

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.



AUDIT COMMITTEE MEMBERS

John C. Speakman
Chairperson

R. Steven Wilkinson
Member

Kevin Traylor
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.*

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

WEDNESDAY, AUGUST 31, 2022

10:00 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 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
REGULAR AUDIT COMMITTEE MEETING
AUGUST 31, 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

ORDER OF BUSINESS

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

Recommendation: **APPROVE** the July 27, 2022 Audit Committee Meeting Minutes
- 2. Subject: Administrative Expenses Report**
From: Staff of the PFRS Board

Recommendation: **ACCEPT** informational report regarding PFRS administrative expenses as of June 30, 2022
- 3. REVIEW OF PENDING AUDIT COMMITTEE MEETING AGENDA ITEMS**
- 4. OPEN FORUM**
- 5. FUTURE SCHEDULING**
- 6. ADJOURNMENT**

A REGULAR MEETING OF THE AUDIT/OPERATIONS COMMITTEE of the Oakland Police and Fire Retirement System (“PFRS”) was held Wednesday, July 27, 2022 via Zoom Webinar.

- | | | |
|----------------------|-----------------------|-------------------------------------|
| Committee Members | ▪ John C. Speakman | Chairperson |
| | ▪ Kevin R. Traylor | Member |
| | ▪ R. Steven Wilkinson | Member (joined at 10:23 AM) |
| Additional Attendees | ▪ David Jones | PFRS Secretary & Plan Administrator |
| | ▪ Téir Jenkins | PFRS Staff Member |
| | ▪ Maxine Visaya | PFRS Staff Member |
| | ▪ Mitesh Bhakta | PFRS Legal Counsel |
| | ▪ Annie Louie | Macias Gini & O’Connell, LLP |

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

- 1. PFRS Audit Committee Meeting Minutes** – Chairperson Speakman made a motion to approve the June 29, 2022 Audit Committee Regular Meeting minutes, second by Member Traylor. Motion passed.

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

- 2. Scope of Services and Initiation of the Financial Audit of the PFRS Fund for the Fiscal Year Ending June 30, 2022** – Annie Louie of Macias Gini & O’Connell, LLP presented an informational report regarding the scope of services and initiation of the Financial Audit of the PFRS fund for the Fiscal Year ending June 30, 2022. There are no significant changes to the scope of services or timeline and the goal is to issue the report by the end of October. A. Louie advised the report will have a new format and the Audit Opinion will be moved to the opening paragraph and include expanded language regarding the Auditor’s responsibility. The audit is planned to be conducted remotely, as it has been successful during the closure of offices. It was noted should a site-visit become necessary; accommodations can be made.

MOTION: Chairperson Speakman made a motion to accept the information report regarding the scope of services and initiation of the Financial Audit of the PFRS Fund for the Fiscal Year Ending June 30, 2022 and forward to the Board for approval, second by Member Wilkinson. Motion passed.

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

- 3. Administrative Expenses Report** – Staff Member Jenkins presented an informational report on PFRS’ administrative expenditures as of May 31, 2022. PFRS has an approved annual budget of approximately \$3.5 million and have expensed approximately \$2.4 million fiscal year-to-date. Membership consisted of 686 retired members, which included 422 Police Members and 264 Fire Members.

MOTION: Member Traylor made a motion to accept the PFRS Administrative Expenses Report as of May 31, 2022, second by Chairperson Speakman. Motion passed.

[SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – ABSTAIN]
(AYES: 2 / NOES: 0 / ABSTAIN: 1 / EXCUSED: 0)

4. **Review of Pending Audit Committee Meeting Agenda Items** – Plan Administrator Jones reported on the two (2) pending items on the Audit Committee Agenda. Item 1) Staff Review of the 2006 Management Audit: After discussions, Staff & Investment Consultant request this project continue to hold until the first quarter of 2023 because of competing projects. Plan Administrator Jones reminded the Committee this is not an active management audit and informational only to provide an update of recommendations that have been implemented since the completion of the 2006 Management Audit. Chairperson Speakman acknowledged things have been running smoothly and has no concerns, but best practice indicates we should consider hiring an outside consultant to conduct a new Management Audit of the System in 2023 because it has been 17 years since the last audit concluded. Staff Member Jenkins reminded the Committee this was not a financial audit, but an audit of the governance of the Plan and most recommendations were investment related. Item 2) Monitoring & Updates regarding upcoming City Council Agendas with scheduled discussions of the 2026 Actuarial Funding Date: Legal Counsel Bhakta advised as a result of the pandemic combined with changes in future expected outlays the City has hired a 3rd party consultant to conduct economic and actuarial forecasting and provide analysis to determine how much additional revenue will be needed beyond 2026. Receipt of the final report is necessary before we can begin to properly apprise how best to move forward. Chairperson Speakman emphasized the Property Tax Override (PTO) expires in 2026 and the full burden of funding will fall to the General Fund if it does not continue. Staff Member Jenkins reminded the Committee last year the 2026 Committee recommended “no charter change at this time” based on its work with the City Attorney’s Office, which included obtaining an opinion from outside counsel regarding the PTO. Legal Counsel and Staff will continue to provide updates.

5. **Open Forum** – No Report.

6. **Future Scheduling** – The next regular Audit Committee meeting is tentatively scheduled to occur August 31, 2022.

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

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

The meeting adjourned at 10:25 a.m. Pacific

JOHN C. SPEAKMAN
 COMMITTEE CHAIRPERSON

DATE

Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Administrative Budget Spent to Date (Preliminary)

As of June 30, 2022

	Approved Budget		June 2022		FYTD		Remaining		Percent Remaining	
Internal Administrative Costs										
PFRS Staff Salaries	\$	1,212,000	\$	80,769	\$	1,070,033	\$	141,967		11.7%
Board Travel Expenditures		52,500		-		1,711		50,789		96.7%
Staff Training		20,000		1,318		1,318		18,682		93.4%
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		40,000		-		0.0%
Miscellaneous Expenditures		40,000		817		11,133		28,867		72.2%
Internal Service Fees (ISF)		88,000		4,400		80,952		7,048		8.0%
Contract Services Contingency		50,000		-		1,200		48,800		97.6%
Internal Administrative Costs Subtotal :	\$	1,513,600	\$	127,303	\$	1,206,347	\$	307,253		20.3%
Actuary and Accounting Services										
Audit	\$	49,000	\$	-	\$	48,300	\$	700		1.4%
Actuary		46,500		-		23,896		22,604		48.6%
Actuary and Accounting Subtotal:	\$	95,500	\$	-	\$	72,196	\$	23,304		24.4%
Legal Services										
City Attorney Salaries	\$	188,000	\$	58,085	\$	180,851	\$	7,149		3.8%
Legal Contingency		150,000		-		-		150,000		100.0%
Legal Services Subtotal:	\$	338,000	\$	58,085	\$	180,851	\$	157,149		46.5%
Investment Services										
Money Manager Fees	\$	1,353,000	\$	271,551	\$	1,259,155	\$	93,845		6.9%
Custodial Fee		124,000		29,125		116,500		7,500		6.0%
Investment Consultant		100,000		25,000		100,000		-		0.0%
Investment Subtotal:	\$	1,577,000	\$	325,676	\$	1,475,655	\$	101,345		6.4%
Total Operating Budget	\$	3,524,100	\$	511,064	\$	2,935,049	\$	589,051		16.71%

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of June 30, 2022

	June 2022
Beginning Cash as of 5/31/2022	\$ 7,348,489
Additions:	
City Pension Contribution - June	\$ 3,651,667
Investment Draw	\$ 1,000,000
Misc. Receipts	3,760
Total Additions:	\$ 4,655,427
Deductions:	
Pension Payment (May Pension Paid on 6/1/2022)	(4,200,664)
Expenditures Paid	(283,443)
Total Deductions	\$ (4,484,107)
 Ending Cash Balance as of 6/30/2022*	 \$ 7,519,809

* On 7/1/2022, June pension payment of appx \$4,183,900 will be made leaving a cash balance of \$3,336,000.

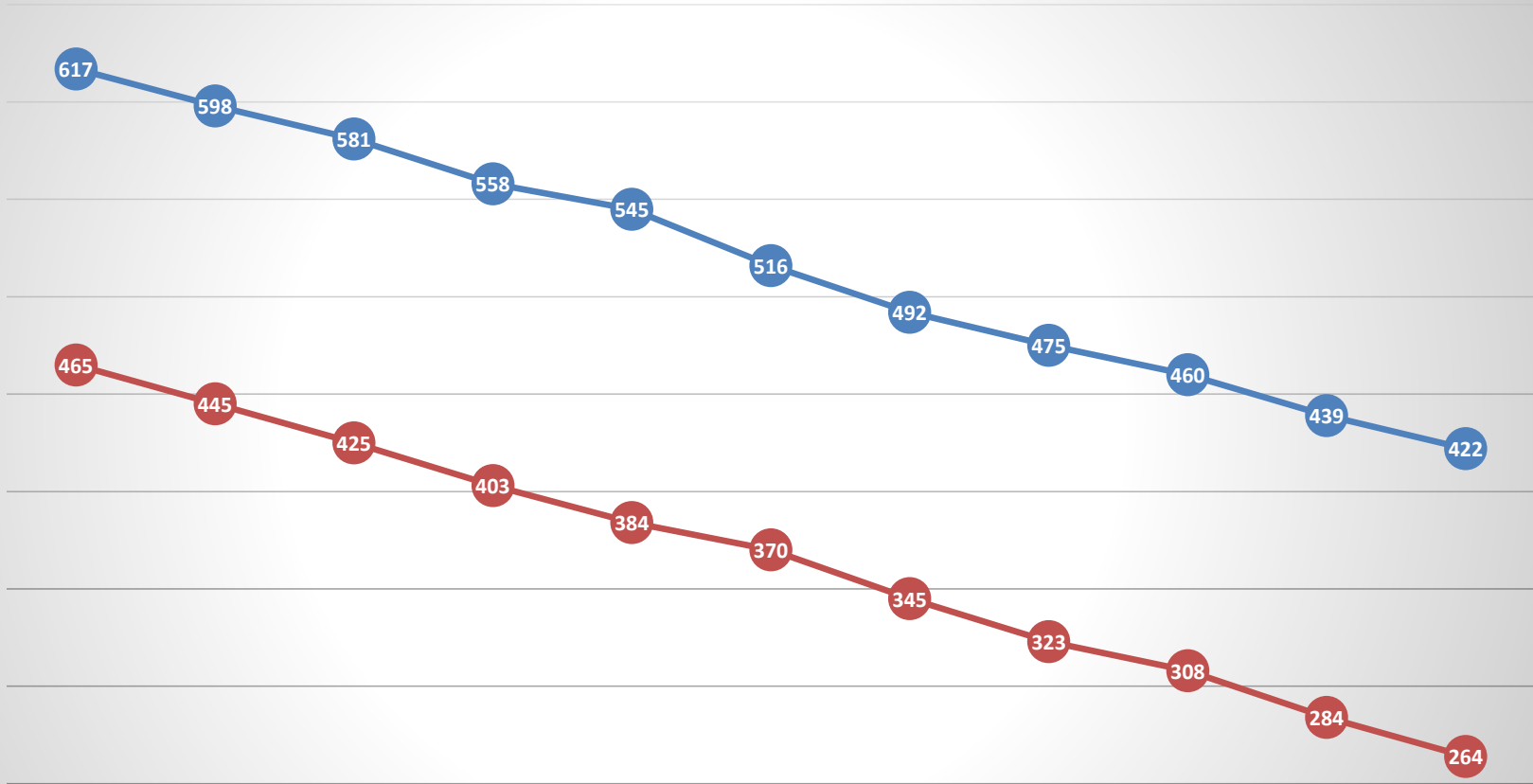
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of June 30, 2022

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	294	167	461
Beneficiary	128	97	225
<i>Total Retired Members</i>	422	264	686
<i>Total Membership:</i>	422	264	686

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	283	133	416
Disability Retirement	129	120	249
Death Allowance	10	11	21
<i>Total Retired Members:</i>	422	264	686
<i>Total Membership as of June 30, 2022:</i>	422	264	686
<i>Total Membership as of June 30, 2021:</i>	439	284	723
<i>Annual Difference:</i>	-17	-20	-37

Oakland Police and Fire Retirement System Pension Plan Membership Count As of June 30, 2022 (FY 2012 - FY 2022)

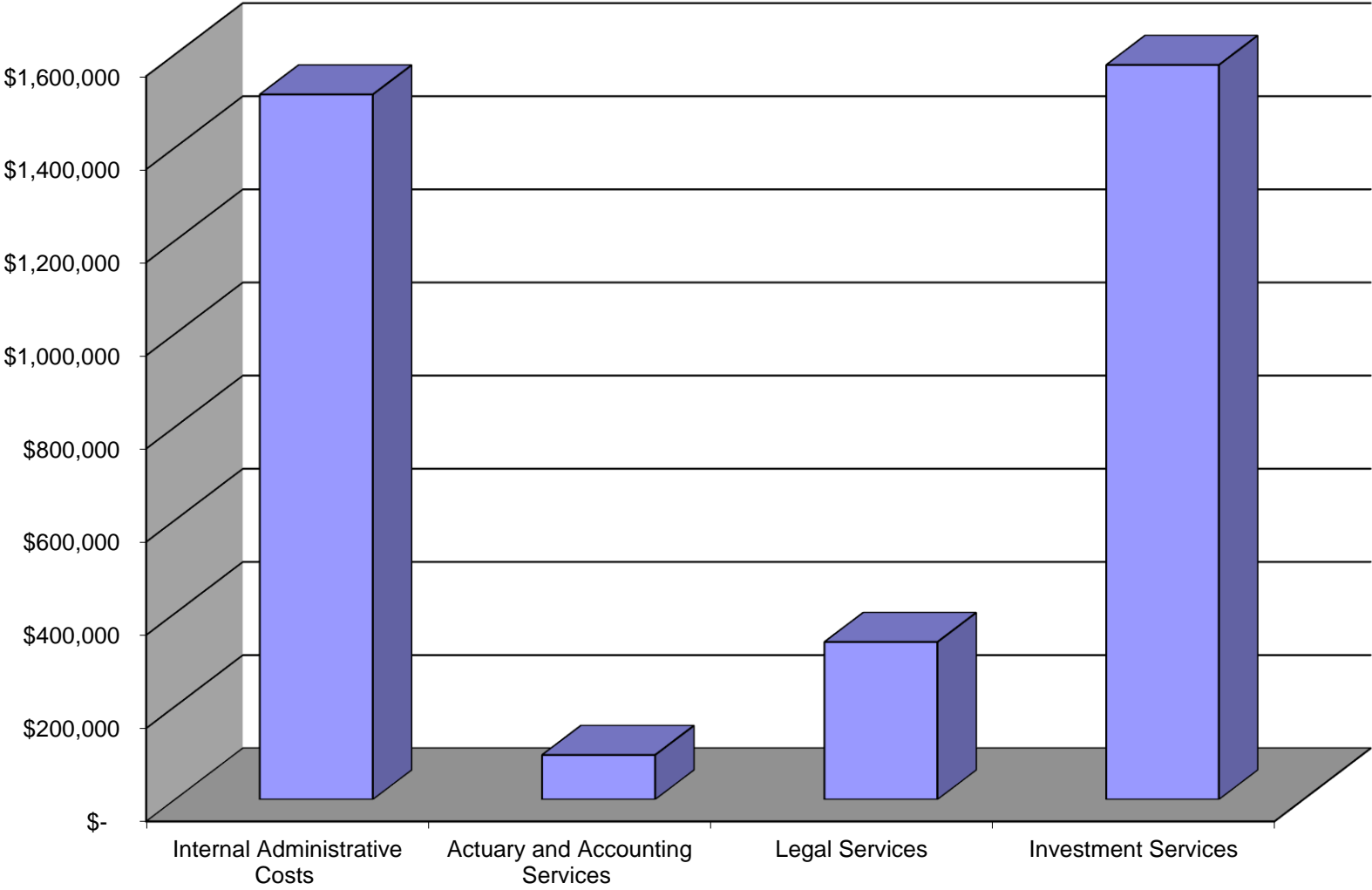


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 FYTD
Police	617	598	581	558	545	516	492	475	460	439	422
Fire	465	445	425	403	384	370	345	323	308	284	264
Total	1082	1043	1006	961	929	886	837	798	768	723	686

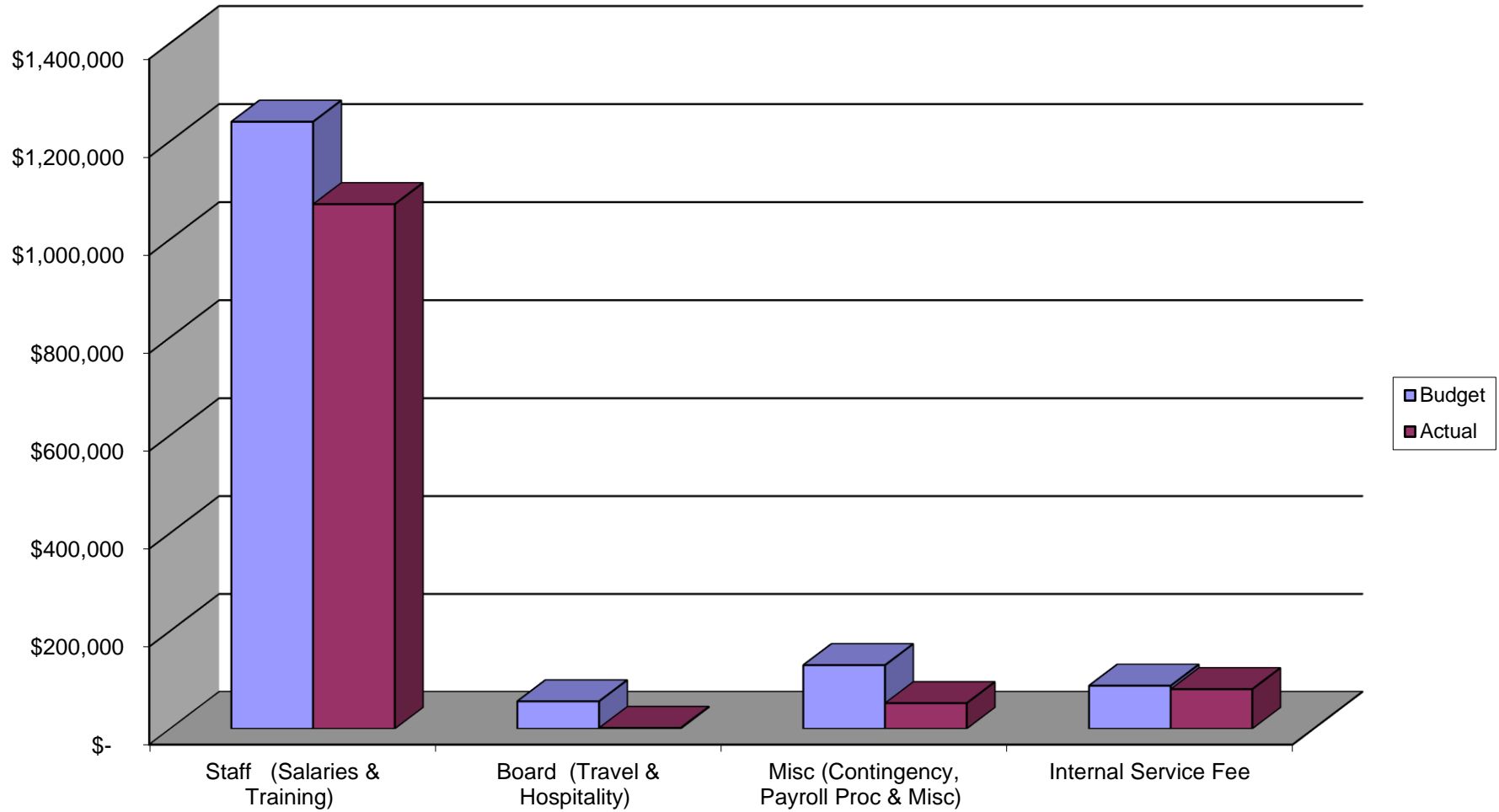
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Approved Budget

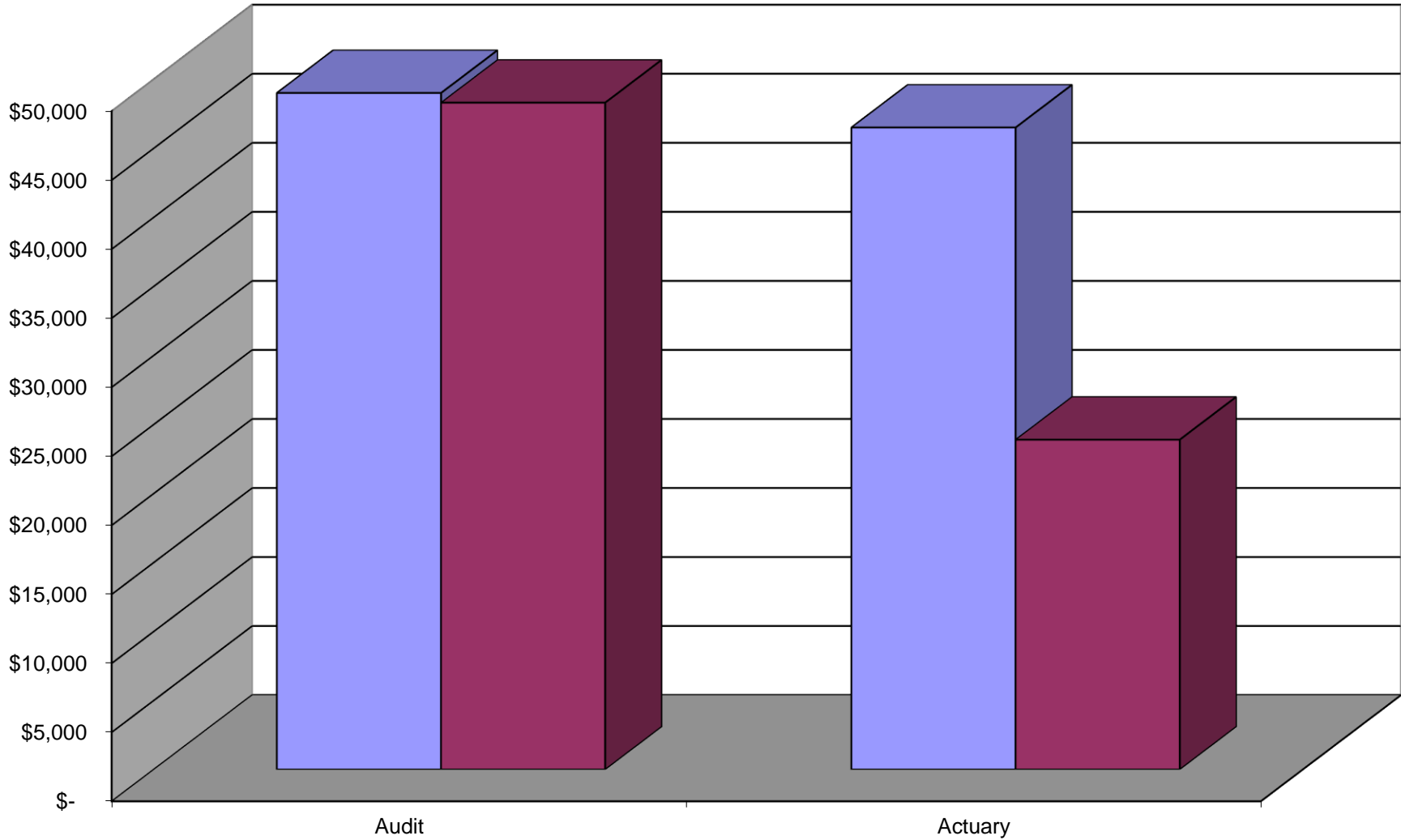
FY 2021-2022



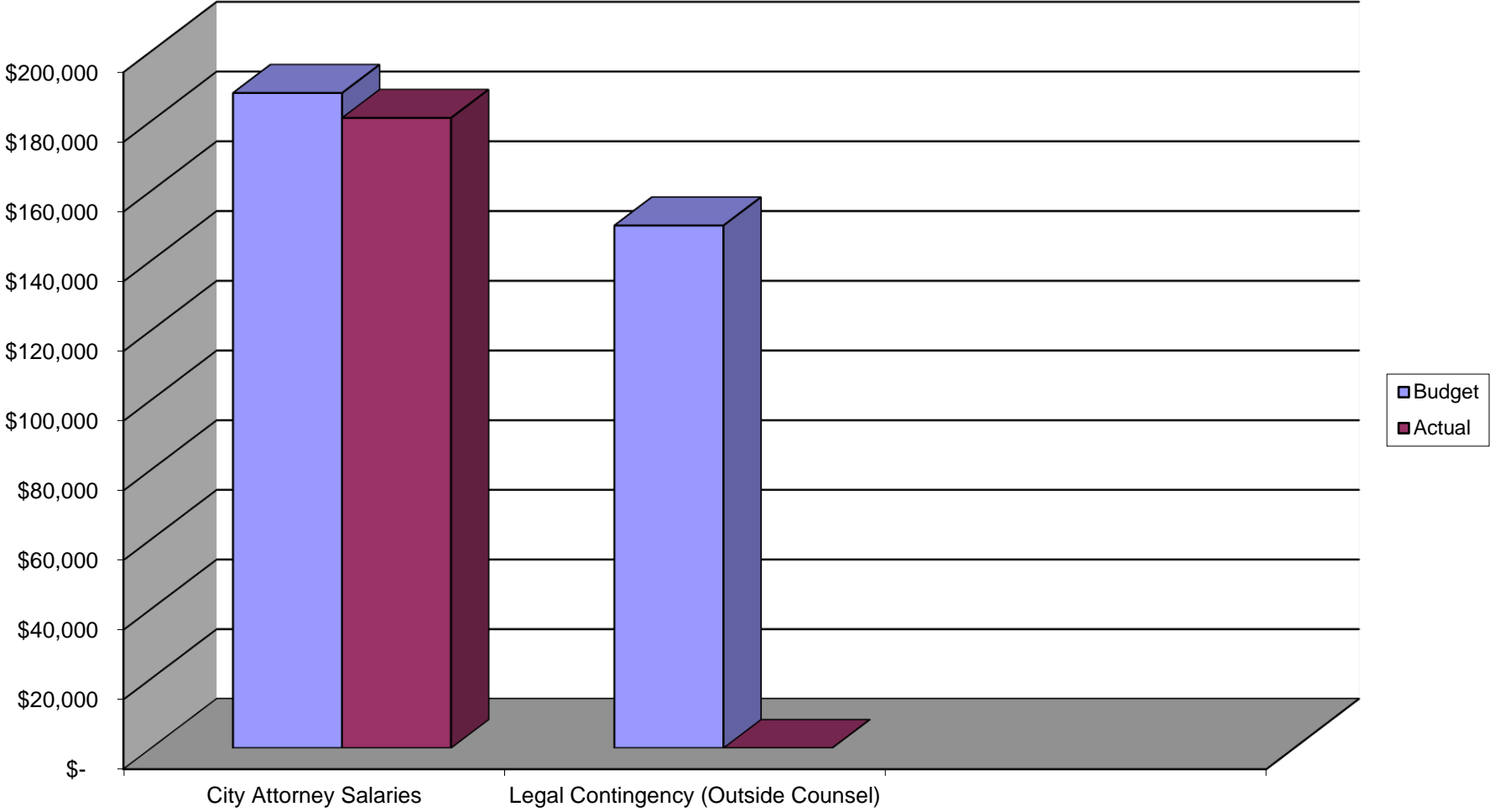
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs Actual as of June 30, 2022
Internal Administrative Costs



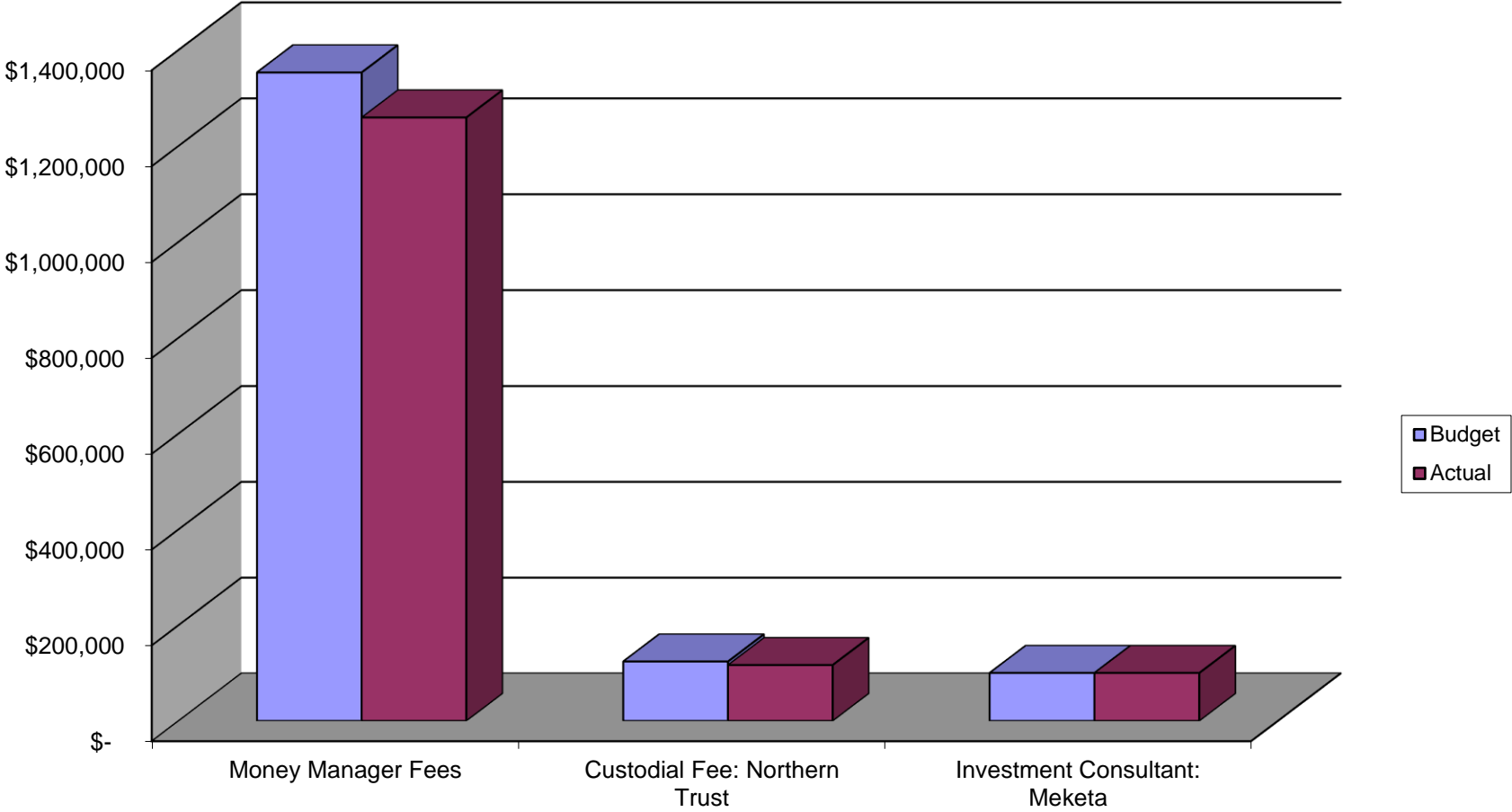
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2022
Actuary and Accounting Services



OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2022
Legal Services



OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2022
Investment Services





AGENDA REPORT

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

SUBJECT: Audit Committee Agenda Pending List **DATE:** August 31, 2022

	SUBJECT	TENTATIVE SCHEDULED MTG DATE	STATUS
1	Staff Review of the 2006 Management Audit	TBD	Ongoing
2	Monitor & Update PFRS Board of Upcoming City Council Agendas Regarding Discussion of the 2026 Actuarial Funding Date	Ongoing	Ongoing

Respectfully submitted,

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

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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

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

WEDNESDAY, AUGUST 31, 2022
10:30 AM
TELE-CONFERENCE BOARD MEETING
VIA ZOOM WEBINAR

OBSERVE

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- 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
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- Webinar ID: 828 8049 3983.
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**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR INVESTMENT COMMITTEE MEETING
AUGUST 31, 2022**

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

ORDER OF BUSINESS

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

From: Staff of the PFRS Board

Recommendation: **APPROVE** June 29, 2022 Investment Committee Meeting Minutes
- 2. Subject:** Investment Manager Performance Update – Parametric Portfolio Associates, LLC

From: Parametric Portfolio Associates, LLC

Recommendation: **ACCEPT** informational report regarding a firm overview and managerial assessment; recent organizational changes; diversity and inclusion policy and practices; and investment portfolio performance of Parametric Portfolio Associates, LLC, a PFRS’ Covered Calls Investment Strategy Manager
- 3. Subject:** Investment Manager Performance Review – Parametric Portfolio Associates, LLC

From: Meketa Investment Group

Recommendation: **ACCEPT** Meketa Investment Group’s review and evaluation regarding managerial assessment; recent organizational changes; diversity and inclusion policy and practices; investment portfolio performance; and watch status update and **RECOMMEND BOARD APPROVAL** of Meketa’s recommendation to continue or remove watch status of Parametric Portfolio Associates, LLC, a PFRS’ Covered Calls Investment Strategy Manager.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR INVESTMENT COMMITTEE MEETING
AUGUST 31, 2022**

4. **Subject:** Investment Market Overview as of July 31, 2022
From: Meketa Investment Group
-
- Recommendation:** **ACCEPT** informational report regarding the Global Investment Markets as of July 31, 2022
5. **Subject:** Preliminary Investment Fund Performance Update as of July 31, 2022
From: Meketa Investment Group
-
- Recommendation:** **ACCEPT** informational report regarding the Preliminary Investment Fund Performance Update as of July 31, 2022
6. **Subject:** Investment Fund Quarterly Performance Update as of June 30, 2022
From: Meketa Investment Group
-
- Recommendation:** **ACCEPT** the Investment Fund Quarterly Performance Update as of June 30, 2022

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

A REGULAR MEETING OF THE INVESTMENT AND FINANCIAL MATTERS COMMITTEE of the Oakland Police and Fire Retirement System (“PFRS”) was held Wednesday, June 29, 2022 via Zoom Webinar.

Committee Members	<ul style="list-style-type: none"> ▪ Jaime T. Godfrey ▪ Robert W. Nichelini ▪ R. Steven Wilkinson 	<ul style="list-style-type: none"> Chairperson Member (EXCUSED) Member
Additional Attendees	<ul style="list-style-type: none"> ▪ David F. Jones ▪ Mitesh Bhakta ▪ Téir Jenkins ▪ Maxine Visaya ▪ David Sancewich ▪ Paola Nealon ▪ Jason Leong Campbell ▪ Anand Dharan ▪ Brain White 	<ul style="list-style-type: none"> PFRS Secretary & Plan Administrator PFRS Legal Counsel PFRS Staff Member PFRS Staff Member Meketa Investment Group Meketa Investment Group Meketa Investment Group Wellington Management Company, LLC Wellington Management Company, LLC

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

1. **Approval of Investment Committee Meeting Minutes** – Member Wilkinson made a motion to approve the May 25, 2022 Investment Committee Regular Meeting Minutes, as written, second by Chairperson Godfrey. Motion Passed.

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

2. **Investment Manager Performance Update – Wellington Management Company, LLP** – Anand Dharan and Brain White of Wellington Management Company, LLC, a PFRS Core Bond Fixed Income Investment 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 and Chairperson Godfrey made inquiries to further discussion regarding the firm’s strategy and practices to meet diversity, equity, and inclusion goals and for supporting advancement of staff within the organization beyond the initial hire. Plan Administrator Jones made inquiries to further discussion regarding investment strategies to counter rising rate environment.

MOTION: Member Wilkinson made a motion to accept the informational report presented by Wellington Management Company, LLC and forward to the Board, second by Chairperson Godfrey. Motion passed.

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

3. **Investment Manager Performance Review – Wellington Management Company, LLP** – Jason Leong Campbell of Meketa Investment Group (“Meketa”) provided an overview memo regarding a review and evaluation of Wellington Management Company, LLC, a PFRS Core Bond Fixed Income Investment Manager. J.L. Campbell noted Wellington Management Company, LLC has been a part of the PFRS portfolio for just over a year; their strategy and process has been consistent; and advised Meketa does not have any concerns and does not recommend any action be taken at this time.

MOTION: Member Wilkinson made a motion accept the overview memo and forward to the Board, second by Chairperson Godfrey. Motion passed.

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

4. **Investment Market Overview as of May 31, 2022** – Paola Nealon of Meketa presented an informational report regarding the Investment Market Overview as of May 31, 2022 and highlighted Index Returns and current factors impacting outcomes.

MOTION: Member Wilkinson made a motion to accept the informational report presented by Meketa regarding the Investment Market Overview as of May 31, 2022 and forward to the Board, second by Chairperson Godfrey. Motion passed.

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

5. **Preliminary Investment Performance Update as of May 31, 2022** – Paola Nealon of Meketa presented an informational report regarding the Preliminary Investment Fund Performance Update as of May 31, 2022 and highlighted Allocation vs. Targets & Policy and the Asset Class Performance Summary.

MOTION: Chairperson Godfrey made a motion to accept the informational report presented by Meketa regarding the Preliminary Investment Fund Performance Update as of May 31, 2022 and forward to the Board, second by Member Wilkinson. Motion passed.

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

6. **\$14.2 Million Drawdown for Member Retirement Allowances Fiscal Year 2022/2023 (Quarter Ending September 30, 2022)** – David Sancewich of Meketa Investment Group presented an informational report and recommendation regarding 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 July 1, 2022 through September 30, 2022 Member Retirement Allowances.

MOTION: Member Wilkinson made a motion to accept Meketa’s recommendation regarding the \$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 and forward to the Board for approval, second by Chairperson Godfrey. Motion passed.

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

7. **Client Update – Parametric Portfolio Associates, LLC Organizational Changes** – David Sancewich of Meketa presented a memo provided by Parametric Portfolio Associates, LLC regarding recent organizational changes at the firm. D. Sancewich noted this is for informational purposes only and Meketa has no concerns and does not recommend action at this time.

MOTION: Chairperson Godfrey made a motion to accept the informational report regarding recent organizational changes at Parametric Portfolio Associates, LLC, second by Member Wilkinson. Motion passed.

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

8. **Schedule of Pending Investment Committee Meeting Agenda Items** – David Sancewich presented the 2022 Ongoing Strategic Investment Agenda for discussion. No suggested changes or additions were made and D. Sancewich noted Meketa is working on Chairperson Godfrey’s request to invite Nicole Musicco, CalPERS new Chief Investment Officer (CIO), to present to the Investment Committee.

9. **Open Forum** – No Report

10. **Future Scheduling** – The next regular Investment Committee meeting is tentatively scheduled to occur Wednesday, July 27, 2022.

11. **Adjournment** – Member Wilkinson made a motion to adjourn, second by Chairperson Godfrey. Motion passed.

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

The meeting adjourned at 11:30 a.m. PST

JAIME T. GODFREY
COMMITTEE CHAIRPERSON

DATE



Oakland Police & Fire Retirement System Covered Call Portfolio Review

August 31, 2022

Dan Ryan

Executive Director – Client Relationship Management
Parametric Portfolio Associates® LLC
(206) 381-7036
DRyan@paraport.com

Jim Roccas

Managing Director – Investment Strategy
Parametric Portfolio Associates® LLC
(203) 227-1700
JRoccas@paraport.com

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Firm Overview

Parametric Overview

We help institutional investors build, manage, and protect their portfolios.



Extensive, established investment capabilities

Industry pioneers in overlay solutions and custom indexing, Parametric is a trusted fiduciary for institutional asset owners.



Focus on transparency and repeatability

We provide research- and rules-based solutions with a quantitative approach. Our solutions span global markets, asset classes, and instrument types.



Extension of staff partnership

We help investors solve specific portfolio challenges, implementing tailored solutions via a high-touch service model.

\$376B+

Firm wide ¹AUM, including \$176B in institutional assets

500+

Institutional client relationships

180

Investment professionals, including 106 CFA charter holders and 8 PhDs

30+

Years of investment experience across equities, fixed income, and derivatives

Asset figures are approximate as of 06/30/2022.

¹AUM includes overlay exposure, and both discretionary and non-discretionary assets of Parametric Portfolio Associates® LLC (the Firm). Please refer to the disclosures for additional information regarding the Firm.



Institutional Capabilities

We offer a comprehensive platform for investors seeking to:

- ✓ Eliminate inefficiencies
- ✓ Create custom exposures
- ✓ Capitalize on market opportunities
- ✓ Address strategic and episodic risks

Efficient implementation

Flexible exposure management programs tailored to fit specific needs

Solution ideas

- Cash overlay
- Rebalancing
- Transition exposure
- Custom equity exposures
- Custom fixed income exposures
- Responsible investing (ESG)

Return enhancement

Systematic strategies that seek alpha across asset classes

Solution ideas

- Alternative risk premia
- Systematic alpha
- Portable alpha
- Commodity management
- Tax management

Risk mitigation

Customizable tools that address and manage specific portfolio risks

Solution ideas

- Tail-risk strategies
- Market and security hedging programs
- Asset and liability hedging
- Currency management

Investing involves market- and program-specific risks. All investments are subject to loss.

The Parametric Difference



Collaborative, client-centric approach

Clients are supported by a high-touch, consultative team with decades of experience structuring and executing custom strategies.



The next level of implementation refinement

Our investments in technology and thoughtful trade execution deliver highly competitive solutions across markets.



Comprehensive, transparent investment approach

Clients gain comprehensive exposure management tools with daily reporting delivered in a customizable format.

Diversity, Equity, and Inclusion

Our mission

We aspire to be an industry leader in our representation of a truly diverse and inclusive workforce to reflect the communities in which we live and work.

Our principles



Accountability

Senior leadership teams take actions to improve diversity, equity, and inclusion.



Advancement

Through training and education, we support all employees along their career journeys.



Representation

We boost representation through targeted recruitment, development, and retention.



Culture

We aim to foster an atmosphere of inclusion and belonging.

Helping our clients stay true to their DEI missions

We offer you customizable ways to pursue your missions through our wide array of responsible investing strategies, including portfolio construction and active ownership.

"Making sustained, meaningful progress in our firm's DEI agenda is a top priority for Parametric. Our employees deserve it, our clients expect it, and we perform better as a business because of it." —Brian Langstraat, CEO

Representative Client List as of June 30, 2022

> **Public**

East Bay Municipal Utility District
Fairfax County Retirement Systems
Houston Police Officers' Pension System
Manhattan & Bronx Surface Transit Operating Authority Pension Plan
Marin County Employees' Retirement Association
Massachusetts Pension Reserves Investment Management Board
New Mexico Public Employees' Retirement Association
Oakland Police and Fire Retirement System
Orange County Employees Retirement System
San Mateo County Employees' Retirement Association
Teachers Retirement System of Louisiana
Utah School & Institutional Trust Funds Office
Wisconsin Investment Board

> **Endowments**

Carnegie Institution of Washington
Florida State University
Indiana University Foundation
Pepperdine University
Texas Christian University
University of Michigan
University of Minnesota

> **Faith-Based**

Catholic Diocese of Fort Worth
Covenant Ministries of Benevolence
Ministers & Missionaries' Benefit Board of American Baptist Churches
Pension Fund of the Christian Church
YMCA Retirement Fund

> **Health care**

Advocate Aurora Health, Inc.
North Memorial Health Care
Trinity Health

> **Taft-Hartley**

Board of Trustees ABC-NABET Retirement Trust Fund
Boilermaker-Blacksmith National Pension Trust
Greater Pennsylvania Carpenters' Pension Fund
Chicago Laborers' Pension & Welfare Funds
International Union of Painters and Allied Trades
SEIU Benefit Funds
Teamsters, Western Pennsylvania

> **Foundations**

The John D. & Catherine T. MacArthur Foundation
The McKnight Foundation
Strada Education Network, Inc.
Wisconsin Alumni Research Foundation

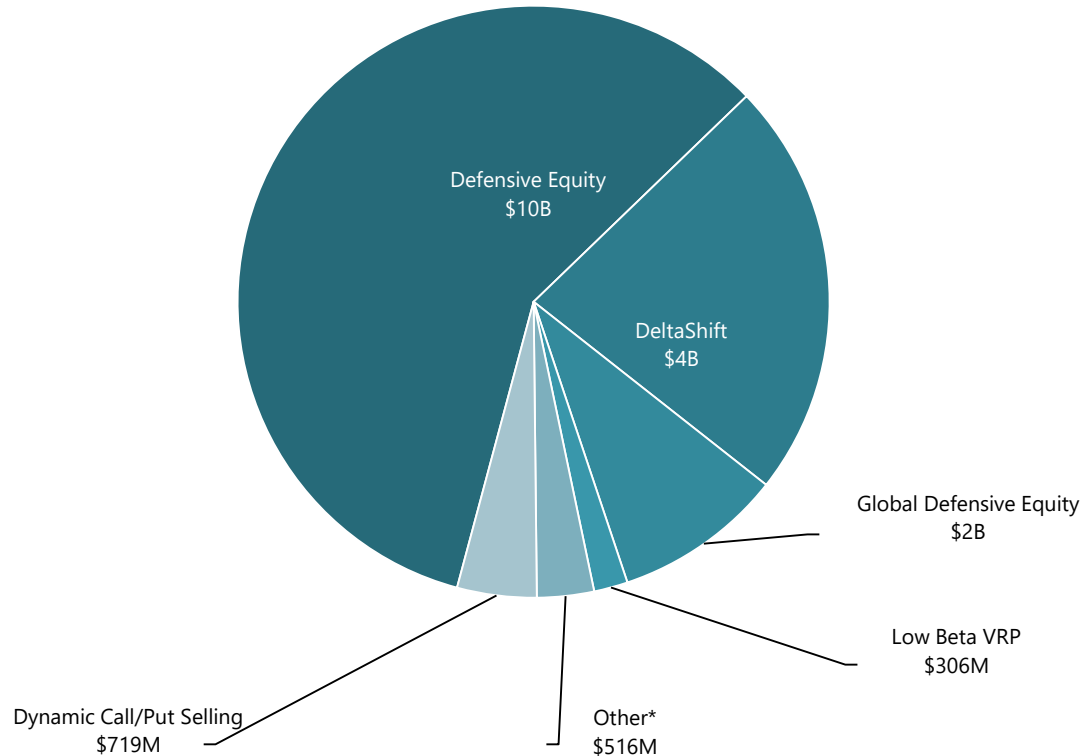
> **Corporate**

The Boeing Company
Eversource Energy
3M Company
Target Corporation
Raytheon Technologies Corporation

It is not known whether the listed clients approve or disapprove of the advisor. The clients on the partial list included herein were selected as being representative of the different types of institutional clients and businesses serviced by Parametric. Performance-based data was not a determining factor in their selection.

Parametric Volatility Risk Premium Strategies

Assets by Strategy



Volatility Risk Premium Strategies Total Assets of \$ 16.6 Billion
Consists of Funded and Overlay Assets

*"Other" includes strategies Absolute Return VRP, BXM Replications, Elevated Beta VRP, Fixed Budget Put Buying, Multi-Asset Volatility Risk Premium, Options - Dynamic Hedged Equity, and Risk Managed Put Selling.

All numbers are approximate as of 6/30/2022 and include both discretionary and non-discretionary assets of the Firm.

Covered Call Investment Process

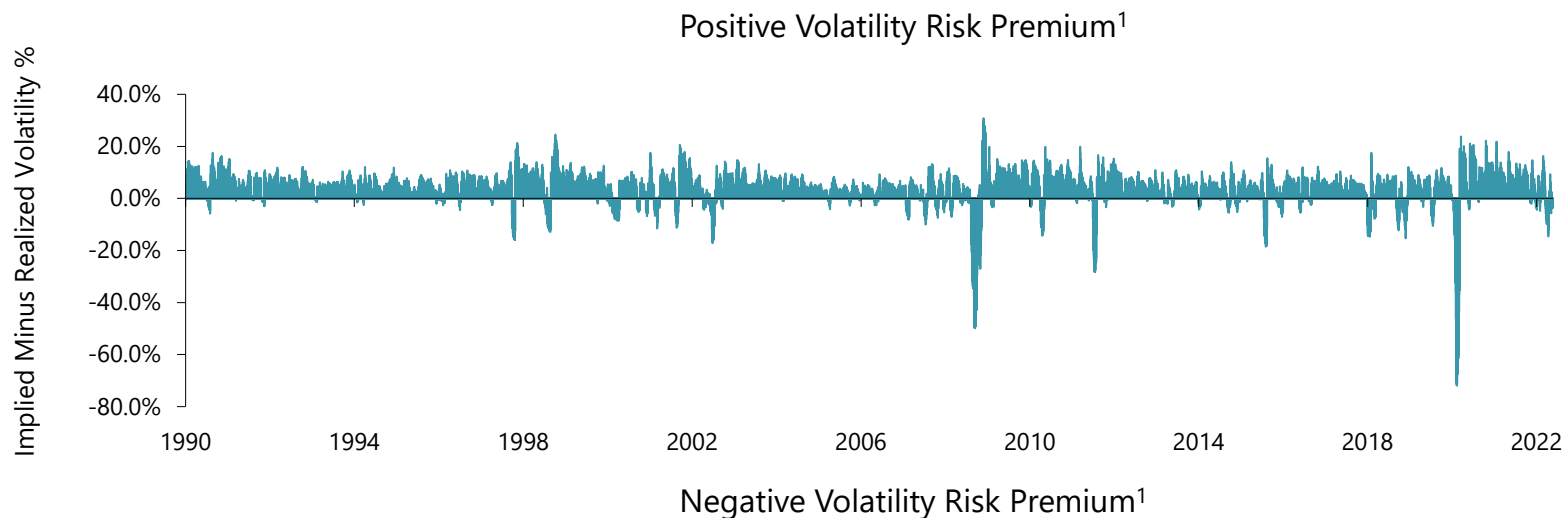
Investment Objectives

Parametric manages two covered call portfolios for Oakland Police and Fire: one utilizing the CBOE BXM BuyWrite Enhanced Replication strategy (“Enhanced BXM”) and one utilizing the Portfolio DeltaShift strategy (“DeltaShift”).

- **The Enhanced BXM objective** is to replicate the CBOE BXM Index with greater diversification than the published index.
- **The DeltaShift objective** is to monetize the existing volatility of the underlying large-cap portfolio and maintain partial upside equity participation that is often forgone in traditional call writing programs.
 - When equity markets are down, flat or moderately positive, DeltaShift seeks to add cash flow to the portfolio.
 - When equity markets are strong, DeltaShift may underperform the equity market.
 - DeltaShift is expected to deliver a positive return over market cycles, net of fees, as a result of the embedded volatility imbalance observed in the options market.

Empirical Data Supports Our Investment Thesis

S&P 500[®] Index options have traded with a positive volatility risk premium over 85% of the time since 1990.



Embedded risk premium creates opportunity to enhance return through option selling.

¹1990 to present represents longest period from which reliable data is available and accessible for S&P 500 Volatility Index. S&P 500[®] Index options relative valuation measured by taking daily observations of Implied Volatility (as measured by VIX Index) and subtracting the subsequent Realized Volatility of the S&P 500[®] over the subsequent 1 month (assuming 21 trading days). Options have historically traded about above subsequent realized volatility. Said another way, the option market tends to overestimate future volatility, which translates directly into higher prices for both puts and calls. VIX is the Chicago Board Options Exchange volatility index. VIX is calculated constantly throughout each trading day by observing the implied volatility derived from actual market prices of a wide array of put and call options with an average maturity of 30 days to expiration. For informational purposes only. It is not possible to invest directly in an index. All investments are subject to loss. Source: Parametric, Bloomberg; Date: 6/30/22.

Investment Objectives

DeltaShift and Enhanced BXM Investment Thesis

Equity index options have historically traded above “theoretical fair value”, and we expect this to continue.

- Option prices contain a “Volatility Risk Premium” (VRP) paid by option buyers to option sellers.
- The VRP is meaningful and likely to persist, it is a diversifying premium that most portfolios currently do not hold.
- A covered call portfolio can capture the VRP by selling covered options without introducing leverage.

Disciplined ▶ Liquid ▶ Transparent ▶ No Leverage

Investing in an options strategy involves risk. There is no guarantee that the investment objectives can be achieved. Please refer to the Appendix for additional information and disclosure.

Portfolio Construction & Overview

DeltaShift seeks to provide incremental return over an equity index or other base portfolio by systematically selling short-dated index call options. The additional return is received in exchange for potentially limiting upside participation in strong equity markets.

Standard portfolio construction & characteristics

- Long S&P 500[®] equity index portfolio (or other highly correlated equity portfolios)
- Systematic, rules-based call writing using exchange-traded, S&P 500[®] index call options
 - Option selection diversified across maturities and strike prices to mitigate risk
 - Favorable risk/reward trade-off
 - Early profit capture and risk reduction based on loss minimization implementation rules
- Expected to outperform the S&P 500[®] Index in down, sideways and moderately up markets, and expected to underperform in strong equity markets

DeltaShift Option Selection

When selling call options, we index the strike price to market volatility.

- Higher strike price in higher volatility environments; lower strike price in lower volatility environments
- At point of sale, call options expected to finish in the money approximately 1 in 4 times

In addition, DeltaShift incorporates the following factors in the option selection process:

- Liquidity – select options which helps to minimize market impact and transactions costs; exchange traded only — liquid, transparent and low cost
- Volatility – systematically select options which exhibit attractive risk vs. reward opportunities
- Maturity – select short-term options (1 – 3 months) to optimize time decay and minimize event risk; generally, short-dated options have higher implied volatility than longer dated options
- Diversification – select options with several different strikes and maturities; this reduces time/price specific risk

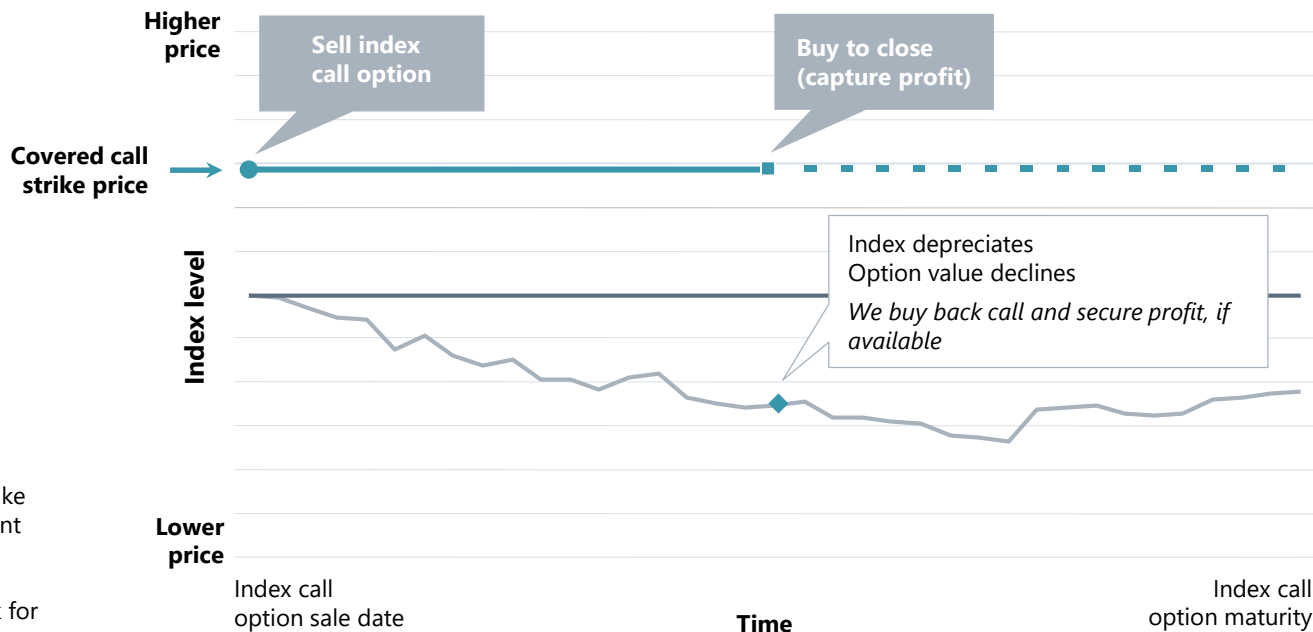
There is no guarantee that the investment objectives can be achieved. Investment management techniques require market liquidity in the specific option. Please refer to the Appendix for additional important information and disclosure.

DeltaShift Rules-Based Management

Portfolio management example: early profit capture

If the index option loses a significant amount of value due to index movement, change in volatility or excessive time decay, we seek to take profits and minimize risk.

Illustrative index price path
index depreciates



- 1/15/20 sold an option with 3/13/20 expiration and 3385 strike price. Received \$15,873 in upfront premium.
- 2/25/20 Bought the option back for \$1,444
- Profit: \$14,429 (over 90%).

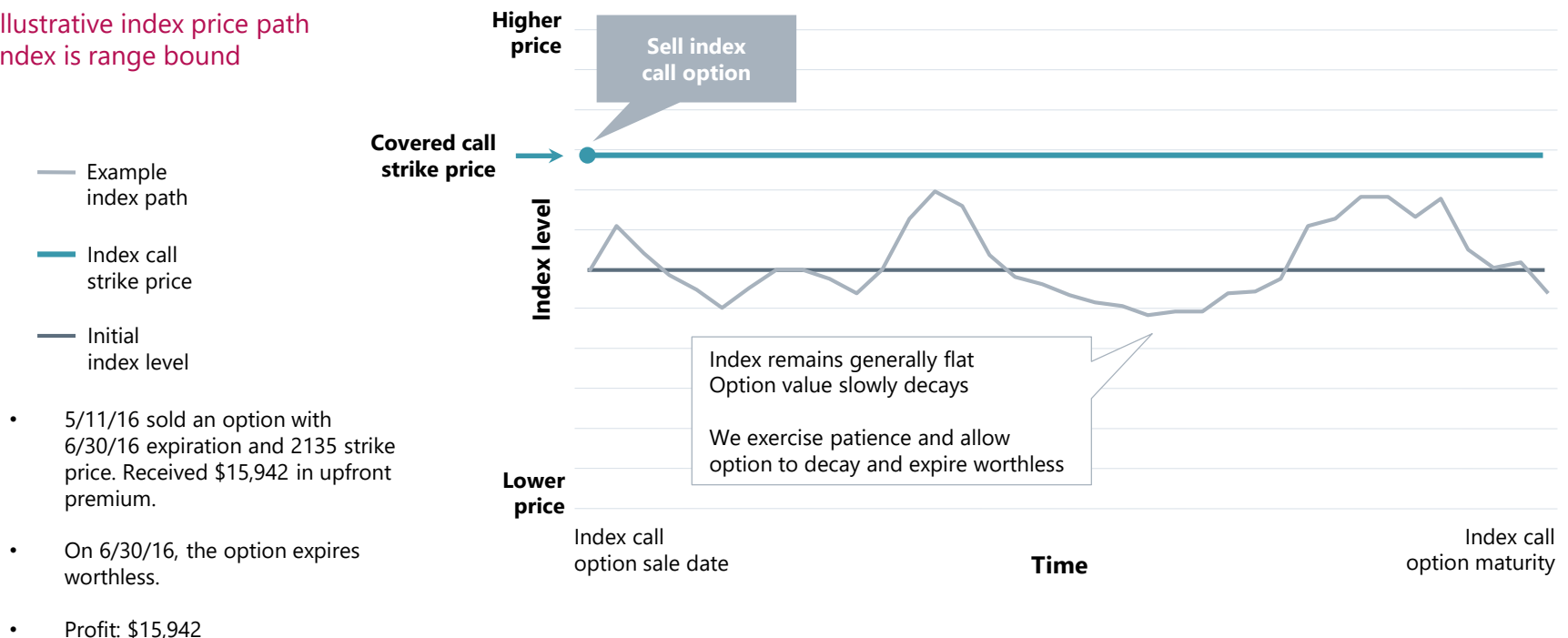
Source: Parametric. The above example is for demonstration and illustrative purposes only. Actual returns will vary from the illustrative example presented. There is no guarantee that the strategy will be successful. All investments are subject to potential loss of principal. Please refer to the Appendix for additional important information and disclosure.

DeltaShift Rules-Based Management

Portfolio management example: allow option to expire worthless

If the index remains within “expected” range, the option’s value “decays” each day. This is known as time decay. If the index remains below the option strike, we will let the option expire worthless.

Illustrative index price path
index is range bound



Source: Parametric. The above example is for demonstration and illustrative purposes only. Actual returns will vary from the illustrative example presented. There is no guarantee that the strategy will be successful. All investments are subject to potential loss of principal. Please refer to the Appendix for additional important information and disclosure.

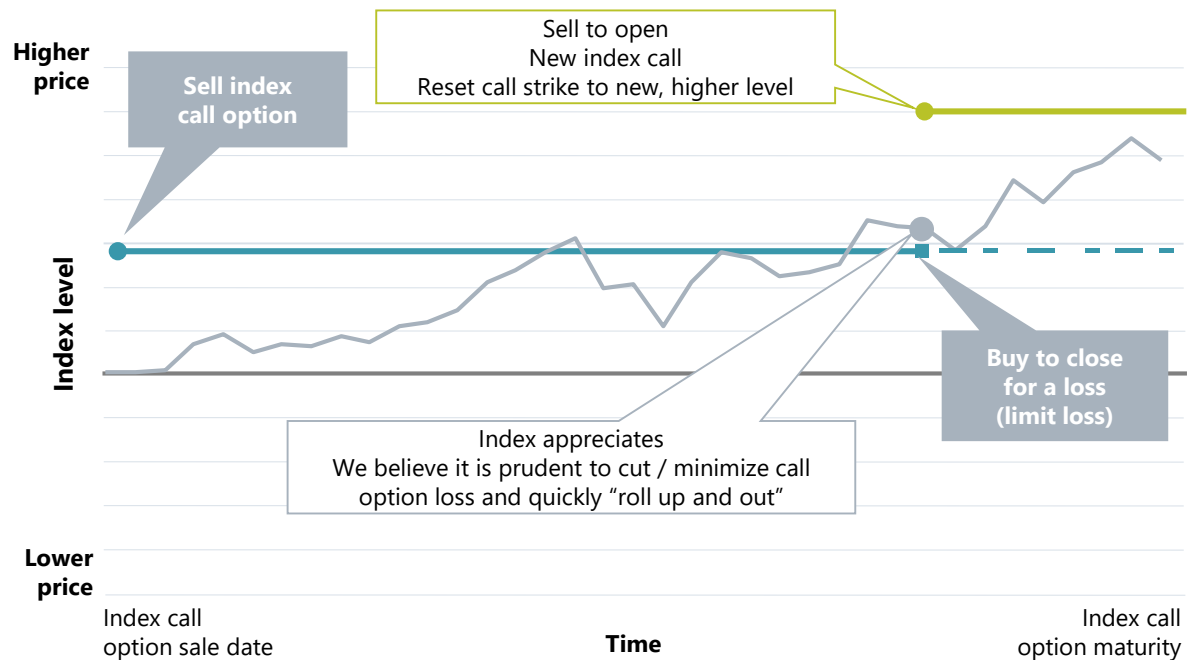
DeltaShift Rules-Based Management

Portfolio management example: risk management / loss mitigation

If underlying index appreciates from the initial index level and the risk vs. reward exposure becomes unfavorable, due to the convexity in options pricing, we seek to mitigate the risk by repurchasing the sold call option (generally for a loss) and sell a new, higher strike option by rolling the option “up and out” (up to a higher strike price and out to a longer maturity).

Illustrative index price path:
index appreciates

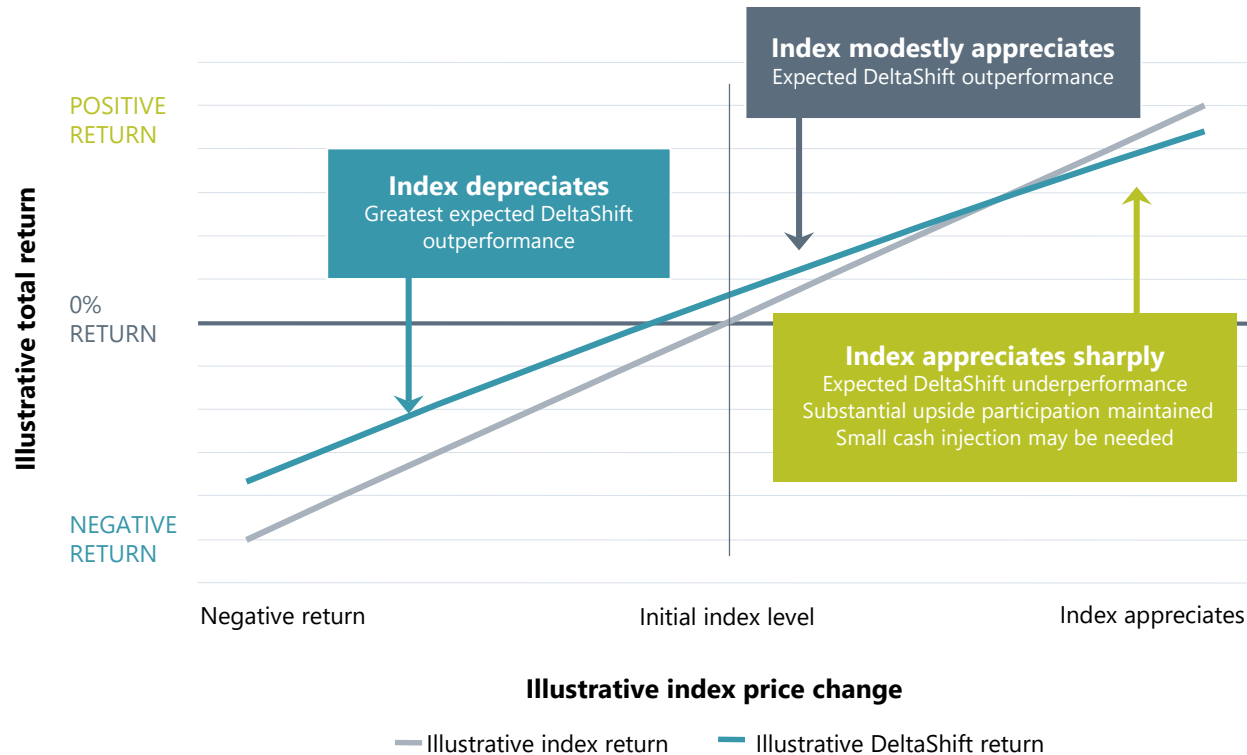
- Example index path
- Initial index level
- Index call strike price
- New index call strike price
- 11/15/19 sold an option with 1/31/20 expiration and 3230 strike price. Received \$14,070 in upfront premium.
- 1/13/20 bought the option back to mitigate risk for \$50,010.
- Loss: \$36K
- 1/13/20 sold new option with 3/13/20 expiration and 3370 strike price. Received \$13,190 in upfront premium and bought back on 2/27/20 for \$832. Led to a \$12,357 profit.



Source: Parametric. The above example is for demonstration and illustrative purposes only. Actual returns will vary from the illustrative example presented. There is no guarantee that the strategy will be successful. All investments are subject to potential loss of principal. Please refer to the Appendix for additional important information and disclosure.

DeltaShift Rules-Based Management

Illustrative DeltaShift results



Portfolio management example: risk management / loss mitigation

- Traditional call writing is a trade-off between receiving an upfront payment in exchange for giving away upside (being capped at a target level).
- Unlike traditional covered call writing, a key goal of DeltaShift is to maintain substantial (but not all) upside participation during times of sharp appreciation.

During these times we expect the total portfolio value to continue to appreciate (not be capped), but it may underperform the index itself

Source: Parametric. The above example is for demonstration and illustrative purposes only. Actual returns will vary from the illustrative example presented. There is no guarantee that the strategy will be successful. All investments are subject to potential loss of principal. Please refer to the Appendix for additional important information and disclosure.

DeltaShift Summary

Expected benefits

- Incremental return in down, sideways and moderately up markets
- Cash flow enhancement and management for future funding obligations
 - Generally, positive cash flow from call selling during declining equity markets can reduce need to sell into weakness
- Enhanced performance and attractive risk-adjusted returns
- Flexibility to include or exclude management of equity portfolio

Disciplined ▶ Liquid ▶ Transparent ▶ No Leverage

Please refer to the general disclosures in the Appendices.

Oakland Police & Fire Portfolio Review

Portfolio and Benchmark Returns - June 30, 2022

Oakland Police & Fire Retirement System

\$30.7 Million – **Total AUM**

\$15.0 Million - DeltaShift

\$15.7 Million – Enhanced BXM Replication

Inception Date

March 11, 2014

	Returns				
	Oakland Police & Fire Total Account (Net)	DeltaShift (Net)	Enhanced BXM Replication (Net)	BXM – CBOE S&P 500® Buy-Write Index (Net)	S&P 500® Index (Net)
QTD	-12.19%	-15.05%	-9.36%	-10.92%	-16.10%
YTD	-14.82%	-18.26%	-10.98%	-10.19%	-19.96%
1 Year	-6.35%	-8.47%	-4.50%	-2.62%	-10.62%
3 Year	8.38%	10.26%	5.80%	3.35%	10.60%
5 Year	7.88%	9.68%	5.60%	4.09%	11.31%
Since Inception	8.05%	9.87%	6.28%	5.15%	10.98%

Source: Parametric; Bloomberg; CBOE®

Performance is as of 6/30/2022 and is net of investment advisory fees. Past performance is not indicative of future results. All investments are subject to loss. It is not possible to invest directly in an index. They are unmanaged and do not reflect the deduction of fees and other expenses. Please refer to the Appendix for additional information and disclosure.



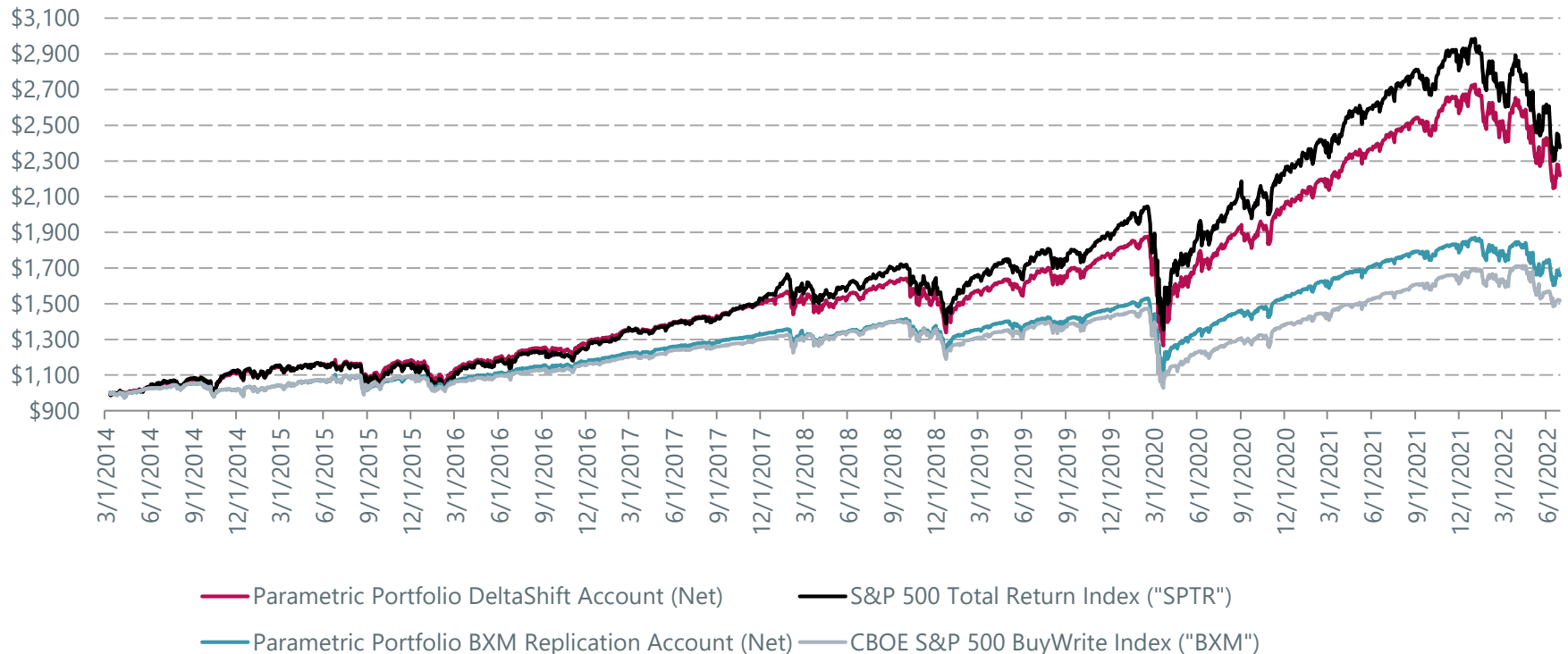
For One-on-One Use with Oakland Police & Fire Retirement System Only. Not for Use with the Public.

Second Quarter 2022

DeltaShift

Oakland Police & Fire Retirement System Portfolio Performance

Parametric Portfolio DeltaShift Account (Net) vs.
 Parametric Portfolio BXM Replication Account (Net)
 vs. S&P 500 Index Total Return vs CBOE BXM Index
Mar 13, 2014 - Jun 30, 2022



Source: Parametric; Bloomberg; CBOE®

*Performance is as of 6/30/2022 and is net of investment advisory fees. The deduction of an advisory fee would reduce an investor's return.

Past performance is not indicative of future results. All investments are subject to loss. It is not possible to invest directly in an index. They are unmanaged and do not reflect the deduction of fees and other expenses. Please refer to the Appendix for additional information and disclosure.

Oakland Police & Fire Retirement System Portfolio Performance

Parametric DeltaShift (Net) vs. Parametric BXM (Net) vs. S&P 500 Index Total Return vs CBOE BXM Index

	Parametric Portfolio DeltaShift Account (Net)		Parametric Portfolio BXM Replication Account (Net)		CBOE S&P 500 BuyWrite Index ("BXM")		S&P 500 Total Return Index ("SPTR")	
	Return	Volatility	Return	Volatility	Return	Volatility	Return	Volatility
Mar 13, 2014 - Dec 31, 2014	11.25%	9.99%	2.86%	8.83%	2.76%	8.82%	11.98%	11.15%
Jan 1, 2015 - Dec 31, 2015	2.79%	15.12%	6.07%	12.17%	5.24%	11.75%	1.38%	15.49%
Jan 1, 2016 - Dec 31, 2016	11.32%	11.77%	8.31%	8.86%	7.07%	8.51%	11.96%	13.10%
Jan 1, 2017 - Dec 31, 2017	17.49%	5.29%	13.25%	3.95%	13.00%	3.69%	21.83%	6.68%
Jan 1, 2018 - Dec 31, 2018	(6.15%)	15.80%	(4.04%)	13.38%	(4.77%)	13.45%	(4.38%)	16.73%
Jan 1, 2019 - Dec 31, 2019	27.40%	10.96%	15.81%	8.29%	15.68%	8.65%	31.49%	12.26%
Jan 1, 2020 - Dec 31, 2020	16.01%	32.24%	5.62%	26.17%	(2.75%)	26.54%	18.40%	33.84%
Jan 1, 2021 - Dec 31, 2021	28.88%	10.98%	18.58%	8.22%	20.47%	8.47%	28.71%	12.87%
Jan 1, 2022 - Jun 30, 2022	(18.26%)	23.74%	(10.97%)	18.81%	(10.19%)	17.33%	(19.96%)	24.60%
Annualized Since Inception	9.87%	16.67%	6.28%	13.41%	5.14%	13.35%	10.97%	17.77%

- > DeltaShift outperformed both BXM and PPA Enhanced BXM in most illustrated time frames plus since inception.
- > PPA Enhanced BXM outperformed BXM in most illustrated time frames plus since inception.

Source: Parametric; Bloomberg; CBOE®

Performance is as of 6/30/2022 and is net of investment advisory fees. The deduction of an advisory fee would reduce an investor's return.

Past performance is not indicative of future results. All investments are subject to loss. It is not possible to invest directly in an index. They are unmanaged and do not reflect the deduction of fees and other expenses. Please refer to the Appendix for additional information and disclosure.

Performance Commentary: A review of the Past Year

- > 2022 has generally been negative for the S&P 500, with the Index down almost 20% through 6/30/22.
- > As discussed previously, we'd expect the BXM Index to outperform Portfolio DeltaShift in this environment as the BXM Index sells calls with strike prices equal to the current S&P 500 Index at time of option inception.
- > For Portfolio DeltaShift, we sell call options whose strikes are above the S&P 500 level at inception, giving the Index room to go up before hitting the call strike.
- > Although Portfolio DeltaShift has returned less than the BXM Index in 2022, Portfolio DeltaShift has outperformed the BXM Index since program inception.
- > The VIX Index remains elevated, closing above 20 for much of the year. For Portfolio DeltaShift, our rules-based approach results in more room between S&P 500 level at time of option inception and strike price (i.e. there is more room for S&P 500 to go up) and higher upfront premiums.
- > Enhanced BXM Replication (4 rolling one-month call option tranches vs. one monthly tranche for BXM) has trailed the BXM Index in 2022. The relative performance of Enhanced BXM and BXM depends on the path the S&P 500 Index takes.
- > The goal of Enhanced BXM Replication is to diversify strikes and maturities. Some paths may favor BXM and some may favor Enhanced BXM. Enhanced BXM has outperformed since inception.

Appendix

Parametric Diversity Survey (6/30/2022)

DATA AS OF 06/30/2022

Firm Name	Parametric Portfolio Associates, LLC
Product Name	BXM Replications and Portfolio DeltaShift

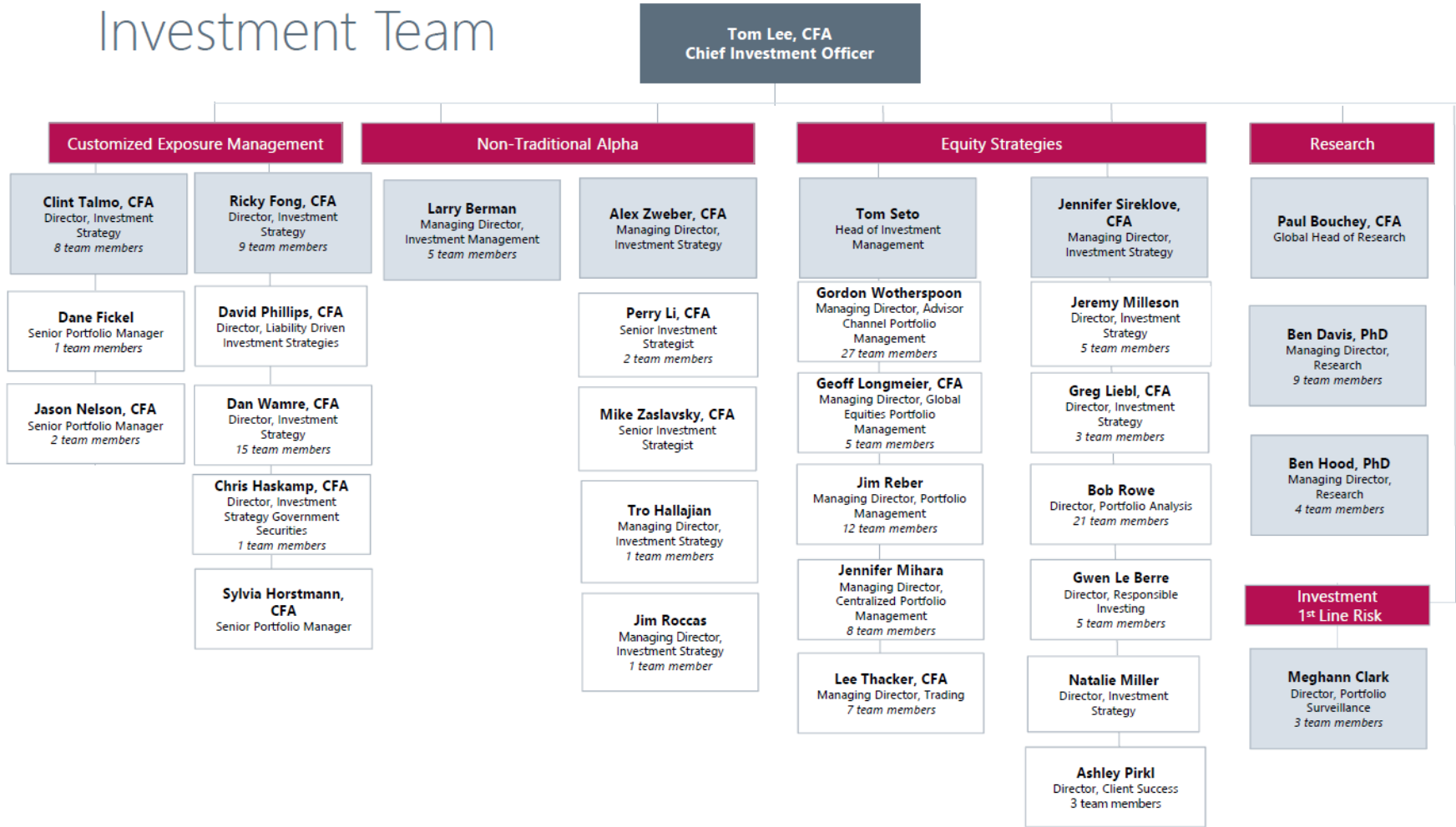
Total Number of Employees	730
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Race and Ethnicity*	Percentage (%) of Board of Directors / Managing Members	Percentage(%) of Firm (Entire Staff)	Percentage (%) of Firm (Investment Professionals)
African American/Black	Not applicable.	3.84%	2.22%
Asian/Hawaiian/Pacific Islander	Not applicable.	17.95%	16.11%
Latino/Hispanic	Not applicable.	3.70%	1.11%
White	Parametric is a part of Morgan Stanley Investment Management, the asset management division of Morgan Stanley.	68.90%	75.00%
American Indian/Alaska Native	Not applicable.	0.41%	0.56%
Other	Not applicable.	5.21%	5.00%
Gender			
Male	Not applicable.	64.93%	77.22%
Female	Not applicable.	35.07%	22.78%
Non-Identified/Other	Parametric is a part of Morgan Stanley Investment Management, the asset management division of Morgan Stanley.	0%	0%

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

Gender and Ethnicity metrics reflect a point in time and may not reflect voluntary employee changes to their gender or race/ethnicity. Individuals who have not declared their race/ethnicity or who have declared two or more races/ethnicities are included in the "Other" category.

Investment Team



As of 7/21/2022 Shaded box denotes direct report to Tom Lee. Team member counts represent personnel not specifically identified in chart who report either directly or indirectly to the person under which they are counted.

Potential Risks

Strategies utilizing options have certain risks. One or more combinations of the following risks may be incurred:

Risk	Description
Trade Restrictions Risk	Like other strategies that utilize exchange-traded instruments, a trading halt or other suspension of trading, whether or not temporary in nature, may limit Parametric's ability to implement portfolio modifications.
Liquidity Risk	During periods of heightened volatility, there may be a reduction in liquidity that impacts option pricing or bid/offer spreads. Such occurrences could impact the investment manager's ability to establish new or liquidate existing positions and subject portfolio to losses.
Option Collateral Risk	Changes in option collateral requirements could require positions to be modified or removed, which may produce results meaningfully different from objectives.
Opportunity Risk	Selling call options could limit investment gains if underlying index advances beyond call strike price.

Please refer to the general disclosures in the Appendices.

Large Capitalization U.S. Equity Portfolio DeltaShift (Unfunded, Brokerage) Composite
GIPS Composite Report
Reported in: USD

	Total Gross Return AWR	Total Net Return AWR	Primary Benchmark	3Yr Ex Post Std Dev Composite Gross	3Yr Ex Post Std Dev Primary Benchmark	Internal Equal Wtd. Dispersion	Number Of Portfolios	Year-End Composite Overlay Exposure (MM)	Total Firm Assets (MM)	Total Firm Overlay Exposure (MM)	Total Firm Economic Exposure (MM)*
2012	-0.84%	-1.43%	-9.92%	1.96%	7.27%	0.33%	37	1,751	63,431		
2013	-4.33%	-4.91%	-14.96%	1.82%	5.97%	0.44%	25	826	80,896		
2014	0.34%	-0.26%	-0.86%	1.69%	5.29%	0.19%	30	829	94,545		
2015	1.84%	1.24%	3.07%	1.83%	5.89%	0.20%	117	2,498	99,248		
2016	-0.31%	-0.91%	-5.05%	1.68%	5.98%	0.28%	194	2,457	111,470		
2017	-3.16%	-3.74%	-7.46%	1.82%	5.74%	0.39%	258	3,010	137,760		
2018	-1.90%	-2.46%	-1.10%	2.62%	5.55%	0.39%	188	2,310	122,628		
2019	-2.98%	-3.56%	-12.61%	2.74%	5.62%	n.m.	140	2,512	277,776		
2020	-1.99%	-2.57%	-20.24%	3.11%	7.96%	0.93%	56	403	241,115	106,570	347,685
2021	-0.20%	-0.79%	-7.06%	2.58%	7.83%	0.44%	34	389	292,367	126,067	418,434

n.m. = Not Meaningful

Primary Benchmark: Custom CBOE S&P 500 BuyWrite Index Option Attribution Index

Composite Creation Date: December 1, 2013; Inception Date: August 1, 2007

* Total Firm Economic Exposure is the sum of the total firm assets and the firm overlay exposure. Firm overlay exposure represents the sum of the notional exposure of the overlay strategy portfolio or a specific contractual program notional value.

1 Parametric Portfolio Associates® LLC claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Parametric Portfolio Associates® LLC has been independently verified for the periods January 1, 2000 to December 31, 2021. The verification report(s) is/are available upon request. 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. 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.

2 Parametric Portfolio Associates® LLC (the "Firm") is an investment advisor registered under the Investment Advisers Act of 1940. Parametric Portfolio Associates® LLC provides rules-based investment management services to institutional investors, individual clients and commingled investment vehicles, including Systematic Alpha and Income Strategies, Custom Core, Centralized Portfolio Management ("CPM"), Customized Exposure Management ("CEM"), Volatility Risk Premium ("VRP"), Tax-Advantaged Bond Strategies (TABS), and Taxable Bond Strategies. The Firm has complied with the GIPS standards retroactive to January 1, 2000.

Prior to July 1, 2019, the firm included only the Parametric Investment & Overlay Strategies. On July 1, 2019, the firm was redefined to include the Parametric Custom Tax-Managed & Centralized Portfolio Management Strategies. On January 1, 2020, the firm was redefined to include the Tax-Advantaged Bond Strategies (TABS), and Taxable Bond Strategies previously managed by Eaton Vance Management, an investment affiliate of Parametric's parent company, Eaton Vance Corporation. For the purpose of complying with the GIPS standards, the Firm is defined and held out to the public as Parametric Portfolio Associates® LLC.

On March 1, 2021, Eaton Vance Management and its affiliates (which includes Parametric Portfolio Associates® LLC) became wholly-owned, subsidiaries of Morgan Stanley. The Firm continues to operate as Parametric Portfolio Associates® LLC.

3 The methodology used to calculate composite overlay exposure represents the contractual program notional value.

4 Portfolio daily returns represent the change of the daily options' gains and losses divided by the daily contractual program notional value. Monthly returns reflect the arithmetic sum of the daily returns during the applicable calendar month. Collateral and collateral income are not reflected in the composite returns. Performance results are expressed in U.S. dollars. Past performance is not an indication of future performance.

5 Internal dispersion is calculated retroactively based on the sample using the equal-weighted standard deviation of the annual gross returns of those portfolios that were included in the composite for the entire year. When the composite consists of five or fewer portfolios for the full year, no dispersion measure is presented. The three-year annualized standard deviation measures the variability of the composite gross returns and the benchmark returns over the preceding 36-month period.

6 Policies for valuing investments, calculating performance, and preparing GIPS Reports are available upon request.

7 A list including composite descriptions and pooled funds descriptions for limited distribution pooled funds is available upon request.

8 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.

9 Large Capitalization U.S. Equity Portfolio DeltaShift (Unfunded, Brokerage) Composite includes all fully discretionary unfunded brokerage portfolios that utilize a call option selling strategy on the S&P 500 Index (or other underlyings that are designed to economically track the returns of the S&P 500 Index). The DeltaShift option strategy, when combined with the daily returns of the S&P 500 Index, seeks to increase the total return and reduce the volatility relative to the returns of the S&P 500 Index. Key risks for strategies utilizing option have one or more combinations of the following risks that may be incurred: market risk, trade restrictions risk, liquidity risk, early termination risk, option collateral risk and opportunity risk.

- 10 Composite net of fees performance results are calculated utilizing a model fee and reflect the deduction of 0.60%. The fees for the investment management services described herein are described in the fee schedule.
- 11 The management fee schedule for this strategy is: Segregated Account 0.60% on the first \$20 million; 0.50% on the next \$20M; 0.40% thereafter.
- 12 The composite's benchmark is the Custom CBOE S&P 500 BuyWrite Index Option Attribution Index. The Custom Index represents the difference between the CBOE S&P 500 BuyWrite Index ("BXM") and the S&P 500 Total Return Index ("SPTR") and the returns are calculated daily. The calculation attempts to isolate the options only performance attribution of the BXM Index. Monthly returns reflect the sum of the daily returns during the applicable calendar month. The Custom Index is unmanaged and does not incur management fees, transaction costs or other expenses associated with separately managed accounts in this style. It is not possible to directly invest in an index.
- 13 Derivative securities are used in the accounts which comprise this composite. Accounts invest in options which are material to this composite.
- 14 The firm's strategies contain derivatives such as futures, options, swaps, and other investment strategies that may involve certain advantages and risks. Futures require the posting of initial and variation margin. Therefore, a portion of risk capital must be preserved for this purpose rather than being allocated to a manager. Swaps require periodic payments, which may be less liquid than futures, and certain swaps may have counterparty/credit risk. Some investment strategies may require a collateral investment equal to the desired amount of exposure.

Biographies

Thomas Lee, CFA

Chief Investment Officer

Tom is a member of Parametric's Executive Committee and leads Parametric's Research, Strategy, Portfolio Management, and Trading teams, coordinating resources, aligning priorities, and establishing processes for achieving clients' investment objectives. Tom has coauthored articles on topics ranging from liability-driven investing to the volatility risk premium. He is a voting member of all the firm's investment committees. Prior to joining Parametric in 1994 (originally as an employee of the Clifton Group, which was acquired by Parametric in 2012), Tom spent two years working for the Board of Governors of the Federal Reserve in Washington, DC. He earned a BS in economics and an MBA in finance from the University of Minnesota. A CFA charterholder, Tom is a member of the CFA Society of Minnesota.

Larry Berman

Managing Director, Investment Management

Larry oversees the portfolio management and trading of the Parametric Liquid Alternatives Investment Strategies including SARP, commodities, VRP, and related options strategies. He is a member of the Parametric Enterprise Investment Management Committee and a voting member of the Liquid Alternatives Investment Committee. Prior to joining Parametric in 2006 (originally as an employee of Managed Risk Advisors, which was acquired by Parametric in 2007), Larry was a principal at Wolverine Trading, one of the largest options market-makers in the world. At Wolverine, he was the head trader in charge of all trading in the New York office on the American Stock Exchange and the COMEX, and he was responsible for over 90 equity/index options as well as market-making in ETFs and structured products. He earned a BS in business administration from Boston University.

Jim Roccas

Managing Director, Investment Strategy

Jim works with clients who are interested in accessing Parametric's Volatility Risk Premium (VRP) suite of options-based solutions. Jim has over 25 years of experience working with clients to implement solutions for increasing return and reducing risk using options and other derivative product strategies. Prior to joining Parametric in 2008, Jim was a Director at Merrill Lynch where he structured and originated solutions for high-net-worth and institutional investors for protecting downside, enhancing returns and gaining customized market exposure. He earned a BA in Economics from Princeton University and an MBA in Finance from The Wharton School at the University of Pennsylvania.

Tro Hallajian

Managing Director, Investment Strategy

Tro works with clients who are interested in accessing Parametric's volatility risk premium (VRP) suite of options-based solutions. Prior to joining Parametric in 2010, Tro was an associate trader at Credit Suisse in New York and Switzerland, trading options in domestic and international markets. In addition, Tro provided client service directly to high-net-worth individuals, foundations, and institutional investors engaged in various option overlay and absolute return volatility strategies. He earned a BS with honors in finance and a minor in communications from Marist College.

Robert D'Amato

Manager, Client Relations

Robert supports day-to-day operations and marketing of our derivative strategies. Prior to joining Parametric in 2011, Robert worked with high-net-worth clients as part of a large UBS Financial Services Team in New Haven, Connecticut. Robert earned a BA in political science from the University of Connecticut and an MBA from Southern Connecticut State University.

Gregory Bukoski

Portfolio Management Analyst

Greg is a portfolio management analyst on the investment strategy team working closely with relationship management, client services and trading. Prior to joining Parametric in 2020, Greg worked at AIG Global Capital Markets on the derivative team. He also worked at the Royal Bank of Scotland supporting the fixed income and derivative desks. Greg earned a BS in finance with a minor in accounting from Fairfield University.

Mike Kelly

Managing Director, Trading

Mike is responsible for day-to-day trading as well as monitoring and managing existing positions across our derivative strategies. Prior to joining Parametric in 2008, Mike was a Senior Vice President at Cambridge International Securities responsible for selling fixed income products to institutional investors. He earned a BA in history from Providence College.

Biographies (Continued)

Ken Everding, Ph.D.

Managing Director, Research

Ken is responsible for risk management and product development at the Westport Investment Center. Prior to joining Parametric in 2005*, Ken was a Managing Director at Zurich Capital Markets and BNP Paribas following Zurich's acquisition. At Zurich, Ken's team was the pioneer in creating structured hedge fund products. He earned a Ph.D. in Theoretical Particle Physics from Yale University. The title of his Ph.D. thesis is "Aspects of Non-Perturbative Quantum Electrodynamics", excerpts of which have been published in leading academic journals. He also earned a B.S. with honors in Physics from Iowa State University.

**Reflects the year employee was hired by Managed Risk Advisors, which was acquired by Parametric Portfolio Associates® LLC on May 1, 2007.*

Brendan Lanahan

Director

Brendan is responsible for trading our derivative strategies. Prior to joining Parametric in 2012, Brendan was a member of the New York and American Stock Exchanges. Here he was an Equity Market Maker in over 50 small to mid-cap oil/gas and materials companies. He also worked at Bloomberg specializing in their Electronic Trading Division. He earned a BS in management and marketing from Elmira College.

Dan Ryan

Executive Director, Client Relationship Management

Dan is responsible for managing client relationships throughout the western US. Prior to joining Parametric in 2013, Dan was vice president and senior relationship manager at State Street Global Advisors. He earned a BA in history from the University of Michigan.

Jack Singleton

Investment Strategist

Jack is a Vice President on the Investment Strategy team at Parametric. In his role, Jack is responsible for helping clients access Parametric's Volatility Risk Premium (VRP) suite of options-based solutions by working closely with relationship management, client services, and trading. Prior to joining Parametric in 2021, Jack was an Associate at Deutsche Bank Wealth Management where he provided client service and worked on investment portfolios for high-net-worth individuals, family offices, and foundations. Jack earned a BA in Economics with a concentration in Asian Studies from the College of the Holy Cross. A CFA charterholder, Jack is a member of the CFA Society of New York.

Arthur Harris

Associate Portfolio Manager

Arthur is responsible for day-to-day management of Parametric's options-based Volatility Risk Premium Strategies, including Defensive Equity, Global Defensive Equity, Multi-Asset VRP and other proprietary strategies. Prior to joining Parametric in 2017, Arthur worked at Parametric as a Marketing/Reporting Intern. He earned a BS in business economics and finance from Iowa State University.

Disclosure

Parametric Portfolio Associates® LLC ("Parametric"), headquartered in Seattle, is registered as an investment advisor with the Securities and Exchange Commission under the Investment Advisors Act of 1940. Parametric is a leading global asset management firm, providing investment strategies and customized exposure management directly to institutional investors and indirectly to individual investors through financial intermediaries. Parametric offers a variety of rules-based investment strategies, including alpha-seeking equity, fixed-income, alternative and options strategies. Parametric also offers implementation services, including customized equity, traditional overlay and centralized portfolio management. Parametric is a wholly-owned subsidiary of Eaton Vance Corp. and offers these capabilities through offices located in Seattle, Boston, Minneapolis, New York City, and Westport, Connecticut. This material may not be forwarded or reproduced, in whole or in part, without the written consent of Parametric. Parametric and its affiliates are not responsible for its use by other parties.

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Performance is presented gross of investment advisory fees. Advisory fees are deducted quarterly from an investor's portfolio and would impact performance adversely. As an example, assuming (a) \$1,000,000 investment, (b) portfolio return of 5% per year, and (c) 1.00% annual investment advisory fee, the cumulative fees paid would be \$10,209.57 in the first year, \$55,254.43 over five years, and \$122,351.51 over ten years. Actual fees charged vary by portfolio due to various conditions, including account size. Parametric's investment advisory fees are described further in Part 2A of Form ADV, which is available upon request.

This material contains hypothetical, back-tested and/or model performance data, which may not be relied upon for investment decisions. Hypothetical, back-tested and/or model performance results have many inherent limitations, some of which are described below. Hypothetical returns are unaudited, are calculated in U.S. dollars using the internal rate of return, reflect the reinvestment of dividends, income and other distributions, but exclude transaction costs, advisory fees and do not take individual investor taxes into consideration. The deduction of such fees would reduce the results shown.

Model/target portfolio information presented, including, but not limited to, objectives, allocations and portfolio characteristics, is intended to provide a general example of the implementation of the strategy and no representation is being made that any client account will or is likely to achieve profits or losses similar to those shown. In fact, there are frequently sharp differences between hypothetical performance results and the actual results subsequently achieved by any particular trading program. One of the limitations of hypothetical performance results is that they are generally prepared with the benefit of hindsight. In addition, simulated trading does not involve financial risk, and no simulated trading record can completely account for the impact of financial risk in actual trading. For example, the ability to withstand losses or to adhere to a particular trading program in spite of trading losses are material points which can also adversely affect actual trading results. There are numerous other factors related to the markets in general or to the implementation of any specific trading program which cannot be fully accounted for in the preparation of hypothetical performance results and all of which can adversely affect actual trading results. Because there are no actual trading results to compare to the hypothetical, back-tested and/or model performance results, clients should be particularly wary of placing undue reliance on these hypothetical results. Perspectives, opinions and testing data may change without notice. Detailed back-tested and/or model portfolio data is available upon request. No security, discipline or process is profitable all of the time. There is always the possibility of loss of investment.

Disclosure (Continued)

Benchmark/index information provided is for illustrative purposes only. Indexes are unmanaged and cannot be invested in directly. Deviations from the benchmarks provided herein may include, but are not limited to, factors such as: the purchase of higher risk securities, over/under-weighting specific sectors and countries, limitations in market capitalization, company revenue sources, and/or client restrictions. Parametric's proprietary investment process considers factors such as additional guidelines, restrictions, weightings, allocations, market conditions and other investment characteristics. Thus returns may at times materially differ from the stated benchmark and/or other disciplines provided for comparison.

The CBOE S&P 500® BuyWrite Index (BXM) is a benchmark index designed to track the performance of a hypothetical buy-write strategy on the S&P 500® Index. The BXM is a passive total return index based on (1) buying an S&P 500® stock index portfolio, and (2) "writing" (or selling) the near-term S&P 500® Index (SPXSM) "covered" call option, generally on the third Friday of each month. The SPX call written will have about one month remaining to expiration, with an exercise price just above the prevailing index level (i.e., slightly out of the money). The SPX call is held until expiration and cash settled, at which time a new one-month, near-the-money call is written.

"Bloomberg" is a trademark and service mark of Bloomberg Finance L.P. ("Bloomberg"). This strategy is not sponsored or endorsed by Bloomberg and Bloomberg makes no representation regarding the content of this material. Please refer to the specific service provider's web site for complete details on all indices.

The effectiveness of the option strategy is dependent on a general imbalance of natural buyers over natural sellers of index options. This imbalance could decrease or be eliminated, which could have an adverse effect. A decision as to whether, when and how to use options involves the exercise of skill and judgment, and even a well-conceived and well-executed options program may be adversely affected by market behavior or unexpected events. Successful options strategies may require the anticipation of future movements in securities prices, interest rates and other economic factors. No assurances can be given that the judgments of Parametric in this respect will be correct.

Options are not suitable for all investors and carry additional risks. Investors must ensure that they have read and understood the current options risk disclosure document before entering into any options transactions. In addition, investors should consult with a tax, legal and/or financial advisor prior to contemplating any derivative transactions. The options risk disclosure document can be accessed at the following web address: <http://www.optionsclearing.com/about/publications/character-risks.jsp>.

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Parametric is headquartered at 800 5th Ave Suite 2800, Seattle, WA 98104. Parametric's Minneapolis office is located at 3600 Minnesota Drive, Suite 325, Minneapolis, MN 55435. For more information regarding Parametric and its investment strategies, or to request a copy of Parametric's Form ADV, please contact us at 206.694.5500 (Seattle) or 612.870.8800 (Minneapolis), or visit our website, www.parametricportfolio.com.

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MEMORANDUM

TO: Oakland Police and Fire Retirement System (“OPFRS”)
FROM: Meketa Investment Group (“Meketa”)
DATE: August 31, 2022
RE: Parametric Covered Calls – Manager Update

Manager: Parametric Portfolio Associates

Inception Date:	April 2014	OPFRS AUM (7/31/2022)	\$32.9 million
Strategy:	Covered Calls	Firm-wide AUM (6/30/2022)	\$376.2 billion
Benchmark:	CBOE S&P 500 Buy-Write Index (BXM)	Strategy AUM (6/30/2022)¹	\$4.2 billion

Summary & Recommendation

Parametric has managed OPFRS’s Covered Calls portfolio since April 2014 using two strategies—the passive BXM Replication, and the active DeltaShift strategies. Since October 2020, Parametric has been on the Watch status due to Morgan Stanley’s acquisition of the firm in early in October 2020. As of 7/31/2022, the covered call portfolio is approximately \$32.9 million or about 7.7% of OPFRS’s total allocation with about \$16 million allocated to each underlying strategy.

Over the period since inception, the strategies have performed within expectations and guidelines for the portfolio and has experienced no major organizational changes in the portfolio management team since being on the Watch list. *Therefore, Meketa does not have any major concerns with Parametric and recommends that Parametric be removed from the Watch status.*

Investment Performance Review Summary

As of 7/31/2022, the Covered Calls portfolio and its underlying strategies has trailed benchmark over the 1-year period in gross-of-fees basis. Over the longer 3- and 5-year trailing periods, the portfolio and the strategies have outperformed the benchmark with excess returns of 6.2% and 4.6% respective in aggregate. The active DeltaShift strategy in particular has generated strong outperformance over the longer time periods posting 8.7% and 6.9% excess return over the same 3- and 5-year trailing periods.

OPFRS Portfolio Annualized Returns (as of 7/31/2022)

Portfolio	Market Value (\$000)	YTD	1 YR	3 YR	5 YR	Since Inception	Inception Date
Covered Calls (Gross)	32,871.3	(8.6)	(0.9)	10.7	9.4	9.1	4/2014
Covered Calls (Net)	---	(8.7)	(1.1)	10.5	9.1	8.9	---
<i>CBOE S&P 500 Buy-Write Index</i>	---	<i>(6.7)</i>	<i>0.7</i>	<i>4.6</i>	<i>4.8</i>	<i>5.8</i>	---
Excess Return (Gross)	---	(1.9)	(1.6)	6.2	4.6	3.4	---

¹ Strategy AUM (6/30/2022) is the sum of the assets under management (AUM) for the two strategies that OPFRS has invested in; as of 6/30/2022, Parametric DeltaShift strategy has total product AUM of \$4.0 billion, and Parametric BXM Replication strategy has total product AUM of \$184 million.

OPFRS Portfolio Annualized Returns (as of 7/31/2022)

Strategy	Market Value (\$000)	YTD	1 YR	3 YR	5 YR	Since Inception	Inception Date
Parametric BXM (Gross)	16,532.8	(6.3)	(0.3)	7.7	6.8	7.2	4/2014
<i>CBOE S&P 500 Buy-Write Index</i>	---	(6.7)	0.7	4.6	4.8	5.8	---
Excess Return (Gross)	---	0.4	(1.0)	3.1	2.0	1.5	---
Parametric DeltaShift (Gross)	16,338.4	(10.6)	(1.7)	13.3	11.7	11.3	4/2014
<i>CBOE S&P 500 Buy-Write Index</i>	---	(6.7)	0.7	4.6	4.8	5.8	---
Excess Return (Gross)	---	(3.9)	(2.4)	8.7	6.9	5.5	---

Product and Organization Review Summary

Parametric Portfolio Associates	Areas of Potential Impact				
	Level of Concern	Investment process (Client Portfolio)	Investment Team	Performance Track Record	Team/Firm Culture
Product					
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				
Organization					
Ownership changes	None				
Key people changes	None				
Firm wide client gain/losses	None				
Recommended Action	None - X		Watch Status		Termination

A review of Parametric Portfolio Associates and its strategies revealed no concerning organizational issues or changes.

In June 2022, Parametric announced that starting in January 2023, their Chief Investment Officer Tom Lee and Chief Operations Officer Ranjit Kapila will assume the office of Co-Presidents of Parametric in addition to their current titles and responsibilities, with the current Chief Executive Officer (CEO) Brian Langstraat remaining as CEO. This change is a part of Parametric's long-term planning and does not affect the investment team in charge of OPFRS's portfolio. The investment team remains stable with no significant organizational issues or personnel changes.

Investment Philosophy & Process, per Manager

Parametric's approach to covered calls investing is based on the persistent premium of implied volatility to realized volatility in the options market. Parametric believes that there is a supply versus demand imbalance for equity options, and thus the implied volatility generally exceeds the realized volatility. The covered calls program is designed to generate returns for a long equity investor by providing additional income and cash flow while reducing volatility.

The options portion, managed by Parametric, is constructed around a diversified portfolio of short dated options (generally 1-3 month options). Option selection incorporates liquidity, volatility, maturity, and time-decay. Strike prices are selected using a dynamic, volatility-based framework designed to adapt to changing market conditions. By selecting options that have a targeted initial delta, options strikes move further out-of-the-money when implied volatility levels rise, and vice-versa. Parametric attempts to create a ladder portfolio of options with multiple strike prices and maturities in order to diversify the time and price specific risk of selling call options. Parametric generally sells 25%-35% "delta" options, which, by definition, are out-of-the-money options. Using a fixed "delta" allows Parametric to effectively index the strikes to volatility. When the opportunity arises, the strategy allows for Parametric to capture and realize profits prior to written option maturity, and aggressively close out losing positions in order to mitigate potential outlier losses that are inherent to a "sell and hold" option program (i.e., BXM replication).

DS/PN/JLC/mn



Disclosure

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



June 8, 2022

Dear Client,

As part of Parametric's longer-term planning, I would like to share an upcoming organizational change we will be making at Parametric. Effective January 1, 2023, Tom Lee, Chief Investment Officer, and Ranjit Kapila, Chief Operations Officer, will become Co-Presidents of Parametric in addition to their current titles and responsibilities. Over time as Co-Presidents, Tom and Ranjit will be involved in leading additional functional areas and increasingly contribute to overall firm management. I will remain Parametric's CEO and Ranjit and Tom will continue to report to me.

In partnership with our clients, Parametric continues to grow, evolve, and remain a leader in the investment management industry. Developing and evolving our leaders and leadership structure is an important and ongoing priority. We continue to focus on the high levels of service, partnership, innovation, and customization you're accustomed to and look forward to further investing in our technology, operations, and new product development.

We encourage you to reach out to us if you have any questions or concerns and thank you for your continuing trust and confidence in Parametric.

Sincerely,

Brian Langstraat

Chief Executive Officer

800 FIFTH AVENUE
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SEATTLE, WA 98104
P 206 694 5500
F 206 694 5581

parametricportfolio.com

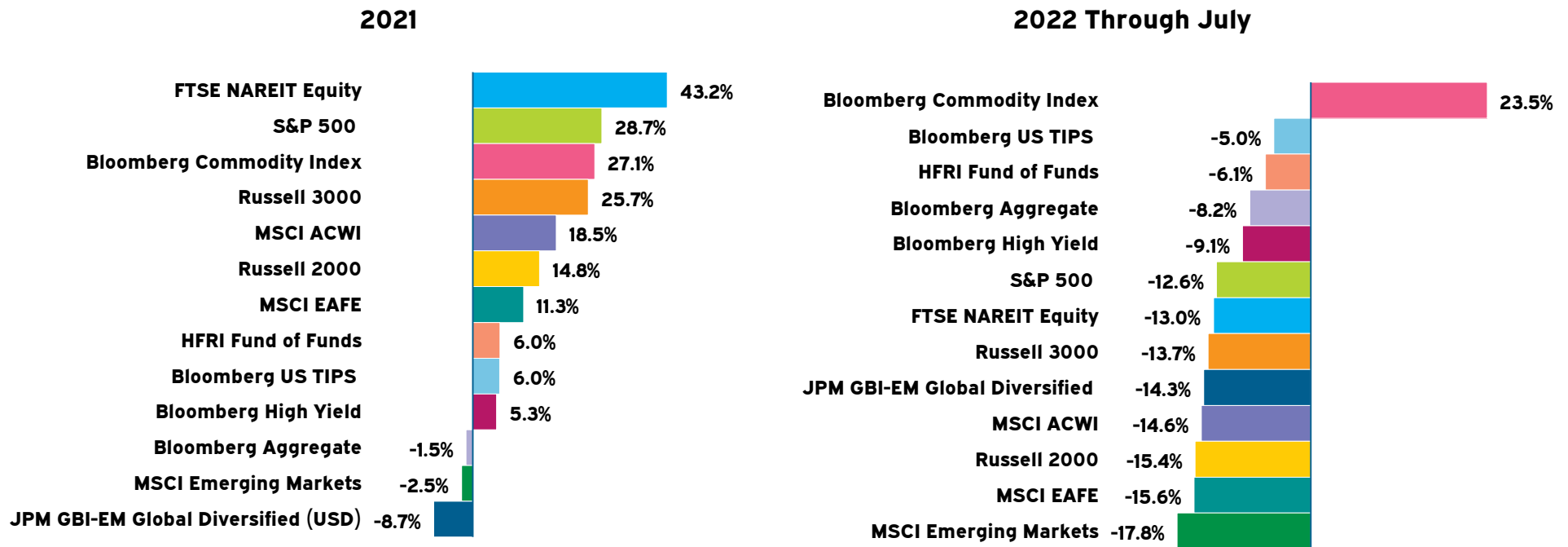
Economic and Market Update

July 2022 Report

Commentary

- Global markets posted strong results in July on expectations that policy tightening in the US could end early next year due to slowing growth.
- As expected, the Federal Reserve increased interest rates by another 75 basis points. Notably, much focus was placed on chair Jerome Powell's comments that the pace of policy tightening could slow.
 - Developed market equity indices increased for the month, led by US equities where earnings reports were not as weak as feared. Emerging markets fell for the month driven by China instituting renewed COVID-19 lockdowns and lingering property market issues.
 - Growth stocks again outperformed value stocks in July, but trail significantly year to date.
 - Rates declined for the month as growth slowed and expectations for the pace of policy tightening moderated.
- Persistently high inflation and the expected policy response, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China will all have considerable economic and financial consequences for the global economy.

Index Returns¹



→ Outside of emerging markets and the broad US investment grade bond market (Bloomberg Aggregate), most asset classes appreciated in 2021.

→ While year-to-date returns remain negative, in July most asset classes posted positive returns reflecting an improvement in sentiment related to cooling inflationary pressures and the expected path of policy.

¹ Source: Bloomberg and FactSet. Data is as of July 31, 2022.

Domestic Equity Returns¹

Domestic Equity	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	9.2	-16.1	-12.6	-4.6	13.4	12.8	13.8
Russell 3000	9.4	-16.7	-13.7	-7.4	12.6	12.2	13.5
Russell 1000	9.3	-16.7	-13.6	-6.9	12.9	12.5	13.7
Russell 1000 Growth	12.0	-20.9	-19.4	-11.9	16.1	16.3	16.0
Russell 1000 Value	6.6	-12.2	-7.1	-1.4	8.9	8.3	11.1
Russell MidCap	9.9	-16.8	-13.8	-9.8	9.5	9.7	12.3
Russell MidCap Growth	12.2	-21.1	-22.6	-21.8	7.5	11.0	12.8
Russell MidCap Value	8.6	-14.7	-9.0	-2.9	9.4	7.7	11.5
Russell 2000	10.4	-17.2	-15.4	-14.3	7.5	7.1	10.6
Russell 2000 Growth	11.2	-19.3	-21.6	-23.2	4.7	6.9	10.7
Russell 2000 Value	9.7	-15.3	-9.3	-4.8	9.5	6.7	10.2

US Equities: Russell 3000 Index rose 9.4%, and growth indices continued to outperform value in July.

- US stocks rose sharply during the month, led by the technology and consumer discretionary sectors.
- Growth indices outperformed their value counterparts for the month but remain well behind for the year-to-date period.
- Small company stocks outperformed large company stocks in July by over 100 basis points but remain behind year-to-date.

¹ Source: Bloomberg. Data is as of July 31, 2022.

Foreign Equity Returns¹

Foreign Equity	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.4	-13.7	-15.6	-15.3	2.9	2.4	5.0
MSCI EAFE	5.0	-14.5	-15.6	-14.3	3.2	2.6	5.8
MSCI EAFE (Local Currency)	5.2	-7.8	-6.7	-2.1	5.9	5.2	8.7
MSCI EAFE Small Cap	6.6	-17.7	-19.7	-20.3	3.6	2.3	7.8
MSCI Emerging Markets	-0.2	-11.5	-17.8	-20.1	0.9	1.0	2.8
MSCI Emerging Markets (Local Currency)	0.1	-8.1	-13.6	-14.9	3.6	3.4	5.8
MSCI China	-9.5	3.4	-19.7	-28.3	-3.6	-1.6	4.3

International equities (MSCI EAFE) gained 5.0%, while emerging markets (MSCI EM) fell 0.2% in July.

- Non-US developed market stocks trailed the US for the month, and emerging markets stocks posted negative returns for the month due to China’s drawdown of -9.5%. Both remain notably negative for the year-to-date period (EAFE -15.6%, EM -17.8%), lagging US equities.
- The war in Ukraine, high inflation and the likely monetary policy response, and slowing growth continue to weigh on sentiment.
- Growth stocks had a good month in July, outperforming value stocks across developed and emerging markets, similar to the US.

¹ Source: Bloomberg. Data is as of July 31, 2022.

Fixed Income Returns¹

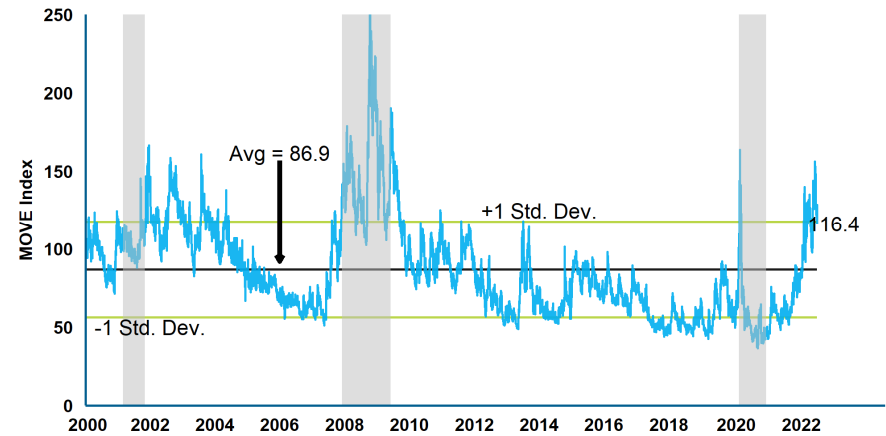
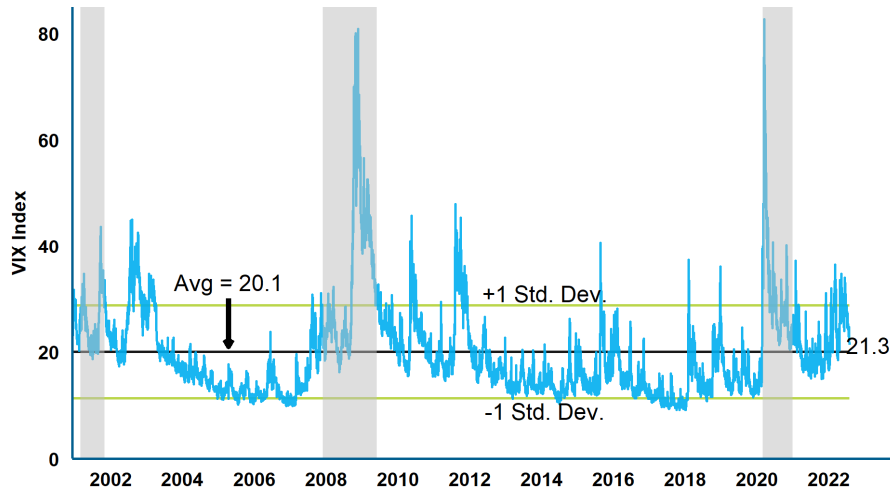
Fixed Income	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	2.5	-5.1	-8.7	-9.6	-0.2	1.3	1.9	3.9	6.4
Bloomberg Aggregate	2.4	-4.7	-8.2	-9.1	-0.2	1.3	1.6	3.4	6.6
Bloomberg US TIPS	4.4	-6.1	-5.0	-3.6	4.4	4.0	2.0	3.0	7.4
Bloomberg High Yield	5.9	-9.8	-9.1	-8.0	2.0	3.1	4.9	7.7	4.7
JPM GBI-EM Global Diversified (USD)	0.3	-8.6	-14.3	-18.7	-6.0	-2.7	-1.7	7.3	5.0

Fixed Income: The Bloomberg Universal gained 2.5% in July.

- Fixed income indices broadly benefited from yields declining across the curve. During July, the US 10-year Treasury note yield fell 36 basis points, from 3.01% on June 30th to 2.65% on July 31st
- The high yield index was one of the best performers in July as yields declined along with tightening spreads supported by a historic drop in high yield issuance to the lowest July issuance since 2006.

¹ Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of July 31, 2022.

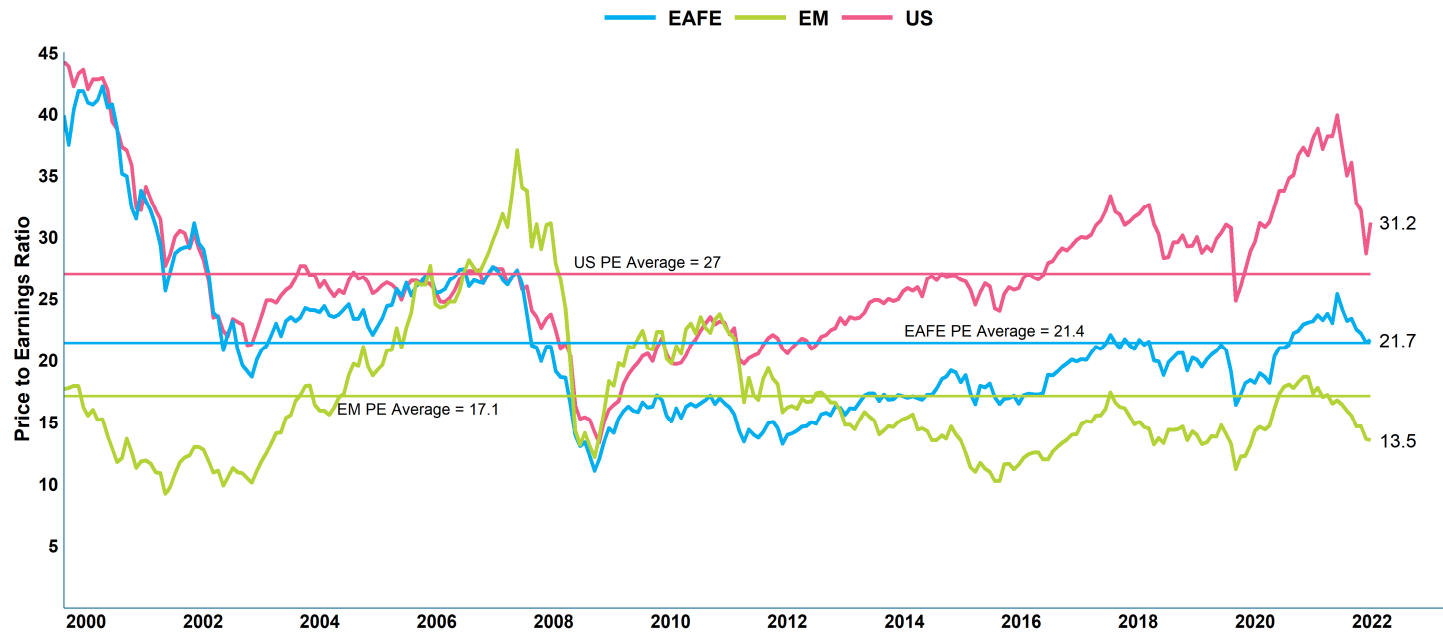
Equity and Fixed Income Volatility¹



- Volatility in equities (VIX) and fixed income (MOVE) declined in July based on potentially peaking monetary policy and possible rate cuts in 2023.
- Despite the July decline, fixed income volatility remains high due to the uncertain path of short-term interest rates.

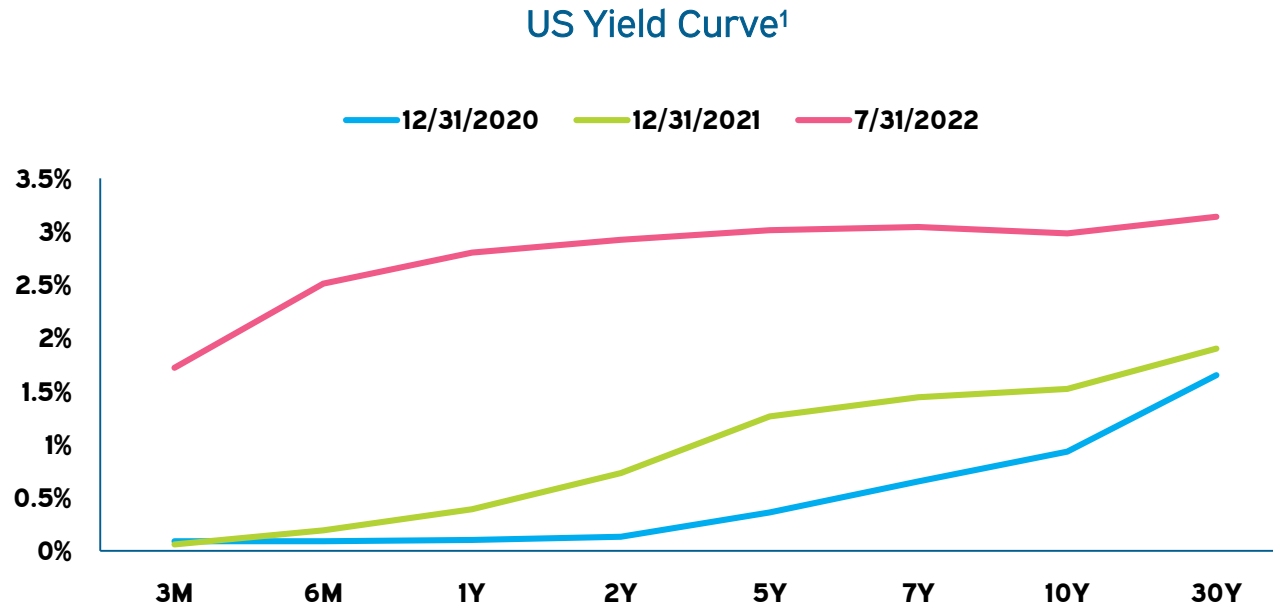
¹ Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of July 2022. The average line indicated is the average of the VIX and MOVE values between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

Equity Cyclically Adjusted P/E Ratios¹



- Strong positive results in July for US equities reversed the recent trend of valuation declines, but they remain well off the peak.
- International developed market valuations remain below the US and are slightly above their own long-term average, with those for emerging markets the lowest and under the long-term average.

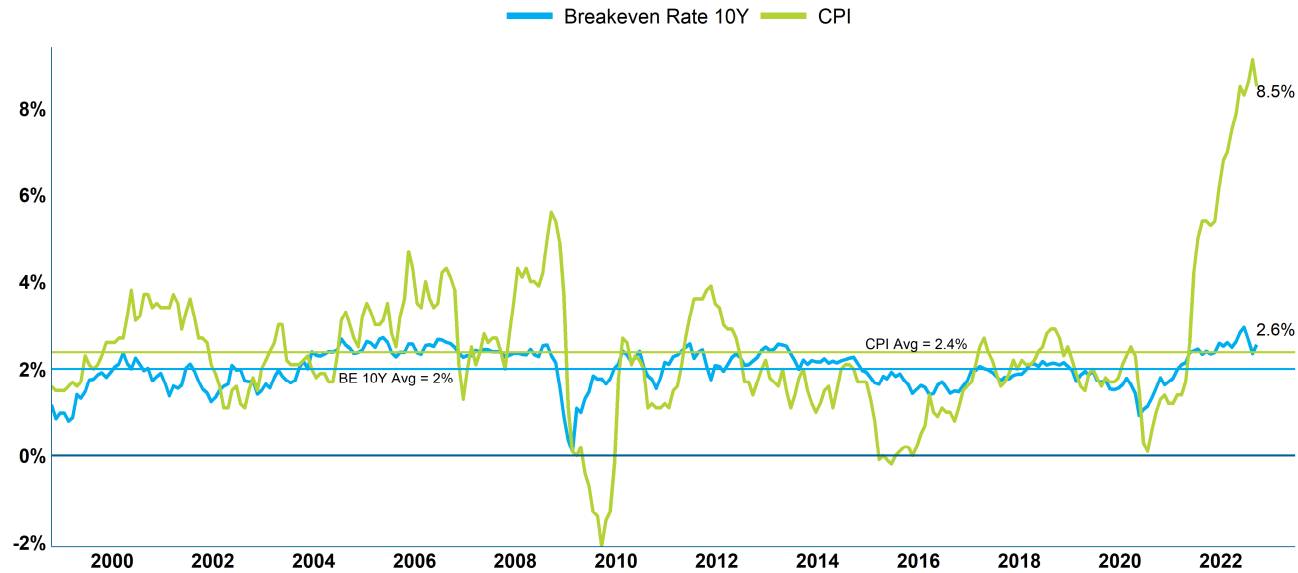
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of July 31, 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 much higher than at the start of the year.
- In July, longer-dated yields declined as investors reconsidered economic growth prospects and the likelihood that yields have reached their apex for this economic cycle. Shorted dated yields rose on near-term policy actions and messaging that policy officials intent to remain aggressive in fighting inflation pressures into early 2023.
- The yield spread between two-year and ten-year Treasuries became negative, finishing July at -0.23%. Inversions in the yield curve have historically often signaled building recessionary pressures.

¹ Source: Bloomberg. Data is as of July 31, 2022.

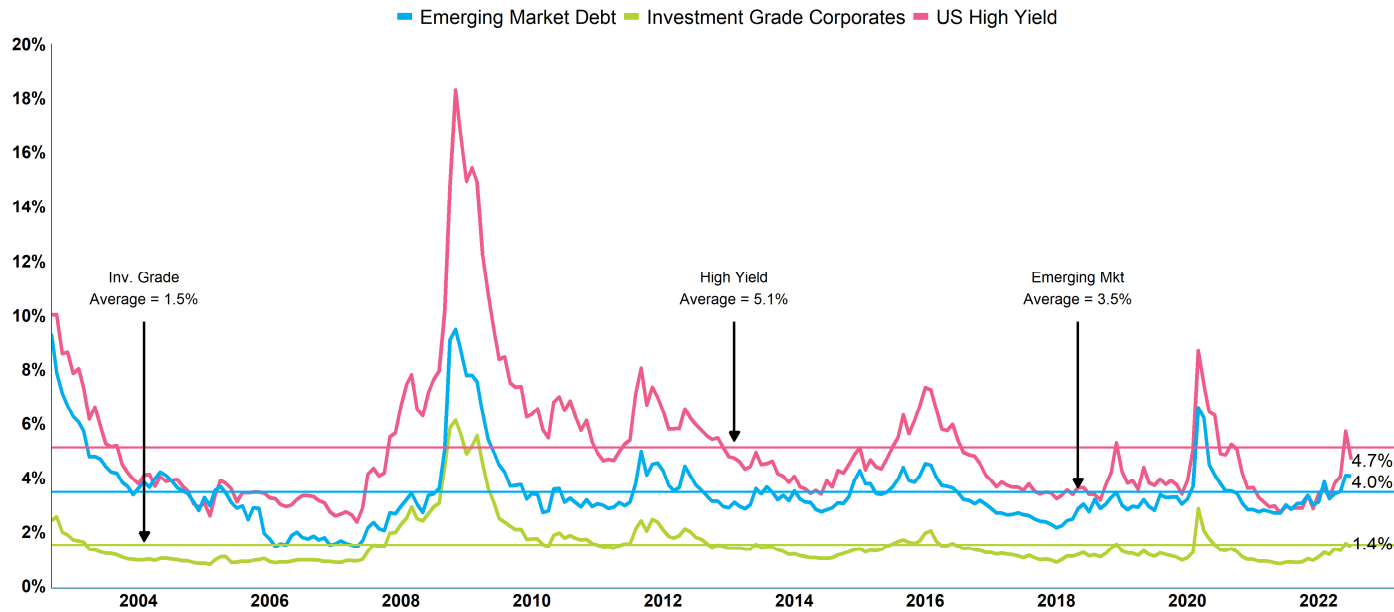
Ten-Year Breakeven Inflation and CPI¹



- In July, inflation expectations (breakevens) rose on the prospects of easing monetary policy next year.
- Trailing twelve-month CPI rose in June (9.1% versus 8.5%) and came in above expectations. Inflation levels in the US remain well above the long-term average of 2.4%.
- Rising prices for energy (particularly oil), food, housing, and for new and used cars, remain key drivers of higher inflation.

¹ Source: Bloomberg. Data is as of July 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 Bonds¹



- Credit spreads (the spread above a comparable maturity Treasury) declined in July, particularly for high yield, as risk appetite returned.
- In the US, spreads for high yield reversed course, declining from 5.7% to 4.7%, while investment grade (1.6% to 1.4%) and emerging market (4.1% to 4.0%) spreads experienced more modest declines.

¹ Sources: Bloomberg. Data is as of July 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

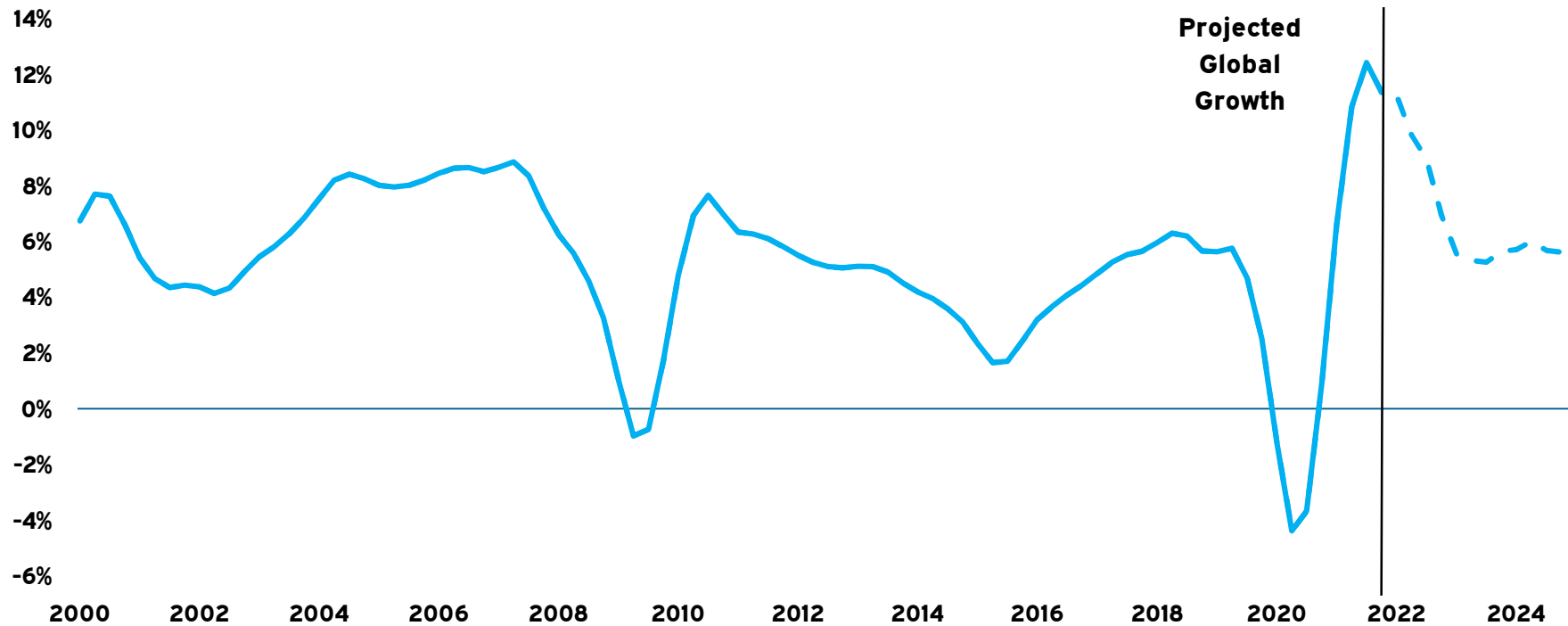
The IMF significantly lowered global growth forecasts again in their latest projections, driven by the economic impacts of persistent inflation in energy and food prices.

- The IMF forecasts global GDP growth to come in at 3.2% in 2022 (0.4% below the prior estimate) and 2.9% in 2023 (0.7% below the prior estimate).
- In advanced economies, GDP is projected to increase 2.5% in 2022 and 1.4% in 2023. The US saw another downgrade in the 2022 (2.3% versus 3.7%) and 2023 (1.0% versus 2.3%) growth forecasts largely due to policy tightening happening faster than previously expected given persistently high inflation. The euro area saw a downgrade too in expected growth (2.6% versus 2.8%) in 2022 and in 2023 (1.2% versus 2.3%) as rising energy prices particularly weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and next.
- Growth projections for emerging markets are higher than developed markets, at 3.6% in 2022 and 3.9% in 2023. China's growth was downgraded for 2022 (3.3% versus 4.4%) and 2023 (4.9% versus 5.1%) given tight COVID-19 restrictions and continued property sector problems.
- The global inflation forecast was significantly increased for 2022 (7.4% versus 3.8%).

	Real GDP (%) ¹			Inflation (%) ¹		
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average
World	3.2	2.9	3.0	7.4	4.8	3.5
Advanced Economies	2.5	1.4	1.6	5.7	2.5	1.5
US	2.3	1.0	2.1	7.7	2.9	1.9
Euro Area	2.6	1.2	0.9	5.3	2.3	1.2
Japan	1.7	1.7	0.5	1.0	0.8	0.5
Emerging Economies	3.6	3.9	4.2	8.7	6.5	5.1
China	3.3	4.9	6.7	2.1	1.8	2.1

¹ Source: IMF World Economic Outlook. Real GDP forecasts from July 2022 Update. Inflation forecasts are as of the April 2022 Update.* Actual 10 Year Average* represents data from 2012 to 2021.

Global Nominal Gross Domestic Product (GDP) Growth¹

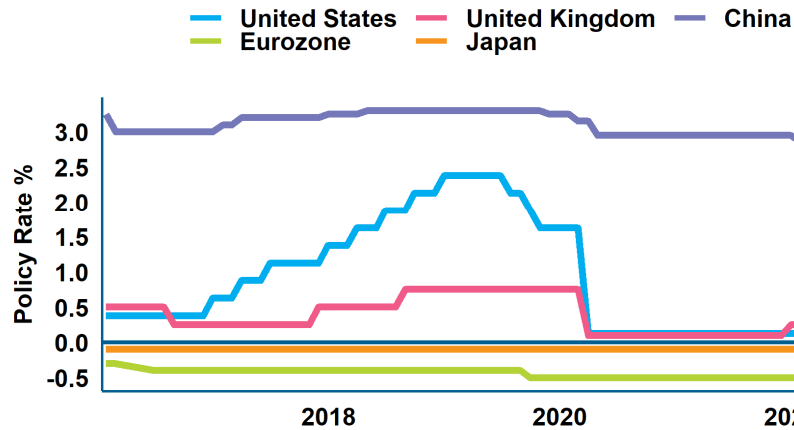


- Global economies are expected to slow in 2022 compared to 2021 with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- Looking forward, the delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will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

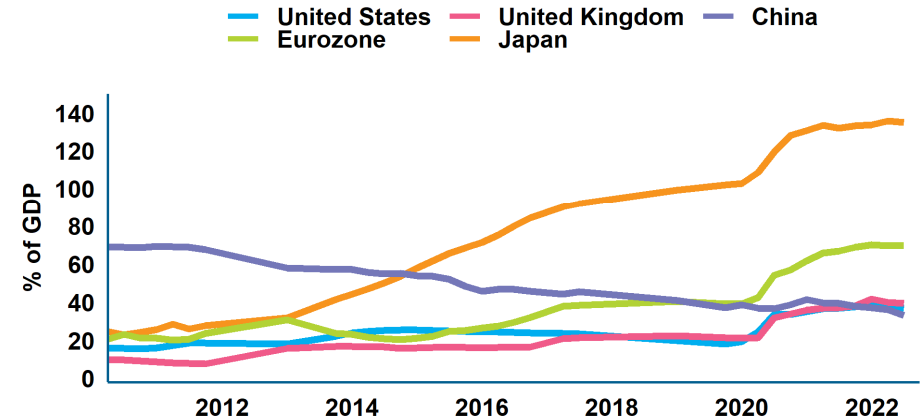
¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated July 2022.

Central Bank Response¹

Policy Rates



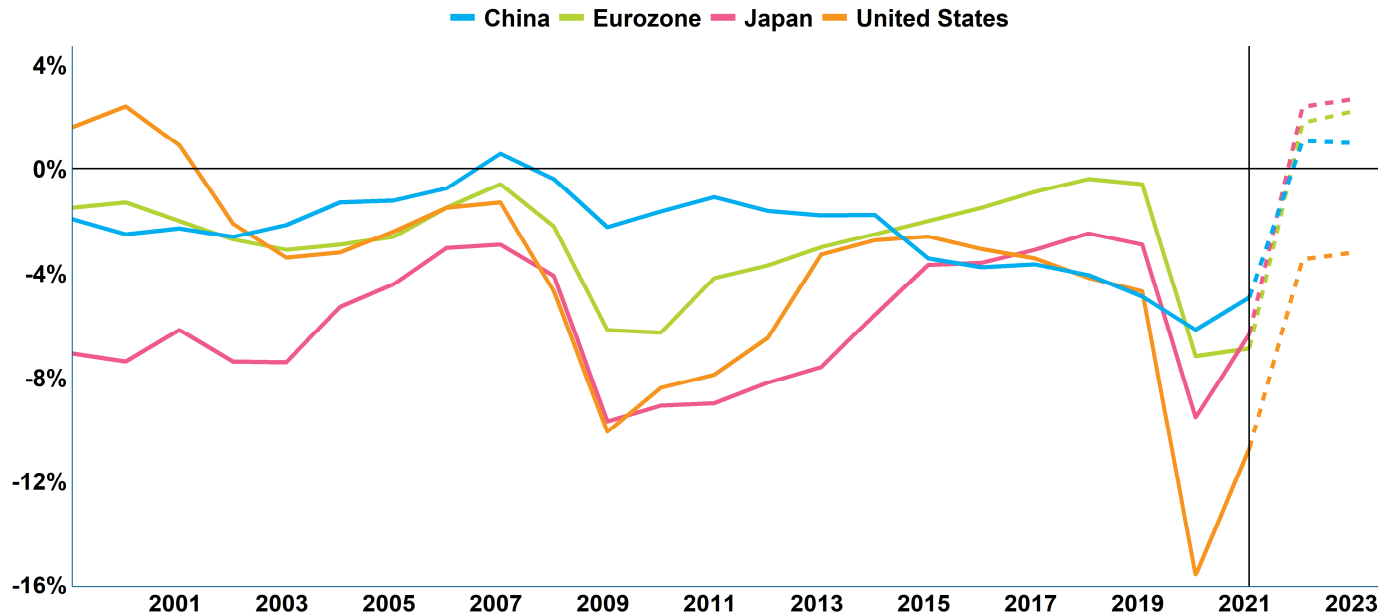
Balance Sheet as % of GDP



- 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 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.
- The one notable central bank outlier is China, where the central bank recently lowered rates and reserve requirements in response to slowing growth.

¹ Source: Bloomberg. Policy rate data is as of July 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 June 30, 2022.

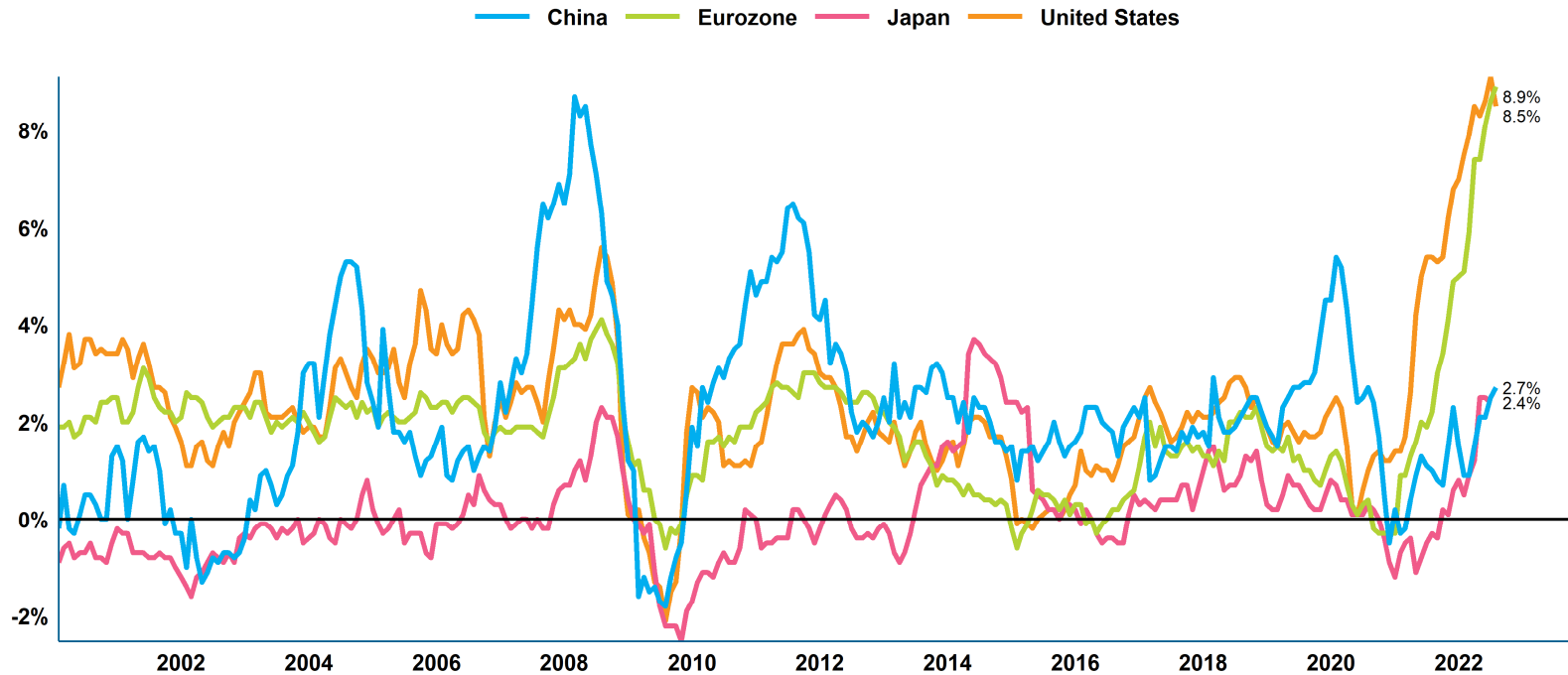
Budget Surplus / Deficit as a Percentage of GDP¹



- 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 in the coming years.

¹ Source: Bloomberg. Data is as of July 31, 2022. Projections via IMF Forecasts from April 2022 Report. Dotted lines represent 2022 and 2023 forecasts.

Inflation (CPI Trailing Twelve Months)¹

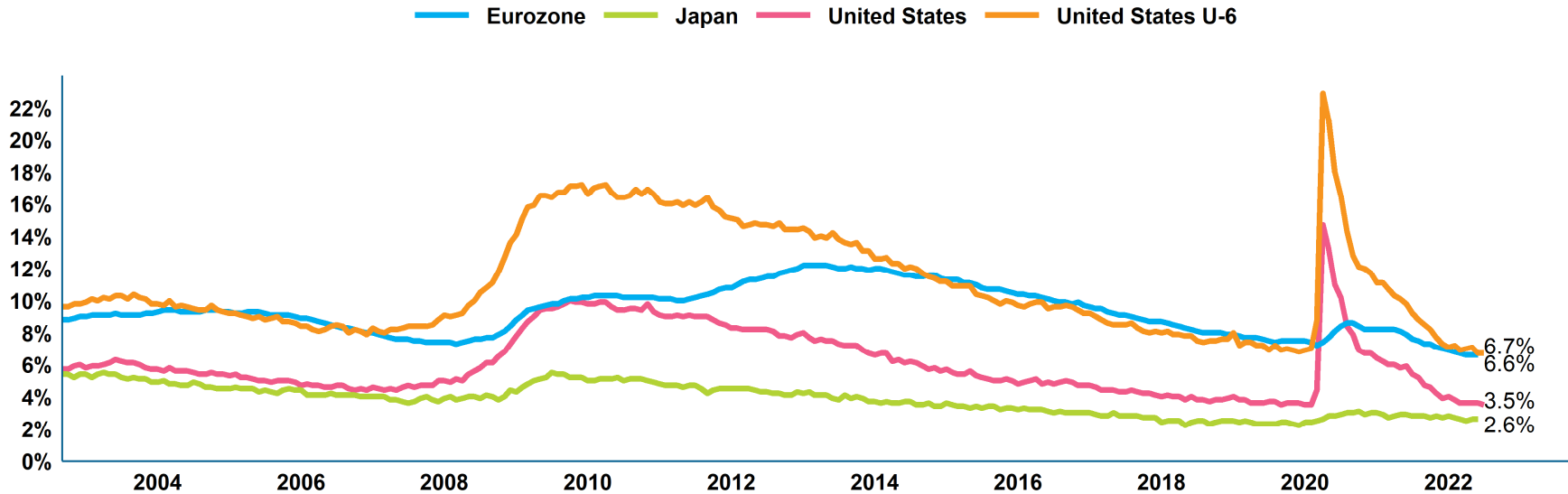


→ Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.

→ Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher prices in many commodities driven by the war in Ukraine have been key global drivers of inflation.

¹ Source: Bloomberg. Data is as of July 2022. The most recent data for Japan is as of June 30, 2022.

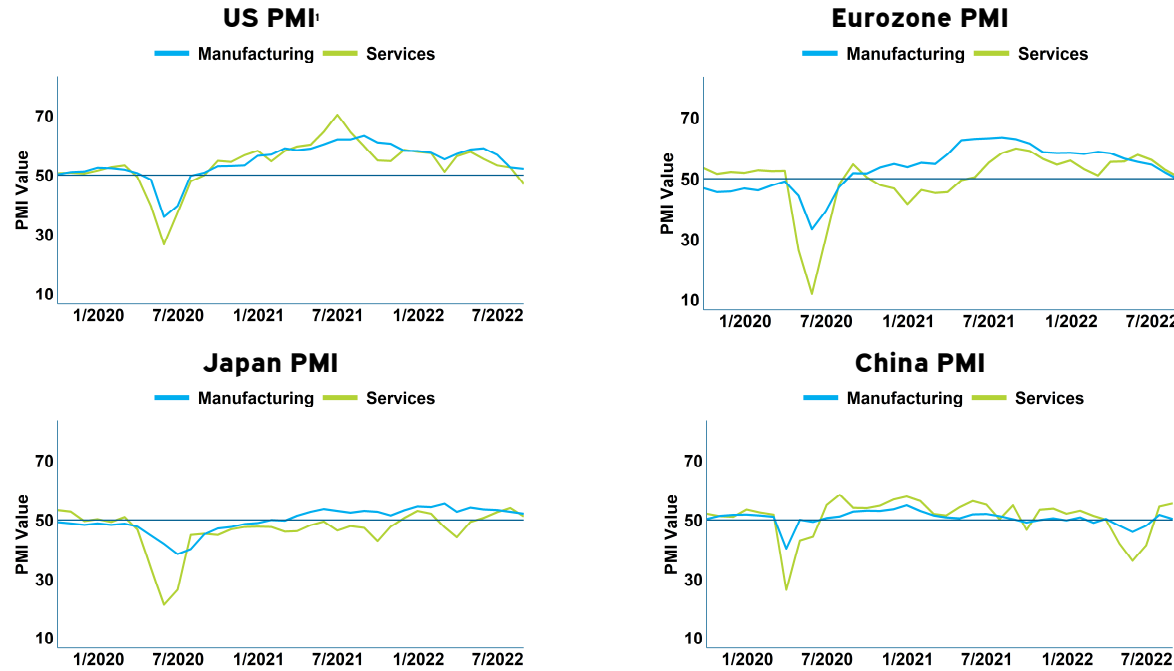
Unemployment¹



- As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- US unemployment, which experienced the steepest rise from the pandemic, declined back to pre-pandemic levels. The broader measure (U-6) that includes discouraged and underemployed workers declined but is much higher at 6.7%.

¹ Source: Bloomberg. Data is as of July 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of June 30, 2022.

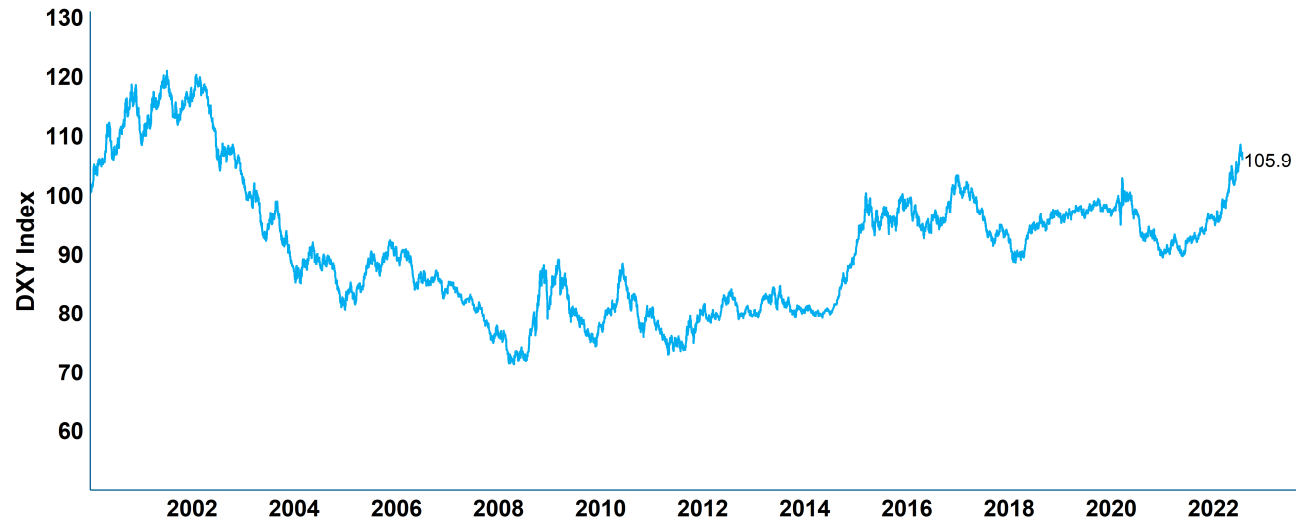
Global PMIs



- After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced some pressures recently.
- Service sector PMIs in the US and Europe have recently declined, with the US slipping into contraction territory, while Japan experienced a decline for the month on rising COVID-19 cases in parts of the country. In China the services PMI remained in positive territory while manufacturing cooled.
- Manufacturing PMIs dropped recently across China and developed markets given declines in demand and inflationary pressures.

¹ 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 July 2022. Readings below 50 represent economic contractions.

US Dollar versus Broad Currencies¹



- In July, the US dollar overall continued its path higher but finished the month off its peak as expectations on the pace of policy tightening by the Fed fell and safe-haven flows declined.
- The euro, yen, and yuan have all experienced significant declines versus the dollar this year, adding to inflation and slowing growth concerns.

¹ Source: Bloomberg. Data as of July 31, 2022.

Summary

Key Trends in 2022:

- The impacts of record high inflation will remain key going forward, with volatility likely to remain high.
- The war in Ukraine has created significant uncertainty, with a wide range of potential outcomes.
- Expect growth to slow globally in 2022 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- 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.
- Monetary policy will likely tighten globally but will remain relatively accommodative. The risk of overtightening policy remains.
- Valuations have significantly declined in the US, approaching long-term averages.
- Outside the US, equity valuations remain lower in both emerging and developed markets, but risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

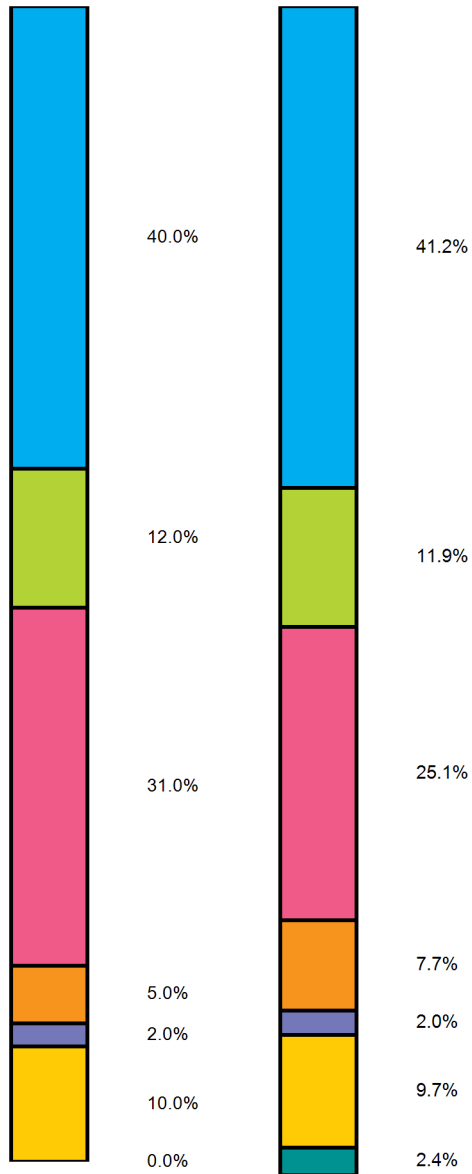
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Oakland Police and Fire Retirement System

August 31, 2022

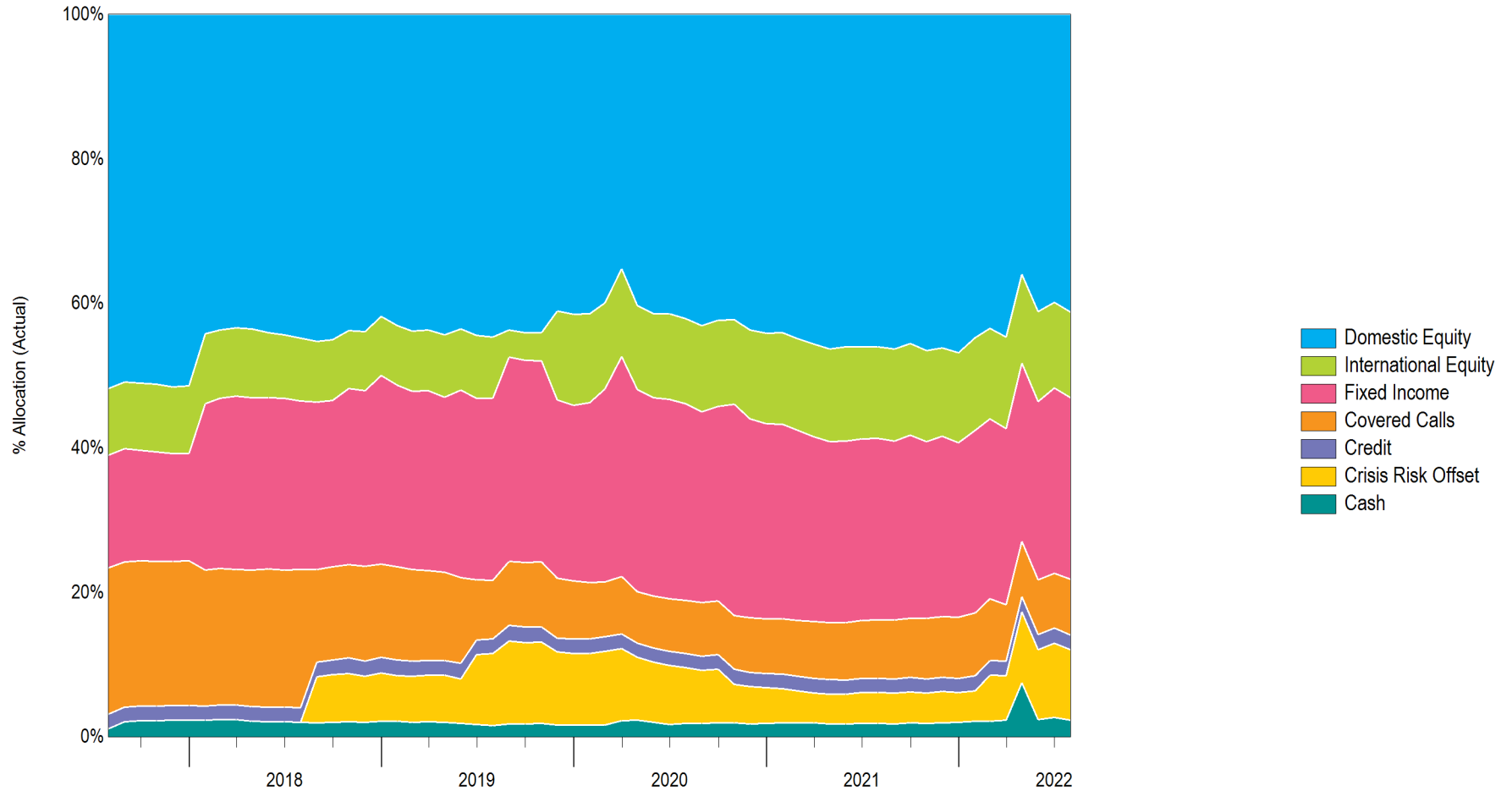
July Flash Report

As of July 31, 2022



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Within IPS Range?	
Domestic Equity	\$174,924,378	41.2%	40.0%	1.2%	Yes	
International Equity	\$50,377,899	11.9%	12.0%	-0.1%	Yes	
Fixed Income	\$106,695,721	25.1%	31.0%	-5.9%	Yes	
Covered Calls	\$32,871,278	7.7%	5.0%	2.7%	Yes	
Credit	\$8,704,154	2.0%	2.0%	0.0%	Yes	
Crisis Risk Offset	\$41,110,689	9.7%	10.0%	-0.3%	Yes	
Cash	\$10,024,838	2.4%	0.0%	2.4%	Yes	
Total	\$424,708,956	100.0%	100.0%			

Asset Allocation History
5 Years Ending July 31, 2022



Asset Class Performance Summary											
	Market Value (\$)	% of Portfolio	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	424,708,956	100.0	5.0	5.0	-10.9	-7.2	5.8	6.6	7.8	6.7	Dec-88
<i>OPFRS Policy Benchmark</i>			<u>5.1</u>	<u>5.1</u>	<u>-11.1</u>	<u>-8.3</u>	<u>5.6</u>	<u>6.1</u>	<u>7.2</u>	<u>7.9</u>	<u>Dec-88</u>
Excess Return			-0.1	-0.1	0.2	1.1	0.2	0.5	0.6	-1.2	
Domestic Equity	174,924,378	41.2	8.7	8.7	-12.2	-5.6	12.1	11.7	13.3	9.0	Jun-97
<i>Russell 3000 (Blend)</i>			<u>9.4</u>	<u>9.4</u>	<u>-13.7</u>	<u>-7.4</u>	<u>12.5</u>	<u>12.2</u>	<u>13.5</u>	<u>9.1</u>	<u>Jun-97</u>
Excess Return			-0.7	-0.7	1.5	1.8	-0.4	-0.5	-0.2	-0.1	
International Equity	50,377,899	11.9	4.7	4.7	-15.1	-13.6	3.7	3.4	6.5	5.1	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<u>3.4</u>	<u>3.4</u>	<u>-15.6</u>	<u>-15.3</u>	<u>2.9</u>	<u>2.4</u>	<u>5.0</u>	<u>4.8</u>	<u>Jan-98</u>
Excess Return			1.3	1.3	0.5	1.7	0.8	1.0	1.5	0.3	
Fixed Income	106,695,721	25.1	2.3	2.3	-8.5	-9.3	0.2	1.8	2.2	4.9	Dec-93
<i>Bloomberg Universal (Blend)</i>			<u>2.5</u>	<u>2.5</u>	<u>-8.7</u>	<u>-9.6</u>	<u>-0.2</u>	<u>1.3</u>	<u>1.9</u>	<u>4.8</u>	<u>Dec-93</u>
Excess Return			-0.2	-0.2	0.2	0.3	0.4	0.5	0.3	0.1	
Credit	8,704,154	2.0	2.4	2.4	-6.8	-4.9	3.5	3.7	--	5.0	Feb-15
<i>Bloomberg US High Yield TR</i>			<u>5.9</u>	<u>5.9</u>	<u>-9.1</u>	<u>-8.0</u>	<u>1.9</u>	<u>3.1</u>	<u>4.9</u>	<u>4.3</u>	<u>Feb-15</u>
Excess Return			-3.5	-3.5	2.3	3.1	1.6	0.6		0.7	
Covered Calls	32,871,278	7.7	6.9	6.9	-8.6	-0.9	10.7	9.4	--	9.1	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<u>3.9</u>	<u>3.9</u>	<u>-6.7</u>	<u>0.7</u>	<u>4.6</u>	<u>4.8</u>	<u>6.3</u>	<u>5.7</u>	<u>Apr-14</u>
Excess Return			3.0	3.0	-1.9	-1.6	6.1	4.6		3.4	
Crisis Risk Offset	41,110,689	9.7	-1.5	-1.5	-11.9	-13.1	-12.7	--	--	-9.8	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<u>-1.1</u>	<u>-1.1</u>	<u>1.1</u>	<u>2.4</u>	<u>-2.8</u>	<u>--</u>	<u>--</u>	<u>-1.5</u>	<u>Aug-18</u>
Excess Return			-0.4	-0.4	-13.0	-15.5	-9.9			-8.3	

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 July 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
OPFRS Total Plan	424,708,956	100.0	--	5.0	-10.9	-7.2	5.8	6.6	7.8	6.7	Dec-88
<i>OPFRS Policy Benchmark</i>				<i>5.1</i>	<i>-11.1</i>	<i>-8.3</i>	<i>5.6</i>	<i>6.1</i>	<i>7.2</i>	<i>7.9</i>	<i>Dec-88</i>
Domestic Equity	174,924,378	41.2	41.2	8.7	-12.2	-5.6	12.1	11.7	13.3	9.0	Jun-97
<i>Russell 3000 (Blend)</i>				<i>9.4</i>	<i>-13.7</i>	<i>-7.4</i>	<i>12.5</i>	<i>12.2</i>	<i>13.5</i>	<i>9.1</i>	<i>Jun-97</i>
Northern Trust Russell 1000	80,891,757	19.0	46.2	9.3	-13.8	-7.1	12.8	12.5	13.6	13.6	Jun-10
<i>Russell 1000</i>				<i>9.3</i>	<i>-13.6</i>	<i>-6.9</i>	<i>12.9</i>	<i>12.6</i>	<i>13.7</i>	<i>13.7</i>	<i>Jun-10</i>
Wellington Select Quality Equity	21,770,970	5.1	12.4	5.0	--	--	--	--	--	-1.1	May-22
<i>Russell 1000</i>				<i>9.3</i>	<i>-13.6</i>	<i>-6.9</i>	<i>12.9</i>	<i>12.6</i>	<i>13.7</i>	<i>0.0</i>	<i>May-22</i>
EARNEST Partners	46,728,422	11.0	26.7	9.0	-9.3	-1.9	14.4	13.8	15.1	10.7	Apr-06
<i>Russell MidCap</i>				<i>9.9</i>	<i>-13.8</i>	<i>-9.8</i>	<i>9.5</i>	<i>9.7</i>	<i>12.3</i>	<i>8.8</i>	<i>Apr-06</i>
Brown Fundamental Small Cap Value	10,963,682	2.6	6.3	10.7	-6.9	1.6	--	--	--	2.4	Apr-21
<i>Russell 2000 Value</i>				<i>9.7</i>	<i>-9.3</i>	<i>-4.8</i>	<i>9.4</i>	<i>6.7</i>	<i>10.2</i>	<i>-3.0</i>	<i>Apr-21</i>
Rice Hall James	14,569,548	3.4	8.3	8.3	-16.4	-14.2	8.2	8.9	--	8.5	Jul-17
<i>Russell 2000 Growth</i>				<i>11.2</i>	<i>-21.6</i>	<i>-23.2</i>	<i>4.7</i>	<i>6.9</i>	<i>10.7</i>	<i>6.9</i>	<i>Jul-17</i>
International Equity	50,377,899	11.9	11.9	4.7	-15.1	-13.6	3.7	3.4	6.5	5.1	Jan-98
<i>MSCI ACWI ex US (Blend)</i>				<i>3.4</i>	<i>-15.6</i>	<i>-15.3</i>	<i>2.9</i>	<i>2.4</i>	<i>5.0</i>	<i>4.8</i>	<i>Jan-98</i>
Vanguard Developed Markets ETF	14,385,800	3.4	28.6	5.3	-14.6	-14.2	--	--	--	5.6	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>				<i>5.2</i>	<i>-15.4</i>	<i>-14.4</i>	<i>4.4</i>	<i>3.4</i>	<i>6.3</i>	<i>5.5</i>	<i>Sep-19</i>
SGA ACWI ex-U.S. Equity	35,992,098	8.5	71.4	4.5	-15.1	-13.6	--	--	--	0.7	Dec-19
<i>MSCI ACWI ex USA</i>				<i>3.4</i>	<i>-15.6</i>	<i>-15.3</i>	<i>2.9</i>	<i>2.4</i>	<i>5.0</i>	<i>1.9</i>	<i>Dec-19</i>

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

As of July 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Fixed Income	106,695,721	25.1	25.1	2.3	-8.5	-9.3	0.2	1.8	2.2	4.9	Dec-93
<i>Bloomberg Universal (Blend)</i>				<i>2.5</i>	<i>-8.7</i>	<i>-9.6</i>	<i>-0.2</i>	<i>1.3</i>	<i>1.9</i>	<i>4.8</i>	<i>Dec-93</i>
Ramirez	72,403,307	17.0	67.9	1.9	-8.8	-9.7	-0.1	1.7	--	2.1	Jan-17
<i>Bloomberg US Aggregate TR</i>				<i>2.4</i>	<i>-8.2</i>	<i>-9.1</i>	<i>-0.2</i>	<i>1.3</i>	<i>1.6</i>	<i>1.6</i>	<i>Jan-17</i>
Wellington Core Bond	6,923,548	1.6	6.5	2.7	-9.3	-10.3	--	--	--	-5.7	Apr-21
<i>Bloomberg US Aggregate TR</i>				<i>2.4</i>	<i>-8.2</i>	<i>-9.1</i>	<i>-0.2</i>	<i>1.3</i>	<i>1.6</i>	<i>-4.9</i>	<i>Apr-21</i>
Reams	27,368,866	6.4	25.7	3.2	-7.4	-7.9	3.9	4.0	3.3	5.4	Feb-98
<i>Bloomberg Universal (Blend)</i>				<i>2.5</i>	<i>-8.7</i>	<i>-9.6</i>	<i>-0.2</i>	<i>1.3</i>	<i>1.9</i>	<i>4.4</i>	<i>Feb-98</i>
Credit	8,704,154	2.0	2.0	2.4	-6.8	-4.9	3.5	3.7	--	5.0	Feb-15
<i>Bloomberg US High Yield TR</i>				<i>5.9</i>	<i>-9.1</i>	<i>-8.0</i>	<i>1.9</i>	<i>3.1</i>	<i>4.9</i>	<i>4.3</i>	<i>Feb-15</i>
Polen Capital	8,704,154	2.0	100.0	2.4	-6.8	-4.9	3.5	3.7	--	5.0	Feb-15
<i>ICE BofA High Yield Master TR</i>				<i>6.0</i>	<i>-8.9</i>	<i>-7.7</i>	<i>1.7</i>	<i>2.9</i>	<i>4.8</i>	<i>4.2</i>	<i>Feb-15</i>
Covered Calls	32,871,278	7.7	7.7	6.9	-8.6	-0.9	10.7	9.4	--	9.1	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>3.9</i>	<i>-6.7</i>	<i>0.7</i>	<i>4.6</i>	<i>4.8</i>	<i>6.3</i>	<i>5.7</i>	<i>Apr-14</i>
Parametric BXM	16,532,832	3.9	50.3	5.0	-6.3	-0.3	7.7	6.8	--	7.2	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>3.9</i>	<i>-6.7</i>	<i>0.7</i>	<i>4.6</i>	<i>4.8</i>	<i>6.3</i>	<i>5.7</i>	<i>Apr-14</i>
Parametric DeltaShift	16,338,446	3.8	49.7	8.8	-10.6	-1.7	13.3	11.6	--	11.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>3.9</i>	<i>-6.7</i>	<i>0.7</i>	<i>4.6</i>	<i>4.8</i>	<i>6.3</i>	<i>5.7</i>	<i>Apr-14</i>

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

As of July 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Crisis Risk Offset	41,110,689	9.7	9.7	-1.5	-11.9	-13.1	-12.7	--	--	-9.8	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>				<i>-1.1</i>	<i>1.1</i>	<i>2.4</i>	<i>-2.8</i>	<i>--</i>	<i>--</i>	<i>-1.5</i>	<i>Aug-18</i>
Kepos Alternative Risk Premia	9,476,236	2.2	23.1	-0.6	--	--	--	--	--	-4.9	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>				<i>-1.1</i>	<i>1.1</i>	<i>2.4</i>	<i>-2.8</i>	<i>--</i>	<i>--</i>	<i>0.3</i>	<i>Feb-22</i>
Versor Trend Following	15,652,355	3.7	38.1	-5.8	--	--	--	--	--	4.3	Apr-22
<i>SG Trend Index</i>				<i>-4.3</i>	<i>31.7</i>	<i>33.1</i>	<i>14.0</i>	<i>10.4</i>	<i>5.3</i>	<i>11.9</i>	<i>Apr-22</i>
Vanguard Long-Term Treasury ETF	15,982,098	3.8	38.9	2.6	-18.8	-19.2	-2.2	--	--	-2.1	Jul-19
<i>Bloomberg US Govt Long TR</i>				<i>2.7</i>	<i>-19.1</i>	<i>-19.2</i>	<i>-2.1</i>	<i>1.2</i>	<i>1.6</i>	<i>-2.0</i>	<i>Jul-19</i>
Cash	10,024,838	2.4	2.4	0.0	0.0	0.0	0.7	1.2	0.7	0.6	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.1</i>	<i>0.3</i>	<i>0.3</i>	<i>0.6</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash	3,357,838	0.8	33.5	0.0	0.0	0.0	0.9	1.3	0.8	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.1</i>	<i>0.3</i>	<i>0.3</i>	<i>0.6</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash - Treasury	6,667,000	1.6	66.5								

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

As of July 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	\$9,915,053	\$0	\$1,048,629	\$10,963,682
Cash	\$3,337,919	\$19,919	\$0	\$3,357,838
Cash - Treasury	\$7,589,000	-\$922,000	\$0	\$6,667,000
EARNEST Partners	\$42,887,126	\$0	\$3,841,295	\$46,728,422
Kepos Alternative Risk Premia	\$9,543,601	\$0	-\$67,365	\$9,476,236
Northern Trust Russell 1000	\$74,995,609	-\$1,000,000	\$6,896,148	\$80,891,757
Parametric BXM	\$15,745,273	\$0	\$787,558	\$16,532,832
Parametric DeltaShift	\$15,017,334	\$0	\$1,321,112	\$16,338,446
Polen Capital	\$8,503,509	\$0	\$200,645	\$8,704,154
Ramirez	\$71,026,933	\$0	\$1,376,373	\$72,403,307
Reams	\$26,507,460	\$0	\$861,406	\$27,368,866
Rice Hall James	\$13,448,626	\$0	\$1,120,922	\$14,569,548
Securities Lending Northern Trust	\$0	-\$11,407	\$11,407	\$0
SGA ACWI ex-U.S. Equity	\$34,433,617	\$0	\$1,558,482	\$35,992,098
Vanguard Developed Markets ETF	\$13,662,492	\$0	\$723,308	\$14,385,800
Vanguard Long-Term Treasury ETF	\$15,606,180	\$0	\$375,919	\$15,982,098
Versor Trend Following	\$16,607,403	\$0	-\$955,048	\$15,652,355
Wellington Core Bond	\$6,741,756	\$0	\$181,792	\$6,923,548
Wellington Select Quality Equity	\$20,739,219	\$0	\$1,031,751	\$21,770,970
Total	\$406,308,110	-\$1,913,488	\$20,314,333	\$424,708,956

Benchmark History

As of July 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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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.

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

Oakland Police and Fire Retirement System

August 31, 2022

June Quarterly Performance
Report

Agenda

1. Total Portfolio Summary
2. Economic and Market Update
3. Asset Class and Manager Commentary
4. 2Q 2022 Performance as of June 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 \$406.3M. This represents a \$46.0M depreciation in investment value after \$2.9M in net inflows over the quarter. Over the one-year period, the OPFRS Total Portfolio value has a \$46.0M depreciation, after withdrawals totaling (\$11.4M) for benefit payments.

Asset Allocation Trends

- The asset allocation targets throughout this report reflect those as of June 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 and Cash, while moderate underweight in Fixed Income. The other asset classes have slight deviation from their respective policy targets, and all the asset classes were within acceptable allocation ranges.
 - During this quarter, Versor Trend Following was funded as a new Systematic Trend Following manager within the Crisis Risk Offset component. Wellington Select Quality Equity was funded as an actively-managed low volatility equity manager replacing the passively-managed iShares Edge MSCI Min Vol ETF.

Investment Performance

- During the most recent quarter, the OPFRS portfolio generated an absolute return of -10.3%, gross of fees, outperforming its policy benchmark¹ by 0.7%. It has also outperformed the benchmark over the trailing 1-, 3-, and 5-year periods.
- In comparison to its peers which are public defined benefit plans with \$250 million to \$1 billion in assets², the portfolio 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
Total Portfolio (Gross)	-10.3	-15.1	-10.4	4.4	5.9
Policy Benchmark	-11.0	-15.5	-11.9	4.1	5.4
Excess Return	0.7	0.4	1.5	0.3	0.5
Reference: Median Fund	-10.1	-14.6	-10.9	5.6	6.5
Reference: Total Portfolio (Net) ³	-10.4	-15.3	-10.7	4.1	5.6

- 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
Total Portfolio (Gross)	-10.3	-15.1	-10.4	4.4	5.9
Risk-Adjusted Median Fund	-12.9	-15.6	-11.8	6.0	7.1
Excess Return	2.5	0.5	1.4	-1.7	-1.2

¹ 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.

² Source: Investment Metrics peer universe as of 6/30/2022.

³ 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 June 30, 2022

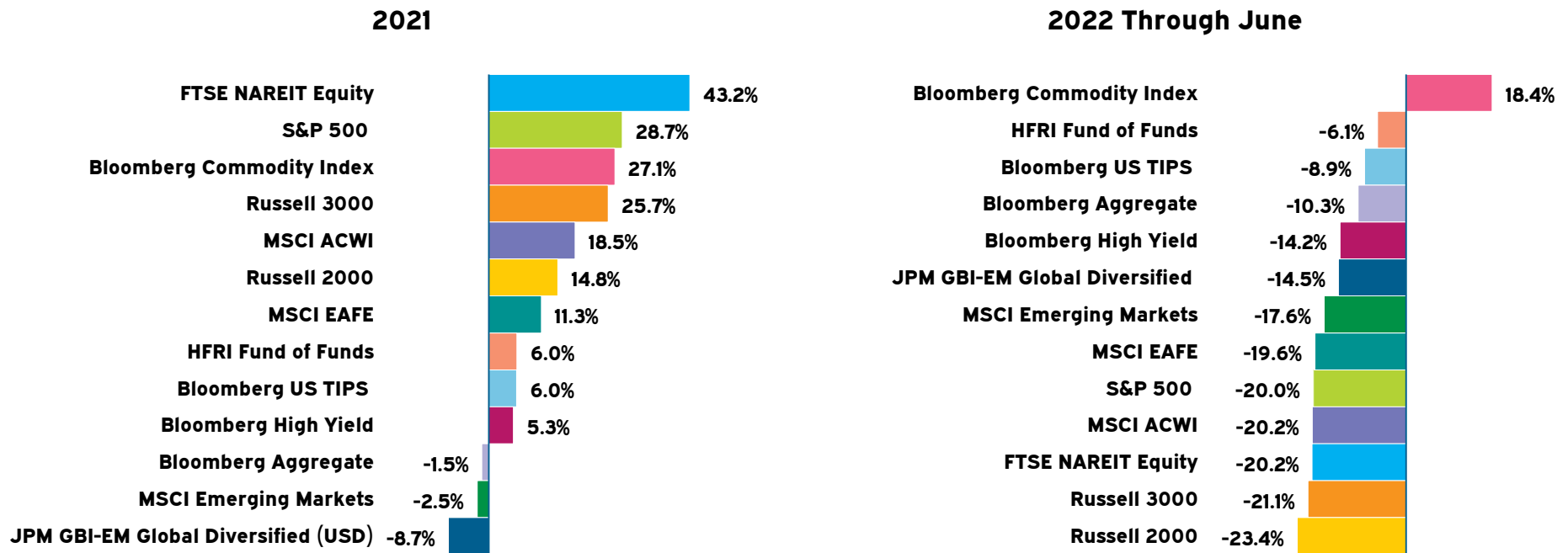
Commentary

→ Global markets resumed their sell-off in June as inflation surged in the US and Europe.

- In response, the US Federal Reserve increased interest rates 75 basis points (above prior expectations). Markets also repriced the growth outlook downward.
- All major equity indices suffered steep declines in June. Emerging markets proved slightly more resilient than developed markets on a partial re-opening in China from pandemic related lockdowns.
- In a reversal of the prior trend growth stocks outperformed value stocks in June.
- The global bond selloff resumed, as inflation fears, and policy expectations weighed on all major bond markets.

→ Persistently high inflation and the expected policy response, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China will all have considerable economic and financial consequences for the global economy.

Index Returns¹



→ Outside of emerging markets and the broad US investment grade bond market (Bloomberg Aggregate), most asset classes appreciated in 2021.

→ In June all major asset classes posted negative returns on renewed inflation and economic growth fears, with equities experiencing the largest declines.

¹ Source: Bloomberg and FactSet. Data is as of June 30, 2022.

Domestic Equity Returns¹

Domestic Equity	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	-8.3	-16.1	-20.0	-10.6	10.6	11.3	12.9
Russell 3000	-8.4	-16.7	-21.1	-13.9	9.8	10.6	12.6
Russell 1000	-8.4	-16.7	-20.9	-13.0	10.2	11.0	12.8
Russell 1000 Growth	-7.9	-20.9	-28.1	-18.8	12.6	14.3	14.8
Russell 1000 Value	-8.7	-12.2	-12.9	-6.8	6.9	7.2	10.5
Russell MidCap	-10.0	-16.8	-21.6	-17.3	6.6	8.0	11.3
Russell MidCap Growth	-7.5	-21.1	-31.0	-29.6	4.3	8.9	11.5
Russell MidCap Value	-11.0	-14.7	-16.2	-10.0	6.7	6.3	10.6
Russell 2000	-8.2	-17.2	-23.4	-25.2	4.2	5.2	9.4
Russell 2000 Growth	-6.2	-19.3	-29.5	-33.4	1.4	4.8	9.3
Russell 2000 Value	-9.9	-15.3	-17.3	-16.3	6.2	4.9	9.0

US Equities: Russell 3000 Index declined 8.3%, and growth indices outperformed value in June.

- US stocks experienced steep losses for the month, led by the energy and materials sectors.
- Growth indices outperformed their value counterparts for the month but remain well behind for the year-to-date period.
- Small company stocks slightly outperformed large company stocks in June but remain behind their larger peers year-to-date.

¹ Source: Bloomberg. Data is as of June 30, 2022.

Foreign Equity Returns¹

Foreign Equity	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-8.6	-13.7	-18.4	-19.4	1.3	2.5	4.8
MSCI EAFE	-9.3	-14.5	-19.6	-17.8	1.1	2.2	5.4
MSCI EAFE (Local Currency)	-6.3	-7.8	-11.3	-6.6	4.4	4.3	8.3
MSCI EAFE Small Cap	-11.0	-17.7	-24.7	-24.0	1.1	1.7	7.2
MSCI Emerging Markets	-6.6	-11.5	-17.6	-25.3	0.6	2.2	3.1
MSCI Emerging Markets (Local Currency)	-4.6	-8.1	-13.7	-20.2	3.3	4.4	6.0
MSCI China	6.6	3.4	-11.3	-31.8	-0.6	2.1	5.5

International Equities (MSCI EAFE) declined 9.3% and Emerging Markets (MSCI EM) declined 6.6% in June.

- Non-US developed market stocks slightly trailed the US for the month, while emerging markets stocks had better results due to China gaining 6.6%. Both remain notably negative for the year-to-date period, but ahead of the US.
- The war in Ukraine, high inflation and the likely monetary policy response, and slowing growth continue to weigh on sentiment.
- As in the US, growth stocks outperformed value stocks across developed and emerging markets.

¹ Source: Bloomberg. Data is as of June 30, 2022.

Fixed Income Returns¹

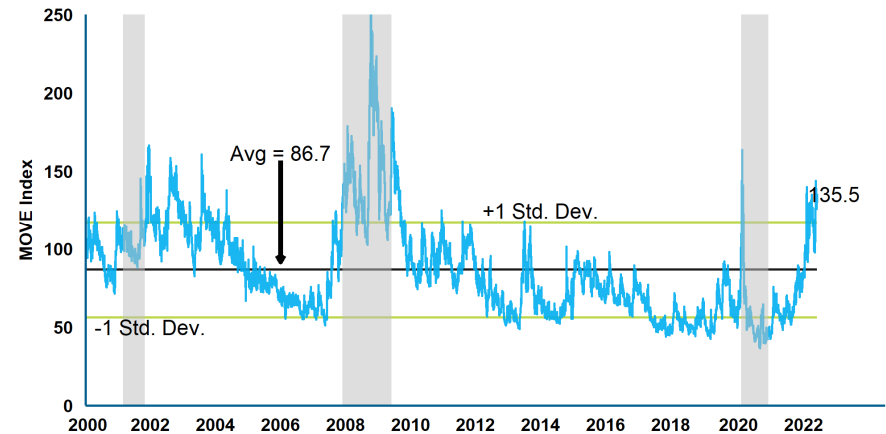
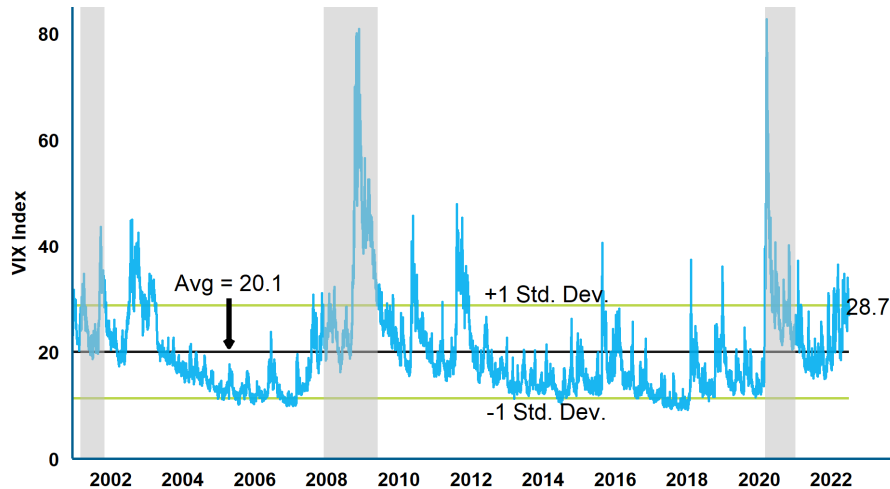
Fixed Income	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-2.0	-5.1	-10.9	-10.9	-0.9	0.9	1.8	4.2	6.4
Bloomberg Aggregate	-1.6	-4.7	-10.3	-10.3	-0.9	0.9	1.5	3.7	6.6
Bloomberg US TIPS	-3.2	-6.1	-8.9	-5.1	3.0	3.2	1.7	3.4	7.0
Bloomberg High Yield	-6.7	-9.8	-14.2	-12.8	0.2	2.1	4.5	8.9	4.8
JPM GBI-EM Global Diversified (USD)	-4.5	-8.6	-14.5	-19.3	-5.8	-2.3	-1.5	7.4	4.9

Fixed Income: The Bloomberg Universal declined 2.0% in June.

- The above expectations CPI print led to renewed inflation fears driving interest rates higher and weighing on the broad US investment grade bond market (Bloomberg Aggregate).
- Despite the above expectation CPI prints, breakeven inflation rates have continued to move down driven by the decline in nominal rates. The nominal 10-year Treasury yield peaked at 3.47% before declining to 3.01% by month-end, while the 2-year Treasury yield declined from 3.43% to 2.95%.
- US credit spreads widened, particularly for high yield debt, leading to it having the worst results among bonds for the month.
- Emerging market debt also declined for the month.

¹ Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of June 30, 2022.

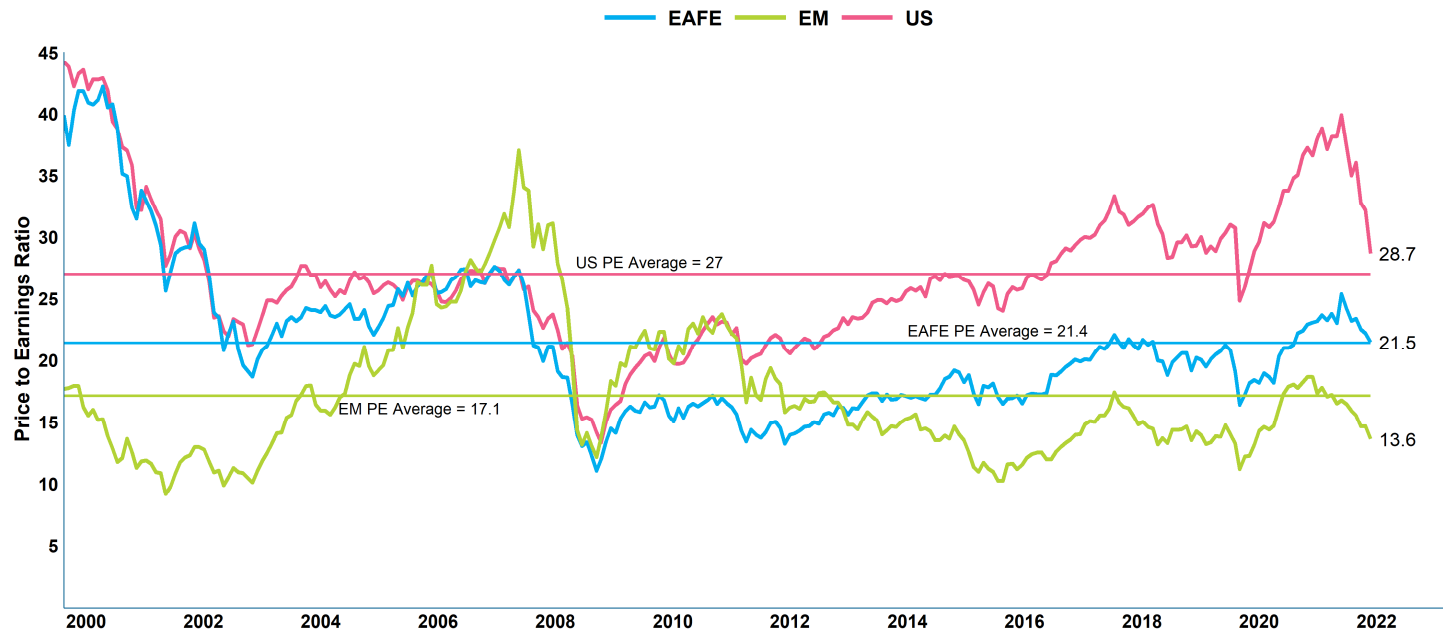
Equity and Fixed Income Volatility¹



- Volatility in equities (VIX) and fixed income (MOVE) rose in June on renewed inflation fears and on building signs of weakness in economic growth.
- Fixed income volatility remains particularly high due to the uncertain path of short-term interest rates.

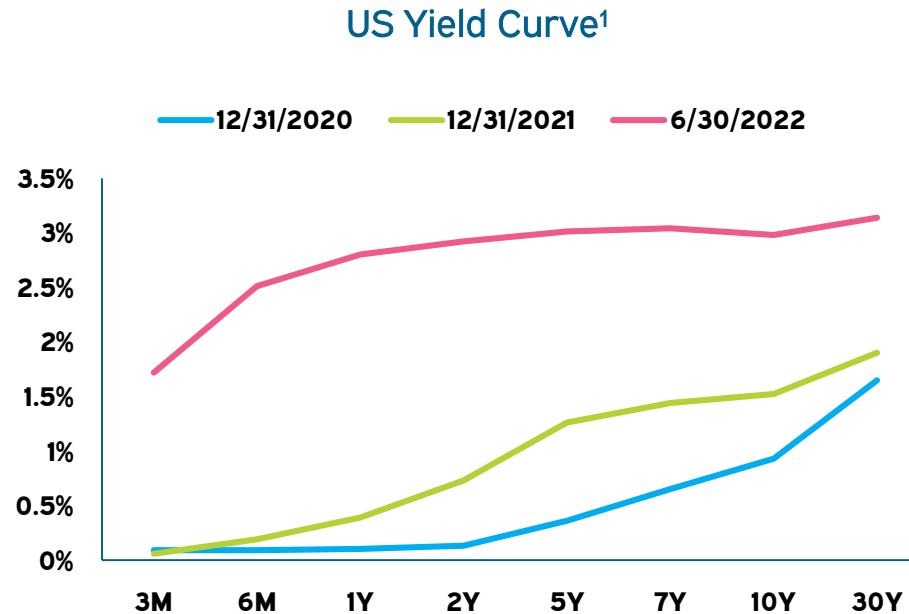
¹ Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of June 2022. The average line indicated is the average of the VIX and MOVE values between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

Equity Cyclically Adjusted P/E Ratios¹



- The steep decline in June in US equities pushed valuations lower, approaching the level of the long-term (post-2000) average.
- International developed market valuations remain below the US and are slightly above their own long-term average, with those for emerging markets the lowest and under the long-term average.

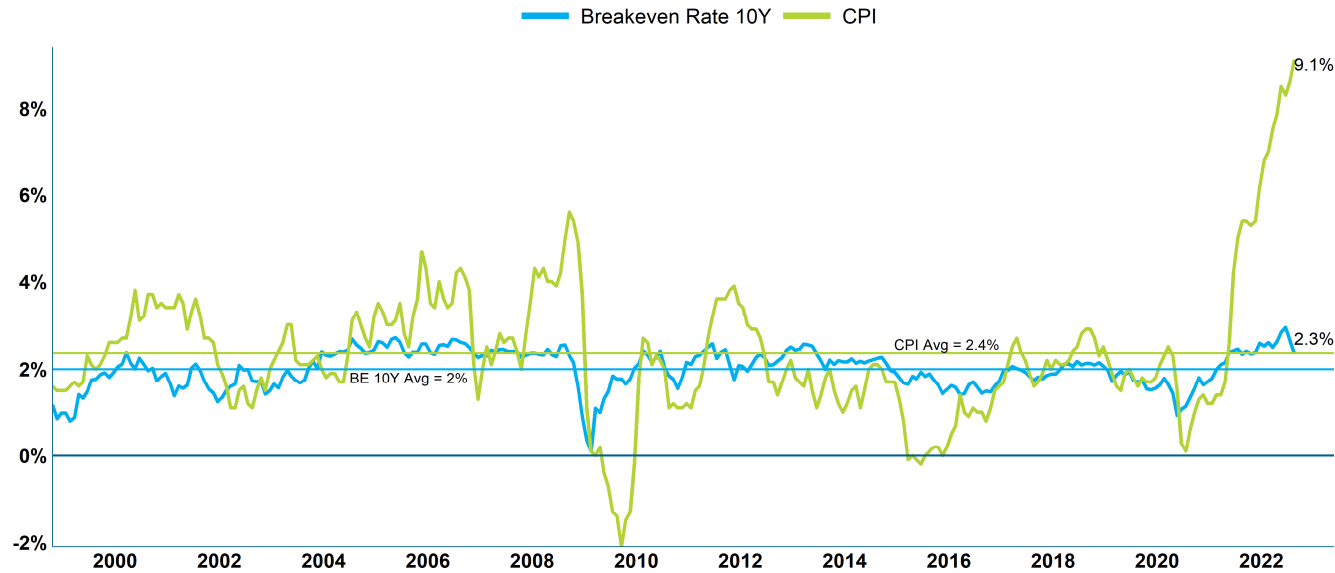
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of June 30, 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 much higher than at the start of the year.
- In June, rates rose across maturities (particularly short-dated), as markets continue to reflect elevated inflation and rate expectations.
- The curve continued to flatten in June with the spread between two-year and ten-year Treasuries falling from 30 basis points at the end of May to just 5 basis points by the end of June.
- Since month-end, the spread between two-year and ten-year Treasuries became negative which historically has often signaled a coming recession.

¹ Source: Bloomberg. Data is as of June 30, 2022.

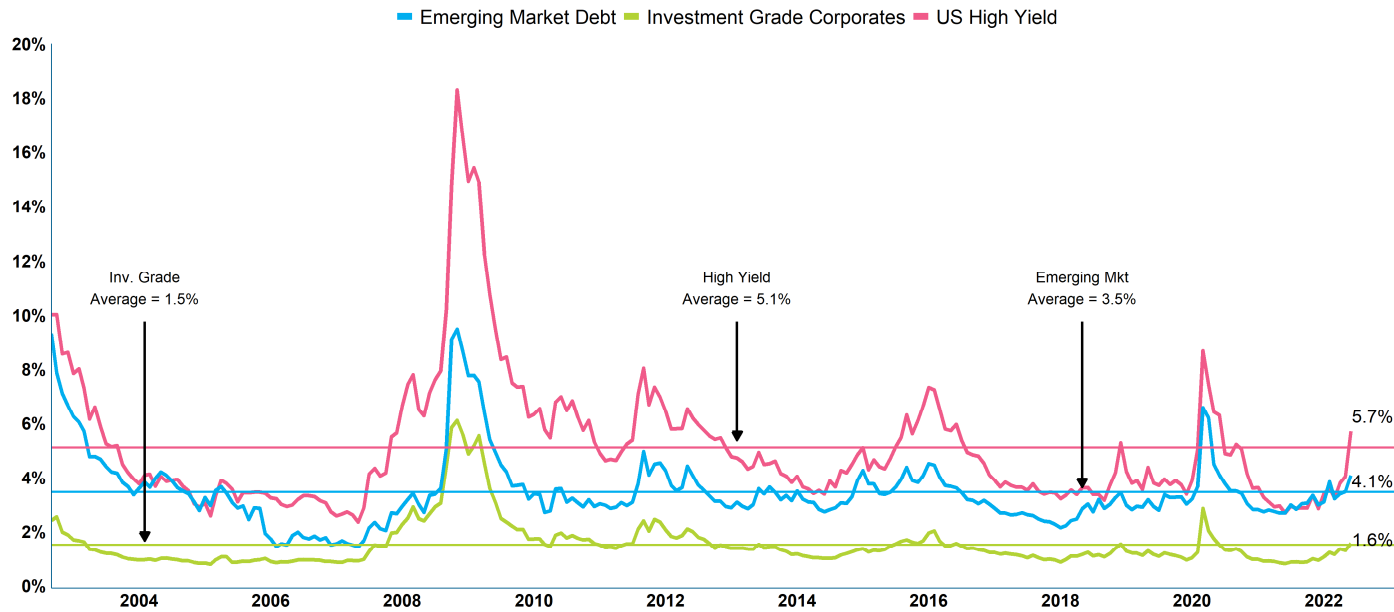
Ten-Year Breakeven Inflation and CPI¹



- Inflation expectations (breakevens) fell further in June on declining growth expectations and anticipated tighter monetary policy.
- Trailing twelve-month CPI rose in June (9.1% versus 8.6%) and notably came in above expectations. Inflation levels in the US remain well above the long-term average of 2.4%.
- Rising prices for energy (particularly oil), food, housing, and for new and used cars, remain key drivers of higher inflation.

¹ Source: Bloomberg. Data is as of June 30, 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 Bonds¹



- Credit spreads (the spread above a comparable maturity Treasury) rose in June with high yield and investment grade corporate bonds breaking above their long-run averages.
- In the US, spreads for high yield significantly increased from 4.0% to 5.7% in the risk-off environment, while investment grade spreads experienced a more modest increase (1.3% to 1.6%). Emerging market spreads also rose (3.5% to 4.1% during the month) but finished much lower than US high yield spreads.

¹ Sources: Bloomberg. Data is as of June 30, 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

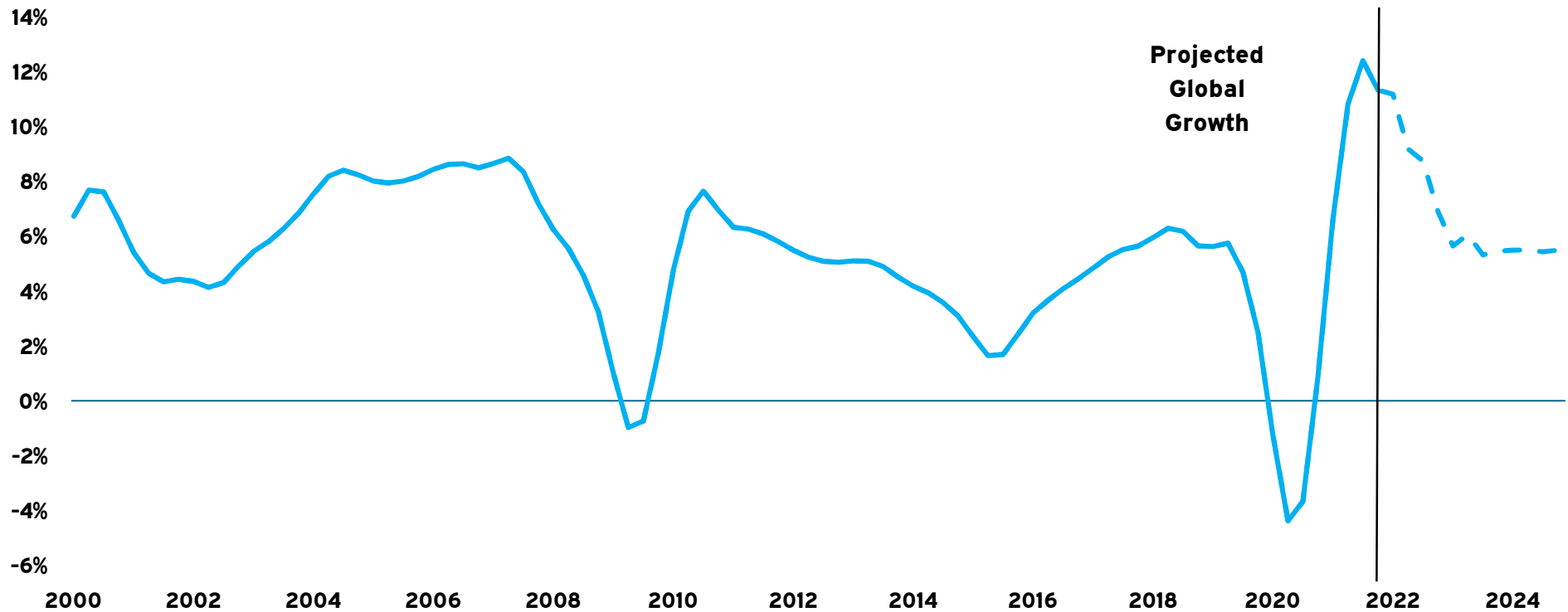
The IMF significantly lowered global growth forecasts in their latest projections, driven by the economic impacts of the war in Ukraine.

- The IMF forecasts final global GDP growth to come in at 6.1% in 2021 and 3.6% in 2022 (0.8% below the prior 2022 estimate), both still above the past ten-year 3.0% average.
- In advanced economies, GDP is projected to increase 3.3% in 2022 and 2.4% in 2023. The US has limited economic ties with Russia but saw another downgrade in the 2022 growth forecast (3.7% versus 4.0%) largely due to policy tightening happening faster than previously expected. The euro area saw a significant downgrade in expected growth (2.8% versus 3.9%) in 2022 as rising energy prices particularly weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 2.4% this year.
- Growth projections for emerging markets are higher than developed markets, at 3.8% in 2022 and 4.4% in 2023. China's growth was downgraded (4.4% versus 4.8%) for 2022 given tight COVID-19 restrictions and continued property sector problems.
- The global inflation forecast was significantly increased for 2022 (7.4% versus 3.8%).

	Real GDP (%) ¹			Inflation (%) ¹		
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average
World	3.6	3.6	3.0	7.4	4.8	3.5
Advanced Economies	3.3	2.4	1.6	5.7	2.5	1.5
US	3.7	2.3	2.1	7.7	2.9	1.9
Euro Area	2.8	2.3	0.9	5.3	2.3	1.2
Japan	2.4	2.3	0.5	1.0	0.8	0.5
Emerging Economies	3.8	4.4	4.2	8.7	6.5	5.1
China	4.4	5.1	6.7	2.1	1.8	2.1

¹ Source: IMF World Economic Outlook. Real GDP forecasts from April WEO Update. Inflation forecasts are as of the April 2022 Update. "Actual 10 Year Average" represents data from 2012 to 2021.

Global Nominal Gross Domestic Product (GDP) Growth¹

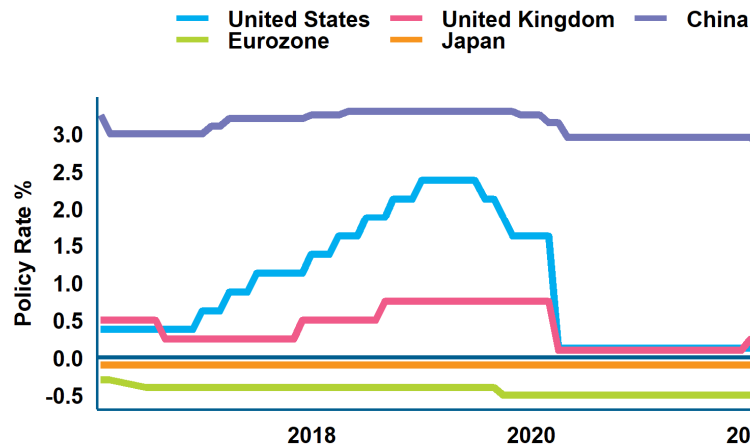


- Global economies are expected to slow in 2022 compared to 2021 with fears of potential recessions in areas increasing recently given persistently high inflation and related tighter monetary policy.
- Looking forward, the delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

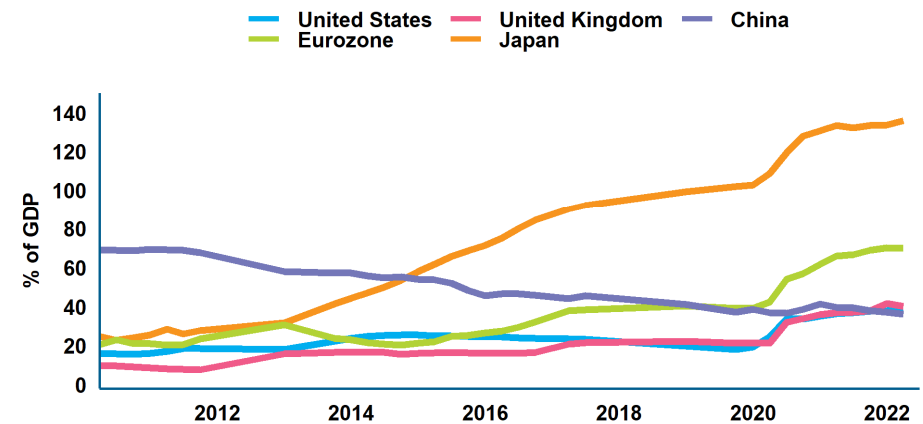
¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated June 2022.

Central Bank Response¹

Policy Rates



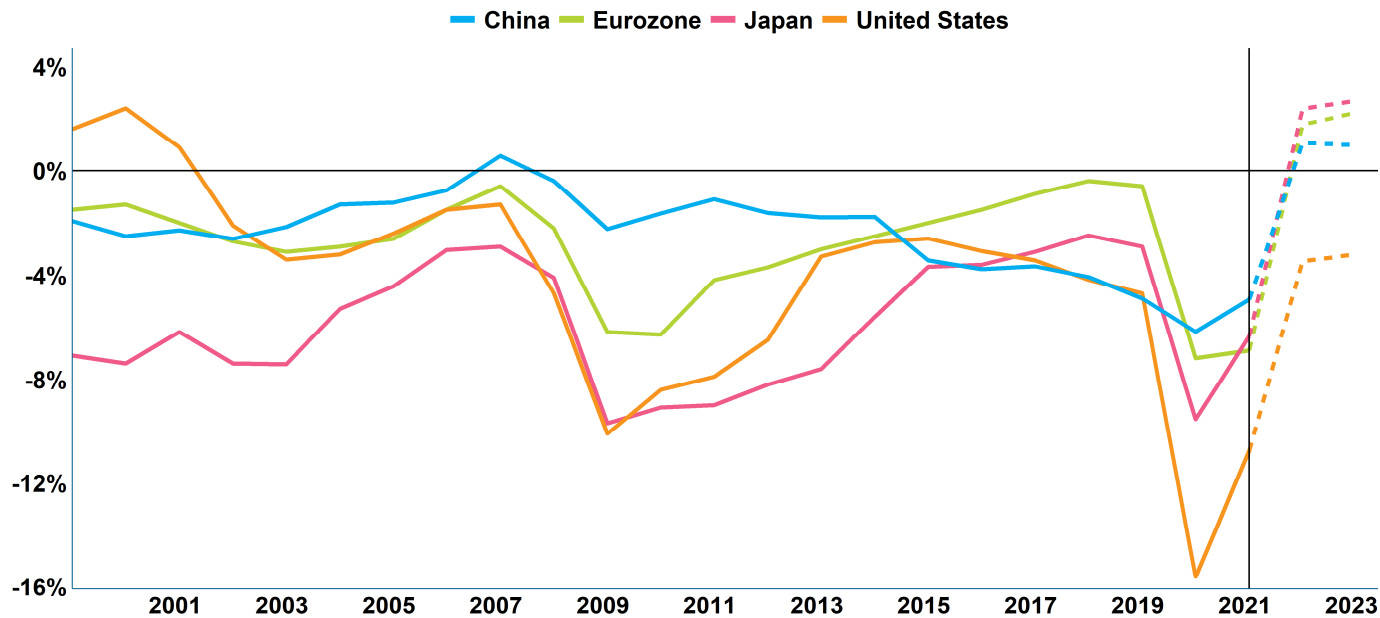
Balance Sheet as % of GDP



- 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 reducing or considering reducing support, in the face of high inflation.
- The pace of withdrawing support will likely vary across central banks with the US expected to take a more aggressive approach. 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.
- The one notable central bank outlier is China, where the central bank recently lowered rates and reserve requirements in response to slowing growth.

¹ Source: Bloomberg. Policy rate data is as of June 30, 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 June 30, 2022.

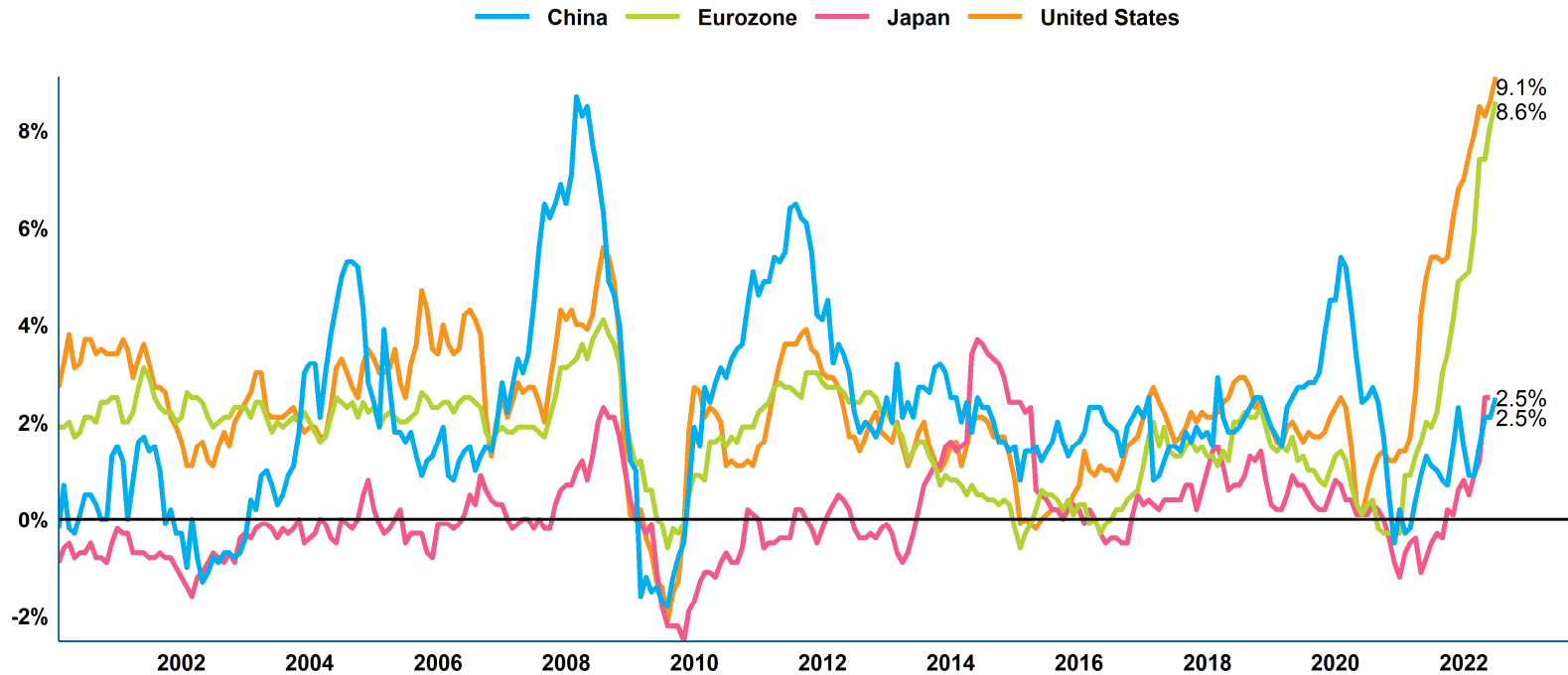
Budget Surplus / Deficit as a Percentage of GDP¹



- 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 in the coming years.

¹ Source: Bloomberg. Data is as of June 30, 2022. Projections via IMF Forecasts from April 2022 Report. Dotted lines represent 2022 and 2023 forecasts.

Inflation (CPI Trailing Twelve Months)¹

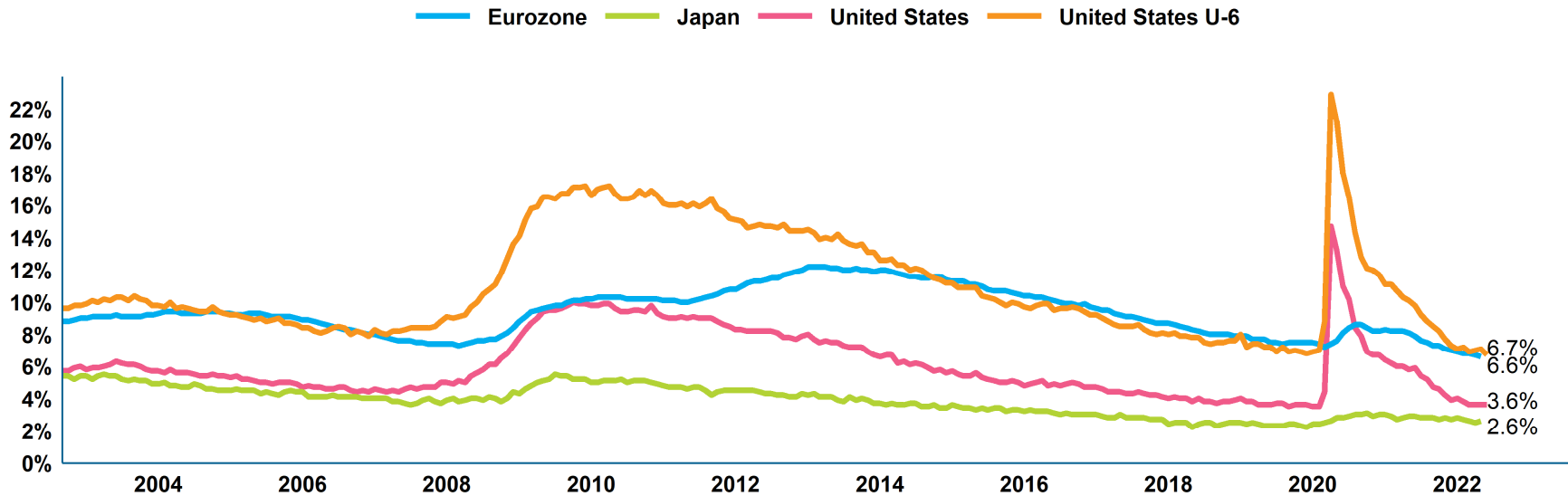


→ Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.

→ Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher prices in many commodities driven by the war in Ukraine have been key drivers of inflation globally.

¹ Source: Bloomberg. Data is as of June 2022, except for Japan, where the most recent data available is as of May 31, 2022.

Unemployment¹

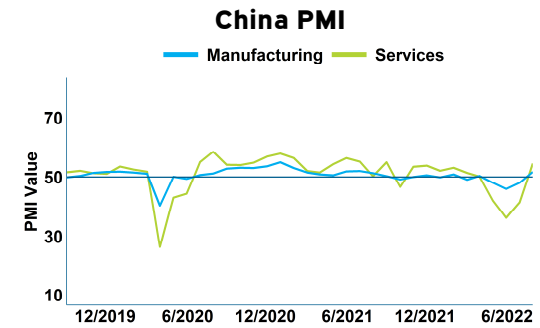
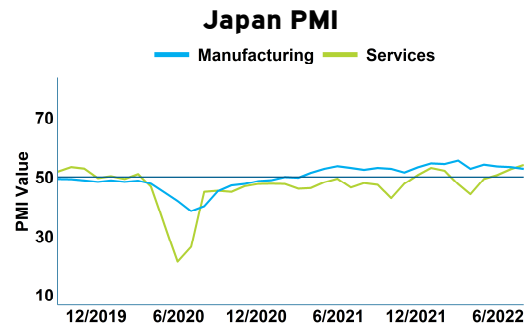
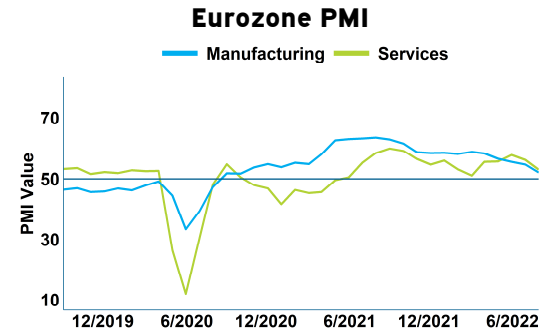
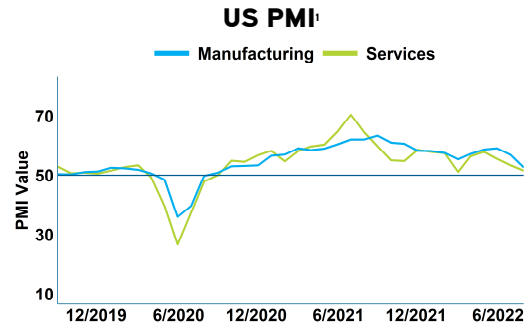


→ As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.

→ US unemployment, which experienced the steepest rise from the pandemic, declined back to pre-pandemic levels. The broader measure (U-6) that includes discouraged and underemployed workers declined but is much higher at 6.7%.

¹ Source: Bloomberg. Data is as of June 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of May 31, 2022.

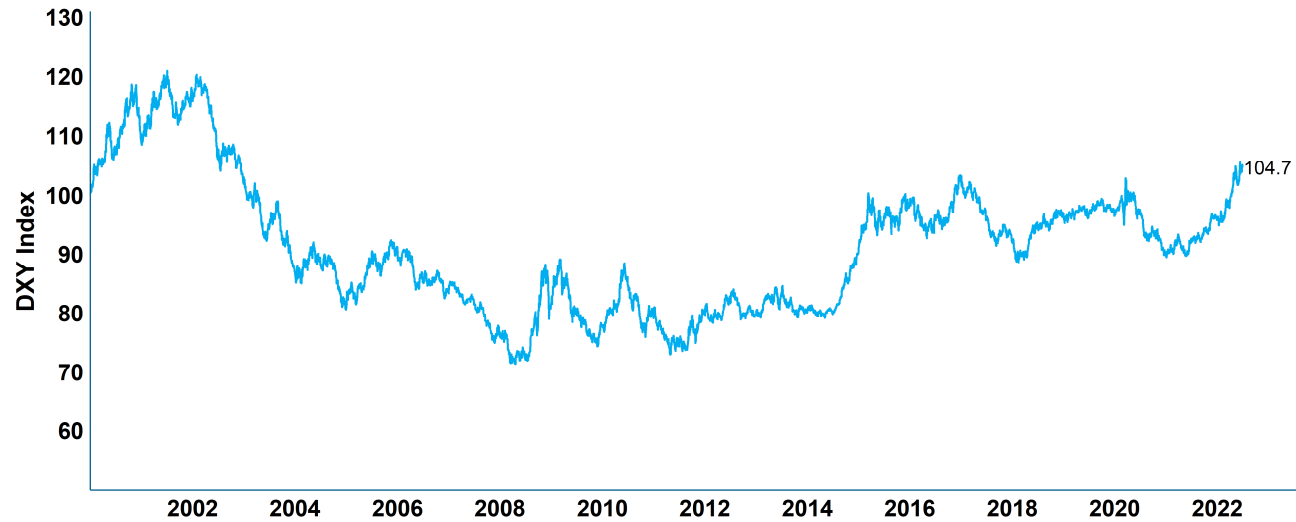
Global PMIs



- After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have experienced some pressures recently.
- Service sector PMIs in the US and Europe have recently declined due to higher prices and supply issues, while they continue to improve in Japan as pandemic restrictions ease. In China the services PMI surged to expansion territory on an easing in lockdown measures.
- Manufacturing PMIs are in expansion territory as pandemic-related production issues ease and orders increase. China also moved to expansion levels here on partial reopening.

¹ 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 June 2022. Readings below 50 represent economic contractions.

US Dollar versus Broad Currencies¹



- The US dollar continued higher in June on safe-haven flows, relatively strong growth, and higher interest rates.
- The euro, yen, and yuan have all experienced significant declines versus the dollar, adding to inflation and slowing growth concerns.

¹ Source: Bloomberg. Data as of June 30, 2022.

Summary

Key Trends in 2022:

- The impacts of record high inflation will remain key going forward, with volatility likely to remain high.
- The war in Ukraine has created significant uncertainty, with a wide range of potential outcomes.
- Expect growth to slow globally in 2022 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- 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.
- Monetary policy will likely tighten globally but will remain relatively accommodative. The risk of overtightening policy remains.
- Valuations have significantly declined in the US, approaching long-term averages.
- Outside the US, equity valuations remain lower in both emerging and developed markets, but 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 outperformed the Russell 3000 benchmark during the quarter and over calendar year-to-date as well as 1-year trailing period though it slightly lagged the benchmark over the longer trailing periods. Reflecting the volatile market over the quarter, all of the managers generated negative absolute returns; however, except for the passive **Northern Trust Russell 1000**, the managers outperformed their respective benchmarks across all time periods measured.

- The passive **iShares Edge MSCI Minimum Volatility** strategy was replaced with actively managed **Wellington Defensive Equity** (hired in 2021) as the Plan's low volatility equity manager during this quarter.
- **Earnest Partners**, the Plan's active mid cap core manager outperformed the Russell Midcap benchmark and ranked above average amongst its mid cap core peers across all time periods.
- **Rice Hall James**, the Plan's active small cap growth manager, outperformed the Russell 2000 Growth benchmark and ranked above average amongst its small cap growth peers during the quarter and over the 1-year trailing period.
 - While it has outperformed the benchmark over all time periods measured, due to its underperformance in 2018, Rice Hall James ranked below the Median fund over the trailing 3-year and since inception periods. For the same performance reasons, it has been on the Plan's watchlist and will be re-evaluated its status before the year end.
- **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, except for calendar year-to-date period.

International Equity

→ For the quarter, the international equity segment trailed the MSCI ACWI ex US benchmark; however, it has maintained its outperformance over the longer 1-, 3-, and 5-year trailing periods and since inception. 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, trailed its benchmark over the quarter placing it below average compared to its international all cap core equity peers for the quarter. However, it maintained its outperformance over the longer 1-year trailing period.
- The **Vanguard** passive **international developed markets** portfolio posted outperformance 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 outperformed the Bloomberg Universal benchmark across all time periods measured. Reflecting the broad market trends, the fixed income managers in this portfolio posted negative absolute returns.

- **Ramirez** and **Reams** kept pace with their respective benchmarks over the quarter. **Ramirez** lagged its Bloomberg US Aggregate benchmark over the 1-year trailing period though it has outperformed it over the longer 3- and 5-year trailing periods.
- **Wellington Core Bond**, the most recently funded core fixed income manager, trailed its Bloomberg US Aggregate benchmark both over the quarter as well as the 1-year trailing period.
- **Reams** outperformed its Bloomberg Universal benchmark over the 1-, 3-, and 5-year trailing periods and ranked above average in its core plus fixed income peer group. It is noteworthy that over the 3- and 5-year periods, **Reams** ranks in the 2nd percentile amongst its peers.

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 these periods.
- 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 trailed its CBOE S&P 500 Buy-Write Index over the quarter and the 1-year trailing period. However, over the longer 3- and 5-year periods, it has strongly outperformed the benchmark.

- Both of the underlying strategies—**Parametric DeltaShift** and **Parametric BXM**—trailed the benchmark over calendar year-to-date and the 1-year trailing periods, though **BXM** outperformed the benchmark over the quarter.
- 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 over 1- and 3-year trailing periods while below average over the long-term 5-year trailing period.
- The passive covered calls strategy, **Parametric BXM**, on the other hand, ranked above average over the shorter quarterly and 1-year periods while ranking in the bottom quartile over all other, longer 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.

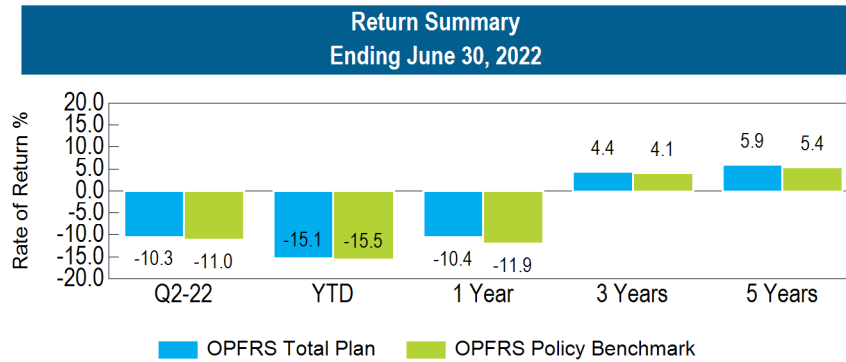
Crisis Risk Offset

- 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. This is the first full calendar quarter for **Kepos** and **Versor**, which are the Plan's Alternative Risk Premia and Systematic Trend Following managers respectively.
 - 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.

2Q 2022 Performance
as of June 30, 2022

Oakland Police and Fire Retirement System Total Plan

OPFRS Total Plan | As of June 30, 2022



Summary of Cash Flows

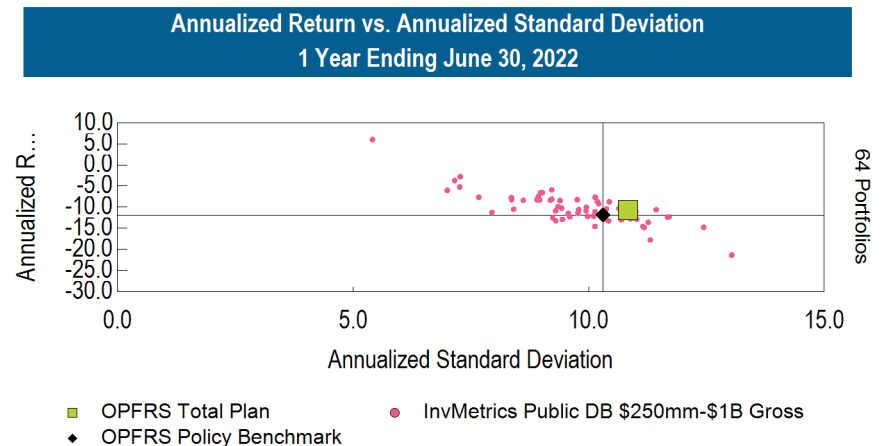
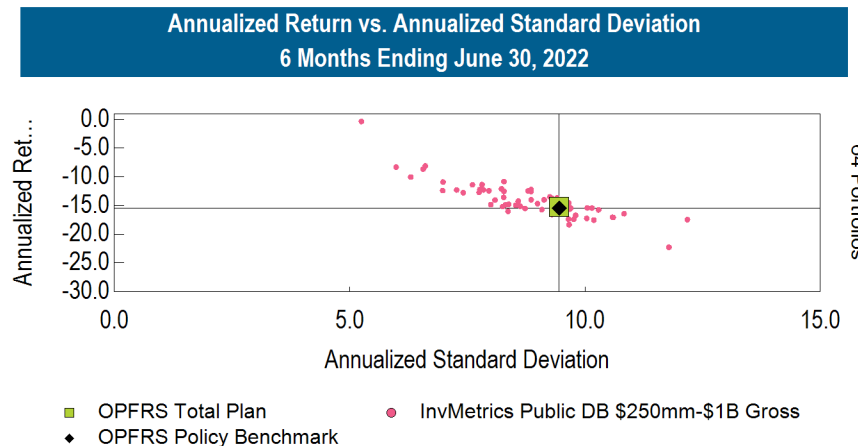
	Quarter-To-Date	One Year
Beginning Market Value	\$449,373,445	\$463,640,323
Net Cash Flow	\$2,942,048	-\$11,373,962
Capital Appreciation	-\$46,007,383	-\$45,958,537
Ending Market Value	\$406,308,110	\$406,308,110

YTD Ending June 30, 2022

	Anlzd Return	Standard Deviation
OPFRS Total Plan	-12.45%	3.32%
OPFRS Policy Benchmark	-13.43%	3.16%
InvMetrics Public DB \$250mm-\$1B Gross	-11.82%	3.07%
Median		

1 Year Ending June 30, 2022

	Anlzd Return	Standard Deviation
OPFRS Total Plan	-10.43%	3.13%
OPFRS Policy Benchmark	-11.90%	2.97%
InvMetrics Public DB \$250mm-\$1B Gross	-10.87%	2.87%
Median		



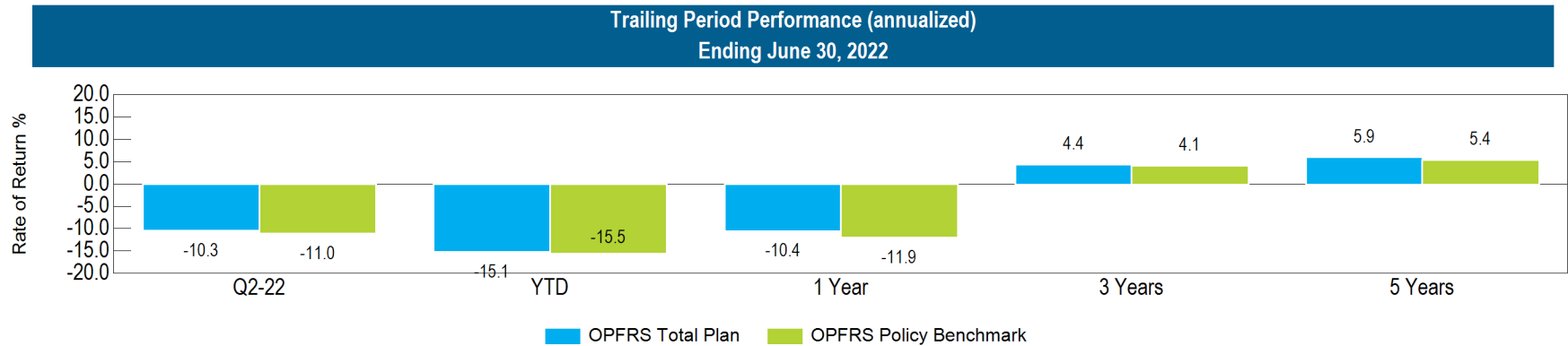
Performance shown is Gross-of-Fees.

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

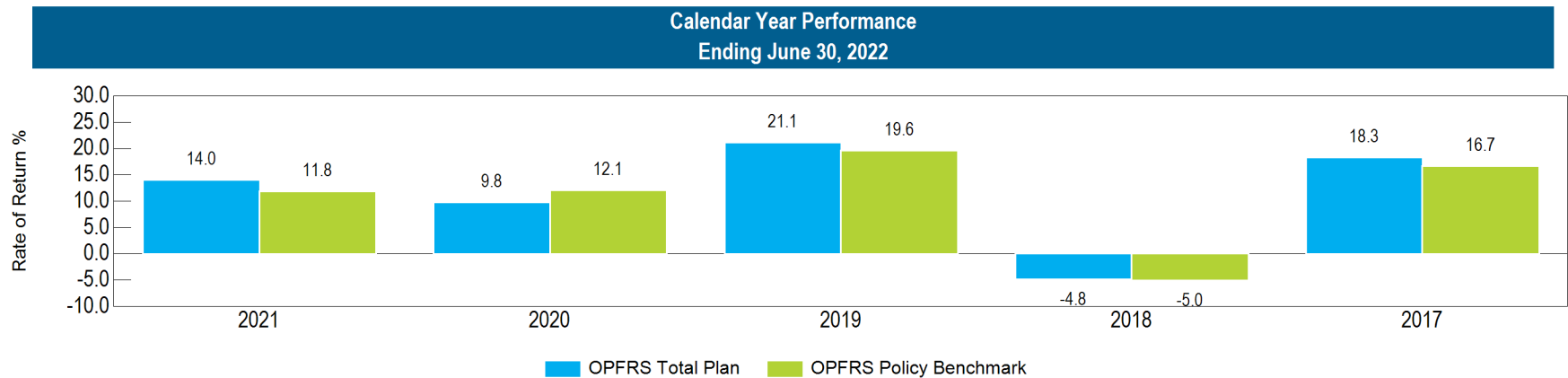
	Market Value (\$)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)
OPFRS Total Plan	406,308,110	-10.3	-15.1	-10.4	-10.4	4.4	5.9	6.3	7.3	6.6
<i>OPFRS Policy Benchmark</i>		<u>-11.0</u>	<u>-15.5</u>	<u>-11.9</u>	<u>-11.9</u>	<u>4.1</u>	<u>5.4</u>	<u>6.1</u>	<u>6.8</u>	<u>7.8</u>
Excess Return		0.7	0.4	1.5	1.5	0.3	0.5	0.2	0.5	-1.2
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>		-10.1	-14.6	-10.9	-10.9	5.6	6.5	6.6	7.9	8.7
Domestic Equity	161,985,633	-14.3	-19.2	-11.6	-11.6	9.4	10.3	10.2	12.4	8.7
<i>Russell 3000 (Blend)</i>		<u>-16.7</u>	<u>-21.1</u>	<u>-13.9</u>	<u>-13.9</u>	<u>9.8</u>	<u>10.6</u>	<u>10.4</u>	<u>12.6</u>	<u>8.8</u>
Excess Return		2.4	1.9	2.3	2.3	-0.4	-0.3	-0.2	-0.2	-0.1
International Equity	48,096,109	-15.1	-19.0	-17.4	-17.4	1.8	3.2	3.9	6.1	4.9
<i>MSCI ACWI ex US (Blend)</i>		<u>-13.7</u>	<u>-18.4</u>	<u>-19.4</u>	<u>-19.4</u>	<u>1.4</u>	<u>2.5</u>	<u>2.9</u>	<u>4.8</u>	<u>4.7</u>
Excess Return		-1.4	-0.6	2.0	2.0	0.4	0.7	1.0	1.3	0.2
Fixed Income	104,276,150	-4.8	-10.5	-10.3	-10.3	-0.5	1.5	2.1	2.1	4.9
<i>Bloomberg Universal (Blend)</i>		<u>-5.1</u>	<u>-10.9</u>	<u>-10.9</u>	<u>-10.9</u>	<u>-0.9</u>	<u>0.9</u>	<u>1.6</u>	<u>1.8</u>	<u>4.7</u>
Excess Return		0.3	0.4	0.6	0.6	0.4	0.6	0.5	0.3	0.2
Credit	8,503,509	-7.9	-9.0	-6.7	-6.7	2.7	3.5	4.6	--	4.8
<i>Bloomberg US High Yield TR</i>		<u>-9.8</u>	<u>-14.2</u>	<u>-12.8</u>	<u>-12.8</u>	<u>0.2</u>	<u>2.1</u>	<u>3.5</u>	<u>--</u>	<u>3.5</u>
Excess Return		1.9	5.2	6.1	6.1	2.5	1.4	1.1	--	1.3
Covered Calls	30,762,608	-12.2	-14.4	-5.8	-5.8	8.7	8.3	8.7	--	8.4
<i>CBOE S&P 500 BuyWrite USD</i>		<u>-10.9</u>	<u>-10.2</u>	<u>-2.6</u>	<u>-2.6</u>	<u>3.6</u>	<u>4.2</u>	<u>5.3</u>	<u>--</u>	<u>5.3</u>
Excess Return		-1.3	-4.2	-3.2	-3.2	5.1	4.1	3.4	--	3.1
Crisis Risk Offset	41,757,183	-2.1	-10.5	-8.7	-8.7	-11.4	--	--	--	-9.6
<i>SG Multi Alternative Risk Premia Index</i>		<u>2.7</u>	<u>2.3</u>	<u>3.9</u>	<u>3.9</u>	<u>-1.8</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>-1.2</u>
Excess Return		-4.8	-12.8	-12.6	-12.6	-9.6	--	--	--	-8.4

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 (%)
OPFRS Total Plan	-10.3	-10.4	-10.4	4.4	5.9	18.3	-4.8	21.1	9.8	14.0
<i>OPFRS Policy Benchmark</i>	-11.0	-11.9	-11.9	4.1	5.4	16.7	-5.0	19.6	12.1	11.8
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>	-10.1	-10.9	-10.9	5.6	6.5	15.8	-4.1	18.6	13.1	13.6



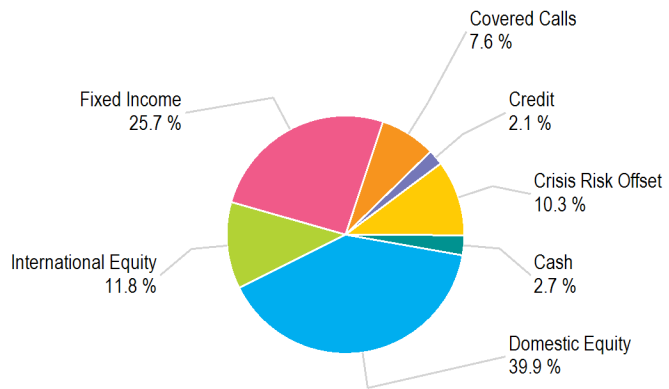
Fiscal year begins on July 1.

Asset Allocation vs. Target

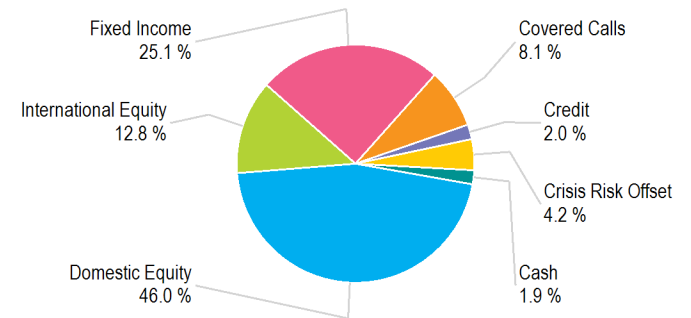
As Of June 30, 2022

	Current	%	Policy	Difference*
Domestic Equity	\$161,985,633	39.9%	40.0%	-0.1%
International Equity	\$48,096,109	11.8%	12.0%	-0.2%
Fixed Income	\$104,276,150	25.7%	31.0%	-5.3%
Covered Calls	\$30,762,608	7.6%	5.0%	2.6%
Credit	\$8,503,509	2.1%	2.0%	0.1%
Crisis Risk Offset	\$41,757,183	10.3%	10.0%	0.3%
Cash	\$10,926,919	2.7%	0.0%	2.7%
Total	\$406,308,110	100.0%	100.0%	

June 30, 2022: \$406,308,110



June 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 June 30, 2022

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Domestic Equity	161,985,633	100.0	-14.3	-19.2	-11.6	9.4	10.3	8.7	Jun-97
<i>Russell 3000 (Blend)</i>			<i>-16.7</i>	<i>-21.1</i>	<i>-13.9</i>	<i>9.8</i>	<i>10.6</i>	<i>8.8</i>	<i>Jun-97</i>
Excess Return			2.4	1.9	2.3	-0.4	-0.3	-0.1	
Northern Trust Russell 1000	74,995,609	46.3	-16.9	-21.2	-13.3	10.0	10.9	12.9	Jun-10
<i>Russell 1000</i>			<i>-16.7</i>	<i>-20.9</i>	<i>-13.0</i>	<i>10.2</i>	<i>11.0</i>	<i>12.9</i>	<i>Jun-10</i>
Excess Return			-0.2	-0.3	-0.3	-0.2	-0.1	0.0	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>88</i>	<i>77</i>	<i>80</i>	<i>52</i>	<i>53</i>	<i>55</i>	<i>Jun-10</i>
EARNEST Partners	42,887,126	26.5	-11.7	-16.7	-8.3	11.4	12.3	10.2	Apr-06
<i>Russell MidCap</i>			<i>-16.8</i>	<i>-21.6</i>	<i>-17.3</i>	<i>6.6</i>	<i>8.0</i>	<i>8.2</i>	<i>Apr-06</i>
Excess Return			5.1	4.9	9.0	4.8	4.3	2.0	
<i>eV US Mid Cap Core Equity Gross Rank</i>			<i>18</i>	<i>28</i>	<i>19</i>	<i>11</i>	<i>4</i>	<i>19</i>	<i>Apr-06</i>
Wellington Select Quality Equity	20,739,219	12.8	--	--	--	--	--	-5.8	May-22
<i>Russell 1000</i>			<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-8.5</i>	<i>May-22</i>
Excess Return								2.7	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>19</i>	<i>May-22</i>
Rice Hall James	13,448,626	8.3	-12.8	-22.9	-21.2	5.4	--	7.0	Jul-17
<i>Russell 2000 Growth</i>			<i>-19.3</i>	<i>-29.5</i>	<i>-33.4</i>	<i>1.4</i>	<i>--</i>	<i>4.8</i>	<i>Jul-17</i>
Excess Return			6.5	6.6	12.2	4.0		2.2	
<i>eV US Small Cap Growth Equity Gross Rank</i>			<i>8</i>	<i>12</i>	<i>17</i>	<i>53</i>	<i>--</i>	<i>83</i>	<i>Jul-17</i>
Brown Fundamental Small Cap Value	9,915,053	6.1	-11.4	-15.9	-9.8	--	--	-5.5	Apr-21
<i>Russell 2000 Value</i>			<i>-15.3</i>	<i>-17.3</i>	<i>-16.3</i>	<i>--</i>	<i>--</i>	<i>-10.1</i>	<i>Apr-21</i>
Excess Return			3.9	1.4	6.5			4.6	
<i>eV US Small Cap Value Equity Gross Rank</i>			<i>24</i>	<i>52</i>	<i>36</i>	<i>--</i>	<i>--</i>	<i>44</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
International Equity	48,096,109	100.0	-15.1	-19.0	-17.4	1.8	3.2	4.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>-13.7</i>	<i>-18.4</i>	<i>-19.4</i>	<i>1.4</i>	<i>2.5</i>	<i>4.7</i>	<i>Jan-98</i>
Excess Return			-1.4	-0.6	2.0	0.4	0.7	0.2	
SGA ACWI ex-U.S. Equity	34,433,617	71.6	-15.5	-18.8	-17.0	--	--	-1.0	Dec-19
<i>MSCI ACWI ex USA</i>			<i>-13.7</i>	<i>-18.4</i>	<i>-19.4</i>	<i>--</i>	<i>--</i>	<i>0.6</i>	<i>Dec-19</i>
Excess Return			-1.8	-0.4	2.4			-1.6	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>72</i>	<i>41</i>	<i>24</i>	<i>--</i>	<i>--</i>	<i>96</i>	<i>Dec-19</i>
Vanguard Developed Markets ETF	13,662,492	28.4	-14.0	-18.9	-18.1	--	--	3.8	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>			<i>-15.1</i>	<i>-19.5</i>	<i>-18.3</i>	<i>--</i>	<i>--</i>	<i>3.8</i>	<i>Sep-19</i>
Excess Return			1.1	0.6	0.2			0.0	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>44</i>	<i>42</i>	<i>35</i>	<i>--</i>	<i>--</i>	<i>74</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
Fixed Income	104,276,150	100.0	-4.8	-10.5	-10.3	-0.5	1.5	4.9	Dec-93
<i>Bloomberg Universal (Blend)</i>			<i>-5.1</i>	<i>-10.9</i>	<i>-10.9</i>	<i>-0.9</i>	<i>0.9</i>	<i>4.7</i>	<i>Dec-93</i>
Excess Return			0.3	0.4	0.6	0.4	0.6	0.2	
Ramirez	71,026,933	68.1	-4.7	-10.5	-10.4	-0.6	1.5	1.8	Jan-17
<i>Bloomberg US Aggregate TR</i>			<i>-4.7</i>	<i>-10.3</i>	<i>-10.3</i>	<i>-0.9</i>	<i>0.9</i>	<i>1.2</i>	<i>Jan-17</i>
Excess Return			0.0	-0.2	-0.1	0.3	0.6	0.6	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>37</i>	<i>61</i>	<i>54</i>	<i>71</i>	<i>34</i>	<i>32</i>	<i>Jan-17</i>
Reams	26,507,460	25.4	-5.1	-10.3	-10.0	2.9	3.4	5.3	Feb-98
<i>Bloomberg Universal (Blend)</i>			<i>-5.1</i>	<i>-10.9</i>	<i>-10.9</i>	<i>-0.9</i>	<i>0.9</i>	<i>4.3</i>	<i>Feb-98</i>
Excess Return			0.0	0.6	0.9	3.8	2.5	1.0	
<i>eV US Core Plus Fixed Inc Gross Rank</i>			<i>22</i>	<i>26</i>	<i>23</i>	<i>2</i>	<i>2</i>	<i>41</i>	<i>Feb-98</i>
Wellington Core Bond	6,741,756	6.5	-5.7	-11.7	-11.6	--	--	-8.1	Apr-21
<i>Bloomberg US Aggregate TR</i>			<i>-4.7</i>	<i>-10.3</i>	<i>-10.3</i>	--	--	<i>-7.0</i>	<i>Apr-21</i>
Excess Return			-1.0	-1.4	-1.3			-1.1	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>93</i>	<i>96</i>	<i>97</i>	--	--	<i>98</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
Credit	8,503,509	100.0	-7.9	-9.0	-6.7	2.7	3.5	4.8	Feb-15
<i>Bloomberg US High Yield TR</i>			<i>-9.8</i>	<i>-14.2</i>	<i>-12.8</i>	<i>0.2</i>	<i>2.1</i>	<i>3.5</i>	<i>Feb-15</i>
Excess Return			1.9	5.2	6.1	2.5	1.4	1.3	
Polen Capital	8,503,509	100.0	-7.9	-9.0	-6.7	2.7	3.5	4.8	Feb-15
<i>ICE BofA High Yield Master TR</i>			<i>-10.0</i>	<i>-14.0</i>	<i>-12.7</i>	<i>0.0</i>	<i>2.0</i>	<i>3.5</i>	<i>Feb-15</i>
Excess Return			2.1	5.0	6.0	2.7	1.5	1.3	
<i>eV US High Yield Fixed Inc Gross Rank</i>			<i>27</i>	<i>20</i>	<i>18</i>	<i>9</i>	<i>12</i>	<i>12</i>	<i>Feb-15</i>

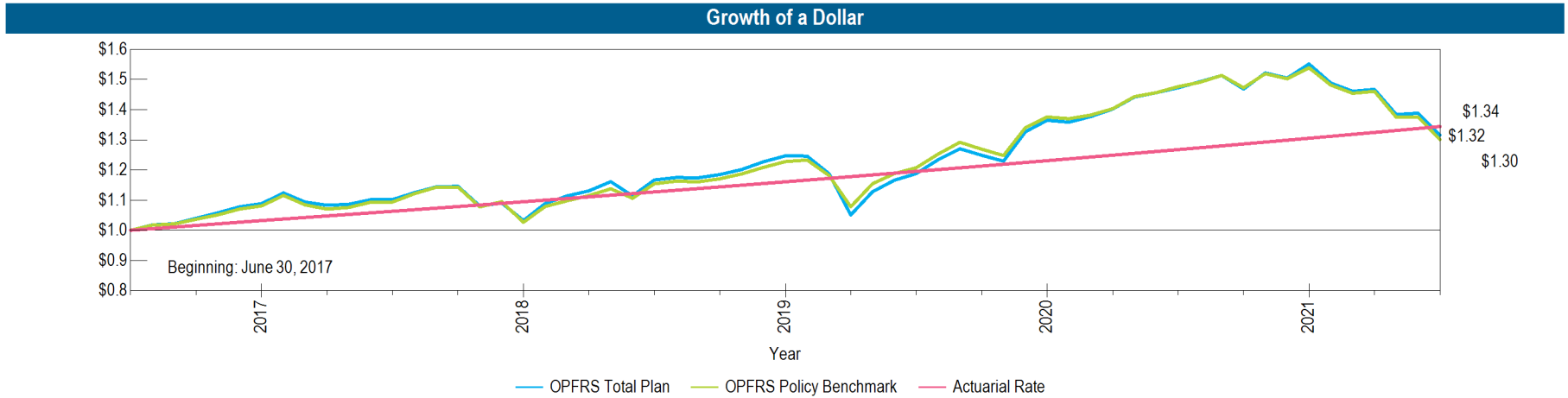
Performance shown is gross-of-fees.

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Covered Calls	30,762,608	100.0	-12.2	-14.4	-5.8	8.7	8.3	8.4	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>-10.9</i>	<i>-10.2</i>	<i>-2.6</i>	<i>3.6</i>	<i>4.2</i>	<i>5.3</i>	<i>Apr-14</i>
Excess Return			-1.3	-4.2	-3.2	5.1	4.1	3.1	
Parametric BXM	15,745,273	51.2	-9.3	-10.7	-4.0	6.2	6.1	6.7	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>-10.9</i>	<i>-10.2</i>	<i>-2.6</i>	<i>3.6</i>	<i>4.2</i>	<i>5.3</i>	<i>Apr-14</i>
Excess Return			1.6	-0.5	-1.4	2.6	1.9	1.4	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>7</i>	<i>7</i>	<i>15</i>	<i>96</i>	<i>97</i>	<i>98</i>	<i>Apr-14</i>
Parametric DeltaShift	15,017,334	48.8	-15.0	-17.8	-7.9	10.7	10.2	10.2	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>-10.9</i>	<i>-10.2</i>	<i>-2.6</i>	<i>3.6</i>	<i>4.2</i>	<i>5.3</i>	<i>Apr-14</i>
Excess Return			-4.1	-7.6	-5.3	7.1	6.0	4.9	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>54</i>	<i>38</i>	<i>33</i>	<i>35</i>	<i>68</i>	<i>65</i>	<i>Apr-14</i>

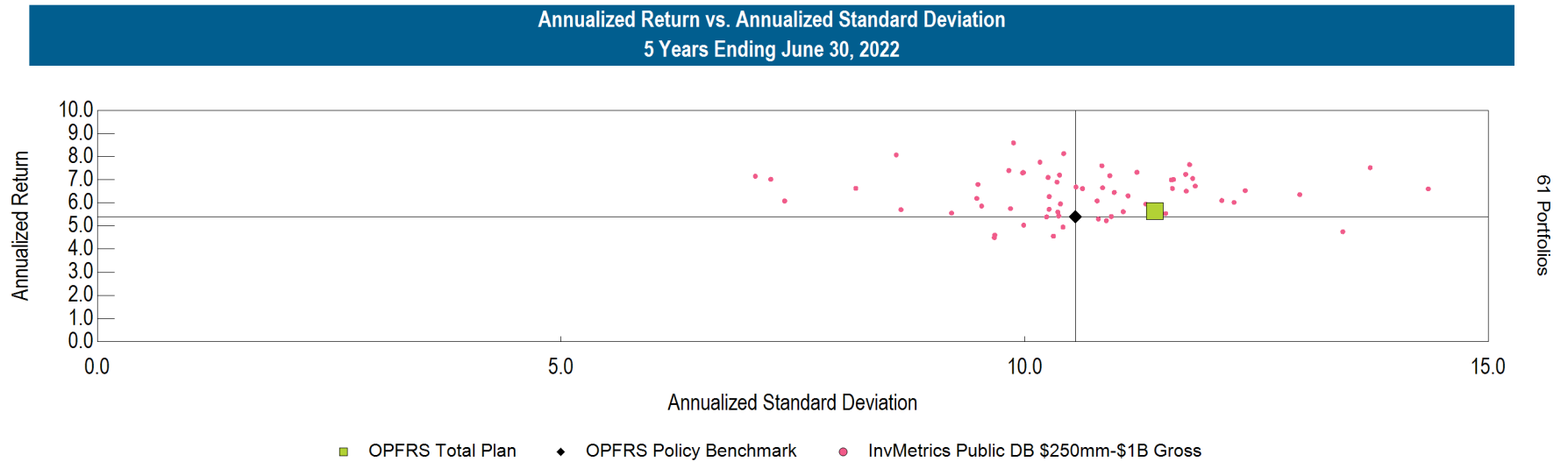
Performance shown is gross-of-fees.

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Crisis Risk Offset	41,757,183	100.0	-2.1	-10.5	-8.7	-11.4	--	-9.6	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<i>2.7</i>	<i>2.3</i>	<i>3.9</i>	<i>-1.8</i>	<i>--</i>	<i>-1.2</i>	<i>Aug-18</i>
Excess Return			-4.8	-12.8	-12.6	-9.6		-8.4	
Versor Trend Following	16,607,403	39.8	10.7	--	--	--	--	10.7	Apr-22
<i>SG Trend Index</i>			<i>17.0</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>17.0</i>	<i>Apr-22</i>
Excess Return			-6.3					-6.3	
Vanguard Long-Term Treasury ETF	15,606,180	37.4	-12.2	-20.8	-18.4	-3.0	--	-3.0	Jul-19
<i>Bloomberg US Govt Long TR</i>			<i>-11.9</i>	<i>-21.2</i>	<i>-18.4</i>	<i>-2.9</i>	<i>--</i>	<i>-2.9</i>	<i>Jul-19</i>
Excess Return			-0.3	0.4	0.0	-0.1		-0.1	
<i>eV US Long Duration - Gov/Cred Fixed Inc Gross Rank</i>			<i>34</i>	<i>23</i>	<i>16</i>	<i>99</i>	<i>--</i>	<i>99</i>	<i>Jul-19</i>
Kepos Alternative Risk Premia	9,543,601	22.9	-2.2	--	--	--	--	-4.3	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>			<i>2.7</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>1.5</i>	<i>Feb-22</i>
Excess Return			-4.9					-5.8	

Performance shown is gross-of-fees.

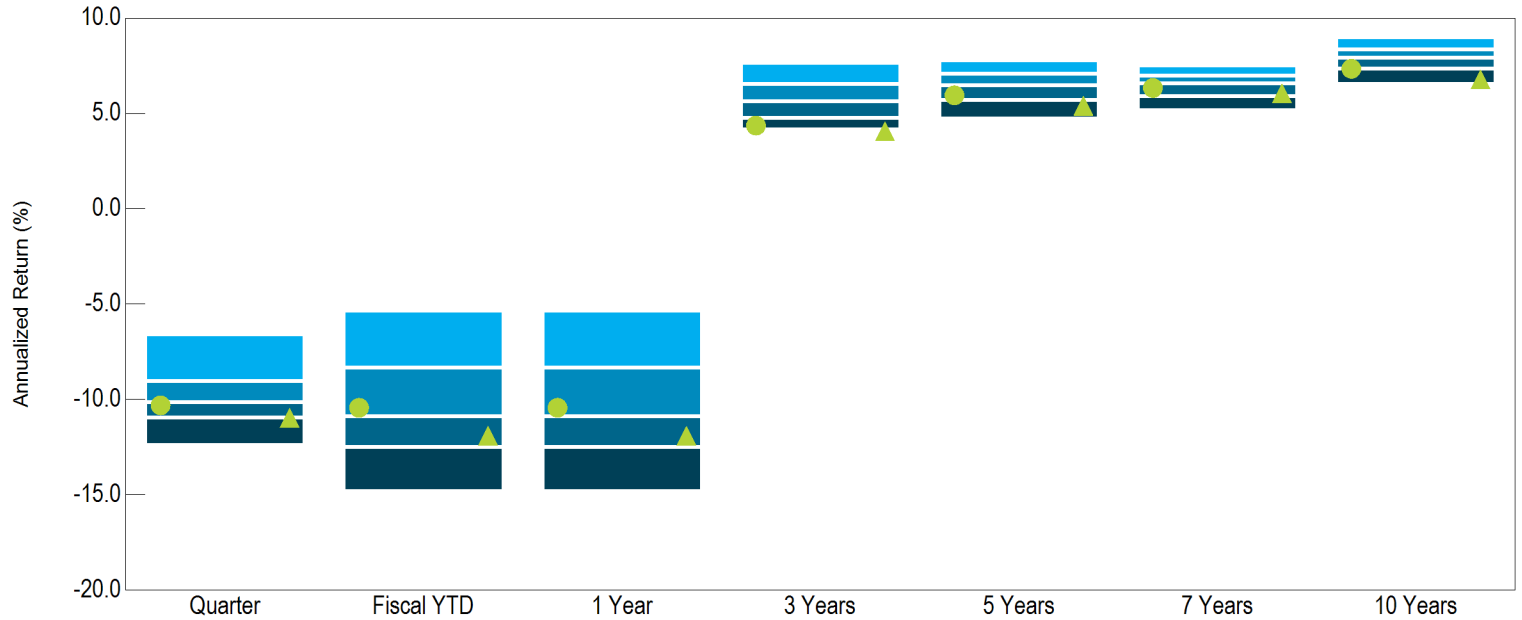


The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently



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	
5th Percentile	-6.6	-5.3	-5.3	-5.3	7.6	7.8	7.5	9.0						
25th Percentile	-9.0	-8.3	-8.3	-8.3	6.6	7.1	7.0	8.4						
Median	-10.1	-10.9	-10.9	-10.9	5.6	6.5	6.6	7.9						
75th Percentile	-10.9	-12.5	-12.5	-12.5	4.8	5.7	5.9	7.4						
95th Percentile	-12.4	-14.8	-14.8	-14.8	4.2	4.8	5.2	6.6						
# of Portfolios	64	64	64	64	63	61	59	57						
● OPFRS Total Plan	-10.3 (56)	-10.4 (43)	-10.4 (43)	-10.4 (43)	4.4 (86)	5.9 (69)	6.3 (57)	7.3 (77)						
▲ OPFRS Policy Benchmark	-11.0 (77)	-11.9 (64)	-11.9 (64)	-11.9 (64)	4.1 (96)	5.4 (87)	6.1 (70)	6.8 (91)						

Fiscal year begins on July 1.

Manager Monitoring/Probation Status Return vs. Benchmark since Corrective Action

Portfolio	Status	Concern	Months Since Corrective Action	Performance ¹ Since Corrective Action (Gross, %)	Peer Group Percentile Ranking ²	Date of Corrective Action ³
Polen Capital ⁴	On Watch	Performance/ Org changes	36	2.7	9	5/29/2019
ICE BofAML US High Yield				0.0		
Rice Hall James	On Watch	Performance	36	5.4	53	5/29/2019
Russell 2000 Growth				1.4		
Parametric	On Watch	Org changes	18	11.4	NA	10/28/2020
CBOE S&P 500 Buy-Write USD				12.0		

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 ⁵ < 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 0.40% for 6 consecutive months
Fixed Income	Fund return < benchmark return by 1.5%	Annualized Fund return < benchmark return by 1.0% for 6 consecutive months	VRR < 0.98 for 6 consecutive months

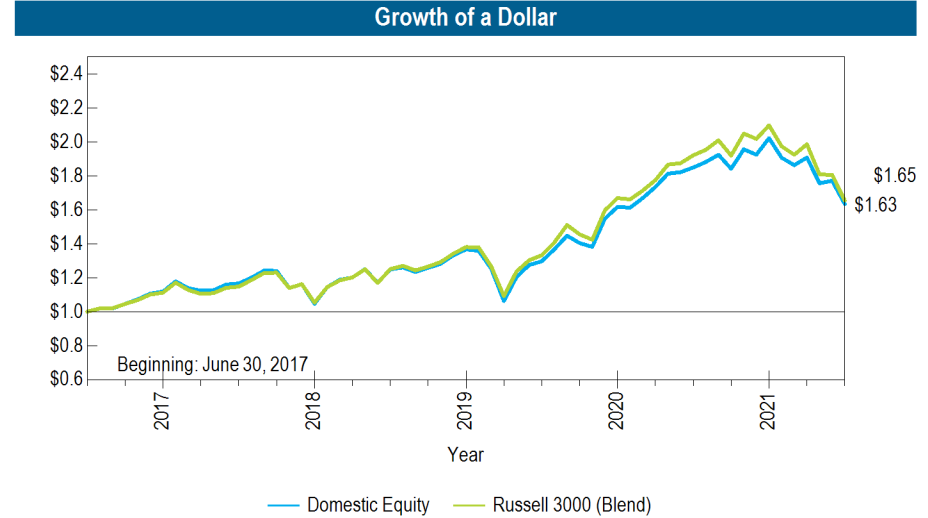
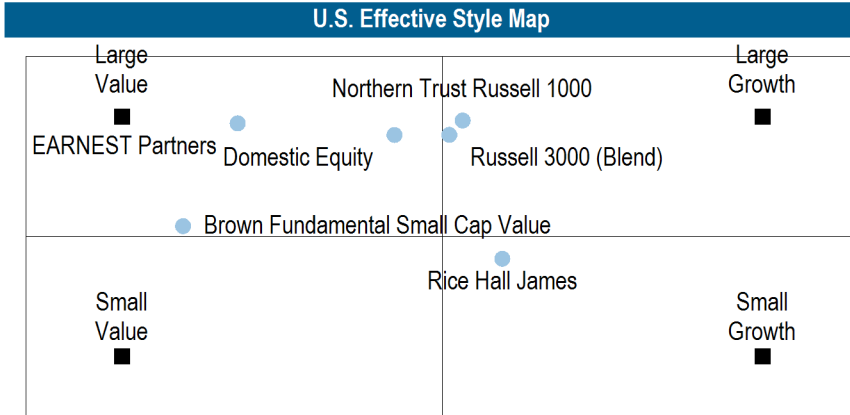
¹ Annualized performance if over one year

² 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.

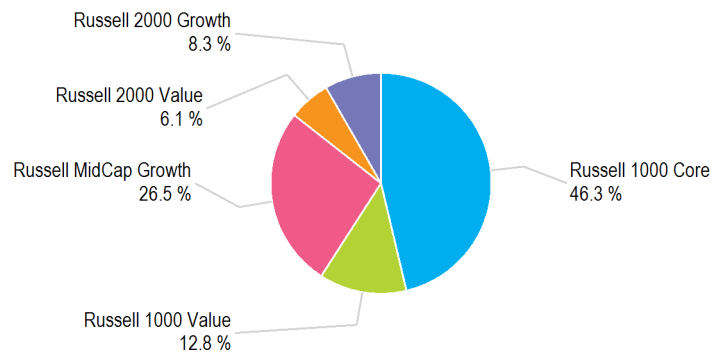
³ Approximate date based on when the Board voted to either monitor a manager at a heightened level or place it on probation.

⁴ Polen Capital High Yield strategy was formerly known as DDJ High Yield prior to 2022.

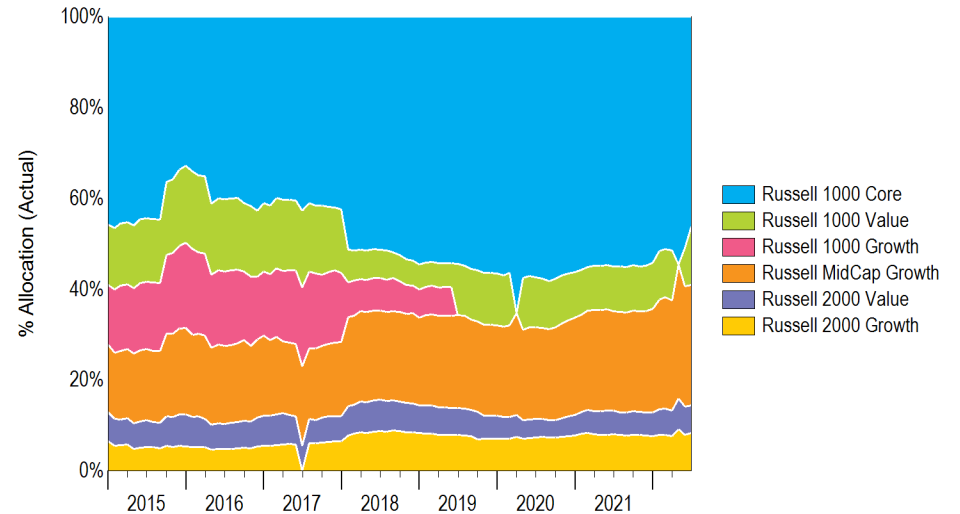
⁵ VRR (Value Relative Ratio) is calculated as manager cumulative return/ benchmark return.



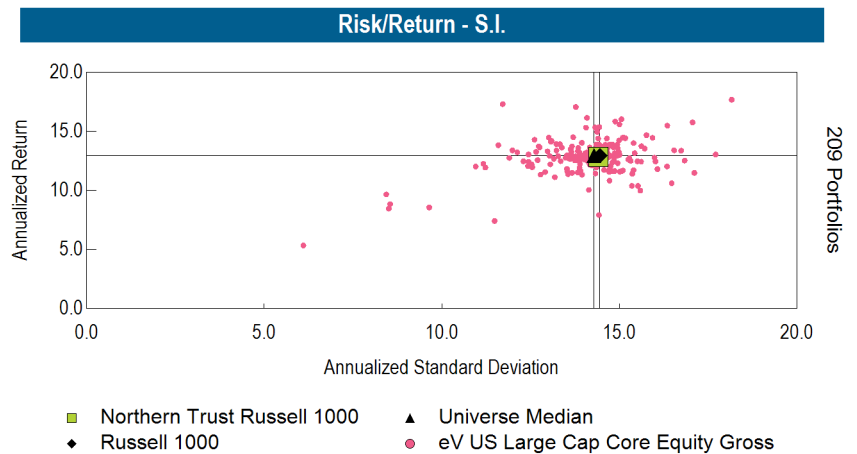
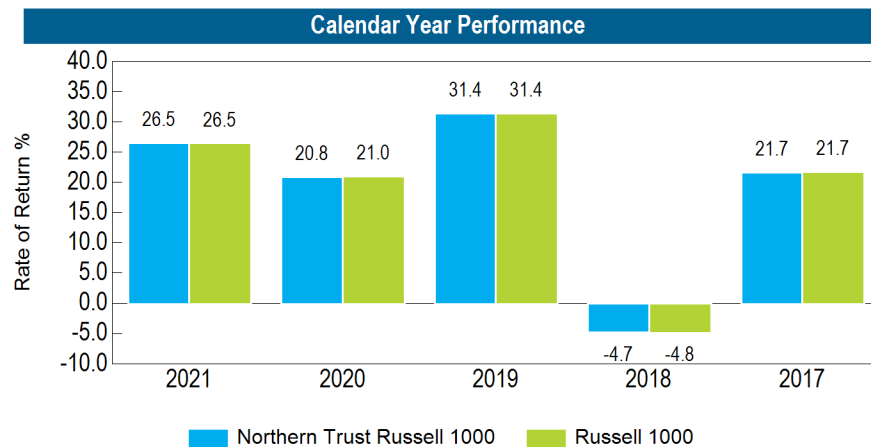
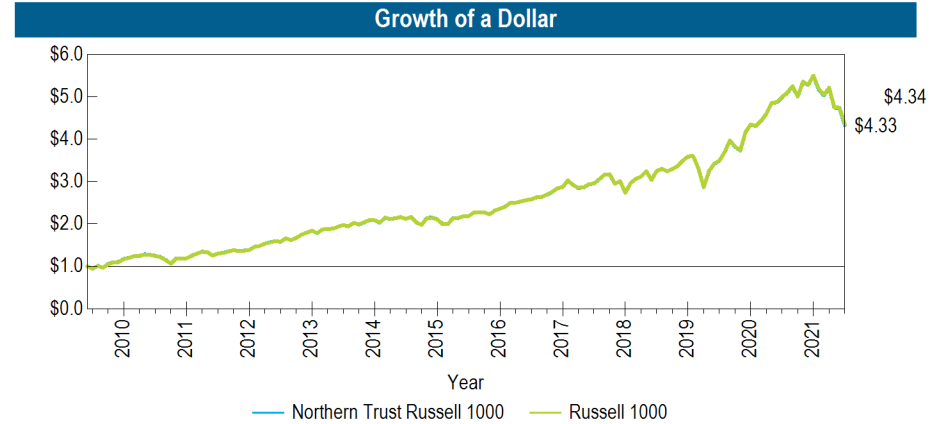
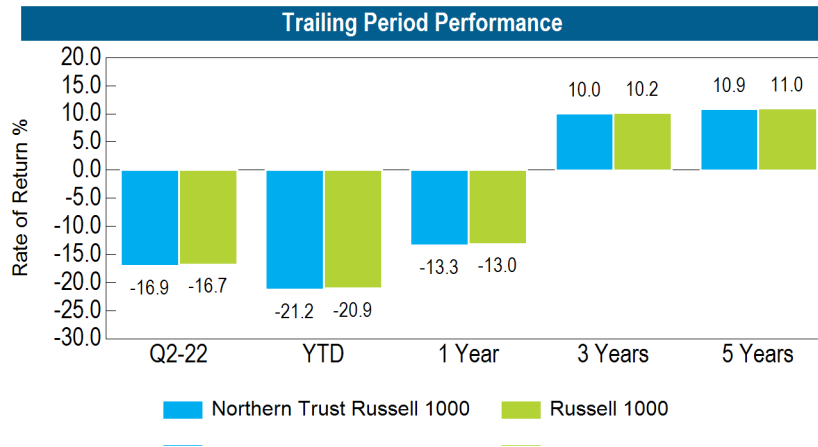
Style Exposure



Style History (5-Year)

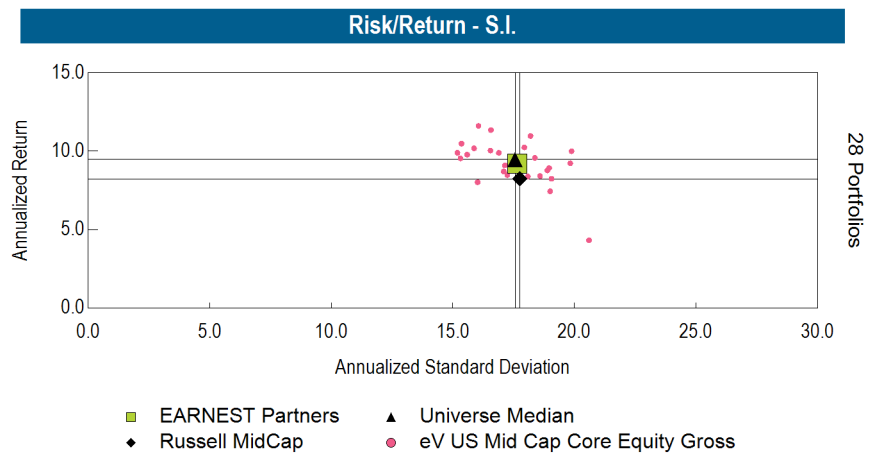
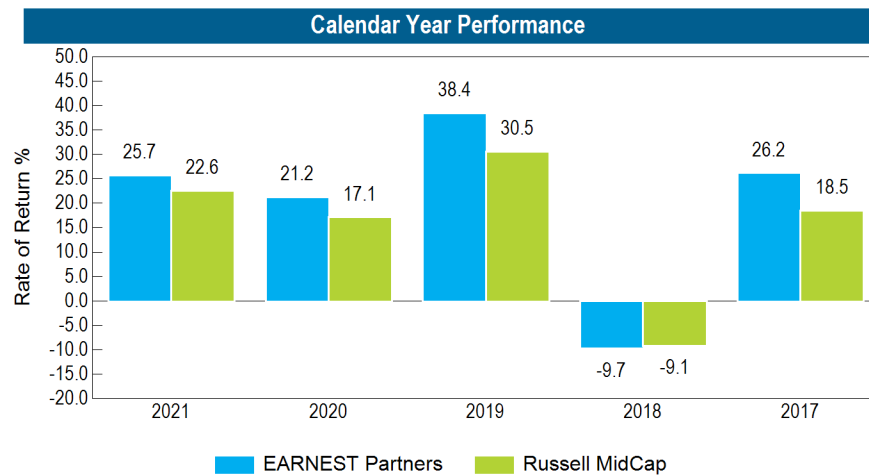
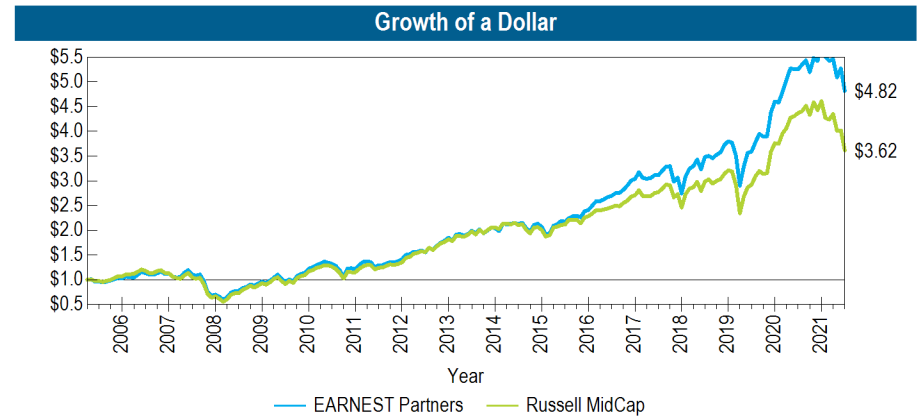
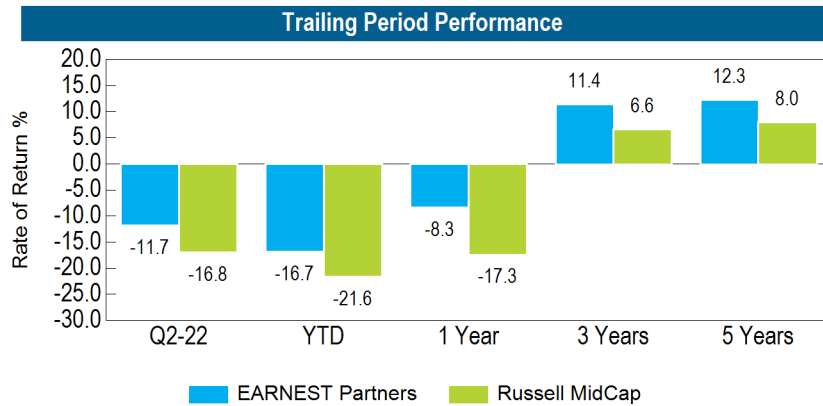


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust Russell 1000	12.82%	14.41%	-0.01%	1.00	-0.66	0.17%	98.53%	99.95%
Russell 1000	12.93%	14.45%	0.00%	1.00	--	0.00%	100.00%	100.00%



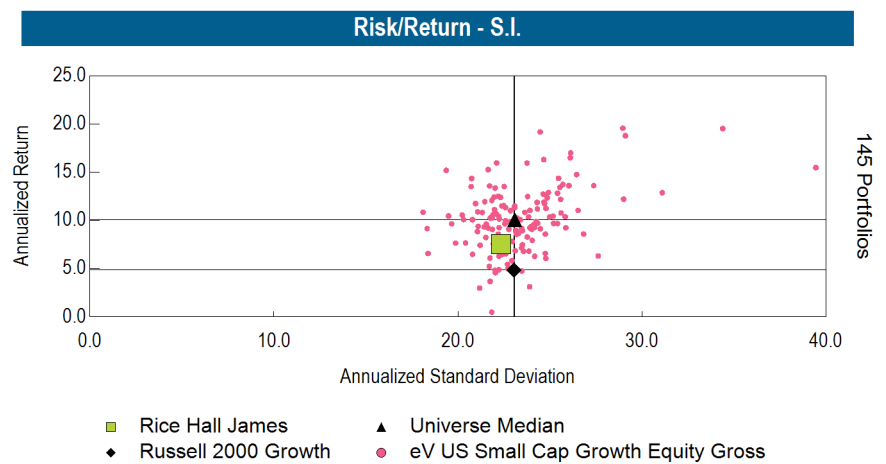
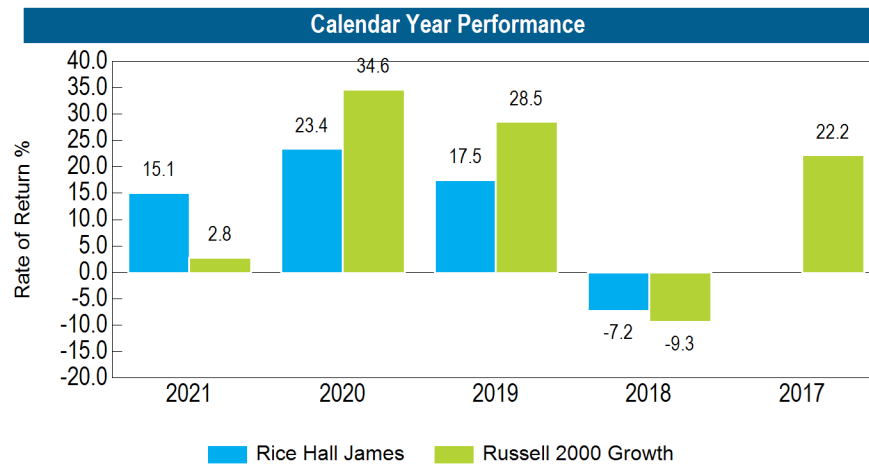
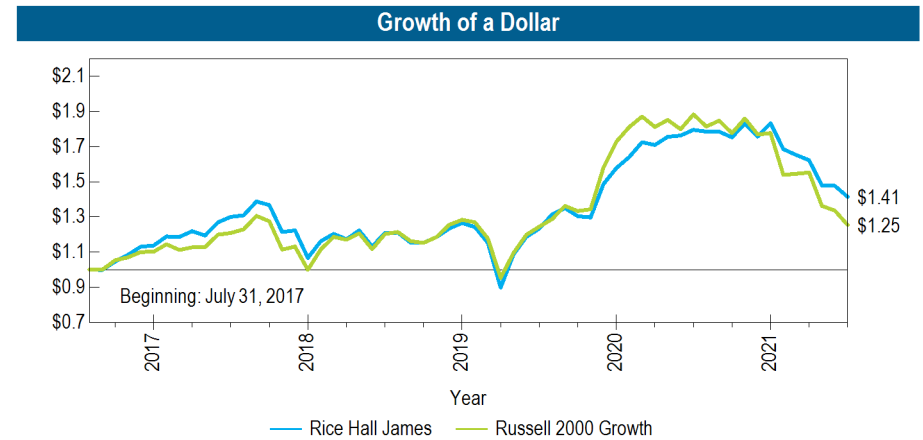
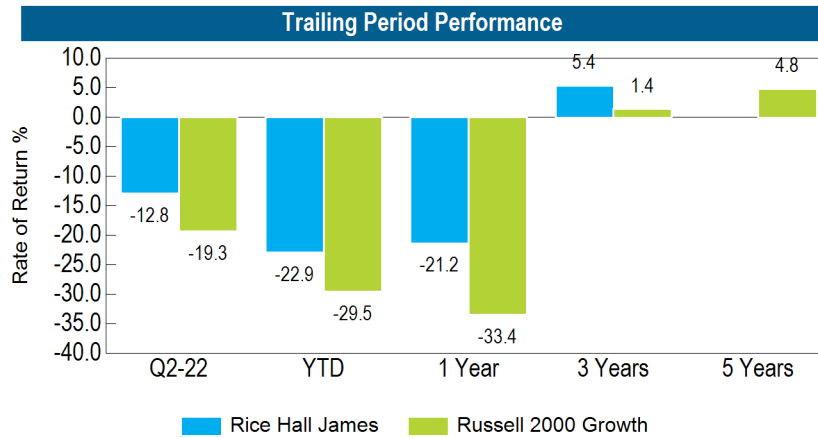
Performance shown is net-of-fees and since inception.

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
EARNEST Partners	9.19%	17.65%	0.09%	0.97	0.27	3.61%	96.08%	99.02%
Russell MidCap	8.23%	17.75%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

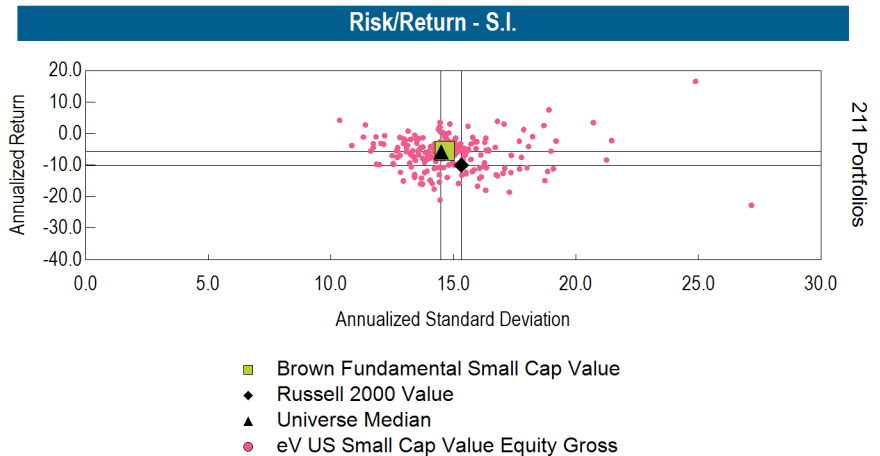
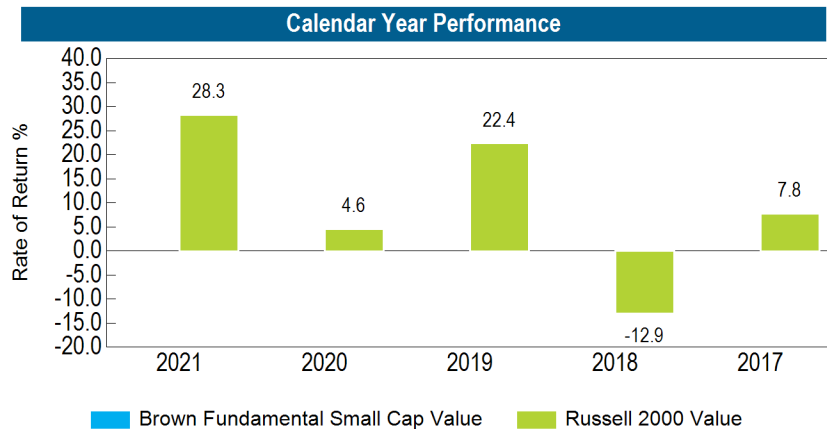
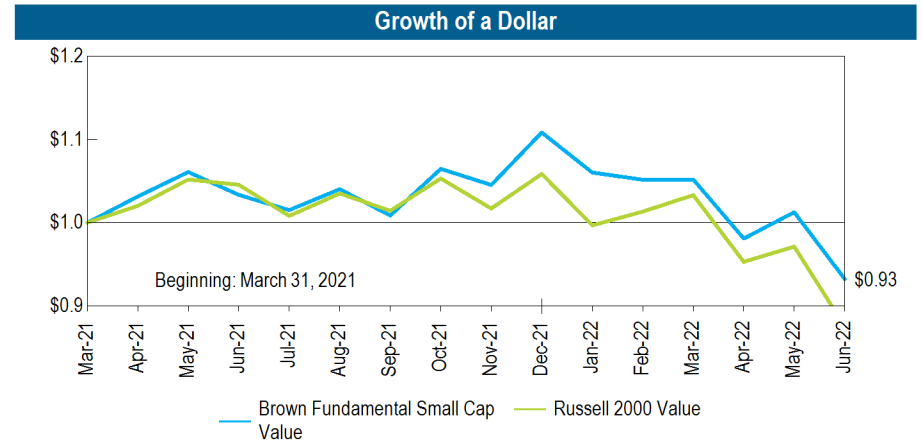
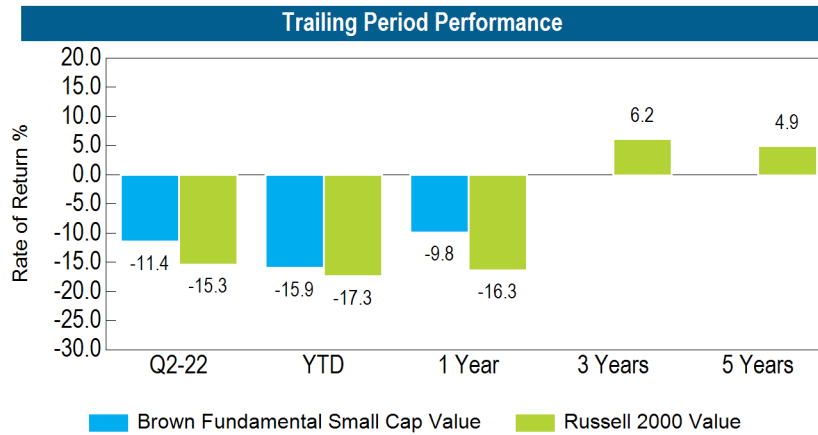
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Rice Hall James	6.23%	22.16%	0.16%	0.92	0.21	7.30%	84.03%	91.70%
Russell 2000 Growth	4.71%	22.84%	0.00%	1.00	--	0.00%	100.00%	100.00%



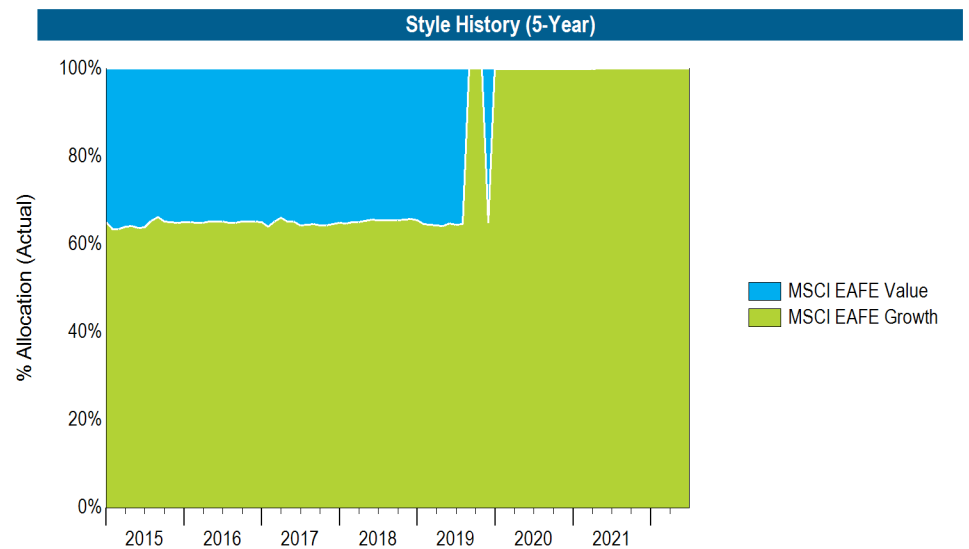
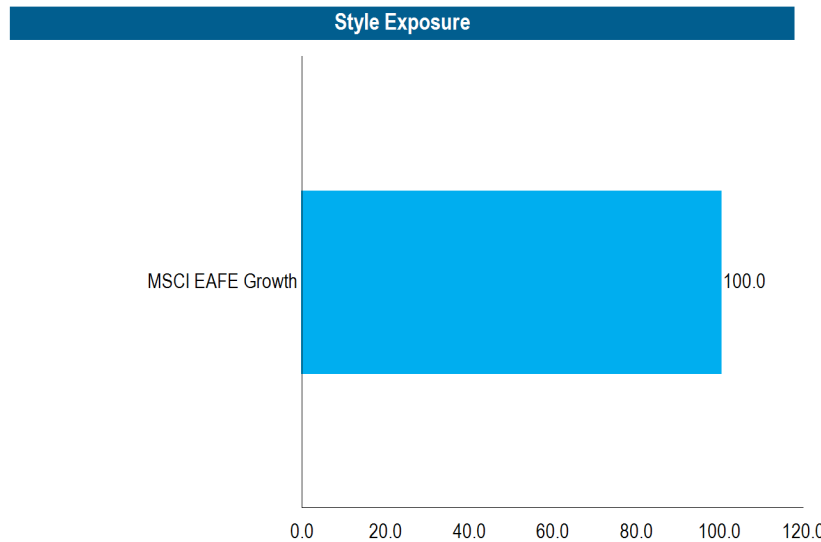
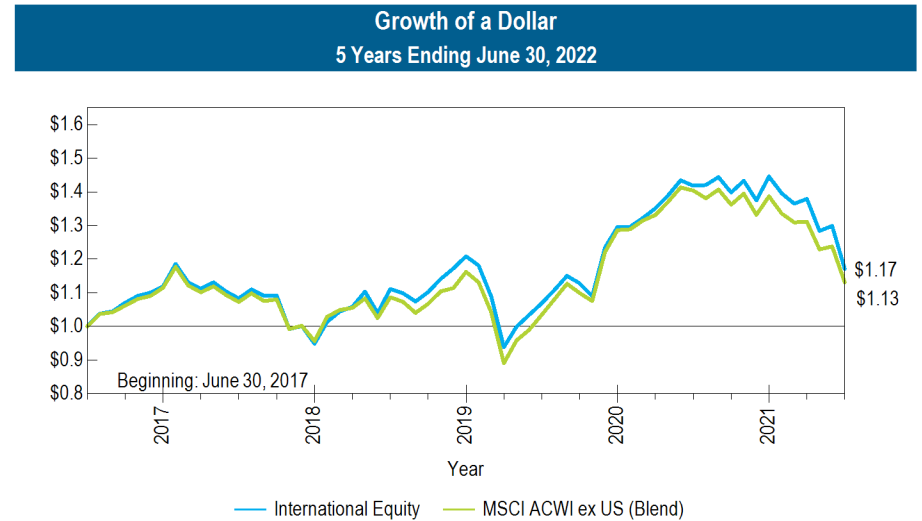
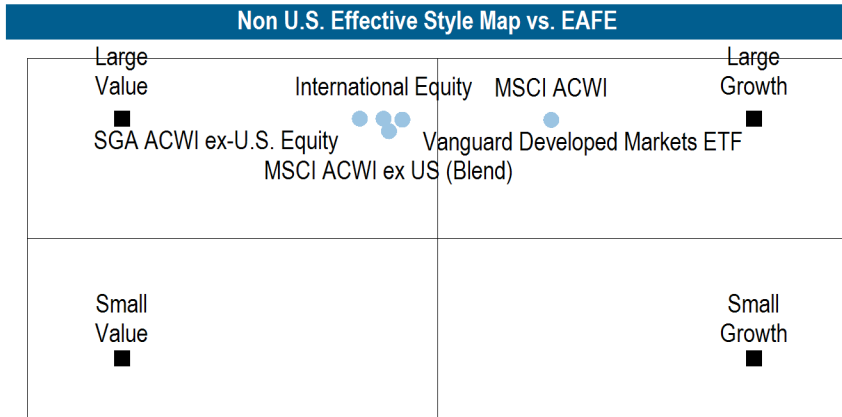
Performance shown is net-of-fees and since inception.

Brown Fundamental Small Cap Value | As of June 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	-6.25%	14.62%	0.25%	0.89	0.70	5.48%	102.69%	88.13%
Russell 2000 Value	-10.10%	15.32%	0.00%	1.00	--	0.00%	100.00%	100.00%

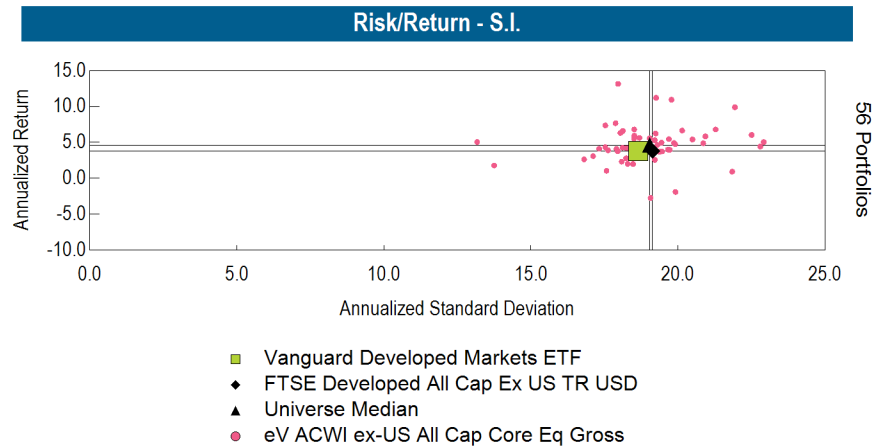
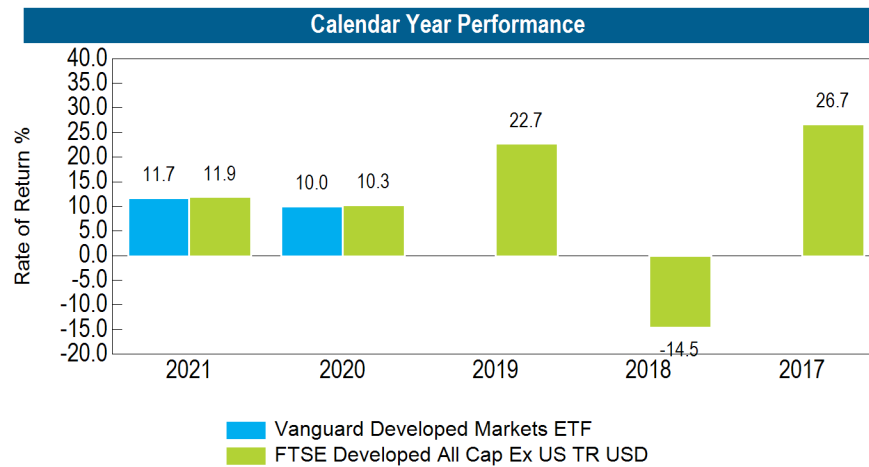
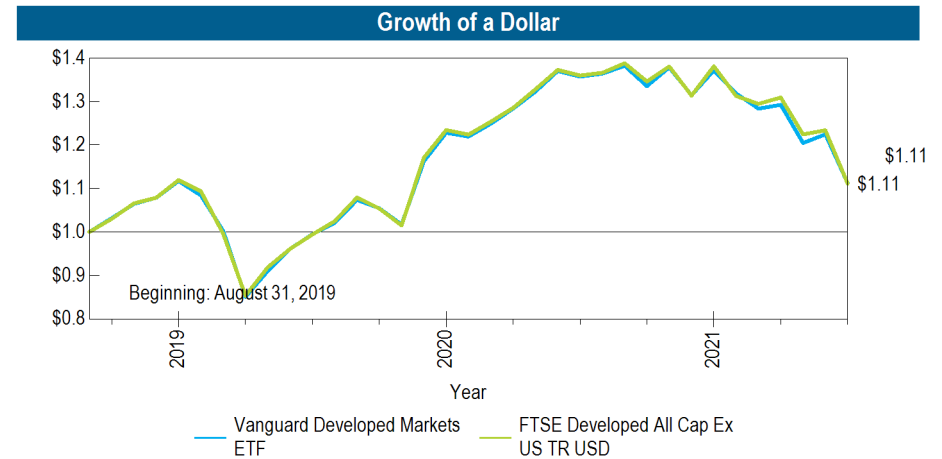
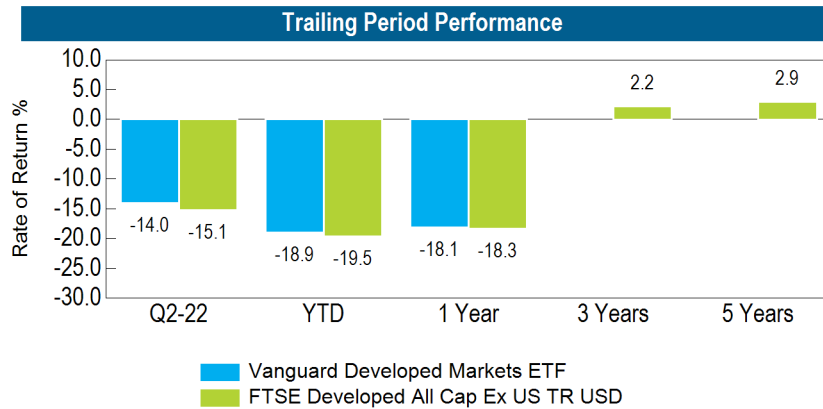


Performance shown is net-of-fees and since inception.



Vanguard Developed Markets ETF | As of June 30, 2022

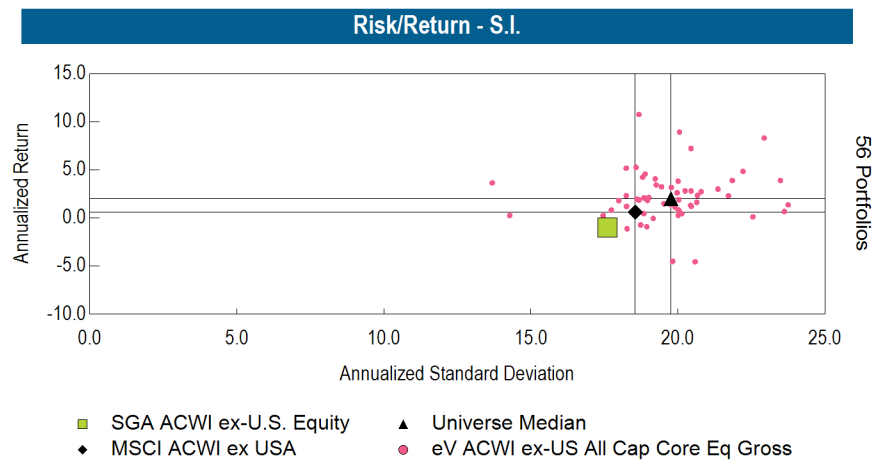
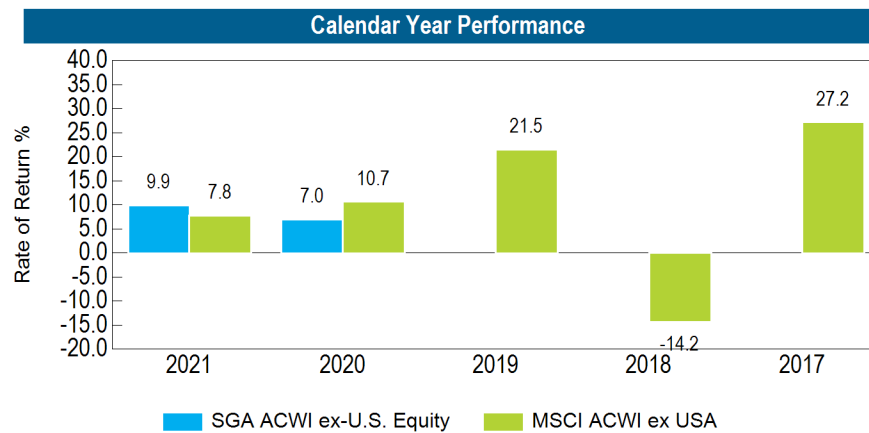
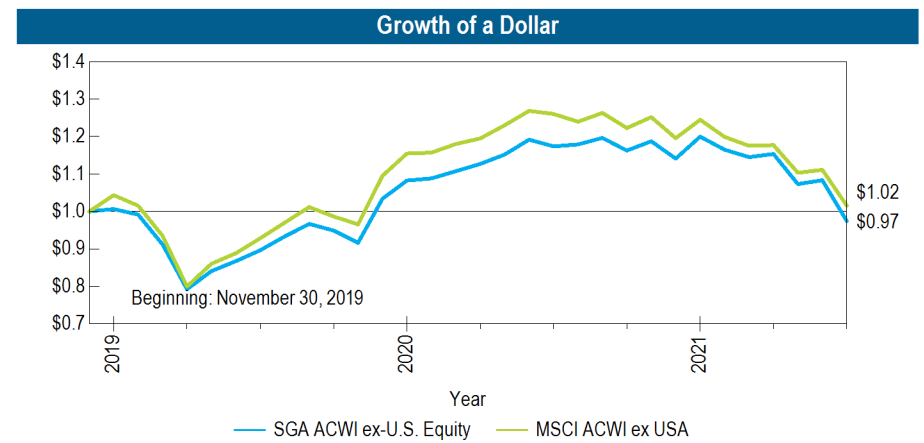
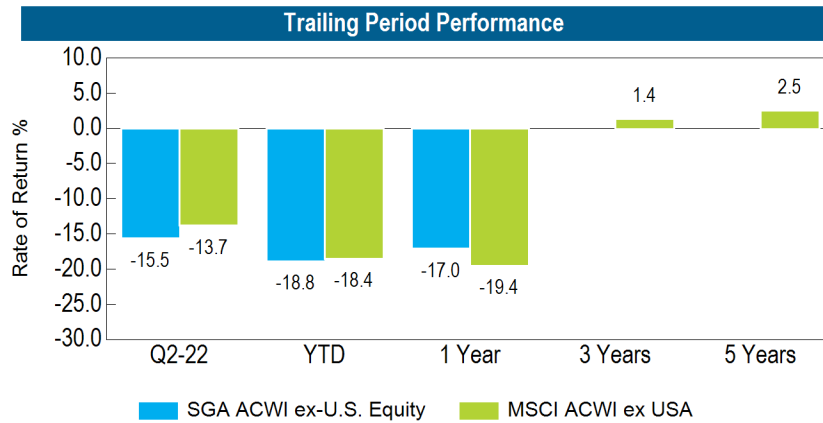
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Developed Markets ETF	3.82%	18.66%	0.01%	0.97	0.01	2.12%	98.41%	99.02%
FTSE Developed All Cap Ex US TR USD	3.79%	19.13%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

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

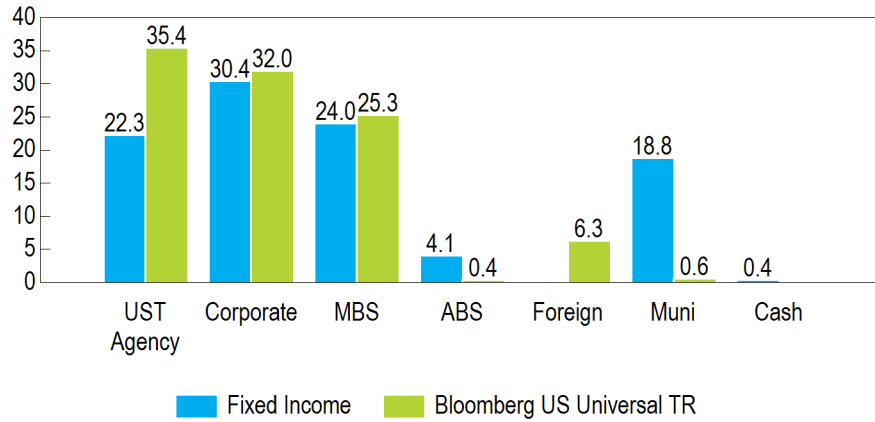
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
SGA ACWI ex-U.S. Equity	-1.69%	17.57%	-0.19%	0.93	-0.61	3.73%	83.40%	97.37%
MSCI ACWI ex USA	0.60%	18.55%	0.00%	1.00	--	0.00%	100.00%	100.00%



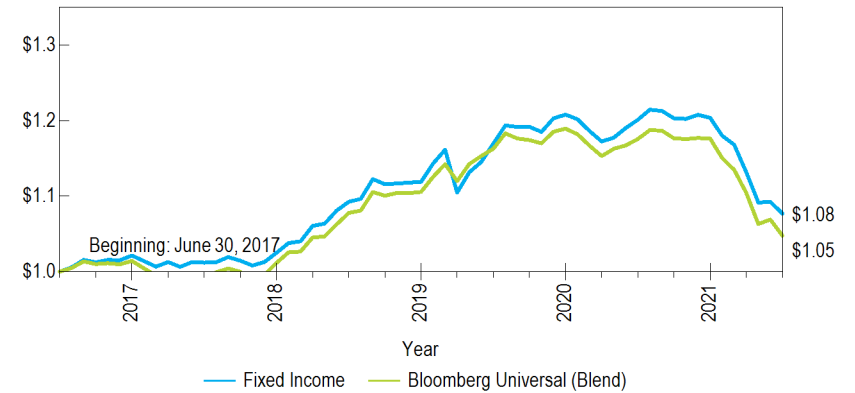
Performance shown is net-of-fees and since inception.

Fixed Income | As of June 30, 2022

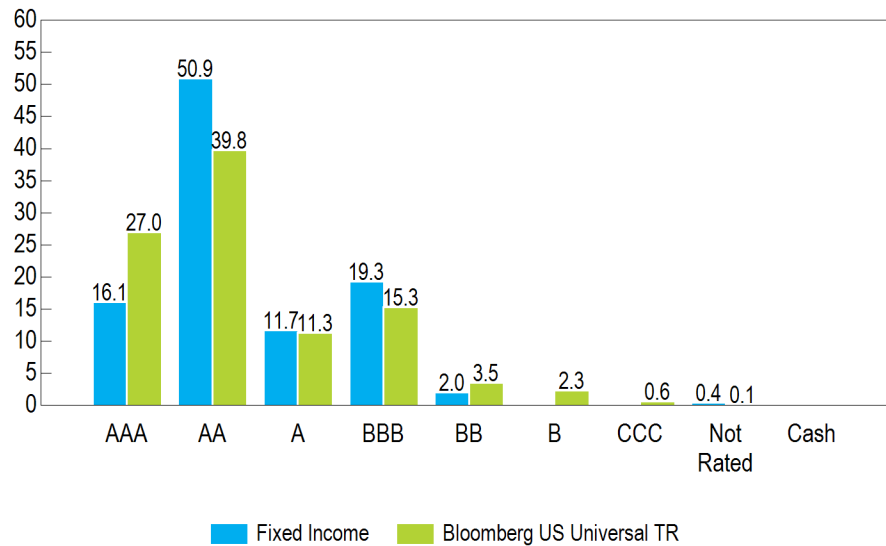
US Sector Allocation



Growth of a Dollar 5 Years Ending June 30, 2022



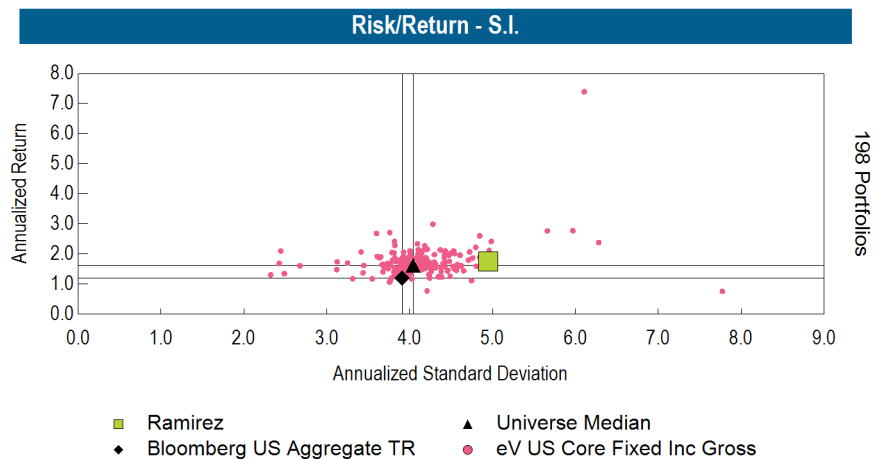
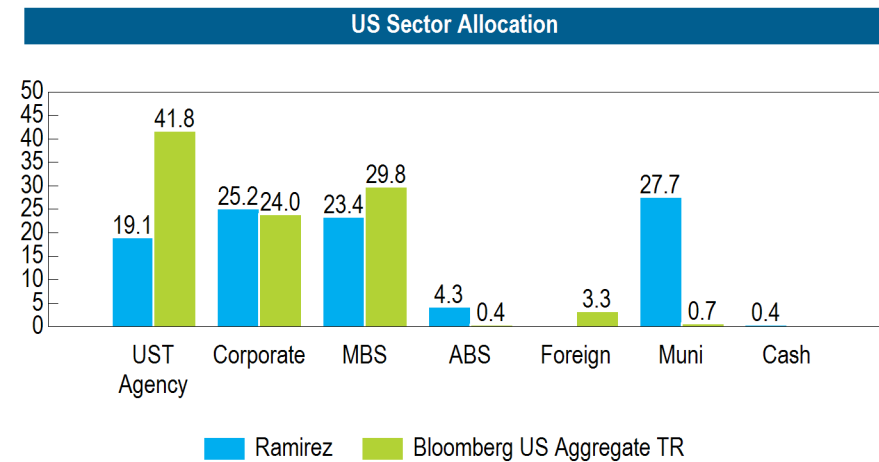
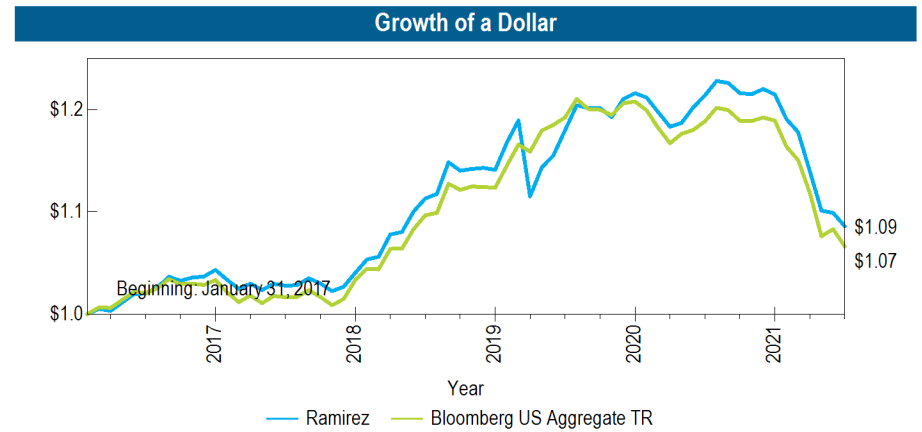
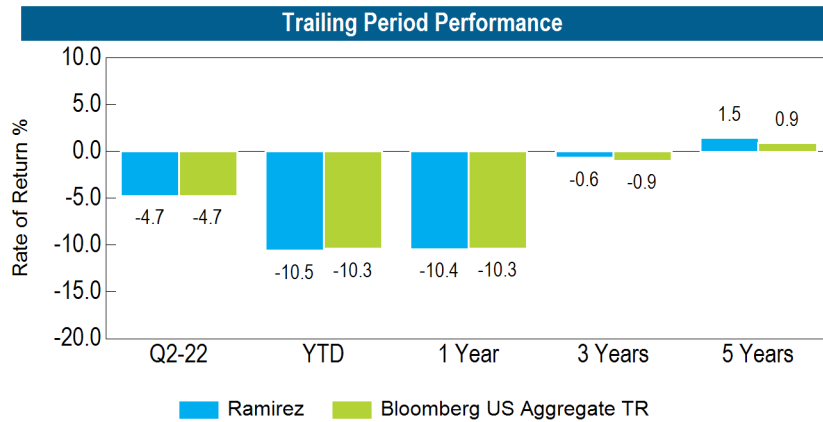
Credit Quality Allocation



Fixed Income Fixed Income Characteristics vs. Bloomberg US Universal TR

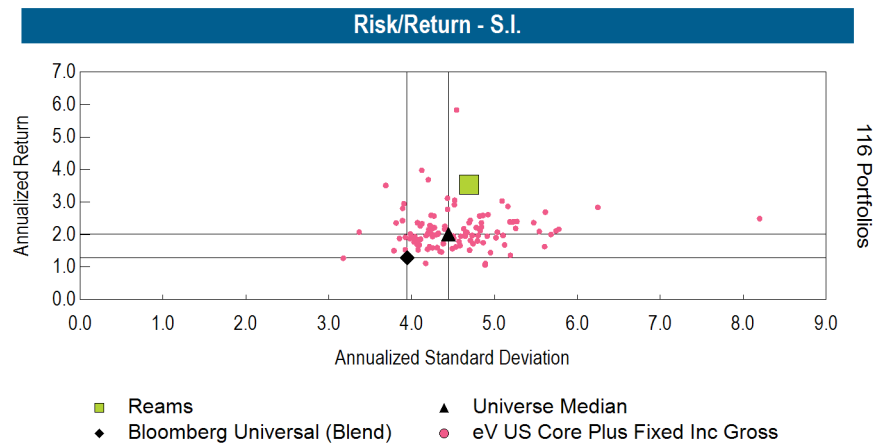
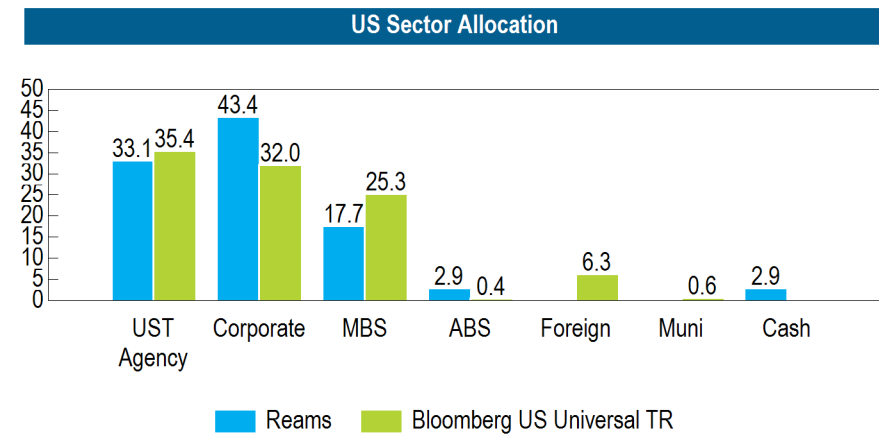
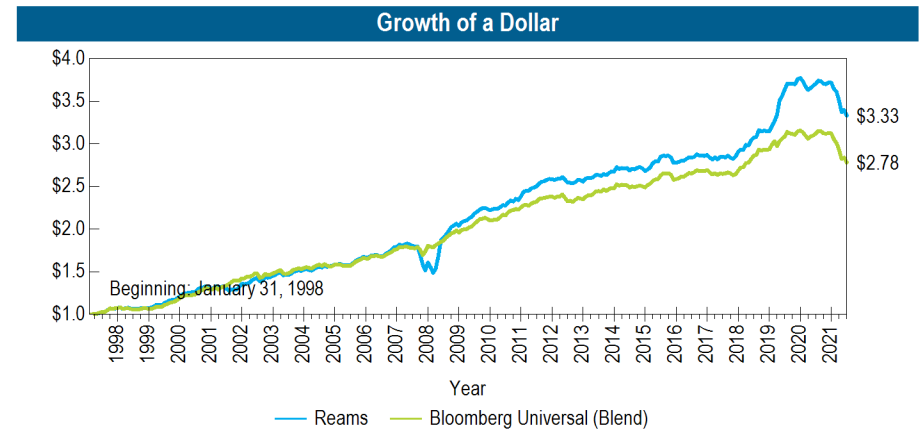
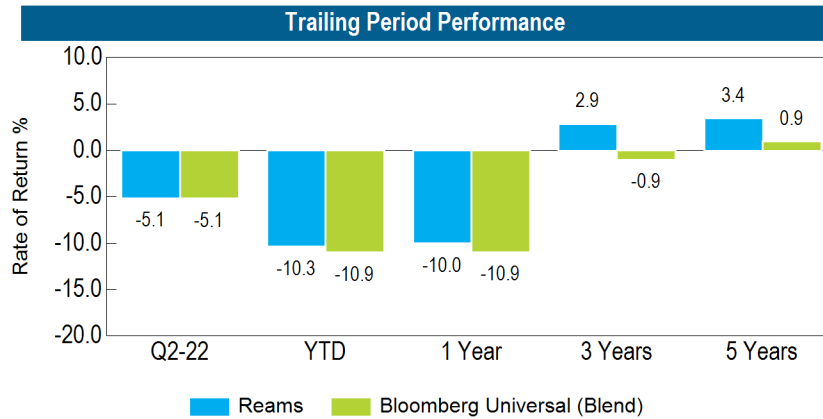
	Portfolio Q2-22	Index Q2-22
Fixed Income Characteristics		
Yield to Maturity	4.50	4.14
Average Duration	6.28	6.44
Average Quality	AA	AA
Weighted Average Maturity	9.16	12.43

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Ramirez	1.54%	4.95%	0.03%	1.06	0.13	2.74%	119.84%	111.71%
Bloomberg US Aggregate TR	1.19%	3.91%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

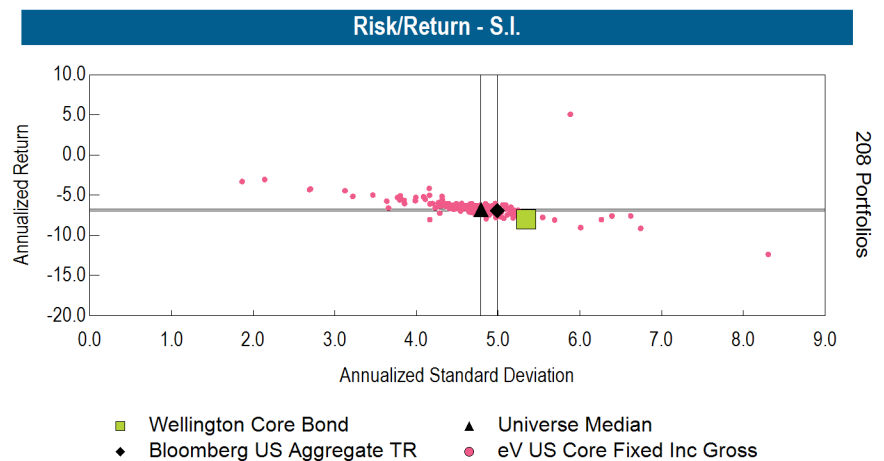
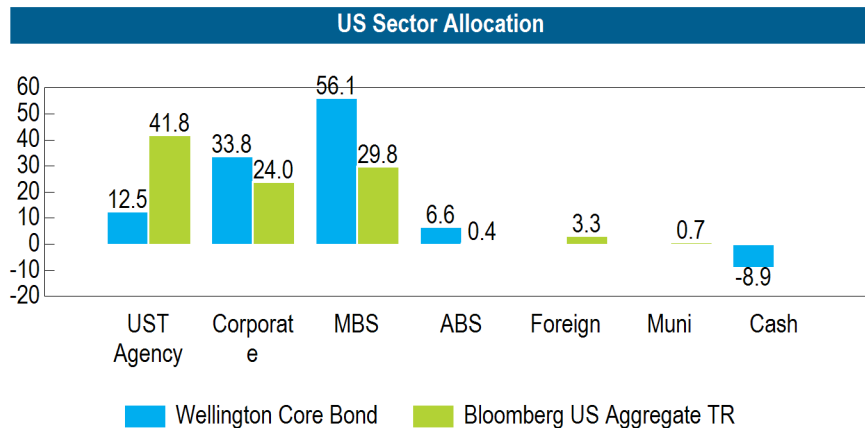
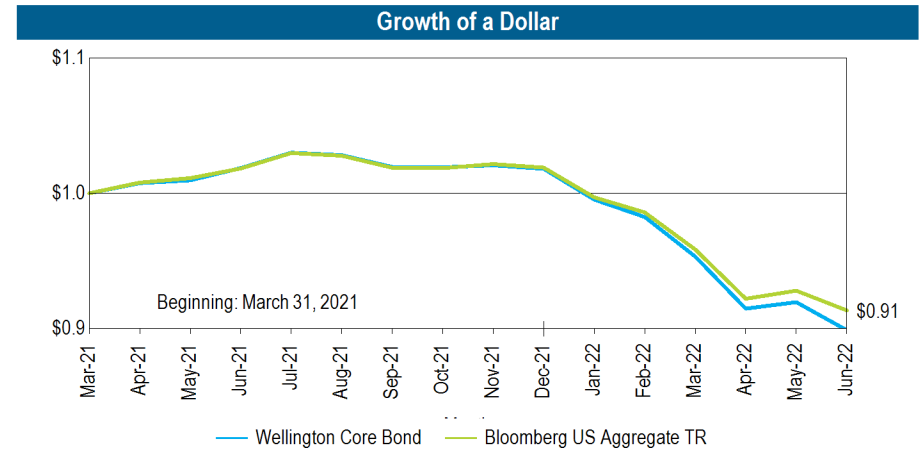
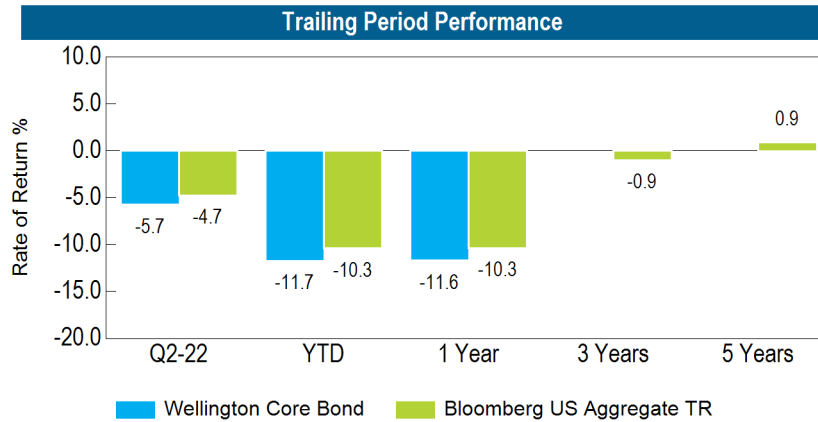
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Reams	5.05%	5.38%	0.05%	1.04	0.20	3.88%	122.49%	99.12%
Bloomberg Universal (Blend)	4.28%	3.58%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

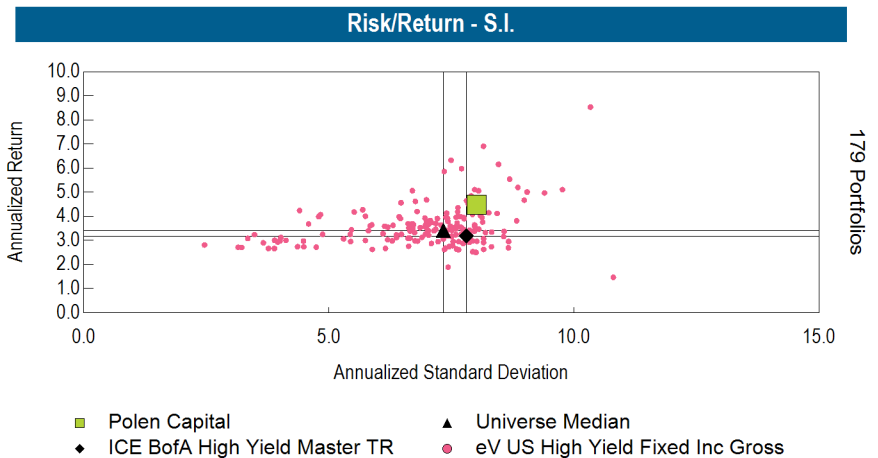
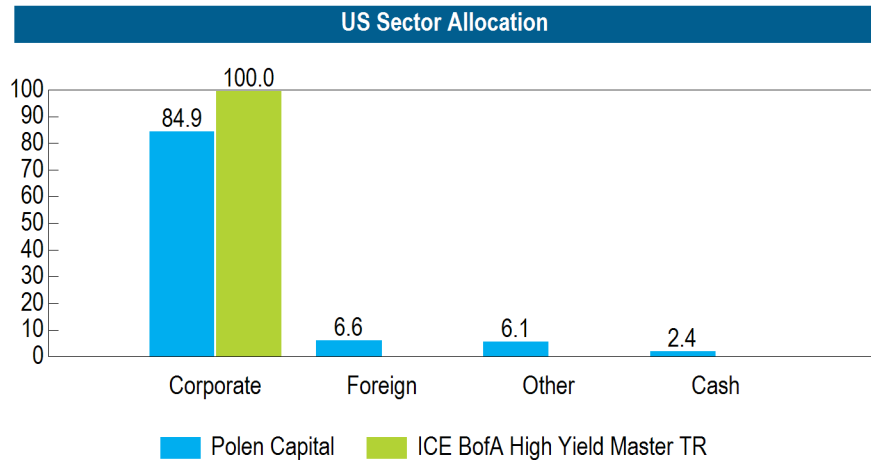
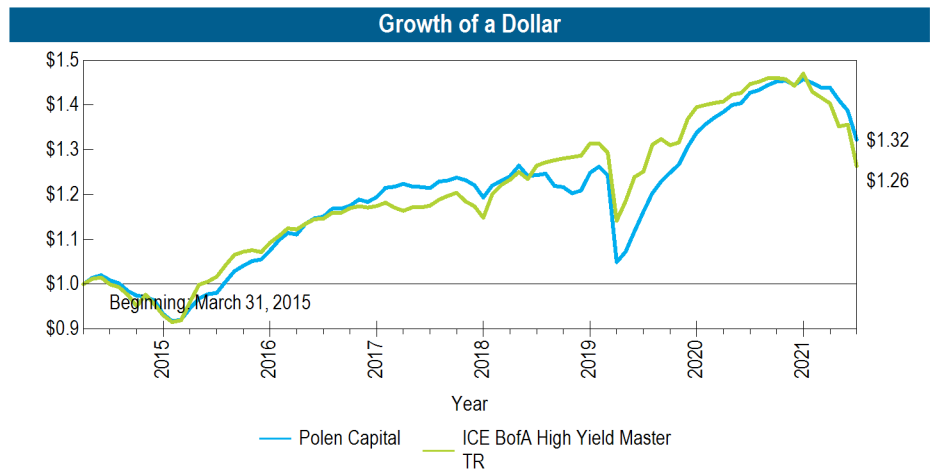
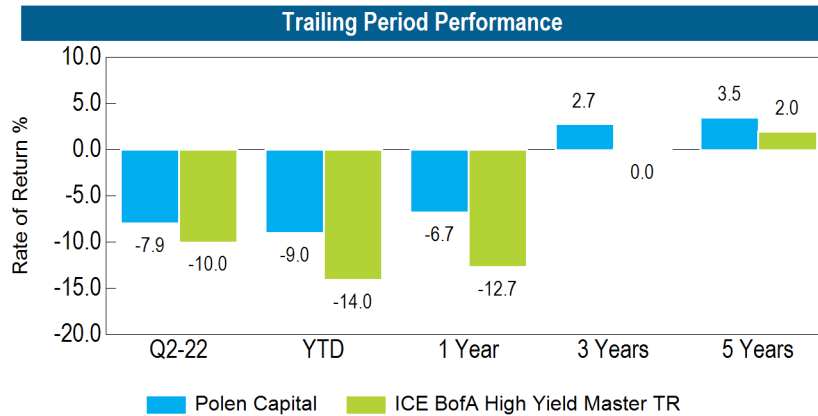
Wellington Core Bond | As of June 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Wellington Core Bond	-8.17%	5.34%	-0.07%	1.06	-1.78	0.67%	93.58%	109.84%
Bloomberg US Aggregate TR	-6.98%	4.99%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

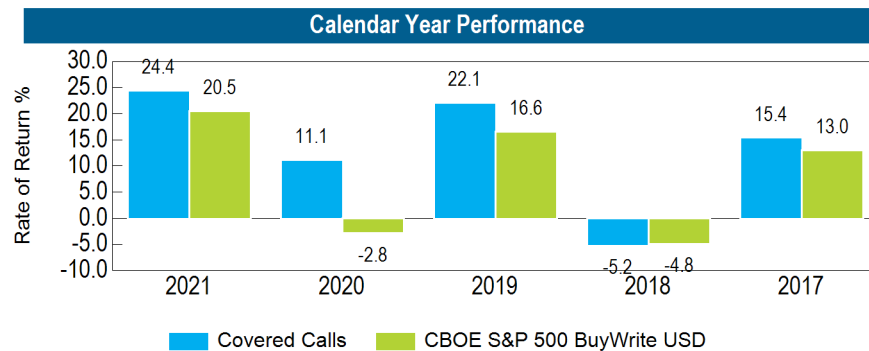
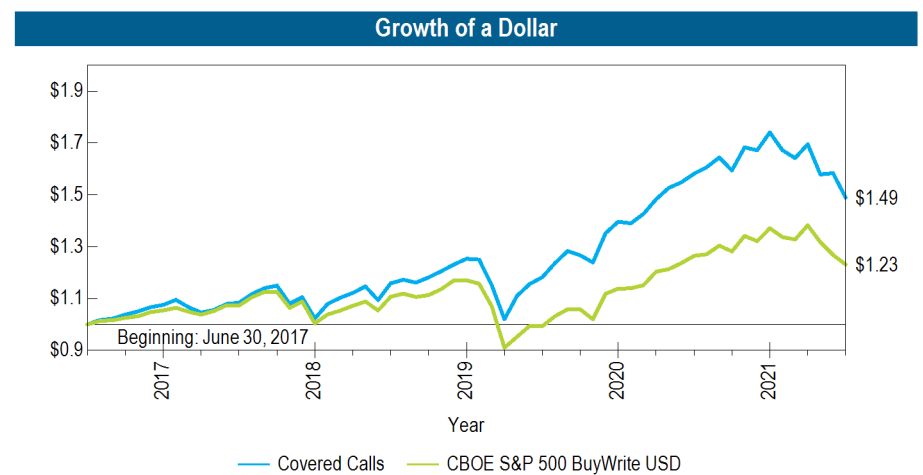
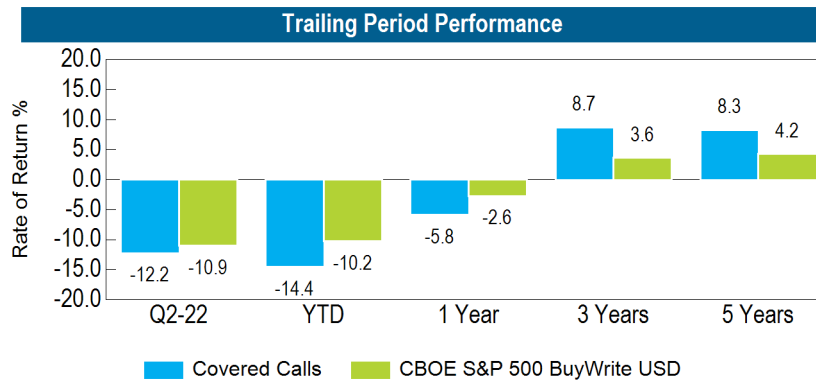
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Polen Capital	4.08%	8.00%	0.08%	0.90	0.16	3.93%	86.70%	82.09%
ICE BofA High Yield Master TR	3.46%	7.80%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

Covered Calls | As of June 30, 2022

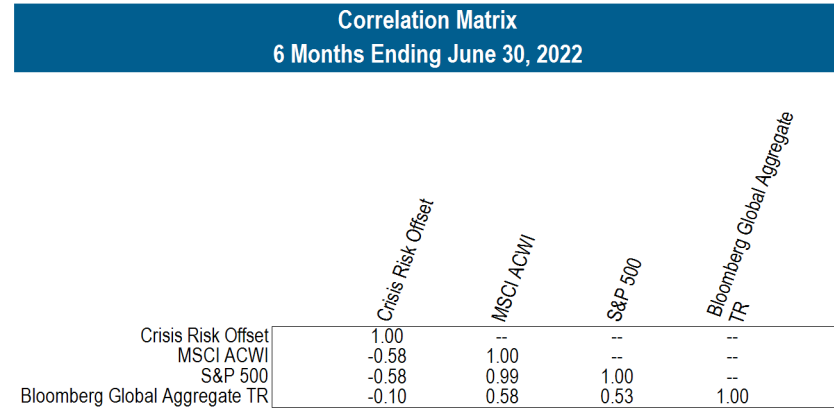
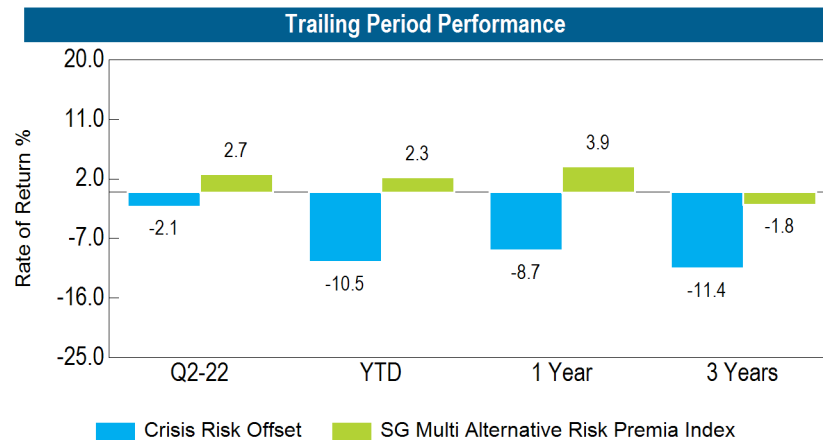
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Covered Calls	8.08%	11.13%	0.22%	0.99	0.71	3.86%	135.87%	101.20%
CBOE S&P 500 BuyWrite USD	5.32%	10.50%	0.00%	1.00	--	0.00%	100.00%	100.00%
Parametric BXM	6.39%	9.18%	0.15%	0.83	0.33	3.28%	93.75%	89.42%
CBOE S&P 500 BuyWrite USD	5.32%	10.50%	0.00%	1.00	--	0.00%	100.00%	100.00%
Parametric DeltaShift	9.87%	13.30%	0.31%	1.14	0.77	5.90%	187.07%	109.76%
CBOE S&P 500 BuyWrite USD	5.32%	10.50%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

Crisis Risk Offset | As of June 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Crisis Risk Offset	-11.63%	12.40%	-0.88%	0.61	-0.82	12.03%	-44.48%	94.21%
SG Multi Alternative Risk Premia Index	-1.79%	6.25%	0.00%	1.00	--	0.00%	100.00%	100.00%
Kepos Alternative Risk Premia	--	--	--	--	--	--	--	--
SG Multi Alternative Risk Premia Index	-1.79%	6.25%	0.00%	1.00	--	0.00%	100.00%	100.00%
Versor Trend Following	--	--	--	--	--	--	--	--
SG Trend Index	17.50%	12.37%	0.00%	1.00	--	0.00%	100.00%	100.00%
Vanguard Long-Term Treasury ETF	-2.99%	14.08%	0.00%	1.02	-0.04	1.19%	102.55%	101.43%
Bloomberg US Govt Long TR	-2.94%	13.77%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

Benchmark History

As of June 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 June 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.

MEMORANDUM

TO: Oakland Police and Fire Retirement System (“OPFRS”)
FROM: Meketa Investment Group (“Meketa”)
DATE: August 31, 2022
RE: 2022 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.

2022 Preliminary Investment Project Agenda

Expected Completion Date	Task
September 2022	→ Flash Performance Report (Aug 2022)
	→ Cash Flow Report (4Q 2022)
	→ Manager Update: Ramirez
	→ Manager Update: Polen (formerly, DDJ)
	→ Thermal Coal List Update: 2022
October 2022	→ Flash Performance Report (Sep 2022)
	→ Manager Update: Rice Hall James
	→ Watch status update: Rice Hall James
	→ Educational Item: TBD
November 2022	→ Quarterly Performance Report (3Q 2022)
	→ Flash Performance Report (Oct 2022)
	→ Manager Update: Strategic Global Advisors
	→ Manager Update: Reams
December 2022	→ Flash Performance Report (Nov 2022)
	→ Cash Flow Report (1Q 2023)

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

Robert W. Nichelini
Member

Kevin R. Traylor
Member

John C. Speakman
Member

R. Steven Wilkinson
Member

Erin Roseman
Member

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

WEDNESDAY, AUGUST 31, 2022

11:30 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 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
REGULAR BOARD MEETING
AUGUST 31, 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.

ORDER OF BUSINESS

- A. Subject: Police and Fire Retirement System (“PFRS”) Board of Administration Meeting Minutes**
From: Staff of the PFRS Board
-
- Recommendation:** **APPROVE** the July 27, 2022 PFRS Board of Administration Meeting Minutes
- B. Subject: Introduction of New PFRS Staff Member**
From: Staff of the PFRS Board
-
- Recommendation:** **ACCEPT** an informational report regarding the new PFRS Benefits Representative
- C. Subject: Board and Committee Notices**
From: Staff of the PFRS Board
-
- Recommendation:** **ACCEPT** an informational report regarding PFRS Board and Committee Notices
- D. Subject: Resolution No. 8060 – Resolution Expressing Appreciation for Kevin R. Traylor’s Dedication and Loyal and Valuable Service as a Member of The Oakland Police and Fire Retirement System Board**
From: Staff of the PFRS Board
-
- Recommendation:** **APPROVE** Resolution No. 8060 – Resolution Expressing Appreciation for Kevin R. Traylor’s Dedication and Loyal and Valuable Service as a Member of The Oakland Police and Fire Retirement System Board.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR BOARD MEETING
AUGUST 31, 2022

E. AUDIT & OPERATIONS COMMITTEE AGENDA – AUGUST 31, 2022

- E1. **Subject:** Administrative Expenses Report
From: Staff of the PFRS Board

Recommendation: **ACCEPT** informational report regarding PFRS administrative expenses as of June 30, 2022

F. INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – AUGUST 31, 2022

- F1. **Subject:** Investment Manager Performance Update – Parametric Portfolio Associates, LLC
From: Parametric Portfolio Associates, LLC

Recommendation: **ACCEPT** informational report regarding a firm overview and managerial assessment; recent organizational changes; diversity and inclusion policy and practices; investment portfolio performance of Parametric Portfolio Associates, LLC, a PFRS' Covered Calls Investment Strategy Manager
- F2. **Subject:** Investment Manager Performance Review – Parametric Portfolio Associates, LLC
From: Meketa Investment Group

Recommendation: **ACCEPT** Meketa Investment Group's review and evaluation regarding managerial assessment; recent organizational changes; diversity and inclusion policy and practices; investment portfolio performance; and watch status update and **APPROVE** Meketa's recommendation to continue or remove watch status of Parametric Portfolio Associates, LLC, a PFRS' Covered Calls Investment Strategy Manager.
- F3. **Subject:** Investment Market Overview as of July 31, 2022
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Global Investment Markets as of July 31, 2022
- F4. **Subject:** Preliminary Investment Fund Performance Update as of July 31, 2022
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Preliminary Investment Fund Performance Update as of July 31, 2022

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR BOARD MEETING
AUGUST 31, 2022

F5. **Subject:** Investment Fund Quarterly Performance Update as of June 30, 2022
From: Meketa Investment Group

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

G. **Subject:** Member Resolution 8061
From: Staff of the PFRS Board

Recommendation: **APPROVE** Member Resolution No. 8061

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

- Norman H. Kotler

H. **Subject:** Resolution No. 8062 – 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).

From: Staff of the PFRS Board

Recommendation: **APPROVE** Resolution No. 8062 – 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)

I. PENDING ITEMS

J. NEW BUSINESS

K. OPEN FORUM

L. FUTURE SCHEDULING

M. ADJOURNMENT

A REGULAR MEETING of the Oakland Police and Fire Retirement System (“PFRS”) Board of Administration was held on Wednesday, July 27, 2022 via Zoom Webinar.

- | | | |
|-----------------------|-----------------------|-------------------------------------|
| Board Members: | ▪ Walter L. Johnson | President |
| | ▪ Jaime T. Godfrey | Vice President (Excused) |
| | ▪ Robert W. Nichelini | Member (Excused) |
| | ▪ Erin Roseman | Member (Excused) |
| | ▪ John C. Speakman | Member |
| | ▪ Kevin R. Traylor | Member |
| | ▪ R. Steven Wilkinson | Member |
| Additional Attendees: | ▪ David F. Jones | PFRS Secretary & Plan Administrator |
| | ▪ Mitesh Bhakta | PFRS Legal Counsel |
| | ▪ Téir Jenkins | PFRS Staff Member |
| | ▪ Maxine Visaya | PFRS Staff Member |
| | ▪ David Sancewich | Meketa Investment Group |
| | ▪ Paola Nealon | Meketa Investment Group |

The meeting was called to order at 11:31 a.m. Pacific

President Johnson acknowledged the passing of former PFRS Board President Robert P. Crawford and observed a moment of silence in his honor.

A. PFRS Board Meeting Minutes – Member Speakman made a motion to approve the June 29, 2022 Board of Administration Regular Meeting Minutes, second by Member Traylor. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / NICHELINI: EXCUSED / ROSEMAN: EXCUSED / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]
(AYES: 4 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 3)

B. AUDIT AND OPERATIONS COMMITTEE AGENDA – JULY 27, 2022

B1. Scope of Services and Initiation of the Financial Audit of the PFRS Fund for the Fiscal Year Ending June 30, 2022 –Member Speakman presented a summary of the informational report provided by Annie Louie of Macias Gini & O’Connell, LLP regarding on the scope of services and initiation of the Financial Audit of the PFRS fund for the Fiscal Year ending June 30, 2022. It was noted that there are no significant changes to the scope of services or timeline.

MOTION: Member Speakman made a motion to approve the scope of services and initiation of the Financial Audit of the PFRS fund for the Fiscal Year ending June 30, 2022, second by Member Traylor. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / NICHELINI: EXCUSED / ROSEMAN: EXCUSED / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]
(AYES: 4 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 3)

- B2. Administrative Expenses Report** – Staff Member Jenkins presented an informational report on PFRS’ administrative expenditures as of May 31, 2022. PFRS has an approved annual budget of approximately \$3.5 million and have expensed approximately \$2.4 million fiscal year-to-date. Membership consisted of 686 retired members, which included 422 Police Members and 264 Fire Members.

MOTION: Member Speakman made a motion to approve the PFRS Administrative Expenses Report as of May 31, 2022, second by Member Wilkinson. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / NICHELINI: EXCUSED / ROSEMAN: EXCUSED / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]
(AYES: 4 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 3)

C. INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – JULY 27, 2022

The Investment Committee Meeting was cancelled due to lack of quorum. Investment Committee agenda item C1 was tabled and will be rescheduled for a future meeting; the remaining agenda items were reported directly to the Board for informational purposes. R. Steven Wilkinson assumed the role of Acting Chairperson for the Investment Committee.

- c1. Investment Manager Performance Update – Reams Asset Management** – Acting Chairperson Wilkinson tabled this item due to lack of quorum of the Investment Committee and will be rescheduled for a future meeting.

MOTION: No action was taken.

- c2. Investment Manager Performance Review – Reams Asset Management** – Paula Nealon of Meketa Investment Group (“Meketa”) provided an overview memo regarding Reams Asset Management (Reams), a PFRS’ Core Plus Fixed Income Investment Strategy Manager and noted the firm has had a relationship with PFRS for almost 25 years and portfolio performance ranked above average relative to their peers, both in the short and long term; organizationally, Reams has both strong leadership and process. Meketa does not have any concerns with Reams and does not recommend any action be taken at this time.

MOTION: Member Traylor made a motion to accept the informational report from Meketa regarding an overview of Reams, second by Member Wilkinson. Motion Passed.

[JOHNSON: Y / GODFREY: EXCUSED / NICHELINI: EXCUSED / ROSEMAN: EXCUSED / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]
(AYES: 4 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 3)

- c3. Investment Market Overview as of June 30, 2022** – Paola Nealon of Meketa presented an informational report regarding the Investment Market Overview as of June 30, 2022 and highlighted Index Returns and the current factors impacting outcomes.

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

[JOHNSON: Y / GODFREY: EXCUSED / NICHELINI: EXCUSED / ROSEMAN: EXCUSED / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]
(AYES: 4 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 3)

- c4. **Preliminary Investment Fund Performance Update as of June 30, 2022** Paola Nealon of Meketa provided a summary of the Preliminary Investment Fund Performance Update as of June 30, 2022 and highlighted the Asset Class Performance Summary.

MOTION: Member Wilkinson made a motion to accept the informational report provided by Meketa regarding the Preliminary Investment Fund Performance Update as of June 30, 2022, second by Member Traylor. Motion Passed.

[JOHNSON: Y / GODFREY: EXCUSED / NICHELINI: EXCUSED / ROSEMAN: EXCUSED / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]
(AYES: 4 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 3)

- c5. **Investment Manager Diversity, Equity, and Inclusion Annual Survey Results** – David Sancewich of Meketa presented an informational report regarding Meketa’s annual Investment Manager Diversity, Equity, and Inclusion survey results. D. Sancewich noted this is not PFRS driven, rather an annual survey our Manager Research Group conducts amongst both public and private market investment managers across the entire industry. We are sharing this information because PFRS consistently questions every investment manager that come before the Board regarding their efforts surrounding Diversity, Equity, and Inclusion.

MOTION: Member Wilkinson made a motion to approve the informational report regarding Meketa’s annual Investment Manager Diversity, Equity, and Inclusion survey results, second by Member Speakman. Motion Passed.

[JOHNSON: Y / GODFREY: EXCUSED / NICHELINI: EXCUSED / ROSEMAN: EXCUSED / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]
(AYES: 4 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 3)

D.

- D1. **Resolution No. 8057** – Resolution Fixing the Monthly Allowances of Surviving Spouse of the following Retired Member of the Police and Fire Retirement System in the amount indicated:

<u>Deceased Member</u>	<u>Surviving Spouse</u>	<u>Monthly Allowance</u>
▪ William W. Foscett	Jean Foscett	\$ 4,418.74
▪ James O. Mahanay, Jr.	Aladean Mahanay	\$ 3,396.63
▪ William Moore	Vonna Moore	\$ 8,346.26
▪ Roy Nason	Beverly Nason	\$ 5,067.19
▪ James M. Wiley	Sally Wiley	\$ 4,651.25
▪ Marvin Young	Janice Young	\$ 8,863.38

MOTION: Member Traylor made a motion to approve Resolution No. 8057, second by Member Speakman. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / NICHELINI: EXCUSED / ROSEMAN: EXCUSED / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]
(AYES: 4 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 3)

D2. **Resolution No. 8058** – 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:

- Jerry T. Jahn
- Williard E. Rodman
- Don J. Williams

MOTION: Member Traylor made a motion to approve Resolution No. 8058, second by Member Speakman. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / NICHELINI: EXCUSED / ROSEMAN: EXCUSED / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]
(AYES: 4 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 3)

E. **Resolution No. 8059** – 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 Speakman made a motion to approve Resolution No. 8059, second by Member Traylor. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / NICHELINI: EXCUSED / ROSEMAN: EXCUSED / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]
(AYES: 4 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 3)

F. **Proposed City Charter Amendment to be Presented to Voters on the November 8, 2022 General Election Ballot to Replace Gender-Specific Language with Gender-Inclusive Language per Oakland City Council Resolution 89280 C.M.S.** – PFRS Legal Counsel Bhakta provided an informational update regarding the proposed City Charter Amendment to be presented to voters on the November 8, 2022 General Election Ballot to replace gender-specific language with gender-inclusive language per Oakland City Council Resolution 89280 C.M.S. Legal Counsel Bhakta advised this does not have any functional impact on how PFRS, Staff, or the Board operates. This does not require any action by the Board.

G. **Pending Items** – No Report

H. **New Business** – No Report

I. **Open Forum** – Member Speakman notified the Board that he organizes a monthly luncheon for retired firefighters, and we invited Carol Kolenda to the July event to honor her service to the Board and Members. Plan Administrator Jones notified the Board arrangements were made to contribute a wreath to Mr. Crawford’s service on behalf of the PFRS Board and Staff. President Johnson notified members he spoke on behalf of the Board and Staff and noted the memorial was very nice and well attended. Member Nichelini appreciated President Johnson’s kind and impactful words spoken at the service. Burney Matthews also thanked President Johnson for his kind and meaningful words spoken at the service and noted it was appreciated by the members of the ROPOA. Burney Matthews also notified the Board the ROPOA honored Carol Kolenda for her years of service by presenting her with flowers and gifts. Staff Member Jenkins notified the Board we are excited to announce new hire Denisse Guzman, who will fill the vacancy left by Carol Kolenda, as the PFRS Benefits Representative. President Johnson requested the new staff member be introduced to the Board at a future meeting.

J. **Future Scheduling** – The next regular Board meeting is tentatively scheduled to occur Wednesday, August 31, 2022.

K. **Adjournment** – Member Traylor made a motion to adjourn, second by Member Wilkinson. Motion passed.

[JOHNSON: Y / GODFREY: EXCUSED / NICHELINI: EXCUSED / ROSEMAN: EXCUSED / SPEAKMAN: Y / TRAYLOR: Y / WILKINSON: Y]
(AYES: 4 / NOES: 0 / ABSTAIN: 0 / EXCUSED: 3)

The meeting adjourned at 12:05 p.m. PST

DAVID F. JONES
PLAN ADMINISTRATOR & SECRETARY

DATE



AGENDA REPORT

TO: Oakland Police and Fire Retirement System Board (PFRS)
FROM: Téir Jenkins
PFRS Investment & Operations Manager
SUBJECT: Board and Committee Notice: Introduction of New PFRS Staff Member
DATE: August 31, 2022

PFRS BOARD AND COMMITTEE NOTICE

The Oakland Police and Fire Retirement System has a new Benefits Representative as of July 25, 2022. A letter of introduction was mailed to members and beneficiaries Friday August 5, 2022. (*attachment 1*)

- **Denisse Guzman** replaces Carol Kolenda as the new Benefits Representative and joins the Retirement Unit with over 8 years of experience in the public sector proactively assisting members with their benefits and payroll queries.

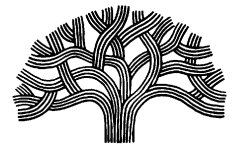
Respectfully submitted,

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

ATTACHMENT 1

New Benefits Representative Introduction Letter

CITY OF OAKLAND



150 FRANK H. OGAWA PLAZA, SUITE 3349 • OAKLAND, CALIFORNIA 94612-2021
Finance Department
Treasury Bureau
Retirement Unit

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

August 5, 2022

MEMBER NAME
ADDRESS
CITY, STATE ZIP

RE: City of Oakland's Police and Fire Retirement Unit

Dear PFRS Retirees and Beneficiaries:

The City of Oakland Police & Fire Retirement Unit is excited to welcome Denisse Guzman as our new PFRS Benefits Representative.

Denisse joins the Retirement Unit with over 8 years of experience in the public sector proactively assisting members with their benefits and payroll queries. We are confident that Denisse will take great care of the PFRS members and beneficiaries.

If you have any pending forms, they may be returned to Denisse via email or mailed to 150 Frank H. Ogawa Plaza, Suite 3349, Oakland, CA 94612.

If you have any questions, please free to reach out to Denisse via email at DGuzman@oaklandca.gov, or call her directly at (510) 238-6480 for assistance. She will be happy to answer any questions you have.

Sincerely,

A handwritten signature in black ink, appearing to read 'David F. Jones', with a stylized flourish at the end.

David F. Jones
Plan Administrator
Oakland Police & Fire Retirement System



AGENDA REPORT

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

SUBJECT: Board and Committee Notice: New Board Member **DATE:** August 31, 2022

PFRS BOARD AND COMMITTEE NOTICE

The Board of the Oakland Police and Fire Retirement System has a new Board Member and a new Benefits Representative.

- **Martin J. Melia**, retired Fire PFRS member, replaces Kevin R. Traylor, retired Police PFRS Member, as the 3-year Alternating Police/Fire PFRS Board Member. His term commences September 1, 2022 and concludes August 30, 2025.

Respectfully submitted,

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

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8060

Approved to
Form
and Legality



ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION EXPRESSING APPRECIATION TO KEVIN R. TRAYLOR FOR HIS DEDICATION, LOYAL AND VALUABLE SERVICE AS A MEMBER OF THE OAKLAND POLICE AND FIRE RETIREMENT SYSTEM BOARD.

WHEREAS, Kevin R. Traylor was elected to the Board of Administration of the Oakland Police and Fire Retirement System (PFRS) as the 3-Year Alternating Police/Fire Representative in accordance with Section 2601 of the Oakland City Charter commencing on February 26, 2020; and

WHEREAS, Kevin R. Traylor served as a member of the PFRS Audit and Operations Committee during his entire term and assisted the Board and helped guide the Board with policy decisions; and

WHEREAS, on August 31, 2022, Kevin R. Traylor's term as 3-Year Alternating Police/Fire Representative of the PFRS Board will end; now, therefore, be it

RESOLVED: That the Oakland Police and Fire Retirement System Board does hereby commend Kevin R. Traylor for his loyal service from February 26, 2020 to August 31, 2022 and express appreciation for his dedication and valuable contribution as a member of the Oakland Police and Fire Retirement System Board; and be it

FURTHER RESOLVED: That the members of the Oakland Police and Fire Retirement System Board express their sincere best wishes to Kevin R. Traylor for a healthy and prosperous future.

IN BOARD MEETING, VIA ZOOM CONFERENCE AUGUST 31, 2022

PASSED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ATTEST: _____
PRESIDENT

ATTEST: _____
SECRETARY

Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Administrative Budget Spent to Date (Preliminary)

As of June 30, 2022

	Approved Budget		June 2022		FYTD		Remaining		Percent Remaining	
Internal Administrative Costs										
PFRS Staff Salaries	\$	1,212,000	\$	80,769	\$	1,070,033	\$	141,967		11.7%
Board Travel Expenditures		52,500		-		1,711		50,789		96.7%
Staff Training		20,000		1,318		1,318		18,682		93.4%
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		40,000		-		0.0%
Miscellaneous Expenditures		40,000		817		11,133		28,867		72.2%
Internal Service Fees (ISF)		88,000		4,400		80,952		7,048		8.0%
Contract Services Contingency		50,000		-		1,200		48,800		97.6%
Internal Administrative Costs Subtotal :	\$	1,513,600	\$	127,303	\$	1,206,347	\$	307,253		20.3%
Actuary and Accounting Services										
Audit	\$	49,000	\$	-	\$	48,300	\$	700		1.4%
Actuary		46,500		-		23,896		22,604		48.6%
Actuary and Accounting Subtotal:	\$	95,500	\$	-	\$	72,196	\$	23,304		24.4%
Legal Services										
City Attorney Salaries	\$	188,000	\$	58,085	\$	180,851	\$	7,149		3.8%
Legal Contingency		150,000		-		-		150,000		100.0%
Legal Services Subtotal:	\$	338,000	\$	58,085	\$	180,851	\$	157,149		46.5%
Investment Services										
Money Manager Fees	\$	1,353,000	\$	271,551	\$	1,259,155	\$	93,845		6.9%
Custodial Fee		124,000		29,125		116,500		7,500		6.0%
Investment Consultant		100,000		25,000		100,000		-		0.0%
Investment Subtotal:	\$	1,577,000	\$	325,676	\$	1,475,655	\$	101,345		6.4%
Total Operating Budget	\$	3,524,100	\$	511,064	\$	2,935,049	\$	589,051		16.71%

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of June 30, 2022

	June 2022
Beginning Cash as of 5/31/2022	\$ 7,348,489
Additions:	
City Pension Contribution - June	\$ 3,651,667
Investment Draw	\$ 1,000,000
Misc. Receipts	3,760
Total Additions:	\$ 4,655,427
Deductions:	
Pension Payment (May Pension Paid on 6/1/2022)	(4,200,664)
Expenditures Paid	(283,443)
Total Deductions	\$ (4,484,107)
 Ending Cash Balance as of 6/30/2022*	 \$ 7,519,809

* On 7/1/2022, June pension payment of appx \$4,183,900 will be made leaving a cash balance of \$3,336,000.

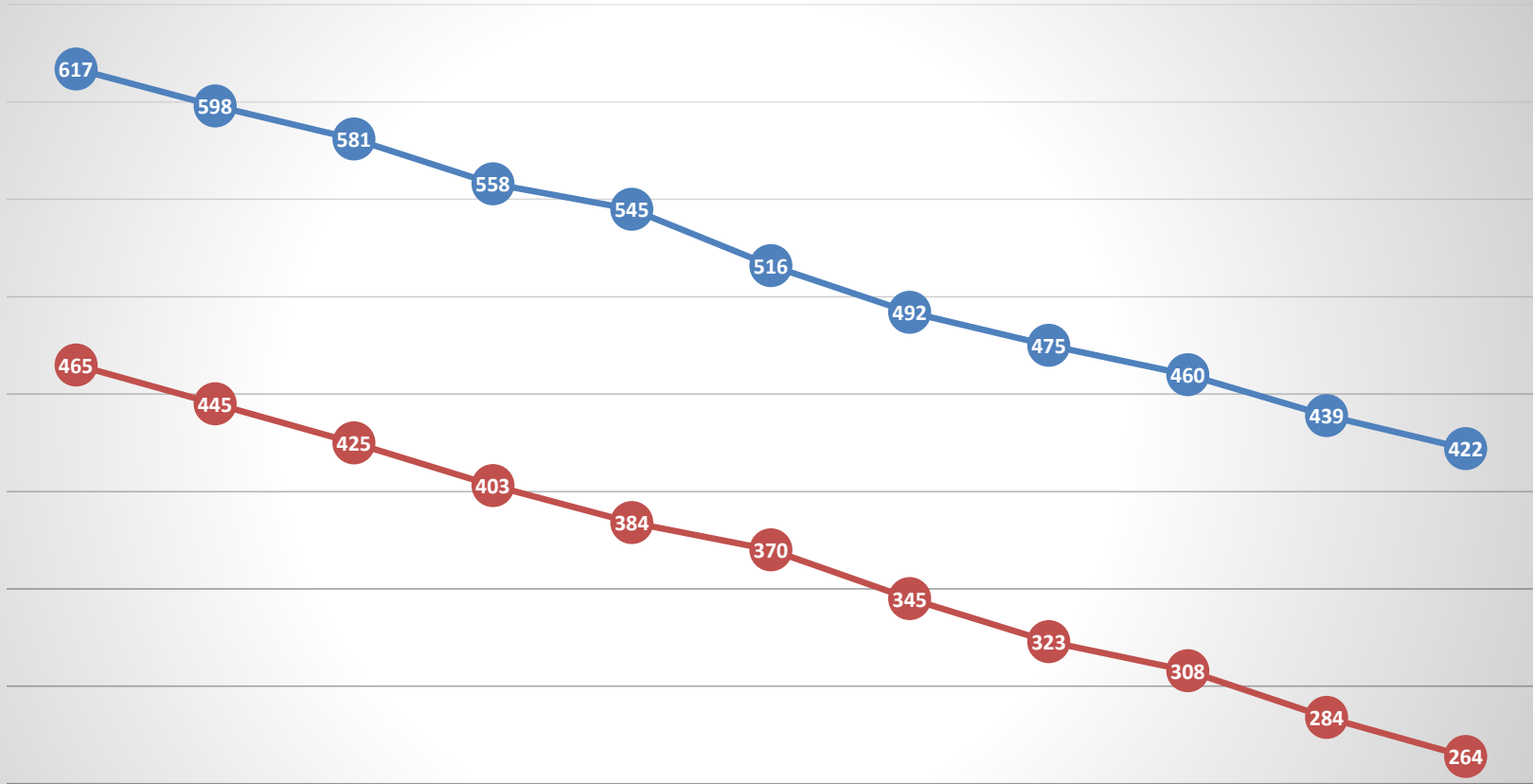
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of June 30, 2022

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	294	167	461
Beneficiary	128	97	225
<i>Total Retired Members</i>	422	264	686
<i>Total Membership:</i>	422	264	686

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	283	133	416
Disability Retirement	129	120	249
Death Allowance	10	11	21
<i>Total Retired Members:</i>	422	264	686
<i>Total Membership as of June 30, 2022:</i>	422	264	686
<i>Total Membership as of June 30, 2021:</i>	439	284	723
<i>Annual Difference:</i>	-17	-20	-37

Oakland Police and Fire Retirement System Pension Plan Membership Count As of June 30, 2022 (FY 2012 - FY 2022)

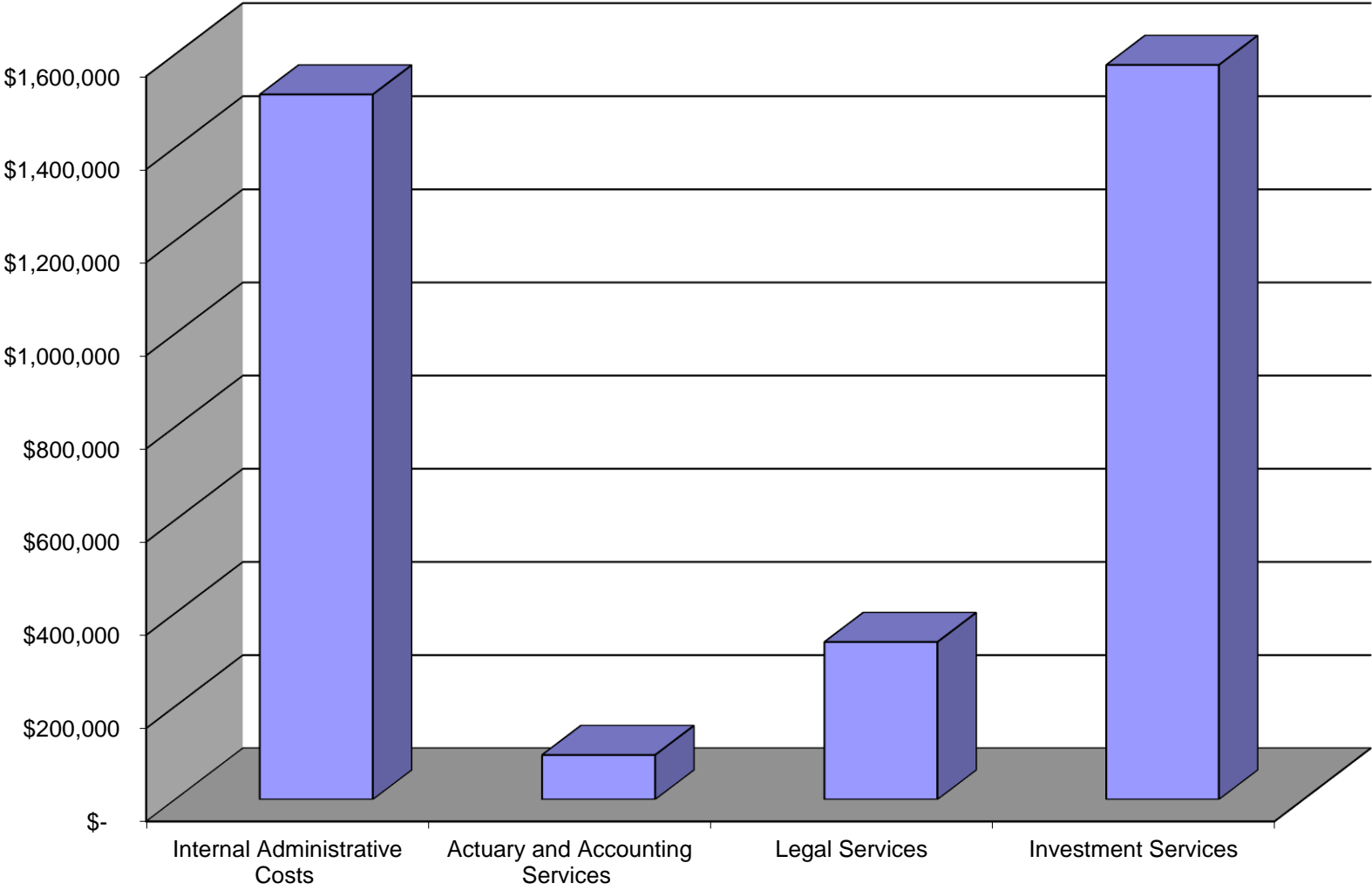


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 FYTD
Police	617	598	581	558	545	516	492	475	460	439	422
Fire	465	445	425	403	384	370	345	323	308	284	264
Total	1082	1043	1006	961	929	886	837	798	768	723	686

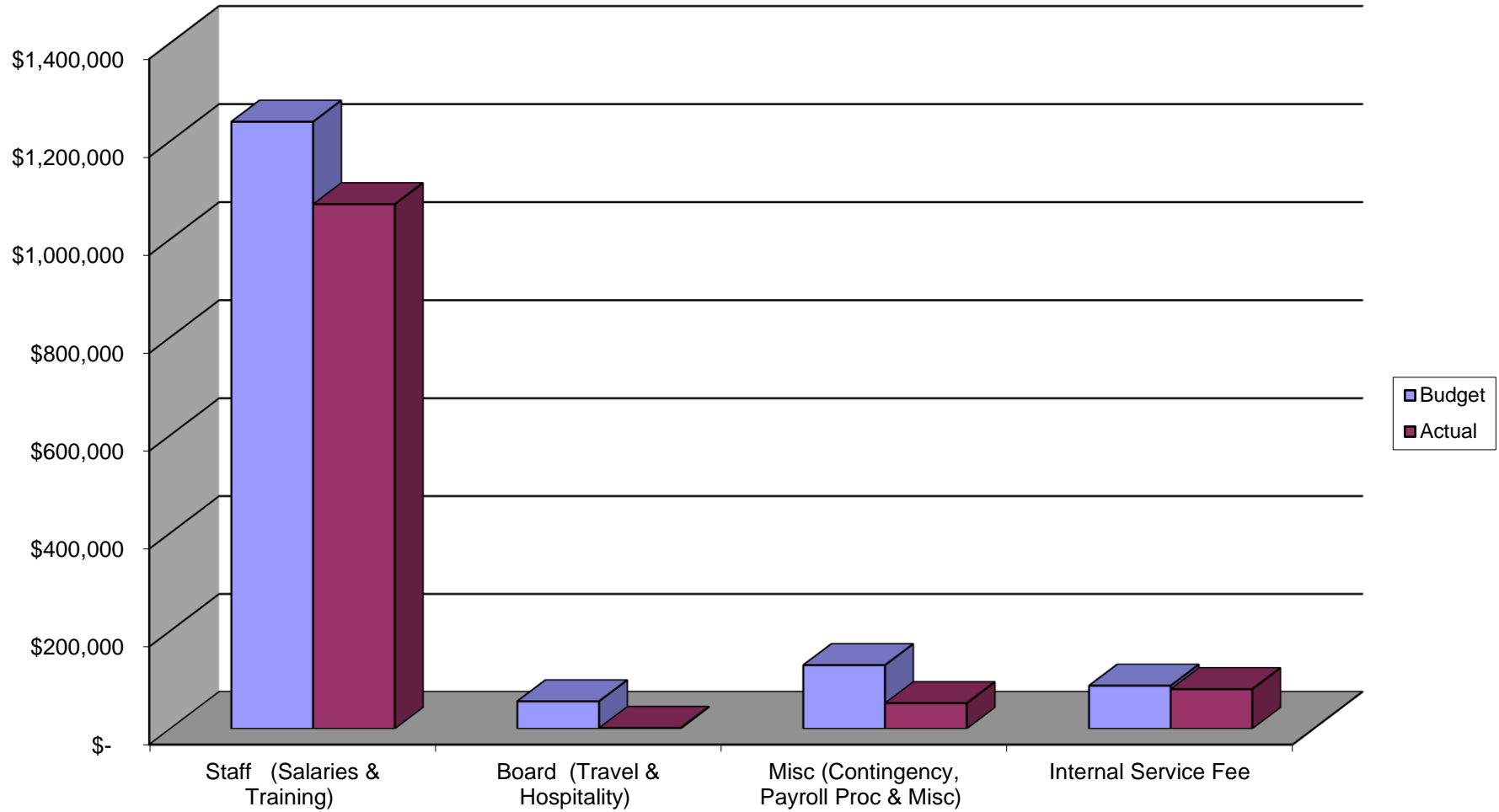
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Approved Budget

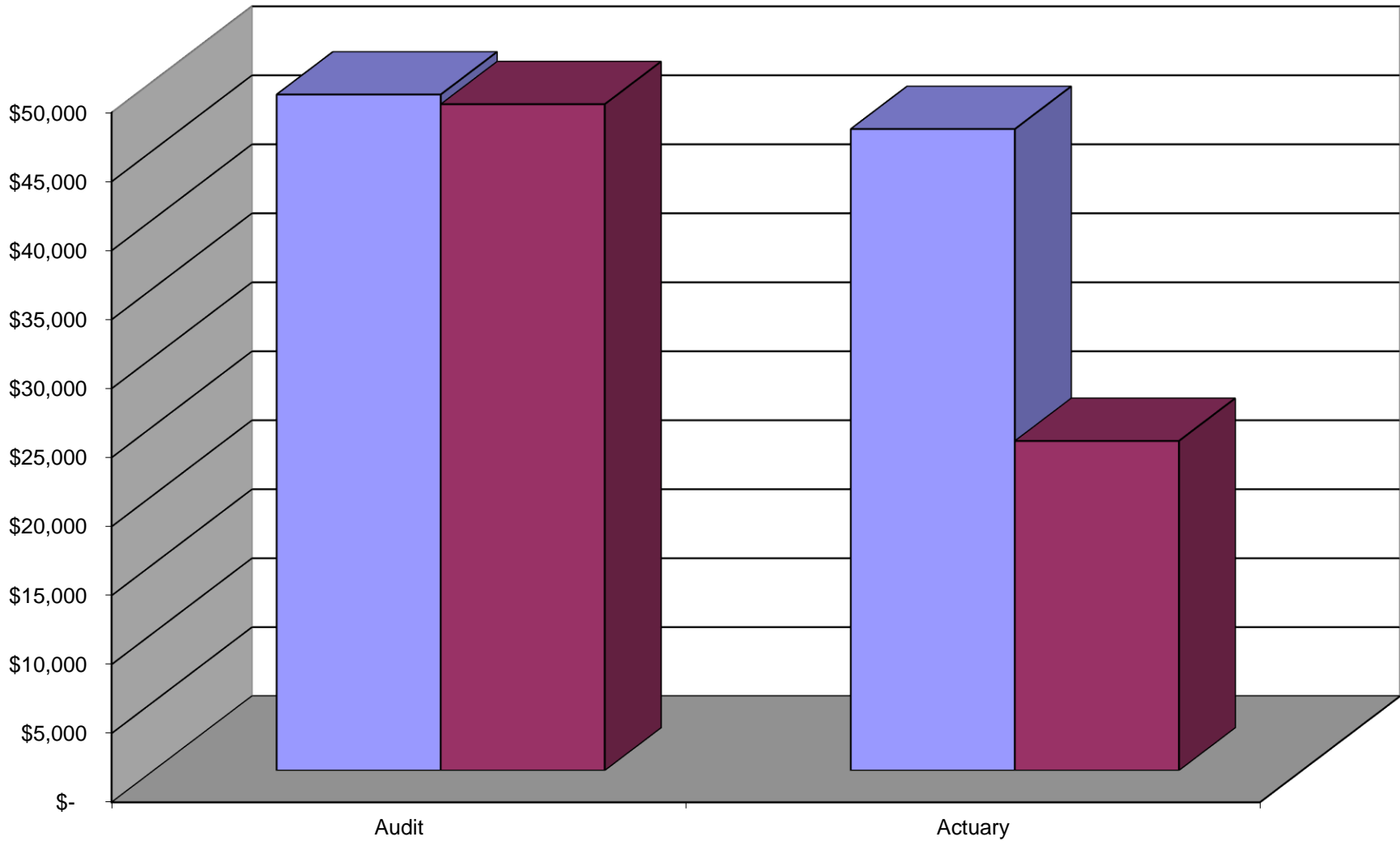
FY 2021-2022



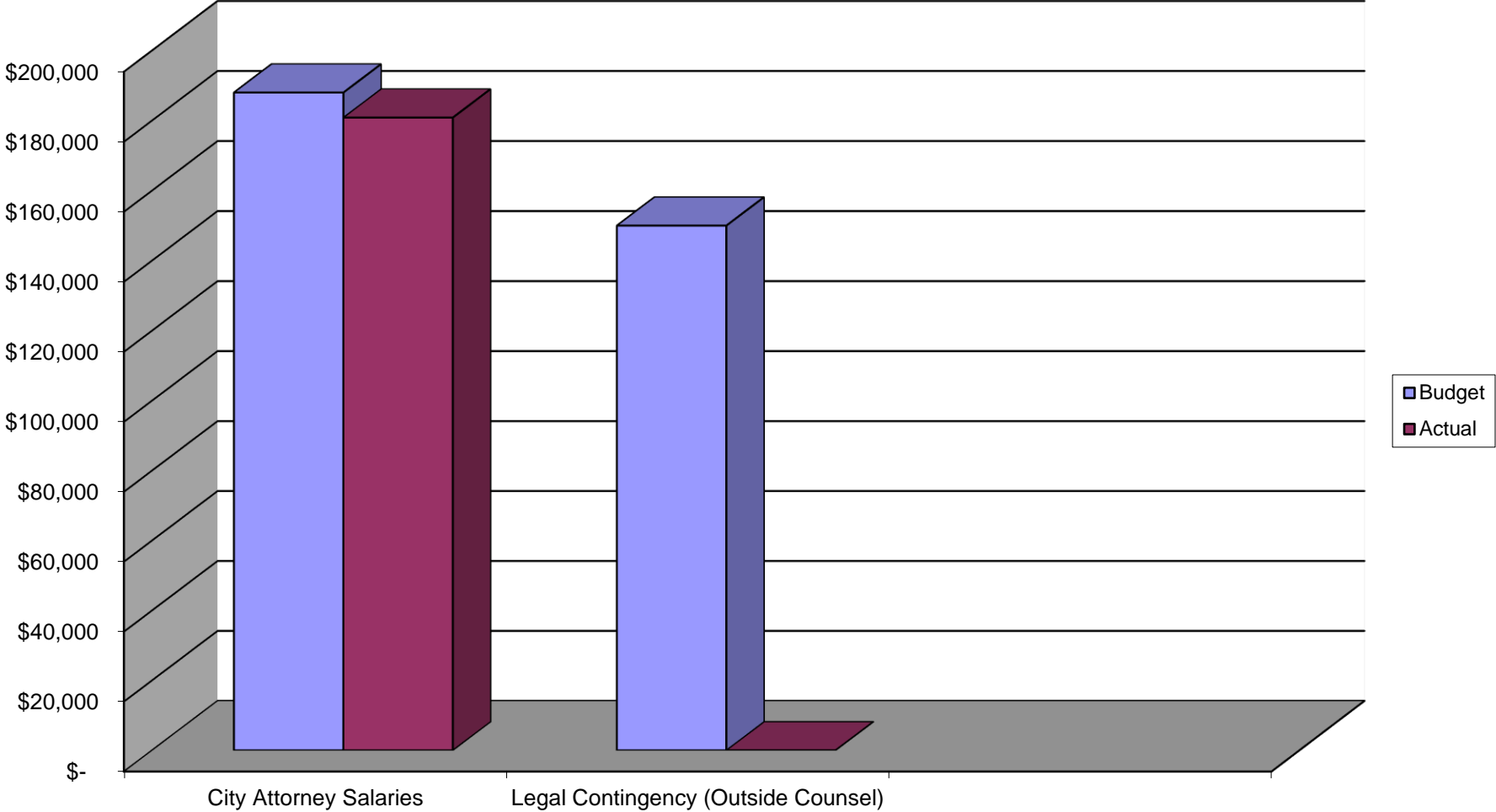
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs Actual as of June 30, 2022
Internal Administrative Costs



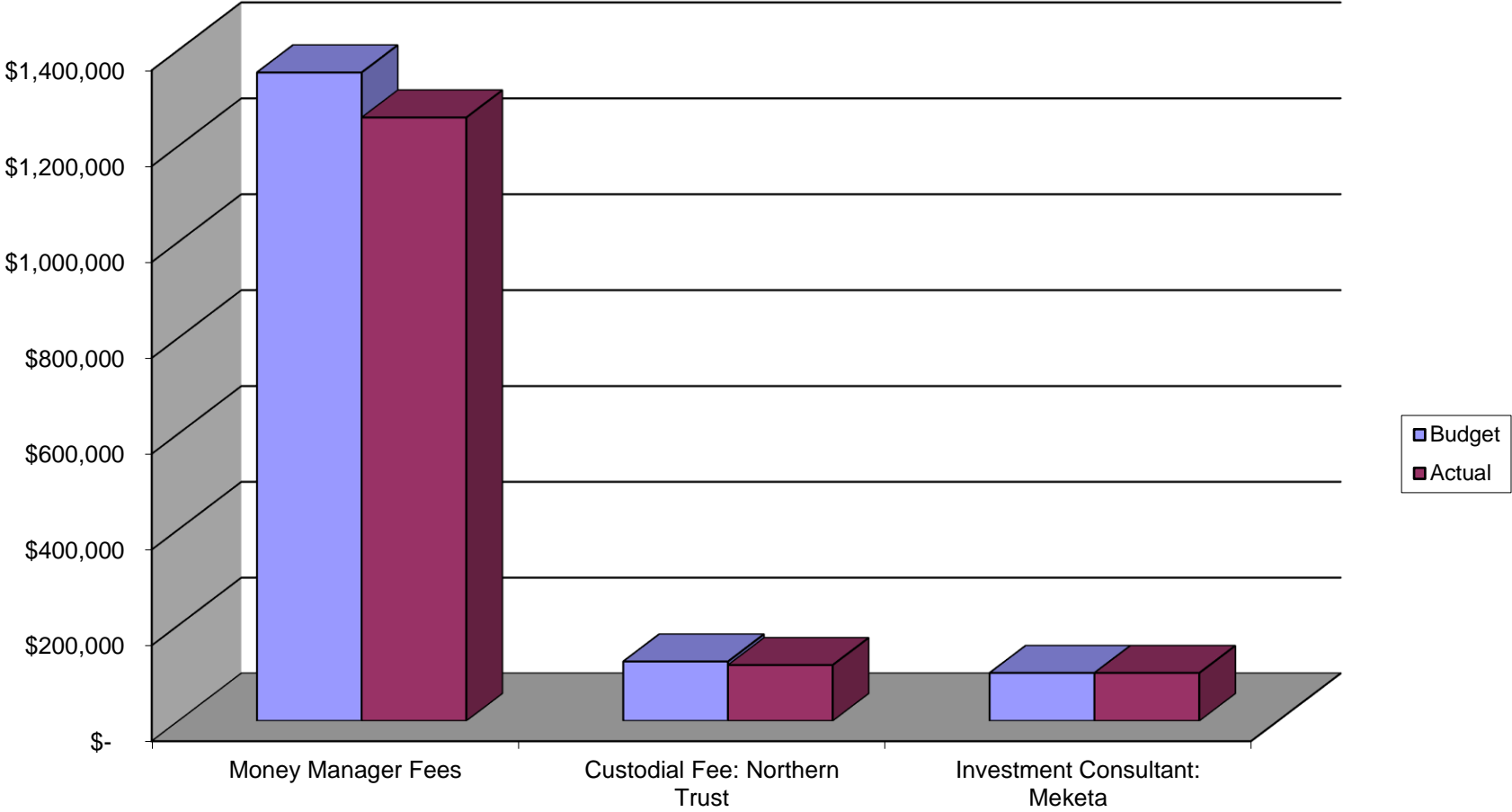
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2022
Actuary and Accounting Services



OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2022
Legal Services



OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2022
Investment Services





Oakland Police & Fire Retirement System Covered Call Portfolio Review

August 31, 2022

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Firm Overview

Parametric Overview

We help institutional investors build, manage, and protect their portfolios.



Extensive, established investment capabilities

Industry pioneers in overlay solutions and custom indexing, Parametric is a trusted fiduciary for institutional asset owners.



Focus on transparency and repeatability

We provide research- and rules-based solutions with a quantitative approach. Our solutions span global markets, asset classes, and instrument types.



Extension of staff partnership

We help investors solve specific portfolio challenges, implementing tailored solutions via a high-touch service model.

\$376B+

Firm wide ¹AUM, including \$176B in institutional assets

500+

Institutional client relationships

180

Investment professionals, including 106 CFA charter holders and 8 PhDs

30+

Years of investment experience across equities, fixed income, and derivatives

Asset figures are approximate as of 06/30/2022.

¹AUM includes overlay exposure, and both discretionary and non-discretionary assets of Parametric Portfolio Associates® LLC (the Firm). Please refer to the disclosures for additional information regarding the Firm.



Institutional Capabilities

We offer a comprehensive platform for investors seeking to:

- ✓ Eliminate inefficiencies
- ✓ Create custom exposures
- ✓ Capitalize on market opportunities
- ✓ Address strategic and episodic risks

Efficient implementation

Flexible exposure management programs tailored to fit specific needs

Solution ideas

- Cash overlay
- Rebalancing
- Transition exposure
- Custom equity exposures
- Custom fixed income exposures
- Responsible investing (ESG)

Return enhancement

Systematic strategies that seek alpha across asset classes

Solution ideas

- Alternative risk premia
- Systematic alpha
- Portable alpha
- Commodity management
- Tax management

Risk mitigation

Customizable tools that address and manage specific portfolio risks

Solution ideas

- Tail-risk strategies
- Market and security hedging programs
- Asset and liability hedging
- Currency management

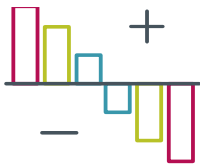
Investing involves market- and program-specific risks. All investments are subject to loss.

The Parametric Difference



Collaborative, client-centric approach

Clients are supported by a high-touch, consultative team with decades of experience structuring and executing custom strategies.



The next level of implementation refinement

Our investments in technology and thoughtful trade execution deliver highly competitive solutions across markets.



Comprehensive, transparent investment approach

Clients gain comprehensive exposure management tools with daily reporting delivered in a customizable format.

Diversity, Equity, and Inclusion

Our mission

We aspire to be an industry leader in our representation of a truly diverse and inclusive workforce to reflect the communities in which we live and work.

Our principles



Accountability

Senior leadership teams take actions to improve diversity, equity, and inclusion.



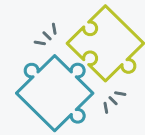
Advancement

Through training and education, we support all employees along their career journeys.



Representation

We boost representation through targeted recruitment, development, and retention.



Culture

We aim to foster an atmosphere of inclusion and belonging.

Helping our clients stay true to their DEI missions

We offer you customizable ways to pursue your missions through our wide array of responsible investing strategies, including portfolio construction and active ownership.

"Making sustained, meaningful progress in our firm's DEI agenda is a top priority for Parametric. Our employees deserve it, our clients expect it, and we perform better as a business because of it." —Brian Langstraat, CEO

Representative Client List as of June 30, 2022

> **Public**

East Bay Municipal Utility District
Fairfax County Retirement Systems
Houston Police Officers' Pension System
Manhattan & Bronx Surface Transit Operating Authority Pension Plan
Marin County Employees' Retirement Association
Massachusetts Pension Reserves Investment Management Board
New Mexico Public Employees' Retirement Association
Oakland Police and Fire Retirement System
Orange County Employees Retirement System
San Mateo County Employees' Retirement Association
Teachers Retirement System of Louisiana
Utah School & Institutional Trust Funds Office
Wisconsin Investment Board

> **Endowments**

Carnegie Institution of Washington
Florida State University
Indiana University Foundation
Pepperdine University
Texas Christian University
University of Michigan
University of Minnesota

> **Faith-Based**

Catholic Diocese of Fort Worth
Covenant Ministries of Benevolence
Ministers & Missionaries' Benefit Board of American Baptist Churches
Pension Fund of the Christian Church
YMCA Retirement Fund

> **Health care**

Advocate Aurora Health, Inc.
North Memorial Health Care
Trinity Health

> **Taft-Hartley**

Board of Trustees ABC-NABET Retirement Trust Fund
Boilermaker-Blacksmith National Pension Trust
Greater Pennsylvania Carpenters' Pension Fund
Chicago Laborers' Pension & Welfare Funds
International Union of Painters and Allied Trades
SEIU Benefit Funds
Teamsters, Western Pennsylvania

> **Foundations**

The John D. & Catherine T. MacArthur Foundation
The McKnight Foundation
Strada Education Network, Inc.
Wisconsin Alumni Research Foundation

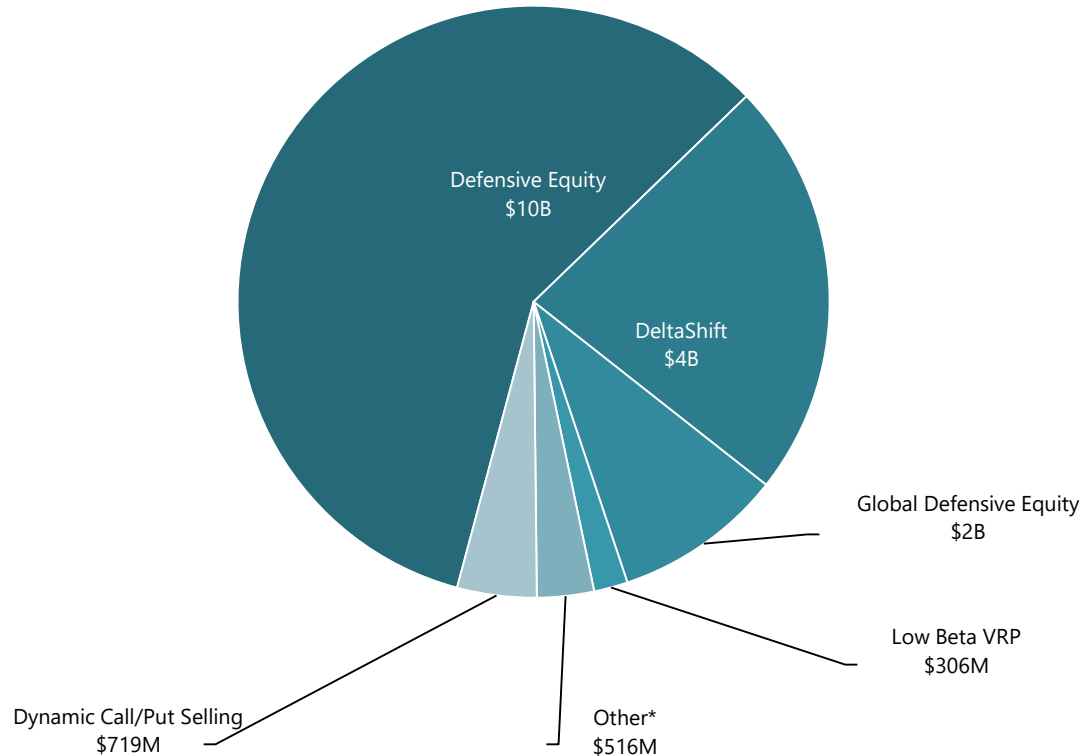
> **Corporate**

The Boeing Company
Eversource Energy
3M Company
Target Corporation
Raytheon Technologies Corporation

It is not known whether the listed clients approve or disapprove of the advisor. The clients on the partial list included herein were selected as being representative of the different types of institutional clients and businesses serviced by Parametric. Performance-based data was not a determining factor in their selection.

Parametric Volatility Risk Premium Strategies

Assets by Strategy



Volatility Risk Premium Strategies Total Assets of \$ 16.6 Billion
Consists of Funded and Overlay Assets

*"Other" includes strategies Absolute Return VRP, BXM Replications, Elevated Beta VRP, Fixed Budget Put Buying, Multi-Asset Volatility Risk Premium, Options - Dynamic Hedged Equity, and Risk Managed Put Selling.

All numbers are approximate as of 6/30/2022 and include both discretionary and non-discretionary assets of the Firm.

Covered Call Investment Process

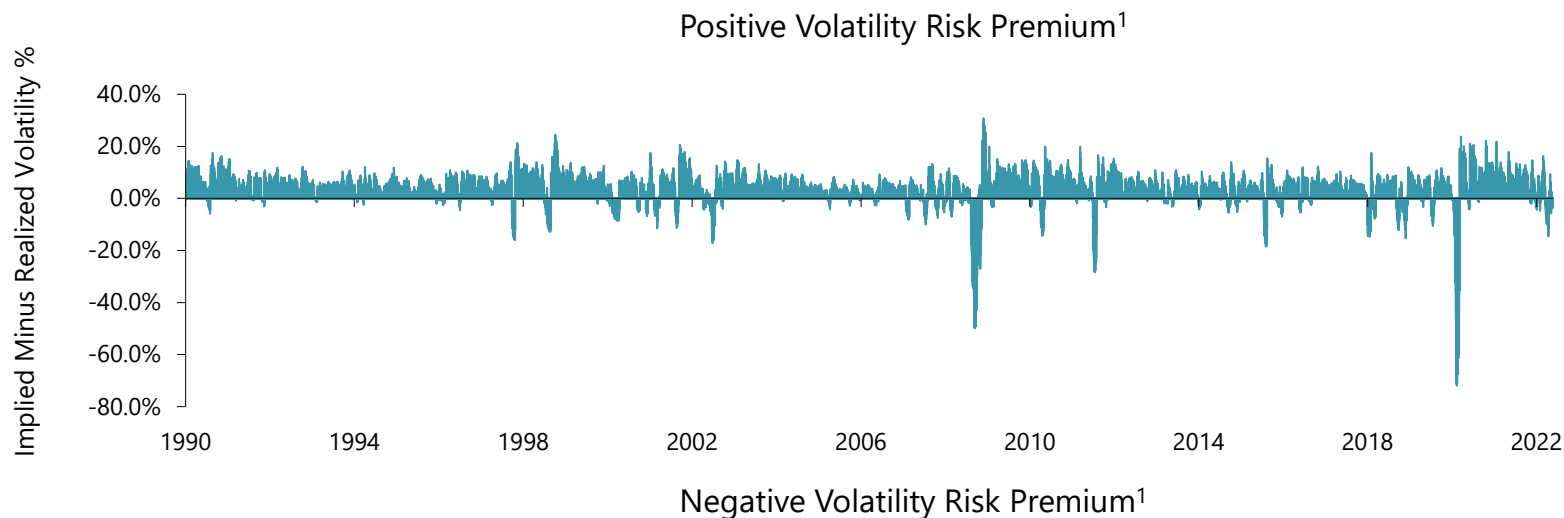
Investment Objectives

Parametric manages two covered call portfolios for Oakland Police and Fire: one utilizing the CBOE BXM BuyWrite Enhanced Replication strategy (“Enhanced BXM”) and one utilizing the Portfolio DeltaShift strategy (“DeltaShift”).

- **The Enhanced BXM objective** is to replicate the CBOE BXM Index with greater diversification than the published index.
- **The DeltaShift objective** is to monetize the existing volatility of the underlying large-cap portfolio and maintain partial upside equity participation that is often forgone in traditional call writing programs.
 - When equity markets are down, flat or moderately positive, DeltaShift seeks to add cash flow to the portfolio.
 - When equity markets are strong, DeltaShift may underperform the equity market.
 - DeltaShift is expected to deliver a positive return over market cycles, net of fees, as a result of the embedded volatility imbalance observed in the options market.

Empirical Data Supports Our Investment Thesis

S&P 500[®] Index options have traded with a positive volatility risk premium over 85% of the time since 1990.



Embedded risk premium creates opportunity to enhance return through option selling.

¹1990 to present represents longest period from which reliable data is available and accessible for S&P 500 Volatility Index. S&P 500[®] Index options relative valuation measured by taking daily observations of Implied Volatility (as measured by VIX Index) and subtracting the subsequent Realized Volatility of the S&P 500[®] over the subsequent 1 month (assuming 21 trading days). Options have historically traded about above subsequent realized volatility. Said another way, the option market tends to overestimate future volatility, which translates directly into higher prices for both puts and calls. VIX is the Chicago Board Options Exchange volatility index. VIX is calculated constantly throughout each trading day by observing the implied volatility derived from actual market prices of a wide array of put and call options with an average maturity of 30 days to expiration. For informational purposes only. It is not possible to invest directly in an index. All investments are subject to loss. Source: Parametric, Bloomberg; Date: 6/30/22.

Investment Objectives

DeltaShift and Enhanced BXM Investment Thesis

Equity index options have historically traded above “theoretical fair value”, and we expect this to continue.

- Option prices contain a “Volatility Risk Premium” (VRP) paid by option buyers to option sellers.
- The VRP is meaningful and likely to persist, it is a diversifying premium that most portfolios currently do not hold.
- A covered call portfolio can capture the VRP by selling covered options without introducing leverage.

Disciplined ▶ Liquid ▶ Transparent ▶ No Leverage

Investing in an options strategy involves risk. There is no guarantee that the investment objectives can be achieved. Please refer to the Appendix for additional information and disclosure.

Portfolio Construction & Overview

DeltaShift seeks to provide incremental return over an equity index or other base portfolio by systematically selling short-dated index call options. The additional return is received in exchange for potentially limiting upside participation in strong equity markets.

Standard portfolio construction & characteristics

- Long S&P 500[®] equity index portfolio (or other highly correlated equity portfolios)
- Systematic, rules-based call writing using exchange-traded, S&P 500[®] index call options
 - Option selection diversified across maturities and strike prices to mitigate risk
 - Favorable risk/reward trade-off
 - Early profit capture and risk reduction based on loss minimization implementation rules
- Expected to outperform the S&P 500[®] Index in down, sideways and moderately up markets, and expected to underperform in strong equity markets

DeltaShift Option Selection

When selling call options, we index the strike price to market volatility.

- Higher strike price in higher volatility environments; lower strike price in lower volatility environments
- At point of sale, call options expected to finish in the money approximately 1 in 4 times

In addition, DeltaShift incorporates the following factors in the option selection process:

- Liquidity – select options which helps to minimize market impact and transactions costs; exchange traded only — liquid, transparent and low cost
- Volatility – systematically select options which exhibit attractive risk vs. reward opportunities
- Maturity – select short-term options (1 – 3 months) to optimize time decay and minimize event risk; generally, short-dated options have higher implied volatility than longer dated options
- Diversification – select options with several different strikes and maturities; this reduces time/price specific risk

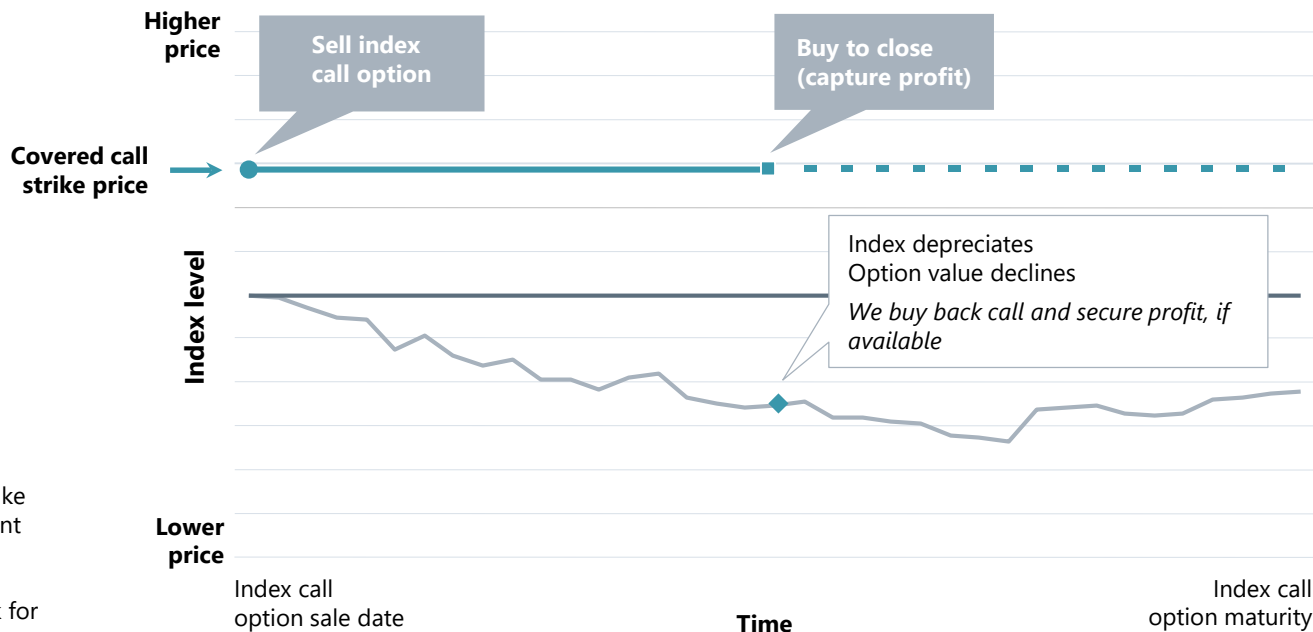
There is no guarantee that the investment objectives can be achieved. Investment management techniques require market liquidity in the specific option. Please refer to the Appendix for additional important information and disclosure.

DeltaShift Rules-Based Management

Portfolio management example: early profit capture

If the index option loses a significant amount of value due to index movement, change in volatility or excessive time decay, we seek to take profits and minimize risk.

Illustrative index price path
index depreciates



- 1/15/20 sold an option with 3/13/20 expiration and 3385 strike price. Received \$15,873 in upfront premium.
- 2/25/20 Bought the option back for \$1,444
- Profit: \$14,429 (over 90%).

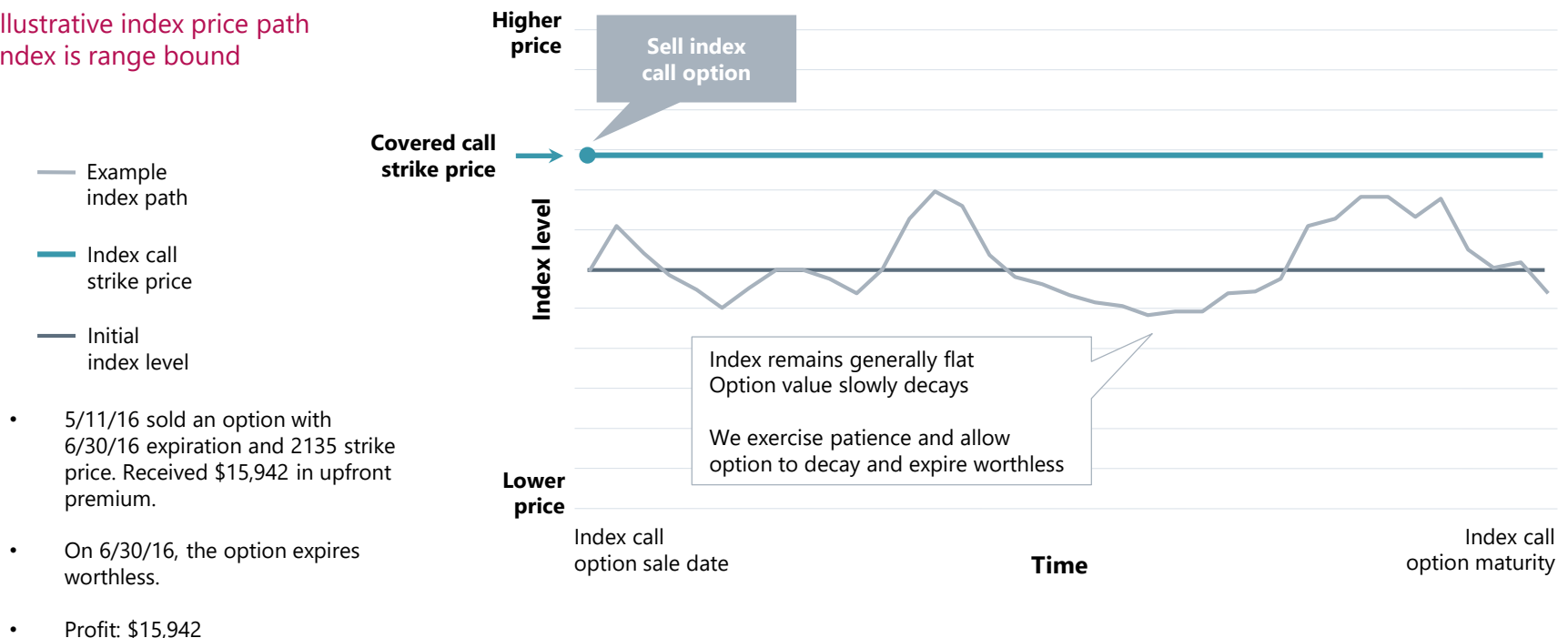
Source: Parametric. The above example is for demonstration and illustrative purposes only. Actual returns will vary from the illustrative example presented. There is no guarantee that the strategy will be successful. All investments are subject to potential loss of principal. Please refer to the Appendix for additional important information and disclosure.

DeltaShift Rules-Based Management

Portfolio management example: allow option to expire worthless

If the index remains within “expected” range, the option’s value “decays” each day. This is known as time decay. If the index remains below the option strike, we will let the option expire worthless.

Illustrative index price path
index is range bound



Source: Parametric. The above example is for demonstration and illustrative purposes only. Actual returns will vary from the illustrative example presented. There is no guarantee that the strategy will be successful. All investments are subject to potential loss of principal. Please refer to the Appendix for additional important information and disclosure.

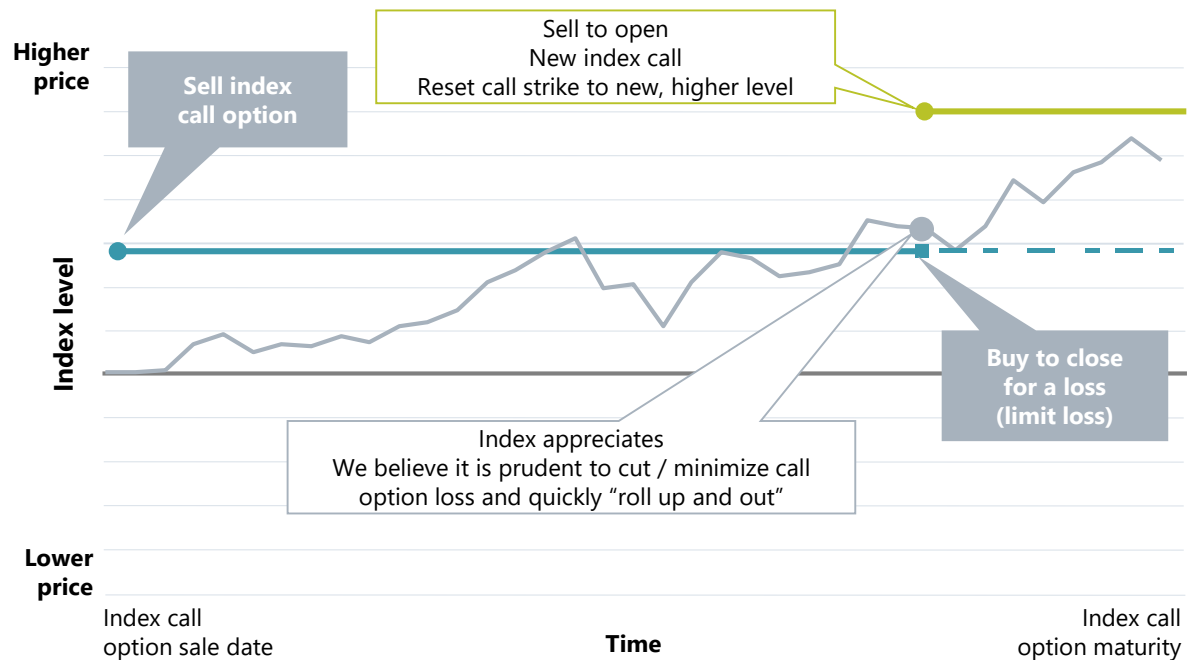
DeltaShift Rules-Based Management

Portfolio management example: risk management / loss mitigation

If underlying index appreciates from the initial index level and the risk vs. reward exposure becomes unfavorable, due to the convexity in options pricing, we seek to mitigate the risk by repurchasing the sold call option (generally for a loss) and sell a new, higher strike option by rolling the option “up and out” (up to a higher strike price and out to a longer maturity).

Illustrative index price path:
index appreciates

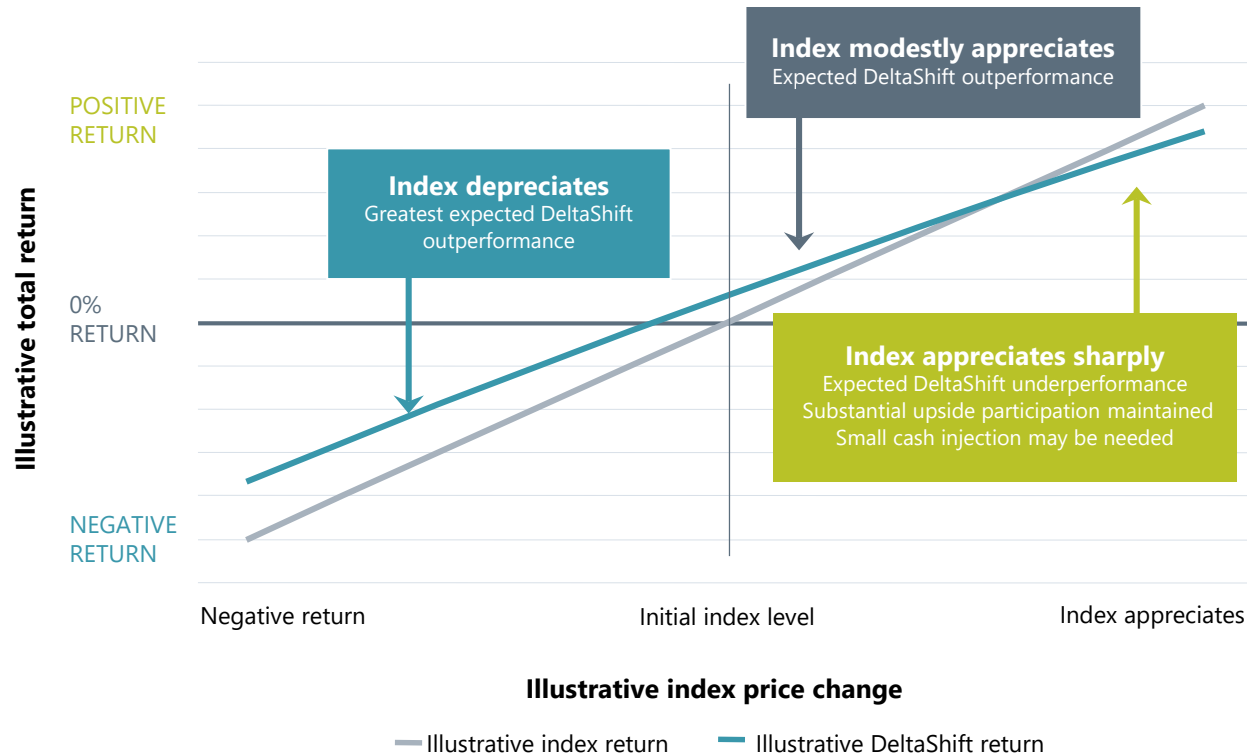
- Example index path
- Initial index level
- Index call strike price
- New index call strike price
- 11/15/19 sold an option with 1/31/20 expiration and 3230 strike price. Received \$14,070 in upfront premium.
- 1/13/20 bought the option back to mitigate risk for \$50,010.
- Loss: \$36K
- 1/13/20 sold new option with 3/13/20 expiration and 3370 strike price. Received \$13,190 in upfront premium and bought back on 2/27/20 for \$832. Led to a \$12,357 profit.



Source: Parametric. The above example is for demonstration and illustrative purposes only. Actual returns will vary from the illustrative example presented. There is no guarantee that the strategy will be successful. All investments are subject to potential loss of principal. Please refer to the Appendix for additional important information and disclosure.

DeltaShift Rules-Based Management

Illustrative DeltaShift results



Portfolio management example: risk management / loss mitigation

- Traditional call writing is a trade-off between receiving an upfront payment in exchange for giving away upside (being capped at a target level).
- Unlike traditional covered call writing, a key goal of DeltaShift is to maintain substantial (but not all) upside participation during times of sharp appreciation.

During these times we expect the total portfolio value to continue to appreciate (not be capped), but it may underperform the index itself

Source: Parametric. The above example is for demonstration and illustrative purposes only. Actual returns will vary from the illustrative example presented. There is no guarantee that the strategy will be successful. All investments are subject to potential loss of principal. Please refer to the Appendix for additional important information and disclosure.

DeltaShift Summary

Expected benefits

- Incremental return in down, sideways and moderately up markets
- Cash flow enhancement and management for future funding obligations
 - Generally, positive cash flow from call selling during declining equity markets can reduce need to sell into weakness
- Enhanced performance and attractive risk-adjusted returns
- Flexibility to include or exclude management of equity portfolio

Disciplined ▶ Liquid ▶ Transparent ▶ No Leverage

Please refer to the general disclosures in the Appendices.

Oakland Police & Fire Portfolio Review

Portfolio and Benchmark Returns - June 30, 2022

Oakland Police & Fire Retirement System

\$30.7 Million – **Total AUM**

\$15.0 Million - DeltaShift

\$15.7 Million – Enhanced BXM Replication

Inception Date

March 11, 2014

	Returns				
	Oakland Police & Fire Total Account (Net)	DeltaShift (Net)	Enhanced BXM Replication (Net)	BXM – CBOE S&P 500® Buy-Write Index (Net)	S&P 500® Index (Net)
QTD	-12.19%	-15.05%	-9.36%	-10.92%	-16.10%
YTD	-14.82%	-18.26%	-10.98%	-10.19%	-19.96%
1 Year	-6.35%	-8.47%	-4.50%	-2.62%	-10.62%
3 Year	8.38%	10.26%	5.80%	3.35%	10.60%
5 Year	7.88%	9.68%	5.60%	4.09%	11.31%
Since Inception	8.05%	9.87%	6.28%	5.15%	10.98%

Source: Parametric; Bloomberg; CBOE®

Performance is as of 6/30/2022 and is net of investment advisory fees. Past performance is not indicative of future results. All investments are subject to loss. It is not possible to invest directly in an index. They are unmanaged and do not reflect the deduction of fees and other expenses. Please refer to the Appendix for additional information and disclosure.



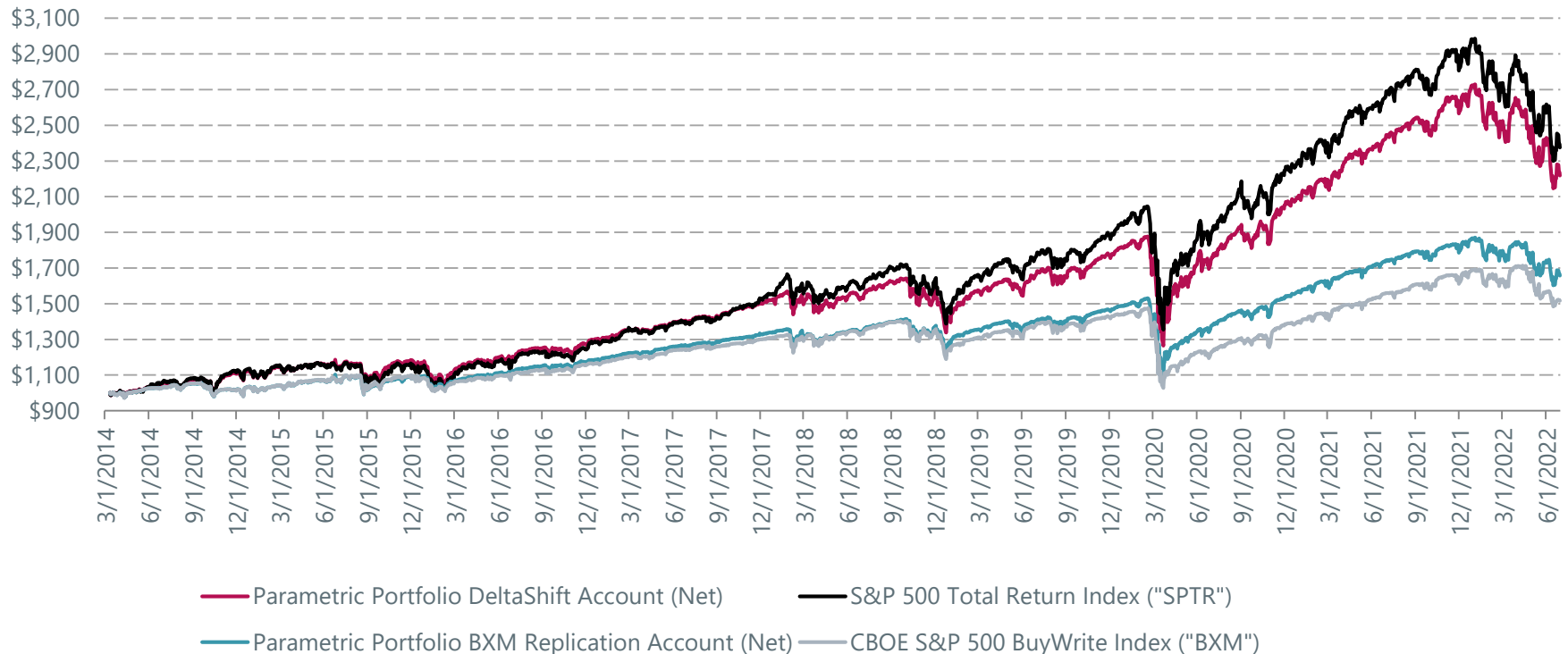
For One-on-One Use with Oakland Police & Fire Retirement System Only. Not for Use with the Public.

Second Quarter 2022

DeltaShift

Oakland Police & Fire Retirement System Portfolio Performance

Parametric Portfolio DeltaShift Account (Net) vs.
 Parametric Portfolio BXM Replication Account (Net)
 vs. S&P 500 Index Total Return vs CBOE BXM Index
Mar 13, 2014 - Jun 30, 2022



Source: Parametric; Bloomberg; CBOE®

*Performance is as of 6/30/2022 and is net of investment advisory fees. The deduction of an advisory fee would reduce an investor's return.

Past performance is not indicative of future results. All investments are subject to loss. It is not possible to invest directly in an index. They are unmanaged and do not reflect the deduction of fees and other expenses. Please refer to the Appendix for additional information and disclosure.



Oakland Police & Fire Retirement System Portfolio Performance

Parametric DeltaShift (Net) vs. Parametric BXM (Net) vs. S&P 500 Index Total Return vs CBOE BXM Index

	Parametric Portfolio DeltaShift Account (Net)		Parametric Portfolio BXM Replication Account (Net)		CBOE S&P 500 BuyWrite Index ("BXM")		S&P 500 Total Return Index ("SPTR")	
	Return	Volatility	Return	Volatility	Return	Volatility	Return	Volatility
Mar 13, 2014 - Dec 31, 2014	11.25%	9.99%	2.86%	8.83%	2.76%	8.82%	11.98%	11.15%
Jan 1, 2015 - Dec 31, 2015	2.79%	15.12%	6.07%	12.17%	5.24%	11.75%	1.38%	15.49%
Jan 1, 2016 - Dec 31, 2016	11.32%	11.77%	8.31%	8.86%	7.07%	8.51%	11.96%	13.10%
Jan 1, 2017 - Dec 31, 2017	17.49%	5.29%	13.25%	3.95%	13.00%	3.69%	21.83%	6.68%
Jan 1, 2018 - Dec 31, 2018	(6.15%)	15.80%	(4.04%)	13.38%	(4.77%)	13.45%	(4.38%)	16.73%
Jan 1, 2019 - Dec 31, 2019	27.40%	10.96%	15.81%	8.29%	15.68%	8.65%	31.49%	12.26%
Jan 1, 2020 - Dec 31, 2020	16.01%	32.24%	5.62%	26.17%	(2.75%)	26.54%	18.40%	33.84%
Jan 1, 2021 - Dec 31, 2021	28.88%	10.98%	18.58%	8.22%	20.47%	8.47%	28.71%	12.87%
Jan 1, 2022 - Jun 30, 2022	(18.26%)	23.74%	(10.97%)	18.81%	(10.19%)	17.33%	(19.96%)	24.60%
Annualized Since Inception	9.87%	16.67%	6.28%	13.41%	5.14%	13.35%	10.97%	17.77%

- > DeltaShift outperformed both BXM and PPA Enhanced BXM in most illustrated time frames plus since inception.
- > PPA Enhanced BXM outperformed BXM in most illustrated time frames plus since inception.

Source: Parametric; Bloomberg; CBOE®

Performance is as of 6/30/2022 and is net of investment advisory fees. The deduction of an advisory fee would reduce an investor's return.

Past performance is not indicative of future results. All investments are subject to loss. It is not possible to invest directly in an index. They are unmanaged and do not reflect the deduction of fees and other expenses. Please refer to the Appendix for additional information and disclosure.

Performance Commentary: A review of the Past Year

- > 2022 has generally been negative for the S&P 500, with the Index down almost 20% through 6/30/22.
- > As discussed previously, we'd expect the BXM Index to outperform Portfolio DeltaShift in this environment as the BXM Index sells calls with strike prices equal to the current S&P 500 Index at time of option inception.
- > For Portfolio DeltaShift, we sell call options whose strikes are above the S&P 500 level at inception, giving the Index room to go up before hitting the call strike.
- > Although Portfolio DeltaShift has returned less than the BXM Index in 2022, Portfolio DeltaShift has outperformed the BXM Index since program inception.
- > The VIX Index remains elevated, closing above 20 for much of the year. For Portfolio DeltaShift, our rules-based approach results in more room between S&P 500 level at time of option inception and strike price (i.e. there is more room for S&P 500 to go up) and higher upfront premiums.
- > Enhanced BXM Replication (4 rolling one-month call option tranches vs. one monthly tranche for BXM) has trailed the BXM Index in 2022. The relative performance of Enhanced BXM and BXM depends on the path the S&P 500 Index takes.
- > The goal of Enhanced BXM Replication is to diversify strikes and maturities. Some paths may favor BXM and some may favor Enhanced BXM. Enhanced BXM has outperformed since inception.

Appendix

Parametric Diversity Survey (6/30/2022)

DATA AS OF 06/30/2022

Firm Name	Parametric Portfolio Associates, LLC
Product Name	BXM Replications and Portfolio DeltaShift

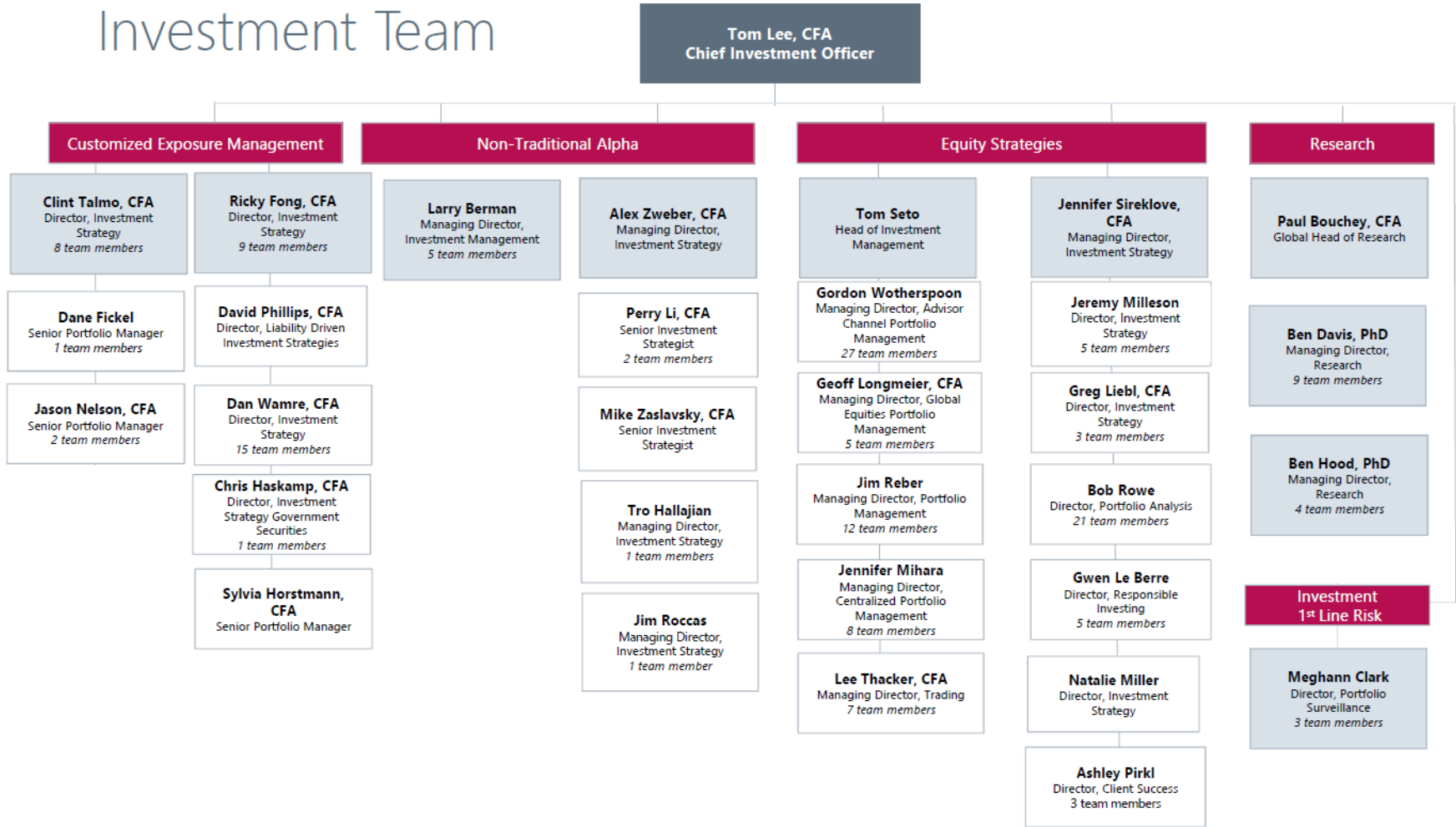
Total Number of Employees	730
---------------------------	-----

Race and Ethnicity*	Percentage (%) of Board of Directors / Managing Members	Percentage(%) of Firm (Entire Staff)	Percentage (%) of Firm (Investment Professionals)
African American/Black	Not applicable.	3.84%	2.22%
Asian/Hawaiian/Pacific Islander	Not applicable.	17.95%	16.11%
Latino/Hispanic	Not applicable.	3.70%	1.11%
White	Parametric is a part of Morgan Stanley Investment Management, the asset management division of Morgan Stanley.	68.90%	75.00%
American Indian/Alaska Native	Not applicable.	0.41%	0.56%
Other	Not applicable.	5.21%	5.00%
Gender			
Male	Not applicable.	64.93%	77.22%
Female	Not applicable.	35.07%	22.78%
Non-Identified/Other	Parametric is a part of Morgan Stanley Investment Management, the asset management division of Morgan Stanley.	0%	0%

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

Gender and Ethnicity metrics reflect a point in time and may not reflect voluntary employee changes to their gender or race/ethnicity. Individuals who have not declared their race/ethnicity or who have declared two or more races/ethnicities are included in the "Other" category.

Investment Team



As of 7/21/2022 Shaded box denotes direct report to Tom Lee. Team member counts represent personnel not specifically identified in chart who report either directly or indirectly to the person under which they are counted.

Potential Risks

Strategies utilizing options have certain risks. One or more combinations of the following risks may be incurred:

Risk	Description
Trade Restrictions Risk	Like other strategies that utilize exchange-traded instruments, a trading halt or other suspension of trading, whether or not temporary in nature, may limit Parametric's ability to implement portfolio modifications.
Liquidity Risk	During periods of heightened volatility, there may be a reduction in liquidity that impacts option pricing or bid/offer spreads. Such occurrences could impact the investment manager's ability to establish new or liquidate existing positions and subject portfolio to losses.
Option Collateral Risk	Changes in option collateral requirements could require positions to be modified or removed, which may produce results meaningfully different from objectives.
Opportunity Risk	Selling call options could limit investment gains if underlying index advances beyond call strike price.

Please refer to the general disclosures in the Appendices.

Large Capitalization U.S. Equity Portfolio DeltaShift (Unfunded, Brokerage) Composite
GIPS Composite Report
Reported in: USD

	Total Gross Return AWR	Total Net Return AWR	Primary Benchmark	3Yr Ex Post Std Dev Composite Gross	3Yr Ex Post Std Dev Primary Benchmark	Internal Equal Wtd. Dispersion	Number Of Portfolios	Year-End Composite Overlay Exposure (MM)	Total Firm Assets (MM)	Total Firm Overlay Exposure (MM)	Total Firm Economic Exposure (MM)*
2012	-0.84%	-1.43%	-9.92%	1.96%	7.27%	0.33%	37	1,751	63,431		
2013	-4.33%	-4.91%	-14.96%	1.82%	5.97%	0.44%	25	826	80,896		
2014	0.34%	-0.26%	-0.86%	1.69%	5.29%	0.19%	30	829	94,545		
2015	1.84%	1.24%	3.07%	1.83%	5.89%	0.20%	117	2,498	99,248		
2016	-0.31%	-0.91%	-5.05%	1.68%	5.98%	0.28%	194	2,457	111,470		
2017	-3.16%	-3.74%	-7.46%	1.82%	5.74%	0.39%	258	3,010	137,760		
2018	-1.90%	-2.46%	-1.10%	2.62%	5.55%	0.39%	188	2,310	122,628		
2019	-2.98%	-3.56%	-12.61%	2.74%	5.62%	n.m.	140	2,512	277,776		
2020	-1.99%	-2.57%	-20.24%	3.11%	7.96%	0.93%	56	403	241,115	106,570	347,685
2021	-0.20%	-0.79%	-7.06%	2.58%	7.83%	0.44%	34	389	292,367	126,067	418,434

n.m. = Not Meaningful

Primary Benchmark: Custom CBOE S&P 500 BuyWrite Index Option Attribution Index

Composite Creation Date: December 1, 2013; Inception Date: August 1, 2007

* Total Firm Economic Exposure is the sum of the total firm assets and the firm overlay exposure. Firm overlay exposure represents the sum of the notional exposure of the overlay strategy portfolio or a specific contractual program notional value.

1 Parametric Portfolio Associates® LLC claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Parametric Portfolio Associates® LLC has been independently verified for the periods January 1, 2000 to December 31, 2021. The verification report(s) is/are available upon request. 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. 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.

2 Parametric Portfolio Associates® LLC (the "Firm") is an investment advisor registered under the Investment Advisers Act of 1940. Parametric Portfolio Associates® LLC provides rules-based investment management services to institutional investors, individual clients and commingled investment vehicles, including Systematic Alpha and Income Strategies, Custom Core, Centralized Portfolio Management ("CPM"), Customized Exposure Management ("CEM"), Volatility Risk Premium ("VRP"), Tax-Advantaged Bond Strategies (TABS), and Taxable Bond Strategies. The Firm has complied with the GIPS standards retroactive to January 1, 2000.

Prior to July 1, 2019, the firm included only the Parametric Investment & Overlay Strategies. On July 1, 2019, the firm was redefined to include the Parametric Custom Tax-Managed & Centralized Portfolio Management Strategies. On January 1, 2020, the firm was redefined to include the Tax-Advantaged Bond Strategies (TABS), and Taxable Bond Strategies previously managed by Eaton Vance Management, an investment affiliate of Parametric's parent company, Eaton Vance Corporation. For the purpose of complying with the GIPS standards, the Firm is defined and held out to the public as Parametric Portfolio Associates® LLC.

On March 1, 2021, Eaton Vance Management and its affiliates (which includes Parametric Portfolio Associates® LLC) became wholly-owned, subsidiaries of Morgan Stanley. The Firm continues to operate as Parametric Portfolio Associates® LLC.

3 The methodology used to calculate composite overlay exposure represents the contractual program notional value.

4 Portfolio daily returns represent the change of the daily options' gains and losses divided by the daily contractual program notional value. Monthly returns reflect the arithmetic sum of the daily returns during the applicable calendar month. Collateral and collateral income are not reflected in the composite returns. Performance results are expressed in U.S. dollars. Past performance is not an indication of future performance.

5 Internal dispersion is calculated retroactively based on the sample using the equal-weighted standard deviation of the annual gross returns of those portfolios that were included in the composite for the entire year. When the composite consists of five or fewer portfolios for the full year, no dispersion measure is presented. The three-year annualized standard deviation measures the variability of the composite gross returns and the benchmark returns over the preceding 36-month period.

6 Policies for valuing investments, calculating performance, and preparing GIPS Reports are available upon request.

7 A list including composite descriptions and pooled funds descriptions for limited distribution pooled funds is available upon request.

8 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.

9 Large Capitalization U.S. Equity Portfolio DeltaShift (Unfunded, Brokerage) Composite includes all fully discretionary unfunded brokerage portfolios that utilize a call option selling strategy on the S&P 500 Index (or other underlyings that are designed to economically track the returns of the S&P 500 Index). The DeltaShift option strategy, when combined with the daily returns of the S&P 500 Index, seeks to increase the total return and reduce the volatility relative to the returns of the S&P 500 Index. Key risks for strategies utilizing option have one or more combinations of the following risks that may be incurred: market risk, trade restrictions risk, liquidity risk, early termination risk, option collateral risk and opportunity risk.

- 10 Composite net of fees performance results are calculated utilizing a model fee and reflect the deduction of 0.60%. The fees for the investment management services described herein are described in the fee schedule.
- 11 The management fee schedule for this strategy is: Segregated Account 0.60% on the first \$20 million; 0.50% on the next \$20M; 0.40% thereafter.
- 12 The composite's benchmark is the Custom CBOE S&P 500 BuyWrite Index Option Attribution Index. The Custom Index represents the difference between the CBOE S&P 500 BuyWrite Index ("BXM") and the S&P 500 Total Return Index ("SPTR") and the returns are calculated daily. The calculation attempts to isolate the options only performance attribution of the BXM Index. Monthly returns reflect the sum of the daily returns during the applicable calendar month. The Custom Index is unmanaged and does not incur management fees, transaction costs or other expenses associated with separately managed accounts in this style. It is not possible to directly invest in an index.
- 13 Derivative securities are used in the accounts which comprise this composite. Accounts invest in options which are material to this composite.
- 14 The firm's strategies contain derivatives such as futures, options, swaps, and other investment strategies that may involve certain advantages and risks. Futures require the posting of initial and variation margin. Therefore, a portion of risk capital must be preserved for this purpose rather than being allocated to a manager. Swaps require periodic payments, which may be less liquid than futures, and certain swaps may have counterparty/credit risk. Some investment strategies may require a collateral investment equal to the desired amount of exposure.

Biographies

Thomas Lee, CFA

Chief Investment Officer

Tom is a member of Parametric's Executive Committee and leads Parametric's Research, Strategy, Portfolio Management, and Trading teams, coordinating resources, aligning priorities, and establishing processes for achieving clients' investment objectives. Tom has coauthored articles on topics ranging from liability-driven investing to the volatility risk premium. He is a voting member of all the firm's investment committees. Prior to joining Parametric in 1994 (originally as an employee of the Clifton Group, which was acquired by Parametric in 2012), Tom spent two years working for the Board of Governors of the Federal Reserve in Washington, DC. He earned a BS in economics and an MBA in finance from the University of Minnesota. A CFA charterholder, Tom is a member of the CFA Society of Minnesota.

Larry Berman

Managing Director, Investment Management

Larry oversees the portfolio management and trading of the Parametric Liquid Alternatives Investment Strategies including SARP, commodities, VRP, and related options strategies. He is a member of the Parametric Enterprise Investment Management Committee and a voting member of the Liquid Alternatives Investment Committee. Prior to joining Parametric in 2006 (originally as an employee of Managed Risk Advisors, which was acquired by Parametric in 2007), Larry was a principal at Wolverine Trading, one of the largest options market-makers in the world. At Wolverine, he was the head trader in charge of all trading in the New York office on the American Stock Exchange and the COMEX, and he was responsible for over 90 equity/index options as well as market-making in ETFs and structured products. He earned a BS in business administration from Boston University.

Jim Roccas

Managing Director, Investment Strategy

Jim works with clients who are interested in accessing Parametric's Volatility Risk Premium (VRP) suite of options-based solutions. Jim has over 25 years of experience working with clients to implement solutions for increasing return and reducing risk using options and other derivative product strategies. Prior to joining Parametric in 2008, Jim was a Director at Merrill Lynch where he structured and originated solutions for high-net-worth and institutional investors for protecting downside, enhancing returns and gaining customized market exposure. He earned a BA in Economics from Princeton University and an MBA in Finance from The Wharton School at the University of Pennsylvania.

Tro Hallajian

Managing Director, Investment Strategy

Tro works with clients who are interested in accessing Parametric's volatility risk premium (VRP) suite of options-based solutions. Prior to joining Parametric in 2010, Tro was an associate trader at Credit Suisse in New York and Switzerland, trading options in domestic and international markets. In addition, Tro provided client service directly to high-net-worth individuals, foundations, and institutional investors engaged in various option overlay and absolute return volatility strategies. He earned a BS with honors in finance and a minor in communications from Marist College.

Robert D'Amato

Manager, Client Relations

Robert supports day-to-day operations and marketing of our derivative strategies. Prior to joining Parametric in 2011, Robert worked with high-net-worth clients as part of a large UBS Financial Services Team in New Haven, Connecticut. Robert earned a BA in political science from the University of Connecticut and an MBA from Southern Connecticut State University.

Gregory Bukoski

Portfolio Management Analyst

Greg is a portfolio management analyst on the investment strategy team working closely with relationship management, client services and trading. Prior to joining Parametric in 2020, Greg worked at AIG Global Capital Markets on the derivative team. He also worked at the Royal Bank of Scotland supporting the fixed income and derivative desks. Greg earned a BS in finance with a minor in accounting from Fairfield University.

Mike Kelly

Managing Director, Trading

Mike is responsible for day-to-day trading as well as monitoring and managing existing positions across our derivative strategies. Prior to joining Parametric in 2008, Mike was a Senior Vice President at Cambridge International Securities responsible for selling fixed income products to institutional investors. He earned a BA in history from Providence College.

Biographies (Continued)

Ken Everding, Ph.D.

Managing Director, Research

Ken is responsible for risk management and product development at the Westport Investment Center. Prior to joining Parametric in 2005*, Ken was a Managing Director at Zurich Capital Markets and BNP Paribas following Zurich's acquisition. At Zurich, Ken's team was the pioneer in creating structured hedge fund products. He earned a Ph.D. in Theoretical Particle Physics from Yale University. The title of his Ph.D. thesis is "Aspects of Non-Perturbative Quantum Electrodynamics", excerpts of which have been published in leading academic journals. He also earned a B.S. with honors in Physics from Iowa State University.

**Reflects the year employee was hired by Managed Risk Advisors, which was acquired by Parametric Portfolio Associates® LLC on May 1, 2007.*

Brendan Lanahan

Director

Brendan is responsible for trading our derivative strategies. Prior to joining Parametric in 2012, Brendan was a member of the New York and American Stock Exchanges. Here he was an Equity Market Maker in over 50 small to mid-cap oil/gas and materials companies. He also worked at Bloomberg specializing in their Electronic Trading Division. He earned a BS in management and marketing from Elmira College.

Dan Ryan

Executive Director, Client Relationship Management

Dan is responsible for managing client relationships throughout the western US. Prior to joining Parametric in 2013, Dan was vice president and senior relationship manager at State Street Global Advisors. He earned a BA in history from the University of Michigan.

Jack Singleton

Investment Strategist

Jack is a Vice President on the Investment Strategy team at Parametric. In his role, Jack is responsible for helping clients access Parametric's Volatility Risk Premium (VRP) suite of options-based solutions by working closely with relationship management, client services, and trading. Prior to joining Parametric in 2021, Jack was an Associate at Deutsche Bank Wealth Management where he provided client service and worked on investment portfolios for high-net-worth individuals, family offices, and foundations. Jack earned a BA in Economics with a concentration in Asian Studies from the College of the Holy Cross. A CFA charterholder, Jack is a member of the CFA Society of New York.

Arthur Harris

Associate Portfolio Manager

Arthur is responsible for day-to-day management of Parametric's options-based Volatility Risk Premium Strategies, including Defensive Equity, Global Defensive Equity, Multi-Asset VRP and other proprietary strategies. Prior to joining Parametric in 2017, Arthur worked at Parametric as a Marketing/Reporting Intern. He earned a BS in business economics and finance from Iowa State University.

Disclosure

Parametric Portfolio Associates® LLC ("Parametric"), headquartered in Seattle, is registered as an investment advisor with the Securities and Exchange Commission under the Investment Advisors Act of 1940. Parametric is a leading global asset management firm, providing investment strategies and customized exposure management directly to institutional investors and indirectly to individual investors through financial intermediaries. Parametric offers a variety of rules-based investment strategies, including alpha-seeking equity, fixed-income, alternative and options strategies. Parametric also offers implementation services, including customized equity, traditional overlay and centralized portfolio management. Parametric is a wholly-owned subsidiary of Eaton Vance Corp. and offers these capabilities through offices located in Seattle, Boston, Minneapolis, New York City, and Westport, Connecticut. This material may not be forwarded or reproduced, in whole or in part, without the written consent of Parametric. Parametric and its affiliates are not responsible for its use by other parties.

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Performance is presented gross of investment advisory fees. Advisory fees are deducted quarterly from an investor's portfolio and would impact performance adversely. As an example, assuming (a) \$1,000,000 investment, (b) portfolio return of 5% per year, and (c) 1.00% annual investment advisory fee, the cumulative fees paid would be \$10,209.57 in the first year, \$55,254.43 over five years, and \$122,351.51 over ten years. Actual fees charged vary by portfolio due to various conditions, including account size. Parametric's investment advisory fees are described further in Part 2A of Form ADV, which is available upon request.

This material contains hypothetical, back-tested and/or model performance data, which may not be relied upon for investment decisions. Hypothetical, back-tested and/or model performance results have many inherent limitations, some of which are described below. Hypothetical returns are unaudited, are calculated in U.S. dollars using the internal rate of return, reflect the reinvestment of dividends, income and other distributions, but exclude transaction costs, advisory fees and do not take individual investor taxes into consideration. The deduction of such fees would reduce the results shown.

Model/target portfolio information presented, including, but not limited to, objectives, allocations and portfolio characteristics, is intended to provide a general example of the implementation of the strategy and no representation is being made that any client account will or is likely to achieve profits or losses similar to those shown. In fact, there are frequently sharp differences between hypothetical performance results and the actual results subsequently achieved by any particular trading program. One of the limitations of hypothetical performance results is that they are generally prepared with the benefit of hindsight. In addition, simulated trading does not involve financial risk, and no simulated trading record can completely account for the impact of financial risk in actual trading. For example, the ability to withstand losses or to adhere to a particular trading program in spite of trading losses are material points which can also adversely affect actual trading results. There are numerous other factors related to the markets in general or to the implementation of any specific trading program which cannot be fully accounted for in the preparation of hypothetical performance results and all of which can adversely affect actual trading results. Because there are no actual trading results to compare to the hypothetical, back-tested and/or model performance results, clients should be particularly wary of placing undue reliance on these hypothetical results. Perspectives, opinions and testing data may change without notice. Detailed back-tested and/or model portfolio data is available upon request. No security, discipline or process is profitable all of the time. There is always the possibility of loss of investment.

Disclosure (Continued)

Benchmark/index information provided is for illustrative purposes only. Indexes are unmanaged and cannot be invested in directly. Deviations from the benchmarks provided herein may include, but are not limited to, factors such as: the purchase of higher risk securities, over/under-weighting specific sectors and countries, limitations in market capitalization, company revenue sources, and/or client restrictions. Parametric's proprietary investment process considers factors such as additional guidelines, restrictions, weightings, allocations, market conditions and other investment characteristics. Thus returns may at times materially differ from the stated benchmark and/or other disciplines provided for comparison.

The CBOE S&P 500® BuyWrite Index (BXM) is a benchmark index designed to track the performance of a hypothetical buy-write strategy on the S&P 500® Index. The BXM is a passive total return index based on (1) buying an S&P 500® stock index portfolio, and (2) "writing" (or selling) the near-term S&P 500® Index (SPXSM) "covered" call option, generally on the third Friday of each month. The SPX call written will have about one month remaining to expiration, with an exercise price just above the prevailing index level (i.e., slightly out of the money). The SPX call is held until expiration and cash settled, at which time a new one-month, near-the-money call is written.

"Bloomberg" is a trademark and service mark of Bloomberg Finance L.P. ("Bloomberg"). This strategy is not sponsored or endorsed by Bloomberg and Bloomberg makes no representation regarding the content of this material. Please refer to the specific service provider's web site for complete details on all indices.

The effectiveness of the option strategy is dependent on a general imbalance of natural buyers over natural sellers of index options. This imbalance could decrease or be eliminated, which could have an adverse effect. A decision as to whether, when and how to use options involves the exercise of skill and judgment, and even a well-conceived and well-executed options program may be adversely affected by market behavior or unexpected events. Successful options strategies may require the anticipation of future movements in securities prices, interest rates and other economic factors. No assurances can be given that the judgments of Parametric in this respect will be correct.

Options are not suitable for all investors and carry additional risks. Investors must ensure that they have read and understood the current options risk disclosure document before entering into any options transactions. In addition, investors should consult with a tax, legal and/or financial advisor prior to contemplating any derivative transactions. The options risk disclosure document can be accessed at the following web address: <http://www.optionsclearing.com/about/publications/character-risks.jsp>.

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Parametric is headquartered at 800 5th Ave Suite 2800, Seattle, WA 98104. Parametric's Minneapolis office is located at 3600 Minnesota Drive, Suite 325, Minneapolis, MN 55435. For more information regarding Parametric and its investment strategies, or to request a copy of Parametric's Form ADV, please contact us at 206.694.5500 (Seattle) or 612.870.8800 (Minneapolis), or visit our website, www.parametricportfolio.com.

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MEMORANDUM

TO: Oakland Police and Fire Retirement System (“OPFRS”)
FROM: Meketa Investment Group (“Meketa”)
DATE: August 31, 2022
RE: Parametric Covered Calls – Manager Update

Manager: Parametric Portfolio Associates

Inception Date:	April 2014	OPFRS AUM (7/31/2022)	\$32.9 million
Strategy:	Covered Calls	Firm-wide AUM (6/30/2022)	\$376.2 billion
Benchmark:	CBOE S&P 500 Buy-Write Index (BXM)	Strategy AUM (6/30/2022)¹	\$4.2 billion

Summary & Recommendation

Parametric has managed OPFRS’s Covered Calls portfolio since April 2014 using two strategies—the passive BXM Replication, and the active DeltaShift strategies. Since October 2020, Parametric has been on the Watch status due to Morgan Stanley’s acquisition of the firm in early in October 2020. As of 7/31/2022, the covered call portfolio is approximately \$32.9 million or about 7.7% of OPFRS’s total allocation with about \$16 million allocated to each underlying strategy.

Over the period since inception, the strategies have performed within expectations and guidelines for the portfolio and has experienced no major organizational changes in the portfolio management team since being on the Watch list. *Therefore, Meketa does not have any major concerns with Parametric and recommends that Parametric be removed from the Watch status.*

Investment Performance Review Summary

As of 7/31/2022, the Covered Calls portfolio and its underlying strategies has trailed benchmark over the 1-year period in gross-of-fees basis. Over the longer 3- and 5-year trailing periods, the portfolio and the strategies have outperformed the benchmark with excess returns of 6.2% and 4.6% respective in aggregate. The active DeltaShift strategy in particular has generated strong outperformance over the longer time periods posting 8.7% and 6.9% excess return over the same 3- and 5-year trailing periods.

OPFRS Portfolio Annualized Returns (as of 7/31/2022)

Portfolio	Market Value (\$000)	YTD	1 YR	3 YR	5 YR	Since Inception	Inception Date
Covered Calls (Gross)	32,871.3	(8.6)	(0.9)	10.7	9.4	9.1	4/2014
Covered Calls (Net)	---	(8.7)	(1.1)	10.5	9.1	8.9	---
<i>CBOE S&P 500 Buy-Write Index</i>	---	<i>(6.7)</i>	<i>0.7</i>	<i>4.6</i>	<i>4.8</i>	<i>5.8</i>	---
Excess Return (Gross)	---	(1.9)	(1.6)	6.2	4.6	3.4	---

¹ Strategy AUM (6/30/2022) is the sum of the assets under management (AUM) for the two strategies that OPFRS has invested in; as of 6/30/2022, Parametric DeltaShift strategy has total product AUM of \$4.0 billion, and Parametric BXM Replication strategy has total product AUM of \$184 million.

OPFRS Portfolio Annualized Returns (as of 7/31/2022)

Strategy	Market Value (\$000)	YTD	1 YR	3 YR	5 YR	Since Inception	Inception Date
Parametric BXM (Gross)	16,532.8	(6.3)	(0.3)	7.7	6.8	7.2	4/2014
<i>CBOE S&P 500 Buy-Write Index</i>	---	(6.7)	0.7	4.6	4.8	5.8	---
Excess Return (Gross)	---	0.4	(1.0)	3.1	2.0	1.5	---
Parametric DeltaShift (Gross)	16,338.4	(10.6)	(1.7)	13.3	11.7	11.3	4/2014
<i>CBOE S&P 500 Buy-Write Index</i>	---	(6.7)	0.7	4.6	4.8	5.8	---
Excess Return (Gross)	---	(3.9)	(2.4)	8.7	6.9	5.5	---

Product and Organization Review Summary

Parametric Portfolio Associates	Areas of Potential Impact				
	Level of Concern	Investment process (Client Portfolio)	Investment Team	Performance Track Record	Team/Firm Culture
Product					
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				
Organization					
Ownership changes	None				
Key people changes	None				
Firm wide client gain/losses	None				
Recommended Action	None - X		Watch Status		Termination

A review of Parametric Portfolio Associates and its strategies revealed no concerning organizational issues or changes.

In June 2022, Parametric announced that starting in January 2023, their Chief Investment Officer Tom Lee and Chief Operations Officer Ranjit Kapila will assume the office of Co-Presidents of Parametric in addition to their current titles and responsibilities, with the current Chief Executive Officer (CEO) Brian Langstraat remaining as CEO. This change is a part of Parametric's long-term planning and does not affect the investment team in charge of OPFRS's portfolio. The investment team remains stable with no significant organizational issues or personnel changes.

Investment Philosophy & Process, per Manager

Parametric's approach to covered calls investing is based on the persistent premium of implied volatility to realized volatility in the options market. Parametric believes that there is a supply versus demand imbalance for equity options, and thus the implied volatility generally exceeds the realized volatility. The covered calls program is designed to generate returns for a long equity investor by providing additional income and cash flow while reducing volatility.

The options portion, managed by Parametric, is constructed around a diversified portfolio of short dated options (generally 1-3 month options). Option selection incorporates liquidity, volatility, maturity, and time-decay. Strike prices are selected using a dynamic, volatility-based framework designed to adapt to changing market conditions. By selecting options that have a targeted initial delta, options strikes move further out-of-the-money when implied volatility levels rise, and vice-versa. Parametric attempts to create a ladder portfolio of options with multiple strike prices and maturities in order to diversify the time and price specific risk of selling call options. Parametric generally sells 25%-35% "delta" options, which, by definition, are out-of-the-money options. Using a fixed "delta" allows Parametric to effectively index the strikes to volatility. When the opportunity arises, the strategy allows for Parametric to capture and realize profits prior to written option maturity, and aggressively close out losing positions in order to mitigate potential outlier losses that are inherent to a "sell and hold" option program (i.e., BXM replication).

DS/PN/JLC/mn



Disclosure

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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.

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June 8, 2022

Dear Client,

As part of Parametric's longer-term planning, I would like to share an upcoming organizational change we will be making at Parametric. Effective January 1, 2023, Tom Lee, Chief Investment Officer, and Ranjit Kapila, Chief Operations Officer, will become Co-Presidents of Parametric in addition to their current titles and responsibilities. Over time as Co-Presidents, Tom and Ranjit will be involved in leading additional functional areas and increasingly contribute to overall firm management. I will remain Parametric's CEO and Ranjit and Tom will continue to report to me.

In partnership with our clients, Parametric continues to grow, evolve, and remain a leader in the investment management industry. Developing and evolving our leaders and leadership structure is an important and ongoing priority. We continue to focus on the high levels of service, partnership, innovation, and customization you're accustomed to and look forward to further investing in our technology, operations, and new product development.

We encourage you to reach out to us if you have any questions or concerns and thank you for your continuing trust and confidence in Parametric.

Sincerely,

A handwritten signature in black ink that reads "Brian Langstraat". The signature is fluid and cursive, with a long horizontal stroke at the end.

Brian Langstraat

Chief Executive Officer

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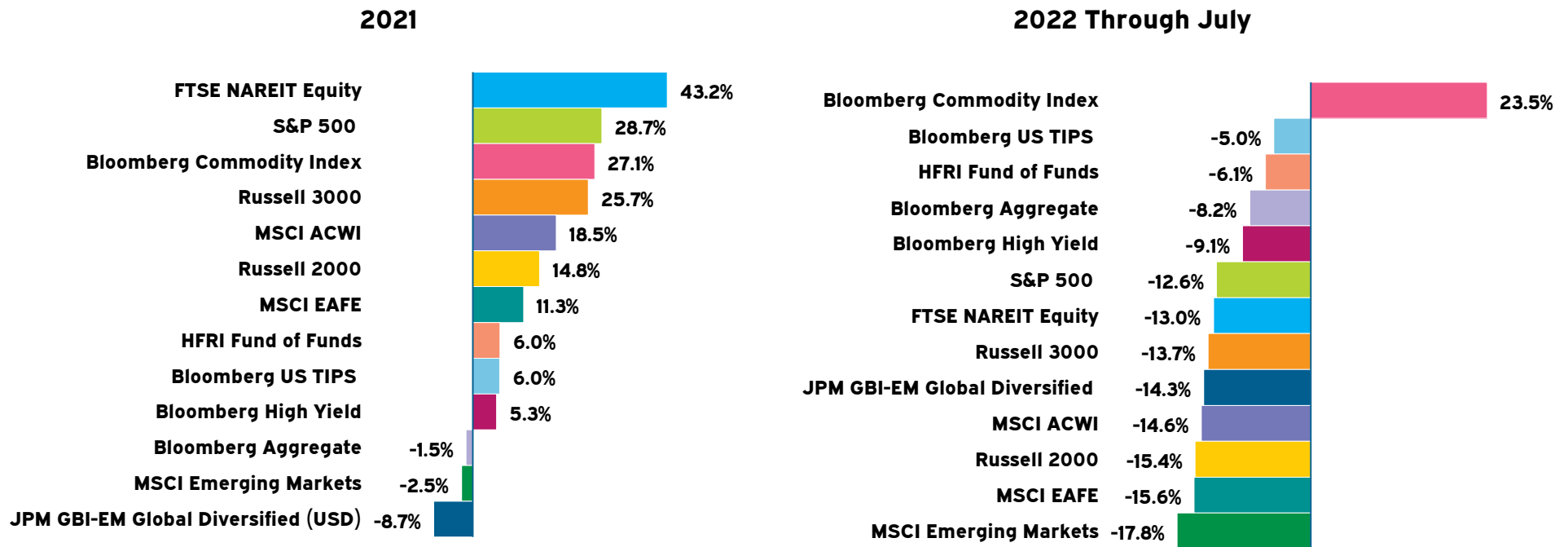
Economic and Market Update

July 2022 Report

Commentary

- Global markets posted strong results in July on expectations that policy tightening in the US could end early next year due to slowing growth.
- As expected, the Federal Reserve increased interest rates by another 75 basis points. Notably, much focus was placed on chair Jerome Powell's comments that the pace of policy tightening could slow.
 - Developed market equity indices increased for the month, led by US equities where earnings reports were not as weak as feared. Emerging markets fell for the month driven by China instituting renewed COVID-19 lockdowns and lingering property market issues.
 - Growth stocks again outperformed value stocks in July, but trail significantly year to date.
 - Rates declined for the month as growth slowed and expectations for the pace of policy tightening moderated.
- Persistently high inflation and the expected policy response, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China will all have considerable economic and financial consequences for the global economy.

Index Returns¹



→ Outside of emerging markets and the broad US investment grade bond market (Bloomberg Aggregate), most asset classes appreciated in 2021.

→ While year-to-date returns remain negative, in July most asset classes posted positive returns reflecting an improvement in sentiment related to cooling inflationary pressures and the expected path of policy.

¹ Source: Bloomberg and FactSet. Data is as of July 31, 2022.

Domestic Equity Returns¹

Domestic Equity	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	9.2	-16.1	-12.6	-4.6	13.4	12.8	13.8
Russell 3000	9.4	-16.7	-13.7	-7.4	12.6	12.2	13.5
Russell 1000	9.3	-16.7	-13.6	-6.9	12.9	12.5	13.7
Russell 1000 Growth	12.0	-20.9	-19.4	-11.9	16.1	16.3	16.0
Russell 1000 Value	6.6	-12.2	-7.1	-1.4	8.9	8.3	11.1
Russell MidCap	9.9	-16.8	-13.8	-9.8	9.5	9.7	12.3
Russell MidCap Growth	12.2	-21.1	-22.6	-21.8	7.5	11.0	12.8
Russell MidCap Value	8.6	-14.7	-9.0	-2.9	9.4	7.7	11.5
Russell 2000	10.4	-17.2	-15.4	-14.3	7.5	7.1	10.6
Russell 2000 Growth	11.2	-19.3	-21.6	-23.2	4.7	6.9	10.7
Russell 2000 Value	9.7	-15.3	-9.3	-4.8	9.5	6.7	10.2

US Equities: Russell 3000 Index rose 9.4%, and growth indices continued to outperform value in July.

- US stocks rose sharply during the month, led by the technology and consumer discretionary sectors.
- Growth indices outperformed their value counterparts for the month but remain well behind for the year-to-date period.
- Small company stocks outperformed large company stocks in July by over 100 basis points but remain behind year-to-date.

¹ Source: Bloomberg. Data is as of July 31, 2022.

Foreign Equity Returns¹

Foreign Equity	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.4	-13.7	-15.6	-15.3	2.9	2.4	5.0
MSCI EAFE	5.0	-14.5	-15.6	-14.3	3.2	2.6	5.8
MSCI EAFE (Local Currency)	5.2	-7.8	-6.7	-2.1	5.9	5.2	8.7
MSCI EAFE Small Cap	6.6	-17.7	-19.7	-20.3	3.6	2.3	7.8
MSCI Emerging Markets	-0.2	-11.5	-17.8	-20.1	0.9	1.0	2.8
MSCI Emerging Markets (Local Currency)	0.1	-8.1	-13.6	-14.9	3.6	3.4	5.8
MSCI China	-9.5	3.4	-19.7	-28.3	-3.6	-1.6	4.3

International equities (MSCI EAFE) gained 5.0%, while emerging markets (MSCI EM) fell 0.2% in July.

- Non-US developed market stocks trailed the US for the month, and emerging markets stocks posted negative returns for the month due to China’s drawdown of -9.5%. Both remain notably negative for the year-to-date period (EAFE -15.6%, EM -17.8%), lagging US equities.
- The war in Ukraine, high inflation and the likely monetary policy response, and slowing growth continue to weigh on sentiment.
- Growth stocks had a good month in July, outperforming value stocks across developed and emerging markets, similar to the US.

¹ Source: Bloomberg. Data is as of July 31, 2022.

Fixed Income Returns¹

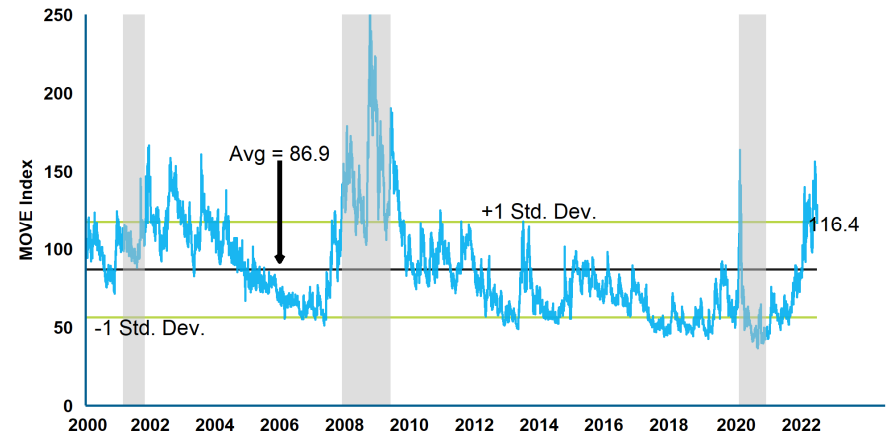
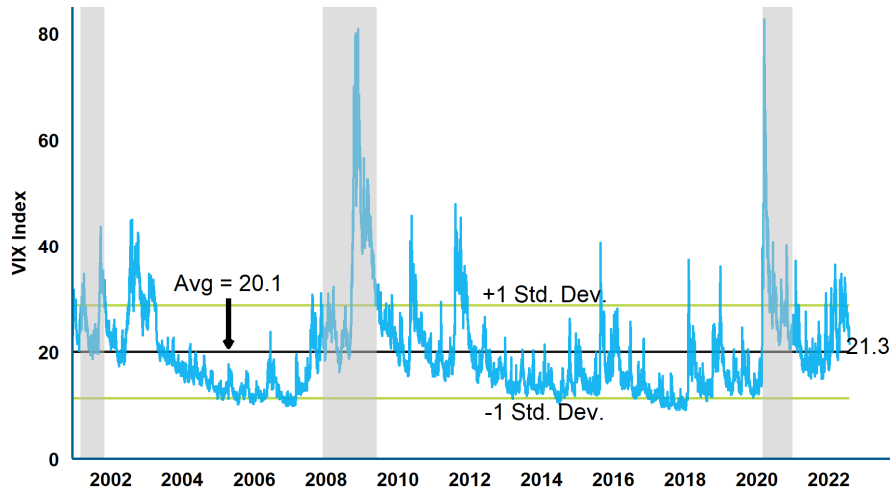
Fixed Income	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	2.5	-5.1	-8.7	-9.6	-0.2	1.3	1.9	3.9	6.4
Bloomberg Aggregate	2.4	-4.7	-8.2	-9.1	-0.2	1.3	1.6	3.4	6.6
Bloomberg US TIPS	4.4	-6.1	-5.0	-3.6	4.4	4.0	2.0	3.0	7.4
Bloomberg High Yield	5.9	-9.8	-9.1	-8.0	2.0	3.1	4.9	7.7	4.7
JPM GBI-EM Global Diversified (USD)	0.3	-8.6	-14.3	-18.7	-6.0	-2.7	-1.7	7.3	5.0

Fixed Income: The Bloomberg Universal gained 2.5% in July.

- Fixed income indices broadly benefited from yields declining across the curve. During July, the US 10-year Treasury note yield fell 36 basis points, from 3.01% on June 30th to 2.65% on July 31st
- The high yield index was one of the best performers in July as yields declined along with tightening spreads supported by a historic drop in high yield issuance to the lowest July issuance since 2006.

¹ Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of July 31, 2022.

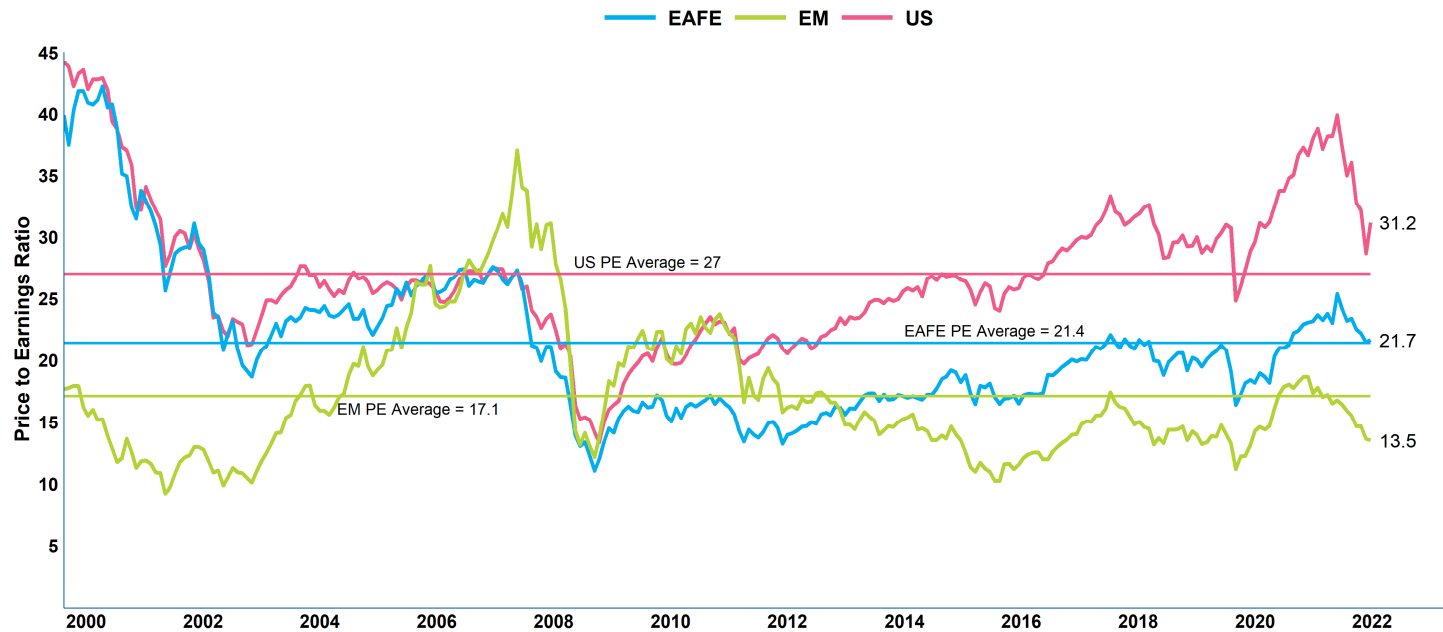
Equity and Fixed Income Volatility¹



- Volatility in equities (VIX) and fixed income (MOVE) declined in July based on potentially peaking monetary policy and possible rate cuts in 2023.
- Despite the July decline, fixed income volatility remains high due to the uncertain path of short-term interest rates.

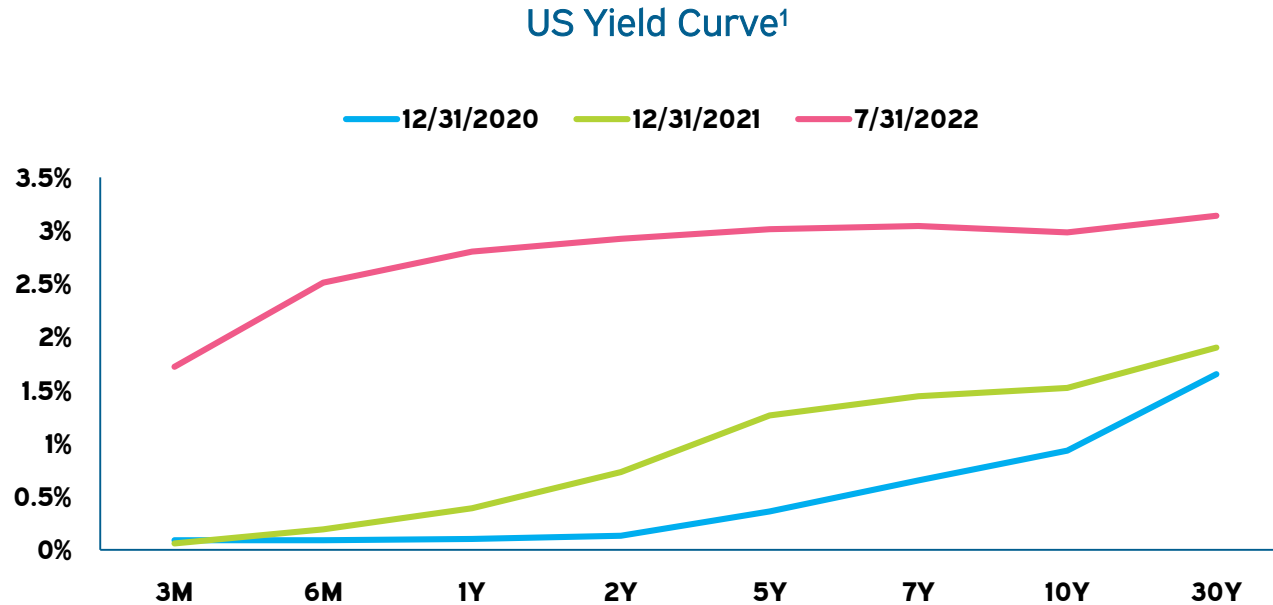
¹ Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of July 2022. The average line indicated is the average of the VIX and MOVE values between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

Equity Cyclically Adjusted P/E Ratios¹



- Strong positive results in July for US equities reversed the recent trend of valuation declines, but they remain well off the peak.
- International developed market valuations remain below the US and are slightly above their own long-term average, with those for emerging markets the lowest and under the long-term average.

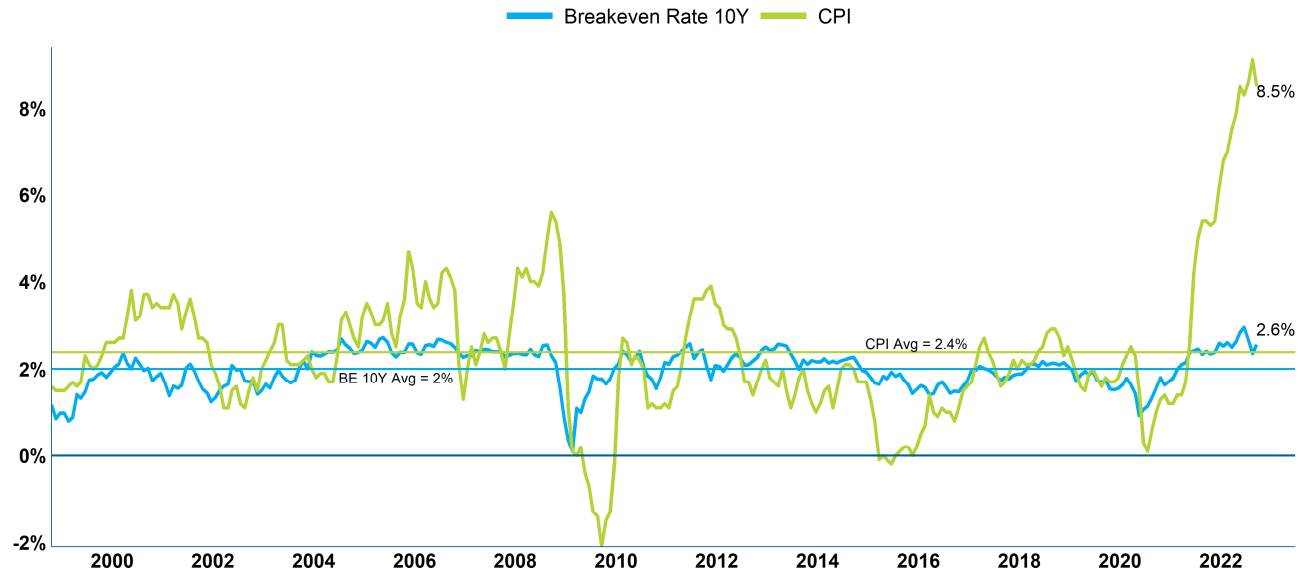
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of July 31, 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 much higher than at the start of the year.
- In July, longer-dated yields declined as investors reconsidered economic growth prospects and the likelihood that yields have reached their apex for this economic cycle. Shorted dated yields rose on near-term policy actions and messaging that policy officials intent to remain aggressive in fighting inflation pressures into early 2023.
- The yield spread between two-year and ten-year Treasuries became negative, finishing July at -0.23%. Inversions in the yield curve have historically often signaled building recessionary pressures.

¹ Source: Bloomberg. Data is as of July 31, 2022.

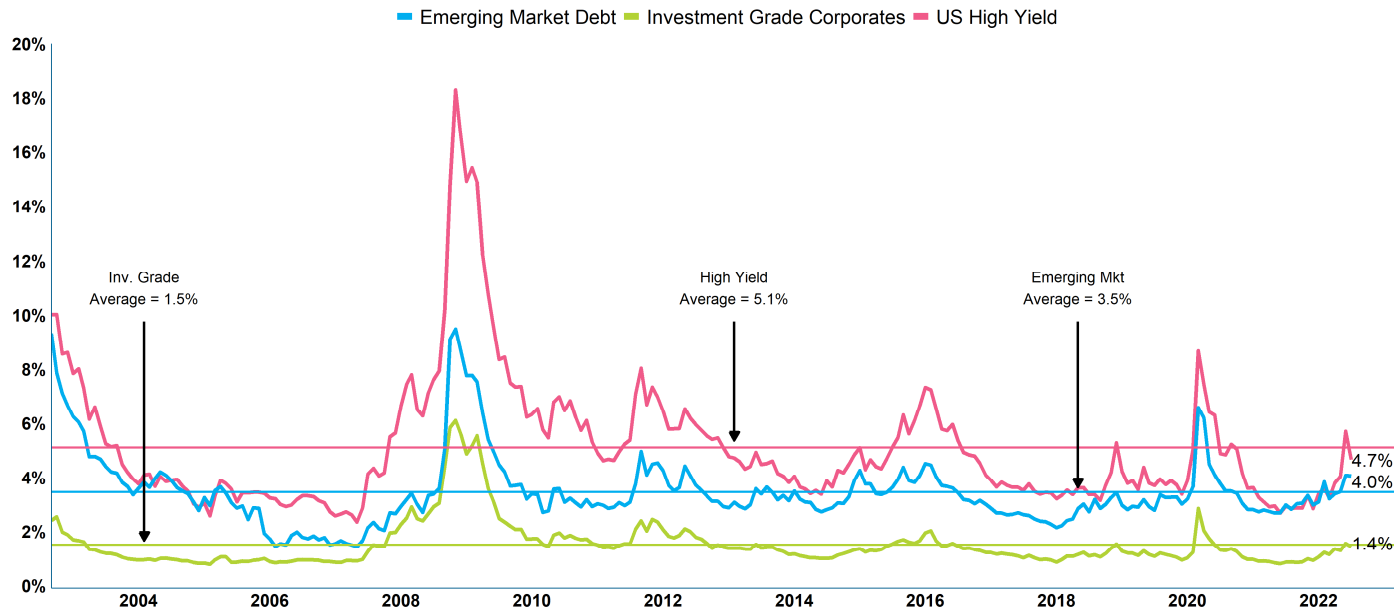
Ten-Year Breakeven Inflation and CPI¹



- In July, inflation expectations (breakevens) rose on the prospects of easing monetary policy next year.
- Trailing twelve-month CPI rose in June (9.1% versus 8.5%) and came in above expectations. Inflation levels in the US remain well above the long-term average of 2.4%.
- Rising prices for energy (particularly oil), food, housing, and for new and used cars, remain key drivers of higher inflation.

¹ Source: Bloomberg. Data is as of July 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 Bonds¹



- Credit spreads (the spread above a comparable maturity Treasury) declined in July, particularly for high yield, as risk appetite returned.
- In the US, spreads for high yield reversed course, declining from 5.7% to 4.7%, while investment grade (1.6% to 1.4%) and emerging market (4.1% to 4.0%) spreads experienced more modest declines.

¹ Sources: Bloomberg. Data is as of July 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

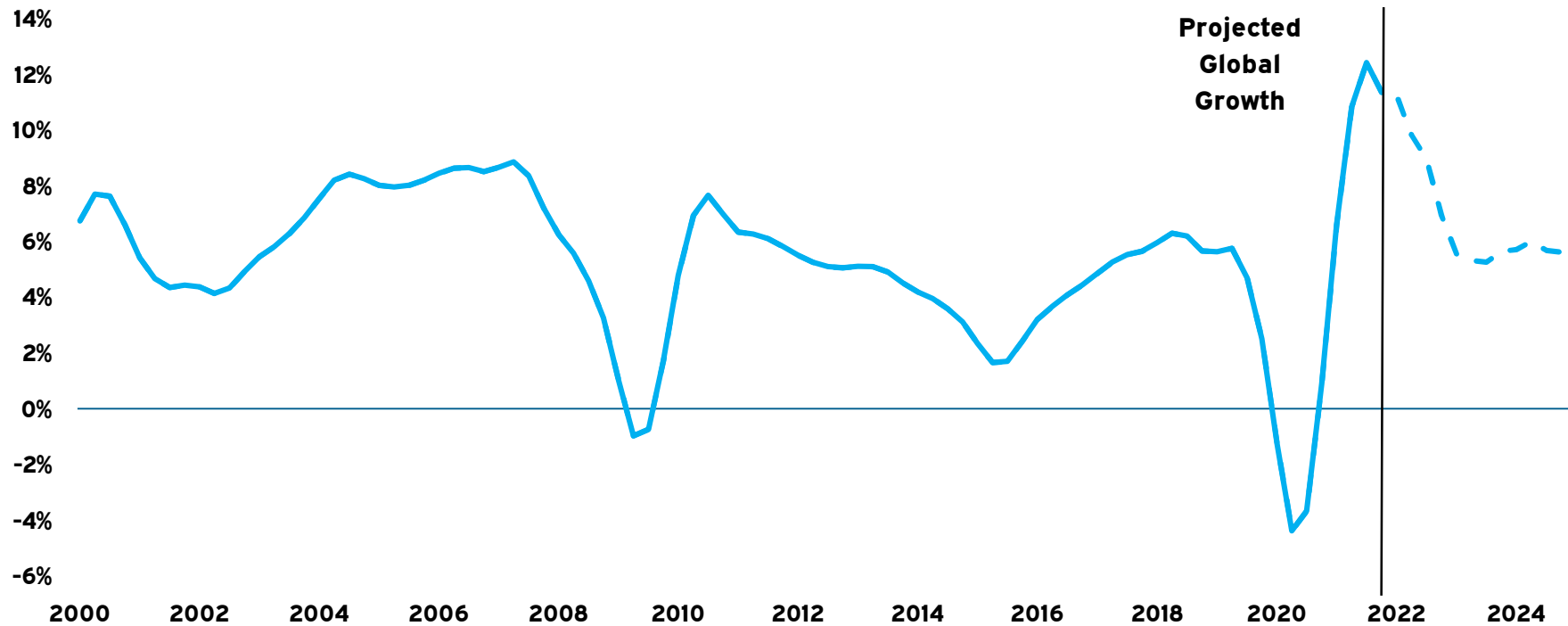
The IMF significantly lowered global growth forecasts again in their latest projections, driven by the economic impacts of persistent inflation in energy and food prices.

- The IMF forecasts global GDP growth to come in at 3.2% in 2022 (0.4% below the prior estimate) and 2.9% in 2023 (0.7% below the prior estimate).
- In advanced economies, GDP is projected to increase 2.5% in 2022 and 1.4% in 2023. The US saw another downgrade in the 2022 (2.3% versus 3.7%) and 2023 (1.0% versus 2.3%) growth forecasts largely due to policy tightening happening faster than previously expected given persistently high inflation. The euro area saw a downgrade too in expected growth (2.6% versus 2.8%) in 2022 and in 2023 (1.2% versus 2.3%) as rising energy prices particularly weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and next.
- Growth projections for emerging markets are higher than developed markets, at 3.6% in 2022 and 3.9% in 2023. China's growth was downgraded for 2022 (3.3% versus 4.4%) and 2023 (4.9% versus 5.1%) given tight COVID-19 restrictions and continued property sector problems.
- The global inflation forecast was significantly increased for 2022 (7.4% versus 3.8%).

	Real GDP (%) ¹			Inflation (%) ¹		
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average
World	3.2	2.9	3.0	7.4	4.8	3.5
Advanced Economies	2.5	1.4	1.6	5.7	2.5	1.5
US	2.3	1.0	2.1	7.7	2.9	1.9
Euro Area	2.6	1.2	0.9	5.3	2.3	1.2
Japan	1.7	1.7	0.5	1.0	0.8	0.5
Emerging Economies	3.6	3.9	4.2	8.7	6.5	5.1
China	3.3	4.9	6.7	2.1	1.8	2.1

¹ Source: IMF World Economic Outlook. Real GDP forecasts from July 2022 Update. Inflation forecasts are as of the April 2022 Update.* Actual 10 Year Average* represents data from 2012 to 2021.

Global Nominal Gross Domestic Product (GDP) Growth¹

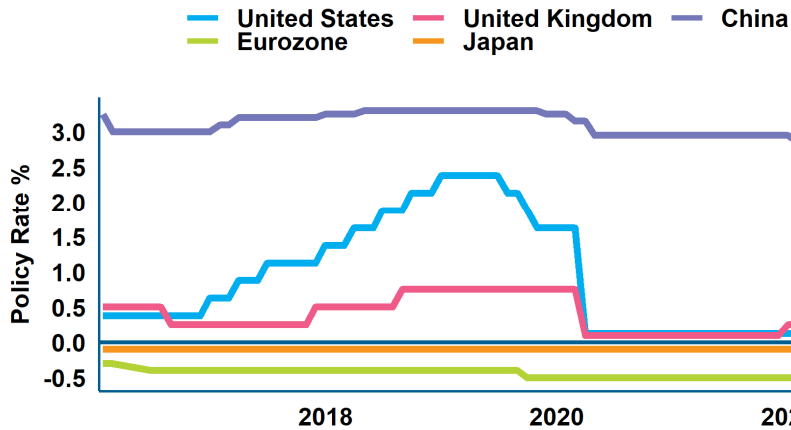


- Global economies are expected to slow in 2022 compared to 2021 with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- Looking forward, the delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will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

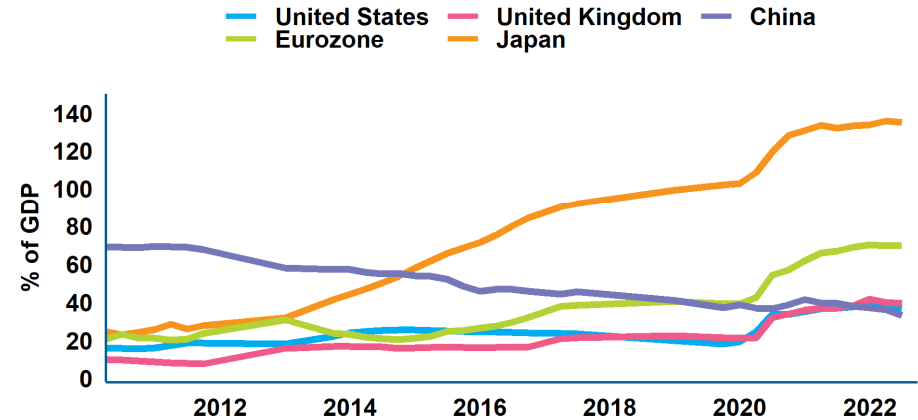
¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated July 2022.

Central Bank Response¹

Policy Rates



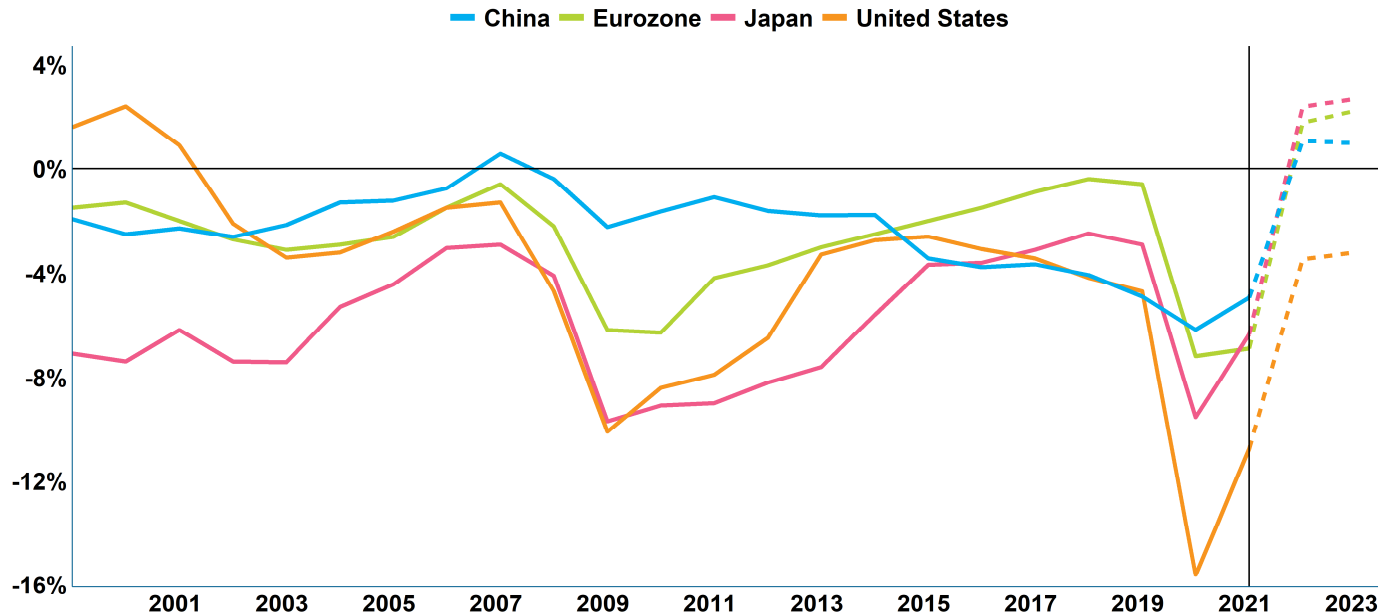
Balance Sheet as % of GDP



- 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 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.
- The one notable central bank outlier is China, where the central bank recently lowered rates and reserve requirements in response to slowing growth.

¹ Source: Bloomberg. Policy rate data is as of July 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 June 30, 2022.

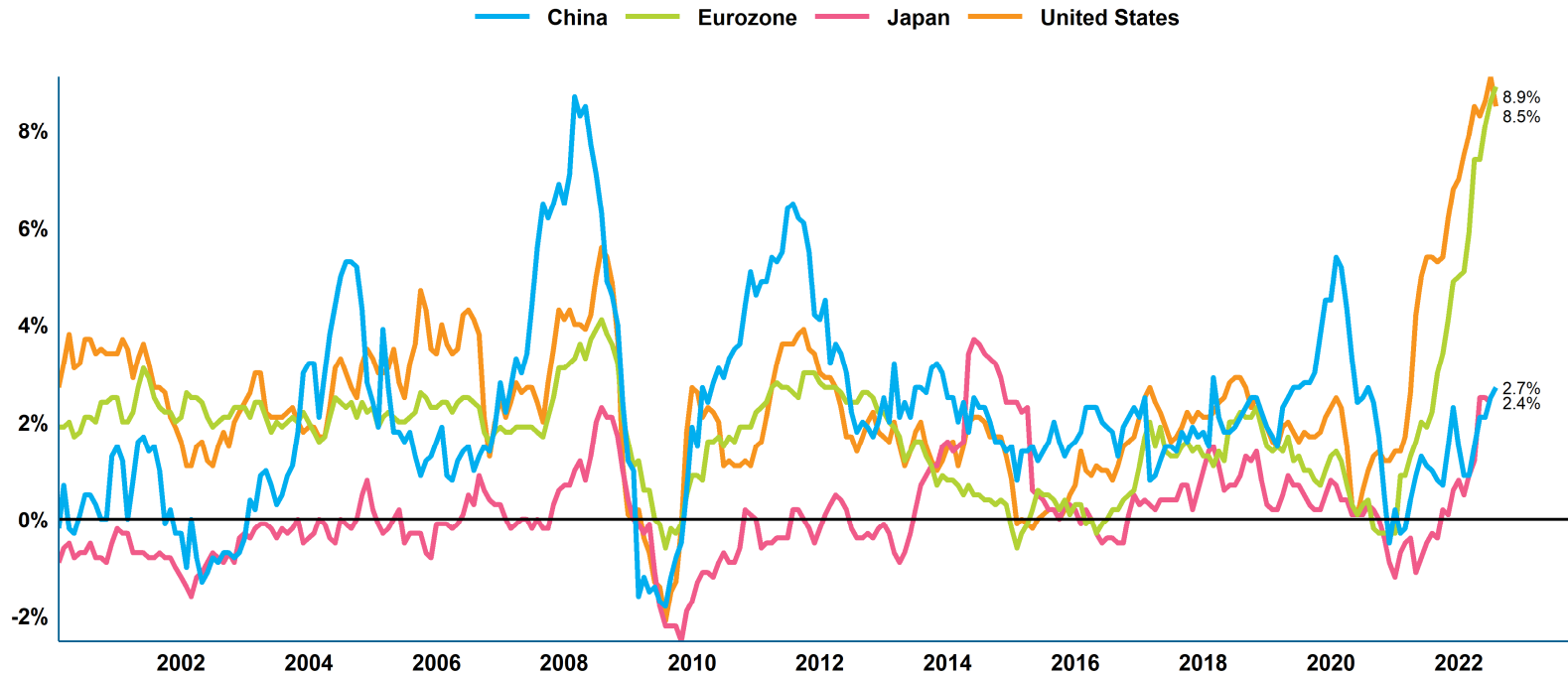
Budget Surplus / Deficit as a Percentage of GDP¹



- 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 in the coming years.

¹ Source: Bloomberg. Data is as of July 31, 2022. Projections via IMF Forecasts from April 2022 Report. Dotted lines represent 2022 and 2023 forecasts.

Inflation (CPI Trailing Twelve Months)¹

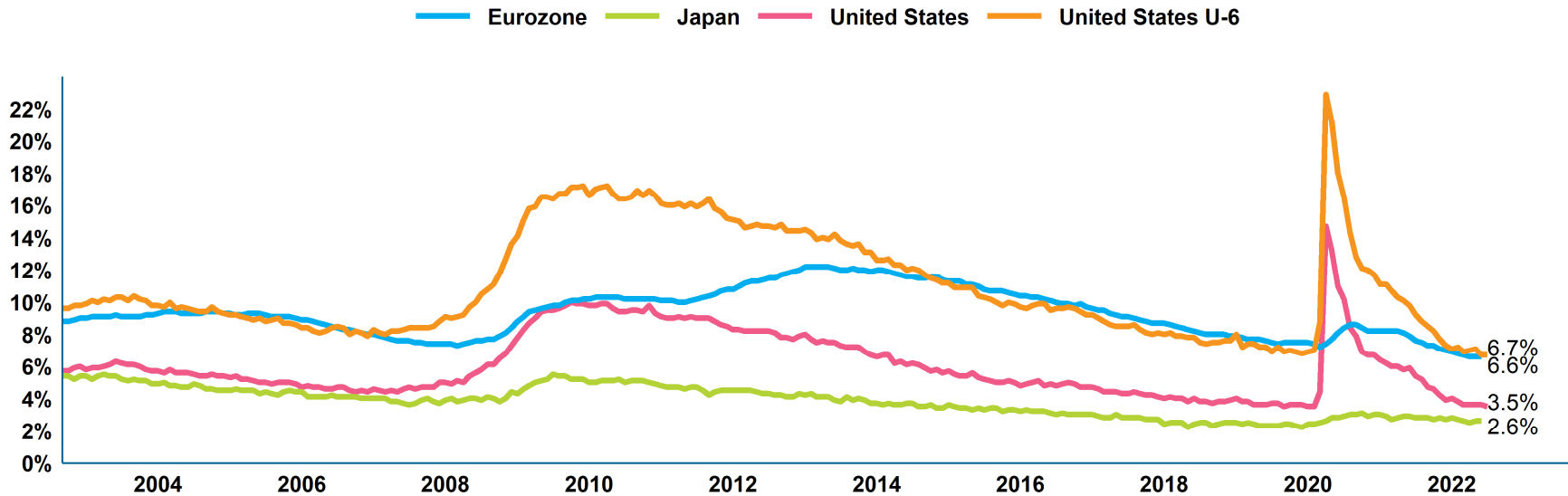


→ Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.

→ Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher prices in many commodities driven by the war in Ukraine have been key global drivers of inflation.

¹ Source: Bloomberg. Data is as of July 2022. The most recent data for Japan is as of June 30, 2022.

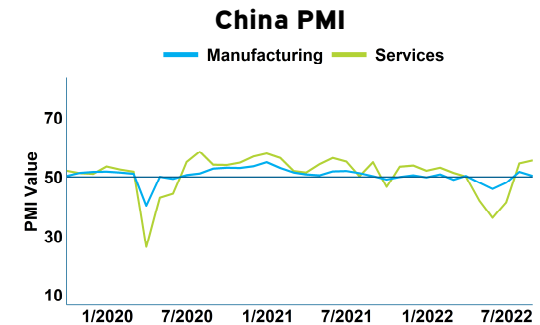
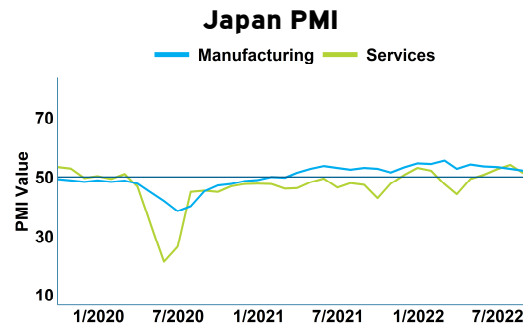
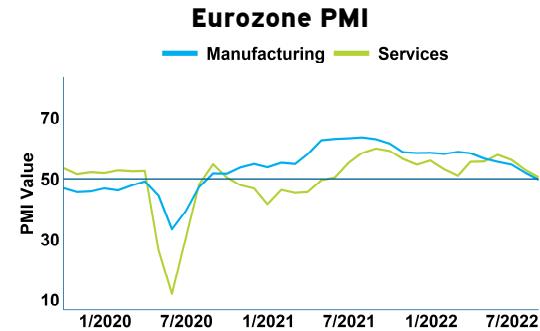
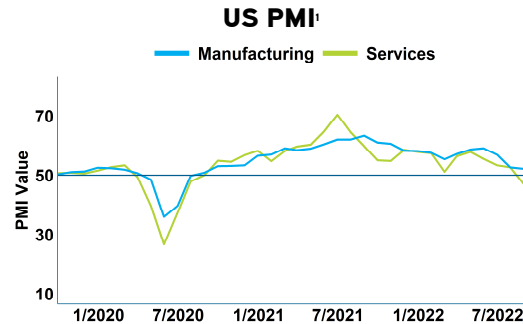
Unemployment¹



- As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- US unemployment, which experienced the steepest rise from the pandemic, declined back to pre-pandemic levels. The broader measure (U-6) that includes discouraged and underemployed workers declined but is much higher at 6.7%.

¹ Source: Bloomberg. Data is as of July 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of June 30, 2022.

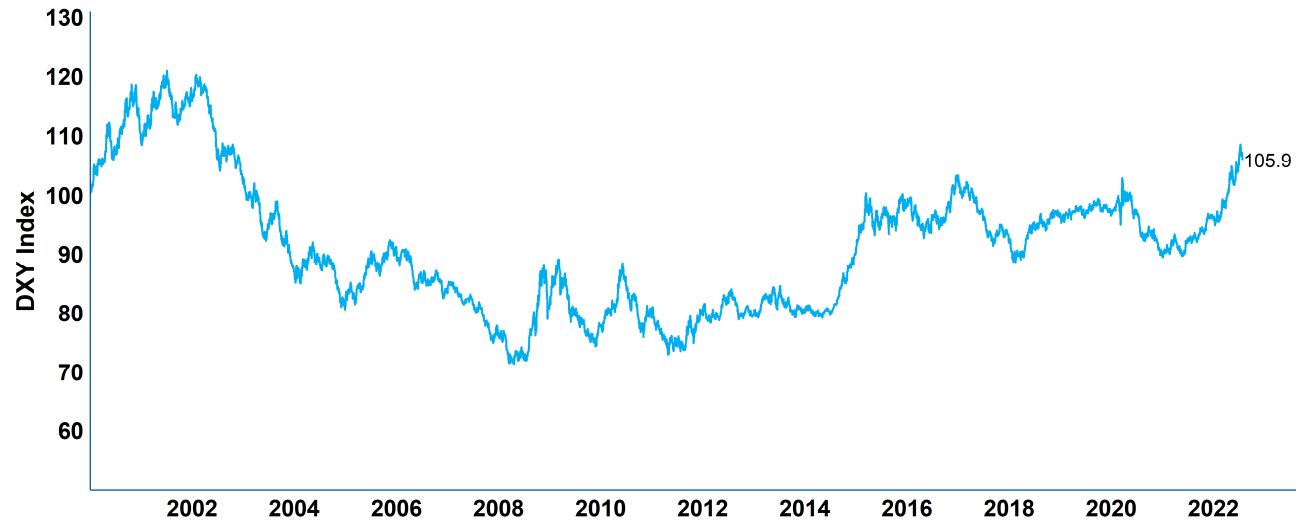
Global PMIs



- After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced some pressures recently.
- Service sector PMIs in the US and Europe have recently declined, with the US slipping into contraction territory, while Japan experienced a decline for the month on rising COVID-19 cases in parts of the country. In China the services PMI remained in positive territory while manufacturing cooled.
- Manufacturing PMIs dropped recently across China and developed markets given declines in demand and inflationary pressures.

¹ 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 July 2022. Readings below 50 represent economic contractions.

US Dollar versus Broad Currencies¹



- In July, the US dollar overall continued its path higher but finished the month off its peak as expectations on the pace of policy tightening by the Fed fell and safe-haven flows declined.
- The euro, yen, and yuan have all experienced significant declines versus the dollar this year, adding to inflation and slowing growth concerns.

¹ Source: Bloomberg. Data as of July 31, 2022.

Summary

Key Trends in 2022:

- The impacts of record high inflation will remain key going forward, with volatility likely to remain high.
- The war in Ukraine has created significant uncertainty, with a wide range of potential outcomes.
- Expect growth to slow globally in 2022 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- 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.
- Monetary policy will likely tighten globally but will remain relatively accommodative. The risk of overtightening policy remains.
- Valuations have significantly declined in the US, approaching long-term averages.
- Outside the US, equity valuations remain lower in both emerging and developed markets, but risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

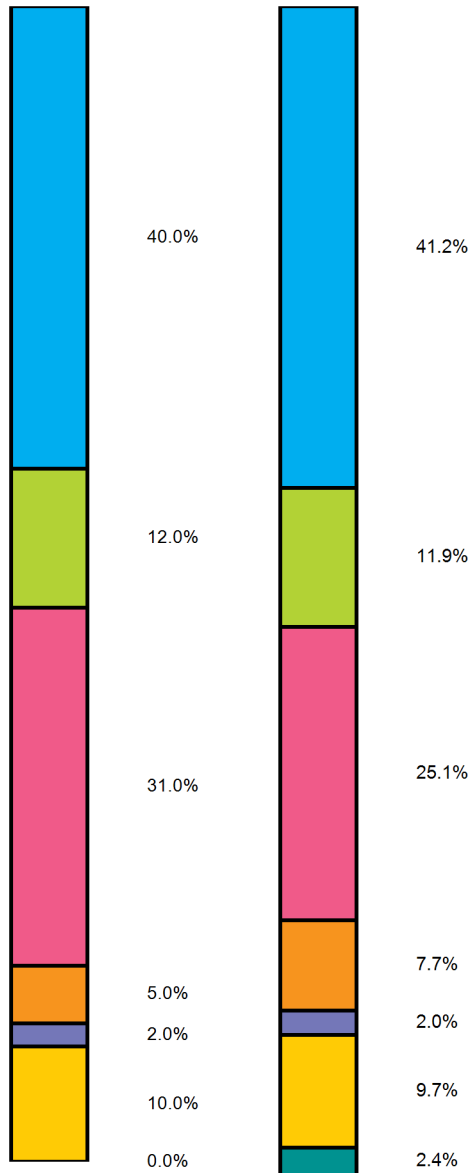
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Oakland Police and Fire Retirement System

August 31, 2022

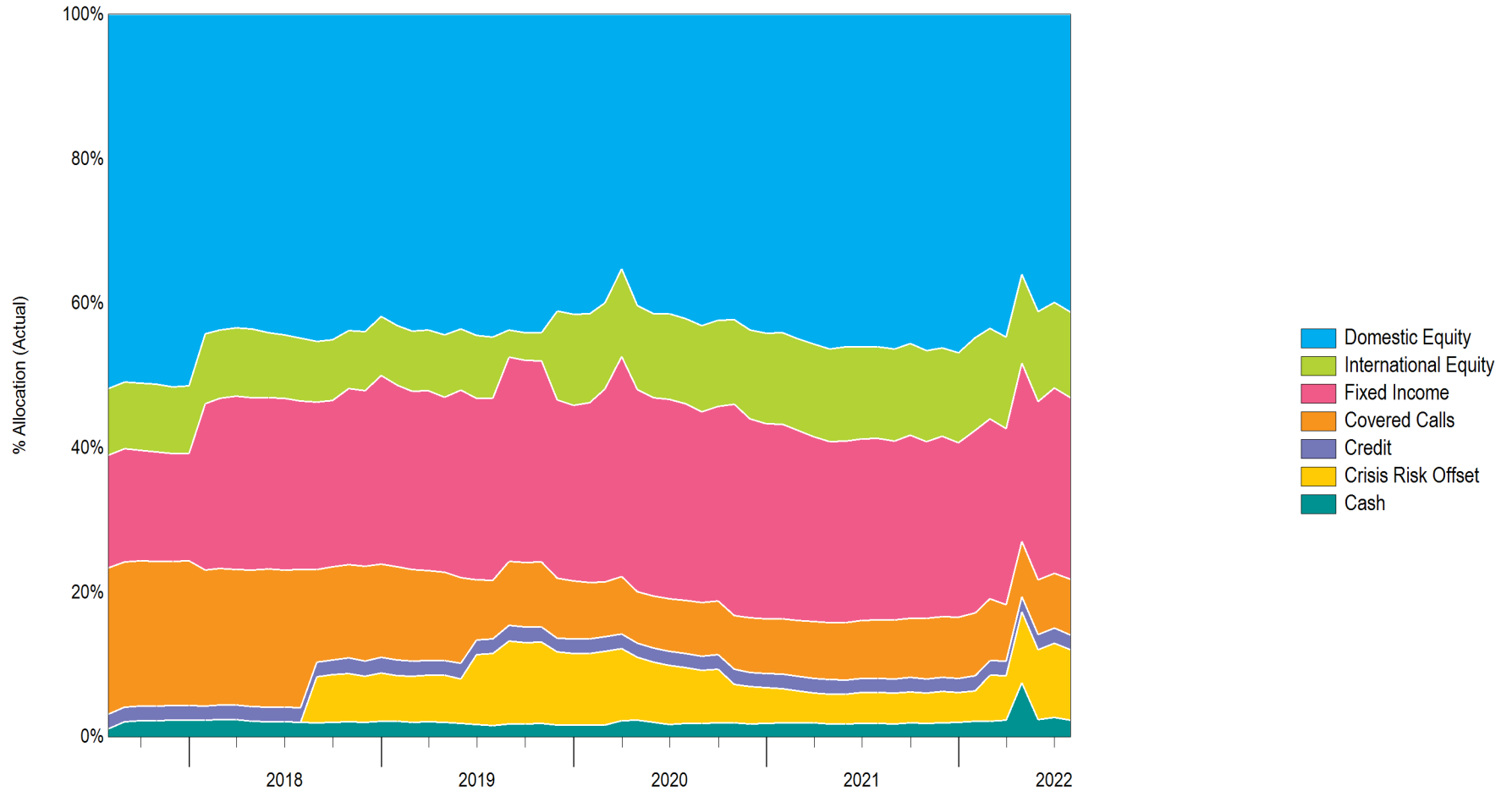
July Flash Report

As of July 31, 2022



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Within IPS Range?	
Domestic Equity	\$174,924,378	41.2%	40.0%	1.2%	Yes	
International Equity	\$50,377,899	11.9%	12.0%	-0.1%	Yes	
Fixed Income	\$106,695,721	25.1%	31.0%	-5.9%	Yes	
Covered Calls	\$32,871,278	7.7%	5.0%	2.7%	Yes	
Credit	\$8,704,154	2.0%	2.0%	0.0%	Yes	
Crisis Risk Offset	\$41,110,689	9.7%	10.0%	-0.3%	Yes	
Cash	\$10,024,838	2.4%	0.0%	2.4%	Yes	
Total	\$424,708,956	100.0%	100.0%			

Asset Allocation History
5 Years Ending July 31, 2022



As of July 31, 2022

Asset Class Performance Summary											
	Market Value (\$)	% of Portfolio	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	424,708,956	100.0	5.0	5.0	-10.9	-7.2	5.8	6.6	7.8	6.7	Dec-88
<i>OPFRS Policy Benchmark</i>			<u>5.1</u>	<u>5.1</u>	<u>-11.1</u>	<u>-8.3</u>	<u>5.6</u>	<u>6.1</u>	<u>7.2</u>	<u>7.9</u>	<u>Dec-88</u>
Excess Return			-0.1	-0.1	0.2	1.1	0.2	0.5	0.6	-1.2	
Domestic Equity	174,924,378	41.2	8.7	8.7	-12.2	-5.6	12.1	11.7	13.3	9.0	Jun-97
<i>Russell 3000 (Blend)</i>			<u>9.4</u>	<u>9.4</u>	<u>-13.7</u>	<u>-7.4</u>	<u>12.5</u>	<u>12.2</u>	<u>13.5</u>	<u>9.1</u>	<u>Jun-97</u>
Excess Return			-0.7	-0.7	1.5	1.8	-0.4	-0.5	-0.2	-0.1	
International Equity	50,377,899	11.9	4.7	4.7	-15.1	-13.6	3.7	3.4	6.5	5.1	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<u>3.4</u>	<u>3.4</u>	<u>-15.6</u>	<u>-15.3</u>	<u>2.9</u>	<u>2.4</u>	<u>5.0</u>	<u>4.8</u>	<u>Jan-98</u>
Excess Return			1.3	1.3	0.5	1.7	0.8	1.0	1.5	0.3	
Fixed Income	106,695,721	25.1	2.3	2.3	-8.5	-9.3	0.2	1.8	2.2	4.9	Dec-93
<i>Bloomberg Universal (Blend)</i>			<u>2.5</u>	<u>2.5</u>	<u>-8.7</u>	<u>-9.6</u>	<u>-0.2</u>	<u>1.3</u>	<u>1.9</u>	<u>4.8</u>	<u>Dec-93</u>
Excess Return			-0.2	-0.2	0.2	0.3	0.4	0.5	0.3	0.1	
Credit	8,704,154	2.0	2.4	2.4	-6.8	-4.9	3.5	3.7	--	5.0	Feb-15
<i>Bloomberg US High Yield TR</i>			<u>5.9</u>	<u>5.9</u>	<u>-9.1</u>	<u>-8.0</u>	<u>1.9</u>	<u>3.1</u>	<u>4.9</u>	<u>4.3</u>	<u>Feb-15</u>
Excess Return			-3.5	-3.5	2.3	3.1	1.6	0.6		0.7	
Covered Calls	32,871,278	7.7	6.9	6.9	-8.6	-0.9	10.7	9.4	--	9.1	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<u>3.9</u>	<u>3.9</u>	<u>-6.7</u>	<u>0.7</u>	<u>4.6</u>	<u>4.8</u>	<u>6.3</u>	<u>5.7</u>	<u>Apr-14</u>
Excess Return			3.0	3.0	-1.9	-1.6	6.1	4.6		3.4	
Crisis Risk Offset	41,110,689	9.7	-1.5	-1.5	-11.9	-13.1	-12.7	--	--	-9.8	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<u>-1.1</u>	<u>-1.1</u>	<u>1.1</u>	<u>2.4</u>	<u>-2.8</u>	<u>--</u>	<u>--</u>	<u>-1.5</u>	<u>Aug-18</u>
Excess Return			-0.4	-0.4	-13.0	-15.5	-9.9			-8.3	

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 July 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
OPFRS Total Plan	424,708,956	100.0	--	5.0	-10.9	-7.2	5.8	6.6	7.8	6.7	Dec-88
<i>OPFRS Policy Benchmark</i>				<i>5.1</i>	<i>-11.1</i>	<i>-8.3</i>	<i>5.6</i>	<i>6.1</i>	<i>7.2</i>	<i>7.9</i>	<i>Dec-88</i>
Domestic Equity	174,924,378	41.2	41.2	8.7	-12.2	-5.6	12.1	11.7	13.3	9.0	Jun-97
<i>Russell 3000 (Blend)</i>				<i>9.4</i>	<i>-13.7</i>	<i>-7.4</i>	<i>12.5</i>	<i>12.2</i>	<i>13.5</i>	<i>9.1</i>	<i>Jun-97</i>
Northern Trust Russell 1000	80,891,757	19.0	46.2	9.3	-13.8	-7.1	12.8	12.5	13.6	13.6	Jun-10
<i>Russell 1000</i>				<i>9.3</i>	<i>-13.6</i>	<i>-6.9</i>	<i>12.9</i>	<i>12.6</i>	<i>13.7</i>	<i>13.7</i>	<i>Jun-10</i>
Wellington Select Quality Equity	21,770,970	5.1	12.4	5.0	--	--	--	--	--	-1.1	May-22
<i>Russell 1000</i>				<i>9.3</i>	<i>-13.6</i>	<i>-6.9</i>	<i>12.9</i>	<i>12.6</i>	<i>13.7</i>	<i>0.0</i>	<i>May-22</i>
EARNEST Partners	46,728,422	11.0	26.7	9.0	-9.3	-1.9	14.4	13.8	15.1	10.7	Apr-06
<i>Russell MidCap</i>				<i>9.9</i>	<i>-13.8</i>	<i>-9.8</i>	<i>9.5</i>	<i>9.7</i>	<i>12.3</i>	<i>8.8</i>	<i>Apr-06</i>
Brown Fundamental Small Cap Value	10,963,682	2.6	6.3	10.7	-6.9	1.6	--	--	--	2.4	Apr-21
<i>Russell 2000 Value</i>				<i>9.7</i>	<i>-9.3</i>	<i>-4.8</i>	<i>9.4</i>	<i>6.7</i>	<i>10.2</i>	<i>-3.0</i>	<i>Apr-21</i>
Rice Hall James	14,569,548	3.4	8.3	8.3	-16.4	-14.2	8.2	8.9	--	8.5	Jul-17
<i>Russell 2000 Growth</i>				<i>11.2</i>	<i>-21.6</i>	<i>-23.2</i>	<i>4.7</i>	<i>6.9</i>	<i>10.7</i>	<i>6.9</i>	<i>Jul-17</i>
International Equity	50,377,899	11.9	11.9	4.7	-15.1	-13.6	3.7	3.4	6.5	5.1	Jan-98
<i>MSCI ACWI ex US (Blend)</i>				<i>3.4</i>	<i>-15.6</i>	<i>-15.3</i>	<i>2.9</i>	<i>2.4</i>	<i>5.0</i>	<i>4.8</i>	<i>Jan-98</i>
Vanguard Developed Markets ETF	14,385,800	3.4	28.6	5.3	-14.6	-14.2	--	--	--	5.6	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>				<i>5.2</i>	<i>-15.4</i>	<i>-14.4</i>	<i>4.4</i>	<i>3.4</i>	<i>6.3</i>	<i>5.5</i>	<i>Sep-19</i>
SGA ACWI ex-U.S. Equity	35,992,098	8.5	71.4	4.5	-15.1	-13.6	--	--	--	0.7	Dec-19
<i>MSCI ACWI ex USA</i>				<i>3.4</i>	<i>-15.6</i>	<i>-15.3</i>	<i>2.9</i>	<i>2.4</i>	<i>5.0</i>	<i>1.9</i>	<i>Dec-19</i>

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

As of July 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Fixed Income	106,695,721	25.1	25.1	2.3	-8.5	-9.3	0.2	1.8	2.2	4.9	Dec-93
<i>Bloomberg Universal (Blend)</i>				<i>2.5</i>	<i>-8.7</i>	<i>-9.6</i>	<i>-0.2</i>	<i>1.3</i>	<i>1.9</i>	<i>4.8</i>	<i>Dec-93</i>
Ramirez	72,403,307	17.0	67.9	1.9	-8.8	-9.7	-0.1	1.7	--	2.1	Jan-17
<i>Bloomberg US Aggregate TR</i>				<i>2.4</i>	<i>-8.2</i>	<i>-9.1</i>	<i>-0.2</i>	<i>1.3</i>	<i>1.6</i>	<i>1.6</i>	<i>Jan-17</i>
Wellington Core Bond	6,923,548	1.6	6.5	2.7	-9.3	-10.3	--	--	--	-5.7	Apr-21
<i>Bloomberg US Aggregate TR</i>				<i>2.4</i>	<i>-8.2</i>	<i>-9.1</i>	<i>-0.2</i>	<i>1.3</i>	<i>1.6</i>	<i>-4.9</i>	<i>Apr-21</i>
Reams	27,368,866	6.4	25.7	3.2	-7.4	-7.9	3.9	4.0	3.3	5.4	Feb-98
<i>Bloomberg Universal (Blend)</i>				<i>2.5</i>	<i>-8.7</i>	<i>-9.6</i>	<i>-0.2</i>	<i>1.3</i>	<i>1.9</i>	<i>4.4</i>	<i>Feb-98</i>
Credit	8,704,154	2.0	2.0	2.4	-6.8	-4.9	3.5	3.7	--	5.0	Feb-15
<i>Bloomberg US High Yield TR</i>				<i>5.9</i>	<i>-9.1</i>	<i>-8.0</i>	<i>1.9</i>	<i>3.1</i>	<i>4.9</i>	<i>4.3</i>	<i>Feb-15</i>
Polen Capital	8,704,154	2.0	100.0	2.4	-6.8	-4.9	3.5	3.7	--	5.0	Feb-15
<i>ICE BofA High Yield Master TR</i>				<i>6.0</i>	<i>-8.9</i>	<i>-7.7</i>	<i>1.7</i>	<i>2.9</i>	<i>4.8</i>	<i>4.2</i>	<i>Feb-15</i>
Covered Calls	32,871,278	7.7	7.7	6.9	-8.6	-0.9	10.7	9.4	--	9.1	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>3.9</i>	<i>-6.7</i>	<i>0.7</i>	<i>4.6</i>	<i>4.8</i>	<i>6.3</i>	<i>5.7</i>	<i>Apr-14</i>
Parametric BXM	16,532,832	3.9	50.3	5.0	-6.3	-0.3	7.7	6.8	--	7.2	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>3.9</i>	<i>-6.7</i>	<i>0.7</i>	<i>4.6</i>	<i>4.8</i>	<i>6.3</i>	<i>5.7</i>	<i>Apr-14</i>
Parametric DeltaShift	16,338,446	3.8	49.7	8.8	-10.6	-1.7	13.3	11.6	--	11.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>3.9</i>	<i>-6.7</i>	<i>0.7</i>	<i>4.6</i>	<i>4.8</i>	<i>6.3</i>	<i>5.7</i>	<i>Apr-14</i>

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

As of July 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Crisis Risk Offset	41,110,689	9.7	9.7	-1.5	-11.9	-13.1	-12.7	--	--	-9.8	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>				<i>-1.1</i>	<i>1.1</i>	<i>2.4</i>	<i>-2.8</i>	<i>--</i>	<i>--</i>	<i>-1.5</i>	<i>Aug-18</i>
Kepos Alternative Risk Premia	9,476,236	2.2	23.1	-0.6	--	--	--	--	--	-4.9	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>				<i>-1.1</i>	<i>1.1</i>	<i>2.4</i>	<i>-2.8</i>	<i>--</i>	<i>--</i>	<i>0.3</i>	<i>Feb-22</i>
Versor Trend Following	15,652,355	3.7	38.1	-5.8	--	--	--	--	--	4.3	Apr-22
<i>SG Trend Index</i>				<i>-4.3</i>	<i>31.7</i>	<i>33.1</i>	<i>14.0</i>	<i>10.4</i>	<i>5.3</i>	<i>11.9</i>	<i>Apr-22</i>
Vanguard Long-Term Treasury ETF	15,982,098	3.8	38.9	2.6	-18.8	-19.2	-2.2	--	--	-2.1	Jul-19
<i>Bloomberg US Govt Long TR</i>				<i>2.7</i>	<i>-19.1</i>	<i>-19.2</i>	<i>-2.1</i>	<i>1.2</i>	<i>1.6</i>	<i>-2.0</i>	<i>Jul-19</i>
Cash	10,024,838	2.4	2.4	0.0	0.0	0.0	0.7	1.2	0.7	0.6	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.1</i>	<i>0.3</i>	<i>0.3</i>	<i>0.6</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash	3,357,838	0.8	33.5	0.0	0.0	0.0	0.9	1.3	0.8	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.1</i>	<i>0.3</i>	<i>0.3</i>	<i>0.6</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash - Treasury	6,667,000	1.6	66.5								

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

As of July 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	\$9,915,053	\$0	\$1,048,629	\$10,963,682
Cash	\$3,337,919	\$19,919	\$0	\$3,357,838
Cash - Treasury	\$7,589,000	-\$922,000	\$0	\$6,667,000
EARNEST Partners	\$42,887,126	\$0	\$3,841,295	\$46,728,422
Kepos Alternative Risk Premia	\$9,543,601	\$0	-\$67,365	\$9,476,236
Northern Trust Russell 1000	\$74,995,609	-\$1,000,000	\$6,896,148	\$80,891,757
Parametric BXM	\$15,745,273	\$0	\$787,558	\$16,532,832
Parametric DeltaShift	\$15,017,334	\$0	\$1,321,112	\$16,338,446
Polen Capital	\$8,503,509	\$0	\$200,645	\$8,704,154
Ramirez	\$71,026,933	\$0	\$1,376,373	\$72,403,307
Reams	\$26,507,460	\$0	\$861,406	\$27,368,866
Rice Hall James	\$13,448,626	\$0	\$1,120,922	\$14,569,548
Securities Lending Northern Trust	\$0	-\$11,407	\$11,407	\$0
SGA ACWI ex-U.S. Equity	\$34,433,617	\$0	\$1,558,482	\$35,992,098
Vanguard Developed Markets ETF	\$13,662,492	\$0	\$723,308	\$14,385,800
Vanguard Long-Term Treasury ETF	\$15,606,180	\$0	\$375,919	\$15,982,098
Versor Trend Following	\$16,607,403	\$0	-\$955,048	\$15,652,355
Wellington Core Bond	\$6,741,756	\$0	\$181,792	\$6,923,548
Wellington Select Quality Equity	\$20,739,219	\$0	\$1,031,751	\$21,770,970
Total	\$406,308,110	-\$1,913,488	\$20,314,333	\$424,708,956

Benchmark History

As of July 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

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.

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

Oakland Police and Fire Retirement System

August 31, 2022

June Quarterly Performance
Report

Agenda

1. Total Portfolio Summary
2. Economic and Market Update
3. Asset Class and Manager Commentary
4. 2Q 2022 Performance as of June 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 \$406.3M. This represents a \$46.0M depreciation in investment value after \$2.9M in net inflows over the quarter. Over the one-year period, the OPFRS Total Portfolio value has a \$46.0M depreciation, after withdrawals totaling (\$11.4M) for benefit payments.

Asset Allocation Trends

- The asset allocation targets throughout this report reflect those as of June 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 and Cash, while moderate underweight in Fixed Income. The other asset classes have slight deviation from their respective policy targets, and all the asset classes were within acceptable allocation ranges.
 - During this quarter, Versor Trend Following was funded as a new Systematic Trend Following manager within the Crisis Risk Offset component. Wellington Select Quality Equity was funded as an actively-managed low volatility equity manager replacing the passively-managed iShares Edge MSCI Min Vol ETF.

Investment Performance

- During the most recent quarter, the OPFRS portfolio generated an absolute return of -10.3%, gross of fees, outperforming its policy benchmark¹ by 0.7%. It has also outperformed the benchmark over the trailing 1-, 3-, and 5-year periods.
- In comparison to its peers which are public defined benefit plans with \$250 million to \$1 billion in assets², the portfolio 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
Total Portfolio (Gross)	-10.3	-15.1	-10.4	4.4	5.9
Policy Benchmark	-11.0	-15.5	-11.9	4.1	5.4
Excess Return	0.7	0.4	1.5	0.3	0.5
Reference: Median Fund	-10.1	-14.6	-10.9	5.6	6.5
Reference: Total Portfolio (Net) ³	-10.4	-15.3	-10.7	4.1	5.6

- 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
Total Portfolio (Gross)	-10.3	-15.1	-10.4	4.4	5.9
Risk-Adjusted Median Fund	-12.9	-15.6	-11.8	6.0	7.1
Excess Return	2.5	0.5	1.4	-1.7	-1.2

¹ 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.

² Source: Investment Metrics peer universe as of 6/30/2022.

³ 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 June 30, 2022

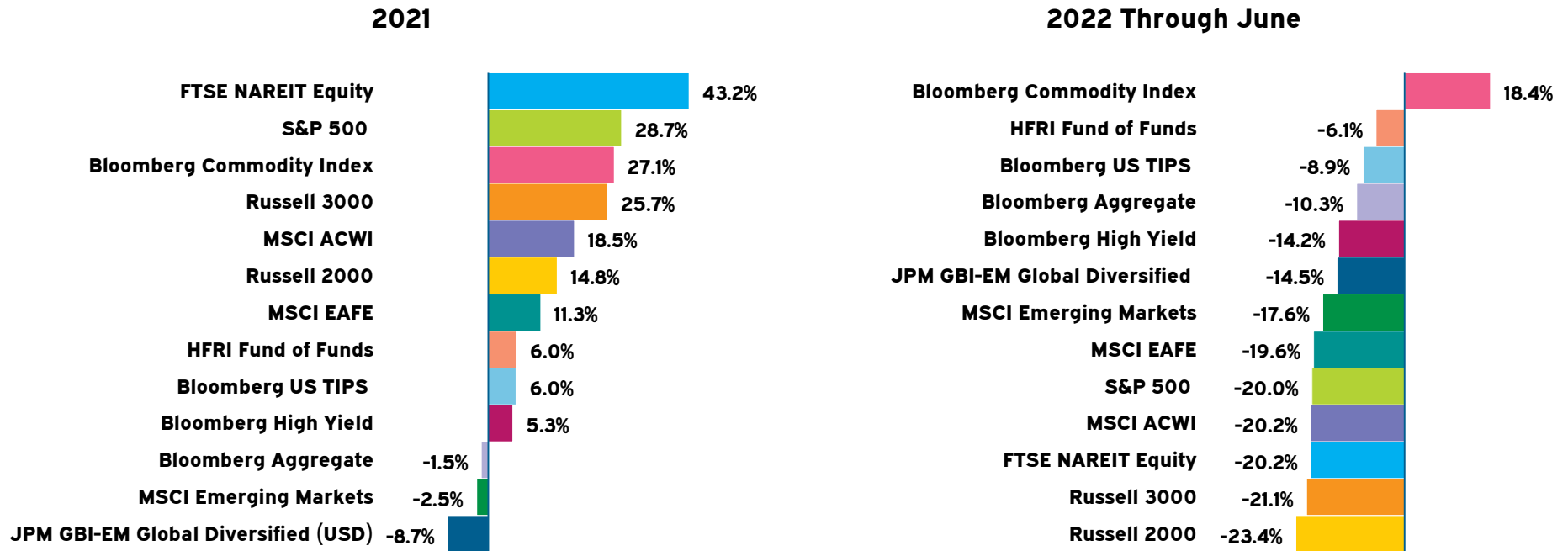
Commentary

→ Global markets resumed their sell-off in June as inflation surged in the US and Europe.

- In response, the US Federal Reserve increased interest rates 75 basis points (above prior expectations). Markets also repriced the growth outlook downward.
- All major equity indices suffered steep declines in June. Emerging markets proved slightly more resilient than developed markets on a partial re-opening in China from pandemic related lockdowns.
- In a reversal of the prior trend growth stocks outperformed value stocks in June.
- The global bond selloff resumed, as inflation fears, and policy expectations weighed on all major bond markets.

→ Persistently high inflation and the expected policy response, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China will all have considerable economic and financial consequences for the global economy.

Index Returns¹



→ Outside of emerging markets and the broad US investment grade bond market (Bloomberg Aggregate), most asset classes appreciated in 2021.

→ In June all major asset classes posted negative returns on renewed inflation and economic growth fears, with equities experiencing the largest declines.

¹ Source: Bloomberg and FactSet. Data is as of June 30, 2022.

Domestic Equity Returns¹

Domestic Equity	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	-8.3	-16.1	-20.0	-10.6	10.6	11.3	12.9
Russell 3000	-8.4	-16.7	-21.1	-13.9	9.8	10.6	12.6
Russell 1000	-8.4	-16.7	-20.9	-13.0	10.2	11.0	12.8
Russell 1000 Growth	-7.9	-20.9	-28.1	-18.8	12.6	14.3	14.8
Russell 1000 Value	-8.7	-12.2	-12.9	-6.8	6.9	7.2	10.5
Russell MidCap	-10.0	-16.8	-21.6	-17.3	6.6	8.0	11.3
Russell MidCap Growth	-7.5	-21.1	-31.0	-29.6	4.3	8.9	11.5
Russell MidCap Value	-11.0	-14.7	-16.2	-10.0	6.7	6.3	10.6
Russell 2000	-8.2	-17.2	-23.4	-25.2	4.2	5.2	9.4
Russell 2000 Growth	-6.2	-19.3	-29.5	-33.4	1.4	4.8	9.3
Russell 2000 Value	-9.9	-15.3	-17.3	-16.3	6.2	4.9	9.0

US Equities: Russell 3000 Index declined 8.3%, and growth indices outperformed value in June.

- US stocks experienced steep losses for the month, led by the energy and materials sectors.
- Growth indices outperformed their value counterparts for the month but remain well behind for the year-to-date period.
- Small company stocks slightly outperformed large company stocks in June but remain behind their larger peers year-to-date.

¹ Source: Bloomberg. Data is as of June 30, 2022.

Foreign Equity Returns¹

Foreign Equity	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-8.6	-13.7	-18.4	-19.4	1.3	2.5	4.8
MSCI EAFE	-9.3	-14.5	-19.6	-17.8	1.1	2.2	5.4
MSCI EAFE (Local Currency)	-6.3	-7.8	-11.3	-6.6	4.4	4.3	8.3
MSCI EAFE Small Cap	-11.0	-17.7	-24.7	-24.0	1.1	1.7	7.2
MSCI Emerging Markets	-6.6	-11.5	-17.6	-25.3	0.6	2.2	3.1
MSCI Emerging Markets (Local Currency)	-4.6	-8.1	-13.7	-20.2	3.3	4.4	6.0
MSCI China	6.6	3.4	-11.3	-31.8	-0.6	2.1	5.5

International Equities (MSCI EAFE) declined 9.3% and Emerging Markets (MSCI EM) declined 6.6% in June.

- Non-US developed market stocks slightly trailed the US for the month, while emerging markets stocks had better results due to China gaining 6.6%. Both remain notably negative for the year-to-date period, but ahead of the US.
- The war in Ukraine, high inflation and the likely monetary policy response, and slowing growth continue to weigh on sentiment.
- As in the US, growth stocks outperformed value stocks across developed and emerging markets.

¹ Source: Bloomberg. Data is as of June 30, 2022.

Fixed Income Returns¹

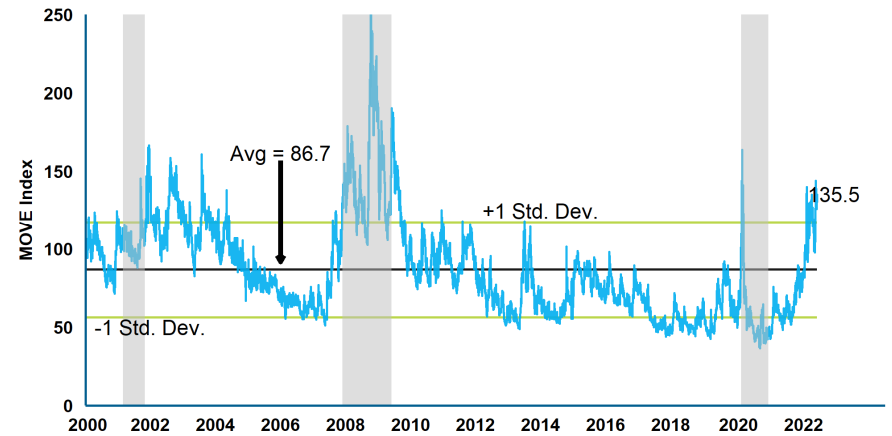
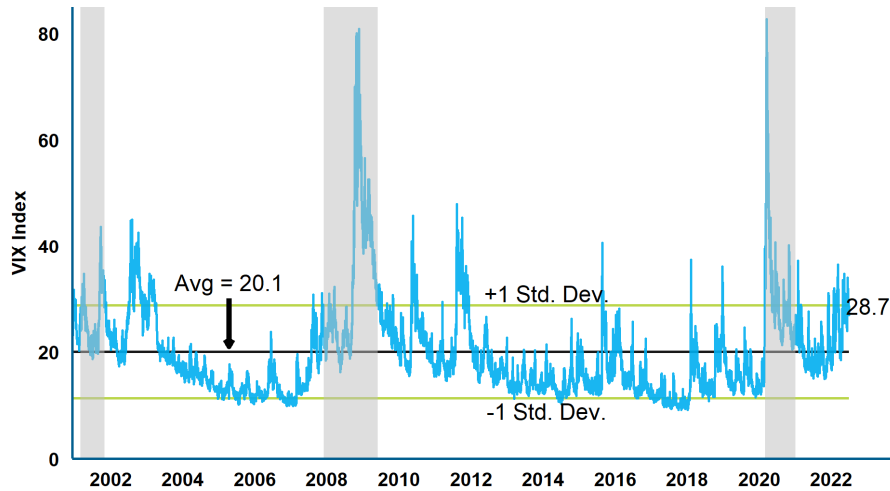
Fixed Income	June (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-2.0	-5.1	-10.9	-10.9	-0.9	0.9	1.8	4.2	6.4
Bloomberg Aggregate	-1.6	-4.7	-10.3	-10.3	-0.9	0.9	1.5	3.7	6.6
Bloomberg US TIPS	-3.2	-6.1	-8.9	-5.1	3.0	3.2	1.7	3.4	7.0
Bloomberg High Yield	-6.7	-9.8	-14.2	-12.8	0.2	2.1	4.5	8.9	4.8
JPM GBI-EM Global Diversified (USD)	-4.5	-8.6	-14.5	-19.3	-5.8	-2.3	-1.5	7.4	4.9

Fixed Income: The Bloomberg Universal declined 2.0% in June.

- The above expectations CPI print led to renewed inflation fears driving interest rates higher and weighing on the broad US investment grade bond market (Bloomberg Aggregate).
- Despite the above expectation CPI prints, breakeven inflation rates have continued to move down driven by the decline in nominal rates. The nominal 10-year Treasury yield peaked at 3.47% before declining to 3.01% by month-end, while the 2-year Treasury yield declined from 3.43% to 2.95%.
- US credit spreads widened, particularly for high yield debt, leading to it having the worst results among bonds for the month.
- Emerging market debt also declined for the month.

¹ Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of June 30, 2022.

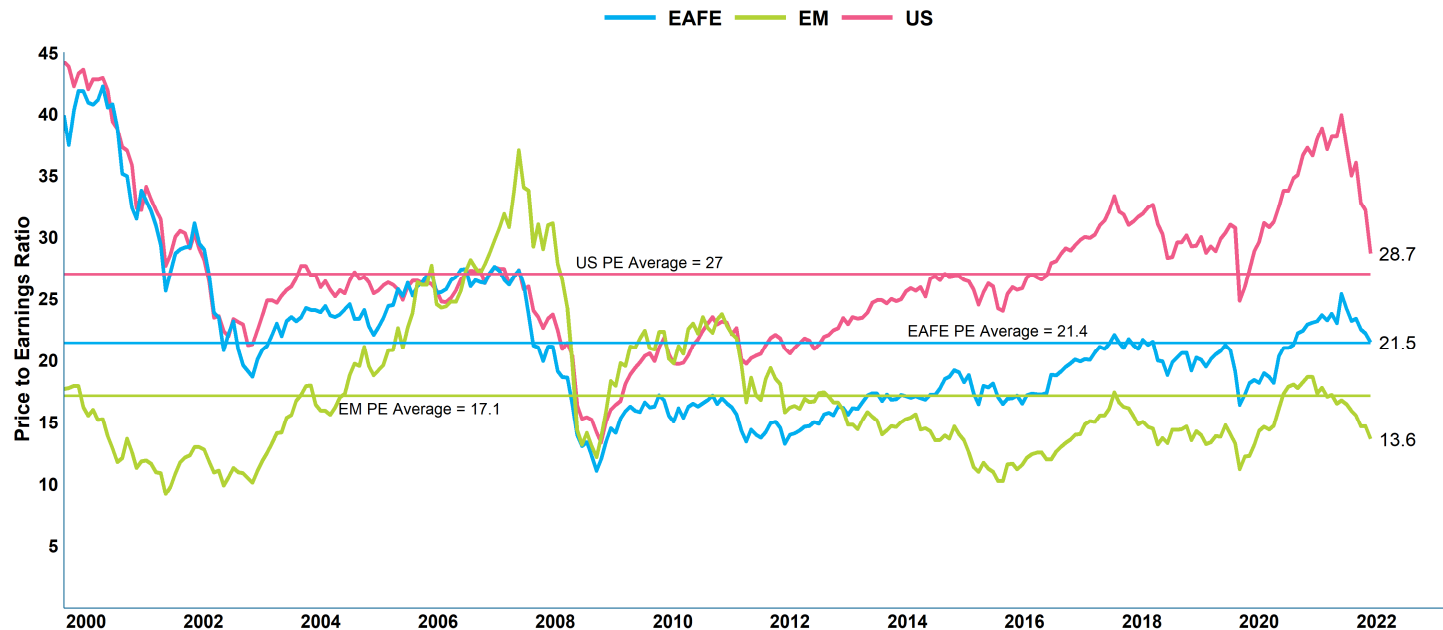
Equity and Fixed Income Volatility¹



- Volatility in equities (VIX) and fixed income (MOVE) rose in June on renewed inflation fears and on building signs of weakness in economic growth.
- Fixed income volatility remains particularly high due to the uncertain path of short-term interest rates.

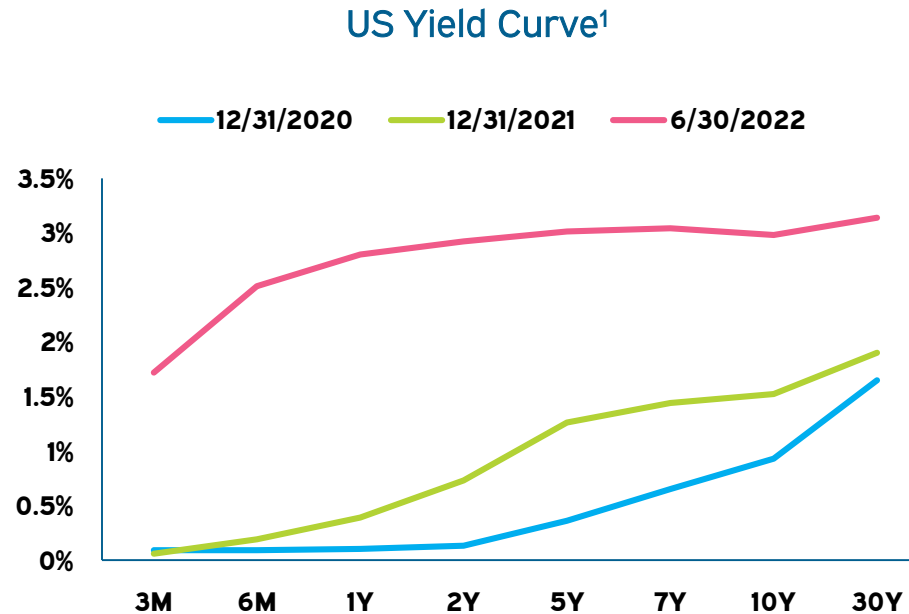
¹ Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of June 2022. The average line indicated is the average of the VIX and MOVE values between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

Equity Cyclically Adjusted P/E Ratios¹



- The steep decline in June in US equities pushed valuations lower, approaching the level of the long-term (post-2000) average.
- International developed market valuations remain below the US and are slightly above their own long-term average, with those for emerging markets the lowest and under the long-term average.

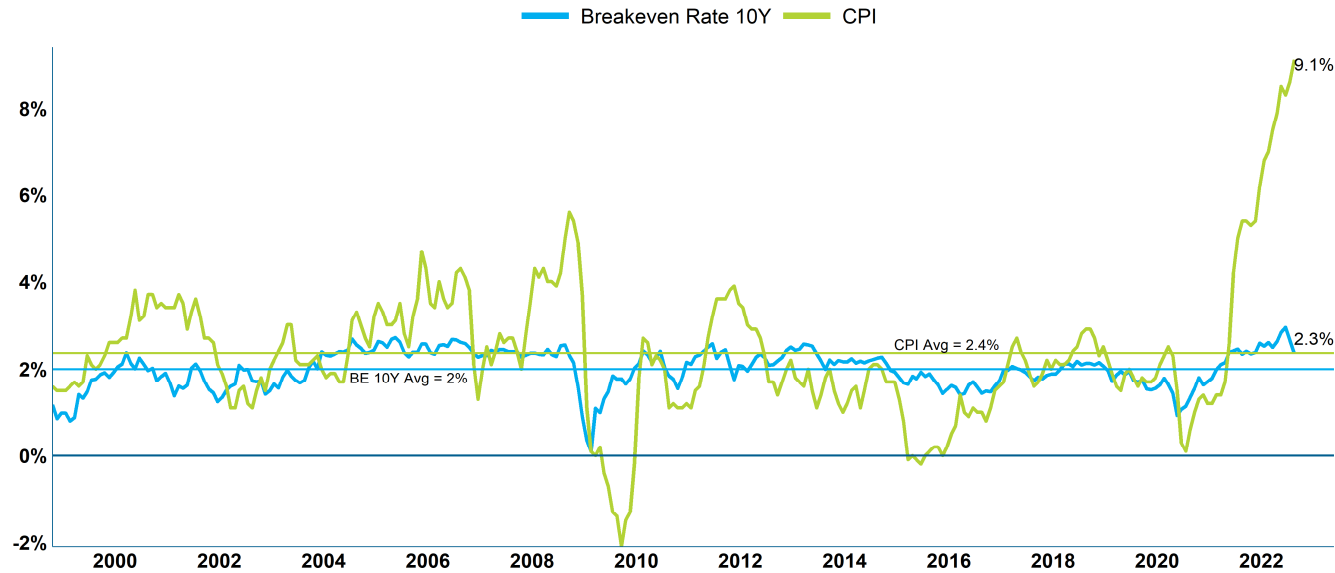
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of June 30, 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 much higher than at the start of the year.
- In June, rates rose across maturities (particularly short-dated), as markets continue to reflect elevated inflation and rate expectations.
- The curve continued to flatten in June with the spread between two-year and ten-year Treasuries falling from 30 basis points at the end of May to just 5 basis points by the end of June.
- Since month-end, the spread between two-year and ten-year Treasuries became negative which historically has often signaled a coming recession.

¹ Source: Bloomberg. Data is as of June 30, 2022.

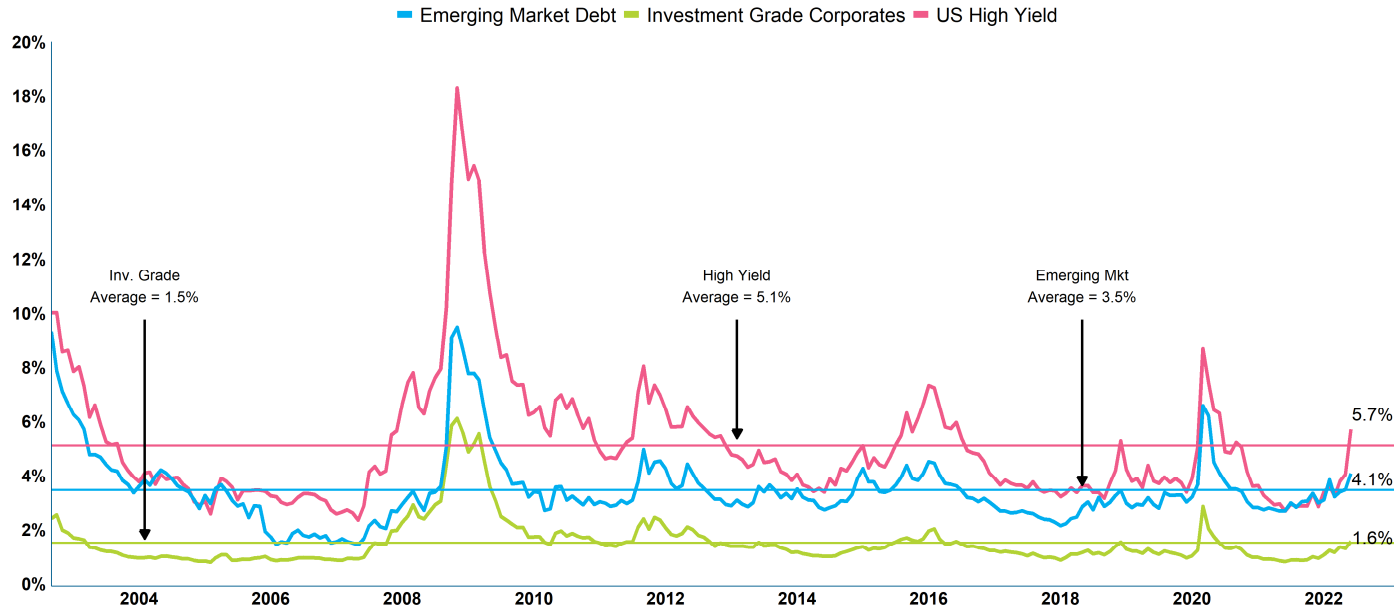
Ten-Year Breakeven Inflation and CPI¹



- Inflation expectations (breakevens) fell further in June on declining growth expectations and anticipated tighter monetary policy.
- Trailing twelve-month CPI rose in June (9.1% versus 8.6%) and notably came in above expectations. Inflation levels in the US remain well above the long-term average of 2.4%.
- Rising prices for energy (particularly oil), food, housing, and for new and used cars, remain key drivers of higher inflation.

¹ Source: Bloomberg. Data is as of June 30, 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 Bonds¹



- Credit spreads (the spread above a comparable maturity Treasury) rose in June with high yield and investment grade corporate bonds breaking above their long-run averages.
- In the US, spreads for high yield significantly increased from 4.0% to 5.7% in the risk-off environment, while investment grade spreads experienced a more modest increase (1.3% to 1.6%). Emerging market spreads also rose (3.5% to 4.1% during the month) but finished much lower than US high yield spreads.

¹ Sources: Bloomberg. Data is as of June 30, 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

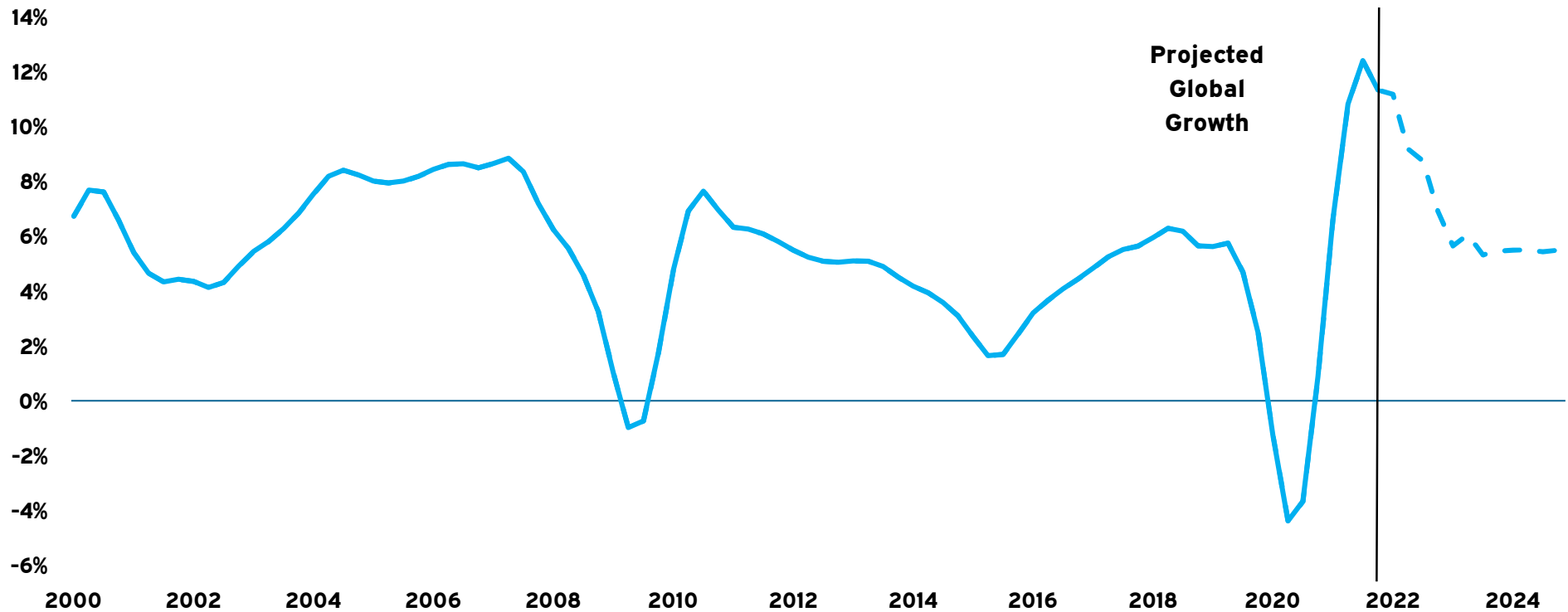
The IMF significantly lowered global growth forecasts in their latest projections, driven by the economic impacts of the war in Ukraine.

- The IMF forecasts final global GDP growth to come in at 6.1% in 2021 and 3.6% in 2022 (0.8% below the prior 2022 estimate), both still above the past ten-year 3.0% average.
- In advanced economies, GDP is projected to increase 3.3% in 2022 and 2.4% in 2023. The US has limited economic ties with Russia but saw another downgrade in the 2022 growth forecast (3.7% versus 4.0%) largely due to policy tightening happening faster than previously expected. The euro area saw a significant downgrade in expected growth (2.8% versus 3.9%) in 2022 as rising energy prices particularly weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 2.4% this year.
- Growth projections for emerging markets are higher than developed markets, at 3.8% in 2022 and 4.4% in 2023. China’s growth was downgraded (4.4% versus 4.8%) for 2022 given tight COVID-19 restrictions and continued property sector problems.
- The global inflation forecast was significantly increased for 2022 (7.4% versus 3.8%).

	Real GDP (%) ¹			Inflation (%) ¹		
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average
World	3.6	3.6	3.0	7.4	4.8	3.5
Advanced Economies	3.3	2.4	1.6	5.7	2.5	1.5
US	3.7	2.3	2.1	7.7	2.9	1.9
Euro Area	2.8	2.3	0.9	5.3	2.3	1.2
Japan	2.4	2.3	0.5	1.0	0.8	0.5
Emerging Economies	3.8	4.4	4.2	8.7	6.5	5.1
China	4.4	5.1	6.7	2.1	1.8	2.1

¹ Source: IMF World Economic Outlook. Real GDP forecasts from April WEO Update. Inflation forecasts are as of the April 2022 Update. "Actual 10 Year Average" represents data from 2012 to 2021.

Global Nominal Gross Domestic Product (GDP) Growth¹



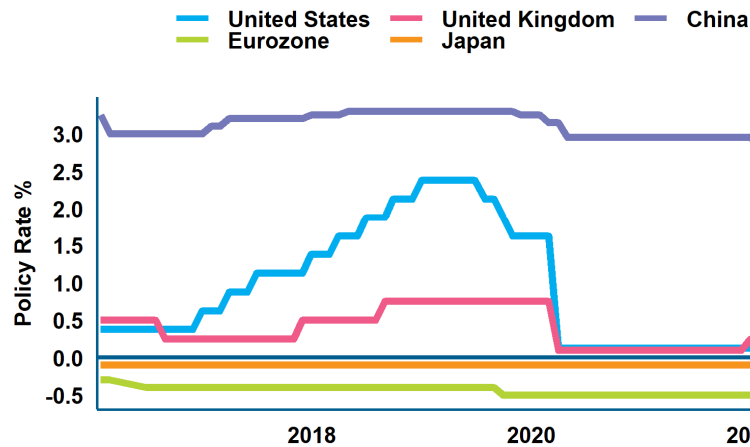
→ Global economies are expected to slow in 2022 compared to 2021 with fears of potential recessions in areas increasing recently given persistently high inflation and related tighter monetary policy.

→ Looking forward, the delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

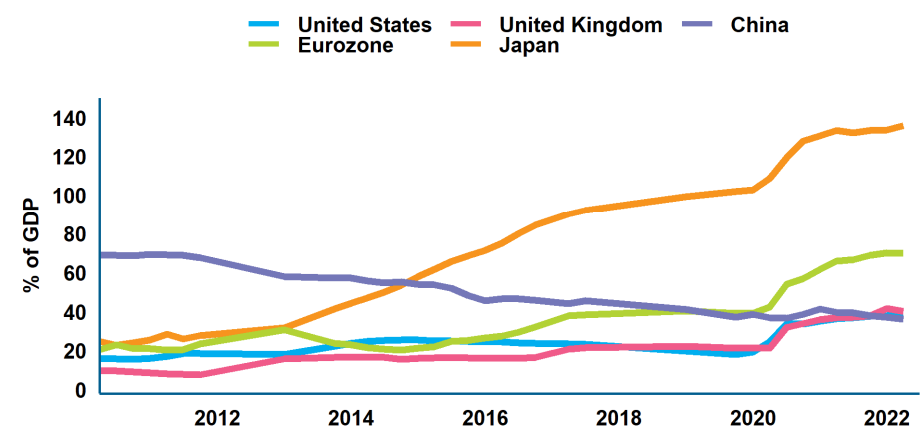
¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated June 2022.

Central Bank Response¹

Policy Rates



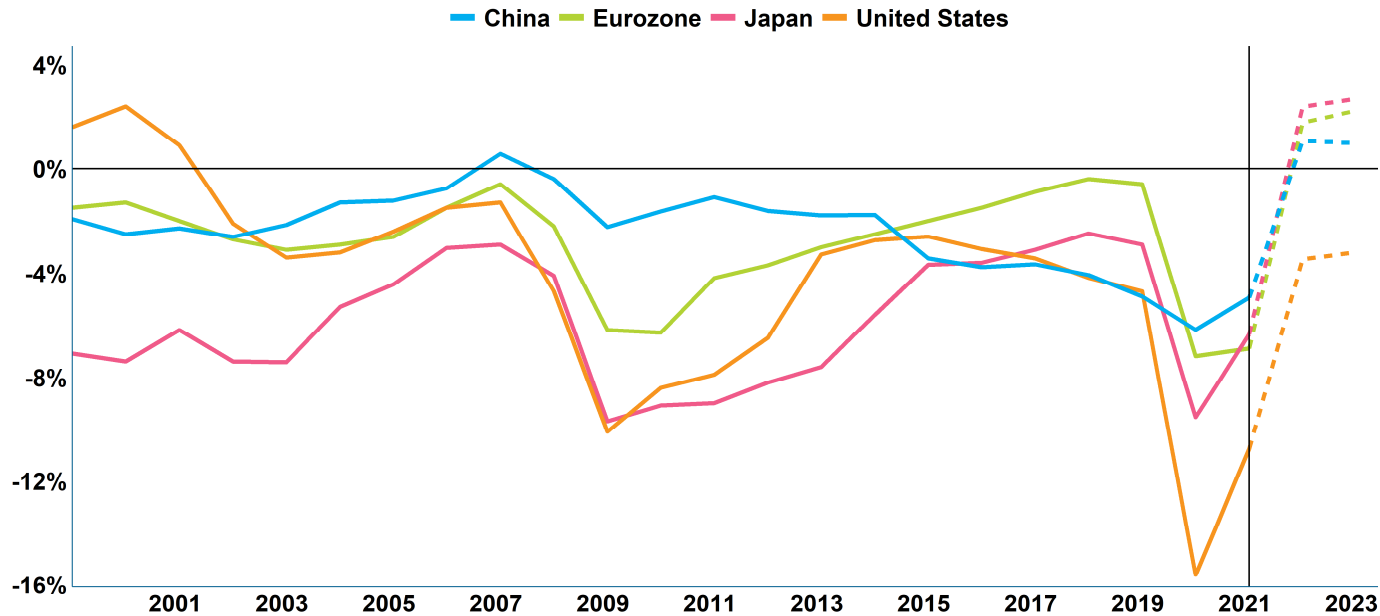
Balance Sheet as % of GDP



- 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 reducing or considering reducing support, in the face of high inflation.
- The pace of withdrawing support will likely vary across central banks with the US expected to take a more aggressive approach. 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.
- The one notable central bank outlier is China, where the central bank recently lowered rates and reserve requirements in response to slowing growth.

¹ Source: Bloomberg. Policy rate data is as of June 30, 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 June 30, 2022.

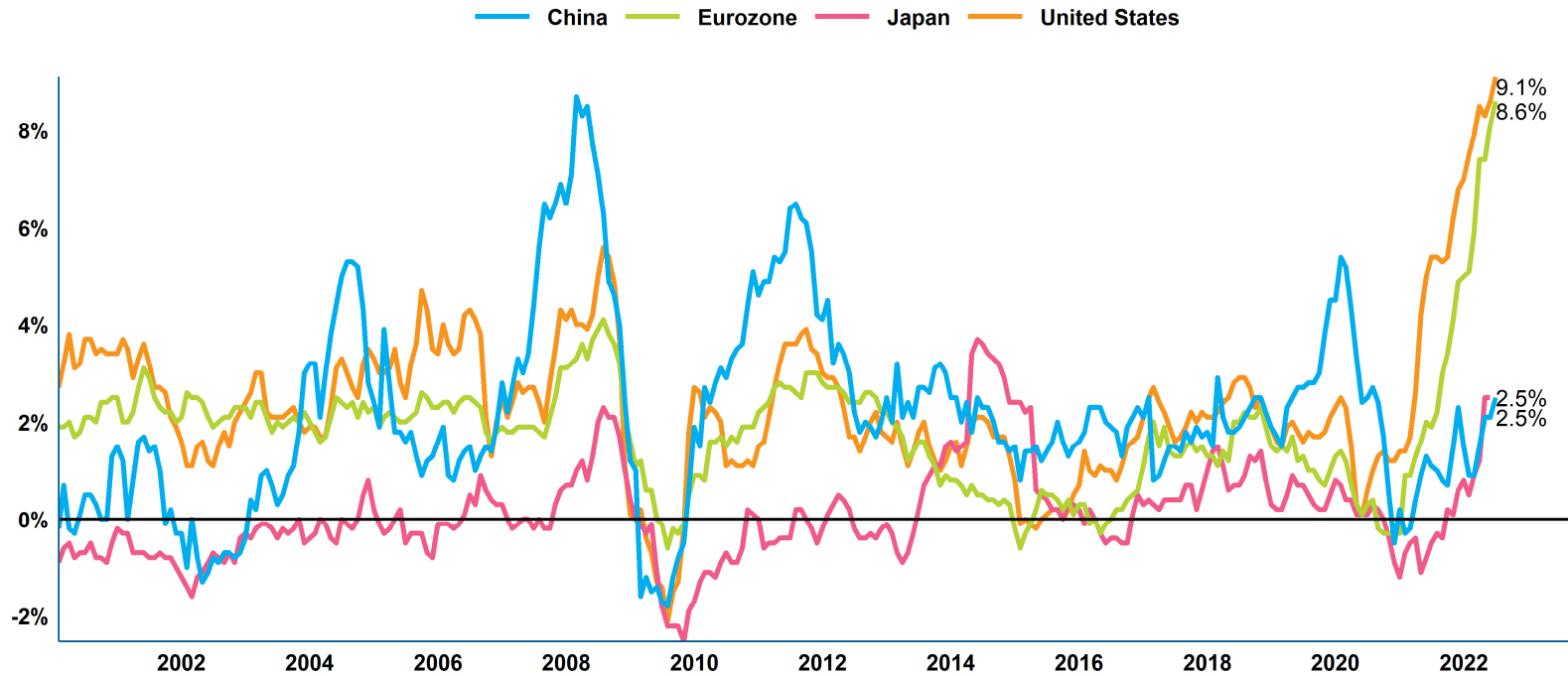
Budget Surplus / Deficit as a Percentage of GDP¹



- 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 in the coming years.

¹ Source: Bloomberg. Data is as of June 30, 2022. Projections via IMF Forecasts from April 2022 Report. Dotted lines represent 2022 and 2023 forecasts.

Inflation (CPI Trailing Twelve Months)¹

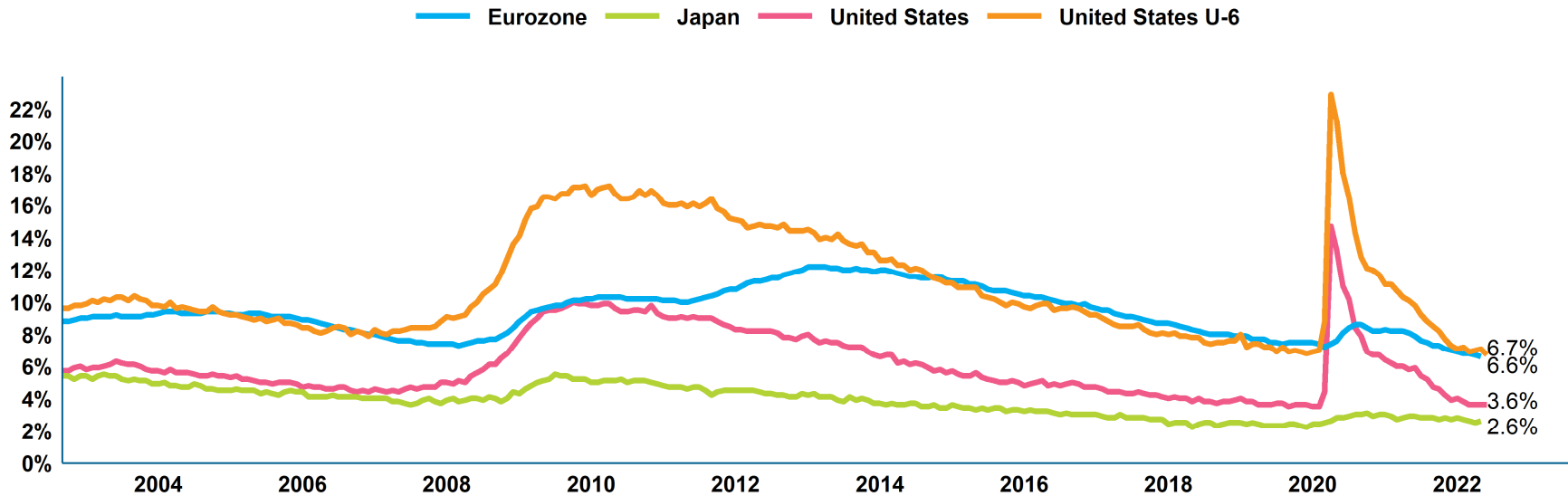


→ Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.

→ Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher prices in many commodities driven by the war in Ukraine have been key drivers of inflation globally.

¹ Source: Bloomberg. Data is as of June 2022, except for Japan, where the most recent data available is as of May 31, 2022.

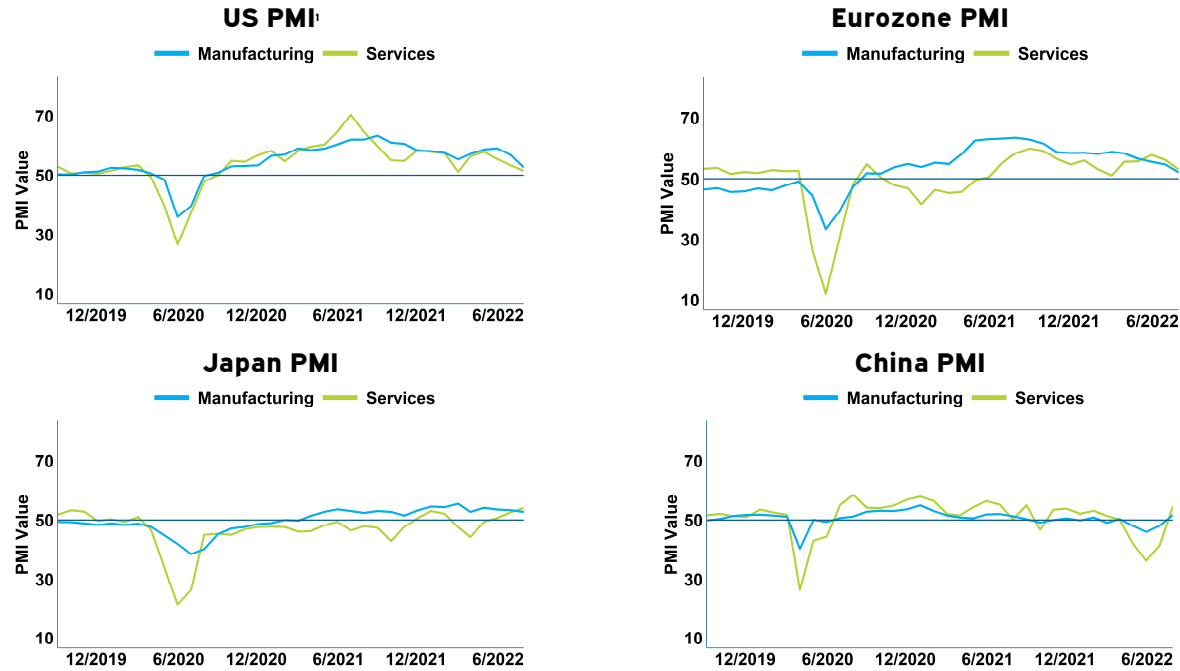
Unemployment¹



- As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- US unemployment, which experienced the steepest rise from the pandemic, declined back to pre-pandemic levels. The broader measure (U-6) that includes discouraged and underemployed workers declined but is much higher at 6.7%.

¹ Source: Bloomberg. Data is as of June 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of May 31, 2022.

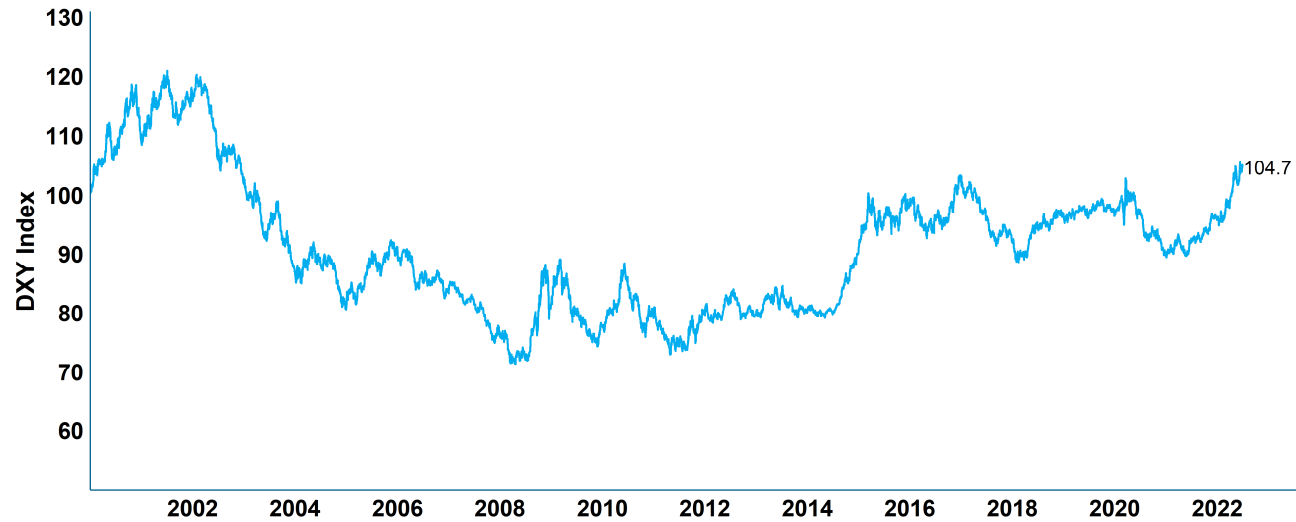
Global PMIs



- After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have experienced some pressures recently.
- Service sector PMIs in the US and Europe have recently declined due to higher prices and supply issues, while they continue to improve in Japan as pandemic restrictions ease. In China the services PMI surged to expansion territory on an easing in lockdown measures.
- Manufacturing PMIs are in expansion territory as pandemic-related production issues ease and orders increase. China also moved to expansion levels here on partial reopening.

¹ 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 June 2022. Readings below 50 represent economic contractions.

US Dollar versus Broad Currencies¹



- The US dollar continued higher in June on safe-haven flows, relatively strong growth, and higher interest rates.
- The euro, yen, and yuan have all experienced significant declines versus the dollar, adding to inflation and slowing growth concerns.

¹ Source: Bloomberg. Data as of June 30, 2022.

Summary

Key Trends in 2022:

- The impacts of record high inflation will remain key going forward, with volatility likely to remain high.
- The war in Ukraine has created significant uncertainty, with a wide range of potential outcomes.
- Expect growth to slow globally in 2022 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- 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.
- Monetary policy will likely tighten globally but will remain relatively accommodative. The risk of overtightening policy remains.
- Valuations have significantly declined in the US, approaching long-term averages.
- Outside the US, equity valuations remain lower in both emerging and developed markets, but 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 outperformed the Russell 3000 benchmark during the quarter and over calendar year-to-date as well as 1-year trailing period though it slightly lagged the benchmark over the longer trailing periods. Reflecting the volatile market over the quarter, all of the managers generated negative absolute returns; however, except for the passive **Northern Trust Russell 1000**, the managers outperformed their respective benchmarks across all time periods measured.

- The passive **iShares Edge MSCI Minimum Volatility** strategy was replaced with actively managed **Wellington Defensive Equity** (hired in 2021) as the Plan's low volatility equity manager during this quarter.
- **Earnest Partners**, the Plan's active mid cap core manager outperformed the Russell Midcap benchmark and ranked above average amongst its mid cap core peers across all time periods.
- **Rice Hall James**, the Plan's active small cap growth manager, outperformed the Russell 2000 Growth benchmark and ranked above average amongst its small cap growth peers during the quarter and over the 1-year trailing period.
 - While it has outperformed the benchmark over all time periods measured, due to its underperformance in 2018, Rice Hall James ranked below the Median fund over the trailing 3-year and since inception periods. For the same performance reasons, it has been on the Plan's watchlist and will be re-evaluated its status before the year end.
- **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, except for calendar year-to-date period.

International Equity

→ For the quarter, the international equity segment trailed the MSCI ACWI ex US benchmark; however, it has maintained its outperformance over the longer 1-, 3-, and 5-year trailing periods and since inception. 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, trailed its benchmark over the quarter placing it below average compared to its international all cap core equity peers for the quarter. However, it maintained its outperformance over the longer 1-year trailing period.
- The **Vanguard** passive **international developed markets** portfolio posted outperformance 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 outperformed the Bloomberg Universal benchmark across all time periods measured. Reflecting the broad market trends, the fixed income managers in this portfolio posted negative absolute returns.

- **Ramirez** and **Reams** kept pace with their respective benchmarks over the quarter. **Ramirez** lagged its Bloomberg US Aggregate benchmark over the 1-year trailing period though it has outperformed it over the longer 3- and 5-year trailing periods.
- **Wellington Core Bond**, the most recently funded core fixed income manager, trailed its Bloomberg US Aggregate benchmark both over the quarter as well as the 1-year trailing period.
- **Reams** outperformed its Bloomberg Universal benchmark over the 1-, 3-, and 5-year trailing periods and ranked above average in its core plus fixed income peer group. It is noteworthy that over the 3- and 5-year periods, **Reams** ranks in the 2nd percentile amongst its peers.

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 these periods.
- 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

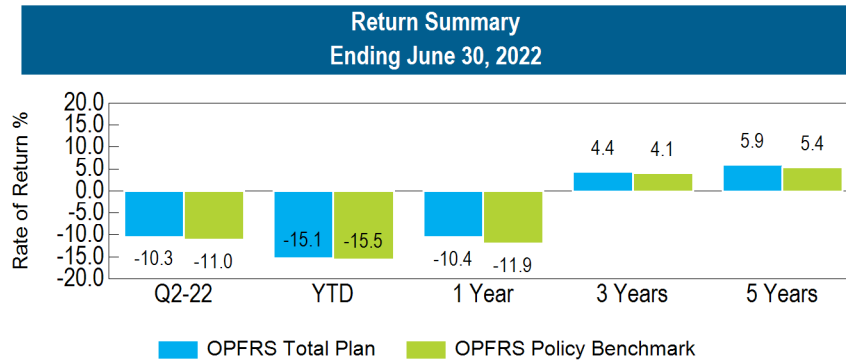
- The **Covered Calls** portfolio trailed its CBOE S&P 500 Buy-Write Index over the quarter and the 1-year trailing period. However, over the longer 3- and 5-year periods, it has strongly outperformed the benchmark.
- Both of the underlying strategies—**Parametric DeltaShift** and **Parametric BXM**—trailed the benchmark over calendar year-to-date and the 1-year trailing periods, though **BXM** outperformed the benchmark over the quarter.
 - 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 over 1- and 3-year trailing periods while below average over the long-term 5-year trailing period.
 - The passive covered calls strategy, **Parametric BXM**, on the other hand, ranked above average over the shorter quarterly and 1-year periods while ranking in the bottom quartile over all other, longer 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. This is the first full calendar quarter for **Kepos** and **Versor**, which are the Plan's Alternative Risk Premia and Systematic Trend Following managers respectively.
 - 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.

2Q 2022 Performance
as of June 30, 2022

OPFRS Total Plan | As of June 30, 2022



Summary of Cash Flows

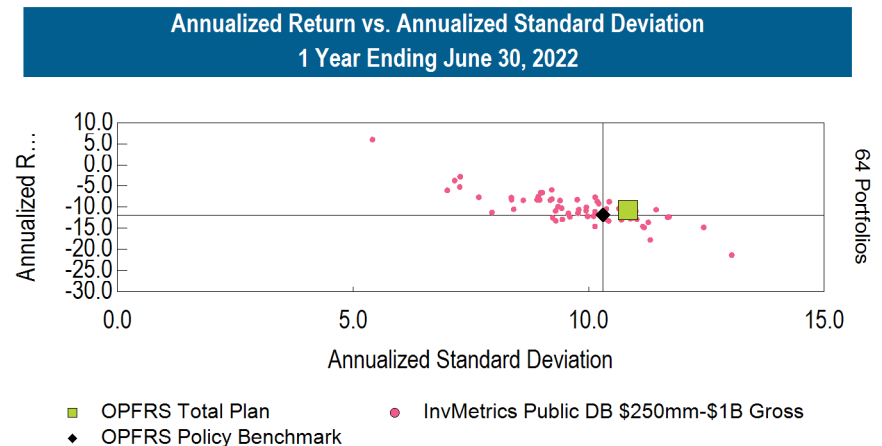
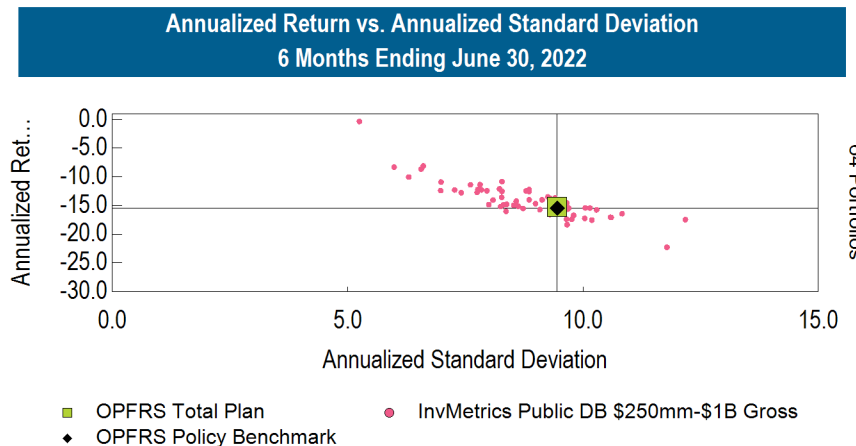
	Quarter-To-Date	One Year
Beginning Market Value	\$449,373,445	\$463,640,323
Net Cash Flow	\$2,942,048	-\$11,373,962
Capital Appreciation	-\$46,007,383	-\$45,958,537
Ending Market Value	\$406,308,110	\$406,308,110

YTD Ending June 30, 2022

	Anlzd Return	Standard Deviation
OPFRS Total Plan	-12.45%	3.32%
OPFRS Policy Benchmark	-13.43%	3.16%
InvMetrics Public DB \$250mm-\$1B Gross	-11.82%	3.07%
Median		

1 Year Ending June 30, 2022

	Anlzd Return	Standard Deviation
OPFRS Total Plan	-10.43%	3.13%
OPFRS Policy Benchmark	-11.90%	2.97%
InvMetrics Public DB \$250mm-\$1B Gross	-10.87%	2.87%
Median		



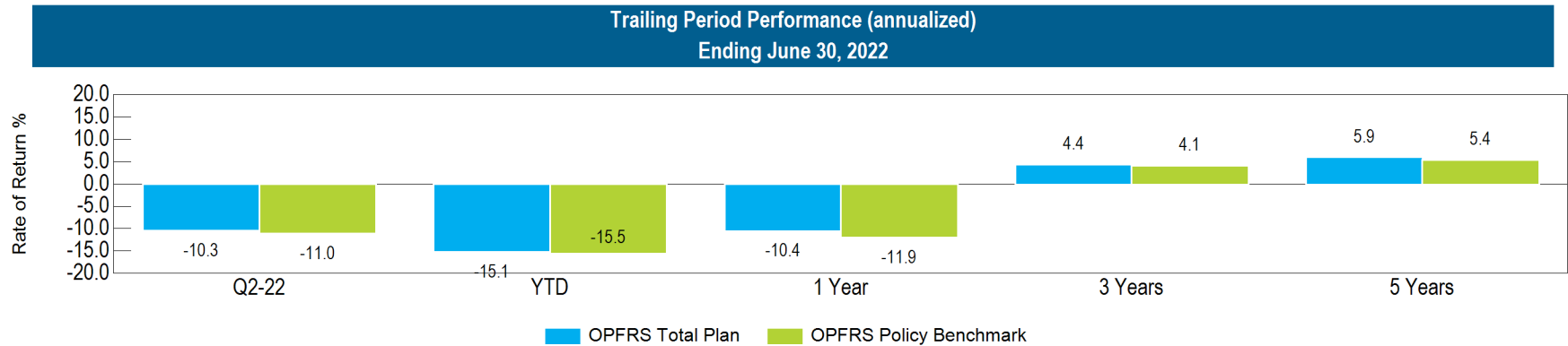
Performance shown is Gross-of-Fees.

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

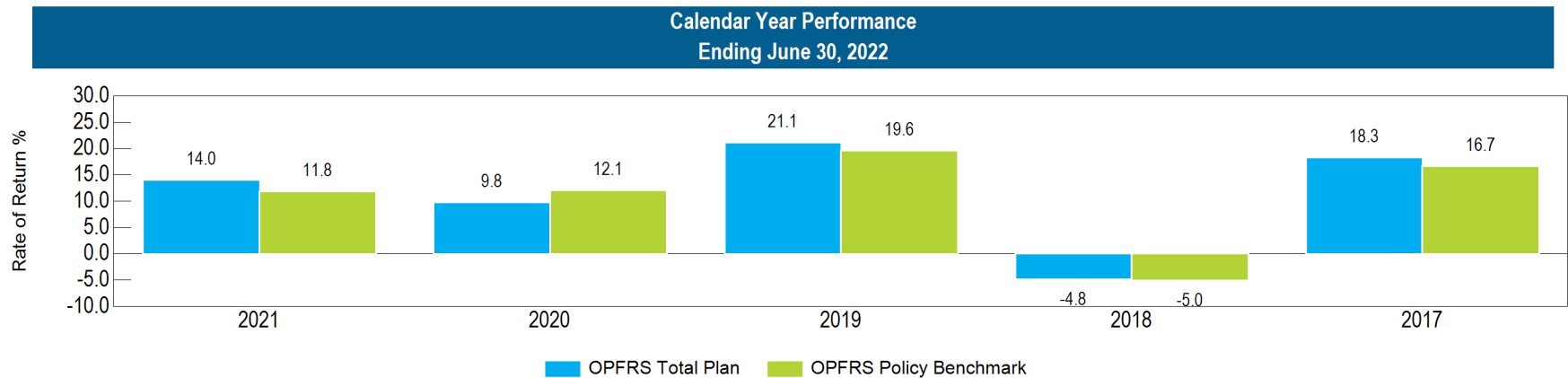
	Market Value (\$)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)
OPFRS Total Plan	406,308,110	-10.3	-15.1	-10.4	-10.4	4.4	5.9	6.3	7.3	6.6
<i>OPFRS Policy Benchmark</i>		<u>-11.0</u>	<u>-15.5</u>	<u>-11.9</u>	<u>-11.9</u>	<u>4.1</u>	<u>5.4</u>	<u>6.1</u>	<u>6.8</u>	<u>7.8</u>
Excess Return		0.7	0.4	1.5	1.5	0.3	0.5	0.2	0.5	-1.2
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>		-10.1	-14.6	-10.9	-10.9	5.6	6.5	6.6	7.9	8.7
Domestic Equity	161,985,633	-14.3	-19.2	-11.6	-11.6	9.4	10.3	10.2	12.4	8.7
<i>Russell 3000 (Blend)</i>		<u>-16.7</u>	<u>-21.1</u>	<u>-13.9</u>	<u>-13.9</u>	<u>9.8</u>	<u>10.6</u>	<u>10.4</u>	<u>12.6</u>	<u>8.8</u>
Excess Return		2.4	1.9	2.3	2.3	-0.4	-0.3	-0.2	-0.2	-0.1
International Equity	48,096,109	-15.1	-19.0	-17.4	-17.4	1.8	3.2	3.9	6.1	4.9
<i>MSCI ACWI ex US (Blend)</i>		<u>-13.7</u>	<u>-18.4</u>	<u>-19.4</u>	<u>-19.4</u>	<u>1.4</u>	<u>2.5</u>	<u>2.9</u>	<u>4.8</u>	<u>4.7</u>
Excess Return		-1.4	-0.6	2.0	2.0	0.4	0.7	1.0	1.3	0.2
Fixed Income	104,276,150	-4.8	-10.5	-10.3	-10.3	-0.5	1.5	2.1	2.1	4.9
<i>Bloomberg Universal (Blend)</i>		<u>-5.1</u>	<u>-10.9</u>	<u>-10.9</u>	<u>-10.9</u>	<u>-0.9</u>	<u>0.9</u>	<u>1.6</u>	<u>1.8</u>	<u>4.7</u>
Excess Return		0.3	0.4	0.6	0.6	0.4	0.6	0.5	0.3	0.2
Credit	8,503,509	-7.9	-9.0	-6.7	-6.7	2.7	3.5	4.6	--	4.8
<i>Bloomberg US High Yield TR</i>		<u>-9.8</u>	<u>-14.2</u>	<u>-12.8</u>	<u>-12.8</u>	<u>0.2</u>	<u>2.1</u>	<u>3.5</u>	<u>--</u>	<u>3.5</u>
Excess Return		1.9	5.2	6.1	6.1	2.5	1.4	1.1	--	1.3
Covered Calls	30,762,608	-12.2	-14.4	-5.8	-5.8	8.7	8.3	8.7	--	8.4
<i>CBOE S&P 500 BuyWrite USD</i>		<u>-10.9</u>	<u>-10.2</u>	<u>-2.6</u>	<u>-2.6</u>	<u>3.6</u>	<u>4.2</u>	<u>5.3</u>	<u>--</u>	<u>5.3</u>
Excess Return		-1.3	-4.2	-3.2	-3.2	5.1	4.1	3.4	--	3.1
Crisis Risk Offset	41,757,183	-2.1	-10.5	-8.7	-8.7	-11.4	--	--	--	-9.6
<i>SG Multi Alternative Risk Premia Index</i>		<u>2.7</u>	<u>2.3</u>	<u>3.9</u>	<u>3.9</u>	<u>-1.8</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>-1.2</u>
Excess Return		-4.8	-12.8	-12.6	-12.6	-9.6	--	--	--	-8.4

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 (%)
OPFRS Total Plan	-10.3	-10.4	-10.4	4.4	5.9	18.3	-4.8	21.1	9.8	14.0
<i>OPFRS Policy Benchmark</i>	-11.0	-11.9	-11.9	4.1	5.4	16.7	-5.0	19.6	12.1	11.8
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>	-10.1	-10.9	-10.9	5.6	6.5	15.8	-4.1	18.6	13.1	13.6



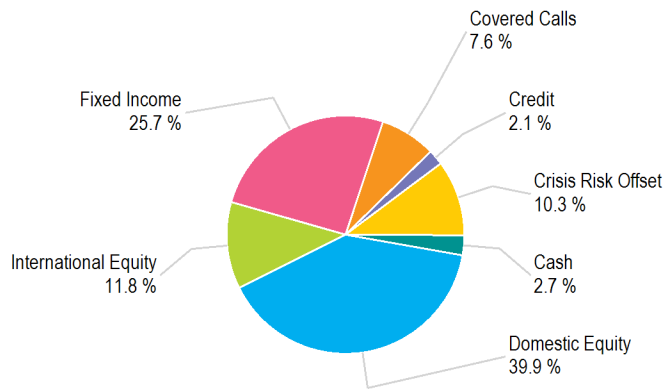
Fiscal year begins on July 1.

Asset Allocation vs. Target

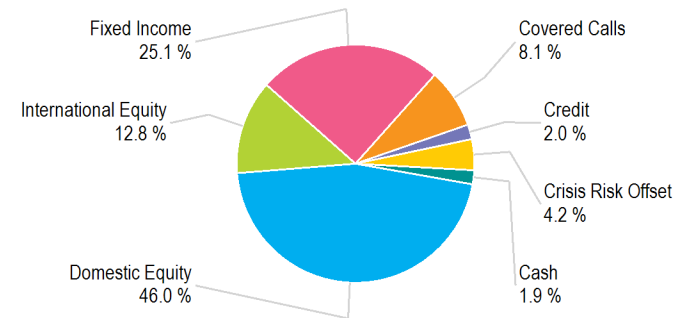
As Of June 30, 2022

	Current	%	Policy	Difference*
Domestic Equity	\$161,985,633	39.9%	40.0%	-0.1%
International Equity	\$48,096,109	11.8%	12.0%	-0.2%
Fixed Income	\$104,276,150	25.7%	31.0%	-5.3%
Covered Calls	\$30,762,608	7.6%	5.0%	2.6%
Credit	\$8,503,509	2.1%	2.0%	0.1%
Crisis Risk Offset	\$41,757,183	10.3%	10.0%	0.3%
Cash	\$10,926,919	2.7%	0.0%	2.7%
Total	\$406,308,110	100.0%	100.0%	

June 30, 2022: \$406,308,110



June 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 June 30, 2022

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Domestic Equity	161,985,633	100.0	-14.3	-19.2	-11.6	9.4	10.3	8.7	Jun-97
<i>Russell 3000 (Blend)</i>			<i>-16.7</i>	<i>-21.1</i>	<i>-13.9</i>	<i>9.8</i>	<i>10.6</i>	<i>8.8</i>	<i>Jun-97</i>
Excess Return			2.4	1.9	2.3	-0.4	-0.3	-0.1	
Northern Trust Russell 1000	74,995,609	46.3	-16.9	-21.2	-13.3	10.0	10.9	12.9	Jun-10
<i>Russell 1000</i>			<i>-16.7</i>	<i>-20.9</i>	<i>-13.0</i>	<i>10.2</i>	<i>11.0</i>	<i>12.9</i>	<i>Jun-10</i>
Excess Return			-0.2	-0.3	-0.3	-0.2	-0.1	0.0	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>88</i>	<i>77</i>	<i>80</i>	<i>52</i>	<i>53</i>	<i>55</i>	<i>Jun-10</i>
EARNEST Partners	42,887,126	26.5	-11.7	-16.7	-8.3	11.4	12.3	10.2	Apr-06
<i>Russell MidCap</i>			<i>-16.8</i>	<i>-21.6</i>	<i>-17.3</i>	<i>6.6</i>	<i>8.0</i>	<i>8.2</i>	<i>Apr-06</i>
Excess Return			5.1	4.9	9.0	4.8	4.3	2.0	
<i>eV US Mid Cap Core Equity Gross Rank</i>			<i>18</i>	<i>28</i>	<i>19</i>	<i>11</i>	<i>4</i>	<i>19</i>	<i>Apr-06</i>
Wellington Select Quality Equity	20,739,219	12.8	--	--	--	--	--	-5.8	May-22
<i>Russell 1000</i>			<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-8.5</i>	<i>May-22</i>
Excess Return								2.7	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>19</i>	<i>May-22</i>
Rice Hall James	13,448,626	8.3	-12.8	-22.9	-21.2	5.4	--	7.0	Jul-17
<i>Russell 2000 Growth</i>			<i>-19.3</i>	<i>-29.5</i>	<i>-33.4</i>	<i>1.4</i>	<i>--</i>	<i>4.8</i>	<i>Jul-17</i>
Excess Return			6.5	6.6	12.2	4.0		2.2	
<i>eV US Small Cap Growth Equity Gross Rank</i>			<i>8</i>	<i>12</i>	<i>17</i>	<i>53</i>	<i>--</i>	<i>83</i>	<i>Jul-17</i>
Brown Fundamental Small Cap Value	9,915,053	6.1	-11.4	-15.9	-9.8	--	--	-5.5	Apr-21
<i>Russell 2000 Value</i>			<i>-15.3</i>	<i>-17.3</i>	<i>-16.3</i>	<i>--</i>	<i>--</i>	<i>-10.1</i>	<i>Apr-21</i>
Excess Return			3.9	1.4	6.5			4.6	
<i>eV US Small Cap Value Equity Gross Rank</i>			<i>24</i>	<i>52</i>	<i>36</i>	<i>--</i>	<i>--</i>	<i>44</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
International Equity	48,096,109	100.0	-15.1	-19.0	-17.4	1.8	3.2	4.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>-13.7</i>	<i>-18.4</i>	<i>-19.4</i>	<i>1.4</i>	<i>2.5</i>	<i>4.7</i>	<i>Jan-98</i>
Excess Return			-1.4	-0.6	2.0	0.4	0.7	0.2	
SGA ACWI ex-U.S. Equity	34,433,617	71.6	-15.5	-18.8	-17.0	--	--	-1.0	Dec-19
<i>MSCI ACWI ex USA</i>			<i>-13.7</i>	<i>-18.4</i>	<i>-19.4</i>	--	--	<i>0.6</i>	<i>Dec-19</i>
Excess Return			-1.8	-0.4	2.4			-1.6	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>72</i>	<i>41</i>	<i>24</i>	--	--	<i>96</i>	<i>Dec-19</i>
Vanguard Developed Markets ETF	13,662,492	28.4	-14.0	-18.9	-18.1	--	--	3.8	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>			<i>-15.1</i>	<i>-19.5</i>	<i>-18.3</i>	--	--	<i>3.8</i>	<i>Sep-19</i>
Excess Return			1.1	0.6	0.2			0.0	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>44</i>	<i>42</i>	<i>35</i>	--	--	<i>74</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
Fixed Income	104,276,150	100.0	-4.8	-10.5	-10.3	-0.5	1.5	4.9	Dec-93
<i>Bloomberg Universal (Blend)</i>			<i>-5.1</i>	<i>-10.9</i>	<i>-10.9</i>	<i>-0.9</i>	<i>0.9</i>	<i>4.7</i>	<i>Dec-93</i>
Excess Return			0.3	0.4	0.6	0.4	0.6	0.2	
Ramirez	71,026,933	68.1	-4.7	-10.5	-10.4	-0.6	1.5	1.8	Jan-17
<i>Bloomberg US Aggregate TR</i>			<i>-4.7</i>	<i>-10.3</i>	<i>-10.3</i>	<i>-0.9</i>	<i>0.9</i>	<i>1.2</i>	<i>Jan-17</i>
Excess Return			0.0	-0.2	-0.1	0.3	0.6	0.6	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>37</i>	<i>61</i>	<i>54</i>	<i>71</i>	<i>34</i>	<i>32</i>	<i>Jan-17</i>
Reams	26,507,460	25.4	-5.1	-10.3	-10.0	2.9	3.4	5.3	Feb-98
<i>Bloomberg Universal (Blend)</i>			<i>-5.1</i>	<i>-10.9</i>	<i>-10.9</i>	<i>-0.9</i>	<i>0.9</i>	<i>4.3</i>	<i>Feb-98</i>
Excess Return			0.0	0.6	0.9	3.8	2.5	1.0	
<i>eV US Core Plus Fixed Inc Gross Rank</i>			<i>22</i>	<i>26</i>	<i>23</i>	<i>2</i>	<i>2</i>	<i>41</i>	<i>Feb-98</i>
Wellington Core Bond	6,741,756	6.5	-5.7	-11.7	-11.6	--	--	-8.1	Apr-21
<i>Bloomberg US Aggregate TR</i>			<i>-4.7</i>	<i>-10.3</i>	<i>-10.3</i>	--	--	<i>-7.0</i>	<i>Apr-21</i>
Excess Return			-1.0	-1.4	-1.3			-1.1	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>93</i>	<i>96</i>	<i>97</i>	--	--	<i>98</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
Credit	8,503,509	100.0	-7.9	-9.0	-6.7	2.7	3.5	4.8	Feb-15
<i>Bloomberg US High Yield TR</i>			<i>-9.8</i>	<i>-14.2</i>	<i>-12.8</i>	<i>0.2</i>	<i>2.1</i>	<i>3.5</i>	<i>Feb-15</i>
Excess Return			1.9	5.2	6.1	2.5	1.4	1.3	
Polen Capital	8,503,509	100.0	-7.9	-9.0	-6.7	2.7	3.5	4.8	Feb-15
<i>ICE BofA High Yield Master TR</i>			<i>-10.0</i>	<i>-14.0</i>	<i>-12.7</i>	<i>0.0</i>	<i>2.0</i>	<i>3.5</i>	<i>Feb-15</i>
Excess Return			2.1	5.0	6.0	2.7	1.5	1.3	
<i>eV US High Yield Fixed Inc Gross Rank</i>			<i>27</i>	<i>20</i>	<i>18</i>	<i>9</i>	<i>12</i>	<i>12</i>	<i>Feb-15</i>

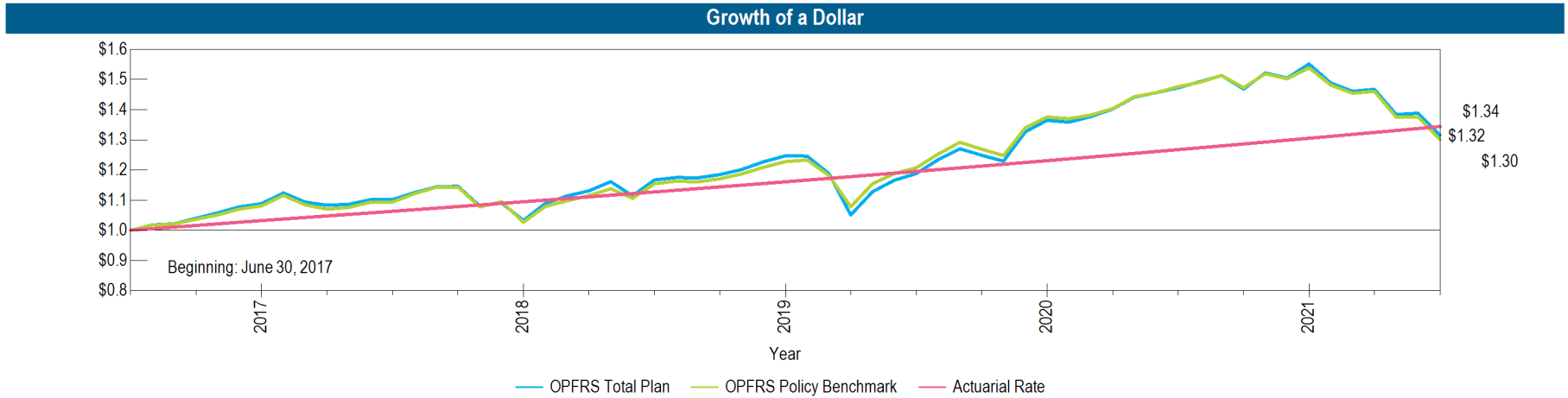
Performance shown is gross-of-fees.

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Covered Calls	30,762,608	100.0	-12.2	-14.4	-5.8	8.7	8.3	8.4	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>-10.9</i>	<i>-10.2</i>	<i>-2.6</i>	<i>3.6</i>	<i>4.2</i>	<i>5.3</i>	<i>Apr-14</i>
Excess Return			-1.3	-4.2	-3.2	5.1	4.1	3.1	
Parametric BXM	15,745,273	51.2	-9.3	-10.7	-4.0	6.2	6.1	6.7	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>-10.9</i>	<i>-10.2</i>	<i>-2.6</i>	<i>3.6</i>	<i>4.2</i>	<i>5.3</i>	<i>Apr-14</i>
Excess Return			1.6	-0.5	-1.4	2.6	1.9	1.4	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>7</i>	<i>7</i>	<i>15</i>	<i>96</i>	<i>97</i>	<i>98</i>	<i>Apr-14</i>
Parametric DeltaShift	15,017,334	48.8	-15.0	-17.8	-7.9	10.7	10.2	10.2	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>-10.9</i>	<i>-10.2</i>	<i>-2.6</i>	<i>3.6</i>	<i>4.2</i>	<i>5.3</i>	<i>Apr-14</i>
Excess Return			-4.1	-7.6	-5.3	7.1	6.0	4.9	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>54</i>	<i>38</i>	<i>33</i>	<i>35</i>	<i>68</i>	<i>65</i>	<i>Apr-14</i>

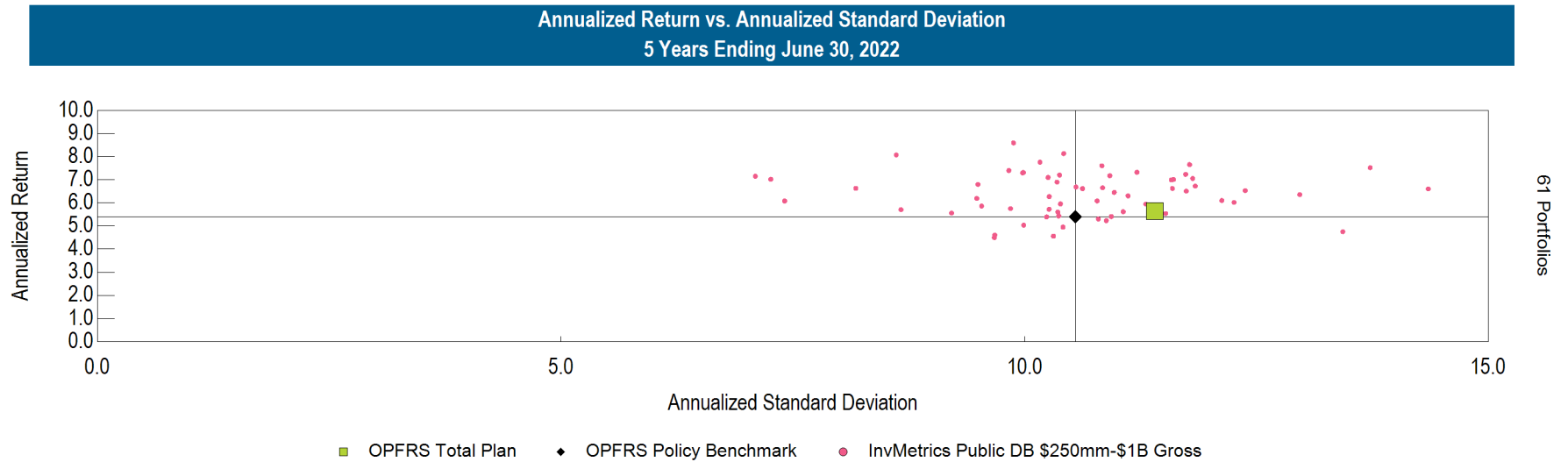
Performance shown is gross-of-fees.

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Crisis Risk Offset	41,757,183	100.0	-2.1	-10.5	-8.7	-11.4	--	-9.6	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<i>2.7</i>	<i>2.3</i>	<i>3.9</i>	<i>-1.8</i>	<i>--</i>	<i>-1.2</i>	<i>Aug-18</i>
Excess Return			-4.8	-12.8	-12.6	-9.6		-8.4	
Versor Trend Following	16,607,403	39.8	10.7	--	--	--	--	10.7	Apr-22
<i>SG Trend Index</i>			<i>17.0</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>17.0</i>	<i>Apr-22</i>
Excess Return			-6.3					-6.3	
Vanguard Long-Term Treasury ETF	15,606,180	37.4	-12.2	-20.8	-18.4	-3.0	--	-3.0	Jul-19
<i>Bloomberg US Govt Long TR</i>			<i>-11.9</i>	<i>-21.2</i>	<i>-18.4</i>	<i>-2.9</i>	<i>--</i>	<i>-2.9</i>	<i>Jul-19</i>
Excess Return			-0.3	0.4	0.0	-0.1		-0.1	
<i>eV US Long Duration - Gov/Cred Fixed Inc Gross Rank</i>			<i>34</i>	<i>23</i>	<i>16</i>	<i>99</i>	<i>--</i>	<i>99</i>	<i>Jul-19</i>
Kepos Alternative Risk Premia	9,543,601	22.9	-2.2	--	--	--	--	-4.3	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>			<i>2.7</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>1.5</i>	<i>Feb-22</i>
Excess Return			-4.9					-5.8	

Performance shown is gross-of-fees.

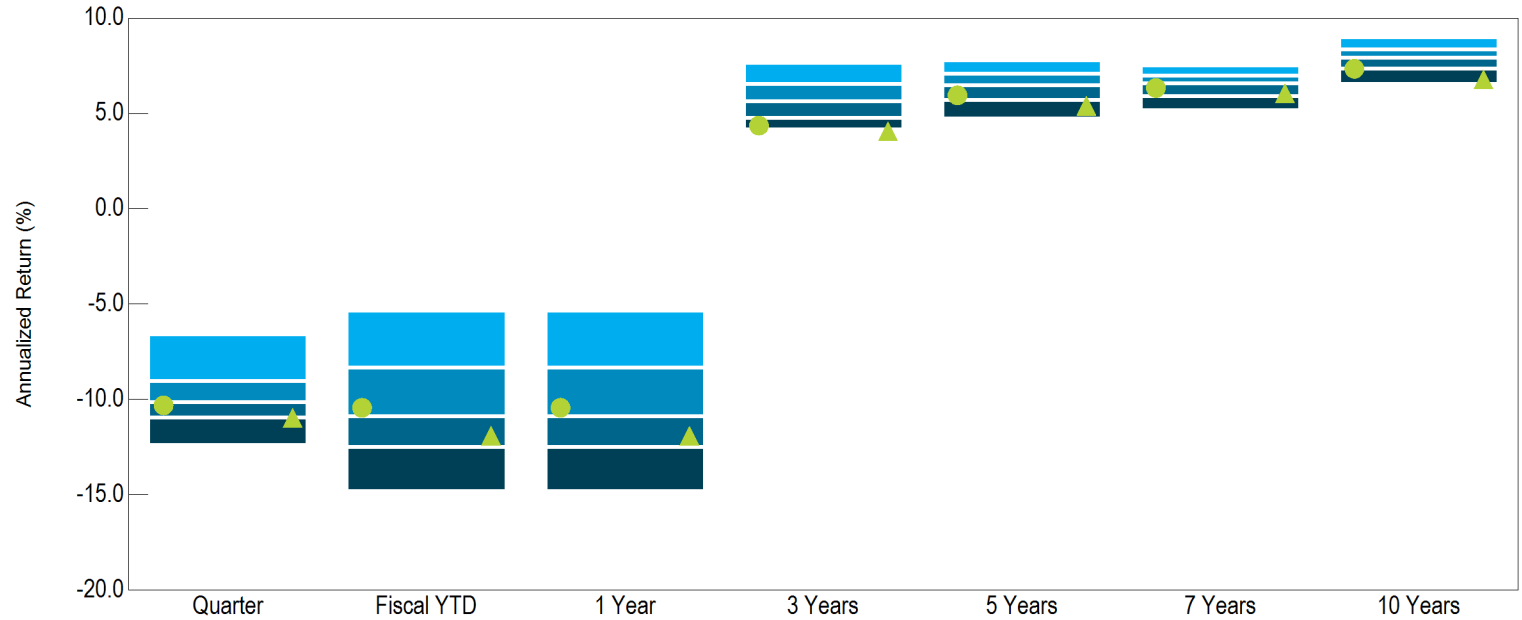


The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently



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	
5th Percentile	-6.6	-5.3	-5.3	7.6	7.8	7.5	9.0							
25th Percentile	-9.0	-8.3	-8.3	6.6	7.1	7.0	8.4							
Median	-10.1	-10.9	-10.9	5.6	6.5	6.6	7.9							
75th Percentile	-10.9	-12.5	-12.5	4.8	5.7	5.9	7.4							
95th Percentile	-12.4	-14.8	-14.8	4.2	4.8	5.2	6.6							
# of Portfolios	64	64	64	63	61	59	57							
● OPFRS Total Plan	-10.3 (56)	-10.4 (43)	-10.4 (43)	4.4 (86)	5.9 (69)	6.3 (57)	7.3 (77)							
▲ OPFRS Policy Benchmark	-11.0 (77)	-11.9 (64)	-11.9 (64)	4.1 (96)	5.4 (87)	6.1 (70)	6.8 (91)							

Fiscal year begins on July 1.

Manager Monitoring/Probation Status Return vs. Benchmark since Corrective Action

Portfolio	Status	Concern	Months Since Corrective Action	Performance ¹ Since Corrective Action (Gross, %)	Peer Group Percentile Ranking ²	Date of Corrective Action ³
Polen Capital ⁴	On Watch	Performance/ Org changes	36	2.7	9	5/29/2019
ICE BofAML US High Yield				0.0		
Rice Hall James	On Watch	Performance	36	5.4	53	5/29/2019
Russell 2000 Growth				1.4		
Parametric	On Watch	Org changes	18	11.4	NA	10/28/2020
CBOE S&P 500 Buy-Write USD				12.0		

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 ⁵ < 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 0.40% for 6 consecutive months
Fixed Income	Fund return < benchmark return by 1.5%	Annualized Fund return < benchmark return by 1.0% for 6 consecutive months	VRR < 0.98 for 6 consecutive months

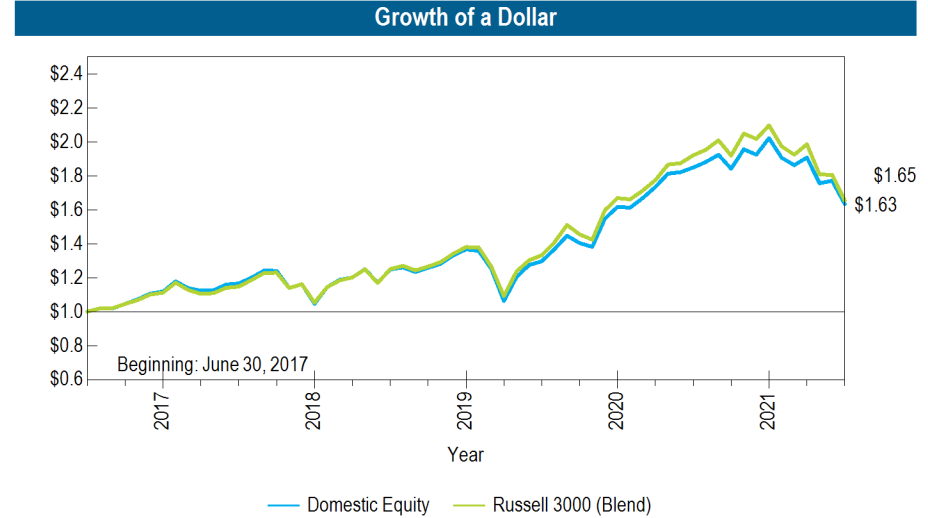
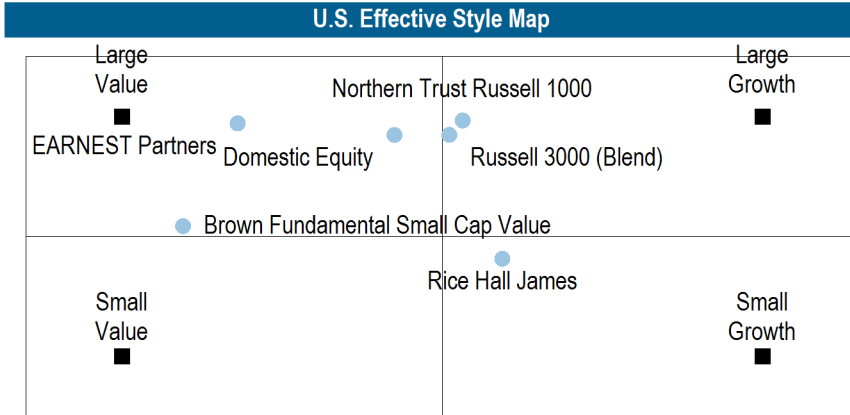
¹ Annualized performance if over one year

² 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.

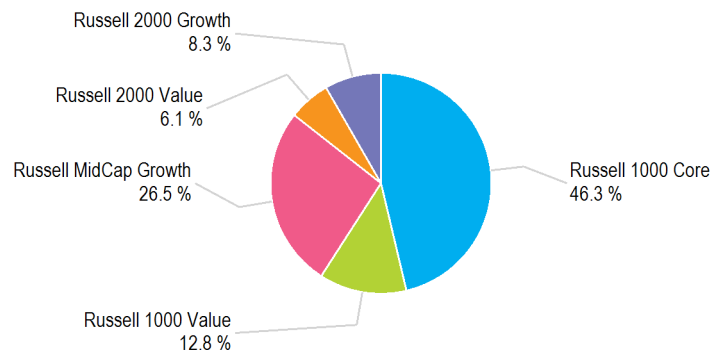
³ Approximate date based on when the Board voted to either monitor a manager at a heightened level or place it on probation.

⁴ Polen Capital High Yield strategy was formerly known as DDJ High Yield prior to 2022.

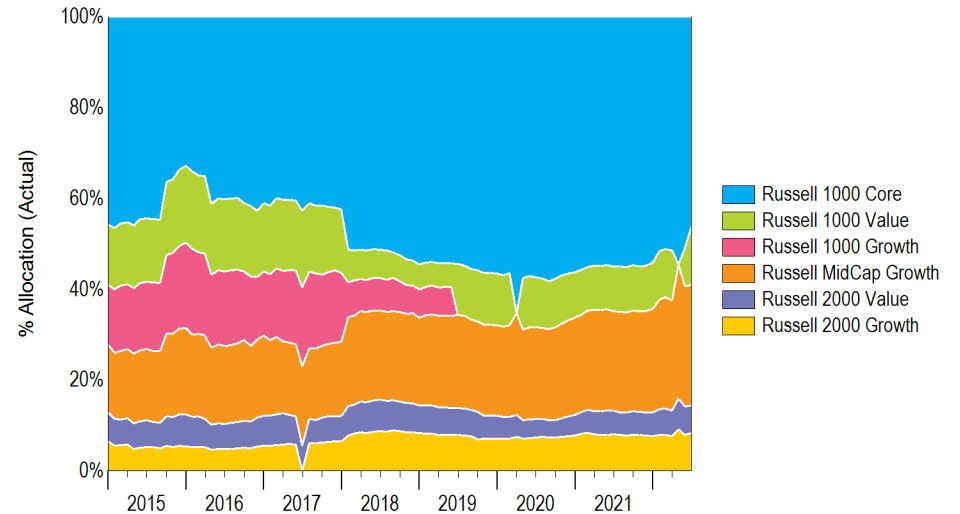
⁵ VRR (Value Relative Ratio) is calculated as manager cumulative return/ benchmark return.



Style Exposure

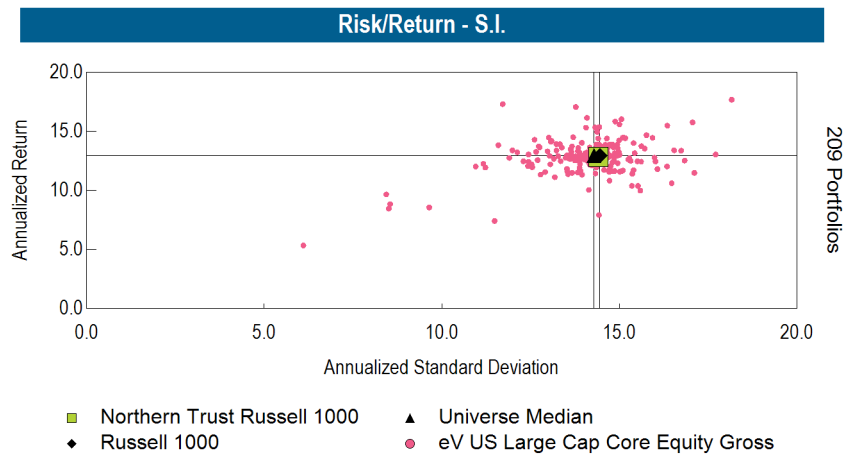
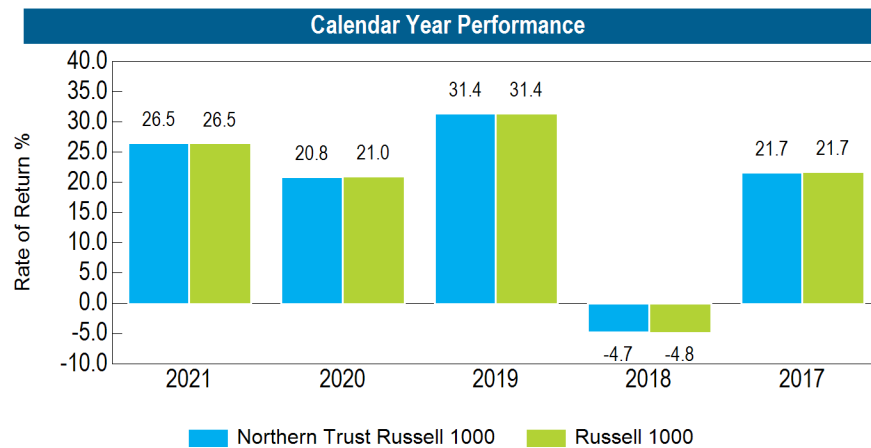
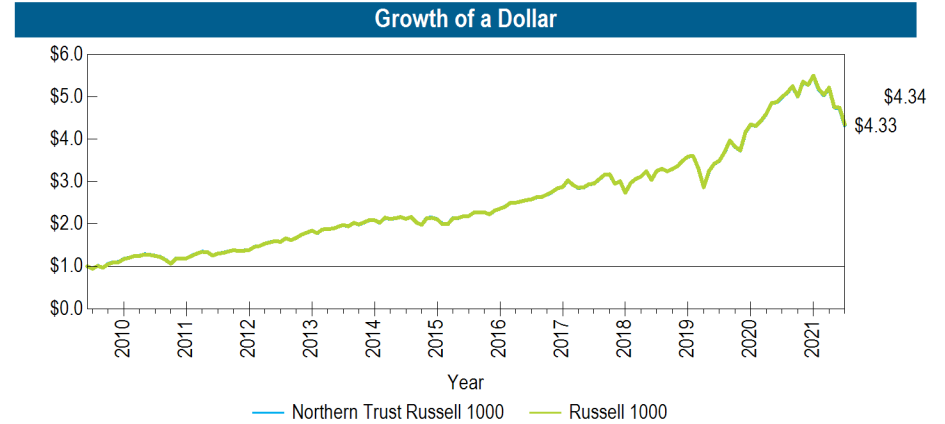
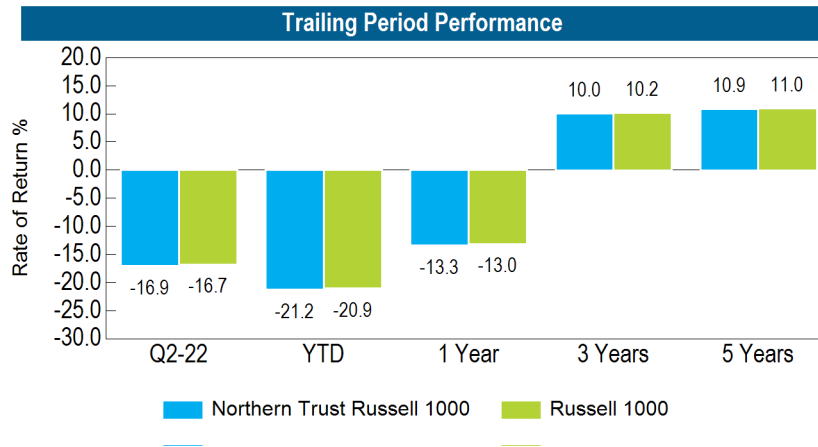


Style History (5-Year)



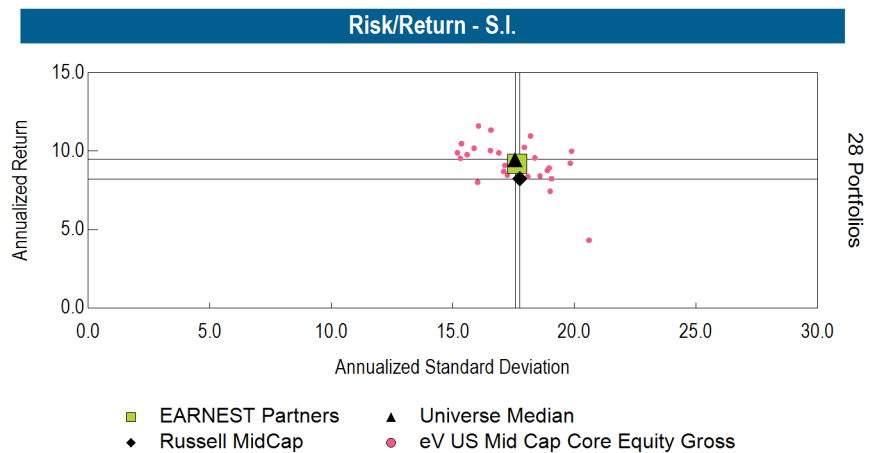
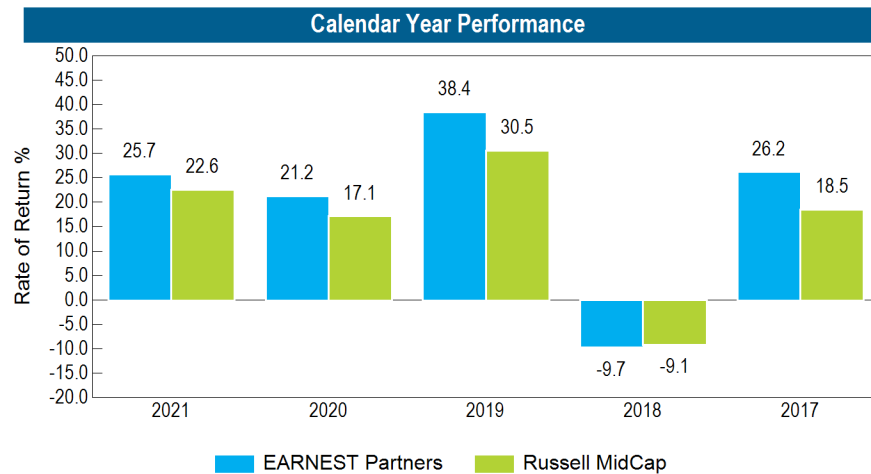
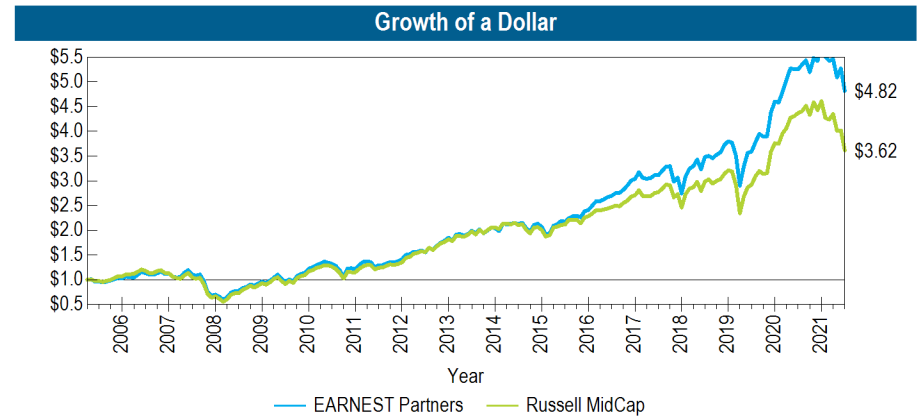
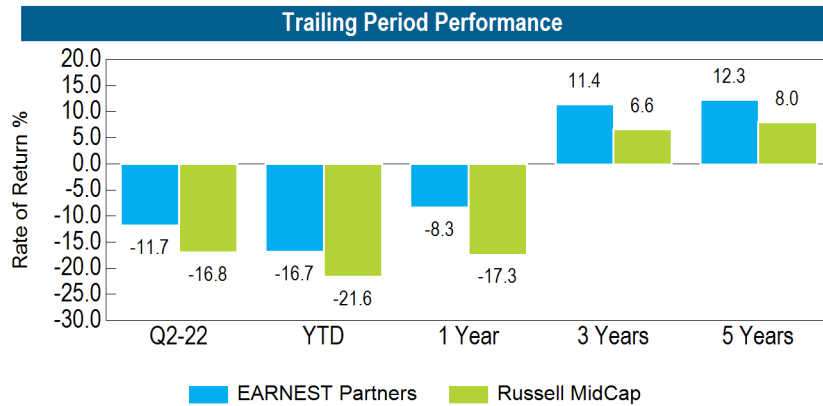
Northern Trust Russell 1000 | As of June 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust Russell 1000	12.82%	14.41%	-0.01%	1.00	-0.66	0.17%	98.53%	99.95%
Russell 1000	12.93%	14.45%	0.00%	1.00	--	0.00%	100.00%	100.00%



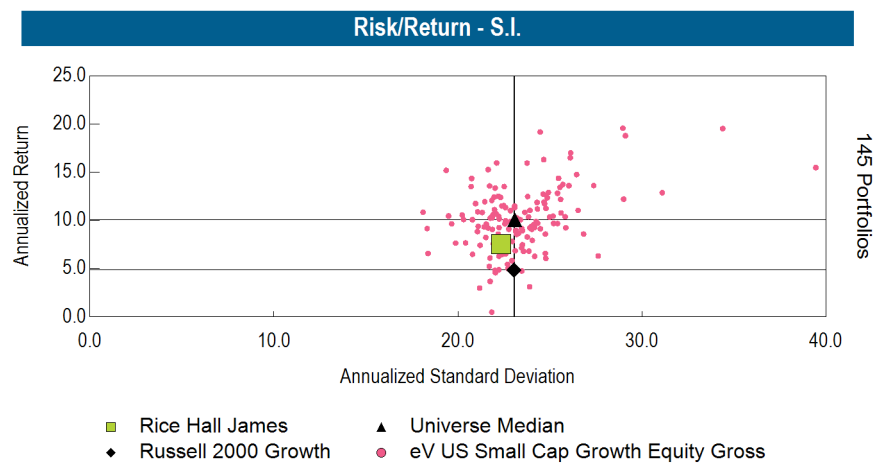
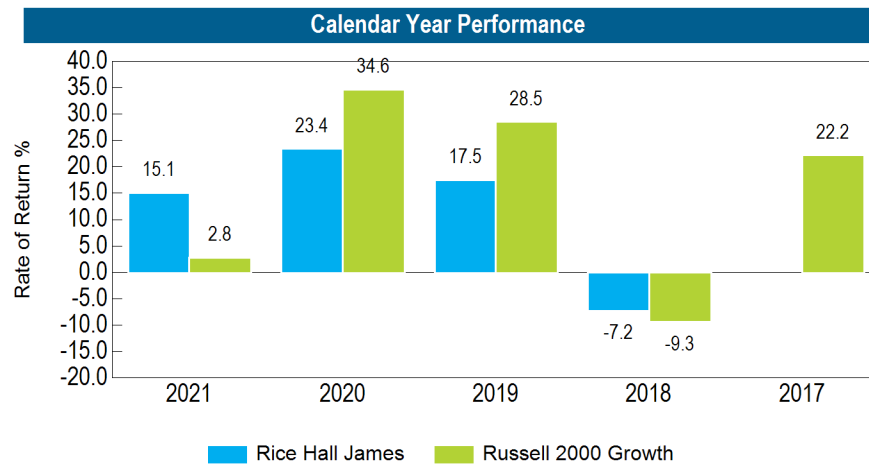
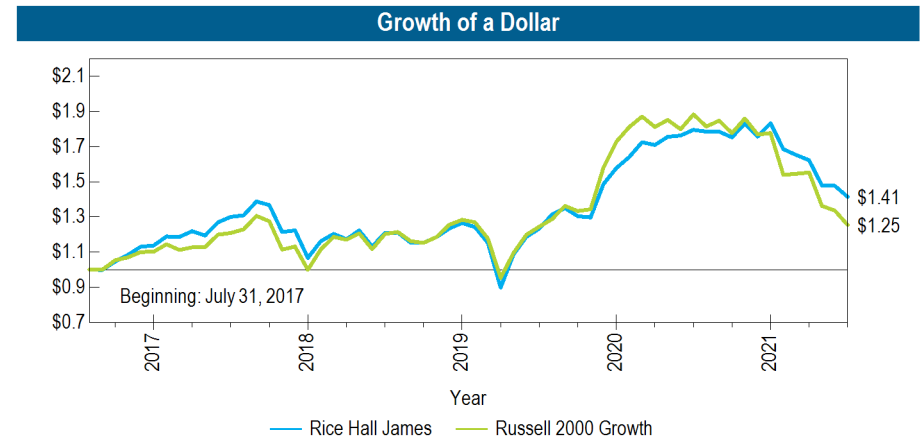
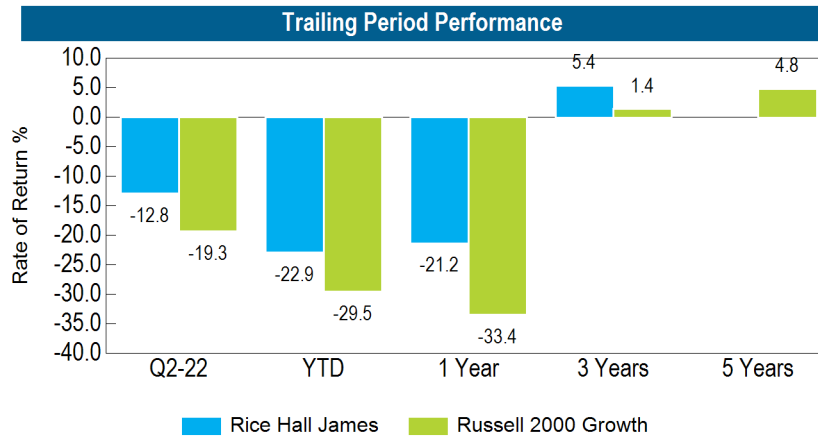
Performance shown is net-of-fees and since inception.

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
EARNEST Partners	9.19%	17.65%	0.09%	0.97	0.27	3.61%	96.08%	99.02%
Russell MidCap	8.23%	17.75%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

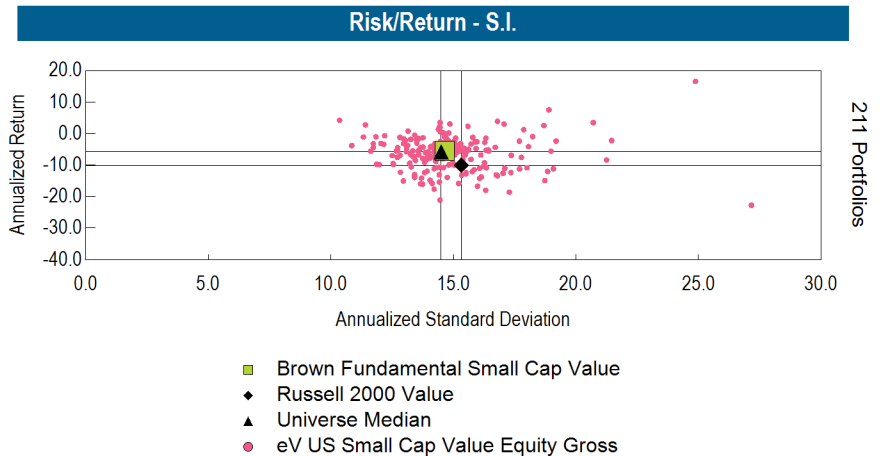
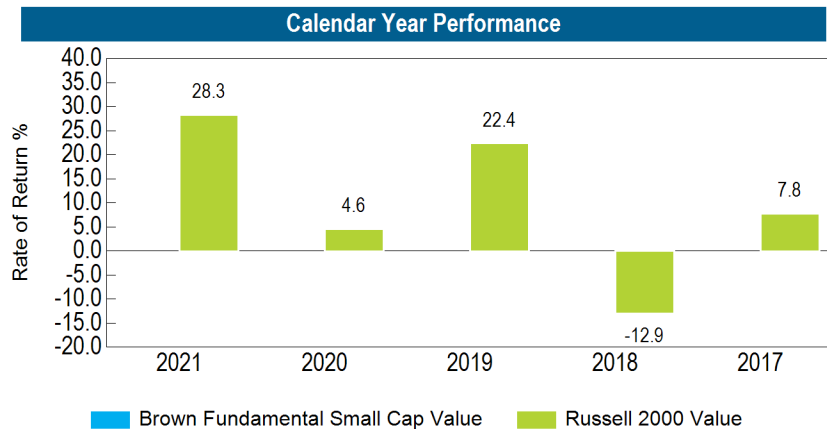
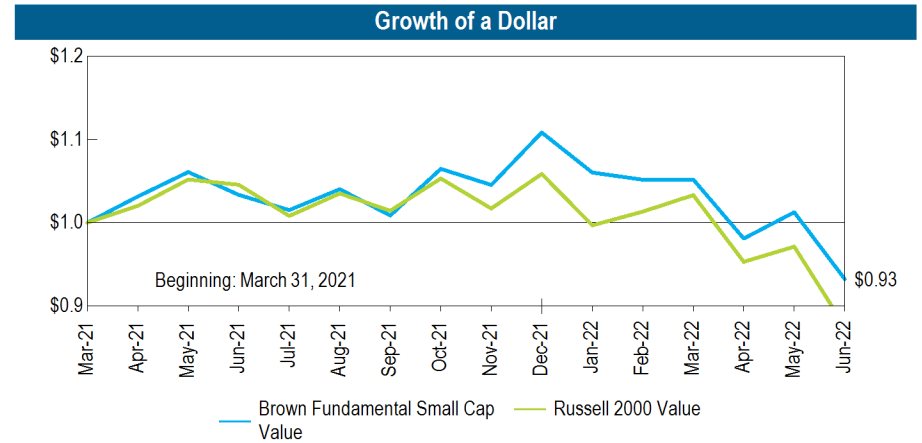
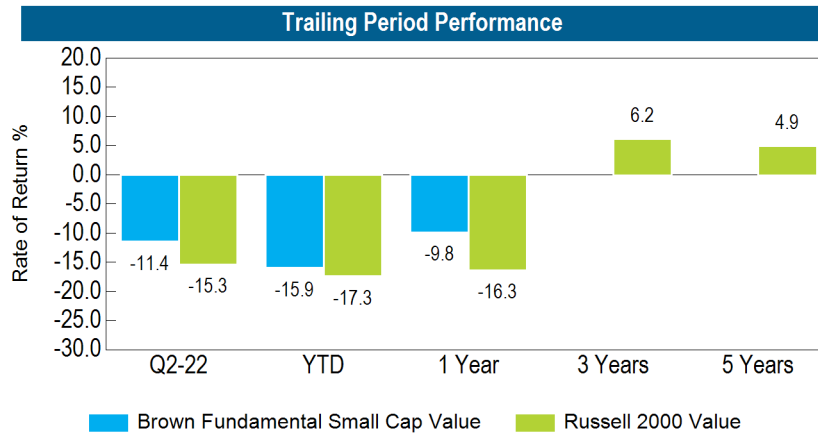
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Rice Hall James	6.23%	22.16%	0.16%	0.92	0.21	7.30%	84.03%	91.70%
Russell 2000 Growth	4.71%	22.84%	0.00%	1.00	--	0.00%	100.00%	100.00%



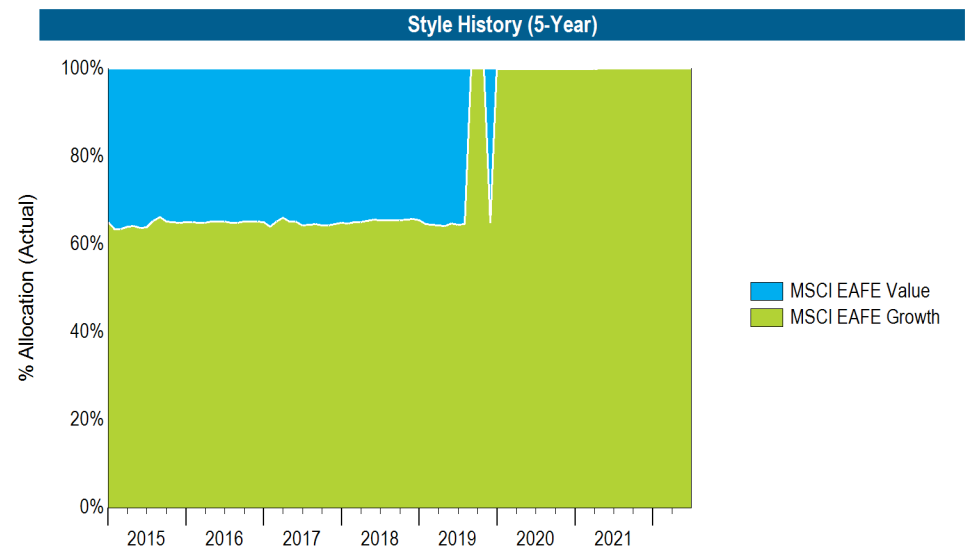
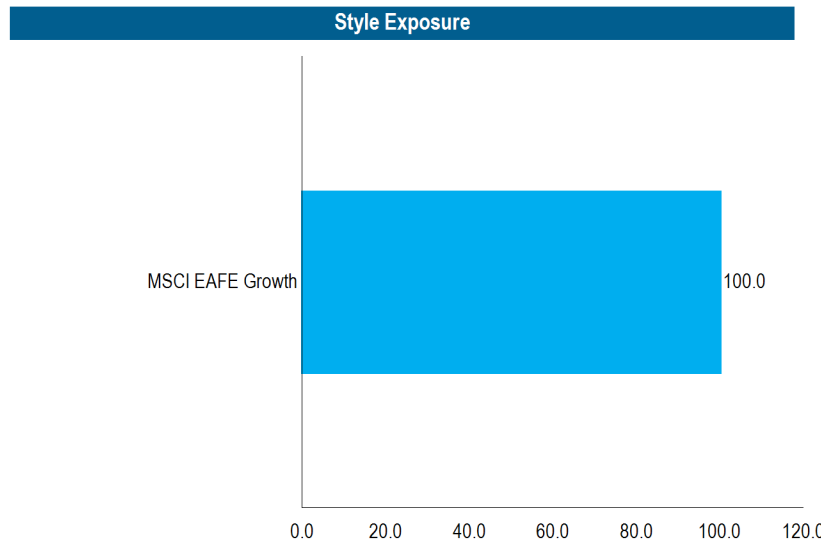
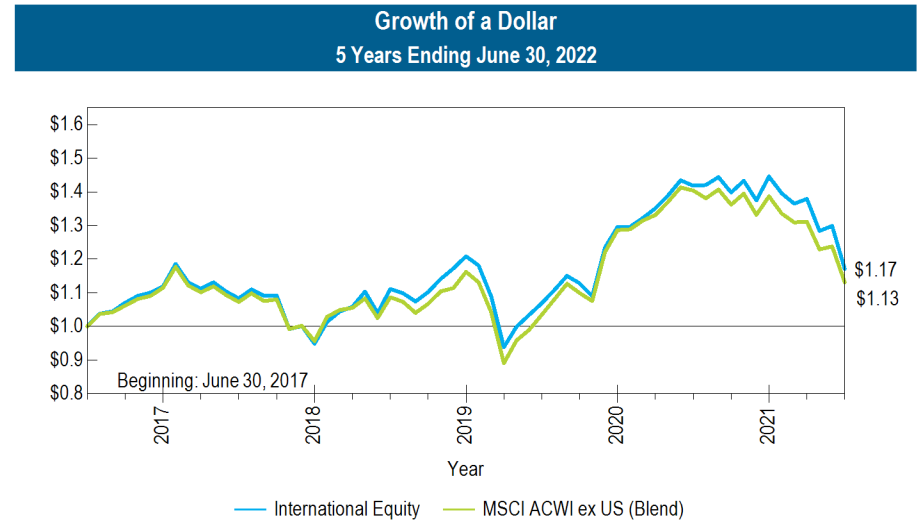
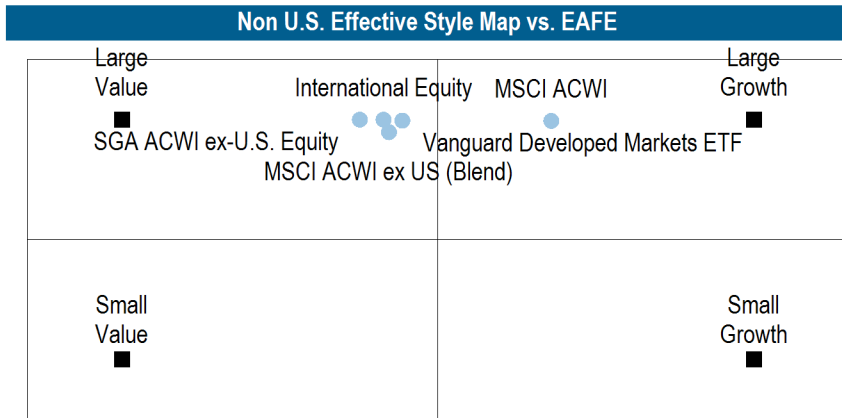
Performance shown is net-of-fees and since inception.

Brown Fundamental Small Cap Value | As of June 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	-6.25%	14.62%	0.25%	0.89	0.70	5.48%	102.69%	88.13%
Russell 2000 Value	-10.10%	15.32%	0.00%	1.00	--	0.00%	100.00%	100.00%

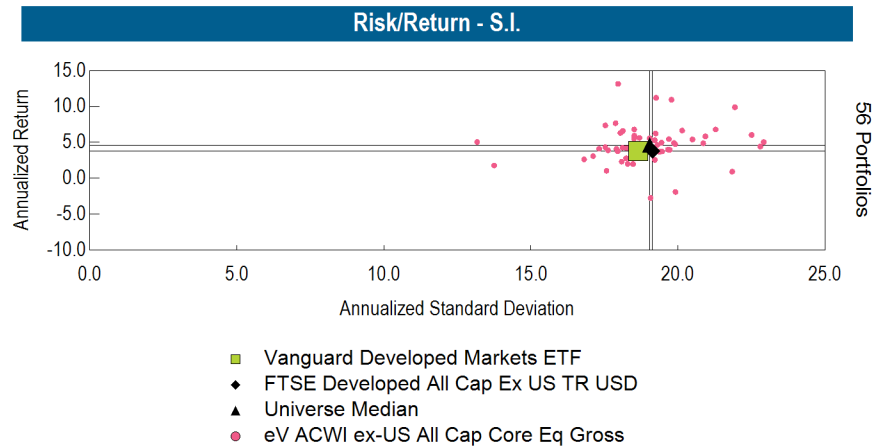
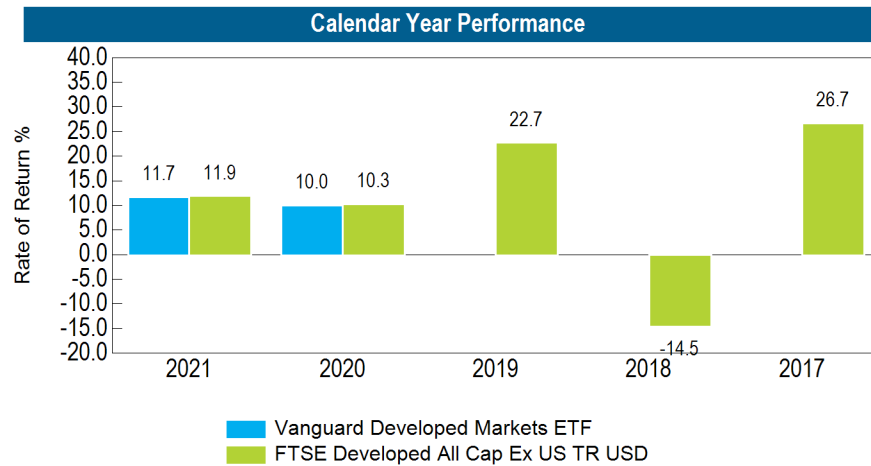
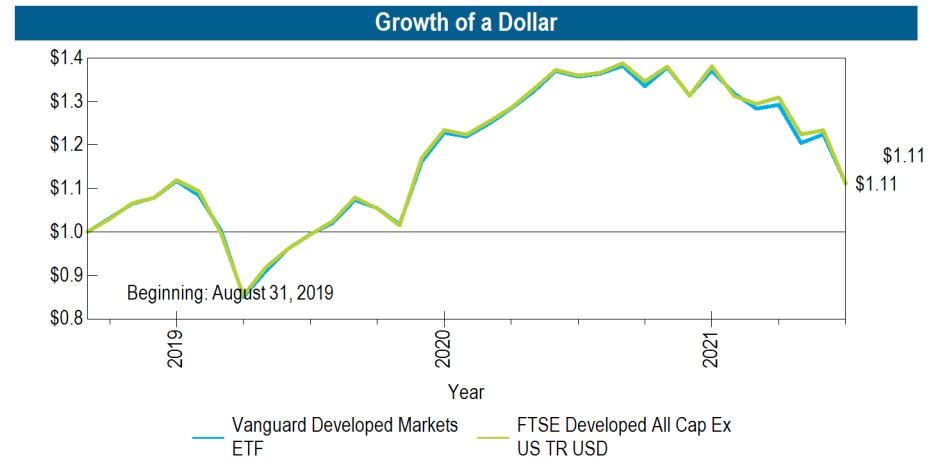
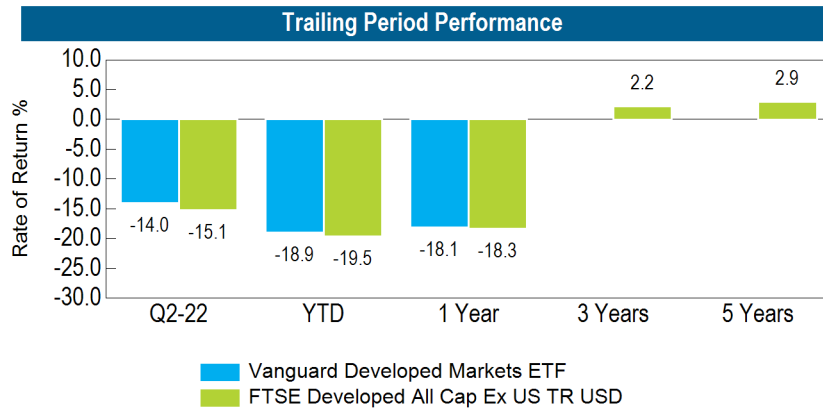


Performance shown is net-of-fees and since inception.



Vanguard Developed Markets ETF | As of June 30, 2022

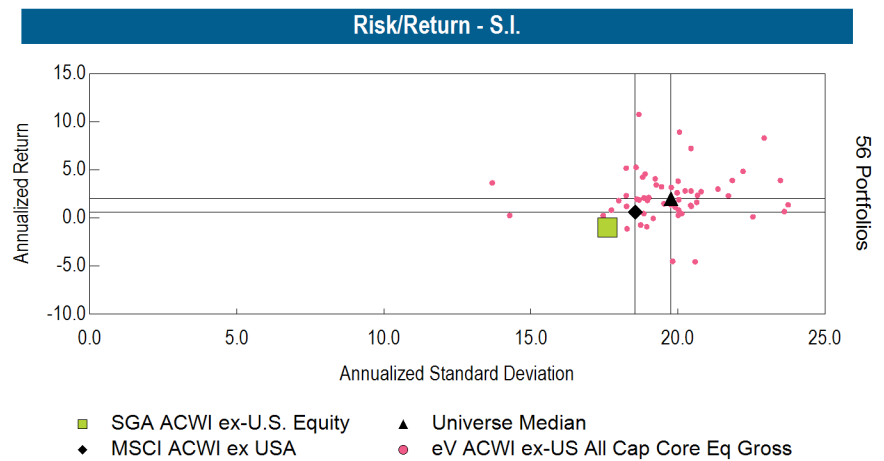
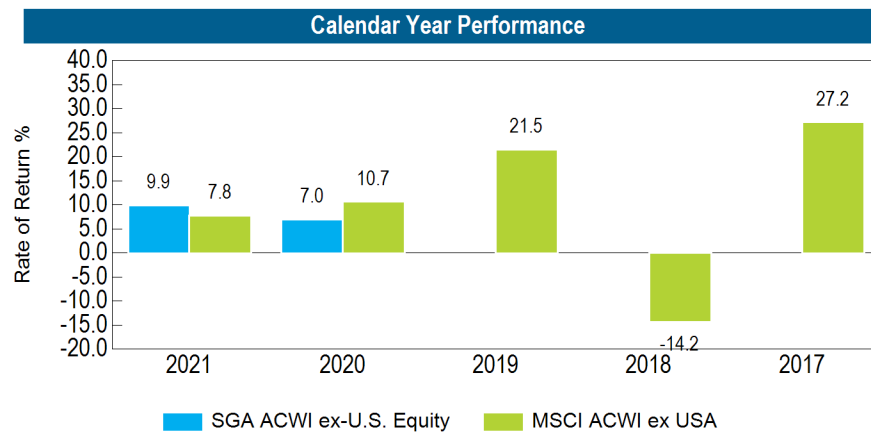
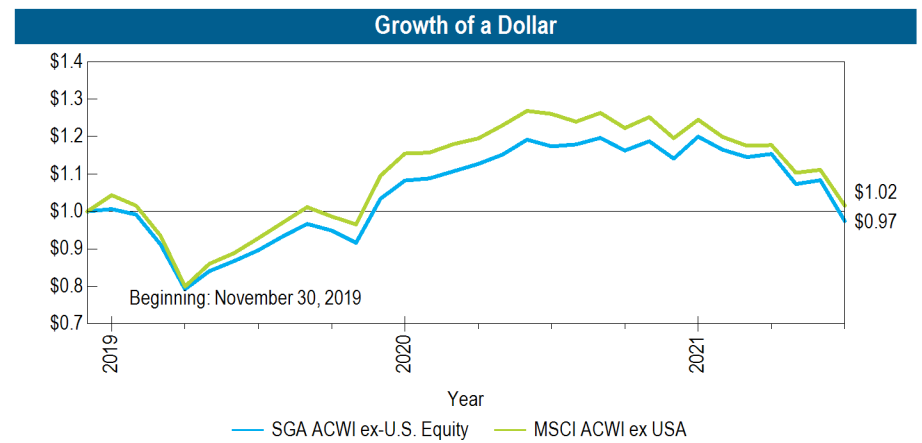
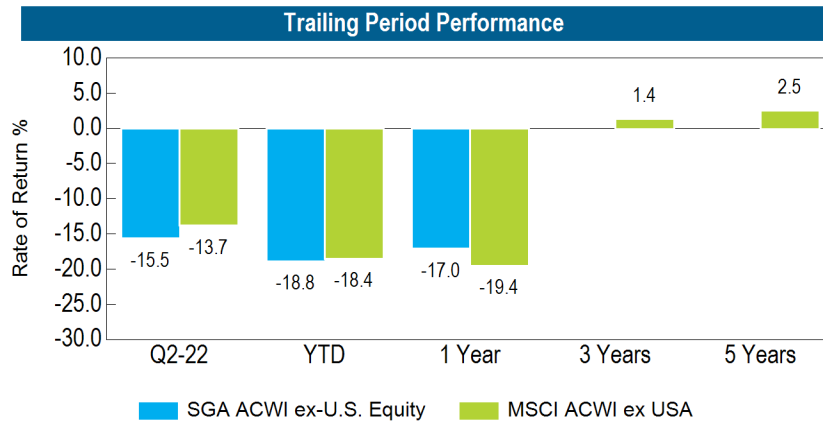
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Developed Markets ETF	3.82%	18.66%	0.01%	0.97	0.01	2.12%	98.41%	99.02%
FTSE Developed All Cap Ex US TR USD	3.79%	19.13%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

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

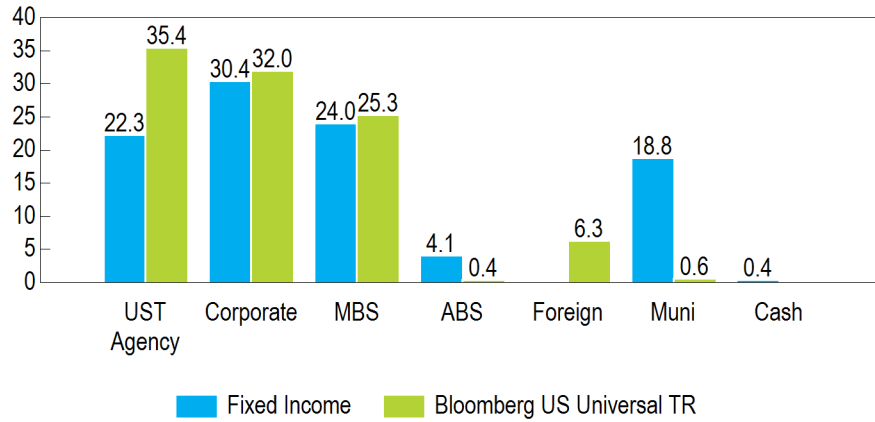
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
SGA ACWI ex-U.S. Equity	-1.69%	17.57%	-0.19%	0.93	-0.61	3.73%	83.40%	97.37%
MSCI ACWI ex USA	0.60%	18.55%	0.00%	1.00	--	0.00%	100.00%	100.00%



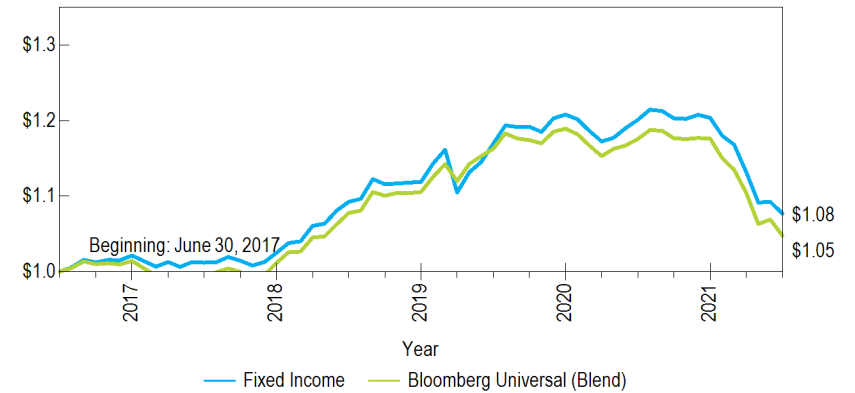
Performance shown is net-of-fees and since inception.

Fixed Income | As of June 30, 2022

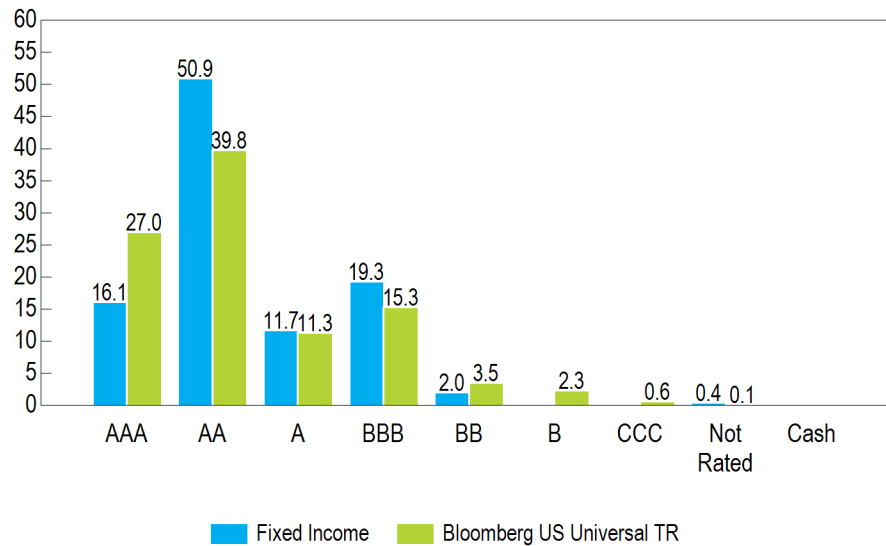
US Sector Allocation



Growth of a Dollar
5 Years Ending June 30, 2022



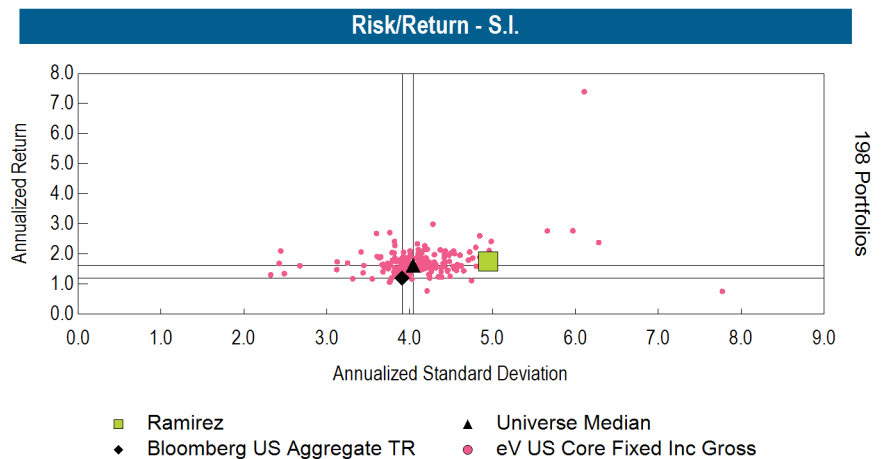
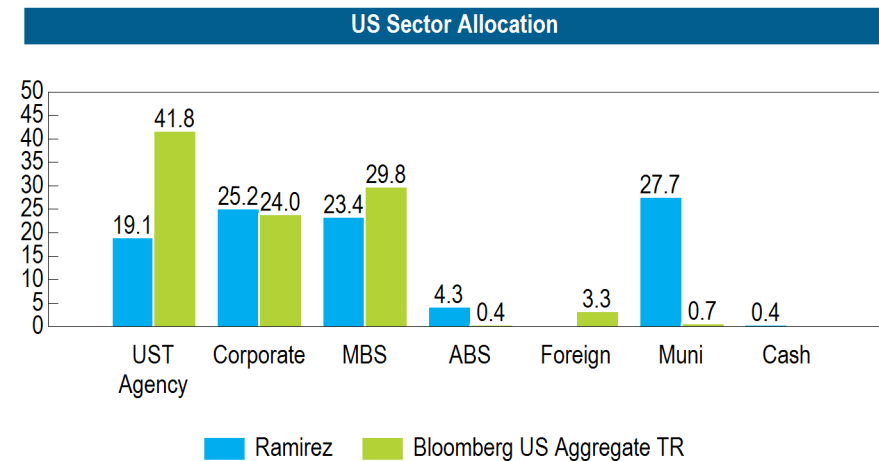
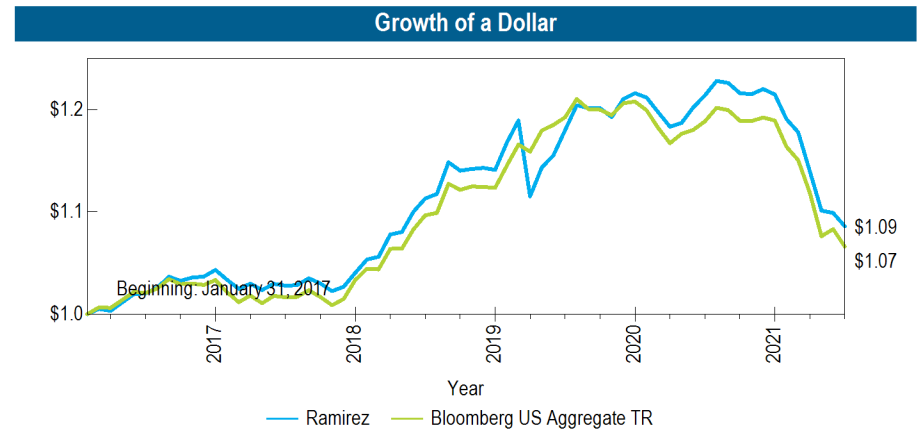
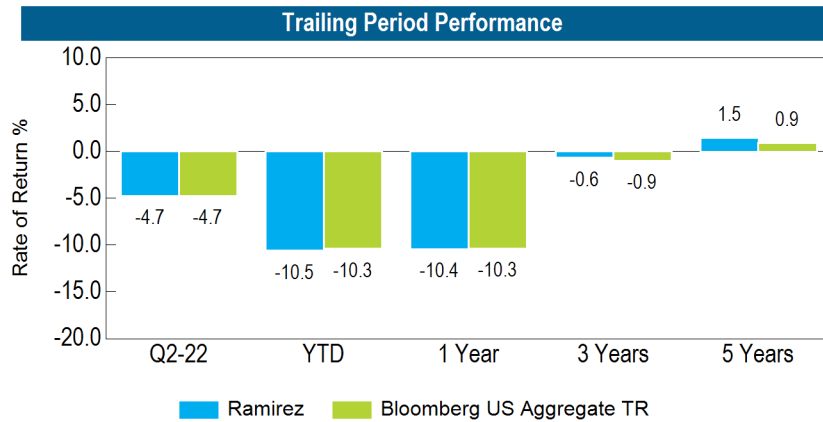
Credit Quality Allocation



Fixed Income Fixed Income Characteristics
vs. Bloomberg US Universal TR

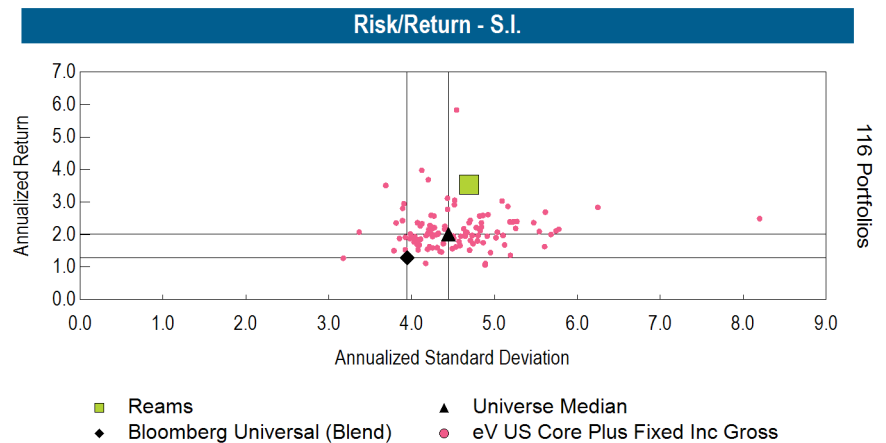
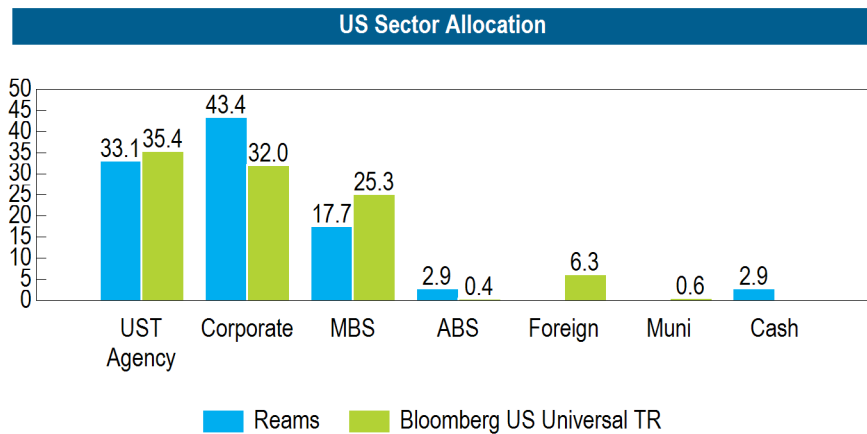
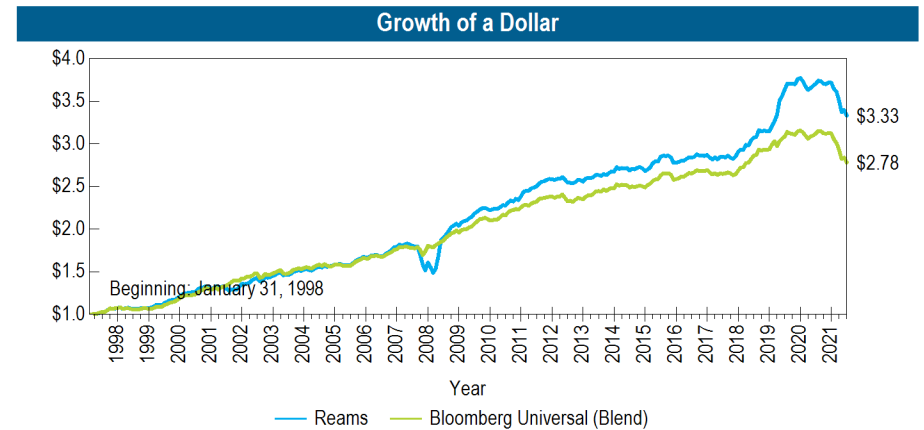
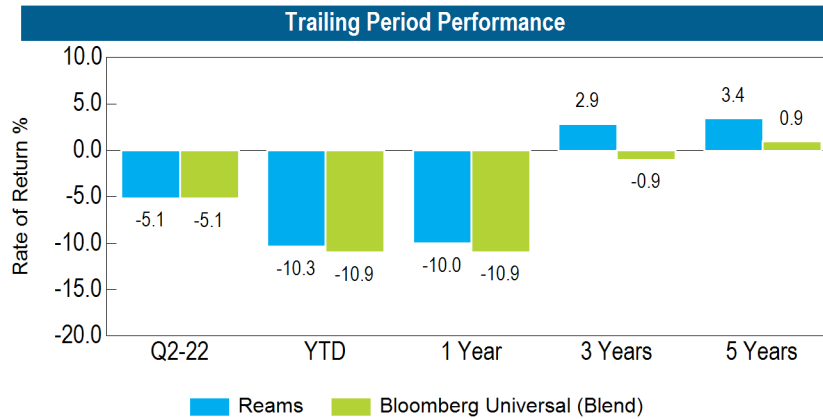
	Portfolio Q2-22	Index Q2-22
Fixed Income Characteristics		
Yield to Maturity	4.50	4.14
Average Duration	6.28	6.44
Average Quality	AA	AA
Weighted Average Maturity	9.16	12.43

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Ramirez	1.54%	4.95%	0.03%	1.06	0.13	2.74%	119.84%	111.71%
Bloomberg US Aggregate TR	1.19%	3.91%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

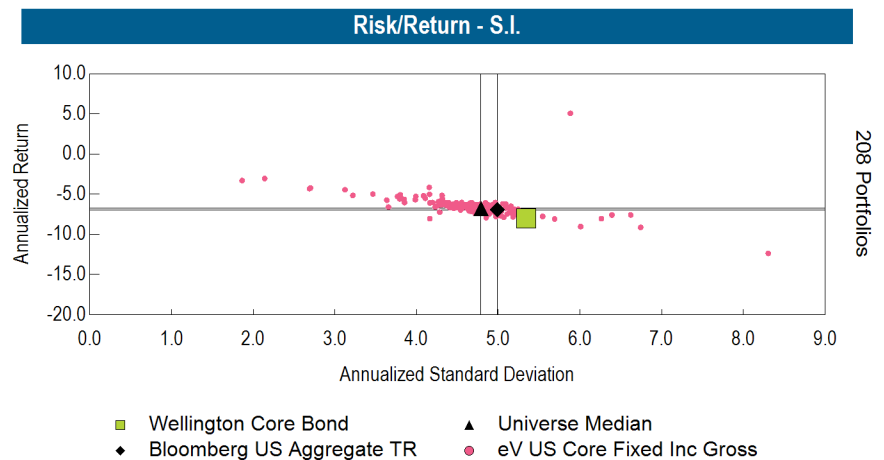
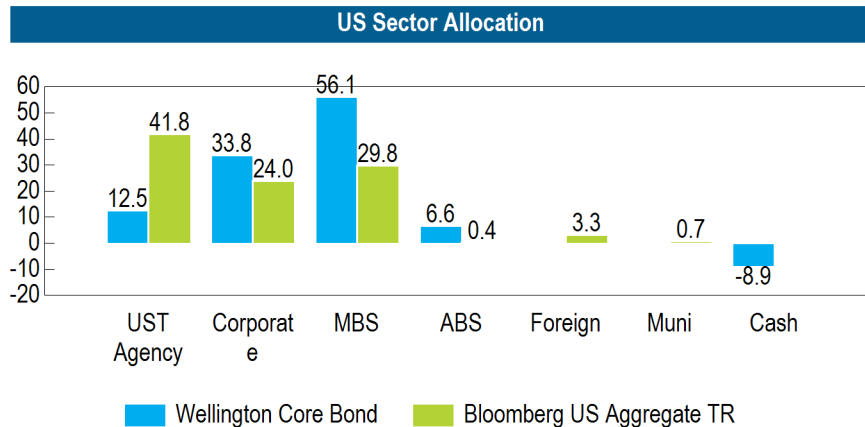
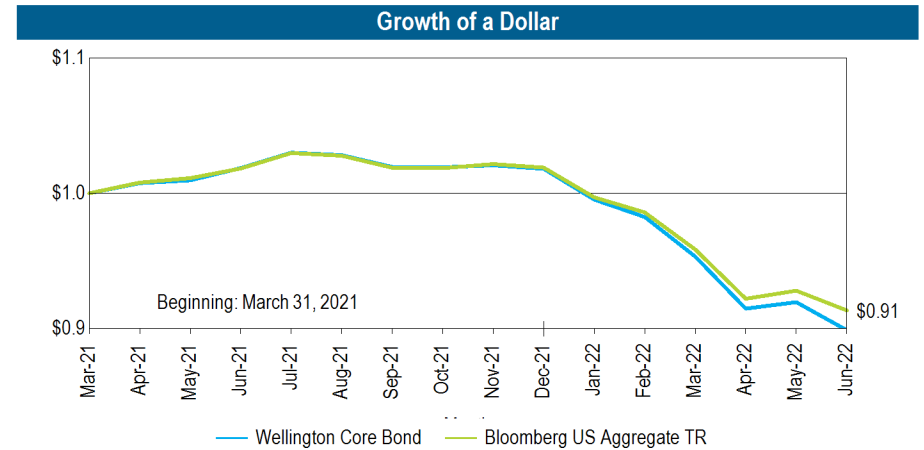
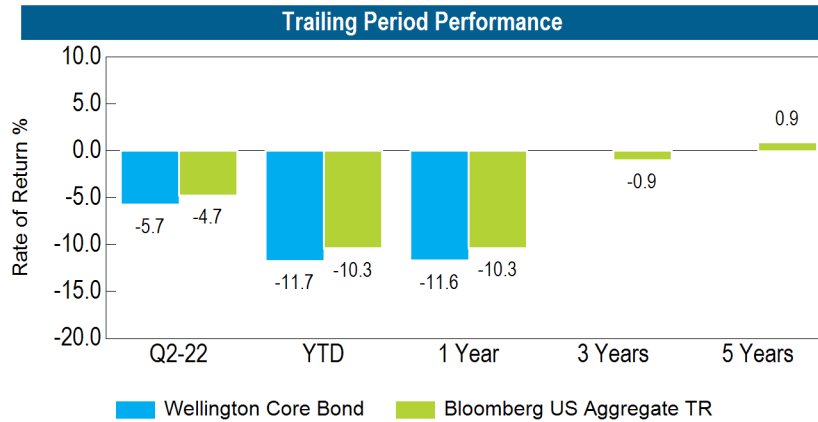
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Reams	5.05%	5.38%	0.05%	1.04	0.20	3.88%	122.49%	99.12%
Bloomberg Universal (Blend)	4.28%	3.58%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

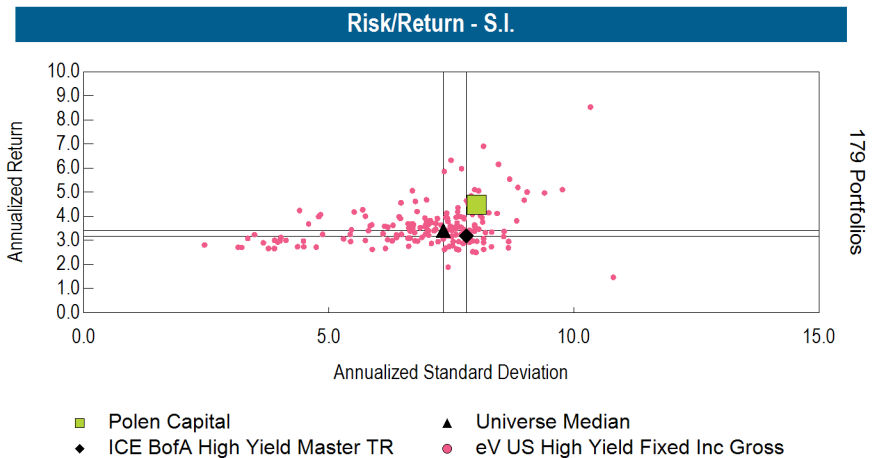
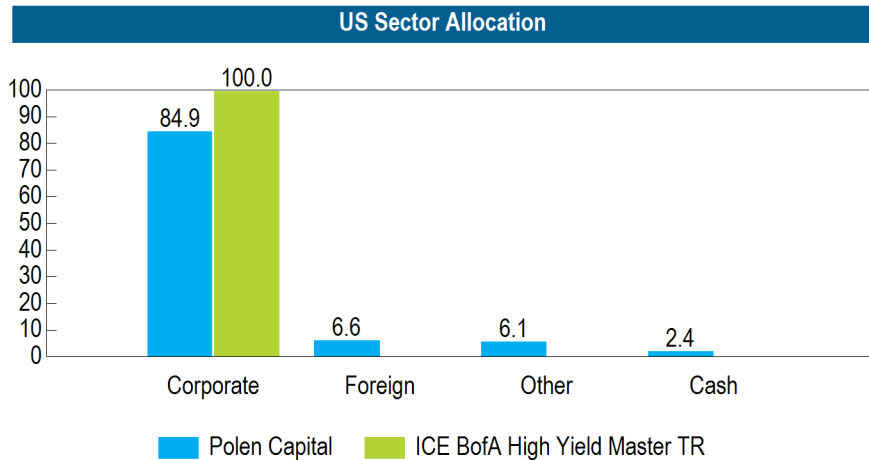
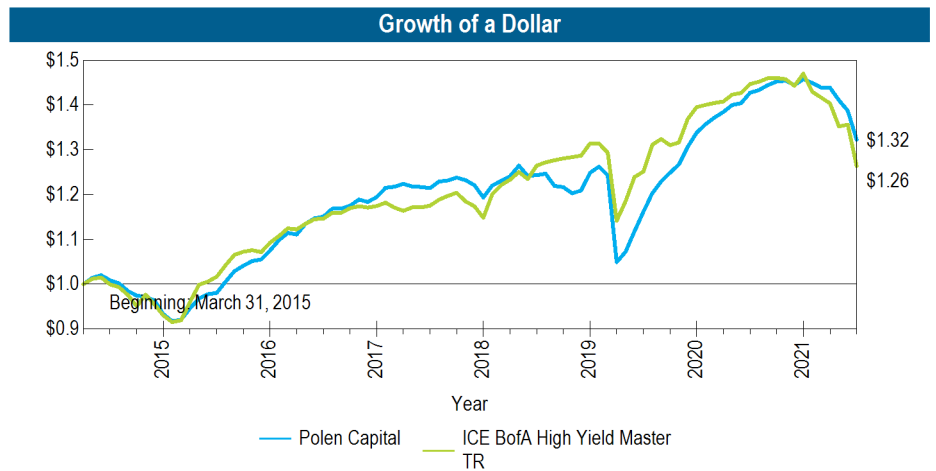
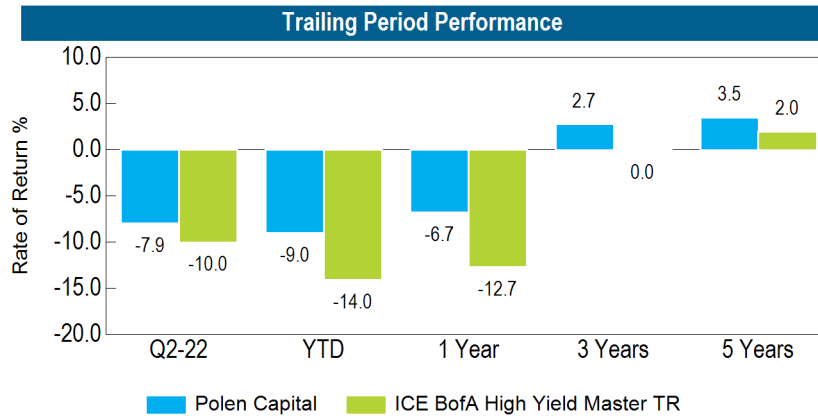
Wellington Core Bond | As of June 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Wellington Core Bond	-8.17%	5.34%	-0.07%	1.06	-1.78	0.67%	93.58%	109.84%
Bloomberg US Aggregate TR	-6.98%	4.99%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

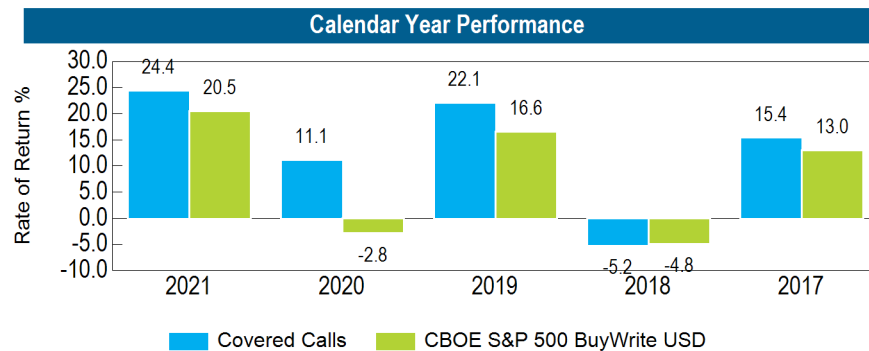
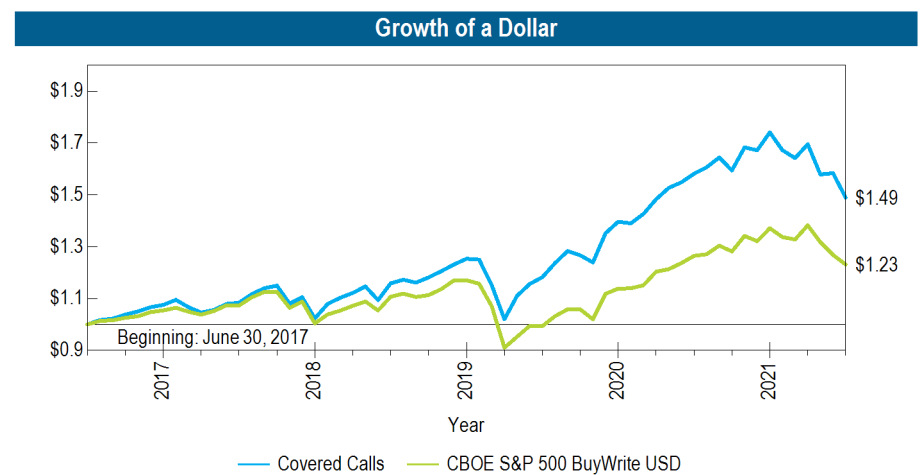
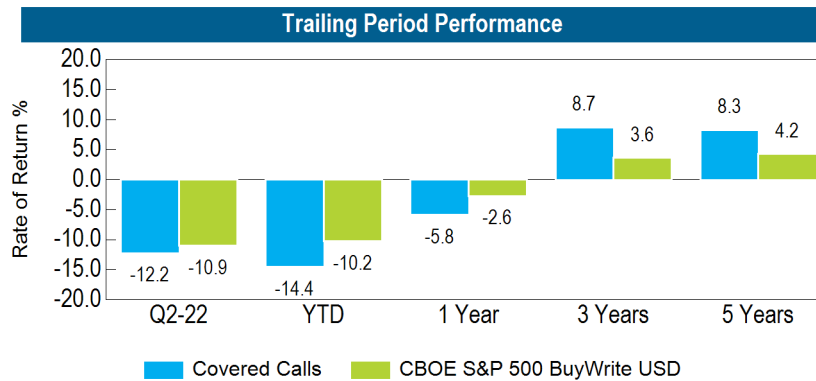
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Polen Capital	4.08%	8.00%	0.08%	0.90	0.16	3.93%	86.70%	82.09%
ICE BofA High Yield Master TR	3.46%	7.80%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

Covered Calls | As of June 30, 2022

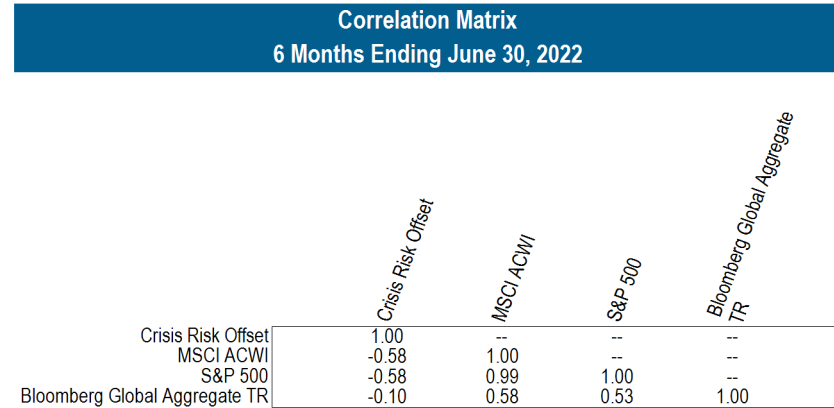
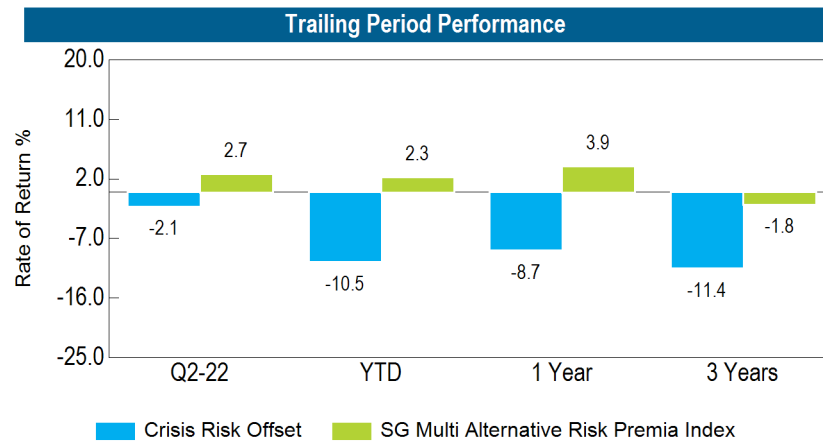
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Covered Calls	8.08%	11.13%	0.22%	0.99	0.71	3.86%	135.87%	101.20%
CBOE S&P 500 BuyWrite USD	5.32%	10.50%	0.00%	1.00	--	0.00%	100.00%	100.00%
Parametric BXM	6.39%	9.18%	0.15%	0.83	0.33	3.28%	93.75%	89.42%
CBOE S&P 500 BuyWrite USD	5.32%	10.50%	0.00%	1.00	--	0.00%	100.00%	100.00%
Parametric DeltaShift	9.87%	13.30%	0.31%	1.14	0.77	5.90%	187.07%	109.76%
CBOE S&P 500 BuyWrite USD	5.32%	10.50%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

Crisis Risk Offset | As of June 30, 2022

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Crisis Risk Offset	-11.63%	12.40%	-0.88%	0.61	-0.82	12.03%	-44.48%	94.21%
SG Multi Alternative Risk Premia Index	-1.79%	6.25%	0.00%	1.00	--	0.00%	100.00%	100.00%
Kepos Alternative Risk Premia	--	--	--	--	--	--	--	--
SG Multi Alternative Risk Premia Index	-1.79%	6.25%	0.00%	1.00	--	0.00%	100.00%	100.00%
Versor Trend Following	--	--	--	--	--	--	--	--
SG Trend Index	17.50%	12.37%	0.00%	1.00	--	0.00%	100.00%	100.00%
Vanguard Long-Term Treasury ETF	-2.99%	14.08%	0.00%	1.02	-0.04	1.19%	102.55%	101.43%
Bloomberg US Govt Long TR	-2.94%	13.77%	0.00%	1.00	--	0.00%	100.00%	100.00%



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

Benchmark History

As of June 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 June 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 BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8061

Approved to
Form
and Legality
Ritesh Bhakta

ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

**RESOLUTION APPROVING DEATH BENEFIT PAYMENT
AND DIRECTING A WARRANT THEREUNDER IN THE
AMOUNT OF \$1,000.00 PAYABLE TO THE
BENEFICIARIES OF DECEASED CITY OF OAKLAND
POLICE AND FIRE RETIREMENT SYSTEM MEMBER
NORMAN H. KOTLER.**

WHEREAS, due proof having been received in accordance with Article XXVI of the Charter of the City of Oakland of the death of the retired member of the Oakland Police or Fire Department identified in Column (1) below; and

WHEREAS, the beneficiaries to whom the death benefit provided in Charter Section 2612 is payable, are the people whose names are stated in Column (2) opposite the names of the deceased retired member; and

WHEREAS, the amount of said death benefit is stated in Column (3) opposite the name of the beneficiaries; now, therefore, be it

RESOLVED: That the Police and Fire Retirement System Board does hereby approve the Death Benefit payments to the people named in Column (2); and be it

FURTHER RESOLVED: That the Director of Finance, be and is hereby directed to draw and sign a warrant for the amount in Column (3) payable to the people whose names appears in Column (2):

(1)	(2)	(3)
Name of Deceased Member	Name of Beneficiary	Death Benefit Amount
Norman H. Kotler	Marla I. Pfeifle, Marvin N. Kotler, & Norman E. Kotler	\$1,000.00

IN BOARD MEETING, VIA ZOOM CONFERENCE _____ AUGUST 31, 2022

PASSED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ATTEST: _____
PRESIDENT

ATTEST: _____
SECRETARY

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8062

*Approved to
Form
and Legality*



ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

**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).**

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/preventgetting-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

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

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8062

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-gettingsick/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 to 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 BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8062

WHEREAS, some attendees may use public transportation to travel to an in-person meeting, which will expose them to additional people outside of their household and put them at further risk of contracting COVID-19; and

WHEREAS, in light of the above, on January 26, 2022, the Police and Fire Retirement System Board (“PFRS Board”) determined that conducting in-person meetings of the PFRS Board and its committees would present imminent risk to health or safety of attendees and elected to continue to conduct PFRS Board and committee meetings using teleconferencing in accordance with California Government Code section 54953(e) (Resolution No. 8037); and

WHEREAS, pursuant to California Government Code section 54953(e)(3), the PFRS Board has reconsidered the circumstances of the state of emergency and determines that the state of emergency continues to directly impact the ability of the members of the PFRS Board to meet safely in person and that state and local officials continue to recommend measures to promote social distancing; 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 continues to 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

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8062

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 occurs first.

IN BOARD MEETING, VIA ZOOM CONFERENCE _____ AUGUST 31, 2022

PASSED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST: _____
PRESIDENT

ATTEST: _____
SECRETARY