2000 Value	-11.3%	18.4%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

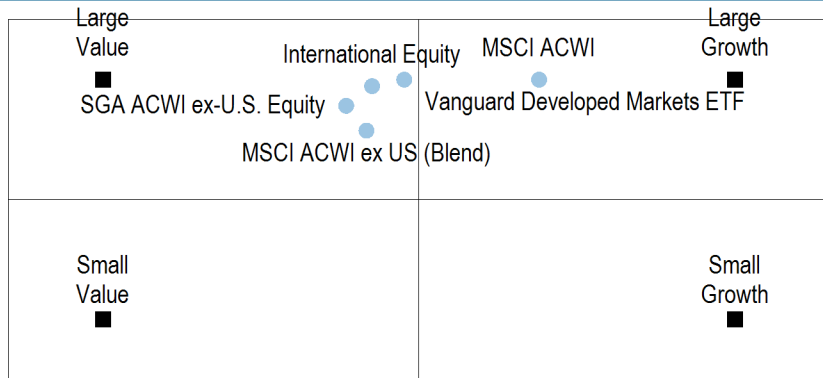
### Wellington Select Quality Equity | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Wellington Select Quality Equity	-11.3%	17.0%	-0.7%	0.6	0.1	9.5%	53.4%	76.9%
Russell 1000	-12.7%	26.1%	0.0%	1.0	--	0.0%	100.0%	100.0%

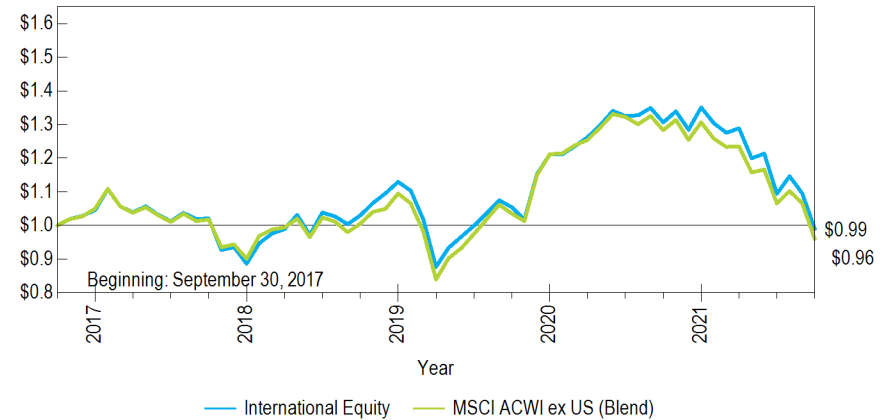


Performance shown is net-of-fees and since inception. Annualized Return is not available for managers without a history longer than one year.

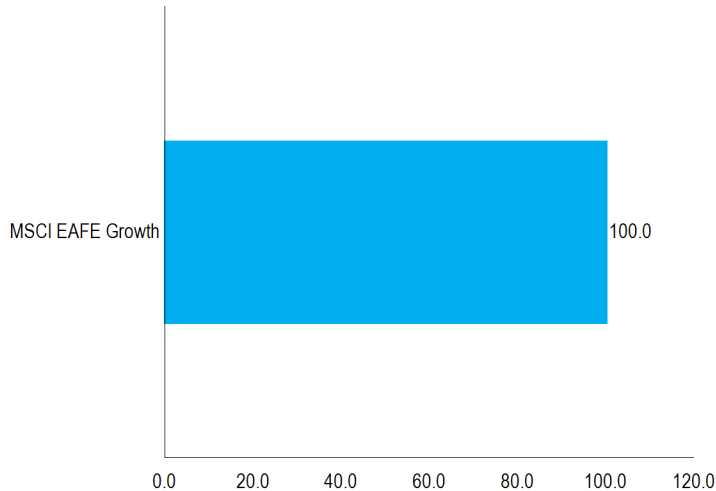
#### Non U.S. Effective Style Map vs. EAFE



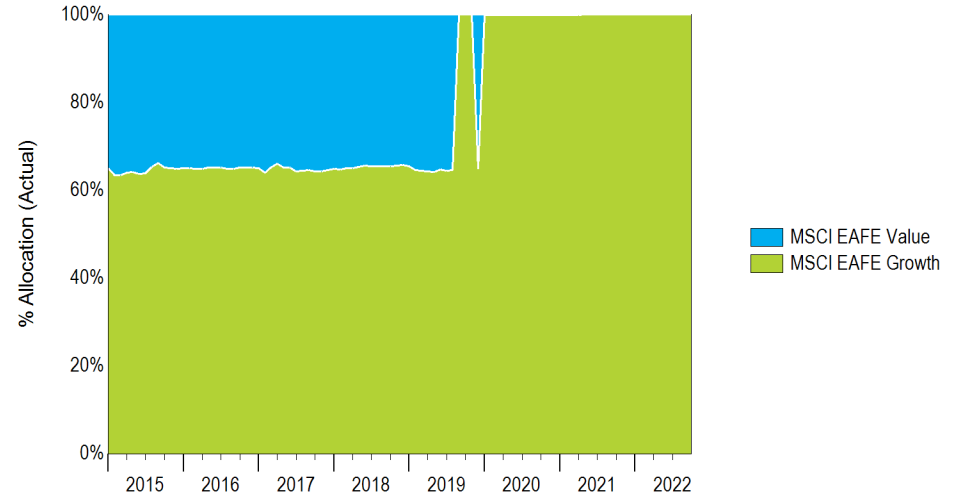
#### Growth of a Dollar 5 Years Ending September 30, 2022



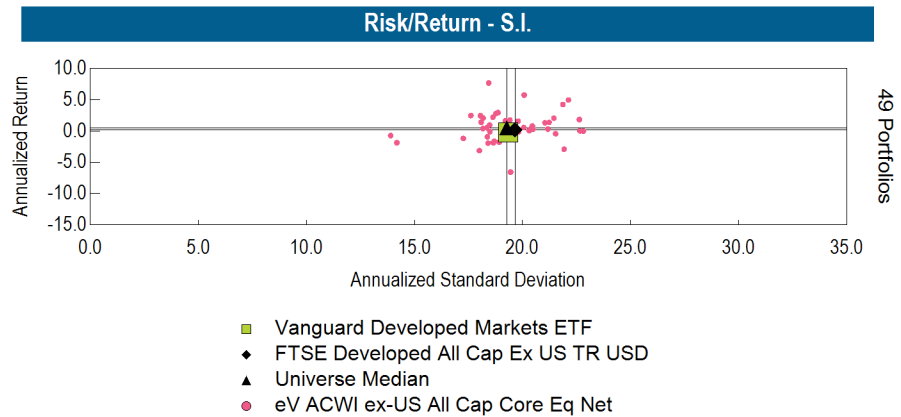
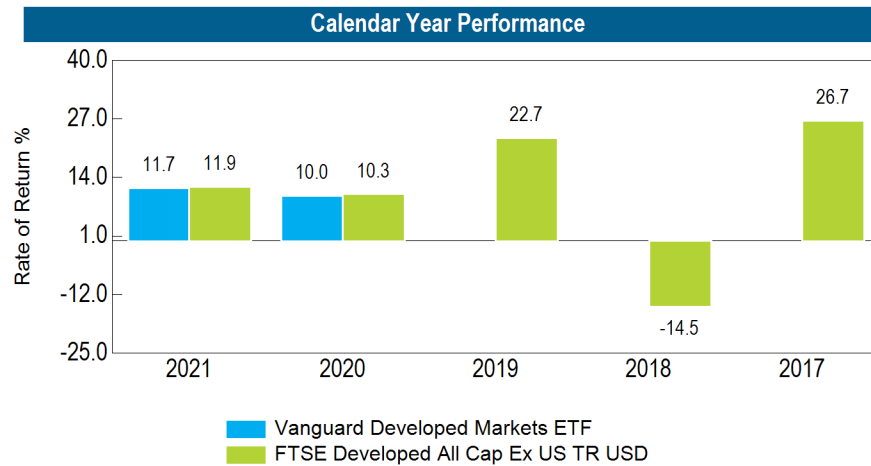
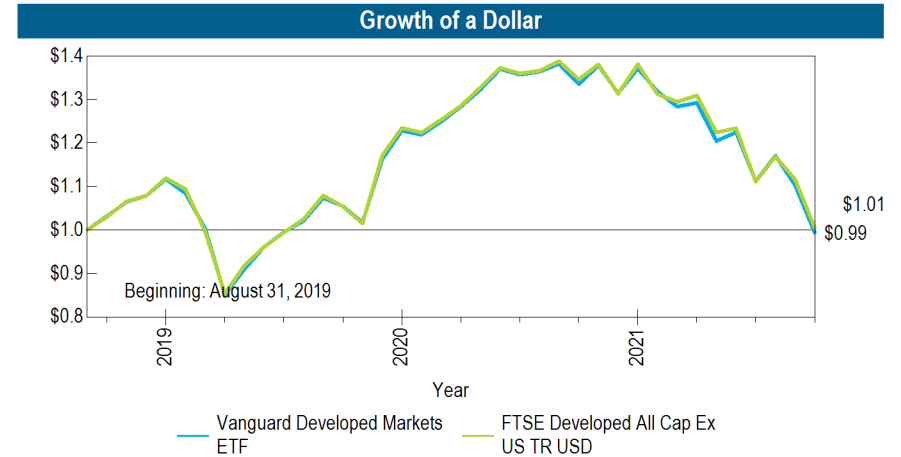
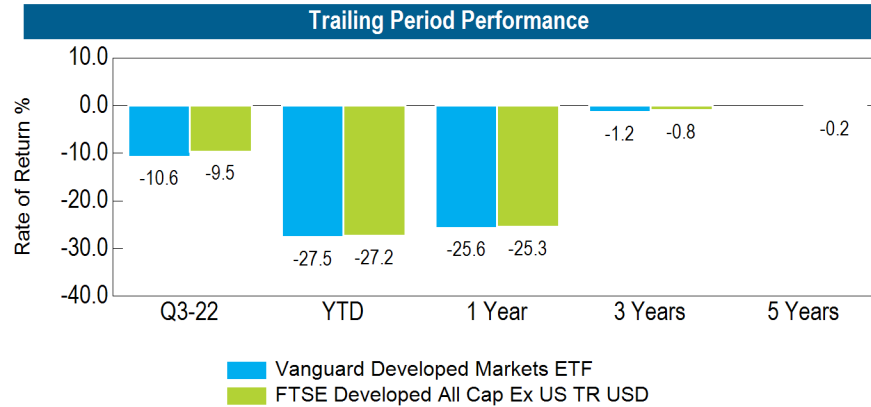
#### Style Exposure



#### Style History (5-Year)



	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Developed Markets ETF	-0.2%	19.3%	0.0%	1.0	-0.2	2.2%	98.7%	100.3%
FTSE Developed All Cap Ex US TR USD	0.2%	19.7%	0.0%	1.0	--	0.0%	100.0%	100.0%

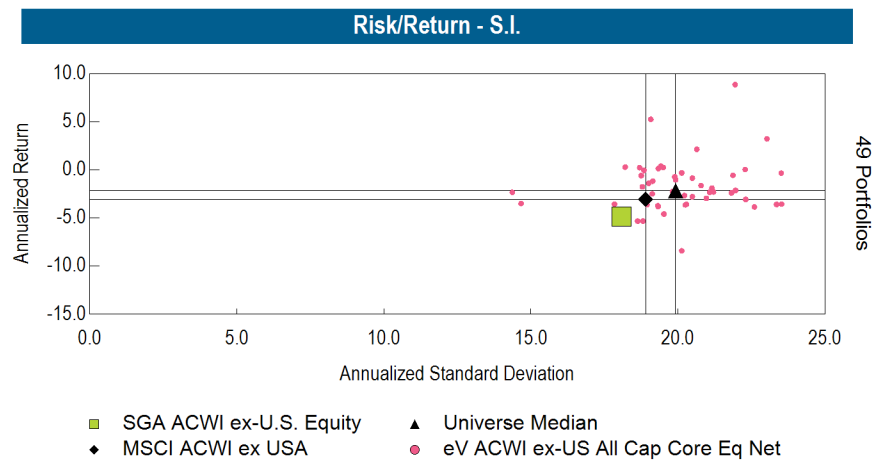
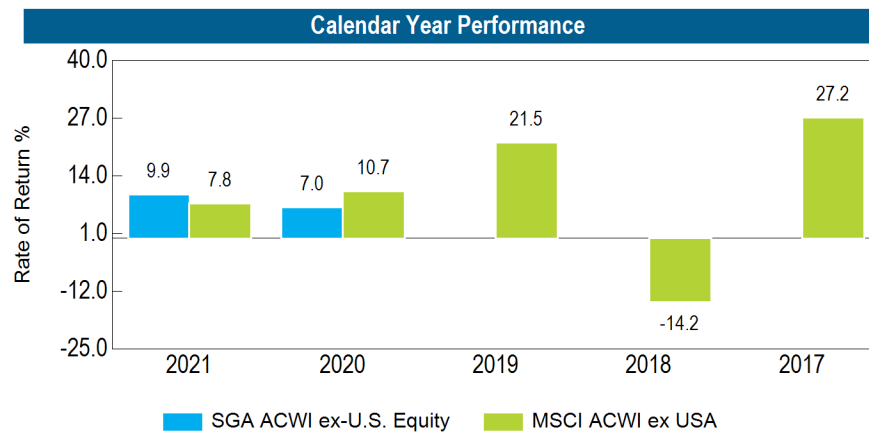
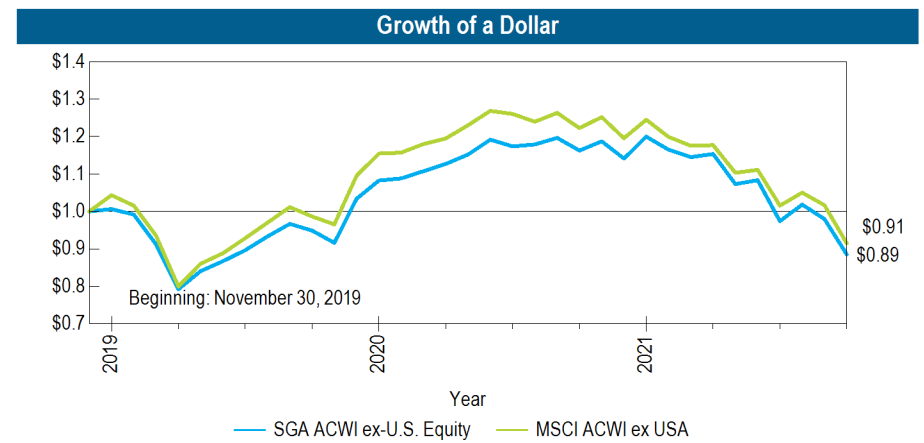
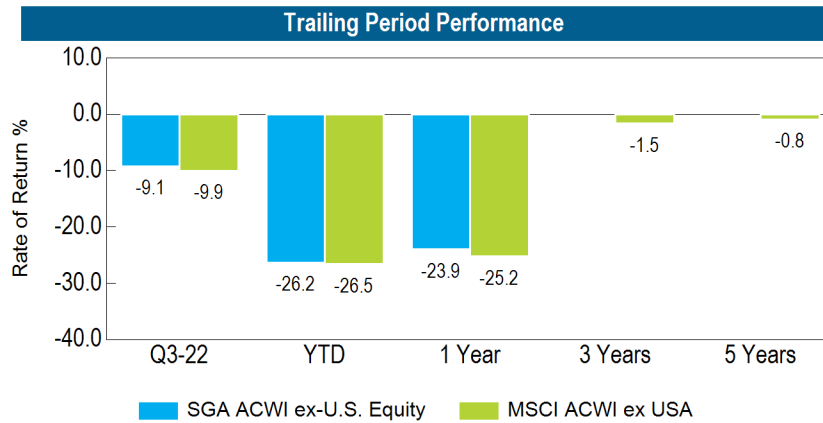


Performance shown is net-of-fees and since inception.



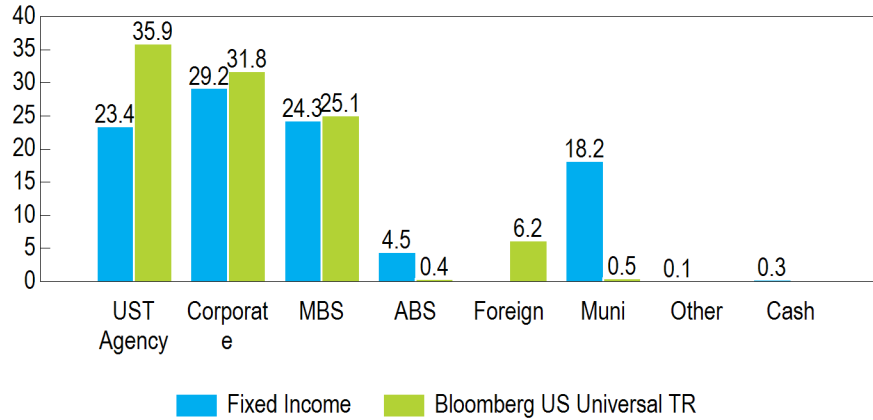
### SGA ACWI ex-U.S. Equity | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
SGA ACWI ex-U.S. Equity	-4.9%	18.1%	-0.2%	0.9	-0.5	3.7%	85.9%	98.3%
MSCI ACWI ex USA	-3.1%	18.9%	0.0%	1.0	--	0.0%	100.0%	100.0%



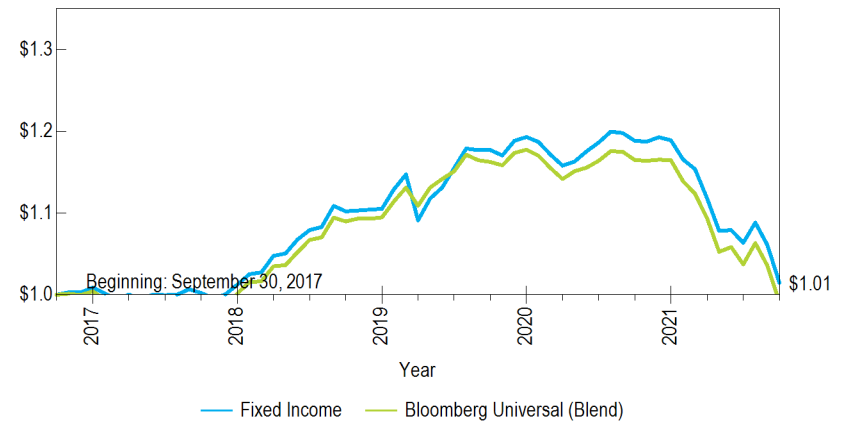
Performance shown is net-of-fees and since inception.

#### US Sector Allocation

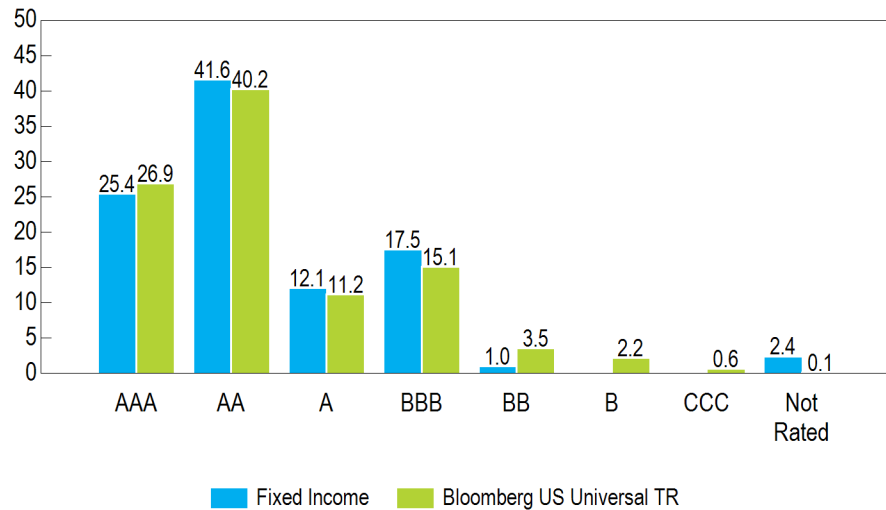


#### Growth of a Dollar

5 Years Ending September 30, 2022



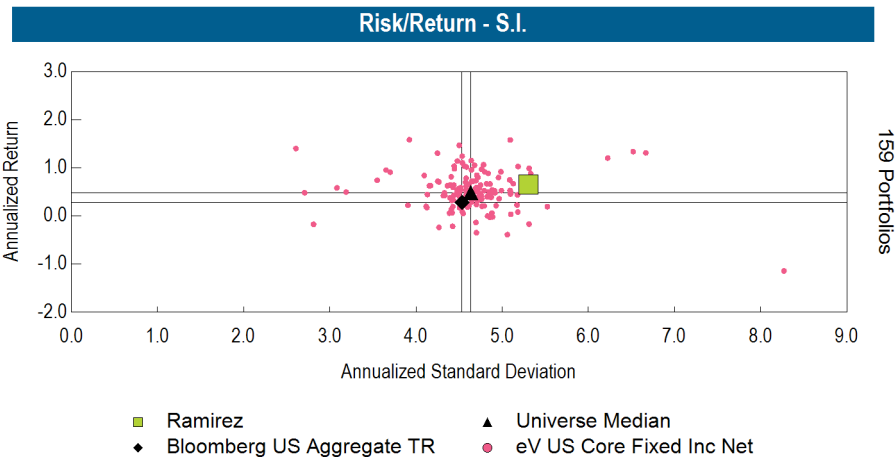
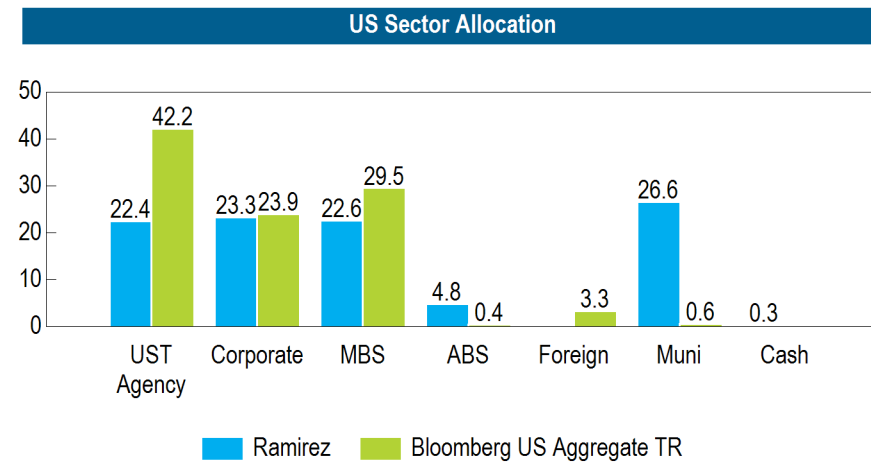
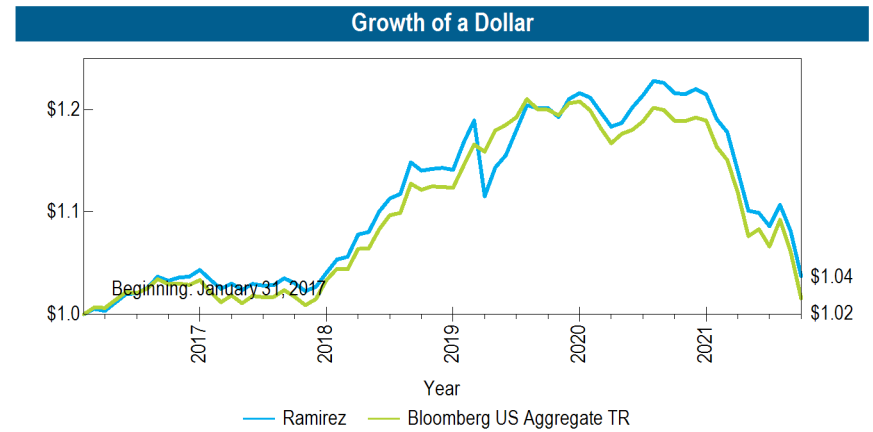
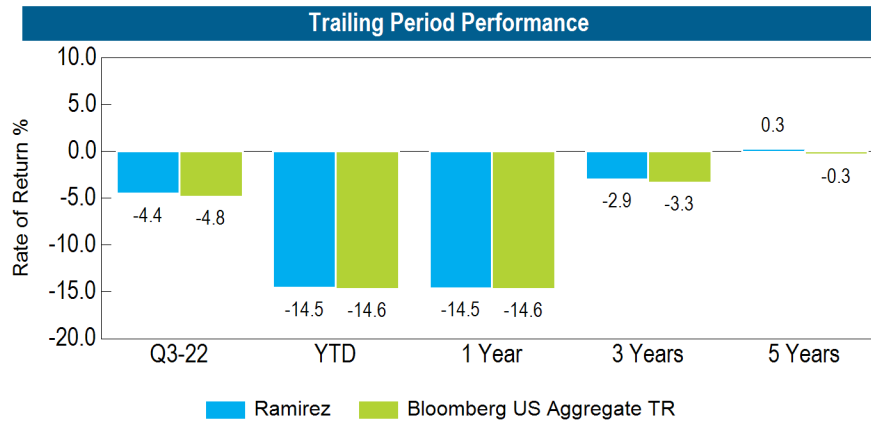
#### Credit Quality Allocation



#### Fixed Income Fixed Income Characteristics vs. Bloomberg US Universal TR

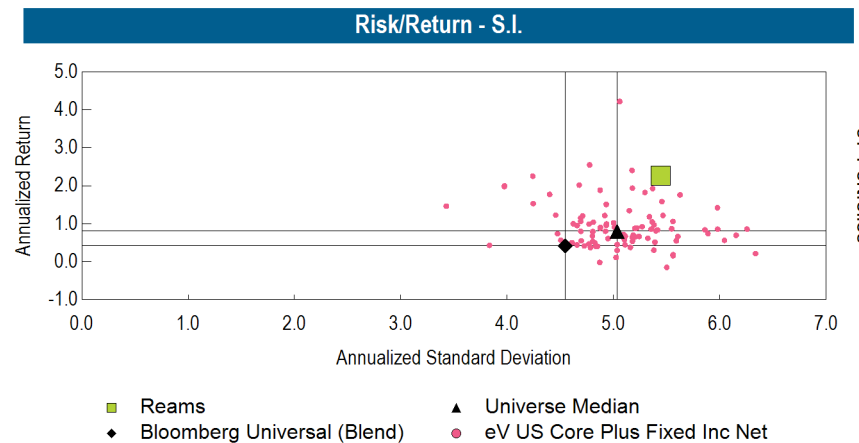
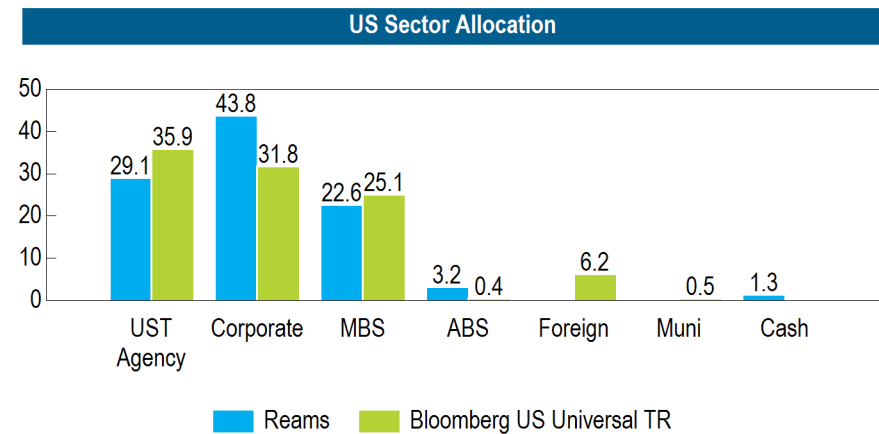
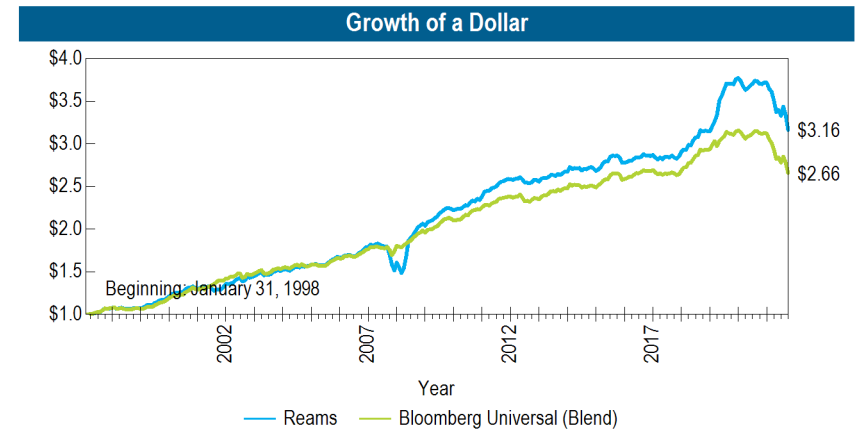
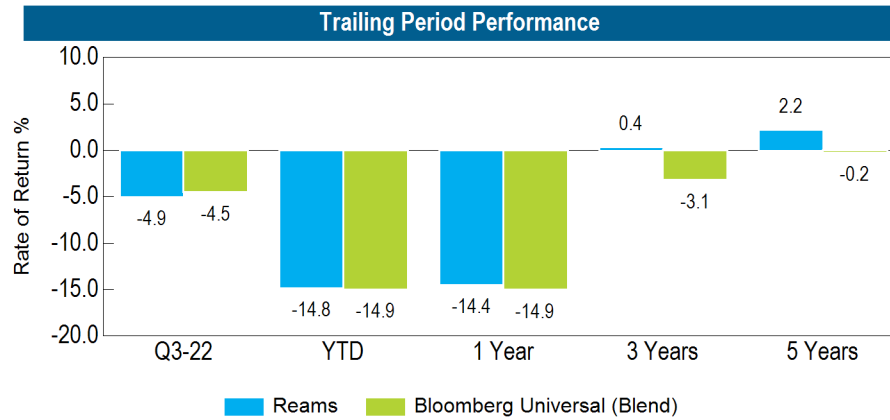
	Portfolio Q3-22	Index Q3-22
<b>Fixed Income Characteristics</b>		
Yield to Maturity	5.40	5.14
Average Duration	6.34	6.17
Average Quality	AA	AA
Weighted Average Maturity	9.33	12.21

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Ramirez	0.6%	5.3%	0.0%	1.0	0.1	2.7%	116.7%	106.6%
Bloomberg US Aggregate TR	0.3%	4.5%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

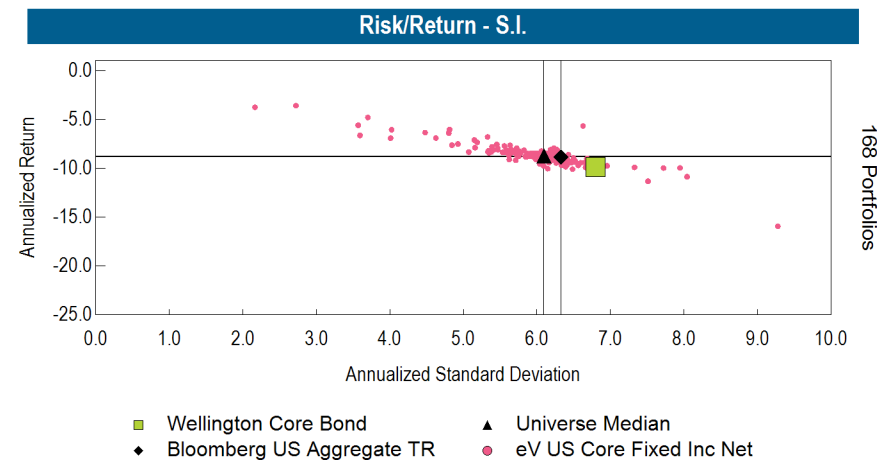
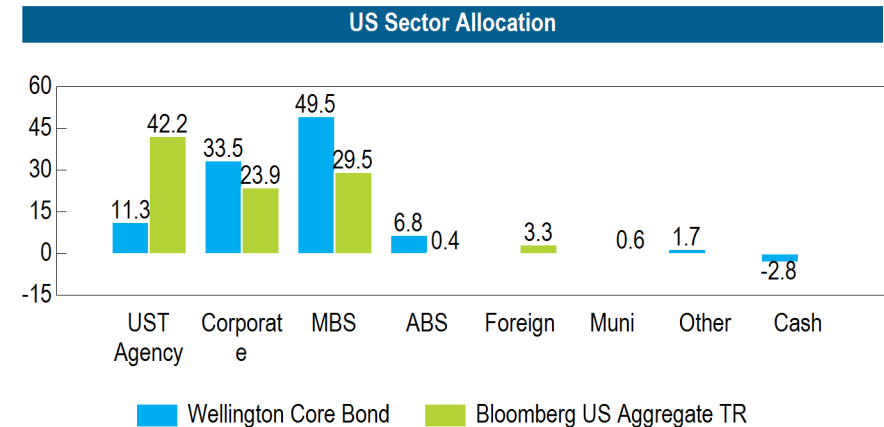
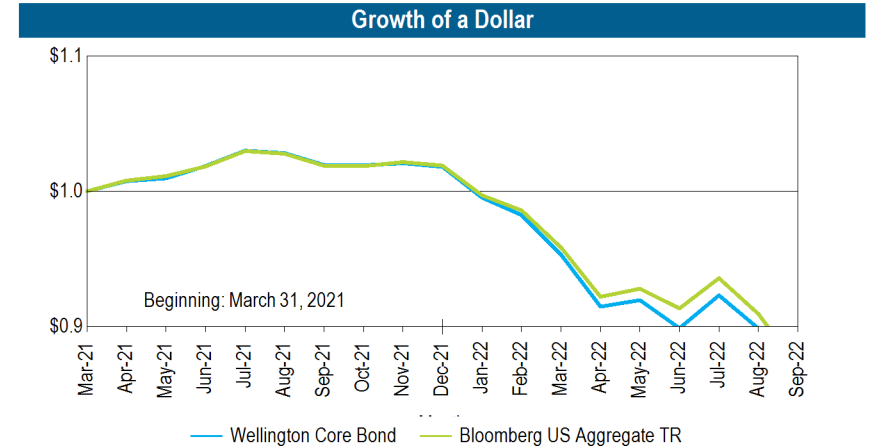
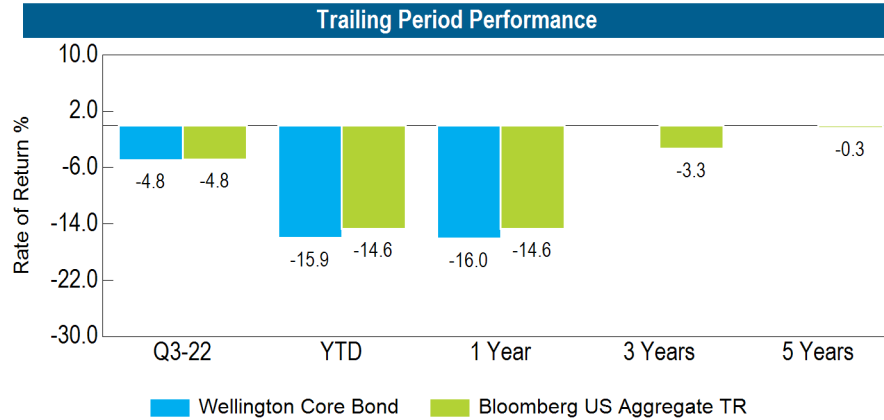
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Reams	4.8%	5.5%	0.0%	1.1	0.2	3.9%	123.4%	100.2%
Bloomberg Universal (Blend)	4.0%	3.8%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

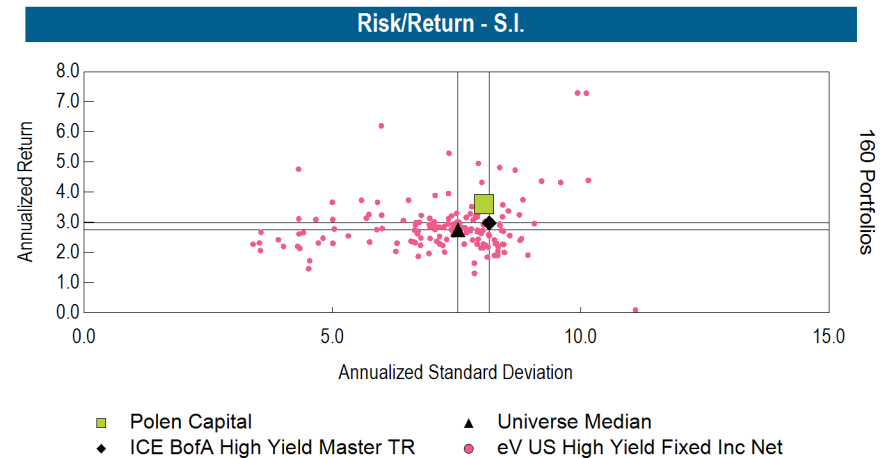
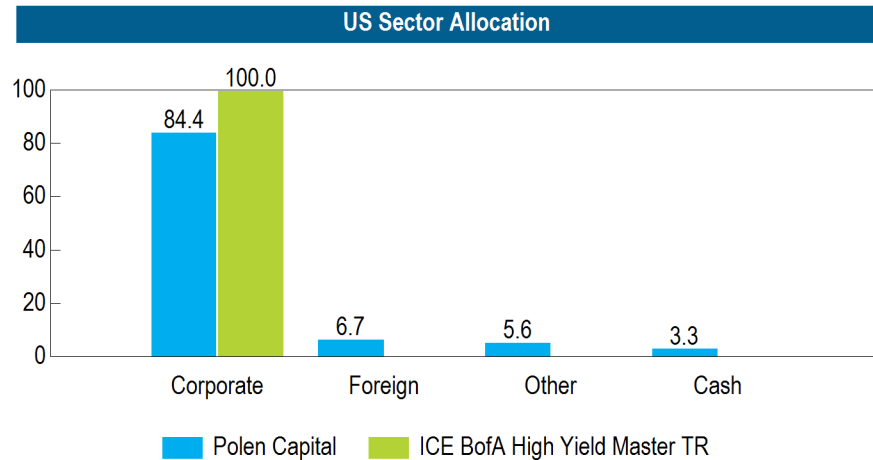
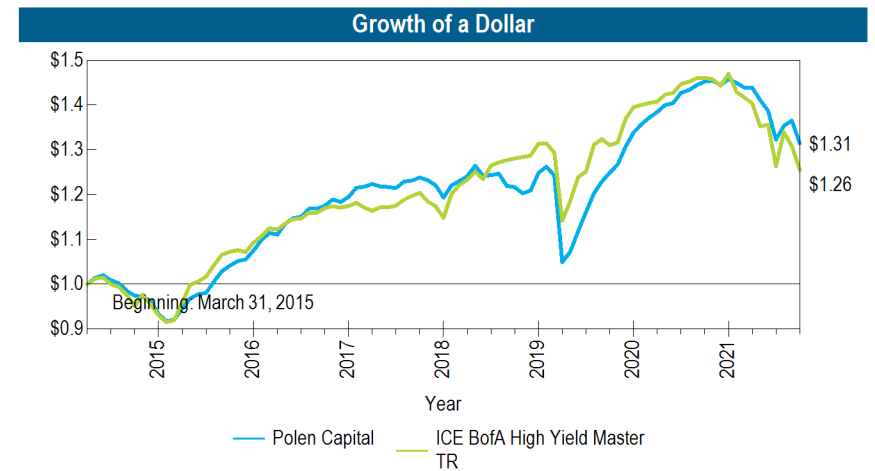
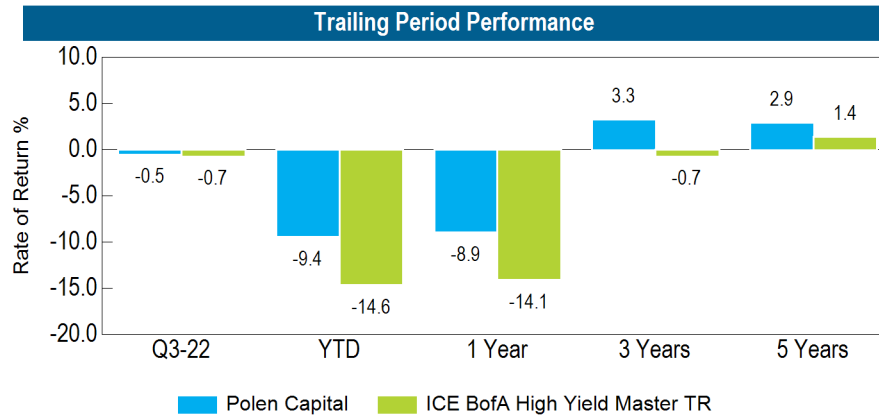
### Wellington Core Bond | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Wellington Core Bond	-9.9%	6.8%	0.0%	1.1	-1.3	0.8%	100.1%	107.7%
Bloomberg US Aggregate TR	-8.9%	6.3%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

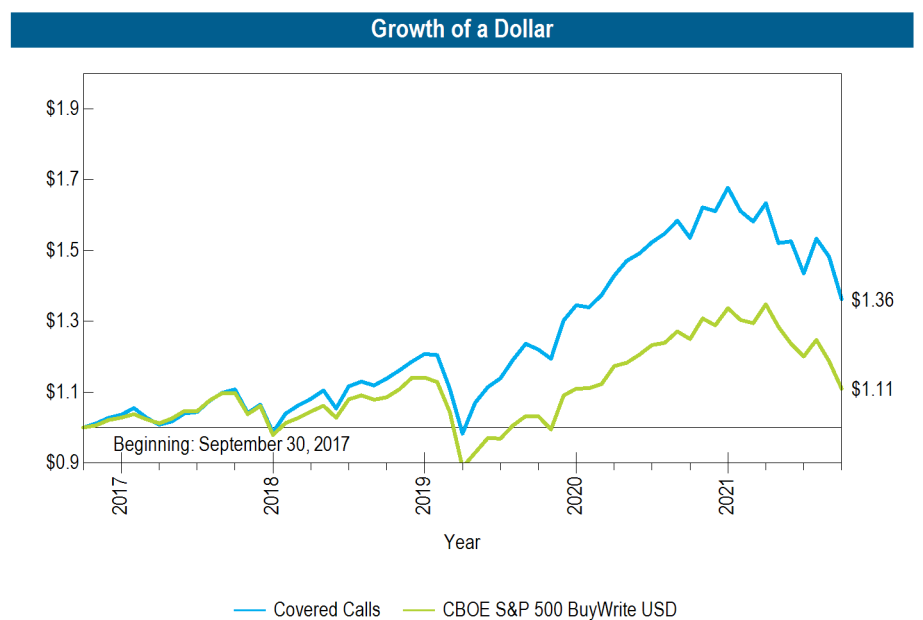
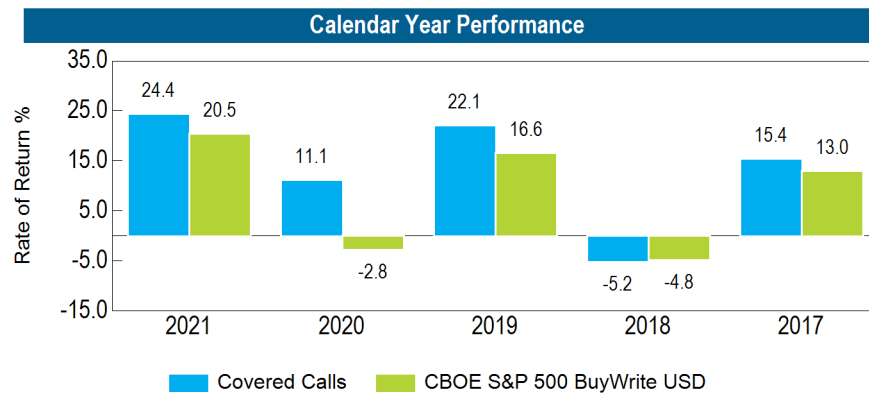
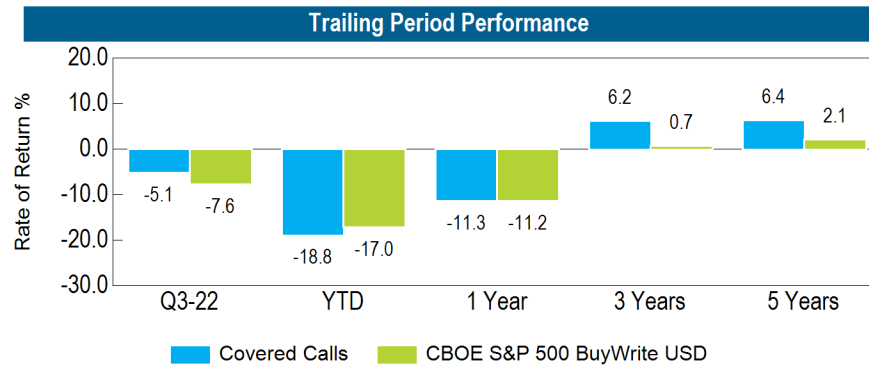
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Polen Capital	3.9%	8.0%	0.1%	0.9	0.1	4.2%	81.7%	79.6%
ICE BofA High Yield Master TR	3.3%	8.2%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

### Covered Calls | As of September 30, 2022

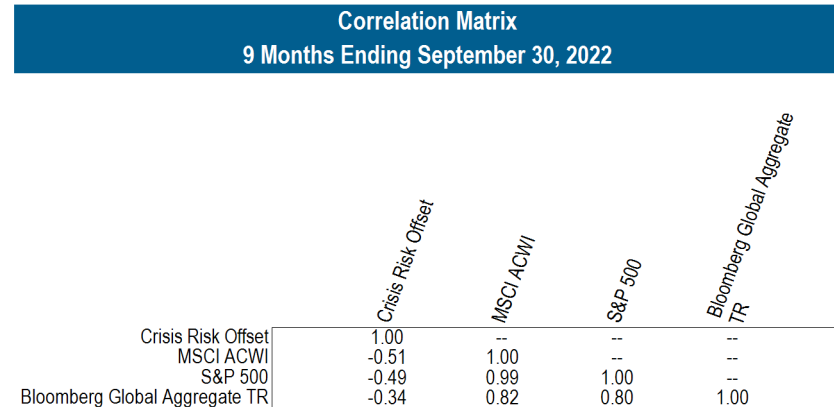
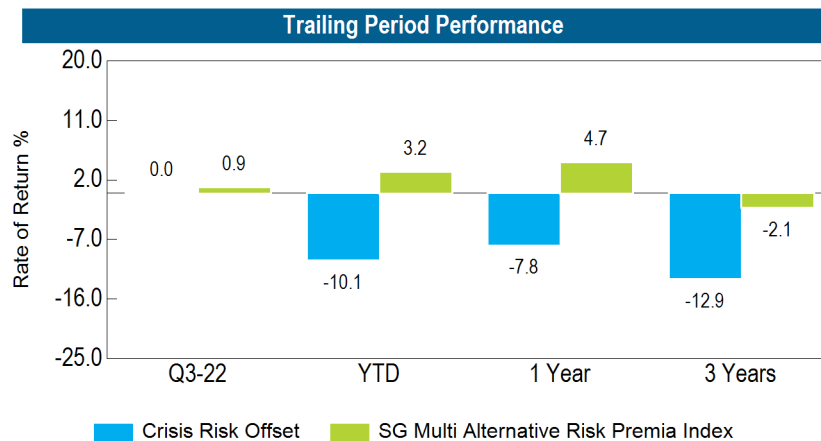
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Covered Calls	7.2%	11.7%	0.2%	1.0	0.7	4.0%	140.2%	101.1%
CBOE S&P 500 BuyWrite USD	4.2%	10.8%	0.0%	1.0	--	0.0%	100.0%	100.0%
Parametric BXM	5.5%	9.6%	0.2%	0.8	0.4	3.3%	95.2%	90.5%
CBOE S&P 500 BuyWrite USD	4.2%	10.8%	0.0%	1.0	--	0.0%	100.0%	100.0%
Parametric DeltaShift	9.0%	13.9%	0.3%	1.2	0.8	6.1%	196.3%	108.8%
CBOE S&P 500 BuyWrite USD	4.2%	10.8%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception. Annualized Return is not available for managers without a history longer than one year.

### Crisis Risk Offset | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Crisis Risk Offset	-10.31%	11.89%	-0.78%	0.65	-0.78	11.39%	-28.94%	96.14%
SG Multi Alternative Risk Premia Index	-1.39%	6.10%	0.00%	1.00	--	0.00%	100.00%	100.00%
Kepos Alternative Risk Premia	--	--	--	--	--	--	--	--
SG Multi Alternative Risk Premia Index	-1.39%	6.10%	0.00%	1.00	--	0.00%	100.00%	100.00%
Versor Trend Following	--	--	--	--	--	--	--	--
SG Trend Index	17.90%	12.61%	0.00%	1.00	--	0.00%	100.00%	100.00%
Vanguard Long-Term Treasury ETF	-5.77%	14.46%	0.00%	1.02	-0.07	1.14%	102.32%	101.16%
Bloomberg US Govt Long TR	-5.69%	14.18%	0.00%	1.00	--	0.00%	100.00%	100.00%



Performance shown is net-of-fees and since inception.



Benchmark History		
As of September 30, 2022		
OPFRS Total Plan		
6/1/2022	Present	40% Russell 3000 / 12% MSCI ACWI ex USA / 31% Bloomberg US Universal TR / 5% CBOE BXM / 10% SG Multi Alternative Risk Premia Index / 2% Bloomberg US High Yield TR
1/1/2019	5/31/2022	40% Russell 3000 / 12% MSCI ACWI ex USA Gross / 33% Bloomberg US Universal TR / 5% CBOE BXM / 6.7% SG Multi Alternative Risk Premia Index / 3.3% Bloomberg US Treasury Long TR
5/1/2016	12/31/2018	48% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 20% CBOE BXM
10/1/2015	4/30/2016	43% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 15% CBOE BXM / 10% CPI - All Urban Consumers (unadjusted) +3%
1/1/2014	9/30/2015	48% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 10% CBOE BXM / 10% CPI - All Urban Consumers (unadjusted) +3%
3/1/2013	12/31/2013	40% Russell 3000 / 10% MSCI ACWI ex USA Gross / 17% Bloomberg US Universal TR / 33% ICE BofA 3M US Treasury TR USD
8/1/2012	2/28/2013	20% Russell 3000 / 7% MSCI ACWI ex USA Gross / 18% Bloomberg US Universal TR / 55% ICE BofA 3M US Treasury TR USD
10/1/2007	7/31/2012	53% Russell 3000 / 17% MSCI ACWI ex USA Gross / 30% Bloomberg US Universal TR
4/1/2006	9/30/2007	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% Bloomberg US Universal TR
1/1/2005	3/31/2006	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% Bloomberg US Aggregate TR
4/1/1998	12/31/2004	50% Bloomberg US Aggregate TR / 10% Russell 1000 / 20% Russell 1000 Value / 5% Russell MidCap / 15% MSCI EAFE
12/1/1988	3/31/1998	40% S&P 500 / 55% Bloomberg US Aggregate TR / 5% FTSE T-Bill 3 Months TR

### Benchmark History As of September 30, 2022

#### Domestic Equity

1/1/2005	Present	Russell 3000
4/1/1998	12/31/2004	28.57% Russell 1000 / 57.14% Russell 1000 Value / 14.29% Russell MidCap
6/1/1997	3/31/1998	S&P 500

#### International Equity

1/1/2005	Present	MSCI ACWI ex USA
1/1/1998	12/31/2004	MSCI EAFE Gross

#### Fixed Income

4/1/2006	Present	Bloomberg US Universal TR
12/31/1993	3/31/2006	Bloomberg US Aggregate TR

#### Covered Calls

4/1/2014	Present	CBOE S&P 500 BuyWrite USD
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#### Crisis Risk Offset

8/1/2018	Present	SG Multi Alternative Risk Premia Index
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#### Cash

3/1/2011	Present	FTSE T-Bill 3 Months TR
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## **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

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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 14, 2022

Recommendation for  
Jan to Mar 2023 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 <sup>1</sup>
1	Public, Scheduled Withdrawal Allowances	103.8	17.3
2	Public, Accommodating of Withdrawals	130.7	21.8
3	Public, Must Plan Withdrawals	147.3	24.5
4	Closely Held	0.0	-
<b>Total</b>		<b>381.8</b>	

<sup>1</sup> 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, 2022<sup>1</sup>

	Market Value		Target	Variance		Actual Cash Flows for Oct – Dec Benefits <sup>1</sup>		Suggested Cash Flows for Jan – Mar Benefits <sup>1</sup>	
	(\$M)	(%)	(%)	(\$M)	(%)	Inflow (\$M)	Outflow (\$M)	Inflow (\$M)	Outflow (\$M)
Northern Trust Russell 1000	67.0	17.6	20.0	(9.3)	(2.4)	--	--	--	--
EARNEST Partners	40.5	10.6	8.0	9.9	2.6	--	--	--	--
Wellington Select Quality Equity	19.5	5.1	6.0	(3.4)	(0.9)	--	--	--	--
Rice Hall James	12.9	3.4	3.0	1.4	0.4	--	--	--	--
Brown Small Cap Value	9.7	2.5	3.0	(1.7)	(0.5)	--	--	--	--
<b>Total Domestic Equity</b>	<b>149.6</b>	<b>39.2</b>	<b>40.0</b>	<b>(3.1)</b>	<b>(0.8)</b>	--	--	--	--
SGA MSCI ACWI ex-US	31.3	8.2	8.4	(0.8)	(0.2)	--	--	--	--
Vanguard Developed ETF (BlackRock) <sup>2</sup>	12.2	3.2	3.6	(1.6)	(0.4)	--	--	--	--
<b>Total International Equity</b>	<b>43.5</b>	<b>11.4</b>	<b>12.0</b>	<b>(2.4)</b>	<b>(0.6)</b>	--	--	--	--
<b>Total Public Equity<sup>3</sup></b>	<b>193.1</b>	<b>50.6</b>	<b>52.0</b>	<b>(5.4)</b>	<b>(1.4)</b>	--	--	--	--
Parametric	29.2	7.6	5.0	10.1	2.6	--	(6.0)	--	(6.0)
<b>Total Covered Calls</b>	<b>29.2</b>	<b>7.6</b>	<b>5.0</b>	<b>10.1</b>	<b>2.6</b>	--	<b>(6.0)</b>	--	<b>(6.0)</b>
Long Duration ETF (BlackRock) <sup>2</sup>	14.0	3.7	3.3	1.3	0.3	--	--	--	--
Versor Trend Following	17.2	4.5	3.3	4.6	1.2	--	--	--	--
Kepos Alternative Risk Premia	9.7	2.6	3.3	(2.9)	(0.7)	--	--	--	--
<b>Total Crisis Risk Offset</b>	<b>41.0</b>	<b>10.7</b>	<b>10.0</b>	<b>2.8</b>	<b>0.7</b>	--	--	--	--
Ramirez	67.9	17.8	17.0	3.0	0.8	--	--	--	--
Reams	25.2	6.6	12.0	(20.6)	(5.4)	--	--	--	--
Wellington Core Bond	6.4	1.7	2.0	(1.2)	(0.3)	--	--	--	--
Polen Capital High Yield	8.5	2.2	2.0	0.8	0.2	--	--	--	--
<b>Total Public Fixed Income</b>	<b>107.9</b>	<b>28.3</b>	<b>33.0</b>	<b>(18.1)</b>	<b>(4.7)</b>	--	--	--	--
Cash	10.6	2.8	0.0	10.6	2.8	8.2	(8.2)	8.2	(8.2)
<b>Total Stable<sup>3</sup></b>	<b>118.5</b>	<b>31.0</b>	<b>33.0</b>	<b>(7.5)</b>	<b>(2.0)</b>	<b>8.2</b>	<b>(8.2)</b>	<b>8.2</b>	<b>(8.2)</b>
<b>Total Portfolio</b>	<b>381.8</b>	<b>100</b>	<b>100</b>			<b>8.2</b>	<b>(14.2)</b>	<b>8.2</b>	<b>(14.2)</b>

<sup>1</sup>Benefit payments estimated at \$14.2 million on a quarterly basis per OPFRS. Report reflects quarterly City contributions of \$8.2 million. The City's current quarterly contribution amount is based on FY 2022/2023 actuarial annual required contribution of \$32.8 million. Benefits are payable on first of each month.

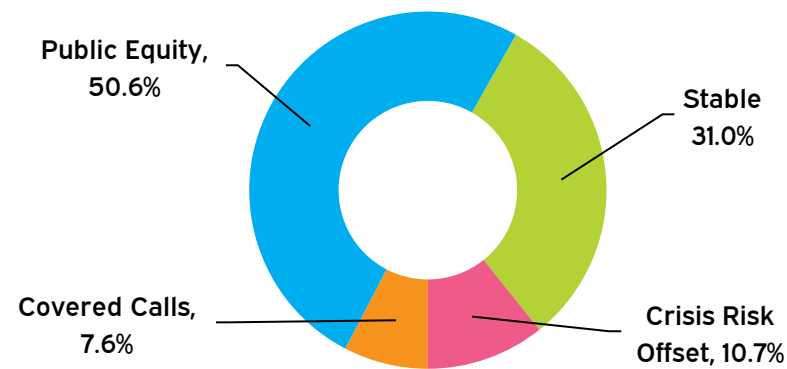
<sup>2</sup>Manager names in parentheses indicates selected, yet unfunded managers for replacement.

<sup>3</sup>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	149.6
International Equity	43.5
Public Equity <sup>1</sup>	193.1
Covered Calls	29.2
Crisis Risk Offset	41.0
Public Fixed Income	107.9
Stable <sup>1</sup>	118.5
<b>Total Portfolio</b>	<b>381.8</b>

### Projected Equity to Fixed Income Allocation After Cash Flows



### Suggested Cash Withdrawals

Portfolio Segment	Market Value (\$M)
Cash in Treasury	8.2
Parametric BXM	3.0
Parametric DeltaShift	3.0
<b>Total Withdrawal</b>	<b>14.2</b>

→ Market value difference in Public Equity from 52% allocation: **-\$5.4 million**

<sup>1</sup>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, 2023<sup>1</sup>

	Estimated Market Value		Target (%)	Projected Variance from Target	
	(\$M)	(%)		(\$M)	(%)
Northern Trust Russell 1000	67.0	18.1	20.0	(6.9)	(1.9)
EARNEST Partners	40.5	10.9	6.0	18.3	4.9
Wellington Select Quality Equity	19.5	5.3	8.0	(10.1)	(2.7)
Rice Hall James	12.9	3.5	3.0	1.8	0.5
Brown Small Cap Value	9.7	2.6	3.0	(1.4)	(0.4)
<b>Total Domestic Equity</b>	<b>149.6</b>	<b>40.5</b>	<b>40.0</b>	<b>1.7</b>	<b>0.5</b>
SGA MSCI ACWI ex-US	31.3	8.5	3.6	18.0	4.9
Vanguard Developed Markets ETF	12.2	3.3	8.4	(18.9)	(5.1)
<b>Total International Equity</b>	<b>43.5</b>	<b>11.8</b>	<b>12.0</b>	<b>(0.9)</b>	<b>(0.2)</b>
<b>Total Public Equity</b>	<b>193.1</b>	<b>52.2</b>	<b>52.0</b>	<b>0.8</b>	<b>0.2</b>
Parametric	19.2	5.2	5.0	0.7	0.2
<b>Total Covered Calls</b>	<b>19.2</b>	<b>5.2</b>	<b>5.0</b>	<b>0.7</b>	<b>0.2</b>
Vanguard Long Duration ETF	14.0	3.8	3.3	1.7	0.5
Versor Trend Following	17.2	4.7	3.3	4.9	1.3
Kepos Alternative Risk Premia	9.7	2.6	3.3	(2.6)	(0.7)
<b>Total Crisis Risk Offset</b>	<b>41.0</b>	<b>11.1</b>	<b>10.0</b>	<b>4.0</b>	<b>1.1</b>
Ramirez	67.9	18.4	12.0	23.5	6.4
Reams	25.2	6.8	2.0	17.8	4.8
Wellington Core Bond	6.4	1.7	19.0	(63.8)	(17.3)
Polen Capital High Yield	8.5	2.3	2.0	1.1	0.3
<b>Total Public Fixed Income</b>	<b>107.9</b>	<b>29.2</b>	<b>33.0</b>	<b>(14.1)</b>	<b>(3.8)</b>
Cash	8.6	2.3	0.0	8.6	2.3
<b>Total Stable</b>	<b>116.5</b>	<b>31.5</b>	<b>33.0</b>	<b>(5.5)</b>	<b>(1.5)</b>
<b>Total Portfolio</b>	<b>369.8</b>	<b>100</b>	<b>100</b>		

<sup>1</sup>Benefit payments estimated at \$14.2M on a quarterly basis per OPFRS. Report reflects quarterly City contributions of \$8.2M. The City's current quarterly contribution amount is based on FY 2022/2023 actuarial annual required contribution of \$32.8M.

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.

## MEMORANDUM

**TO:** Oakland Police and Fire Retirement System (“OPFRS”)  
**FROM:** Meketa Investment Group (“Meketa”)  
**DATE:** December 14, 2022  
**RE:** Bankruptcy of FTX

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### Background

On November 11, 2022, FTX—one of the largest cryptocurrency exchanges—filed for bankruptcy. The company’s valuations had plunged in a matter of days after CoinDesk, a cryptocurrency news site, published a report earlier in the month. Along with its collapse, the closely affiliated Alameda Research—founded by the same founder Sam Bankman-Fried—filed for bankruptcy.

### Effect on Oakland Police and Fire Retirement System

While FTX’s collapse is sudden sending shockwaves in the digital currency community as well as the investments industry, its effect on Oakland Police and Fire Retirement System is expected to be none to minimal.

As a private company, FTX’s investors were primarily private equity and venture capital funds.

OPFRS’s portfolio is composed of managers investing and trading in public equity, public fixed income, and derivatives such as covered calls, and therefore has no direct exposure to FTX or Alameda Research. OPFRS does not have any private markets mandates nor hired investment managers with such mandates. OPFRS also does not hold FTX’s own cryptocurrency FTT.

***Therefore, Meketa does not have any major concerns with FTX’s collapse in regard to its effect on OPFRS’s portfolio.***

DS/PN/JLC/mn



## Disclosure

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

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## MEMORANDUM

**TO:** Oakland Police and Fire Retirement System (“OPFRS”)  
**FROM:** Meketa Investment Group (“Meketa”)  
**DATE:** December 14, 2022  
**RE:** 2023 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 throughout 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.

### 2023 Preliminary Investment Project Agenda

Expected Completion Date	Task
January 2023	Flash Performance (2022 Dec) Manager Update: <b>Reams</b>
February 2023	Flash Performance (2023 Jan) Quarterly Performance Report (4Q 2022) Annual Diversity Survey Results Manager Update: <b>Earnest Partners</b> Contract Renewal: <b>Earnest Partners</b>
March 2023	Flash Performance (2023 Feb) Cash Flow Report (2Q 2023) Informational: 2023 Meketa Capital Market Assumptions Watchlist Review: <b>Polen Capital</b> Manager Update: <b>Polen Capital</b>
April 2023	Flash Performance (2023 Mar) Watchlist Review: <b>Rice Hall James</b> Manager Update: <b>Rice Hall James</b> Potential Manager Search Discussion: Small Cap Growth
May 2023	Flash Performance (2023 Apr) Quarterly Performance Report (1Q 2023) Manager Update: <b>Wellington Core Bonds</b>





Expected Completion Date	Task
June 2023	Flash Performance (2023 May) Cash Flow Report (3Q 2023) Informational Item: TBD Manager Update: <b>Brown Advisory</b>
July 2023	Flash Performance (2023 Jun) Manager Update: <b>Wellington Select Equity</b> Manager Update: <b>Northern Trust Asset Management</b>
August 2023	Flash Performance (2023 Jul) Quarterly Performance Report (2Q 2023) Manager Update: <b>Kepos</b>
September 2023	Flash Performance (2023 Aug) Cash Flow Report (4Q 2023) Thermal Coal List Update: 2023 Manager Update: <b>Versor</b>
October 2023	Flash Performance (2023 Sep) Informational Item: TBD Manager Update: <b>Parametric</b> Contract Renewal: <b>Parametric</b>
November 2023	Flash Performance (2023 Oct) Quarterly Performance Report (3Q 2023) Manager Update: <b>Strategic Global Advisors</b>
December 2023	Flash Performance (2023 Nov) Cash Flow Report (1Q 2024) Manager Update: <b>Ramirez</b> Informational Item: TBD

**Bold** are priority strategic items.

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

Pursuant to California Government Code section 54953(e), the Oakland Police & Fire Retirement System Board and Committee Members, as well as City staff, will participate via phone/video conference, and no physical teleconference locations are required.

Please see the agenda to participate in the meeting. For additional information, contact the Retirement Unit by calling (510) 238-7295.



**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, AUGUST DECEMBER 14, 2022**

**10:30 AM**

**TELE-CONFERENCE BOARD MEETING  
VIA ZOOM WEBINAR**

### 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 three ways to submit public comments.

- eComment. To send your comment directly to staff BEFORE the meeting starts, please email to [mvisaya@oaklandca.gov](mailto:mvisaya@oaklandca.gov) with “PFRS Board Meeting” in the subject line for the corresponding meeting. Please note that eComment submission **closes two (2) hours before posted meeting time.**

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
SPECIAL BOARD MEETING  
DECEMBER 14, 2022**

- To comment by Zoom video conference, click the “Raise Your Hand” button to request to speak when Public Comment is being taken on an eligible agenda item at the beginning of the meeting. You will be permitted to speak during your turn, allowed to comment, and after the allotted time, re-muted. Instructions on how to “Raise Your Hand” is available at: <https://support.zoom.us/hc/en-us/articles/205566129> - Raise-Hand-In-Webinar.
- To comment by phone, please call on one of the above listed phone numbers. You will be prompted to “Raise Your Hand” by pressing “\*9” to speak when Public Comment is taken. You will be permitted to speak during your turn, allowed to comment, and after the allotted time, re-muted. Please unmute yourself by pressing “\*6.”

If you have any questions, please email Maxine Visaya, Administrative Assistant II at [mvisaya@oaklandca.gov](mailto:mvisaya@oaklandca.gov).

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## ORDER OF BUSINESS

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- A. Subject: Police and Fire Retirement System (“PFRS”) Board of Administration Meeting Minutes**  
**From:** Staff of the PFRS Board  
**Recommendation:** **APPROVE** the October 26, 2022 PFRS Board of Administration Meeting Minutes
- B. Subject: PFRS Actuary Valuation Report as of July 1, 2022**  
**From:** Cheiron, Inc., PFRS Plan Actuary  
**Recommendation:** **APPROVE** the PFRS Actuary Valuation Report as of July 1, 2022
- C. AUDIT & OPERATIONS COMMITTEE AGENDA – DECEMBER 14, 2022**
- C1. Subject: Report of the Audit of PFRS Financial Statements for the Year Ended June 30, 2022**  
**From:** Macias, Gini, & O’Connell LLP  
**Recommendation:** **ACCEPT** Audit Report of PFRS Financial Statements for the year ended June 30, 2022
- C2. Subject: Administrative Expenses Report**  
**From:** Staff of the PFRS Board  
**Recommendation:** **ACCEPT** informational report regarding PFRS administrative expenses as of October 31, 2022

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
SPECIAL BOARD MEETING  
DECEMBER 14, 2022

D. **INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – DECEMBER 14, 2022**

- D1. **Subject:** Investment Manager Performance Update – Strategic Global Advisors (SGA)  
**From:** Strategic Global Advisors  

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**Recommendation:** **ACCEPT** informational report regarding a firm overview and managerial assessment; diversity and inclusion policy and practices; investment strategy; and portfolio performance of Strategic Global Advisors, a PFRS Domestic Active International Equity Investment Strategy Manager
- D2. **Subject:** Investment Manager Performance Review – Strategic Global Advisors (SGA)  
**From:** Meketa Investment Group  

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**Recommendation:** **ACCEPT** Meketa Investment Group’s review and evaluation regarding a firm overview, managerial assessment, peer ranking, and portfolio performance of Strategic Global Advisors, a PFRS Domestic Active International Equity Investment Strategy Manager
- D3. **Subject:** Investment Market Overview as of October 31, 2022  
**From:** Meketa Investment Group  

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**Recommendation:** **ACCEPT** informational report regarding the Global Investment Markets as of October 31, 2022
- D4. **Subject:** Preliminary Investment Fund Performance Update as of October 31, 2022  
**From:** Meketa Investment Group  

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**Recommendation:** **ACCEPT** informational report regarding the Preliminary Investment Fund Performance Update as of October 31, 2022
- D5. **Subject:** Investment Fund Quarterly Performance Update as of September 30, 2022  
**From:** Meketa Investment Group  

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**Recommendation:** **ACCEPT** the Investment Fund Quarterly Performance Update as of September 30, 2022

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
SPECIAL BOARD MEETING  
DECEMBER 14, 2022

- D6. **Subject:** \$14.2 Million Drawdown for Member Retirement Allowances (Fiscal Year 2022/2023; Quarter Ending March 31, 2023)  
**From:** Meketa Investment Group  
**Recommendation:** **ACCEPT** informational report and **RECOMMEND BOARD APPROVAL** of the Meketa Investment Group recommendation for a \$14.2 million drawdown, which includes a \$8.2 Million contribution from the City of Oakland and a \$6.0 Million contribution from the PFRS Investment Fund, to be used to pay the January 1, 2023 through March 31, 2023 Member Retirement Allowances
- D7. **Subject:** **Informational Overview Regarding the Bankruptcy of FTX**  
**From:** Meketa Investment Group  
**Recommendation:** **ACCEPT** the informational overview regarding the bankruptcy of FTX and the effect on the PFRS Fund
- E. **Subject:** **Resolution No. 8070 – Resolution Determining that Conducting In-Person Meetings of the Police And Fire Retirement System (PFRS) Board and its Committees Would Present Imminent Risk to Health or Safety of Attendees and Electing to Continue to Conduct PFRS Board and Committee Meetings Using Teleconferencing in Accordance with California Government Code Section 54953(E) as Amended by California Assembly Bill No. 361 (September 16, 2021)**  
**From:** Staff of the PFRS Board  
**Recommendation:** **APPROVE** Resolution No. 8070 – Resolution Determining that Conducting In-Person Meetings of the Police And Fire Retirement System (PFRS) Board and its Committees Would Present Imminent Risk to Health or Safety of Attendees and Electing to Continue to Conduct PFRS Board and Committee Meetings Using Teleconferencing in Accordance with California Government Code Section 54953(E) as Amended by California Assembly Bill No. 361 (September 16, 2021)
- F. **PENDING ITEMS – None**
- G. **NEW BUSINESS**
- H. **OPEN FORUM**
- I. **FUTURE SCHEDULING**
- J. **ADJOURNMENT**

**A REGULAR MEETING** of the Oakland Police and Fire Retirement System (“PFRS”) Board of Administration was held on Wednesday, October 26, 2022 via Zoom Webinar.

Board Members:

- Walter L. Johnson            President
- Jaime T. Godfrey           Vice President
- Martin J. Melia             Member
- Robert W. Nichelini       Member
- Erin Roseman               Member
- John C. Speakman         Member
- R. Steven Wilkinson       Member

Additional Attendees:

- David F. Jones             PFRS Secretary & Plan Administrator (EXCUSED)
- Mitesh Bhakta              PFRS Legal Counsel
- Téir Jenkins                PFRS Staff Member & Acting Secretary
- Maxine Visaya              PFRS Staff Member
- David Sancewich          Meketa Investment Group
- Paola Nealon                Meketa Investment Group
- Jason Leong Campbell     Meketa Investment Group

The meeting was called to order at 11:38 a.m. Pacific

**A. PFRS Board Meeting Minutes** – Member Speakman made a motion to approve the September 28, 2022 Board of Administration Regular Meeting Minutes, second by Vice President Godfrey. Motion passed.

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

**B. AUDIT AND OPERATIONS COMMITTEE AGENDA – OCTOBER 26, 2022**

**B1. Administrative Expenses Report** – Staff Member Jenkins presented an informational report on PFRS’ administrative expenditures as of August 31, 2022. PFRS has an approved annual budget of approximately \$3.6 million and have expensed approximately \$211,000.00 to date for fiscal year 2022-2023. Membership consisted of 684 retired members, which included 420 Police Members and 264 Fire Members.

**MOTION:** Member Speakman made a motion to accept the administrative expenses report as of August 31, 2022, second by Member Melia. Motion passed.

[JOHNSON – Y / GODFREY – Y / MELIA – Y / NICHELINI – Y / ROSEMAN – Y / SPEAKMAN – Y / WILKINSON – Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)

**C. INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – OCTOBER 26, 2022**

- C1. Investment Manager Performance Update – Rice Hall James & Associates** – Vice President Godfrey provided an overview of the presentation by Rice Hall James & Associates, a PFRS Domestic Equity Small-Cap Growth Investment Strategy Manager. Vice President Godfrey highlighted the firm overview, investment strategy, portfolio performance, and the firm’s Diversity, Equity, and Inclusion policy and practices.

**MOTION:** Vice President Godfrey made a motion to accept the informational report regarding Rice Hall James & Associates, a PFRS Domestic Equity Small-Cap Growth Investment Strategy Manager, second by Member Nichelini. Motion Passed.

[JOHNSON – Y / GODFREY – Y / MELIA – Y / NICHELINI – Y / ROSEMAN – Y / SPEAKMAN – Y / WILKINSON – Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)

- C2. Investment Manager Performance Review – Rice Hall James & Associates** – Jason Leong Campbell of Meketa Investment Group (“Meketa”) presented an overview memo regarding Rice Hall James & Associates, a PFRS Domestic Equity Small-Cap Growth Investment Strategy Manager and noted Meketa recommended to remove watch status.

Vice President Godfrey noted Meketa was instructed to provide a comprehensive peer review analysis at the end of the second quarter of 2023 and we will continue to watch the firm’s policy, practices, and commitment to Diversity & Inclusion. Member Wilkinson requested the upcoming peer review analysis by Meketa include the firm’s historical performance, not just the time they have been under contract with PFRS.

**MOTION:** Vice President Godfrey made a motion to accept Meketa’s overview memo regarding Rice Hall James & Associates and instructed Meketa to provide a comprehensive peer review by the end of the second quarter of 2023 and to maintain watch status primarily to monitor firm’s activities regarding Diversity and Inclusion and overall performance relative to their peer group, second by Member Speakman. Motion Passed.

[JOHNSON – Y / GODFREY – Y / MELIA – Y / NICHELINI – Y / ROSEMAN – Y / SPEAKMAN – Y / WILKINSON – Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)

- C3. Resolution No. 8065** – Resolution authorizing a one-year extension of the professional services agreement with Rice Hall James & Associates for the provision of Domestic Equity Small-Cap Growth Investment Strategy Manager Services for the City of Oakland Police And Fire Retirement System commencing March 1, 2023 and ending March 1, 2024

**MOTION:** Vice President Godfrey made a motion to approve Resolution No. 8065, second by Member Speakman. Motion Passed.

[JOHNSON – Y / GODFREY – Y / MELIA – Y / NICHELINI – Y / ROSEMAN – Y / SPEAKMAN – Y / WILKINSON – Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)



- C4. Investment Market Overview as of September 30, 2022** – Paola Nealon of Meketa presented an informational report regarding the Investment Market Overview as of September 30, 2022 and highlighted Index Returns, Domestic Equity Returns, Foreign Equity Returns, Fixed Income Returns and the current factors impacting outcomes.

**MOTION:** Vice President Godfrey made a motion to accept the informational report provided by Meketa regarding the Investment Market Overview as of September 30, 2022, second by Member Speakman. Motion passed.

[JOHNSON – Y / GODFREY – Y / MELIA – Y / NICHELINI – Y / ROSEMAN – Y / SPEAKMAN – Y / WILKINSON – Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)

- C5. Preliminary Investment Fund Performance Update as of September 30, 2022** David Sancewich of Meketa provided a summary of the Preliminary Investment Fund Performance Update as of September 30, 2022 and highlighted Allocation vs. Targets and Policy and the Asset Class Performance Summary.

**MOTION:** Vice President Godfrey made a motion to accept the informational report provided by Meketa regarding the Preliminary Investment Fund Performance Update as of September 30, 2022, second by Member Melia. Motion Passed.

[JOHNSON – Y / GODFREY – Y / MELIA – Y / NICHELINI – Y / ROSEMAN – Y / SPEAKMAN – Y / WILKINSON – Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)

- C6. Thermal Coal Companies Prohibited from the PFRS Investment Portfolio – 2022 Update** – Jason Leong Campbell of Meketa Investment Group presented an informational report regarding Meketa Investment Group’s updated list of thermal coal companies prohibited from the PFRS Investment Portfolio. Vice President Godfrey noted during the Investment Committee meeting the question was asked how much money PFRS is losing as a result of not investing with the prohibited companies and both Meketa and Staff advised the exposure was minimal, thus any loss would have been minimal as well.

**MOTION:** Vice President Godfrey made a motion to accept Meketa’s informational report regarding Meketa Investment Group’s updated list of thermal coal companies prohibited from the PFRS Investment Portfolio, second by Member Melia. Motion Passed.

[JOHNSON – Y / GODFREY – Y / MELIA – Y / NICHELINI – Y / ROSEMAN – Y / SPEAKMAN – Y / WILKINSON – Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)



**C7. Resolution No. 8066** – 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 commencing December 23, 2022 and ending December 23, 2023. It was noted the agenda incorrectly identified the term of the contract as 2023-2024, however the resolution correctly identifies the correct term as 2022-2023.

**MOTION:** Vice President Godfrey made a motion to approve Resolution 8066, second by Member Speakman. Motion Passed.

[JOHNSON – Y / GODFREY – Y / MELIA – Y / NICHELINI – Y / ROSEMAN – Y / SPEAKMAN – Y / WILKINSON – Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)

**D. Member Resolution 8067 – 8068**

**D1. Resolution No. 8067** – Resolution Fixing the Monthly Allowances of Surviving Spouse of the following Retired Members of the Police and Fire Retirement System in the amount indicated:

<u>Deceased Member</u>	<u>Surviving Spouse</u>	<u>Monthly Allowance</u>
▪ Robert Crawford	Nancy J. Crawford	\$ 7,129.28
▪ Donald Jensen	Pearl J. Jensen	\$ 3,892.28
▪ Filbert Silva	Winifred S. Silva	\$ 3,899.62

**MOTION:** Vice President Godfrey made a motion to approve Resolution No. 8067, second by Member Wilkinson. Motion passed.

[JOHNSON: Y / GODFREY: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)

**D2. Resolution No. 8068** – Resolution Approving Death Benefit Payment and Directing Warrants Thereunder in the Total Sum of \$1,000.00 Payable to the Beneficiaries of the following Deceased Members of the Police and Fire Retirement System:

- William Boyd
- Bernard Gerhard
- Larry Newman
- Bette Peters

**MOTION:** Vice President Godfrey made a motion to approve Resolution No. 8068, second by Member Wilkinson. Motion passed.

[JOHNSON: Y / GODFREY: Y / NICHELINI: Y / ROSEMAN: Y / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)

- E. **Resolution No. 8069** – Resolution Electing to Continue to Conduct Police and Fire Retirement System Board and Committee Meetings Using Teleconferencing in Accordance with California Government Code Section 54953(E).

**MOTION:** Member Nichelini made a motion to approve Resolution No. 8069, second by Member Speakman. Motion passed.

[JOHNSON – Y / GODFREY – Y / MELIA – Y / NICHELINI – Y / ROSEMAN – Y / SPEAKMAN – Y / WILKINSON – Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)

- F. **Pending Items** – No Report

- G. **New Business** – 1) Vice President Godfrey requested the Audit & Operations Committee look into changing the frequency of meetings to occur quarterly, as opposed to monthly. PFRS Legal Counsel Bhakta advised, as per the charter, Committees are not obligated to meet on any set frequency, however the Full Board is required to meet once per month. President Johnson instructed the Audit Committee to review scheduling possibilities and to report findings at a future date 2) Vice President Godfrey noted Governor Newsom has changed his position regarding the ability to conduct meetings via teleconference and the moratorium will come to an end sometime in the first quarter of 2023 and will result in a return to in-person meetings. Legal Counsel Bhakta advised the current teleconferencing authority under AB361 exists because of the Governor's Emergency Covid-19 Orders and those orders are anticipated to be lifted the final week of February 2023. There are options under the Brown Act to allow Board Members to remain in their homes or an alternate location, but there are rules on how that must be implemented. Legal Counsel and Staff can work to coordinate options to accommodate Board Members who do not feel healthy or safe coming into a physical location to attend meetings. Vice President Godfrey requested the Audit & Operations Committee take this information into consideration upon their review of frequency and manner of meetings moving forward.

- H. **Open Forum** – Kevin Traylor advised the Board he is representing the ROPOA in the absence of President Burney Matthews due to travel.

- I. **Future Scheduling** – The next regular Board meeting is tentatively scheduled to occur Wednesday, November 30, 2022. Staff requested the Board consider combining the November and December meetings into one meeting in early December. The Board agreed to combine the meetings and tentatively schedule a special meeting to occur December 14, 2022.

**MOTION:** Member Nichelini made a motion to tentatively schedule a special meeting to occur December 14, 2022, second by Member Speakman. Motion passed.

[JOHNSON – Y / GODFREY – Y / MELIA – Y / NICHELINI – Y / ROSEMAN – Y / SPEAKMAN – Y / WILKINSON – Y]  
(AYES: 7 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 0)

- J. Adjournment** – Member Nichelini made a motion to adjourn, second by Member Speakman. Motion passed.

[JOHNSON – Y / GODFREY – ABSENT / MELIA – Y / NICHELINI – Y / ROSEMAN – Y / SPEAKMAN – Y / WILKINSON – EXCUSED]  
(AYES: 7 / NOES: 0 / ABSENT: 0 / EXCUSED: 0)

The meeting adjourned at 12:32 p.m. Pacific

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TÉIR JENKINS  
ACTING SECRETARY

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DATE

DRAFT



## **Oakland Police and Fire Retirement System**

### **Actuarial Valuation Report as of July 1, 2022**

**Produced by Cheiron**

**December 2022**

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December 6, 2022

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

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the Oakland Police and Fire Retirement System (PFRS, the Plan) as of July 1, 2022. This report contains information on the Plan's assets and liabilities. This report also discloses the employer contributions in accordance with the funding agreement between the City of Oakland and PFRS, based on the current financial status of the Plan. Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

The purpose of this report is to present the results of the annual actuarial valuation of the Plan. This report is for the use of the Retirement Board and the auditors in preparing financial reports in accordance with applicable law and accounting requirements. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

The assumptions used in this report were adopted by the Board of Administration with our input at the February 28, 2018 Board meeting based on recommendations from our experience study covering plan experience for the period from July 1, 2014 through June 30, 2017. We believe these assumptions are reasonable for the purpose of the valuation.

The funding ratios in this report are for the purpose of establishing contribution rates. These measures are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

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

Deterministic projections in this valuation report were developed using P-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. P-scan uses standard roll-forward techniques. Because P-scan does not automatically capture how changes in one variable affect all other variables, some scenarios may not be consistent.

Stochastic projections in this valuation report were developed using R-scan, our proprietary tool for assessing the probability of different outcomes based on a range of potential investment

returns. We relied on Cheiron colleagues for the development of the model. The stochastic projections of investment returns assume that each future year's investment return is independent from all other years and is identically distributed according to a lognormal distribution. The standard deviation used in the stochastic projection of investment returns was provided by the Plan's investment consultant.

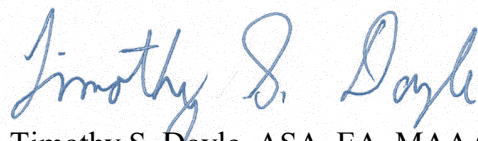
Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable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

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

Sincerely,  
Cheiron



Graham A. Schmidt, ASA, EA, FCA, MAAA  
Consulting Actuary



Timothy S. Doyle, ASA, EA, MAAA  
Associate Actuary

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**FOREWORD**

Cheiron has performed the actuarial valuation of the Oakland Police and Fire Retirement System (PFRS, the Plan) as of July 1, 2022. The valuation is organized as follows:

- In Section I, the **Executive Summary**, we describe the purpose of an actuarial valuation, summarize the key results found in this valuation, and disclose important trends.
- The **Main Body** of the report presents details on the Plan's
  - Section II – Identification and Assessment of Risks
  - Section III – Assets
  - Section IV – Liabilities
  - Section V – Contributions
  - Section VI – Head Count and Benefit Payment Projections
- In the **Appendices**, we conclude our report with detailed information describing plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent plan provisions (Appendix C), and a glossary of key actuarial terms (Appendix D).

The results of this report rely on future experience conforming to the underlying assumptions. To the extent that actual plan experience deviates from the underlying assumptions, the results would vary accordingly.

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



**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION I – EXECUTIVE SUMMARY**

The primary purpose of the actuarial valuation and this report is to measure, describe, and identify the following as of the valuation date:

- The financial condition of the Plan,
- Past and expected trends in the financial progress of the Plan,
- Calculation of the actuarially determined contributions for years beginning in Fiscal Year 2023-2024, and
- An assessment and disclosure of key risks.

In the balance of this Executive Summary, we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the Plan.

**A. Valuation Basis**

This valuation estimates the projected employer contributions in accordance with the funding agreement dated July 1, 2012 between the City of Oakland and the PFRS. Based on that agreement, employer contributions were suspended until fiscal year 2017-2018, at which time they resumed at a level based upon the recommendation of the actuary. Section V of this report shows the development of the employer contribution for fiscal year 2023-2024.

The Plan's funding policy is to contribute an amount equal to the sum of:

- The normal cost under the Entry Age Normal Cost Method (which is zero, as there are no active members),
- Amortization of the Unfunded Actuarial Liability, and
- The Plan's expected administrative expenses.

This valuation was prepared based on the plan provisions shown in Appendix C. There have been no changes in plan provisions since the prior valuation.

A summary of the assumptions and methods used in the current valuation is shown in Appendix B. There have been no changes to the actuarial assumptions or methods since the prior valuation, with the exception that we have modified the percentage of disabled deaths assumed to be duty related and the associated survivor benefit percentage.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION I – EXECUTIVE SUMMARY**

**B. Key Findings of this Valuation**

The key results of the July 1, 2022 actuarial valuation are as follows:

- The actuarially determined employer contribution amount for Fiscal Year 2023-2024 is \$40.8 million, based on projecting the Actuarial Liabilities and the Actuarial Value of Assets to the end of the 2022-2023 Fiscal Year. This represents an increase of \$10.0 million from the estimated amount in the prior valuation for the same Fiscal Year. The contribution is assumed to be paid in equal installments throughout the year, or on average at approximately January 1, 2024.
- During the year ended June 30, 2022, the return on Plan assets was -10.56% on a market value basis net of investment expenses, as compared to the 6.00% assumption for the 2021-2022 Plan year. This resulted in a market value loss on investments of \$75.2 million. The Actuarial Value of Assets (AVA) is calculated as the expected AVA plus 20% of the difference between the market value and the expected AVA, which is restricted to be between 90% and 110% of the MVA. This smoothed value of assets returned 4.70%, for an actuarial asset loss of \$5.3 million.
- The Plan experienced a gain on the Actuarial Liability of \$1.8 million, the net result of changes in the population and changes in benefits. The primary factor was an excess of deaths above the number expected. Combining the liability gain and asset loss, the Plan experienced a total loss of \$3.5 million.
- New Memorandums of Understanding (MOUs) went into effect for both Fire and Police members since the previous valuation, changing the retirees' Cost-of-Living Adjustments (COLAs). This change in COLAs increased the Fire Actuarial Liability by \$6.8 million since the scheduled increases under the new MOUs were higher than the amounts originally assumed, in aggregate, while the Police Actuarial Liability decreased by \$1.4 million due to the new MOUs increasing benefits less than originally assumed.
- The assumption that 30% of all disabled retiree deaths were duty-related was removed. This change decreased the Actuarial Liability by \$3.9 million.
- The Plan's smoothed funded ratio, the ratio of Actuarial Value of Assets over Actuarial Liability, increased from 72.2% last year to 76.5% as of June 30, 2022.
- The Plan's funded ratio decreased from 80.2% to 72.6% on a Market Value of Assets (MVA) basis.
- The Unfunded Actuarial Liability (UAL) is the excess of the Plan's Actuarial Liability over the Actuarial Value of Assets. The Plan experienced a decrease in the UAL from \$159.3 million to \$130.2 million as of July 1, 2022.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION I – EXECUTIVE SUMMARY**

- Overall participant membership decreased compared to last year. 29 members died, 10 of whom had their benefits continue to a surviving spouse. In addition, 18 surviving beneficiaries died. There are no active members of the Plan.
- If the contribution were determined using a projected asset value based on the current market (i.e., non-smoothed) value of assets, the contribution for FY 2023-2024 would be \$47.1 million. The contribution is larger than that determined using the projected AVA, because the current market value reflects the full amount of prior investment losses, while under the AVA projection, a portion of those losses are deferred until years after FY 2023-2024.

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

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

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION I – EXECUTIVE SUMMARY**

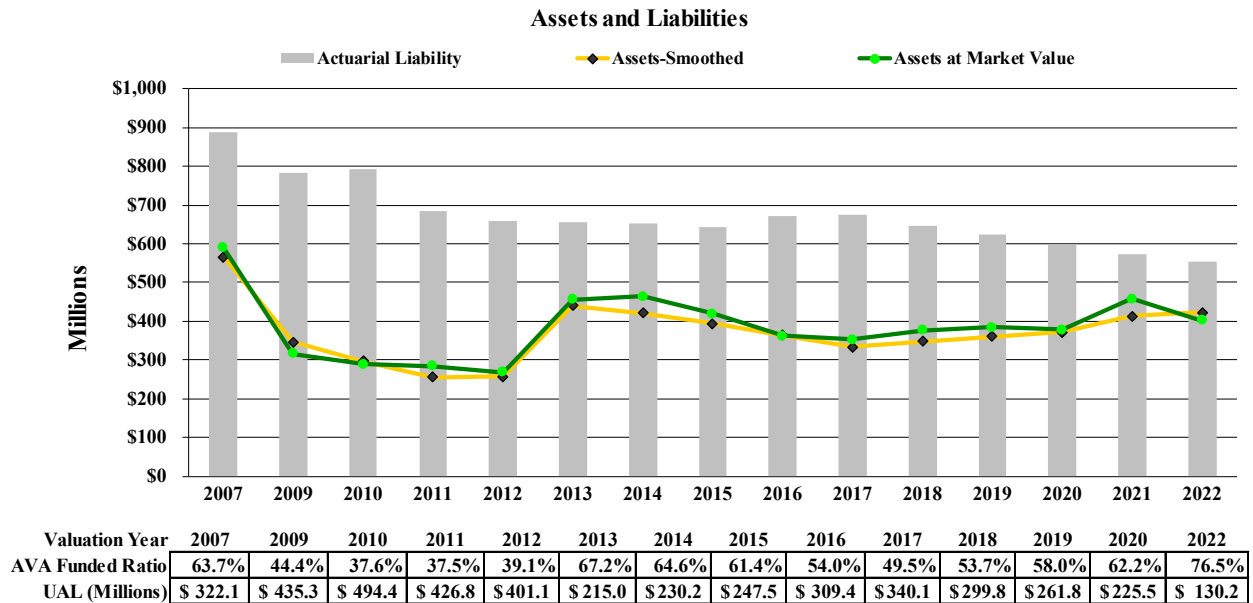
**C. Historical Trends**

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular, the size of the current Unfunded Actuarial Liability and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year’s valuation results relative to historical trends, as well as trends expected into the future.

**Assets and Liabilities**

The chart below compares the Market Value of Assets (MVA) and Actuarial Value of Assets (AVA) to the Actuarial Liabilities. The percentages shown in the table below the chart are the ratios of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). We note that for the GASB disclosure report, this ratio is disclosed using the MVA.

The funded ratio declined from 63.7% in 2007 to 37.5% in 2011 due to negative market returns and no contributions being made in that period (\$417 million in proceeds from a POB were deposited in 1997 that acted as prepayments for 15 years of contributions). The funded ratio increased between 2012 and 2013 due to a \$210 million contribution in July 2012. The funded ratio decreased from 67.2% to 49.5% between 2013 and 2017 due to assumption changes, liability losses, new Police MOUs, and the lack of contributions since the July 2012 payment. The funded ratio has increased from 49.5% to 76.5% over the past five years due to recommencement of contributions, the FYE 2021 asset gain, and to a lesser extent other asset and liability gains and assumption changes.

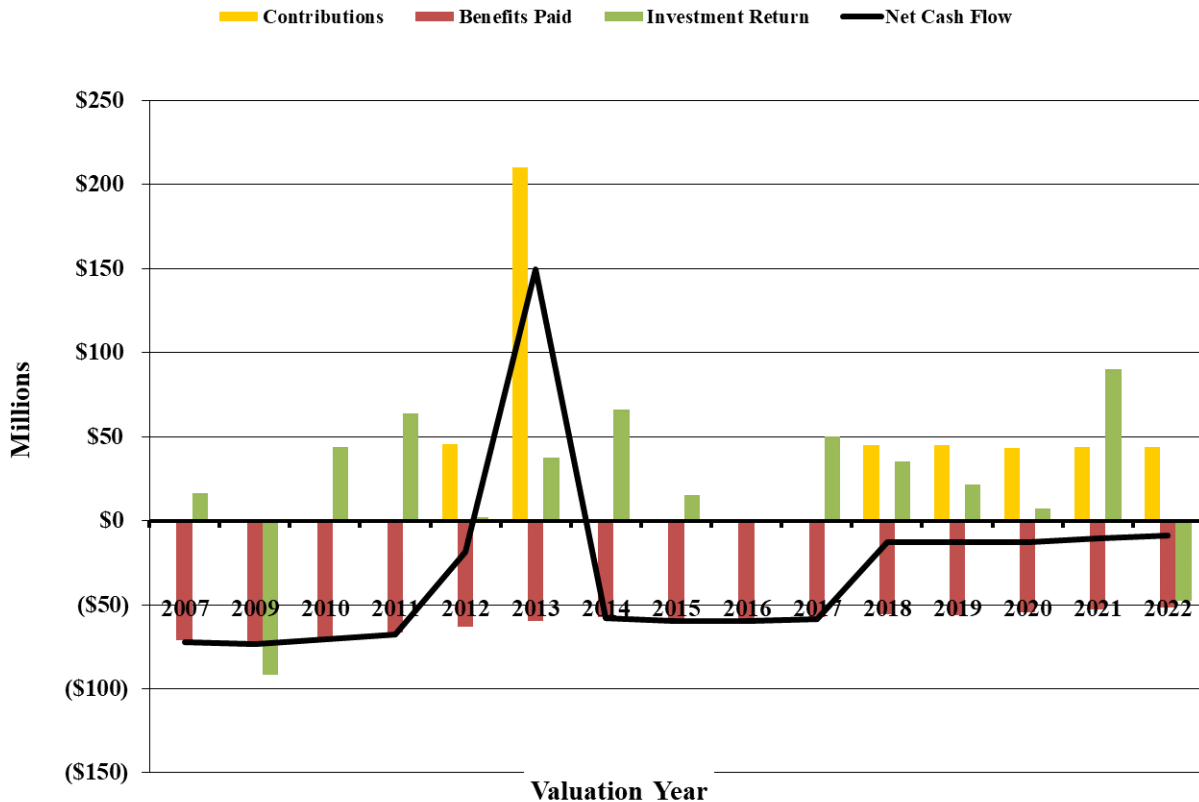


**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION I – EXECUTIVE SUMMARY**

**Cash Flows**

The chart below shows the Plan’s cash flow, excluding investment returns (i.e., contributions less benefit payments and expenses). This is a critical measure, as it reflects the ability to have funds available to meet benefit payments without having to make difficult investment decisions, especially during volatile markets.



The contributions, benefit payments, investment returns, and Net Cash Flow (NCF) excluding investment returns and related investment expenses are represented by the scale on the left. The Plan’s net cash flow has been negative 14 of the last 15 fiscal years, primarily due to the lack of contributions except in 2013 and in the most recent four years. Even with the recommencing of contributions under the Plan’s funding policy, benefit payments exceeded contributions for the prior four years, with a negative cash flow rate of around 2-3% of plan assets per year.

A negative cash flow magnifies the losses during a market decline, hindering the Plan in its ability to absorb market fluctuations. The implications of a plan in negative cash flow are that the impact of market fluctuations can be more severe: as assets are being depleted to pay benefits in down markets, there is less principal available to be reinvested during favorable return periods. The Plan is expected to have a growing negative cash flow position going forward, since the Plan is closed and the assets are expected to decline as the remaining benefits are paid out.

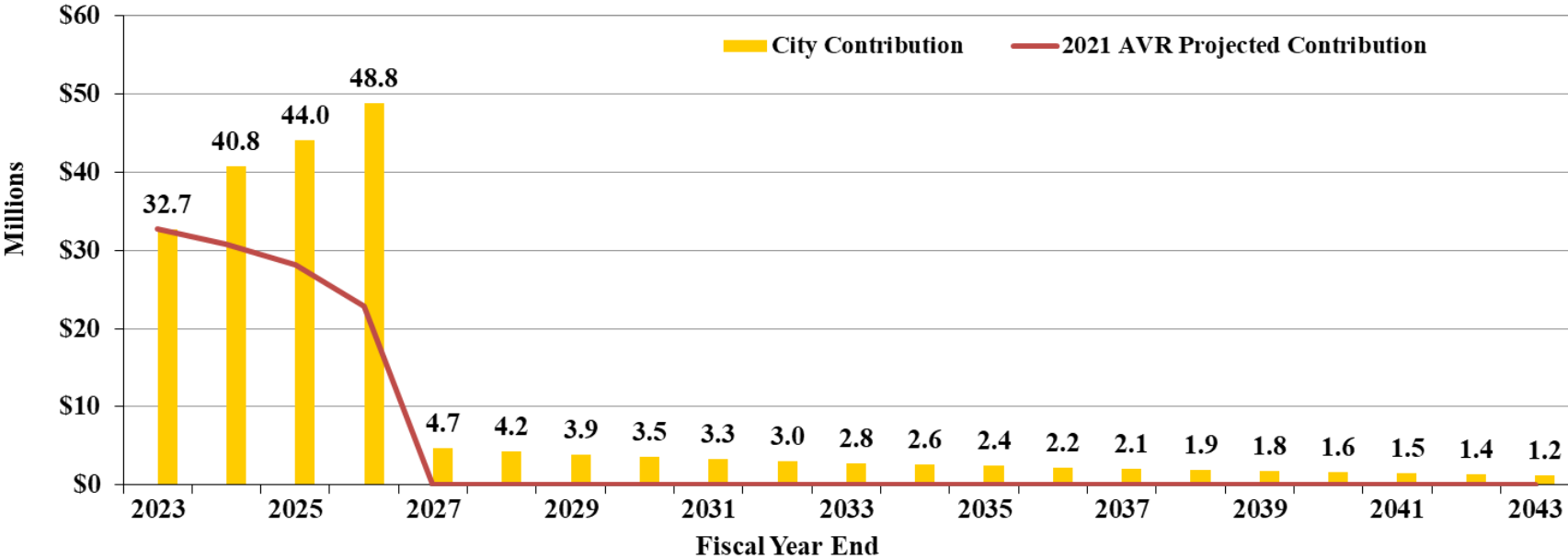
**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
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**SECTION I – EXECUTIVE SUMMARY**

**D. Future Expected Financial Trends**

The analysis of projected financial trends is perhaps the most important component of this valuation. In this section, we present our assessment of the implications of the July 1, 2022 valuation results in terms of benefit security (assets over liabilities) and contribution levels. All the projections in this section are based on the assumption that the Plan will exactly achieve the assumed rate of return each year (6.0% per year until 2027, then trending down to an annual return of 3.25% over 10 years).

**Projection of Employer Contributions**



The above graph shows a projection of the City’s required contributions compared to the same projections from last year’s report. The City’s required contribution increased from \$32.7 million in fiscal year 2023 to \$40.8 million in fiscal year 2024, and then is expected to increase by about \$3 million next year and by almost \$5 million the year after as the current unfunded liability is fully amortized and recent asset losses are recognized. This assumes that the annual payments by the City will equal the administrative expenses, plus

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION I – EXECUTIVE SUMMARY**

an amount needed to amortize the remaining unfunded liability as a level percentage of overall Safety payroll by July 1, 2026, as is required under the City's charter.

After July 1, 2026, the UAL is expected to be fully amortized, and the contribution would generally be equal to the administrative expense, beginning in 2026-2027. However, under the current asset smoothing method there are still expected to be some deferred asset losses, which will not be recognized until after 2026; the deferred recognition of these losses is expected to result in a low level of additional contributions in addition to the administrative expenses in the final years of the graph on the previous page.

Note that the graph on the previous page does not forecast any future actuarial gains or losses or changes to the amortization policy. Even relatively modest losses could push the employer contribution over \$50 million in the next few years. We also note that the occurrence of any future gains or losses in the years leading up to or following the required full amortization date (July 1, 2026) may require a reconsideration of the funding policy for those gains or losses, as otherwise these changes would need to be recognized over an extremely short period.

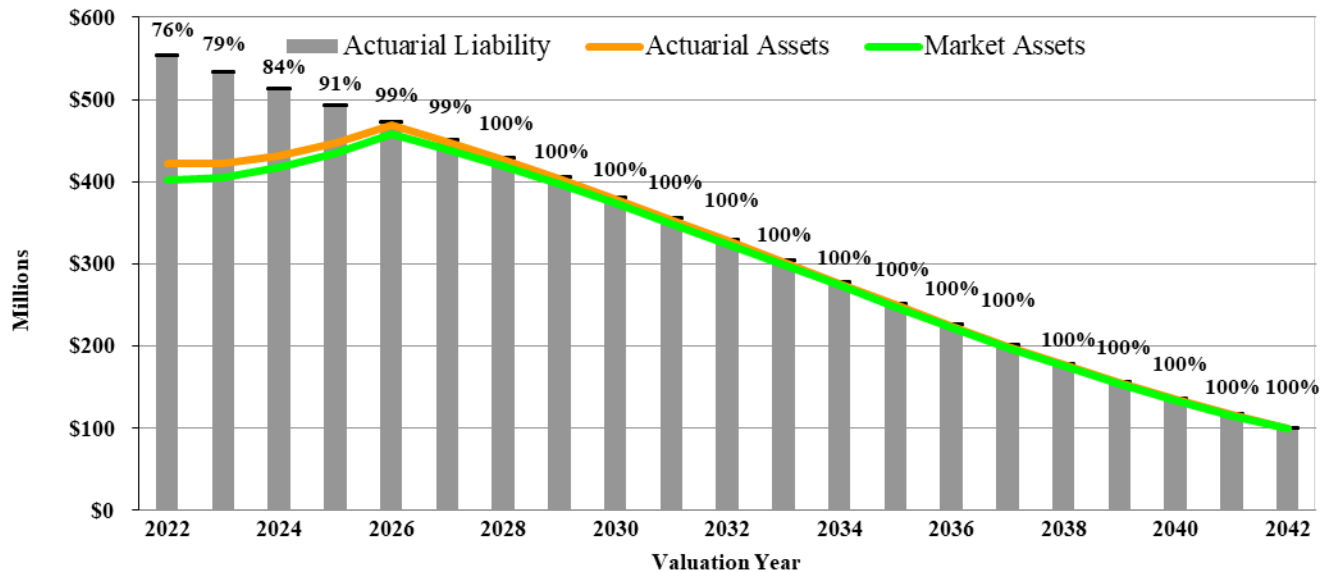
**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION I – EXECUTIVE SUMMARY**

**Asset and Liability Projections:**

The following graph shows the projection of assets and liabilities, assuming that assets will earn the assumed rate of return each year during the projection period.

**Projection of Assets and Liabilities**



The graph shows that the projected funded status increases as the current unfunded liability is fully amortized, assuming all actuarial assumptions are met. Once the Plan is projected to reach 100% funding, both the assets and liabilities are expected to decline as the Plan continues to pay out benefits to the remaining members.



## SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may be significantly different. This section of the report is intended to identify the primary risks to the plan, provide some background information about those risks, and provide an assessment of those risks.

### Identification of Risks

The fundamental risk to a pension plan is that the contributions needed to pay the benefits become unaffordable. While the Plan cannot determine on its own what contribution level is unaffordable, we can project expected contributions and illustrate the potential impact of key sources of risk on those contribution rates so the City can assess affordability. While there are a number of factors that could lead to contribution amounts becoming unaffordable, we believe the primary sources are:

- Investment risk,
- COLA risk,
- Longevity risk, and
- Contribution risk.

Other risks that we have not identified may also turn out to be important.

*Investment Risk* is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the Unfunded Actuarial Liability, necessitating higher contributions in the future unless there are other gains that offset these investment losses. In contrast, higher investment returns than anticipated may create a potentially significant surplus that could be difficult to use until all benefits have been paid. Expected future investment returns and their potential volatility are determined by the Plan’s asset allocation.

*COLA Risk* is the potential for future COLAs to increase contributions. Retirement allowances are based on the pensionable compensation attached to the average rank held during the three years immediately preceding retirement. Cost-of-living adjustments are therefore based on salary increases for current employees with the retiree’s same rank at retirement. Salary increases less than or greater than those assumed cause gains or losses, respectively. COLA increases different from those expected over the last 10 years are reflected in the “MOU Changes” column in the chart on the next page.

*Longevity risk* is the potential for mortality experience to be different than expected. Generally, longevity risk emerges slowly over time and is often exceeded by other changes, particularly those due to investment returns. However, for a closed plan such as PFRS, the mortality experience will have a significant impact on future cash flows. The chart on the next page shows the liability gains and losses over the last 10 years compared to the total change in the UAL for each year, a portion of which is associated with mortality experience.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS**

*Contribution risk* is the potential for actual future actuarially determined contributions to deviate from expected future contributions. The City Charter sets the Plan’s contribution policy. It requires the unfunded liability of the plan to be fully amortized by June 30, 2026. The Actuarially Determined Contribution (ADC) is based on a short remaining amortization period. As a result, a significant loss or change in assumptions may cause a large increase in the ADC.

The table below shows a 10-year history of changes in the UAL by source.

Table II-1 UAL Change by Source (\$ in Thousands) Contributions						
FYE	MOU Changes	Assumption Changes	vs. Tread Water	Investments	Liability Experience	Total UAL Change
2013	\$ 4,091	\$ 0	\$ (188,922)	\$ (3,803)	\$ 2,592	\$ (186,042)
2014	0	30,598	15,146	(10,729)	(19,869)	15,147
2015	0	0	17,023	(6,171)	6,522	17,374
2016	43,480	0	15,033	486	2,830	61,829
2017	0	22,730	22,888	(4,958)	(9,959)	30,702
2018	(1,475)	0	(24,214)	(7,128)	(7,467)	(40,284)
2019	(7,173)	0	(26,691)	(5,919)	1,797	(37,986)
2020	(6,541)	0	(27,417)	(1,877)	(417)	(36,252)
2021	0	0	(29,775)	(29,872)	(6,637)	(66,284)
2022	5,389	(3,926)	(34,056)	5,319	(1,784)	(29,059)
<b>Total</b>	<b>\$ 37,771</b>	<b>\$ 49,402</b>	<b>\$ (260,983)</b>	<b>\$ (64,652)</b>	<b>\$ (32,392)</b>	<b>\$ (270,854)</b>

The UAL was reduced by approximately \$270.9 million over the last ten years. Contributions in excess of the “tread water” level (i.e., interest on the UAL plus administrative expenses) reduced the UAL by \$261.0 million, liability experience reduced the UAL by \$32.4 million, and investment returns decreased the UAL by \$64.7 million. Meanwhile changes to MOUs increased the UAL by \$37.8 million and assumption changes increased the UAL by \$49.4 million.

**Plan Maturity Measures**

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of the plan.

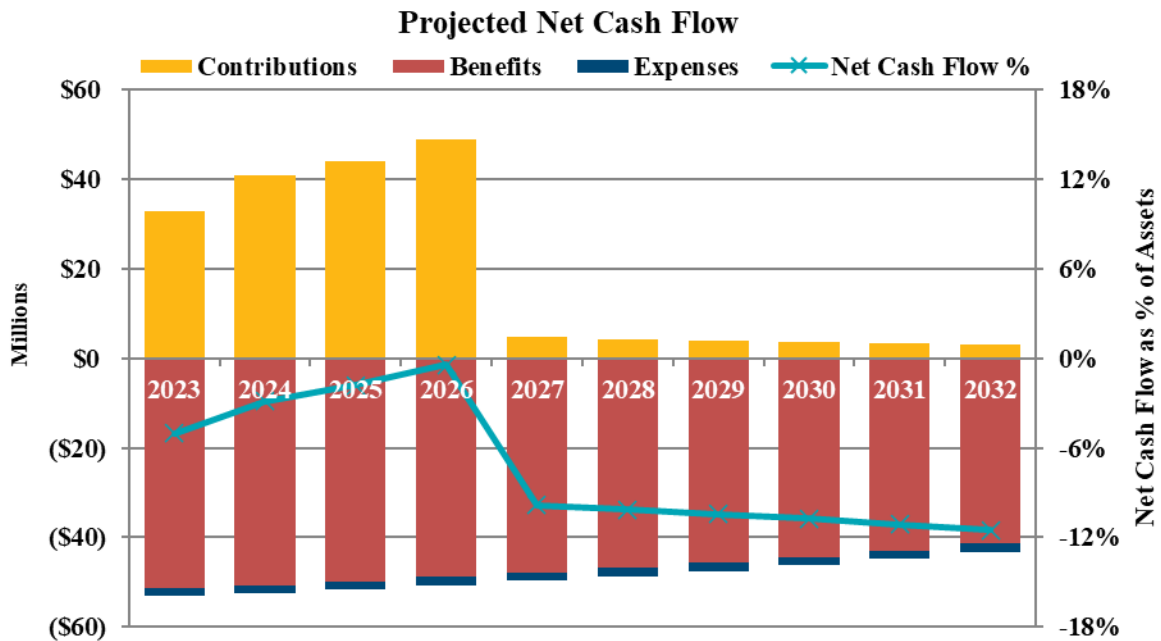
Plan maturity can be measured in a variety of ways, but they all get at one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. Given that the Plan has been closed to new entrants since 1976 with no remaining active members, the Plan considered as a standalone entity is very mature, though because of the diminishing benefit cash flows it is expected to have a declining impact on overall City finances.

**SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS**

**Net Cash Flow**

The net cash flow of the plan as a percentage of the beginning of year assets indicates the sensitivity of the plan to short-term investment returns. Net cash flow is equal to contributions less benefit payments and administrative expenses. Mature plans can have large amounts of benefit payments compared to contributions, particularly if they are well funded.

The chart below shows the projected net cash flow for the next 10 fiscal years. The bars represent the dollar amounts of the different components of the projected net cash flow, and the line represents the net cash flow as a percentage of the assets as of the beginning of the fiscal year.



The Plan’s contributions are expected to drop significantly following the 2025-2026 Fiscal Year once the unfunded liability has been paid off, with the exception of some residual losses resulting from the current asset smoothing policy. Beyond that point, the negative net cash flows are expected to continue until all benefits are paid.

The first issue this change presents to the Plan is a need for liquidity in the investments so that benefits can be paid. When the cash flow was positive or close to neutral, benefits could be paid out of contributions without liquidating investments. As net cash flow becomes increasingly negative, the benefit payments will require liquidation of some investments.

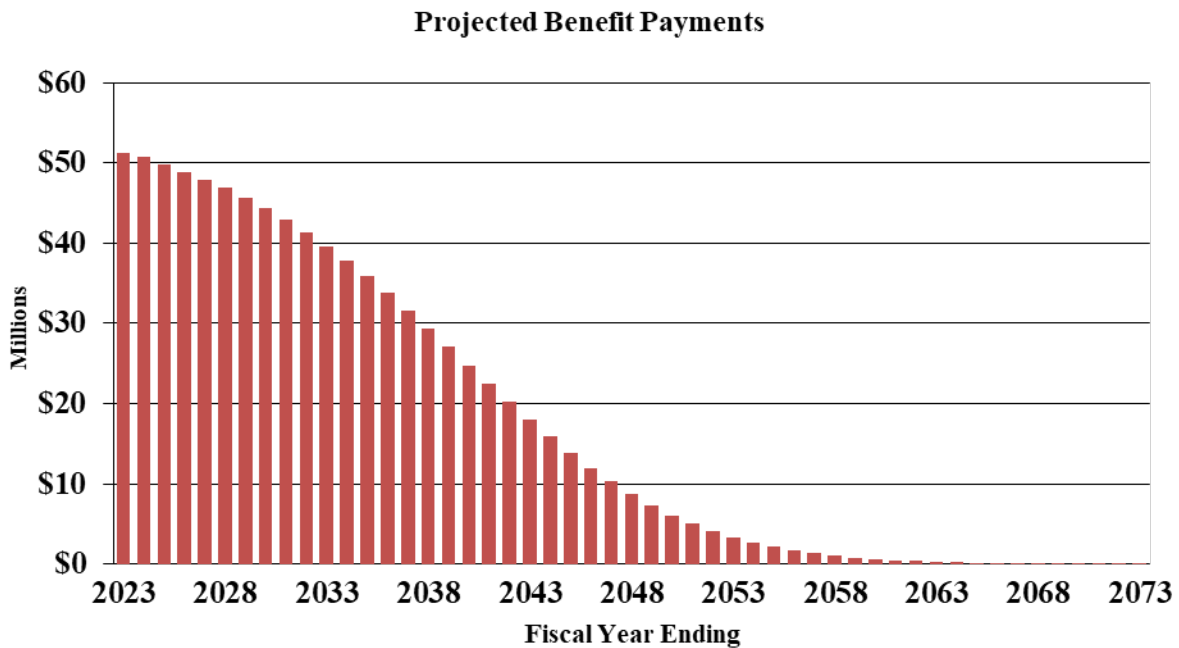
The other change of note is the sensitivity to short-term investment returns. Investment losses in the short term are compounded by the net withdrawal from the plan leaving a smaller asset base to try to recover from the investment losses. On the other hand, large investment gains in the short term also tend to have a longer beneficial effect as any future losses are relative to a smaller liability base due to the negative cash flow.

## SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

### Assessing Costs and Risks

A closed pension plan will ultimately either end up with excess assets after all benefits have been paid or run out of assets before all benefits have been paid. The declining investment return assumption adopted by the Board implies an expectation the Plan will pursue a strategy of de-risking the Plan to minimize the impact of these scenarios, potentially by reducing the risk in its investment portfolio, immunizing investments, and/or purchasing annuities to settle the remaining obligation.

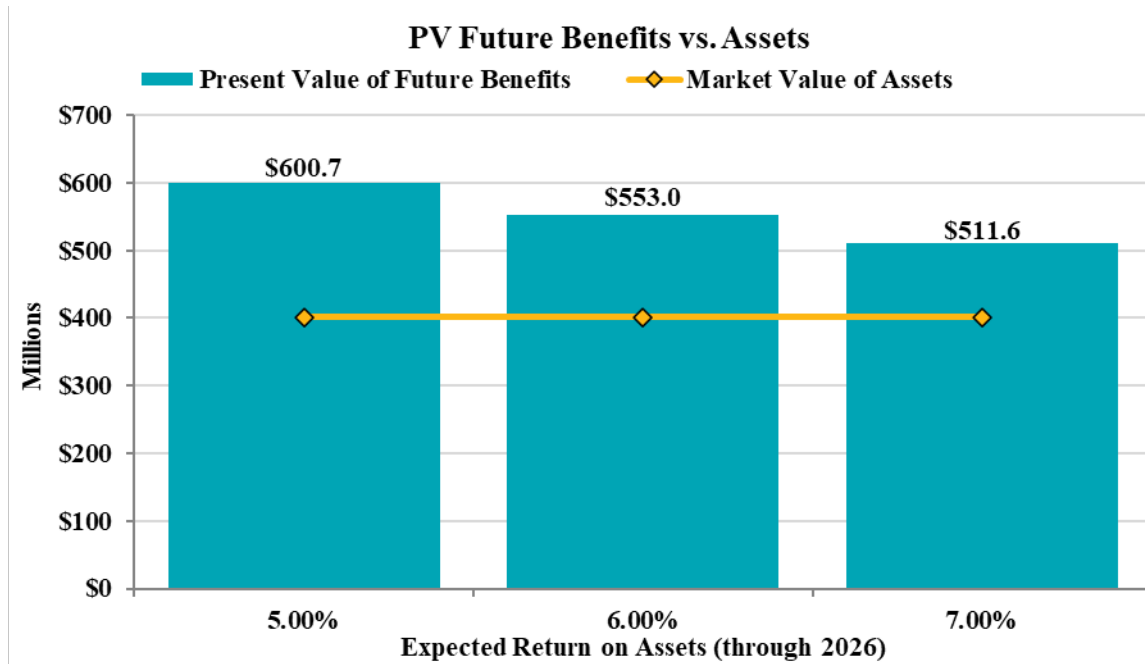
However, even if the Plan were to run out of assets, PFRS would be forced to pay benefits directly on a pay-as-you-go basis. As long as PFRS (and the City) can afford the pay-as-you-go costs, benefits would remain secure. The chart below shows a projection of expected benefit payments for the closed plan.



### Sensitivity to Investment Returns

The chart on the next page compares assets to the present value of all projected future benefits discounted at the current expected rates of return – starting at 6.00% through 2026 and trending down to 3.25% over the following 10 years – and at investment returns 100 basis points above and below the expected rates of return for all years. The present value of future benefits is shown as a teal bar and the Market Value of Assets is shown by the gold line.

SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS



If actual investment returns meet the expected returns annually, the Plan would need approximately \$553 million in assets today to pay all projected benefits compared to current assets of \$401 million. If investment returns are 100 basis points lower each year, the Plan would need approximately \$601 million in assets today, and if investment returns are 100 basis points higher, the Plan would need approximately \$512 million in assets today.

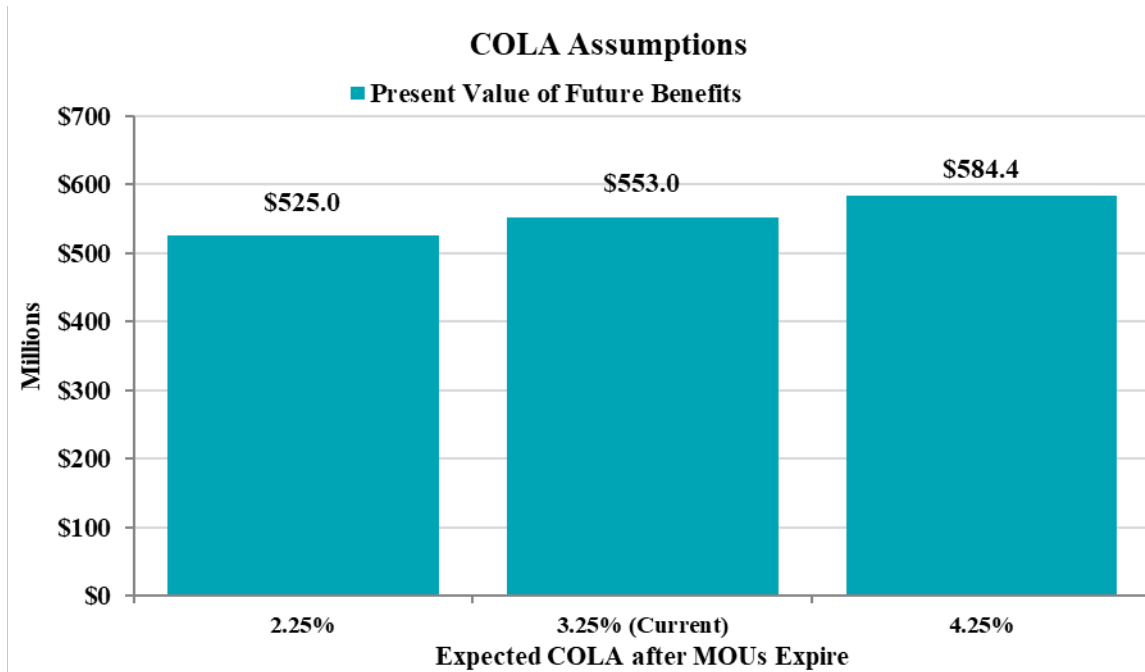
**Sensitivity to COLA Changes**

The present value of future benefits shown above assumes annual COLA increases of 3.25% per year once the current MOUs have expired. If COLA inflation is higher (because of higher-than-expected increases in the salaries of active employees); more assets would be needed to pay the benefits, and if COLA inflation is lower; fewer assets would be needed to pay benefits.

The chart on the next page shows the present value of all projected future benefits (discounted using the current expected rates of return) based on annual COLA increases of 3.25% per year once the current MOUs have expired – and at COLA increases 100 basis points above and below the current COLA assumptions.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS



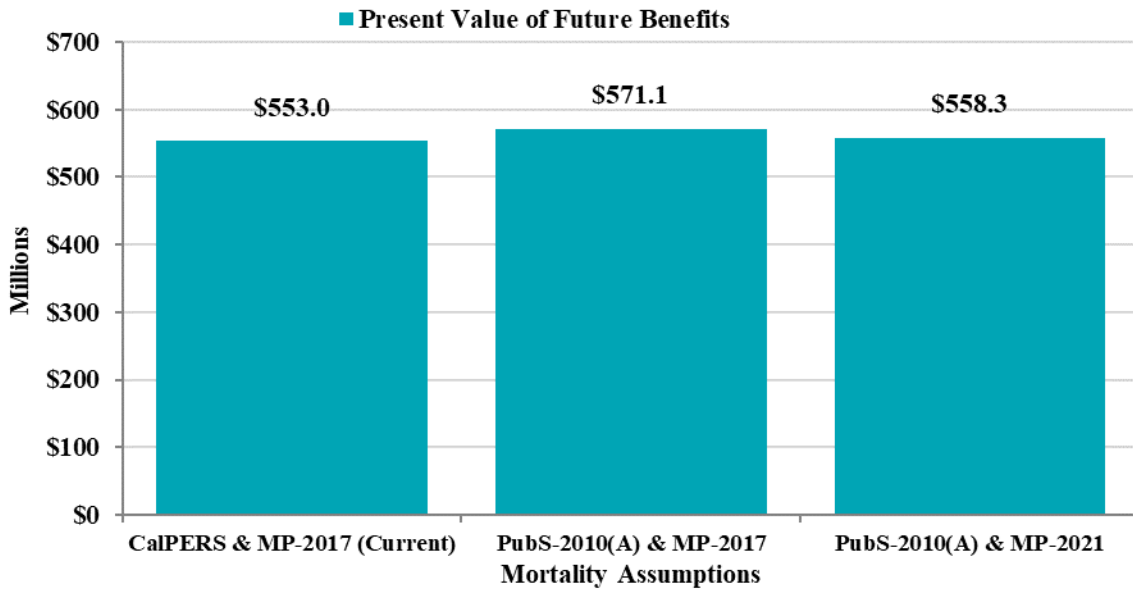
**Sensitivity to Mortality Assumption Changes**

The following chart on the next page shows the sensitivity of the Plan to longevity / mortality experience. In the first bar, we have shown the present value of benefits using the Plan’s current mortality assumptions (i.e., using the 2017 CalPERS mortality assumptions, with projections for generational improvements using the Society of Actuary’s MP-2017 improvement scales). In the second bar, we have shown the impact on the present value of benefits if actual longevity experience follows an alternative set of assumptions, reflecting more recent tables that have been developed using the experience of Public Safety employees of U.S. public employers. In the third bar, we have shown an additional alternative, using the Public Sector table described above, but also reflecting a slower rate of future improvements in longevity, as reflected by the Society of Actuary’s latest improvement scale (MP-2021). As always, actual experience will drive costs, but this exhibit provides an example of the level of sensitivity of the Plan’s liabilities to recent changes in outlooks on mortality.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Mortality and Mortality Improvement Assumptions



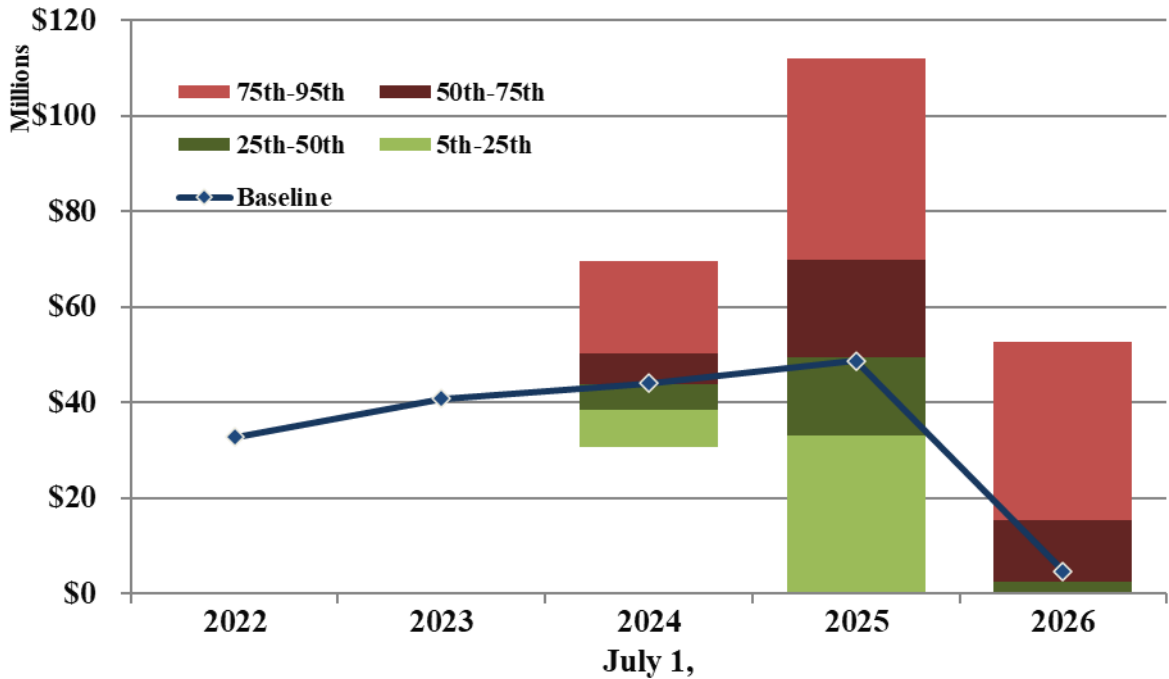
Stochastic Projections

The stochastic projections of contributions through the full funded date (June 30, 2026) in the chart on the following page shows a very wide range in future ADC's. This range is driven both by the volatility of investment returns (assumed to be 10.2% in these projections, based on previous information provided by Meketa) and by the short amortization period used to calculate the ADC. We note that if the Plan is required to remain fully funded after 2026, the contributions required will also vary widely.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
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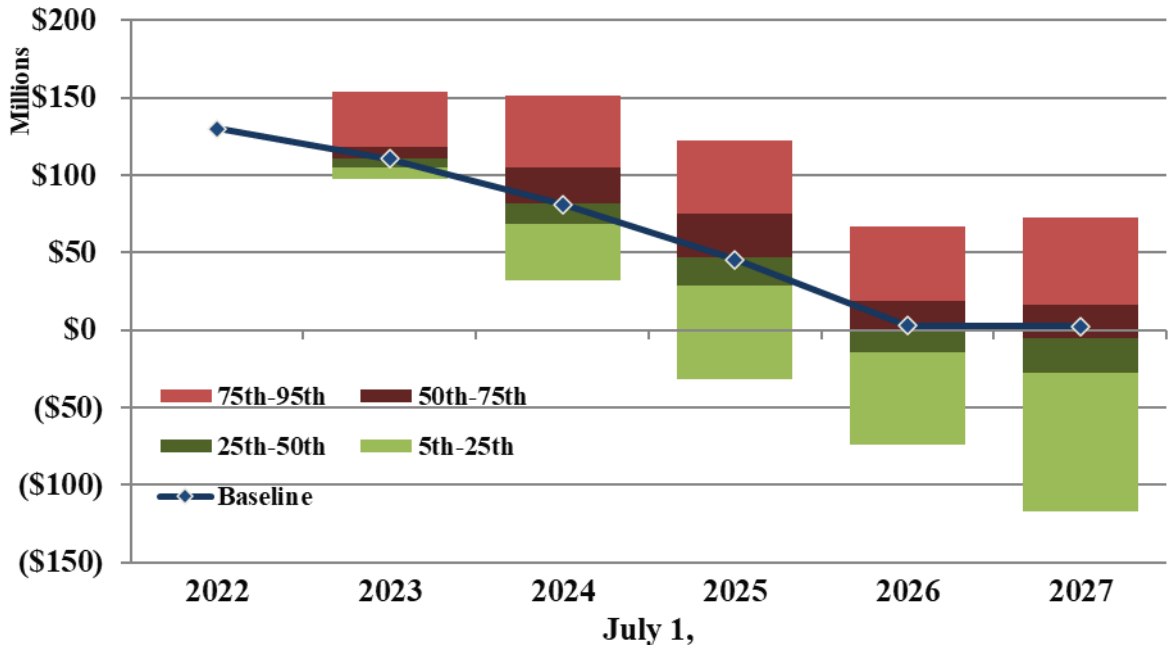
**SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS**

**Stochastic Projection of Actuarially Determined Contribution (ADC)**



The chart below shows the projection of the UAL through the full funding date. While the UAL is projected in the baseline to be essentially eliminated by 2026, because of the statutory requirement to fully fund the Plan by that time, there is still a wide range of potential outcomes.

**Stochastic Projection of UAL/(Surplus)**





**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS**

**More Detailed Assessment**

A detailed assessment of risk would be valuable in understanding the risks identified above, especially given the closed nature of the plan. We encourage the Board to consider a more detailed analysis of some of the risks identified above, particularly for developing a funding strategy to deal with changes in the UAL after the required full funding date.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION III – ASSETS**

Pension Plan assets play a key role in the financial operation of the Plan and in the decisions the Board may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants’ benefits.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of Plan assets as of June 30, 2021 and June 30, 2022,
- Statement of the **changes** in market values during the year, and
- Development of the **Actuarial Value of Assets**.

**Disclosure**

There are two types of asset values disclosed in the valuation, the Market Value of Assets and the Actuarial Value of Assets. The market value represents “snapshot” or “cash out” values, which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are sometimes not as suitable for long-range planning as the Actuarial Value of Assets, which reflects smoothing of annual investment returns.

Table III-1 discloses and compares each component of the market asset value as of June 30, 2021 and June 30, 2022.

<b>Table III-1 Statement of Assets at Market Value June 30, (in thousands)</b>				
	<b>2021</b>		<b>2022</b>	
Cash and Cash Equivalents	\$	6,324	\$	7,495
Receivables		2,462		6,219
Investments, at Fair Value		<u>503,781</u>		<u>448,338</u>
Total Assets	\$	512,567	\$	462,051
Liabilities		54,034		60,564
<b>Market Value of Assets</b>	<b>\$</b>	<b>458,533</b>	<b>\$</b>	<b>401,487</b>

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION III – ASSETS**

<b>Table III-1 Statement of Assets at Market Value June 30, (in thousands)</b>			
	<b>2021</b>		<b>2022</b>
<b>Cash and Cash Equivalents:</b>	\$ 6,324	\$	7,495
<b>Receivables:</b>			
Interest Receivable	\$ 759	\$	813
Dividends Receivable	272		280
Investments Receivable	1,221		4,912
Retired Members and Beneficiaries	104		103
Miscellaneous	107		111
Total Receivables	<u>2,462</u>		<u>6,219</u>
<b>Investments, at Fair Value:</b>			
Short-term Investments	7,787		7,474
Bonds	134,381		130,127
Domestic Equities and Mutual Funds	210,506		158,145
International Equities and Mutual Funds	58,540		47,911
Alternative Investments	44,016		56,335
Securities Lending Collateral	48,551		48,346
Total Investments	<u>503,781</u>		<u>448,338</u>
Total Assets	512,567		462,051
<b>Liabilities:</b>			
Accounts Payable	1		3
Benefits Payable	4,295		4,184
Investments Payable	423		7,701
Accrued Investment Management Fees	361		301
Securities Lending Liabilities	48,954		48,376
Total Liabilities	<u>54,034</u>		<u>60,564</u>
<b>Market Value of Assets</b>	<b>\$ 458,533</b>	<b>\$</b>	<b>401,487</b>

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION III – ASSETS**

**Changes in Market Value**

The components of asset change are:

- Contributions (employer and employee),
- Benefit payments,
- Administrative Expenses, and
- Investment income (realized and unrealized, net of investment expenses).

Table III-2 below shows the components of a change in the Market Value of Assets during 2021 and 2022.

Table III-2 Changes in Market Values June 30, (in thousands)		
	<u>2021</u>	<u>2022</u>
<b>Contributions</b>		
Contributions of Plan Members	\$ 0	\$ 0
Contributions from the City	<u>43,648</u>	<u>43,820</u>
Total Contributions	<u>43,648</u>	<u>43,820</u>
<b>Investment Income</b>		
Miscellaneous Income	1	0
Investment Income	<u>90,191</u>	<u>(47,955)</u>
Total Investment Income	<u>90,192</u>	<u>(47,955)</u>
<b>Disbursements</b>		
Benefit Payments	(52,697)	(51,450)
Administrative Expenses	<u>(1,585)</u>	<u>(1,461)</u>
Total Disbursements	<u>(54,282)</u>	<u>(52,911)</u>
<b>Net increase (Decrease)</b>	79,558	(57,045)
<b>Net Assets Held in Trust for Benefits:</b>		
Beginning of Year	<u>378,975</u>	<u>458,533</u>
End of Year	\$ <u><u>458,533</u></u>	\$ <u><u>401,487</u></u>
Approximate Return	24.14%	-10.56%

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION III – ASSETS**

**Actuarial Value of Assets (AVA)**

The Actuarial Value of Assets represents a “smoothed” value developed by the actuary to reduce the volatile results, which could develop due to short-term fluctuations in the Market Value of Assets. For this Plan, the Actuarial Value of Assets is calculated on a modified market-related value. The Actuarial Value of Assets recognizes one-fifth of the difference between the expected asset value (based on the 6.00% return assumption from 2021-2022) and the actual market value each year. The actuarial value is restricted to fall between 90% and 110% of the market value.

<b>Table III-3 Development of Actuarial Value of Assets (in thousands)</b>	
1. Calculate Expected Actuarial Value of Assets	
a. Value of Actuarial Value of Assets - July 1, 2021	\$ 412,680
b. Total Contributions and Misc Income	43,820
c. Administrative Expense	(1,461)
d. Benefit Payments	(51,450)
e. Expected Investment Earnings	<u>24,492</u>
f. Expected Actuarial Value of Assets - July 1, 2022 [1a + 1b + 1c + 1d + 1e]	\$ 428,081
2. Calculate Final Actuarial Value of Assets	
a. Value of Market Value of Assets - July 1, 2022	\$ 401,487
b. Excess of MVA over Expected AVA [2a - 1f]	(26,594)
c. Preliminary AVA [1f + 0.2 * 2b]	422,762
d. 90% of MVA [90% * 2a]	361,339
e. 110% of MVA [110% * 2a]	441,636
3. Final Actuarial Value of Assets [2c, not less than 2d or greater than 2e]	<b>\$ 422,762</b>

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION III – ASSETS**

**Investment Performance**

The following table calculates the investment related gain/loss for the plan year on both a market value and an actuarial value basis. The market value gain/loss is an appropriate measure for comparing the actual asset performance to the previous valuation’s 6.00% assumption.

<b>Table III-4 Asset Gain/(Loss) (in thousands)</b>		
	<b>Market Value</b>	<b>Actuarial Value</b>
<b>July 1, 2021 value</b>	<b>\$ 458,533</b>	<b>\$ 412,680</b>
Contributions of Plan Members	0	0
Contributions from the City	43,820	43,820
Benefit Payments	(51,450)	(51,450)
Administrative Expenses	(1,461)	(1,461)
Expected Investment Earnings (6.00%)	27,243	24,492
Expected Value June 30, 2022	<b>\$ 476,685</b>	<b>\$ 428,081</b>
Investment Gain / (Loss)	<b>(75,198)</b>	<b>(5,319)</b>
<b>July 1, 2022 value</b>	<b>401,487</b>	<b>422,762</b>
Return	-10.56%	4.70%

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022

SECTION IV – LIABILITIES

In this section, we present detailed information on Plan liabilities including:

- **Disclosure** of Plan liabilities on July 1, 2021 and July 1, 2022
- Statement of **changes** in these liabilities during the year

**Disclosure**

Several types of liabilities are typically shown in an actuarial valuation report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them. Note that these liabilities are not applicable for settlement purposes, including the purchase of annuities and the payment of lump sums.

- **Present Value of Future Benefits:** Used for measuring all future Plan obligations, the obligations of the Plan earned as of the valuation date and those to be earned in the future by current plan participants under the current Plan provisions, if all assumptions are met.
- **Actuarial Liability:** Used for funding calculations, this liability is calculated taking the present value of future benefits and subtracting the present value of future normal costs under an acceptable actuarial funding method. Because the Plan has no active members, the Actuarial Liability is equal to the present value of future benefits (i.e., all benefits are fully accrued).
- **Unfunded Actuarial Liability:** The excess of the Actuarial Liability over the Actuarial Value of Assets.

Table IV-1 on the next page discloses each of these liabilities for the current and prior valuations.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION IV – LIABILITIES**

<b>Table IV-1</b>		
<b>Liabilities/Net (Surplus)/Unfunded</b>		
<b>(in thousands)</b>		
	<b>July 1, 2021</b>	<b>July 1, 2022</b>
<b><u>Present Value of Future Benefits</u></b>		
Active Participant Benefits	\$ 0	\$ 0
Retiree and Inactive Benefits	<u>571,942</u>	<u>552,966</u>
<b>Present Value of Future Benefits (PVB)</b>	<b>\$ 571,942</b>	<b>\$ 552,966</b>
<b><u>Actuarial Liability</u></b>		
Present Value of Future Benefits (PVB)	\$ 571,942	\$ 552,966
Present Value of Future Normal Costs (PVFNC)	<u>0</u>	<u>0</u>
<b>Actuarial Liability (AL = PVB – PVFNC)</b>	<b>\$ 571,942</b>	<b>\$ 552,966</b>
Actuarial Value of Assets (AVA)	<u>412,680</u>	<u>422,762</u>
<b>Net (Surplus)/Unfunded (AL – AVA)</b>	<b>\$ 159,262</b>	<b>\$ 130,204</b>



**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION IV – LIABILITIES**

**Changes in Liabilities**

Each of the liabilities disclosed in the prior table is expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation (not applicable for this Plan)
- Benefits accrued since the last valuation (not applicable for this Plan)
- Plan amendments
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, dying, or receiving COLA adjustments at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method or software

Unfunded liabilities will change because of all of the above and also due to changes in Plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

<b>Table IV-2 Changes in Actuarial Liability (in thousands)</b>	
Actuarial Liability at July 1, 2021	\$ 571,942
Actuarial Liability at July 1, 2022	\$ 552,966
Liability Increase (Decrease)	\$ (18,976)
Change due to:	
Plan Design Changes (MOU)	\$ 5,389
Assumption Change	(3,926)
Accrual of Benefits	0
Actual Benefit Payments	(51,450)
Interest	32,796
Data Corrections	0
Actuarial Liability (Gain)/Loss	\$ (1,785)

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION IV – LIABILITIES**

<b>Table IV-3</b>			
<b>Liabilities by Group as of July 1, 2022</b>			
<b>(in thousands)</b>			
	<b>Police</b>	<b>Fire</b>	<b>Total</b>
<b>Actuarial Accrued Liability</b>			
Active	\$ 0	\$ 0	\$ 0
Service Retirees	207,816	68,097	275,913
Disabled Retirees	75,297	74,886	150,183
Beneficiaries	<u>72,859</u>	<u>54,011</u>	<u>126,870</u>
<b>Total Accrued Liability</b>	<b>\$ 355,972</b>	<b>\$ 196,994</b>	<b>\$ 552,966</b>

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION IV – LIABILITIES**

Table IV-4 Development of Actuarial Gain / (Loss) (in thousands)		
1. Unfunded Actuarial Liability at Start of Year (not less than zero)	\$	159,262
2. Employer Normal Cost at Start of Year		0
3. Interest on 1. and 2. to End of Year		9,556
4. Contributions and Miscellaneous Income for Prior Year		43,820
5. Administrative Expenses		(1,461)
6. Interest on 4. and 5. to End of Year		1,252
7. Change in Unfunded Actuarial Liability Due to Changes in Assumptions		(3,926)
8. Change in Unfunded Actuarial Liability Due to Changes in Actuarial Methods		0
9. Change in Unfunded Actuarial Liability Due to Changes in Plan Design		5,389
10. Change in Unfunded Actuarial Liability Due to Data Corrections		0
11. Expected Unfunded Actuarial Liability at End of Year [1. + 2. + 3. - 4. - 5. - 6. + 7. + 8. + 9. + 10.]	\$	126,669
12. Actual Unfunded Actuarial Liability at End of Year (not less than zero)		130,204
13. Unfunded Actuarial Liability Gain / (Loss) [11. - 12.]	\$	(3,535)

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION V – CONTRIBUTIONS**

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this Plan, the actuarial funding method used to determine the normal cost and the Unfunded Actuarial Liability is the **Entry Age Normal Cost Method**.

The normal cost rate is determined with the normal cost percentage equal to the total projected value of benefits at entry age, divided by present value of future salary at entry age. Since there are no longer any active employees, the normal cost for this plan is \$0.

The Unfunded Actuarial Liability is the difference between the EAN Actuarial Liability and the Actuarial Value of Assets. For the contribution projections, the UAL payment is based on the unfunded liability of the Plan being fully amortized by June 30, 2026, in accordance with the City Charter. Amortization payments are determined based on an assumption that payments will increase by 3.25% each year, reflecting the assumed ultimate rate of increase in overall City Safety member salaries.

An amount equal to the expected administrative expenses for the Plan is added directly to the actuarial cost calculation.

Table V-1 on the next page shows the employer contribution amount for the 2023-2024 Fiscal Year. The projected assets and liabilities assume that all actuarial assumptions are met and that contributions are made as expected between now and June 30, 2023.

For this calculation, we have shown the contribution amount using both the projected actuarial and Market Value of Assets. The current funding policy uses the AVA to determine the UAL and the associated amortization payment. We have included the contribution amount as determined using the current Market Value of Assets to demonstrate what the actuarial cost would be if all deferred asset gains were fully recognized at the time the contributions commence. In both cases, the contribution is based on an assumption that the investment returns will exactly equal the assumed rate of return during the 2022-2023 Fiscal Year.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION V – CONTRIBUTIONS**

**Table V-1  
Development of Projected 2023-2024 Employer Contribution Amount  
(in thousands)**

	Actuarial Value of Assets	Market Value of Assets
1. Value of Assets at June 30, 2022:	\$ 422,762	\$ 401,487
a. Expected Contributions and Misc Income	\$ 32,712	\$ 32,712
b. Expected Administrative Expense	\$ (1,741)	\$ (1,741)
c. Expected Benefit Payments	\$ (51,056)	\$ (51,056)
d. Expected Investment Earnings	<u>\$ 24,772</u>	<u>\$ 23,495</u>
2. Expected Value of Assets at June 30, 2023:	\$ 427,450	\$ 404,898
a. Excess of Expected MVA over Expected AVA	\$ (22,551)	
b. Preliminary AVA [ Expected AVA + 20% * 2a]	\$ 422,939	
c. 90% of Expected MVA	\$ 364,409	
d. 110% of Expected MVA	\$ 445,388	
3. Final Expected AVA [2b, not less than 2c or greater than 2d]	\$ 422,939	
4. Entry Age Liability at June 30, 2022	\$ 552,966	\$ 552,966
5. Expected Benefit Payments	\$ (51,056)	\$ (51,056)
6. Expected Interest	<u>\$ 31,669</u>	<u>\$ 31,669</u>
7. Expected Entry Age Liability at June 30, 2023	\$ 533,579	\$ 533,579
8. Projected Unfunded Actuarial Liability: (7) - (3)	\$ 110,639	\$ 128,680
9. Funded Ratio: (3) / (7)	79.3%	75.9%
10. Unfunded Actuarial Liability Amortization at Middle of Year as a Level Percentage of Payroll (3 Years Remaining) as of June 30, 2023	\$ 38,972	\$ 45,327
11. Expected Administrative Expenses for Fiscal 2023-2024	<u>\$ 1,790</u>	<u>\$ 1,790</u>
12. Total Contribution: (10) + (11)	\$ 40,763	\$ 47,118

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION VI – HEADCOUNT AND BENEFIT PAYMENT PROJECTIONS**

<b>Table VI-1 Benefit Payment and Headcount Projection</b>							
Fiscal Year Ending June 30,	Police		Fire		Total		
	Count	Benefits (in thousands)	Count	Benefits (in thousands)	Count	Benefits (in thousands)	
2023	422.0	\$ 31,316	264.0	\$ 19,740	686.0	\$ 51,056	
2024	407.8	\$ 31,170	251.9	\$ 19,367	659.8	\$ 50,537	
2025	393.7	\$ 30,824	239.6	\$ 18,851	633.3	\$ 49,675	
2026	379.5	\$ 30,421	227.2	\$ 18,293	606.7	\$ 48,714	
2027	365.1	\$ 30,027	214.9	\$ 17,740	580.0	\$ 47,766	
2028	350.5	\$ 29,557	202.7	\$ 17,148	553.1	\$ 46,705	
2029	335.6	\$ 29,005	190.6	\$ 16,522	526.2	\$ 45,527	
2030	320.3	\$ 28,363	178.7	\$ 15,862	499.0	\$ 44,225	
2031	304.7	\$ 27,625	167.0	\$ 15,170	471.7	\$ 42,795	
2032	288.6	\$ 26,785	155.5	\$ 14,446	444.1	\$ 41,231	
2033	272.1	\$ 25,842	144.2	\$ 13,692	416.4	\$ 39,534	
2034	255.3	\$ 24,795	133.1	\$ 12,911	388.4	\$ 37,706	
2035	238.1	\$ 23,649	122.3	\$ 12,105	360.4	\$ 35,754	
2036	220.8	\$ 22,411	111.7	\$ 11,279	332.4	\$ 33,690	
2037	203.3	\$ 21,089	101.4	\$ 10,440	304.7	\$ 31,530	
2038	185.9	\$ 19,699	91.4	\$ 9,595	277.2	\$ 29,295	
2039	168.6	\$ 18,256	81.8	\$ 8,753	250.4	\$ 27,008	
2040	151.8	\$ 16,778	72.6	\$ 7,921	224.4	\$ 24,699	
2041	135.4	\$ 15,285	63.9	\$ 7,110	199.4	\$ 22,395	
2042	119.7	\$ 13,801	55.8	\$ 6,328	175.6	\$ 20,128	
2043	104.9	\$ 12,344	48.3	\$ 5,583	153.2	\$ 17,927	
2044	91.0	\$ 10,935	41.5	\$ 4,884	132.5	\$ 15,819	
2045	78.2	\$ 9,591	35.3	\$ 4,234	113.5	\$ 13,825	
2046	66.5	\$ 8,326	29.7	\$ 3,639	96.2	\$ 11,966	
2047	56.0	\$ 7,153	24.8	\$ 3,101	80.8	\$ 10,254	
2048	46.6	\$ 6,081	20.5	\$ 2,620	67.2	\$ 8,701	
2049	38.4	\$ 5,115	16.8	\$ 2,195	55.2	\$ 7,310	
2050	31.3	\$ 4,259	13.7	\$ 1,823	45.0	\$ 6,082	
2051	25.3	\$ 3,509	11.0	\$ 1,503	36.3	\$ 5,013	
2052	20.2	\$ 2,863	8.8	\$ 1,231	29.0	\$ 4,094	

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**SECTION VI – HEADCOUNT AND BENEFIT PAYMENT PROJECTIONS**

Table VI-1 Benefit Payment and Headcount Projection (Continued)							
Fiscal Year Ending June 30,	Police		Fire		Total		
	Count	Benefits (in thousands)	Count	Benefits (in thousands)	Count	Benefits (in thousands)	
2053	15.9	\$ 2,313	7.0	\$ 1,001	22.9	\$ 3,314	
2054	12.5	\$ 1,850	5.5	\$ 809	18.0	\$ 2,660	
2055	9.7	\$ 1,467	4.3	\$ 650	14.0	\$ 2,117	
2056	7.4	\$ 1,153	3.4	\$ 520	10.8	\$ 1,673	
2057	5.7	\$ 899	2.6	\$ 413	8.3	\$ 1,312	
2058	4.3	\$ 697	2.0	\$ 326	6.3	\$ 1,023	
2059	3.2	\$ 536	1.5	\$ 257	4.7	\$ 793	
2060	2.4	\$ 410	1.2	\$ 201	3.6	\$ 611	
2061	1.8	\$ 312	0.9	\$ 157	2.7	\$ 468	
2062	1.3	\$ 235	0.7	\$ 121	2.0	\$ 356	
2063	1.0	\$ 176	0.5	\$ 92	1.4	\$ 268	
2064	0.7	\$ 130	0.4	\$ 70	1.1	\$ 200	
2065	0.5	\$ 96	0.3	\$ 52	0.8	\$ 148	
2066	0.4	\$ 69	0.2	\$ 38	0.5	\$ 107	
2067	0.2	\$ 49	0.1	\$ 27	0.4	\$ 77	
2068	0.2	\$ 34	0.1	\$ 19	0.3	\$ 53	
2069	0.1	\$ 23	0.1	\$ 13	0.2	\$ 36	
2070	0.1	\$ 14	0.0	\$ 8	0.1	\$ 23	
2071	0.0	\$ 9	0.0	\$ 5	0.1	\$ 14	
2072	0.0	\$ 5	0.0	\$ 3	0.0	\$ 8	
2073	0.0	\$ 2	0.0	\$ 2	0.0	\$ 4	
2074	0.0	\$ 1	0.0	\$ 1	0.0	\$ 2	
2075	0.0	\$ 0	0.0	\$ 0	0.0	\$ 1	
2076	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0	
2077	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0	
2078	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0	
2079	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0	
2080	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0	
2081	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0	

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**APPENDIX A – MEMBERSHIP INFORMATION**

**Summary of Participant Data as of**

Active Participants	July 1, 2021			July 1, 2022		
	Police	Fire	Total	Police	Fire	Total
Number	0	0	0	0	0	0
Number Vested	0	0	0	0	0	0
Average Age	0.0	0.0	0.0	0.0	0.0	0.0
Average Service	0.0	0.0	0.0	0.0	0.0	0.0
Average Pay	\$0	\$0	\$0	\$0	\$0	\$0
<b>Service Retirees</b>						
Number	220	90	310	209	81	290
Average Age	77.5	81.8	78.7	78.2	82.0	79.2
Average Annual Benefit	\$81,398	\$84,427	\$82,277	\$83,999	\$87,236	\$84,903
<b>Disabled Retirees</b>						
Number	88	92	180	85	86	171
Average Age	76.7	78.0	77.4	77.6	78.5	78.1
Average Annual Benefit	\$77,184	\$78,644	\$77,931	\$80,234	\$82,135	\$81,190
<b>Beneficiaries</b>						
Number	131	102	233	128	97	225
Average Age	80.2	82.7	81.3	80.8	82.9	81.7
Average Annual Benefit	\$55,989	\$58,723	\$57,186	\$58,518	\$62,679	\$60,312
<b>All Inactives</b>						
Number	439	284	723	422	264	686
Average Age	78.1	80.9	79.2	78.8	81.2	79.8
Average Annual Benefit	\$72,971	\$73,322	\$73,109	\$75,512	\$76,552	\$75,912

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



**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**APPENDIX A – MEMBERSHIP INFORMATION**

**Changes in Plan Membership: Police**

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2021	0	220	88	131	439
Retired	0	0	0	0	0
Disabled	0	0	0	0	0
Deceased	0	(11)	(3)	(9)	(23)
New Beneficiary	0	0	0	6	6
July 1, 2022	<b>0</b>	<b>209</b>	<b>85</b>	<b>128</b>	<b>422</b>

**Changes in Plan Membership: Fire**

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2021	0	90	92	102	284
Retired	0	0	0	0	0
Disabled	0	0	0	0	0
Deceased	0	(9)	(6)	(9)	(24)
New Beneficiary	0	0	0	4	4
July 1, 2022	<b>0</b>	<b>81</b>	<b>86</b>	<b>97</b>	<b>264</b>

**Changes in Plan Membership: All**

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2021	0	310	180	233	723
Retired	0	0	0	0	0
Disabled	0	0	0	0	0
Deceased	0	(20)	(9)	(18)	(47)
New Beneficiary	0	0	0	10	10
July 1, 2022	<b>0</b>	<b>290</b>	<b>171</b>	<b>225</b>	<b>686</b>

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**APPENDIX A – MEMBERSHIP INFORMATION**

**Service Retired Participants**

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	\$0	0	\$0	0	\$0
50-54	0	\$0	0	\$0	0	\$0
55-59	0	\$0	0	\$0	0	\$0
60-64	0	\$0	0	\$0	0	\$0
65-69	10	\$828,375	0	\$0	10	\$828,375
70-74	47	\$4,199,209	8	\$607,418	55	\$4,806,627
75-79	91	\$7,142,202	34	\$2,985,590	125	\$10,127,793
80-84	43	\$3,604,990	16	\$1,377,508	59	\$4,982,499
85-89	10	\$1,067,084	11	\$1,079,456	21	\$2,146,539
90-94	7	\$610,810	8	\$700,516	15	\$1,311,326
95-99	0	\$0	3	\$248,231	3	\$248,231
100+	1	\$103,088	1	\$67,402	2	\$170,490
<b>Total</b>	<b>209</b>	<b>\$17,555,759</b>	<b>81</b>	<b>\$7,066,121</b>	<b>290</b>	<b>\$24,621,880</b>

**Disability Retired Participants**

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	\$0	0	\$0	0	\$0
50-54	0	\$0	0	\$0	0	\$0
55-59	0	\$0	0	\$0	0	\$0
60-64	0	\$0	0	\$0	0	\$0
65-69	0	\$0	0	\$0	0	\$0
70-74	25	\$2,098,696	24	\$1,834,759	49	\$3,933,455
75-79	40	\$3,046,081	31	\$2,502,282	71	\$5,548,364
80-84	13	\$1,078,059	22	\$1,928,506	35	\$3,006,565
85-89	5	\$397,807	7	\$614,779	12	\$1,012,587
90-94	2	\$199,239	2	\$183,278	4	\$382,517
95-99	0	\$0	0	\$0	0	\$0
100+	0	\$0	0	\$0	0	\$0
<b>Total</b>	<b>85</b>	<b>\$6,819,882</b>	<b>86</b>	<b>\$7,063,605</b>	<b>171</b>	<b>\$13,883,487</b>

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**APPENDIX A – MEMBERSHIP INFORMATION**

**Beneficiaries**

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	\$0	0	\$0	0	\$0
50-54	0	\$0	0	\$0	0	\$0
55-59	1	\$54,175	0	\$0	1	\$54,175
60-64	2	\$127,560	2	\$155,679	4	\$283,239
65-69	7	\$463,906	7	\$468,590	14	\$932,496
70-74	25	\$1,334,943	13	\$850,382	38	\$2,185,325
75-79	32	\$1,815,652	14	\$861,685	46	\$2,677,337
80-84	24	\$1,369,104	17	\$1,057,484	41	\$2,426,589
85-89	13	\$822,468	22	\$1,327,729	35	\$2,150,197
90-94	13	\$873,190	16	\$977,380	29	\$1,850,570
95-99	9	\$494,129	4	\$257,715	13	\$751,844
100+	2	\$135,171	2	\$123,255	4	\$258,427
<b>Total</b>	128	\$7,490,299	97	\$6,079,900	225	\$13,570,200

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

The assumptions and methods used in the actuarial valuation as of July 1, 2022 are:

**Actuarial Method**

The Entry Age Normal Actuarial Cost Method is used. Under this method, the Plan's Actuarial Liability (AL) is determined as the Present Value of Future Benefits (PVFB) less the Present Value of Future Normal Costs (PVFNC). Since all of the Plan's members are retired, the AL and the PVFB are the same.

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

**Actuarial Value of Plan Assets**

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

The Actuarial Value of Assets is equal to 100% of the *expected Actuarial Value of Assets* plus 20% of the difference between the current Market Value of Assets and the expected Actuarial Value of Assets. In no event will the Actuarial Value of Assets ever be less than 90% of the Market Value of Assets or greater than 110% of the Market Value of Assets.

The expected Actuarial Value of Assets is equal to the prior year's Actuarial Value of Assets increased with actual contributions made, decreased with actual disbursements made, all items (prior assets, contributions, and disbursements) further adjusted with expected investment returns for the year.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Actuarial Assumptions**

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

**1. Rate of Return**

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

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

**2. Inflation**

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

**3. Administrative Expenses**

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

**4. Cost-of-Living Adjustments and Long-Term Salary Increases**

Cost-of-living adjustments are based on salary increases for a retiree’s rank at retirement.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

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

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

**5. Rates of Termination**

None.

**6. Rates of Disability**

None.

**7. Rates of Retirement**

None.

**8. Rates of Mortality for Healthy Lives**

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

**9. Rates of Mortality for Disabled Retirees**

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

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

**10. Mortality Improvement**

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).

**11. Survivor Continuance**

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

**12. Changes in Assumptions Since the Last Valuation**

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

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022

APPENDIX C – SUMMARY OF PLAN PROVISIONS

**1. Plan Year**

July 1 to June 30.

**2. Membership**

The Plan has been closed to new members since June 30, 1976.

**3. Salary**

Retirement allowances are based on the pensionable compensation attached to the average rank held during the three years immediately preceding retirement.

**4. Employee Contributions**

There are no active employees in the Plan, and thus no employee contributions.

**5. Service Retirement**

Eligibility

25 years of service, or 20 years of service and age 55, or age 65. A reduced early retirement is available with 20 years of service.

Benefit Amount

50% of Salary plus 1.67% for each additional year of service beyond that required for service retirement eligibility, to a maximum of 10 years. For retirements with less than 20 years of service, benefits are pro-rated.

**6. Duty-Related Disability Retirement**

Equivalent to service retirement benefit if 25 or more years of service.

**7. Non-Duty Related Disability Retirement**

Equivalent to service retirement benefit if age 55 is attained.

**8. Post-Retirement Death Benefit**

For retirees without a spouse at death, a \$1,000 lump sum is paid to designated beneficiary.

**9. Cost-of-Living Adjustments**

Benefit increases are based on increases in salary for rank at retirement (see above definition of Salary).



**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM  
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2022**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

**10. Benefit Forms**

Benefit is paid for the lifetime of the member. For deaths following a service retirement or non-duty disability, a 66-2/3% continuance is paid for the lifetime of the spouse. If the member retired under a duty-related disability, a continuance of 100% is paid.

**11. Changes in Plan Provisions Since the Last Valuation**

None.

## APPENDIX D – GLOSSARY

### 1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation, and rates of investment return.

### 2. Actuarial Cost Method

A procedure for determining the actuarial present value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a normal cost and an Actuarial Liability.

### 3. Actuarial Gain (Loss)

The difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

### 4. Actuarial Liability

The portion of the actuarial present value of projected benefits that will not be paid by future normal costs. It represents the value of the past normal costs with interest to the valuation date.

### 5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The actuarial present value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

### 6. Actuarial Valuation

The determination, as of a specified date, of the normal cost, Actuarial Liability, Actuarial Value of Assets, and related actuarial present values for a pension plan.

### 7. Actuarial Value of Assets

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

### 8. Actuarially Equivalent

Of equal actuarial present value, determined as of a given date, with each value based on the same set of actuarial assumptions.

**APPENDIX D – GLOSSARY**

**9. Amortization Payment**

The portion of the pension plan contribution that is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

**10. Entry Age Normal Actuarial Cost Method**

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

**11. Funded Ratio**

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

**12. Normal Cost**

That portion of the actuarial present value of pension plan benefits and expenses that is allocated to a valuation year by the actuarial cost method.

**13. Projected Benefits**

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of actuarial assumptions, taking into account such items as increases in future compensation and service credits.

**14. Unfunded Actuarial Liability**

The excess of the Actuarial Liability over the Actuarial Value of Assets.



*Classic Values, Innovative Advice*



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

In planning and performing our audit of the basic financial statements of the Oakland Police and Fire Retirement System (System) as of and for the year ended June 30, 2022, in accordance with auditing standards generally accepted in the United States of America, we considered the System's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A reasonable possibility exists when the likelihood of an event occurring is either reasonably possible or probable as defined as follows:

- *Reasonably possible.* The chance of the future event or events occurring is more than remote but less than likely.
- *Probable.* The future event or events are likely to occur.

Our consideration of internal control was for the limited purpose described in the first paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

In addition, professional standards require that we advise you of the following matters relating to our audit.

## 1. Our Responsibility in Relation to the Financial Statement Audit

As communicated in our engagement letter dated July 7, 2022, our responsibility, as described by professional standards, is to form and express an opinion about whether the financial statements that have been prepared by management with your oversight are presented fairly, in all material respects, in accordance with accounting principles generally accepted in the United States of America. Our audit of the financial statements does not relieve you or management of your respective responsibilities.

Our responsibility, as prescribed by professional standards, is to plan and perform our audit to obtain reasonable, rather than absolute, assurance about whether the financial statements are free of material misstatement. An audit of financial statements includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control over financial reporting. Accordingly, as part of our audit, we considered the internal control of the System solely for the purpose of determining our audit procedures and not to provide any assurance concerning such internal control.

## **Oakland Police and Fire Retirement System**

Report to the Board of Administration

For the Year Ended June 30, 2022

We are also responsible for communicating significant matters related to the audit that are, in our professional judgment, relevant to your responsibilities in overseeing the financial reporting process. However, we are not required to design procedures for the purpose of identifying other matters to communicate to you.

### **2. Planned Scope and Timing of the Audit**

We conducted our audit consistent with the planned scope and timing we previously communicated to you.

### **3. Compliance with All Ethics Requirements Regarding Independence**

The engagement team, others in our firm, as appropriate, our firm, and our network firms have complied with all relevant ethical requirements regarding independence.

### **4. Qualitative Aspects of the Entity's Significant Accounting Practices**

#### *Significant Accounting Policies*

Management has the responsibility to select and use appropriate accounting policies. A summary of the significant accounting policies adopted by the System is included in Note 2 to the financial statements. There have been no initial selection of accounting policies and no changes in significant accounting policies or their application during the year ended June 30, 2022. No matters have come to our attention that would require us, under professional standards, to inform you about (1) the methods used to account for significant unusual transactions and (2) the effect of significant accounting policies in controversial or emerging areas for which there is a lack of authoritative guidance or consensus.

#### *Significant Accounting Estimates*

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's current judgments. Those judgments are normally based on knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ markedly from management's current judgments.

The most sensitive estimates affecting the System's financial statements were:

- Fair value of investments, including derivative instruments, and related net appreciation in the fair value of investments; and
- Actuarial data of the pension plan.

Management's estimates were based on the following:

- The methodologies for determining the fair value of investments and derivative instruments are discussed in Notes 2.c) and 4.1) to the financial statements, respectively.
- The actuarial data for the pension plan is based on actuarial calculations performed in accordance with the parameters set forth in Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans – an amendment of GASB Statement No. 25*, which incorporate actuarial methods and assumptions adopted by the System's Board of Administration.

## **Oakland Police and Fire Retirement System**

Report to the Board of Administration

For the Year Ended June 30, 2022

We evaluated the key factors and assumptions used to develop these accounting estimates and determined that it is reasonable in relation to the financial statements taken as a whole.

### *Financial Statement Disclosures*

Certain financial statement disclosures involve significant judgment and are particularly sensitive because of their significance to financial statement users. The most sensitive disclosures affecting the System's financial statements relate to the investment fair value and risk disclosures in Note 4 and the City of Oakland's net pension liability in Note 5.

### **5. Significant Difficulties Encountered during the Audit**

We encountered no significant difficulties in dealing with management relating to the performance of the audit.

### **6. Uncorrected and Corrected Misstatements**

For purposes of this communication, professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that we believe are trivial, and communicate them to the appropriate level of management. Further, professional standards require us to also communicate the effect of uncorrected misstatements related to prior periods on the relevant classes of transactions, account balances or disclosures, and the financial statements as a whole and each applicable opinion unit. We did not identify any misstatements during the audit.

### **7. Disagreements with Management**

For purposes of this letter, professional standards define a disagreement with management as a matter, whether or not resolved to our satisfaction, concerning a financial accounting, reporting, or auditing matter, which could be significant to the System's financial statements or the auditor's report. No such disagreements arose during the course of the audit.

### **8. Representations Requested from Management**

We have requested certain written representations from management, that are included in the management representation letter dated December 5, 2022.

### **9. Management's Consultations with Other Accountants**

In some cases, management may decide to consult with other accountants about auditing and accounting matters. Management informed us that, and to our knowledge, there were no consultations with other accountants regarding auditing and accounting matters.

### **10. Other Significant Matters, Findings, or Issues**

In the normal course of our professional association with the System, we generally discuss a variety of matters, including the application of accounting principles and auditing standards, operating and regulatory conditions affecting the entity, and operational plans and strategies that may affect the risks of material misstatement. None of the matters discussed resulted in a condition to our retention as the System's auditors.

**Oakland Police and Fire Retirement System**

Report to the Board of Administration

For the Year Ended June 30, 2022

**11. Other Information in Documents Containing Audited Financial Statements**

Pursuant to professional standards, our responsibility as auditors for other information in documents containing the System's audited financial statements does not extend beyond the financial information identified in the audit report, and we are not required to perform any procedures to corroborate such other information. However, in accordance with such standards, we applied certain limited procedures to 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, which are required supplementary information (RSI) that supplements the financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

Our responsibility also includes communicating to you any information which we believe is a material misstatement of fact. Nothing came to our attention that caused us to believe that such information, or its manner of presentation, is materially inconsistent with the information, or manner of its presentation, appearing in the financial statements.

This report is intended solely for the information and use of the System Board of Administration and management of the System, and is not intended to be and should not be used by anyone other than these specified parties.



Walnut Creek, California

December 5, 2022



**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, 2022 and 2021



Certified  
Public  
Accountants

**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, 2022 and 2021

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## Independent Auditor's Report

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

### Opinion

We have audited the accompanying 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, 2022 and 2021, 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 financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System as of June 30, 2022 and 2021, 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 Opinions

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 opinions.

### 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.

*Macias Gini & O'Connell LLP*

Walnut Creek, California  
December 5, 2022

**Oakland Police and Fire Retirement System**  
Management's Discussion and Analysis – Unaudited  
June 30, 2022 and 2021

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, 2022 and 2021. 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: 2022 vs. 2021
- Financial Analysis: 2021 vs. 2020
- 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, 2022 and 2021, the employee contribution rate was 0% for both years. There are no active participants in the Plan as of June 30, 2022 and 2021.

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, 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%.

As of June 30, 2021, the total pension liability of \$578.6 million less the fiduciary net position of \$458.5 million results in a net pension liability of approximately \$120.0 million. The fiduciary net position as a percentage of the total pension liability is 79.3 %.

**Oakland Police and Fire Retirement System**  
Management's Discussion and Analysis – Unaudited  
June 30, 2022 and 2021

The System membership at June 30, 2022 is 686, which includes 461 retirees and 225 beneficiaries. The System membership at June 30, 2021 is 723. The following are the significant assumptions used to compute contribution requirements in the July 1, 2021 Actuarial Valuation Report:

- Select and ultimate rates, equal to 5.19% 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 2022 and 2021, the City contributions were \$43.8 million and \$43.6 million to the System. The next required City contribution is projected to be approximately \$32.7 million in fiscal year 2023.

### **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 11 and page 26, respectively.

**Oakland Police and Fire Retirement System**  
Management's Discussion and Analysis – Unaudited  
June 30, 2022 and 2021

**FINANCIAL ANALYSIS: 2022 VS. 2021**

Table 1 summarizes net position restricted for pensions as of June 30, 2022 and 2021:

Table 1  
Statements of Fiduciary Net Position  
As of June 30, 2022 and 2021

	<b>June 30</b>		<b>Change</b>	
	<b>2022</b>	<b>2021</b>	<b>Amount</b>	<b>Percentage</b>
<b>Assets:</b>				
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	<u>462,051,217</u>	<u>512,566,881</u>	<u>(50,515,664)</u>	-9.9%
<b>Liabilities:</b>				
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	<u>60,563,756</u>	<u>54,034,006</u>	<u>6,529,750</u>	12.1%
<b>Net position:</b>				
Restricted for pensions	<u>\$ 401,487,461</u>	<u>\$ 458,532,875</u>	<u>\$ (57,045,414)</u>	-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, 2022 and 2021

Table 2 summarizes changes in net position restricted for pensions for the years ended June 30, 2022 and 2021:

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

	<b>June 30</b>		<b>Change</b>	
	<b>2022</b>	<b>2021</b>	<b>Amount</b>	<b>Percentage</b>
<b>Additions:</b>				
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>	-103.1%
<b>Deductions:</b>				
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>	-2.5%
Changes in net position	(57,045,414)	79,558,185	(136,603,599)	-171.7%
<b>Net position restricted for pensions:</b>				
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>	-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 %.



**Oakland Police and Fire Retirement System**  
Management's Discussion and Analysis – Unaudited  
June 30, 2022 and 2021

**FINANCIAL ANALYSIS: 2021 VS. 2020**

Table 3 summarizes net position restricted for pensions as of June 30, 2021 and 2020:

Table 3  
Statements of Fiduciary Net Position  
As of June 30, 2021 and 2020

	<u>June 30</u>		<u>Change</u>	
	<u>2021</u>	<u>2020</u>	<u>Amount</u>	<u>Percentage</u>
<b>Assets:</b>				
Cash and cash equivalents	\$ 6,323,835	\$ 6,345,777	\$ (21,942)	-0.3%
Receivables	2,469,425	8,099,428	(5,630,003)	-69.5%
Investments	<u>503,773,621</u>	<u>404,700,887</u>	<u>99,072,734</u>	24.5%
<b>Total Assets</b>	<u>512,566,881</u>	<u>419,146,092</u>	<u>93,420,789</u>	22.3%
<b>Liabilities:</b>				
Accounts payable	1,110	8,161	(7,051)	-86.4%
Benefits payable	4,294,620	4,431,728	(137,108)	-3.1%
Investments payable	422,993	13,548,872	(13,125,879)	-96.9%
Investment management fees payable	361,228	278,835	82,393	29.5%
Securities lending liabilities	<u>48,954,055</u>	<u>21,903,806</u>	<u>27,050,249</u>	123.5%
<b>Total liabilities</b>	<u>54,034,006</u>	<u>40,171,402</u>	<u>13,862,604</u>	34.5%
<b>Net position:</b>				
Restricted for pensions	<u>\$ 458,532,875</u>	<u>\$ 378,974,690</u>	<u>\$ 79,558,185</u>	21.0%

Net position restricted for pensions increased \$79.6 million from June 30, 2021 to June 30, 2022. The main sources of this increase were City contribution of \$43.6 million and net investment income of \$90.2 million were more than offset by benefit payments of \$52.7 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, 2022 and 2021

Table 4 summarizes changes in net position restricted for pensions for the years ended June 30, 2021 and 2020:

Table 4  
Statements of Changes in Fiduciary Net Position  
For the Years Ended June 30, 2021 and 2020

	<b>June 30</b>		<b>Change</b>	
	<b>2021</b>	<b>2020</b>	<b>Amount</b>	<b>Percentage</b>
<b>Additions:</b>				
Contributions	\$ 43,648,000	\$ 43,409,000	\$ 239,000	0.6%
Net investment income	90,191,309	6,996,833	83,194,476	1189.0%
Other additions	908	132	776	587.9%
<b>Total additions</b>	<b>133,840,217</b>	<b>50,405,965</b>	<b>83,434,252</b>	<b>165.5%</b>
<b>Deductions:</b>				
Benefits to members and beneficiaries	52,697,378	54,619,079	(1,921,701)	-3.5%
Administrative expenses	1,584,654	1,522,910	61,744	4.1%
<b>Total deductions</b>	<b>54,282,032</b>	<b>56,141,989</b>	<b>(1,859,957)</b>	<b>-3.3%</b>
<b>Changes in net position</b>	<b>79,558,185</b>	<b>(5,736,024)</b>	<b>85,294,209</b>	<b>1487.0%</b>
<b>Net position restricted for pensions:</b>				
Beginning of year	378,974,690	384,710,714	(5,736,024)	-1.5%
End of year	<u>\$ 458,532,875</u>	<u>\$ 378,974,690</u>	<u>\$ 79,558,185</u>	21.0%

During fiscal year 2021, the City of Oakland contributed \$43.6 million to the System. In addition, the System's net investment income for the year ended June 30, 2021 was \$90.1 million, mainly due to net appreciation in fair value of the investment portfolio. The time-weighted annual return for the year ended June 30, 2021 was 24.2%, compared to a benchmark return of 22.3% and an actuarial expected rate of return of 5.29 %.

**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 Police and Fire Retirement System**  
 Statements of Fiduciary Net Position  
 June 30, 2022 and 2021

	<b>2022</b>	<b>2021</b>
<b>Assets</b>		
Cash and Cash Equivalents	\$ 7,494,971	\$ 6,323,835
Receivables:		
Interest Receivable	813,441	758,877
Dividends Receivable	279,524	271,634
Investments Receivable	4,911,786	1,228,684
Retired Members and Beneficiaries	102,906	103,688
Miscellaneous	111,007	106,542
Total Receivables	6,218,664	2,469,425
Investments, at Fair Value:		
Short-Term Investments	7,474,421	7,786,908
Bonds	130,126,766	134,380,629
Domestic Equities and Mutual Funds	158,144,787	210,506,356
International Equities and Mutual Funds	47,911,190	58,539,803
Alternative Investments	56,334,733	44,016,067
Foreign Currency Contracts, Net	-	(7,612)
Securities Lending Collateral	48,345,685	48,551,470
Total Investments	448,337,582	503,773,621
Total Assets	462,051,217	512,566,881
<b>Liabilities</b>		
Accounts Payable	3,200	1,110
Benefits Payable	4,183,604	4,294,620
Investments Payable	7,700,505	422,993
Investment Management Fees Payable	300,676	361,228
Securities Lending Liabilities	48,375,771	48,954,055
Total Liabilities	60,563,756	54,034,006
<b>Net Position Restricted for Pensions</b>	<b>\$ 401,487,461</b>	<b>\$ 458,532,875</b>

See accompanying notes to the basic financial statements.

**Oakland Police and Fire Retirement System**  
**Statements of Changes in Fiduciary Net Positions**  
**June 30, 2022 and 2021**

	<b>2022</b>	<b>2021</b>
<b>Additions</b>		
Contributions from the City	\$ 43,820,000	\$ 43,648,000
Investment Income:		
Net Appreciation/(Depreciation) in Fair Value of Investments	(54,534,753)	84,719,944
Interest	4,134,111	3,965,167
Dividends	3,768,733	2,735,230
Less: Investment Expenses	(1,475,655)	(1,354,640)
Securities Lending Income:		
Securities Lending Earnings	264,447	105,651
Securities Lending Expenses, Net of Rebates	(111,643)	19,957
Net Securities Lending Income	152,804	125,608
Net Investment Income/(Loss)	(47,954,760)	90,191,309
Claims and Settlements	-	26
Other Income	-	882
Total Additions	(4,134,760)	133,840,217
<b>Deductions</b>		
Benefits to Members and Beneficiaries:		
Retirement	31,495,125	32,157,272
Disability	18,418,545	18,803,904
Death	1,536,331	1,736,202
Total Benefits to Members and Beneficiaries	51,450,001	52,697,378
Administrative Expenses	1,460,653	1,584,654
Total Deductions	52,910,654	54,282,032
Change in Net Position	(57,045,414)	79,558,185
Net Position Restricted for Pensions		
Beginning of Year	458,532,875	378,974,690
End of Year	\$ 401,487,461	\$ 458,532,875

See accompanying notes to the basic financial statements.

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

### 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, 2022 and 2021, 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, 2022 and 2021, the System membership consisted of only retirees and beneficiaries. The System's membership is as follows:

	<u>2022</u>	<u>2021</u>
Retirees and beneficiaries currently receiving benefits:		
Police	422	439
Fire	264	284
Total	<u>686</u>	<u>723</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 25<sup>th</sup> 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, 2022 and 2021

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, 2022 and 2021

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 \$43.82 million and \$43.65 million in the years ended June 30, 2022 and 2021, respectively. The next required contribution for fiscal year 2023 is \$32.71 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 bond iShares which are managed internally. During the years ended June 30, 2022 and 2021, the number of external investment managers was eleven and twelve, 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, 2022 and 2021

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, 2022 and 2021:

Asset Class	Target Allocation	
	June 30, 2022	June 30, 2021
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 require the disclosure of investments in any one organization that represent 5 percent or more of the System's fiduciary net position. 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%). As of June 30, 2021, the System's investment in the Northern Trust Russell 1000 Growth Index Fund represented 24.23% of its fiduciary net position.

### c) Rate of Return

The money-weighted rate of return is a measure of the rate of return for an asset or portfolio of assets that incorporates the size and timing of cash flows. For the years ended June 30, 2022 and 2021, the annual money-weighted rates of return on pension plan investments, net of pension plan investment expenses, were -10.24% and 24.43%, respectively.

### d) Cash and Cash Equivalents

As of June 30, 2022 and 2021, 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, 2022 and 2021 basic financial statements. As of June 30, 2022 and 2021, the System's share of the City's investment pool totaled \$7,487,892 and \$6,318,773, respectively. The System also had cash not included in the City's investment pool. As of June 30, 2022 and 2021, the System's cash and cash deposits not held in the City's investment pool totaled \$7,079 and \$5,062, respectively.



## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

### 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, 2022:

	2022			Total
	Level One	Level Two	Level Three	
<b>Investments by fair value level:</b>				
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
<b>Investments measured at net asset value (NAV):</b>				
Short-Term Investment Funds				5,976,814
Fixed Income Funds				15,245,265
Domestic Equities and Mutual Funds				94,635,436
Hedge Fund				9,894,309
Venture Capital Fund				15,841,052
Securities Lending Collateral - Short-Term Investment Fund				48,345,685
Total investments measured at NAV				189,938,561
<b>Total investments measured at fair value</b>				<b>\$448,337,582</b>

The System has the following recurring fair value measurements as of June 30, 2021:

	2021			Total
	Level One	Level Two	Level Three	
<b>Investments by fair value level:</b>				
Bonds	\$ 12,635,465	\$ 104,543,460	\$ -	\$ 117,178,925
Domestic Equities and Mutual Funds	93,555,401	707,364	-	94,262,765
International Equities and Mutual Funds	58,539,803	-	-	58,539,803
Alternative Investments	43,940,518	75,549	-	44,016,067
Total investments by fair value level	\$ 208,671,187	\$ 105,326,373	-	313,997,560
<b>Investments measured at net asset value (NAV):</b>				
Short-Term Investment Funds				7,786,908
Fixed Income Funds				17,201,704
Domestic Equities and Mutual Funds				116,243,591
Foreign Currency Contracts, Net				(7,612)
Securities Lending Collateral - Short-Term Investment Fund				48,551,470
Total investments measured at NAV				189,776,061
<b>Total investments measured at fair value</b>				<b>\$503,773,621</b>

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

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

Investments measured at net asset value (NAV):	June 30, 2022	Redemption Frequency	Redemption Notice Period
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 7.59 years as of June 30, 2022, and 7.37 years as of June 30, 2021.

The following summarizes the System's fixed income investments by category as of June 30, 2022 and 2021. 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	2022		2021	
	Fair Value	Modified Duration (Years)	Fair Value	Modified Duration (Years)
Short-Term Investment Funds	\$ 7,474,421	n/a	\$ 7,786,908	n/a
Foreign Currency Exchange Contracts, Net	-	n/a	(7,612)	n/a

**Oakland Police and Fire Retirement System**

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

**Long-Term Investment Duration**

<b>Investment Type</b>	<b>2022</b>		<b>2021</b>	
	<b>Fair Value</b>	<b>Modified Duration (Years)</b>	<b>Fair Value</b>	<b>Modified Duration (Years)</b>
<b>Fixed Income Investments</b>				
<b>U.S. Government Bonds</b>				
U.S. Treasuries	\$ 25,417,687	6.53	\$ 18,816,292	5.79
Government Agencies	29,893,654	8.41	32,516,334	8.26
Total U.S. Government Bonds	<u>55,311,341</u>		<u>51,332,626</u>	
<b>Corporate and Other Bonds</b>				
Corporate Bonds	\$ 74,807,108	7.63	\$ 82,957,273	7.38
Other Government Bonds	78,814	6.97	90,730	7.90
Total Corporate and Other Bonds	<u>74,885,922</u>		<u>83,048,003</u>	
Total Fixed Income Investments	<u>\$130,197,263</u>	7.59	<u>\$134,380,629</u>	7.37
<b>Securities Lending Collateral</b>	<u>\$ 48,345,685</u>		<u>\$ 48,551,470</u>	

**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, 2022:

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

The following are the System's investments in CMOs at June 30, 2021:

<b>Investment Type</b>	<b>Weighted Average Coupon Rate</b>	<b>Weighted Average Maturity (Years)</b>	<b>Fair Value</b>	<b>Percent of Total Investments Fair Value</b>
Mortgage-backed securities	2.72%	23.28	\$20,789,617	4.13%

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

### 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, 2022 and 2021:

#### Short-Term Investment Ratings

Investment Type	2022		2021	
	S&P / Moody's Rating	Fair Value	S&P / Moody's Rating	Fair Value
Short-Term Investment Funds	Not Rated	\$7,474,421	Not Rated	\$7,786,908
Foreign Currency Exchange Contracts, Net	n/a	-	Not Rated	(7,612)

#### Long-Term Investment Ratings

S&P / Moody's Rating	2022		2021	
	Fair Value	Percentage of Total Fair Value	Fair Value	Percentage of Total Fair Value
AAA/Aaa	\$64,115,811	49.5%	\$ 53,058,908	39.4%
AA/Aa	27,835,706	21.1%	34,226,943	25.5%
A/A	12,809,876	9.8%	14,322,857	10.7%
BBB/Baa	15,713,952	12.1%	19,359,029	14.4%
BB/Ba	1,196,674	0.9%	1,831,903	1.4%
B/B	21,734	0.0%	9,550,906	7.1%
CCC/CCC	8,503,509	6.5%	-	-
Unrated	(70,497)	0.0%	2,030,083	1.5%
	<u>\$130,126,766</u>	<u>100.0%</u>	<u>\$ 134,380,629</u>	<u>100.0%</u>

#### Securities Lending Ratings

S&P / Moody's Rating	2022 Fair Value	2021 Fair Value
Not Rated	\$ 48,345,685	\$ 48,551,470

### 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.

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

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

### j) Foreign Currency Risk

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

The following summarizes the System's investments denominated in foreign currencies as of June 30, 2022 and 2021:

Foreign Currency	Fair Value	
	June 30, 2022	June 30, 2021
Australian Dollar	\$ 1,993,400	\$ 1,456,518
Brazilian Real	772,622	901,768
British Pound	3,154,218	3,406,619
Canadian Dollar	3,290,894	3,395,211
Danish Krone	895,274	1,386,946
Euro	6,894,262	8,778,172
Hong Kong Dollar	3,464,161	3,664,544
Indonesian Rupiah	555,889	221,352
Japanese Yen	4,662,742	5,888,554
Malaysian Ringgit	65,343	-
Mexican Peso	375,149	108,650
New Israeli Shekel	310,309	-
Singapore Dollar	-	839,140
South African Rand	654,291	575,339
South Korean Won	-	212,370
Swedish Krona	831,667	1,488,233
Swiss Franc	1,734,147	2,344,951
Turkish Lira	133,896	524,786
Total	<u>\$ 29,788,264</u>	<u>\$ 35,193,153</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 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

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

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, 2022 and 2021, 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, 2022 and 2021:

### Securities Lending as of June 30, 2022

Investment Type	Fair Value of Loaned Securities		
	For Cash Collateral	For Non-Cash Collateral	Total
<b>Securities on Loan for Cash Collateral</b>			
U.S. Government and agencies	\$ 8,379,326	\$ -	\$ 8,379,326
U.S. Corporate bonds	10,881,429	-	10,881,429
U.S. Equities	28,047,680	7,249,351	35,297,031
Non-U.S. Equities	-	252,473	252,473
Total investments in securities lending transactions	<u>\$ 47,308,435</u>	<u>\$ 7,501,824</u>	<u>\$ 54,810,259</u>
<b>Collateral Received</b>	<u>\$ 48,376,771</u>	<u>\$ 7,742,587</u>	<u>\$ 56,119,358</u>

### Securities Lending as of June 30, 2021

Investment Type	Fair Value of Loaned Securities		
	For Cash Collateral	For Non-Cash Collateral	Total
<b>Securities on Loan for Cash Collateral</b>			
U.S. Government and agencies	\$ 9,621,902	\$ 5,095,643	\$ 14,717,545
U.S. Corporate bonds	8,852,719	-	8,852,719
U.S. Equities	29,098,075	97,296	29,195,371
Non U.S. Equities	182,194	514,214	696,408
Total investments in securities lending transactions	<u>\$ 47,754,890</u>	<u>\$ 5,707,153</u>	<u>\$ 53,462,043</u>
<b>Collateral Received</b>	<u>\$ 48,954,055</u>	<u>\$ 5,840,751</u>	<u>\$ 54,794,806</u>

## l) Derivative Instruments

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

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

As of June 30, 2022 and 2021, 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, 2022 and 2021:

### 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)
<b>Total</b>	<b>\$ 2,554,259</b>	<b>\$ (314,137)</b>	<b>\$ 96,171</b>

### As of and for the Year Ended June 30, 2021

Derivative Type/ Contract	Notional Amount	Fair Value	Net Appreciation (Depreciation) in Fair Value
Forwards			
Foreign Currency Exchange Contracts	\$ -	\$ (7,612)	\$ -
Options			
Equity Contracts	72	(351,506)	(58,431)
Swaps			
Credit Contracts	1,990,000	50,816	7,768
<b>Total</b>	<b>\$ 1,990,072</b>	<b>\$ (308,302)</b>	<b>\$ (50,663)</b>

### **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, 2022 and 2021, the System held forward currency contracts in liability positions of \$0 and \$7,612, respectively. The System's counterparties to these contract held credit ratings of A or better, as assigned by one or more of the major credit rating organizations (S&P, Moody's and/or Fitch).

## Oakland Police and Fire Retirement System

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

### *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, 2022 and 2021, 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, 2022 and 2021.

#### 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	<u>\$ (314,137)</u>	<u>\$ (243,640)</u>	<u>\$ (70,497)</u>

#### Derivative Interest Rate Risk as of June 30, 2021

Derivative Type / Contract	Fair Value	Maturities	
		Less than 1 Year	1-5 years
Forwards			
Forward Foreign Currency Exchange Contracts	\$ (7,612)	\$ (7,612)	\$ -
Options			
Equity Contracts	(351,506)	(351,506)	-
Swaps			
Credit Contracts	50,816	-	50,816
Total	<u>\$ (308,302)</u>	<u>\$ (359,118)</u>	<u>\$ 50,816</u>

### *Foreign Currency Risk*

At June 30, 2022, the System had no foreign currency risk. At June 30, 2021 the System was exposed to foreign currency risk on \$7,612 of its investments in forwards denominated in the Mexican peso.

### *Contingent Features*

At June 30, 2022 and 2021, the System held no positions in derivatives containing contingent features.



**Oakland Police and Fire Retirement System**

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

**5. Net Pension Liability**

The components of the net pension liability of the City at June 30, 2022 and 2021, are as follows:

	<u>June 30, 2022</u>	<u>June 30, 2021</u>
Total pension liability	\$ 553,287,414	\$ 578,579,190
Less: Plan fiduciary net position	<u>(401,487,461)</u>	<u>(458,532,875)</u>
City's net pension liability	<u>\$ 151,799,953</u>	<u>\$ 120,046,315</u>
Plan fiduciary net position as a percentage of the total pension liability	72.6%	79.3%

**a) Actuarial Method and Assumptions**

The total pension liability as of June 30, 2022 was determined based on an actuarial valuation as of June 30, 2021, 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	5.19%
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, 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. 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, 2021 was determined based on an actuarial valuation as of June 30, 2020, updated to June 30, 2021, using the entry age normal actuarial cost method and the actuarial assumptions as described above for the June 30, 2021 valuation, except for the assumed investment rate of return was 5.29%. Measurements as of June 30, 2021 are based on the fair value of assets as of June 30, 2021 and the total pension liability as of the valuation date, June 30, 2020, updated to June 30, 2021.

The actuarial assumptions used in the June 30, 2021 and 2020 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, 2022 and 2021

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, 2022 and 2021 are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	
	June 30, 2022	June 30, 2021
Fixed Income	0.20%	(0.30)%
Domestic Equity	4.60	4.70
International Equity	5.50	5.00
Covered Calls	3.58	2.60
Crisis Risk Offset	1.83	1.95
Credit	2.30	2.10
Cash	(0.50)	(1.00)

### b) Discount Rate

The discount rates used to measure the total pension liability were 5.19% and 5.29% as of June 30, 2022 and 2021, 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, 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

	June 30, 2021		
	1% Decrease (4.29%)	Current Discount Rate (5.29%)	1% increase (6.29%)
City's net pension liability	\$171,086,474	\$120,046,315	\$76,004,962

**Oakland Police and Fire Retirement System**

Notes to the Basic Financial Statements

Years Ended June 30, 2022 and 2021

**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, 2022 and 2021 equals net position restricted for pensions and comprises the following:

	<u>2022</u>	<u>2021</u>
Retired member contribution reserve	\$ 24,543,634	\$ 26,828,201
Employer reserve	376,943,827	431,704,674
Total	<u>\$ 401,487,461</u>	<u>\$ 458,532,875</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, 2022 and 2021 were \$1,250,884 and \$1,388,825, respectively.

**Oakland Police and Fire Retirement System**  
Required Supplementary Information  
Years Ended June 30, 2022 and 2021

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

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

Note: This is a 10-year schedule. Information for additional years will be presented when available.

**Oakland Police and Fire Retirement System**  
Required Supplementary Information  
Years Ended June 30, 2022 and 2021

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

	2018	2017	2016	2015	2014
<b><u>Total Pension Liability</u></b>					
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)
<b>Net change in total pension liability</b>	<b>(4,476,627)</b>	<b>(9,416,042)</b>	<b>34,496,743</b>	<b>(4,733,904)</b>	<b>(15,075,617)</b>
<b>Total pension liability – beginning</b>	<b>660,669,941</b>	<b>670,085,983</b>	<b>635,589,240</b>	<b>640,323,144</b>	<b>655,398,761</b>
<b>Total pension liability – ending (a)</b>	<b>\$ 656,193,314</b>	<b>\$ 660,669,941</b>	<b>\$ 670,085,983</b>	<b>\$ 635,589,240</b>	<b>\$ 640,323,144</b>
<b><u>Plan fiduciary net position</u></b>					
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	-	-
<b>Net change in plan fiduciary net position</b>	<b>22,773,413</b>	<b>(8,408,379)</b>	<b>(57,642,651)</b>	<b>(44,554,177)</b>	<b>8,211,625</b>
<b>Plan fiduciary net position – beginning</b>	<b>353,202,858</b>	<b>361,611,237</b>	<b>419,253,888</b>	<b>463,808,065</b>	<b>455,596,440</b>
<b>Plan fiduciary net position – ending (b)</b>	<b>\$ 375,976,271</b>	<b>\$ 353,202,858</b>	<b>\$ 361,611,237</b>	<b>\$ 419,253,888</b>	<b>\$ 463,808,065</b>
<b>City's net pension liability – ending (a) – (b)</b>	<b>\$ 280,217,043</b>	<b>\$ 307,467,083</b>	<b>\$ 308,474,746</b>	<b>\$ 216,335,352</b>	<b>\$ 176,515,079</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>57%</b>	<b>53%</b>	<b>54%</b>	<b>66%</b>	<b>72%</b>
<b>Covered employee payroll</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Net pension liability as a percentage of covered employee payroll</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

**Oakland Police and Fire Retirement System**  
 Required Supplementary Information  
 Years Ended June 30, 2022 and 2021

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

	<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>	<u>2013**</u>
Actuarially determined contribution	\$ 43.8	\$ 43.6	\$ 43.4	\$ 44.8	\$ 44.9	N/A	N/A	N/A	\$ 20.3	\$ 34.2
Contributions in relation to the actuarially determined contribution	<u>\$ 43.8</u>	<u>\$ 43.6</u>	<u>\$ 43.4</u>	<u>\$ 44.8</u>	<u>\$ 44.9</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 210.0</u>
Contribution deficiency/ (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>\$ 20.3</u>	<u>\$(175.8)</u>
Covered payroll	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.1
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	210000%

\* 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.

\*\* In July 2012, the City of Oakland contributed \$210 million in Pension Obligation Bond (POB) proceeds to the Plan.

**Schedule of Investment Returns (Unaudited)**

	<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>	<u>2013</u>
Annual money-weighted rate of return net of investment expense	-10.24%	24.43%	2.04%	6.10%	10.57%	15.57%	-0.75%	3.90%	16.40%	9.70%

**Oakland Police and Fire Retirement System**  
 Note to Required Supplementary Information  
 Years Ended June 30, 2022 and 2021

**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:

<b>Fiscal Year</b>	<b>Valuation Date</b>	<b>Discount Rate</b>	<b>Cost-of-Living Adjustments</b>	<b>Mortality</b>	<b>Other Significant Assumption Changes from Prior Year</b>
2022	6/30/2020	5.19%	3.25%	CalPERS Mortality Table from the 2012-2015 experience study, excluding the 15-year projection using 90% of Scale MP-2016	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
2013	6/30/2011	6.75%	3.975%		None
2012	6/30/2010	7.00%	4.50%	RP-2000 Mortality Table from the 1997-2007 experience study	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, 2022

	Approved Budget					Percent Remaining
		October 2022	FYTD	Remaining		
<b>Internal Administrative Costs</b>						
PFRS Staff Salaries	\$ 1,330,000	\$ 81,004	\$ 379,466	\$ 950,534	71.5%	
Board Travel Expenditures	52,500	-	-	52,500	100.0%	
Staff Training	20,000	-	-	20,000	100.0%	
Staff Training - Tuition Reimbursement	7,500	-	-	7,500	100.0%	
Board Hospitality	3,600	-	-	3,600	100.0%	
Payroll Processing Fees	40,000	-	-	40,000	100.0%	
Miscellaneous Expenditures	45,000	12,835	21,187	23,813	52.9%	
Internal Service Fees (ISF)	88,000	-	-	88,000	100.0%	
Contract Services Contingency	50,000	-	1,500	48,500	97.0%	
<b>Internal Administrative Costs Subtotal :</b>	<b>\$ 1,636,600</b>	<b>\$ 93,839</b>	<b>\$ 402,153</b>	<b>\$ 1,234,447</b>	<b>75.4%</b>	
<b>Actuary and Accounting Services</b>						
Audit	\$ 50,500	\$ -	\$ -	\$ 50,500	100.0%	
Actuary	47,900	2,429	2,429	45,471	94.9%	
<b>Actuary and Accounting Subtotal:</b>	<b>\$ 98,400</b>	<b>\$ 2,429</b>	<b>\$ 2,429</b>	<b>\$ 95,971</b>	<b>97.5%</b>	
<b>Legal Services</b>						
City Attorney Salaries	\$ 194,000	\$ -	\$ 28	\$ 193,972	100.0%	
Legal Contingency	150,000	-	-	150,000	100.0%	
<b>Legal Services Subtotal:</b>	<b>\$ 344,000</b>	<b>\$ -</b>	<b>\$ 28</b>	<b>\$ 343,972</b>	<b>100.0%</b>	
<b>Investment Services</b>						
Money Manager Fees	\$ 1,353,000	\$ 25,749	\$ 37,553	\$ 1,315,447	97.2%	
Custodial Fee	124,000	-	-	124,000	100.0%	
Investment Consultant	100,000	-	25,000	75,000	75.0%	
<b>Investment Subtotal:</b>	<b>\$ 1,577,000</b>	<b>\$ 25,749</b>	<b>\$ 62,553</b>	<b>\$ 1,514,447</b>	<b>96.0%</b>	
<b>Total Operating Budget</b>	<b>\$ 3,656,000</b>	<b>\$ 122,016</b>	<b>\$ 467,162</b>	<b>\$ 3,188,838</b>	<b>87.22%</b>	



Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of October 31, 2022

	October 2022
<b>Beginning Cash as of 9/30/2022</b>	\$ 4,403,862
<b>Additions:</b>	
City Pension Contribution - October	\$ 2,726,000
Investment Draw	\$ 2,000,000
Misc. Receipts	800
<b>Total Additions:</b>	\$ 4,726,800
<b>Deductions:</b>	
Pension Payment (September Pension Paid on 10/1/2022)	(4,304,720)
Expenditures Paid	(167,112)
<b>Total Deductions</b>	\$ (4,471,832)
 <b>Ending Cash Balance as of 10/31/2022*</b>	 \$ 4,658,830

\* On 11/1/2022, October pension payment of appx \$4,268,000 will be made and \$2,000,000 draw will be received leaving a cash balance of \$2,391,000.

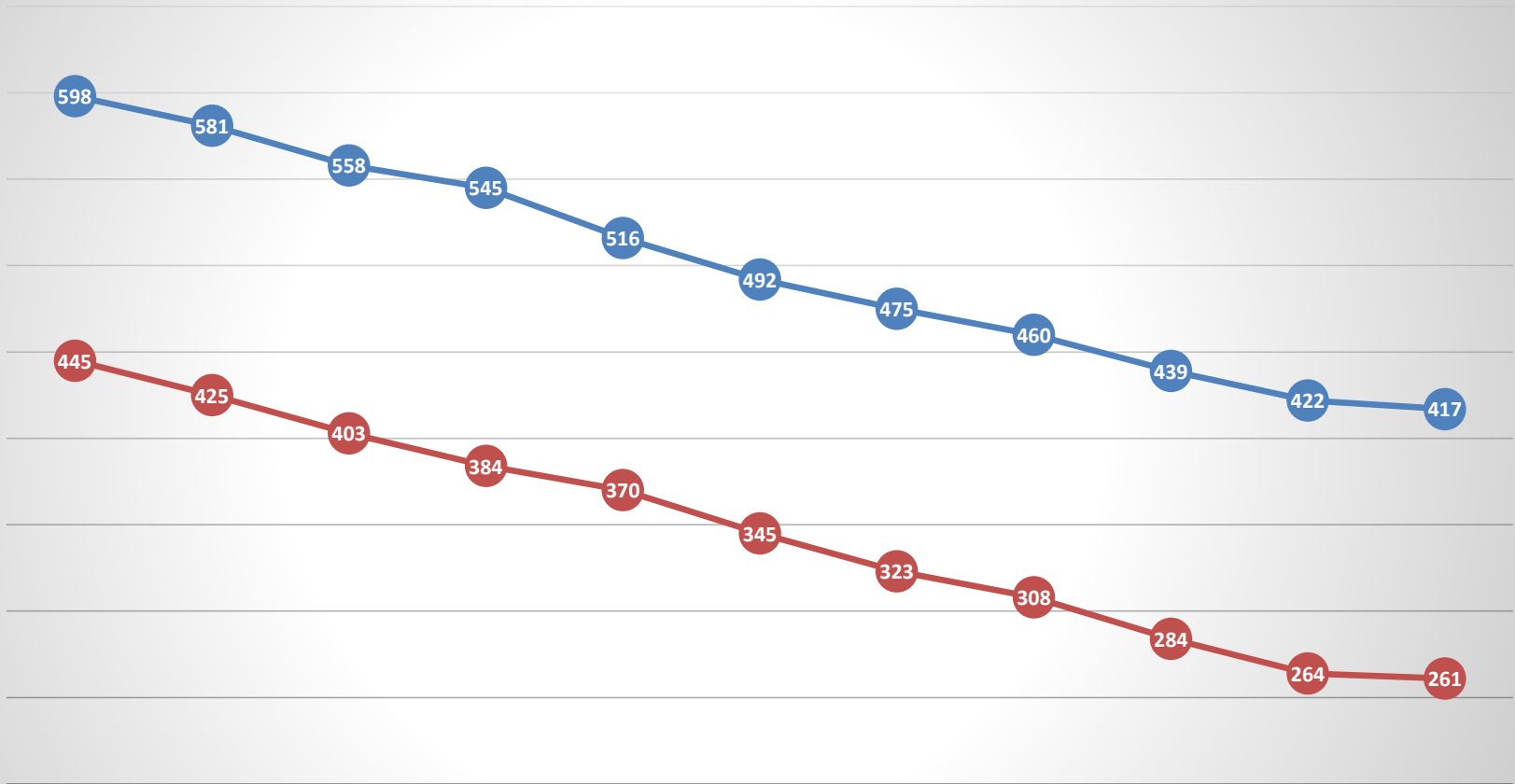
**Table 3**  
**CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM**

Census  
As of October 31, 2022

COMPOSITION	POLICE	FIRE	TOTAL
<b>Retired Member:</b>			
Retiree	290	167	457
Beneficiary	127	94	221
<b><i>Total Retired Members</i></b>	<b>417</b>	<b>261</b>	<b>678</b>
<b><i>Total Membership:</i></b>	<b>417</b>	<b>261</b>	<b>678</b>

COMPOSITION	POLICE	FIRE	TOTAL
<b>Retired Member:</b>			
Service Retirement	280	132	412
Disability Retirement	127	118	245
Death Allowance	10	11	21
<b><i>Total Retired Members:</i></b>	<b>417</b>	<b>261</b>	<b>678</b>
<b><i>Total Membership as of October 31, 2022:</i></b>	<b>417</b>	<b>261</b>	<b>678</b>
<b><i>Total Membership as of June 30, 2022:</i></b>	<b>422</b>	<b>264</b>	<b>686</b>
<b><i>Annual Difference:</i></b>	<b>-5</b>	<b>-3</b>	<b>-8</b>

## Oakland Police and Fire Retirement System Pension Plan Membership Count As of October 31, 2022 (FY 2013 - FY 2023)



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 FYTD
Police	598	581	558	545	516	492	475	460	439	422	417
Fire	445	425	403	384	370	345	323	308	284	264	261
Total	1043	1006	961	929	886	837	798	768	723	686	678



International ACWI ex U.S. Equity

City of Oakland

Police & Fire Retirement System

December 14<sup>th</sup>, 2022

Strategic Global Advisors is an independent, majority women and employee-owned investment boutique founded in 2005 and based in Newport Beach, California.

Total Assets: \$3.3 billion\*

Global Equity  
\$812M

Global Equity (MSCI World) 2013

International Equity  
\$1,883M

International Equity (EAFE) 2005  
International ADR Equity 2006  
International World ex-U.S. Equity 2013  
International ACWI ex-U.S. Equity 2015

International Small & SMID Equity  
\$629M

International SMID Cap Equity 2006  
International All Cap Equity 2008  
International Small Cap Equity 2010

## Custom Solutions

Dedicated ESG Equity

Emerging Market Equity

U.S. Equity

\*As of October 31<sup>st</sup>, 2022. Total Assets include Assets Under Management (AUM) and Assets Under Advisement (AUA) where SGA performs investment advisory services to model portfolios and platforms. Approximately 10% of Total Assets are represented by AUA.

# Portfolio Management and Research

	INVESTMENT FOCUS	INVESTMENT EXPERIENCE
<b>Cynthia Tusan, CFA</b> Chief Executive Officer, Senior Portfolio Manager (BA Bryn Mawr, MBA UCLA)	Portfolio Management and Research	33 years
<b>Gary Baierl, PhD</b> Chief Investment Officer (BA Boston University, PhD Northwestern University)	Portfolio Management and Research	24 years
<b>Mark Wimer, CFA</b> Senior Portfolio Manager (BS Purdue University, MBA Cornell University)	Portfolio Management and Research	27 years
<b>Cherie Badri, CFA</b> Director of Fundamental Research, Senior Portfolio Manager (BA Northwestern University, MBA, MS Univ. of Illinois)	Portfolio Management/ Fundamental Analysis	27 years
<b>Brendan Skarra-Corson, CFA</b> Senior Portfolio Manager (BA University of California, San Diego, MFE University of California, Berkeley)	Portfolio Management/ Quantitative Analysis	15 years
<b>David Cai, CFA</b> Director of Quantitative Research (BBA University of Wisconsin, Madison, MFE University of California, Berkeley)	Quantitative Analysis	10 years
<b>Vaibhav Kumar, CFA</b> Senior Quantitative Analyst (Integrated Masters in Mathematics and Computing, IIT, MFE UC Berkeley)	Quantitative Analysis	12 years
<b>Quang Ngu, CFA</b> Quantitative Analyst (BS University of Hawaii, Manoa, MS UCLA, MBA UCLA, MFE UC Berkeley)	Quantitative Analysis	12 years*
<b>Xiyuan Dong</b> Quantitative Analyst (BBA Chinese University of Hong Kong, MFE University of California, Los Angeles)	Quantitative Analysis	2 years
<b>Adam Hauptman, CFA</b> Senior Fundamental Analyst & Associate Portfolio Manager (BS Massachusetts Institute of Technology)	Fundamental Analysis	16 years
<b>Sylvester Malapas, CFA</b> Senior Fundamental Analyst & Associate Portfolio Manager (BA University of California, Irvine, MBA Cornell University)	Fundamental Analysis	14 years
<b>Brett Darragh, CFA</b> Senior Fundamental Analyst (BS California Polytechnic State University, San Luis Obispo)	Fundamental Analysis	7 years
<b>Stephen Smith</b> Head Trader (BA Bucknell University)	Trading	28 years
<i>Academic Advisory Board</i>		
<b>Professor Richard Frankel, PhD</b> Advisory Board Member (Beverly and James Hance Chair, Accounting Washington Univ., St. Louis)	Factor Research	29 years
<b>Professor Richard Sloan, PhD</b> Advisory Board Member (Accounting Circle Professor of Accounting at the Univ. of Southern California)	Factor Research	30 years

# Inclusion & Diversity: Embedded in our Culture

*“As a women-owned firm, SGA considers inclusion and diversity an integral part of our culture from our founding in 2005. Our team believes that better outcomes at both the firm and portfolio levels can be achieved with diversity of gender, race, background, thought, and experiences. We are committed to our diversity initiatives and understand the importance of making a conscious effort to improve.”*

–Cynthia Tusan, CFA, CEO and Senior Portfolio Manager



Logos are shown for illustrative purposes only.

# Inclusion & Diversity: Diversity Within SGA

## Organizational Composition



### Diversity Representation Survey for Oakland Police and Fire

DATA AS OF 10/31/2022

<b>Firm Name</b>	Strategic Global Advisors, LLC
<b>Product Name</b>	International ACWI ex-U.S. Equity
<b>Total Number of Employees</b>	26

	Percentage (%) of Board of Directors / Managing Members**	Percentage(%) of Firm (Entire Staff)	Percentage (%) of Firm (Investment Professionals)
<b>Race and Ethnicity*</b>			
African American/Black	20%	4%	
Asian/Hawaiian/Pacific Islander		23%	38%
Latino/Hispanic			
White	80%	73%	62%
American Indian/Alaska Native			
Other			
<b>Gender</b>			
Male	60%	62%	77%
Female	40%	38%	23%
Non-Identified/Other			

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

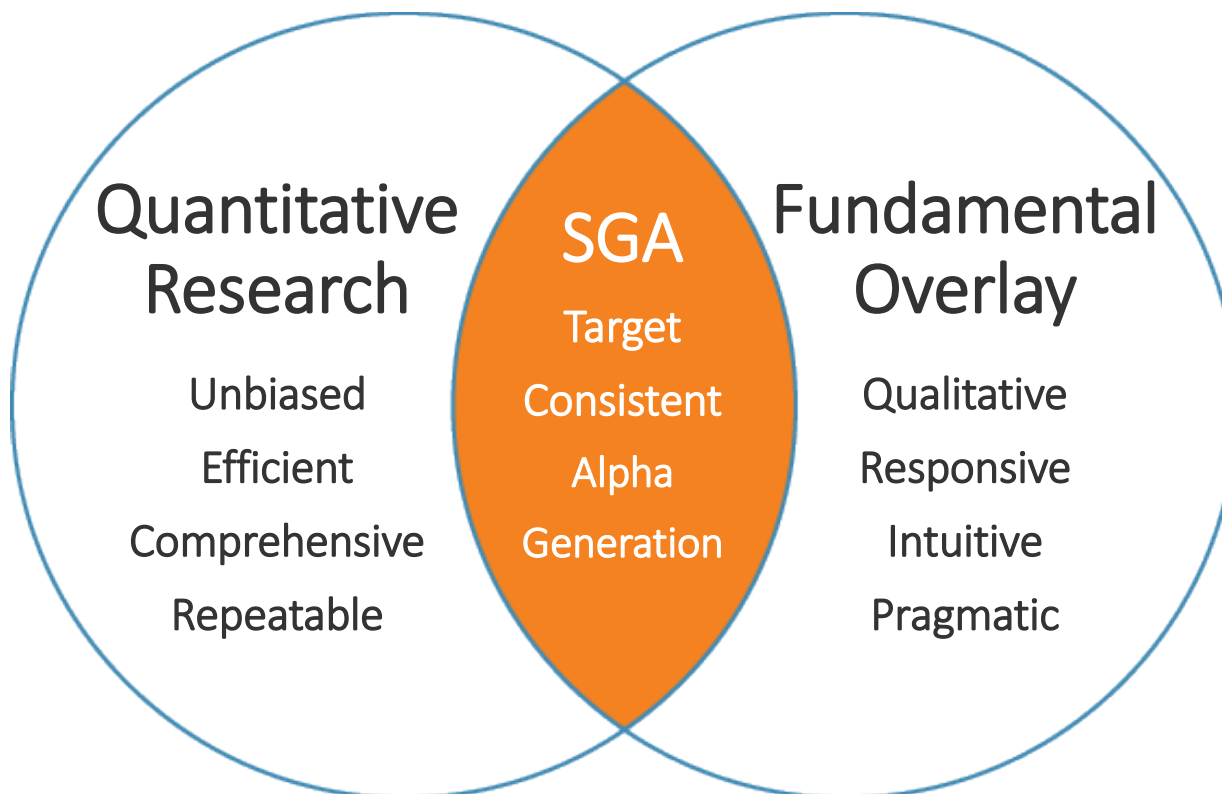
\*\*Executive Committee.



# Investment Philosophy

Fundamentally Inspired. Quantitatively Driven.

SGA believes that a quantitative investment process can deliver consistent outperformance by identifying mispriced companies within each global industry through a diverse set of fundamental and behavioral factors. SGA also believes a fundamental overlay is critical as not all relevant information can be modeled.



## Step 1: Quantitative Research

Global Universe: Approximately 10,000 Publicly Traded Companies

	<b>Alpha Model</b>		<b>Risk Model</b>		
}	Valuation (2) – 30%		Sector	Growth	Crude Oil Beta
	Quality (5) – 28%		Currency	Value	Volatility
	Growth (3) – 22%		Region	Momentum	Residual
	Sentiment (4) – 20%		Size	Beta	Liquidity

Output delivers company’s expected industry relative return per unit of risk

## Step 2: Daily Screening Optimization

Geographic Weights      Sector/Industry Weights      Currency Weights      Targeted Tracking Error

Identifies suggested buy/sell candidates\*

## Step 3: Fundamental Review

✓
✗

ESG

✓
✗

Macro/Political Risk

✓
✗

Competitive Forces

✓
✗

Language Processing (NLP)

✓
✗

Short Utilization

✓
✗

Refinancing Risk

A confirmation process that seeks to avoid false-positives\*

## Step 4: Final Optimization & Rebalance

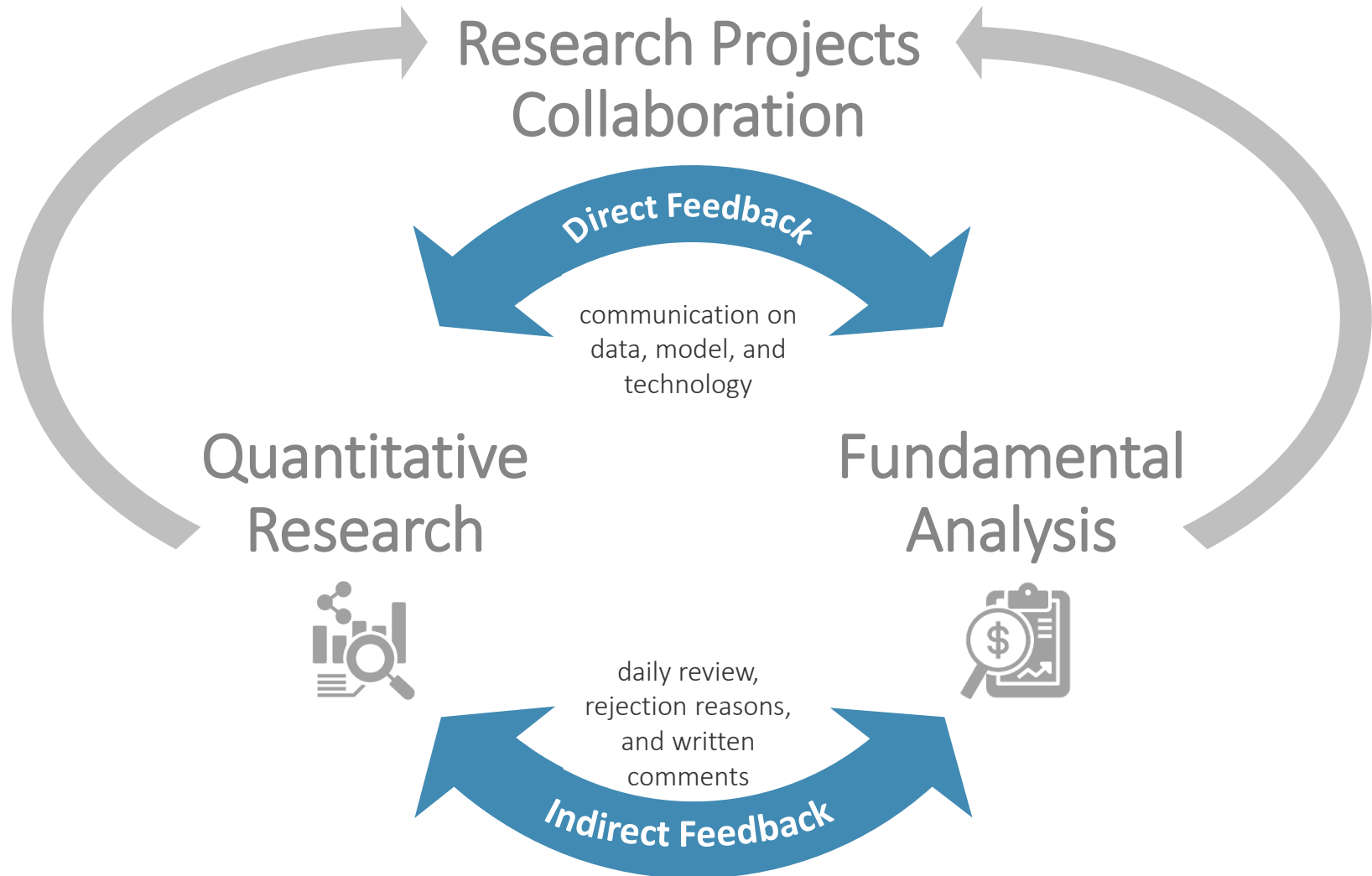
Limited to Approved Stocks - Rebalance a Function of Expected Alpha - Measured Turnover Strategy - Active Risk at Stock Level

Final Portfolio

\*Typically 1-2 new buy universe candidates per day, 10-20% of which are removed from investment universe. Please see Appendix for additional information contained in the Investment Process Disclosure.

# Creating a Valuable Feedback Loop

Insights from the Fundamental Review are Utilized in the Quantitative Process



# SGA Alpha Model Overview

## Valuation Category (30%)

Residual Income

Free Cash Flow Yield<sup>1</sup>

## Growth Category (22%)

Growth Consistency

Operating Cash Flow Efficiency

Intangible Assets<sup>1</sup>

## Quality Category (28%)

Discretionary Accruals<sup>1,2</sup>

F Score

External Financing

Capital Expenditure Conservatism<sup>1,2</sup>

Earnings Surprise

## Sentiment Category (20%)

Long Term Price Momentum

Earnings Yield Momentum

Sell-Side Earnings Estimate Revision

Net Arbitrage Position

The data in the tables above represents the Alpha Model as applied to companies outside of the Financial and Real Estate sectors as defined by GICS.

<sup>1</sup>When ranking securities in the Financials sector as defined by GICS the denoted factors are not used.

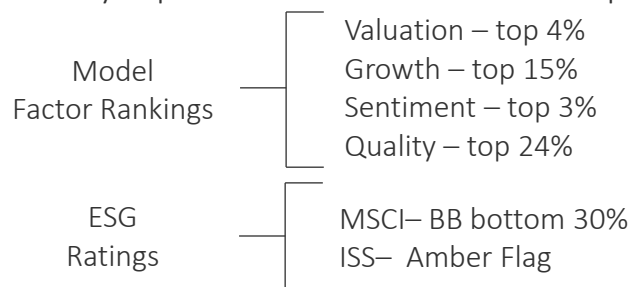
<sup>2</sup>When ranking securities in the Real Estate sector as defined by GICS the denoted factors are not used.

Please see Appendix for additional information contained in the Systematic Investment Risk Disclosure.

## Leading Manufacturer of Disposable Rubber Gloves Manufacturer of latex, nitrile, vinyl, surgical, and household gloves

### Stock Selection Model (November 2020)

Industry expected return ranked in the top 2%

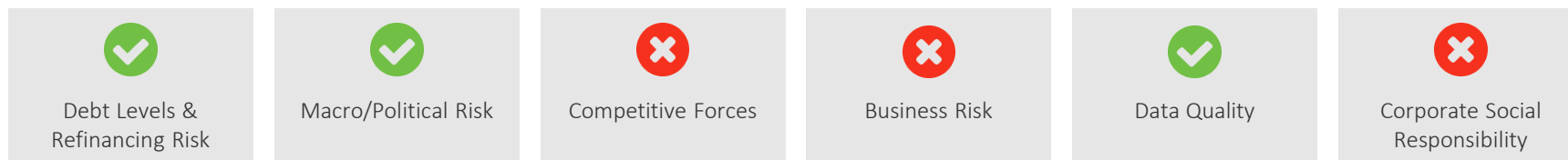


### Fundamental Analysis



1. Rejected for fundamental business reasons in combination with ESG Social concerns surrounding employee safety
2. Industry is commoditized with intense competition and low customer switching costs

### Fundamental Analysis



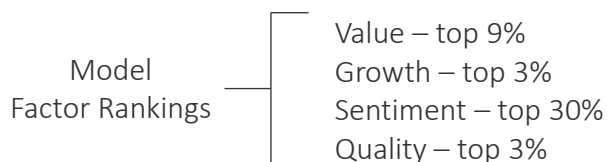
### Failed Fundamental Analysis: Business Risk & Social Risk

Please see Appendix for additional information contained in the Investment Process Disclosure and the Systematic Investment Risk Disclosure.

## Leading Designer, Manufacturer, and Distributor of Semiconductors Automotive Technology, Security, Wireless Infrastructure, Computing Applications

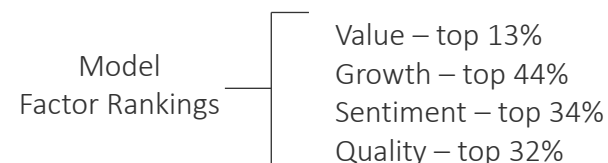
### Stock Selection Model (October 2018)

Ranked in the top 99% of Semiconductors and Equipment



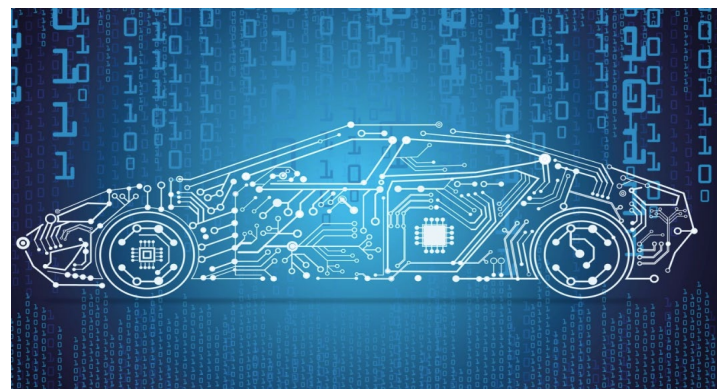
### Stock Selection Model (Feb 2021)

Rank declined to the top 32% of its subindustry



### Holding History

1. Purchased October 2018.
2. After outperforming industry peers over several years, the company's growth and quality profile weakened.
3. The model suggested to sell in Feb 2021.



Sale proceeds redeployed to improve portfolio's risk/return profile

Please see Appendix for additional information contained in the Investment Process Disclosure and the Systematic Investment Risk Disclosure.



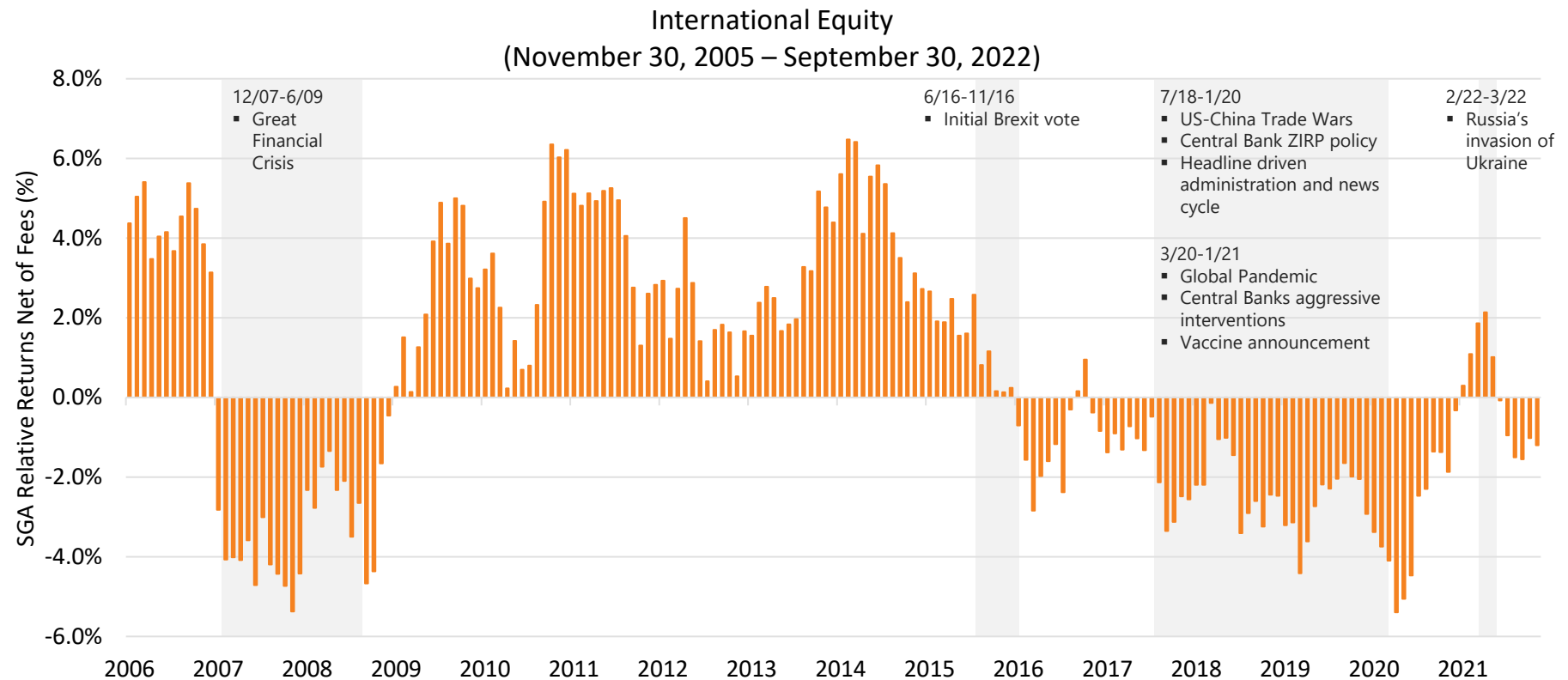
City of Oakland Police & Fire Retirement System  
International ACWI ex-U.S. Equity

# Portfolio Overview

As of October 31<sup>st</sup>, 2022

# SGA International Equity

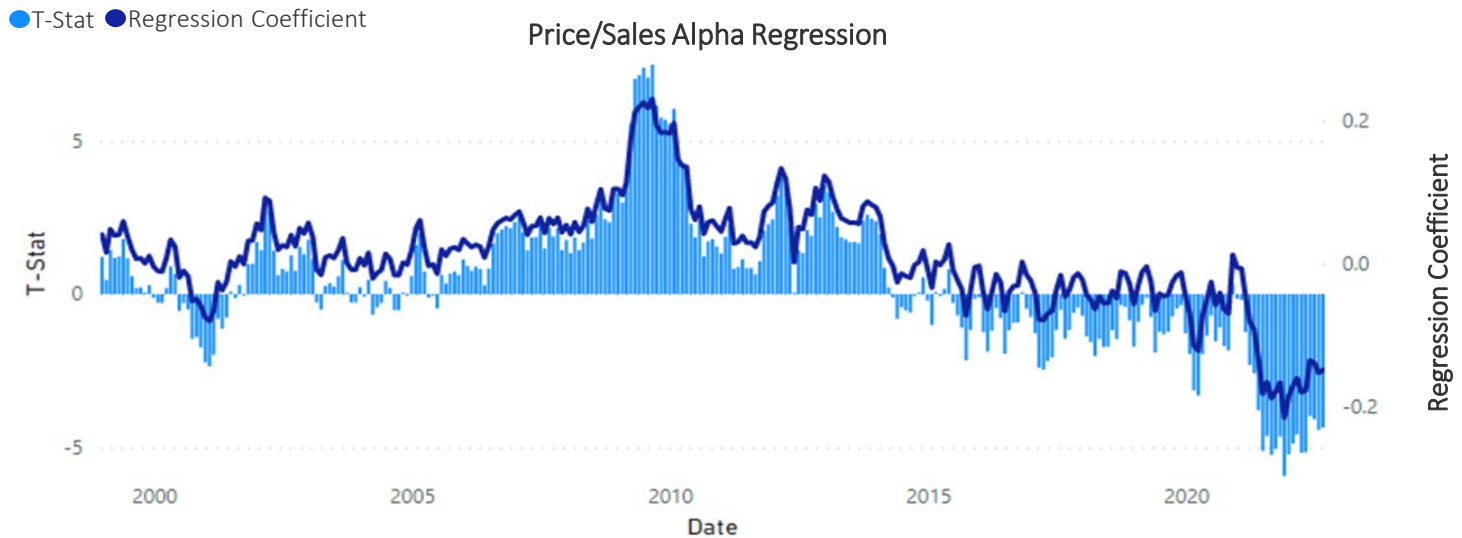
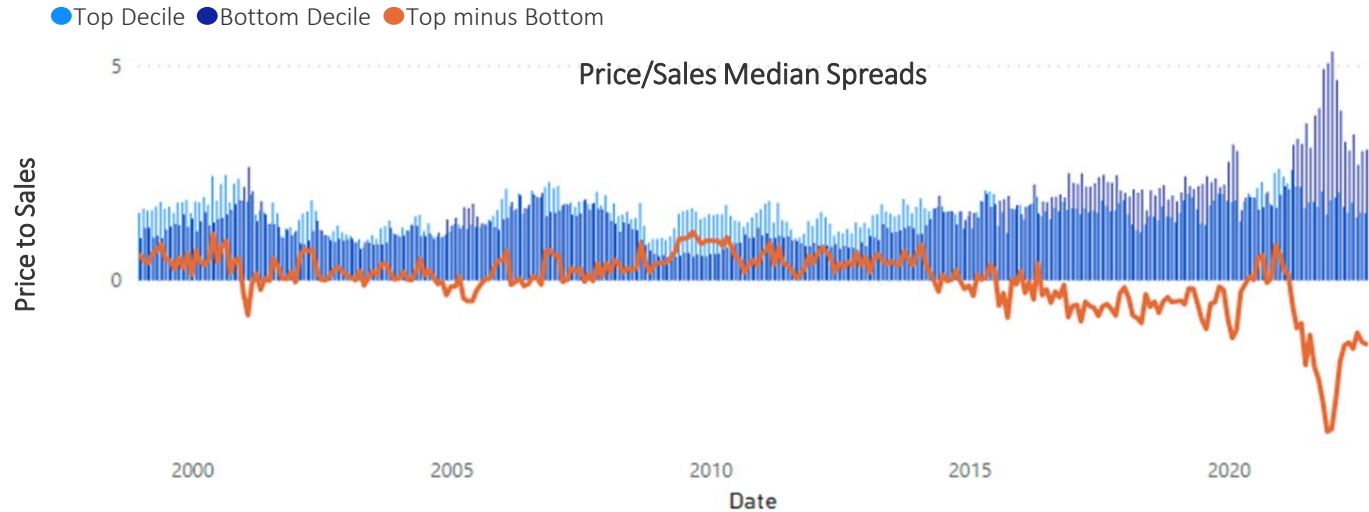
## Trailing Twelve Month Rolling Relative Returns



Relative performance is SGA International Equity net of fees performance minus MSCI EAFE Net Index from inception, November 30, 2005, to September 30, 2022. Net of fees performance was calculated using the highest applicable annual management fee. Trailing twelve month rolling relative returns are measured monthly beginning 12 months after the inception date of the composite. Please see the GIPS® Report for information on each strategy's individual benchmark and additional information regarding product composition and performance. The GIPS® Report is located at the end of this presentation. Past performance is not indicative of future results.



# Total Alpha Model – International Equity Universe



Source: FactSet, SGA. Analysis period: December 31, 1999 through August 31, 2022. Decile characteristics are based on SGA's Stock Selection Model using the International Equity universe. See Alpha Model Factor Spreads Disclosure.

# City of Oakland Police & Fire Retirement System

## Client Portfolio Performance

As of October 31, 2022



	October*	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Since Inception (01/31/2020)
Portfolio (Gross) %	3.80	-22.52					-2.90
Portfolio (Net) %**	3.75	-23.03					-3.53
MSCI ACWI ex USA Index (Net) %	2.99	-24.73					-2.68
Net Relative Return %	0.76	1.70					-0.85

	2020*	2021	2022 YTD*
Portfolio (Gross) %	8.51	11.31	-23.64
Portfolio (Net) %**	7.86	10.59	-24.05
MSCI ACWI ex USA Index (Net) %	13.71	7.82	-24.31
Net Relative Return %	-5.85	2.76	0.26

Source: SGA, MSCI

Benchmark: MSCI ACWI ex USA Index (Net)

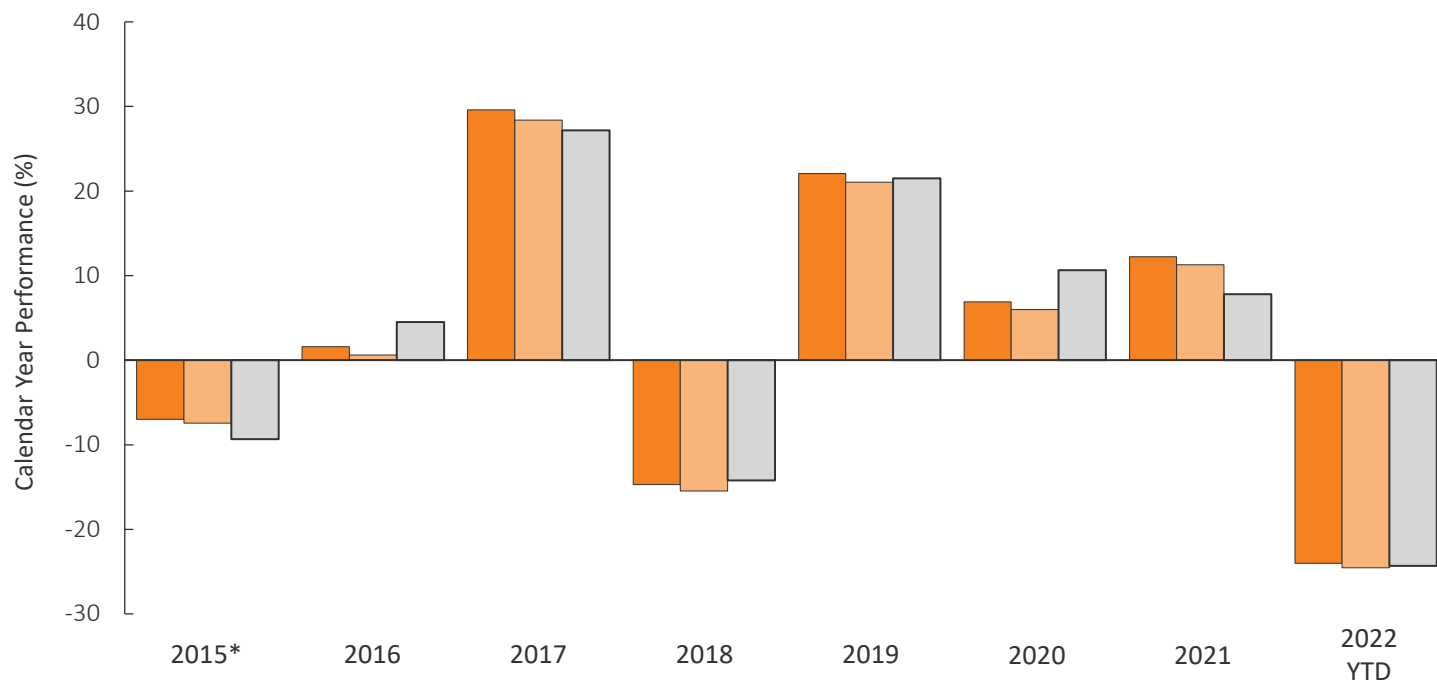
\*Returns for periods of less than one year are not annualized.

\*\*Portfolio Net Returns are net of management fees. Benchmark returns are net of foreign withholding taxes.

# SGA International ACWI ex-U.S. Equity Composite

## Calendar Year Performance

Period Ending October 31, 2022



	2015*	2016	2017	2018	2019	2020	2021	2022 YTD
International ACWI ex-U.S. Equity (Gross) %	-6.97	1.61	29.59	-14.72	22.08	6.91	12.23	-24.02
International ACWI ex-U.S. Equity (Net) %	-7.44	0.60	28.38	-15.45	21.06	5.99	11.28	-24.56
MSCI ACWI ex USA Index (Net) %	-9.32	4.50	27.19	-14.20	21.51	10.65	7.82	-24.31
Gross Excess Return %	2.35	-2.89	2.40	-0.52	0.57	-3.74	4.41	0.29

\*2015 represents partial year return starting from inception on June 30, 2015.

Net of fees performance was calculated using the highest applicable annual management fee of 0.85% applied monthly effective October 1, 2017. Prior to October 1, 2017, net of fees performance was calculated using the highest applicable annual management fee of 1.00% applied monthly; actual investment advisory fees incurred by clients may vary.

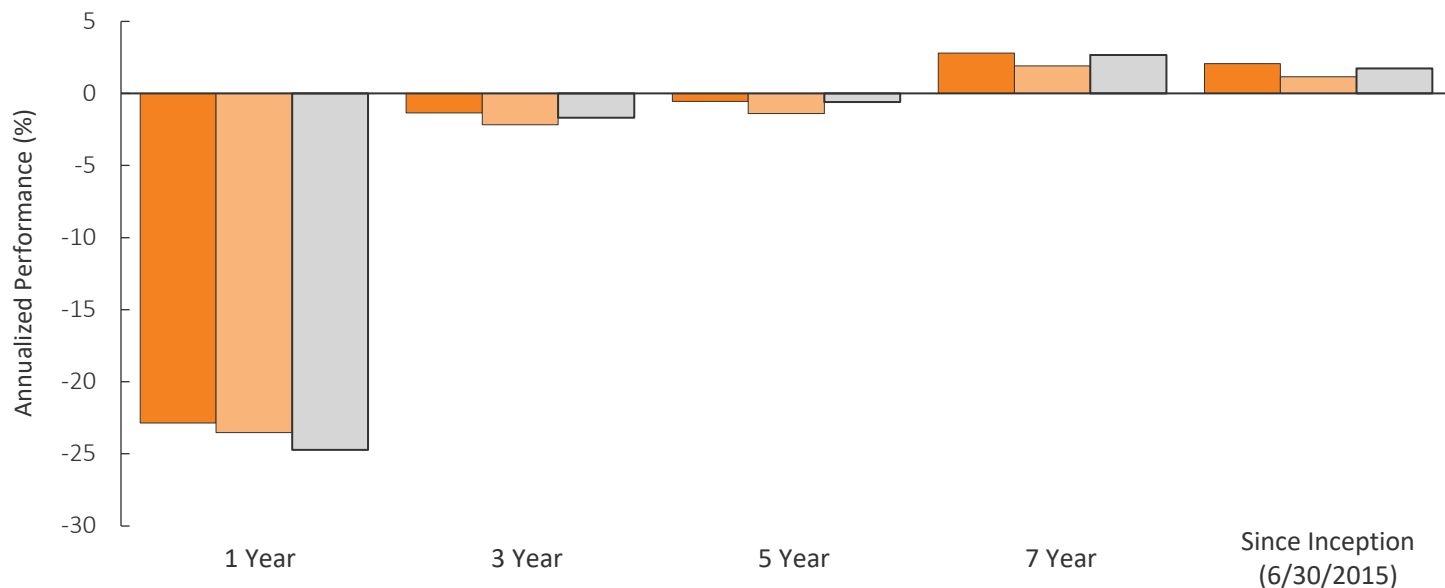
Please see Appendix for additional information contained in the GIPS® Report. Past performance is not indicative of future results.

# SGA International ACWI ex-U.S. Equity Composite

## Annualized Performance



Period Ending October 31, 2022



	1 Year	3 Year	5 Year	7 Year	Since Inception (6/30/2015)
International ACWI ex-U.S. Equity (Gross) %	-22.87	-1.34	-0.55	2.81	2.08
International ACWI ex-U.S. Equity (Net) %	-23.52	-2.18	-1.39	1.91	1.17
MSCI ACWI ex USA Index (Net) %	-24.73	-1.68	-0.60	2.67	1.74
<b>Gross Excess Return %</b>	<b>1.86</b>	<b>0.34</b>	<b>0.05</b>	<b>0.14</b>	<b>0.34</b>

Net of fees performance was calculated using the highest applicable annual management fee of 0.85% applied monthly effective October 1, 2017. Prior to October 1, 2017, net of fees performance was calculated using the highest applicable annual management fee of 1.00% applied monthly; actual investment advisory fees incurred by clients may vary. Please see Appendix for additional information contained in the GIPS® Report. Past performance is not indicative of future results.

# SGA International ACWI ex-U.S. Equity Composite

## Risk/Return Characteristics



	SGA INTL ACWI EX-U.S. EQUITY (GROSS)	SGA INTL ACWI EX-U.S. EQUITY (NET)	MSCI ACWI EX USA NET
Annualized Return	2.08%	1.17%	1.74%
Avg. Annualized 3-Year Rolling Return	5.80%	4.87%	5.78%
Monthly Batting Average	51.14%	45.45%	--
Standard Deviation	15.21%	15.21%	15.26%
Upside Market Capture	100.13%	97.25%	100%
Downside Market Capture	98.79%	100.27%	100%
Information Ratio	0.12	-0.21	--
Sharpe Ratio	0.08	0.02	0.05
Sortino Ratio	0.10	0.02	0.07
T-Statistic	0.33	-0.57	--

Characteristics are calculated since inception through October 31, 2022. Returns are calculated since inception of the strategy, June 30, 2015, through October 31, 2022. Net of fees performance was calculated using the highest applicable annual management fee. Please see the additional information contained in the GIPS® Report, which is located at the end of this presentation. Past performance is not indicative of future results.

Batting Average = The number of months in which the strategy outperformed the primary benchmark divided by the total number of months in the period.

Sortino Ratio = The downside volatility versus total volatility. This statistic is computed by subtracting the return of the risk-free index from the return of the manager to determine the risk-adjusted excess return. This excess return is then divided by the downside risk of the manager.

T-Statistic = A measure of the likelihood that the actual value of monthly excess return is not zero. The larger the absolute value of t, the less likely that the actual value of monthly excess return could be zero. It is computed by dividing average monthly excess return since inception by its standard error, where monthly excess return is monthly portfolio return minus monthly benchmark return.

# International ACWI ex-U.S. Equity

## Custom Attribution Detail

As of October 31, 2022



		Strategy		Portfolio			Strategy
		Inception through 12/31/2017	2018-2020	2021	YTD*	QTD*	Inception through 10/31/2022
Alpha Model	VALUATION	0.54	(1.80)	2.23	2.40	0.64	0.11
	GROWTH	1.08	0.66	(0.14)	(1.03)	(0.05)	0.46
	QUALITY	0.26	(0.64)	(0.26)	0.54	(0.01)	(0.13)
	SENTIMENT	0.50	0.14	0.72	(0.34)	(0.20)	0.28
	INTERACTION	(0.53)	0.59	0.44	(0.91)	(0.27)	0.01
	<b>TOTAL ALPHA MODEL</b>	<b>1.88</b>	<b>(1.04)</b>	<b>3.03</b>	<b>0.65</b>	<b>0.11</b>	<b>0.74</b>
Risk Model Style Factors	BETA	0.18	0.07	0.09	0.18	0.10	0.13
	GROWTH	0.06	0.27	(0.05)	(0.36)	(0.09)	0.07
	LIQUIDITY	(0.23)	(0.04)	0.19	0.02	0.01	(0.07)
	MOMENTUM	(0.23)	0.06	0.64	0.39	0.06	0.09
	OIL	(0.03)	0.07	0.08	(0.01)	0.05	0.03
	SPECIFIC	(0.00)	0.09	(0.15)	0.34	(0.00)	0.09
	SIZE	0.82	(0.43)	0.26	0.07	0.08	0.17
	VALUE	(0.12)	(0.54)	0.51	0.18	(0.01)	(0.17)
	VOLATILITY	0.00	(0.21)	0.11	0.06	0.01	(0.04)
	<b>TOTAL STYLE</b>	<b>0.44</b>	<b>(0.63)</b>	<b>1.72</b>	<b>0.91</b>	<b>0.20</b>	<b>0.31</b>
Total Strategy	<b>TOTAL ALPHA MODEL</b>	1.88	(1.04)	3.03	0.65	0.11	0.74
	<b>TOTAL STYLE</b>	0.44	(0.63)	1.72	0.91	0.20	0.31
	SECTOR	(0.13)	0.41	(0.65)	(0.16)	(0.06)	0.04
	REGION	0.00	(0.10)	0.04	0.10	0.44	(0.01)
	CURRENCY	0.41	(0.05)	(0.10)	0.30	0.22	0.08
	RESIDUAL	(2.07)	0.05	(0.74)	(0.61)	(0.09)	(0.94)
	<b>TOTAL EXCESS</b>	<b>0.60</b>	<b>(1.41)</b>	<b>3.48</b>	<b>0.66</b>	<b>0.82</b>	<b>0.19</b>

Portfolio Benchmark: MSCI ACWI ex USA Index (Net), Strategy Inception Date: 6/30/2015

Source: SGA, FactSet, MSCI

\*Returns for periods of less than one year are not annualized

Strategy custom attribution is shown using a representative account that may not include the same restrictions as the client portfolio. Please see Appendix for additional information contained in the Custom Attribution Disclosure.

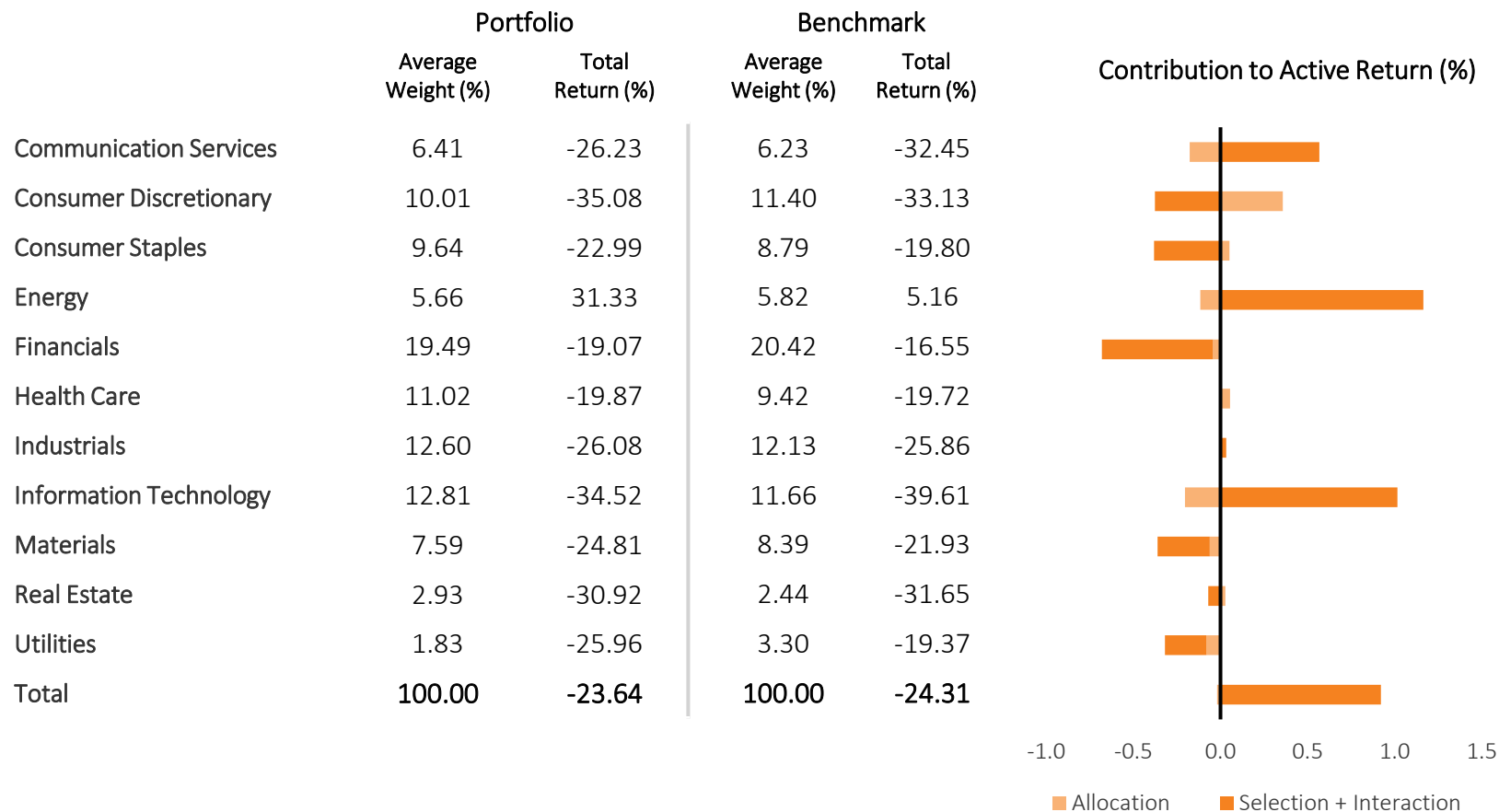
# SGA International ACWI ex-U.S. Equity vs. MSCI ACWI ex USA Index (Net)

## Year To Date Sector Attribution

As of October 31, 2022



### Year to Date Sector Attribution



Benchmark: MSCI ACWI ex USA Index (Net)  
 Source: SGA, Northern Trust, MSCI  
 All GICS sectors shown.

# SGA International ACWI ex-U.S. Equity vs. MSCI ACWI ex USA Index (Net)

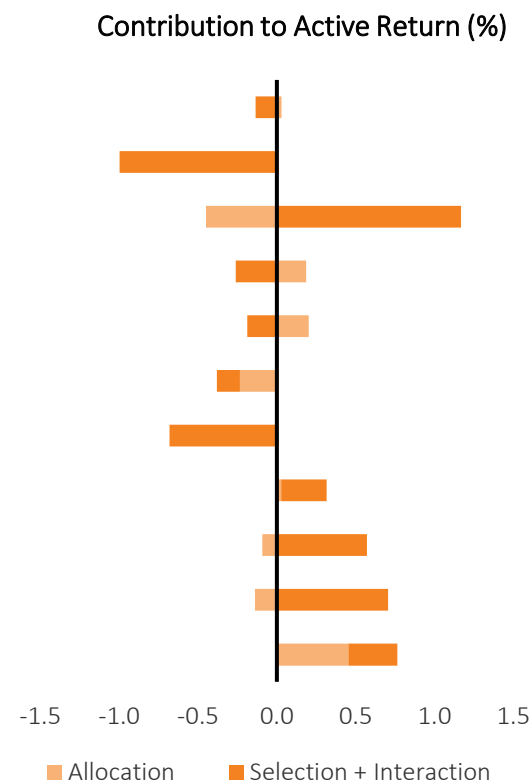
## Year To Date Country Attribution

As of October 31, 2022



### Year to Date Country Attribution

	Portfolio		Benchmark	
	Average Weight (%)	Total Return (%)	Average Weight (%)	Total Return (%)
Japan	14.23	-24.91	14.09	-24.20
United Kingdom	10.19	-22.70	9.77	-13.75
China	10.19	-34.91	9.18	-42.79
Canada	9.30	-15.84	8.13	-13.59
France	8.41	-23.77	7.17	-22.36
Germany	5.84	-32.02	5.08	-31.83
Australia	5.64	-25.85	4.93	-13.79
Switzerland	4.83	-17.97	6.51	-23.74
Republic of Korea	4.64	-27.14	3.47	-35.21
Netherlands	3.74	-22.76	2.67	-36.79
<b>Total</b>	<b>100.00</b>	<b>-23.64</b>	<b>100.00</b>	<b>-24.31</b>



Benchmark: MSCI ACWI ex USA Index (Net)  
 Source: SGA, Northern Trust, MSCI  
 Ten largest countries shown by portfolio weight.



# City of Oakland Police & Fire Retirement System

## Contributors and Detractors

As of October 31, 2022



### Year To Date

Largest Contributors	Sector	Country	Total Return (%)	Avg Portfolio Weight (%)	Avg Relative Weight (%)	Contribution to Relative Return (%)
Petroleo Brasileiro SA	Energy	Brazil	64.30	1.08	0.84	0.49
PT Bank Mandiri (Persero) Tbk	Financials	Indonesia	42.40	0.78	0.73	0.37
Fairfax Financial Holdings Limited	Financials	Canada	1.08	1.37	1.31	0.33
Shopify, Inc.	Information Technology	Canada	-75.17	0.00	-0.24	0.29
Imperial Oil Limited	Energy	Canada	52.26	0.55	0.50	0.26

Largest Detractors	Sector	Country	Total Return (%)	Avg Portfolio Weight (%)	Avg Relative Weight (%)	Contribution to Relative Return (%)
NetEase, Inc.	Communication Services	China	-38.02	0.31	0.14	-0.33
United Microelectronics Corp.	Information Technology	Taiwan	-46.20	0.99	0.91	-0.26
Pandora A/S	Consumer Discretionary	Denmark	-56.85	0.55	0.52	-0.23
Tokyo Electron Ltd.	Information Technology	Japan	-52.56	0.82	0.57	-0.21
EVRAZ plc	Materials	United Kingdom	-81.30	0.07	0.06	-0.19

Benchmark: MSCI ACWI ex USA Index (Net)

Source: SGA, FactSet, MSCI

Based on client holdings as of October 31, 2022. Returns are presented gross of fees. SGA has relied upon information derived from its internal accounting systems and vendors. Please defer to formal performance documents received from your account custodian for reconciliation of performance and tax reporting. Past performance is not indicative of future results.

## Points of Summary

### The SGA Approach



- Quantitative process grounded in rigorous fundamental research
- Incorporating ESG considerations into the investment process and firm since our founding
- Utilizing a core investment process stemming from a proprietary Alpha Model designed for security-level stock selection applied globally
- Continuity of the investment team and process
- As the market regime seems to be shifting from past years of frothy growth, which has benefitted lower quality companies disproportionately, to a market where relative value and fundamentals are more important, we believe this is an excellent entry point for SGA's Core approach

Fundamentally Inspired. Quantitatively Driven.

# Appendix

The Associates Program (“TAP”) was created as an opportunity for recent graduates to gather exposure within the asset management industry. TAP is a 12-month rotational program experience that teaches all functional areas of our business with formal rotations in Marketing, Compliance, Operations, and Investments.

At SGA, we are convinced that investing in our own employees is of vital importance. Associates will have access to a network of professionals with years of industry experience along with a variety of resources and outside opportunities for their own personal development.

We believe this is a tremendous opportunity for individuals with a keen interest in the industry and exposes participants to live scenarios that occur within our day-to-day tasks. In this program our associates are positioned to develop a working knowledge of our firm, our products & services, and the industry all together.

## OUR 2021 ASSOCIATES



### DANIEL JUAN

"My experience as a Junior Associate has exposed me to new areas of the industry that I was not aware of. During my time at SGA, I have collaborated with the Marketing and Operations team where my knowledge and understanding of the firm has expanded, along with gaining more insight of the industry as a whole. I am thankful to have the opportunity to contribute to a firm with a great work environment and a mission that resonates with me."



### LELIA KENNEDY

"I am delighted to have started in my new role as a Junior Associate at SGA. My time as an intern made me confident that I have a lot to contribute as well as a lot to learn. I am currently working with the Marketing and Client Services team where I've had the opportunity to receive great training and apply what I've learned into daily tasks. In addition, I have been exposed to the incredible company culture and the core values that are immersed in teamwork for client success."

SGA Internship Program (“SIP”) began in 2006, the summer after the firm was founded. Throughout the years SIP has developed into a more formal program filled with bright and driven individuals with an interest in the investment management industry.

SGA values diversity in the workforce, which leads our recruitment process to seek diversity of thought, experience, background, and beliefs. We are focused on creating opportunities for individuals from a variety of different backgrounds, providing exposure and opportunity to under-represented segments of our population, and bringing more diversity to our firm.

At SGA, we believe education is the heart of change. We encourage interns to participate in conferences, webinars, and SGA’s Speaker Series, making SIP a great way for interns to further develop their knowledge of the industry.

Internship experience can vary depending on what is in demand for the firm and the intern’s own interest. SIP participants have supported departments such as: Operations, Marketing, Compliance, Fundamental Research, and Quantitative Research.

Internship terms vary depending on availability and demand, typically ranging between eight and ten weeks. Intern’s may receive an offer for full-time employment, and to date SGA has hired three former interns: Quantitative Analysts Quang Ngu and Xiyuan Dong; and Marketing Associate Lelia Kennedy.

## MEET OUR RECENT INTERNS



“Interning with SGA so far has been a really great experience! The team is very welcoming and open to teaching and answering questions, and as a result I have already learned so much.”  
- Lelia Kennedy



“Working with SGA has taught me so much about teamwork, time management when executing projects, and what the marketing side of the finance world looks like. I am so grateful for this opportunity to work with a company that is sharing meaningful work with the world and a company that cares about its employees and societal factors that affect them. I have grown so much throughout my time here.”  
- Jasmine Gonzalez



“My internship with SGA was a rewarding opportunity that allowed me to take my classroom knowledge and apply it to real world scenarios. I experienced both professional and personal growth through the responsibilities I was given, the team members I got to work with, and the knowledge I gained.”  
- Tuva Oewre

# City of Oakland Police & Fire Retirement System

## Client Portfolio Characteristics

As of September 30, 2022



Characteristics	Portfolio	Benchmark
Number of Stocks	154	2,274
Price/Earnings (1-Year Forecast) <sup>1</sup>	7.9x	10.6x
Price/Book <sup>1</sup>	1.3x	1.5x
Dividend Yield	3.8%	3.6%
Historical 3-Year EPS Growth	18.1%	9.6%
Weighted Avg Market Cap	\$65.9B	\$71.0B
Weighted Median Market Cap	\$28.9B	\$35.0B
12-Month Trailing Turnover	53.1%	--
Active Share <sup>2</sup>	79%	0%

<sup>1</sup> Price/Earnings (1-Year Forecast) and Price/Book are weighted harmonic average.

<sup>2</sup> Active Share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in a portfolio versus the weight of each holding in the benchmark index and dividing by two.

Source: SGA, Northern Trust, FactSet, MSCI

Benchmark: MSCI ACWI ex USA Index (Net)

Based on gross of fees returns. Past performance is not indicative of future results.

# City of Oakland Police & Fire Retirement System

## Client Portfolio Snapshot

As of September 30, 2022



Top 10 Holdings	Weight (%)
SHELL PLC ORD EURO.07	2.27
ROCHE HLDGS AG GENUSSSCHEINE NPV	2.26
L'OREAL EURO.20	2.11
NOVO-NORDISK AS DKK0.2 SERIES'B'	1.61
3I GROUP ORD GBPO.738636	1.45
CHINA CONSTRUCTION BANK HCNV1	1.38
NETEASE INC COMSTK	1.37
ORIX CORP NPV	1.34
CONSTELLATION SOFT COM STK NPV	1.33
SANOFI EUR2	1.33
<b>Total</b>	<b>16.45</b>

Largest New Positions - Quarterly	Weight Change (%)
NETEASE INC COMSTK	1.37
RELX PLC	1.33
GRUPO FINANCIERO BANORTE S A B DE C V	0.75

Largest Exited Positions - Quarterly	Weight Change (%)
SONY GROUP CORPORA NPV	-1.06
CSL LTD NPV	-1.02
CSPC PHARMACEUTICAL GROUP LTD HKD0.10	-0.89

Largest Adds or Trims - Quarterly	Weight Change (%)
WOLTERS KLUWER EURO.12	-1.17
FAIRFAX FINL HLDGS SUB-VTG COM NPV	-1.19
NORTHLAND PWR INC COM	0.82

Source: SGA, Northern Trust, MSCI

Benchmark: MSCI ACWI ex USA Index (Net)

Based on gross of fees returns. Past performance is not indicative of future results.

# City of Oakland Police & Fire Retirement System

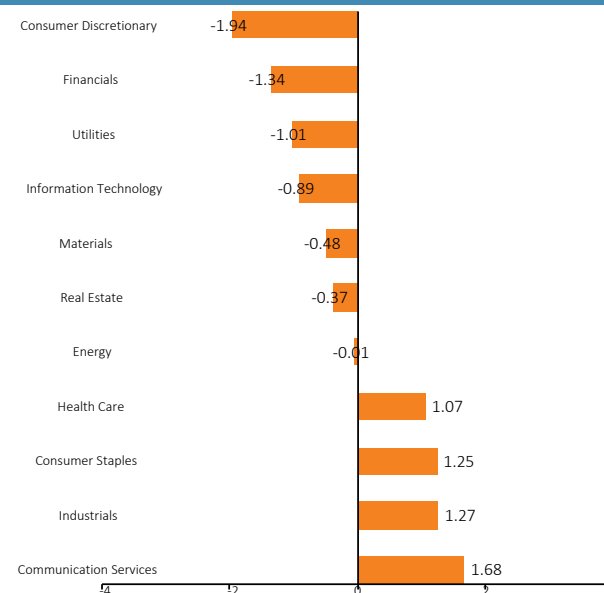
## Client Portfolio Positioning

As of September 30, 2022



Sector	Portfolio Weight (%)	Benchmark Weight (%)
Consumer Discretionary	9.49	11.44
Financials	19.33	20.68
Utilities	2.35	3.36
Information Technology	9.86	10.75
Materials	7.69	8.17
Real Estate	2.01	2.37
Energy	6.16	6.17
Health Care	10.67	9.60
Consumer Staples	10.61	9.36
Industrials	13.32	12.05
Communication Services	7.73	6.05

### 3Q 2022 Sector Relative Weight (%)



Source: SGA, Northern Trust, MSCI

Benchmark: MSCI ACWI ex USA Index (Net)

Based on gross of fees returns. Past performance is not indicative of future results.



# City of Oakland Police & Fire Retirement System

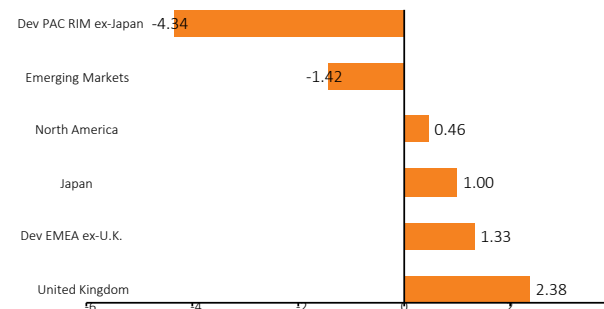
## Client Portfolio Positioning

As of September 30, 2022



Region	Portfolio Weight (%)	Benchmark Weight (%)
Dev PAC RIM ex-Japan	3.64	7.98
Emerging Markets	27.87	29.29
North America	8.71	8.25
Japan	15.14	14.13
Dev EMEA ex-U.K.	31.97	30.64
United Kingdom	12.09	9.70

### 3Q 2022 Region Relative Weight (%)

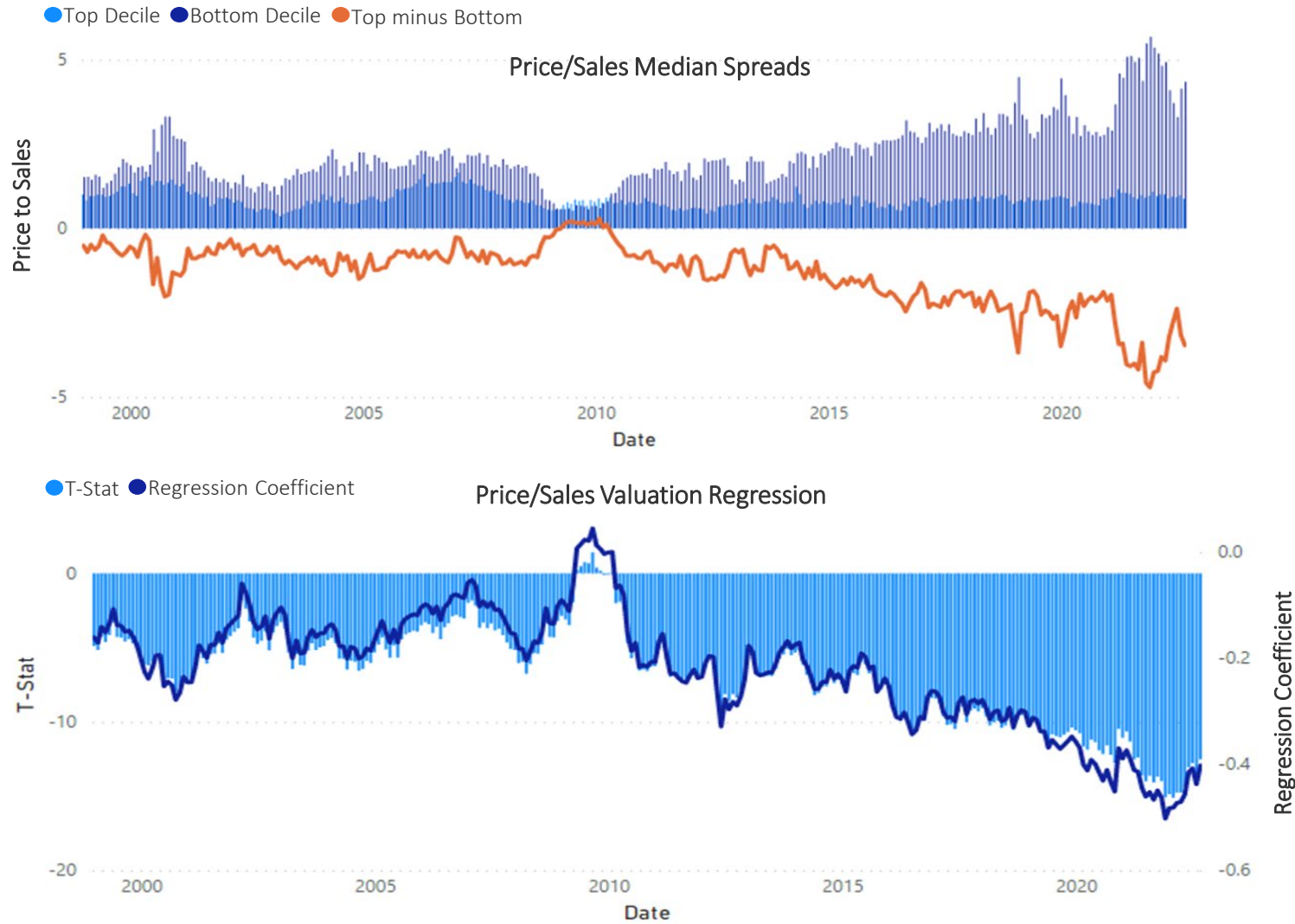


Source: SGA, Northern Trust, MSCI

Benchmark: MSCI ACWI ex USA Index (Net)

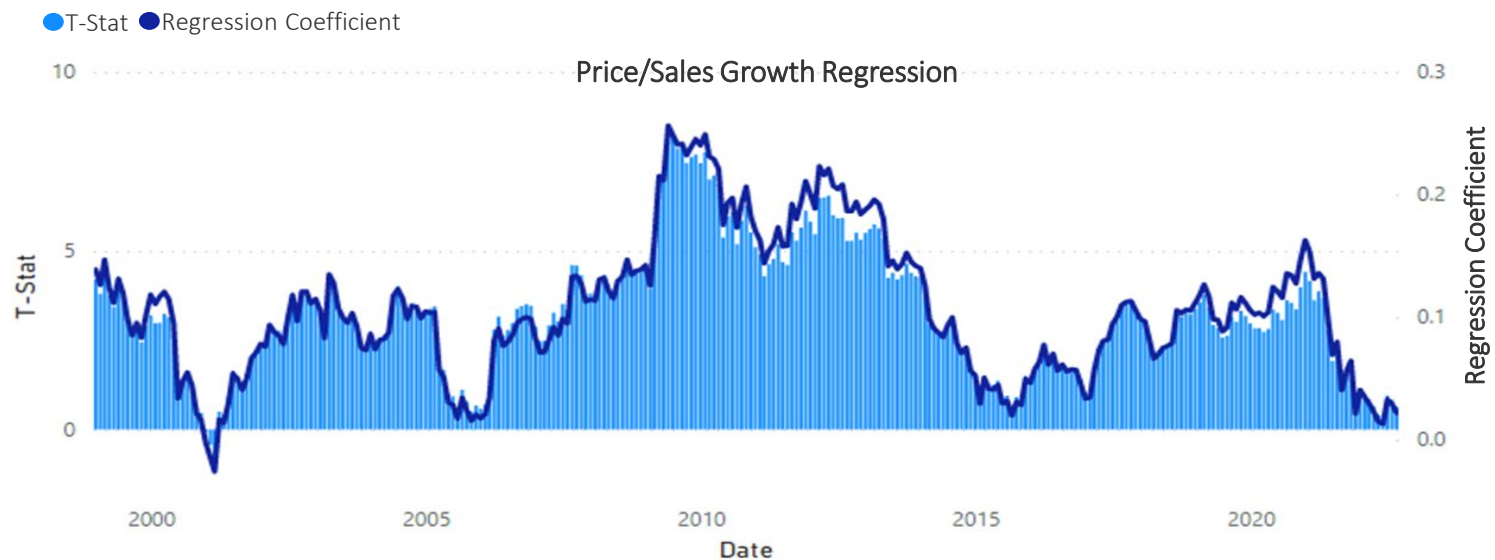
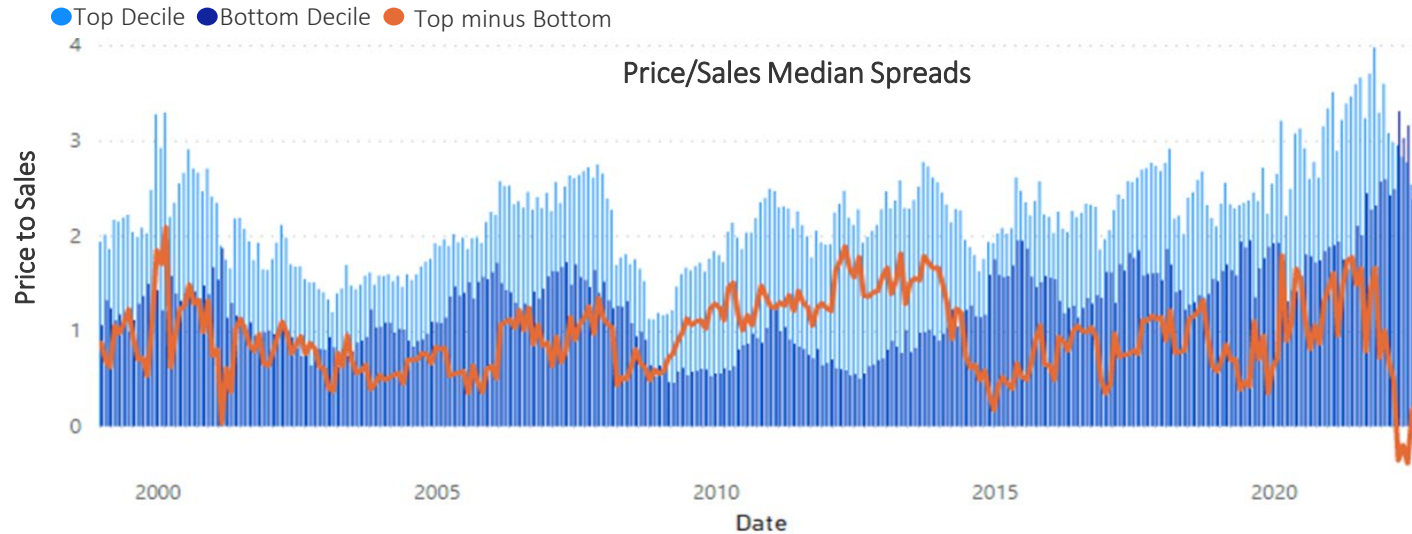
Based on gross of fees returns. Past performance is not indicative of future results.

# Alpha Model Valuation Category – International Equity Universe



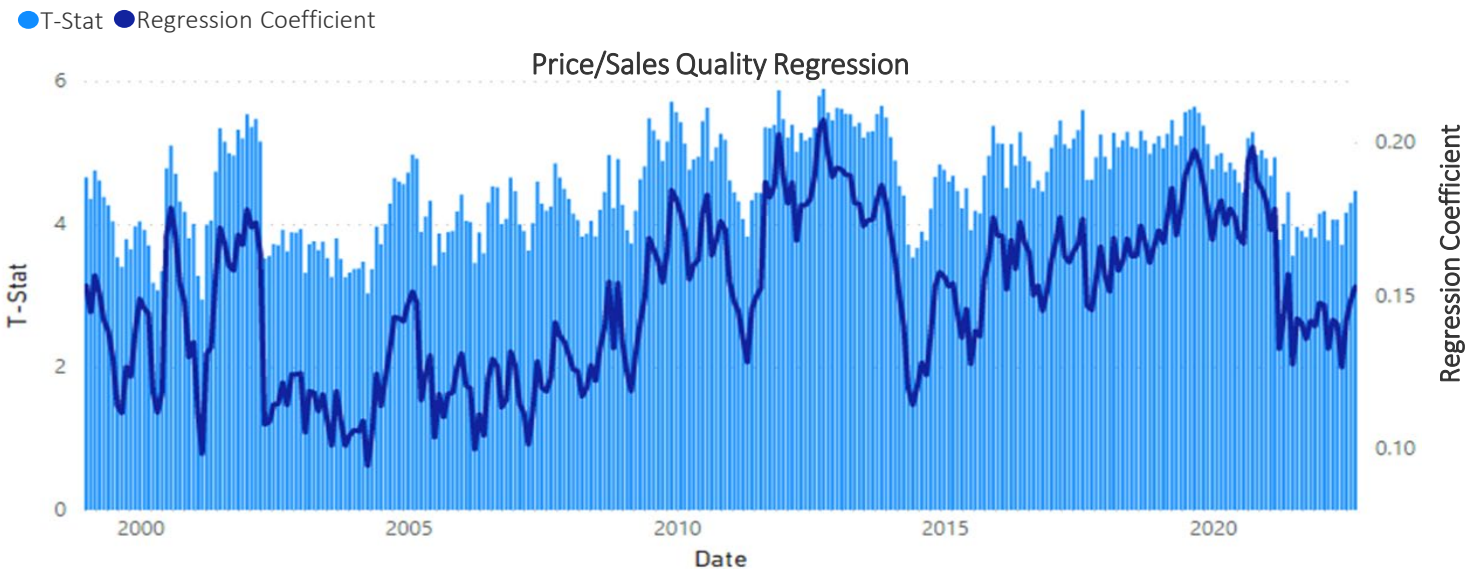
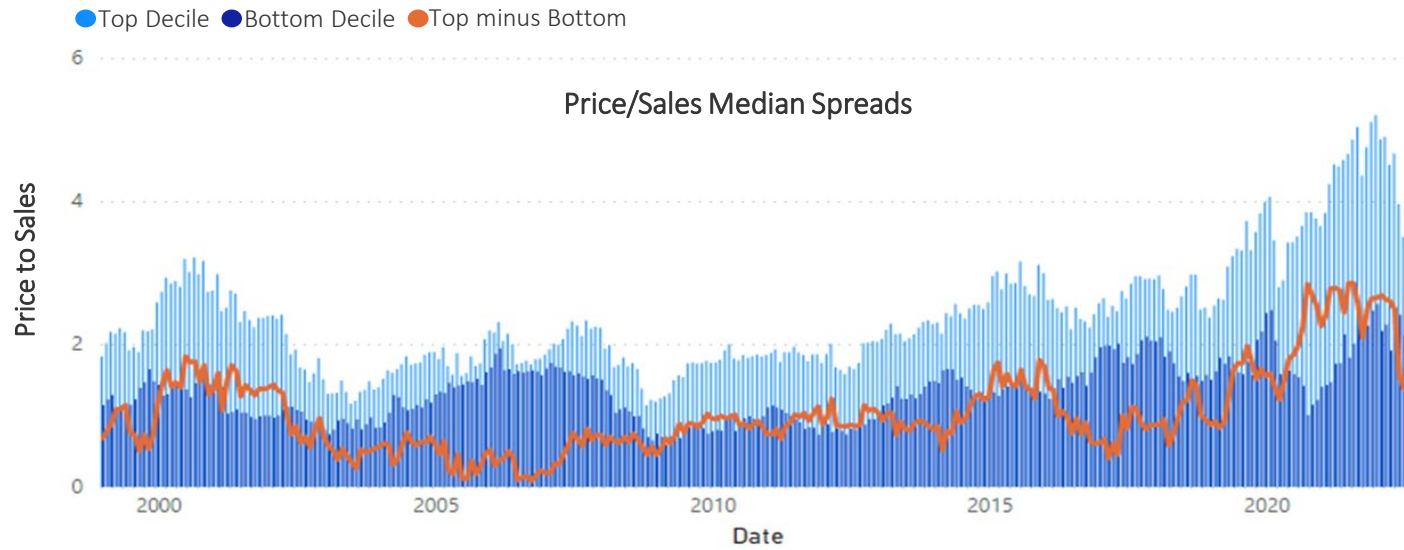
Source: FactSet, SGA. Analysis period: December 31, 1999 through August 31, 2022. Decile characteristics are based on SGA's Stock Selection Model using the International Equity universe. See Alpha Model Factor Spreads Disclosure.

# Alpha Model Quality Category – International Equity Universe



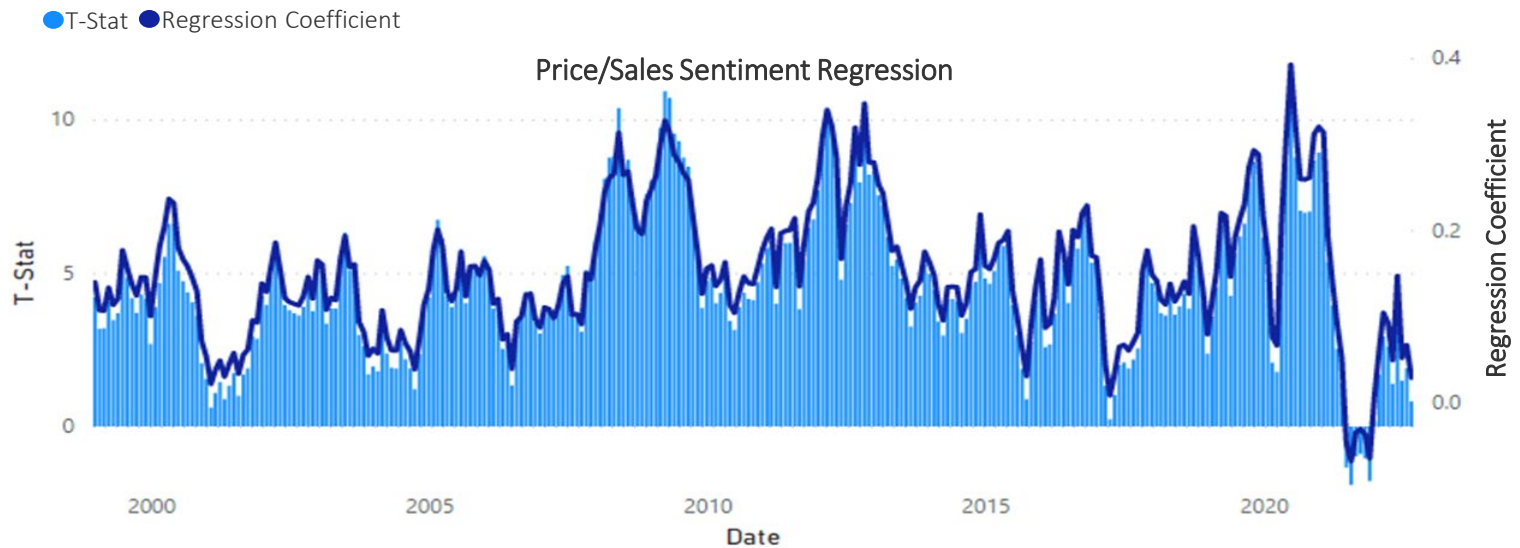
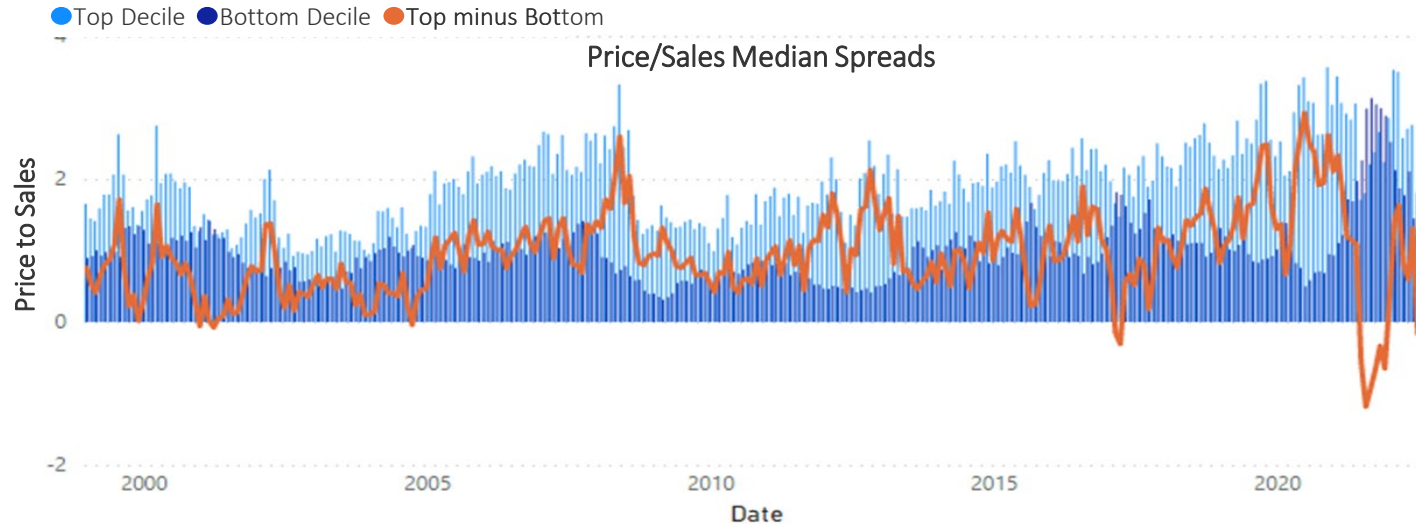
Source: FactSet, SGA. Analysis period: December 31, 1999 through August 31, 2022. Decile characteristics are based on SGA's Stock Selection Model using the International Equity universe. See Alpha Model Factor Spreads Disclosure.

# Alpha Model Growth Category – International Equity Universe



Source: FactSet, SGA. Analysis period: December 31, 1999 through August 31, 2022. Decile characteristics are based on SGA's Stock Selection Model using the International Equity universe. See Alpha Model Factor Spreads Disclosure.

# Alpha Model Sentiment Category – International Equity Universe



Source: FactSet, SGA. Analysis period: December 31, 1999 through August 31, 2022. Decile characteristics are based on SGA's Stock Selection Model using the International Equity universe. See Alpha Model Factor Spreads Disclosure.

### **Cynthia Tusan, CFA** (33 years of Investment Experience)

Ms. Tusan is Chief Executive Officer and a Senior Portfolio Manager of SGA. Her investment career spans three decades, including 16 years with Wells Fargo where she began in 1989 as a Senior Portfolio Manager. In 1996, Ms. Tusan started the Risk Management Group for Wells Capital Management, and eventually led their international equity team in running close to \$1.5 billion in international equity assets. Ms. Tusan earned her BA in Economics from Bryn Mawr College and her MBA from the Anderson School at UCLA. She is a CFA charter holder and is a member of the CFA Society of Los Angeles and the CFA Society of Orange County.

### **Gary Baierl, PhD** (24 years of Investment Experience)

Dr. Baierl is the Chief Investment Officer of SGA. Previously, he served as the Director of Quantitative Research at Causeway Capital Management where he developed the quantitative screens and the risk model used by the firm in their stock selection and portfolio construction processes. In addition, he launched and managed their quantitative market neutral international equity hedge fund. Prior to Causeway, Dr. Baierl was Head of Quantitative Research at Hotchkis and Wiley and also was a Senior Consultant in the Research Group at Ibbotson Associates. Dr. Baierl earned his PhD in Managerial Economics and Decision Science from Northwestern University and BA in Mathematics and Economics from Boston University.

### **Mark Wimer, CFA** (27 years of Investment Experience)

Mr. Wimer joined SGA in 2008 and is a Senior Portfolio Manager. Prior to joining the firm, he was a Portfolio Manager for both quantitatively-driven domestic and international equity strategies at BMO Global Asset Management in Chicago. Previously, he developed quantitative stock selection models for Chicago Investment Analytics. Prior to that,

Mr. Wimer performed investment research in the areas of stock selection, asset allocation, and manager selection at Ibbotson Associates. He also spent three years at Barra RogersCasey, an institutional investment consulting firm. Mr. Wimer earned his BS in Computer and Electrical Engineering from Purdue University, MBA from the Johnson School at Cornell University, and is a member of the Chicago Quantitative Alliance.

### **Cherie Badri, CFA** (27 years of Investment Experience)

Ms. Badri joined SGA in 2006 and is the firm's Director of Fundamental Research and a Senior Portfolio Manager. Her responsibilities include portfolio management and fundamental company analysis. Ms. Badri spent over eight years as a Senior Associate Research Analyst at William Blair & Company in Chicago. Previously, she was an Analyst at Picoco in Newport Beach where she co-managed a fund focused on small-cap companies. Ms. Badri earned her BA in Economics from Northwestern University and both her MBA and MS in Finance from the University of Illinois at Urbana-Champaign. She is a CFA charter holder and is a member of the CFA Society of Orange County.

### **Brendan Skarra-Corson, CFA** (15 years of Investment Experience)

Mr. Skarra-Corson joined SGA in 2012 and is a Senior Portfolio Manager. His responsibilities include portfolio management and alpha model factor research. He joined the firm in 2012 after completing a Master of Financial Engineering (MFE) degree at the University of California, Berkeley. Mr. Skarra-Corson worked at INDATA Services, LLC where he led a team that implemented solutions to meet the financial technology needs of asset managers. He also earned his BA in Economics and Mathematics from University of California, San Diego. Mr. Skarra-Corson is a CFA charter holder and member of the Orange County CFA Society.



### **David Cai, CFA** (10 years of Investment Experience)

Mr. Cai joined SGA in 2015 and is Director of Quantitative Research. His responsibilities include alpha model and risk model factor research. Prior to joining the firm, Mr. Cai served as a Trader and Researcher at Henning & Carey Proprietary Trading in Chicago, where he traded U.S. fixed income products, modeled the Treasury yield curve, and researched new strategies. Mr. Cai brings skills that combine quantitative modeling, data analysis, and macroeconomic analysis to SGA. Mr. Cai earned his BBA in Finance and Mathematics from the University of Wisconsin, Madison and Master in Financial Engineering (MFE) from the University of California, Berkeley.

### **Quang Ngu, CFA** (12 years of Professional Experience)

Mr. Ngu joined SGA in 2020 as a Quantitative Analyst. He was previously an intern with the firm where his focus was on expanding the functionality of our simulation platform. His on-going responsibilities include portfolio optimization and the researching of alpha signals and risk factors. Prior to joining the firm, Mr. Ngu was a lead engineer at the Boeing Company for over a decade, where he specialized in quantitative modeling and simulation, research and software development within Boeing's Satellite Division. Mr. Ngu earned his BS in Electrical Engineering from the University of Hawaii at Manoa, a MS in Electrical Engineering and an MBA from the University of California at Los Angeles (UCLA), and a Master of Financial Engineering (MFE) from the University of California at Berkeley (UCB).

### **Vaibhav Kumar, CFA** (12 years of Investment Experience)

Mr. Kumar joined SGA in 2015 and is a Senior Quantitative Analyst. His responsibilities include alpha factor research as well as model and systems development. Prior to joining the firm, he created risk and stress testing models for Goldman Sachs' Market Risk division and co-founded Quark Analytics, a high frequency trading firm, where he developed a low latency trade execution environment for select exchanges. Mr. Kumar spent three years with Microsoft R&D as a software developer where he designed and developed network security modules for Windows 7 in C++ before pursuing a career in finance. He earned his Integrated Master in Mathematics and Computing from IIT Kharagpur and Master in Financial Engineering (MFE) from the University of California, Berkeley.

### **Xiyuan Dong** (2 year of Investment Experience)

Ms. Dong joined SGA full time in 2021 as a Quantitative Analyst. She previously worked as an intern with SGA, focusing on utilizing Machine Learning (AI) tools in investment research and improving the firm's research platform. Her on-going responsibilities include factor and portfolio research as well as systems development. Prior to joining SGA, Ms. Dong gained extensive internship experience in the investment industry as a quantitative researcher and in the insurance industry as an actuary. Ms. Dong earned her BBA in Actuarial Science and Statistics from the Chinese University of Hong Kong and Master of Financial Engineering (MFE) from the University of California, Los Angeles (UCLA).

### **Adam Hauptman, CFA** (16 years of Investment Experience)

Mr. Hauptman joined SGA in 2016 and is a Senior Fundamental Analyst and Associate Portfolio Manager. His responsibilities include performing fundamental reviews of new ideas generated by the quantitative model and portfolio management. Prior to joining the firm, he spent over five years as a Research Analyst at Kayne Anderson Capital in Los Angeles, primarily focused on large-cap global equities and equity derivatives. Mr. Hauptman was a Portfolio Manager at ASNY Asset Management. He also worked as an Analyst at Solios Asset Management. Mr. Hauptman began his career at Levitan & Associates in Boston as an Energy Economics Management Consultant. He holds a certificate in Sustainable Capitalism and ESG from the Berkeley Law Executive Education Program. He is a CFA charter holder and earned his BSc degrees in Mathematics and Philosophy from the Massachusetts Institute of Technology.

### **Sylvester Malapas, CFA** (14 years of Investment Experience)

Mr. Malapas joined SGA in 2016 and is a Senior Fundamental Analyst and Associate Portfolio Manager. His responsibilities include performing fundamental reviews of new ideas generated by the quantitative model and portfolio management. In his previous role, he was a Credit Analyst at Standard & Poor's Ratings Services in San Francisco where he focused on high yield credits within the software and services technology sector. Prior to that position, he spent four years at Merrill Lynch Bank of America where he supported the trading desk and compliance officer. Mr. Malapas earned his BA in Economics from the University of California, Irvine, and MBA from the Johnson School at Cornell University. He is a CFA charter holder and a member of the CFA Society of Orange County.

### **Brett Darragh, CFA** (7 years of Investment Experience)

Mr. Darragh joined SGA in 2019 and is a Senior Fundamental Analyst. His responsibilities include performing fundamental reviews of new ideas generated by the quantitative model. Most recently, he was an equity research associate at Northland Securities in Newport Beach, CA where he primarily focused on the energy sector. Prior to Northland Securities, he was an associate financial analyst at TCW and Space Systems Loral. Brett received his BS in Business Administration from Cal Poly San Luis Obispo and is a member of the CFA Society of Orange County.

### **Stephen Smith** (28 years of Investment Experience)

Mr. Smith joined SGA in 2016 and is Head Trader, responsible for managing the trading process for all SGA portfolios. Prior to joining the firm, Mr. Smith was Managing Director, Head of Trading for Tradewinds Global Investors, LLC where he oversaw global trading including developed, emerging, and frontier markets. Mr. Smith worked as Head Trader for Morgan Stanley's NYC based Emerging Markets Equity Trading Desk. He started his career with stints trading ASEAN region stocks from Hong Kong and Singapore for Morgan Stanley and trading NASDAQ stocks from New York City for Fleet Securities. He earned his BA from Bucknell University.



**Professor Richard Frankel** joined SGA's Advisory Board in April 2007. Professor Frankel is the Beverly and James Hance Chair Professor of Accounting at Washington University in St. Louis and has taught at Olin since 2005. Prior to that, he was a Professor at the MIT Sloan School of Management and the University of Michigan (Ross School). At Michigan and MIT, he received the MBA Student Awards for Teaching Excellence. In 2003, he received the American Accounting Association, Notable Contribution Award with Charles Lee. He received first place awards in the I/B/E/S 25th Anniversary Global Expectation Research Competition (1996) and the Chicago Quantitative Alliance Earnings Expectation Research Competition (1995). His principal teaching interest is financial accounting and reporting. His research focuses on valuation using accounting numbers and on corporate managers' use of conference calls, earnings forecasts, and pro-forma earnings. Professor Frankel earned his BS, MAS, and CPA from University of Illinois and his PhD from Stanford University.

**Professor Richard Sloan** joined SGA's Advisory Board in December 2018. Professor Sloan is Accounting Circle Professor of Accounting for the Leventhal School of Accounting at the University of Southern California. Prior to that, he was Chaired Professor of Accounting at the University of California at Berkeley (Haas School of Business). From 2006 to 2009, Professor Sloan was a Managing Director in Equity Research at Barclays Global Investors. He has also held academic positions at the University of Michigan (Ross School) and the University of Pennsylvania (Wharton School). While at the University of Michigan, Professor Sloan was the founding director of the Tozzi Electronic Business and Finance Center.

His expertise has focused on the role of accounting information in investment decisions and he won the 2001 Account Literature Award for his research on earnings quality. Professor Sloan has authored numerous peer-reviewed articles, his own textbook [Equity Valuation and Analysis with eVal](#) and recently received a Lifetime Achievement Award from the American Accounting Association, Financial Accounting and Reporting Section (2018). Professor Sloan earned a Bachelor of Commerce with First Class Honors at the University of Western Australia and his MS and PhD Business Administration (Accounting and Finance) from the W.E. Simon Graduate School of Business at University of Rochester.

### **Brett Gallagher** (39 years of Investment Experience)

Mr. Gallagher is President of SGA. Prior to joining the firm, he was a partner and served as Director of Research and Acquisition at Nile Capital Group, a Los Angeles-based private equity firm. Previously, he served as Deputy CIO at Artio Global Investors/Julius Baer Investment Management where he conducted macro-economic analysis, was Co-Head of the Global Equity team, and worked closely with the risk management and trading teams. Prior to his 14 years at Artio Global Investors, Mr. Gallagher was Head of Investment Management Asia for JP Morgan Private Bank in Singapore and Head of Global Equity for Bankers Trust International Private Bank. His responsibilities included the development of asset management and research processes, global asset allocation strategies, and economic analysis. Earlier in his career, Mr. Gallagher was an Analyst with Irwin Management Company where he was responsible for the selection and evaluation of external managers, as well as financial oversight for Venture Capital investments. Mr. Gallagher has appeared numerous times on CNBC, Bloomberg, and Fox Business News as well as having been quoted in The Wall Street Journal. He was also a guest lecturer at Yale University. Mr. Gallagher received his BA in Economics from the University of Virginia and his MBA from The Darden Graduate School of Business. He is currently a member of the Board of Managers and Chair of the Investment Committee for the University of Virginia Alumni Association.

### **Joel Reynolds** (27 years of Investment Industry Experience)

Mr. Reynolds is Chief Compliance Officer at SGA and responsible for all of the firm's compliance functions. Prior to joining SGA, Mr. Reynolds was Senior Vice President, Senior Compliance Officer at PIMCO for more than eight years, where he was responsible for managing core functions related to regulatory and investment compliance, including personal trading, portfolio compliance, client certifications, and compliance training. Previously, Mr. Reynolds was a vice president in compliance at Income Research & Management and held compliance positions with Geode Capital Management and Fidelity Investments. He has 18 years of compliance experience, holds a JD from Suffolk University Law School, and an MBA from Babson College. He received his undergraduate degree in Economics from the University of Utah. He is admitted to the bar in Massachusetts and Arizona.

### **Elyse Waldinger** (26 years of Investment Industry Experience)

Ms. Waldinger is Chief Operating Officer at SGA and is responsible for the firm's operations and technology functions. Prior to joining SGA, Ms. Waldinger was Partner/Chief Operating Officer/Chief Compliance Officer at R Squared Capital Management. Previously, she was the Head of Trading and Portfolio Support, Equities at Artio Global Management. Prior to joining Artio in 2000, she was a Sales Assistant on the Municipal Bond Trading Desk at Morgan Stanley for three years and a Portfolio Assistant with Burnham Securities for two years. Ms. Waldinger received a BS from AB Freeman School of Business, Tulane University.

### **R. Barney Walker** (29 years of Investment Industry Experience)

Mr. Walker is Director of Institutional Investments, responsible for developing and managing new partnerships in the Northeastern U.S., as well as internationally. Prior to joining the firm, Mr. Walker was a Partner at Aligned Asset Managers, LLC where they provided growth equity capital and distribution expertise to their member firms. Previously, Mr. Walker was a Senior Vice President at Artio Global Investors, LLC (f/k/a Julius Baer Investment Management, LLC) where he shared leadership for new business and client service from 2002-2012. Mr. Walker started his career at Ark Asset Management, Inc. where he worked from 1996-2002 holding various institutional new business/client service roles after spending two years as a junior member of the portfolio team. He earned his BS from Boston College.

### **Ulana Blahy** (10 years of Investment Industry Experience)

Ms. Blahy joined SGA's marketing team in 2021 as a Senior Associate of Institutional Investments. She is responsible for leading SGA's Client Service efforts and supporting the firm's Northeastern U.S. and international business development initiatives. Prior to joining the firm, Ms. Blahy was Vice President of Client Service at Solus Alternative Asset Management. Previously, she gained experience in investor relations at Indus Capital Partners. Ms. Blahy earned her MBA from Gabelli School of Business at Fordham University and BA in Communications and Media Studies from Fordham University.

### **John Dewey** (21 years of Investment Industry Experience)

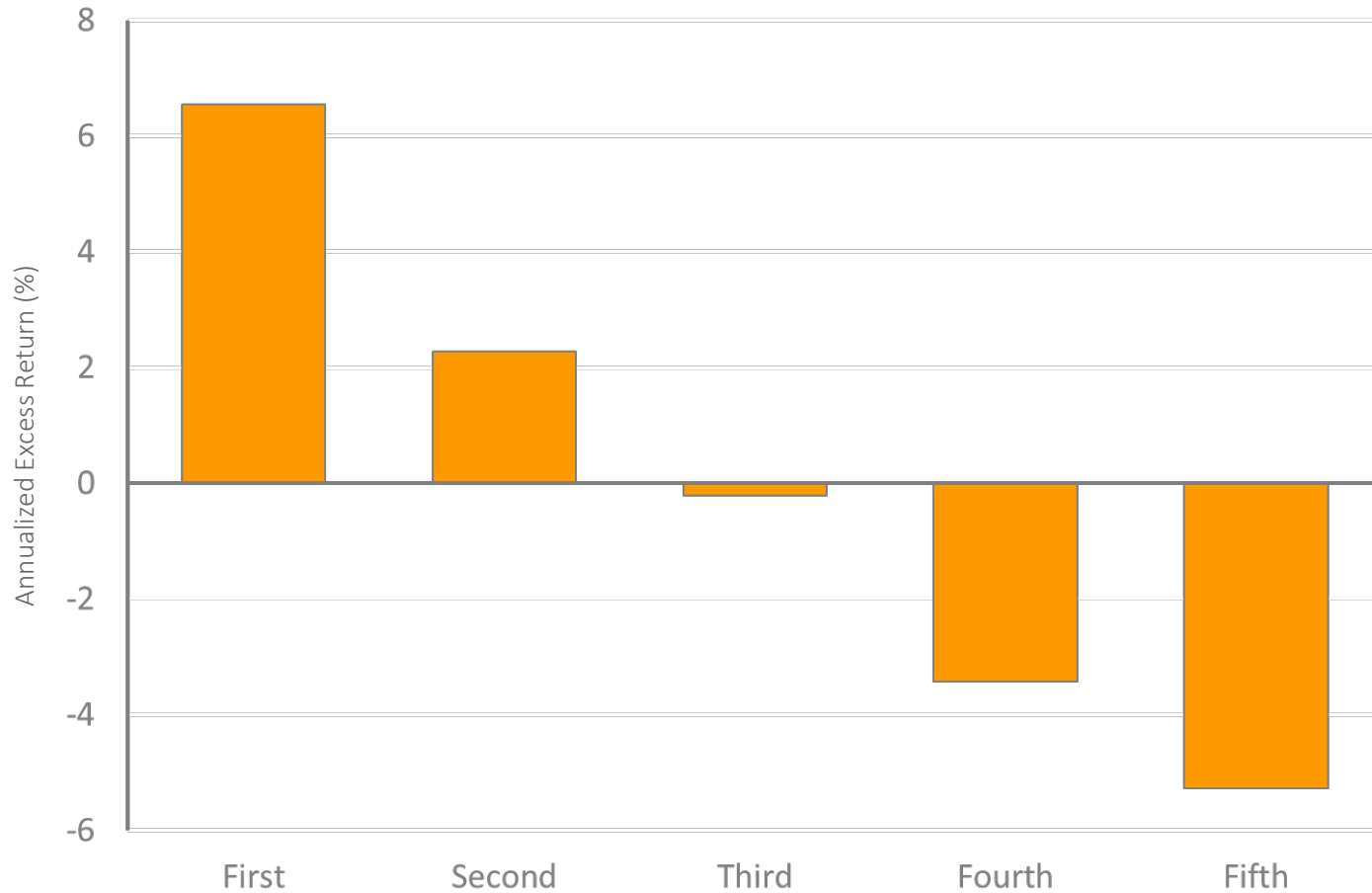
Mr. Dewey is Director of Institutional Investments, responsible for business development efforts with institutional plan sponsors and consulting firms throughout the Western United States. Prior to joining the firm, he led Australia-based Magellan's North American business development and client service team. Mr. Dewey's prior experience also includes serving as a product specialist in both Defined Contribution and Equities while at PIMCO, as well as helping lead the expansion of Capital Guardian's middle market institutional business. Mr. Dewey earned his MBA from Santa Clara University and BA in Political Science from the University of California, Los Angeles.

### **Anne Pillsbury** (7 years of Investment Industry Experience)

Ms. Pillsbury joined SGA in 2018 and is Head of Client Analytics. She is responsible for responding to client and prospect requests as well as producing marketing and client service analytics, commentaries and materials. Prior to joining the firm, Ms. Pillsbury was a Senior Consultant with FactSet Research Systems supporting institutional asset managers in their use of FactSet market data and analytics. Ms. Pillsbury is a CFA Level 3 candidate and earned her BS in Economics from the University of St Andrews.

### SGA Stock Selection Model Quintile Performance

Average Annualized Excess Returns Utilizing Quarterly Rebalancing From January 1988 Through September 2022



Source: FactSet, SGA

Returns are presented net of fees calculated using the highest applicable annual management fee of 0.85% applied quarterly. Quintile performance returns are based on performance of SGA's Stock Selection Model over Equal-Weighted International ACWI ex-U.S. Equity universe. Past performance is not indicative of future results. Please see the additional information contained in the GIPS® Report, which is located at the end of this presentation.

## Alpha Model International ACWI ex-U.S. Equity Universe

These Alpha Model backtests are hypothetical and do not reflect actual or intended implementation of a portfolio by SGA. They are presented as a simplified demonstration of the historical influence of the Alpha Model on SGA's investment process and were achieved by means of the retroactive application of an investment process that was designed with the benefit of hindsight. Thus, the performance results noted should not be considered indicative of the skill of the advisor or its investment professionals. The back-tested performance was compiled after the end of the period depicted and does not represent the actual investment decisions of the advisor. In addition, back-tested performance results do not involve financial risk, and no hypothetical trading record can completely account for the impact of financial risks associated with actual investing. There is no guarantee that SGA's live strategies will capture fully or in part the excess returns estimated here. Furthermore, SGA does not guarantee the accuracy of these estimates or methodology. SGA believes the backtest analysis provides important insights for SGA in thinking about and designing the firm's investment process. SGA applies both quantitative and qualitative approaches to portfolio management, which may vary depending on market conditions and impact the firm's ability to capture the alpha indicated by these backtests.

There are limitations inherent in backtested model results, particularly the fact that such results do not represent actual trading and that they may not reflect the impact that material economic and market factors might have had on portfolio decision making in a live client account. SGA did not manage any live accounts during the entire backtest period. The results portrayed reflect the reinvestment of dividends and other earnings.

International equity investing includes the possibility of loss. Equal-weighted quintile returns by SGA Alpha are compared to the equal-weighted large cap universe.

SGA encourages clients and prospects to seek independent sources of analysis in assessing SGA's returns and process. For additional information on the calculation methodology please contact Strategic Global Advisors, LLC at 949.706.2640.

- Time period January 1988 – September 2022
- Formed equal-weighted quintiles based on SGA Alphas
- Quarterly rebalancing with no transaction costs
- Included: Developed and Emerging countries
- Sector definitions used are Global Industry Classification Standard (GICS®)
- The universe of securities for SGA's ACWI ex-U.S. Equity strategy includes approximately 2,000-2,500 companies in both developed and emerging markets that meet market relative market capitalization and internal liquidity requirements.
- Market cap cutoff was determined through time this way:
  - The top 10% of companies in the universe as measured by market cap at each given period
  - The approximate number of companies in International ACWI ex-U.S. Equity universe varies significantly over time and in comparison to the universe used when constructing actual client portfolios

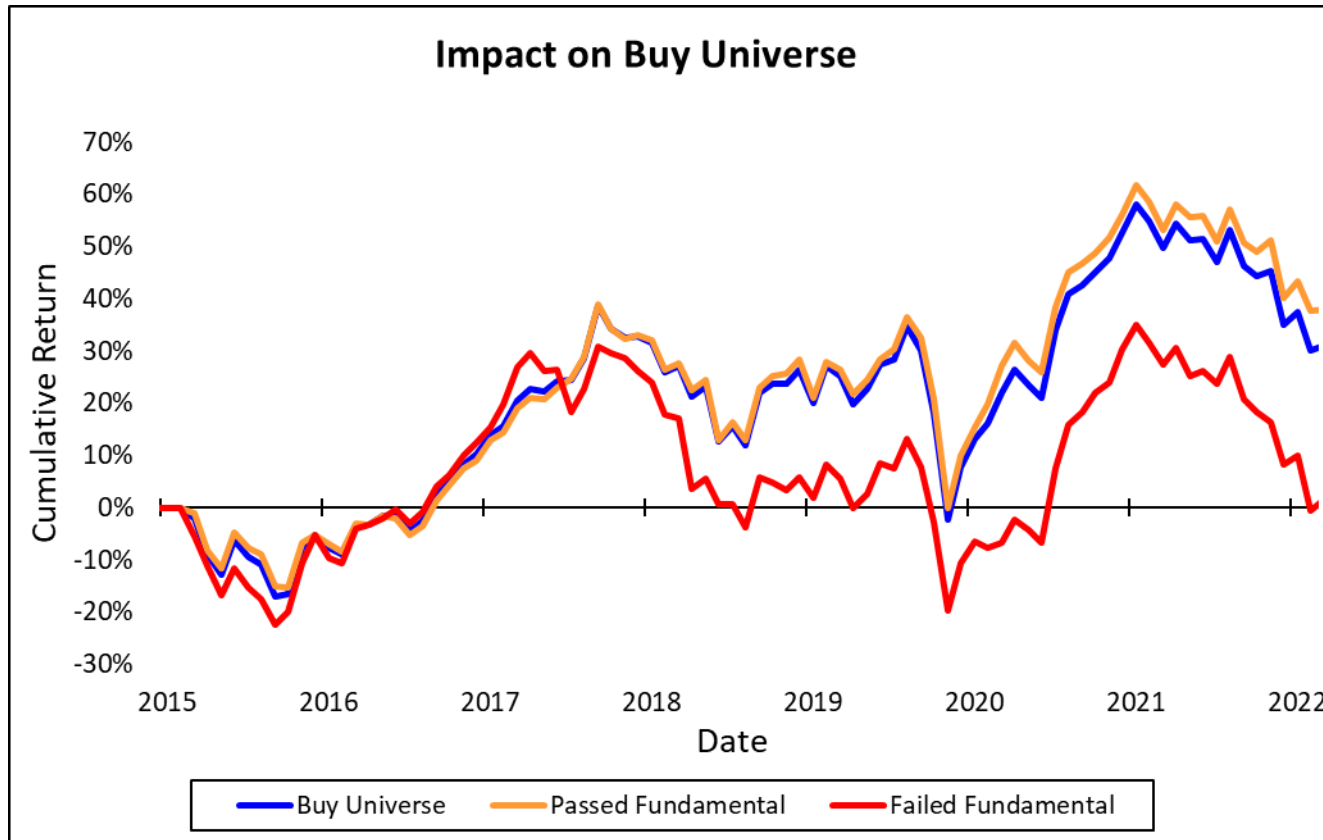
The volatility of the equal-weighted universe may be materially different from that of all quintile returns by SGA Alpha.

Source: FactSet, SGA

Past performance is not indicative of future results. Returns are presented net of fees calculated using the highest applicable annual management fee of 0.85% applied quarterly.

This is supplemental information to the GIPS® Report.

Impact of SGA Fundamental Analysis on Buy Universe, 06/2015 – 9/2022



Buy Universe includes securities which are eligible for inclusion in the SGA International ACWI ex-U.S. Equity strategy up for review as new buys in the past six months. Source: FactSet, SGA. Past performance is not indicative of future results. Buy Universe, Passed Fundamental, and Failed Fundamental are reduced by the highest applicable annual management fee of 0.85% applied monthly. Please see Appendix for additional information regarding "Fundamental Analysis and Process Performance Attribution Charts."

# SGA International ACWI ex-U.S. Equity

## Process Performance Attribution



INTERNATIONAL ACWI EX-U.S. EQUITY (6/30/2015 – 9/30/2022)	RETURN	VOLATILITY	TE
Equal-Weighted Buy Universe	2.04%	16.27%	4.49%
Equal-Weighted Passed Fundamental	2.59%	16.13%	4.61%
Equal-Weighted Failed Fundamental	-1.02%	18.48%	8.66%
SGA Strategy Composite (gross of fees)	1.56%	15.24%	2.70%
SGA Strategy Composite (net of fees)	0.66%	15.23%	2.69%
MSCI ACWI ex USA Index (Net)	1.35%	15.32%	0.00%

“Return” = annualized gross of fees return

“Volatility” = annualized standard deviation

“TE” = annualized tracking error to the strategy benchmark

Buy Universe, Passed Fundamental, and Failed Fundamental are reduced by the highest applicable annual management fee of 0.85% applied monthly. Composite net of fees performance was calculated using the highest applicable annual management fee as described in the GIPS® Report. Please see the additional information contained in the GIPS® Report, which is located at the end of this presentation. Please see Appendix for additional information regarding “Fundamental Analysis and Process Performance Attribution Charts.” Past performance is not indicative of future results.

Strategic Global Advisors, LLC (SGA) claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. SGA has been independently verified for the periods December 1, 2005 through December 31, 2021. A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. The verification report(s) is/are available upon request.

Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. Verification does not provide assurance on the accuracy of any specific performance report.

SGA's International Equity, International SMID Cap Equity, and U.S. Large Cap Equity composites have been examined from the inception of each composite through December 31, 2021. SGA's International Small Cap Equity composite has been examined from January 1, 2014 through December 31, 2021.

SGA is an independently registered investment advisor. Registration does not imply any level of skill or training. A list of all composite and pooled fund investment strategies offered by the firm, with a description of each strategy, is available upon request. The type of portfolios in which each strategy is available (segregated account, limited distribution pooled fund, or broad distribution pooled fund) is indicated in the description of each strategy. Results are based on fully discretionary accounts under management, including those accounts no longer with the firm. Composite performance is presented net of foreign withholding taxes on dividends, interest income, and capital gains. Withholding taxes may vary according to the investor's domicile. Composite returns represent investors domiciled primarily in the United States.

The U.S. dollar is the currency used to express performance. The following returns are presented gross and net of management fees and include the reinvestment of all income.

The annual composite dispersion presented is a gross of fees asset weighted standard deviation calculated for the accounts in the composite the entire year and is only presented for periods with more than five accounts in for the entire year. Policies for valuing investments, calculating performance, and preparing GIPS Reports are available upon request.

Past performance is not indicative of future results.

GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

## Systematic Investment Risk

There is potential for shortfall in any investment process due to a variety of factors including, but not limited to, data and system imperfections, analyst judgment, and the complex nature of designing and implementing portfolio construction systems and other quantitative models. Such shortfalls in systematic or quantitative processes in particular pose broader risk because they may be more pervasive in nature.

Furthermore, the Advisor's systems may not necessarily perform in a manner in which they have historically performed or were intended to perform. The Advisor recognizes that such shortfalls are inherent to both fundamental and quantitative processes and believes that combining both approaches improves the opportunity to reduce these shortfalls. However these efforts may not necessarily result in the identification of profitable investments or the management of risk.



# SGA International Equity GIPS® Report

YEAR END	TOTAL FIRM ASSETS (\$MM)	COMPOSITE ASSETS			ANNUAL PERFORMANCE RESULTS				3-YEAR ANNUALIZED EX-POST STANDARD DEVIATION***	
		USD (\$MM)	# OF ACCTS	% OF WRAP ACCOUNTS	COMPOSITE GROSS**	COMPOSITE NET	MSCI EAFE INDEX (NET)	COMPOSITE DISPERSION	COMPOSITE GROSS	MSCI EAFE INDEX (NET)
2021	4,365	1,246	7	2%	13.20%	12.35%	11.26%	N/A	17.47%	17.16%
2020	5,045	2,112	10	2%	4.87%	4.07%	7.82%	0.11%	18.25%	18.14%
2019	5,139	2,037	11	2%	19.76%	18.88%	22.01%	0.66%	11.63%	10.96%
2018	3,944	1,603	15	3%	-15.34%	-15.98%	-13.79%	0.21%	11.32%	11.40%
2017	4,085	1,996	13	2%	25.28%	24.13%	25.03%	0.62%	11.37%	12.00%
2016	3,023	955	12	6%	0.43%	-0.57%	1.00%	0.11%	12.14%	12.64%
2015	2,548	792	8	5%	2.11%	1.10%	-0.81%	0.10%	11.99%	12.64%
2014	1,141	88	6	45%	2.59%	1.57%	-4.90%	0.19%	12.26%	13.21%
2013	715	73	5	51%	26.39%	25.16%	22.78%	N/A	15.30%	16.48%
2012	441	58	5	52%	19.97%	18.80%	17.32%	N/A	18.16%	19.65%
2011	313	38	5	66%	-6.39%	-7.32%	-12.14%	N/A	21.11%	22.75%
2010	153	40	5	67%	12.47%	11.36%	7.75%	N/A	26.48%	26.61%
2009	145	35	5	66%	34.60%	33.29%	31.78%	N/A	24.44%	23.91%
2008	128	33	5	73%	-45.58%	-46.15%	-43.38%	N/A	20.99%	19.51%
2007	109	46	5	100%	8.17%	7.10%	11.17%	N/A	N/A	N/A
2006	45	24	3	100%	32.67%	31.38%	26.34%	N/A	N/A	N/A
2005*	7	<1	1	0%	5.49%	5.41%	4.65%	N/A	N/A	N/A

N/A – Information is not statistically meaningful due to an insufficient number of portfolios in the composite for the entire year.

\*Performance represents a non-annualized partial period return beginning on November 30, 2005.

\*\*Beginning January 1, 2017, pure gross returns are shown as supplemental information for bundled fee accounts and are stated gross of all fees and transaction costs.

\*\*\*The 3-year annualized ex-post standard deviation is not shown when there are not 36 monthly performance returns available.

*International Equity Composite* includes all discretionary, equity only accounts whose primary investment objective is growth, and secondarily yield, and are invested in international large cap securities. The minimum account size for this composite is \$100 thousand. Key material risks include foreign company, currency, political, and economic events unique to a country or region that may affect those markets and their issuers. Beginning January 1, 2017, accounts in this composite may contain client-imposed investment restrictions. For comparison purposes, the composite is compared to the MSCI EAFE Net Index which includes large and mid-cap companies in developed market countries, excluding the U.S. and Canada. The MSCI EAFE Net Index uses withholding tax rates applicable to Luxembourg holding companies. The International Equity Composite was created and inception on November 30, 2005. Prior to December 31, 2016, the International Equity Composite was known as the International Large Cap Core Equity Composite.

Composite net of fees performance was calculated by reducing the gross of fees return by the maximum annual management fee of 0.70% applied monthly effective July 1, 2022. Prior to July 1, 2022, composite net of fees performance was calculated by reducing the gross of fees return by the maximum annual management fee of 0.75% applied monthly. Prior to October 1, 2017, composite net of fees performance was calculated by reducing the gross of fees return by the maximum annual management fee of 1.00% applied monthly. Bundled fee (or wrap fee) accounts are included in the composite, and those accounts pay a fee based on a percentage of assets under management, which besides brokerage commissions, this fee includes portfolio monitoring, consulting services, and in some cases, custodial services. From November 30, 2005 through December 31, 2016, gross and net returns have been reduced by the fees for these services. Beginning January 1, 2017, pure gross returns are shown as supplemental information for bundled fee accounts and are stated gross of all fees and transaction costs. Please note that the maximum annual management fee for the respective period may differ from the actual investment advisory fees incurred by clients.

From September 30, 2013 to March 31, 2014, composite policy included two scenarios that require the temporary removal of any portfolio due to a client initiated significant cash inflow or outflow: 1) When the cash inflow or outflow represents from over 5% to 10% of portfolio assets and it takes longer than five trading days to reduce cash levels to less than 5%, and 2) When the cash inflow or outflow represents more than 10% of portfolio assets. The temporary removal of such an account occurs at the beginning of the month in which the significant cash flow occurs, and the account re-enters the composite at the beginning of the month after the cash level in the portfolio is reduced to less than 5%. Beginning June 1, 2019, the composite policy requires the temporary removal of any portfolio due to a client-initiated significant cash inflow or outflow, excluding securities received or delivered in kind when the cash inflow or outflow represented 10% or greater of the portfolio assets. Additional information regarding the treatment of significant cash flows is available upon request.

Past performance is not indicative of future results.

Maximum annual management fee is 0.70%; actual investment advisory fees incurred by clients may vary.

# SGA International ACWI ex-U.S. GIPS® Report

YEAR END	TOTAL FIRM ASSETS (MILLIONS)	COMPOSITE ASSETS		ANNUAL PERFORMANCE RESULTS				3-YEAR ANNUALIZED EX-POST STANDARD DEVIATION**	
		USD (MILLIONS)	NO. OF ACCOUNTS	COMPOSITE GROSS	COMPOSITE NET	MSCI ACWI EX USA INDEX (NET)	COMPOSITE DISPERSION	COMPOSITE GROSS	MSCI ACWI EX USA INDEX (NET)
2021	4,365	444	2	12.23%	11.28%	7.82%	N/A	16.64%	17.03%
2020	5,045	511	4	6.91%	5.99%	10.65%	N/A	17.81%	18.19%
2019	5,139	496	4	22.08%	21.06%	21.51%	N/A	12.27%	11.50%
2018	3,944	116	2	-14.72%	-15.45%	-14.20%	N/A	11.80%	11.54%
2017	4,085	136	2	29.59%	28.38%	27.19%	N/A	N/A	N/A
2016	3,023	105	2	1.61%	0.60%	4.50%	N/A	N/A	N/A
2015*	2,548	39	1	-6.97%	-7.44%	-9.32%	N/A	N/A	N/A

N/A – Information is not statistically meaningful due to an insufficient number of portfolios in the composite for the entire year.

\*Performance represents a non-annualized partial period return beginning on June 30, 2015.

\*\*The 3-year annualized ex-post standard deviation is not shown when there are not 36 monthly performance returns available.

*International ACWI ex-U.S. Equity Composite* includes all discretionary, investment restricted, equity only accounts whose primary investment objective is growth, and secondarily yield, and are invested in international large cap securities. The minimum account size for this composite is \$100 thousand. Key material risks include foreign company, currency, political, and economic events unique to a country or region that may affect those markets and their issuers. Moreover, investing in emerging markets securities are subject to heightened risks as these types of securities may have governments that are less stable, markets that are less liquid and economies that are less developed. For comparison purposes, the composite is compared to MSCI ACWI ex USA Net Index, which includes large and mid-cap companies outside the U.S. in developed and emerging market countries. The MSCI ACWI ex USA Net Index uses withholding tax rates applicable to Luxembourg holding companies. The International ACWI ex-U.S. Equity Composite was created and inceptioned on June 30, 2015. Prior to December 31, 2016, the International ACWI ex-U.S. Equity Composite was known as the International Large Cap Core Equity MSCI All Country World ex-U.S. Composite.

Composite net of fees performance was calculated by reducing the gross of fees return by the maximum annual management fee of 0.85% applied monthly effective October 1, 2017. Prior to October 1, 2017, composite net of fees performance was calculated by reducing the gross of fees return by the maximum annual management fee of 1.00% applied monthly. Please note that the maximum annual management fee for the respective period may differ from the actual investment advisory fees incurred by clients.

Beginning July 1, 2019, the composite policy requires the temporary removal of any portfolio due to a client-initiated significant cash inflow or outflow, excluding securities received or delivered in kind when the cash inflow or outflow represented 10% or greater of the portfolio assets. Additional information regarding the treatment of significant cash flows is available upon request.

Past performance is not indicative of future results.

Maximum annual management fee is 0.85%; actual investment advisory fees incurred by clients may vary.

### Investment Process

Pages in this presentation referring to investment process, portfolio construction, investment guidelines, research, portfolio characteristics, and portfolio positioning are for illustrative purposes only. Figures and statements on these pages are subject to change and may vary based on market conditions, strategy and client-specific constraints.

The “daily screening portfolio optimization” generally runs daily on the strategy’s universe subject to SGA’s strategy and client-specific constraints. The “Stock Selection Model” estimates industry relative score based on several factors and may be interpreted as expected relative return. The “Risk Model” estimates the risk profile of each stock based on SGA’s proprietary alpha and risk factors.

Fundamental analysis generally takes into consideration more areas than listed. The areas listed as well as areas not listed may singly or jointly impact an analyst’s decision. The judgment of experienced analysts is used to determine the importance of these areas and whether they constitute a high enough level of concern that a stock will be deemed ineligible for purchase.

Never invest based purely on our publication or information, which is provided on an “as is” basis without representations. Past performance is not indicative of future results.

### Stock Examples

Stock examples are intended for illustration purposes only. The actual company review may differ significantly in terms of model rankings, and the parameters for the fundamental review, including areas not listed on this page. Portfolio manager judgment, as well as, research accessed from a variety of sources may be used, alone and together. The rankings at the time of purchase and at the time of sale will vary significantly by security. There is no threshold by which a stock is purchased or sold and portfolio manager judgment at all times is a factor.

Percentiles are calculated for illustration purposes using SGA’s proprietary Alpha Model estimates, which are used to assess companies. Every company receives an alpha, which may be interpreted as a proxy for expected excess return or peer group rank.

Nothing published should be considered personalized investment advice, investment services or solicitation to buy, sell, or hold any securities.

Investments do not guarantee a positive return as stocks are subject to market risks, including the potential loss of principal.

# Strategic Global Advisors

## Alpha Model Factor Spreads Disclosure



Alpha Model values reflect the aggregate price to sales on SGA's historical factor category portfolios and do not reflect performance of any SGA portfolios. The referenced charts are used to illustrate the spreads between the median price to sales ratio of the highest decile ranked companies and the bottom decile ranked companies by our Alpha Model overall and within each of our four factor categories specified. SGA does not guarantee the accuracy of these estimates or methodology. SGA applies both quantitative and qualitative approaches to portfolio management, which may vary depending on market conditions.

International equity investing includes the possibility of loss.

SGA encourages clients and prospects to seek independent sources of analysis in assessing SGA's returns and process. For additional information on the calculation methodology please contact Strategic Global Advisors, LLC at 949.706.2640.

- T-Statistic = A measure of the likelihood that the actual value of the item being measured is not zero. The larger the absolute value of T, the less likely that the actual value could be zero. It is computed by dividing the average value by its standard error.
- Regression Coefficient = The coefficient that results from the univariate regression of company alpha scores (independent variable) against price to sales (dependent variable). This represents the relative cost/price of the Alpha Model, or the respective factor category, in terms of price to sales.
- The universe of securities for SGA's International Equity strategy includes approximately 2,000-2,500 companies in both developed and emerging markets that meet market relative market capitalization and internal liquidity requirements.
- Market cap cutoff was determined through time this way:
  - The top 10% of companies in the universe as measured by market cap at each given period
  - The approximate number of companies in International Equity universe varies significantly over time and in comparison to the universe used when constructing actual client portfolios
- Time period: January 1999 – August 2022
- Monthly Frequency
- Included: Developed and Emerging countries

Source: FactSet, SGA

This data in the referenced charts is to be used for illustrative purposes only and not indicative of future results.

## SGA Custom Attribution Disclosure

SGA has developed a holdings-based attribution analysis that decomposes portfolio returns into a set of categories based on SGA's proprietary risk and alpha factors. This type of performance attribution provides a different and more detailed breakdown of the sources of return than the traditional sector or country allocation versus stock selection approach. The attribution analysis provides valuable information by attempting to decompose portfolio performance into distinct categories, so the sources of performance can be identified. This attribution is unique to SGA as it uses our own internally developed software, Risk Model, and Alpha Model.

Holdings-based performance attribution, including SGA's, tends to be a better representation over longer periods such as a year or more and may be subject to errors in estimation. Over the longer time horizons, any short-term noise or temporary effect will tend to wash out and the attribution gives a more reliable analysis of the sources of return.

Prior to September 30, 2019, SGA's custom attribution was calculated by determining the pure returns to SGA's Risk and Alpha Factors by constructing a Factor Mimicking Portfolio ("FMP") for each alpha and risk factor which contemplated long and short positions. An FMP was calculated such that security weights multiplied by exposure were equal to a portfolio exposure of 1 and an exposure of 0 to all other factors. Using the weighted average of individual equity exposures, SGA attributed the monthly return of the FMP and benchmark to the SGA Risk and Alpha Factors. This process was repeated monthly and SGA calculated cumulative annualized results.

As of September 30, 2019, SGA updated the calculation methodology of its custom attribution. The FMPs were adjusted to contemplate only long positions for each alpha factor and each now has an exposure of 1 to the 3-month trailing average of the relevant SGA Alpha Factor. The change was made to ensure the return for the SGA Alpha model is relevant to the SGA strategy, which is long-only. SGA believes that using a 3-month average exposure to a factor also helps align the FMP to the SGA investment process where turnover is constrained.

As of April 30, 2021, SGA included an additional update to the calculation methodology of its custom attribution by: 1) calculating pure returns from the Sector, Region and Currency SGA Risk Model Factors; 2) then constructing long-only SGA Alpha Model FMPs to explain residual returns not explained by step 1; and 3) regressing the nine SGA Risk Model style factors on the residual returns not explained from steps 1 and 2. Prior to April 2021, SGA used a two-step

calculation process by regressing all SGA Risk Model Factors on company returns followed by calculating SGA Alpha Model FMPs to explain the residual returns from step 1. SGA believes that the update enhances the explanation of attribution and returns, particularly that the returns attributed to the SGA Alpha Model are not impacted by the SGA Risk Model style factors for which there is some correlation. For questions on the change in methodology, please contact SGA at (949) 706-2640.

SGA does not guarantee the accuracy of these estimates but believes that the additional analysis will provide important insights for investors. SGA applies both quantitative and qualitative approaches to risk management, which may vary depending on market conditions. The information in this report attributes return over this particular period to various sources and does not represent constraints or targets to risk factors. Results may look materially different over other time periods. The analysis is based on SGA's current alpha and risk factor definitions, which are subject to change over time as SGA adjusts its models. Therefore, past performance will be attributed based on current alphas and risk factors and their formulations. For allocations to historic alphas, please refer to past custom attribution reports. SGA encourages clients and prospects to seek independent sources of risk assessment and provide feedback on their risk preferences.

Time periods are noted on each Custom Attribution slide.

The results portrayed reflect the reinvestment of dividends and other earnings. International equity investing includes the possibility of loss. The volatility of the index may be materially different from that of the portfolio.

If so noted, analysis uses holdings and performance for a representative account invested in the named strategy. As with all representative portfolios, the performance may vary from other portfolios following the same strategy. The accounts are managed in a similar manner, and therefore, we believe these results accurately reflect the performance of the strategies represented.

This is supplemental information to the GIPS® Report, which is available upon request.

In preparing this presentation we have relied upon, and assumed without independent verification, the accuracy and completeness of all information available from public sources.

Source: FactSet, SGA

Past performance is not indicative of future results. Returns are presented gross of fees.

# Attribution Disclosure

## Attribution by Sector and Country



Time periods are noted on each SGA Attribution by Sector and Country slide.

Analysis uses holdings and performance for a representative account or the client's own account, as noted. In the case of a representative account, the performance may vary from other portfolios following the same strategy. The accounts are managed in a similar manner, and therefore we believe these results accurately reflect the performance of the relevant strategy.

The results portrayed reflect the reinvestment of dividends and other earnings. International equity investing includes the possibility of loss. The volatility of the index may be materially different from that of the portfolio.

The data used is derived from FactSet Portfolio Analysis. Returns will not precisely match composite returns or returns reconciled to the account's custodian due to the use of FactSet pricing, FactSet corporate actions, FactSet dividend reinvestment, and use of end of day holdings that do not account for trades not executed at closing prices.

Portfolio returns may vary from the composite returns due to several factors: holdings- rather than transaction-based attribution is used, pricing utilized MSCI net rather than actual pricing and tax withholding, and due to the fact the attribution is run on a representative portfolio rather than a composite of portfolios.

Excess returns reported by SGA are calculated by subtracting the annualized return of the benchmark from the annualized return of the SGA portfolio. Traditional attribution by FactSet is applied to cumulative returns of the benchmark versus cumulative returns of the portfolio, then annualizing the differences in cumulative return.

Due to limitations on the availability of holdings data, all benchmark data for periods prior to July 31, 2007 represent the historical returns for the benchmark holdings as of July 31, 2007.

In preparing this presentation we have relied upon and assumed without

independent verification, the accuracy and completeness of all information available from public sources.

This information is supplemental to the GIPS® Report.

Sources: FactSet, SGA

Past performance is not indicative of future results. Returns are presented gross of fees.

- Average weight: The portfolio average weight of a position reflects the average daily value of the position relative to all of the securities in the portfolio over the period.
- Total return: Total returns for the portfolio gross of fees. Total returns include the reinvestment of dividends and other earnings.
- Contribution to return: The portfolio contribution to return is calculated by multiplying the beginning weight of a security by the portfolio return.
- Allocation effect: Portion of portfolio excess return attributed to over or underweights relative to the benchmark. A group's allocation effect equals the weight of the portfolio's group minus the weight of the benchmark's group times the total return of the benchmark group minus the total return of the benchmark in aggregate.
- Selection effect: Selection effect is the portion of portfolio excess return attributable to choosing different securities within groups from the benchmark. A group's selection effect equals the weight of the benchmark's group multiplied by the total return of the portfolio's group minus the total return of the benchmark's group.
- Interaction effect: A group's interaction effect equals the weight of the portfolio's group minus the weight of the benchmark's group times the total return of the portfolio's group minus the total return of the benchmark's group.
- Total effect: The total effect represents the opportunity cost of an investment manager's investment decisions relative to the overall benchmark.

## Fundamental Analysis and Process Performance Attribution Charts

These charts represent SGA's tracking of fundamental analysis ratings, which impact the eligibility of stocks that can be considered for purchase in client portfolios. SGA began tracking fundamental analysis ratings as noted on the slide and so can not provide this information back to inception of the firm. The charts do not reflect actual or intended implementation of a portfolio by SGA. They are presented as a simplified demonstration of the historical influence of our fundamental analysis on SGA's investment process and were achieved by means of the retroactive application of an investment process that was designed with the benefit of hindsight. Thus, the performance results noted should not be considered indicative of the skill of the advisor or its investment professionals. The back-tested performance was compiled after the end of the period depicted and does not represent the actual investment decisions of the advisor. In addition, back-tested performance results do not involve financial risk, and no hypothetical trading record can completely account for the impact of financial risks associated with actual investing. There is not necessarily a correlation between the effectiveness of the fundamental review process depicted in these charts and the actual returns of client portfolios. While these charts show all potential new buys that were reviewed, client portfolios hold only a small subsection of these universes. Furthermore, there are many more factors that impact client portfolios such as optimization, which incorporates account and strategy restrictions, risk aversion assumptions, transaction costs, etc. Portfolio manager discretion will also significantly impact portfolios depending on market conditions. Nonetheless, SGA believes this analysis provides important insights into SGA's philosophy, process, and approach.

Past performance is not indicative of future results. Returns are presented net of fees calculated using the current highest applicable annual management fee applied monthly as described in the GIPS® Report.

The volatility of the index may be materially different from any portfolio or universe of securities shown.

This is supplemental information to the GIPS® Report. SGA encourages clients and prospects to seek independent sources of analysis in assessing SGA's returns and process. For additional information on the calculation methodology please contact Strategic Global Advisors, LLC at 949.706.2640.

### Methodology and Parameters:

- A "Buy Universe" is the "equal weighted portfolio" formed at the end of each month comprised only of new stocks that appear in the daily optimal portfolios for the trailing six months across related strategies. Developed market and emerging markets, as well as, securities restricted for certain client portfolios are included. The Buy Universe is then divided into two groups of "Passed Fundamental" and "Failed Fundamental" universes based on our ratings, each equally weighted. "Returns" for all three universes are calculated for the next month. At the end of that month, the universes are reformed in the same process described above, dropping names that appeared prior to the trailing six months.
- In the graphs, the monthly returns are cumulated while in the tables the cumulative returns are then annualized.
- Returns cover the time period specified in the chart title and start with the later of the product inception date or six months after the earliest month where ratings were tracked.
- Zero transaction costs.

Source: FactSet, SGA

There are limitations inherent in universe analysis, particularly the fact that such results do not represent actual trading and that they may not reflect the impact of implementation shortfall, as well as, material economic and market factors that may have an impact on portfolio decision making and market timing in a live client account. SGA did manage portfolios longer than the analysis period, however, returns only depict the time period listed on the chart. The results portrayed reflect the reinvestment of dividends and other earnings.

International equity investing includes the possibility of loss. Universe analysis is inherently a hypothetical model because it does not reflect actual trading and portfolio management decisions. Actual investor performance could be lower than the universe analysis.

Process Performance Attribution Tables follow the same methodology as used in the Fundamental Analysis Charts. Also included in the table are the corresponding SGA Strategy Composite (gross and net of fees) and the benchmark for the strategy. Statistics shown are:

- Annualized total return over the time period specified.
- Annualized total volatility (standard deviation) over the time period specified.
- Annualized tracking error (annualized standard deviation of monthly returns in excess of the relevant strategy benchmark) over the time period specified.

This is supplemental information to the GIPS® Report. SGA encourages clients and prospects to seek independent sources of analysis in assessing SGA's returns and process. For additional information on the calculation methodology please contact Strategic Global Advisors, LLC at 949.706.2640.



# Strategic Global Advisors

## Systematic Investment Risk



There is potential for shortfall in any investment process due to a variety of factors including, but not limited to, data and system imperfections, analyst judgment, and the complex nature of designing and implementing portfolio construction systems and other quantitative models. Such shortfalls in systematic or quantitative processes in particular pose broader risk because they may be more pervasive in nature.

Furthermore, the Advisor's systems may not necessarily perform in a manner in which they have historically performed or were intended to perform. The Advisor recognizes that such shortfalls are inherent to both fundamental and quantitative processes, and believes that combining both approaches improves the opportunity to reduce these shortfalls. However, these efforts may not necessarily result in the identification of profitable investments or the management of risk.

## MEMORANDUM

**TO:** Oakland Police and Fire Retirement System (“OPFRS”)  
**FROM:** Meketa Investment Group (“Meketa”)  
**DATE:** December 14, 2022  
**RE:** Strategic Global Advisors—Manager Update

### Manager: Strategic Global Advisors (“SGA”)

<b>Inception Date:</b>	December 2019	<b>OPFRS AUM (10/31/2022):</b>	\$32.5 million
<b>Strategy:</b>	International Equity	<b>Firm-wide AUM (9/30/2022):</b>	\$2.9 billion
<b>Benchmark:</b>	MSCI ACWI ex USA	<b>Strategy AUM (9/30/2022):</b>	\$716.9 million

### Summary & Recommendation

Strategic Global Advisors (“SGA”) has managed a part of OPFRS’s international equity portfolio since December 2019. As of 10/31/2022, the portfolio is approximately \$32.5 million or about 8% of OPFRS’s total plan. The strategy has performed within expectations and guidelines for the portfolio, and no major organizational changes or personnel turnover in the portfolio management team have been observed since the last review. **Therefore, Meketa does not have any major concerns with Strategic Global Partners and their International Equity strategy.**

### Investment Performance Review Summary

As of 10/31/2022, SGA’s International Equity strategy has outperformed its benchmark on both gross and net-of-fees during the calendar year-to-date and over the 1-year trailing period, and ranks in the top third among peers. Since inception in December 2019, however, it has trailed the benchmark by 1.5% net-of-fees, ranking in the bottom quartile for the period.

### OPFRS Portfolio Annualized Returns (as of 10/31/2022)<sup>1</sup>

Portfolio	Market Value (\$000)	YTD	1 YR	3 YR	5 YR	Since Inception	Inception Date
Strategic Global Advisors (Gross)	32,531	(-23.3)	(-22.5)	---	---	(-2.8)	12/2019
<i>MSCI ACWI ex US</i>	---	(-24.3)	(-24.7)	---	---	(-2.0)	---
Excess Return (Gross)	---	1.0	2.2	---	---	(-0.8)	---
Strategic Global Advisors (Net)	---	(-23.8)	(-23.1)	---	---	(-3.5)	---
Excess Return (Net)	---	0.5	1.6	---	---	(-1.5)	---
Peer Group Ranking <sup>2</sup>	---	33	29	---	---	83	---
Reference: Median Net Return	---	(-26.0)	(-26.6)	---	---	(-1.0)	---

<sup>1</sup> Performance is annualized for periods longer than one year.

<sup>2</sup> Peer group is eVestment All ACWI ex US Equity Managers Net.



### Product and Organization Review Summary

Strategic Global Advisors	Areas of Potential Impact				
	Level of Concern	Investment process (Client Portfolio)	Investment Team	Performance Track Record	Team/Firm Culture
<b>Product</b>					
Key people changes	None				
Changes to team structure/individuals' roles	None				
Product client gain/losses	None				
Changes to the investment process	None				
Personnel turnover	None				
<b>Organization</b>					
Ownership changes	None				
Key people changes	None				
Firm wide client gain/losses	None				
<b>Recommended Action</b>	<b>None</b>		<b>Watch Status</b>	<b>Termination</b>	

A review of Strategic Global Advisors and the International Equity strategy revealed no concerning organizational issues or changes since last review in 2021.

Strategic Global Advisors remains a majority employee- and woman-owned asset management firm. SGA's Founder, CEO, and Senior Portfolio Manager Cynthia Tusan, CIO Gary Baierl, and Senior Portfolio Manager Mark Wimer share the majority employee-ownership. A minority ownership stake is held by Nile Capital Group, a women-owned private equity firm.

## Investment Philosophy & Process, per Manager

The Strategic Global Advisors International ACWI ex-US strategy seeks to outperform the MSCI ACWI ex US index by 2-3.5% on an annualized basis over a full market cycle of three to five years. The securities held are generally mid to large cap equities, on a market relative basis, of companies headquartered outside the U.S. The strategy is diversified across industries, sectors, countries, and style exposures. This core approach is intended to promote consistent outperformance.

SGA's preferred approach to investing is to integrate quantitative tools with fundamental analysis subject to an active risk management process. This blends the disciplined, unemotional, and repeatable breadth of a systematic approach with the experience and qualitative judgment of the senior investment professionals involved in fundamental analysis. There have been no changes to this philosophy since the firm was founded.

SGA's process combines both quantitative and fundamental approaches to investment. SGA generates stock ideas utilizing a bottom-up stock selection process by estimating expected alphas based on global industry peer rankings and optimizing the results against the preferred benchmark. SGA's fundamental analysis team conducts ongoing research on new stock ideas identified by the quantitative process.

Applying this approach daily ensures a continuous flow of "best ideas" that must then pass SGA's fundamental review to become eligible for inclusion in the portfolio. With each rebalance, an optimal portfolio is determined with new eligible candidates, accounting for benchmark relative constraints and client objectives. During the portfolio construction process, country and sector allocations are held close to neutral, relative to benchmark weights, in order to focus active management on stock selection. All securities are subject to review by a team of portfolio managers who may make adjustments based on their experience, judgement and market conditions.

The quantitative models do not represent a simplistic "screen" which eliminates candidates, rather, SGA uses multiple models to blend a combination of growth, value, sentiment, and quality alpha factors along with their risk characteristics while assessing whether each constituent contributes positively to the current portfolio. In practice, there are infinite paths a stock might take for inclusion in the portfolio and its appropriate weighting. Once an optimized portfolio has been put forth, fundamental analysis is used to vet and approve or disapprove the ideas suggested.

DS/PN/JLC/mn



## Disclosure

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# Economic and Market Update

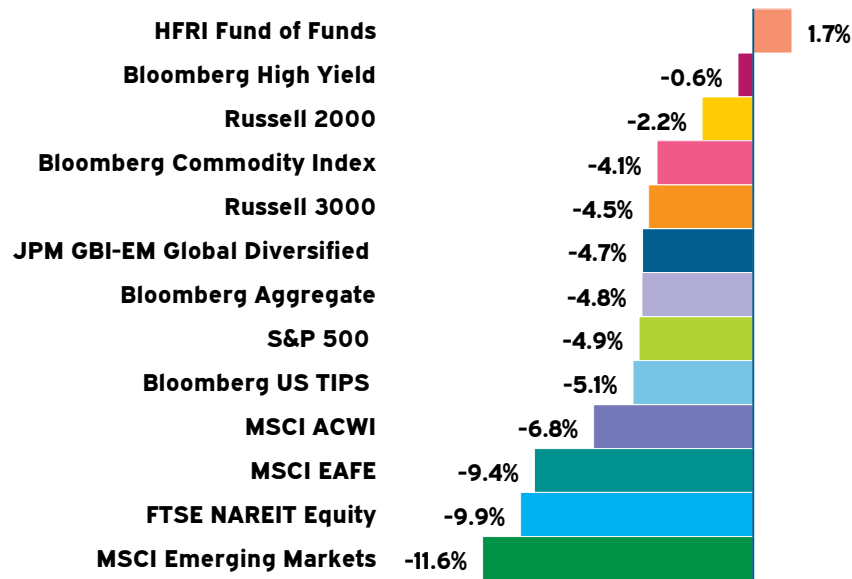
October 2022 Report

### Commentary

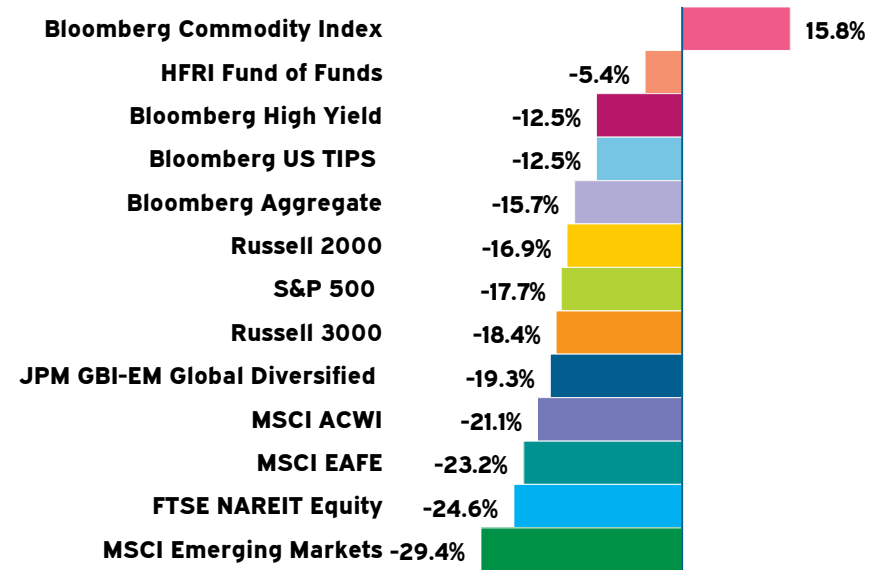
- Investor sentiment improved in October as markets repriced for continued easing of inflation risks, a potential slowing in monetary policy tightening efforts, and hopes for a soft-landing in 2023.
- After month-end, the Federal Reserve continued its aggressive tightening campaign with its fourth consecutive 75 basis point rate hike. Future hikes are expected into next year as US inflation remains high and labor markets tight.
  - In Europe, inflation hit a multi-decade high on energy prices, but manufacturing and service data in some countries surprised to the upside, lifting investor sentiment.
  - In the UK, the appointment of Rishi Sunak as the new prime minister calmed investors nerves to some extent.
  - US and developed equity markets rallied for the month, while emerging markets declined on significant China weakness (-16.8%) driven in part by political developments and continued strict COVID-19 policies.
  - Interest rates further increased across the US yield curve during October, and the curve remained inverted (ten- year yield minus the two-year yield) by 43 basis points. This year has witnessed by far the worst start to a calendar year for bond investors.
- Persistently high inflation and tightening of monetary policy, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China and recent political developments will all continue to have considerable consequences for the global economy.

### Index Returns<sup>1</sup>

#### Third Quarter



#### YTD through October



→ After broad declines in Q3 driven by expectations for further policy tightening, October produced mixed results with developed market equities posting notable gains.

→ Outside of commodities, all other public market asset classes remain significantly negative year-to-date.

<sup>1</sup> Source: Bloomberg and FactSet. Data is as of October 31, 2022.



### Domestic Equity Returns<sup>1</sup>

Domestic Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	8.1	-4.9	-17.7	-14.6	10.2	10.4	12.8
Russell 3000	8.2	-4.5	-18.4	-16.5	9.8	9.9	12.5
Russell 1000	8.0	-4.6	-18.5	-16.4	10.0	10.2	12.7
Russell 1000 Growth	5.8	-3.6	-26.6	-24.6	11.7	12.6	14.7
Russell 1000 Value	10.3	-5.6	-9.3	-7.0	7.3	7.2	10.3
Russell MidCap	8.9	-3.4	-17.5	-17.2	7.8	7.9	11.3
Russell MidCap Growth	7.9	-0.7	-26.1	-28.9	6.3	8.7	11.9
Russell MidCap Value	9.4	-4.9	-12.8	-10.2	7.5	6.5	10.4
Russell 2000	11.0	-2.2	-16.9	-18.5	7.0	5.6	9.9
Russell 2000 Growth	9.5	0.2	-22.6	-26.0	5.1	5.2	10.1
Russell 2000 Value	12.6	-4.6	-11.2	-10.7	8.1	5.3	9.4

#### US Equities: Russell 3000 Index rose 8.2% for October.

- US stocks rallied, posting strong monthly returns across all indices, rebounding from a sharp drop in September. Investors demonstrated optimism across the style and market capitalization spectrum as earnings remained resilient despite economic pressures.
- Most sectors rose in October, but there was wide dispersion. Energy’s 24.8% gain led all sectors, driven by strong earnings, while consumer discretionary experienced a slightly positive gain (0.2%) given the impact of inflationary pressures on consumers.
- Value stocks continued to outperform growth stocks across the market capitalization spectrum. The rally in energy stocks and the relative underperformance of technology and consumer discretionary stocks has driven this dynamic.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.

### Foreign Equity Returns<sup>1</sup>

Foreign Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.0	-9.9	-24.3	-24.7	-1.7	-0.6	3.3
MSCI EAFE	5.4	-9.4	-23.2	-23.0	-1.3	-0.1	4.1
MSCI EAFE (Local Currency)	5.3	-3.6	-9.9	-8.4	3.7	3.3	7.9
MSCI EAFE Small Cap	4.2	-9.8	-29.2	-30.3	-2.3	-1.3	5.6
MSCI Emerging Markets	-3.1	-11.6	-29.4	-31.0	-4.4	-3.1	0.8
MSCI Emerging Markets (Local Currency)	-2.6	-8.2	-22.8	-24.2	-0.8	-0.2	4.2
MSCI China	-16.8	-22.5	-42.8	-47.9	-13.8	-9.7	-0.1

Developed International equities (MSCI EAFE) rose 5.4%, while emerging markets (MSCI EM) returned -3.1% in October, driven largely by declines in China.

- Developed markets outside of the US had a strong month in October, posting gains in Europe, the UK, and Japan. Energy and industrials led broad-sectoral gains in the Eurozone, while the UK markets reacted positively to the appointment of the new prime minister, Rishi Sunak. The Bank of Japan’s continued dovish policy stance and early signs of resilient Q3 earnings supported Japanese equities.
- China dominated headlines this month across the non-US landscape. Rising geopolitical tensions, particularly after events from the 20<sup>th</sup> Communist Party Congress, on top of the continuation of the zero COVID-19 policies, drove sharp declines for the month.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.

### Fixed Income Returns<sup>1</sup>

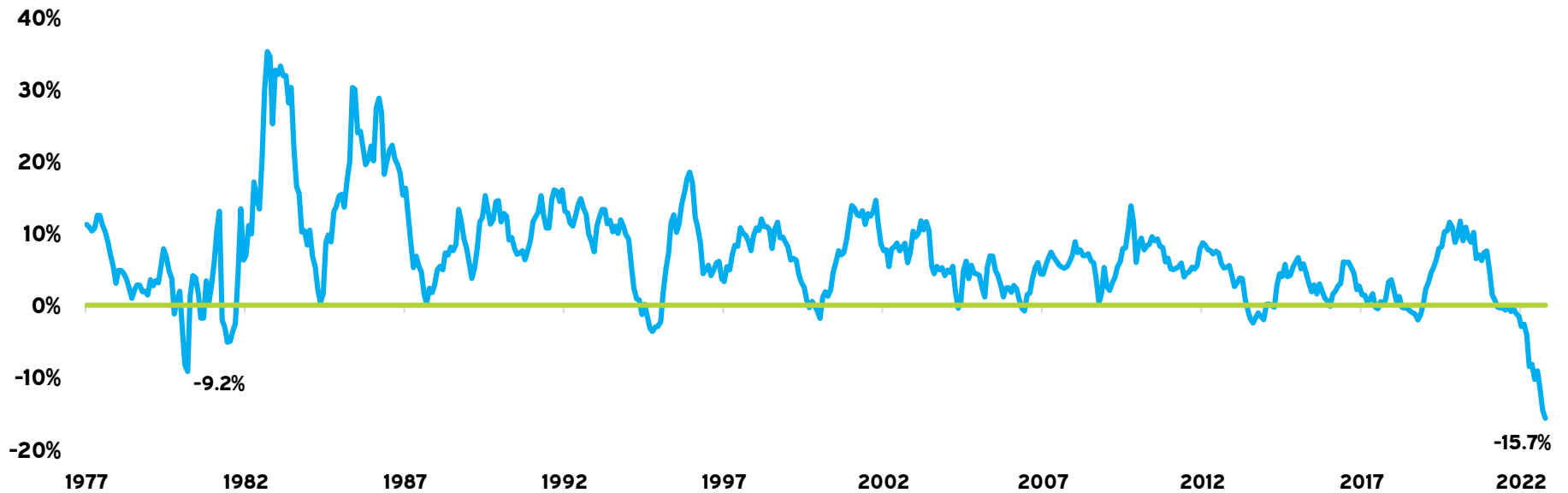
Fixed Income	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-1.1	-4.5	-15.8	-15.8	-3.6	-0.4	1.0	5.5	6.1
Bloomberg Aggregate	-1.3	-4.8	-15.7	-15.7	-3.8	-0.5	0.7	5.0	6.3
Bloomberg US TIPS	1.2	-5.1	-12.5	-11.5	1.1	2.2	1.0	4.6	6.9
Bloomberg High Yield	2.6	-0.6	-12.5	-11.8	0.3	2.0	4.1	9.1	4.5
JPM GBI-EM Global Diversified (USD)	-0.9	-5.8	-19.3	-20.3	-8.2	-3.5	-2.6	7.7	4.8

#### Fixed Income: The Bloomberg Universal declined 1.1% in October.

- A continued rise in bond yields in the US driven by the Fed reinforcing its commitment to fight inflation weighed on fixed income markets for the month. Year-to-date, the US bond market (Bloomberg Aggregate) performance is the worst on record.
- TIPS appreciated for the month but remain down double-digits for the year as real rates have experienced a steep increase too. The inflation adjustment has led to a 320 basis points smaller decline than the broad US bond market though.
- Riskier US bonds, as represented by the high yield index, produced the best fixed income results for the month (+2.6%) in the risk-on environment. Emerging market bonds finished down 0.9% in October adding to the significant declines year-to-date.

<sup>1</sup> Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of October 31, 2022.

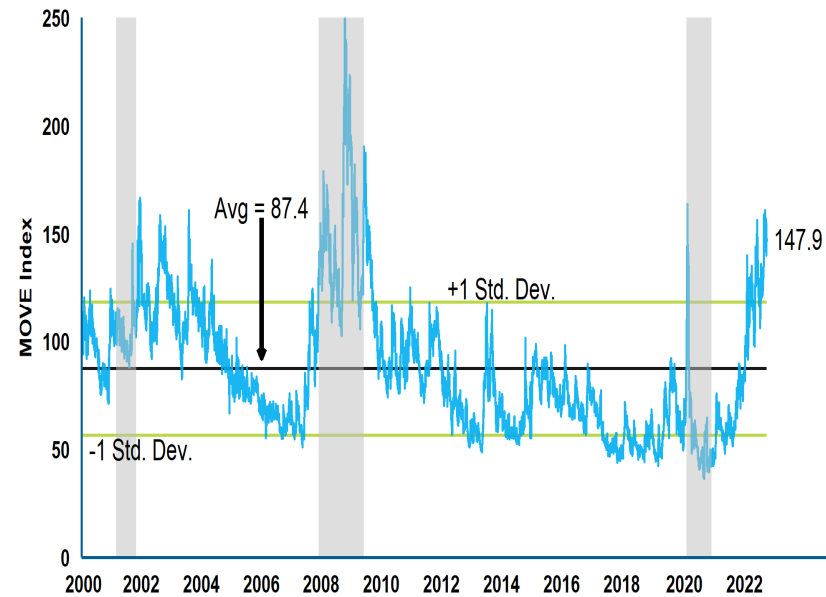
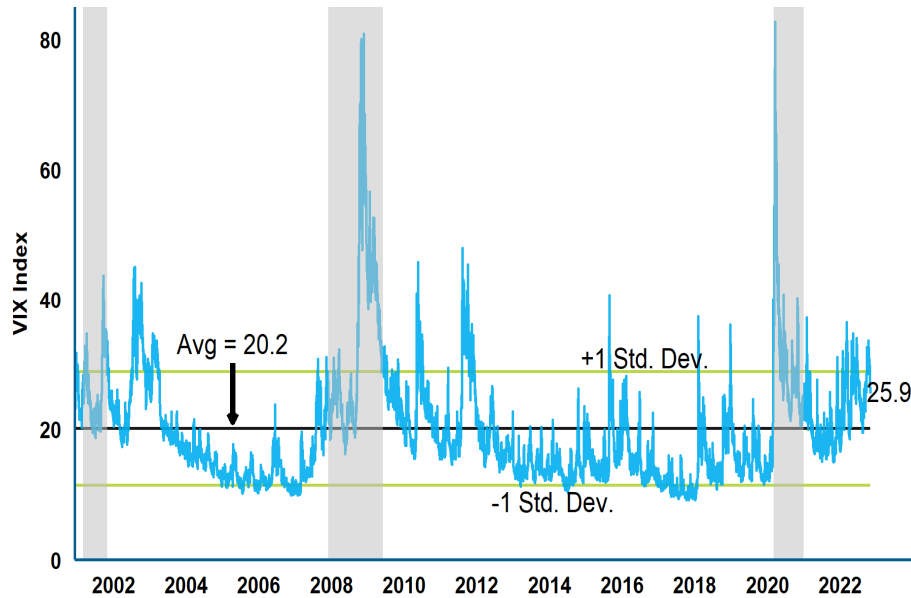
Bloomberg US Aggregate  
Rolling One-year Returns<sup>1</sup>



- This has been the worst rolling one-year return period for the US bond market given the historic inflation levels and the corresponding rapid rise in interest rates.
- Through October the trailing year return was -15.7% well ahead of the number two spot (-9.2%) from the early 1980s.

<sup>1</sup> Source: Bloomberg. Data is as of 10/31/2022.

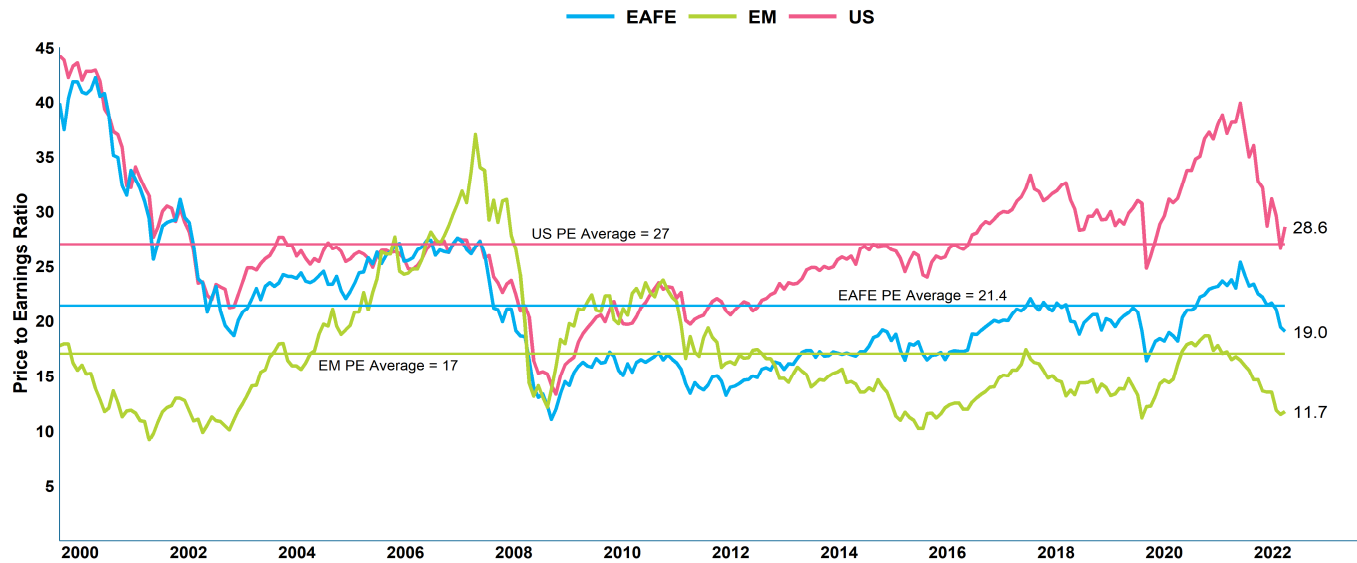
**Equity and Fixed Income Volatility<sup>1</sup>**



- Volatility in equities (VIX) and fixed income (MOVE) remained above their long-run averages in October.
- Fixed income volatility was particularly high due to the uncertain path of US interest rates as the Federal Reserve continued its hawkish stance on inflation.

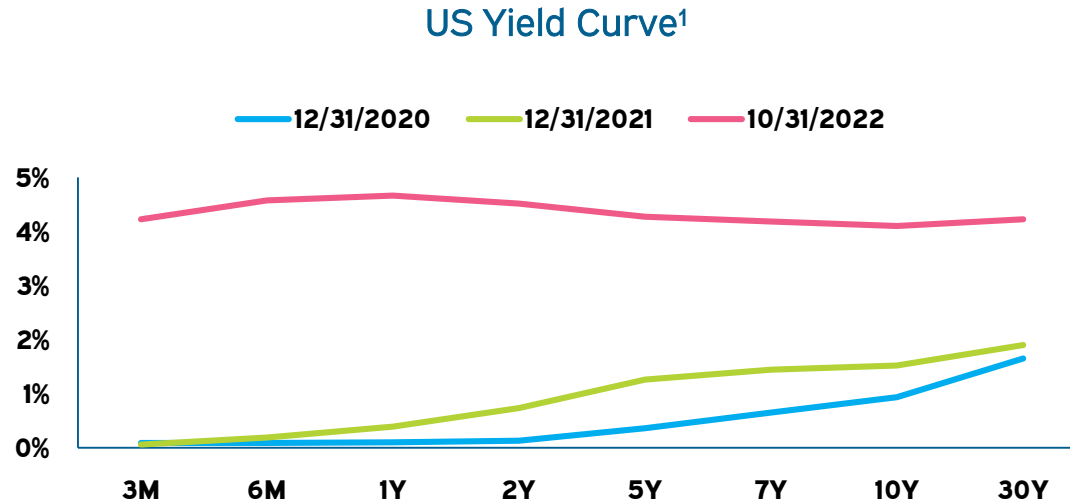
<sup>1</sup> Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of October 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.

**Equity Cyclically Adjusted P/E Ratios<sup>1</sup>**



- October’s US equity rally brought the market’s price-to-earnings ratio to slightly above the long-term (21<sup>st</sup> century) average.
- International developed market valuations remain below the US and are below their own long-term average, with those for emerging markets the lowest and well under the long-term average.
- Price declines have been the main driver of recent multiple compression as earnings have remained resilient. Concerns remain over whether earnings strength will continue in the face of slowing growth.

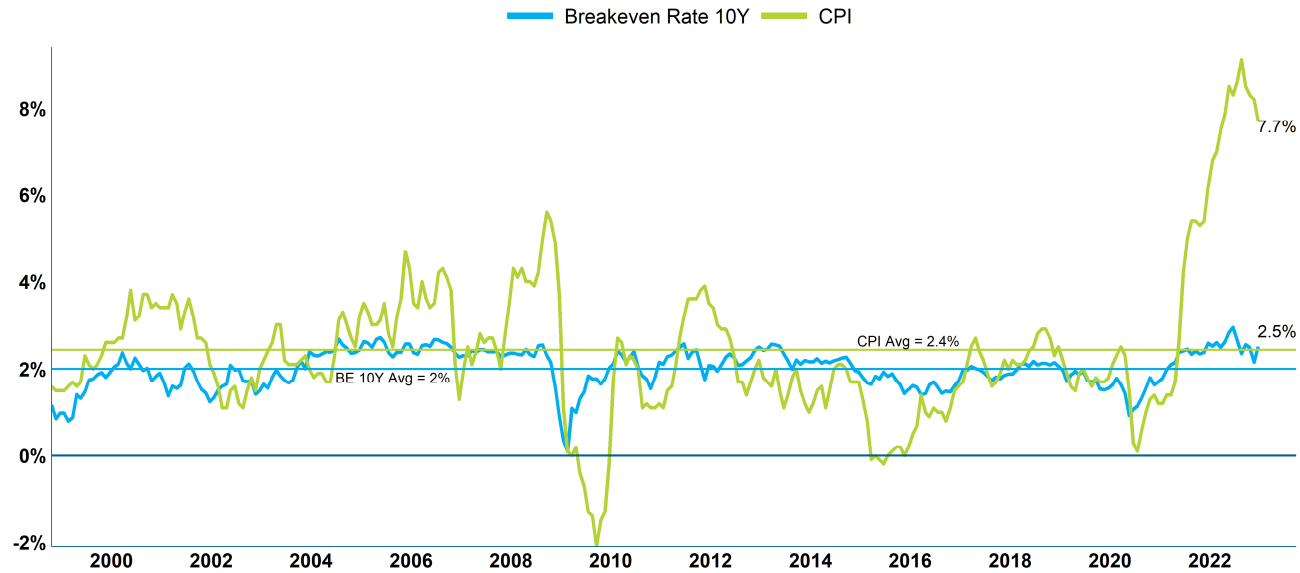
<sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of October 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.



- Rates across the yield curve remain far higher than at the start of the year.
- In October, interest rates continued to increase across the yield curve, particularly at the front-end where there is more sensitivity to policy changes. Two-year Treasury yields rose from 4.3% to 4.5% for the month, while ten-year Treasury yields climbed from 3.8% to 4.1%.
- The Fed remains strongly committed to fighting inflation, as it increased rates another 75 basis points to a range of 3.75% to 4.0% at its November meeting. This was the sixth increase this year and the fourth consecutive increase of this amount.
- The yield spread between two-year and ten-year Treasuries remained negative, finishing October at -0.42%. The more closely watched measure by the Fed of three-month and ten-year Treasuries also inverted. Historically, inversions in the yield curve have often preceded recessions.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.

**Ten-Year Breakeven Inflation and CPI<sup>1</sup>**

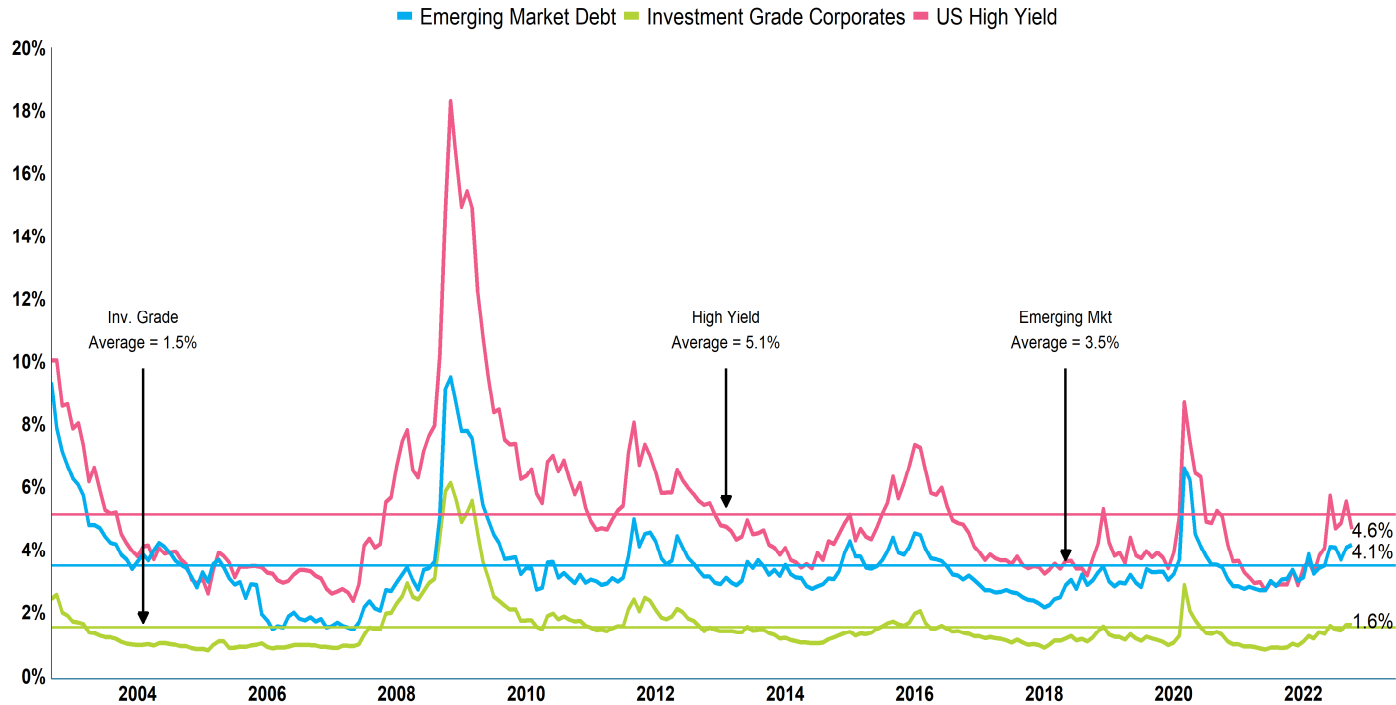


- Inflation expectations (breakevens) rose slightly in October, remaining above the long-run average.
- Trailing twelve-month CPI declined in October (7.7% versus 8.2%) coming in below expectations of 7.9%. Core inflation (excluding food and energy prices) declined from its recent 40-year peak of 6.6% to 6.3% over the same period.
- Over the last year, rising prices for energy (particularly oil), food, housing, and for new and used cars remain key drivers of inflation.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative purposes.



**Credit Spreads vs. US Treasury Bonds<sup>1</sup>**



- High yield spreads (the added yield above a comparable maturity Treasury) fell in October to below their long-run average as below investment grade credit largely outperformed Treasuries in the risk-on environment.
- Investment grade spreads stayed the same in the US (1.6%), near the long-run average, while emerging market spreads increased slightly (4.1% versus 4.0%) staying above their average.

<sup>1</sup> Sources: Bloomberg. Data is as of October 31, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively.

### Global Economic Outlook

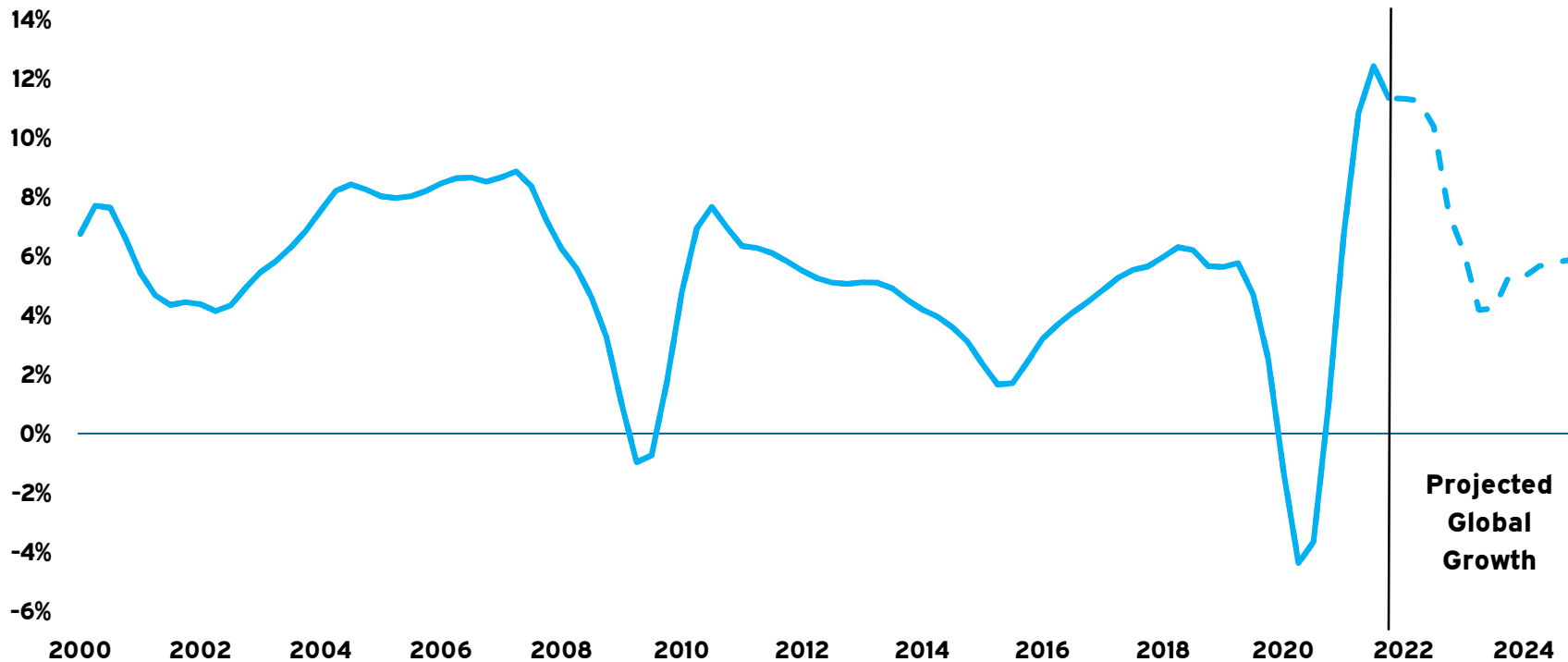
In their October update, the IMF maintained lowered global growth forecasts, driven by the economic impacts of persistent inflation and corresponding tighter policy, as well as issues related to the war in Ukraine and the lingering pandemic.

- The IMF forecasts global GDP growth to come in at 3.2% in 2022 (like the July estimate) and 2.7% in 2023 (0.2% below the prior estimate).
- In advanced economies, GDP is projected to grow 2.4% in 2022 and 1.1% in 2023. The US saw another downgrade in the 2022 (1.6% versus 2.3%) forecast largely due to accelerated policy tightening, given persistently high inflation. The euro area saw an upgrade in expected growth (3.1% versus 2.6%) on substantial fiscal stimulus in 2022 but a downgrade in 2023 (0.5% versus 1.2%) as rising energy prices weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and 1.6% in 2023.
- Growth projections for emerging markets are higher than developed markets, at 3.7% in 2022 and 2023. China’s growth was downgraded for 2022 (3.2% versus 3.3%) and 2023 (4.4% versus 4.6%) given tight COVID-19 restrictions and continued property sector problems.
- The global inflation forecast was significantly increased for 2022 (8.8% versus 7.4%).

	Real GDP (%) <sup>1</sup>			Inflation (%) <sup>1</sup>		
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average
World	3.2	2.7	3.2	8.8	6.5	3.6
Advanced Economies	2.4	1.1	1.6	7.2	4.3	1.6
US	1.6	1.0	2.1	8.1	3.5	2.0
Euro Area	3.1	0.5	1.0	8.3	5.7	1.3
Japan	1.7	1.6	0.8	2.0	1.4	0.4
Emerging Economies	3.7	3.7	4.4	9.9	8.1	5.3
China	3.2	4.4	7.3	2.2	2.2	2.4

<sup>1</sup> Source: IMF World Economic Outlook. Real GDP and Inflation forecasts from October 2022 Update. “Actual 10 Year Average” represents data from 2012 to 2021.

**Global Nominal Gross Domestic Product (GDP) Growth<sup>1</sup>**

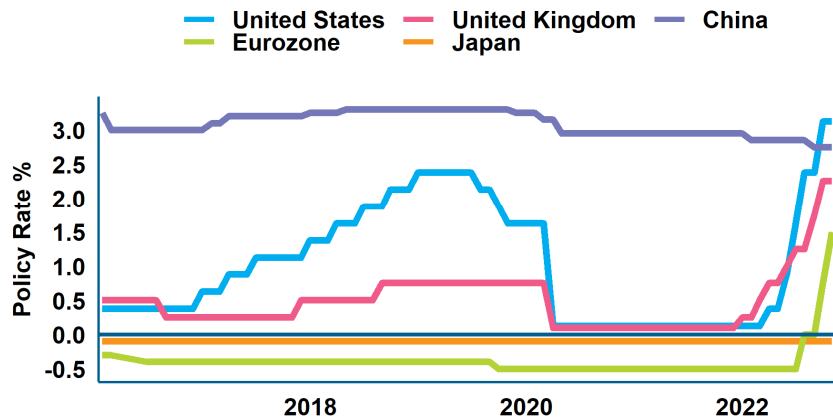


- Global economies are expected to slow in 2022 compared to 2021, with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

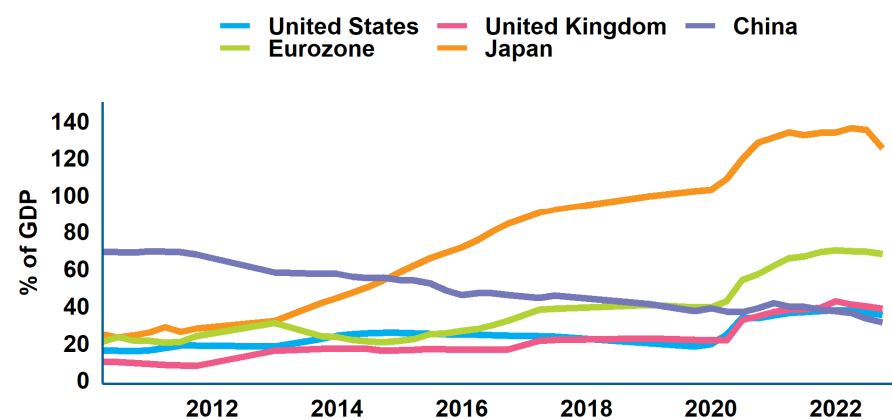
<sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated October 2022. Nominal expectations for GDP remain much higher than real GDP expectations given the elevated inflation levels.

### Central Bank Response<sup>1</sup>

#### Policy Rates



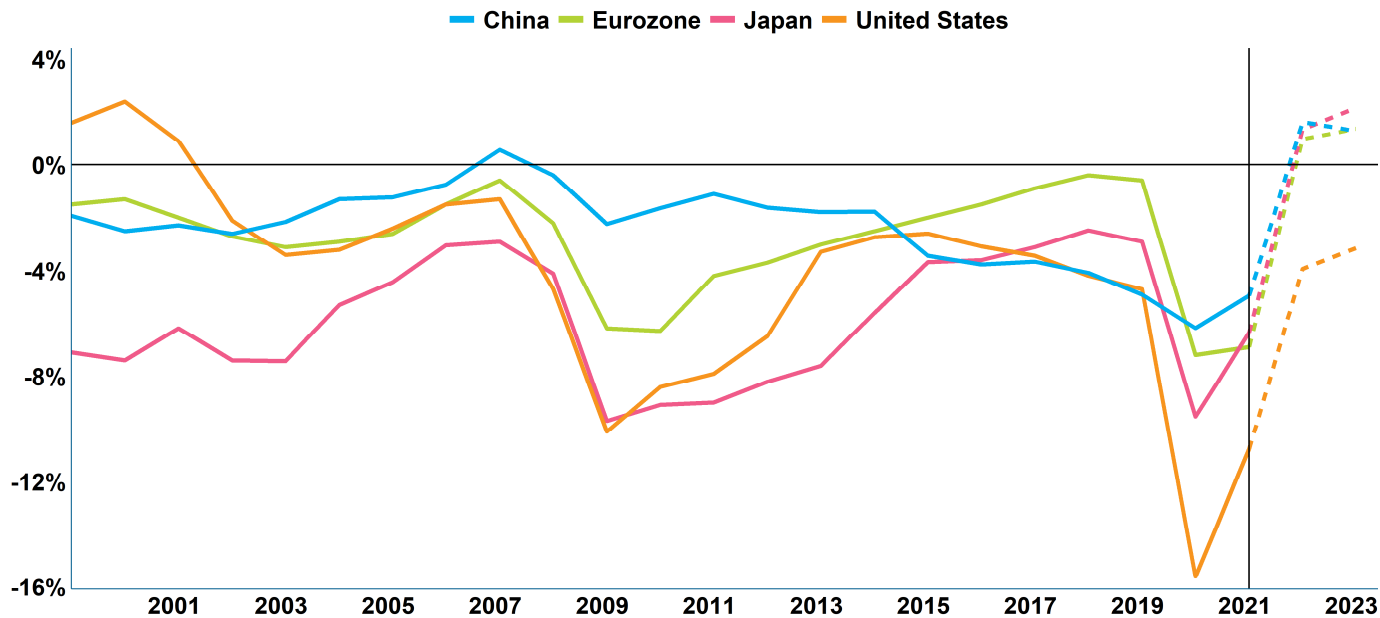
#### Balance Sheet as % of GDP



- After global central banks took extraordinary action to support economies during the pandemic, including policy rate cuts and emergency stimulus through quantitative easing (QE), many are now aggressively reducing support in the face of high inflation.
- The pace of withdrawing support varies across central banks with the US taking a more aggressive approach.
- The one notable central bank outlier is China, where the central bank has lowered rates and reserve requirements in response to slowing growth.
- The risk remains for a policy error, particularly overtightening, as record inflation, the war in Ukraine, and a tough COVID-19 policy in China could suppress global growth.

<sup>1</sup> Source: Bloomberg. Policy rate data is as of October 31, 2022. 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, 2022.

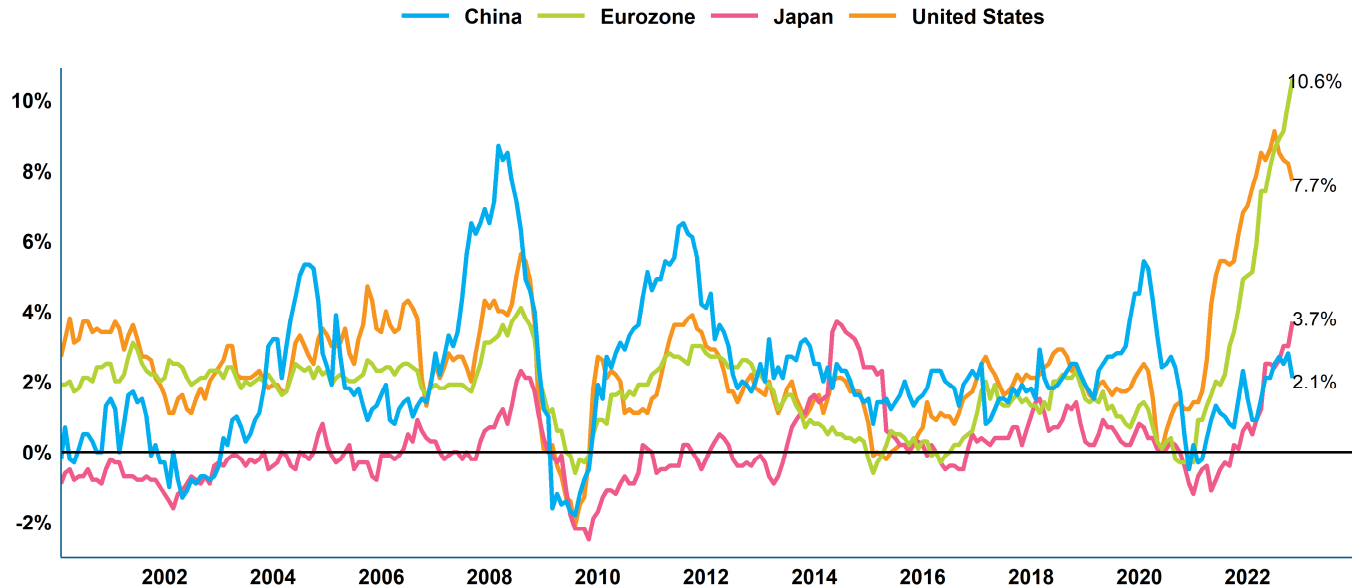
**Budget Surplus / Deficit as a Percentage of GDP<sup>1</sup>**



- Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.
- As fiscal stimulus programs end, and economic recoveries continue, deficits should improve.
- Questions remain about how some countries will respond fiscally as inflation, particularly energy prices, weigh on consumers. Policies that undermine central banks' efforts to fight inflation could lead to additional market volatility like was seen recently in the UK.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022. Projections via IMF Forecasts from October 2022 Report. Dotted lines represent 2022 and 2023 forecasts.

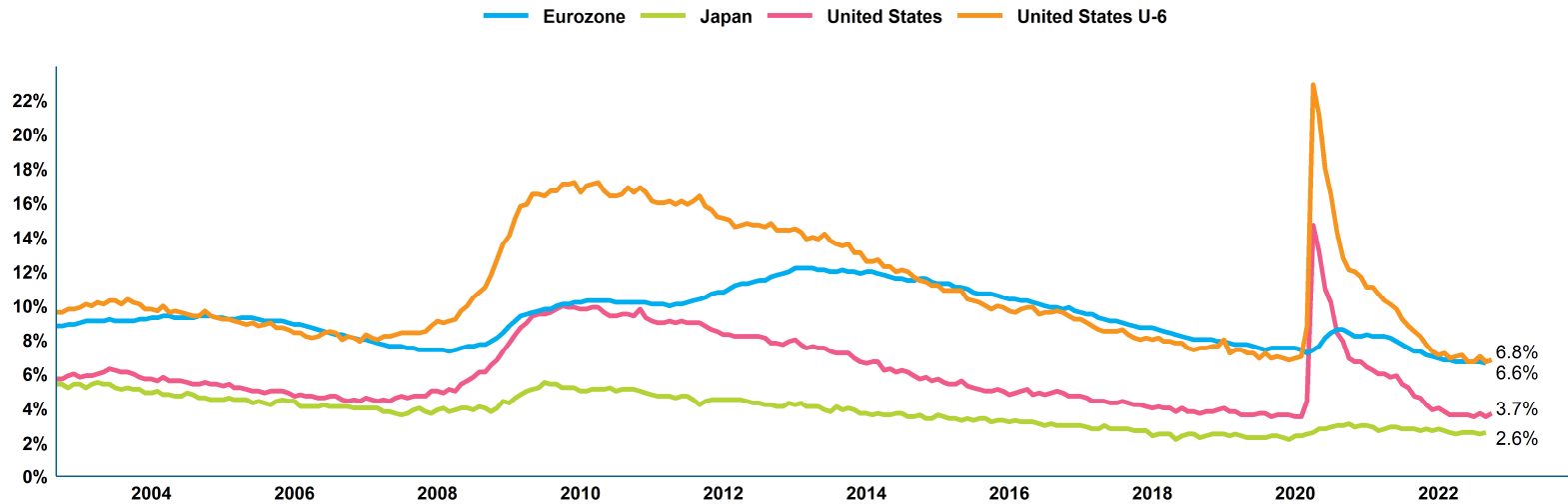
**Inflation (CPI Trailing Twelve Months)<sup>1</sup>**



- Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.
- Inflation pressures continue to grow in Europe, reaching historic levels due to skyrocketing energy prices and a weak euro.
- Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher commodity prices driven by the war in Ukraine have been key global drivers of inflation.

<sup>1</sup> Source: Bloomberg. Data is as of October 2022.

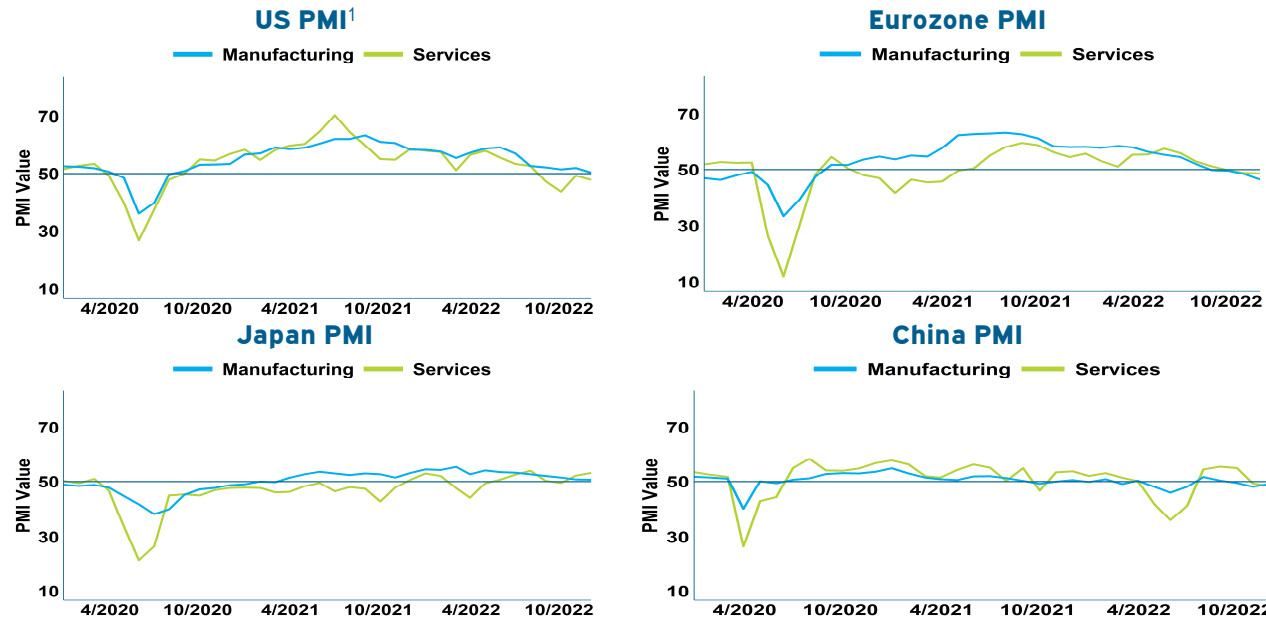
**Unemployment<sup>1</sup>**



- As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- Despite slowing growth and high inflation the US labor market remains a bright spot. Unemployment in the US, which experienced the steepest rise from the pandemic, has remained in a tight 3.5%-3.7% range for most of the year. The broader measure (U-6) that includes discouraged and underemployed workers remains much higher at 6.8%.
- The strong labor market and higher wages, although beneficial for workers, motivates the Fed’s efforts to fight inflation, likely leading to eventually higher unemployment.

<sup>1</sup> Source: Bloomberg. Data is as October 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of September 30, 2022.

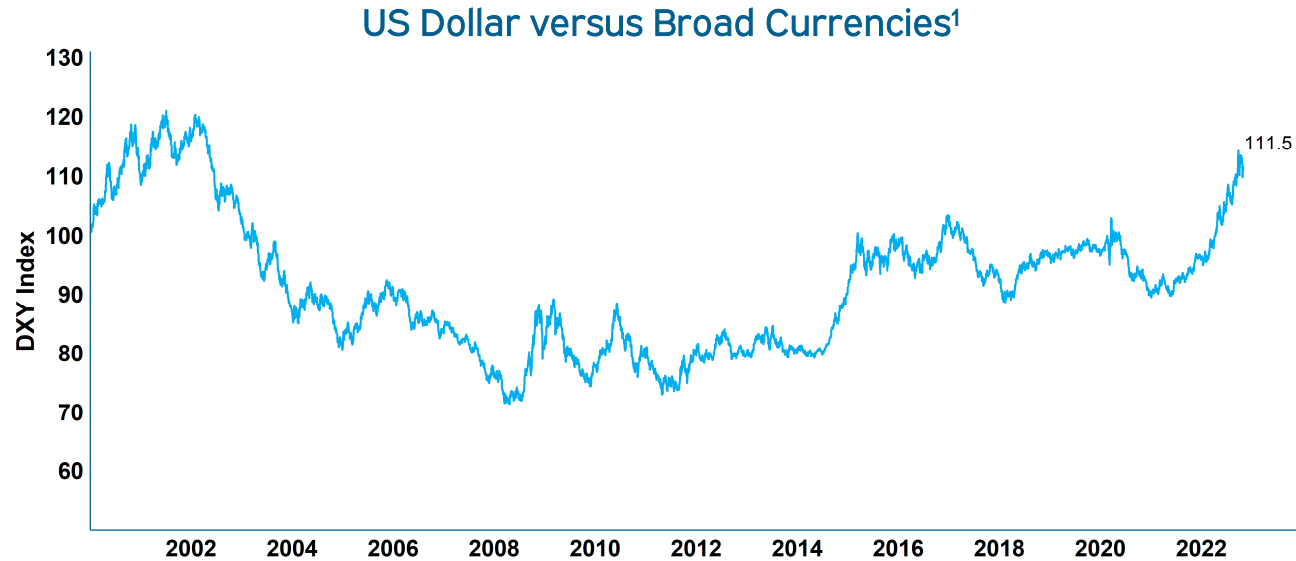
### Global PMIs



- After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced downward pressure recently.
- Service sector PMIs, except Japan (lifting COVID-19 restrictions and travel incentives have been helpful here), are all in contraction territory. The US service sector declined, remaining in negative territory, due to weak demand both domestically and abroad and softening employment.
- Manufacturing PMIs are also slowing across China and developed markets given declines in demand and inflationary pressures with the Eurozone, and China in contraction territory.

<sup>1</sup> Source: Bloomberg. US Markit Services and Manufacturing PMI, Caixin Services and Manufacturing PMI, Eurozone Markit Services and Manufacturing PMI, Jibun Bank Services and Manufacturing PMI. Data is as of October 2022. Readings below 50 represent economic contractions.





- Overall, the US dollar remained elevated in October but showed some signs of weakening. After month-end, the dollar weakened further.
- The increased pace of policy tightening, stronger relative growth, and safe-haven flows all contributed to the dollar’s strength this year.
- The euro, yen, pound, and yuan have all experienced significant declines versus the dollar this year, adding to inflationary pressures in those countries.

<sup>1</sup> Source: Bloomberg. Data as of October 31, 2022.

## Summary

### Key Trends in 2022:

- The impacts of record high inflation will remain key, with market volatility likely to stay high.
- The pace of monetary tightening globally will be faster than previously expected, with the risk of overtightening.
- Expect growth to slow globally for the rest of 2022 and into 2023 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- In the US the end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices will depress consumers' spending in other areas.
- Valuations have significantly declined in the US to below long-term averages, largely driven by price declines. The key going forward will be whether earnings can remain resilient if growth continues to slow.
- Outside the US, equity valuations remain lower in both emerging and developed markets, but major risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

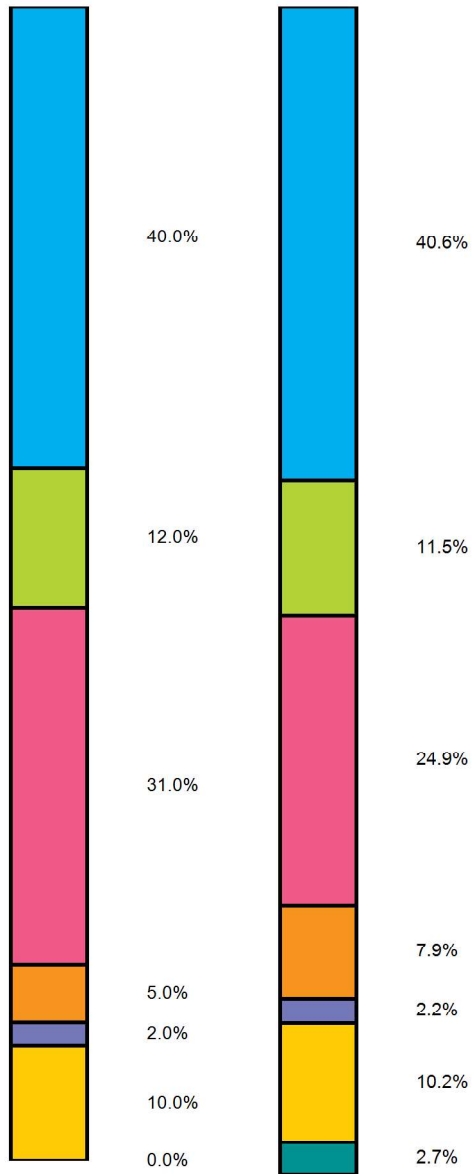
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# Oakland Police and Fire Retirement System

December 14, 2022

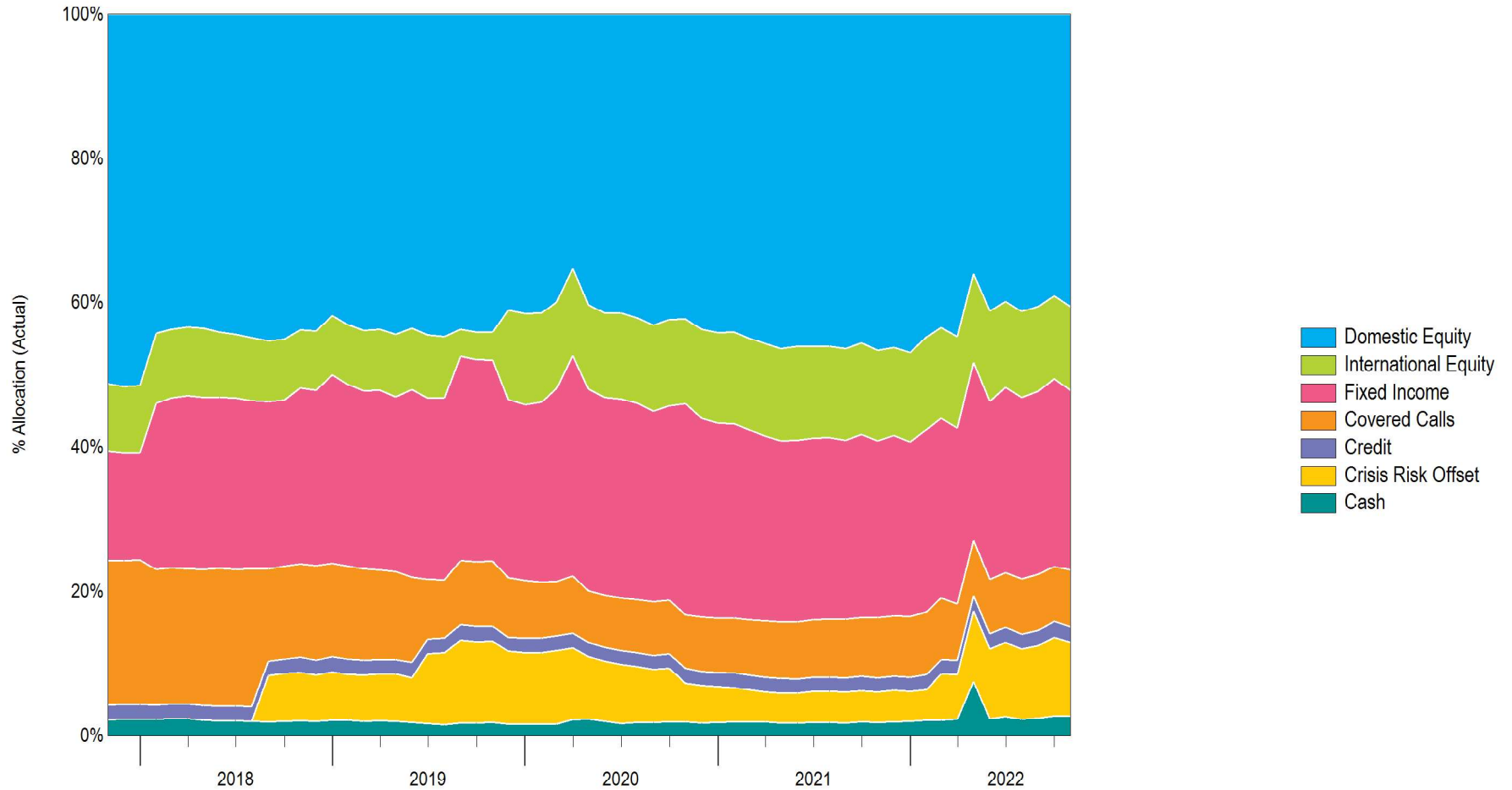
October Flash Report

As of October 31, 2022



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
Domestic Equity	\$159,887,269	40.6%	40.0%	0.6%	30.0% - 50.0%	Yes
International Equity	\$45,447,180	11.5%	12.0%	-0.5%	8.0% - 14.0%	Yes
Fixed Income	\$98,077,927	24.9%	31.0%	-6.1%	25.0% - 40.0%	No
Covered Calls	\$31,239,449	7.9%	5.0%	2.9%	5.0% - 10.0%	Yes
Credit	\$8,551,282	2.2%	2.0%	0.2%	0.0% - 100.0%	Yes
Crisis Risk Offset	\$40,195,623	10.2%	10.0%	0.2%	5.0% - 15.0%	Yes
Cash	\$10,814,113	2.7%	0.0%	2.7%	0.0% - 5.0%	Yes
<b>Total</b>	<b>\$394,212,844</b>	<b>100.0%</b>	<b>100.0%</b>			

Asset Allocation History  
5 Years Ending October 31, 2022



Asset Class Performance Summary										
	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>OPFRS Total Plan</b>	<b>394,212,844</b>	<b>100.0</b>	<b>3.6</b>	<b>-16.0</b>	<b>-14.3</b>	<b>3.0</b>	<b>4.5</b>	<b>6.9</b>	<b>6.5</b>	<b>Dec-88</b>
<i>OPFRS Policy Benchmark</i>			<u>3.9</u>	<u>-16.2</u>	<u>-15.1</u>	<u>2.8</u>	<u>4.2</u>	<u>6.4</u>	<u>7.7</u>	<u>Dec-88</u>
Excess Return			-0.3	0.2	0.8	0.2	0.3	0.5	-1.2	
<b>Domestic Equity</b>	<b>159,887,269</b>	<b>40.6</b>	<b>8.3</b>	<b>-16.7</b>	<b>-13.9</b>	<b>9.5</b>	<b>9.4</b>	<b>12.3</b>	<b>8.7</b>	<b>Jun-97</b>
<i>Russell 3000 (Blend)</i>			<u>8.2</u>	<u>-18.4</u>	<u>-16.5</u>	<u>9.8</u>	<u>9.9</u>	<u>12.5</u>	<u>8.8</u>	<u>Jun-97</u>
Excess Return			0.1	1.7	2.6	-0.3	-0.5	-0.2	-0.1	
<b>International Equity</b>	<b>45,447,180</b>	<b>11.5</b>	<b>4.6</b>	<b>-23.4</b>	<b>-22.7</b>	<b>-1.0</b>	<b>0.3</b>	<b>4.8</b>	<b>4.6</b>	<b>Jan-98</b>
<i>MSCI ACWI ex US (Blend)</i>			<u>3.0</u>	<u>-24.3</u>	<u>-24.7</u>	<u>-1.7</u>	<u>-0.6</u>	<u>3.3</u>	<u>4.3</u>	<u>Jan-98</u>
Excess Return			1.6	0.9	2.0	0.7	0.9	1.5	0.3	
<b>Fixed Income</b>	<b>98,077,927</b>	<b>24.9</b>	<b>-1.4</b>	<b>-15.9</b>	<b>-15.7</b>	<b>-3.2</b>	<b>-0.1</b>	<b>1.2</b>	<b>4.6</b>	<b>Dec-93</b>
<i>Bloomberg Universal (Blend)</i>			<u>-1.1</u>	<u>-15.8</u>	<u>-15.8</u>	<u>-3.6</u>	<u>-0.4</u>	<u>1.0</u>	<u>4.4</u>	<u>Dec-93</u>
Excess Return			-0.3	-0.1	0.1	0.4	0.3	0.2	0.2	
<b>Credit</b>	<b>8,551,282</b>	<b>2.2</b>	<b>1.2</b>	<b>-8.3</b>	<b>-8.0</b>	<b>4.1</b>	<b>2.9</b>	<b>--</b>	<b>4.7</b>	<b>Feb-15</b>
<i>Bloomberg US High Yield TR</i>			<u>2.6</u>	<u>-12.5</u>	<u>-11.8</u>	<u>0.3</u>	<u>2.0</u>	<u>4.1</u>	<u>3.6</u>	<u>Feb-15</u>
Excess Return			-1.4	4.2	3.8	3.8	0.9		1.1	
<b>Covered Calls</b>	<b>31,239,449</b>	<b>7.9</b>	<b>7.0</b>	<b>-13.1</b>	<b>-10.1</b>	<b>7.9</b>	<b>7.6</b>	<b>--</b>	<b>8.2</b>	<b>Apr-14</b>
<i>CBOE S&amp;P 500 BuyWrite USD</i>			<u>6.1</u>	<u>-11.9</u>	<u>-10.0</u>	<u>2.1</u>	<u>3.2</u>	<u>5.5</u>	<u>4.9</u>	<u>Apr-14</u>
Excess Return			0.9	-1.2	-0.1	5.8	4.4		3.3	
<b>Crisis Risk Offset</b>	<b>40,195,623</b>	<b>10.2</b>	<b>-3.4</b>	<b>-13.2</b>	<b>-12.6</b>	<b>-14.0</b>	<b>--</b>	<b>--</b>	<b>-9.3</b>	<b>Aug-18</b>
<i>SG Multi Alternative Risk Premia Index</i>			<u>2.4</u>	<u>5.6</u>	<u>8.9</u>	<u>-1.0</u>	<u>--</u>	<u>--</u>	<u>-0.3</u>	<u>Aug-18</u>
Excess Return			-5.8	-18.8	-21.5	-13.0			-9.0	

Performance shown is gross-of-fees. Since inception date and performance begins in the month following an investments initial funding.

Fiscal year begins on July 1. Cash account market value includes cash balances held in ETF accounts at the custodian and residuals from terminated managers.

As of October 31, 2022

Performance Summary											
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>OPFRS Total Plan</b>	<b>394,212,844</b>	<b>100.0</b>	<b>--</b>	<b>3.6</b>	<b>-16.0</b>	<b>-14.3</b>	<b>3.0</b>	<b>4.5</b>	<b>6.9</b>	<b>6.5</b>	<b>Dec-88</b>
<i>OPFRS Policy Benchmark</i>				<i>3.9</i>	<i>-16.2</i>	<i>-15.1</i>	<i>2.8</i>	<i>4.2</i>	<i>6.4</i>	<i>7.7</i>	<i>Dec-88</i>
Excess Return				-0.3	0.2	0.8	0.2	0.3	0.5	-1.2	
<b>Domestic Equity</b>	<b>159,887,269</b>	<b>40.6</b>	<b>40.6</b>	<b>8.3</b>	<b>-16.7</b>	<b>-13.9</b>	<b>9.5</b>	<b>9.4</b>	<b>12.3</b>	<b>8.7</b>	<b>Jun-97</b>
<i>Russell 3000 (Blend)</i>				<i>8.2</i>	<i>-18.4</i>	<i>-16.5</i>	<i>9.8</i>	<i>9.9</i>	<i>12.5</i>	<i>8.8</i>	<i>Jun-97</i>
Excess Return				0.1	1.7	2.6	-0.3	-0.5	-0.2	-0.1	
Northern Trust Russell 1000	70,236,230	17.8	43.9	8.0	-18.8	-16.6	9.8	10.1	12.6	12.8	Jun-10
<i>Russell 1000</i>				<i>8.0</i>	<i>-18.5</i>	<i>-16.4</i>	<i>10.0</i>	<i>10.2</i>	<i>12.7</i>	<i>12.8</i>	<i>Jun-10</i>
Excess Return				0.0	-0.3	-0.2	-0.2	-0.1	-0.1	0.0	
Wellington Select Quality Equity	21,503,403	5.5	13.4	10.2	--	--	--	--	--	-2.3	May-22
<i>Russell 1000</i>				<i>8.0</i>	<i>-18.5</i>	<i>-16.4</i>	<i>10.0</i>	<i>10.2</i>	<i>12.7</i>	<i>-5.7</i>	<i>May-22</i>
Excess Return				2.2						3.4	
EARNEST Partners	43,619,613	11.1	27.3	7.8	-15.3	-10.6	11.1	11.1	13.7	10.1	Apr-06
<i>Russell MidCap</i>				<i>8.9</i>	<i>-17.5</i>	<i>-17.2</i>	<i>7.8</i>	<i>7.9</i>	<i>11.4</i>	<i>8.4</i>	<i>Apr-06</i>
Excess Return				-1.1	2.2	6.6	3.3	3.2	2.3	1.7	
Brown Fundamental Small Cap Value	10,975,659	2.8	6.9	12.8	-6.6	-2.8	--	--	--	2.2	Apr-21
<i>Russell 2000 Value</i>				<i>12.6</i>	<i>-11.2</i>	<i>-10.7</i>	<i>8.1</i>	<i>5.3</i>	<i>9.4</i>	<i>-3.8</i>	<i>Apr-21</i>
Excess Return				0.2	4.6	7.9				6.0	
Rice Hall James	13,552,363	3.4	8.5	5.3	-22.3	-22.2	6.3	5.6	--	6.7	Jul-17
<i>Russell 2000 Growth</i>				<i>9.5</i>	<i>-22.6</i>	<i>-26.0</i>	<i>5.1</i>	<i>5.2</i>	<i>10.1</i>	<i>6.3</i>	<i>Jul-17</i>
Excess Return				-4.2	0.3	3.8	1.2	0.4		0.4	

Performance shown is gross-of-fees. Since inception date and performance begins in the month following an investments initial funding.



As of October 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>International Equity</b>	<b>45,447,180</b>	<b>11.5</b>	<b>11.5</b>	<b>4.6</b>	<b>-23.4</b>	<b>-22.7</b>	<b>-1.0</b>	<b>0.3</b>	<b>4.8</b>	<b>4.6</b>	<b>Jan-98</b>
<i>MSCI ACWI ex US (Blend)</i>				<u>3.0</u>	<u>-24.3</u>	<u>-24.7</u>	<u>-1.7</u>	<u>-0.6</u>	<u>3.3</u>	<u>4.3</u>	<u>Jan-98</u>
Excess Return				1.6	0.9	2.0	0.7	0.9	1.5	0.3	
Vanguard Developed Markets ETF	12,915,743	3.3	28.4	6.1	-23.1	-23.5	-0.3	--	--	1.7	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>				<u>5.4</u>	<u>-23.3</u>	<u>-23.2</u>	<u>-0.2</u>	<u>0.5</u>	<u>4.6</u>	<u>1.8</u>	<u>Sep-19</u>
Excess Return				0.7	0.2	-0.3	-0.1			-0.1	
SGA ACWI ex-U.S. Equity	32,531,437	8.3	71.6	4.0	-23.3	-22.5	--	--	--	-2.8	Dec-19
<i>MSCI ACWI ex USA</i>				<u>3.0</u>	<u>-24.3</u>	<u>-24.7</u>	<u>-1.7</u>	<u>-0.6</u>	<u>3.3</u>	<u>-2.0</u>	<u>Dec-19</u>
Excess Return				1.0	1.0	2.2				-0.8	
<b>Fixed Income</b>	<b>98,077,927</b>	<b>24.9</b>	<b>24.9</b>	<b>-1.4</b>	<b>-15.9</b>	<b>-15.7</b>	<b>-3.2</b>	<b>-0.1</b>	<b>1.2</b>	<b>4.6</b>	<b>Dec-93</b>
<i>Bloomberg Universal (Blend)</i>				<u>-1.1</u>	<u>-15.8</u>	<u>-15.8</u>	<u>-3.6</u>	<u>-0.4</u>	<u>1.0</u>	<u>4.4</u>	<u>Dec-93</u>
Excess Return				-0.3	-0.1	0.1	0.4	0.3	0.2	0.2	
Ramirez	66,812,888	16.9	68.1	-1.6	-15.8	-15.8	-3.5	-0.1	--	0.7	Jan-17
<i>Bloomberg US Aggregate TR</i>				<u>-1.3</u>	<u>-15.7</u>	<u>-15.7</u>	<u>-3.8</u>	<u>-0.5</u>	<u>0.7</u>	<u>0.1</u>	<u>Jan-17</u>
Excess Return				-0.3	-0.1	-0.1	0.3	0.4		0.6	
Wellington Core Bond	6,315,421	1.6	6.4	-1.5	-17.2	-17.3	--	--	--	-10.2	Apr-21
<i>Bloomberg US Aggregate TR</i>				<u>-1.3</u>	<u>-15.7</u>	<u>-15.7</u>	<u>-3.8</u>	<u>-0.5</u>	<u>0.7</u>	<u>-9.2</u>	<u>Apr-21</u>
Excess Return				-0.2	-1.5	-1.6				-1.0	
Reams	24,949,618	6.3	25.4	-1.0	-15.6	-15.2	0.0	2.0	2.2	4.9	Feb-98
<i>Bloomberg Universal (Blend)</i>				<u>-1.1</u>	<u>-15.8</u>	<u>-15.8</u>	<u>-3.6</u>	<u>-0.4</u>	<u>1.0</u>	<u>4.0</u>	<u>Feb-98</u>
Excess Return				0.1	0.2	0.6	3.6	2.4	1.2	0.9	
<b>Credit</b>	<b>8,551,282</b>	<b>2.2</b>	<b>2.2</b>	<b>1.2</b>	<b>-8.3</b>	<b>-8.0</b>	<b>4.1</b>	<b>2.9</b>	<b>--</b>	<b>4.7</b>	<b>Feb-15</b>
<i>Bloomberg US High Yield TR</i>				<u>2.6</u>	<u>-12.5</u>	<u>-11.8</u>	<u>0.3</u>	<u>2.0</u>	<u>4.1</u>	<u>3.6</u>	<u>Feb-15</u>
Excess Return				-1.4	4.2	3.8	3.8	0.9		1.1	
Polen Capital	8,551,282	2.2	100.0	1.2	-8.3	-8.0	4.1	2.9	--	4.7	Feb-15
<i>ICE BofA High Yield Master TR</i>				<u>2.8</u>	<u>-12.2</u>	<u>-11.4</u>	<u>0.2</u>	<u>1.9</u>	<u>4.1</u>	<u>3.6</u>	<u>Feb-15</u>
Excess Return				-1.6	3.9	3.4	3.9	1.0		1.1	

Performance shown is gross-of-fees. Since inception date and performance begins in the month following an investments initial funding.

As of October 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Covered Calls</b>	<b>31,239,449</b>	<b>7.9</b>	<b>7.9</b>	<b>7.0</b>	<b>-13.1</b>	<b>-10.1</b>	<b>7.9</b>	<b>7.6</b>	<b>--</b>	<b>8.2</b>	<b>Apr-14</b>
<i>CBOE S&amp;P 500 BuyWrite USD</i>				<u>6.1</u>	<u>-11.9</u>	<u>-10.0</u>	<u>2.1</u>	<u>3.2</u>	<u>5.5</u>	<u>4.9</u>	<u>Apr-14</u>
Excess Return				0.9	-1.2	-0.1	5.8	4.4		3.3	
Parametric BXM	15,758,713	4.0	50.4	5.9	-10.6	-8.3	5.1	5.3	--	6.4	Apr-14
<i>CBOE S&amp;P 500 BuyWrite USD</i>				<u>6.1</u>	<u>-11.9</u>	<u>-10.0</u>	<u>2.1</u>	<u>3.2</u>	<u>5.5</u>	<u>4.9</u>	<u>Apr-14</u>
Excess Return				-0.2	1.3	1.7	3.0	2.1		1.5	
Parametric DeltaShift	15,480,736	3.9	49.6	8.1	-15.3	-11.9	10.2	9.6	--	10.2	Apr-14
<i>CBOE S&amp;P 500 BuyWrite USD</i>				<u>6.1</u>	<u>-11.9</u>	<u>-10.0</u>	<u>2.1</u>	<u>3.2</u>	<u>5.5</u>	<u>4.9</u>	<u>Apr-14</u>
Excess Return				2.0	-3.4	-1.9	8.1	6.4		5.3	
<b>Crisis Risk Offset</b>	<b>40,195,623</b>	<b>10.2</b>	<b>10.2</b>	<b>-3.4</b>	<b>-13.2</b>	<b>-12.6</b>	<b>-14.0</b>	<b>--</b>	<b>--</b>	<b>-9.3</b>	<b>Aug-18</b>
<i>SG Multi Alternative Risk Premia Index</i>				<u>2.4</u>	<u>5.6</u>	<u>8.9</u>	<u>-1.0</u>	--	--	<u>-0.3</u>	<u>Aug-18</u>
Excess Return				-5.8	-18.8	-21.5	-13.0			-9.0	
Kepos Alternative Risk Premia	9,706,958	2.5	24.1	-0.3	--	--	--	--	--	-2.4	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>				<u>2.4</u>	<u>5.6</u>	<u>8.9</u>	<u>-1.0</u>	--	--	<u>4.8</u>	<u>Feb-22</u>
Excess Return				-2.7						-7.2	
Versor Trend Following	17,249,215	4.4	42.9	-3.7	--	--	--	--	--	15.0	Apr-22
<i>SG Trend Index</i>				<u>0.2</u>	<u>45.2</u>	<u>39.0</u>	<u>19.1</u>	<u>11.5</u>	<u>7.3</u>	<u>23.4</u>	<u>Apr-22</u>
Excess Return				-3.9						-8.4	
Vanguard Long-Term Treasury ETF	13,239,450	3.4	32.9	-5.2	-32.3	-31.8	-9.9	--	--	-7.1	Jul-19
<i>Bloomberg US Govt Long TR</i>				<u>-5.5</u>	<u>-32.7</u>	<u>-31.9</u>	<u>-9.9</u>	<u>-2.7</u>	<u>0.0</u>	<u>-7.2</u>	<u>Jul-19</u>
Excess Return				0.3	0.4	0.1	0.0			0.1	
<b>Cash</b>	<b>10,814,113</b>	<b>2.7</b>	<b>2.7</b>	<b>1.9</b>	<b>4.8</b>	<b>4.8</b>	<b>2.0</b>	<b>2.1</b>	<b>1.2</b>	<b>1.0</b>	<b>Mar-11</b>
<i>FTSE T-Bill 3 Months TR</i>				<u>0.2</u>	<u>0.9</u>	<u>0.9</u>	<u>0.6</u>	<u>1.2</u>	<u>0.7</u>	<u>0.6</u>	<u>Mar-11</u>
Excess Return				1.7	3.9	3.9	1.4	0.9	0.5	0.4	
Cash	3,448,113	0.9	31.9	0.0	0.0	0.0	0.7	1.3	0.8	0.6	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<u>0.2</u>	<u>0.9</u>	<u>0.9</u>	<u>0.6</u>	<u>1.2</u>	<u>0.7</u>	<u>0.6</u>	<u>Mar-11</u>
Excess Return				-0.2	-0.9	-0.9	0.1	0.1	0.1	0.0	
Cash - Treasury	7,366,000	1.9	68.1								

As of October 31, 2022

Cash Flow Summary

Month to Date

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Brown Fundamental Small Cap Value	\$9,733,085	\$0	\$1,242,574	\$10,975,659
Cash	\$3,406,515	\$41,598	\$0	\$3,448,113
Cash - Treasury	\$7,165,000	\$0	\$201,000	\$7,366,000
EARNEST Partners	\$40,474,607	\$0	\$3,145,006	\$43,619,613
Kepos Alternative Risk Premia	\$9,742,494	\$0	-\$35,536	\$9,706,958
Northern Trust Russell 1000	\$67,029,399	-\$2,000,000	\$5,206,831	\$70,236,230
Parametric BXM	\$14,882,217	\$0	\$876,496	\$15,758,713
Parametric DeltaShift	\$14,325,499	\$0	\$1,155,236	\$15,480,736
Polen Capital	\$8,450,960	\$0	\$100,322	\$8,551,282
Ramirez	\$67,871,550	\$0	-\$1,058,662	\$66,812,888
Reams	\$25,197,341	\$0	-\$247,723	\$24,949,618
Rice Hall James	\$12,875,087	\$0	\$677,276	\$13,552,363
Securities Lending Northern Trust	\$0	-\$9,277	\$9,277	\$0
SGA ACWI ex-U.S. Equity	\$31,288,462	\$0	\$1,242,976	\$32,531,437
Vanguard Developed Markets ETF	\$12,175,691	\$0	\$740,052	\$12,915,743
Vanguard Long-Term Treasury ETF	\$14,000,185	\$0	-\$760,735	\$13,239,450
Versor Trend Following	\$17,905,977	\$0	-\$656,762	\$17,249,215
Wellington Core Bond	\$6,413,320	\$0	-\$97,898	\$6,315,421
Wellington Select Quality Equity	\$19,520,651	\$0	\$1,982,752	\$21,503,403
<b>Total</b>	<b>\$382,458,040</b>	<b>-\$1,967,678</b>	<b>\$13,722,482</b>	<b>\$394,212,844</b>

**Benchmark History**  
As of October 31, 2022

**Total Plan x Securities Lending x Reams LD Exception Comp**

6/1/2022	Present	40% Russell 3000 / 12% MSCI ACWI ex USA / 31% Bloomberg US Universal TR / 5% CBOE BXM / 10% SG Multi Alternative Risk Premia Index / 2% Bloomberg US High Yield TR
1/1/2019	5/31/2022	40% Russell 3000 / 12% MSCI ACWI ex USA Gross / 33% Bloomberg US Universal TR / 5% CBOE BXM / 6.7% SG Multi Alternative Risk Premia Index / 3.3% Bloomberg US Treasury Long TR
5/1/2016	12/31/2018	48% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 20% CBOE BXM
10/1/2015	4/30/2016	43% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 15% CBOE BXM / 10% CPI - All Urban Consumers (unadjusted) +3%
1/1/2014	9/30/2015	48% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 10% CBOE BXM / 10% CPI - All Urban Consumers (unadjusted) +3%
3/1/2013	12/31/2013	40% Russell 3000 / 10% MSCI ACWI ex USA Gross / 17% Bloomberg US Universal TR / 33% ICE BofA 3M US Treasury TR USD
8/1/2012	2/28/2013	20% Russell 3000 / 7% MSCI ACWI ex USA Gross / 18% Bloomberg US Universal TR / 55% ICE BofA 3M US Treasury TR USD
10/1/2007	7/31/2012	53% Russell 3000 / 17% MSCI ACWI ex USA Gross / 30% Bloomberg US Universal TR
4/1/2006	9/30/2007	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% Bloomberg US Universal TR
1/1/2005	3/31/2006	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% Bloomberg US Aggregate TR
4/1/1998	12/31/2004	50% Bloomberg US Aggregate TR / 10% Russell 1000 / 20% Russell 1000 Value / 5% Russell MidCap / 15% MSCI EAFE

**Domestic Equity**

1/1/2005	Present	Russell 3000
4/1/1998	12/31/2004	28.57% Russell 1000 / 57.14% Russell 1000 Value / 14.29% Russell MidCap
6/1/1997	3/31/1998	S&P 500

**International Equity**

1/1/2005	Present	MSCI ACWI ex USA
1/1/1998	12/31/2004	MSCI EAFE Gross

**Fixed Income**

4/1/2006	Present	Bloomberg US Universal TR
12/31/1993	3/31/2006	Bloomberg US Aggregate TR

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# Oakland Police and Fire Retirement System

December 14, 2022

Quarterly Performance Report  
as of September 30, 2022

## Agenda

1. Total Portfolio Summary
2. Economic and Market Update
3. Asset Class and Manager Commentary
4. 3Q 2022 Performance as of September 30, 2022
5. Disclaimer, Glossary, and Notes

## **Total Portfolio Summary**



## Total Portfolio Summary

As of the quarter end, the City of Oakland Police and Fire Retirement System (OPFRS) portfolio had an aggregate value of \$382.5 million. This represents a \$17.9 million depreciation in investment value after \$6.0 million in net outflows over the quarter. Over the one-year period, the OPFRS Total Portfolio value faced a \$63.3 million depreciation, after withdrawals totaling \$14.0 million for benefit payments.

### Asset Allocation Trends

- The asset allocation targets throughout this report reflect those as of September 30, 2022. Target weightings reflect the interim phase (where Crisis Risk Offset component is set to 10%) of the Plan's previously approved asset allocation (effective 5/31/2017).
- Relative to policy targets, the portfolio ended the latest quarter moderate overweight in Covered Calls (+2.6%) and Cash (+2.8%), a slight overweight in Crisis Risk Offset (+0.9%), while moderate underweight in Fixed Income (-5.0%). The other asset classes have slight deviation from their respective policy targets, and all the asset classes were within acceptable allocation ranges.

### Investment Performance

- During the most recent quarter, the OPFRS portfolio generated an absolute return of -4.5%, gross of fees, outperforming its policy benchmark<sup>1</sup> by 0.1%. It has also outperformed the benchmark over the trailing 1-, 3-, and 5-year periods.

<sup>1</sup> Evolving Policy Benchmark consists of 40% Russell 3000, 12% MSCI ACWI ex U.S., 33% Bloomberg Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bloomberg Long Treasury from 1/1/2019 through 5/31/2022; and 40% Russell 3000 / 12% MSCI ACWI ex USA / 31% Bloomberg US Universal TR / 5% CBOE BXM / 10% SG Multi Alternative Risk Premia Index / 2% Bloomberg US High Yield thereafter.

### Peer Comparison

→ In comparison to its peers which are public defined benefit plans with \$250 million to \$1 billion in assets<sup>1</sup>, the portfolio has slightly lagged the median fund's return over the quarter as well as the longer 1-, 3-, and 5-year periods.

	Quarter	CYTD	1 Year	3 Year	5 Year
<b>Total Portfolio (Gross)</b>	<b>-4.5</b>	<b>-18.9</b>	<b>-14.3</b>	<b>2.2</b>	<b>4.2</b>
Policy Benchmark	-4.6	-19.3	-15.7	2.0	3.7
Excess Return	0.1	0.1	1.4	0.2	0.5
Reference: Median Fund	-4.2	-18.2	-14.6	4.1	4.8
Reference: Total Portfolio (Net) <sup>2</sup>	-4.6	-19.1	-14.5	1.9	3.8

→ It should be noted, however, that OPFRS portfolio has slightly higher risk in comparison with its peers. When adjusted for risk, the OPFRS portfolio has materially outperformed the risk-adjusted peer median return over the quarter, year-to-date, and 1-year trailing periods as the portfolio began to fully deploy all the long-term strategic asset classes and the underlying managers.

	Quarter	CYTD	1 Year	3 Year	5 Year
<b>Total Portfolio (Gross)</b>	<b>-4.5</b>	<b>-18.9</b>	<b>-14.3</b>	<b>2.2</b>	<b>4.2</b>
Risk-Adjusted Median Fund	-5.4	-19.6	-15.9	4.4	5.2
Excess Return	0.9	0.7	1.6	-2.2	-1.0

<sup>1</sup> Source: Investment Metrics peer universe as of 9/30/2022.

<sup>2</sup> Longer-term (>1 year) Net of fee returns include estimates based on OPFRS manager fee schedule (approximately 34 bps).

# **Economic and Market Update**

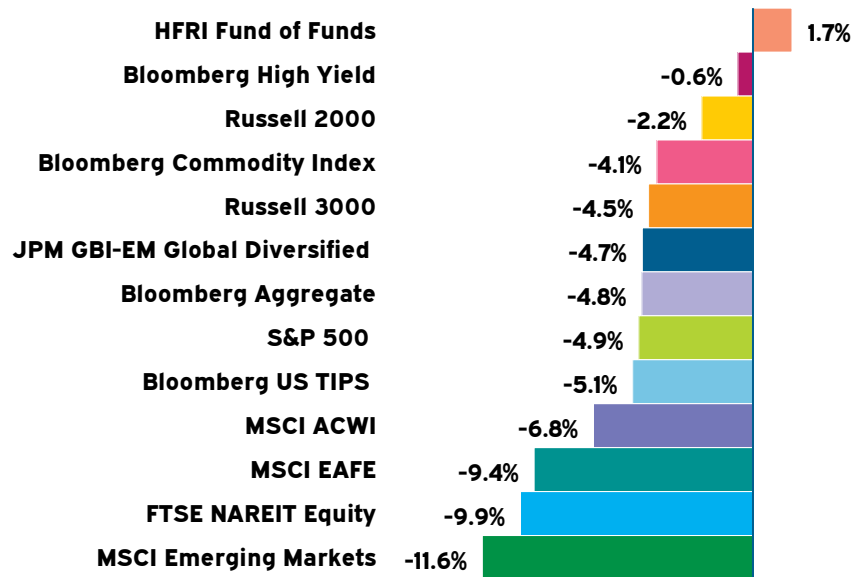
Data as of October 31, 2022

## Commentary

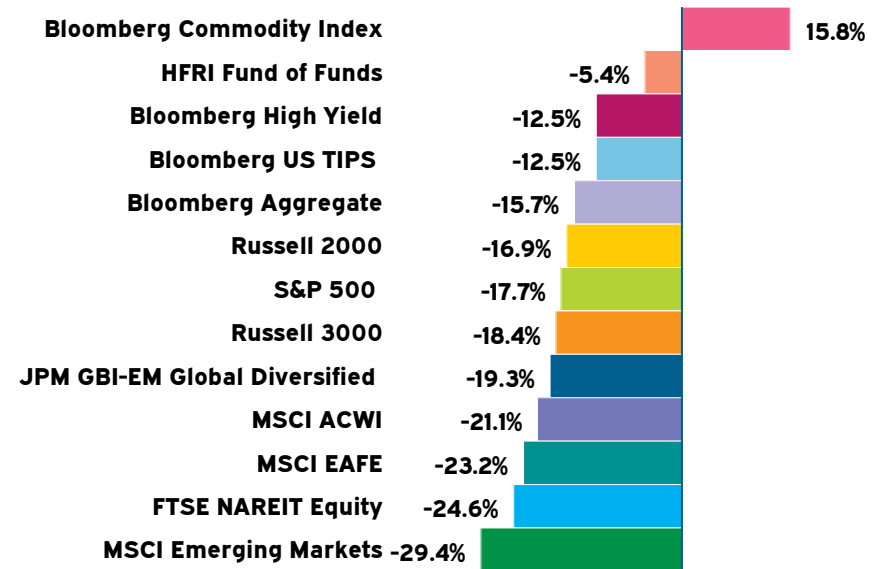
- Investor sentiment improved in October as markets repriced for continued easing of inflation risks, a potential slowing in monetary policy tightening efforts, and hopes for a soft-landing in 2023.
- After month-end, the Federal Reserve continued its aggressive tightening campaign with its fourth consecutive 75 basis point rate hike. Future hikes are expected into next year as US inflation remains high and labor markets tight.
  - In Europe, inflation hit a multi-decade high on energy prices, but manufacturing and service data in some countries surprised to the upside, lifting investor sentiment.
  - In the UK, the appointment of Rishi Sunak as the new prime minister calmed investors nerves to some extent.
  - US and developed equity markets rallied for the month, while emerging markets declined on significant China weakness (-16.8%) driven in part by political developments and continued strict COVID-19 policies.
  - Interest rates further increased across the US yield curve during October, and the curve remained inverted (ten- year yield minus the two-year yield) by 43 basis points. This year has witnessed by far the worst start to a calendar year for bond investors.
- Persistently high inflation and tightening of monetary policy, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China and recent political developments will all continue to have considerable consequences for the global economy.

### Index Returns<sup>1</sup>

#### Third Quarter



#### YTD through October



→ After broad declines in Q3 driven by expectations for further policy tightening, October produced mixed results with developed market equities posting notable gains.

→ Outside of commodities, all other public market asset classes remain significantly negative year-to-date.

<sup>1</sup> Source: Bloomberg and FactSet. Data is as of October 31, 2022.

### Domestic Equity Returns<sup>1</sup>

Domestic Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	8.1	-4.9	-17.7	-14.6	10.2	10.4	12.8
Russell 3000	8.2	-4.5	-18.4	-16.5	9.8	9.9	12.5
Russell 1000	8.0	-4.6	-18.5	-16.4	10.0	10.2	12.7
Russell 1000 Growth	5.8	-3.6	-26.6	-24.6	11.7	12.6	14.7
Russell 1000 Value	10.3	-5.6	-9.3	-7.0	7.3	7.2	10.3
Russell MidCap	8.9	-3.4	-17.5	-17.2	7.8	7.9	11.3
Russell MidCap Growth	7.9	-0.7	-26.1	-28.9	6.3	8.7	11.9
Russell MidCap Value	9.4	-4.9	-12.8	-10.2	7.5	6.5	10.4
Russell 2000	11.0	-2.2	-16.9	-18.5	7.0	5.6	9.9
Russell 2000 Growth	9.5	0.2	-22.6	-26.0	5.1	5.2	10.1
Russell 2000 Value	12.6	-4.6	-11.2	-10.7	8.1	5.3	9.4

#### US Equities: Russell 3000 Index rose 8.2% for October.

- US stocks rallied, posting strong monthly returns across all indices, rebounding from a sharp drop in September. Investors demonstrated optimism across the style and market capitalization spectrum as earnings remained resilient despite economic pressures.
- Most sectors rose in October, but there was wide dispersion. Energy's 24.8% gain led all sectors, driven by strong earnings, while consumer discretionary experienced a slightly positive gain (0.2%) given the impact of inflationary pressures on consumers.
- Value stocks continued to outperform growth stocks across the market capitalization spectrum. The rally in energy stocks and the relative underperformance of technology and consumer discretionary stocks has driven this dynamic.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.

### Foreign Equity Returns<sup>1</sup>

Foreign Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.0	-9.9	-24.3	-24.7	-1.7	-0.6	3.3
MSCI EAFE	5.4	-9.4	-23.2	-23.0	-1.3	-0.1	4.1
MSCI EAFE (Local Currency)	5.3	-3.6	-9.9	-8.4	3.7	3.3	7.9
MSCI EAFE Small Cap	4.2	-9.8	-29.2	-30.3	-2.3	-1.3	5.6
MSCI Emerging Markets	-3.1	-11.6	-29.4	-31.0	-4.4	-3.1	0.8
MSCI Emerging Markets (Local Currency)	-2.6	-8.2	-22.8	-24.2	-0.8	-0.2	4.2
MSCI China	-16.8	-22.5	-42.8	-47.9	-13.8	-9.7	-0.1

Developed International equities (MSCI EAFE) rose 5.4%, while emerging markets (MSCI EM) returned -3.1% in October, driven largely by declines in China.

- Developed markets outside of the US had a strong month in October, posting gains in Europe, the UK, and Japan. Energy and industrials led broad-sectoral gains in the Eurozone, while the UK markets reacted positively to the appointment of the new prime minister, Rishi Sunak. The Bank of Japan’s continued dovish policy stance and early signs of resilient Q3 earnings supported Japanese equities.
- China dominated headlines this month across the non-US landscape. Rising geopolitical tensions, particularly after events from the 20<sup>th</sup> Communist Party Congress, on top of the continuation of the zero COVID-19 policies, drove sharp declines for the month.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.

### Fixed Income Returns<sup>1</sup>

Fixed Income	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-1.1	-4.5	-15.8	-15.8	-3.6	-0.4	1.0	5.5	6.1
Bloomberg Aggregate	-1.3	-4.8	-15.7	-15.7	-3.8	-0.5	0.7	5.0	6.3
Bloomberg US TIPS	1.2	-5.1	-12.5	-11.5	1.1	2.2	1.0	4.6	6.9
Bloomberg High Yield	2.6	-0.6	-12.5	-11.8	0.3	2.0	4.1	9.1	4.5
JPM GBI-EM Global Diversified (USD)	-0.9	-5.8	-19.3	-20.3	-8.2	-3.5	-2.6	7.7	4.8

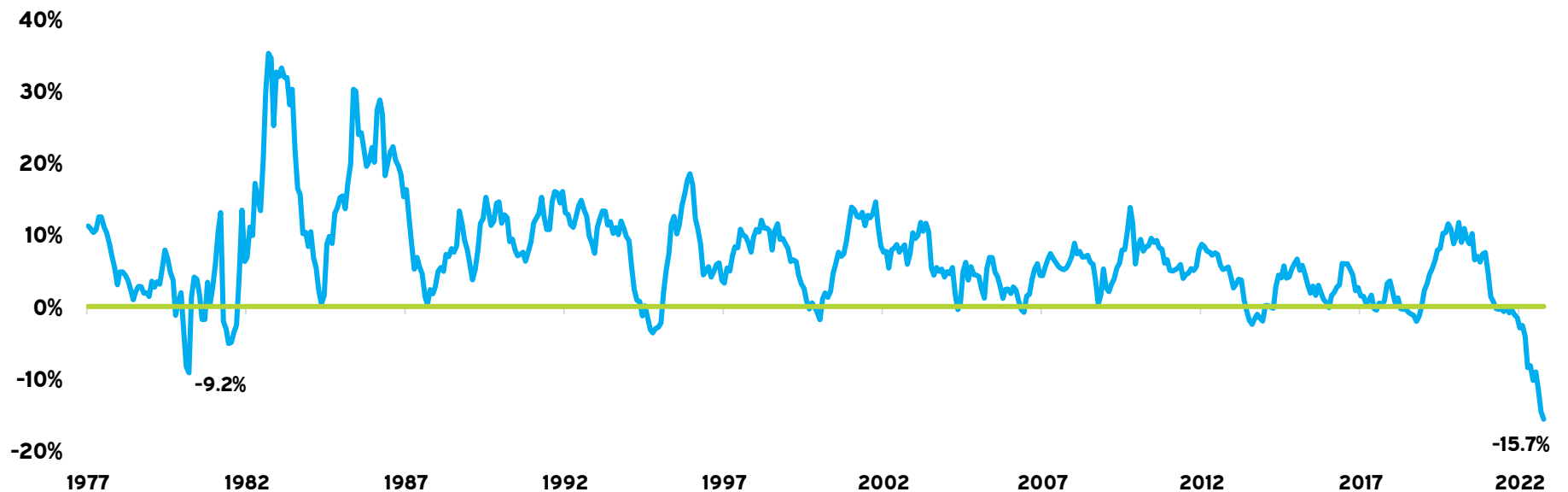
#### Fixed Income: The Bloomberg Universal declined 1.1% in October.

- A continued rise in bond yields in the US driven by the Fed reinforcing its commitment to fight inflation weighed on fixed income markets for the month. Year-to-date, the US bond market (Bloomberg Aggregate) performance is the worst on record.
- TIPS appreciated for the month but remain down double-digits for the year as real rates have experienced a steep increase too. The inflation adjustment has led to a 320 basis points smaller decline than the broad US bond market though.
- Riskier US bonds, as represented by the high yield index, produced the best fixed income results for the month (+2.6%) in the risk-on environment. Emerging market bonds finished down 0.9% in October adding to the significant declines year-to-date.

<sup>1</sup> Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of October 31, 2022.



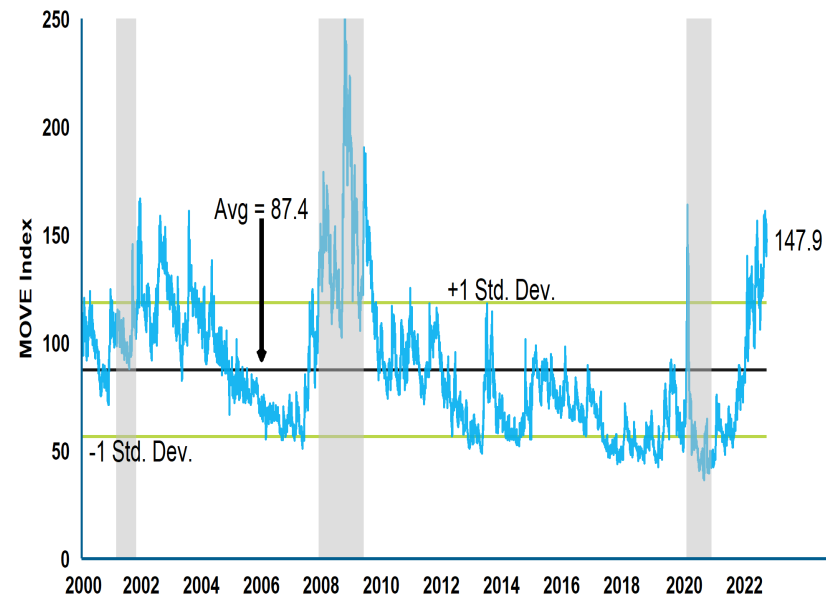
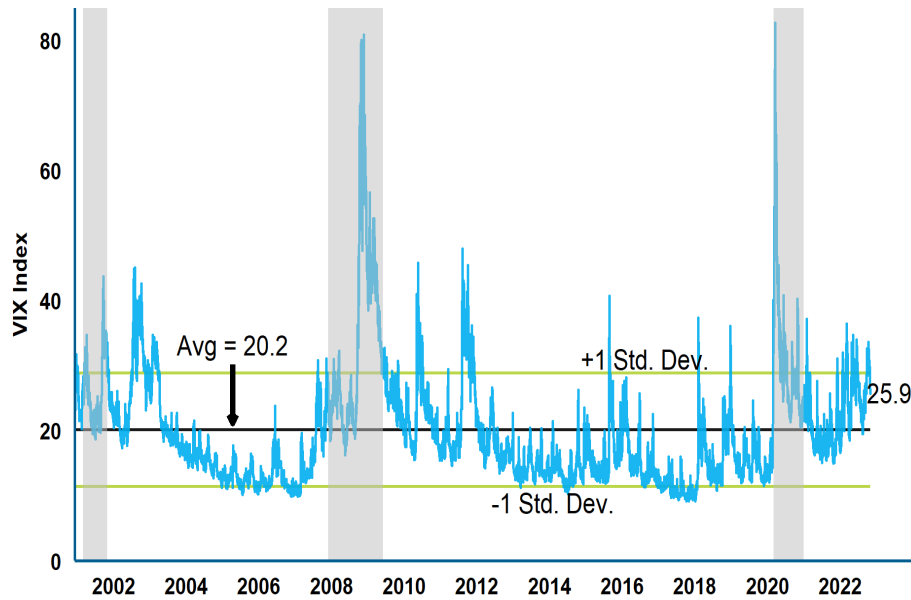
### Bloomberg US Aggregate Rolling One-year Returns<sup>1</sup>



- This has been the worst rolling one-year return period for the US bond market given the historic inflation levels and the corresponding rapid rise in interest rates.
- Through October the trailing year return was -15.7% well ahead of the number two spot (-9.2%) from the early 1980s.

<sup>1</sup> Source: Bloomberg. Data is as of 10/31/2022.

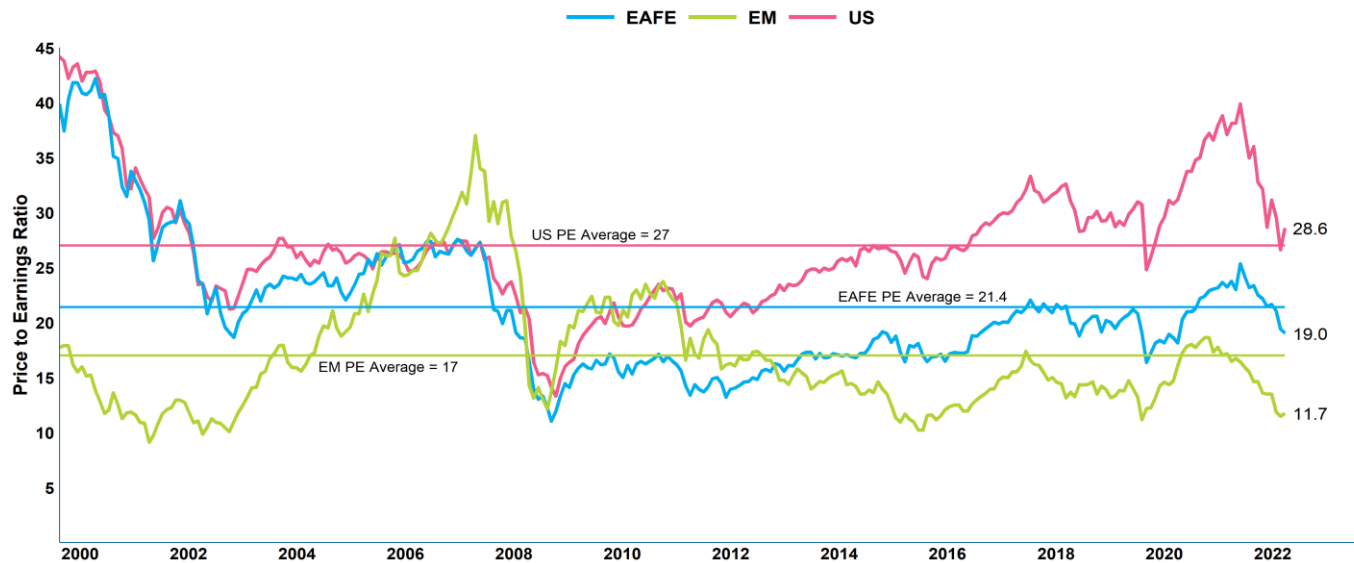
**Equity and Fixed Income Volatility<sup>1</sup>**



- Volatility in equities (VIX) and fixed income (MOVE) remained above their long-run averages in October.
- Fixed income volatility was particularly high due to the uncertain path of US interest rates as the Federal Reserve continued its hawkish stance on inflation.

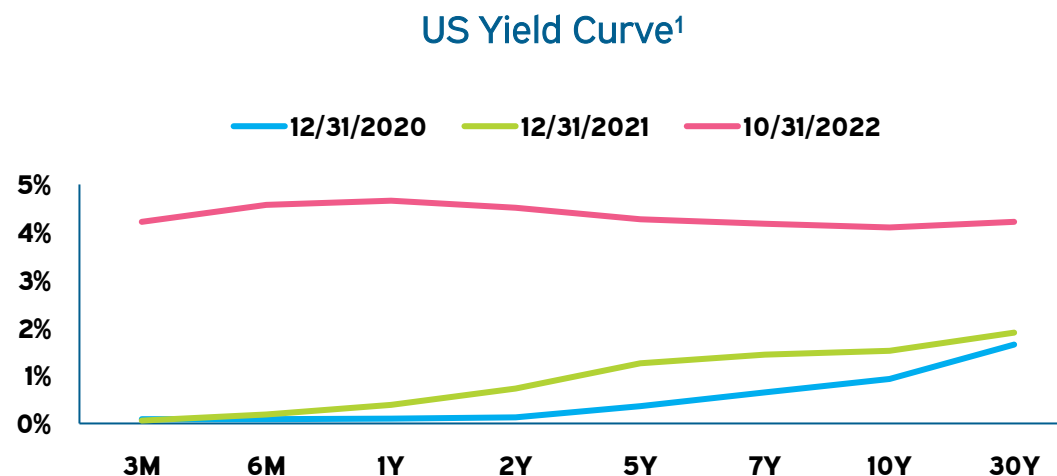
<sup>1</sup> Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of October 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.

**Equity Cyclically Adjusted P/E Ratios<sup>1</sup>**



- October’s US equity rally brought the market’s price-to-earnings ratio to slightly above the long-term (21<sup>st</sup> century) average.
- International developed market valuations remain below the US and are below their own long-term average, with those for emerging markets the lowest and well under the long-term average.
- Price declines have been the main driver of recent multiple compression as earnings have remained resilient. Concerns remain over whether earnings strength will continue in the face of slowing growth.

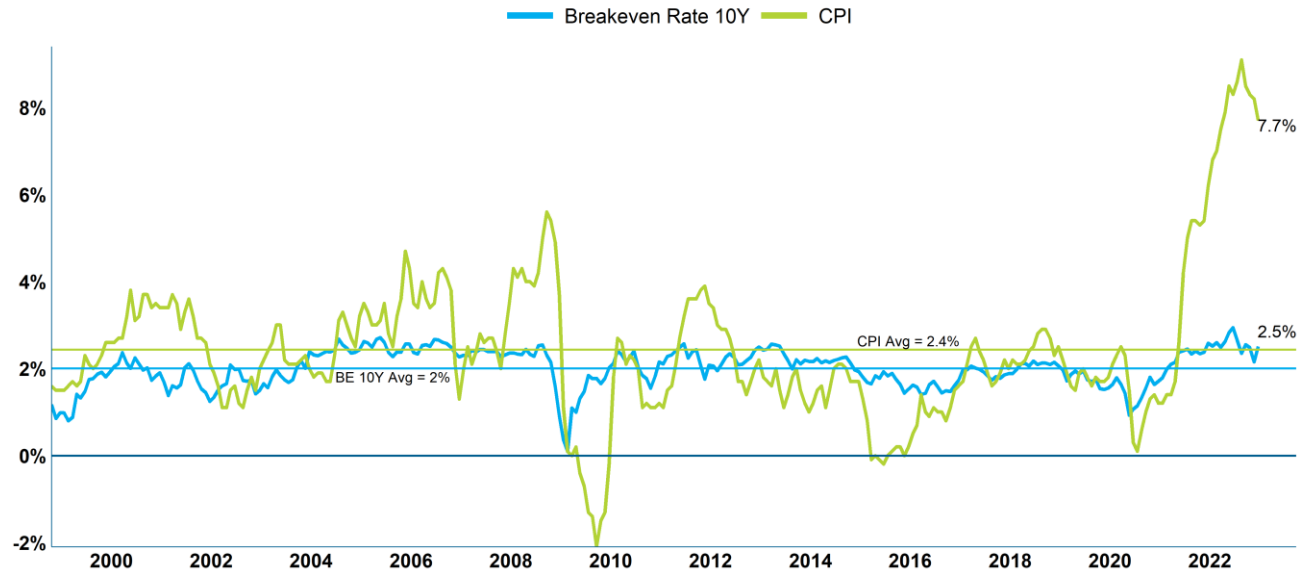
<sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of October 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.



- Rates across the yield curve remain far higher than at the start of the year.
- In October, interest rates continued to increase across the yield curve, particularly at the front-end where there is more sensitivity to policy changes. Two-year Treasury yields rose from 4.3% to 4.5% for the month, while ten-year Treasury yields climbed from 3.8% to 4.1%.
- The Fed remains strongly committed to fighting inflation, as it increased rates another 75 basis points to a range of 3.75% to 4.0% at its November meeting. This was the sixth increase this year and the fourth consecutive increase of this amount.
- The yield spread between two-year and ten-year Treasuries remained negative, finishing September at -0.41%. The more closely watched measure by the Fed of three-month and ten-year Treasuries also inverted. Historically, inversions in the yield curve have often preceded recessions.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022.

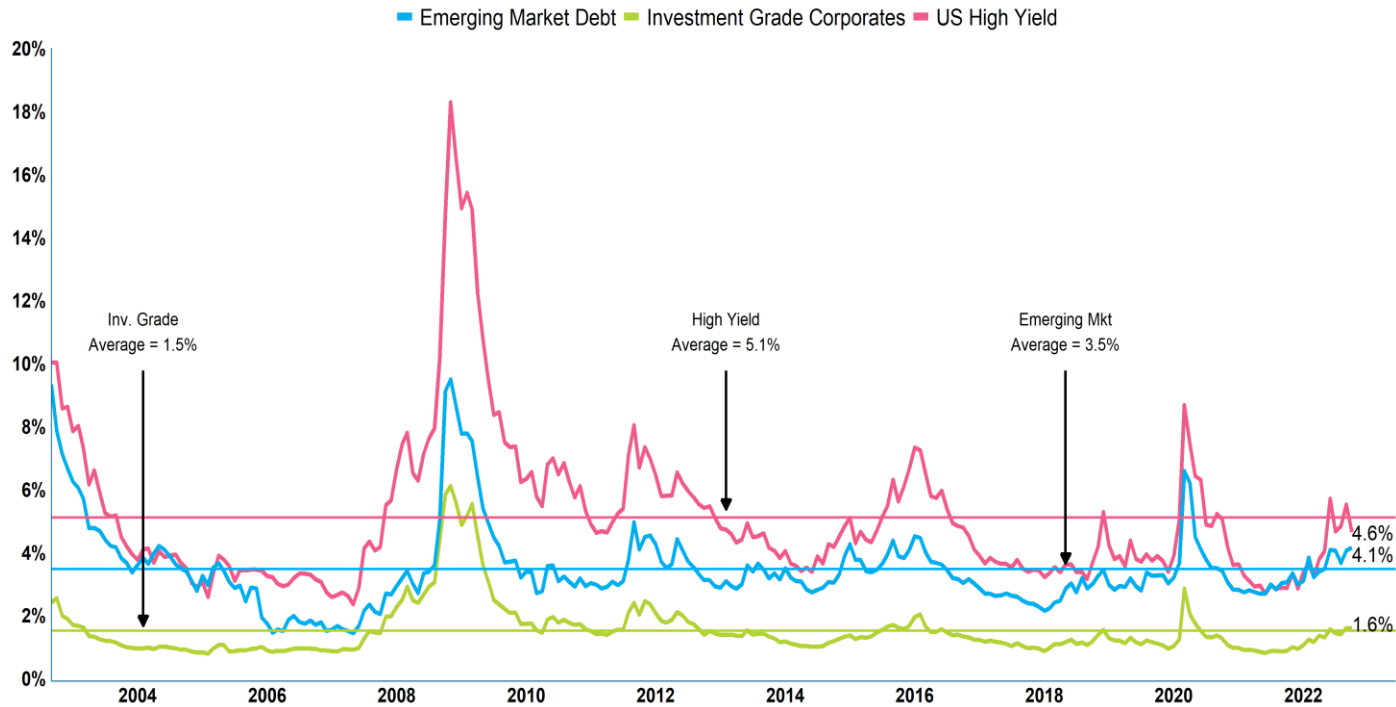
**Ten-Year Breakeven Inflation and CPI<sup>1</sup>**



- Inflation expectations (breakevens) rose slightly in October, remaining above the long-run average.
- Trailing twelve-month CPI declined in October (7.7% versus 8.2%) coming in below expectations of 7.9%. Core inflation (excluding food and energy prices) declined from its recent 40-year peak of 6.6% to 6.3% over the same period.
- Over the last year, rising prices for energy (particularly oil), food, housing, and for new and used cars remain key drivers of inflation.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative purposes.

**Credit Spreads vs. US Treasury Bonds<sup>1</sup>**



- High yield spreads (the added yield above a comparable maturity Treasury) fell in October to below their long-run average as below investment grade credit largely outperformed Treasuries in the risk-on environment.
- Investment grade spreads stayed the same in the US (1.6%), near the long-run average, while emerging market spreads increased slightly (4.1% versus 4.0%) staying above their average.

<sup>1</sup> Sources: Bloomberg. Data is as of October 31, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively.

### Global Economic Outlook

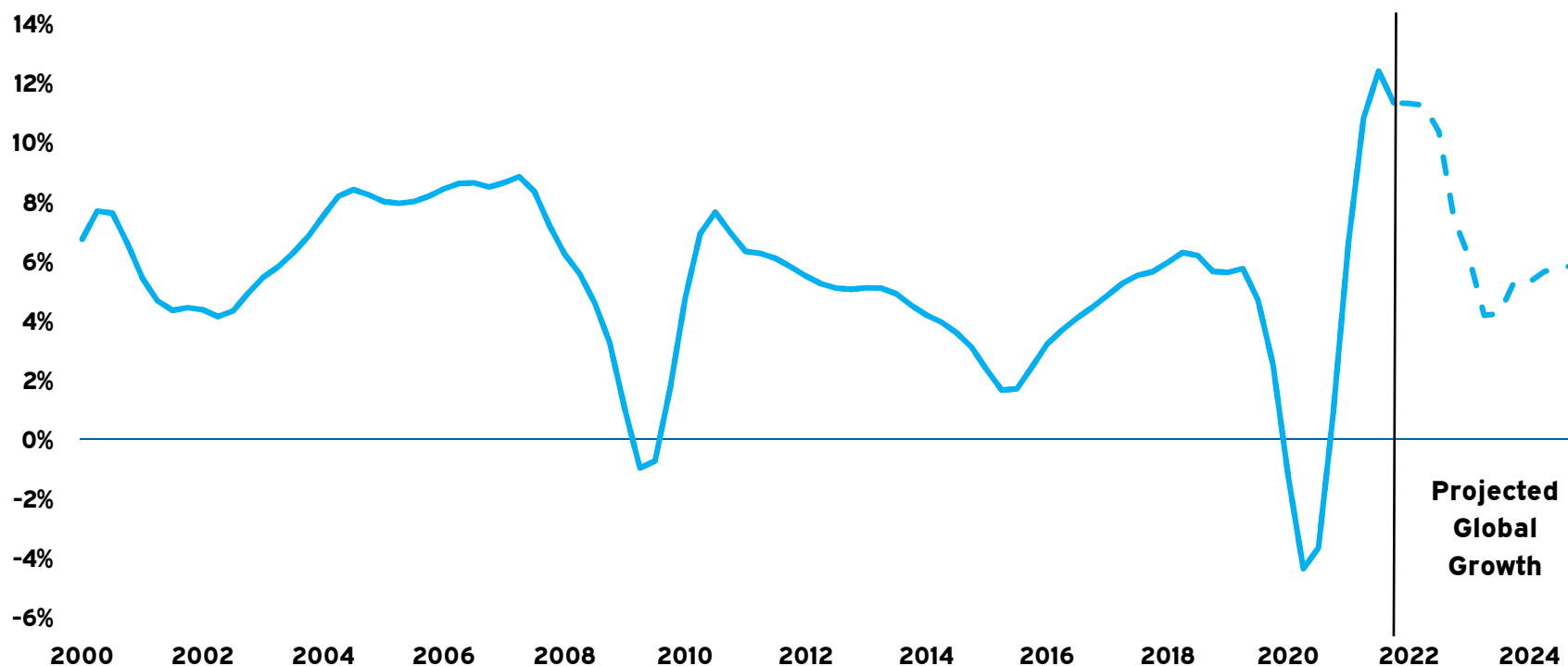
In their October update, the IMF maintained lowered global growth forecasts, driven by the economic impacts of persistent inflation and corresponding tighter policy, as well as issues related to the war in Ukraine and the lingering pandemic.

- The IMF forecasts global GDP growth to come in at 3.2% in 2022 (like the July estimate) and 2.7% in 2023 (0.2% below the prior estimate).
- In advanced economies, GDP is projected to grow 2.4% in 2022 and 1.1% in 2023. The US saw another downgrade in the 2022 (1.6% versus 2.3%) forecast largely due to accelerated policy tightening, given persistently high inflation. The euro area saw an upgrade in expected growth (3.1% versus 2.6%) on substantial fiscal stimulus in 2022 but a downgrade in 2023 (0.5% versus 1.2%) as rising energy prices weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and 1.6% in 2023.
- Growth projections for emerging markets are higher than developed markets, at 3.7% in 2022 and 2023. China's growth was downgraded for 2022 (3.2% versus 3.3%) and 2023 (4.4% versus 4.6%) given tight COVID-19 restrictions and continued property sector problems.
- The global inflation forecast was significantly increased for 2022 (8.8% versus 7.4%).

	Real GDP (%) <sup>1</sup>			Inflation (%) <sup>1</sup>		
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average
World	3.2	2.7	3.2	8.8	6.5	3.6
Advanced Economies	2.4	1.1	1.6	7.2	4.3	1.6
US	1.6	1.0	2.1	8.1	3.5	2.0
Euro Area	3.1	0.5	1.0	8.3	5.7	1.3
Japan	1.7	1.6	0.8	2.0	1.4	0.4
Emerging Economies	3.7	3.7	4.4	9.9	8.1	5.3
China	3.2	4.4	7.3	2.2	2.2	2.4

<sup>1</sup> Source: IMF World Economic Outlook. Real GDP and Inflation forecasts from October 2022 Update. "Actual 10 Year Average" represents data from 2012 to 2021.

### Global Nominal Gross Domestic Product (GDP) Growth<sup>1</sup>



→ Global economies are expected to slow in 2022 compared to 2021, with risks of recession increasing given persistently high inflation and related tighter monetary policy.

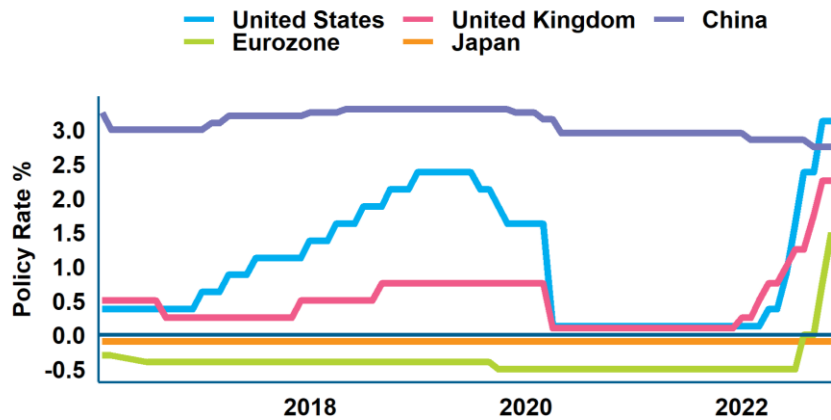
→ The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

<sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated October 2022. Nominal expectations for GDP remain much higher than real GDP expectations given the elevated inflation levels.

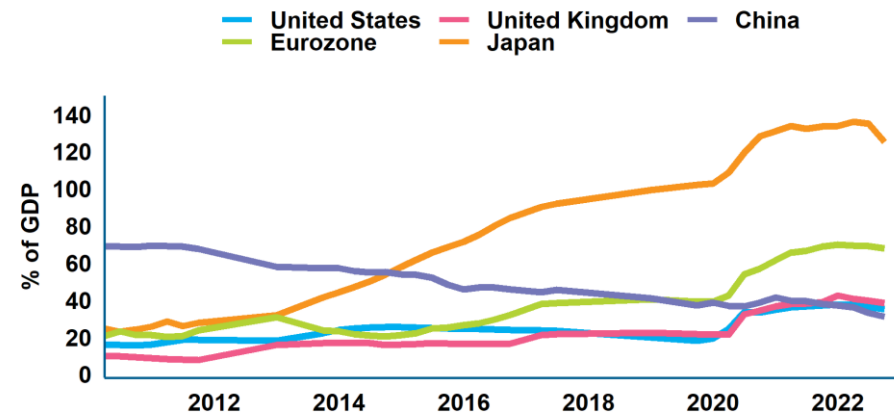


### Central Bank Response<sup>1</sup>

#### Policy Rates



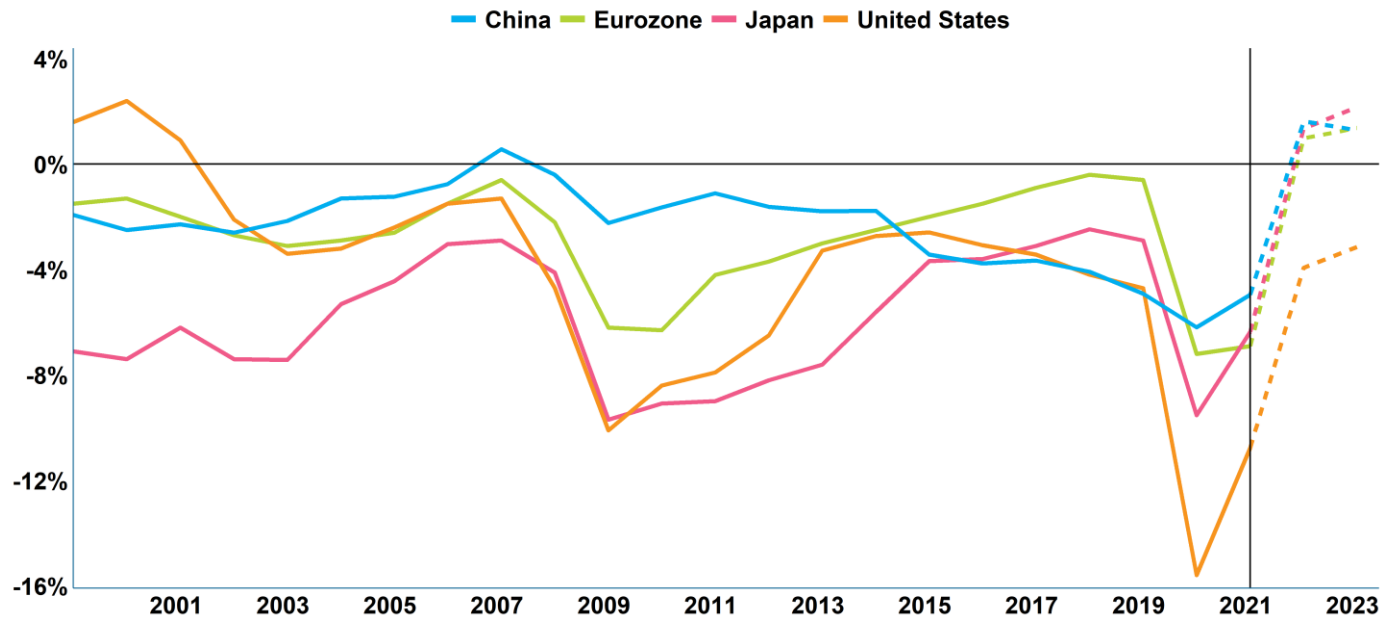
#### Balance Sheet as % of GDP



- After global central banks took extraordinary action to support economies during the pandemic, including policy rate cuts and emergency stimulus through quantitative easing (QE), many are now aggressively reducing support in the face of high inflation.
- The pace of withdrawing support varies across central banks with the US taking a more aggressive approach.
- The one notable central bank outlier is China, where the central bank has lowered rates and reserve requirements in response to slowing growth.
- The risk remains for a policy error, particularly overtightening, as record inflation, the war in Ukraine, and a tough COVID-19 policy in China could suppress global growth.

<sup>1</sup> Source: Bloomberg. Policy rate data is as of October 31, 2022. 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, 2022.

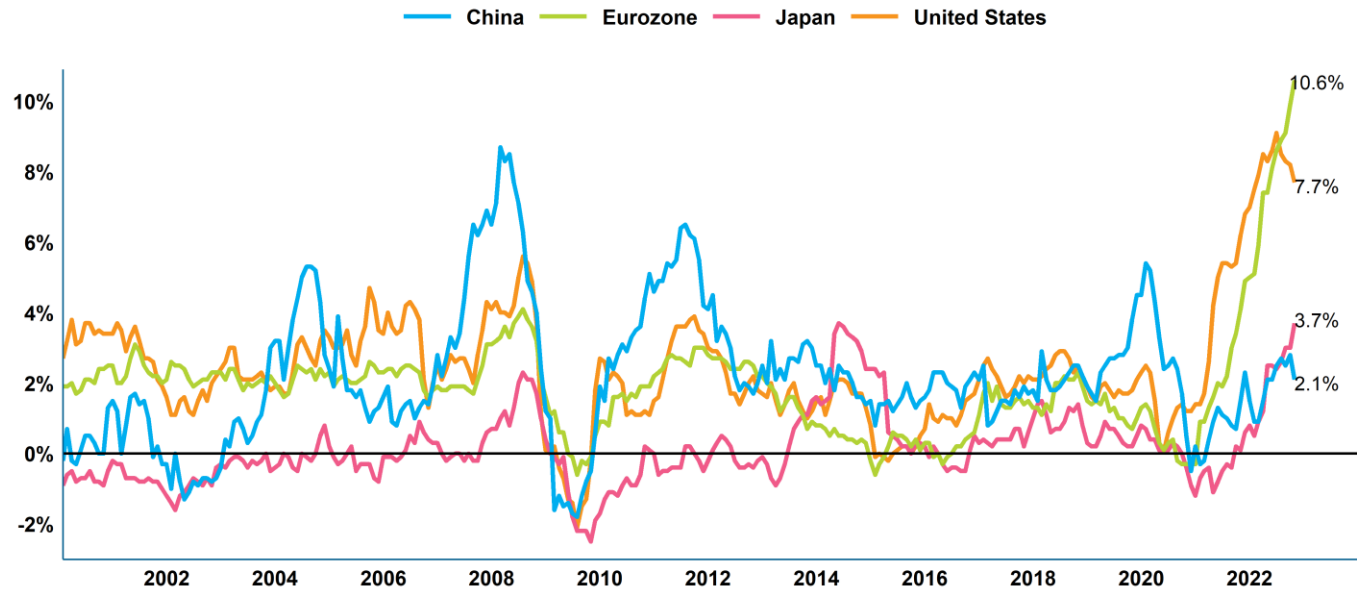
**Budget Surplus / Deficit as a Percentage of GDP<sup>1</sup>**



- Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.
- As fiscal stimulus programs end, and economic recoveries continue, deficits should improve.
- Questions remain about how some countries will respond fiscally as inflation, particularly energy prices, weigh on consumers. Policies that undermine central banks' efforts to fight inflation could lead to additional market volatility like was seen recently in the UK.

<sup>1</sup> Source: Bloomberg. Data is as of October 31, 2022. Projections via IMF Forecasts from October 2022 Report. Dotted lines represent 2022 and 2023 forecasts.

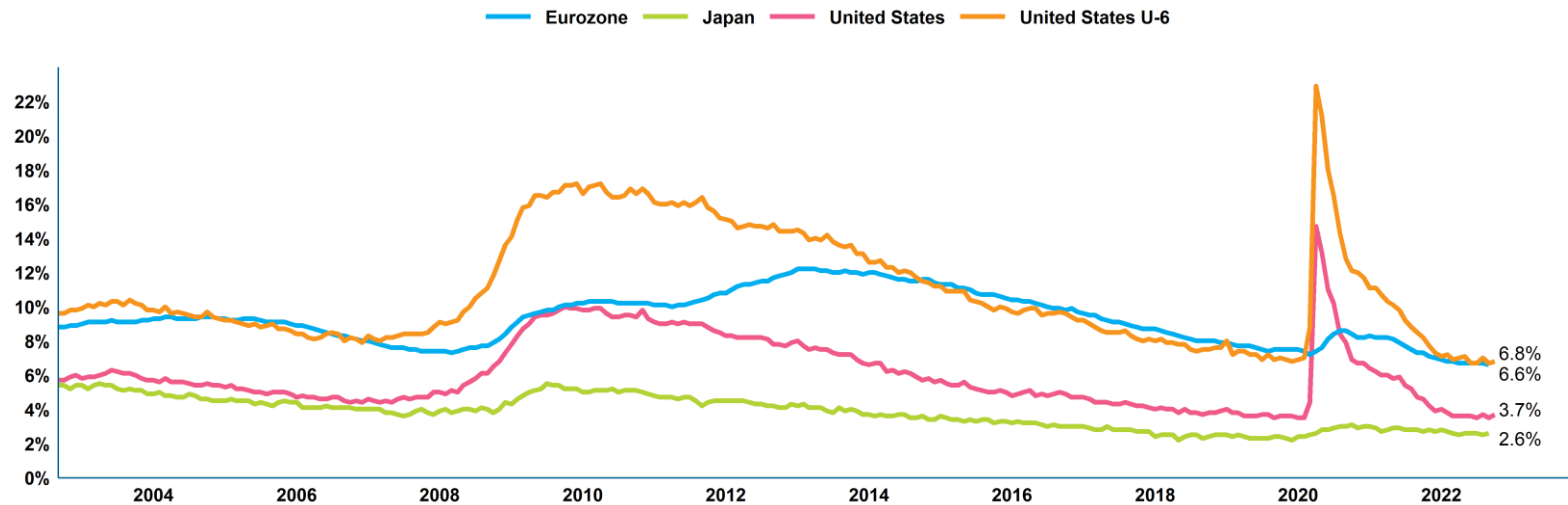
**Inflation (CPI Trailing Twelve Months)<sup>1</sup>**



- Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.
- Inflation pressures continue to grow in Europe, reaching historic levels due to skyrocketing energy prices and a weak euro.
- Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher commodity prices driven by the war in Ukraine have been key global drivers of inflation.

<sup>1</sup> Source: Bloomberg. Data is as of October 2022.

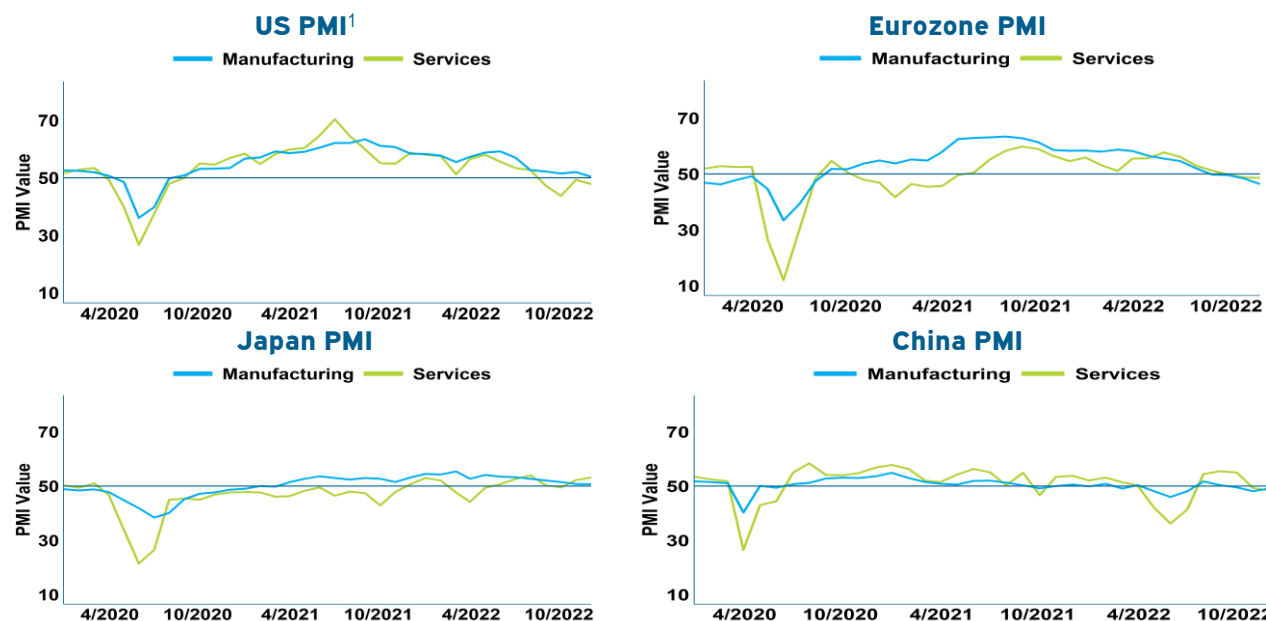
### Unemployment<sup>1</sup>



- As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- Despite slowing growth and high inflation the US labor market remains a bright spot. Unemployment in the US, which experienced the steepest rise from the pandemic, has remained in a tight 3.5%-3.7% range for most of the year. The broader measure (U-6) that includes discouraged and underemployed workers remains much higher at 6.8%.
- The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, likely leading to eventually higher unemployment.

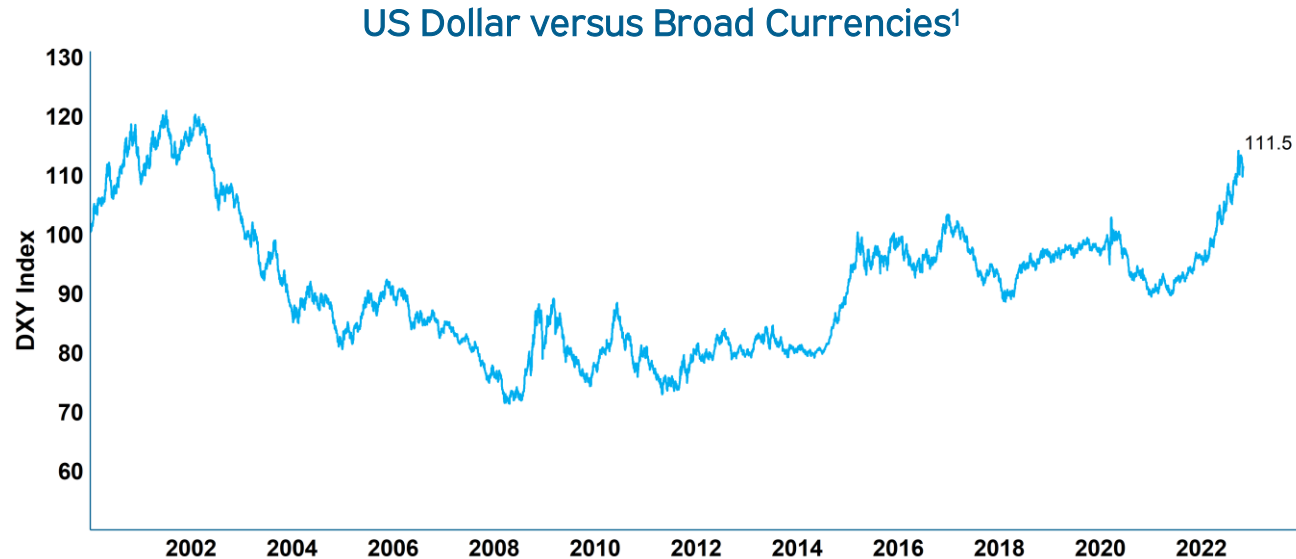
<sup>1</sup> Source: Bloomberg. Data is as October 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of September 30, 2022.

### Global PMIs



- After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced downward pressure recently.
- Service sector PMIs, except Japan (lifting COVID-19 restrictions and travel incentives have been helpful here), are all in contraction territory. The US service sector declined, remaining in negative territory, due to weak demand both domestically and abroad and softening employment.
- Manufacturing PMIs are also slowing across China and developed markets given declines in demand and inflationary pressures with the Eurozone, and China in contraction territory.

<sup>1</sup> Source: Bloomberg. US Markit Services and Manufacturing PMI, Caixin Services and Manufacturing PMI, Eurozone Markit Services and Manufacturing PMI, Jibun Bank Services and Manufacturing PMI. Data is as of October 2022. Readings below 50 represent economic contractions.



- Overall, the US dollar remained elevated in October but showed some signs of weakening. After month-end, the dollar weakened further.
- The increased pace of policy tightening, stronger relative growth, and safe-haven flows all contributed to the dollar's strength this year.
- The euro, yen, pound, and yuan have all experienced significant declines versus the dollar this year, adding to inflationary pressures in those countries.

<sup>1</sup> Source: Bloomberg. Data as of October 31, 2022.

## Summary

### Key Trends in 2022:

- The impacts of record high inflation will remain key, with market volatility likely to stay high.
- The pace of monetary tightening globally will be faster than previously expected, with the risk of overtightening.
- Expect growth to slow globally for the rest of 2022 and into 2023 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- In the US the end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices will depress consumers' spending in other areas.
- Valuations have significantly declined in the US to below long-term averages, largely driven by price declines. The key going forward will be whether earnings can remain resilient if growth continues to slow.
- Outside the US, equity valuations remain lower in both emerging and developed markets, but major risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

## **Asset Class and Manager Commentary**



### Domestic Equity

→ Domestic equity slightly trailed the Russell 3000 benchmark during the quarter while outperforming over calendar year-to-date as well as 1-year trailing period though it slightly lagged the benchmark again over the longer trailing periods.

- Reflecting the volatile market over the quarter, all of the managers generated negative absolute returns. While only **Brown Fundamental Small Cap Value** outperformed the benchmark over the quarter, **Brown** as well as all other active managers (except for recently incepted **Wellington Select Quality**) maintained their outperformance over the calendar year-to-date and longer periods.
- **Earnest Partners, Wellington Select Quality, and Rice Hall James** all trailed their respective benchmarks and fell below average amongst its peers for the quarter. However, Earnest maintained its above average ranking for longer trailing periods.
- **Rice Hall James** also maintained its above average ranking over the 1-year trailing period. However, its historical underperformance in 2018 has kept its rank below average for the longer periods.
- **Brown Fundamental**, the Plan's active small cap value manager, outperformed its Russell 2000 Value benchmark and ranked above average amongst its small cap value peers across all time periods.

### International Equity

→ The international equity segment outperformed the MSCI ACWI ex US benchmark over the quarter as well as 1-, 3-, and 5-year trailing periods. As with domestic equity, the managers generated negative absolute returns reflecting the volatile conditions experienced during this quarter.

- **SGA MSCI ACWI ex US**, the Plan's active core international equity manager, outperformed its benchmark placing it below average compared to its international all cap core equity peers for the quarter as well as over the 1-year trailing period.
- The **Vanguard** passive international developed markets portfolio posted underperformance over the shorter time periods through the 1-year trailing period. Due to Vanguard's fair-value pricing methodology, the strategy tends to deviate from its tracked index return over the short-term; the deviation along with its excess return are expected to equalize over the longer term, and therefore the short-term deviation—both positive and negative—should not be overly scrutinized.

### Fixed Income

→ The Fixed Income aggregate trailed the Bloomberg Universal benchmark over the quarter, while it outperformed the benchmark across all other time periods. Reflecting the broad market trends, the fixed income managers in this portfolio posted negative absolute returns.

- **Ramirez** outperformed its benchmark over all time periods. Amongst its peers, **Ramirez** is above average in the most recent quarter as well as the long-term 5-year trailing period and since inception. However, it ranks in the 3rd quartile over the more intermediate 1- and 3-year periods.
- **Reams** slightly trailed its benchmark over the quarter while maintaining its outperformance over the longer trailing periods. Except for the most recent period, **Reams** ranks above average amongst its Core Plus Fixed Income peers.
- **Wellington Core Bond**, the most recently funded core fixed income manager, kept pace with its Bloomberg US Aggregate benchmark both over the quarter and trailed the benchmark over the 1-year trailing period.

#### Credit

- With **Polen Capital** as the Plan's sole **Credit** manager, the Credit portfolio outperformed the asset class's benchmark, Bloomberg US High Yield during the quarter as well as over all other time periods measured. Among its peers, **Polen** ranked above average across all periods except for the most recent quarter.
- This manager was formerly known as DDJ. As DDJ was recently acquired by Polen Capital, the manager remains on the Watchlist to monitor its progress and organization changes.

### Covered Calls

→ The **Covered Calls** portfolio strongly outperformed its CBOE S&P 500 Buy-Write Index over the quarter and the 1-, 3- and 5-year periods.

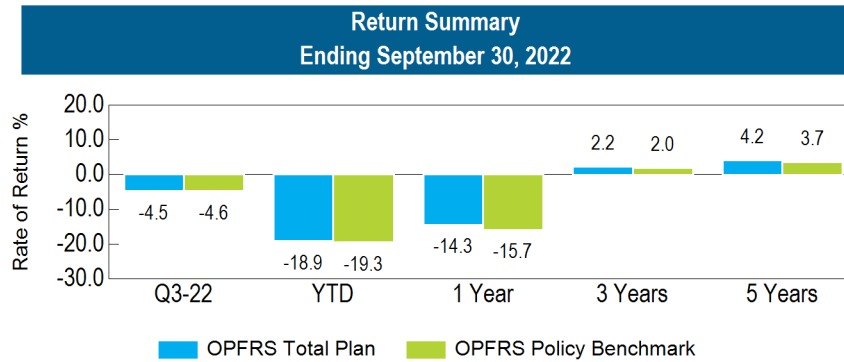
- The active covered call strategy, **Parametric DeltaShift**, in comparison with the managers in the US large cap core equity—which is an imperfect peer group for this strategy—ranked above average all time periods measure except for the longer 5-year trailing period.
- The passive covered calls strategy, **Parametric BXM**, on the other hand, ranked above average over 1-year period while ranking in the below average over the most recent quarter and the longer 3- and 5-year trailing periods. However, as noted above, no directly comparable peer group is available for the **Covered Calls** asset class and the peer universe used here is an imperfect comparison.

### **Crisis Risk Offset**

- The **Crisis Risk Offset (CRO)** is structured as a combination of multiple underlying asset types, so that the aggregate class exhibits uncorrelated returns and characteristics with the objective to diversify both the equity risk and nominal interest rate risk of the total portfolio.
- The CRO portfolio trailed its benchmark SG Multi Alternative Risk Premia Index over the quarter as well as other time periods measured.
- Even though the portfolio has trailed across all time periods, as a long-term-oriented segment of the Plan and given the recency of funding for two of the three underlying managers, the underperformance ought not to be overly scrutinized.
  - Within the segment, **Vanguard Long-Term Treasury** posted negative absolute returns, reflecting the challenges of the raising rate environment while **Versor** and **Kepos** posted positive absolute returns with outperformance over their respective benchmarks.

**3Q 2022 Performance**  
as of September 30, 2022

### OPFRS Total Plan | As of September 30, 2022



**Summary of Cash Flows**

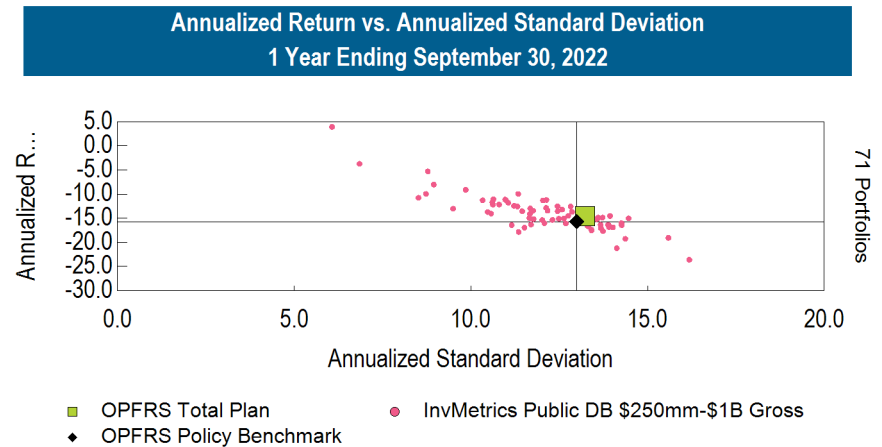
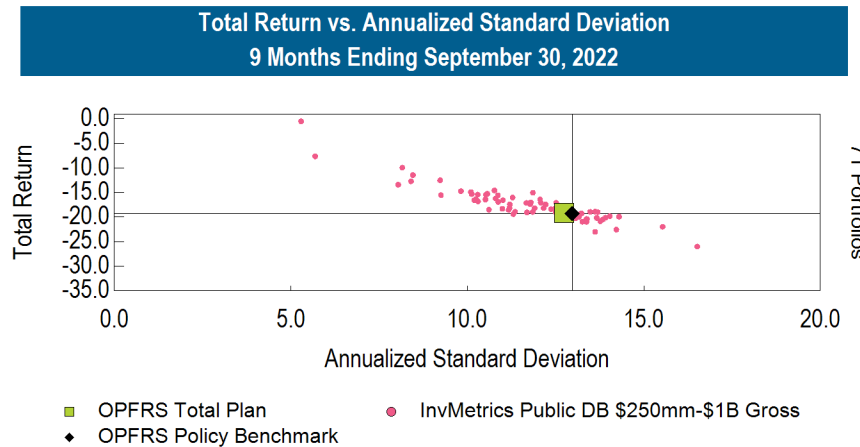
	Quarter-To-Date	One Year
Beginning Market Value	\$406,308,110	\$459,712,578
Net Cash Flow	-\$5,998,251	-\$13,971,647
Capital Appreciation	-\$17,851,820	-\$63,282,892
Ending Market Value	\$382,458,040	\$382,458,040

**YTD Ending September 30, 2022**

	Total Return	Anlzd Standard Deviation
OPFRS Total Plan	-18.9%	12.7%
OPFRS Policy Benchmark	-19.3%	13.0%

**1 Year Ending September 30, 2022**

	Anlzd Return	Anlzd Standard Deviation
OPFRS Total Plan	-14.3%	13.2%
OPFRS Policy Benchmark	-15.7%	13.0%



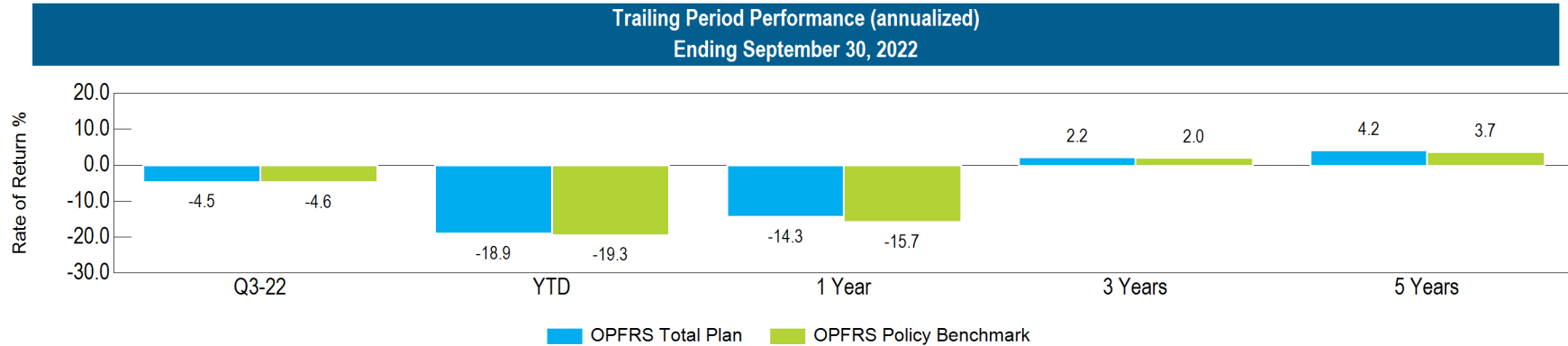
Performance shown is Gross-of-Fees.



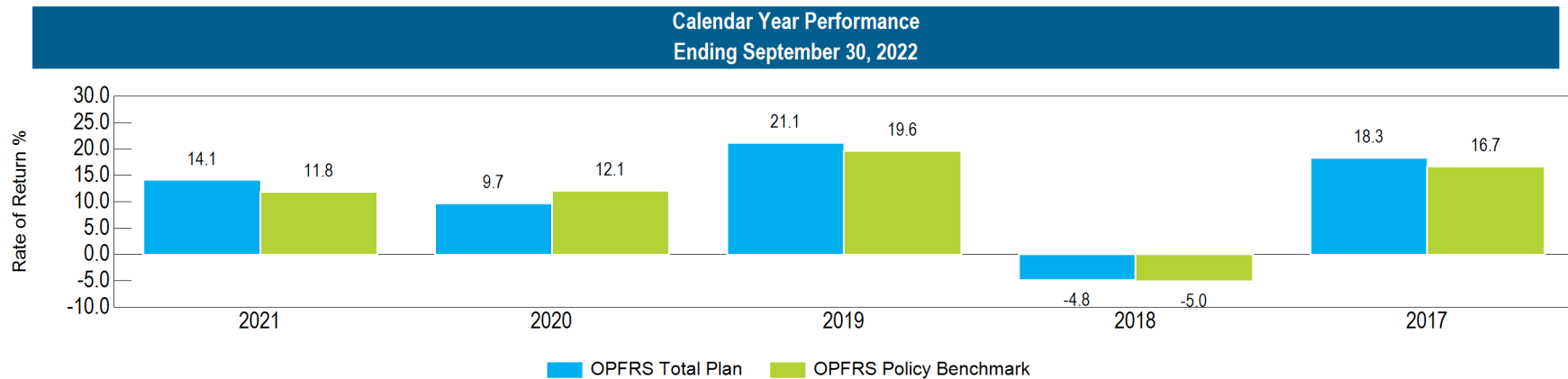
### Asset Class Performance (gross of fees) | As of September 30, 2022

	Market Value (\$)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)
<b>OPFRS Total Plan</b>	<b>382,458,040</b>	<b>-4.5</b>	<b>-18.9</b>	<b>-4.5</b>	<b>-14.3</b>	<b>2.2</b>	<b>4.2</b>	<b>6.5</b>	<b>6.5</b>	<b>6.4</b>
<i>OPFRS Policy Benchmark</i>		<u>-4.6</u>	<u>-19.3</u>	<u>-4.6</u>	<u>-15.7</u>	<u>2.0</u>	<u>3.7</u>	<u>6.1</u>	<u>6.0</u>	<u>7.6</u>
Excess Return		0.1	0.4	0.1	1.4	0.2	0.5	0.4	0.5	-1.2
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>		-4.2	-18.2	-4.2	-14.6	4.1	4.8	6.7	6.9	7.9
<b>Domestic Equity</b>	<b>149,632,829</b>	<b>-4.8</b>	<b>-23.1</b>	<b>-4.8</b>	<b>-15.6</b>	<b>7.3</b>	<b>8.3</b>	<b>10.6</b>	<b>11.3</b>	<b>8.4</b>
<i>Russell 3000 (Blend)</i>		<u>-4.5</u>	<u>-24.6</u>	<u>-4.5</u>	<u>-17.6</u>	<u>7.7</u>	<u>8.6</u>	<u>10.9</u>	<u>11.4</u>	<u>8.5</u>
Excess Return		-0.3	1.5	-0.3	2.0	-0.4	-0.3	-0.3	-0.1	-0.1
<b>International Equity</b>	<b>43,464,153</b>	<b>-9.6</b>	<b>-26.7</b>	<b>-9.6</b>	<b>-24.2</b>	<b>-1.3</b>	<b>-0.2</b>	<b>4.1</b>	<b>4.4</b>	<b>4.4</b>
<i>MSCI ACWI ex US (Blend)</i>		<u>-9.9</u>	<u>-26.5</u>	<u>-9.9</u>	<u>-25.2</u>	<u>-1.5</u>	<u>-0.8</u>	<u>3.3</u>	<u>3.0</u>	<u>4.2</u>
Excess Return		0.3	-0.2	0.3	1.0	0.2	0.6	0.8	1.4	0.2
<b>Fixed Income</b>	<b>99,482,210</b>	<b>-4.6</b>	<b>-14.7</b>	<b>-4.6</b>	<b>-14.6</b>	<b>-2.7</b>	<b>0.3</b>	<b>1.3</b>	<b>1.4</b>	<b>4.7</b>
<i>Bloomberg Universal (Blend)</i>		<u>-4.5</u>	<u>-14.9</u>	<u>-4.5</u>	<u>-14.9</u>	<u>-3.1</u>	<u>-0.2</u>	<u>0.9</u>	<u>1.2</u>	<u>4.5</u>
Excess Return		-0.1	0.2	-0.1	0.3	0.4	0.5	0.4	0.2	0.2
<b>Credit</b>	<b>8,450,960</b>	<b>-0.5</b>	<b>-9.4</b>	<b>-0.5</b>	<b>-8.9</b>	<b>3.3</b>	<b>2.9</b>	<b>5.1</b>	<b>--</b>	<b>4.5</b>
<i>Bloomberg US High Yield TR</i>		<u>-0.6</u>	<u>-14.7</u>	<u>-0.6</u>	<u>-14.1</u>	<u>-0.5</u>	<u>1.6</u>	<u>4.1</u>	<u>--</u>	<u>3.3</u>
Excess Return		0.1	5.3	0.1	5.2	3.8	1.3	1.0		1.2
<b>Covered Calls</b>	<b>29,207,716</b>	<b>-5.1</b>	<b>-18.8</b>	<b>-5.1</b>	<b>-11.3</b>	<b>6.2</b>	<b>6.4</b>	<b>8.5</b>	<b>--</b>	<b>7.4</b>
<i>CBOE S&amp;P 500 BuyWrite USD</i>		<u>-7.6</u>	<u>-17.0</u>	<u>-7.6</u>	<u>-11.2</u>	<u>0.7</u>	<u>2.1</u>	<u>4.5</u>	<u>--</u>	<u>4.2</u>
Excess Return		2.5	-1.8	2.5	-0.1	5.5	4.3	4.0		3.2
<b>Crisis Risk Offset</b>	<b>41,648,656</b>	<b>0.0</b>	<b>-10.1</b>	<b>0.0</b>	<b>-7.8</b>	<b>-12.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-8.7</b>
<i>SG Multi Alternative Risk Premia Index</i>		<u>0.9</u>	<u>3.2</u>	<u>0.9</u>	<u>4.7</u>	<u>-2.1</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>-0.9</u>
Excess Return		-0.9	-13.3	-0.9	-12.5	-10.8				-7.8

Performance shown is gross-of-fees. Fiscal year begins on July 1.



	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)	2021 (%)
<b>OPFRS Total Plan</b>	<b>-4.5</b>	<b>-4.5</b>	<b>-14.3</b>	<b>2.2</b>	<b>4.2</b>	<b>18.3</b>	<b>-4.8</b>	<b>21.1</b>	<b>9.7</b>	<b>14.1</b>
<i>OPFRS Policy Benchmark</i>	<i>-4.6</i>	<i>-4.6</i>	<i>-15.7</i>	<i>2.0</i>	<i>3.7</i>	<i>16.7</i>	<i>-5.0</i>	<i>19.6</i>	<i>12.1</i>	<i>11.8</i>
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>	<i>-4.2</i>	<i>-4.2</i>	<i>-14.6</i>	<i>4.1</i>	<i>4.8</i>	<i>15.8</i>	<i>-4.1</i>	<i>18.6</i>	<i>13.1</i>	<i>13.6</i>

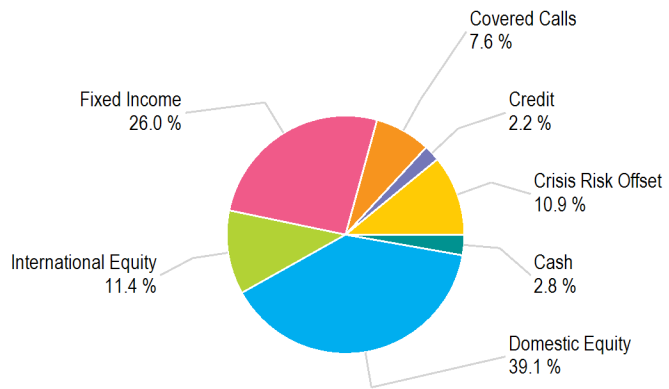


Fiscal year begins on July 1.

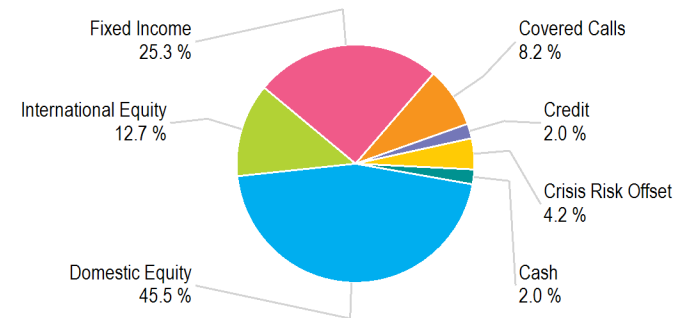
#### Asset Allocation vs. Target As Of September 30, 2022

	Current	%	Policy	Difference*
Domestic Equity	\$149,632,829	39.1%	40.0%	-0.9%
International Equity	\$43,464,153	11.4%	12.0%	-0.6%
Fixed Income	\$99,482,210	26.0%	31.0%	-5.0%
Covered Calls	\$29,207,716	7.6%	5.0%	2.6%
Credit	\$8,450,960	2.2%	2.0%	0.2%
Crisis Risk Offset	\$41,648,656	10.9%	10.0%	0.9%
Cash	\$10,571,515	2.8%	0.0%	2.8%
<b>Total</b>	<b>\$382,458,040</b>	<b>100.0%</b>	<b>100.0%</b>	

September 30, 2022: \$382,458,040



September 30, 2021: \$449,834,415



Cash account market value includes cash balances held in ETF accounts at the custodian and residuals from terminated managers.

Target weightings reflect the Plan's evolving asset allocation (effective 5/31/2017).

### Manager Performance - Gross of Fees | As of September 30, 2022

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>Domestic Equity</b>	<b>149,632,829</b>	<b>100.0</b>	<b>-4.8</b>	<b>-23.1</b>	<b>-15.6</b>	<b>7.3</b>	<b>8.3</b>	<b>8.4</b>	<b>Jun-97</b>
<i>Russell 3000 (Blend)</i>			<i>-4.5</i>	<i>-24.6</i>	<i>-17.6</i>	<i>7.7</i>	<i>8.6</i>	<i>8.5</i>	<i>Jun-97</i>
Excess Return			-0.3	1.5	2.0	-0.4	-0.3	-0.1	
Northern Trust Russell 1000	67,029,399	44.8	-4.6	-24.8	-17.5	7.8	8.9	12.2	Jun-10
<i>Russell 1000</i>			<i>-4.6</i>	<i>-24.6</i>	<i>-17.2</i>	<i>7.9</i>	<i>9.0</i>	<i>12.2</i>	<i>Jun-10</i>
Excess Return			0.0	-0.2	-0.3	-0.1	-0.1	0.0	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>42</i>	<i>76</i>	<i>82</i>	<i>49</i>	<i>52</i>	<i>51</i>	<i>Jun-10</i>
EARNEST Partners	40,474,607	27.0	-5.6	-21.4	-12.5	8.8	10.1	9.6	Apr-06
<i>Russell MidCap</i>			<i>-3.4</i>	<i>-24.3</i>	<i>-19.4</i>	<i>5.2</i>	<i>6.5</i>	<i>7.9</i>	<i>Apr-06</i>
Excess Return			-2.2	2.9	6.9	3.6	3.6	1.7	
<i>eV US Mid Cap Core Equity Gross Rank</i>			<i>92</i>	<i>46</i>	<i>26</i>	<i>14</i>	<i>12</i>	<i>27</i>	<i>Apr-06</i>
Wellington Select Quality Equity	19,520,651	13.0	-5.9	--	--	--	--	-11.3	May-22
<i>Russell 1000</i>			<i>-4.6</i>	--	--	--	--	<i>-12.7</i>	<i>May-22</i>
Excess Return			-1.3					1.4	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>81</i>	--	--	--	--	<i>37</i>	<i>May-22</i>
Rice Hall James	12,875,087	8.6	-4.3	-26.2	-22.8	5.5	5.3	5.7	Jul-17
<i>Russell 2000 Growth</i>			<i>0.2</i>	<i>-29.3</i>	<i>-29.3</i>	<i>2.9</i>	<i>3.6</i>	<i>4.6</i>	<i>Jul-17</i>
Excess Return			-4.5	3.1	6.5	2.6	1.7	1.1	
<i>eV US Small Cap Growth Equity Gross Rank</i>			<i>88</i>	<i>16</i>	<i>15</i>	<i>66</i>	<i>84</i>	<i>87</i>	<i>Jul-17</i>
Brown Fundamental Small Cap Value	9,733,085	6.5	-1.6	-17.3	-9.1	--	--	-5.6	Apr-21
<i>Russell 2000 Value</i>			<i>-4.6</i>	<i>-21.1</i>	<i>-17.7</i>	--	--	<i>-11.3</i>	<i>Apr-21</i>
Excess Return			3.0	3.8	8.6			5.7	
<i>eV US Small Cap Value Equity Gross Rank</i>			<i>9</i>	<i>24</i>	<i>16</i>	--	--	<i>26</i>	<i>Apr-21</i>

Performance shown is gross-of-fees.

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>International Equity</b>	<b>43,464,153</b>	<b>100.0</b>	<b>-9.6</b>	<b>-26.7</b>	<b>-24.2</b>	<b>-1.3</b>	<b>-0.2</b>	<b>4.4</b>	<b>Jan-98</b>
<i>MSCI ACWI ex US (Blend)</i>			<i>-9.9</i>	<i>-26.5</i>	<i>-25.2</i>	<i>-1.5</i>	<i>-0.8</i>	<i>4.2</i>	<i>Jan-98</i>
Excess Return			0.3	-0.2	1.0	0.2	0.6	0.2	
SGA ACWI ex-U.S. Equity	31,288,462	72.0	-9.1	-26.2	-23.9	--	--	-4.2	Dec-19
<i>MSCI ACWI ex USA</i>			<i>-9.9</i>	<i>-26.5</i>	<i>-25.2</i>	--	--	<i>-3.1</i>	<i>Dec-19</i>
Excess Return			0.8	0.3	1.3			-1.1	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>42</i>	<i>36</i>	<i>28</i>	--	--	<i>94</i>	<i>Dec-19</i>
Vanguard Developed Markets ETF	12,175,691	28.0	-10.6	-27.5	-25.6	-1.2	--	-0.2	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>			<i>-9.5</i>	<i>-27.2</i>	<i>-25.3</i>	<i>-0.8</i>	--	<i>0.2</i>	<i>Sep-19</i>
Excess Return			-1.1	-0.3	-0.3	-0.4		-0.4	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>84</i>	<i>46</i>	<i>51</i>	<i>84</i>	--	<i>80</i>	<i>Sep-19</i>

Performance shown is gross-of-fees.

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>Fixed Income</b>	<b>99,482,210</b>	<b>100.0</b>	<b>-4.6</b>	<b>-14.7</b>	<b>-14.6</b>	<b>-2.7</b>	<b>0.3</b>	<b>4.7</b>	<b>Dec-93</b>
<i>Bloomberg Universal (Blend)</i>			<i>-4.5</i>	<i>-14.9</i>	<i>-14.9</i>	<i>-3.1</i>	<i>-0.2</i>	<i>4.5</i>	<i>Dec-93</i>
Excess Return			-0.1	0.2	0.3	0.4	0.5	0.2	
Ramirez	67,871,550	68.2	-4.4	-14.5	-14.5	-2.9	0.3	0.9	Jan-17
<i>Bloomberg US Aggregate TR</i>			<i>-4.8</i>	<i>-14.6</i>	<i>-14.6</i>	<i>-3.3</i>	<i>-0.3</i>	<i>0.3</i>	<i>Jan-17</i>
Excess Return			0.4	0.1	0.1	0.4	0.6	0.6	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>43</i>	<i>58</i>	<i>60</i>	<i>70</i>	<i>42</i>	<i>33</i>	<i>Jan-17</i>
Reams	25,197,341	25.3	-4.9	-14.8	-14.4	0.4	2.2	5.0	Feb-98
<i>Bloomberg Universal (Blend)</i>			<i>-4.5</i>	<i>-14.9</i>	<i>-14.9</i>	<i>-3.1</i>	<i>-0.2</i>	<i>4.0</i>	<i>Feb-98</i>
Excess Return			-0.4	0.1	0.5	3.5	2.4	1.0	
<i>eV US Core Plus Fixed Inc Gross Rank</i>			<i>92</i>	<i>47</i>	<i>40</i>	<i>5</i>	<i>4</i>	<i>44</i>	<i>Feb-98</i>
Wellington Core Bond	6,413,320	6.4	-4.8	-15.9	-16.0	--	--	-9.8	Apr-21
<i>Bloomberg US Aggregate TR</i>			<i>-4.8</i>	<i>-14.6</i>	<i>-14.6</i>	<i>--</i>	<i>--</i>	<i>-8.9</i>	<i>Apr-21</i>
Excess Return			0.0	-1.3	-1.4			-0.9	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>88</i>	<i>97</i>	<i>97</i>	<i>--</i>	<i>--</i>	<i>98</i>	<i>Apr-21</i>

Performance shown is gross-of-fees.

## Oakland Police and Fire Retirement System Total Plan

### Manager Performance - Gross of Fees | As of September 30, 2022

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>Credit</b>	<b>8,450,960</b>	<b>100.0</b>	<b>-0.5</b>	<b>-9.4</b>	<b>-8.9</b>	<b>3.3</b>	<b>2.9</b>	<b>4.5</b>	<b>Feb-15</b>
<i>Bloomberg US High Yield TR</i>			<i>-0.6</i>	<i>-14.7</i>	<i>-14.1</i>	<i>-0.5</i>	<i>1.6</i>	<i>3.3</i>	<i>Feb-15</i>
Excess Return			0.1	5.3	5.2	3.8	1.3	1.2	
Polen Capital	8,450,960	100.0	-0.5	-9.4	-8.9	3.3	2.9	4.5	Feb-15
<i>ICE BofA High Yield Master TR</i>			<i>-0.7</i>	<i>-14.6</i>	<i>-14.1</i>	<i>-0.7</i>	<i>1.4</i>	<i>3.3</i>	<i>Feb-15</i>
Excess Return			0.2	5.2	5.2	4.0	1.5	1.2	
<i>eV US High Yield Fixed Inc Gross Rank</i>			<i>55</i>	<i>22</i>	<i>23</i>	<i>4</i>	<i>14</i>	<i>12</i>	<i>Feb-15</i>

Performance shown is gross-of-fees.

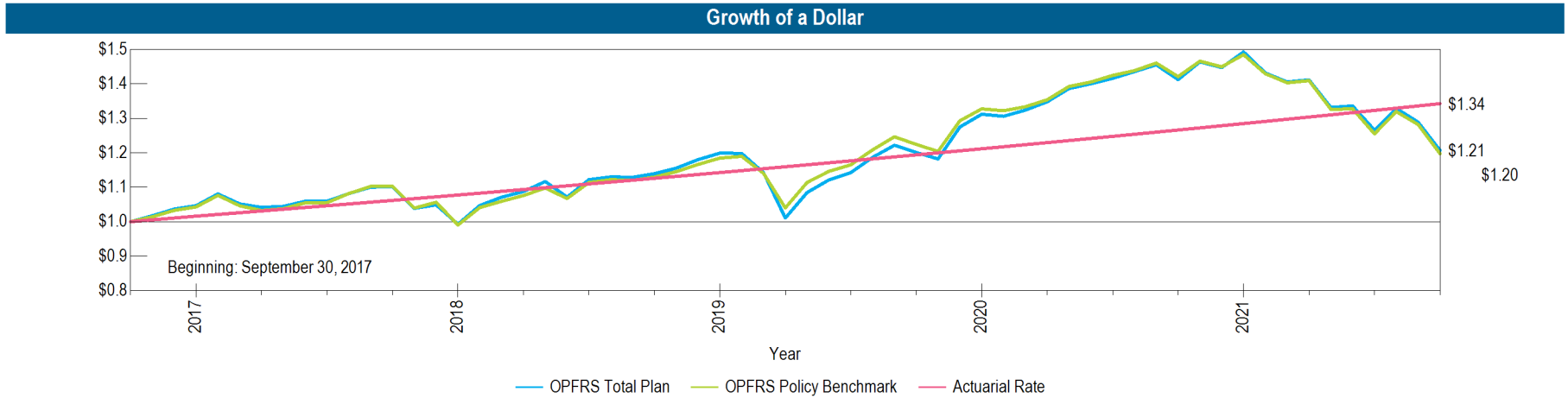
	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>Covered Calls</b>	<b>29,207,716</b>	<b>100.0</b>	<b>-5.1</b>	<b>-18.8</b>	<b>-11.3</b>	<b>6.2</b>	<b>6.4</b>	<b>7.4</b>	<b>Apr-14</b>
<i>CBOE S&amp;P 500 BuyWrite USD</i>			<i>-7.6</i>	<i>-17.0</i>	<i>-11.2</i>	<i>0.7</i>	<i>2.1</i>	<i>4.2</i>	<i>Apr-14</i>
Excess Return			2.5	-1.8	-0.1	5.5	4.3	3.2	
Parametric BXM	14,882,217	51.0	-5.5	-15.6	-9.8	3.7	4.2	5.8	Apr-14
<i>CBOE S&amp;P 500 BuyWrite USD</i>			<i>-7.6</i>	<i>-17.0</i>	<i>-11.2</i>	<i>0.7</i>	<i>2.1</i>	<i>4.2</i>	<i>Apr-14</i>
Excess Return			2.1	1.4	1.4	3.0	2.1	1.6	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>70</i>	<i>9</i>	<i>19</i>	<i>95</i>	<i>98</i>	<i>98</i>	<i>Apr-14</i>
Parametric DeltaShift	14,325,499	49.0	-4.6	-21.6	-13.0	8.2	8.2	9.3	Apr-14
<i>CBOE S&amp;P 500 BuyWrite USD</i>			<i>-7.6</i>	<i>-17.0</i>	<i>-11.2</i>	<i>0.7</i>	<i>2.1</i>	<i>4.2</i>	<i>Apr-14</i>
Excess Return			3.0	-4.6	-1.8	7.5	6.1	5.1	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>42</i>	<i>37</i>	<i>36</i>	<i>41</i>	<i>64</i>	<i>64</i>	<i>Apr-14</i>

Performance shown is gross-of-fees.

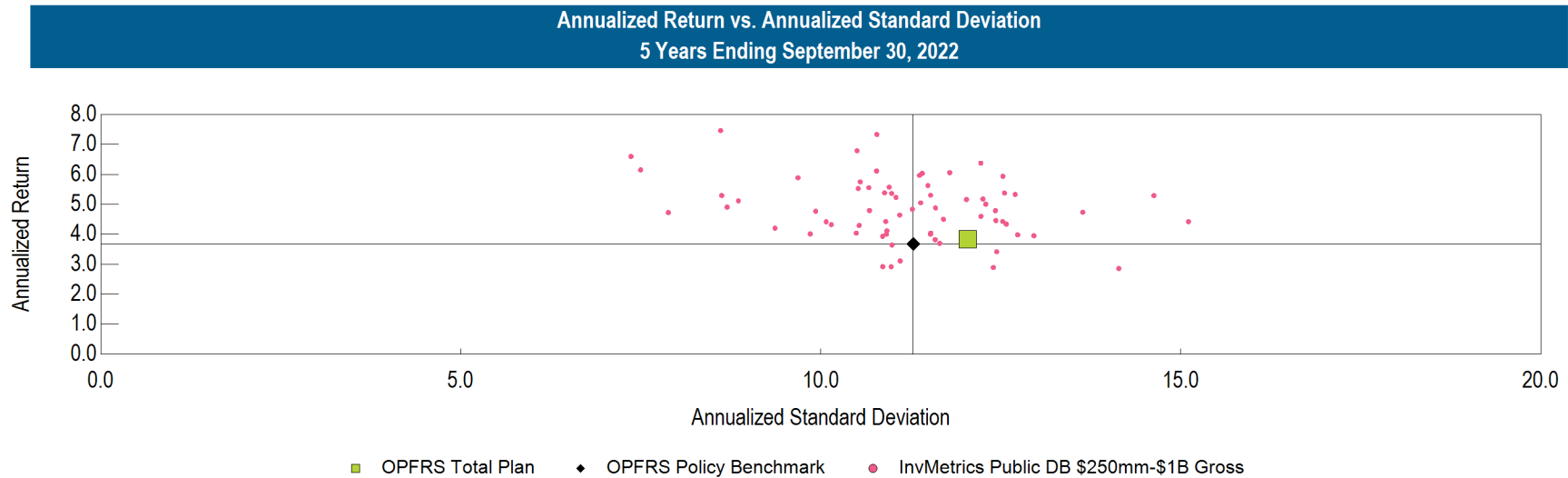


	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
<b>Crisis Risk Offset</b>	<b>41,648,656</b>	<b>100.0</b>	<b>0.0</b>	<b>-10.1</b>	<b>-7.8</b>	<b>-12.9</b>	<b>--</b>	<b>-8.7</b>	<b>Aug-18</b>
<i>SG Multi Alternative Risk Premia Index</i>			<i>0.9</i>	<i>3.2</i>	<i>4.7</i>	<i>-2.1</i>	<i>--</i>	<i>-0.9</i>	<i>Aug-18</i>
Excess Return			-0.9	-13.3	-12.5	-10.8		-7.8	
Versor Trend Following	17,905,977	43.0	7.8	--	--	--	--	19.4	Apr-22
<i>SG Trend Index</i>			<i>5.3</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>23.1</i>	<i>Apr-22</i>
Excess Return			2.5					-3.7	
Vanguard Long-Term Treasury ETF	14,000,185	33.6	-9.7	-28.5	-26.7	-8.6	--	-5.8	Jul-19
<i>Bloomberg US Govt Long TR</i>			<i>-9.6</i>	<i>-28.8</i>	<i>-26.6</i>	<i>-8.5</i>	<i>--</i>	<i>-5.7</i>	<i>Jul-19</i>
Excess Return			-0.1	0.3	-0.1	-0.1		-0.1	
<i>eV US Long Duration - Gov/Cred Fixed Inc Gross Rank</i>			<i>96</i>	<i>35</i>	<i>26</i>	<i>99</i>	<i>--</i>	<i>99</i>	<i>Jul-19</i>
Kepos Alternative Risk Premia	9,742,494	23.4	2.3	--	--	--	--	-2.1	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>			<i>0.9</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>2.4</i>	<i>Feb-22</i>
Excess Return			1.4					-4.5	

Performance shown is gross-of-fees.

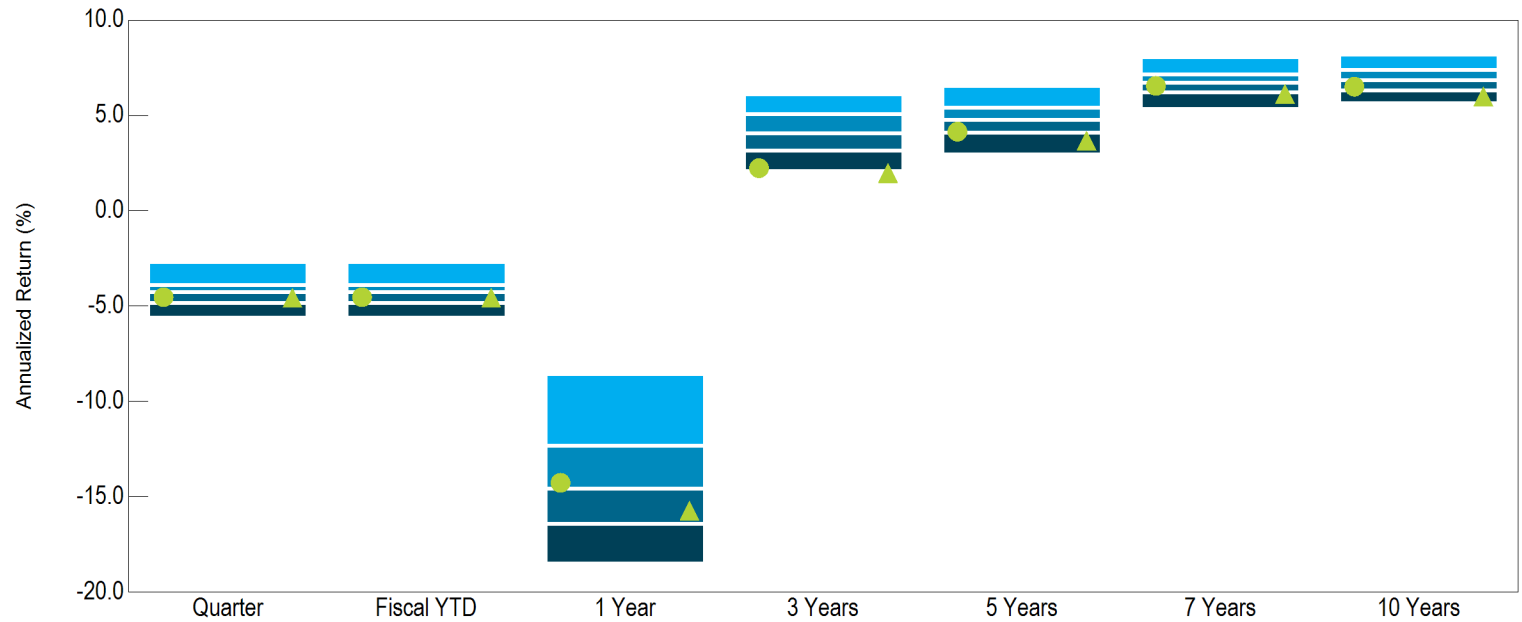


The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently



Performance shown is gross-of-fees.

InvMetrics Public DB \$250mm-\$1B Gross Return Comparison



	Quarter		Fiscal YTD		1 Year		3 Years		5 Years		7 Years		10 Years	
<b>5th Percentile</b>	-2.7		-2.7		-8.6		6.1		6.5		8.0		8.2	
<b>25th Percentile</b>	-3.9		-3.9		-12.3		5.1		5.4		7.2		7.4	
<b>Median</b>	-4.2		-4.2		-14.6		4.1		4.8		6.7		6.9	
<b>75th Percentile</b>	-4.8		-4.8		-16.4		3.2		4.1		6.2		6.3	
<b>95th Percentile</b>	-5.6		-5.6		-18.5		2.1		3.0		5.4		5.6	
<b># of Portfolios</b>	71		71		71		70		68		67		64	
<b>● OPFRS Total Plan</b>	-4.5	(59)	-4.5	(59)	-14.3	(48)	2.2	(95)	4.2	(75)	6.5	(62)	6.5	(74)
<b>▲ OPFRS Policy Benchmark</b>	-4.6	(60)	-4.6	(60)	-15.7	(68)	2.0	(96)	3.7	(91)	6.1	(78)	6.0	(87)

Fiscal year begins on July 1.

### Manager Monitoring/Probation Status

#### Return vs. Benchmark since Corrective Action

Portfolio	Status	Concern Triggering the Watch Status	Months Since Corrective Action	Performance <sup>1</sup> Since Corrective Action	Peer Group Percentile Ranking <sup>2</sup>	Date of Corrective Action <sup>3</sup>
Polen Capital <sup>4</sup>	On Watch	Performance/Org changes	39	2.4	24	5/29/2019
ICE BofAML US High Yield				0.5		
Rice Hall James	On Watch	Performance	39	5.5	20	5/29/2019
Russell 2000 Growth				3.6		

#### Investment Performance Criteria for Manager Monitoring/Probation Status

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 <sup>5</sup> < 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

<sup>1</sup> Annualized performance if over one year. Performance shown is gross-of-fees.

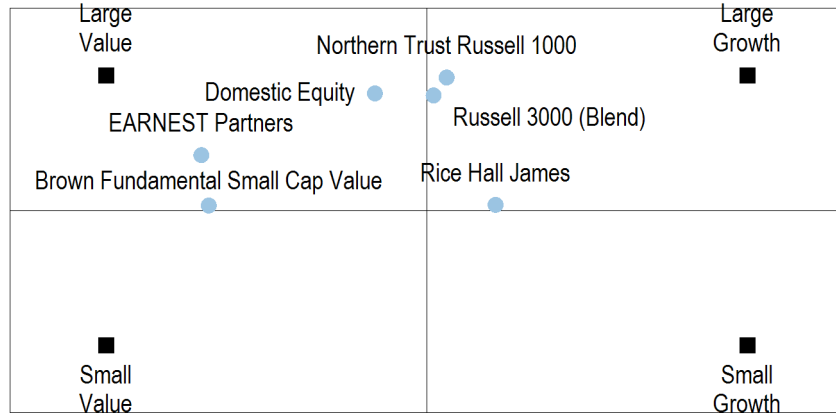
<sup>2</sup> Ranking over most recent quarter if on watch for less than 1 year, or over 1 year if on watch for more than a year. Peer group comparison is gross-of-fees.

<sup>3</sup> Approximate date based on when the Board voted to either monitor a manager at a heightened level or place it on probation.

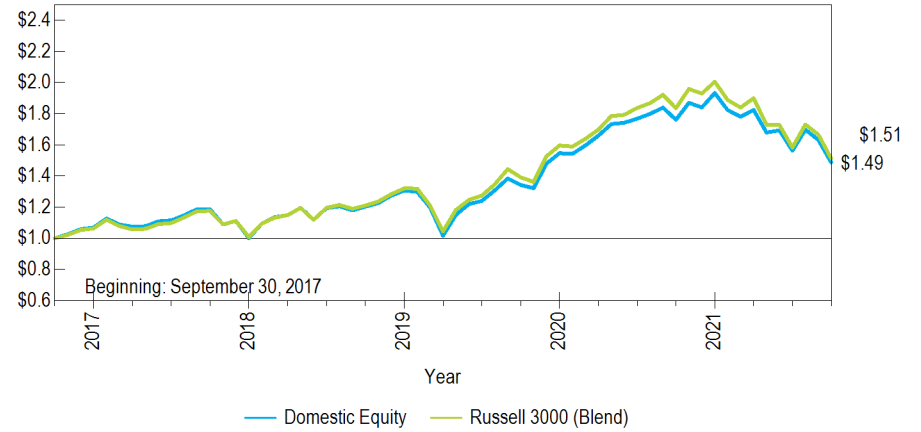
<sup>4</sup> Polen Capital High Yield strategy was formerly known as DDJ High Yield prior to 2022.

<sup>5</sup> VRR (Value Relative Ratio) is calculated as manager cumulative return/ benchmark return.

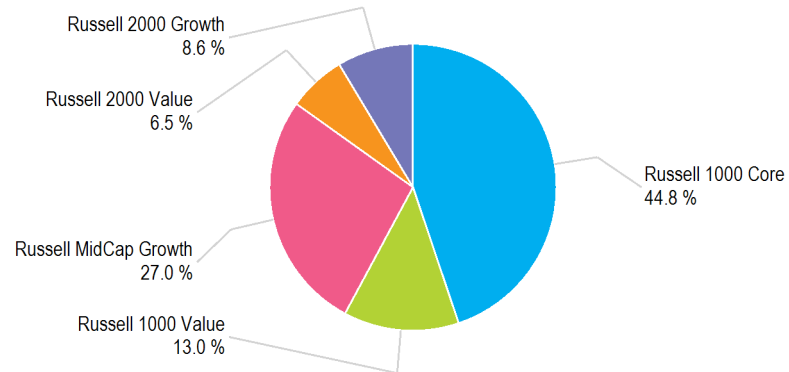
#### U.S. Effective Style Map



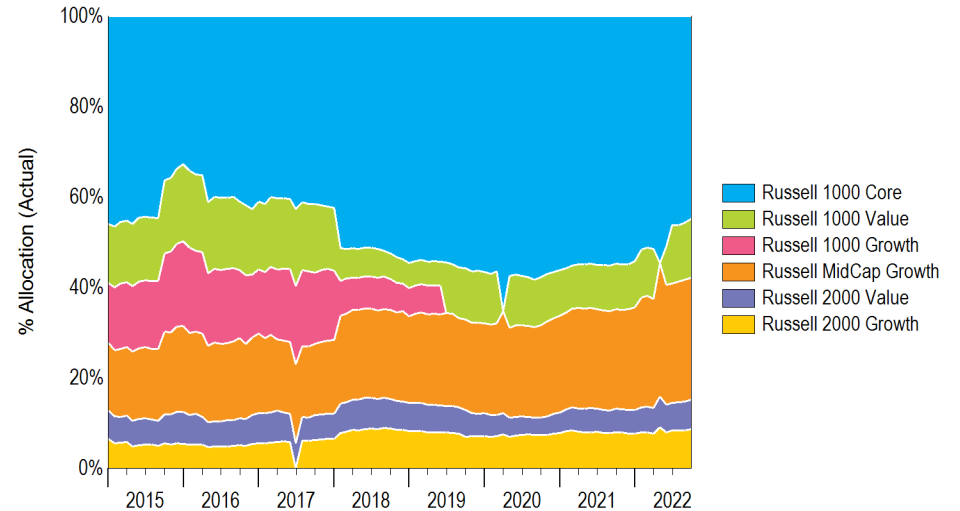
#### Growth of a Dollar



#### Style Exposure

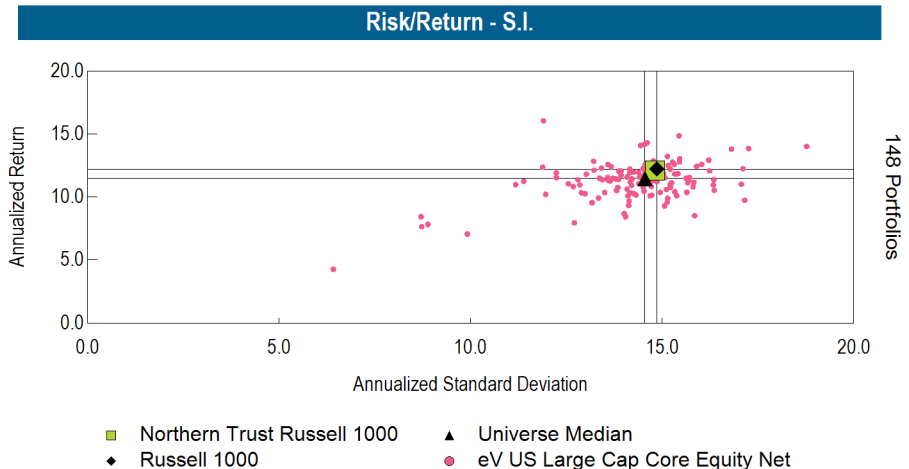
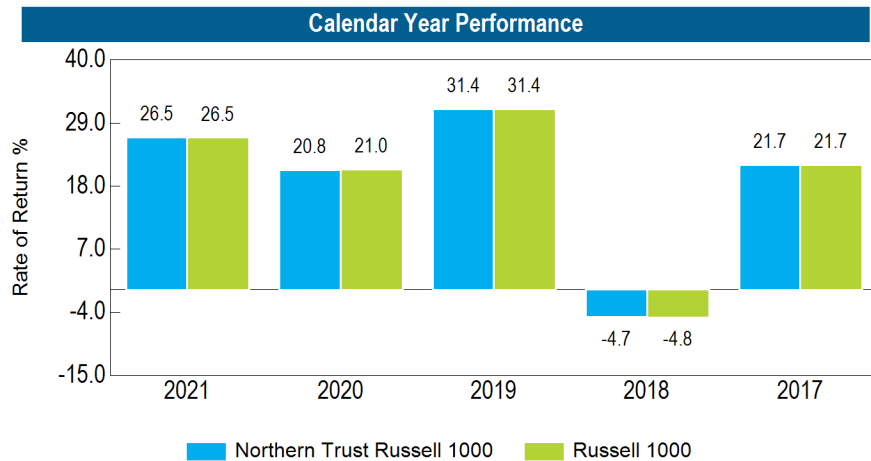
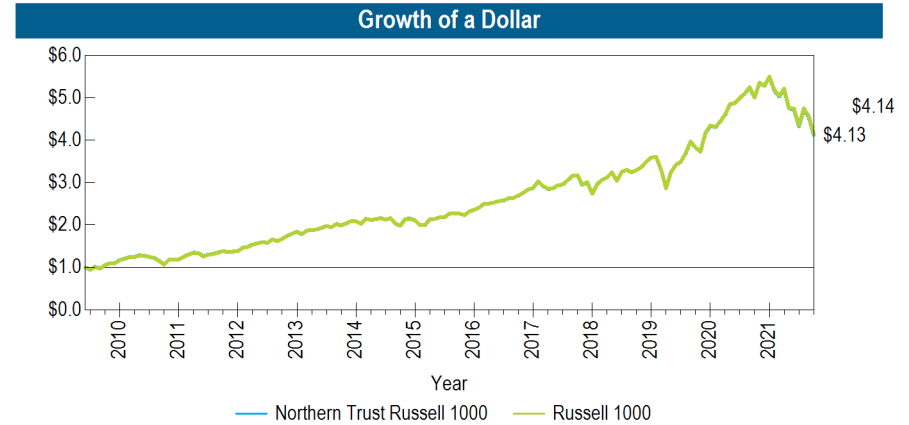
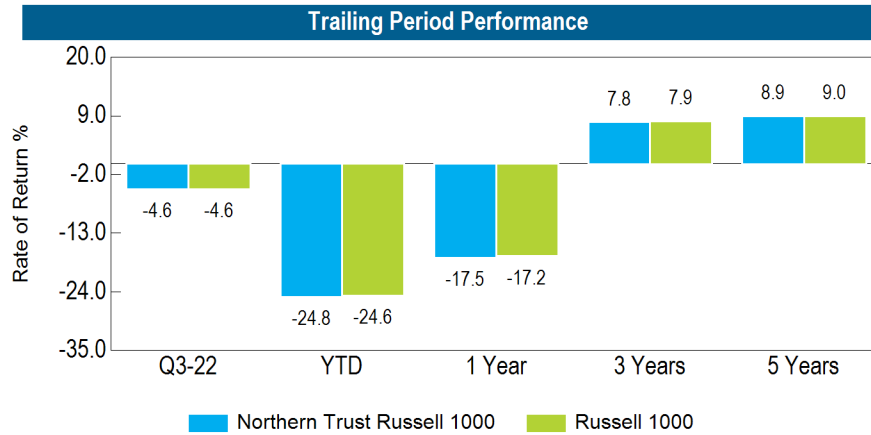


#### Style History (5-Year)



### Northern Trust Russell 1000 | As of September 30, 2022

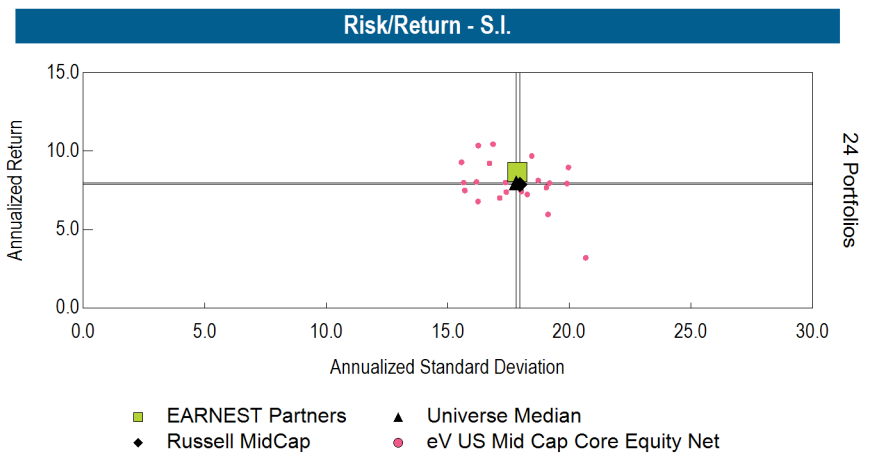
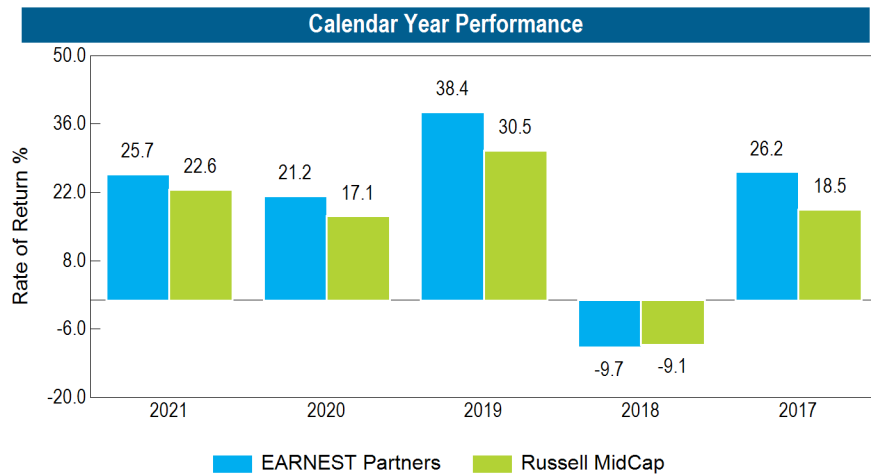
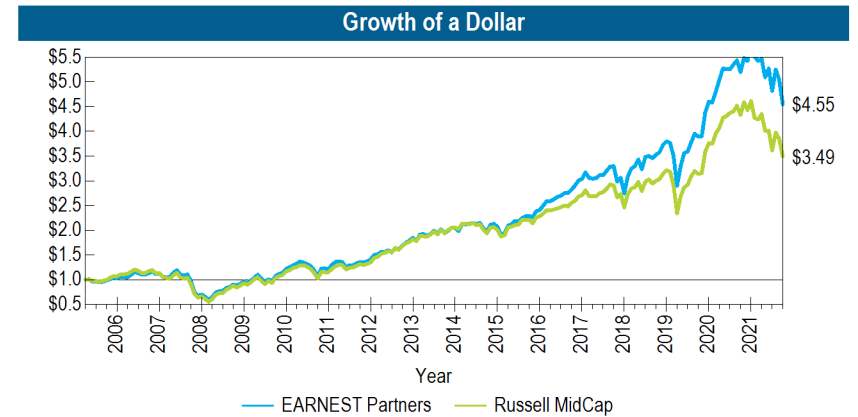
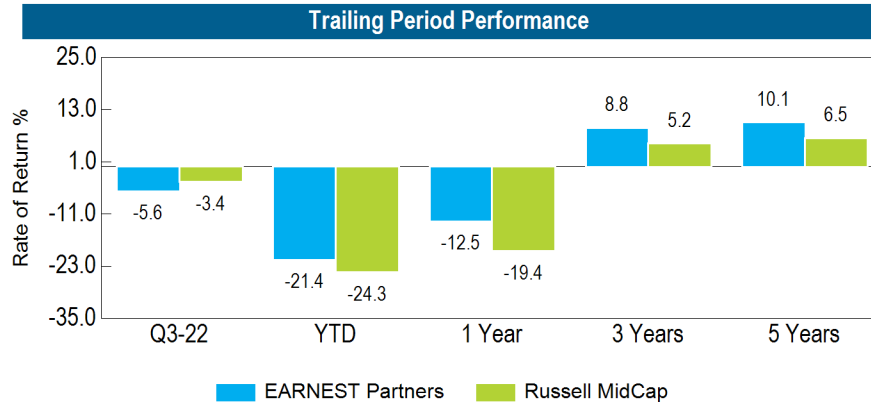
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust Russell 1000	12.1%	14.8%	0.0%	1.0	-0.6	0.2%	98.5%	100.0%
Russell 1000	12.2%	14.9%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

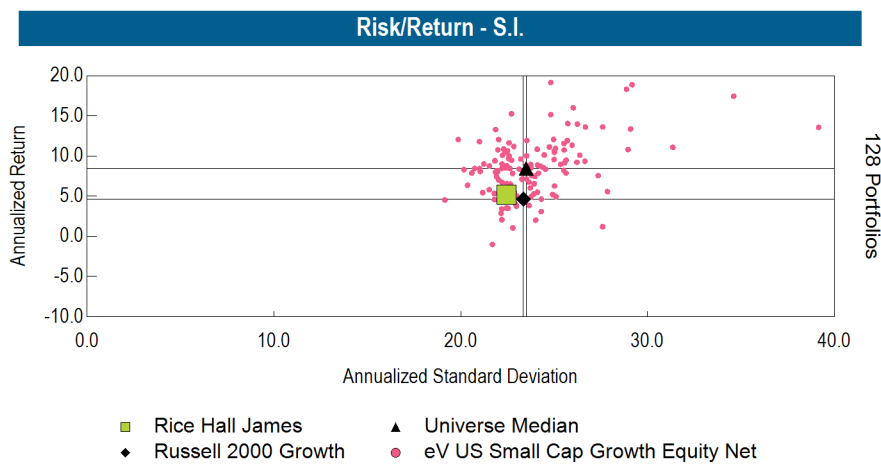
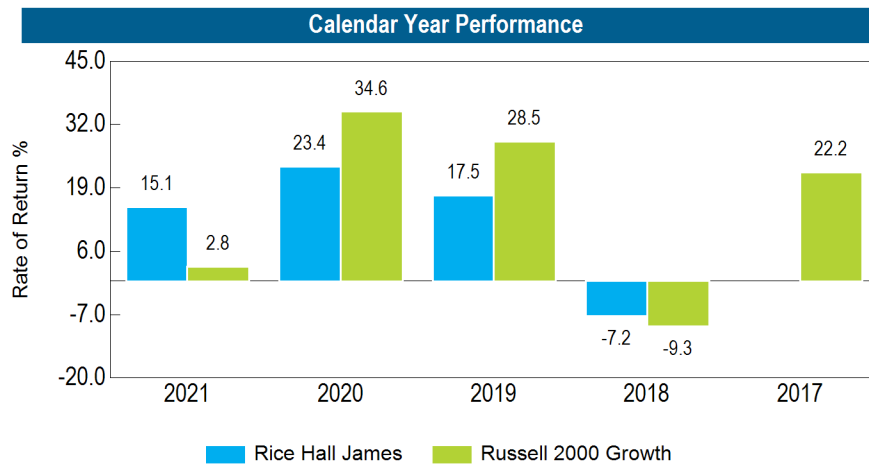
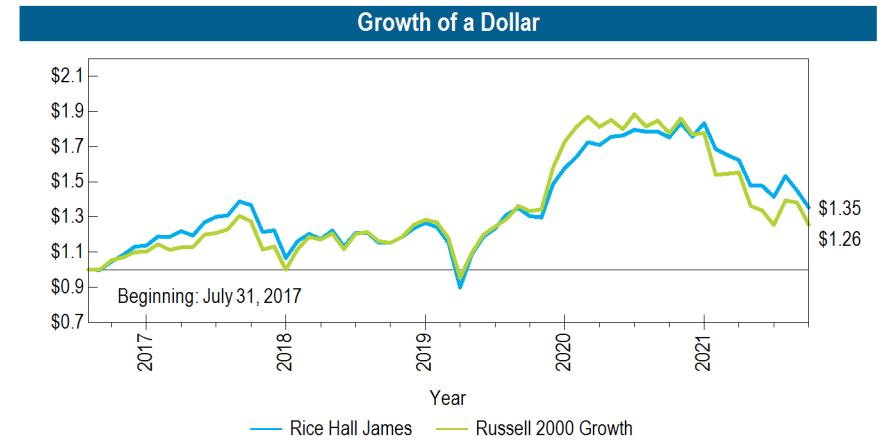
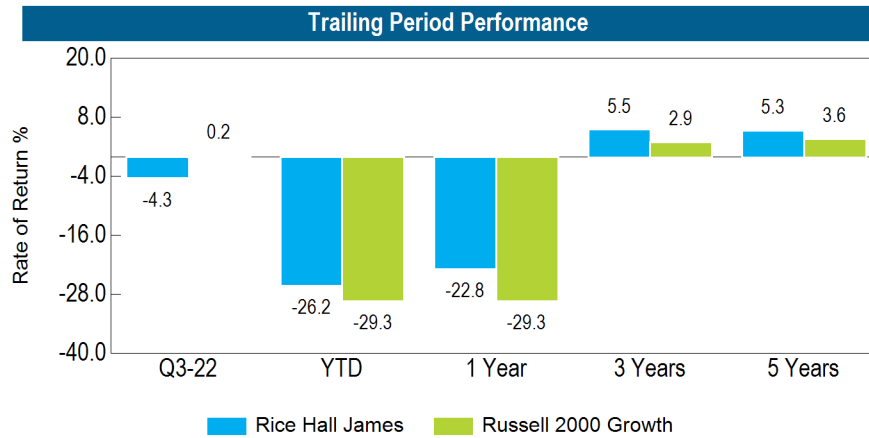
### EARNEST Partners | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
EARNEST Partners	8.7%	17.9%	0.1%	1.0	0.2	3.6%	95.2%	99.2%
Russell MidCap	7.9%	18.0%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Rice Hall James	5.0%	22.3%	0.1%	0.9	0.1	7.6%	81.6%	93.6%
Russell 2000 Growth	4.5%	23.2%	0.0%	1.0	--	0.0%	100.0%	100.0%

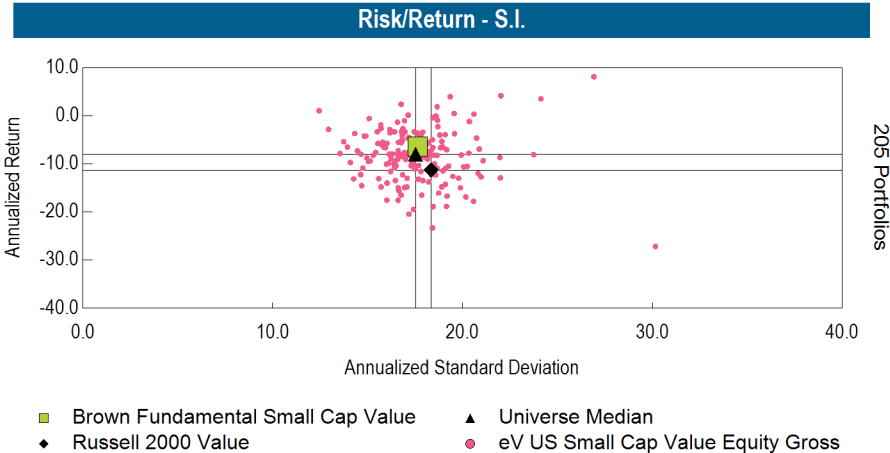
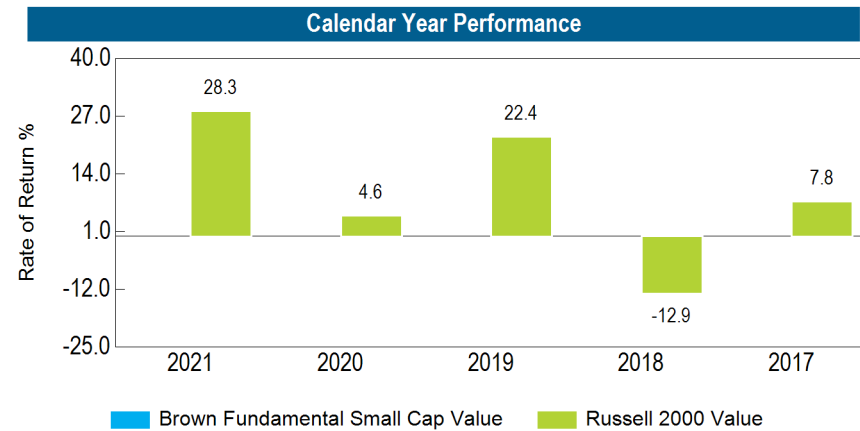
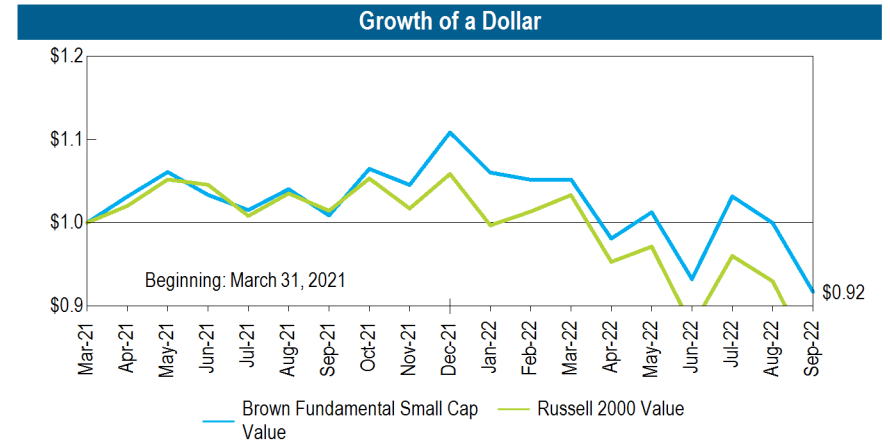
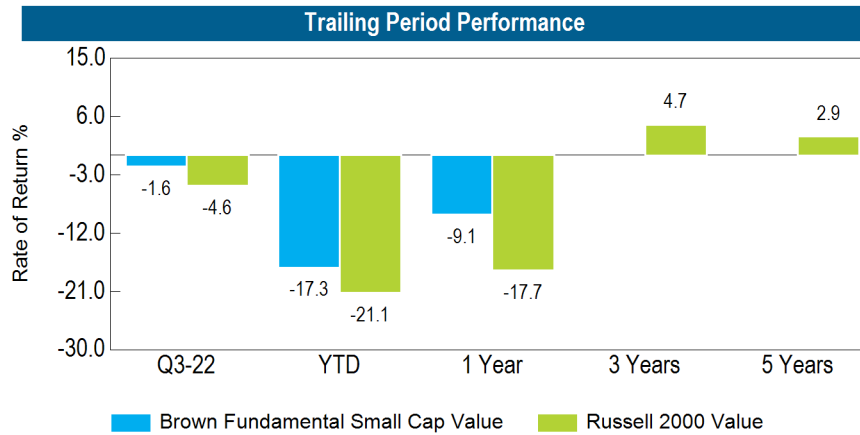


Performance shown is net-of-fees and since inception.



### Brown Fundamental Small Cap Value | As of September 30, 2022

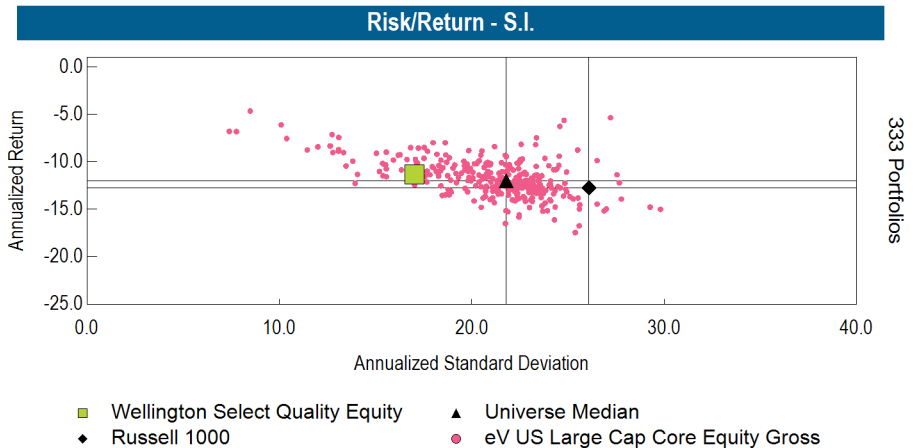
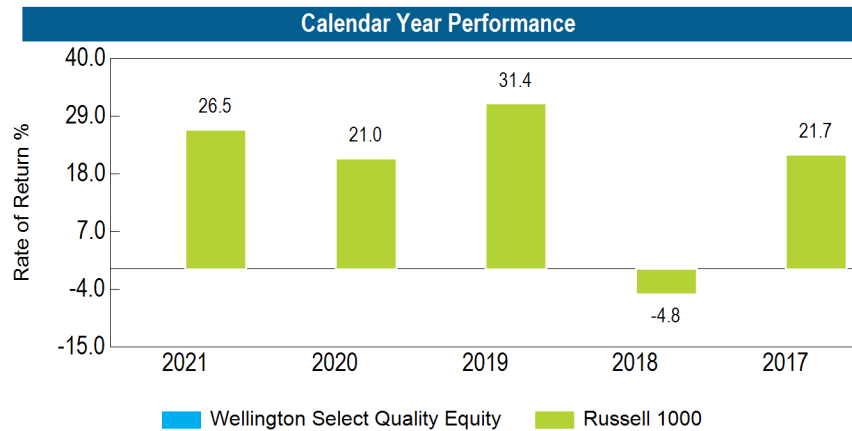
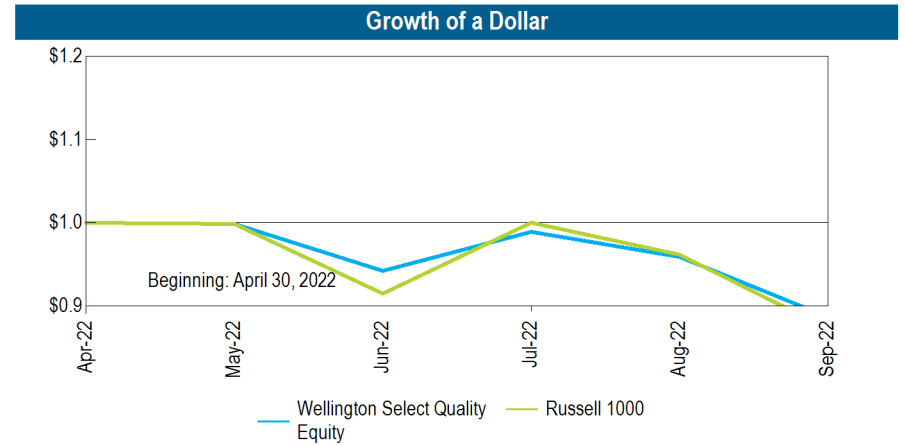
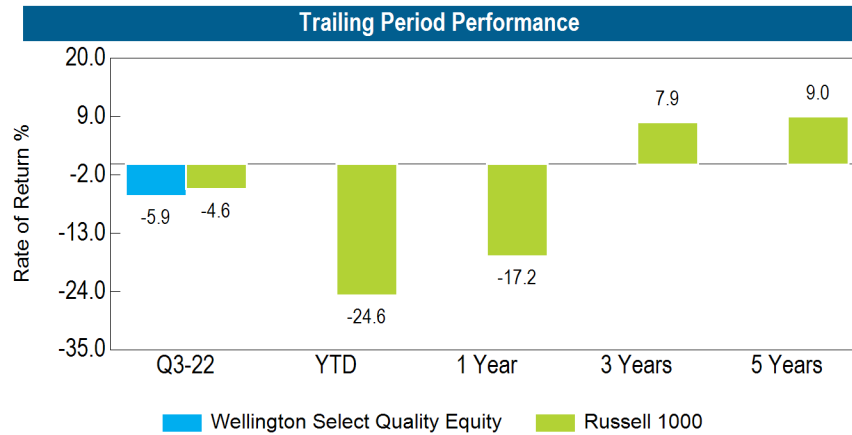
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Brown Fundamental Small Cap Value	-6.4%	17.6%	0.4%	0.9	1.0	5.2%	105.1%	88.7%
Russell 2000 Value	-11.3%	18.4%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

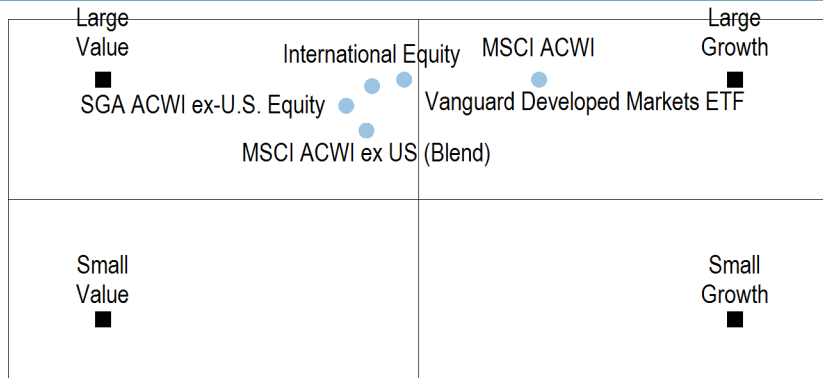
### Wellington Select Quality Equity | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Wellington Select Quality Equity	-11.3%	17.0%	-0.7%	0.6	0.1	9.5%	53.4%	76.9%
Russell 1000	-12.7%	26.1%	0.0%	1.0	--	0.0%	100.0%	100.0%

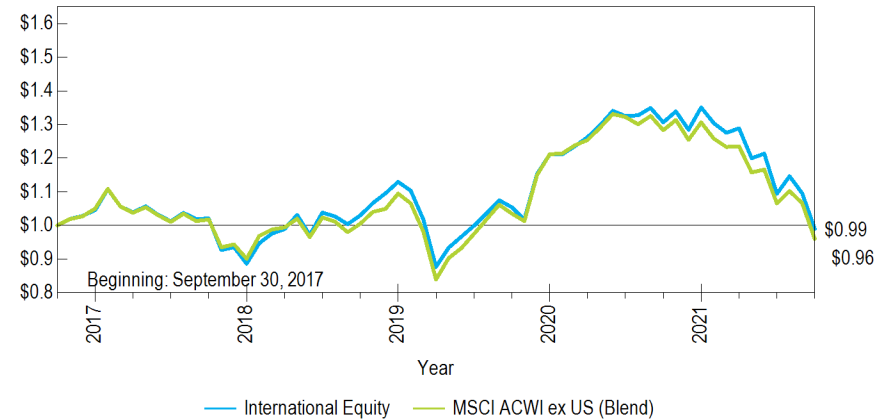


Performance shown is net-of-fees and since inception. Annualized Return is not available for managers without a history longer than one year.

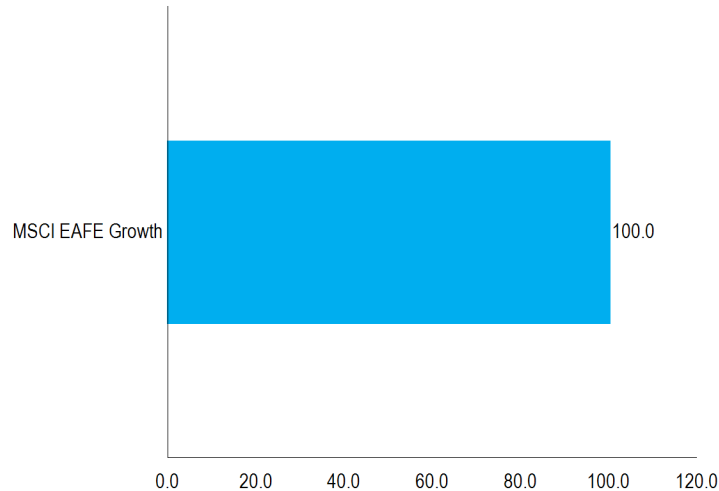
#### Non U.S. Effective Style Map vs. EAFE



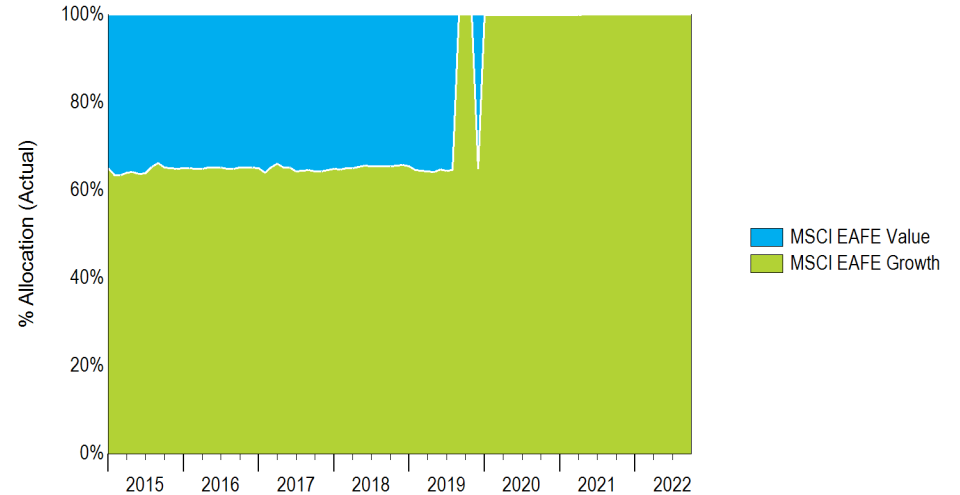
#### Growth of a Dollar 5 Years Ending September 30, 2022



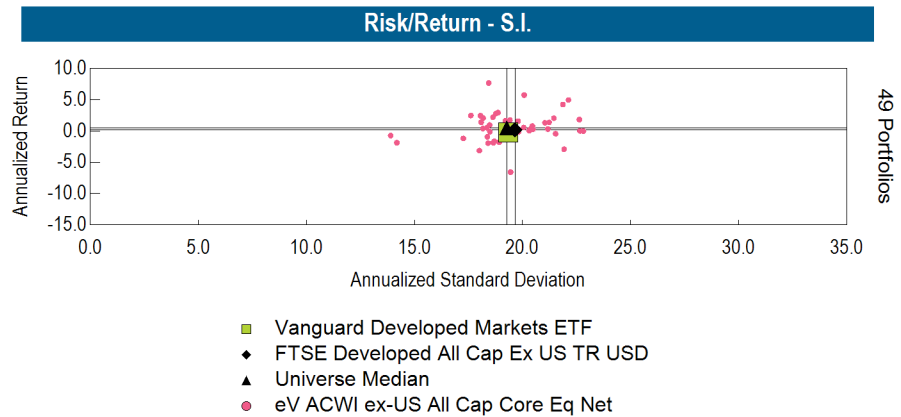
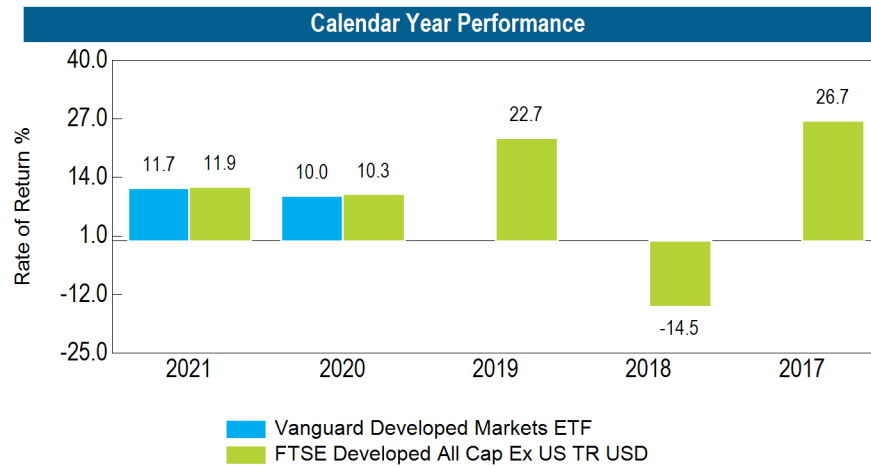
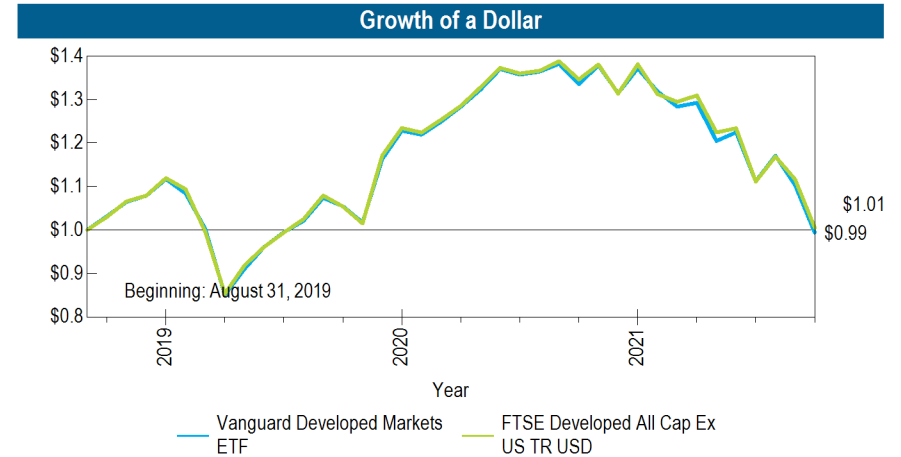
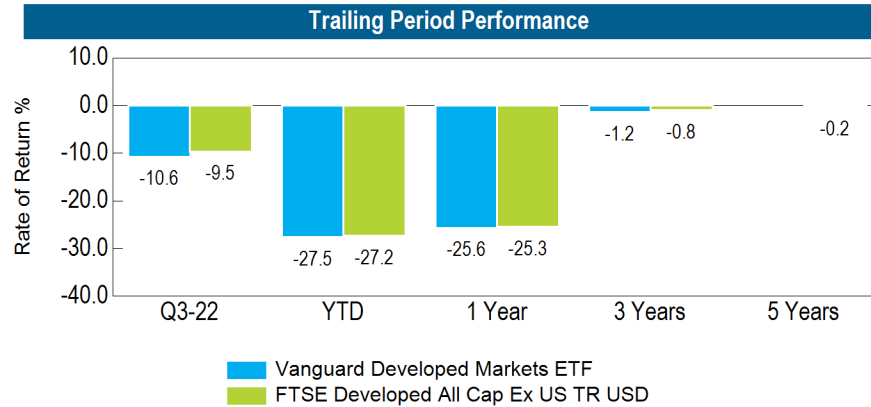
#### Style Exposure



#### Style History (5-Year)



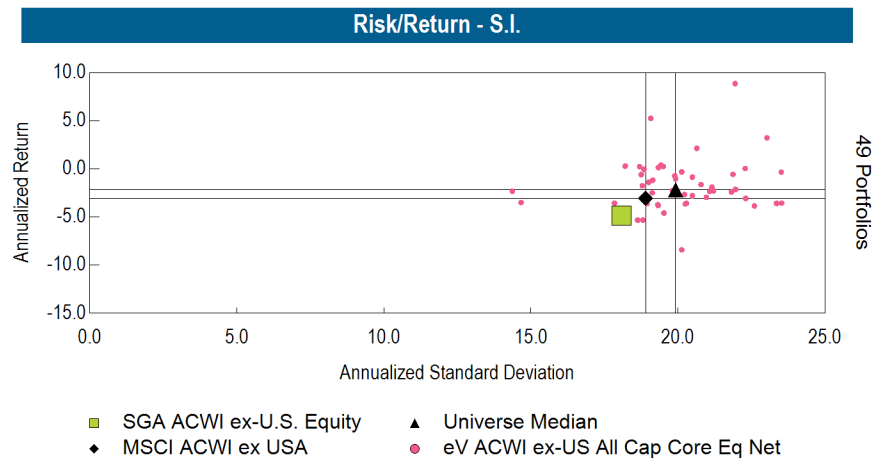
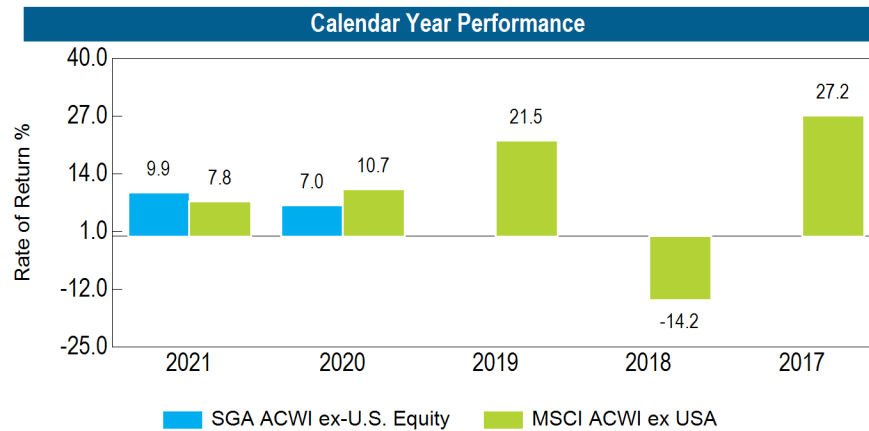
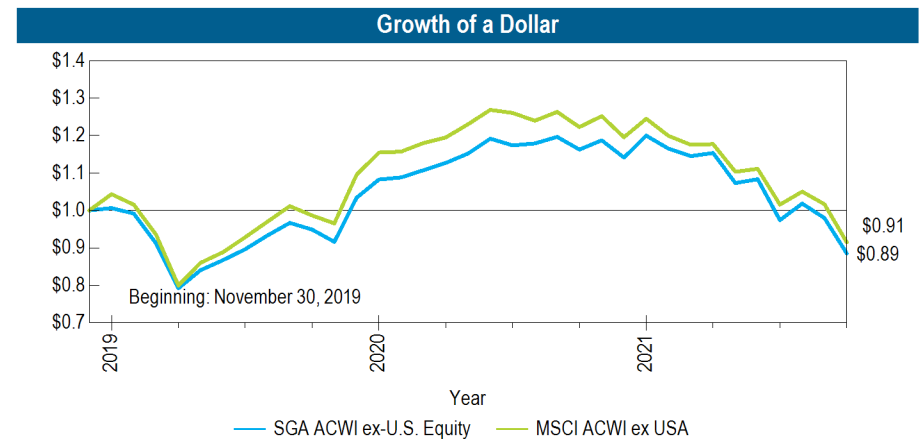
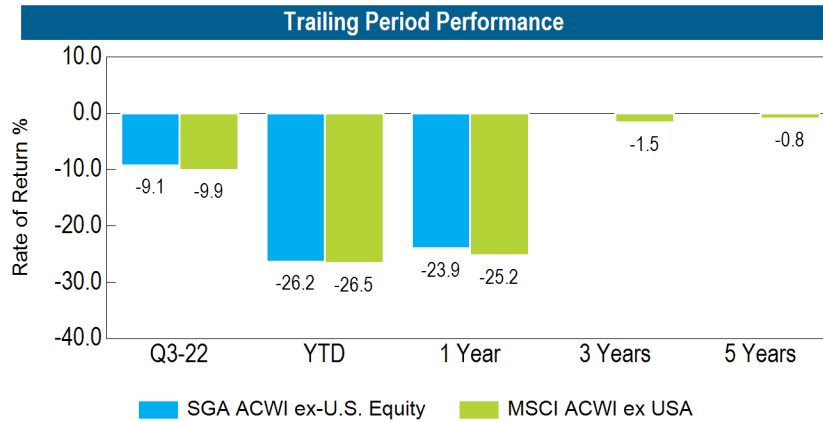
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Developed Markets ETF	-0.2%	19.3%	0.0%	1.0	-0.2	2.2%	98.7%	100.3%
FTSE Developed All Cap Ex US TR USD	0.2%	19.7%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

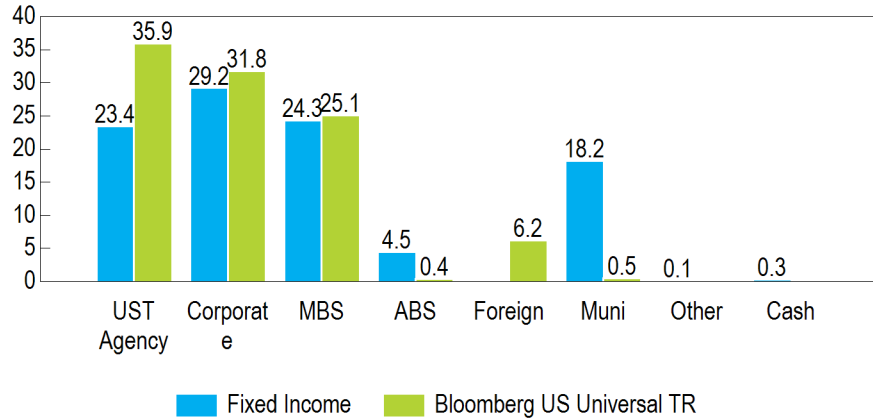
### SGA ACWI ex-U.S. Equity | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
SGA ACWI ex-U.S. Equity	-4.9%	18.1%	-0.2%	0.9	-0.5	3.7%	85.9%	98.3%
MSCI ACWI ex USA	-3.1%	18.9%	0.0%	1.0	--	0.0%	100.0%	100.0%



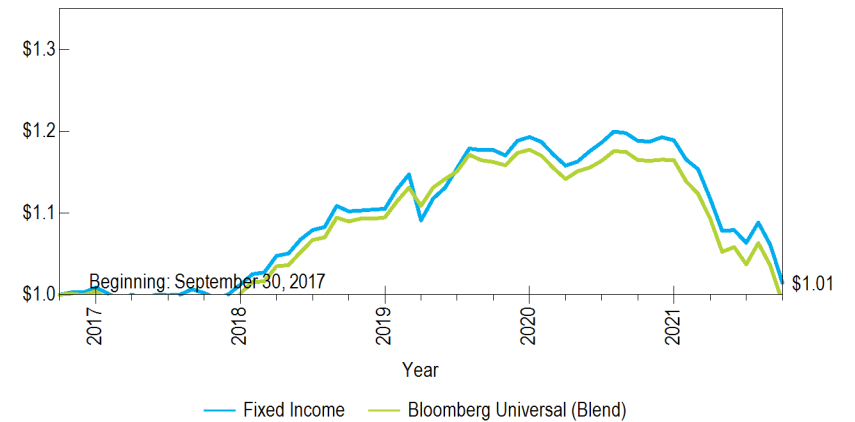
Performance shown is net-of-fees and since inception.

#### US Sector Allocation

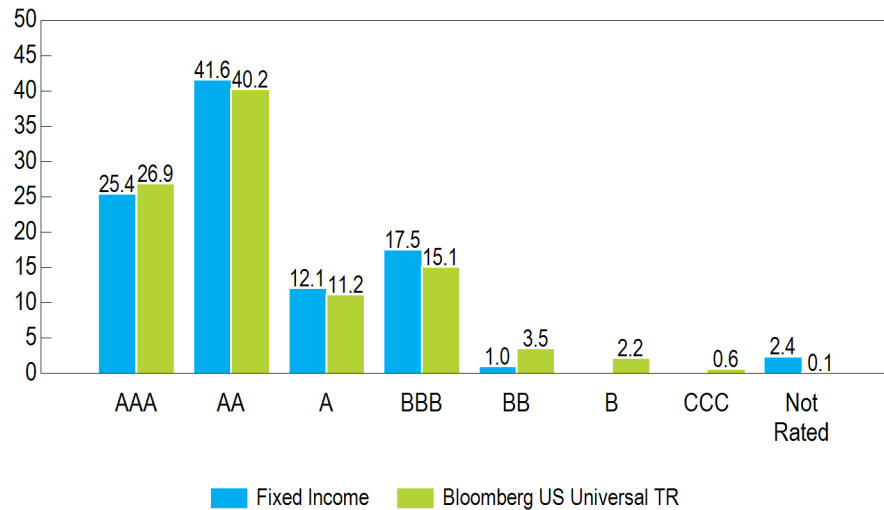


#### Growth of a Dollar

5 Years Ending September 30, 2022



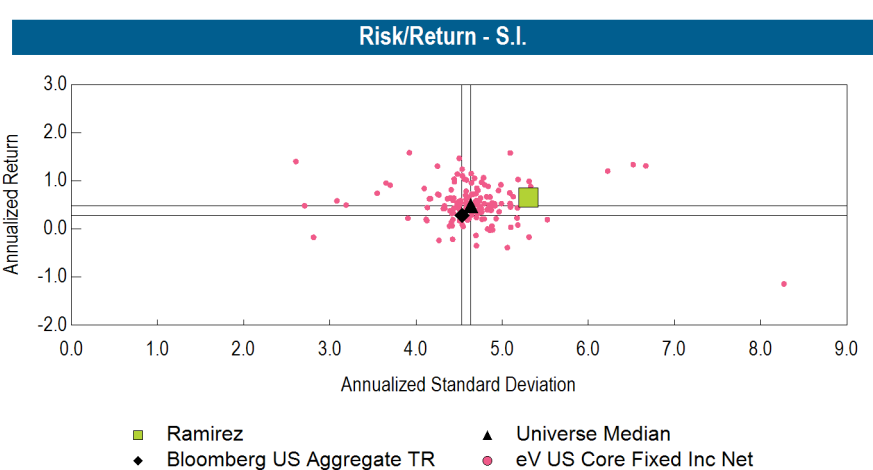
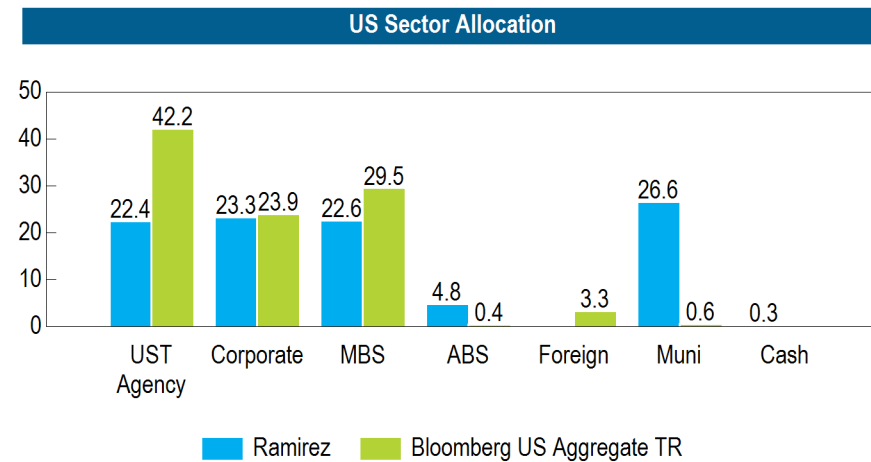
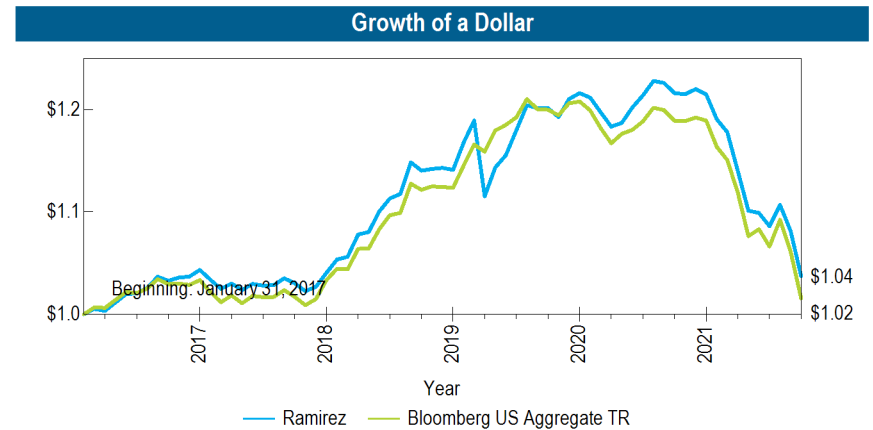
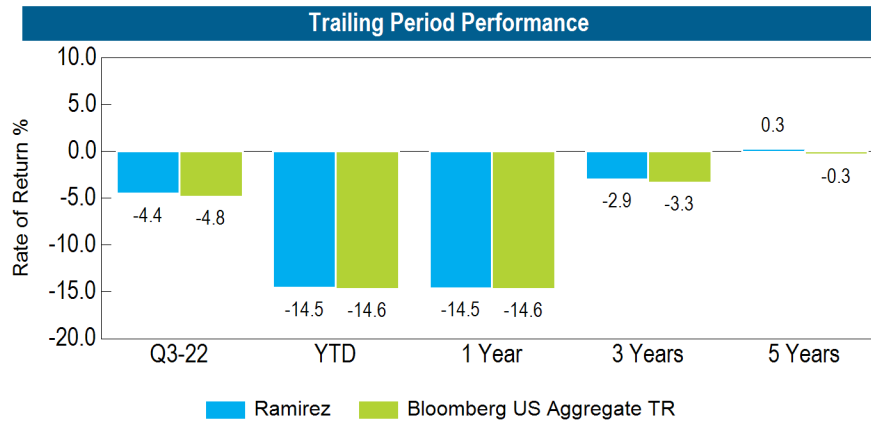
#### Credit Quality Allocation



#### Fixed Income Fixed Income Characteristics vs. Bloomberg US Universal TR

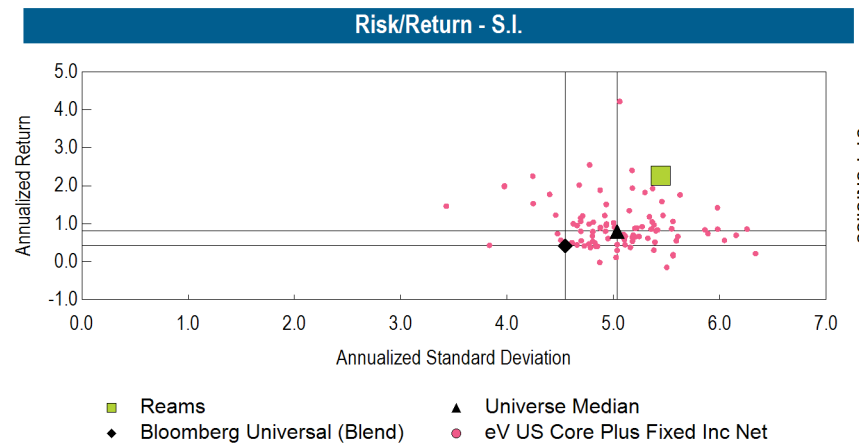
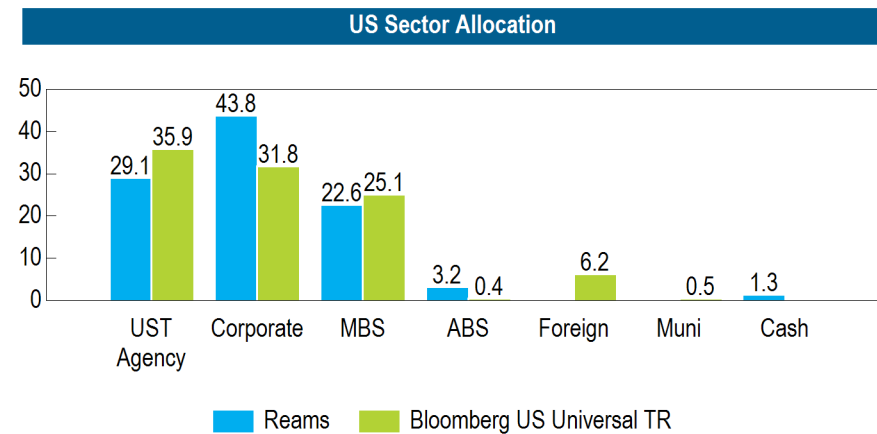
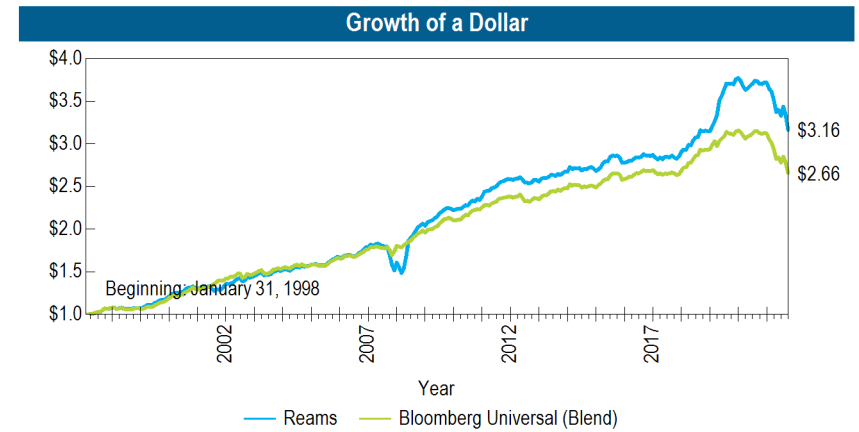
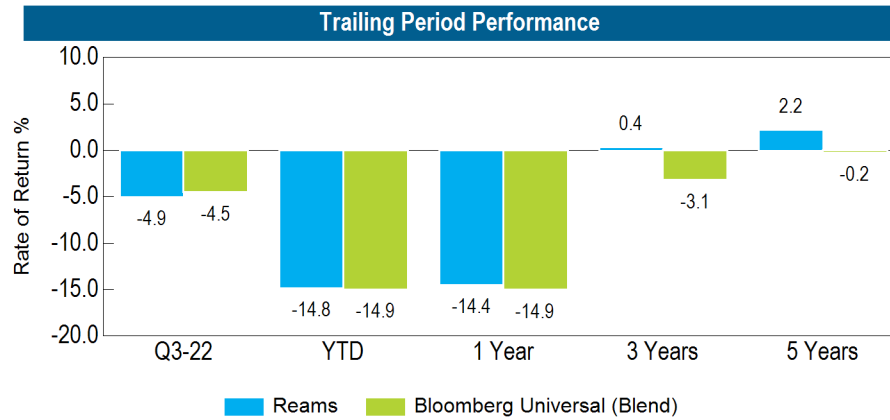
	Portfolio Q3-22	Index Q3-22
<b>Fixed Income Characteristics</b>		
Yield to Maturity	5.40	5.14
Average Duration	6.34	6.17
Average Quality	AA	AA
Weighted Average Maturity	9.33	12.21

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Ramirez	0.6%	5.3%	0.0%	1.0	0.1	2.7%	116.7%	106.6%
Bloomberg US Aggregate TR	0.3%	4.5%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Reams	4.8%	5.5%	0.0%	1.1	0.2	3.9%	123.4%	100.2%
Bloomberg Universal (Blend)	4.0%	3.8%	0.0%	1.0	--	0.0%	100.0%	100.0%

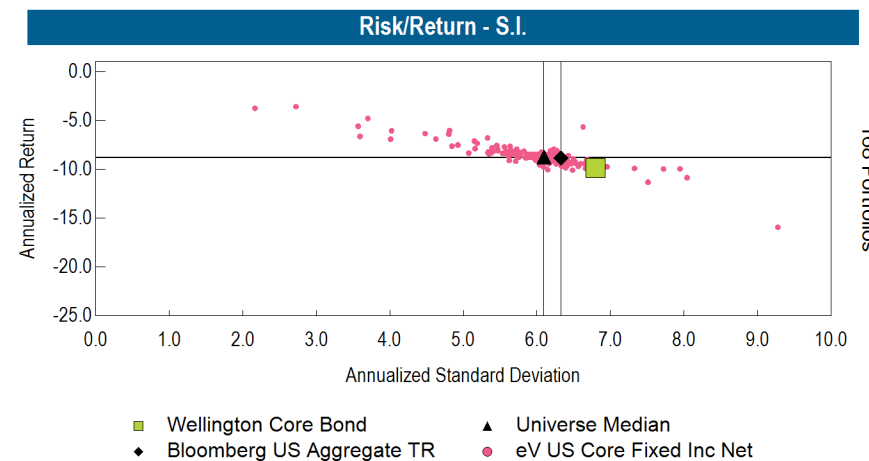
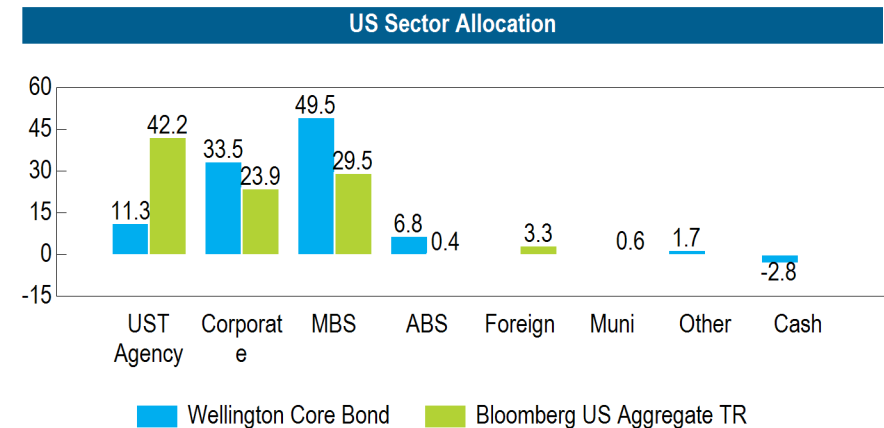
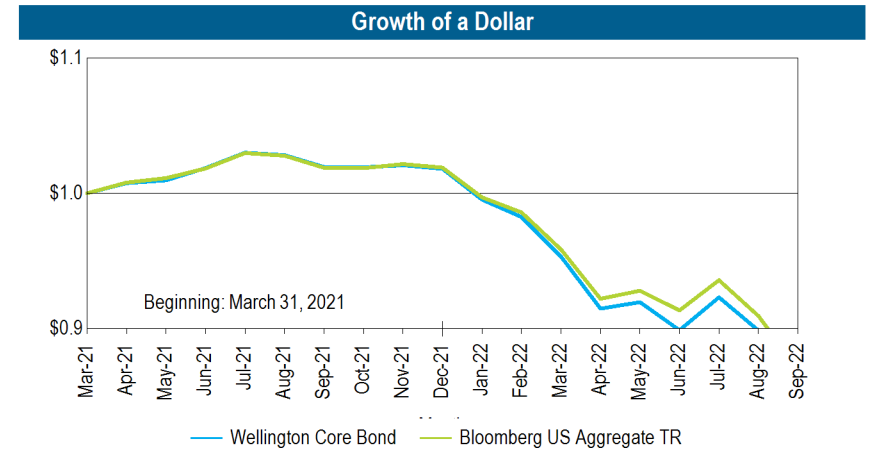
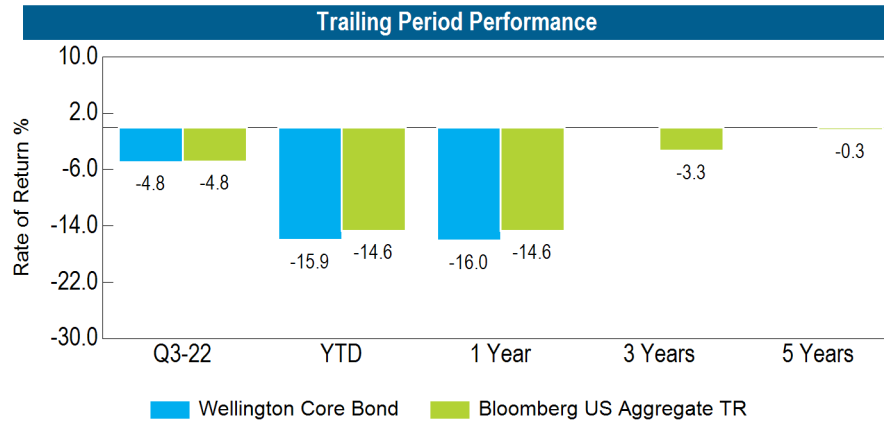


Performance shown is net-of-fees and since inception.



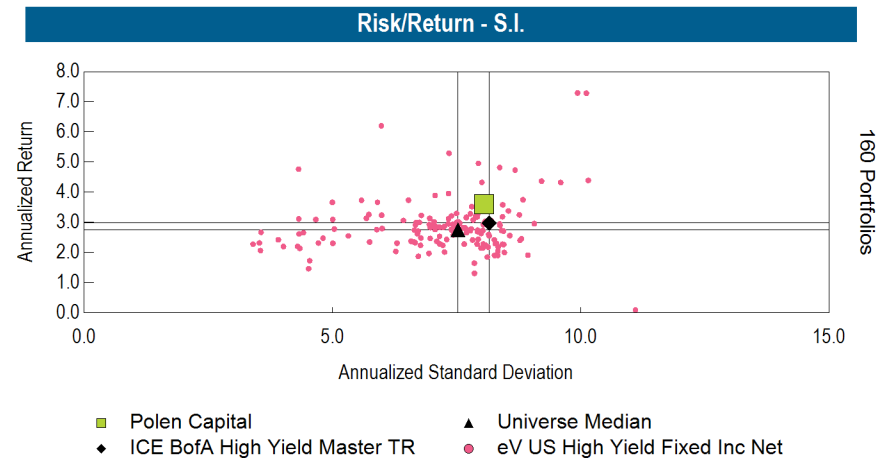
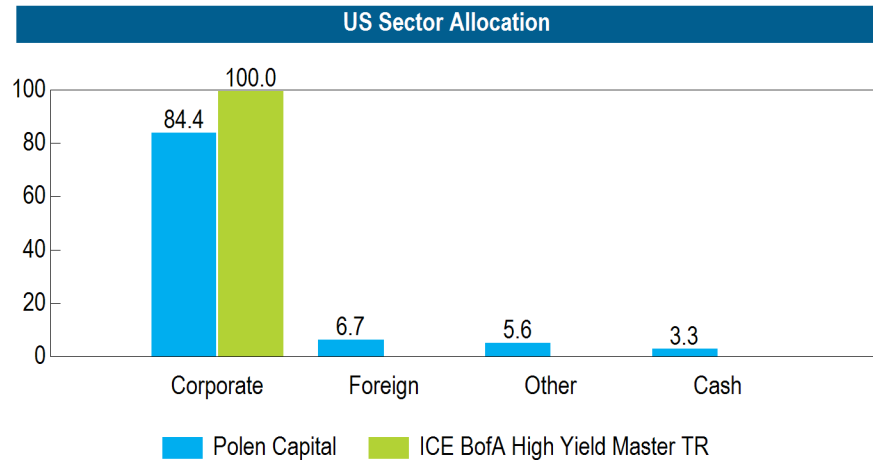
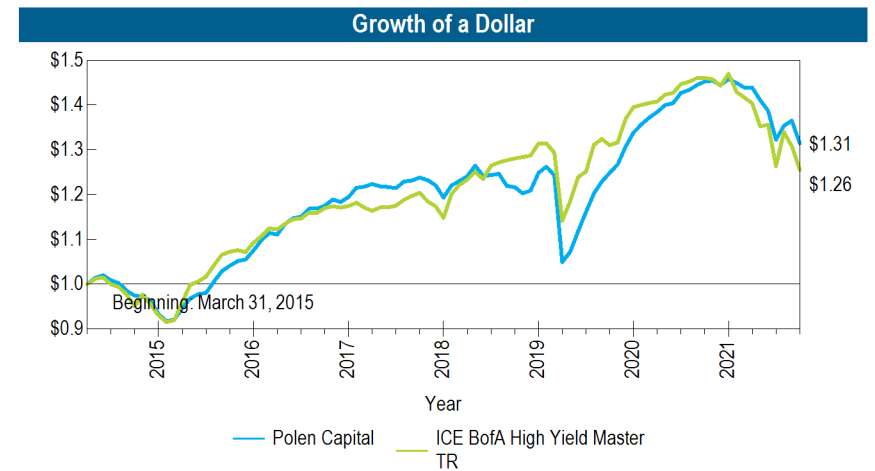
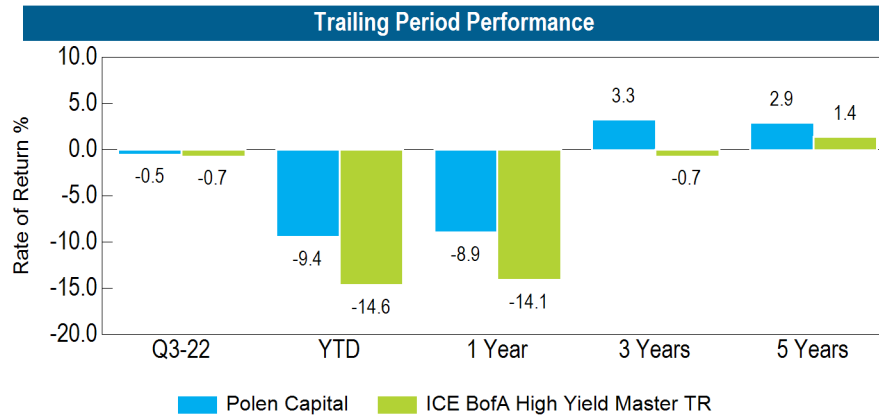
### Wellington Core Bond | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Wellington Core Bond	-9.9%	6.8%	0.0%	1.1	-1.3	0.8%	100.1%	107.7%
Bloomberg US Aggregate TR	-8.9%	6.3%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

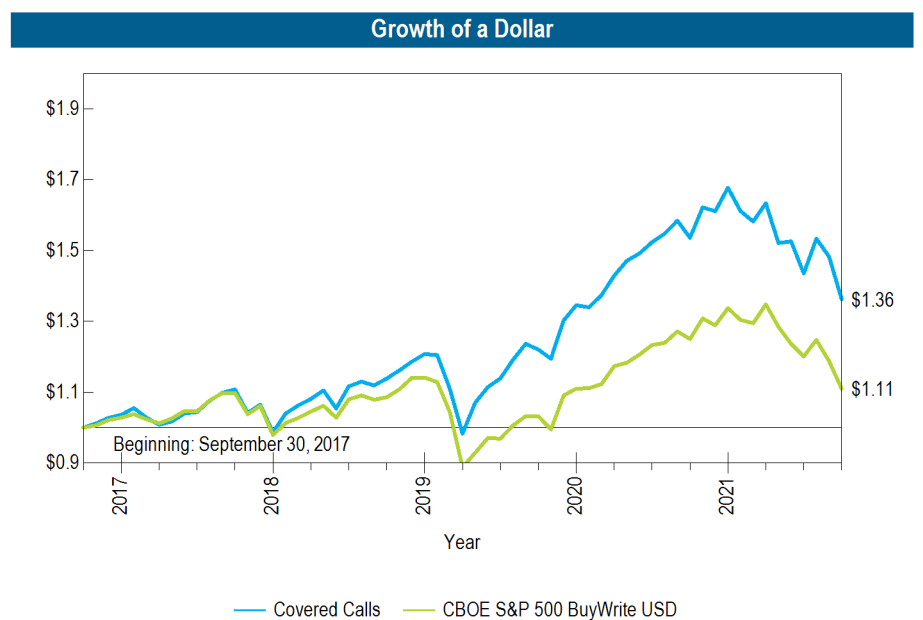
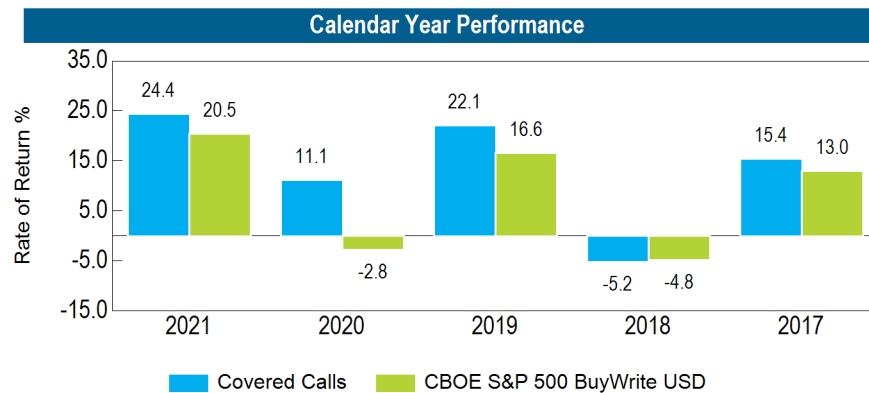
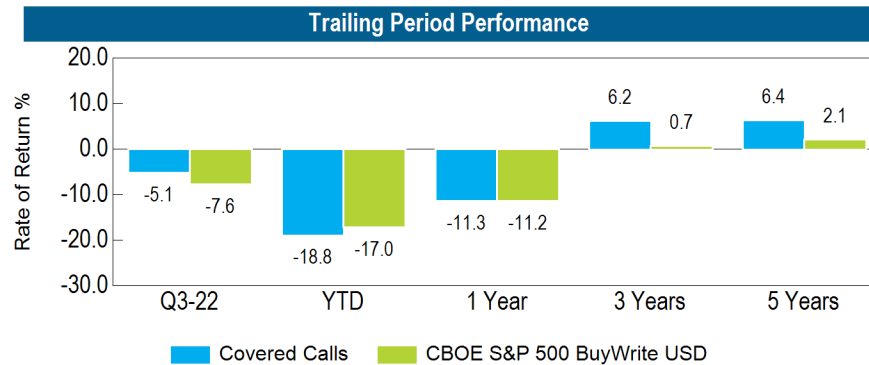
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Polen Capital	3.9%	8.0%	0.1%	0.9	0.1	4.2%	81.7%	79.6%
ICE BofA High Yield Master TR	3.3%	8.2%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception.

### Covered Calls | As of September 30, 2022

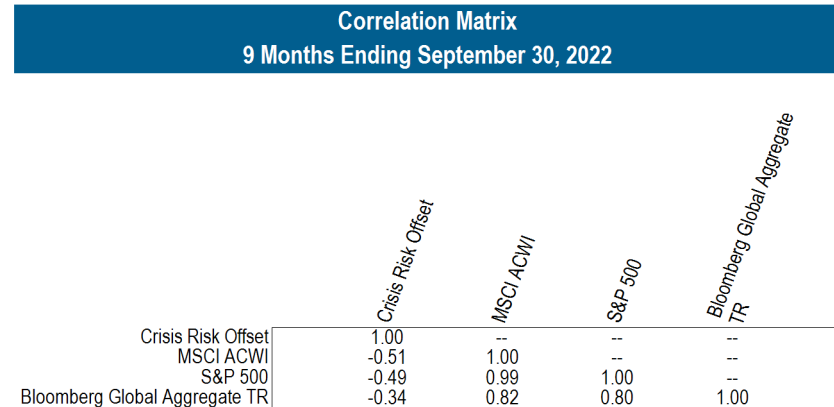
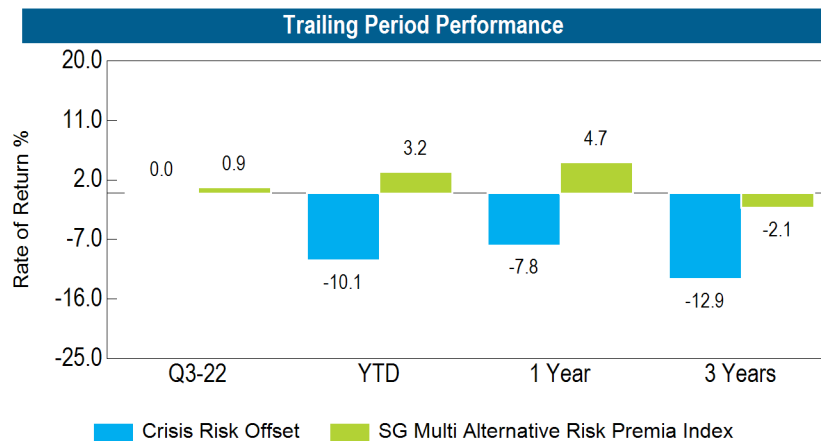
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Covered Calls	7.2%	11.7%	0.2%	1.0	0.7	4.0%	140.2%	101.1%
CBOE S&P 500 BuyWrite USD	4.2%	10.8%	0.0%	1.0	--	0.0%	100.0%	100.0%
Parametric BXM	5.5%	9.6%	0.2%	0.8	0.4	3.3%	95.2%	90.5%
CBOE S&P 500 BuyWrite USD	4.2%	10.8%	0.0%	1.0	--	0.0%	100.0%	100.0%
Parametric DeltaShift	9.0%	13.9%	0.3%	1.2	0.8	6.1%	196.3%	108.8%
CBOE S&P 500 BuyWrite USD	4.2%	10.8%	0.0%	1.0	--	0.0%	100.0%	100.0%



Performance shown is net-of-fees and since inception. Annualized Return is not available for managers without a history longer than one year.

### Crisis Risk Offset | As of September 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Crisis Risk Offset	-10.31%	11.89%	-0.78%	0.65	-0.78	11.39%	-28.94%	96.14%
SG Multi Alternative Risk Premia Index	-1.39%	6.10%	0.00%	1.00	--	0.00%	100.00%	100.00%
Kepos Alternative Risk Premia	--	--	--	--	--	--	--	--
SG Multi Alternative Risk Premia Index	-1.39%	6.10%	0.00%	1.00	--	0.00%	100.00%	100.00%
Versor Trend Following	--	--	--	--	--	--	--	--
SG Trend Index	17.90%	12.61%	0.00%	1.00	--	0.00%	100.00%	100.00%
Vanguard Long-Term Treasury ETF	-5.77%	14.46%	0.00%	1.02	-0.07	1.14%	102.32%	101.16%
Bloomberg US Govt Long TR	-5.69%	14.18%	0.00%	1.00	--	0.00%	100.00%	100.00%



Performance shown is net-of-fees and since inception.

Benchmark History		
As of September 30, 2022		
OPFRS Total Plan		
6/1/2022	Present	40% Russell 3000 / 12% MSCI ACWI ex USA / 31% Bloomberg US Universal TR / 5% CBOE BXM / 10% SG Multi Alternative Risk Premia Index / 2% Bloomberg US High Yield TR
1/1/2019	5/31/2022	40% Russell 3000 / 12% MSCI ACWI ex USA Gross / 33% Bloomberg US Universal TR / 5% CBOE BXM / 6.7% SG Multi Alternative Risk Premia Index / 3.3% Bloomberg US Treasury Long TR
5/1/2016	12/31/2018	48% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 20% CBOE BXM
10/1/2015	4/30/2016	43% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 15% CBOE BXM / 10% CPI - All Urban Consumers (unadjusted) +3%
1/1/2014	9/30/2015	48% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% Bloomberg US Universal TR / 10% CBOE BXM / 10% CPI - All Urban Consumers (unadjusted) +3%
3/1/2013	12/31/2013	40% Russell 3000 / 10% MSCI ACWI ex USA Gross / 17% Bloomberg US Universal TR / 33% ICE BofA 3M US Treasury TR USD
8/1/2012	2/28/2013	20% Russell 3000 / 7% MSCI ACWI ex USA Gross / 18% Bloomberg US Universal TR / 55% ICE BofA 3M US Treasury TR USD
10/1/2007	7/31/2012	53% Russell 3000 / 17% MSCI ACWI ex USA Gross / 30% Bloomberg US Universal TR
4/1/2006	9/30/2007	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% Bloomberg US Universal TR
1/1/2005	3/31/2006	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% Bloomberg US Aggregate TR
4/1/1998	12/31/2004	50% Bloomberg US Aggregate TR / 10% Russell 1000 / 20% Russell 1000 Value / 5% Russell MidCap / 15% MSCI EAFE
12/1/1988	3/31/1998	40% S&P 500 / 55% Bloomberg US Aggregate TR / 5% FTSE T-Bill 3 Months TR

### Benchmark History As of September 30, 2022

#### Domestic Equity

1/1/2005	Present	Russell 3000
4/1/1998	12/31/2004	28.57% Russell 1000 / 57.14% Russell 1000 Value / 14.29% Russell MidCap
6/1/1997	3/31/1998	S&P 500

#### International Equity

1/1/2005	Present	MSCI ACWI ex USA
1/1/1998	12/31/2004	MSCI EAFE Gross

#### Fixed Income

4/1/2006	Present	Bloomberg US Universal TR
12/31/1993	3/31/2006	Bloomberg US Aggregate TR

#### Covered Calls

4/1/2014	Present	CBOE S&P 500 BuyWrite USD
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#### Crisis Risk Offset

8/1/2018	Present	SG Multi Alternative Risk Premia Index
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#### Cash

3/1/2011	Present	FTSE T-Bill 3 Months TR
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## **Disclaimer, Glossary, and Notes**

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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

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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 14, 2022

Recommendation for  
Jan to Mar 2023 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 <sup>1</sup>
1	Public, Scheduled Withdrawal Allowances	103.8	17.3
2	Public, Accommodating of Withdrawals	130.7	21.8
3	Public, Must Plan Withdrawals	147.3	24.5
4	Closely Held	0.0	-
<b>Total</b>		<b>381.8</b>	

<sup>1</sup> 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, 2022<sup>1</sup>

	Market Value		Target	Variance		Actual Cash Flows for Oct – Dec Benefits <sup>1</sup>		Suggested Cash Flows for Jan – Mar Benefits <sup>1</sup>	
	(\$M)	(%)	(%)	(\$M)	(%)	Inflow (\$M)	Outflow (\$M)	Inflow (\$M)	Outflow (\$M)
Northern Trust Russell 1000	67.0	17.6	20.0	(9.3)	(2.4)	--	--	--	--
EARNEST Partners	40.5	10.6	8.0	9.9	2.6	--	--	--	--
Wellington Select Quality Equity	19.5	5.1	6.0	(3.4)	(0.9)	--	--	--	--
Rice Hall James	12.9	3.4	3.0	1.4	0.4	--	--	--	--
Brown Small Cap Value	9.7	2.5	3.0	(1.7)	(0.5)	--	--	--	--
<b>Total Domestic Equity</b>	<b>149.6</b>	<b>39.2</b>	<b>40.0</b>	<b>(3.1)</b>	<b>(0.8)</b>	--	--	--	--
SGA MSCI ACWI ex-US	31.3	8.2	8.4	(0.8)	(0.2)	--	--	--	--
Vanguard Developed ETF (BlackRock) <sup>2</sup>	12.2	3.2	3.6	(1.6)	(0.4)	--	--	--	--
<b>Total International Equity</b>	<b>43.5</b>	<b>11.4</b>	<b>12.0</b>	<b>(2.4)</b>	<b>(0.6)</b>	--	--	--	--
<b>Total Public Equity<sup>3</sup></b>	<b>193.1</b>	<b>50.6</b>	<b>52.0</b>	<b>(5.4)</b>	<b>(1.4)</b>	--	--	--	--
Parametric	29.2	7.6	5.0	10.1	2.6	--	(6.0)	--	(6.0)
<b>Total Covered Calls</b>	<b>29.2</b>	<b>7.6</b>	<b>5.0</b>	<b>10.1</b>	<b>2.6</b>	--	<b>(6.0)</b>	--	<b>(6.0)</b>
Long Duration ETF (BlackRock) <sup>2</sup>	14.0	3.7	3.3	1.3	0.3	--	--	--	--
Versor Trend Following	17.2	4.5	3.3	4.6	1.2	--	--	--	--
Kepos Alternative Risk Premia	9.7	2.6	3.3	(2.9)	(0.7)	--	--	--	--
<b>Total Crisis Risk Offset</b>	<b>41.0</b>	<b>10.7</b>	<b>10.0</b>	<b>2.8</b>	<b>0.7</b>	--	--	--	--
Ramirez	67.9	17.8	17.0	3.0	0.8	--	--	--	--
Reams	25.2	6.6	12.0	(20.6)	(5.4)	--	--	--	--
Wellington Core Bond	6.4	1.7	2.0	(1.2)	(0.3)	--	--	--	--
Polen Capital High Yield	8.5	2.2	2.0	0.8	0.2	--	--	--	--
<b>Total Public Fixed Income</b>	<b>107.9</b>	<b>28.3</b>	<b>33.0</b>	<b>(18.1)</b>	<b>(4.7)</b>	--	--	--	--
Cash	10.6	2.8	0.0	10.6	2.8	8.2	(8.2)	8.2	(8.2)
<b>Total Stable<sup>3</sup></b>	<b>118.5</b>	<b>31.0</b>	<b>33.0</b>	<b>(7.5)</b>	<b>(2.0)</b>	<b>8.2</b>	<b>(8.2)</b>	<b>8.2</b>	<b>(8.2)</b>
<b>Total Portfolio</b>	<b>381.8</b>	<b>100</b>	<b>100</b>			<b>8.2</b>	<b>(14.2)</b>	<b>8.2</b>	<b>(14.2)</b>

<sup>1</sup>Benefit payments estimated at \$14.2 million on a quarterly basis per OPFRS. Report reflects quarterly City contributions of \$8.2 million. The City's current quarterly contribution amount is based on FY 2022/2023 actuarial annual required contribution of \$32.8 million. Benefits are payable on first of each month.

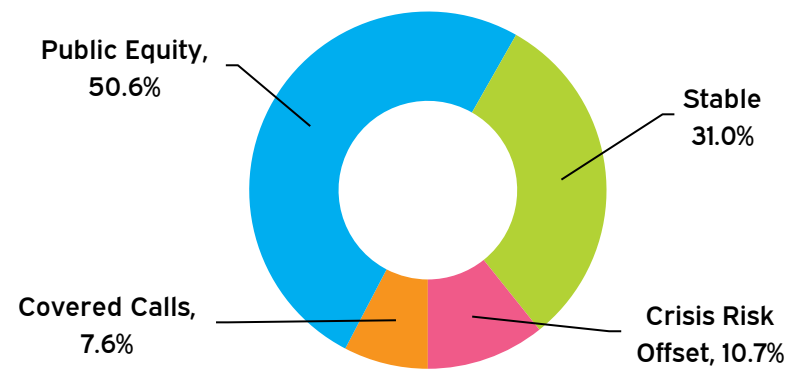
<sup>2</sup>Manager names in parentheses indicates selected, yet unfunded managers for replacement.

<sup>3</sup>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	149.6
International Equity	43.5
Public Equity <sup>1</sup>	193.1
Covered Calls	29.2
Crisis Risk Offset	41.0
Public Fixed Income	107.9
Stable <sup>1</sup>	118.5
<b>Total Portfolio</b>	<b>381.8</b>

#### Projected Equity to Fixed Income Allocation After Cash Flows



#### Suggested Cash Withdrawals

Portfolio Segment	Market Value (\$M)
Cash in Treasury	8.2
Parametric BXM	3.0
Parametric DeltaShift	3.0
<b>Total Withdrawal</b>	<b>14.2</b>

→ Market value difference in Public Equity from 52% allocation: **-\$5.4 million**

<sup>1</sup>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, 2023<sup>1</sup>

	Estimated Market Value		Target (%)	Projected Variance from Target	
	(\$M)	(%)		(\$M)	(%)
Northern Trust Russell 1000	67.0	18.1	20.0	(6.9)	(1.9)
EARNEST Partners	40.5	10.9	6.0	18.3	4.9
Wellington Select Quality Equity	19.5	5.3	8.0	(10.1)	(2.7)
Rice Hall James	12.9	3.5	3.0	1.8	0.5
Brown Small Cap Value	9.7	2.6	3.0	(1.4)	(0.4)
<b>Total Domestic Equity</b>	<b>149.6</b>	<b>40.5</b>	<b>40.0</b>	<b>1.7</b>	<b>0.5</b>
SGA MSCI ACWI ex-US	31.3	8.5	3.6	18.0	4.9
Vanguard Developed Markets ETF	12.2	3.3	8.4	(18.9)	(5.1)
<b>Total International Equity</b>	<b>43.5</b>	<b>11.8</b>	<b>12.0</b>	<b>(0.9)</b>	<b>(0.2)</b>
<b>Total Public Equity</b>	<b>193.1</b>	<b>52.2</b>	<b>52.0</b>	<b>0.8</b>	<b>0.2</b>
Parametric	19.2	5.2	5.0	0.7	0.2
<b>Total Covered Calls</b>	<b>19.2</b>	<b>5.2</b>	<b>5.0</b>	<b>0.7</b>	<b>0.2</b>
Vanguard Long Duration ETF	14.0	3.8	3.3	1.7	0.5
Versor Trend Following	17.2	4.7	3.3	4.9	1.3
Kepos Alternative Risk Premia	9.7	2.6	3.3	(2.6)	(0.7)
<b>Total Crisis Risk Offset</b>	<b>41.0</b>	<b>11.1</b>	<b>10.0</b>	<b>4.0</b>	<b>1.1</b>
Ramirez	67.9	18.4	12.0	23.5	6.4
Reams	25.2	6.8	2.0	17.8	4.8
Wellington Core Bond	6.4	1.7	19.0	(63.8)	(17.3)
Polen Capital High Yield	8.5	2.3	2.0	1.1	0.3
<b>Total Public Fixed Income</b>	<b>107.9</b>	<b>29.2</b>	<b>33.0</b>	<b>(14.1)</b>	<b>(3.8)</b>
Cash	8.6	2.3	0.0	8.6	2.3
<b>Total Stable</b>	<b>116.5</b>	<b>31.5</b>	<b>33.0</b>	<b>(5.5)</b>	<b>(1.5)</b>
<b>Total Portfolio</b>	<b>369.8</b>	<b>100</b>	<b>100</b>		

<sup>1</sup>Benefit payments estimated at \$14.2M on a quarterly basis per OPFRS. Report reflects quarterly City contributions of \$8.2M. The City's current quarterly contribution amount is based on FY 2022/2023 actuarial annual required contribution of \$32.8M.



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

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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

**TO:** Oakland Police and Fire Retirement System (“OPFRS”)  
**FROM:** Meketa Investment Group (“Meketa”)  
**DATE:** December 14, 2022  
**RE:** Bankruptcy of FTX

---

### Background

On November 11, 2022, FTX—one of the largest cryptocurrency exchanges—filed for bankruptcy. The company’s valuations had plunged in a matter of days after CoinDesk, a cryptocurrency news site, published a report earlier in the month. Along with its collapse, the closely affiliated Alameda Research—founded by the same founder Sam Bankman-Fried—filed for bankruptcy.

### Effect on Oakland Police and Fire Retirement System

While FTX’s collapse is sudden sending shockwaves in the digital currency community as well as the investments industry, its effect on Oakland Police and Fire Retirement System is expected to be none to minimal.

As a private company, FTX’s investors were primarily private equity and venture capital funds.

OPFRS’s portfolio is composed of managers investing and trading in public equity, public fixed income, and derivatives such as covered calls, and therefore has no direct exposure to FTX or Alameda Research. OPFRS does not have any private markets mandates nor hired investment managers with such mandates. OPFRS also does not hold FTX’s own cryptocurrency FTT.

***Therefore, Meketa does not have any major concerns with FTX’s collapse in regard to its effect on OPFRS’s portfolio.***

DS/PN/JLC/mn



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OAKLAND POLICE AND FIRE RETIREMENT SYSTEM BOARD  
CITY OF OAKLAND, CALIFORNIA  
RESOLUTION No. 8070

Approved to Form  
and Legality



ON MOTION OF MEMBER \_\_\_\_\_ SECONDED BY MEMBER \_\_\_\_\_

**RESOLUTION DETERMINING THAT CONDUCTING IN-PERSON MEETINGS OF THE POLICE AND FIRE RETIREMENT SYSTEM (PFRS) BOARD AND ITS COMMITTEES WOULD PRESENT IMMINENT RISK TO HEALTH OR SAFETY OF ATTENDEES AND ELECTING TO CONTINUE TO CONDUCT PFRS BOARD AND COMMITTEE MEETINGS USING TELECONFERENCING IN ACCORDANCE WITH CALIFORNIA GOVERNMENT CODE SECTION 54953(E) AS AMENDED BY CALIFORNIA ASSEMBLY BILL NO. 361 (SEPTEMBER 16, 2021).**

**WHEREAS**, on March 4, 2020, Governor Gavin Newsom declared a state of emergency related to COVID-19, pursuant to California Government Code Section 8625, and said declaration has not been lifted or rescinded, see <https://www.gov.ca.gov/wp-content/uploads/2020/03/3.4.20-Coronavirus-SOE-Proclamation.pdf>; and

**WHEREAS**, on March 9, 2020, the City Administrator, as the Director of the Emergency Operations Center (EOC), issued a proclamation of local emergency due to the spread of COVID-19 in Oakland, and on March 12, 2020, the City Council passed Resolution No. 88075 C.M.S. ratifying the proclamation of local emergency pursuant to Oakland Municipal Code (O.M.C.) section 8.50.050(C); and

**WHEREAS**, City Council Resolution No. 88075 remains in full force and effect to date; and

**WHEREAS**, the Centers for Disease Control (CDC) recommends physical distancing of at least six (6) feet whenever possible, avoiding crowds, and avoiding spaces that do not offer fresh air from the outdoors, particularly for people who are not fully vaccinated or who are at high risk of getting very sick from COVID-19, see <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>; and

**WHEREAS**, the CDC recommends that people who live with unvaccinated people avoid activities that make physical distancing difficult, see <https://www.cdc.gov/coronavirus/2019-ncov/your-health/about-covid-19/caring-for-children/families.html>; and

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8070

WHEREAS, the CDC recommends that older adults limit in-person interactions as much as possible, particularly when indoors, see <https://www.cdc.gov/aging/covid19/covid19-older-adults.html>; and

WHEREAS, the CDC, the California Department of Public Health, and the Alameda County Public Health Department all recommend that people experiencing COVID-19 symptoms stay home, see <https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/steps-when-sick.html>; and

WHEREAS, people without symptoms may be able to spread the COVID-19 virus, see <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>; and

WHEREAS, fully vaccinated people who become infected with the COVID-19 Delta variant can spread the virus to others, see <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated.html>; and

WHEREAS, as of December 20, 2021, the Omicron variant has been detected in most states and territories and is rapidly increasing the proportion of COVID-19 cases it is causing, see <https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html>; and

WHEREAS, the CDC does not yet know how easily the Omicron variant spreads, the severity of illness it causes, or how well available vaccines and medications work against it, see <https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html>; and

WHEREAS, the City's public-meeting facilities are indoor facilities that are not designed to provide circulation of fresh/outdoor air, particularly during periods of cold or rainy weather; and

WHEREAS, the City's public-meeting facilities are not designed to ensure that attendees can remain six (6) feet apart; and

WHEREAS, most of the members of the Police and Fire Retirement System are at higher risk of becoming very sick from COVID-19 due their age; and

WHEREAS, holding in-person meetings will bring people from different households together in an indoor facility against CDC guidance; and

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8070

**WHEREAS**, some attendees may use public transportation to travel to an in-person meeting, which will expose them additional people outside of their household and put them at further risk of contracting COVID-19; now, therefore, be it:

**RESOLVED:** that the Police and Fire Retirement System Board (“PFRS Board”) finds and determines that the foregoing recitals are true and correct and hereby adopts and incorporates them into this Resolution; and be it

**FURTHER RESOLVED:** that, based on these findings, the PFRS Board determines that conducting in-person board and committee meetings would pose imminent risks to the health of attendees; and be it

**FURTHER RESOLVED:** that the PFRS Board firmly believes that the community’s health and safety and the community’s right to participate in local government are critically and equally important, and is committed to balancing the two by continuing to use teleconferencing to conduct public meetings, in accordance with California Government Code Section 54953(e); and be it

**FURTHER RESOLVED:** That the PFRS Board will reconsider the state of emergency and determine whether the state of emergency continues to directly impact the ability of members to meet safely in person at least every thirty (30) days in accordance with California Government Code section 54953(e) until the state of emergency related to COVID-19 has been lifted, or the PFRS Board finds that in-person meetings no longer pose imminent risks to the health of attendees, whichever is occurs first.

IN BOARD MEETING, VIA ZOOM WEBINAR \_\_\_\_\_ DECEMBER 14, 2022 \_\_\_\_\_

PASSED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ATTEST: \_\_\_\_\_  
PRESIDENT

ATTEST: \_\_\_\_\_  
SECRETARY