

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, JUNE 29, 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
JUNE 29, 2022**

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

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

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 May 25, 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 April 30, 2022
- 3. Subject: Resolution No. 8054 – Resolution Ratifying the Board President’s approval Of Oakland Police and Fire Retirement System Trustee R. Steven Wilkinson’s request to attend the National Association of Securities Professionals (NASP) 33rd Annual Financial Services Conference in Chicago, IL**
From: Staff of the PFRS Board
Recommendation: **RECOMMEND BOARD APPROVAL** of Resolution No. 8054 – Resolution Ratifying the Board President’s approval Of Oakland Police and Fire Retirement System Board Trustee R. Steven Wilkinson’s request to attend the NASP 33rd Annual Financial Services Conference in Chicago, IL from June 27, 2022 through June 29, 2022 and authorizing reimbursement of the costs for attendance in an amount not to exceed Two Thousand Two Hundred Fifty Dollars (\$2,250.00)

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR AUDIT COMMITTEE MEETING
JUNE 29, 2022**

4. **Subject:** Resolution No. 8055 – Resolution Ratifying the Board President’s approval Of Oakland Police and Fire Retirement System Board Plan Administrator David F. Jones’ request to attend the National Association of Securities Professionals (NASP) 33rd Annual Financial Services Conference in Chicago, IL

From: Staff of the PFRS Board

Recommendation: **RECOMMEND BOARD APPROVAL** of Resolution No. 8055 – Resolution Ratifying the Board President’s approval Of Oakland Police and Fire Retirement System Board Plan Administrator David F. Jones’ request to attend the NASP 33rd Annual Financial Services Conference in Chicago, IL from June 27, 2022 through June 29, 2022 and authorizing reimbursement of the costs for attendance in an amount not to exceed One Thousand Seven Hundred Fifty Dollars (\$1,750.00)

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

A REGULAR MEETING OF THE AUDIT/OPERATIONS COMMITTEE of the Oakland Police and Fire Retirement System (“PFRS”) was held Wednesday, May 25, 2022 via Zoom Webinar.

- | | | |
|----------------------|-----------------------|-------------------------------------|
| Committee Members | ▪ John C. Speakman | Chairperson |
| | ▪ Kevin R. Traylor | Member |
| | ▪ R. Steven Wilkinson | Member |
| Additional Attendees | ▪ David Jones | PFRS Secretary & Plan Administrator |
| | ▪ Téir Jenkins | PFRS Staff Member |
| | ▪ Maxine Visaya | PFRS Staff Member |
| | ▪ Mitesh Bhakta | PFRS Legal Counsel |

The meeting was called to order at 10:02 a.m. PST

- 1. PFRS Audit Committee Meeting Minutes** – Member Traylor made a motion to approve the April 27, 2022 Audit Committee Regular Meeting minutes, second by Member Wilkinson. Motion passed.

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

- 2. Administrative Expenses Report** – Staff Member Jenkins presented an informational report on PFRS’ administrative expenditures as of March 31, 2022. PFRS has an approved annual budget of approximately \$3.5 million and have expensed approximately \$1.8 million fiscal year-to-date. Membership consisted of 691 retired members, which included 426 Police Members and 265 Fire Members.

MOTION: Chairperson Speakman made a motion to accept the administrative expenses report as of February 28, 2022 and forward to the Board, second by Member Traylor. Motion passed.

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

- 3. Election of a New 3-Year Alternating Retired Police/Fire Representative Board Position** – Staff Member Jenkins presented an informational report regarding the Election of a New 3-Year Alternating Retired Police/Fire Representative Board Position.

MOTION: Chairperson Speakman made a motion to accept the informational report regarding the Election of a New 3-Year Alternating Retired Police/Fire Representative Board Position, second by Member Wilkinson. Motion passed.

[SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 3 / NOES: 0 / ABSTAIN: 0 / 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: Staff proposed to provide a report to the Audit Committee in the next few months that will highlight changes implemented to streamline processes based upon suggestions as a result from the 2006 Management Audit. Item 2) Monitoring & Updates regarding upcoming City Council Agendas with scheduled discussions of the 2026 Actuarial Funding Date continues to be ongoing to provide for the 2026 Ad-Hoc Committee to take any necessary action. Legal Counsel Bhakta advised there are no updates at this time; however, City Staff has been looking into the matter and an update should be forthcoming this summer.
5. **Open Forum** – No Report.
6. **Future Scheduling** – The next regular Audit Committee meeting is tentatively scheduled to occur June 29, 2022.
7. **Adjournment** – Chairperson Speakman made a motion to adjourn, second by Member Wilkinson. Motion passed.

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

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

JOHN C. SPEAKMAN
COMMITTEE CHAIRPERSON

DATE

Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Administrative Budget Spent to Date (Preliminary)

As of April 30, 2022

	Approved Budget		April 2022		FYTD		Remaining		Percent Remaining	
Internal Administrative Costs										
PFRS Staff Salaries	\$	1,212,000	\$	92,006	\$	905,839	\$	306,161		25.3%
Board Travel Expenditures		52,500		-		1,711		50,789		96.7%
Staff Training		20,000		-		-		20,000		100.0%
Staff Training - Tuition Reimbursement		7,500		-		-		7,500		100.0%
Board Hospitality		3,600		-		-		3,600		100.0%
Payroll Processing Fees		40,000		-		-		40,000		100.0%
Miscellaneous Expenditures		40,000		508		9,264		30,736		76.8%
Internal Service Fees (ISF)		88,000		-		53,814		34,186		38.8%
Contract Services Contingency		50,000		-		1,200		48,800		97.6%
Internal Administrative Costs Subtotal :	\$	1,513,600	\$	92,513	\$	971,828	\$	541,772		35.8%
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	\$	16,801	\$	105,923	\$	82,077		43.7%
Legal Contingency		150,000		-		-		150,000		100.0%
Legal Services Subtotal:	\$	338,000	\$	16,801	\$	105,923	\$	232,077		68.7%
Investment Services										
Money Manager Fees	\$	1,353,000	\$	287,255	\$	957,327	\$	395,673		29.2%
Custodial Fee		124,000		29,125		87,375		36,625		29.5%
Investment Consultant		100,000		-		75,000		25,000		25.0%
Investment Subtotal:	\$	1,577,000	\$	316,380	\$	1,119,702	\$	457,298		29.0%
Total Operating Budget	\$	3,524,100	\$	425,694	\$	2,269,649	\$	1,254,451		35.60%

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of April 30, 2022

	April 2022
Beginning Cash as of 3/31/2022	\$ 7,086,421
Additions:	
City Pension Contribution - April	\$ 3,651,667
Investment Draw	\$ 1,000,000
Misc. Receipts	-
Total Additions:	\$ 4,651,667
Deductions:	
Pension Payment (March Pension Paid on 4/1/2022)	(4,240,954)
Expenditures Paid	(472,090)
Total Deductions	\$ (4,713,044)
 Ending Cash Balance as of 4/30/2022*	 \$ 7,025,044

* On 5/1/2022, April pension payment of appx \$4,222,600 will be made leaving a cash balance of \$2,802,000.

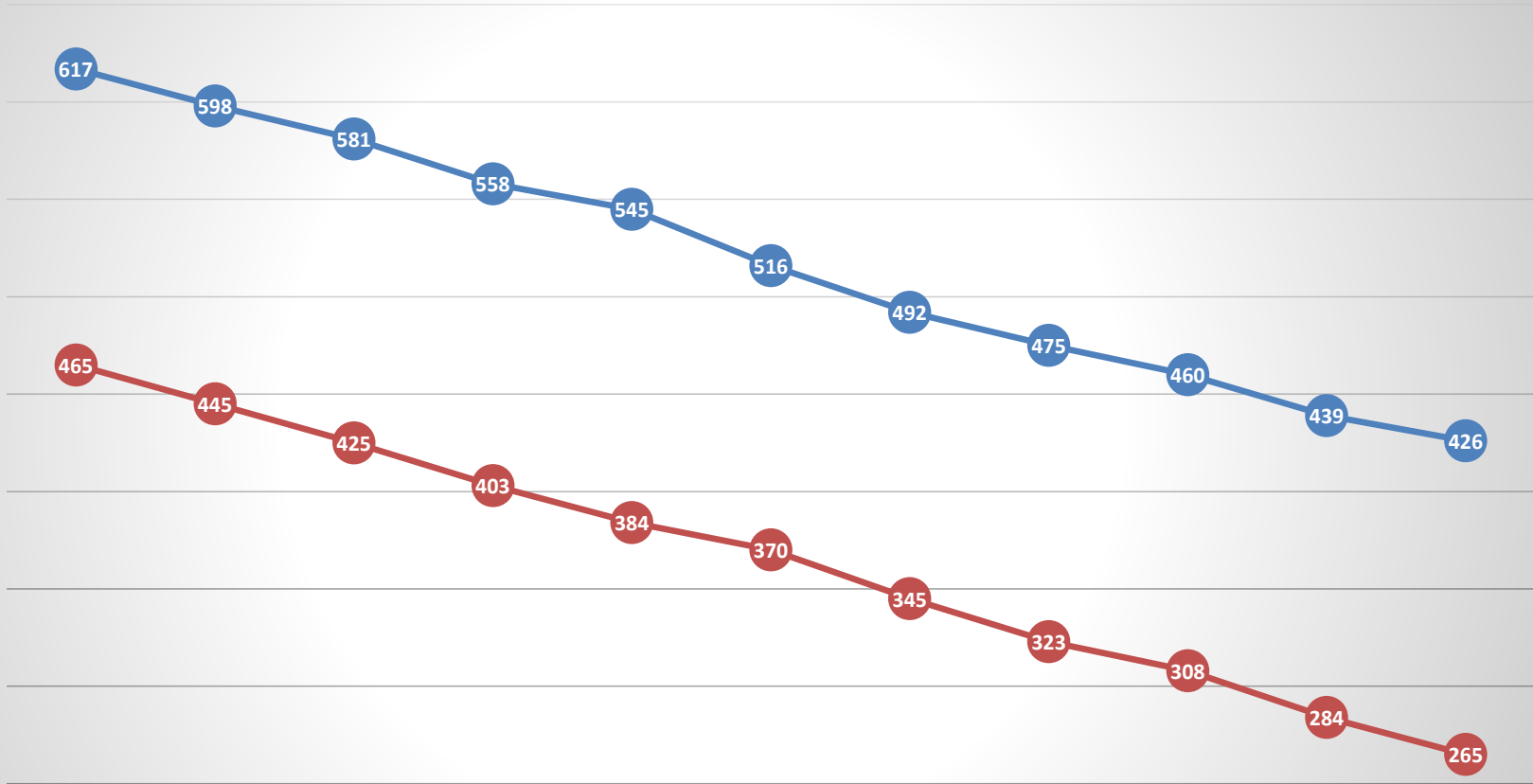
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of April 30, 2022

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	303	172	475
Beneficiary	123	93	216
<i>Total Retired Members</i>	426	265	691
<i>Total Membership:</i>	426	265	691

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	287	134	421
Disability Retirement	130	119	249
Death Allowance	9	12	21
<i>Total Retired Members:</i>	426	265	691
<i>Total Membership as of April 30, 2022:</i>	426	265	691
<i>Total Membership as of June 30, 2021:</i>	439	284	723
<i>Annual Difference:</i>	-13	-19	-32

Oakland Police and Fire Retirement System Pension Plan Membership Count As of April 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	426
Fire	465	445	425	403	384	370	345	323	308	284	265
Total	1082	1043	1006	961	929	886	837	798	768	723	691



AGENDA REPORT

TO: Oakland Police and Fire Retirement System Board (PFRS) **FROM:** David F. Jones
PFRS Plan Administrator & Secretary

SUBJECT: Authorization and Reimbursement of Trustee R. Steven Wilkinson's Travel/Education Expenses **DATE:** June 29, 2022

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

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

Travel/Education Event: NASP 2022 33rd Annual Financial Services Conference

Event Location: Radisson Blu Hotel, Chicago, IL

Event Date: June 27, 2022 - June 29, 2022

Estimated Event Expense: \$2,250.00

Notes: Prior Approval received from President Walter L. Johnson Sr.

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

Respectfully submitted,

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

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

Attachments:
(1) Resolution 8054
(2) Conference Agenda

Agenda Item 3
PFRS Audit Committee Meeting
June 29, 2022

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8054

Approved to
Form
and Legality



ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION RATIFYING THE BOARD PRESIDENT'S APPROVAL OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM TRUSTEE R. STEVEN WILKINSON'S REQUEST TO ATTEND THE NATIONAL ASSOCIATION OF SECURITIES PROFESSIONALS (NASP) 33rd ANNUAL FINANCIAL SERVICES CONFERENCE FROM JUNE 27, 2022 THROUGH JUNE 29, 2022 IN CHICAGO, IL AND AUTHORIZING REIMBURSEMENT OF REGISTRATION FEES AND TRAVEL-RELATED EXPENSES IN AN AMOUNT NOT TO EXCEED TWO-THOUSAND TWO-HUNDRED FIFTY DOLLARS (\$2,250.00)

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

WHEREAS, pursuant to Section IV(2)(c) of the Travel Policy, the PFRS Board President, in consultation with the Plan Administrator, may authorize education and travel expenses without prior approval of the Board when prior approval cannot be obtained; and

WHEREAS, PFRS Trustee Wilkinson the NASP 33rd Annual Financial Services Conference ("the Conference") in Chicago, IL from June 27, 2022 through June 29, 2022; and

WHEREAS, pursuant to Section IV(21)(a) of the Travel Policy Plan PFRS Trustee Wilkinson will submit documentation showing costs in an amount not to exceed Two-Thousand Two-Hundred Fifty Dollars (\$2,250.00) incurred as reimbursable expenses to attend the Conference within 15 days of the date of his return from the conference; and

WHEREAS, PFRS Trustee Wilkinson was unable to obtain Board approval prior to attending the Conference because he was unable to submit his request prior to the agenda posting deadline in time to bring his request to the full board before the Conference; and

WHEREAS, in compliance with Section IV(2)(c) of the Travel Policy, PFRS Trustee Wilkinson obtained written authorization from PFRS Board President Walter L. Johnson, Sr. to attend the Conference; now, therefore be it

RESOLVED: That the PFRS Board hereby ratifies the Board President's approval of PFRS Trustee Wilkinson's request to attend the NASP 33rd Annual Financial Services Conference from June 27, 2022 through June 29, 2022; and be it

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8054

FURTHER RESOLVED: That the PFRS Board authorizes reimbursement of the expenses PFRS Trustee Wilkinson incurred to attend NASP 33rd Annual Financial Services Conference in an amount not to exceed Two-Thousand Two-Hundred Fifty Dollars (\$2,250.00).

IN BOARD MEETING, VIA ZOOM CONFERENCE JUNE 29, 2022

PASSED BY THE FOLLOWING VOTE:

AYES:

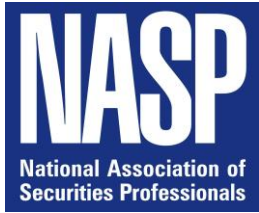
NOES:

ABSTAIN:

ABSENT:

ATTEST: _____
PRESIDENT

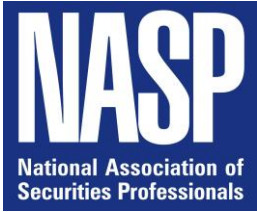
ATTEST: _____
SECRETARY



NASP 2022 Annual Financial Services Conference
Theme: Breaking the Status Quo: Leading With Renewed Purpose

June 27-29 2022
Chicago, IL
Radisson Blu Hotel

Date: Monday; June 27, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
8:30 AM -9:00 AM	Opening & Welcome Remarks	Speaker: Ronald C. Parker, President & CEO, NASP Speaker: Richard Turnley, III, Board Chair NASP Speaker: Chicago/IL Official	Plenary	NASP HQ
9:00 AM– 10:00 AM	Morning Plenary – Global Economic Outlook	Standard Bank	Plenary	NASP HQ
10:00 AM - 10:20 AM	Program Break	N/A		
10:20 AM - 11:05 AM	Allocator Perspectives Panel	TBD	AEMS	
10:20 AM - 11:05 AM	Sourcing the Best Diverse Managers We’ve all heard the results of the Knight Foundation that diverse firms manage about 1.4% of \$69 trillion dollars in assets and it’s not due to poor performance, because these diverse managers perform as well or better than their majority-owned counterparts. Despite the social unrest in 2020 that sparked a renewed focus on DE&I, the percentage of assets allocated to diverse managers has not improved. This panel will offer solutions to increase the utilization of diverse asset managers, broker/dealers and other service providers.	Welcome Remarks Instructor: Angela Matheny, Director of Investment Staff and Diverse Manager Equity, Crewcial Partners Instructor: Winston Blake, President, Attucks Asset Management Instructor: Angela Miller-May, Chief Investment Officer, Illinois Municipal Retirement Fund	TNI	



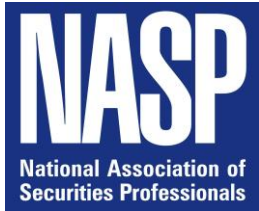
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10:20 AM - 11:05 AM	<p><i>Realize The Power of a Positive Mental Approach to Leadership</i></p> <p>The challenges of navigating business activity in periods of extreme disruption and constant change can be taxing on one’s mental and physical well-being. Leaders must strive for increased productivity but must also be concerned about employee health and potential burnout.</p> <p>Join us as mental health professionals and business leaders share thoughts on how to best manage teams with a focus on personal/professional balance, effective communication, while emphasizing the need to find joy and purpose in the work they do.</p>	<p>Panelist: Jeffrey Ferguson, Associate Director, Living Cities</p> <p>Panelist: Michelle Minus-Swittenberg, Founder, BRWL Studios</p> <p>Panelist: Stephanie Sklar Rapp, Co-Founder and CEO, EMBODY Wellness Company</p>	PDS	
11:05 AM - 11:15 AM	Program Break			
11:15 AM - 12:00 PM	<i>Infrastructure Panel</i>	TBD	AEMS	
11:15 AM - 12:00 PM	<p><i>Understanding the Federal Reserve and Fed Funds Policy</i></p> <p>The Federal Reserve was created by Congress to provide the nation with a safer, more flexible, and more stable monetary and financial system. This session will explain</p>		TNI	



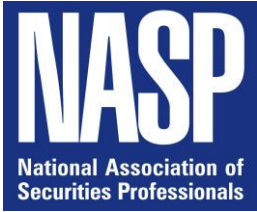
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	what the Federal Reserve is, how it works and how it affects the financial markets.			
11:15 AM - 12:00 PM	<p><i>Navigating and Excelling in Your Career in a Hybrid Work Environment</i></p> <p>With the Post-Covid transition to more flexible work experiences, how will workplace relationships change?</p> <p>What must young professionals be prepared for as they look to become leaders of diverse teams that are collaborating remotely?</p> <p>How must they be ready to engage, communicate and contribute while being self-aware and understanding of the demands and metrics that are expected.</p> <p>Listen in as a panel of HR and DE&I professionals bring to light how organizations are increasing productivity and assisting their employees with managing career goals in a more diverse and hybrid work environment.</p>	<p>Panelist: Monique Pryor, Chief Engagement & External Affairs Officer, St Francis College Brooklyn</p> <p>Panelist: Johnita Walker-Mizelle, Senior Principal, US Distribution, Sagard</p>	PDS	
12:00 PM - 1:15 PM	<i>Lunch Plenary Session</i>	Keynote	Plenary	NASP HQ
1:15 PM - 1:35 PM	Program Break			
1:35 PM – 2:20 PM	<i>Climate Finance and ESG Investing for a Green Future</i>	Panelist: Dinao Lerutla, Managing Partner, Maia Capital	AEMS	



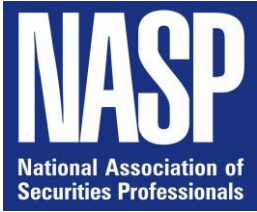
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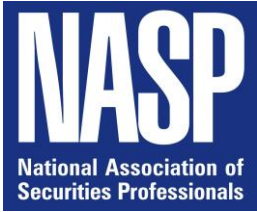
	<p>As global actors advance ambitions to be net-zero by 2050 and to keep global warming to 1.5 degrees, developing economies face the challenges of building low emission economies while being disproportionately affected by the physical risks of climate change. As such, the need for private capital to support the development of a low-carbon future and catalyzing economic growth at the same time will be crucial. This panel will discuss the current and future status of climate finance and investment models to support the green transition and the role of ESG investing more broadly. The discussion will explore the role of allocators, fund managers, corporates in investing in and meeting net-zero targets and how private actors can mitigate risk and enhance returns in the context of climate action.</p>	<p>Panelist: Hazel Taylor, Director and Head of Investor Desk, British International Investment</p>		
<p>1:35 PM – 2:20 PM</p>	<p><i>Asset Allocation: The Value of Traditional Assets in the Age of Alternatives</i></p> <p>Over the past several years, Institutional investors have increased their allocation to alternative investments such as Private Equity, Infrastructure, Real Estate & Hedge Funds. Although exposure to alternatives and private markets are good strategies to add alpha to the portfolio, investors must remember there is always a role for traditional equity and fixed income assets. This session will highlight the ever-present need for</p>	<p>Instructor: Gautam Khanna, CFA, CPA, Head of US Multi-Sector Fixed Income, Insight Investment</p>	<p>TNI</p>	



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	traditional fixed income and equities in any asset allocation strategy.			
1:35 PM – 2:20 PM	<p><i>The Making of Angels: Where Rising Stars Meet Entrepreneurs</i></p> <p>The role of angel investors is critical to the continued success and evolution of the start-up community. Sourcing early-stage capital can be the difference between early-stage success or failure. Innovative solutions to access capital for black and women entrepreneurs through connectivity diverse professional networks can truly lead to generational wealth accumulation within these communities.</p> <p>Come join us as founders and early-stage investors discuss how best to engage and support diverse founders as they look to create value and extend wealth generating opportunities.</p>	<p>Moderator: Blair Smith, Senior Director, Center for Financial Markets, The Milken Institute</p> <p>Panelist: Nicholas Antoine, Managing Partner, Red Arts Capital</p> <p>Panelist: Melanie Seymour, Director, Capital Access, Institute For Entrepreneurial Leadership</p> <p>Panelist: Keith Spears, General Partner, Include Ventures</p>	PDS	
2:20 PM - 2:30 PM	Program Break			
2:30 PM - 3:15 PM	<i>Venture Capital</i>	TBD	AEMS	
2:30 PM - 3:15 PM	<i>Portfolio Protection Strategies: Best Practices for Securities Litigation & Portfolio Monitoring</i>	Instructor: Marlon Kimpson, Member, Motley Rice, LLC	TNI	



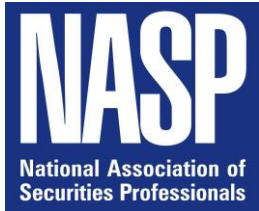
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	Securities fraud is on the rise and Institutional investors must be proactive in protecting investments from fraud, market manipulation, or breach of contracts. This session will present the merits of portfolio monitoring and the elements of securities fraud cases. The session will end with a brief overview of pension fund governance and the fiduciary responsibilities of fund trustees.			
2:30 PM - 3:15 PM	<p><i>The Growth of ESG Integration and the Demand for Critical Data</i></p> <p>As ESG continues to gain momentum, many companies are looking for ways to measure impact and hold themselves, as well as their vendors and partner firms accountable. Join us as ESG professionals discuss best practices of implementing ESG and the benefits of ESG and how it can positively influence investment decisions.</p> <p>We will discuss questions such as: What are global, as well as US, ESG trends? What capital market structures represent the best vehicle for ESG focused investments? And much more!</p>	<p>Panelist: Meg Starr, Carlyle Group</p> <p>Panelist: Brooke Guven, Head of ESG & Sustainability and Managing Director, Cerberus Capital Management</p> <p>Panelist: State Street</p>	PDS	NASP HQ
3:15 PM - 3:25 PM	Program Break			
3:25 PM - 4:25 PM	<p>Afternoon Plenary Session</p> <p><i>A Roadmap to Ensure Black, Women-Owned & Latinx Firms Proliferate</i></p>	<p>Panelist: Shawn T. Wooden, Treasurer, State of Connecticut</p>	Plenary (Muni)	NASP HQ



NASP 2022 Annual Financial Services Conference
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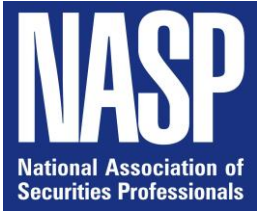
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	<p>Public and private sectors alike are eager to implement lasting diversity, equity, and inclusion initiatives because it makes good public policy and economically beneficial. Earlier this year Citi established the Diverse Financial Institutions Group to expand firm-wide engagement with Minority Depository Institutions, Diverse Broker Dealers, and Diverse Asset Managers to work collaboratively with these firms so they can prosper and grow. This panel will explore how the public and private sector can work to ensure that Black, Women-Owned, Latinx and other minority firms proliferate in the coming years.</p>	<p>Panelist: Phillip Washington, Chief Executive Officer, Denver International Airport</p>		
<p>4:30 PM - 6:30 PM</p>	<p>Welcome Reception</p>			

Date: Tuesday; June 28, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
<p>8:30 AM-9:30 AM</p>	<p>Morning Plenary Session <i>The Future Of Asset Management</i></p>	<p>Moderator: Jasmine Richards, Managing Director, Head of Diverse Research, Cambridge Associates</p>	<p>Plenary</p>	<p>NASP HQ</p>



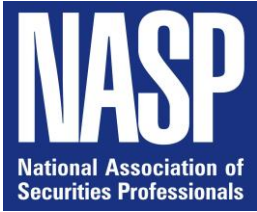
NASP 2022 Annual Financial Services Conference
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		Panelist: Gabriel Rodriguez, Managing Partner, Empiric Institutional Panelist: Floyd Simpson, Sr. Managing Consultant, PFM		
9:30 AM -9:45 AM	Program Break			
9:45 AM -10:30 AM	<i>Municipal Finance [Post] Pandemic</i> As the pandemic abates, hear from an array of high-profile municipal issuers from around the country, on how they have navigated the past twenty-four months and what lies ahead for them from a budgeting, operating, and credit, perspective. In addition, they will advise of their capital plans in the near term. These issuers have a long demonstrated history of supporting diversity, equity, and inclusion.	Panelist: Reuben McDaniel	Muni	
9:45 AM -10:30 AM	<i>Digital Disruption: A Closer Look at Blockchain and Its Impact from Cryptocurrencies and Non-fungible Tokens (NFTs) to Decentralized Autonomous Organizations (DAOs)</i> The panel will provide insights on how Cryptocurrencies and NFTs have evolved and the implications for the current markets. We will discuss the outlook of a decentralized world and the future of finance with	Moderator: E. David Ellington, Founder and Executive Director, Silicon Valley Blockchain Society Panelist: David Weisberger, Co-founder, CoinRoutes	Institutional	



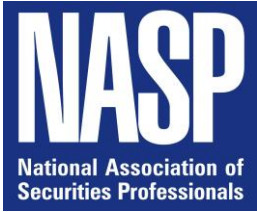
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	Blockchain and Cryptocurrencies as a major asset. Finally, we will discuss the merits for exposure to Cryptocurrencies and NFTs from an investment perspective.			
9:45 AM -10:30 AM	<p><i>Diversity in the Wealth Management Industry: Career Opportunities for Young Professionals and Career Changers</i></p> <p>Despite the obvious legacy of systemic racism in the financial sector, the current moment provides reasons for some hope that things may change for the better. Most wealth management professionals have extremely lucrative careers but the attraction of more young people of diverse backgrounds to the profession still hasn't taken root. What can WM Firms and organizations supporting the industry do to increase diverse representation in the industry.</p>	<p>Moderator: Adam Rouse, T, Rowe Price</p> <p>Panelist: Monica Handy, Morgan Stanley</p>	Wealth Management	
10:30 AM -10:45 AM	Break			
10:45 AM-11:30 AM	<i>Developing Critical Infrastructure in the Metropolis</i>		Muni	



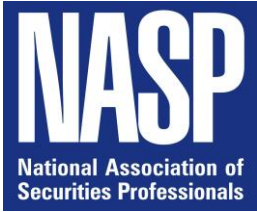
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	<p>Mayors make strategic decisions regarding the maintenance and development of critical infrastructure to promote the welfare of their cities. Their priorities shape metropolitan growth, economic development and regional prosperity. Mayors will discuss their practical experience addressing the fiscal opportunities and challenges in their region</p>			
<p>10:45 AM-11:30 AM</p>	<p><i>The Rise of Venture Investing as an Impact Vehicle</i></p> <p>A look at the rise of VC investing as a tool for Impact investing related to ESG and DEI impacts. This panel will bring together allocators, traditional institutional investors and emerging minority and women VCs. This Panel will discuss the Private Equity universe and strategies of VC investors and the growth of minority and women-owned VC firms. We will also discuss The push-pull effect of investors and the Impact it has on the financial industry.</p>	<p>Moderator: Chitra Nawbatt, Global Head of Health Assurance Partnership, General Catalyst</p> <p>Panelist: Tracy Gray, Founder and Managing Partner, The 22 Fund</p> <p>Panelist: Joe Aguilar, Chief Investment Officer, State of Illinois</p> <p>Panelist: Frederik Groce, Deal Lead, Wellington Access Ventures</p> <p>Panelist: Marcelia Freeman, NASP Board Member, Florida A & M Endowment, Former Trustee, Montgomery COUNTY (MD) Public Schools</p>	<p>Institutional</p>	



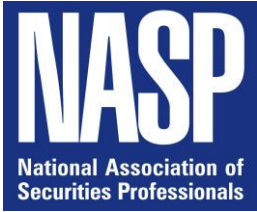
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<p>10:45 AM-11:30 AM</p>	<p><i>Overcoming Inherent Bias: What wealth management firms have done in the last three years to build inclusive environments where diverse employees can reach the top.</i></p> <p>The business case for diversity, equity and inclusion (DE&I) is stronger than ever. Taking a closer look at diversity winners reveals what can drive real progress.</p> <p>A McKinsey & Co. 2019 analysis finds that companies in the top quartile for gender diversity on executive teams were 25 percent more likely to have above-average profitability than companies in the fourth quartile—up from 21% in 2017 and 15% in 2014.</p>	<p>Moderator: Kathleen Colin, Director, Investments, Oppenheimer</p> <p>Panelist: Lattisha Jackson, AAAA</p>	<p>Wealth Management</p>	
<p>11:30 AM - 11:45 AM</p>	<p>Program Break</p>			
<p>11:45 AM – 1:15 PM</p>	<p>Afternoon Plenary <i>Joyce Johnson Luncheon</i></p>	<p>Keynote Speaker: Rosalind Brewer, CEO, Walgreens Boots Alliance</p>	<p>Plenary</p>	<p>NASP HQ</p>
<p>1:15 PM - 1:30 PM</p>	<p>Program Break</p>			
<p>1:30 PM – 2:15 PM</p>	<p><i>Environmental, Social, and Governance (ESG) Financing: Water and Sewer Bonds</i></p>	<p>Panelist: Lisa Marie Harris, Finance Director/Treasurer, San Diego County Water Authority</p>	<p>Muni</p>	



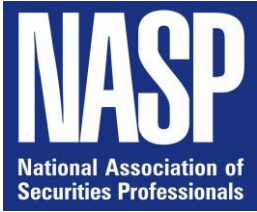
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	<p>The social mission of water and sewer systems is related to their environmental mission. Water and sewer systems are committed to environmental safety while providing affordable service. Water and sewer financings are especially strong candidates for inclusion in Environmental, Social and Governance (ESG)-sensitive strategies for investors. Panelists will discuss ESG considerations for water and sewer system financings and market participants' perceptions of ESG bonds.</p>	<p>Panelist: Chris Meister, Executive Director, Illinois Finance Authority</p>		
<p>1:30 PM – 2:15 PM</p>	<p><i>Understanding the Various Private Credit Asset Class Strategies</i></p> <p>This session will discuss the relevance of the Private Credit asset class for investors seeking higher yielding Fixed Income assets. Once a less defined and prevalent asset class, Private Credit has grown as a method of increasing yield in fixed income portfolios during the protracted low-rate interest rate environment of the past 14 years since the Great Financial Crisis. This panel seeks to provide the trends, risks, and opportunities for Private Credit as the market experiences an inflection point in the interest rate cycle to higher rates.</p>	<p>Moderator: Donna Sims Wilson, Chief Operating Officer, KAH Capital</p> <p>Panelist: Stephen Usher, Managing Director - Head of Distribution, Lafayette Square</p> <p>Panelist: Vincent Thompson, Partner, Three Line Capital</p> <p>Panelist: Sherrese Clark Soares, Founder, HarborView</p>	<p>Institutional</p>	



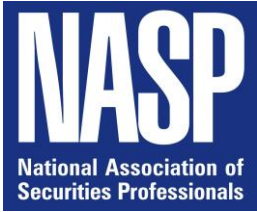
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<p>1:30 PM – 2:15 PM</p>	<p><i>Close the racial wealth gap by discussing the impact of the wealth gap and what businesses are doing to support economic inclusion</i></p> <p>It is estimated that its dampening effect on consumption and investment will cost the US economy between \$1 trillion and \$1.5 trillion between 2019 and 2028—4 to 6 percent of the projected GDP in 2028.</p> <p>The widening racial wealth gap disadvantages black families, individuals, and communities and limits black citizens’ economic power and prospects, and the effects are cyclical. Such a gap contributes to intergenerational economic precariousness: almost 70 percent of middle-class black children are likely to fall out of the middle class as adults.</p>	<p>Moderator: Christian Nwasike, Principal & Executive Managing Partner, Practice Management Consultants, LLC</p> <p>Panelist: Barrett Wragg, T. Rowe Price</p>	<p>Wealth Management</p>	
<p>2:15 PM - 2:30 PM</p>	<p>Program Break</p>			
<p>2:30 PM – 3:15 PM</p>	<p><i>What’s Next On the Runway to Recovery for the Nation’s Airports?</i></p> <p>The impacts of the coronavirus pandemic and subsequent travel restrictions on the airline industry caused total enplanements in [2020-21] to reach a level that had not been seen since 1997. Given the loss in revenues and uncertain future, many airports decided to forego or halt</p>		<p>Muni</p>	



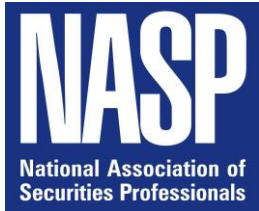
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	planned capital projects, deciding to wait to complete the projects until there is proof that the return to normalcy is on the horizon. This panel will discuss how airports have put their federal funds to use, how they are approaching capital planning given such uncertainty, and how construction plans have been impacted by higher costs and worker shortages			
2:30 PM – 3:15 PM	<p><i>Real Assets 2.0: From Energy Transition to Digital Infrastructure</i></p> <p>As markets have been roiled by persistent inflation, pandemic-driven uncertainty in real estate, and a \$16 trillion infrastructure funding gap, many investors have turned to real assets to provide stability and certainty to their portfolios. This panel will explore how investments in real assets have also been a means to create change, including creating affordable housing, expanding renewables, developing smart cities, and working with diverse managers.</p>	<p>Moderator: James Celestine, Senior Investment Officer, New York State Common Retirement Fund</p>	Institutional	
2:30 PM – 3:15 PM	<p><i>FinTech Panel Discussion: How New Technologies are Disrupting Traditional Wealth Management</i></p> <p>The rapid and ongoing innovations in technology are exciting. While the robo-advisor craze is well documented, the proliferation of artificial intelligence (AI) tools hitting</p>	<p>Moderator: Lauren Ziadie, Executive Director, Morgan Stanley Wealth Management</p> <p>Panelist: Anthony Buchanan, LetBob</p>	Wealth Management	



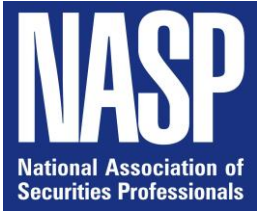
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	<p>the wealth management landscape has made a dramatic entrance into the financial trade press.</p> <p>While it might be early, AI's role in financial advice is an area to watch. While some studies show that the number of financial advisors is expected to stay flat or grow moderately over the next five years, growth in assets managed by advisors shows that the industry is alive and well. The Registered Investment Advisor (RIA) Benchmarking Study from Charles Schwab shows that assets under management have increased steadily, with a five-year compound annual growth rate (CAGR) of 14.5% from 2015 to 2020.</p>			
3:15 PM - 3:30 PM	Break			
3:30 PM - 4:30 PM	<p>Afternoon Plenary CIO's Speak</p>	<p>Moderator: DeAnna Jones, Senior Consultant Specialist, NEPC</p> <p>Panelist: Thomas Lee, Chief Investment Officer, New York State Teachers' Retirement System</p> <p>Panelist: Leslie Lenzo, Chief Investment Officer, Advocate Aurora Health</p>	Plenary	NASP HQ
4:30 PM – 5:30 PM	Career Coaching			NASP HQ
5:30 PM - 6:00 PM	Program Break			
6:00 PM - 7:30 PM	Pre-Gala Reception	NASP Chapter Presidents Recognition		NASP HQ
7:30 PM – 9:30 PM	International Gala and Award Presentation	Awards Presentations	Plenary	NASP HQ



NASP 2022 Annual Financial Services Conference
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		Video Presentation/Sponsor Acknowledgements		
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Date: Wednesday; June 29, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
9:00 AM – 10:00 AM	Morning Plenary Session NASP Update/Launch of NASP Institute Fireside Chat	Speaker: Ronald C. Parker, President & CEO, NASP Speaker: Shundrawn Thomas, Northern Trust	Plenary	NASP HQ
10:00 AM -10:15 AM	Program Break			
10:15 AM – 11:15 AM	Consultant Roundtable		Plenary	
11:15 AM – 12:30 PM	Grab & Go Lunch			
	Conference Ends			



AGENDA REPORT

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

SUBJECT: Authorization and Reimbursement of Trustee R. Steven Wilkinson's Travel/Education Expenses **DATE:** June 29, 2022

David F. Jones, Plan Administrator & Secretary of the **Oakland Police and Fire Retirement System** Board, requests authorization for reimbursement of travel and/or board education related funds for the event detailed below. Staff has verified that budgeted funds are available for this Board Member to be reimbursed.

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

Travel/Education Event: NASP 2022 33rd Annual Financial Services Conference

Event Location: Radisson Blu Hotel, Chicago, IL

Event Date: June 27, 2022 - June 29, 2022

Estimated Event Expense: \$1,750.00

Notes: Prior Approval received from President Walter L. Johnson Sr.

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

Respectfully submitted,

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

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

Attachments:
(1) Resolution 8055
(2) Conference Agenda

Agenda Item 4
PFRS Audit Committee Meeting
June 29, 2022

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8055

Approved to
Form
and Legality



ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION RATIFYING THE BOARD PRESIDENT'S APPROVAL OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM PLAN ADMINISTRATOR JONES' REQUEST TO ATTEND THE NATIONAL ASSOCIATION OF SECURITIES PROFESSIONALS (NASP) 33rd ANNUAL FINANCIAL SERVICES CONFERENCE FROM JUNE 27, 2022 THROUGH June 29, 2022 IN CHICAGO, IL AND AUTHORIZING REIMBURSEMENT OF REGISTRATION FEES AND TRAVEL-RELATED EXPENSES IN AN AMOUNT NOT TO EXCEED ONE THOUSAND SEVEN HUNDRED FIFTY DOLLARS (\$1,750.00)

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

WHEREAS, pursuant to Section IV(2)(c) of the Travel Policy, the PFRS Board President, in consultation with the Plan Administrator, may authorize education and travel expenses without prior approval of the Board when prior approval cannot be obtained; and

WHEREAS, PFRS Plan Administrator Jones the NASP 33rd Annual Financial Services Conference ("the Conference") in Chicago, IL from June 27, 2022 through June 29, 2022; and

WHEREAS, pursuant to Section IV(21)(a) of the Travel Policy Plan Administrator Jones will submit documentation showing costs in an amount not to exceed One Thousand Seven Hundred Fifty Dollars (\$1,750.00) incurred as reimbursable expenses to attend the Conference within 15 days of the date of his return from the conference; and

WHEREAS, Plan Administrator Jones was unable to obtain Board approval prior to attending the Conference because he was unable to submit his request prior to the agenda posting deadline in time to bring his request to the full board before the Conference; and

WHEREAS, in compliance with Section IV(2)(c) of the Travel Policy, Plan Administrator Jones obtained written authorization from PFRS Board President Walter L. Johnson, Sr. to attend the Conference; now, therefore be it

RESOLVED: That the PFRS Board hereby ratifies the Board President's approval of PFRS Plan Administrator Jones' request to attend the NASP 33rd Annual Financial Services Conference from June 27, 2022 through June 29, 2022; and be it

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION NO. 8055

FURTHER RESOLVED: That the PFRS Board authorizes reimbursement of the expenses Plan Administrator Jones incurred to attend NASP 33rd Annual Financial Services Conference in an amount not to exceed One Thousand Seven Hundred Fifty Dollars (\$1,750.00).

IN BOARD MEETING, VIA ZOOM CONFERENCE JUNE 29, 2022

PASSED BY THE FOLLOWING VOTE:

AYES:

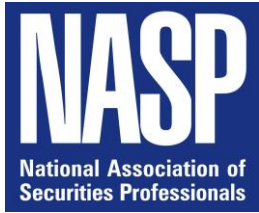
NOES:

ABSTAIN:

ABSENT:

ATTEST: _____
PRESIDENT

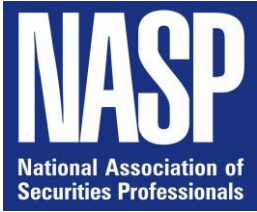
ATTEST: _____
SECRETARY



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Date: Monday; June 27, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
8:30 AM -9:00 AM	Opening & Welcome Remarks	Speaker: Ronald C. Parker, President & CEO, NASP Speaker: Richard Turnley, III, Board Chair NASP Speaker: Chicago/IL Official	Plenary	NASP HQ
9:00 AM– 10:00 AM	Morning Plenary – Global Economic Outlook	Standard Bank	Plenary	NASP HQ
10:00 AM - 10:20 AM	Program Break	N/A		
10:20 AM - 11:05 AM	Allocator Perspectives Panel	TBD	AEMS	
10:20 AM - 11:05 AM	Sourcing the Best Diverse Managers We’ve all heard the results of the Knight Foundation that diverse firms manage about 1.4% of \$69 trillion dollars in assets and it’s not due to poor performance, because these diverse managers perform as well or better than their majority-owned counterparts. Despite the social unrest in 2020 that sparked a renewed focus on DE&I, the percentage of assets allocated to diverse managers has not improved. This panel will offer solutions to increase the utilization of diverse asset managers, broker/dealers and other service providers.	Welcome Remarks Instructor: Angela Matheny, Director of Investment Staff and Diverse Manager Equity, Crewcial Partners Instructor: Winston Blake, President, Attucks Asset Management Instructor: Angela Miller-May, Chief Investment Officer, Illinois Municipal Retirement Fund	TNI	



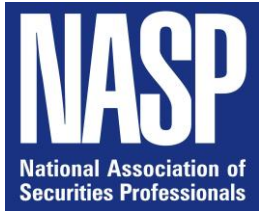
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<p>10:20 AM - 11:05 AM</p>	<p><i>Realize The Power of a Positive Mental Approach to Leadership</i></p> <p>The challenges of navigating business activity in periods of extreme disruption and constant change can be taxing on one’s mental and physical well-being. Leaders must strive for increased productivity but must also be concerned about employee health and potential burnout.</p> <p>Join us as mental health professionals and business leaders share thoughts on how to best manage teams with a focus on personal/professional balance, effective communication, while emphasizing the need to find joy and purpose in the work they do.</p>	<p>Panelist: Jeffrey Ferguson, Associate Director, Living Cities</p> <p>Panelist: Michelle Minus-Swittenberg, Founder, BRWL Studios</p> <p>Panelist: Stephanie Sklar Rapp, Co-Founder and CEO, EMBODY Wellness Company</p>	<p>PDS</p>	
<p>11:05 AM - 11:15 AM</p>	<p>Program Break</p>			
<p>11:15 AM - 12:00 PM</p>	<p><i>Infrastructure Panel</i></p>	<p>TBD</p>	<p>AEMS</p>	
<p>11:15 AM - 12:00 PM</p>	<p><i>Understanding the Federal Reserve and Fed Funds Policy</i></p> <p>The Federal Reserve was created by Congress to provide the nation with a safer, more flexible, and more stable monetary and financial system. This session will explain</p>		<p>TNI</p>	



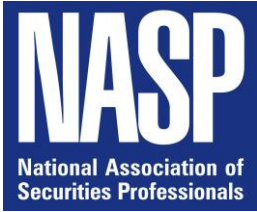
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	what the Federal Reserve is, how it works and how it affects the financial markets.			
11:15 AM - 12:00 PM	<p><i>Navigating and Excelling in Your Career in a Hybrid Work Environment</i></p> <p>With the Post-Covid transition to more flexible work experiences, how will workplace relationships change?</p> <p>What must young professionals be prepared for as they look to become leaders of diverse teams that are collaborating remotely?</p> <p>How must they be ready to engage, communicate and contribute while being self-aware and understanding of the demands and metrics that are expected.</p> <p>Listen in as a panel of HR and DE&I professionals bring to light how organizations are increasing productivity and assisting their employees with managing career goals in a more diverse and hybrid work environment.</p>	<p>Panelist: Monique Pryor, Chief Engagement & External Affairs Officer, St Francis College Brooklyn</p> <p>Panelist: Johnita Walker-Mizelle, Senior Principal, US Distribution, Sagard</p>	PDS	
12:00 PM - 1:15 PM	<i>Lunch Plenary Session</i>	Keynote	Plenary	NASP HQ
1:15 PM - 1:35 PM	Program Break			
1:35 PM – 2:20 PM	<i>Climate Finance and ESG Investing for a Green Future</i>	Panelist: Dinao Lerutla, Managing Partner, Maia Capital	AEMS	



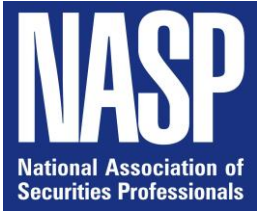
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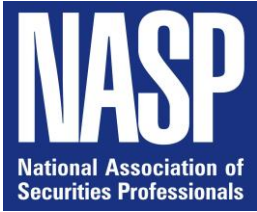
	<p>As global actors advance ambitions to be net-zero by 2050 and to keep global warming to 1.5 degrees, developing economies face the challenges of building low emission economies while being disproportionately affected by the physical risks of climate change. As such, the need for private capital to support the development of a low-carbon future and catalyzing economic growth at the same time will be crucial. This panel will discuss the current and future status of climate finance and investment models to support the green transition and the role of ESG investing more broadly. The discussion will explore the role of allocators, fund managers, corporates in investing in and meeting net-zero targets and how private actors can mitigate risk and enhance returns in the context of climate action.</p>	<p>Panelist: Hazel Taylor, Director and Head of Investor Desk, British International Investment</p>		
<p>1:35 PM – 2:20 PM</p>	<p><i>Asset Allocation: The Value of Traditional Assets in the Age of Alternatives</i></p> <p>Over the past several years, Institutional investors have increased their allocation to alternative investments such as Private Equity, Infrastructure, Real Estate & Hedge Funds. Although exposure to alternatives and private markets are good strategies to add alpha to the portfolio, investors must remember there is always a role for traditional equity and fixed income assets. This session will highlight the ever-present need for</p>	<p>Instructor: Gautam Khanna, CFA, CPA, Head of US Multi-Sector Fixed Income, Insight Investment</p>	<p>TNI</p>	



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	traditional fixed income and equities in any asset allocation strategy.			
1:35 PM – 2:20 PM	<p><i>The Making of Angels: Where Rising Stars Meet Entrepreneurs</i></p> <p>The role of angel investors is critical to the continued success and evolution of the start-up community. Sourcing early-stage capital can be the difference between early-stage success or failure. Innovative solutions to access capital for black and women entrepreneurs through connectivity diverse professional networks can truly lead to generational wealth accumulation within these communities.</p> <p>Come join us as founders and early-stage investors discuss how best to engage and support diverse founders as they look to create value and extend wealth generating opportunities.</p>	<p>Moderator: Blair Smith, Senior Director, Center for Financial Markets, The Milken Institute</p> <p>Panelist: Nicholas Antoine, Managing Partner, Red Arts Capital</p> <p>Panelist: Melanie Seymour, Director, Capital Access, Institute For Entrepreneurial Leadership</p> <p>Panelist: Keith Spears, General Partner, Include Ventures</p>	PDS	
2:20 PM - 2:30 PM	Program Break			
2:30 PM - 3:15 PM	<i>Venture Capital</i>	TBD	AEMS	
2:30 PM - 3:15 PM	<i>Portfolio Protection Strategies: Best Practices for Securities Litigation & Portfolio Monitoring</i>	Instructor: Marlon Kimpson, Member, Motley Rice, LLC	TNI	



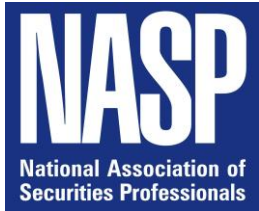
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	Securities fraud is on the rise and Institutional investors must be proactive in protecting investments from fraud, market manipulation, or breach of contracts. This session will present the merits of portfolio monitoring and the elements of securities fraud cases. The session will end with a brief overview of pension fund governance and the fiduciary responsibilities of fund trustees.			
2:30 PM - 3:15 PM	<p><i>The Growth of ESG Integration and the Demand for Critical Data</i></p> <p>As ESG continues to gain momentum, many companies are looking for ways to measure impact and hold themselves, as well as their vendors and partner firms accountable. Join us as ESG professionals discuss best practices of implementing ESG and the benefits of ESG and how it can positively influence investment decisions.</p> <p>We will discuss questions such as: What are global, as well as US, ESG trends? What capital market structures represent the best vehicle for ESG focused investments? And much more!</p>	<p>Panelist: Meg Starr, Carlyle Group</p> <p>Panelist: Brooke Guven, Head of ESG & Sustainability and Managing Director, Cerberus Capital Management</p> <p>Panelist: State Street</p>	PDS	NASP HQ
3:15 PM - 3:25 PM	Program Break			
3:25 PM - 4:25 PM	<p>Afternoon Plenary Session</p> <p><i>A Roadmap to Ensure Black, Women-Owned & Latinx Firms Proliferate</i></p>	<p>Panelist: Shawn T. Wooden, Treasurer, State of Connecticut</p>	Plenary (Muni)	NASP HQ



NASP 2022 Annual Financial Services Conference
Theme: Breaking the Status Quo: Leading With Renewed Purpose

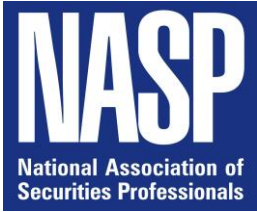
June 27-29 2022

Chicago, IL

Radisson Blu Hotel

	<p>Public and private sectors alike are eager to implement lasting diversity, equity, and inclusion initiatives because it makes good public policy and economically beneficial. Earlier this year Citi established the Diverse Financial Institutions Group to expand firm-wide engagement with Minority Depository Institutions, Diverse Broker Dealers, and Diverse Asset Managers to work collaboratively with these firms so they can prosper and grow. This panel will explore how the public and private sector can work to ensure that Black, Women-Owned, Latinx and other minority firms proliferate in the coming years.</p>	<p>Panelist: Phillip Washington, Chief Executive Officer, Denver International Airport</p>		
4:30 PM - 6:30 PM	Welcome Reception			

Date: Tuesday; June 28, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
8:30 AM-9:30 AM	<p>Morning Plenary Session</p> <p><i>The Future Of Asset Management</i></p>	<p>Moderator: Jasmine Richards, Managing Director, Head of Diverse Research, Cambridge Associates</p>	Plenary	NASP HQ



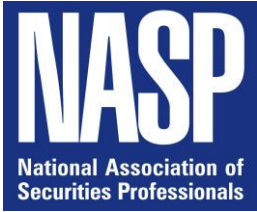
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		Panelist: Gabriel Rodriguez, Managing Partner, Empiric Institutional Panelist: Floyd Simpson, Sr. Managing Consultant, PFM		
9:30 AM -9:45 AM	Program Break			
9:45 AM -10:30 AM	<i>Municipal Finance [Post] Pandemic</i> As the pandemic abates, hear from an array of high-profile municipal issuers from around the country, on how they have navigated the past twenty-four months and what lies ahead for them from a budgeting, operating, and credit, perspective. In addition, they will advise of their capital plans in the near term. These issuers have a long demonstrated history of supporting diversity, equity, and inclusion.	Panelist: Reuben McDaniel	Muni	
9:45 AM -10:30 AM	<i>Digital Disruption: A Closer Look at Blockchain and Its Impact from Cryptocurrencies and Non-fungible Tokens (NFTs) to Decentralized Autonomous Organizations (DAOs)</i> The panel will provide insights on how Cryptocurrencies and NFTs have evolved and the implications for the current markets. We will discuss the outlook of a decentralized world and the future of finance with	Moderator: E. David Ellington, Founder and Executive Director, Silicon Valley Blockchain Society Panelist: David Weisberger, Co-founder, CoinRoutes	Institutional	



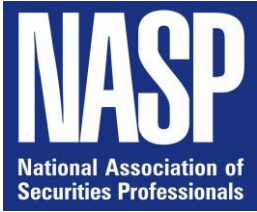
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	Blockchain and Cryptocurrencies as a major asset. Finally, we will discuss the merits for exposure to Cryptocurrencies and NFTs from an investment perspective.			
9:45 AM -10:30 AM	<p><i>Diversity in the Wealth Management Industry: Career Opportunities for Young Professionals and Career Changers</i></p> <p>Despite the obvious legacy of systemic racism in the financial sector, the current moment provides reasons for some hope that things may change for the better. Most wealth management professionals have extremely lucrative careers but the attraction of more young people of diverse backgrounds to the profession still hasn't taken root. What can WM Firms and organizations supporting the industry do to increase diverse representation in the industry.</p>	<p>Moderator: Adam Rouse, T, Rowe Price</p> <p>Panelist: Monica Handy, Morgan Stanley</p>	Wealth Management	
10:30 AM -10:45 AM	Break			
10:45 AM-11:30 AM	<i>Developing Critical Infrastructure in the Metropolis</i>		Muni	



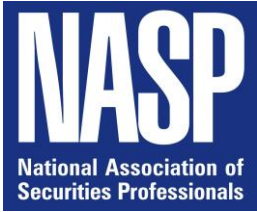
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	<p>Mayors make strategic decisions regarding the maintenance and development of critical infrastructure to promote the welfare of their cities. Their priorities shape metropolitan growth, economic development and regional prosperity. Mayors will discuss their practical experience addressing the fiscal opportunities and challenges in their region</p>			
<p>10:45 AM-11:30 AM</p>	<p><i>The Rise of Venture Investing as an Impact Vehicle</i></p> <p>A look at the rise of VC investing as a tool for Impact investing related to ESG and DEI impacts. This panel will bring together allocators, traditional institutional investors and emerging minority and women VCs. This Panel will discuss the Private Equity universe and strategies of VC investors and the growth of minority and women-owned VC firms. We will also discuss The push-pull effect of investors and the Impact it has on the financial industry.</p>	<p>Moderator: Chitra Nawbatt, Global Head of Health Assurance Partnership, General Catalyst</p> <p>Panelist: Tracy Gray, Founder and Managing Partner, The 22 Fund</p> <p>Panelist: Joe Aguilar, Chief Investment Officer, State of Illinois</p> <p>Panelist: Frederik Groce, Deal Lead, Wellington Access Ventures</p> <p>Panelist: Marcelia Freeman, NASP Board Member, Florida A & M Endowment, Former Trustee, Montgomery COUNTY (MD) Public Schools</p>	<p>Institutional</p>	



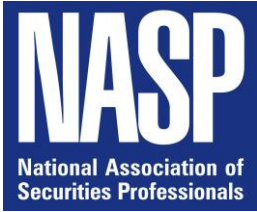
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<p>10:45 AM-11:30 AM</p>	<p><i>Overcoming Inherent Bias: What wealth management firms have done in the last three years to build inclusive environments where diverse employees can reach the top.</i></p> <p>The business case for diversity, equity and inclusion (DE&I) is stronger than ever. Taking a closer look at diversity winners reveals what can drive real progress.</p> <p>A McKinsey & Co. 2019 analysis finds that companies in the top quartile for gender diversity on executive teams were 25 percent more likely to have above-average profitability than companies in the fourth quartile—up from 21% in 2017 and 15% in 2014.</p>	<p>Moderator: Kathleen Colin, Director, Investments, Oppenheimer</p> <p>Panelist: Lattisha Jackson, AAAA</p>	<p>Wealth Management</p>	
<p>11:30 AM - 11:45 AM</p>	<p>Program Break</p>			
<p>11:45 AM – 1:15 PM</p>	<p>Afternoon Plenary <i>Joyce Johnson Luncheon</i></p>	<p>Keynote Speaker: Rosalind Brewer, CEO, Walgreens Boots Alliance</p>	<p>Plenary</p>	<p>NASP HQ</p>
<p>1:15 PM - 1:30 PM</p>	<p>Program Break</p>			
<p>1:30 PM – 2:15 PM</p>	<p><i>Environmental, Social, and Governance (ESG) Financing: Water and Sewer Bonds</i></p>	<p>Panelist: Lisa Marie Harris, Finance Director/Treasurer, San Diego County Water Authority</p>	<p>Muni</p>	



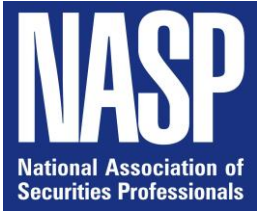
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	<p>The social mission of water and sewer systems is related to their environmental mission. Water and sewer systems are committed to environmental safety while providing affordable service. Water and sewer financings are especially strong candidates for inclusion in Environmental, Social and Governance (ESG)-sensitive strategies for investors. Panelists will discuss ESG considerations for water and sewer system financings and market participants' perceptions of ESG bonds.</p>	<p>Panelist: Chris Meister, Executive Director, Illinois Finance Authority</p>		
<p>1:30 PM – 2:15 PM</p>	<p><i>Understanding the Various Private Credit Asset Class Strategies</i></p> <p>This session will discuss the relevance of the Private Credit asset class for investors seeking higher yielding Fixed Income assets. Once a less defined and prevalent asset class, Private Credit has grown as a method of increasing yield in fixed income portfolios during the protracted low-rate interest rate environment of the past 14 years since the Great Financial Crisis. This panel seeks to provide the trends, risks, and opportunities for Private Credit as the market experiences an inflection point in the interest rate cycle to higher rates.</p>	<p>Moderator: Donna Sims Wilson, Chief Operating Officer, KAH Capital</p> <p>Panelist: Stephen Usher, Managing Director - Head of Distribution, Lafayette Square</p> <p>Panelist: Vincent Thompson, Partner, Three Line Capital</p> <p>Panelist: Sherrese Clark Soares, Founder, HarborView</p>	<p>Institutional</p>	



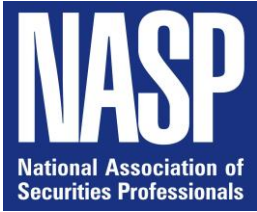
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<p>1:30 PM – 2:15 PM</p>	<p><i>Close the racial wealth gap by discussing the impact of the wealth gap and what businesses are doing to support economic inclusion</i></p> <p>It is estimated that its dampening effect on consumption and investment will cost the US economy between \$1 trillion and \$1.5 trillion between 2019 and 2028—4 to 6 percent of the projected GDP in 2028.</p> <p>The widening racial wealth gap disadvantages black families, individuals, and communities and limits black citizens’ economic power and prospects, and the effects are cyclical. Such a gap contributes to intergenerational economic precariousness: almost 70 percent of middle-class black children are likely to fall out of the middle class as adults.</p>	<p>Moderator: Christian Nwasike, Principal & Executive Managing Partner, Practice Management Consultants, LLC</p> <p>Panelist: Barrett Wragg, T. Rowe Price</p>	<p>Wealth Management</p>	
<p>2:15 PM - 2:30 PM</p>	<p>Program Break</p>			
<p>2:30 PM – 3:15 PM</p>	<p><i>What’s Next On the Runway to Recovery for the Nation’s Airports?</i></p> <p>The impacts of the coronavirus pandemic and subsequent travel restrictions on the airline industry caused total enplanements in [2020-21] to reach a level that had not been seen since 1997. Given the loss in revenues and uncertain future, many airports decided to forego or halt</p>		<p>Muni</p>	



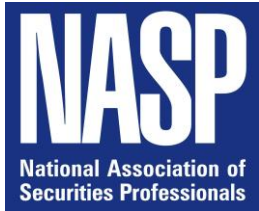
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	planned capital projects, deciding to wait to complete the projects until there is proof that the return to normalcy is on the horizon. This panel will discuss how airports have put their federal funds to use, how they are approaching capital planning given such uncertainty, and how construction plans have been impacted by higher costs and worker shortages			
2:30 PM – 3:15 PM	<p><i>Real Assets 2.0: From Energy Transition to Digital Infrastructure</i></p> <p>As markets have been roiled by persistent inflation, pandemic-driven uncertainty in real estate, and a \$16 trillion infrastructure funding gap, many investors have turned to real assets to provide stability and certainty to their portfolios. This panel will explore how investments in real assets have also been a means to create change, including creating affordable housing, expanding renewables, developing smart cities, and working with diverse managers.</p>	<p>Moderator: James Celestine, Senior Investment Officer, New York State Common Retirement Fund</p>	Institutional	
2:30 PM – 3:15 PM	<p><i>FinTech Panel Discussion: How New Technologies are Disrupting Traditional Wealth Management</i></p> <p>The rapid and ongoing innovations in technology are exciting. While the robo-advisor craze is well documented, the proliferation of artificial intelligence (AI) tools hitting</p>	<p>Moderator: Lauren Ziadie, Executive Director, Morgan Stanley Wealth Management</p> <p>Panelist: Anthony Buchanan, LetBob</p>	Wealth Management	



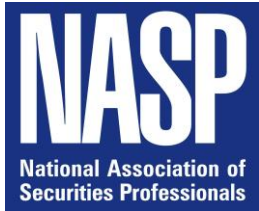
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	<p>the wealth management landscape has made a dramatic entrance into the financial trade press.</p> <p>While it might be early, AI's role in financial advice is an area to watch. While some studies show that the number of financial advisors is expected to stay flat or grow moderately over the next five years, growth in assets managed by advisors shows that the industry is alive and well. The Registered Investment Advisor (RIA) Benchmarking Study from Charles Schwab shows that assets under management have increased steadily, with a five-year compound annual growth rate (CAGR) of 14.5% from 2015 to 2020.</p>			
3:15 PM - 3:30 PM	Break			
3:30 PM - 4:30 PM	<p>Afternoon Plenary CIO's Speak</p>	<p>Moderator: DeAnna Jones, Senior Consultant Specialist, NEPC</p> <p>Panelist: Thomas Lee, Chief Investment Officer, New York State Teachers' Retirement System</p> <p>Panelist: Leslie Lenzo, Chief Investment Officer, Advocate Aurora Health</p>	Plenary	NASP HQ
4:30 PM – 5:30 PM	Career Coaching			NASP HQ
5:30 PM - 6:00 PM	Program Break			
6:00 PM - 7:30 PM	Pre-Gala Reception	NASP Chapter Presidents Recognition		NASP HQ
7:30 PM – 9:30 PM	International Gala and Award Presentation	Awards Presentations	Plenary	NASP HQ



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Theme: Breaking the Status Quo: Leading With Renewed Purpose

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		Video Presentation/Sponsor Acknowledgements		
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Date: Wednesday; June 29, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
9:00 AM – 10:00 AM	Morning Plenary Session NASP Update/Launch of NASP Institute Fireside Chat	Speaker: Ronald C. Parker, President & CEO, NASP Speaker: Shundrawn Thomas, Northern Trust	Plenary	NASP HQ
10:00 AM -10:15 AM	Program Break			
10:15 AM – 11:15 AM	Consultant Roundtable		Plenary	
11:15 AM – 12:30 PM	Grab & Go Lunch			
	Conference Ends			



AGENDA REPORT

TO: Oakland Police and Fire Retirement System Board (PFRS) **FROM:** David F. Jones
PFRS Plan Administrator & Secretary

SUBJECT: Audit Committee Agenda Pending List **DATE:** June 29, 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,

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

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

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



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

INVESTMENT COMMITTEE MEMBERS

- Jaime T. Godfrey**
Chairperson
- R. Steven Wilkinson**
Member
- Robert W. Nichelini**
Member

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

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

WEDNESDAY, JUNE 29, 2022
10:30 AM
TELE-CONFERENCE BOARD MEETING
VIA ZOOM WEBINAR

OBSERVE

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

PUBLIC COMMENTS

There are three ways to submit public comments.

- 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 INVESTMENT COMMITTEE MEETING
JUNE 29, 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:** Police and Fire Retirement System (“PFRS”) Investment Committee Meeting Minutes

From: Staff of the PFRS Board

Recommendation: **APPROVE** May 25, 2022 Investment Committee Meeting Minutes

- 2. Subject:** Investment Manager Performance Update – Wellington Management Company, LLP

From: Wellington Management Company, LLP

Recommendation: **ACCEPT** informational report regarding managerial assessment, diversity and inclusion policy and practices, and investment portfolio performance of Wellington Management Company, LLP, a Core Bond Fixed Income Investment Manager

- 3. Subject:** Investment Manager Performance Review – Wellington Management Company, LLP

From: Meketa Investment Group

Recommendation: **ACCEPT** Meketa Investment Group’s review and evaluation of managerial assessment, diversity and inclusion policy and practices, and investment portfolio performance of Wellington Management Company, LLP, a Core Bond Fixed Income Investment Manager

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR INVESTMENT COMMITTEE MEETING
JUNE 29, 2022

4. **Subject:** Investment Market Overview as of May 31, 2022
From: Meketa Investment Group
-
- Recommendation:** **ACCEPT** informational report regarding the Global Investment Markets as of May 31, 2022
5. **Subject:** Preliminary Investment Fund Performance Update as of May 31, 2022
From: Meketa Investment Group
-
- Recommendation:** **ACCEPT** informational report regarding the Preliminary Investment Fund Performance Update as of May 31, 2022
6. **Subject:** \$14.2 Million Drawdown for Member Retirement Allowances Fiscal Year 2022/2023 (Quarter Ending September 30, 2022)
From: Meketa Investment Group
-
- Recommendation:** **ACCEPT** informational report and **RECOMMEND BOARD APPROVAL** of the Meketa Investment Group recommendation for a \$14.2 million drawdown, which includes a \$8.2 Million contribution from the City of Oakland and a \$6.0 Million contribution from the PFRS Investment Fund, to be used to pay the July 1, 2022 through September 30, 2022 Member Retirement Allowances
7. **Subject:** Client Update – Parametric Portfolio Associates, LLC Organizational Changes
From: Meketa Investment Group
-
- Recommendation:** **ACCEPT** informational report from Meketa Investment Group regarding organizational changes at Parametric Portfolio Associates, LLC **DISCUSS** possible Board action in response to organizational changes, including but not limited to exercising the option to terminate the service agreement with Parametric Portfolio Associates, LLC and transfer of PFRS assets managed by Parametric Portfolio Associates, LLC to another investment manager or a comparable Exchange Traded Fund (ETF), **RECOMMEND BOARD APPROVAL** of the Committee’s recommended course of action with regard to Parametric Portfolio Associates, LLC

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR INVESTMENT COMMITTEE MEETING
JUNE 29, 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, May 25, 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 Member
Additional Attendees	<ul style="list-style-type: none"> ▪ David F. Jones ▪ Mitesh Bhakta ▪ Téir Jenkins ▪ Maxine Visaya ▪ David Sancewich ▪ Jason Leong Campbell ▪ Tamara Doi Beck ▪ Shivani Shah ▪ Jodi Koman 	<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 Northern Trust Investments, Inc. Northern Trust Investments, Inc. Northern Trust Investments, Inc.

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

1. **Approval of Investment Committee Meeting Minutes** – Member Nichelini made a motion to approve the April 27, 2022 Investment Committee Regular Meeting Minutes, as written, second by Member Wilkinson. Motion Passed.

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

2. **Investment Manager Performance Update – Northern Trust Investments, Inc.**– Tamara Doi Beck, Shivani Shah, and Jodi Koman of Northern Trust Investments, Inc., a PFRS Passive Large-Cap Core Domestic Equity Investment Manager, presented an informational report regarding a firm overview; a recent management leadership change; investment philosophy and strategies; PFRS’ investment portfolio performance; and the firm’s Environmental, Social, and Governance (ESG) platform and Diversity & Inclusion policy and practices.

Chairperson Godfrey and Plan Administrator Jones made inquiries to further the discussion regarding the firm’s ESG platform. Chairperson Godfrey & Member Wilkinson made inquiries to further the discussion regarding the recent management leadership change. Member Wilkinson and Plan Administrator Jones made inquiries to further the discussion regarding investment strategies. Staff Member Jenkins provided background information that PFRS originally contracted with Northern Trust Investments, Inc. in 2010 and moved over to a separate comingled fund in 2013. Additionally, contracting with Northern Trust for custodial services has made maneuvering funds easier and added savings with reduced fees, thereby creating a mutually beneficial relationship.

MOTION: Member Wilkinson made a motion to accept the informational report presented by Northern Trust Investments, Inc. and forward to the Board, second by Member Nichelini. Motion passed.

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

3. **Investment Manager Performance Review – Northern Trust Investments, Inc.** – David Sancewich of Meketa Investment Group (“Meketa”) provided an overview memo regarding a review and evaluation of Northern Trust Investments, Inc., a PFRS Passive Large-Cap Core Domestic Equity Investment Manager. D. Sancewich advised Meketa continues to have confidence in Northern Trust Investments, Inc.; does not have any concerns with the firm as a passive index provider or with the recent leadership change; and does not recommend any action be taken at this time. It was further noted there is minimal concern regarding the leadership change because this is a passively managed portfolio; however, Meketa will continue to monitor the situation and provide an update and advise accordingly.

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

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

4. **Investment Market Overview as of April 30, 2022** – David Sancewich of Meketa presented an informational report regarding the Investment Market Overview as of April 30, 2022 and highlighted Index Returns and current factors impacting outcomes.

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

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

5. **Preliminary Investment Performance Update as of April 30, 2022** – David Sancewich of Meketa presented an informational report regarding the Preliminary Investment Fund Performance Update as of April 30, 2022 and highlighted the Asset Class Performance Summary.

MOTION: Member Nichelini made a motion to accept the informational report presented by Meketa regarding the Preliminary Investment Fund Performance Update as of April 30, 2022 and forward to the Board, second by Member Wilkinson. Motion passed.

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

6. **Investment Fund Quarterly Performance Update as of March 31, 2022** – David Sancewich of Meketa Investment Group presented an informational report regarding the Investment Fund Quarterly Performance Update as of March 31, 2022. D. Sancewich discussed recent investment performance; the total plan summary of cash flows; and manager performance which highlighted Rice Hall James and Earnest Partners as firms that outperformed the index relative to the benchmark.

MOTION: Member Wilkinson made a motion to accept the informational report regarding the Investment Fund Quarterly Performance Update as of March 31, 2022, second by Member Nichelini. Motion passed.

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

7. **Schedule of Pending Investment Committee Meeting Agenda Items** – David Sancewich presented the 2022 Ongoing Strategic Investment Agenda for discussion. Plan Administrator Jones noted the Investment Agenda Planning Committee can discuss topics for the upcoming educational item at their next meeting. Chairperson Godfrey requested Meketa reach out to CalPERS new Chief Investment Officer (CIO) to invite him to either give a presentation or provide a paper as to the direction of CalPERS, what is perceived to be the biggest tasks as new CIO of CalPERS, and discuss market trends and offer insight on how they plan to navigate the current market.
8. **Open Forum** – No Report
9. **Future Scheduling** – The next regular Investment Committee meeting is tentatively scheduled to occur Wednesday, June 29, 2022.
10. **Adjournment** – Member Nichelini made a motion to adjourn, second by Member Wilkinson. Motion passed.

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

The meeting adjourned at 11:26 a.m. PST

JAIME T. GODFREY
COMMITTEE CHAIRPERSON

DATE

Oakland Police & Fire Retirement System

WELLINGTON
MANAGEMENT®

Core Bond

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Agenda

Section One

Wellington Management Company LLP overview

Section Two

CIF II Core Bond review

Wellington Management today

A trusted advisor and strategic partner to clients worldwide

BY THE NUMBERS

Business

USD 1,342 billion of client assets under management

2,485 clients

62 countries in which clients are based

People and portfolios

967 investment professionals

17 years of experience, on average

195 partners all active at the firm

Heritage: key dates

1928 Wellington Fund – the first US balanced fund

1979 Establishment of our private partnership

1994 Our first long – short strategy

2014 Our first dedicated private equity strategy

2015 Global Impact: Our first diversified impact investing strategy in public equities



OWNERSHIP MODEL

Long-term perspective of a private partnership structure

Attract and retain investment talent

Independent: No public shareholders, no outside capital

Interests aligned with clients

BUSINESS MODEL

Singular focus on investment management

Diversification by asset class, geography, and client type

Research for client benefit only

Commitment to bringing the right resources to each client

INVESTMENT MODEL

Comprehensive capabilities

Rigorous proprietary research

Career analysts

Global resources

Empowered portfolio teams

CULTURE

Open, collaborative

Performance driven

Professional/collegial

High standards, ethics, and integrity

Global diversity and inclusion



CURRENT LEADERSHIP INITIATIVES

Globalization

Sustainable investing and ESG research

Investment science and research-data analytics

Investment risk management

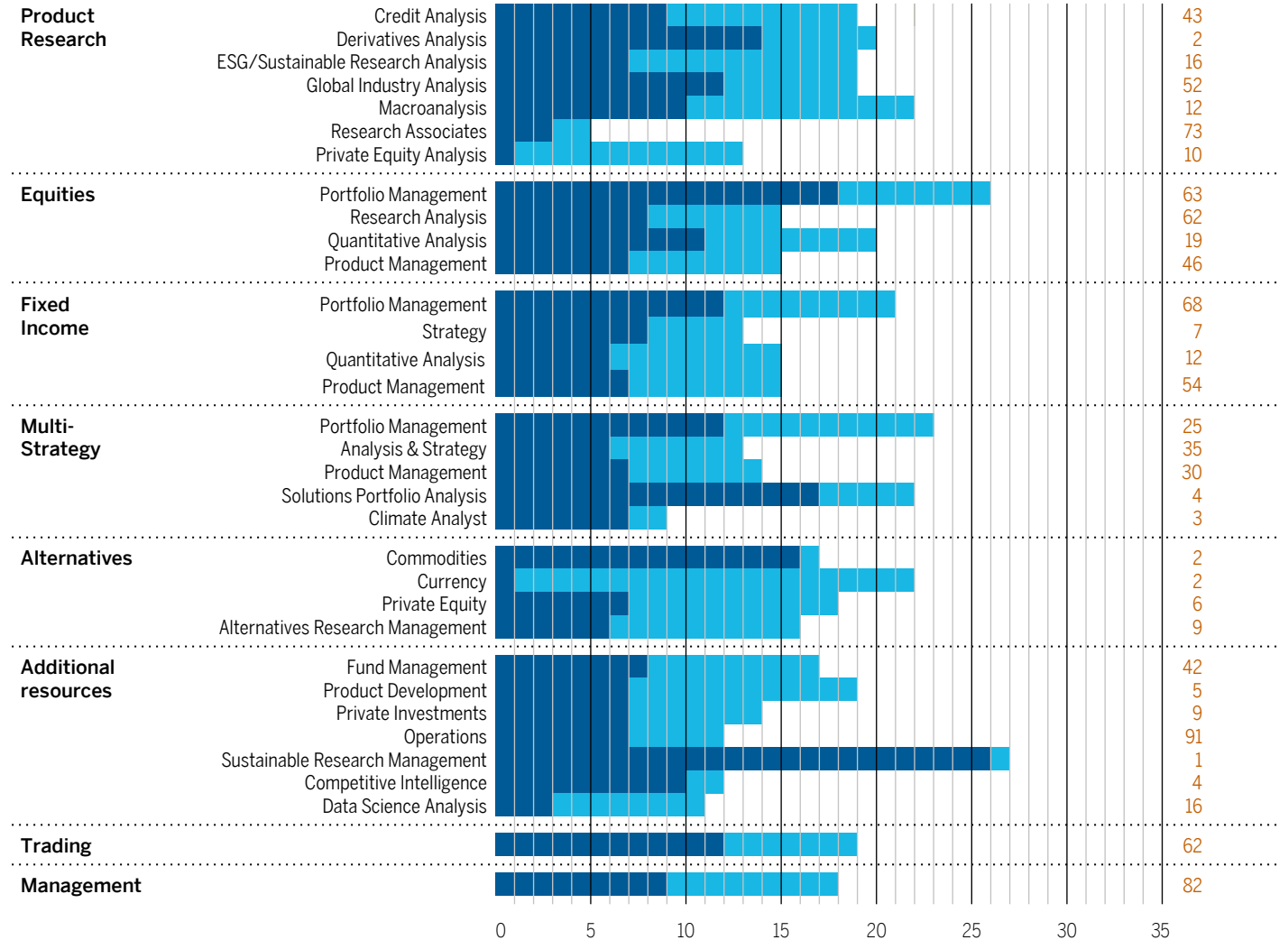
Depth, experience, and continuity create interpretation advantage

Investors draw on rigorous, proprietary research

We conduct research through fundamental; environmental, social, and corporate governance (ESG); quantitative; macro; and technical lenses

Avg years with Wellington Management
Avg years of professional experience

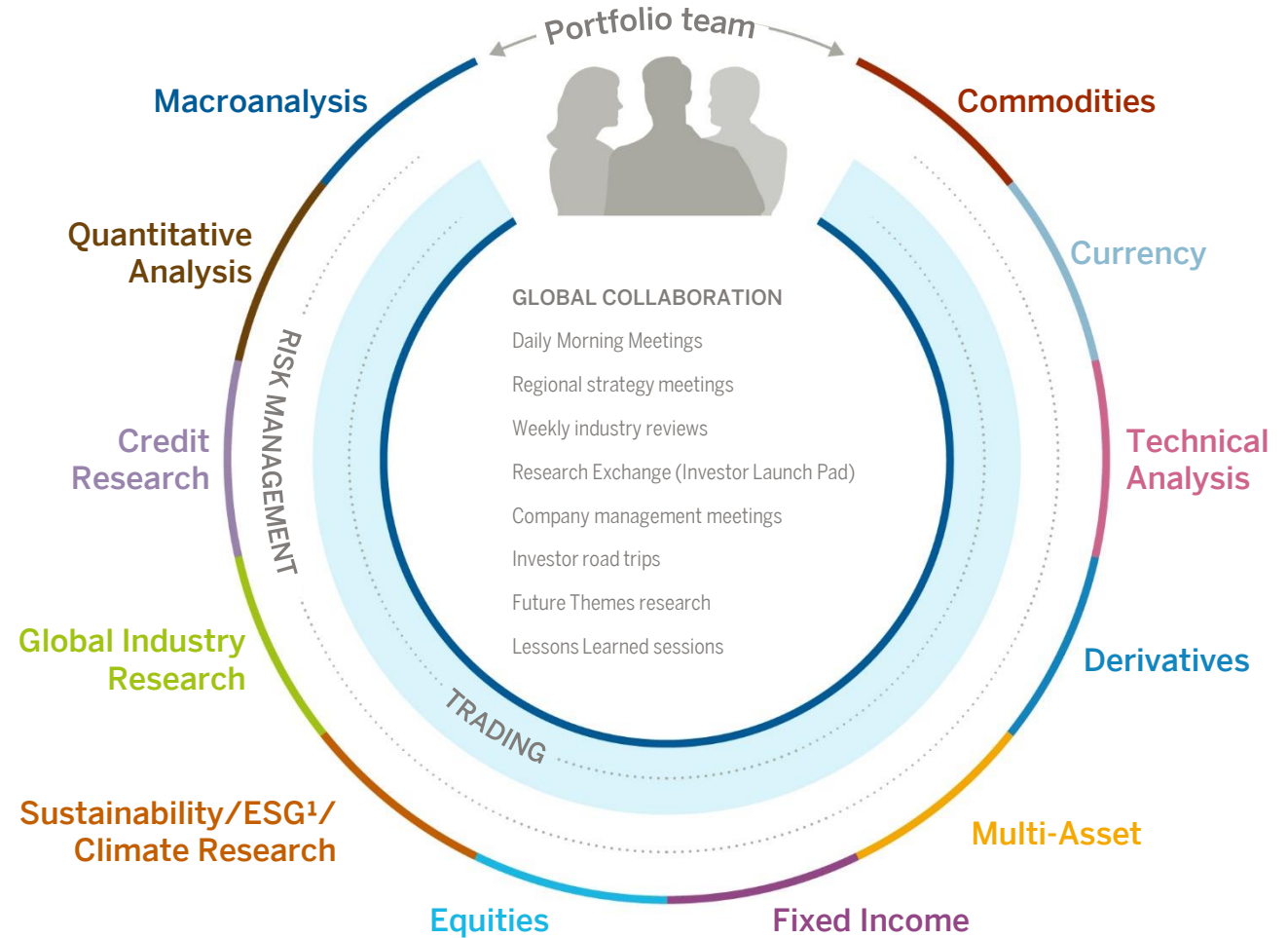
Total number of investment professionals:
967



As of 1 April 2022

Investors draw on our marketplace of ideas to build portfolios

We believe the best investment thinking is forged by the free exchange of ideas among a broadly diverse group of professionals



¹Environmental, social, and corporate governance

Diversity Representation Survey for Oakland Police and Fire

WMC Firm DATA AS OF 03/31/2022

Firm Name	Wellington Management		
Product Name	WTC-CIF II Core Bond		
Total Number of Employees	3,041		
	Percentage (%) of Board of Directors / Managing Members (1)	Percentage(%) of Firm (Entire Staff)	Percentage (%) of Firm (Investment Professionals)
Race and Ethnicity*			
African American/Black	8%	5%	5%
Asian/Hawaiian/Pacific Islander	8%	26%	23%
Latino/Hispanic		4%	4%
White	83%	58%	63%
American Indian/Alaska Native Other (2)		6%	5%
Gender			
Male	67%	55%	70%
Female	33%	45%	30%
Non-Identified/Other			

(1) The firm's Executive Committee is responsible for oversight of the firm's business. Management responsibility is carried out by the firm's line management, under the direction of the CEO. Additionally, three managing partners have responsibility for governance of the partnership.

(2) Other includes individuals identifying with two or more races/ethnicities and individuals who chose not to disclose this information.

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

Note:

Our goal is to be transparent regarding the aggregate composition of our global workforce. However, our approach will never result in an exact representation given that (1) self-identification of personal diversity attributes is strictly voluntary unless otherwise required by applicable law or regulation, and this may result in under-reporting for certain groups, and (2) in view of various government restrictions, we do not collect or report on data for certain of our global locations. In addition, as a firm, we are committed to enabling our employees to represent themselves in a way that is authentic and consistent with differing views of diversity, particularly racial and ethnic diversity. As a result, we have taken an inclusive approach to defining racial and ethnic categories. In the US, through the federal EEO-1 survey, we also report our US diversity and workforce data using prescribed definitions of race and ethnicity. Although the EEO-1 reporting format and categories used by the US Equal Employment Opportunity Commission are not necessarily representative of Wellington's organizational structure or fully represent the broad range of racial and ethnic identities our employees hold, as a firm, we have made the decision to publish our EEO-1 form on an annual basis.

Understanding that defining identities is a nuanced and very personal endeavor and in response to feedback from our employees, we also offer the ability to self-identify in a more specific way than defined by the US Equal Employment Opportunity Commission. For example, employees within the broader "Asian" category describe their identities across a much broader spectrum.

Wellington employees have the opportunity to self-identify their veteran status, LGBTIQ+, and/or disability status on an optional and voluntary basis. Due to various government restrictions, we do not collect or report on data for certain global locations. As such, data may understate the degree to which these groups are represented within the firm.

Please be aware that we consider any information provided regarding employees of Wellington Management to be strictly confidential. Accordingly, it is our expectation that you will hold this confidential information in strict confidence, and that you will not use or disclose Confidential Information other than internally for diversity reporting purposes or except as required by law. Additionally, please take all reasonable steps to ensure that any information you hold regarding Wellington's employees is destroyed immediately upon termination or cessation of the business need for the information. Please note, our privacy policy does not support providing personal information at the individual level and information provided to you by the HR Data Management, Analytics & Technology team should not be manipulated in any way.

Core Bond

Investment strategy

Objective

We seek to consistently outperform the broad fixed income market as represented by the Bloomberg US Aggregate Bond Index with equivalent or lower levels of risk

Philosophy

We believe a diversity of high quality investment ideas managed in a risk-controlled framework may lead to superior investment results

Approach

We seek to provide consistent excess returns through all market environments by

- Diversifying sources of return across multiple perspectives, investment styles, and time horizons
- Identifying skilled investors and allowing them to focus exclusively on their area of expertise
- Measuring and controlling the aggregation of risks

WTC-CIF II Core Bond

Investment returns

	As of 31 May 2022 (% , USD)		
	3 mos	1 yr	SI
WTC-CIF II Core Bond (gross)	-6.37	-8.80	-6.84
Oakland Police and Fire Retirement Sys CIF II CB (net)	-6.40	-8.91	-6.95
Bloomberg US Aggregate Bond	-5.86	-8.22	-6.20
Active return (gross vs benchmark)	-0.51	-0.58	-0.64

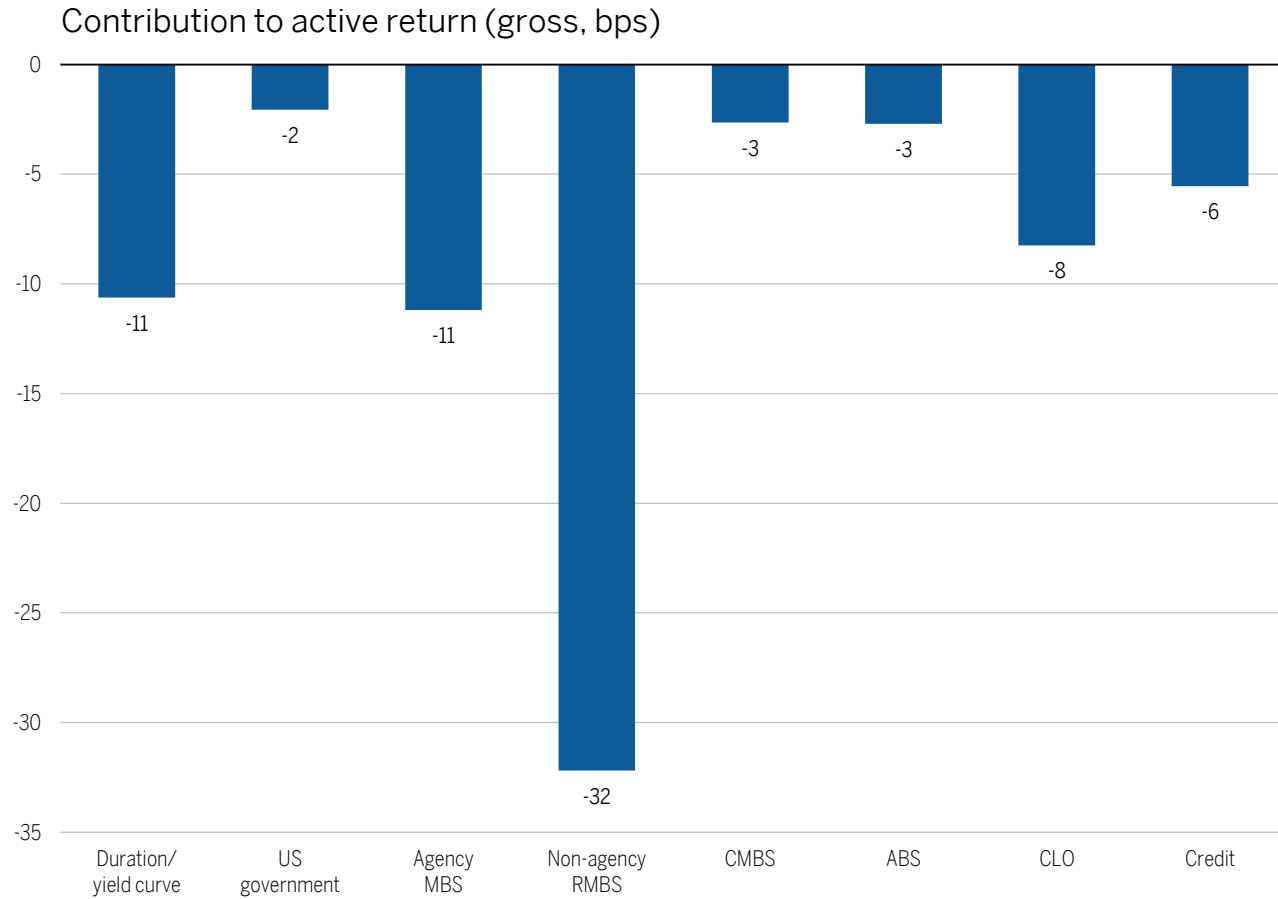
	YTD	2021*
WTC-CIF II Core Bond (gross)	-9.62	1.87
Oakland Police and Fire Retirement Sys CIF II CB (net)	-9.66	1.78
Bloomberg US Aggregate Bond	-8.92	1.89
Active return (gross vs benchmark)	-0.70	-0.03

*Partial calendar year (31 March 2021 to 31 December) | Inception date: 31 March 2021. The inception date represents the client's investment in the fund. | Portfolio returns are reported net of operating expenses and gross of investment management fee. | Sums may not total due to rounding. | Performance returns for periods one year or less are not annualized. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

WTC-CIF II Core Bond

Performance review (USD): Five months as of 31 May 2022

Active return: -73 bps

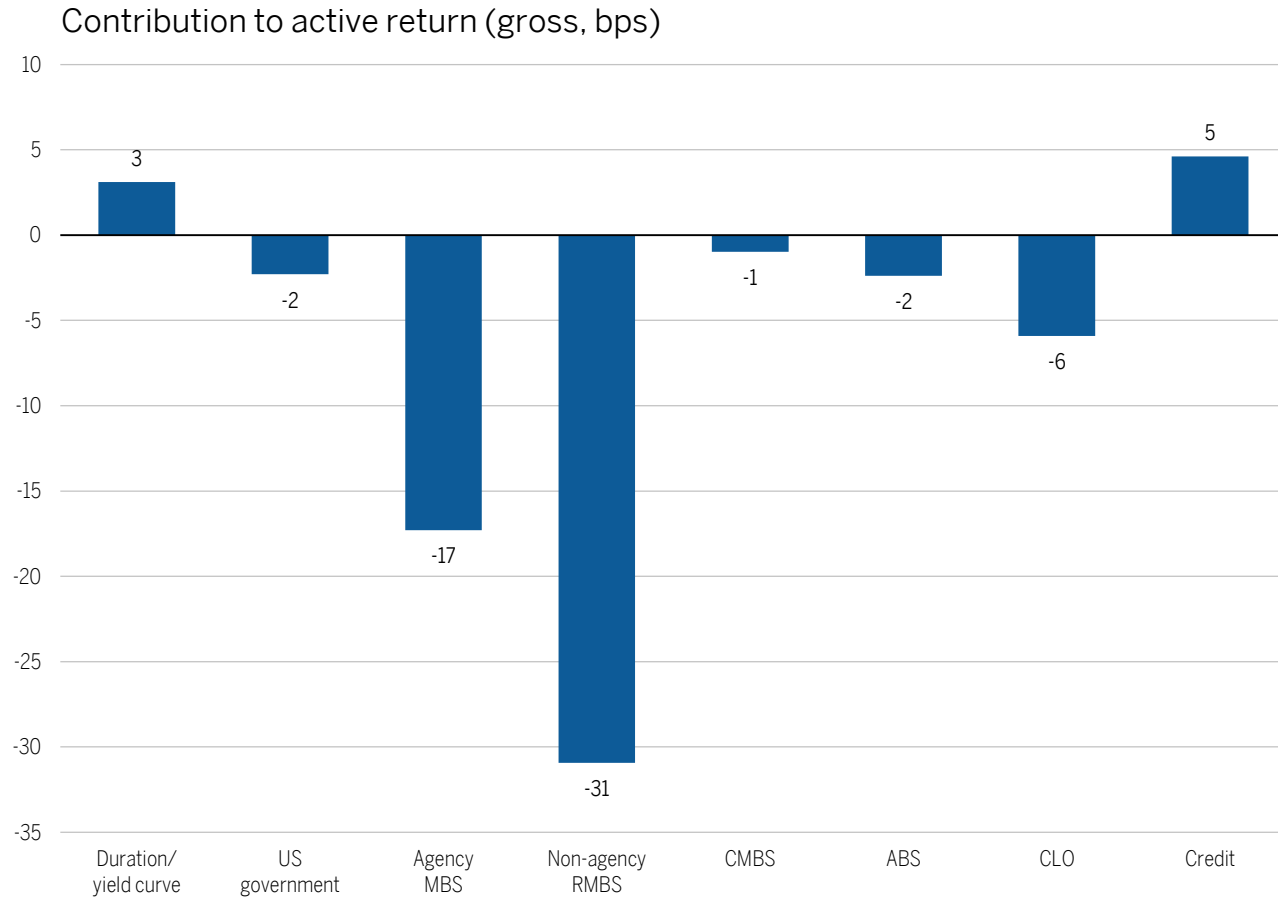


Benchmark used in the calculation of attribution data:
Bloomberg US Aggregate Bond. | Sums may not total
due to rounding. | The contribution from Cash & cash
equivalents is 0 bps. | **PAST
PERFORMANCE DOES NOT
PREDICT FUTURE RETURNS. AN
INVESTMENT CAN LOSE VALUE.**

WTC-CIF II Core Bond

Performance review (USD): One year as of 31 May 2022

Active return: -51 bps



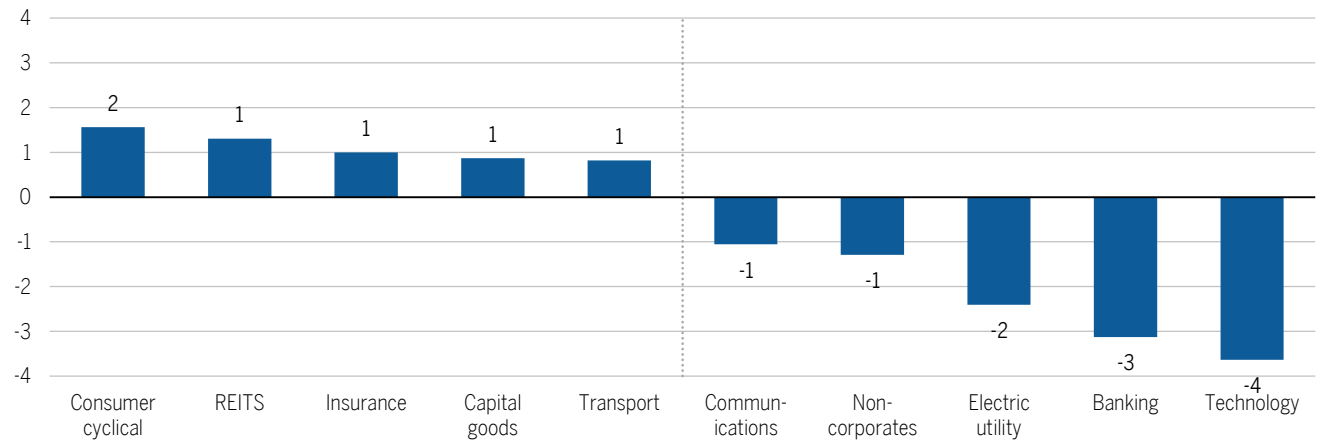
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Bloomberg US Aggregate Bond. | Sums may not total
due to rounding. | The contribution from Cash & cash
equivalents is 0 bps. | **PAST
PERFORMANCE DOES NOT
PREDICT FUTURE RETURNS. AN
INVESTMENT CAN LOSE VALUE.**

WTC-CIF II Core Bond

Performance review (USD): Five months as of 31 May 2022

Credit detail

Top five and bottom five sector contributors, contribution to active return (gross, bps)



Top relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Rogers Cable	Communications	-0.0	1
Amazon	Cons cycl	0.1	1
Viatrix	Cons non-cycl	-0.0	0
HCA	Cons non-cycl	-0.1	0
Barclays Bank	Banking	-0.1	0

Bottom relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Bank of America	Banking	0.3	-1
Charter Communications	Communications	0.3	-1
PG&E	Electric utility	0.2	-1
Romania	Non-corporates	0.3	-1
Broadcom	Technology	0.4	-1

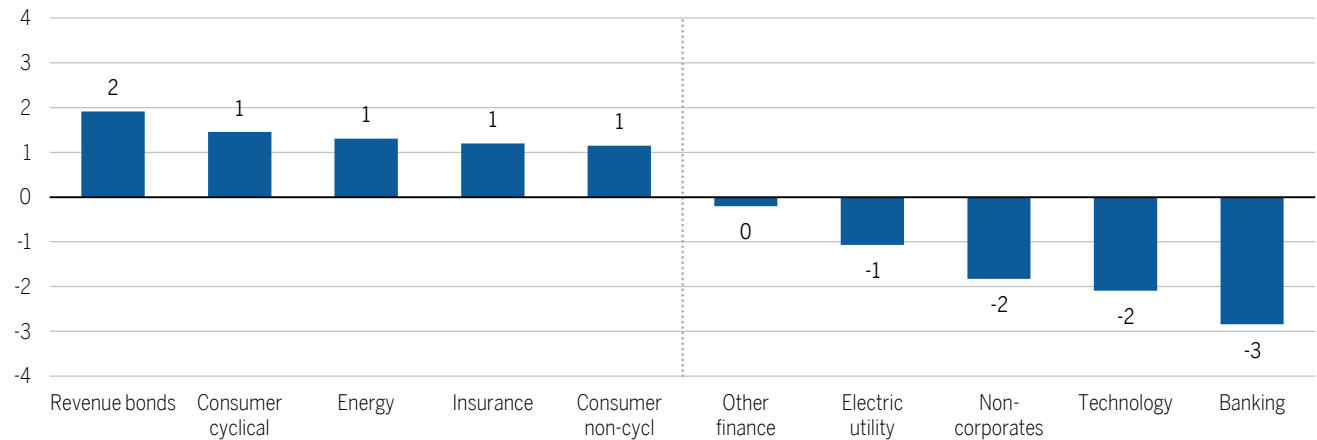
Benchmark used in the calculation of attribution data:
Bloomberg US Aggregate Bond. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

WTC-CIF II Core Bond

Performance review (USD): One year as of 31 May 2022

Credit detail

Top five and bottom five sector contributors, contribution to active return (gross, bps)



Top relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Saudi Gov Intl Bond	Non-corporates	0.3	1
Rogers Cable	Communications	-0.0	1
Philadelphia, PA	Revenue bonds	0.2	1
Phillips 66 Partners Lp	Energy	0.0	1
Amazon	Cons cycl	-0.1	1

Bottom relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Oracle	Technology	0.1	-2
Panama Govt Intl Bd	Non-corporates	0.3	-2
Charter Communications	Communications	0.3	-2
Romania	Non-corporates	0.2	-1
PG&E	Electric utility	0.1	-1

Benchmark used in the calculation of attribution data:
Bloomberg US Aggregate Bond. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

Broad Markets Investment team

Broad markets team

 Joe Marvan, CFA Portfolio Manager 34 years of professional experience	 Brij Khurana Portfolio Manager 14 years of professional experience	 Jeremy Forster Portfolio Manager 17 years of professional experience	 Campe Goodman, CFA Portfolio Manager 23 years of professional experience	 Rob Burn, CFA Portfolio Manager 21 years of professional experience
 Lia Kirakossian Solutions Portfolio Manager 17 years of professional experience	 Adam Chrissis, CFA, FRM Senior Portfolio Analyst 9 years of professional experience	 Mihir Shah, CFA Senior Portfolio Analyst 7 years of professional experience	 Aaron Mayo, CFA Portfolio Analyst 6 years of professional experience	 Evelyn Chen Portfolio Analyst 3 years of professional Experience

Sector specialist portfolio managers

Brian Conroy, CFA Agency Mortgages 15 years of professional experience	Michael Hong, CFA Global High Yield 26 years of professional experience
Samuel Epee-Bounya Emerging Markets 22 years of professional experience	Chris Jones, CFA Global High Yield 31 years of professional experience
Kyra Fecteau, CFA Securitized Credit 13 years of professional experience	Kevin Murphy Emerging Markets 35 years of professional experience
Tim Haney, CFA Municipals 33 years of professional experience	Cory D. Perry, CFA Securitized Credit 24 years of professional experience
Jeff Heuer, CFA Bank Loans 33 years of professional experience	Scott St. John, CFA Investment Grade Credit 29 years of professional experience

Research/Trading

Global High Yield/Bank Loans 15 Credit analysts	IG Credit/Taxable Municipals 20 Credit analysts
Emerging Markets Debt 4 Credit analysts	Fixed Income Syndicate 4 traders
Securitized 4 Credit analysts	Secondary Trading 38 traders

Product Management

Anand Dharan, CFA Investment Director
Sam Rowley Investment Analyst

Additional resources

12 Macro strategists 52 Global Industry analysts 16 ESG/Sustainability research 26 Risk Professionals 20 Multi-Asset analysts

Core Bond Investment process



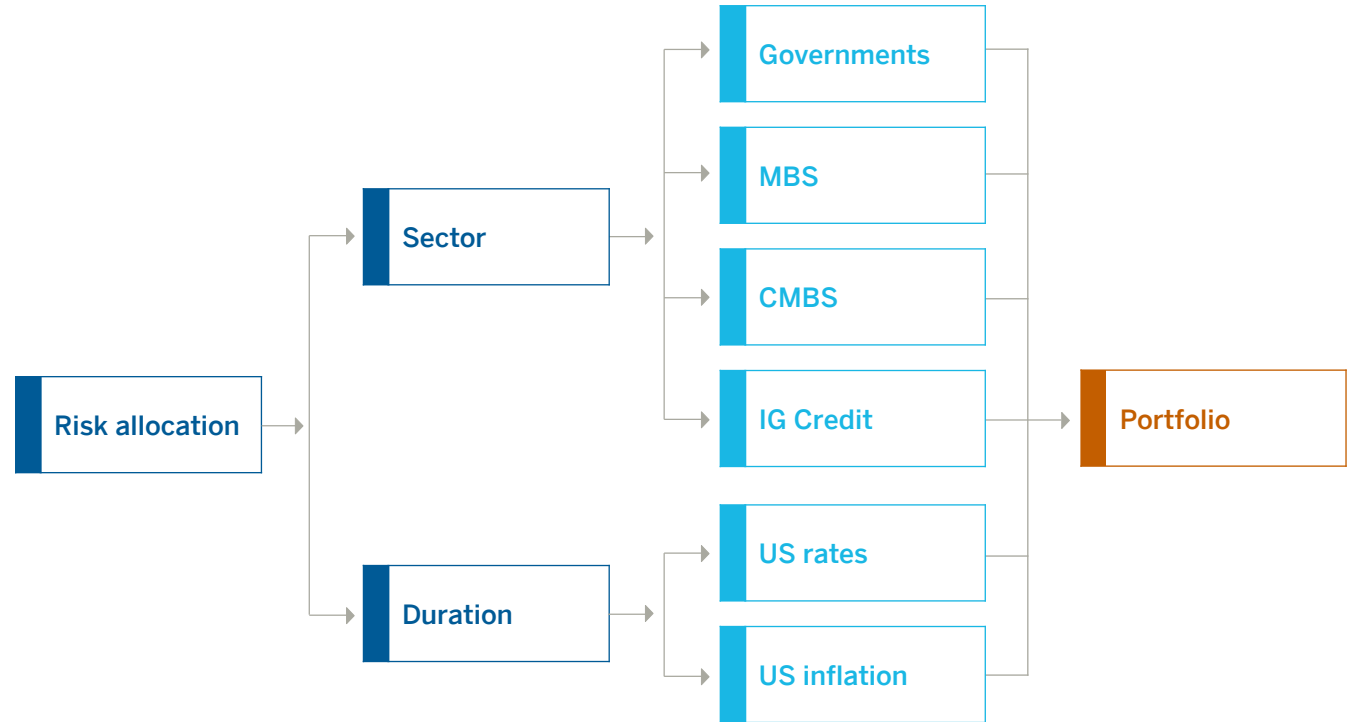
Core Bond

Investment process

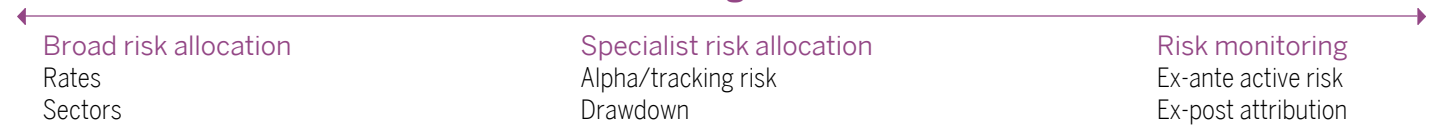
Broad strategy
Broad markets team

Sector strategy
Sector specialists

Portfolio construction
Portfolio manager



Risk management



Investment risk oversight at Wellington Management

Line Management

- Team/resource focus
- High frequency interaction
- Assess resource needs
- Investment team reviews

Product Management

- Independent reporting line
- Trade and client portfolio level focus
- High frequency interaction
- Style consistency/capacity/risks

Risk Advisory Council

- Informal, tactical
- Small group of specialists
- Focus on investment risk topics

Investment Review Group

- Formal, strategic
- Senior Portfolio Manager peer oriented review
- Focus on fiduciary topics



Global Risk and Analytics

- Independent reporting line
- Lead independent oversight
- Strategy level across asset classes
- Match risk with conviction
- Set best practices for analytics/tools

Core Bond

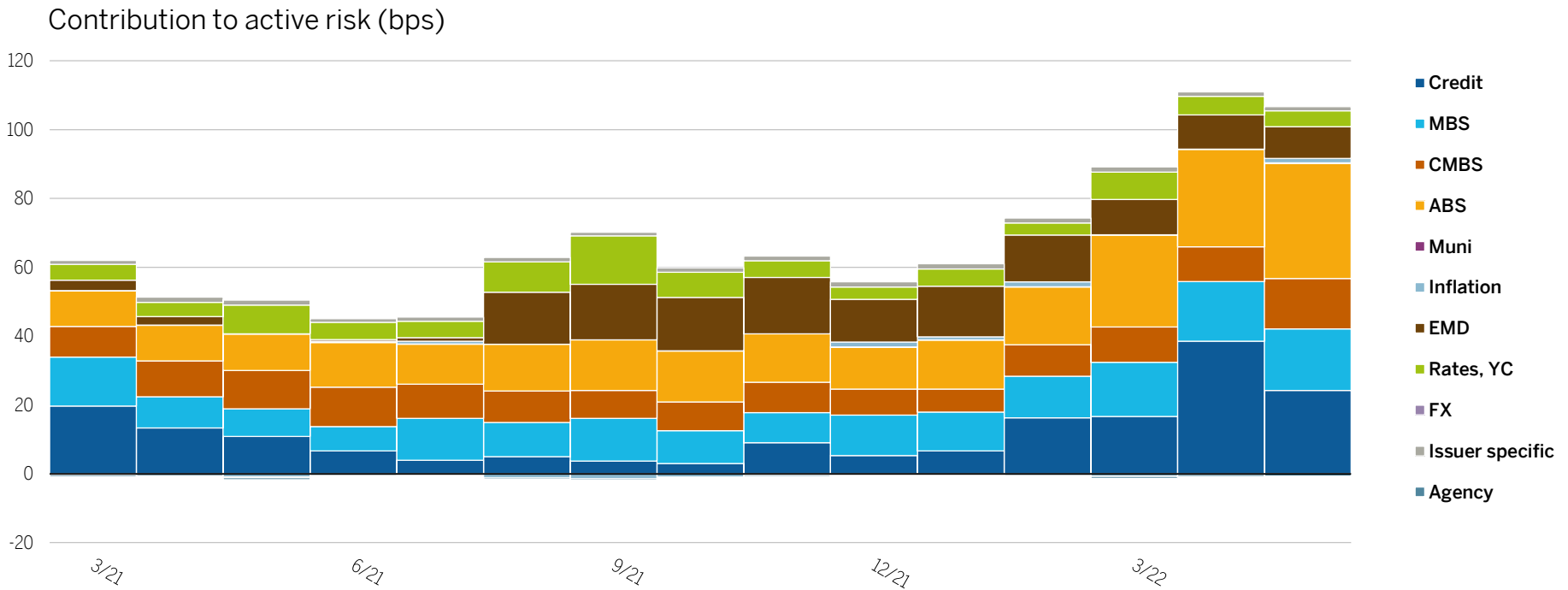
Outlook and strategy – Second quarter 2022

	Outlook	Strategy
Economy/Interest rates	<p>Expect growth to moderate from elevated level as fiscal and monetary support wane; expect series of 50bps hikes by Fed</p> <p>High savings and relatively low interest rates still supportive of consumer spending and help soften the impact of persistent inflation pressures</p>	<p>Close to neutral risk posture; preserving cash/liquidity</p> <p>Remaining tactical in duration</p>
MBS	<p>MBS spreads appear attractive relative to US Treasuries; rising rates to slow prepayment speeds</p> <p>Balance sheet normalization expected in the coming months and could pressure MBS spreads, though we don't expect outright MBS sales this year</p>	<p>Overweight to agency pass-throughs, focusing on relative value opportunities and income</p>
Corporate bonds	<p>Fundamentals at a strong starting point but could deteriorate from more shareholder-friendly actions</p> <p>Spreads likely to be volatile during inflationary environment and expected weaker technical backdrop</p>	<p>Modestly overweight IG corporate bonds; added exposure after spreads widened in response to Russia/Ukraine conflict</p> <p>Focus on identifying inefficiencies in the pricing of risk</p>
Structured finance	<p>Significant housing supply shortage and strong demand are driven by structural forces that we expect to remain intact for an extended period</p> <p>CLOs are well-diversified across sectors; benefit from improving bank loan fundamentals and rising rates</p>	<p>Own structured finance tied to residential mortgages, high quality CLOs, CMOs, and senior CMBS tranches with attractive collateral</p> <p>Focus on income and manager quality</p>

Information contained within Outlook section contains estimates and forecasts. Actual results may differ significantly from information shown. Forecasts rely upon assumptions and other expectations of future outcomes and is therefore subject to numerous limitations and biases. Future occurrences and results, which may also be formulated based on subjective inputs (i.e., strategist/analyst judgment), will differ, perhaps significantly, from those reflected in the charts and/or graphs within.

WTC-CIF II Core Bond

Active risk exposure over time

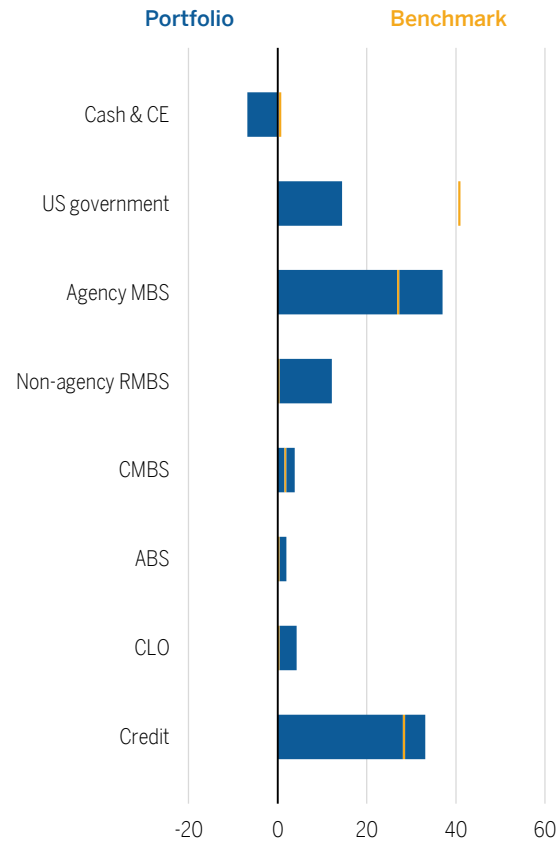


Benchmark: Bloomberg US Aggregate Bond | Source: Wellington Management Noether Risk Model. The model was implemented starting on 1 October 2020 and could result in significant one-time value changes as a result of the risk model change. Please refer to the Important Disclosures for more information. | The first data point displayed may not correspond to the inception date of the account and is based upon the account's configuration within the FIRE system. | Chart data: 31 March 2021 - 31 May 2022

WTC-CIF II Core Bond

Portfolio positioning as of 31 May 2022

Sector (MV %)



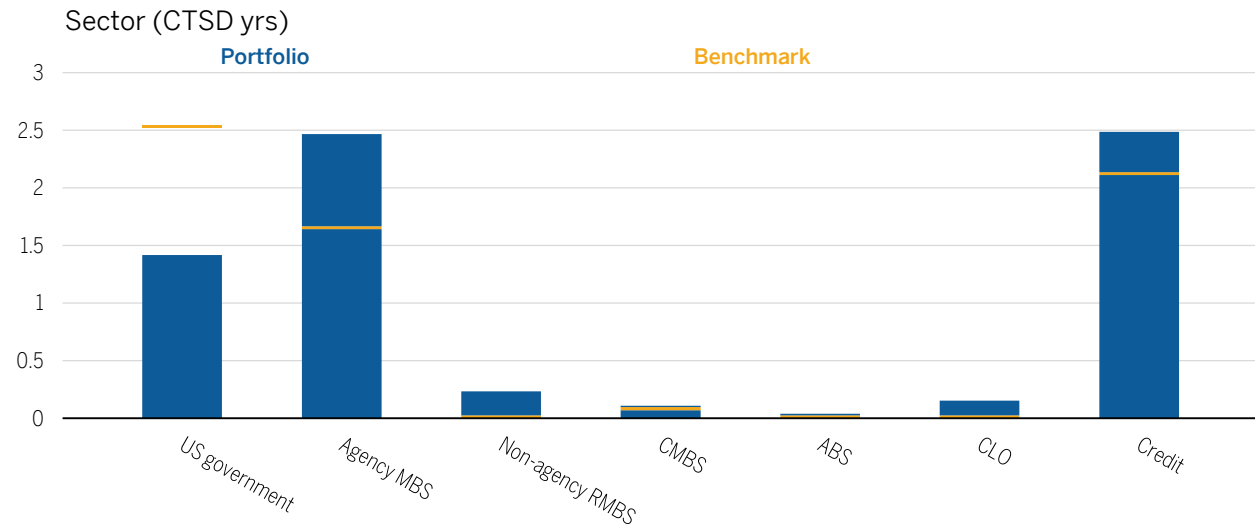
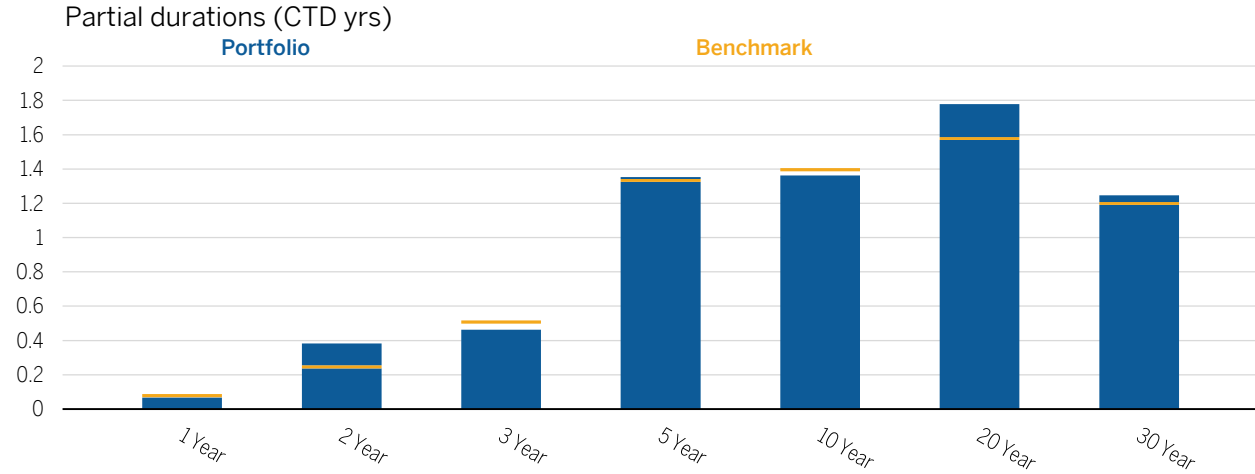
Sector detail (MV %)

	Portfolio	Benchmark
Cash & CE	-6.77	0.78
US government	14.47	41.03
Treasuries	13.93	39.69
TIPS	0.54	—
US agencies	—	1.34
Agency MBS	37.00	27.32
Pass-throughs	34.61	27.32
CMO	2.38	—
ARMs	0.00	—
Non-agency RMBS	12.17	—
CMBS	3.64	1.97
Conduit	2.65	1.08
Single borrower	0.64	—
Agency guaranteed	0.01	0.89
Other CMBS	0.34	—
ABS	1.96	0.32
Autos	0.85	0.20
Other ABS	1.11	0.12
CLO	4.27	—
Credit	33.10	28.58
Industrials	14.78	14.19
Financials	10.20	8.01
Utilities	3.94	1.96
Non-corporates	2.39	3.41
Taxable municipal	1.79	1.00
Credit index derivatives	-0.04	—
Tax exempt municipal	0.04	—
Other	0.17	—

Benchmark: Bloomberg US Aggregate Bond. | "Other" within Sector (when applicable) includes security types that do not fall within the displayed categories.

WTC-CIF II Core Bond

Portfolio positioning as of 31 May 2022



Benchmark: Bloomberg US Aggregate Bond. | "Other" within Sector (when applicable) includes security types that do not fall within the displayed categories.

WTC-CIF II Core Bond

Portfolio characteristics

Statistics

	As of 31 May 2022		
	Portfolio	Benchmark	Difference
Yield to worst (%)	4.3	3.3	1.0
% TBAs (%)	19.2	0	19.2
Option-adjusted spread (bps)	112	42	70
Average quality	AA	AA	
Duration - effective (yrs)	6.65	6.40	0.25
Duration - inflation-linked (yrs)	0.10	0	0.10
Convexity - effective	0.23	0.36	-0.13
Duration - spread (yrs)	6.90	6.45	0.45

Benchmark: Bloomberg US Aggregate Bond. Quality ratings are based on the highest of Moody's, S&P, and Fitch.

US market outlook

Second quarter 2022

Robust consumption to wane amid elevated inflation pressures, higher interest rates, and ongoing supply chain disruptions, partially offset by elevated savings and strong wages

Monetary policy shifting from tailwind to headwind as Fed hikes rates aggressively with quantitative tightening expected by midyear

Inflation expected to peak by mid-2022, will remain above target through 2023

Fundamentals at a strong starting point but could deteriorate from more shareholder-friendly actions. Spreads likely to be volatile during inflationary environment and expected weaker technical backdrop.

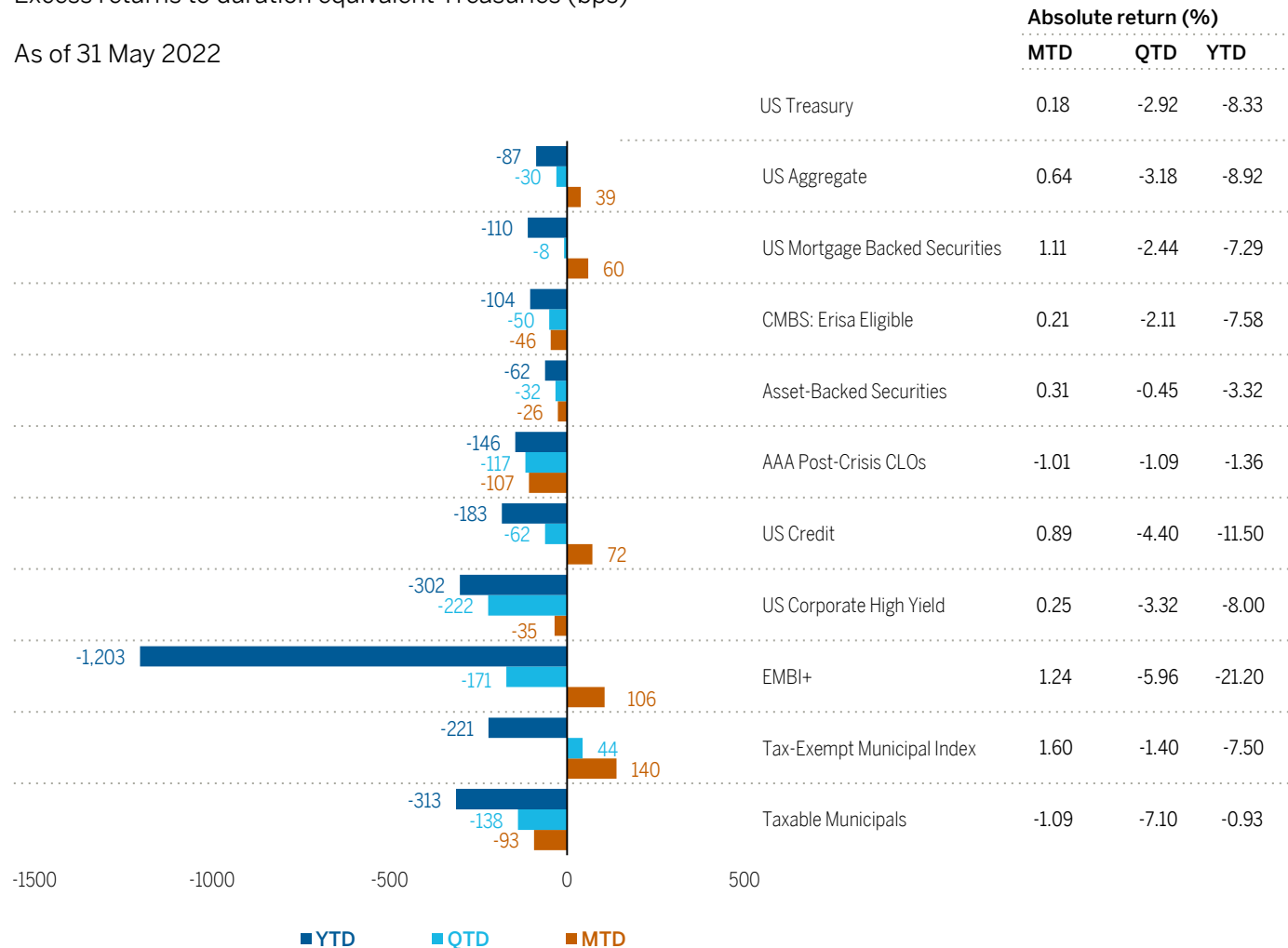
Risks we are monitoring: impact of tighter Fed policy, Russia/Ukraine conflict, China deleveraging, eroding consumer savings from higher goods/energy prices

Views expressed herein are those of the investment team, are based on available information, and are subject to change without notice. Individual portfolio management teams may hold different views and may make different investment decisions for different clients. This is not to be construed as investment advice, or a recommendation to buy or sell any specific security.

Fixed income sector performance

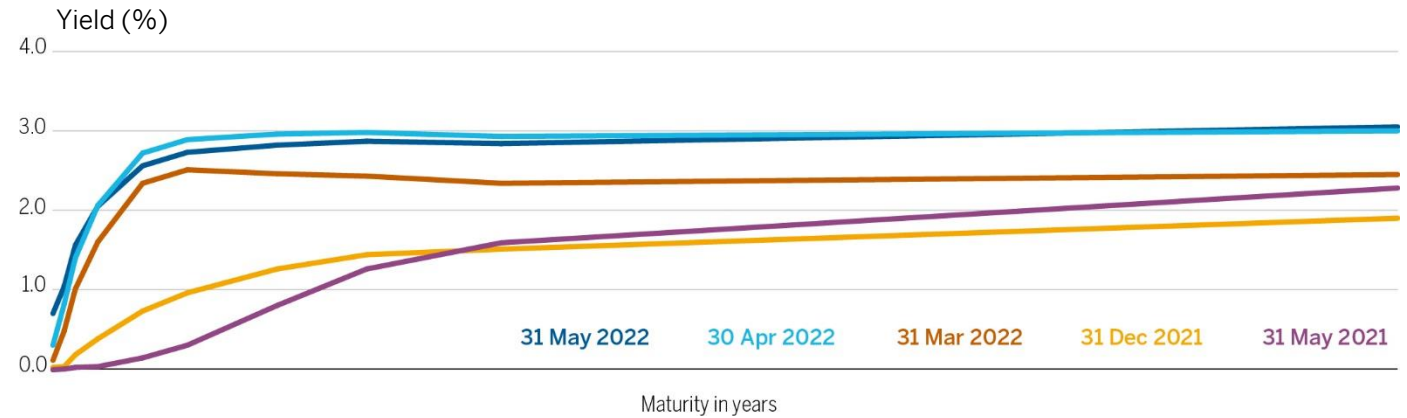
Excess returns to duration equivalent Treasuries (bps)

As of 31 May 2022



Sources: Bloomberg, JPMorgan, Merrill Lynch, Wellington Management | The EMBI+ is comprised of US dollar denominated debt instruments of the Emerging Markets | Return data presented based on representative indexes for each fixed income sector: Bloomberg US Treasury Index, Bloomberg US Aggregate Index, Bloomberg US Agency Index, Bloomberg US Fixed Rate Agency MBS Index, Bloomberg CMBS ERISA-Eligible Index, Bloomberg ABS Index, JPMorgan Post-Crisis AAA CLO Index, Bloomberg US Credit Index, Bloomberg US Corporate High Yield Index, JPMorgan EMBI+ Index, Bloomberg Taxable Municipal Index, BofA Merrill Lynch US Municipal Securities Index. MBS excess returns are based on an internally calculated proxy for the US MBS sector. Investments cannot be made directly into an index. **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

US Treasury curve



		3 mos	2 yrs	5 yrs	10 yrs	30 yrs
Curve data (yield %)	31 May 2022	1.04	2.56	2.82	2.84	3.05
	30 April 2022	0.82	2.72	2.96	2.93	3.00
	31 March 2022	0.48	2.34	2.46	2.34	2.45
	31 December 2021	0.03	0.73	1.26	1.51	1.90
	31 May 2021	0.00	0.14	0.80	1.59	2.28
Changes (bps)	MTD (30 Apr 2022 – 31 May 2022)	22	-16	-14	-9	5
	QTD (31 Mar 2022 – 31 May 2022)	56	22	36	51	60
	YTD (31 Dec 2021 – 31 May 2022)	101	182	155	133	114
	TTM (31 May 2021 – 31 May 2021)	104	242	202	125	76

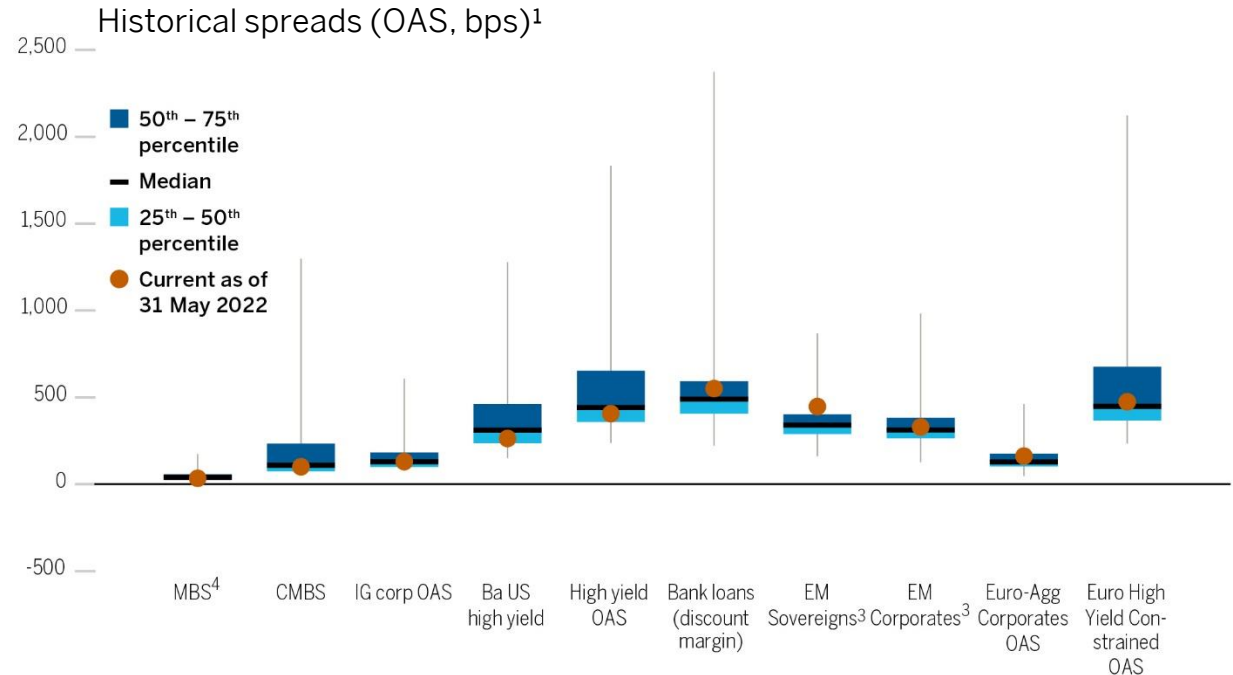
Forward curve matrix¹

		Treasury maturity					
		1 mo	3 mos	2 yrs	5 yrs	10 yrs	30 yrs
Forward time period	31 May 2022	0.70	1.04	2.56	2.82	2.84	3.05
	3 mos	2.03	2.07	2.81	2.92	2.92	3.07
	1 yr	2.98	3.04	3.06	3.01	3.02	3.08
	2 yrs	3.07	3.11	3.03	3.01	3.09	3.07
	3 yrs	2.92	2.98	2.96	2.95	3.16	3.05
	5 yrs	2.97	3.03	3.02	2.89	3.32	3.03
	10 yrs	3.78	3.84	3.82	3.82	3.82	3.00

¹The analysis presented contains forward looking estimates/projections. Actual results may vary, perhaps significantly, from data shown. | Source: Bloomberg | As of 31 May 2022

Fixed income spread sectors

Historical spread analysis



	MBS ⁴	CMBS	IG corp OAS	Ba US high yield	High yield OAS	Bank loans (discount margin)	EM Sovereigns ³	EM Corporates ³	Euro-Agg Corporates OAS	Euro High Yield Constrained OAS
Current										
Spread rank (%)	41	43	51	39	43	65	83	57	68	58
Yield (%) ²	3.46	3.80	4.21	5.64	7.09	4.65	7.44	6.17	2.41	5.50
Spread (current)										
31 May 2022	34	100	130	263	406	551	447	329	162	474
30 Apr 2022	40	87	135	273	379	448	438	303	151	454
31 Mar 2022	24	85	116	232	325	460	399	303	129	400
31 Dec 2021	31	68	92	194	283	428	367	272	95	331
31 May 2021	16	58	84	226	296	419	331	253	85	303
Spread (historical)										
Max	173	1,298	607	1,278	1,833	2,373	868	983	461	2,123
75 th percentile	57	234	182	461	653	592	402	382	176	676
Median	39	109	129	311	441	490	340	312	128	448
25 th percentile	27	74	99	237	358	406	289	264	102	367
Min	-5	56	77	151	238	222	161	127	48	235

¹Historical spread analysis based on trailing 20 years (unless otherwise noted) of month-end option adjusted spreads, as of 31 May 2022 | ²Effective yield for bank loans | ³Hard currency only. | ⁴In April 2020, May 2021 and January 2022, MBS Index spreads were impacted by updates to the Bloomberg prepayment model | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.** | Sources: JPMorgan, Bloomberg, S&P LSTA Leveraged Loan Index

Fixed Income Outlook

Economic environment



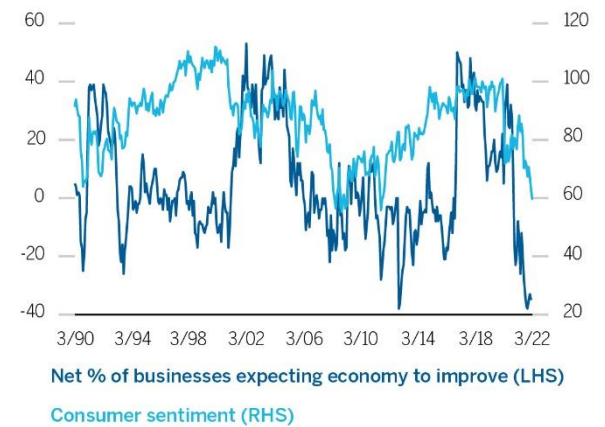
Household net worth increasing;
debt levels manageable²



Global manufacturing PMIs holding steady
(> 50 = increasing, index level)³



Business/consumer confidence
deteriorating⁴

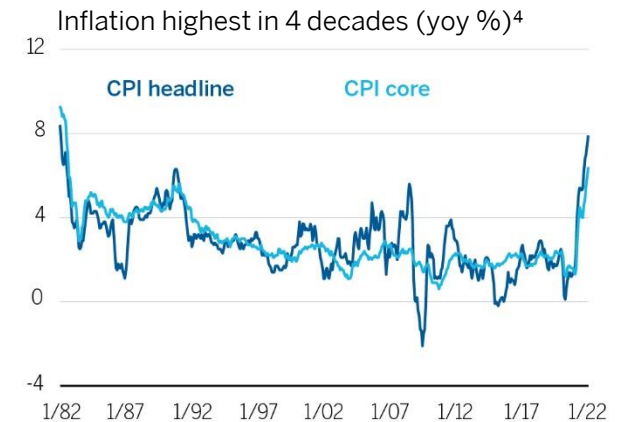
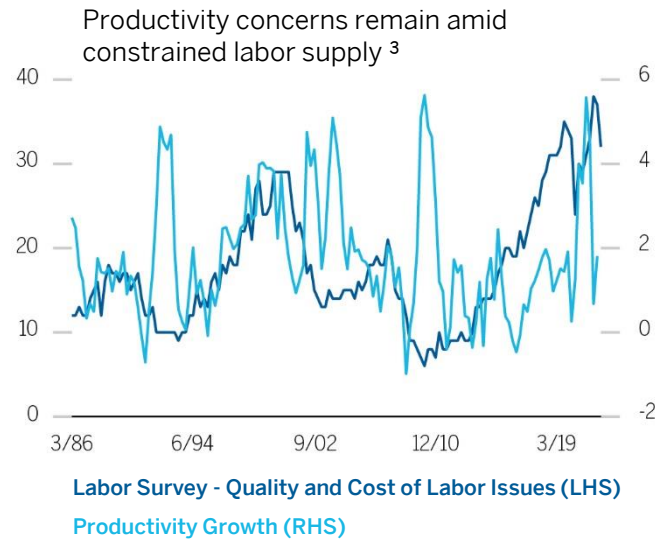


¹Sources: FRED St. Louis Fed. Chart data: December 2000 – February 2022. Level in thousands, monthly, seasonally adjusted. | ²Sources: Federal Reserve flow of funds for households and non-profit organizations. Chart data: 31 March 1990 – 31 December 2021.

PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. |

³Source: Bloomberg and Wellington Management. Chart data: Monthly; 31 January 2010 – 28 February 2022 | ⁴Source: NFIB, University of Michigan. Chart data: March 1990 – March 2022.

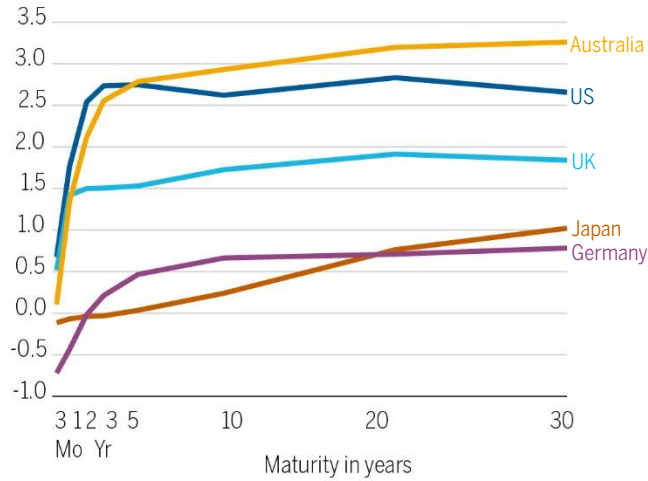
Economic environment (continued)



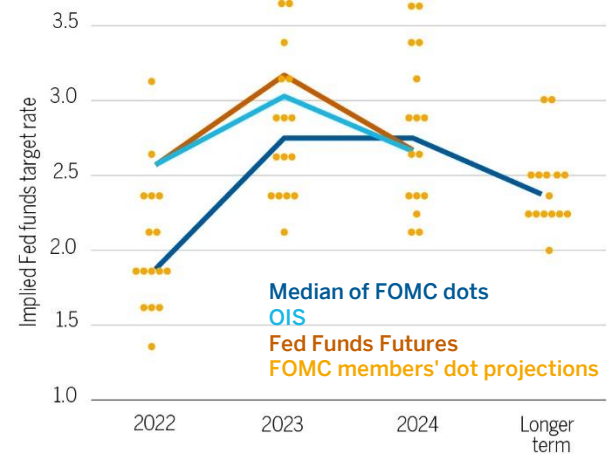
¹Chart data: March 1993 – March 2022. Source: Employment-Population Ratio: 25 – 54 Years (SA, %), ECI: Wages & Salaries: Private Industry Workers (SA, Dec-05 = 100) % Change – Year to Year. | ²Source: Institute for Supply Mgmt (NSA, % balance/diffusion index); Bloomberg. Chart data February 2000 – March 2022. | ³Source: Haver; NFIB: Single Most Important Problem: Reporting Cost & Quality of Labor (%); Nonfarm Business: Output Per Person, All Persons (SA, 2012=100) % Change - Year to Year. Chart data: March 1986 – March 2022. | ⁴Source: Bloomberg. Chart data: January 1982 – February 2022. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

US interest rate policy

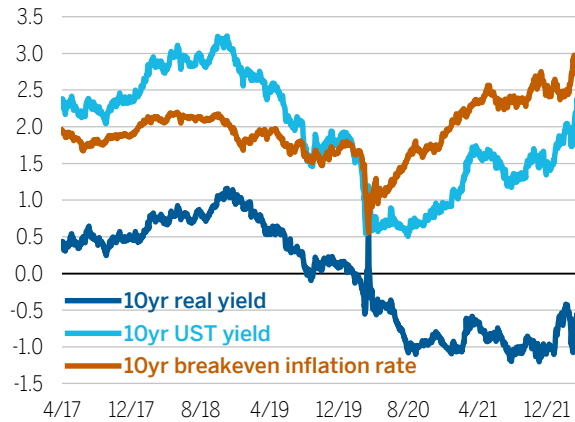
Global yield curves have flattened¹ (%)



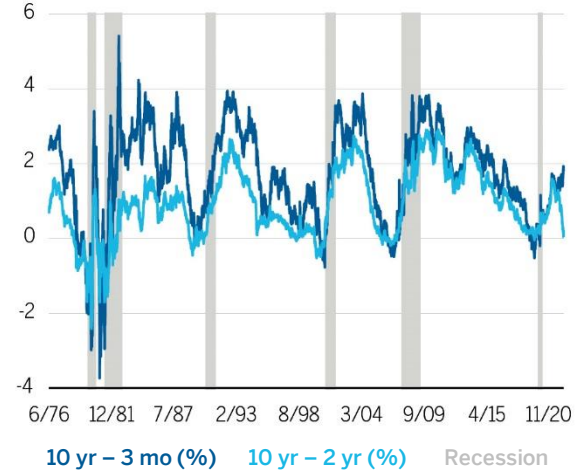
Market vs Fed² (%)



10yr US Treasury yield decomposition³



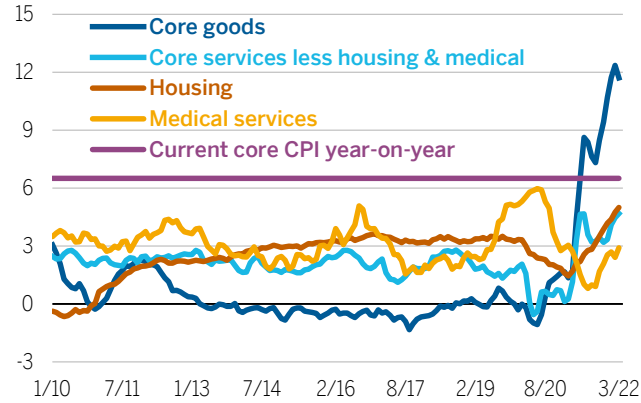
US Treasury yield curve and recessions⁴



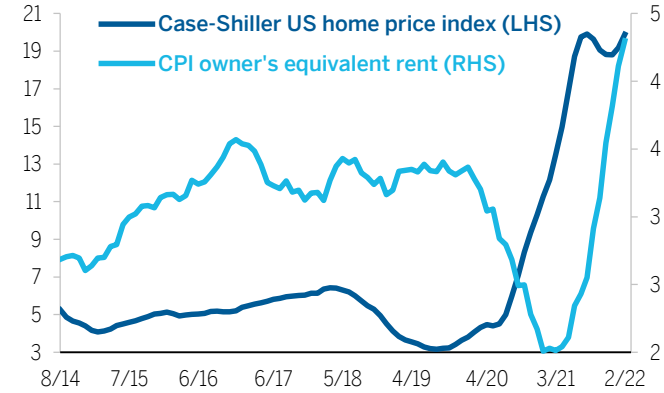
¹Source: Bloomberg. Chart data as of 6 April 2022. |
²Each shaded circle indicated the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer term. Sources: Bloomberg, US Federal Reserve. Released 15 December 2021. Longer-term – the peak for the fed funds rate once the Fed has finished tightening (or "normalizing") policy from its current levels. | ³Source: Bloomberg. Chart data: 6 April 2017 – 5 April 2022. | ⁴Source: Haver, National Bureau of Economic Research. Chart data: January 1962 – March 2022 | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Inflation environment

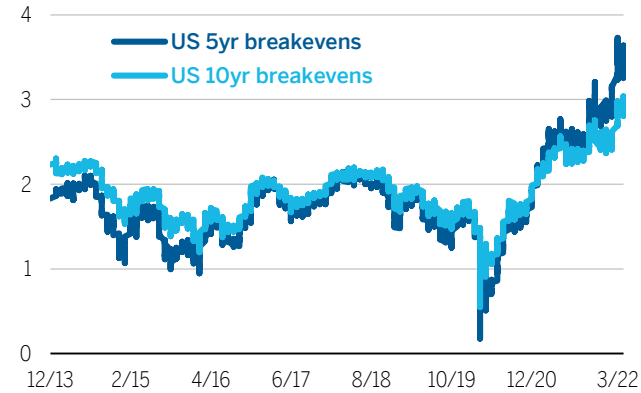
Core goods pushing inflation persistently higher (%)¹



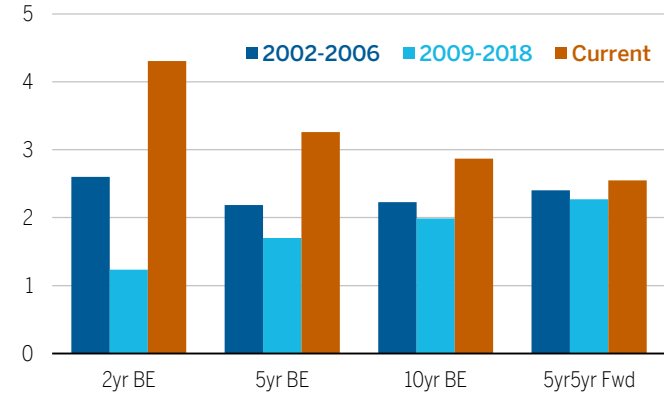
Home prices and rents have surged (% change Y/Y)²



Inflation expectations remain elevated (%)³



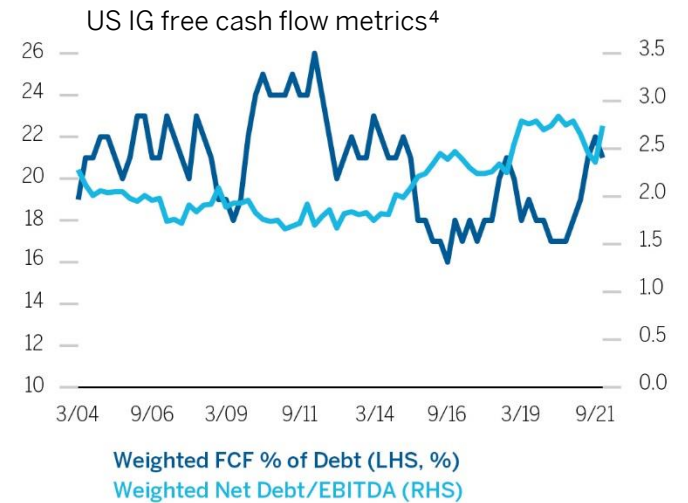
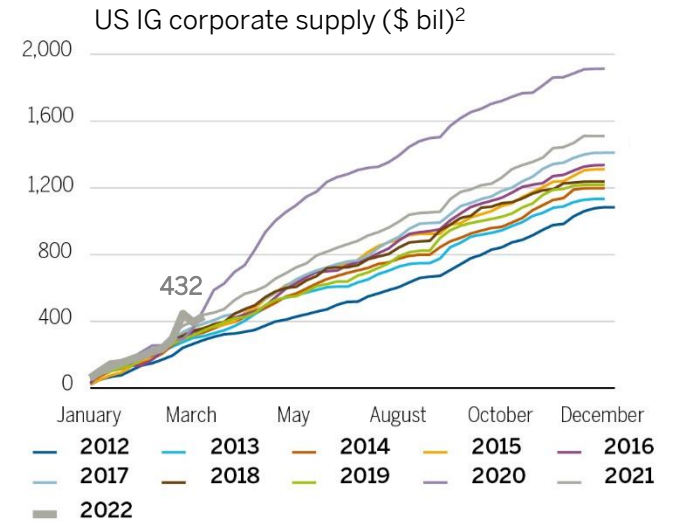
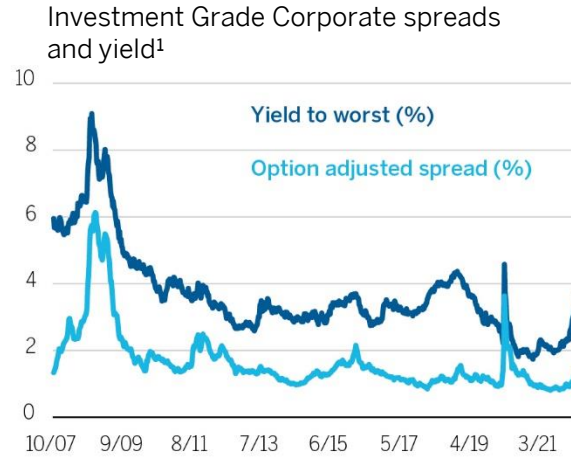
US-market implied inflation expectations⁴



¹Source: Bloomberg. Chart data January 2010 – March 2022 | ²Sources: Bloomberg, Haver Analytics. Chart data: August 2014 – February 2022 | ³Source: Bloomberg. Chart data: December 2013 – March 2022

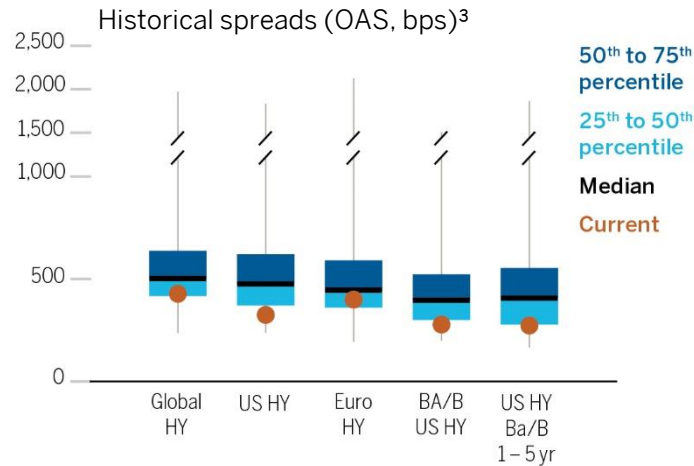
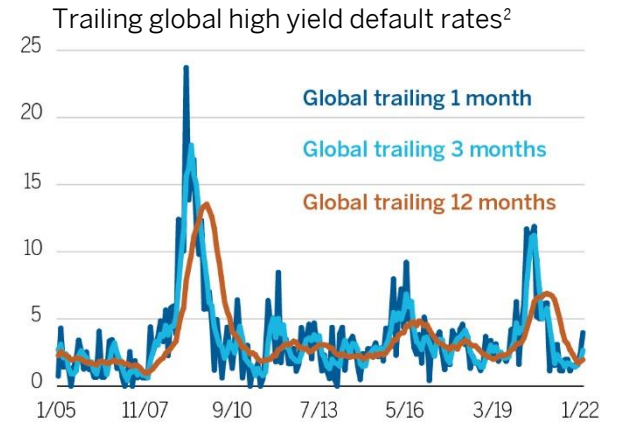
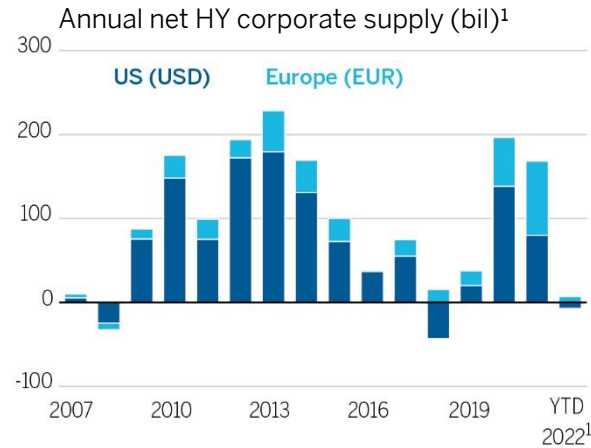
⁴Source: Bloomberg | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Investment grade corporate environment

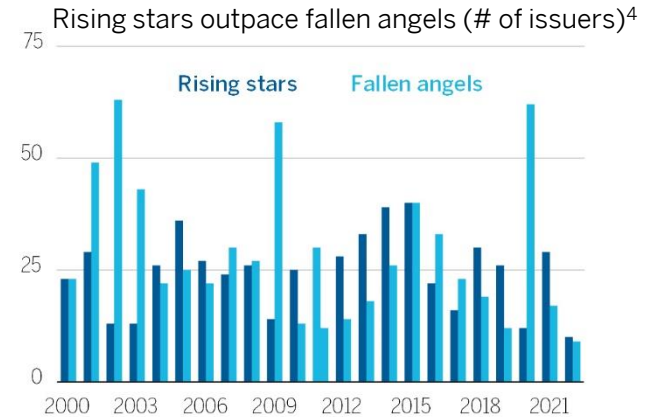


¹Source: Bloomberg US IG Corporate Index. Chart data: 1 October 2007 – 31 March 2022. | ²Source: Bloomberg. Chart data: 1 January 2012 – 31 March 2022. | ³Source: S&P, LCD. As of 31 December 2021. | ⁴Sources: S&P Global Market Intelligence, Wellington Management. Chart data: 31 March 2004 – 31 December 2021. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

High yield Market Outlook

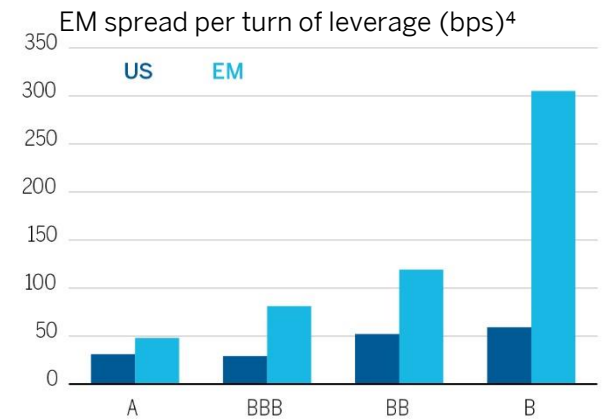
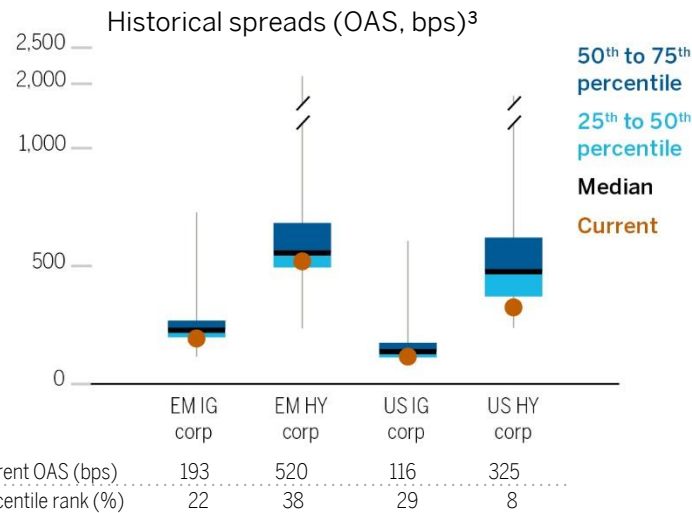
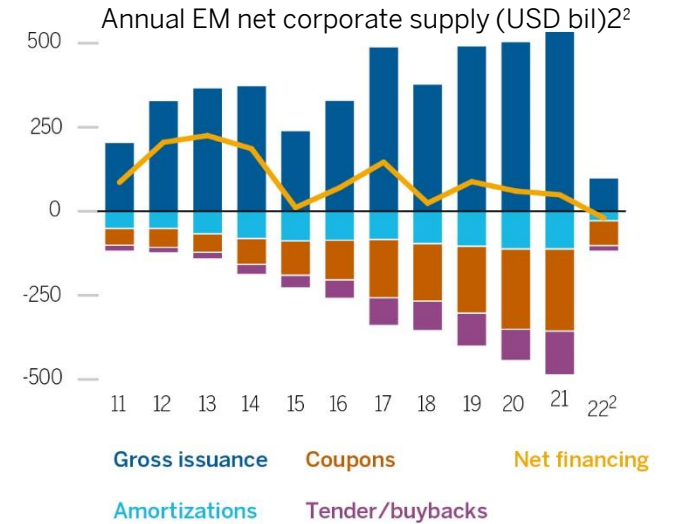
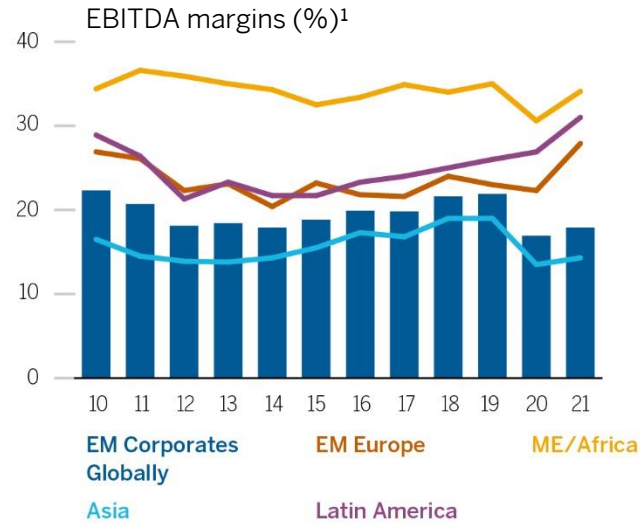


Current OAS (bps)	428	325	400	270	273
Percentile rank (%)	30	8	40	12	22



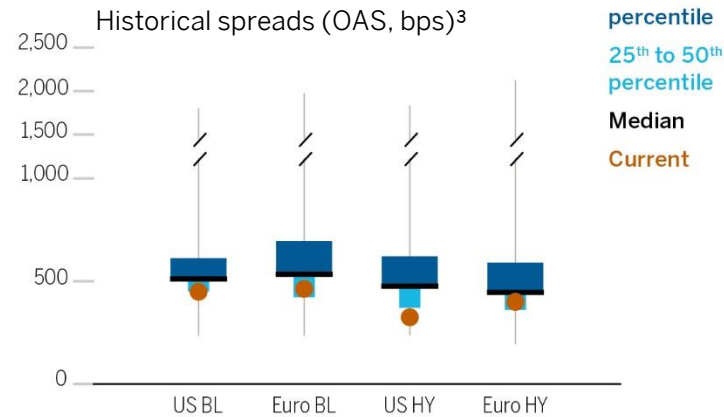
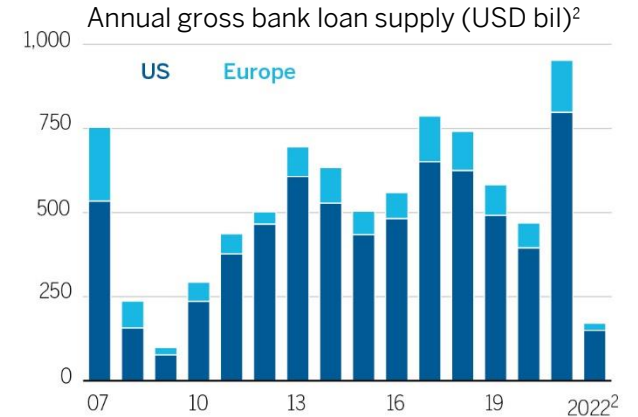
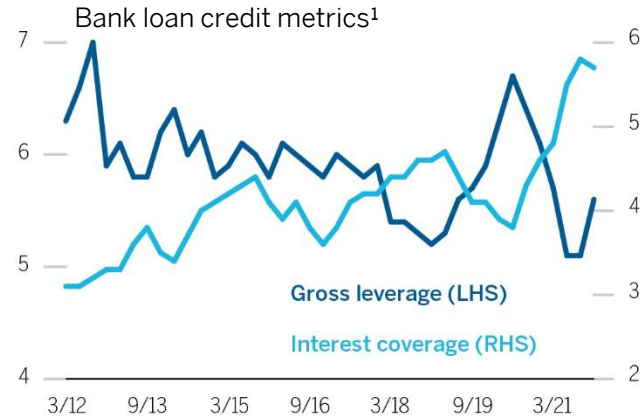
¹Chart data: 1 January 2007 – 31 March 2022. Source: JPMorgan. Europe includes high yield and leveraged loans. | ²Chart data: 1 January 2005 – 28 February 2022. Source: Bloomberg. | ³Based on monthly historical data for 15 years from 30 April 2007 – 31 March 2022: BofA Merrill Lynch Global High Yield Constrained Index; Bloomberg US High Yield Index; BofA Merrill Lynch Euro High Yield Constrained Index; Bloomberg US High Yield All Ba/B Rated 2% Capped Index; Bloomberg US High Yield Ba/B 1 – 5 Year Index | ⁴Chart data: 1 January 2000 – 31 March 2022. Source: JPMorgan. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Emerging markets corporate environment

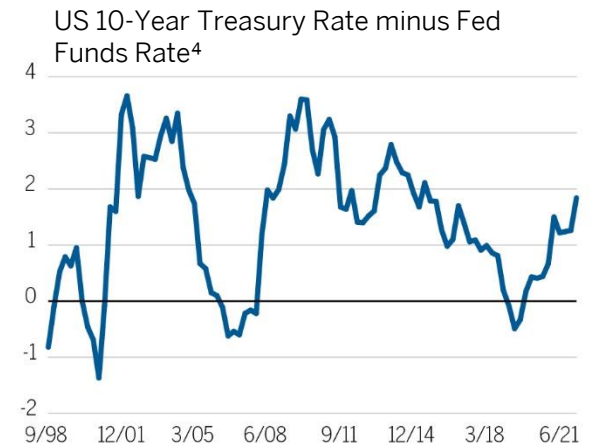


¹Source: JPMorgan. Chart data: 1 January 2010 – 31 December 2021. Based on a sample of about 150 EM corporate bond issuers where estimates are available. | ²Source: JPMorgan. As of 31 March 2022. | ³Based on monthly historical data for 15 years from 30 April 2007 – 31 March 2022: JPMorgan CEMBI; Bloomberg US Corporate Index; Bloomberg US High Yield Index | ⁴Leverage as of 30 June 2021. Spreads as of March 31 2022. Source: Bank of America Merrill Lynch. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Bank loans environment



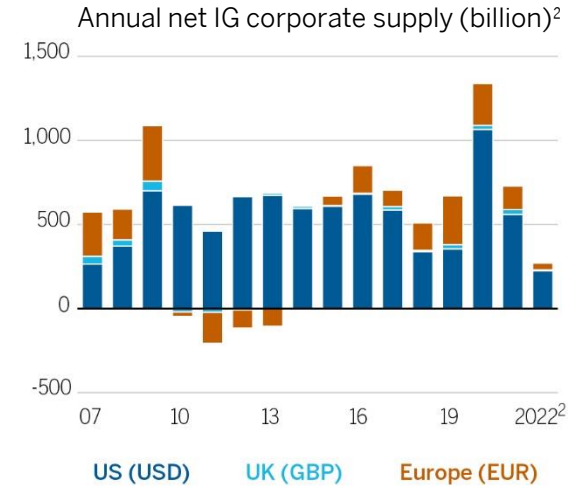
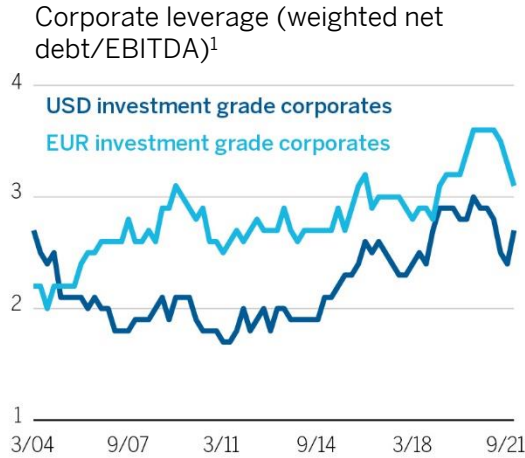
Current OAS (bps)	449	463	325	400
Percentile rank (%)	22	34	8	40



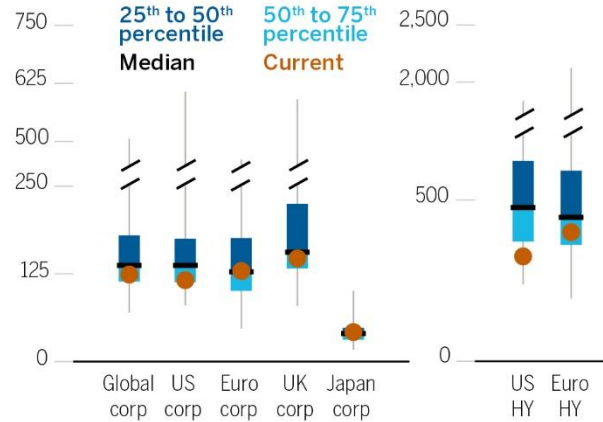
¹Trailing 10 years from 31 March 2012 – 31 December 2021. Source: S&P Global Market Intelligence. Gross leverage = Weighted-average total/LTM EBITDA. Interest coverage = LTM EBITDA/LTM Interest expense. | ²Chart data: 1 January 2007 – 31 March 2022. Source: S&P Global Market Intelligence. | ³Based on monthly historical data for 15 years from 30 April 2007 – 31 March 2022. Sources: Credit Suisse Leveraged Loan Index, Credit Suisse Western European Leveraged Loan Index, Bloomberg US High Yield Index, and BofA Merrill Lynch Euro Constrained Index. Spreads based on Discount Margin (3-year life). | ⁴Chart data: 30 September 1998 – 31 March 2022. Source: Bloomberg

PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.

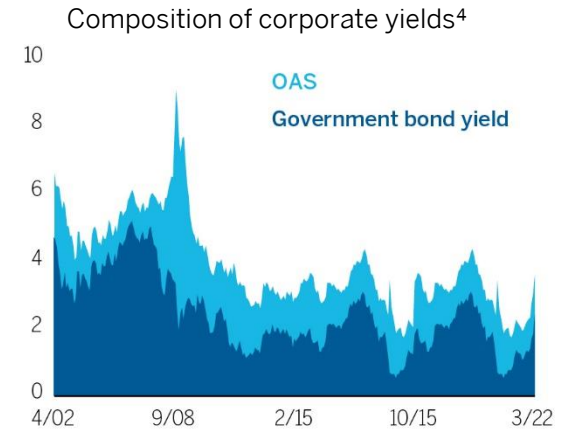
Global Credit Market outlook



Historical spreads (OAS, bps)³



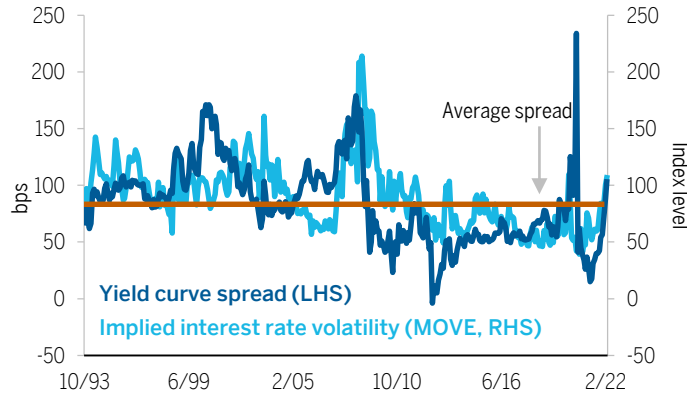
Current OAS (bps)	124	116	129	147	42	325	400
Percentile rank (%)	37	29	53	41	59	8	40



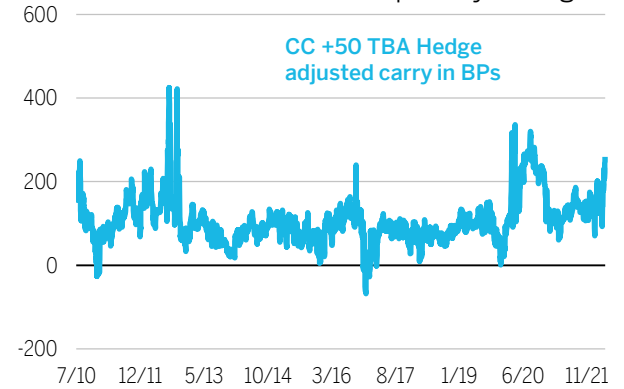
¹Sources: JPMorgan, Capital IQ. Chart data: 31 March 2004 – 31 December 2021. | ²Source: Barclays Credit Research. Chart data: 1 January 2007 – 31 March 2022. | ³Based on monthly historical data for 15 years from 30 April 2007 – 31 March 2022: Bloomberg Global Aggregate Corporate Index; Bloomberg US Corporate Index; Bloomberg Euro Aggregate Corporate Index; Bloomberg UK Aggregate Corporate Index; Bloomberg Japan Aggregate Corporate Index; Bloomberg US High Yield Index; BofAMerrill Lynch Euro High Yield Constrained Index | ⁴Source: Bloomberg Global Aggregate Corporate Index. Chart Data: 31 October 2001 – 31 March 2022. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.** If an investor's own currency is different from the currency in which the fund is denominated, the investment return may increase or decrease as a result of currency fluctuations.

Agency MBS

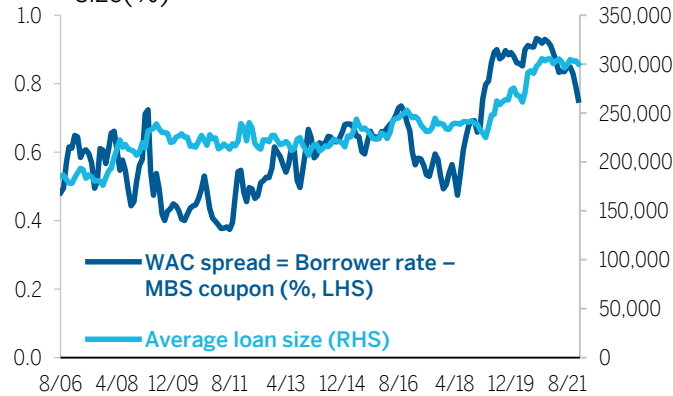
Mortgage spreads have widened with higher vol and less Fed support¹



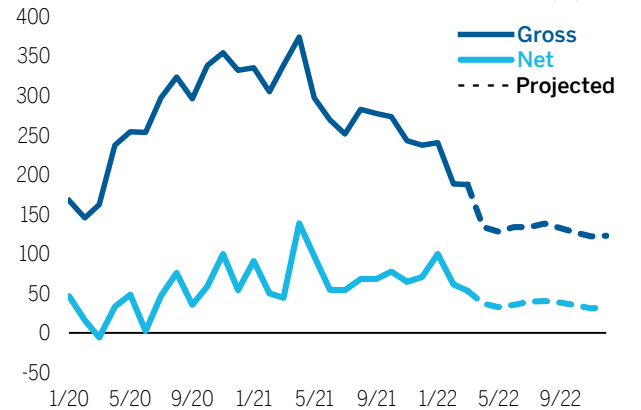
MBS income attractive, especially through TBA²



Deterioration of TBA – Increasing loan size(%)³

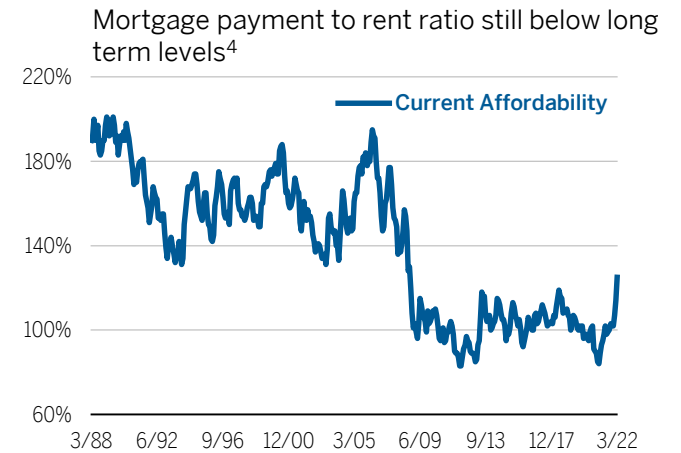
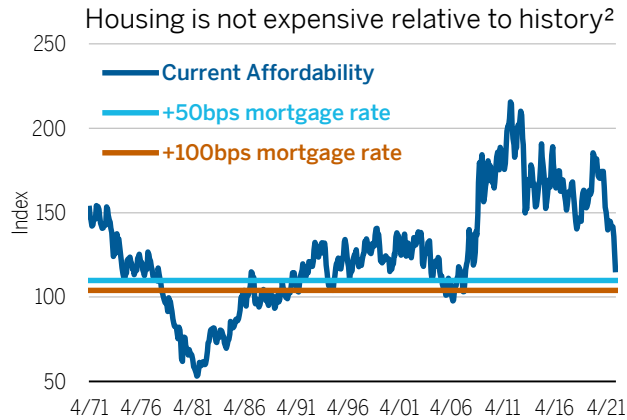
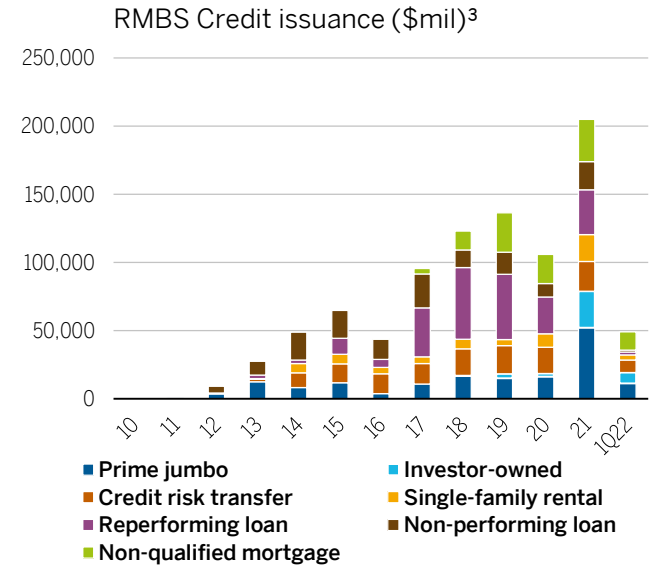
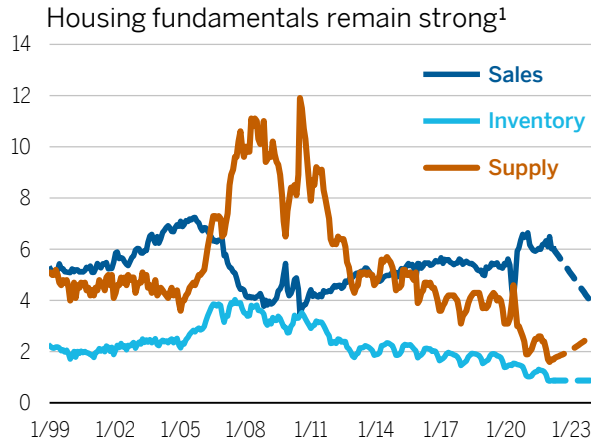


MBS Issuance – Gross and Net, billions (\$) ⁴



¹Sources: Bloomberg, Barclays LIVE. Chart data: 29 October 1993 – 31 March 2022. | ²Source: JPMorgan Markets. Chart data: 2 July 2010 – 31 March 2022. | ³Source: EMBS, Wellington Management. Chart data: 1 August 2006 – 31 December 2021 | ⁴Source: Wellington Management. Chart data: 1 January 2020 – 1 December 2022 (projected) | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Non-Agency Residential MBS (RMBS) Sector outlook

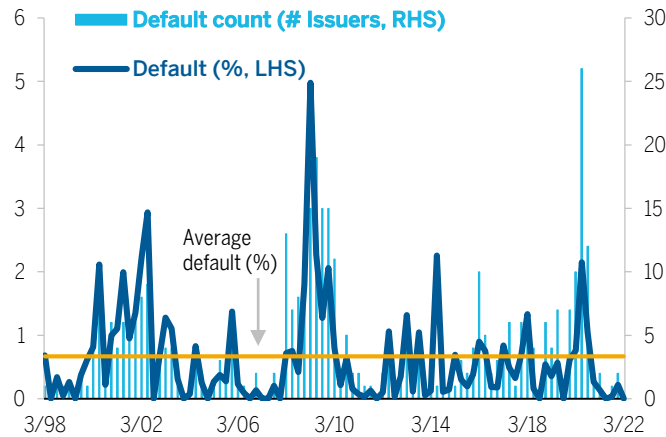


¹Sources: Bloomberg & NAR (National Association of Realtors). Chart data: 31 January 1999 – 31 March 2022; Projected from April 2022 through December 2023. Million for sales and inventory, number of months for supply | ²Sources: Bloomberg, NAR, Census. Chart data: April 1971 – March 2022. Current affordability is the NAR housing affordability index | ³As of 31 March 2022. Source: JPMorgan. Courtesy JPMorgan Chase & Co., Copyright 2021. | ⁴As of March 2022. Source: Bloomberg | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

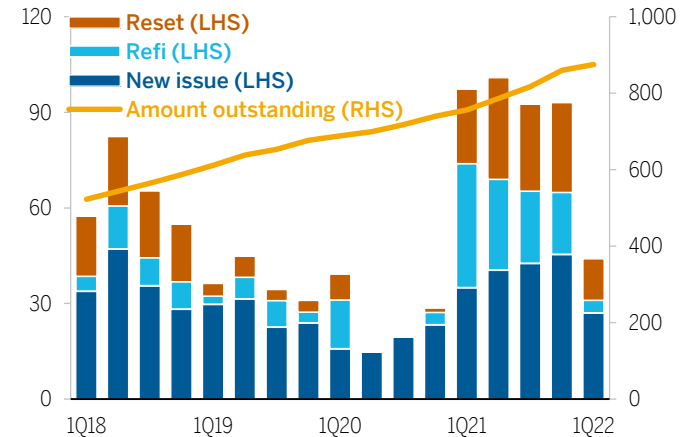
Collateralized Loan Obligations (CLOs)

Sector outlook

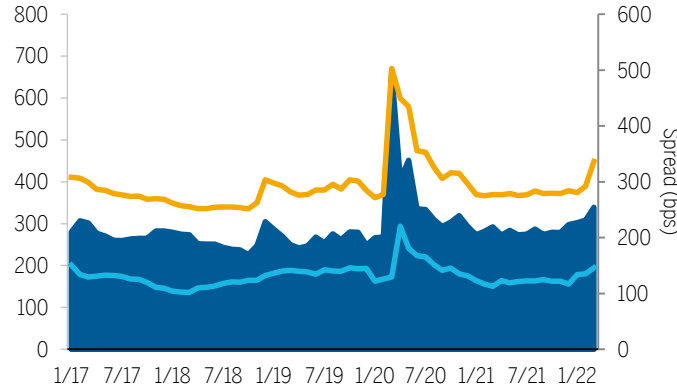
Leveraged loan defaults below long-term average¹



CLO issuance volume, billions (\$)²

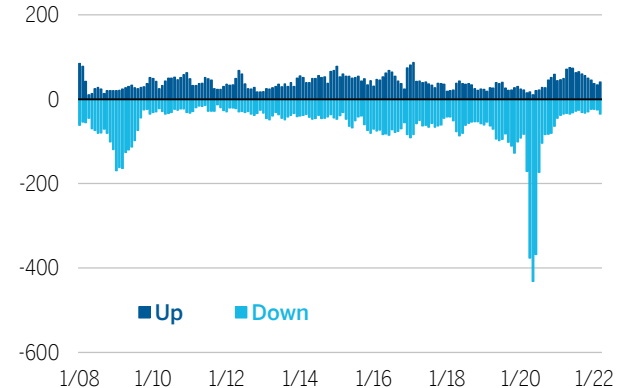


CLO "Arbitrage"³



Blended bank loan spread [A] (LHS)
CLO funding cost [B] (LHS)
CLO arbitrage [A - B] (RHS)

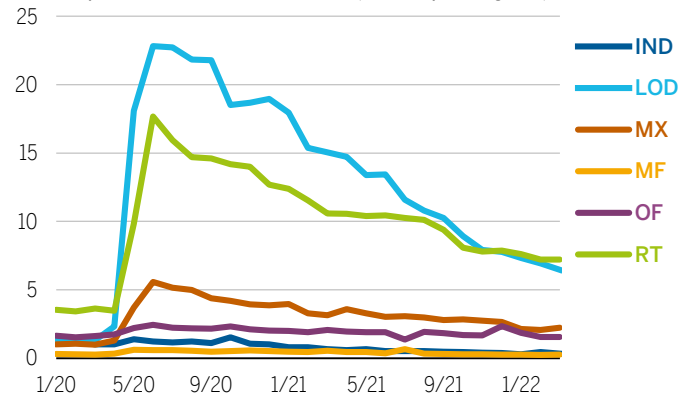
Loan upgrades are outpacing downgrades⁴



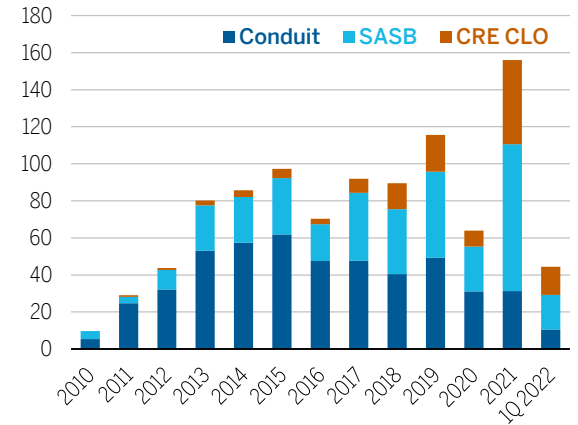
¹Source: S&P LASTA. Chart data: 1Q98 – 1Q22 |
²Sources: Intex, Bloomberg, Bank of America. Chart data: 1Q18 – 1Q22 Reprinted by permission. Copyright © 2022 Bank of America Corporation ("BAC"). The use of the above in no way implies that BAC or any of its affiliates endorses the views or interpretation or the use of such information or acts as any endorsement of the use of such information. The information is provided "as is" and none of BAC or any of its affiliates warrants the accuracy or completeness of the information. | ³Source: Bloomberg, LCD, S&P, Intex. Chart data: January 2017 – March 2022 | ⁴Source: LCD, an offering of S&P Global Market Intelligence; S&P/LSTA Leveraged Loan Index. Chart data: January 2008 – March 2022. Data series calculated as rolling 3-month count of loan upgrades and downgrades |
PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.

Commercial MBS (CMBS) Sector outlook

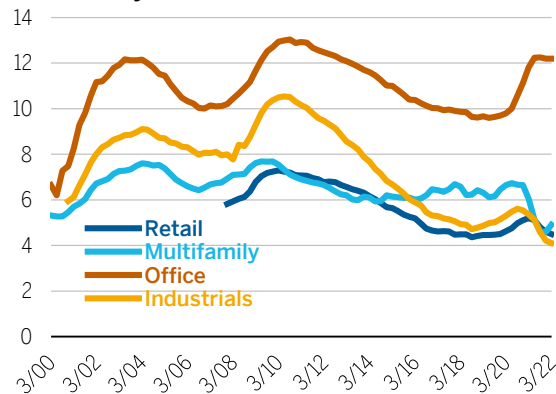
COVID impact greatest in lodging/retail but improvement continues (delinquency %)¹



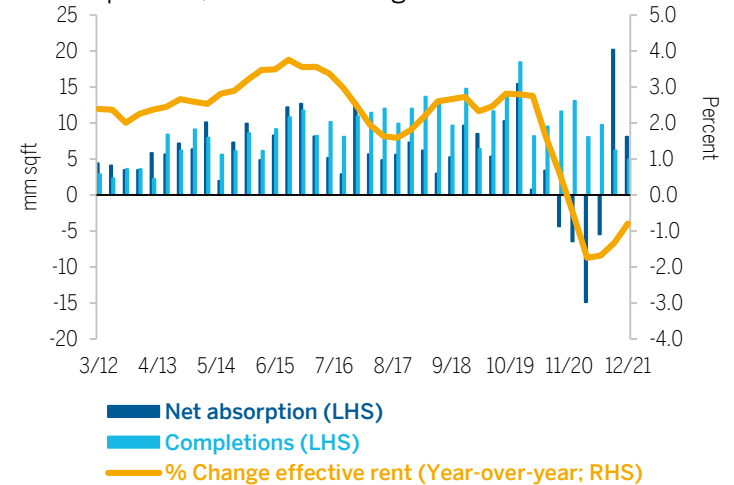
Annual CMBS Issuance, billions (\$)²



Vacancy rates show risk in office³



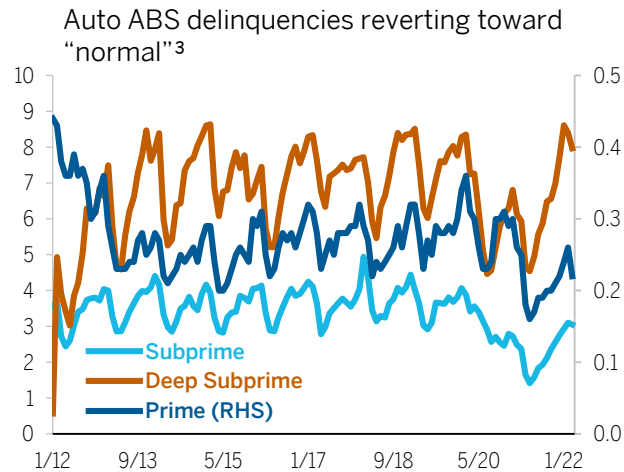
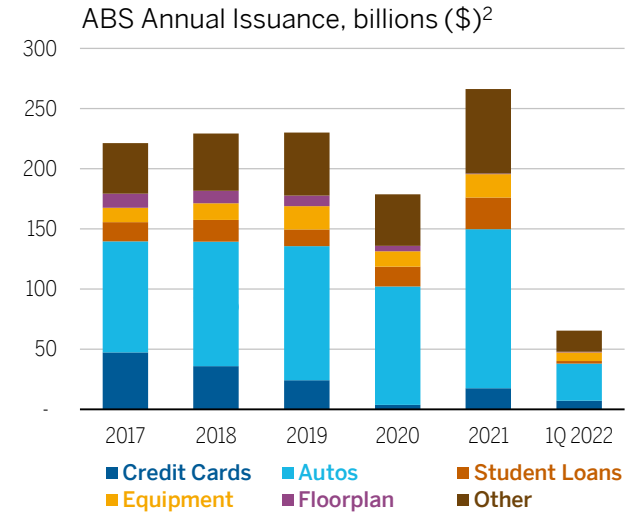
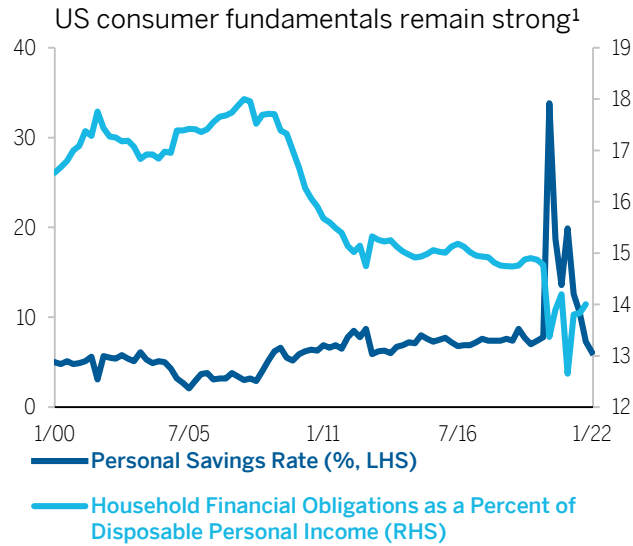
Office completions lower, net absorption positive, rents stabilizing⁴



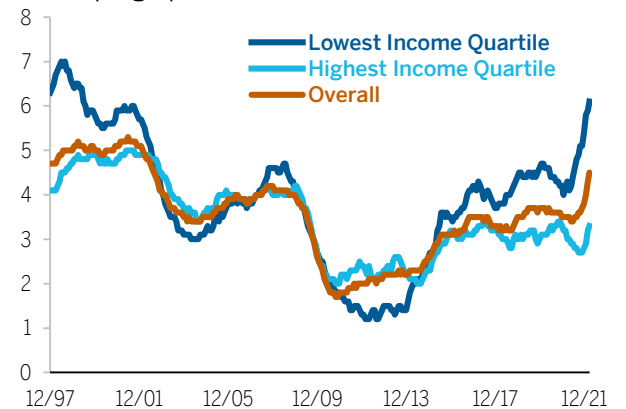
¹IND – Industrial, LOD – Lodging, MX – Mixed Use, MF – Multifamily, OF – Office, RT – Retail. Source: Trepp. Chart data: January 2020 – March 2022. | ²Data as of March 2022. Sources: JPMorgan, Commercial Mortgage Alert, Fannie Mae. Courtesy JPMorgan Chase & Co., Copyright 2021. Chart data: 2010 – 1Q2022. | ³Source: CoStar. Chart data: March 2000 – March 2022. | ⁴Sources: Bloomberg, REIS | Chart data: March 2012 – December 2021 | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Asset-Backed Securities (ABS)

Sector outlook



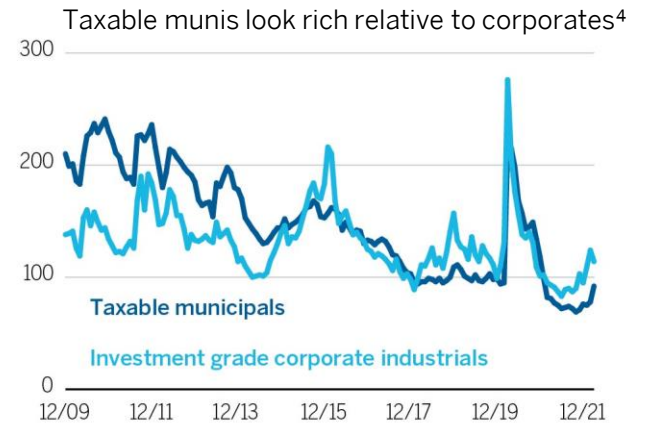
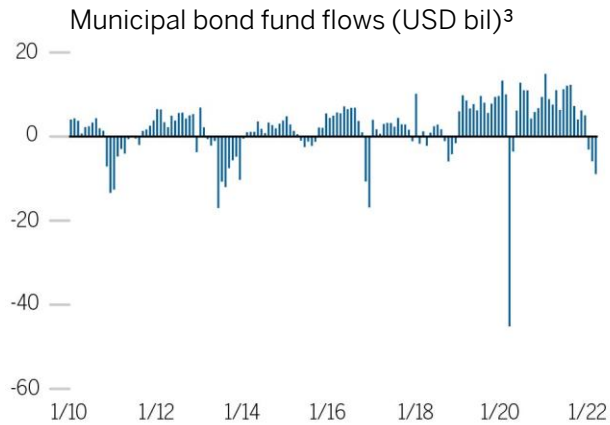
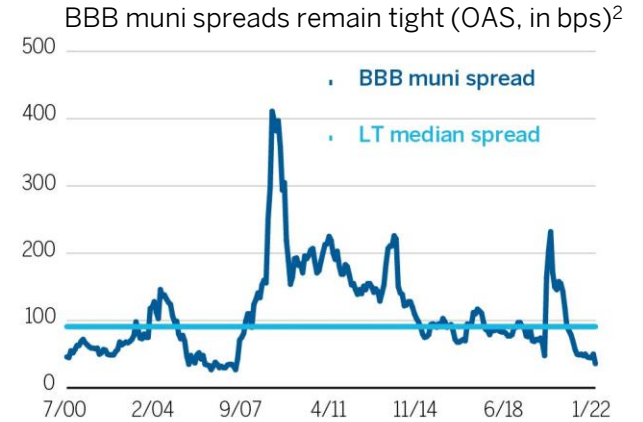
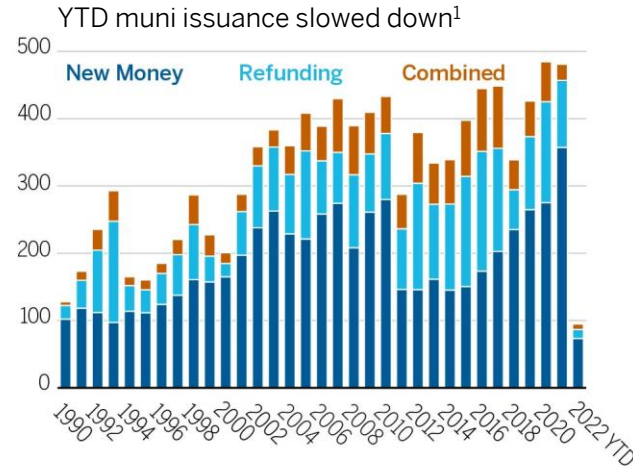
Lowest income cohort wage growth is almost keeping up with inflation⁴



¹Source: Federal Reserve Bank of St. Louis. As of September 2021. | ²Other includes unsecured consumer and miscellaneous ABS. Courtesy JPMorgan Chase & Co., Copyright 2021. Chart data: 2017 – 1Q2022. | ³Source: Intex. Chart data: January 2012 – February 2022. 60+ days delinquency. | ⁴Source: Current Population Survey, Bureau of Labor Statistics, and Federal Reserve Bank of Atlanta Calculations. Chart data: December 1997 – March 2022. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Fixed Income Sector

Municipal environment



¹Data series begins in 1987. Sources: The Bond Buyer, Merrill Lynch. Wellington Management. Chart data: December 1990 – March 2022. | ²Source: Bloomberg. BofA Merrill Lynch BBB Municipal Index. Chart data: July 2000 – March 2022. | ³Source: EPFR. Chart data: January 2010 – March 2022. | ⁴Sources: BofA Merrill Lynch Taxable Municipal Index, Bloomberg Barclays Investment Grade Corporate Industrials Index. Chart data: December 2009 – March 2022. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Important disclosures

Additional performance information

PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. There can be no assurance nor should it be assumed that future investment performance of any strategy will conform to any performance examples set forth in this material or that the portfolio's underlying investments will be able to avoid losses. The investment results and any portfolio compositions set forth in this material are provided for illustrative purposes only and may not be indicative of the future investment results or future portfolio composition. The composition, size of, and risks associated with an investment in the strategy may differ substantially from the examples set forth in this material. An investment can lose value.

Impact of fees

Illustration of impact of fees: If USD100,000 was invested and experienced a 10% annual return compounded monthly for ten years, its ending value, without giving effect to the deduction of advisory fees, would be USD270,704 with an annualized compounded return of 10.47%. If an advisory fee of 0.95% of average net assets per year were deducted monthly for the ten-year period, the annualized compounded return would be 9.43% and the ending USD value would be USD246,355. Information regarding the firm's advisory fees is available upon request.

Selection of representative account

The current representative account became effective on 1 August 1989 because it was the oldest account at the time of selection. For data shown prior to the current representative account effective date, data of the representative account(s) deemed appropriate for the time period was used. Further information regarding former representative accounts can be provided upon request. Each client account is individually managed; individual holdings will vary for each account and there is no guarantee that a particular account will have the same characteristics as described. Actual results may vary for each client due to specific client guidelines, holdings, and other factors. In limited circumstances, the designated representative account may have changed over time, for reasons including, but not limited to, account termination, imposition of significant investment restrictions, or material asset size fluctuations.

Access products

If access products are held by the portfolio they may not be included in the calculation of characteristic data. Access products are instruments used to gain access to equity markets not otherwise available and may include (but are not limited to) instruments such as warrants, total return swaps, p-notes, or zero strike options.

Additional disclosures

Securities indices are unmanaged and are not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly into an index.

Risk model

Noether is an internal proprietary system that comprises a risk model, a stress testing and scenario framework, associated software and infrastructure to calibrate the model, and to perform risk calculations. Noether provides comprehensive and internally calibrated absolute return and benchmark relative ex ante risk measurement across all portfolios managed at Wellington along with an integrated stress testing and scenario analysis capability that leverages Noether's statistical risk model, which is a multi-asset class, globally specified multi factor risk model and covers all asset classes managed at Wellington, including equity, fixed income, multi-asset, and commodities. The model was implemented starting on 1 October 2020 and could result in significant one-time value changes as a result of the risk model change. Prior to this date, the statistical model underlying the risk system is based on Barclays Capital POINT and is fully integrated with Wellington Management's pricing and analytics to provide complete coverage for all securities in Wellington Management's investable universe. The projected tracking risk for portfolios is estimated by calculating the exposures of portfolios to the risk factors in the model, which include factors such as currency, yield curve, and credit spreads, based on the historical volatilities and correlations of these risk factors. For portfolios with a history prior to 1 October 2020, over time risk data presented will have data points from both the Barclays Capital POINT model and the Noether model. Additional information is available upon request.

Benchmark definition

Bloomberg US Aggregate Bond: The Index measures the performance of the U.S. investment grade bond market.

LIBOR risk

The U.K. Financial Conduct Authority has announced cessation and non-representative dates on 35 London Inter-Bank Offered Rate (LIBOR) settings across various tenors and currencies after 2021. Notably, certain widely used US dollar (USD) LIBOR rate settings (overnight, 1-, 3-, 6-, and 12-month) will continue to be published in representative forms until 30 June 2023, enabling a smoother transition to alternative reference rates by allowing more time for “difficult-to-amend” legacy contracts/securities to mature. The elimination of LIBOR may adversely affect the interest rates on, as well as the liquidity and value of, certain portfolio investments.

Wellington has established a working group of stakeholders from key areas across the firm to manage the transition away from IBORs. Our LIBOR Replacement Working Group oversees work streams covering all aspects of the management of client assets that we anticipate could be impacted by LIBOR transition to help ensure that our client portfolios are well prepared for this upcoming change. Wellington is utilizing a multi-step implementation framework for transitioning from IBORs to alternative rates, including:

- Establishing a transition program
- Implementing a communication strategy with internal and external constituents, including several white papers
- Identifying and validating exposures across instruments, portfolios, and products as well as contractual and derivatives agreement language
- Developing operational and technology readiness plans to address the large-scale operating model, data, and technology implications required for IBOR transition
- Assessing the potential accounting and reporting implications associated with the transition away from IBORs

When IBORs are discontinued, securities that contain fallback language will transition to an alternative reference rate, depending on the deal documents. Fallback language can vary significantly for cash products based on product type, contract originator, and even origination date, as industry practices have evolved over time. For example, fallback language may provide that the replacement rate be determined based on reference bank quotations, remain permanently fixed from the previous interest period, or be determined by reference to another rate. Some securities lack any fallback language, or contain fallback language that differs from current industry standards. As a result, the liquidity and value of these securities may be adversely impacted in advance of the discontinuation of IBORs. In the event that securities lacking adequate fallback language become illiquid, clients may be forced to hold these securities to maturity.

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MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group ("Meketa")
DATE: June 29, 2022
RE: Wellington Core Fixed Income – Manager Update

Manager: Wellington Management

Inception Date:	April 2021	OPFRS AUM (5/31/2022):	\$6.9 million
Strategy:	Core Fixed Income	Firm-wide AUM (3/31/2022):	\$1.3 trillion
Benchmark:	Bloomberg US Aggregate Index	Strategy AUM (3/31/2022):	\$56.2 billion

Summary & Recommendation

Wellington began managing OPFRS's core fixed income portfolio approximately a year ago in April 2021, which is now approximately \$6.9 million or about 1.7% of OPFRS's total allocation. Over this period, Wellington has performed within expectations and guidelines for an active fixed income manager and has experienced no major organizational changes. *Therefore, Meketa does not have any major concerns with Wellington and does not recommend any action be taken at this time.*

Discussion

In this review, Meketa considered investment performance and recent organizational/personnel issues.

Investment Performance Review Summary

As of 5/31/2022, Wellington Core Bond portfolio has trailed the Bloomberg US Aggregate benchmark by (0.7%) over the 1-year period. In comparison with other core fixed income strategies, it falls below average for all the time periods measured. However, given that the portfolio was incepted only a year ago and recent market volatility, the short-term underperformance does not warrant concern.

OPFRS Portfolio Annualized Returns (as of 5/31/2022)

Manager	Market Value (\$000)	YTD	1 YR	3 YR	5 YR	Since Inception	Inception Date
Wellington Core Bond (Gross)	6,896.8	(9.7)	(8.9)	---	---	(6.8)	4/2021
Wellington Core Bond (Net)	6,896.8	(9.7)	(8.9)	---	---	(6.9)	---
<i>Bloomberg US Aggregate</i>	---	(8.9)	(8.2)	---	---	(6.2)	---
Excess Return (Net)	---	(0.8)	(0.7)	---	---	(0.7)	---
Peer Group Rank	---	88	92	---	---	94	---

1 Peer group is eVestment US Core Fixed Income (Gross) universe.

Product and Organization Review Summary

Wellington	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 Wellington Management and the Core Bond strategy revealed no significant organizational issues or changes.

Investment Philosophy & Process, per manager

Wellington Core Bond approach seeks to provide long-term total returns in excess of the Bloomberg US Aggregate Bond Index by investing in a broad range of high-quality US fixed income securities. The investment universe includes US government and agency securities, mortgage and structured finance securities, and investment-grade US dollar-denominated corporate and sovereign securities. The portfolio does not invest in securities rated below investment grade or in securities denominated in currencies other than US dollars.

The Core Bond investment process is designed to leverage the breadth of Wellington’s specialist expertise. The lead portfolio managers seek broad specialist input when making top-down cycle and sector rotation decisions, and then work closely with specialist portfolio managers and analysts to implement sector-specific allocations.

The portfolio is assigned a lead portfolio manager and a backup portfolio manager who are responsible for bringing the top-down strategies set by the Broad Markets Team together with bottom-up strategies and security selection driven by the sector specialists. Portfolio managers are accountable for all risks in the portfolio and work to ensure that portfolio construction aligns with investment objectives and guidelines.



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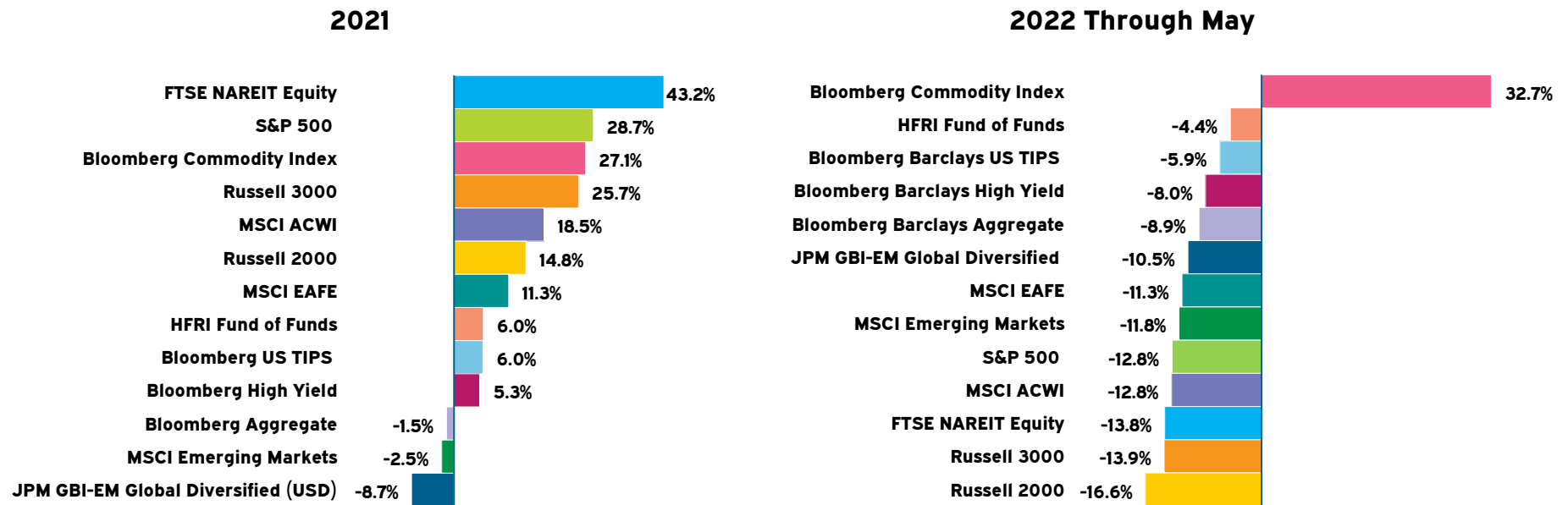
Economic and Market Update

May 2022 Report

Commentary

- There were no major market movements in May as investors waited for developments with inflation, the pace of monetary policy tightening, the war in Ukraine, ongoing supply chain issues, and China's lockdown of major economic centers to stem the spread of COVID-19.
- Equities were mixed, with international equities largely outperforming US equities.
 - Value-oriented equities outpaced growth, influenced by higher interest rates and notable weakness in some high-profile technology companies.
 - The global bond selloff slowed, as inflation fears, and policy expectations eased modestly despite monetary policy officials remaining steadfast in their near-term tightening expectations.
 - Nonetheless, inflation remains high globally.
- The war in Ukraine, lingering COVID-19 issues, persistent inflation, and strict lockdowns in China will all have considerable economic and financial consequences for the global economy going forward.

Index Returns¹



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

→ In May, many major asset classes recovered modestly from losses in the first quarter and April, with US stocks mostly unchanged and bonds higher by 0.6%.² Commodities continued to provide strong performance, adding 1.5% in May, and bringing the year-to-date gain to over 32%.

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

² As measured by the S&P 500 and Bloomberg Aggregate.

Domestic Equity Returns¹

Domestic Equity	May (%)	Q1 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	0.2	-4.6	-12.8	-0.3	16.4	13.4	14.4
Russell 3000	-0.1	-5.3	-13.9	-3.7	15.6	12.7	14.0
Russell 1000	-0.2	-5.1	-13.7	-2.7	16.0	13.1	14.2
Russell 1000 Growth	-2.3	-9.0	-21.9	-6.3	18.3	16.1	16.0
Russell 1000 Value	1.9	-0.7	-4.5	0.9	12.7	9.5	12.0
Russell MidCap	0.1	-5.7	-12.9	-6.8	12.9	10.5	12.8
Russell MidCap Growth	-3.9	-12.6	-25.4	-18.7	9.4	10.6	12.6
Russell MidCap Value	1.9	-1.8	-5.9	-0.1	13.4	9.1	12.3
Russell 2000	0.2	-7.5	-16.6	-16.9	9.7	7.7	10.8
Russell 2000 Growth	-1.9	-12.6	-24.8	-25.7	6.2	6.9	10.5
Russell 2000 Value	1.9	-2.4	-8.2	-7.7	12.2	7.8	10.7

US Equities: Russell 3000 Index declined 0.1%, and value indices significantly outperformed growth in May.

- US stocks were largely flat for the month with strong gains in energy, as well as utilities and financials, being balanced by declines in consumer-focused sectors (discretionary and staples).
- Value stocks continued to outperform growth stocks in May, maintaining the recent trend as rising rates and inflation continued to weigh on growth companies.
- Small company stocks outpaced large company stocks for the month.

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

Foreign Equity Returns¹

Foreign Equity	May (%)	Q1 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	0.7	-5.4	-10.7	-12.3	6.5	4.4	6.4
MSCI EAFE	0.7	-5.9	-11.3	-10.4	6.4	4.2	7.1
MSCI EAFE (Local Currency)	-0.2	-3.7	-5.3	1.1	8.2	5.5	9.6
MSCI EAFE Small Cap	-0.7	-8.5	-15.4	-16.0	6.6	4.1	8.9
MSCI Emerging Markets	0.4	-7.0	-11.8	-19.8	5.0	3.8	4.2
MSCI Emerging Markets (Local Currency)	-0.2	-6.1	-9.6	-15.7	6.4	5.7	6.7
MSCI China	1.2	-14.2	-16.7	-35.9	-0.1	1.3	5.0

International Equities (MSCI EAFE) gained 0.7% and Emerging Markets (MSCI EM) returned 0.4% in May.

- Non-US stocks (developed and emerging markets) outperformed US stocks in May but remain notably negative for the year-to-date period.
- The war in Ukraine, high inflation, and slowing growth continue to weigh on sentiment despite the positive return for the month in both developed and emerging markets.
- Gains in May for emerging markets were largely driven by China where COVID-19 restrictions were loosened and government stimulus increased.
- Like the US, value stocks outperformed growth stocks across developed and emerging markets.

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

Fixed Income Returns¹

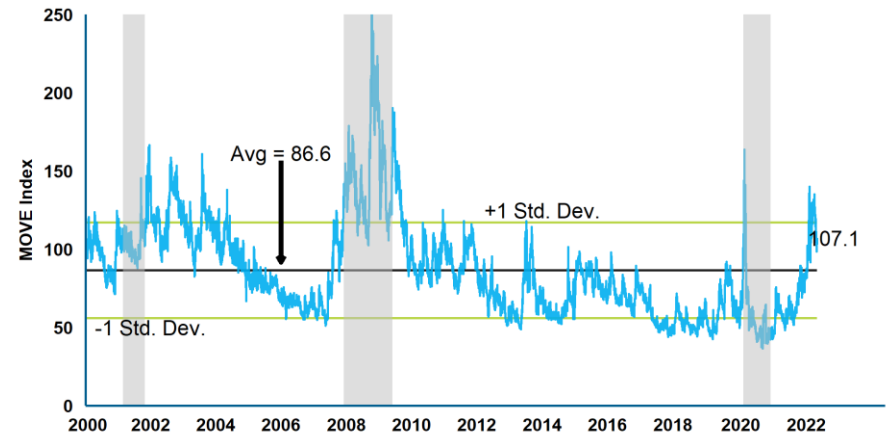
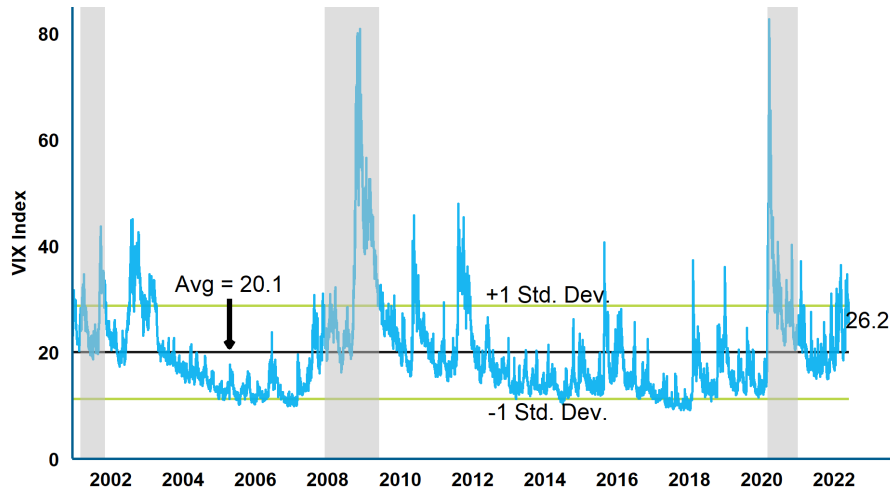
Fixed Income	May (%)	Q1 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	0.6	-6.1	-9.1	-8.4	0.2	1.3	2.1	3.8	6.5
Bloomberg Aggregate	0.6	-5.9	-8.9	-8.2	0.0	1.2	1.7	3.4	6.7
Bloomberg US TIPS	-1.0	-3.0	-5.9	-1.4	4.4	3.7	2.0	3.1	7.3
Bloomberg High Yield	0.2	-4.8	-8.0	-5.3	3.3	3.6	5.4	7.1	4.7
JPM GBI-EM Global Diversified (USD)	1.8	-6.5	-10.5	-16.5	-2.6	-1.3	-0.5	6.9	4.9

Fixed Income: Bloomberg Universal 0.6% in May.

- Slight interest rate declines led to positive performance for the broad US investment grade bond market (Bloomberg Aggregate). The nominal 10-year Treasury yield peaked at 3.13% before declining to 2.85% by month-end, while the 2-year Treasury yield declined from 2.73% to 2.56%.
- US credit spreads widened for high yield debt but tightened slightly for investment grade bonds.
- Emerging market debt led the way for the month but remains the worst performer year-to-date.

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

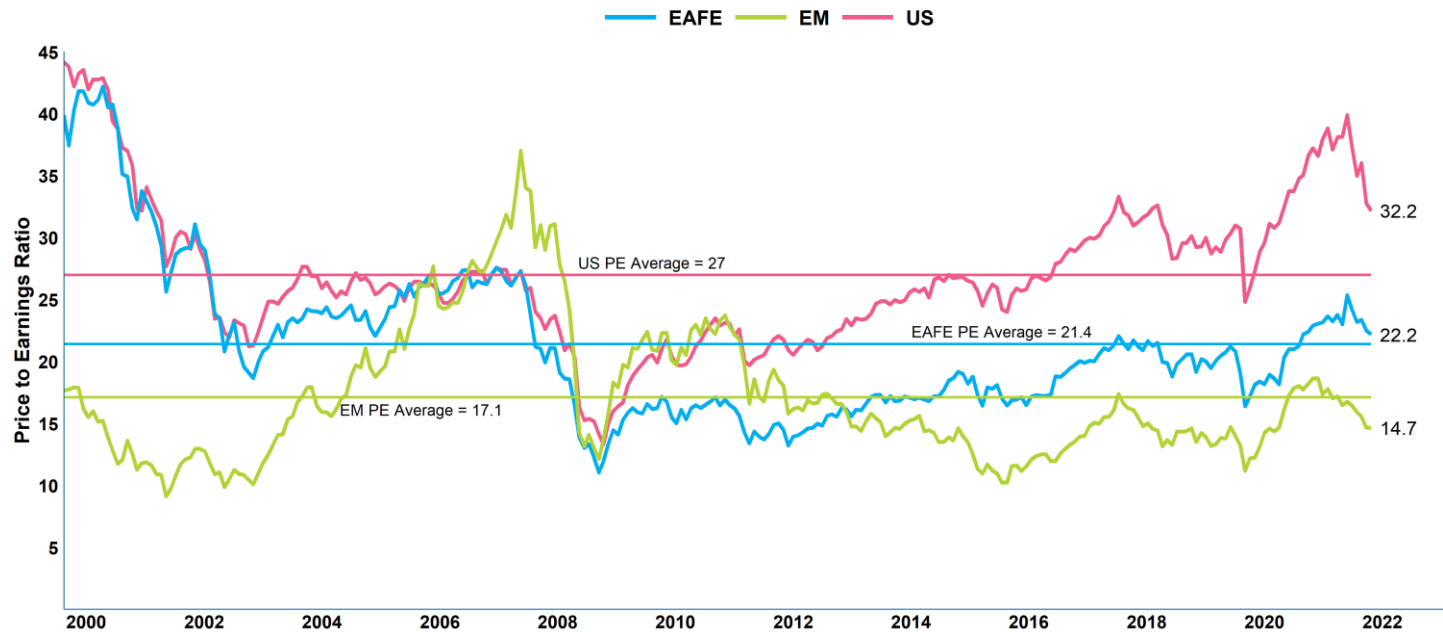
Equity and Fixed Income Volatility¹



- Volatility in both equities (VIX) and fixed income (MOVE) declined in May.
- A modest easing of inflation concerns and a decline in policy expectations supported investor sentiment.
- It is worth noting though that both have recently significantly spiked given persistently high inflation.

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 May 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.

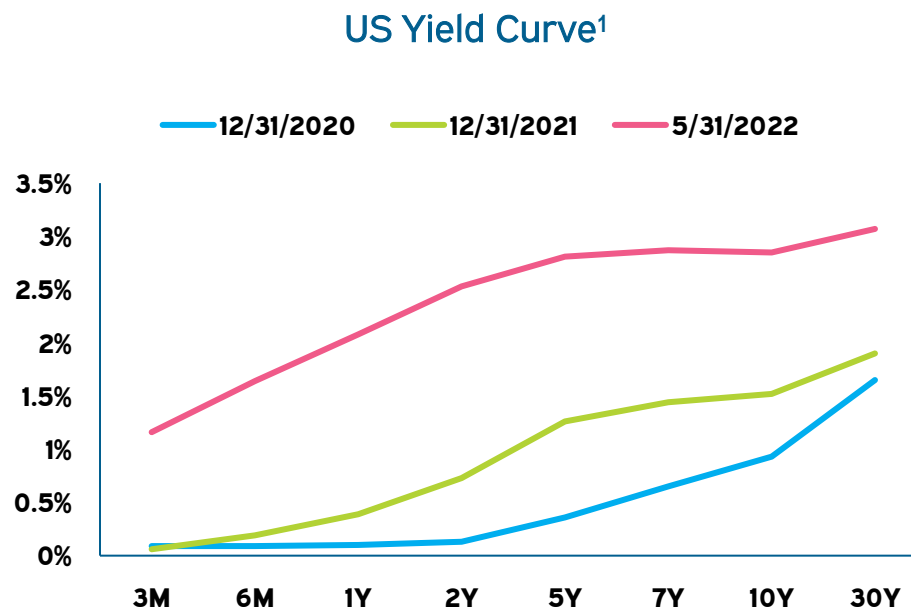
Equity Cyclically Adjusted P/E Ratios¹



→ Valuations in the US remain well above long-term averages despite the recent decline.

→ International developed market valuations remain below the US and are approaching their long-term average, with those for emerging markets under the long-term average.

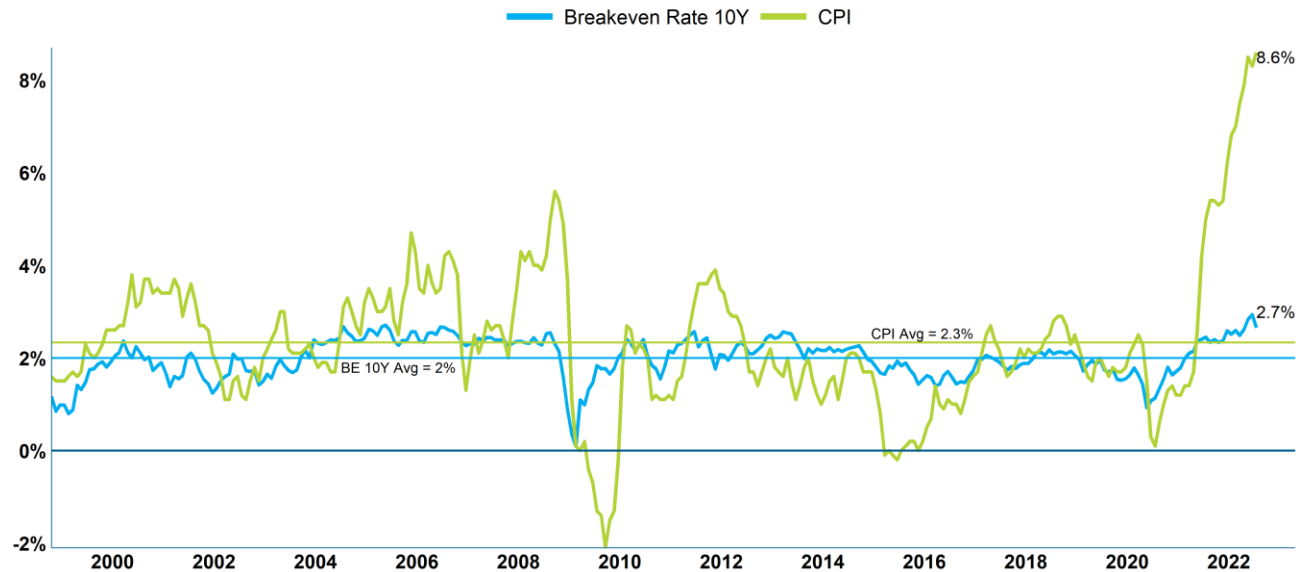
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported”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



- In May, rates remain well above those at the start of the year, as markets continue to reflect elevated inflation and rate expectations.
- After a brief inversion in April, which historically has often signaled building recessionary pressures, the spread between two-year and ten-year Treasuries ended May at around 30 basis points.
- Since month-end, rates have significantly increased across maturities with the yield curve flattening. This has been driven by the above-expectations CPI level and the Federal Reserve's plans to tighten policy further.

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

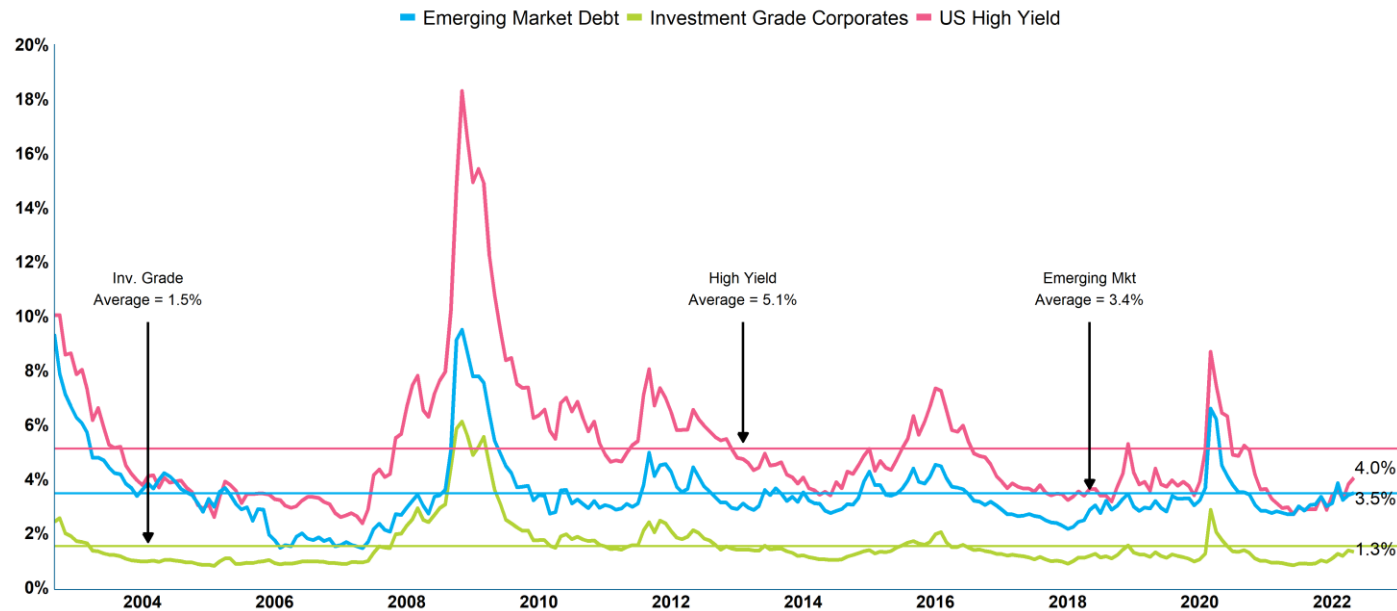
Ten-Year Breakeven Inflation and CPI¹



- Inflation expectations (breakevens) declined modestly in May after breaching 3.0% in April.
- Trailing twelve-month CPI rose in May (8.6% versus 8.3%) and notably came in above expectations. Inflation levels in the US remain well above the long-term average of 2.3%.
- Rising prices for energy (particularly oil), food, and for new and used cars, remain key drivers of higher inflation.

¹ Source: Bloomberg. Data is as of May 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) were mixed in May.
- In the US, spreads for high yield increased (4.0% versus 3.8%) while investment grade spreads remained the same. Emerging market spreads also increased (3.5% versus 3.4% during the month) but finished lower than US high yield spreads.
- Despite the recent increase, US high yield spreads remain well below the long-term average (4.0% versus 5.1%).

¹ Sources: Bloomberg. Data is as of May 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

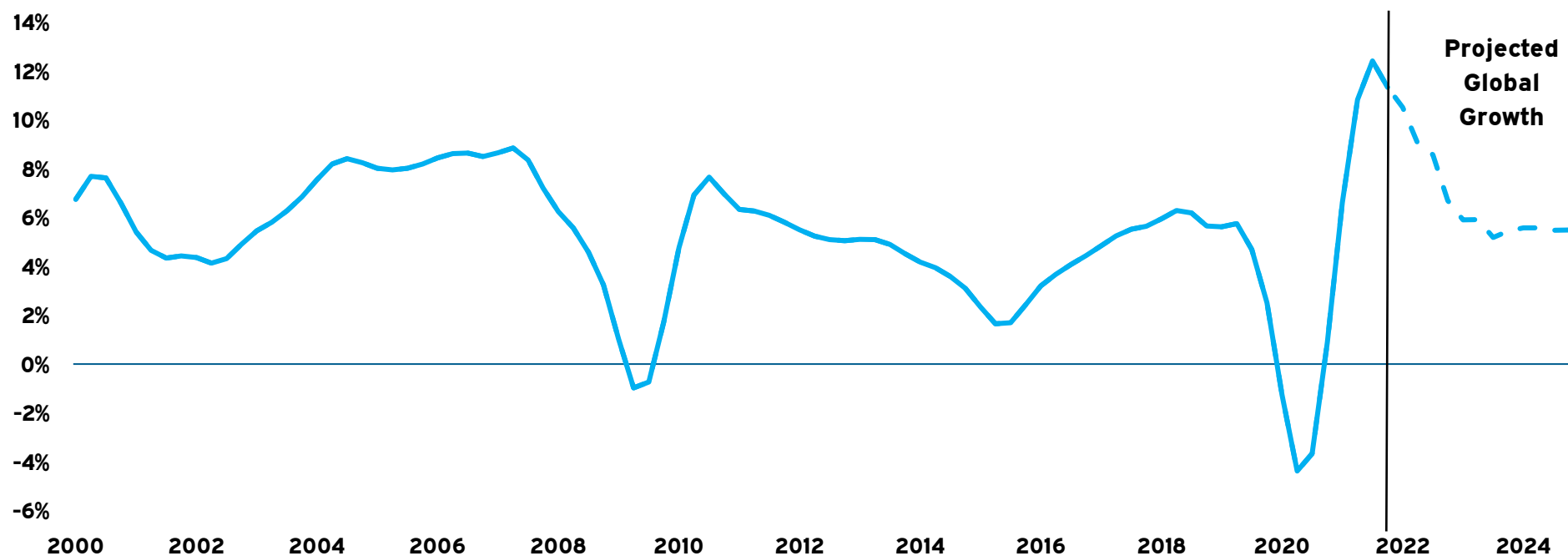
The IMF significantly lowered global growth forecasts in their latest projections, driven by the economic impacts of the war in Ukraine.

- 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 average of 3.0%.
- 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



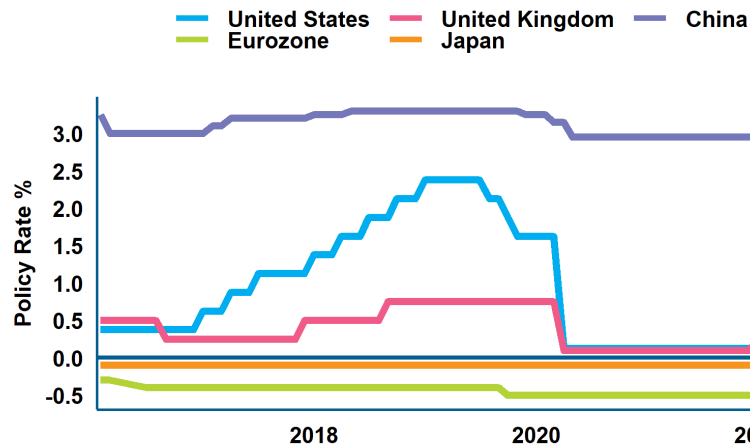
→ Global economies are expected to slow in 2022 compared to 2021.

→ Looking forward, the track of the conflict between Russia and Ukraine, continued supply chain issues, ongoing inflationary pressures, tighter monetary policy, and lingering pandemic problems all remain key with the risk for continued downgrades in growth forecasts.

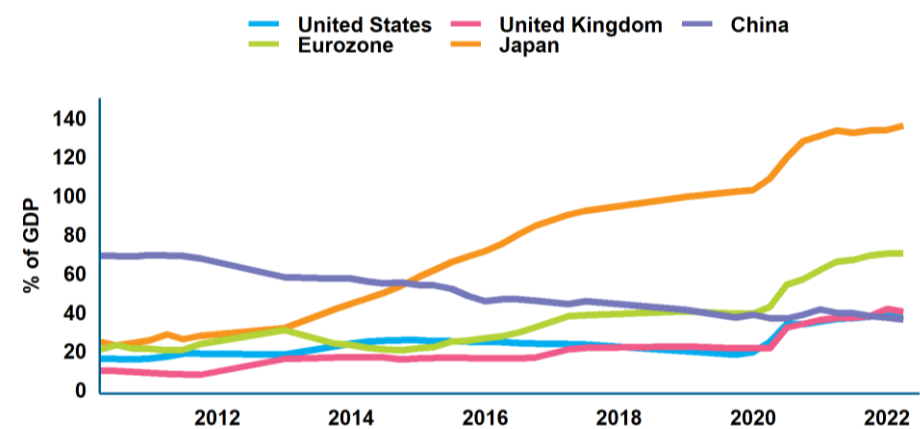
¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated May 2022.

Central Bank Response¹

Policy Rates



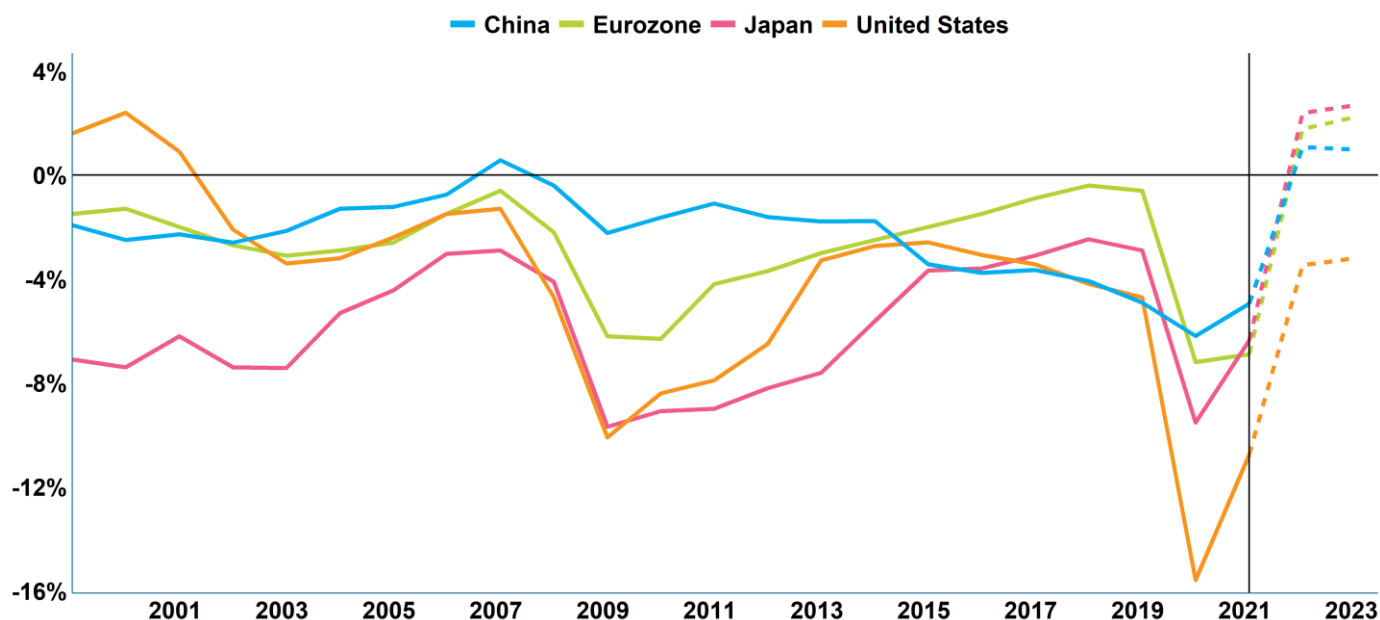
Balance Sheet as % of GDP



- 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 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 May 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 March 31, 2022.

Budget Surplus / Deficit as a Percentage of GDP¹

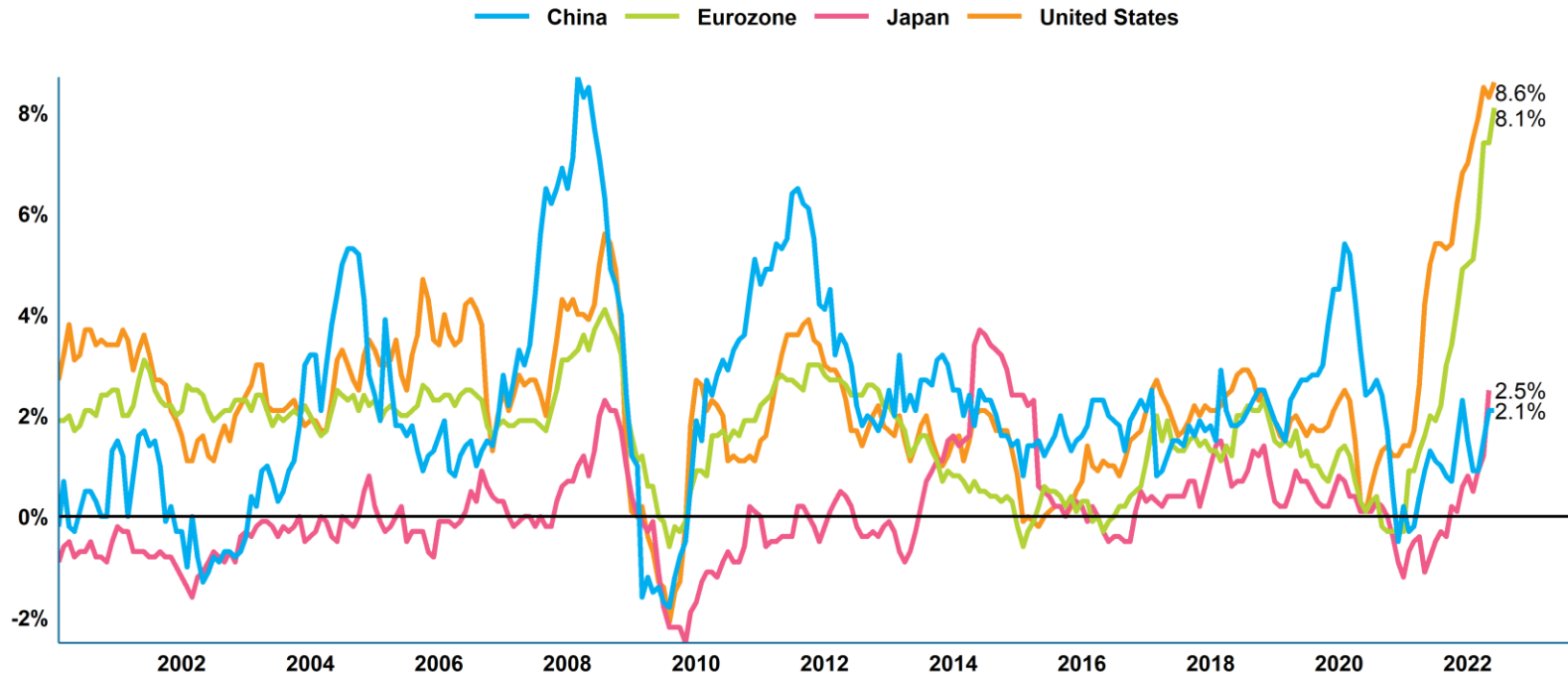


→ Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.

→ As fiscal stimulus programs end, and economic recoveries continue, deficits should improve in the coming years.

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

Inflation (CPI Trailing Twelve Months)¹

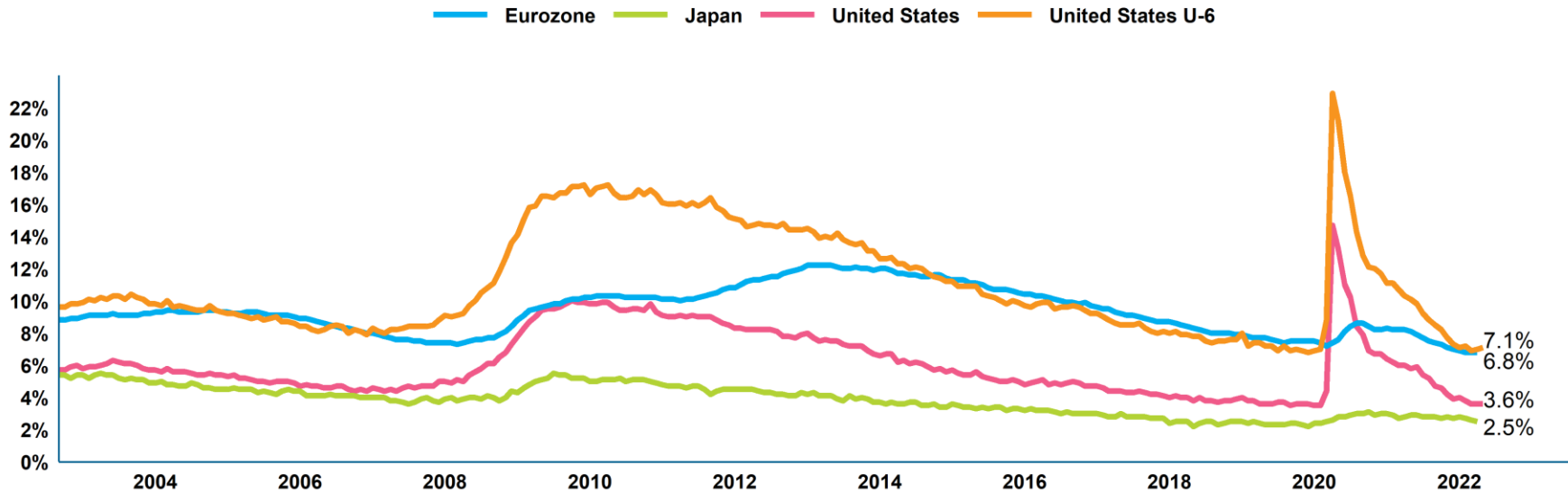


→ Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it remains at levels not seen in decades.

→ 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 May 2022, except for Japan, where the most recent data available is as of April 30, 2022.

Unemployment¹

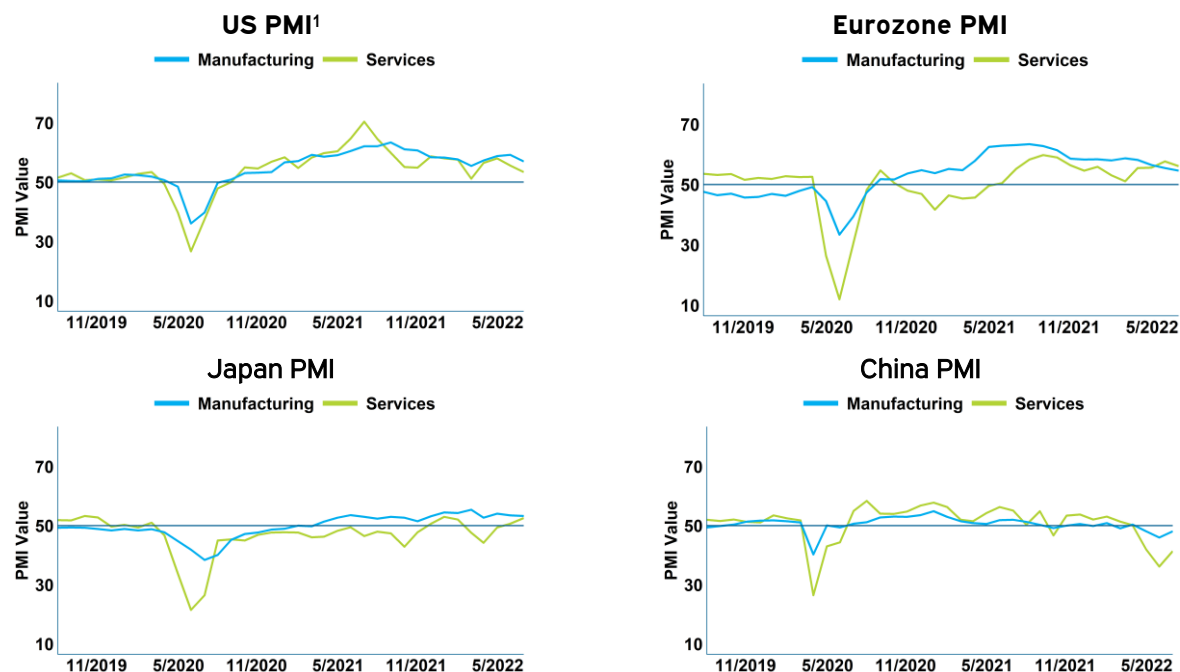


→ As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.

→ 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 7.1%.

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

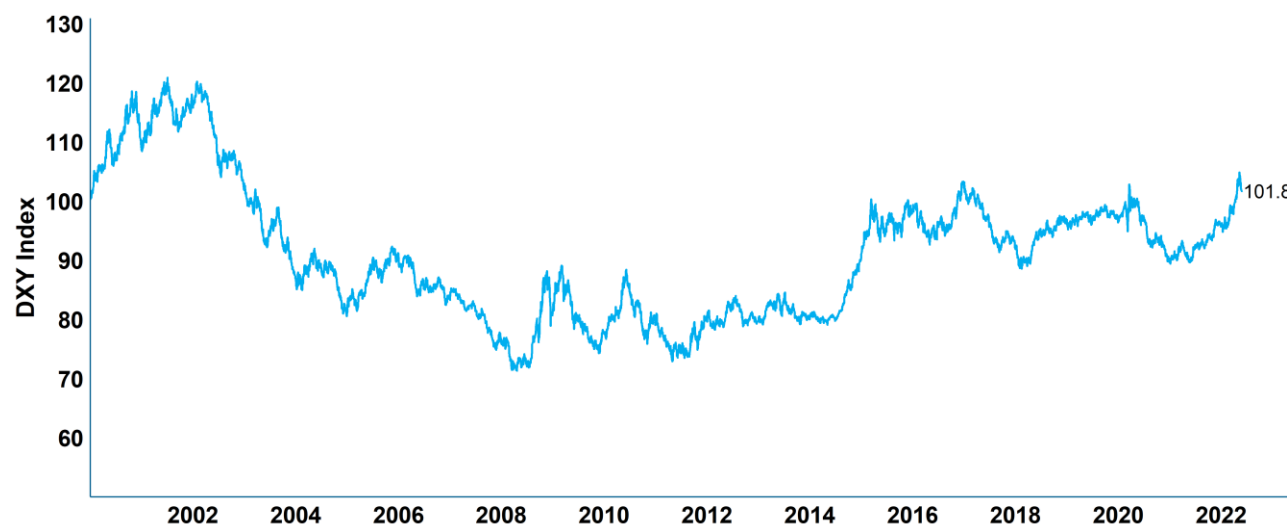
Global PMIs



- 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 they remain in contraction due to strict policies.
- In most countries, manufacturing PMIs are in expansion territory as pandemic-related production issues ease and orders increase. China is the one exception, though, with the manufacturing PMI falling below 50 due again to increased COVID-19 restrictions.

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 May 2022. Readings below 50 represent economic contractions.

US Dollar versus Broad Currencies¹



- The US dollar weakened slightly against a broad basket of peers in May.
- Safe-haven flows, relatively stronger growth, and higher rates have all been key drivers of the dollar's on-going strength.
- 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 May 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. 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 impacting growth remains.
- Valuations remain high in the US but have declined from recent peaks.
- 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.

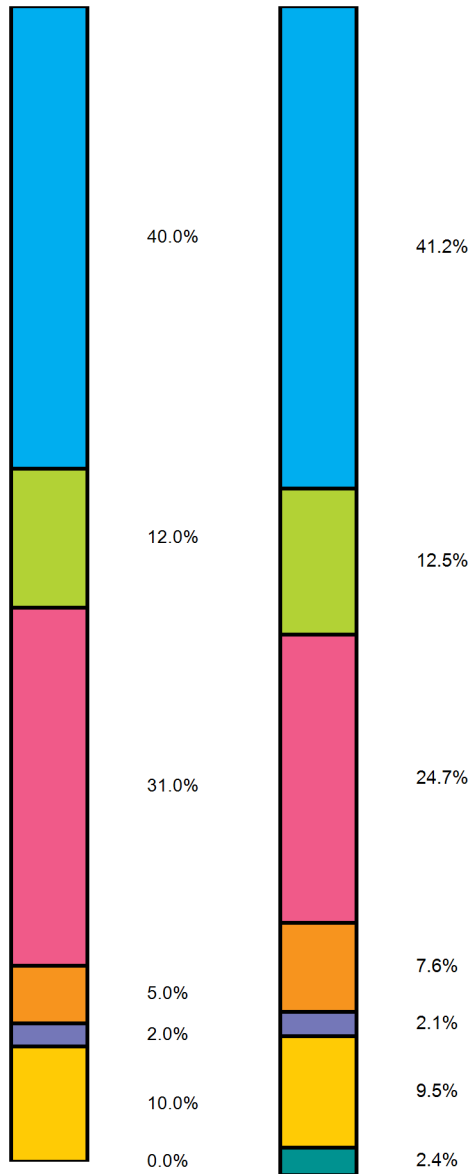
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Oakland Police and Fire Retirement System

June 29, 2022

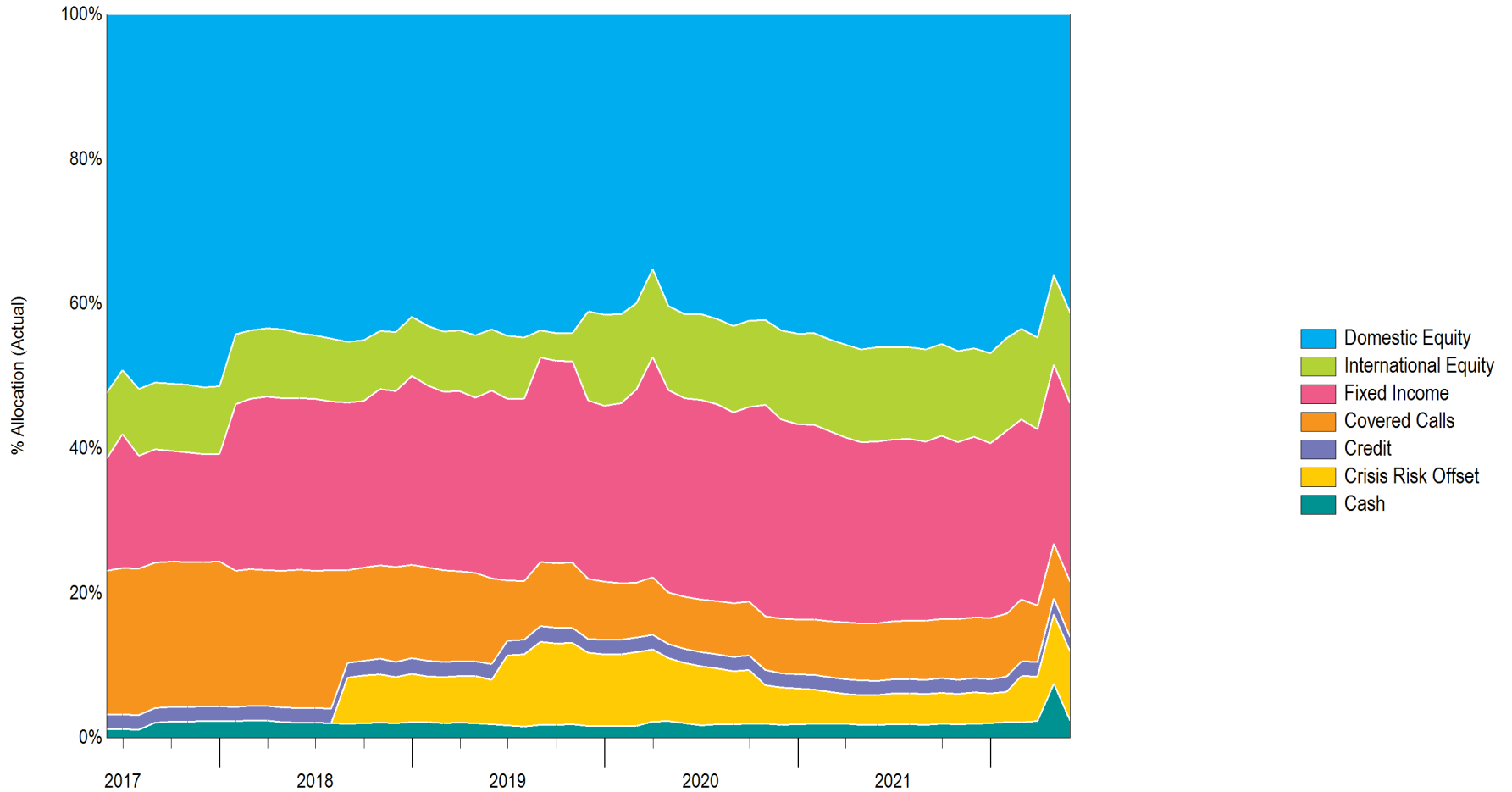
May Flash Report

As of May 31, 2022



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Within IPS Range?	
Domestic Equity	\$176,608,450	41.2%	40.0%	1.2%	Yes	
International Equity	\$53,530,993	12.5%	12.0%	0.5%	Yes	
Fixed Income	\$105,795,872	24.7%	31.0%	-6.3%	No	
Covered Calls	\$32,704,640	7.6%	5.0%	2.6%	Yes	
Credit	\$8,919,130	2.1%	2.0%	0.1%	Yes	
Crisis Risk Offset	\$40,747,394	9.5%	10.0%	-0.5%	Yes	
Cash	\$10,233,092	2.4%	0.0%	2.4%	Yes	
Total	\$428,539,571	100.0%	100.0%			

Asset Allocation History
5 Years Ending May 31, 2022



As of May 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	428,539,571	100.0	0.4	-5.7	-10.6	-4.6	7.8	7.2	8.2	6.7	Dec-88
<i>OPFRS Policy Benchmark</i>			<i>0.1</i>	<i>-6.8</i>	<i>-10.6</i>	<i>-5.5</i>	<i>7.5</i>	<i>6.7</i>	<i>7.7</i>	<i>8.0</i>	<i>Dec-88</i>
Domestic Equity	176,608,450	41.2	0.9	-4.2	-12.4	-2.8	14.8	12.3	13.8	9.0	Jun-97
<i>Russell 3000 (Blend)</i>			<i>-0.1</i>	<i>-6.0</i>	<i>-13.9</i>	<i>-3.7</i>	<i>15.6</i>	<i>12.7</i>	<i>14.0</i>	<i>9.2</i>	<i>Jun-97</i>
International Equity	53,530,993	12.5	1.1	-8.4	-10.2	-9.5	7.7	5.4	7.7	5.4	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>0.8</i>	<i>-11.4</i>	<i>-10.5</i>	<i>-12.0</i>	<i>7.0</i>	<i>4.9</i>	<i>6.9</i>	<i>5.5</i>	<i>Jan-98</i>
Fixed Income	105,795,872	24.7	0.1	-9.0	-9.2	-8.2	0.4	1.8	2.3	4.9	Dec-93
<i>Bloomberg Universal (Blend)</i>			<i>0.6</i>	<i>-9.1</i>	<i>-9.1</i>	<i>-8.4</i>	<i>0.2</i>	<i>1.3</i>	<i>2.1</i>	<i>4.8</i>	<i>Dec-93</i>
Credit	8,919,130	2.1	-1.6	-2.2	-4.6	-0.6	4.4	4.6	--	5.5	Feb-15
<i>Bloomberg US High Yield TR</i>			<i>0.2</i>	<i>-6.5</i>	<i>-8.0</i>	<i>-5.3</i>	<i>3.3</i>	<i>3.6</i>	<i>5.4</i>	<i>4.6</i>	<i>Feb-15</i>
Covered Calls	32,704,640	7.6	0.3	0.1	-9.0	2.3	13.1	9.8	--	9.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>-3.7</i>	<i>0.3</i>	<i>-7.5</i>	<i>2.5</i>	<i>6.4</i>	<i>4.9</i>	<i>6.7</i>	<i>5.8</i>	<i>Apr-14</i>
Crisis Risk Offset	40,747,394	9.5	-1.0	-10.9	-12.7	-7.4	-10.8	--	--	-10.4	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<i>1.5</i>	<i>5.8</i>	<i>4.1</i>	<i>5.5</i>	<i>-1.0</i>	<i>--</i>	<i>--</i>	<i>-0.8</i>	<i>Aug-18</i>

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 May 31, 2022

Trailing Net Performance												
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	428,539,571	100.0	--	0.4	-5.7	-10.6	-4.6	7.8	7.2	8.2	6.7	Dec-88
<i>OPFRS Policy Benchmark</i>				<i>0.1</i>	<i>-6.8</i>	<i>-10.6</i>	<i>-5.5</i>	<i>7.5</i>	<i>6.7</i>	<i>7.7</i>	<i>8.0</i>	<i>Dec-88</i>
Domestic Equity	176,608,450	41.2	41.2	0.9	-4.2	-12.4	-2.8	14.8	12.3	13.8	9.0	Jun-97
<i>Russell 3000 (Blend)</i>				<i>-0.1</i>	<i>-6.0</i>	<i>-13.9</i>	<i>-3.7</i>	<i>15.6</i>	<i>12.7</i>	<i>14.0</i>	<i>9.2</i>	<i>Jun-97</i>
Northern Trust Russell 1000	89,883,834	21.0	50.9	-0.5	-5.4	-14.0	-3.0	15.9	13.0	14.2	13.8	Jun-10
<i>Russell 1000</i>				<i>-0.2</i>	<i>-5.1</i>	<i>-13.7</i>	<i>-2.7</i>	<i>16.0</i>	<i>13.1</i>	<i>14.2</i>	<i>13.8</i>	<i>Jun-10</i>
EARNEST Partners	46,902,182	10.9	26.6	3.4	0.3	-8.9	0.2	17.7	14.5	15.5	10.8	Apr-06
<i>Russell MidCap</i>				<i>0.1</i>	<i>-8.1</i>	<i>-12.9</i>	<i>-6.8</i>	<i>12.9</i>	<i>10.5</i>	<i>12.8</i>	<i>9.0</i>	<i>Apr-06</i>
Wellington Select Quality Equity	15,000,000	3.5	8.5	0.0	--	--	--	--	--	--	0.0	May-22
<i>Russell 1000</i>				<i>-0.2</i>	<i>-5.1</i>	<i>-13.7</i>	<i>-2.7</i>	<i>16.0</i>	<i>13.1</i>	<i>14.2</i>	<i>-0.2</i>	<i>May-22</i>
Rice Hall James	14,045,517	3.3	8.0	-0.1	-17.8	-19.4	-16.2	9.3	--	--	8.0	Jul-17
<i>Russell 2000 Growth</i>				<i>-1.9</i>	<i>-29.0</i>	<i>-24.8</i>	<i>-25.7</i>	<i>6.2</i>	<i>6.9</i>	<i>10.6</i>	<i>6.3</i>	<i>Jul-17</i>
Brown Fundamental Small Cap Value	10,776,916	2.5	6.1	3.2	-2.0	-8.6	-4.6	--	--	--	1.1	Apr-21
<i>Russell 2000 Value</i>				<i>1.9</i>	<i>-7.1</i>	<i>-8.2</i>	<i>-7.7</i>	<i>12.2</i>	<i>7.8</i>	<i>10.7</i>	<i>-2.5</i>	<i>Apr-21</i>
International Equity	53,530,993	12.5	12.5	1.1	-8.4	-10.2	-9.5	7.7	5.4	7.7	5.4	Jan-98
<i>MSCI ACWI ex US (Blend)</i>				<i>0.8</i>	<i>-11.4</i>	<i>-10.5</i>	<i>-12.0</i>	<i>7.0</i>	<i>4.9</i>	<i>6.9</i>	<i>5.5</i>	<i>Jan-98</i>
SGA ACWI ex-U.S. Equity	38,291,287	8.9	71.5	0.9	-7.7	-9.7	-9.1	--	--	--	3.3	Dec-19
<i>MSCI ACWI ex USA Gross</i>				<i>0.8</i>	<i>-11.4</i>	<i>-10.5</i>	<i>-12.0</i>	<i>7.0</i>	<i>4.9</i>	<i>6.9</i>	<i>4.8</i>	<i>Dec-19</i>
Vanguard Developed Markets ETF	15,239,706	3.6	28.5	1.7	-9.8	-10.7	-10.6	--	--	--	7.6	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>				<i>0.8</i>	<i>-9.3</i>	<i>-10.7</i>	<i>-10.1</i>	<i>7.9</i>	<i>5.2</i>	<i>7.7</i>	<i>7.9</i>	<i>Sep-19</i>

Performance shown is net-of-fees and time-weighted using the Modified Dietz methodology. Fiscal year starts July 1. Since inception date and performance begin in the full calendar month following an investment's initial funding.

As of May 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Fixed Income	105,795,872	24.7	24.7	0.1	-9.0	-9.2	-8.2	0.4	1.8	2.3	4.9	Dec-93
<i>Bloomberg Universal (Blend)</i>				<i>0.6</i>	<i>-9.1</i>	<i>-9.1</i>	<i>-8.4</i>	<i>0.2</i>	<i>1.3</i>	<i>2.1</i>	<i>4.8</i>	<i>Dec-93</i>
Ramirez	71,864,045	16.8	67.9	-0.2	-9.3	-9.5	-8.4	0.2	1.7	--	2.1	Jan-17
<i>Bloomberg US Aggregate TR</i>				<i>0.6</i>	<i>-8.9</i>	<i>-8.9</i>	<i>-8.2</i>	<i>0.0</i>	<i>1.2</i>	<i>1.7</i>	<i>1.5</i>	<i>Jan-17</i>
Reams	27,035,034	6.3	25.6	0.7	-8.2	-8.5	-7.5	3.9	3.8	3.4	5.4	Feb-98
<i>Bloomberg Universal (Blend)</i>				<i>0.6</i>	<i>-9.1</i>	<i>-9.1</i>	<i>-8.4</i>	<i>0.2</i>	<i>1.3</i>	<i>2.1</i>	<i>4.4</i>	<i>Feb-98</i>
Wellington Core Bond	6,896,794	1.6	6.5	0.5	-9.6	-9.6	-8.8	--	--	--	-6.8	Apr-21
<i>Bloomberg US Aggregate TR</i>				<i>0.6</i>	<i>-8.9</i>	<i>-8.9</i>	<i>-8.2</i>	<i>0.0</i>	<i>1.2</i>	<i>1.7</i>	<i>-6.2</i>	<i>Apr-21</i>
Credit	8,919,130	2.1	2.1	-1.6	-2.2	-4.6	-0.6	4.4	4.6	--	5.5	Feb-15
<i>Bloomberg US High Yield TR</i>				<i>0.2</i>	<i>-6.5</i>	<i>-8.0</i>	<i>-5.3</i>	<i>3.3</i>	<i>3.6</i>	<i>5.4</i>	<i>4.6</i>	<i>Feb-15</i>
Polen Capital	8,919,130	2.1	100.0	-1.6	-2.2	-4.6	-0.6	4.4	4.6	--	5.5	Feb-15
<i>ICE BofA High Yield Master TR</i>				<i>0.3</i>	<i>-6.3</i>	<i>-7.8</i>	<i>-5.0</i>	<i>3.2</i>	<i>3.4</i>	<i>5.4</i>	<i>4.5</i>	<i>Feb-15</i>
Covered Calls	32,704,640	7.6	7.6	0.3	0.1	-9.0	2.3	13.1	9.8	--	9.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>-3.7</i>	<i>0.3</i>	<i>-7.5</i>	<i>2.5</i>	<i>6.4</i>	<i>4.9</i>	<i>6.7</i>	<i>5.8</i>	<i>Apr-14</i>
Parametric BXM	16,429,869	3.8	50.2	0.4	0.2	-6.8	2.0	9.4	7.1	--	7.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>-3.7</i>	<i>0.3</i>	<i>-7.5</i>	<i>2.5</i>	<i>6.4</i>	<i>4.9</i>	<i>6.7</i>	<i>5.8</i>	<i>Apr-14</i>
Parametric DeltaShift	16,274,771	3.8	49.8	0.2	-0.2	-10.9	2.2	16.4	12.1	--	11.4	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>-3.7</i>	<i>0.3</i>	<i>-7.5</i>	<i>2.5</i>	<i>6.4</i>	<i>4.9</i>	<i>6.7</i>	<i>5.8</i>	<i>Apr-14</i>

As of May 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Crisis Risk Offset	40,747,394	9.5	9.5	-1.0	-10.9	-12.7	-7.4	-10.8	--	--	-10.4	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>				<i>1.5</i>	<i>5.8</i>	<i>4.1</i>	<i>5.5</i>	<i>-1.0</i>	<i>--</i>	<i>--</i>	<i>-0.8</i>	<i>Aug-18</i>
Vanguard Long-Term Treasury ETF	15,853,085	3.7	38.9	-2.2	-18.7	-20.3	-15.4	--	--	--	-3.3	Jul-19
<i>Bloomberg US Govt Long TR</i>				<i>-1.9</i>	<i>-17.2</i>	<i>-20.0</i>	<i>-14.3</i>	<i>-2.0</i>	<i>0.9</i>	<i>1.7</i>	<i>-2.5</i>	<i>Jul-19</i>
Versor Trend Following	15,000,000	3.5	36.8	0.0	--	--	--	--	--	--	0.0	Apr-22
<i>SG Trend Index</i>				<i>-0.3</i>	<i>27.6</i>	<i>25.6</i>	<i>24.8</i>	<i>15.0</i>	<i>8.8</i>	<i>4.8</i>	<i>6.7</i>	<i>Apr-22</i>
Kepos Alternative Risk Premia	9,894,309	2.3	24.3	-0.5	--	--	--	--	--	--	-0.8	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>				<i>1.5</i>	<i>5.8</i>	<i>4.1</i>	<i>5.5</i>	<i>-1.0</i>	<i>--</i>	<i>--</i>	<i>3.3</i>	<i>Feb-22</i>
Cash	10,233,092	2.4	2.4	0.0	0.0	0.0	0.0	0.9	1.2	0.7	0.6	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.7</i>	<i>1.1</i>	<i>0.6</i>	<i>0.5</i>	<i>Mar-11</i>
Cash - Treasury	7,190,000	1.7	70.3									
Cash	3,043,092	0.7	29.7	0.0	0.0	0.0	0.0	1.1	1.4	0.8	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.7</i>	<i>1.1</i>	<i>0.6</i>	<i>0.5</i>	<i>Mar-11</i>

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

As of May 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	\$10,447,971	\$0	\$328,945	\$10,776,916
Cash	\$25,152,665	-\$22,109,573	\$0	\$3,043,092
Cash - Treasury	\$6,865,000	\$325,000	\$0	\$7,190,000
EARNEST Partners	\$45,339,132	\$0	\$1,563,050	\$46,902,182
Kepos Alternative Risk Premia	\$9,948,378	\$0	-\$54,070	\$9,894,309
Northern Trust Russell 1000	\$84,107,653	\$6,183,983	-\$407,802	\$89,883,834
Parametric BXM	\$16,357,603	\$0	\$72,266	\$16,429,869
Parametric DeltaShift	\$16,244,931	\$0	\$29,840	\$16,274,771
Polen Capital	\$9,070,808	\$0	-\$151,678	\$8,919,130
Ramirez	\$71,999,758	\$0	-\$135,713	\$71,864,045
Reams	\$26,835,789	\$0	\$199,245	\$27,035,034
Rice Hall James	\$14,060,617	\$0	-\$15,100	\$14,045,517
Securities Lending Northern Trust	\$0	-\$10,669	\$10,669	\$0
SGA ACWI ex-U.S. Equity	\$37,931,145	\$0	\$360,142	\$38,291,287
Vanguard Developed Markets ETF	\$14,991,906	\$0	\$247,800	\$15,239,706
Vanguard Long-Term Treasury ETF	\$16,211,209	\$0	-\$358,124	\$15,853,085
Versor Trend Following	\$15,000,000	\$0	\$0	\$15,000,000
Wellington Core Bond	\$6,861,081	\$0	\$35,712	\$6,896,794
Wellington Select Quality Equity	\$0	\$15,000,000	\$0	\$15,000,000
Total	\$427,425,646	-\$611,259	\$1,725,183	\$428,539,571

Benchmark History
As of May 31, 2022

Total Plan x Securities Lending x Reams LD Exception Comp

1/1/2019	Present	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
9/1/1988	3/31/1998	40% S&P 500 / 55% Bloomberg US Aggregate TR / 5% FTSE T-Bill 3 Months TR

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Oakland Police and Retirement System

June 29, 2022

Recommendation for 2022
Q3 Cash Flows

Asset Class / Manager Liquidity

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

Description of Liquidity Tiers

Tier	Description	Market Value (\$M)	in Months
1	Public, Scheduled Withdrawal Allowances	124.0	20.7
2	Public, Accommodating of Withdrawals	140.5	23.4
3	Public, Must Plan Withdrawals	171.8	28.6
4	Closely Held	0.0	-
Total		436.3	

Oakland PFRS Asset Allocation as of May 31, 2022¹

	Market Value		Target	Variance		Actual Cash Flows for Apr – Jun Benefits ²		Suggested Cash Flows for Jul – Sep Benefits	
	(\$M)	(%)	(%)	(\$M)	(%)	Inflow (\$M)	Outflow (\$M)	Inflow (\$M)	Outflow (\$M)
Northern Trust Russell 1000	89.9	20.6	20.0	2.6	0.6		(3.0)		
EARNEST Partners	46.9	10.7	8.0	12.0	2.7				
Wellington Defensive Equity	30.0	6.9	6.0	3.8	0.9				
Rice Hall James	14.0	3.2	3.0	1.0	0.2				
Brown Small Cap Value	10.8	2.5	3.0	(2.3)	(0.5)				
Total Domestic Equity	191.6	43.9	40.0	17.1	3.9				
SGA MSCI ACWI ex-US	38.3	8.8	8.4	1.6	0.4				
Vanguard Developed Markets ETF	15.2	3.5	3.6	(0.5)	(0.1)				
Total International Equity	53.5	12.3	12.0	1.2	0.3				
Total Public Equity	245.1	56.2	52.0	18.2	4.2				
Parametric	32.7	7.5	5.0	10.9	2.5				(6.0)
Total Covered Calls	32.7	7.5	5.0	10.9	2.5				
Vanguard Long Duration ETF	15.9	3.6	3.3	1.3	0.3				
Versor Trend Following	15.0	3.4	3.3	0.6	0.1				
Kepos Alternative Risk Premia	9.9	2.3	3.3	(4.5)	(1.0)				
Total Crisis Risk Offset	40.7	7.1	9.9	(12.5)	(2.9)				
Ramirez	71.9	16.5	17.0	(2.3)	(0.5)				
Reams	27.0	6.2	12.0	(25.3)	(5.8)				
Wellington Core Bond	6.9	1.6	2.0	(1.8)	(0.4)				
Polen Capital High Yield	8.9	2.0	2.0	0.2	0.0				
Total Public Fixed Income	114.7	26.3	33.0	(29.3)	(6.7)				
Cash	3.0	0.7	0.0	3.0	0.7	10.9	(10.9)	8.2	(8.2)
Total Stable	117.8	27.0	33.0	(26.2)	(6.0)				
Total Portfolio	436.3	100.0	100.0	---	---	10.9	(13.9)	8.2	(14.2)

¹ Report reflects change in asset allocation from 05/31/2022 values listed by Northern Trust; market value for Versor Trend Following is as of 04/30/2022. Beneficiary payments estimated at \$14.2 million on a quarterly basis per OPFRS. Report reflects quarterly City contributions of \$8.2 million. Current City of Oakland quarterly contribution amount is based on FY 2021/2022 actuarial annual required contribution of \$43.65 million.

² Benefits are payable on first of each month.

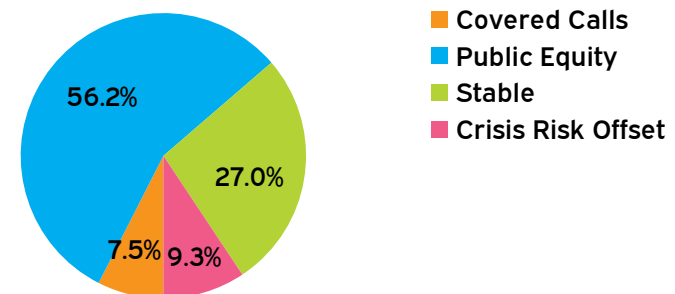
Market Value by Portfolio Segment

Portfolio Segment	Market Value (\$M)
Domestic Equity	191.6
International Equity	53.5
Total Public Equity	245.1
Covered Calls	32.7
Crisis Risk Offset	40.7
Public Fixed Income	114.7
Cash Equivalents	3.0
Total Stable	117.7
Total Portfolio	436.3

Suggested Cash Withdrawals

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

Projected Equity to Fixed Income Allocation



Market value difference in Public Equity from 52 allocation: **\$18.2 million**

Projected OPFRS Asset Allocation¹

	Estimated Market Value		Target	Projected Variance from Target	
	(\$M)	()		()	(\$M)
Northern Trust Russell 1000	86.9	20.3	20.0	0.3	1.4
EARNEST Partners	46.9	11.0	6.0	5.0	21.3
Wellington Defensive Equity	30.0	7.0	8.0	(1.0)	(4.2)
Rice Hall James	14.0	3.3	3.0	0.3	1.2
Brown Small Cap Value	10.8	2.5	3.0	(0.5)	(2.0)
Total Domestic Equity	188.6	44.1	40.0	4.1	17.7
SGA MSCI ACWI ex-US	38.3	9.0	3.6	5.4	22.9
Vanguard Developed Markets ETF	15.2	3.6	8.4	(4.8)	(20.7)
Total International Equity	53.5	12.5	12.0	0.5	2.2
Total Public Equity	242.1	56.7	52.0	4.7	19.9
Parametric	26.7	6.2	5.0	1.2	5.3
Total Covered Calls	26.7	6.2	5.0	1.2	5.3
Vanguard Long Duration ETF	15.9	3.7	3.3	0.4	1.6
Versor Trend Following	15.0	3.5	3.3	0.2	0.8
Kepos Alternative Risk Premia	9.9	2.3	3.3	(1.0)	(4.3)
Total Crisis Risk Offset	40.7	9.5	10.0	(0.5)	(2.0)
Ramirez	71.9	16.8	12.0	4.8	20.6
Reams	27.0	6.3	2.0	4.3	18.5
Wellington Core Bond	6.9	1.6	19.0	(17.4)	(74.3)
Polen Capital High Yield	8.9	2.1	2.0	0.1	0.4
Total Public Fixed Income	114.7	26.8	33.0	(6.2)	(26.3)
Cash	3.0	0.7	0.0	0.7	3.0
Total Stable	117.8	27.6	33.0	(5.4)	(23.3)
Total Portfolio	427.3	100.0	100.0	---	---

¹ Report reflects change in asset allocation from 05/31/2022 values listed by Northern Trust; market value for Versor Trend Following is as of 04/30/2022. Beneficiary payments estimated at \$14.2 million on a quarterly basis per OPFRS. Report reflects quarterly City contributions of \$8.2 million. Current City of Oakland quarterly contribution amount is based on FY 2021/2022 actuarial annual required contribution of \$43.65 million.

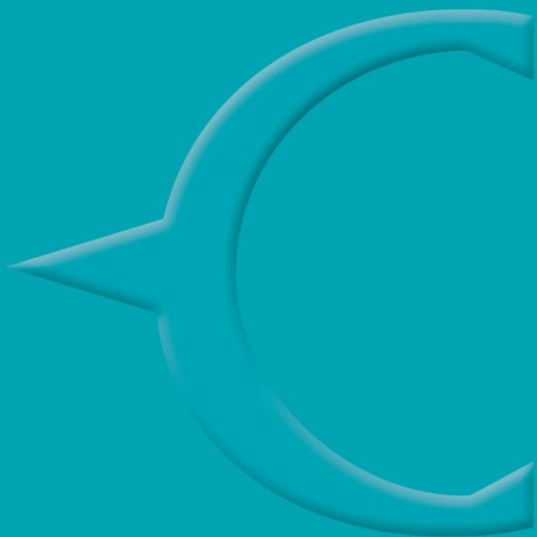
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Oakland Police and Fire Retirement System

**Actuarial Valuation Report
as of July 1, 2021**

Produced by Cheiron

January 2022

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January 13, 2022

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

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the Oakland Police and Fire Retirement System (PFRS, the Plan) as of July 1, 2021. This report contains information on the Plan's assets and liabilities. This report also discloses the employer contributions in accordance with the funding agreement between the City of Oakland and PFRS, based on the current financial status of the Plan. Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

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

The assumptions used in this report were adopted by the Board of Administration with our input at the February 28, 2018 Board meeting based on recommendations from our experience study covering plan experience for the period from July 1, 2014 through ending June 30, 2017. We believe these assumptions are reasonable for the purpose of the valuation.

The funding ratios in this report are for the purpose of establishing contribution rates. These measures are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

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

Deterministic projections in this valuation report were developed using P-scan, a proprietary tool used to illustrate the impact of changes in assumptions, methods, plan provisions, or actual experience (particularly investment experience) on the future financial status of the Plan. P-scan uses standard roll-forward techniques. Because P-scan does not automatically capture how changes in one variable affect all other variables, some scenarios may not be consistent.

Stochastic projections in this valuation report were developed using R-scan, our proprietary tool for assessing the probability of different outcomes based on a range of potential investment

returns. We relied on Cheiron colleagues for the development of the model. The stochastic projections of investment returns assume that each future year's investment return is independent from all other years and is identically distributed according to a lognormal distribution. The standard deviation used in the stochastic projection of investment returns was provided by the Plan's investment consultant.

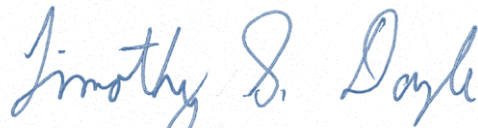
Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and, changes in plan provisions or applicable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

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

Sincerely,
Cheiron



Graham A. Schmidt, ASA, EA, FCA, MAAA
Consulting Actuary



Timothy S. Doyle, ASA, EA, MAAA
Associate Actuary

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

FOREWORD

Cheiron has performed the actuarial valuation of the Oakland Police and Fire Retirement System (PFRS, the Plan) as of July 1, 2021. The valuation is organized as follows:

- In Section I, the **Executive Summary**, we describe the purpose of an actuarial valuation, summarize the key results found in this valuation, and disclose important trends.
- The **Main Body** of the report presents details on the Plan's
 - Section II – Identification and Assessment of Risks
 - Section III – Assets
 - Section IV – Liabilities
 - Section V – Contributions
 - Section VI – Head Count and Benefit Payment Projections
- In the **Appendices**, we conclude our report with detailed information describing plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent plan provisions (Appendix C), and a glossary of key actuarial terms (Appendix D).

The results of this report rely on future experience conforming to the underlying assumptions. To the extent that actual plan experience deviates from the underlying assumptions, the results would vary accordingly.

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

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION I – EXECUTIVE SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe, and identify the following as of the valuation date:

- The financial condition of the Plan,
- Past and expected trends in the financial progress of the Plan,
- Calculation of the actuarially determined contributions for years beginning in Fiscal Year 2022-2023, and
- An assessment and disclosure of key risks.

In the balance of this Executive Summary, we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the Plan.

A. Valuation Basis

This valuation estimates the projected employer contributions in accordance with the funding agreement dated July 1, 2012 between the City of Oakland and the PFRS. Based on that agreement, employer contributions were suspended until fiscal year 2017-2018, at which time they resumed at a level based upon the recommendation of the actuary. Section V of this report shows the development of the employer contribution for fiscal year 2022-2023.

The Plan's funding policy is to contribute an amount equal to the sum of:

- The normal cost under the Entry Age Normal Cost Method (which is zero, as there are no active members),
- Amortization of the Unfunded Actuarial Liability, and
- The Plan's expected administrative expenses.

This valuation was prepared based on the plan provisions shown in Appendix C. There have been no changes in plan provisions since the prior valuation.

A summary of the assumptions and methods used in the current valuation is shown in Appendix B. There have been no changes to the actuarial assumptions or methods since the prior valuation.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION I – EXECUTIVE SUMMARY

B. Key Findings of this Valuation

The key results of the July 1, 2021 actuarial valuation are as follows:

- The actuarially determined employer contribution amount for Fiscal Year 2022-2023 is \$32.7 million, based on projecting the Actuarial Liabilities and the Actuarial Value of Assets to the end of the 2021-2022 Fiscal Year. This represents a decrease of \$12.1 million from the estimated amount in the prior valuation for the same Fiscal Year. The contribution is assumed to be paid in equal installments throughout the year, or on average at approximately January 1, 2023.
- During the year ended June 30, 2021, the return on Plan assets was 24.14% on a market value basis net of investment expenses, as compared to the 6.00% assumption for the 2020-2021 Plan year. This resulted in a market value gain on investments of \$67.8 million. The Actuarial Value of Assets (AVA) is calculated as the expected AVA plus 20% of the difference between the market value and the expected AVA, which is restricted to be between 90% and 110% of the MVA. This smoothed value of assets returned 14.16%, for an actuarial asset gain of \$29.9 million. Without the 10% corridor, the actuarial asset gain would have been \$15.1 million.
- The Plan experienced a gain on the Actuarial Liability of \$6.6 million, the net result of changes in the population and changes in benefits. The primary factor was an excess of deaths above the number expected. Combining the liability and asset gains, the Plan experienced a total gain of \$36.5 million.
- The Plan's smoothed funded ratio, the ratio of Actuarial Value of Assets over Actuarial Liability, increased from 62.2% last year to 72.2% as of June 30, 2021.
- The Plan's funded ratio increased from 63.5% to 80.2% on a Market Value of Assets (MVA) basis.
- The Unfunded Actuarial Liability (UAL) is the excess of the Plan's Actuarial Liability over the Actuarial Value of Assets. The Plan experienced a decrease in the UAL from \$225.5 million to \$159.3 million as of July 1, 2021.
- Overall participant membership decreased compared to last year. 29 members died, 12 of whom had their benefits continue to a surviving spouse. In addition, 28 surviving beneficiaries died. There are no active members of the Plan.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION I – EXECUTIVE SUMMARY

- If the contribution was determined using a projected asset value based on the current market (i.e., non-smoothed) value of assets, the contribution for FY 2022-2023 would be \$22.3 million. The contribution is smaller than that determined using the projected AVA, because the current market value reflects the full amount of prior investment gains, while under the AVA projection a portion of those gains are deferred until years after FY 2022-2023.

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

TABLE I-1			
Summary of Principal Plan Results			
(\$ in thousands)			
	July 1, 2020	July 1, 2021	% Change
<u>Participant Counts</u>			
Active Participants	0	0	
Participants Receiving a Benefit	768	723	-5.9%
Total	768	723	-5.9%
Annual Pay of Active Members	\$ 0	\$ 0	
<u>Assets and Liabilities</u>			
Actuarial Liability (AL)	\$ 597,014	\$ 571,942	-4.2%
Actuarial Value of Assets (AVA)	371,467	412,680	11.1%
Unfunded Actuarial Liability (UAL)	\$ 225,547	\$ 159,262	-29.4%
Funded Ratio (AVA)	62.2%	72.2%	9.9%
Funded Ratio (MVA)	63.5%	80.2%	16.7%
<u>Contributions</u>			
Employer Contribution (FY2021-22)	\$ 43,820	N/A	
Employer Contribution (FY2022-23)	\$ 44,828	\$ 32,712	-27.0%

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION I – EXECUTIVE SUMMARY

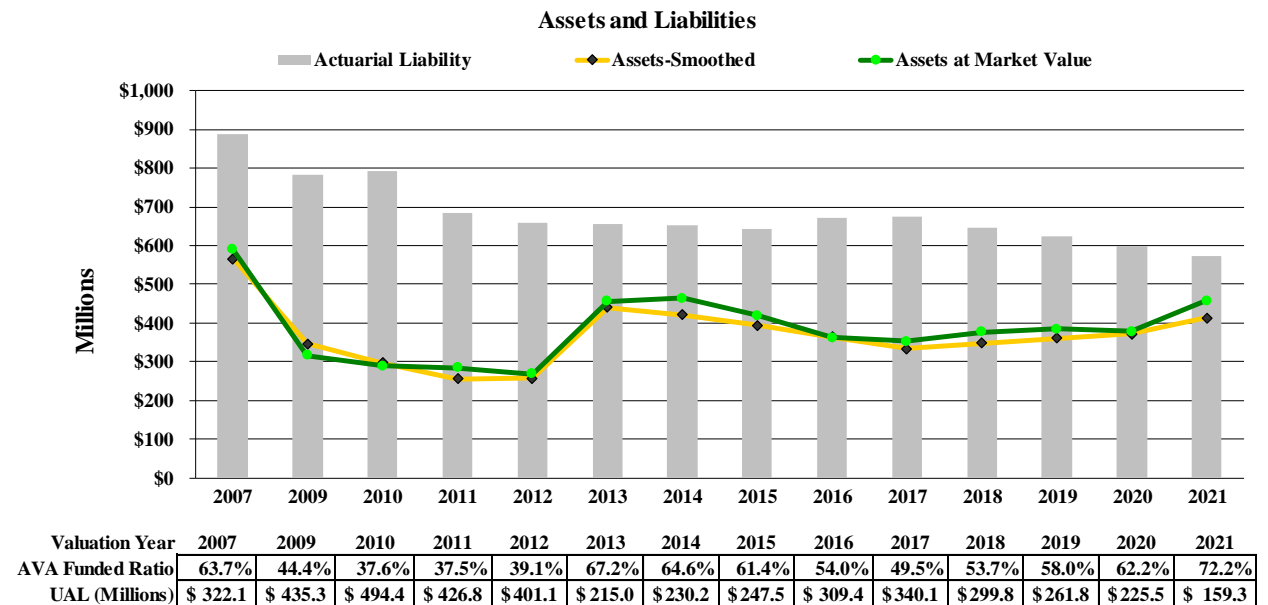
C. Historical Trends

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular, the size of the current Unfunded Actuarial Liability and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year’s valuation result relative to historical trends, as well as trends expected into the future.

Assets and Liabilities

The chart below compares the Market Value of Assets (MVA) and Actuarial Value of Assets (AVA) to the Actuarial Liabilities. The percentages shown in the table below the chart are the ratios of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). We note that for the GASB disclosure report, this ratio is disclosed using the MVA.

The funded ratio declined from 63.7% in 2007 to 37.5% in 2011 due to negative market returns and no contributions being made in that period (\$417 million in proceeds from a POB were deposited in 1997 that acted as prepayments for 15 years of contributions). The funded ratio increased between 2012 and 2013 due to a \$210 million contribution in July 2012. The funded ratio decreased from 67.2% to 49.5% between 2013 and 2017 due to assumption changes, liability losses, new Police MOUs, and the lack of contributions since the July 2012 payment. The funded ratio has increased from 49.5% to 72.2% over the past four years due to recommencement of contributions, the FYE 2021 asset gain, and to a lesser extent other asset and liability gains.

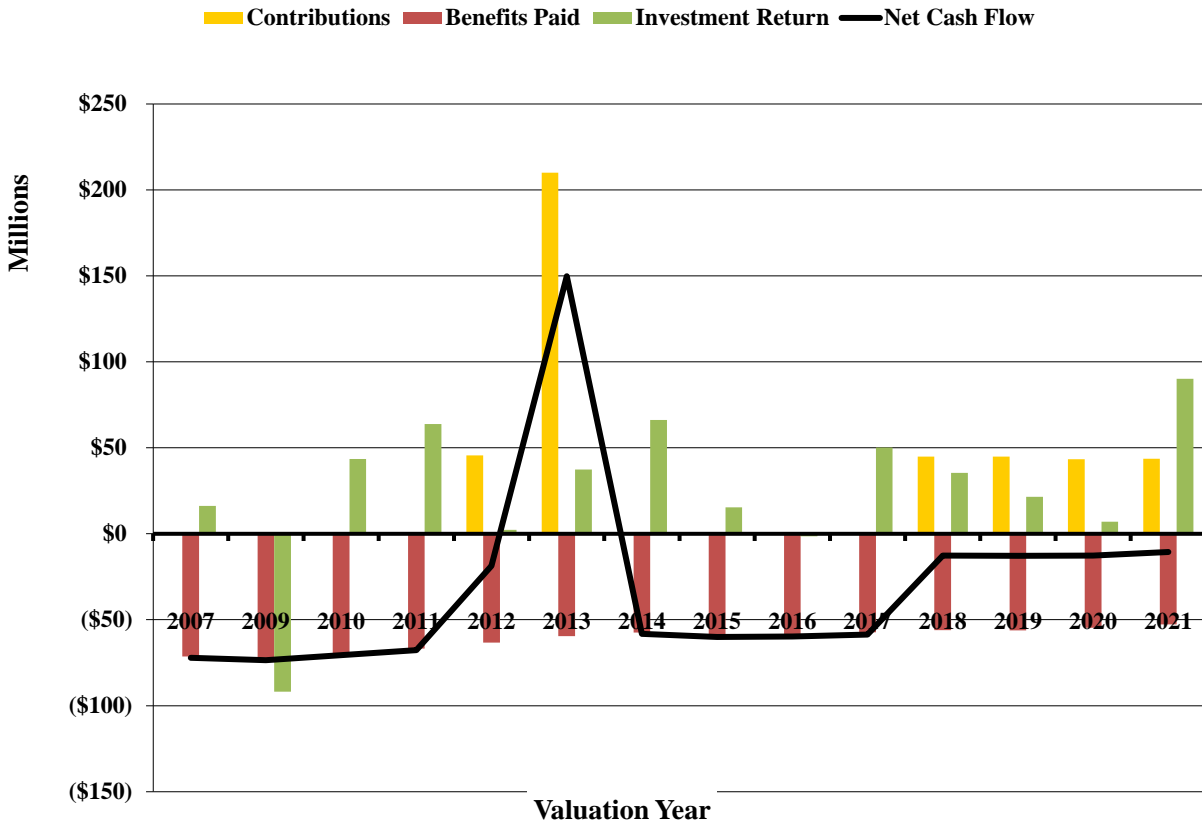


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SECTION I – EXECUTIVE SUMMARY

Cash Flows

The chart below shows the Plan’s cash flow, excluding investment returns (i.e., contributions less benefit payments and expenses). This is a critical measure, as it reflects the ability to have funds available to meet benefit payments without having to make difficult investment decisions, especially during volatile markets.



The contributions, benefit payments, investment returns, and Net Cash Flow (NCF) excluding investment returns and expenses are represented by the scale on the left. The Plan’s net cash flow has been negative 13 of the last 14 fiscal years, primarily due to the lack of contributions except in 2013 and in the most recent four years. Even with the recommencing of contributions under the Plan’s funding policy, benefit payments exceeded contributions for the prior four years, with a negative cash flow rate of around 3% of plan assets per year.

A negative cash flow magnifies the losses during a market decline, hindering the Plan in its ability to absorb market fluctuations. The implications of a plan in negative cash flow are that the impact of market fluctuations can be more severe: as assets are being depleted to pay benefits in down markets, there is less principal available to be reinvested during favorable return periods. The Plan is expected to have a growing negative cash flow position going forward, since the Plan is closed and the assets are expected to decline as the remaining benefits are paid out.

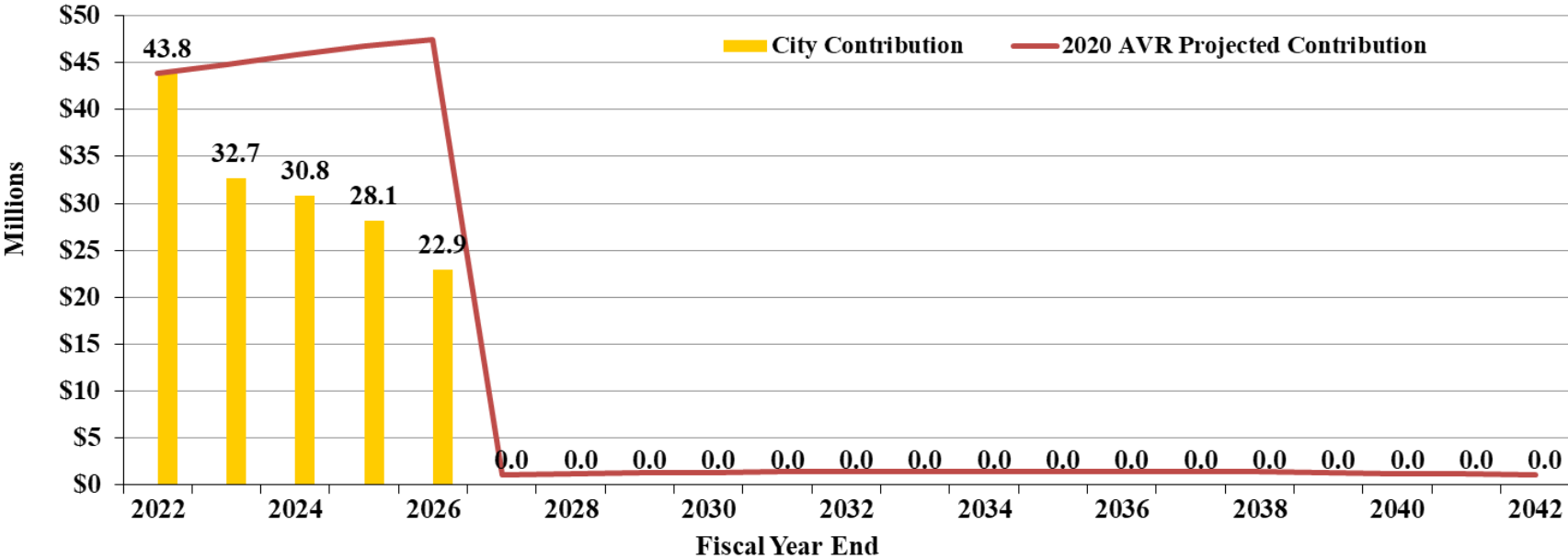
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D. Future Expected Financial Trends

The analysis of projected financial trends is perhaps the most important component of this valuation. In this section, we present our assessment of the implications of the July 1, 2021 valuation results in terms of benefit security (assets over liabilities) and contribution levels. All the projections in this section are based on the assumption that the Plan will exactly achieve the assumed rate of return each year (6.0% per year until 2027, then trending down to an annual return of 3.25% over 10 years).

Projection of Employer Contributions



The above graph shows a projection of the City’s required contributions compared to the same projections from last year’s report. The City’s required contribution decreased from \$43.8 million in fiscal year 2022 to \$32.7 million in fiscal year 2023, and then is expected to decrease by about \$2 million per year for the next two years and by \$5 million in the fourth year as the current unfunded liability is fully amortized and recent asset gains are recognized. This assumes that the annual payments by the City will equal the administrative



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expenses, plus an amount needed to amortize the remaining unfunded liability as a level percentage of overall Safety payroll by July 1, 2026, as is required under the City's charter.

After July 1, 2026, the UAL is expected to be fully amortized, and the contribution would generally be equal to the administrative expense, beginning in 2026-2027. However, under the current asset smoothing method there are still expected to be some deferred asset gains, which will not be recognized until after 2026; the deferred recognition of these gains is expected to offset all of the administrative expenses in the final years of the graph on the previous page.

Note that the graph on the previous page does not forecast any future actuarial gains or losses or changes to the amortization policy. Even relatively modest losses could push the employer contribution over \$40 million in the next few years. We also note that the occurrence of any future gains or losses in the years leading up to or following the required full amortization date (July 1, 2026) may require a reconsideration of the funding policy for those gains or losses, as otherwise these changes would need to be recognized over an extremely short period.

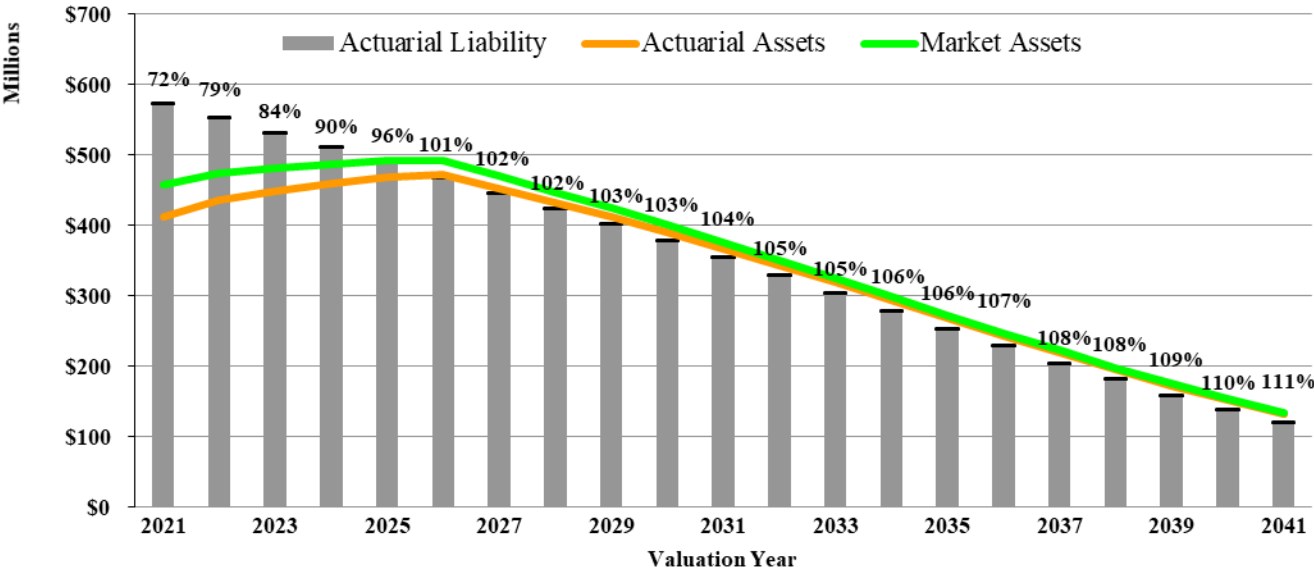
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SECTION I – EXECUTIVE SUMMARY

Asset and Liability Projections:

The following graph shows the projection of assets and liabilities assuming that assets will earn the assumed rate of return each year during the projection period.

Projection of Assets and Liabilities



The graph shows that the projected funded status increases as the current unfunded liability is fully amortized, assuming all actuarial assumptions are met. Once the Plan is projected to reach 100% funding, both the assets and liabilities are expected to decline as the Plan continues to mature.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may be significantly different. This section of the report is intended to identify the primary risks to the plan, provide some background information about those risks, and provide an assessment of those risks.

Identification of Risks

The fundamental risk to a pension plan is that the contributions needed to pay the benefits become unaffordable. While the Plan cannot determine on its own what contribution level is unaffordable, we can project expected contributions and illustrate the potential impact of key sources of risk on those contribution rates so the City can assess affordability. While there are a number of factors that could lead to contribution amounts becoming unaffordable, we believe the primary sources are:

- Investment risk,
- COLA risk,
- Longevity risk, and
- Contribution risk.

Other risks that we have not identified may also turn out to be important.

Investment Risk is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the Unfunded Actuarial Liability necessitating higher contributions in the future unless there are other gains that offset these investment losses. In contrast, higher investment returns than anticipated may create a potentially significant surplus that could be difficult to use until all benefits have been paid. Expected future investment returns and their potential volatility are determined by the Plan’s asset allocation.

COLA Risk is the potential for future COLAs to increase contributions. Retirement allowances are based on the pensionable compensation attached to the average rank held during the three years immediately preceding retirement. Cost-of-living adjustments are therefore based on salary increases for current employees with the retiree’s same rank at retirement. Salary increases less than or greater than those assumed cause gains or losses, respectively. COLA increases different from those expected over the last nine years are reflected in the “MOU Changes” column in the chart on the next page.

Longevity risk is the potential for mortality experience to be different than expected. Generally, longevity risk emerges slowly over time and is often exceeded by other changes, particularly those due to investment returns. However, for a closed plan such as PFRS the mortality experience will have a significant impact on future cash flows. The chart on the next page shows the liability gains and losses over the last nine years compared to the total change in the UAL for each year, a portion of which is associated with mortality experience.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Contribution risk is the potential for actual future actuarially determined contributions to deviate from expected future contributions. The City Charter sets the Plan’s contribution policy. It requires the unfunded liability of the plan to be fully amortized by June 20, 2026. The Actuarially Determined Contribution (ADC) is based on a short remaining amortization period. As a result, a significant loss or change in assumptions may cause a large increase in the ADC.

The table below shows a nine-year history of changes in the UAL by source.

TABLE II-1 UAL Change by Source (\$ in Thousands)							
FYE	Contributions			Liability		Total UAL Change	
	MOU Changes	Assumption Changes	vs. Tread Water	Investments	Experience		
2013	\$ 4,091	\$ 0	\$ (188,922)	\$ (3,803)	\$ 2,592	\$ (186,042)	
2014	0	30,598	15,146	(10,729)	(19,869)	15,147	
2015	0	0	17,023	(6,171)	6,522	17,374	
2016	43,480	0	15,033	486	2,830	61,829	
2017	0	22,730	22,888	(4,958)	(9,959)	30,702	
2018	(1,475)	0	(24,214)	(7,128)	(7,467)	(40,284)	
2019	(7,173)	0	(26,691)	(5,919)	1,797	(37,986)	
2020	(6,541)	0	(27,417)	(1,877)	(417)	(36,252)	
2021	0	0	(29,775)	(29,872)	(6,637)	(66,284)	
Total	\$ 32,383	\$ 53,328	\$ (226,927)	\$ (69,971)	\$ (30,608)	\$ (241,796)	

The UAL was reduced by approximately \$241.8 million over the last nine years. Contributions in excess of the “tread water” level (i.e., interest on the UAL plus administrative expenses) reduced the UAL by \$226.9 million, liability experience reduced the UAL by \$30.6 million, and investment returns decreased the UAL by \$70.0 million. Meanwhile changes to MOUs increased the UAL by \$32.4 million and assumption changes increased the UAL by \$53.3 million.

Plan Maturity Measures

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of the plan.

Plan maturity can be measured in a variety of ways, but they all get at one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. Given that the Plan has been closed to new entrants since 1976 with no remaining active members, the Plan considered as a standalone entity is very mature, though because of the diminishing benefit cash flows it is expected to have a declining impact on the overall City finances.

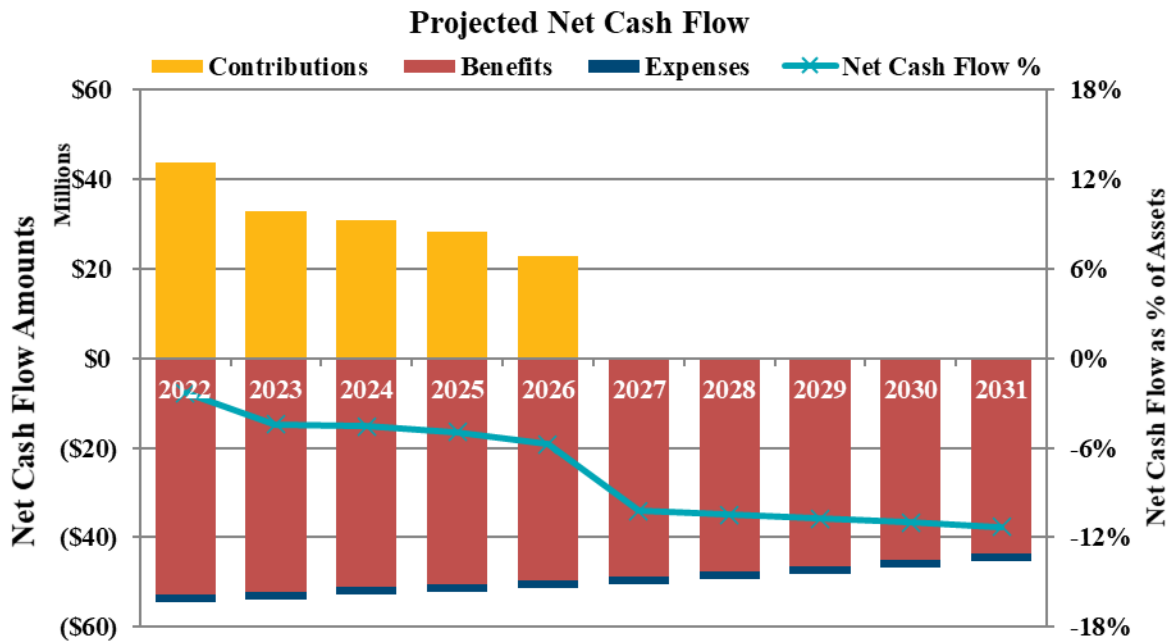
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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Net Cash Flow

The net cash flow of the plan as a percentage of the beginning of year assets indicates the sensitivity of the plan to short-term investment returns. Net cash flow is equal to contributions less benefit payments and administrative expenses. Mature plans can have large amounts of benefit payments compared to contributions, particularly if they are well funded.

The chart below shows the projected net cash flow for the next 10 fiscal years. The bars represent the dollar amounts of the different components of the projected net cash flow, and the line represents the net cash flow as a percentage of the assets as of the beginning of the fiscal year.



The Plan’s contributions are expected to cease following the 2025-2026 Fiscal Year once the unfunded liability has been paid off. Beyond that point, the negative net cash flows are expected to continue until all benefits are paid.

The first issue this change presents to the Plan is a need for liquidity in the investments so that benefits can be paid. When the cash flow was positive or close to neutral, benefits could be paid out of contributions without liquidating investments. As net cash flow becomes increasingly negative, the benefit payments will require liquidation of some investments.

The other change of note is the sensitivity to short-term investment returns. Investment losses in the short term are compounded by the net withdrawal from the plan leaving a smaller asset base to try to recover from the investment losses. On the other hand, large investment gains in the short term also tend to have a longer beneficial effect as any future losses are relative to a smaller liability base due to the negative cash flow.

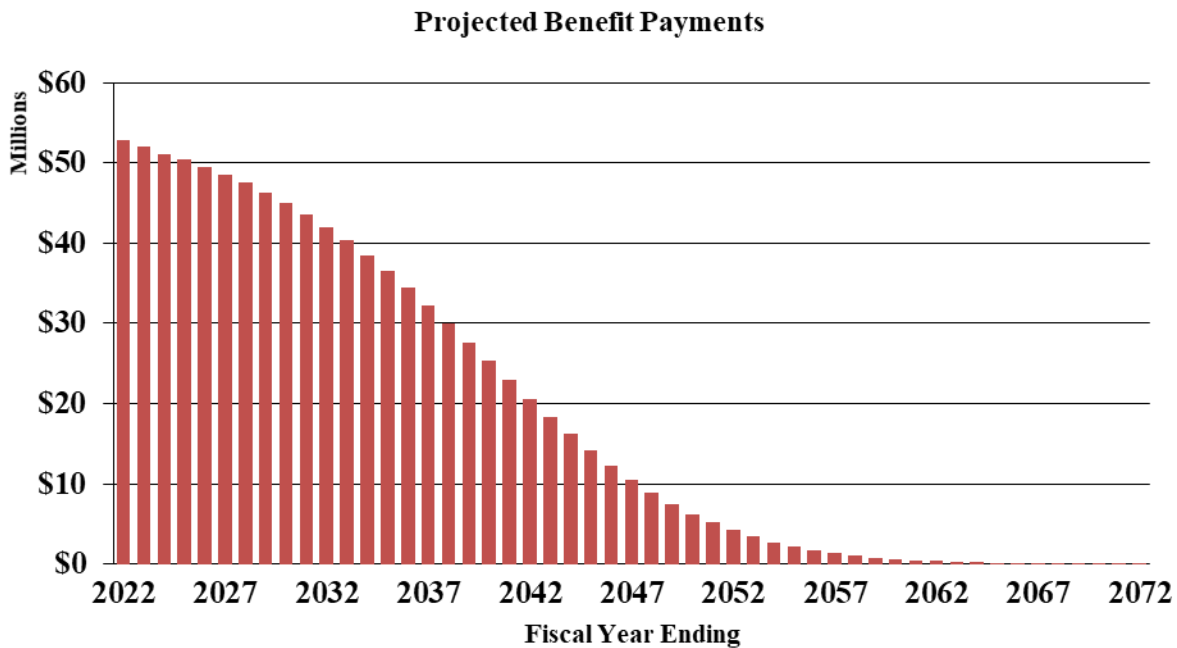
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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Assessing Costs and Risks

A closed pension plan will ultimately either end up with excess assets after all benefits have been paid or run out of assets before all benefits have been paid. The declining investment return assumption adopted by the Board implies an expectation the Plan will pursue a strategy of de-risking the Plan to minimize the impact of these scenarios, potentially by reducing the risk in its investment portfolio, immunizing investments, and/or purchase annuities to settle the remaining obligation.

However, even if the Plan were to run out of assets, PFRS would be forced to pay benefits directly on a pay-as-you-go basis. As long as PFRS (and the City) can afford the pay-as-you-go costs, benefits would remain secure. The chart below shows a projection of expected benefit payments for the closed plan.

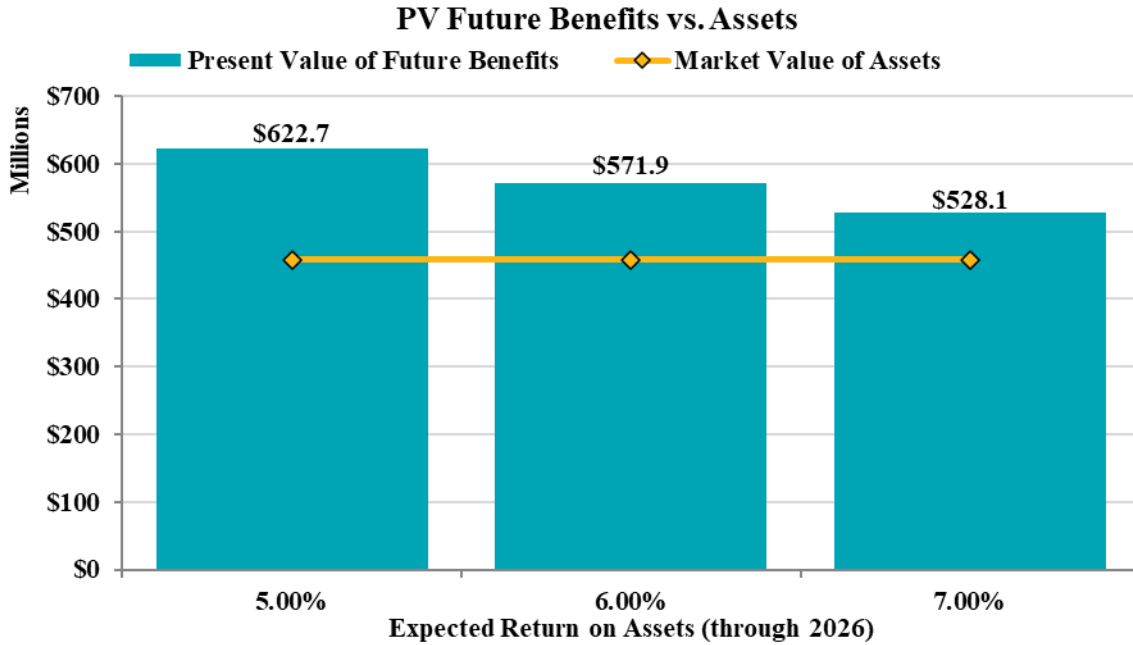


Sensitivity to Investment Returns

The chart on the next page compares assets to the present value of all projected future benefits discounted at the current expected rates of return – starting at 6.00% through 2026 and trending down to 3.25% over the following 10 years – and at investment returns 100 basis points above and below the expected rates of return for all years. The present value of future benefits is shown as a teal bar and the Market Value of Assets is shown by the gold line.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS



If actual investment returns meet the expected returns annually, the Plan would need approximately \$572 million in assets today to pay all projected benefits compared to current assets of \$458 million. If investment returns are 100 basis points lower each year, the Plan would need approximately \$623 million in assets today, and if investment returns are 100 basis points higher, the Plan would need approximately \$528 million in assets today.

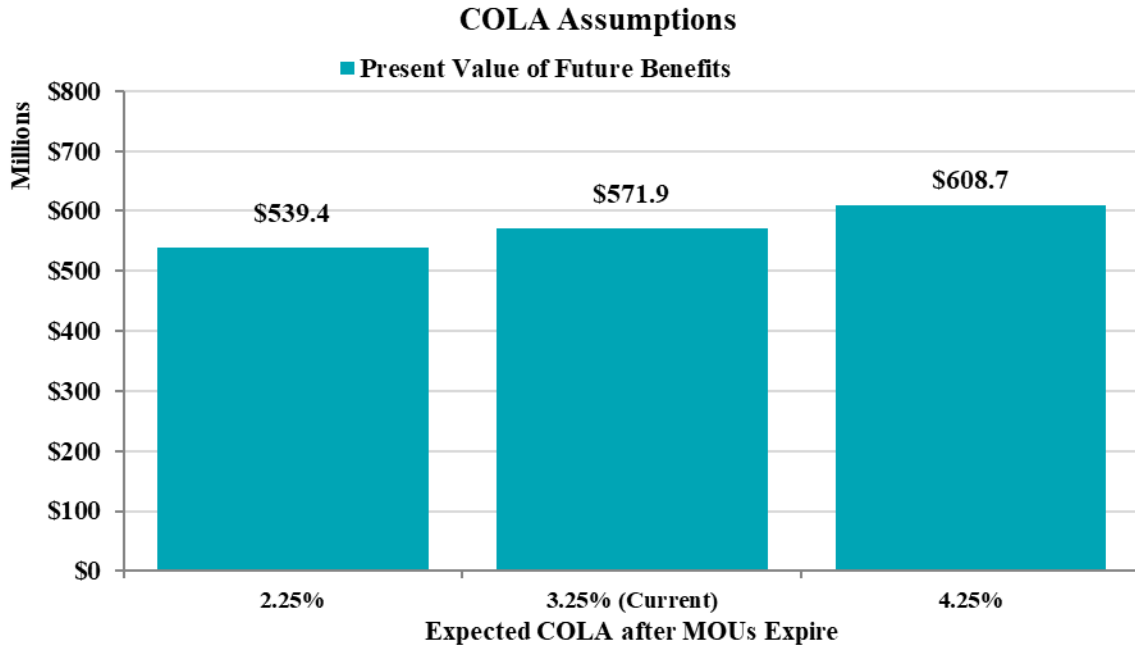
Sensitivity to COLA Changes

The present value of future benefits shown above assumes annual COLA increases of 3.25% per year once the current MOUs have expired. If COLA inflation is higher (because of higher than expected increases in the salaries of active employees); more assets would be needed to pay the benefits, and if COLA inflation is lower; fewer assets would be needed to pay benefits.

The chart on the next page shows the present value of all projected future benefits (discounted using the current expected rates of return) based on annual COLA increases of 3.25% per year once the current MOUs have expired – and at COLA increases 100 basis points above and below the current COLA assumptions.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS



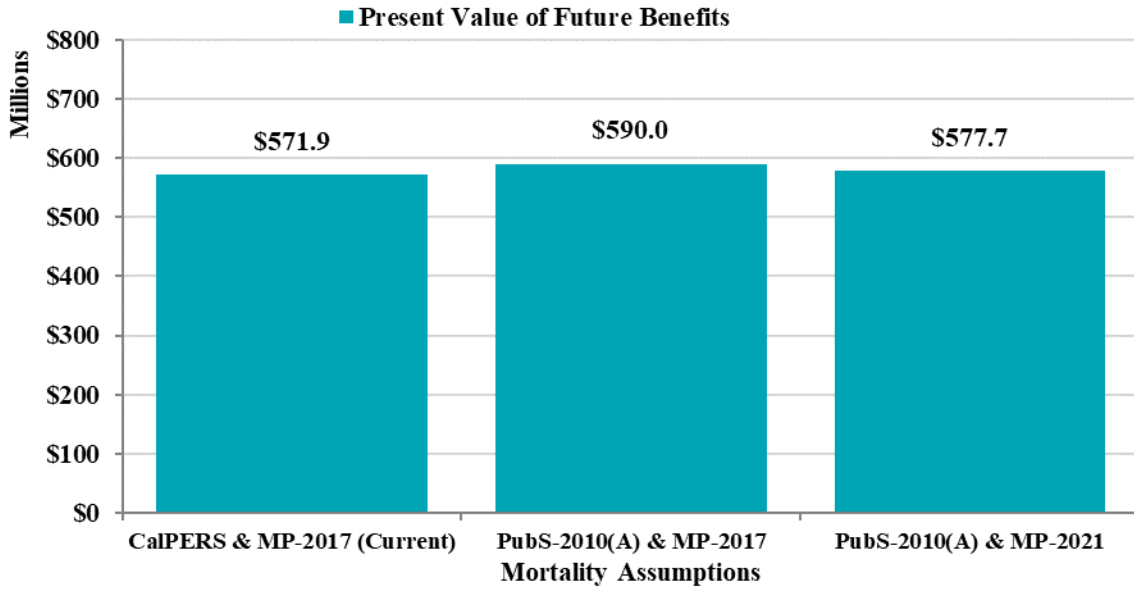
Sensitivity to Mortality Assumption Changes

The following chart on the next page shows the sensitivity of the Plan to longevity / mortality experience. In the first bar, we have shown the present value of benefits using the Plan’s current mortality assumptions (i.e., using the 2017 CalPERS mortality assumptions, with projections for generational improvements using the Society of Actuary’s MP-2017 improvement scales). In the second bar, we have shown the impact on the present value of benefits if actual longevity experience follows an alternative set of assumptions, reflecting new tables that have been developed using the experience Public Safety employees of U.S. public employers. In the third bar, we have shown an additional alternative, using the Public Sector table described above, but also reflecting a slower rate of future improvements in longevity, as reflected by the Society of Actuary’s latest improvement scale (MP-2021). As always, actual experience will drive costs, but this exhibit provides an example of the level of sensitivity of the Plan’s liabilities to recent changes in outlooks on mortality.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Mortality and Mortality Improvement Assumptions



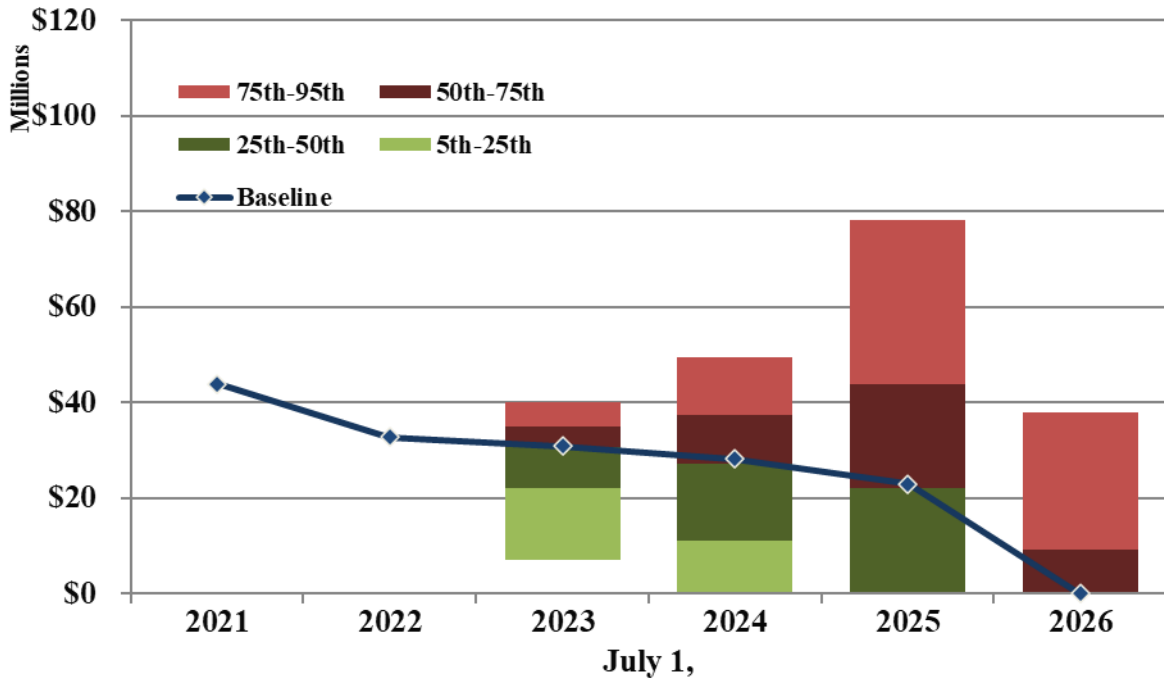
Stochastic Projections

The stochastic projections of contributions through the full funded date (June 30, 2026) in the chart on the following page shows a very wide range in future ADC's. This range is driven both by the volatility of investment returns (assumed to be 10.2% in these projections, based on previous information provided by Meketa) and by the short amortization period used to calculate the ADC. We note that if the Plan is required to remain fully funded after 2026, the contributions required will also vary widely.

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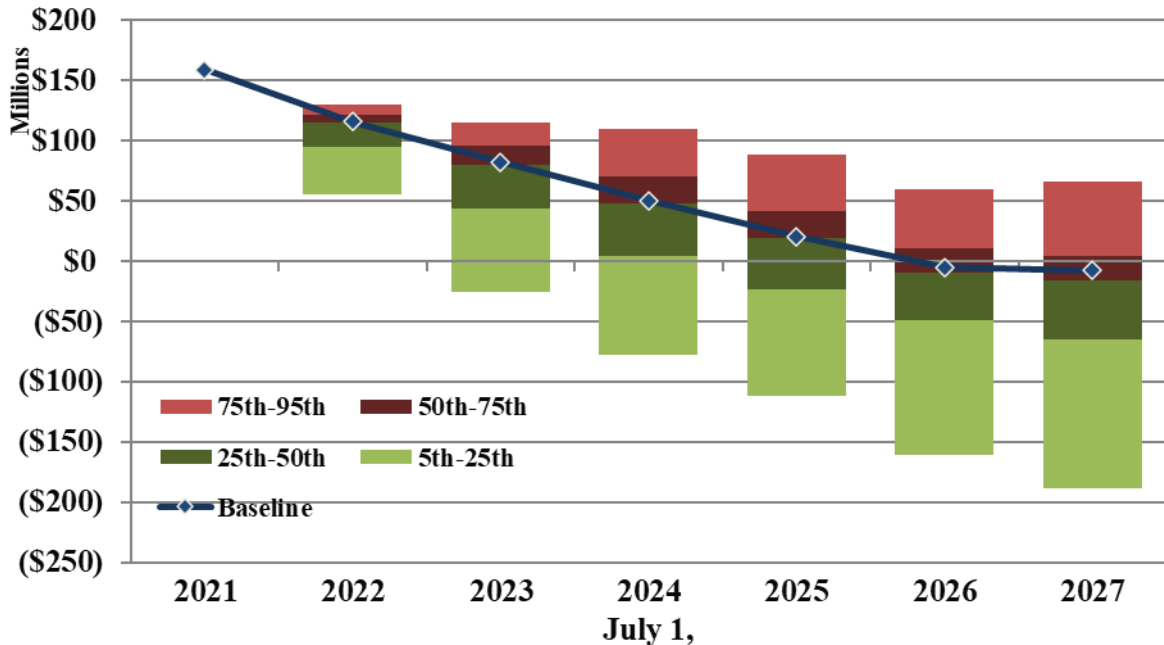
SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Stochastic Projection of Actuarially Determined Contribution (ADC)



The chart below shows the projection of the UAL through the full funding date. While the UAL is projected in the baseline to be eliminated by 2026, because of the statutory requirement to fully fund the Plan by that time, there is still a wide range of potential outcomes.

Stochastic Projection of UAL/(Surplus)



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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

More Detailed Assessment

A detailed assessment of risk would be valuable in understanding the risks identified above, especially given the closed nature of the plan. We encourage the Board to consider a more detailed analysis of some of the risks identified above, in particularly in developing a funding strategy to deal with changes in the UAL after the required full funding date.

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SECTION III – ASSETS

Pension Plan assets play a key role in the financial operation of the Plan and in the decisions the Board may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants’ benefits.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of Plan assets as of June 30, 2020 and June 30, 2021,
- Statement of the **changes** in market values during the year, and
- Development of the **Actuarial Value of Assets**.

Disclosure

There are two types of asset values disclosed in the valuation, the Market Value of Assets and the Actuarial Value of Assets. The market value represents “snapshot” or “cash out” values, which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are sometimes not as suitable for long-range planning as are the Actuarial Value of Assets, which reflect smoothing of annual investment returns.

Table III-1 discloses and compares each component of the market asset value as of June 30, 2020 and June 30, 2021.

TABLE III-1 Statement of Assets at Market Value June 30, (in thousands)				
		2020		2021
Cash and Cash Equivalents	\$	6,346	\$	6,324
Receivables		8,079		2,462
Investments, at Fair Value		404,721		503,781
Total Assets	\$	419,146	\$	512,567
Liabilities		40,171		54,034
Market Value of Assets	\$	378,975	\$	458,533

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SECTION III – ASSETS

Changes in Market Value

The components of asset change are:

- Contributions (employer and employee)
- Benefit payments
- Administrative Expenses
- Investment income (realized and unrealized, net of investment expenses)

Table III-2 below shows the components of a change in the Market Value of Assets during 2020 and 2021.

TABLE III-2		
Changes in Market Values		
June 30,		
(in thousands)		
	<u>2020</u>	<u>2021</u>
Contributions		
Contributions of Plan Members	\$ 0	\$ 0
Contributions from the City	<u>43,409</u>	<u>43,648</u>
Total Contributions	<u>43,409</u>	<u>43,648</u>
Investment Income		
Miscellaneous Income	0	1
Investment Income	<u>6,997</u>	<u>90,191</u>
Total Investment Income	<u>6,997</u>	<u>90,192</u>
Disbursements		
Benefit Payments	(54,619)	(52,697)
Administrative Expenses	<u>(1,523)</u>	<u>(1,585)</u>
Total Disbursements	<u>(56,142)</u>	<u>(54,282)</u>
Net increase (Decrease)	(5,736)	79,558
Net Assets Held in Trust for Benefits:		
Beginning of Year	<u>384,711</u>	<u>378,975</u>
End of Year	\$ <u><u>378,975</u></u>	\$ <u><u>458,533</u></u>
Approximate Return	1.85%	24.14%

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
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SECTION III – ASSETS

Actuarial Value of Assets (AVA)

The Actuarial Value of Assets represents a “smoothed” value developed by the actuary to reduce the volatile results, which could develop due to short-term fluctuations in the Market Value of Assets. For this Plan, the Actuarial Value of Assets is calculated on a modified market-related value. The Actuarial Value of Assets recognizes one-fifth of the difference between the expected asset value (based on the 6.00% return assumption from 2020-2021) and the actual market value each year. The actuarial value is restricted to fall between 90% and 110% of the market value.

TABLE III-3 Development of Actuarial Value of Assets (in thousands)	
1. Calculate Expected Actuarial Value of Assets	
a. Value of Actuarial Value of Assets - July 1, 2020	\$ 371,467
b. Total Contributions and Misc Income	43,649
c. Administrative Expense	(1,585)
d. Benefit Payments	(52,697)
e. Expected Investment Earnings	<u>21,974</u>
f. Expected Actuarial Value of Assets - July 1, 2021	\$ 382,808
[1a + 1b + 1c + 1d + 1e]	
2. Calculate Final Actuarial Value of Assets	
a. Value of Market Value of Assets - July 1, 2021	\$ 458,533
b. Excess of MVA over Expected AVA [2a - 1f]	75,725
c. Preliminary AVA [1f + 0.2 * 2b]	397,953
d. 90% of MVA [90% * 2a]	412,680
e. 110% of MVA [110% * 2a]	504,386
3. Final Actuarial Value of Assets	\$ 412,680
[2c, not less than 2d or greater than 2e]	

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SECTION III – ASSETS

Investment Performance

The following table calculates the investment related gain/loss for the plan year on both a market value and an actuarial value basis. The market value gain/loss is an appropriate measure for comparing the actual asset performance to the previous valuation’s 6.00% assumption.

TABLE III-4 Asset Gain/(Loss) (in thousands)		
	Market Value	Actuarial Value
July 1, 2020 value	\$ 378,975	\$ 371,467
Contributions of Plan Members	0	0
Contributions from the City	43,648	43,648
Miscellaneous Income	1	1
Benefit Payments	(52,697)	(52,697)
Administrative Expenses	(1,585)	(1,585)
Expected Investment Earnings (6.00%)	22,424	21,974
Expected Value June 30, 2021	\$ 390,766	\$ 382,808
Investment Gain / (Loss)	<u>67,767</u>	<u>29,872</u>
July 1, 2021 value	458,533	412,680
Return	24.14%	14.16%

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SECTION IV – LIABILITIES

In this section, we present detailed information on Plan liabilities including:

- **Disclosure** of Plan liabilities on July 1, 2020 and July 1, 2021
- Statement of **changes** in these liabilities during the year

Disclosure

Several types of liabilities are typically shown in an actuarial valuation report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them. Note that these liabilities are not applicable for settlement purposes, including the purchase of annuities and the payment of lump sums.

- **Present Value of Future Benefits:** Used for measuring all future Plan obligations, the obligations of the Plan earned as of the valuation date and those to be earned in the future by current plan participants under the current Plan provisions, if all assumptions are met.
- **Actuarial Liability:** Used for funding calculations, this liability is calculated taking the present value of future benefits and subtracting the present value of future normal costs under an acceptable actuarial funding method. Because the Plan has no active members, the Actuarial Liability is equal to the present value of future benefits (i.e., all benefits are fully accrued).
- **Unfunded Actuarial Liability:** The excess of the Actuarial Liability over the Actuarial Value of Assets.

Table IV-1 on the next page discloses each of these liabilities for the current and prior valuations.

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SECTION IV – LIABILITIES

TABLE IV-1		
Liabilities/Net (Surplus)/Unfunded		
(in thousands)		
	July 1, 2020	July 1, 2021
<u>Present Value of Future Benefits</u>		
Active Participant Benefits	\$ 0	\$ 0
Retiree and Inactive Benefits	<u>597,014</u>	<u>571,942</u>
Present Value of Future Benefits (PVB)	\$ 597,014	\$ 571,942
<u>Actuarial Liability</u>		
Present Value of Future Benefits (PVB)	\$ 597,014	\$ 571,942
Present Value of Future Normal Costs (PVFNC)	<u>0</u>	<u>0</u>
Actuarial Liability (AL = PVB – PVFNC)	\$ 597,014	\$ 571,942
Actuarial Value of Assets (AVA)	<u>371,467</u>	<u>412,680</u>
Net (Surplus)/Unfunded (AL – AVA)	\$ 225,547	\$ 159,262

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SECTION IV – LIABILITIES

Changes in Liabilities

Each of the liabilities disclosed in the prior table is expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation (not applicable for this Plan)
- Benefits accrued since the last valuation (not applicable for this Plan)
- Plan amendments
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, dying, or receiving COLA adjustments at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method or software

Unfunded liabilities will change because of all of the above and also due to changes in Plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

TABLE IV-2 Changes in Actuarial Liability (in thousands)	
Actuarial Liability at July 1, 2020	\$ 597,014
Actuarial Liability at July 1, 2021	\$ 571,942
Liability Increase (Decrease)	\$ (25,072)
Change due to:	
Plan Design Changes	\$ 0
Assumption Change	0
Accrual of Benefits	0
Actual Benefit Payments	(52,697)
Interest	34,263
Data Corrections	0
Actuarial Liability (Gain)/Loss	\$ (6,638)

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
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SECTION IV – LIABILITIES

TABLE IV-3			
Liabilities by Group as of July 1, 2021			
(in thousands)			
	Police	Fire	Total
Actuarial Accrued Liability			
Active	\$ 0	\$ 0	\$ 0
Service Retirees	217,349	71,416	288,765
Disabled Retirees	79,716	77,835	157,550
Beneficiaries	<u>72,994</u>	<u>52,633</u>	<u>125,627</u>
Total Accrued Liability	\$ 370,058	\$ 201,883	\$ 571,942

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
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SECTION IV – LIABILITIES

**TABLE IV-4
Development of Actuarial Gain / (Loss)
(in thousands)**

1. Unfunded Actuarial Liability at Start of Year (not less than zero)	\$	225,547
2. Employer Normal Cost at Start of Year		0
3. Interest on 1. and 2. to End of Year		13,533
4. Contributions and Miscellaneous Income for Prior Year		43,649
5. Administrative Expenses		(1,585)
6. Interest on 4. and 5. to End of Year		1,244
7. Change in Unfunded Actuarial Liability Due to Changes in Assumptions		0
8. Change in Unfunded Actuarial Liability Due to Changes in Actuarial Methods		0
9. Change in Unfunded Actuarial Liability Due to Changes in Plan Design		0
10. Change in Unfunded Actuarial Liability Due to Data Corrections		0
11. Expected Unfunded Actuarial Liability at End of Year [1. + 2. + 3. - 4. - 5. - 6. + 7. + 8. + 9. + 10.]	\$	195,772
12. Actual Unfunded Actuarial Liability at End of Year (not less than zero)		159,262
13. Unfunded Actuarial Liability Gain / (Loss) [11. – 12.]	\$	36,509

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
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SECTION V – CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this Plan, the actuarial funding method used to determine the normal cost and the Unfunded Actuarial Liability is the **Entry Age Normal Cost Method**.

The normal cost rate is determined with the normal cost percentage equal to the total projected value of benefits at entry age, divided by present value of future salary at entry age. Since there are no longer any active employees, the normal cost for this plan is \$0.

The Unfunded Actuarial Liability is the difference between the EAN Actuarial Liability and the Actuarial Value of Assets. For the contribution projections, the UAL payment is based on the unfunded liability of the Plan being fully amortized by June 30, 2026, in accordance with the City Charter. Amortization payments are determined based on an assumption that payments will increase by 3.25% each year, reflecting the assumed ultimate rate of increase in overall City Safety member salaries.

An amount equal to the expected administrative expenses for the Plan is added directly to the actuarial cost calculation.

Table V-1 on the next page shows the employer contribution amount for the 2022-2023 Fiscal Year. The projected assets and liabilities assume that all actuarial assumptions are met and that contributions are made as expected between now and June 30, 2022.

For this calculation, we have shown the contribution amount using both the projected actuarial and Market Value of Assets. The current funding policy uses the AVA to determine the UAL and the associated amortization payment. We have included the contribution amount as determined using the current Market Value of Assets to demonstrate what the actuarial cost would be if all deferred asset gains were fully recognized at the time the contributions commence. In both cases, the contribution is based on an assumption that the investment returns will exactly equal the assumed rate of return during the 2021-2022 Fiscal Year.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION V – CONTRIBUTIONS

**TABLE V-I
Development of Projected 2022-2023 Employer Contribution Amount
(in thousands)**

	Actuarial Value of Assets	Market Value of Assets
1. Value of Assets at June 30, 2021:	\$ 412,680	\$ 458,533
a. Expected Contributions and Misc Income	\$ 43,820	\$ 43,820
b. Expected Administrative Expense	\$ (1,693)	\$ (1,693)
c. Expected Benefit Payments	\$ (51,839)	\$ (51,839)
d. Expected Investment Earnings	<u>\$ 24,474</u>	<u>\$ 27,225</u>
2. Expected Value of Assets at June 30, 2022:	\$ 427,441	\$ 476,045
a. Excess of Expected MVA over Expected AVA	\$ 48,604	
b. Preliminary AVA [Expected AVA + 20% * 2a]	\$ 437,162	
c. 90% of Expected MVA	\$ 428,441	
d. 110% of Expected MVA	\$ 523,650	
3. Final Expected AVA [2b, not less than 2c or greater than 2d]	\$ 437,162	\$ 476,045
4. Entry Age Liability at June 30, 2021	\$ 571,942	\$ 571,942
5. Expected Benefit Payments	\$ (51,839)	\$ (51,839)
6. Expected Interest	<u>\$ 32,784</u>	<u>\$ 32,784</u>
7. Expected Entry Age Liability at June 30, 2022	\$ 552,886	\$ 552,886
8. Projected Unfunded Actuarial Liability: (7) - (3)	\$ 115,725	\$ 76,841
9. Funded Ratio: (3) / (7)	79.1%	86.1%
10. Unfunded Actuarial Liability Amortization at Middle of Year as a Level Percentage of Payroll (4 Years Remaining) as of June 30, 2022	\$ 30,971	\$ 20,565
11. Expected Administrative Expenses for Fiscal 2022-2023	<u>\$ 1,741</u>	<u>\$ 1,741</u>
12. Total Contribution: (10) + (11)	\$ 32,712	\$ 22,305

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION VI – HEADCOUNT AND BENEFIT PAYMENT PROJECTIONS

TABLE VI-1 Benefit Payment and Headcount Projection							
Fiscal Year Ending June 30,	<u>Police</u>		<u>Fire</u>		<u>Total</u>		
	Count	Benefits (in thousands)	Count	Benefits (in thousands)	Count	Benefits (in thousands)	
2022	439.0	\$ 31,507	284.0	\$ 20,333	723.0	\$ 51,839	
2023	424.8	\$ 31,419	270.6	\$ 19,654	695.3	\$ 51,072	
2024	410.6	\$ 31,287	257.1	\$ 18,788	667.6	\$ 50,076	
2025	396.3	\$ 31,030	243.6	\$ 18,441	640.0	\$ 49,471	
2026	382.0	\$ 30,713	230.4	\$ 17,905	612.4	\$ 48,618	
2027	367.5	\$ 30,330	217.3	\$ 17,340	584.8	\$ 47,670	
2028	352.7	\$ 29,870	204.5	\$ 16,747	557.2	\$ 46,617	
2029	337.6	\$ 29,327	192.0	\$ 16,126	529.6	\$ 45,453	
2030	322.2	\$ 28,691	179.7	\$ 15,478	501.9	\$ 44,170	
2031	306.4	\$ 27,958	167.7	\$ 14,803	474.1	\$ 42,760	
2032	290.1	\$ 27,120	156.0	\$ 14,099	446.1	\$ 41,219	
2033	273.5	\$ 26,176	144.5	\$ 13,368	418.0	\$ 39,544	
2034	256.5	\$ 25,126	133.2	\$ 12,611	389.7	\$ 37,737	
2035	239.2	\$ 23,973	122.2	\$ 11,831	361.4	\$ 35,804	
2036	221.6	\$ 22,724	111.5	\$ 11,033	333.1	\$ 33,757	
2037	204.0	\$ 21,391	101.1	\$ 10,221	305.1	\$ 31,611	
2038	186.4	\$ 19,985	91.1	\$ 9,402	277.5	\$ 29,388	
2039	169.0	\$ 18,524	81.5	\$ 8,585	250.5	\$ 27,109	
2040	152.0	\$ 17,026	72.3	\$ 7,778	224.3	\$ 24,804	
2041	135.6	\$ 15,513	63.6	\$ 6,989	199.2	\$ 22,502	
2042	119.8	\$ 14,006	55.6	\$ 6,228	175.4	\$ 20,234	
2043	104.9	\$ 12,528	48.1	\$ 5,502	153.0	\$ 18,030	
2044	91.0	\$ 11,097	41.2	\$ 4,819	132.2	\$ 15,916	
2045	78.1	\$ 9,731	35.1	\$ 4,184	113.2	\$ 13,915	
2046	66.4	\$ 8,447	29.5	\$ 3,601	95.9	\$ 12,048	
2047	55.8	\$ 7,255	24.7	\$ 3,073	80.5	\$ 10,329	
2048	46.5	\$ 6,167	20.4	\$ 2,600	66.8	\$ 8,767	
2049	38.3	\$ 5,186	16.7	\$ 2,182	55.0	\$ 7,368	
2050	31.2	\$ 4,317	13.6	\$ 1,816	44.8	\$ 6,133	
2051	25.1	\$ 3,557	11.0	\$ 1,500	36.1	\$ 5,057	

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION VI – HEADCOUNT AND BENEFIT PAYMENT PROJECTIONS

**TABLE VI-1
Benefit Payment and Headcount Projection (Continued)**

Fiscal Year Ending June 30,	Police		Fire		Total	
	Count	Benefits (in thousands)	Count	Benefits (in thousands)	Count	Benefits (in thousands)
2052	20.1	\$ 2,901	8.8	\$ 1,230	28.8	\$ 4,132
2053	15.8	\$ 2,343	7.0	\$ 1,002	22.8	\$ 3,346
2054	12.4	\$ 1,875	5.5	\$ 812	17.9	\$ 2,687
2055	9.6	\$ 1,486	4.3	\$ 654	13.9	\$ 2,140
2056	7.4	\$ 1,168	3.3	\$ 524	10.7	\$ 1,692
2057	5.6	\$ 911	2.6	\$ 417	8.2	\$ 1,328
2058	4.3	\$ 706	2.0	\$ 331	6.2	\$ 1,037
2059	3.2	\$ 543	1.5	\$ 261	4.7	\$ 804
2060	2.4	\$ 415	1.1	\$ 205	3.5	\$ 621
2061	1.8	\$ 316	0.9	\$ 160	2.6	\$ 476
2062	1.3	\$ 238	0.7	\$ 124	2.0	\$ 362
2063	1.0	\$ 178	0.5	\$ 95	1.4	\$ 273
2064	0.7	\$ 132	0.4	\$ 72	1.0	\$ 204
2065	0.5	\$ 97	0.3	\$ 54	0.8	\$ 151
2066	0.4	\$ 70	0.2	\$ 40	0.5	\$ 110
2067	0.2	\$ 50	0.1	\$ 29	0.4	\$ 78
2068	0.2	\$ 34	0.1	\$ 20	0.3	\$ 54
2069	0.1	\$ 23	0.1	\$ 14	0.2	\$ 37
2070	0.1	\$ 14	0.0	\$ 9	0.1	\$ 23
2071	0.0	\$ 9	0.0	\$ 6	0.1	\$ 14
2072	0.0	\$ 5	0.0	\$ 4	0.0	\$ 8
2073	0.0	\$ 2	0.0	\$ 2	0.0	\$ 4
2074	0.0	\$ 1	0.0	\$ 1	0.0	\$ 2
2075	0.0	\$ 0	0.0	\$ 0	0.0	\$ 1
2076	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0
2077	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0
2078	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0
2079	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0
2080	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
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APPENDIX A – MEMBERSHIP INFORMATION

Summary of Participant Data as of

Active Participants	July 1, 2020			July 1, 2021		
	Police	Fire	Total	Police	Fire	Total
Number	0	0	0	0	0	0
Number Vested	0	0	0	0	0	0
Average Age	0.0	0.0	0.0	0.0	0.0	0.0
Average Service	0.0	0.0	0.0	0.0	0.0	0.0
Average Pay	\$0	\$0	\$0	\$0	\$0	\$0
Service Retirees						
Number	229	95	324	220	90	310
Average Age	76.6	81.5	78.1	77.5	81.8	78.7
Average Annual Benefit	\$78,850	\$81,876	\$79,737	\$81,398	\$84,427	\$82,277
Disabled Retirees						
Number	99	96	195	88	92	180
Average Age	75.9	77.1	76.5	76.7	78.0	77.4
Average Annual Benefit	\$74,864	\$75,923	\$75,385	\$77,184	\$78,644	\$77,931
Beneficiaries						
Number	132	117	249	131	102	233
Average Age	80.5	83.1	81.7	80.2	82.7	81.3
Average Annual Benefit	\$55,725	\$56,194	\$55,946	\$55,989	\$58,723	\$57,186
All Inactives						
Number	460	308	768	439	284	723
Average Age	77.6	80.8	78.8	78.1	80.9	79.2
Average Annual Benefit	\$71,356	\$70,265	\$70,919	\$72,971	\$73,322	\$73,109

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

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX A – MEMBERSHIP INFORMATION

Changes in Plan Membership: Police

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2020	0	229	99	132	460
Retired	0	0	0	0	0
Disabled	0	0	0	0	0
Deceased	0	(9)	(11)	(12)	(32)
New Beneficiary	0	0	0	11	11
July 1, 2021	0	220	88	131	439

Changes in Plan Membership: Fire

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2020	0	95	96	117	308
Retired	0	0	0	0	0
Disabled	0	0	0	0	0
Deceased	0	(5)	(4)	(16)	(25)
New Beneficiary	0	0	0	1	1
July 1, 2021	0	90	92	102	284

Changes in Plan Membership: All

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2020	0	324	195	249	768
Retired	0	0	0	0	0
Disabled	0	0	0	0	0
Deceased	0	(14)	(15)	(28)	(57)
New Beneficiary	0	0	0	12	12
July 1, 2021	0	310	180	233	723

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX A – MEMBERSHIP INFORMATION

Service Retired Participants

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	\$0	0	\$0	0	\$0
50-54	0	\$0	0	\$0	0	\$0
55-59	0	\$0	0	\$0	0	\$0
60-64	0	\$0	0	\$0	0	\$0
65-69	14	\$1,079,118	0	\$0	14	\$1,079,118
70-74	61	\$5,242,761	17	\$1,238,231	78	\$6,480,992
75-79	91	\$6,963,191	32	\$2,724,679	123	\$9,687,870
80-84	34	\$2,688,651	12	\$1,057,125	46	\$3,745,776
85-89	9	\$955,482	13	\$1,153,800	22	\$2,109,282
90-94	8	\$665,829	11	\$990,570	19	\$1,656,399
95-99	2	\$213,433	5	\$434,021	7	\$647,454
100+	1	\$99,129	0	\$0	1	\$99,129
Total	220	\$17,907,594	90	\$7,598,426	310	\$25,506,020

Disability Retired Participants

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	\$0	0	\$0	0	\$0
50-54	0	\$0	0	\$0	0	\$0
55-59	0	\$0	0	\$0	0	\$0
60-64	0	\$0	0	\$0	0	\$0
65-69	0	\$0	3	\$245,477	3	\$245,477
70-74	43	\$3,358,268	26	\$1,843,805	69	\$5,202,073
75-79	27	\$1,971,071	34	\$2,697,441	61	\$4,668,512
80-84	11	\$876,714	18	\$1,523,229	29	\$2,399,943
85-89	5	\$393,996	7	\$585,972	12	\$979,967
90-94	2	\$192,181	3	\$271,703	5	\$463,884
95-99	0	\$0	1	\$67,653	1	\$67,653
100+	0	\$0	0	\$0	0	\$0
Total	88	\$6,792,229	92	\$7,235,279	180	\$14,027,508

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX A – MEMBERSHIP INFORMATION

Beneficiaries

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	\$0	0	\$0	0	\$0
50-54	0	\$0	0	\$0	0	\$0
55-59	1	\$52,095	0	\$0	1	\$52,095
60-64	3	\$175,604	2	\$148,362	5	\$323,966
65-69	9	\$576,640	7	\$446,609	16	\$1,023,248
70-74	30	\$1,542,683	14	\$852,980	44	\$2,395,663
75-79	32	\$1,701,659	18	\$1,073,595	50	\$2,775,254
80-84	15	\$797,091	16	\$917,976	31	\$1,715,067
85-89	16	\$1,026,060	21	\$1,216,295	37	\$2,242,356
90-94	17	\$1,022,988	18	\$967,371	35	\$1,990,359
95-99	7	\$359,375	6	\$366,607	13	\$725,981
100+	1	\$80,379	0	\$0	1	\$80,379
Total	131	\$7,334,574	102	\$5,989,793	233	\$13,324,367

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the actuarial valuation as of July 1, 2021 are:

Actuarial Method

The Entry Age Normal Actuarial Cost Method is used. Under this method, the Plan's Actuarial Liability (AL) is determined as the Present Value of Future Benefits (PVFB) less the Present Value of Future Normal Costs (PVFNC). Since all of the Plan's members are retired, the AL and the PVFB are the same.

The excess of the AL over the Actuarial Value of Assets (AVA) is the Unfunded Actuarial Liability (UAL). In accordance with the Plan's funding agreement with the City of Oakland, the UAL must be amortized by July 1, 2026, with contributions resuming in the 2017-2018 fiscal year. The projected fiscal year 2022-2023 contribution has been calculated using level percent of pay amortization, based on total projected City payroll for all Safety employees.

Actuarial Value of Plan Assets

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

The Actuarial Value of Assets is equal to 100% of the *expected Actuarial Value of Assets* plus 20% of the difference between the current Market Value of Assets and the expected Actuarial Value of Assets. In no event will the Actuarial Value of Assets ever be less than 90% of the Market Value of Assets or greater than 110% of the Market Value of Assets.

The expected Actuarial Value of Assets is equal to the prior year's Actuarial Value of Assets increased with actual contributions made, decreased with actual disbursements made, all items (prior assets, contributions, and disbursements) further adjusted with expected investment returns for the year.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

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

1. Rate of Return

The expected annual rates of return, net of investment expenses, on all Plan assets are shown in the table below. The equivalent single discount rate for these returns using the Plan’s expected projected benefit payments is 5.28%.

Benefit Payment Year	Expected Return
2021-2026	6.000%
2027	5.725%
2028	5.450%
2029	5.175%
2030	4.900%
2031	4.625%
2032	4.350%
2033	4.075%
2034	3.800%
2035	3.525%
2036+	3.250%

2. Inflation

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

3. Administrative Expenses

Administrative expenses for the Fiscal Year Ending June 30, 2022 are assumed to be \$1,692,500, growing at 2.85% per year.

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

Cost-of-living adjustments are based on salary increases for a retiree’s rank at retirement.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

The long-term rate of salary increase is assumed to be 3.25% (2.85% inflation plus 0.4% productivity). The following schedule shows salary increases based on the current Police contract that expires on June 30, 2023 and the Fire contract that expires on December 31, 2023. All increases shown after those dates are assumptions.

Post-Retirement Benefit Increases (Based on Salary Increases for Rank at Retirement)		
Date of Increase	Police	Fire
July 1, 2021	3.00%	1.50%
January 1, 2022	N/A	2.00%
July 1, 2022	3.50%	1.00%
July 1, 2023	3.50%	0.00%
December 1, 2023	N/A	2.00%
Annual Increases		
Starting	3.25%	3.25%
July 1, 2024		

5. Rates of Termination

None.

6. Rates of Disability

None.

7. Rates of Retirement

None.

8. Rates of Mortality for Healthy Lives

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

9. Rates of Mortality for Disabled Retirees

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

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

10. Mortality Improvement

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

11. Survivor Continuance

30% of disabled retirees' deaths are assumed to be related to injuries arising out of the performance of duty, entitling the surviving spouse to a 100% continuance.

12. Changes in Assumptions Since the Last Valuation

No changes have been made to the actuarial assumptions.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

1. Plan Year

July 1 to June 30.

2. Membership

The Plan has been closed to new members since June 30, 1976.

3. Salary

Retirement allowances are based on the pensionable compensation attached to the average rank held during the three years immediately preceding retirement.

4. Employee Contributions

There are no active employees in the Plan, and thus no employee contributions.

5. Service Retirement

Eligibility

25 years of service, or 20 years of service and age 55, or age 65. A reduced early retirement is available with 20 years of service.

Benefit Amount

50% of Salary plus 1.67% for each additional year of service beyond that required for service retirement eligibility, to a maximum of 10 years. For retirements with less than 20 years of service, benefits are pro-rated.

6. Duty-Related Disability Retirement

Equivalent to service retirement benefit if 25 or more years of service.

7. Non-Duty Related Disability Retirement

Equivalent to service retirement benefit if age 55 is attained.

8. Post-Retirement Death Benefit

For retirees without a spouse at death, a \$1,000 lump sum is paid to designated beneficiary.

9. Cost-of-Living Adjustments

Benefit increases are based on increases in salary for rank at retirement (see above definition of Salary).

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

10. Benefit Forms

Benefit is paid for the lifetime of the member. For deaths following a service retirement or non-duty disability, a 66-2/3% continuance is paid for the lifetime of the spouse. If the member retired under a duty-related disability, a continuance of 100% is paid.

11. Changes in Plan Provisions Since the Last Valuation

None.

APPENDIX D – GLOSSARY

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation, and rates of investment return.

2. Actuarial Cost Method

A procedure for determining the actuarial present value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a normal cost and an Actuarial Liability.

3. Actuarial Gain (Loss)

The difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

4. Actuarial Liability

The portion of the actuarial present value of projected benefits that will not be paid by future normal costs. It represents the value of the past normal costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The actuarial present value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

6. Actuarial Valuation

The determination, as of a specified date, of the normal cost, Actuarial Liability, Actuarial Value of Assets, and related actuarial present values for a pension plan.

7. Actuarial Value of Assets

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

8. Actuarially Equivalent

Of equal actuarial present value, determined as of a given date, with each value based on the same set of actuarial assumptions.

APPENDIX D – GLOSSARY

9. Amortization Payment

The portion of the pension plan contribution that is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

11. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

12. Normal Cost

That portion of the actuarial present value of pension plan benefits and expenses that is allocated to a valuation year by the actuarial cost method.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of actuarial assumptions, taking into account such items as increases in future compensation and service credits.

14. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.



Classic Values, Innovative Advice



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

800 FIFTH AVENUE
SUITE 2800
SEATTLE, WA 98104
P 206 694 5500
F 206 694 5581

parametricportfolio.com

MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group ("Meketa")
DATE: June 29, 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
July 2022	→ Flash Performance Report (Jun 2022) → Manager Update: Parametric → Educational Item: TBD
August 2022	→ Quarterly Performance Report (2Q 2022) → Flash Performance Report (Jul 2022) → Manager Update: Reams
September 2022	→ Flash Performance Report (Aug 2022) → Cash Flow Report (4Q 2022) → Manager Update: Ramirez → 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
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.



Disclosure

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

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

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

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

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

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

CORRECTED

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, JUNE 29, 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
JUNE 29, 2022**

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

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

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 May 25, 2022 PFRS Board of Administration Meeting Minutes
- B. AUDIT & OPERATIONS COMMITTEE AGENDA – JUNE 29, 2022**
- B1. Subject: Administrative Expenses Report**
From: Staff of the PFRS Board

Recommendation: **ACCEPT** informational report regarding PFRS administrative expenses as of April 30, 2022
- B2. Subject: Resolution No. 8054 – Resolution Ratifying the Board President’s approval Of Oakland Police and Fire Retirement System Board Trustee R. Steven Wilkinson’s request to attend the National Association of Securities Professionals (NASP) 33rd Annual Financial Services Conference in Chicago, IL**
From: Staff of the PFRS Board

Recommendation: **APPROVE** Resolution No. 8054 – Resolution Ratifying the Board President’s approval Of Oakland Police and Fire Retirement System Board Trustee R. Steven Wilkinson’s request to attend the NASP 33rd Annual Financial Services Conference in Chicago, IL from June 27, 2022 through June 29, 2022 and authorizing reimbursement of the costs for attendance in an amount not to exceed Two Thousand Two Hundred Fifty Dollars (\$2,250.00)

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR BOARD MEETING
JUNE 29, 2022

B3. **Subject:** Resolution No. 8055 – Resolution Ratifying the Board President’s approval Of Oakland Police and Fire Retirement System Board Plan Administrator David F. Jones’ request to attend the National Association of Securities Professionals (NASP) 33rd Annual Financial Services Conference in Chicago, IL

From: Staff of the PFRS Board

Recommendation: **APPROVE** Resolution No. 8055 – Resolution Ratifying the Board President’s approval Of Oakland Police and Fire Retirement System Board Plan Administrator David F. Jones’ request to attend the NASP 33rd Annual Financial Services Conference in Chicago, IL from June 27, 2022 through June 29, 2022 and authorizing reimbursement of the costs for attendance in an amount not to exceed One Thousand Seven Hundred Fifty Dollars (\$1,750.00)

C. INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – JUNE 29, 2022

C1. **Subject:** Investment Manager Performance Update – Wellington Management Company, LLP

From: Wellington Management Company, LLP

Recommendation: **ACCEPT** informational report regarding managerial assessment, diversity and inclusion policy and practices, and investment portfolio performance of Wellington Management Company, LLP, a Core Bond Fixed Income Investment Manager

C2. **Subject:** Investment Manager Performance Review – Wellington Management Company, LLP

From: Meketa Investment Group

Recommendation: **ACCEPT** Meketa Investment Group’s review and evaluation of managerial assessment, diversity and inclusion policy and practices, and investment portfolio performance of Wellington Management Company, LLP, a Core Bond Fixed Income Investment Manager

C3. **Subject:** Investment Market Overview as of May 31, 2022

From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Global Investment Markets as of May 31, 2022

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR BOARD MEETING
JUNE 29, 2022

- C4. **Subject:** Preliminary Investment Fund Performance Update as of May 31, 2022
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Preliminary Investment Fund Performance Update as of May 31, 2022
- C5. **Subject:** \$14.2 Million Drawdown for Member Retirement Allowances Fiscal Year 2022/2023 (Quarter Ending September 30, 2022)
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report and **APPROVE** Meketa Investment Group's recommendation for a \$14.2 million drawdown, which includes a \$8.2 Million contribution from the City of Oakland and a \$6.0 Million contribution from the PFRS Investment Fund, to be used to pay the July 1, 2022 through September 30, 2022 Member Retirement Allowances
- C6. **Subject:** Client Update – Parametric Portfolio Associates, LLC Organizational Changes
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report from Meketa Investment Group regarding organizational changes at Parametric Portfolio Associates, LLC **DISCUSS** possible Board action in response to organizational changes, including but not limited to exercising the option to terminate the service agreement with Parametric Portfolio Associates, LLC and transfer of PFRS assets managed by Parametric Portfolio Associates, LLC to another investment manager or a comparable Exchange Traded Fund (ETF), **APPROVE** Investment Committee's recommended course of action with regard to Parametric Portfolio Associates, LLC
- D. **Subject:** Resolution No. 8056 – 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. 8056 – 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)

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR BOARD MEETING
JUNE 29, 2022**

- E. PENDING ITEMS**
- F. NEW BUSINESS**
- G. OPEN FORUM**
- H. FUTURE SCHEDULING**
- I. ADJOURNMENT**

A REGULAR MEETING of the Oakland Police and Fire Retirement System (“PFRS”) Board of Administration was held on Wednesday, May 25, 2022 via Zoom Webinar.

Board Members:	▪ Walter L. Johnson	President
	▪ Jaime T. Godfrey	Vice President
	▪ Robert W. Nichelini	Member
	▪ 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
	▪ Jason Leong Campbell	Meketa Investment Group

The meeting was called to order at 11:32 a.m. PST

- A. PFRS Board Meeting Minutes** – Vice President Godfrey made a motion to approve the April 27, 2022 Board of Administration Regular Meeting Minutes, second by Member Wilkinson. Motion passed.

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

B. AUDIT AND OPERATIONS COMMITTEE AGENDA – MAY 25, 2022

- B1. Administrative Expenses Report** – Staff Member Jenkins presented an informational report on PFRS’ administrative expenditures as of March 31, 2022. PFRS has an approved annual budget of approximately \$3.5 million and have expensed approximately \$1.8 million fiscal year-to-date. Membership consisted of 691 retired members, which included 426 Police Members and 265 Fire Members.

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

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

- B2. Election of a New 3-Year Alternating Retired Police/Fire Representative Board Position** – Staff Member Jenkins presented an informational report regarding the Election of a New 3-Year Alternating Retired Police/Fire Representative Board Position.

MOTION: Member Speakman made a motion to accept the informational report regarding the Election of a New 3-Year Alternating Retired Police/Fire Representative Board Position, second by Member Traylor. Motion passed.

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

C. INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – MAY 25, 2022

- c1. Investment Manager Performance Update – Northern Trust Investments, Inc. –** Vice President Godfrey provided an overview of the presentation by Northern Trust Investments Inc., a PFRS Passive Large-Cap Core Domestic Equity Investment Manager. Vice President Godfrey highlighted the recent organizational change; portfolio strategy and performance; actions regarding their ESG platform and Diversity & Inclusion practices and noted he considers them to be a leader in the industry in this respect.

MOTION: Vice President Godfrey made a motion to accept the informational report regarding the Investment Manager Performance Update regarding Northern Trust Investments Inc., a PFRS Domestic Equity Large-Cap Core Investment Manager, second by Member Wilkinson. Motion Passed.

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

MEMBER TRAYLOR EXPERIENCED TECHNICAL DIFFICULTIES AND WAS UNABLE TO PARTICIPATE IN THE VOTE

- c2. Investment Manager Performance Review – Northern Trust Investments, Inc. –** David Sancewich of Meketa Investment Group (“Meketa”) provided an overview memo regarding Northern Trust Investments Inc., a PFRS Passive Large-Cap Core Domestic Equity Investment Manager. D. Sancewich noted Meketa continues to have confidence in Northern Trust Investments Inc. as they have performed as expected, and there are no concerns regarding the recent organizational changes; however, Meketa will continue to monitor the situation.

MOTION: Member Nichelini made a motion to accept the informational report from Meketa regarding an overview of Northern Trust Investments Inc., second by Vice President Godfrey. Motion Passed.

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

MEMBER WILKINSON EXPERIENCED TECHNICAL DIFFICULTIES AND WAS UNABLE TO PARTICIPATE IN THE VOTE

- c3. Investment Market Overview as of April 30, 2022 –** David Sancewich of Meketa presented an informational report regarding the Investment Market Overview as of April 30, 2022 and highlighted Index Returns, noted the return of market volatility, and discussed the current factors impacting outcomes.

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

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

BOARD PRESIDENT JOHNSON EXPERIENCED TECHNICAL DIFFICULTIES AND WAS UNABLE TO PARTICIPATE IN THE VOTE

- c4. **Preliminary Investment Fund Performance Update as of April 30, 2022** – David Sancewich of Meketa Investment Group provided a summary of the Preliminary Investment Fund Performance Update as of April 30, 2022 and highlighted portfolio performance and the importance of crisis-risk offset investment strategies to mitigate market volatility. D. Sancewich corrected a comment made during the Investment Committee Meeting where he noted the performance of Versor in error, instead of Kepos, as being up 1.8%. Versor was newly funded in April 2022 and no data was available at the time of this report.

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

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

BOARD PRESIDENT JOHNSON EXPERIENCED TECHNICAL DIFFICULTIES AND WAS UNABLE TO PARTICIPATE IN THE VOTE

- c5. **Investment Fund Quarterly Performance Update as of March 31, 2022** – David Sancewich of Meketa Investment Group presented an informational report regarding the Investment Fund Quarterly Performance Update as of March 31, 2022. D. Sancewich highlighted recent investment performance, total plan summary of cash flows, and highlighted Earnest Partners and Rice Hall James as managers that have outperformed the index relative to the benchmark.

MOTION: Member Nichelini made a motion to accept the informational report regarding the Investment Fund Quarterly Performance Update as of March 31, 2022, second by Member Wilkinson. Motion Passed.

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

- D. **Resolution No. 8052** – Resolution Electing to Continue to Conduct Police and Fire Retirement System Board and Committee Meetings Using Teleconferencing in Accordance with California Government Code Section 54953(E).

MOTION: Member Nichelini made a motion to approve Resolution No. 8052, second by Member Speakman. Motion passed.

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

- E. Resolution No. 8053** – Resolution of Appreciation to Staff Member Carol Kolenda, Police & Fire Retirement System Member Benefits Representative. Plan Administrator Jones wanted to pass along many thanks with the deepest sincerity for Carol’s dedicated service and support to both the City of Oakland and PFRS for nearly 19 years and recognized she has been a tremendous asset to this community and will be missed immensely. Members Nichelini and Speakman and Burney Matthews, president of the ROPOA, underscored the countless calls they have received from retirees in the wake of Carol’s retirement because they wished to share their appreciation for all she has done over the years and express how much she will be missed. Staff Members Jenkins, Martinez, and Visaya acknowledged all that went into the job; highlighted what an asset she has been to the department and the retirees; commended the way she handled everything in stride with patience and grace; and remarked how apparent it was just how much the retirees loved her. President Johnson recounted how Carol had come into the position one year before his own retirement and that she filled a position previously done by two people and thanked her for all her hard work. Everyone expressed their gratitude; thanked Carol for her years of services; and wished her luck, to be well, and nothing but happiness as she enjoys her well-deserved retirement. Carol thanked everyone and expressed how much she enjoyed working with and getting to know “her retirees” and for all the support and kindness staff has shown her over the years.

MOTION: Member Nichelini made a motion to approve Resolution No. 8053, second by Member Traylor. Motion passed.

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

- F. Pending Items** – No Report
- G. New Business** – No Report
- H. Open Forum** – Member Nichelini provided an update regarding former PFRS Board Member Bob Crawford.
- I. Future Scheduling** – The next regular Board meeting is tentatively scheduled to occur Wednesday, June 29, 2022.

J. Adjournment – Vice President Godfrey made a motion to adjourn, second by Member Nichelini. Motion passed.

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

The meeting adjourned at 12:07 p.m. PST

DAVID F. JONES
PLAN ADMINISTRATOR & SECRETARY

DATE

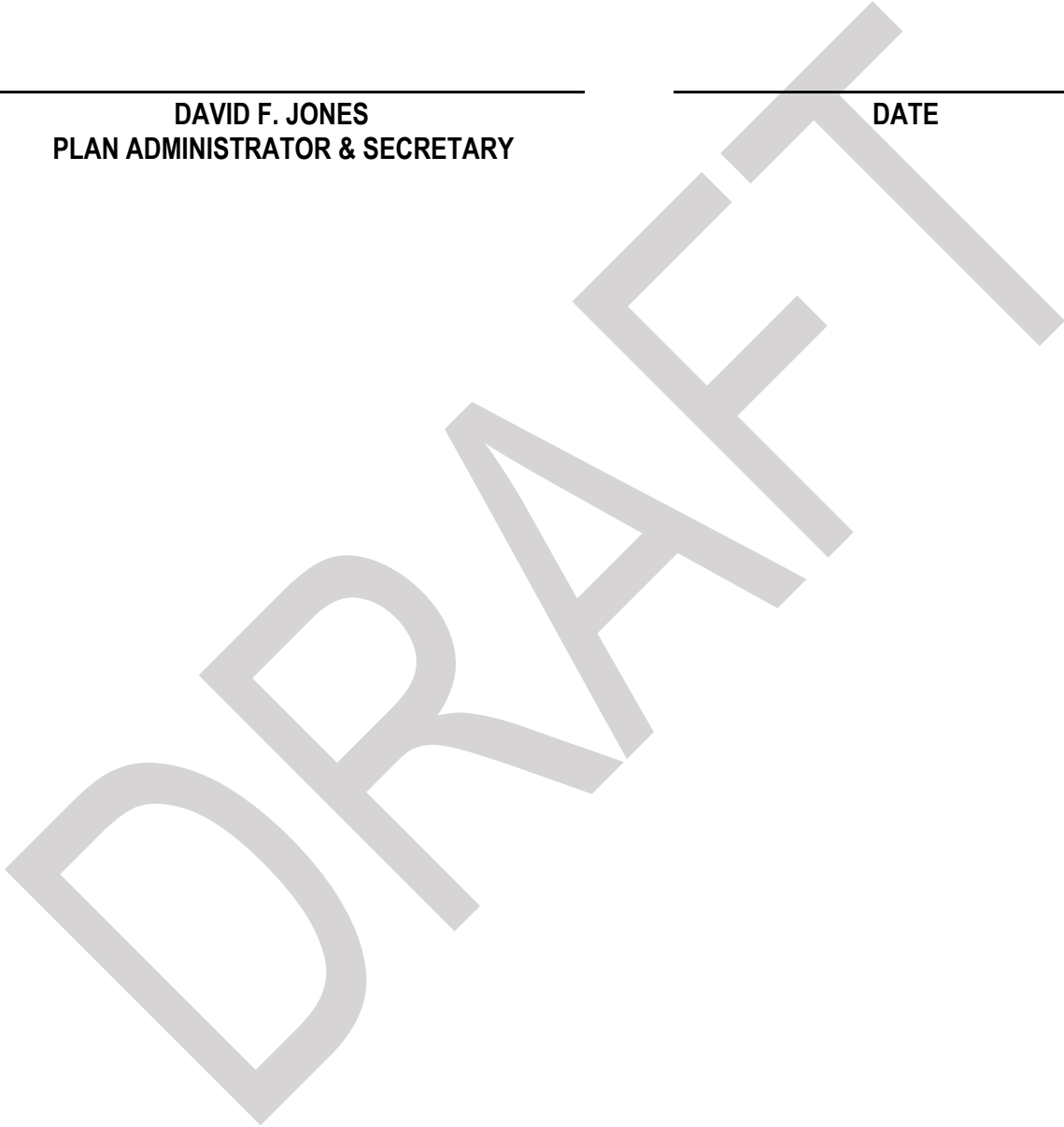


Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Administrative Budget Spent to Date (Preliminary)

As of April 30, 2022

	Approved Budget		April 2022		FYTD		Remaining		Percent Remaining	
Internal Administrative Costs										
PFRS Staff Salaries	\$	1,212,000	\$	92,006	\$	905,839	\$	306,161		25.3%
Board Travel Expenditures		52,500		-		1,711		50,789		96.7%
Staff Training		20,000		-		-		20,000		100.0%
Staff Training - Tuition Reimbursement		7,500		-		-		7,500		100.0%
Board Hospitality		3,600		-		-		3,600		100.0%
Payroll Processing Fees		40,000		-		-		40,000		100.0%
Miscellaneous Expenditures		40,000		508		9,264		30,736		76.8%
Internal Service Fees (ISF)		88,000		-		53,814		34,186		38.8%
Contract Services Contingency		50,000		-		1,200		48,800		97.6%
Internal Administrative Costs Subtotal :	\$	1,513,600	\$	92,513	\$	971,828	\$	541,772		35.8%
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	\$	16,801	\$	105,923	\$	82,077		43.7%
Legal Contingency		150,000		-		-		150,000		100.0%
Legal Services Subtotal:	\$	338,000	\$	16,801	\$	105,923	\$	232,077		68.7%
Investment Services										
Money Manager Fees	\$	1,353,000	\$	287,255	\$	957,327	\$	395,673		29.2%
Custodial Fee		124,000		29,125		87,375		36,625		29.5%
Investment Consultant		100,000		-		75,000		25,000		25.0%
Investment Subtotal:	\$	1,577,000	\$	316,380	\$	1,119,702	\$	457,298		29.0%
Total Operating Budget	\$	3,524,100	\$	425,694	\$	2,269,649	\$	1,254,451		35.60%

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of April 30, 2022

	April 2022
Beginning Cash as of 3/31/2022	\$ 7,086,421
Additions:	
City Pension Contribution - April	\$ 3,651,667
Investment Draw	\$ 1,000,000
Misc. Receipts	-
Total Additions:	\$ 4,651,667
Deductions:	
Pension Payment (March Pension Paid on 4/1/2022)	(4,240,954)
Expenditures Paid	(472,090)
Total Deductions	\$ (4,713,044)
 Ending Cash Balance as of 4/30/2022*	 \$ 7,025,044

* On 5/1/2022, April pension payment of appx \$4,222,600 will be made leaving a cash balance of \$2,802,000.

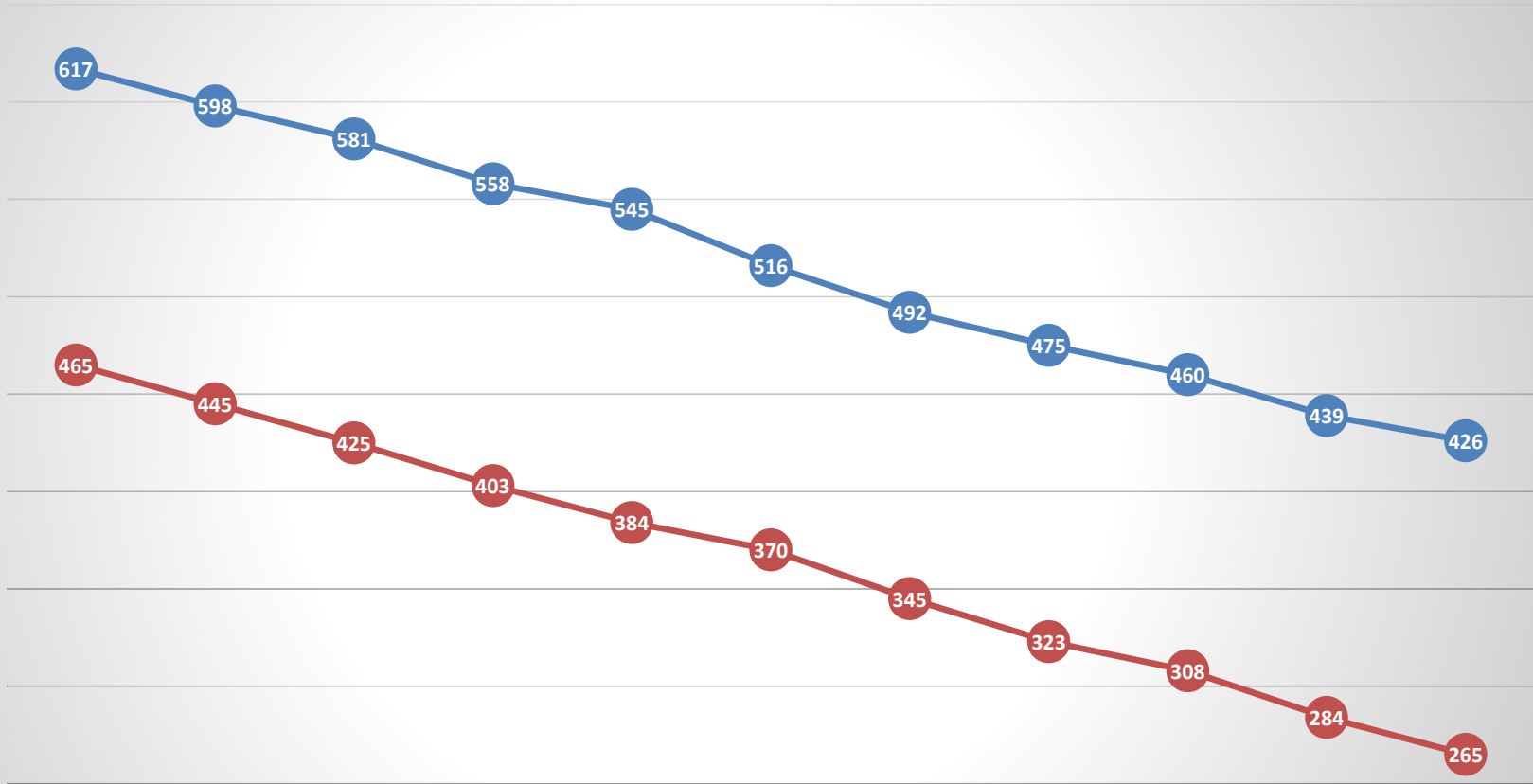
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of April 30, 2022

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	303	172	475
Beneficiary	123	93	216
<i>Total Retired Members</i>	426	265	691
<i>Total Membership:</i>	426	265	691

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	287	134	421
Disability Retirement	130	119	249
Death Allowance	9	12	21
<i>Total Retired Members:</i>	426	265	691
<i>Total Membership as of April 30, 2022:</i>	426	265	691
<i>Total Membership as of June 30, 2021:</i>	439	284	723
<i>Annual Difference:</i>	-13	-19	-32

Oakland Police and Fire Retirement System Pension Plan Membership Count As of April 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	426
Fire	465	445	425	403	384	370	345	323	308	284	265
Total	1082	1043	1006	961	929	886	837	798	768	723	691



AGENDA REPORT

TO: Oakland Police and Fire Retirement System Board (PFRS) **FROM:** David F. Jones
PFRS Plan Administrator & Secretary

SUBJECT: Authorization and Reimbursement of Trustee R. Steven Wilkinson's Travel/Education Expenses **DATE:** June 29, 2022

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

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

Travel/Education Event: NASP 2022 33rd Annual Financial Services Conference

Event Location: Radisson Blu Hotel, Chicago, IL

Event Date: June 27, 2022 - June 29, 2022

Estimated Event Expense: \$2,250.00

Notes: Prior Approval received from President Walter L. Johnson Sr.

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

Respectfully submitted,

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

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

Attachments:
(1) Resolution 8054
(2) Conference Agenda

Agenda Item 3
PFRS Audit Committee Meeting
June 29, 2022

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8054

Approved to
Form
and Legality



ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION RATIFYING THE BOARD PRESIDENT'S APPROVAL OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM TRUSTEE R. STEVEN WILKINSON'S REQUEST TO ATTEND THE NATIONAL ASSOCIATION OF SECURITIES PROFESSIONALS (NASP) 33rd ANNUAL FINANCIAL SERVICES CONFERENCE FROM JUNE 27, 2022 THROUGH JUNE 29, 2022 IN CHICAGO, IL AND AUTHORIZING REIMBURSEMENT OF REGISTRATION FEES AND TRAVEL-RELATED EXPENSES IN AN AMOUNT NOT TO EXCEED TWO-THOUSAND TWO-HUNDRED FIFTY DOLLARS (\$2,250.00)

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

WHEREAS, pursuant to Section IV(2)(c) of the Travel Policy, the PFRS Board President, in consultation with the Plan Administrator, may authorize education and travel expenses without prior approval of the Board when prior approval cannot be obtained; and

WHEREAS, PFRS Trustee Wilkinson the NASP 33rd Annual Financial Services Conference ("the Conference") in Chicago, IL from June 27, 2022 through June 29, 2022; and

WHEREAS, pursuant to Section IV(21)(a) of the Travel Policy Plan PFRS Trustee Wilkinson will submit documentation showing costs in an amount not to exceed Two-Thousand Two-Hundred Fifty Dollars (\$2,250.00) incurred as reimbursable expenses to attend the Conference within 15 days of the date of his return from the conference; and

WHEREAS, PFRS Trustee Wilkinson was unable to obtain Board approval prior to attending the Conference because he was unable to submit his request prior to the agenda posting deadline in time to bring his request to the full board before the Conference; and

WHEREAS, in compliance with Section IV(2)(c) of the Travel Policy, PFRS Trustee Wilkinson obtained written authorization from PFRS Board President Walter L. Johnson, Sr. to attend the Conference; now, therefore be it

RESOLVED: That the PFRS Board hereby ratifies the Board President's approval of PFRS Trustee Wilkinson's request to attend the NASP 33rd Annual Financial Services Conference from June 27, 2022 through June 29, 2022; and be it

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8054

FURTHER RESOLVED: That the PFRS Board authorizes reimbursement of the expenses PFRS Trustee Wilkinson incurred to attend NASP 33rd Annual Financial Services Conference in an amount not to exceed Two-Thousand Two-Hundred Fifty Dollars (\$2,250.00).

IN BOARD MEETING, VIA ZOOM CONFERENCE JUNE 29, 2022

PASSED BY THE FOLLOWING VOTE:

AYES:

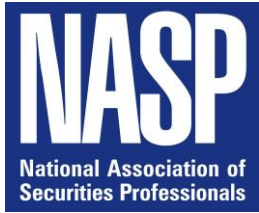
NOES:

ABSTAIN:

ABSENT:

ATTEST: _____
PRESIDENT

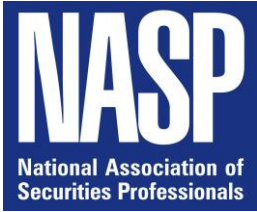
ATTEST: _____
SECRETARY



NASP 2022 Annual Financial Services Conference
Theme: Breaking the Status Quo: Leading With Renewed Purpose

June 27-29 2022
Chicago, IL
Radisson Blu Hotel

Date: Monday; June 27, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
8:30 AM -9:00 AM	Opening & Welcome Remarks	Speaker: Ronald C. Parker, President & CEO, NASP Speaker: Richard Turnley, III, Board Chair NASP Speaker: Chicago/IL Official	Plenary	NASP HQ
9:00 AM– 10:00 AM	Morning Plenary – Global Economic Outlook	Standard Bank	Plenary	NASP HQ
10:00 AM - 10:20 AM	Program Break	N/A		
10:20 AM - 11:05 AM	Allocator Perspectives Panel	TBD	AEMS	
10:20 AM - 11:05 AM	Sourcing the Best Diverse Managers We’ve all heard the results of the Knight Foundation that diverse firms manage about 1.4% of \$69 trillion dollars in assets and it’s not due to poor performance, because these diverse managers perform as well or better than their majority-owned counterparts. Despite the social unrest in 2020 that sparked a renewed focus on DE&I, the percentage of assets allocated to diverse managers has not improved. This panel will offer solutions to increase the utilization of diverse asset managers, broker/dealers and other service providers.	Welcome Remarks Instructor: Angela Matheny, Director of Investment Staff and Diverse Manager Equity, Crewcial Partners Instructor: Winston Blake, President, Attucks Asset Management Instructor: Angela Miller-May, Chief Investment Officer, Illinois Municipal Retirement Fund	TNI	



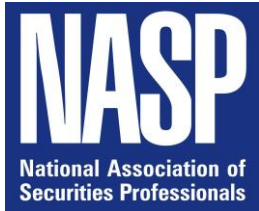
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10:20 AM - 11:05 AM	<p><i>Realize The Power of a Positive Mental Approach to Leadership</i></p> <p>The challenges of navigating business activity in periods of extreme disruption and constant change can be taxing on one’s mental and physical well-being. Leaders must strive for increased productivity but must also be concerned about employee health and potential burnout.</p> <p>Join us as mental health professionals and business leaders share thoughts on how to best manage teams with a focus on personal/professional balance, effective communication, while emphasizing the need to find joy and purpose in the work they do.</p>	<p>Panelist: Jeffrey Ferguson, Associate Director, Living Cities</p> <p>Panelist: Michelle Minus-Swittenberg, Founder, BRWL Studios</p> <p>Panelist: Stephanie Sklar Rapp, Co-Founder and CEO, EMBODY Wellness Company</p>	PDS	
11:05 AM - 11:15 AM	Program Break			
11:15 AM - 12:00 PM	<i>Infrastructure Panel</i>	TBD	AEMS	
11:15 AM - 12:00 PM	<p><i>Understanding the Federal Reserve and Fed Funds Policy</i></p> <p>The Federal Reserve was created by Congress to provide the nation with a safer, more flexible, and more stable monetary and financial system. This session will explain</p>		TNI	



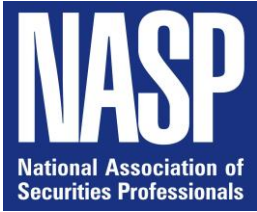
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	what the Federal Reserve is, how it works and how it affects the financial markets.			
11:15 AM - 12:00 PM	<p><i>Navigating and Excelling in Your Career in a Hybrid Work Environment</i></p> <p>With the Post-Covid transition to more flexible work experiences, how will workplace relationships change?</p> <p>What must young professionals be prepared for as they look to become leaders of diverse teams that are collaborating remotely?</p> <p>How must they be ready to engage, communicate and contribute while being self-aware and understanding of the demands and metrics that are expected.</p> <p>Listen in as a panel of HR and DE&I professionals bring to light how organizations are increasing productivity and assisting their employees with managing career goals in a more diverse and hybrid work environment.</p>	<p>Panelist: Monique Pryor, Chief Engagement & External Affairs Officer, St Francis College Brooklyn</p> <p>Panelist: Johnita Walker-Mizelle, Senior Principal, US Distribution, Sagard</p>	PDS	
12:00 PM - 1:15 PM	<i>Lunch Plenary Session</i>	Keynote	Plenary	NASP HQ
1:15 PM - 1:35 PM	Program Break			
1:35 PM – 2:20 PM	<i>Climate Finance and ESG Investing for a Green Future</i>	Panelist: Dinao Lerutla, Managing Partner, Maia Capital	AEMS	



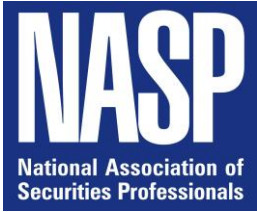
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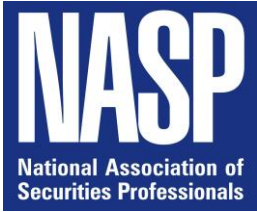
	<p>As global actors advance ambitions to be net-zero by 2050 and to keep global warming to 1.5 degrees, developing economies face the challenges of building low emission economies while being disproportionately affected by the physical risks of climate change. As such, the need for private capital to support the development of a low-carbon future and catalyzing economic growth at the same time will be crucial. This panel will discuss the current and future status of climate finance and investment models to support the green transition and the role of ESG investing more broadly. The discussion will explore the role of allocators, fund managers, corporates in investing in and meeting net-zero targets and how private actors can mitigate risk and enhance returns in the context of climate action.</p>	<p>Panelist: Hazel Taylor, Director and Head of Investor Desk, British International Investment</p>		
<p>1:35 PM – 2:20 PM</p>	<p><i>Asset Allocation: The Value of Traditional Assets in the Age of Alternatives</i></p> <p>Over the past several years, Institutional investors have increased their allocation to alternative investments such as Private Equity, Infrastructure, Real Estate & Hedge Funds. Although exposure to alternatives and private markets are good strategies to add alpha to the portfolio, investors must remember there is always a role for traditional equity and fixed income assets. This session will highlight the ever-present need for</p>	<p>Instructor: Gautam Khanna, CFA, CPA, Head of US Multi-Sector Fixed Income, Insight Investment</p>	<p>TNI</p>	



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	traditional fixed income and equities in any asset allocation strategy.			
1:35 PM – 2:20 PM	<p><i>The Making of Angels: Where Rising Stars Meet Entrepreneurs</i></p> <p>The role of angel investors is critical to the continued success and evolution of the start-up community. Sourcing early-stage capital can be the difference between early-stage success or failure. Innovative solutions to access capital for black and women entrepreneurs through connectivity diverse professional networks can truly lead to generational wealth accumulation within these communities.</p> <p>Come join us as founders and early-stage investors discuss how best to engage and support diverse founders as they look to create value and extend wealth generating opportunities.</p>	<p>Moderator: Blair Smith, Senior Director, Center for Financial Markets, The Milken Institute</p> <p>Panelist: Nicholas Antoine, Managing Partner, Red Arts Capital</p> <p>Panelist: Melanie Seymour, Director, Capital Access, Institute For Entrepreneurial Leadership</p> <p>Panelist: Keith Spears, General Partner, Include Ventures</p>	PDS	
2:20 PM - 2:30 PM	Program Break			
2:30 PM - 3:15 PM	<i>Venture Capital</i>	TBD	AEMS	
2:30 PM - 3:15 PM	<i>Portfolio Protection Strategies: Best Practices for Securities Litigation & Portfolio Monitoring</i>	Instructor: Marlon Kimpson, Member, Motley Rice, LLC	TNI	



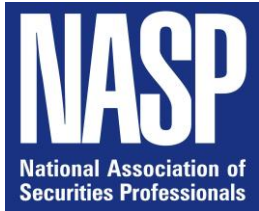
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	Securities fraud is on the rise and Institutional investors must be proactive in protecting investments from fraud, market manipulation, or breach of contracts. This session will present the merits of portfolio monitoring and the elements of securities fraud cases. The session will end with a brief overview of pension fund governance and the fiduciary responsibilities of fund trustees.			
2:30 PM - 3:15 PM	<p><i>The Growth of ESG Integration and the Demand for Critical Data</i></p> <p>As ESG continues to gain momentum, many companies are looking for ways to measure impact and hold themselves, as well as their vendors and partner firms accountable. Join us as ESG professionals discuss best practices of implementing ESG and the benefits of ESG and how it can positively influence investment decisions.</p> <p>We will discuss questions such as: What are global, as well as US, ESG trends? What capital market structures represent the best vehicle for ESG focused investments? And much more!</p>	<p>Panelist: Meg Starr, Carlyle Group</p> <p>Panelist: Brooke Guven, Head of ESG & Sustainability and Managing Director, Cerberus Capital Management</p> <p>Panelist: State Street</p>	PDS	NASP HQ
3:15 PM - 3:25 PM	Program Break			
3:25 PM - 4:25 PM	<p>Afternoon Plenary Session</p> <p><i>A Roadmap to Ensure Black, Women-Owned & Latinx Firms Proliferate</i></p>	<p>Panelist: Shawn T. Wooden, Treasurer, State of Connecticut</p>	Plenary (Muni)	NASP HQ



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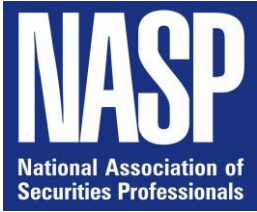
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	<p>Public and private sectors alike are eager to implement lasting diversity, equity, and inclusion initiatives because it makes good public policy and economically beneficial. Earlier this year Citi established the Diverse Financial Institutions Group to expand firm-wide engagement with Minority Depository Institutions, Diverse Broker Dealers, and Diverse Asset Managers to work collaboratively with these firms so they can prosper and grow. This panel will explore how the public and private sector can work to ensure that Black, Women-Owned, Latinx and other minority firms proliferate in the coming years.</p>	<p>Panelist: Phillip Washington, Chief Executive Officer, Denver International Airport</p>		
4:30 PM - 6:30 PM	Welcome Reception			

Date: Tuesday; June 28, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
8:30 AM-9:30 AM	<p>Morning Plenary Session</p> <p><i>The Future Of Asset Management</i></p>	<p>Moderator: Jasmine Richards, Managing Director, Head of Diverse Research, Cambridge Associates</p>	Plenary	NASP HQ



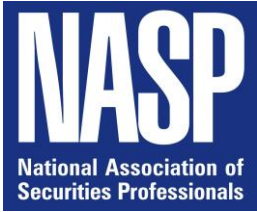
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		Panelist: Gabriel Rodriguez, Managing Partner, Empiric Institutional Panelist: Floyd Simpson, Sr. Managing Consultant, PFM		
9:30 AM -9:45 AM	Program Break			
9:45 AM -10:30 AM	<i>Municipal Finance [Post] Pandemic</i> As the pandemic abates, hear from an array of high-profile municipal issuers from around the country, on how they have navigated the past twenty-four months and what lies ahead for them from a budgeting, operating, and credit, perspective. In addition, they will advise of their capital plans in the near term. These issuers have a long demonstrated history of supporting diversity, equity, and inclusion.	Panelist: Reuben McDaniel	Muni	
9:45 AM -10:30 AM	<i>Digital Disruption: A Closer Look at Blockchain and Its Impact from Cryptocurrencies and Non-fungible Tokens (NFTs) to Decentralized Autonomous Organizations (DAOs)</i> The panel will provide insights on how Cryptocurrencies and NFTs have evolved and the implications for the current markets. We will discuss the outlook of a decentralized world and the future of finance with	Moderator: E. David Ellington, Founder and Executive Director, Silicon Valley Blockchain Society Panelist: David Weisberger, Co-founder, CoinRoutes	Institutional	



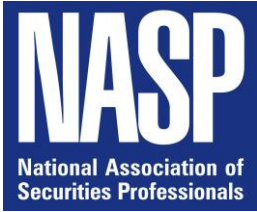
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	Blockchain and Cryptocurrencies as a major asset. Finally, we will discuss the merits for exposure to Cryptocurrencies and NFTs from an investment perspective.			
9:45 AM -10:30 AM	<p><i>Diversity in the Wealth Management Industry: Career Opportunities for Young Professionals and Career Changers</i></p> <p>Despite the obvious legacy of systemic racism in the financial sector, the current moment provides reasons for some hope that things may change for the better. Most wealth management professionals have extremely lucrative careers but the attraction of more young people of diverse backgrounds to the profession still hasn't taken root. What can WM Firms and organizations supporting the industry do to increase diverse representation in the industry.</p>	<p>Moderator: Adam Rouse, T, Rowe Price</p> <p>Panelist: Monica Handy, Morgan Stanley</p>	Wealth Management	
10:30 AM -10:45 AM	Break			
10:45 AM-11:30 AM	<i>Developing Critical Infrastructure in the Metropolis</i>		Muni	



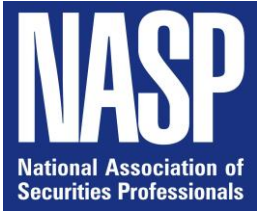
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	<p>Mayors make strategic decisions regarding the maintenance and development of critical infrastructure to promote the welfare of their cities. Their priorities shape metropolitan growth, economic development and regional prosperity. Mayors will discuss their practical experience addressing the fiscal opportunities and challenges in their region</p>			
<p>10:45 AM-11:30 AM</p>	<p><i>The Rise of Venture Investing as an Impact Vehicle</i></p> <p>A look at the rise of VC investing as a tool for Impact investing related to ESG and DEI impacts. This panel will bring together allocators, traditional institutional investors and emerging minority and women VCs. This Panel will discuss the Private Equity universe and strategies of VC investors and the growth of minority and women-owned VC firms. We will also discuss The push-pull effect of investors and the Impact it has on the financial industry.</p>	<p>Moderator: Chitra Nawbatt, Global Head of Health Assurance Partnership, General Catalyst</p> <p>Panelist: Tracy Gray, Founder and Managing Partner, The 22 Fund</p> <p>Panelist: Joe Aguilar, Chief Investment Officer, State of Illinois</p> <p>Panelist: Frederik Groce, Deal Lead, Wellington Access Ventures</p> <p>Panelist: Marcelia Freeman, NASP Board Member, Florida A & M Endowment, Former Trustee, Montgomery COUNTY (MD) Public Schools</p>	<p>Institutional</p>	



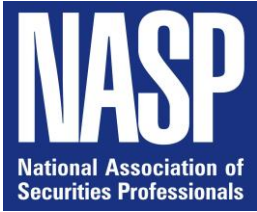
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<p>10:45 AM-11:30 AM</p>	<p><i>Overcoming Inherent Bias: What wealth management firms have done in the last three years to build inclusive environments where diverse employees can reach the top.</i></p> <p>The business case for diversity, equity and inclusion (DE&I) is stronger than ever. Taking a closer look at diversity winners reveals what can drive real progress.</p> <p>A McKinsey & Co. 2019 analysis finds that companies in the top quartile for gender diversity on executive teams were 25 percent more likely to have above-average profitability than companies in the fourth quartile—up from 21% in 2017 and 15% in 2014.</p>	<p>Moderator: Kathleen Colin, Director, Investments, Oppenheimer</p> <p>Panelist: Lattisha Jackson, AAAA</p>	<p>Wealth Management</p>	
<p>11:30 AM - 11:45 AM</p>	<p>Program Break</p>			
<p>11:45 AM – 1:15 PM</p>	<p>Afternoon Plenary <i>Joyce Johnson Luncheon</i></p>	<p>Keynote Speaker: Rosalind Brewer, CEO, Walgreens Boots Alliance</p>	<p>Plenary</p>	<p>NASP HQ</p>
<p>1:15 PM - 1:30 PM</p>	<p>Program Break</p>			
<p>1:30 PM – 2:15 PM</p>	<p><i>Environmental, Social, and Governance (ESG) Financing: Water and Sewer Bonds</i></p>	<p>Panelist: Lisa Marie Harris, Finance Director/Treasurer, San Diego County Water Authority</p>	<p>Muni</p>	



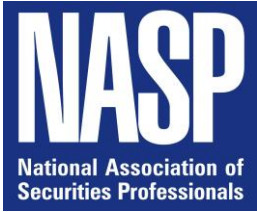
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	<p>The social mission of water and sewer systems is related to their environmental mission. Water and sewer systems are committed to environmental safety while providing affordable service. Water and sewer financings are especially strong candidates for inclusion in Environmental, Social and Governance (ESG)-sensitive strategies for investors. Panelists will discuss ESG considerations for water and sewer system financings and market participants' perceptions of ESG bonds.</p>	<p>Panelist: Chris Meister, Executive Director, Illinois Finance Authority</p>		
<p>1:30 PM – 2:15 PM</p>	<p><i>Understanding the Various Private Credit Asset Class Strategies</i></p> <p>This session will discuss the relevance of the Private Credit asset class for investors seeking higher yielding Fixed Income assets. Once a less defined and prevalent asset class, Private Credit has grown as a method of increasing yield in fixed income portfolios during the protracted low-rate interest rate environment of the past 14 years since the Great Financial Crisis. This panel seeks to provide the trends, risks, and opportunities for Private Credit as the market experiences an inflection point in the interest rate cycle to higher rates.</p>	<p>Moderator: Donna Sims Wilson, Chief Operating Officer, KAH Capital</p> <p>Panelist: Stephen Usher, Managing Director - Head of Distribution, Lafayette Square</p> <p>Panelist: Vincent Thompson, Partner, Three Line Capital</p> <p>Panelist: Sherrese Clark Soares, Founder, HarborView</p>	<p>Institutional</p>	



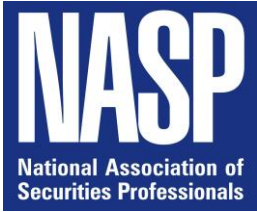
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<p>1:30 PM – 2:15 PM</p>	<p><i>Close the racial wealth gap by discussing the impact of the wealth gap and what businesses are doing to support economic inclusion</i></p> <p>It is estimated that its dampening effect on consumption and investment will cost the US economy between \$1 trillion and \$1.5 trillion between 2019 and 2028—4 to 6 percent of the projected GDP in 2028.</p> <p>The widening racial wealth gap disadvantages black families, individuals, and communities and limits black citizens’ economic power and prospects, and the effects are cyclical. Such a gap contributes to intergenerational economic precariousness: almost 70 percent of middle-class black children are likely to fall out of the middle class as adults.</p>	<p>Moderator: Christian Nwasike, Principal & Executive Managing Partner, Practice Management Consultants, LLC</p> <p>Panelist: Barrett Wragg, T. Rowe Price</p>	<p>Wealth Management</p>	
<p>2:15 PM - 2:30 PM</p>	<p>Program Break</p>			
<p>2:30 PM – 3:15 PM</p>	<p><i>What’s Next On the Runway to Recovery for the Nation’s Airports?</i></p> <p>The impacts of the coronavirus pandemic and subsequent travel restrictions on the airline industry caused total enplanements in [2020-21] to reach a level that had not been seen since 1997. Given the loss in revenues and uncertain future, many airports decided to forego or halt</p>		<p>Muni</p>	



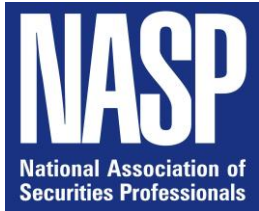
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	planned capital projects, deciding to wait to complete the projects until there is proof that the return to normalcy is on the horizon. This panel will discuss how airports have put their federal funds to use, how they are approaching capital planning given such uncertainty, and how construction plans have been impacted by higher costs and worker shortages			
2:30 PM – 3:15 PM	<p><i>Real Assets 2.0: From Energy Transition to Digital Infrastructure</i></p> <p>As markets have been roiled by persistent inflation, pandemic-driven uncertainty in real estate, and a \$16 trillion infrastructure funding gap, many investors have turned to real assets to provide stability and certainty to their portfolios. This panel will explore how investments in real assets have also been a means to create change, including creating affordable housing, expanding renewables, developing smart cities, and working with diverse managers.</p>	<p>Moderator: James Celestine, Senior Investment Officer, New York State Common Retirement Fund</p>	Institutional	
2:30 PM – 3:15 PM	<p><i>FinTech Panel Discussion: How New Technologies are Disrupting Traditional Wealth Management</i></p> <p>The rapid and ongoing innovations in technology are exciting. While the robo-advisor craze is well documented, the proliferation of artificial intelligence (AI) tools hitting</p>	<p>Moderator: Lauren Ziadie, Executive Director, Morgan Stanley Wealth Management</p> <p>Panelist: Anthony Buchanan, LetBob</p>	Wealth Management	



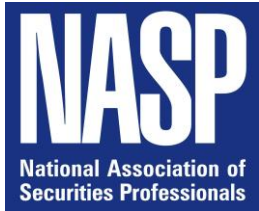
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	<p>the wealth management landscape has made a dramatic entrance into the financial trade press.</p> <p>While it might be early, AI's role in financial advice is an area to watch. While some studies show that the number of financial advisors is expected to stay flat or grow moderately over the next five years, growth in assets managed by advisors shows that the industry is alive and well. The Registered Investment Advisor (RIA) Benchmarking Study from Charles Schwab shows that assets under management have increased steadily, with a five-year compound annual growth rate (CAGR) of 14.5% from 2015 to 2020.</p>			
3:15 PM - 3:30 PM	Break			
3:30 PM - 4:30 PM	<p>Afternoon Plenary CIO's Speak</p>	<p>Moderator: DeAnna Jones, Senior Consultant Specialist, NEPC</p> <p>Panelist: Thomas Lee, Chief Investment Officer, New York State Teachers' Retirement System</p> <p>Panelist: Leslie Lenzo, Chief Investment Officer, Advocate Aurora Health</p>	Plenary	NASP HQ
4:30 PM – 5:30 PM	Career Coaching			NASP HQ
5:30 PM - 6:00 PM	Program Break			
6:00 PM - 7:30 PM	Pre-Gala Reception	NASP Chapter Presidents Recognition		NASP HQ
7:30 PM – 9:30 PM	International Gala and Award Presentation	Awards Presentations	Plenary	NASP HQ



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		Video Presentation/Sponsor Acknowledgements		
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Date: Wednesday; June 29, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
9:00 AM – 10:00 AM	Morning Plenary Session NASP Update/Launch of NASP Institute Fireside Chat	Speaker: Ronald C. Parker, President & CEO, NASP Speaker: Shundrawn Thomas, Northern Trust	Plenary	NASP HQ
10:00 AM -10:15 AM	Program Break			
10:15 AM – 11:15 AM	Consultant Roundtable		Plenary	
11:15 AM – 12:30 PM	Grab & Go Lunch			
	Conference Ends			



AGENDA REPORT

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

SUBJECT: Authorization and Reimbursement of Trustee R. Steven Wilkinson's Travel/Education Expenses **DATE:** June 29, 2022

David F. Jones, Plan Administrator & Secretary of the **Oakland Police and Fire Retirement System** Board, requests authorization for reimbursement of travel and/or board education related funds for the event detailed below. Staff has verified that budgeted funds are available for this Board Member to be reimbursed.

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

Travel/Education Event: NASP 2022 33rd Annual Financial Services Conference

Event Location: Radisson Blu Hotel, Chicago, IL

Event Date: June 27, 2022 - June 29, 2022

Estimated Event Expense: \$1,750.00

Notes: Prior Approval received from President Walter L. Johnson Sr.

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

Respectfully submitted,

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

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

Attachments:
(1) Resolution 8055
(2) Conference Agenda

Agenda Item 4
PFRS Audit Committee Meeting
June 29, 2022

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8055

Approved to
Form
and Legality



ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION RATIFYING THE BOARD PRESIDENT'S APPROVAL OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM PLAN ADMINISTRATOR JONES' REQUEST TO ATTEND THE NATIONAL ASSOCIATION OF SECURITIES PROFESSIONALS (NASP) 33rd ANNUAL FINANCIAL SERVICES CONFERENCE FROM JUNE 27, 2022 THROUGH June 29, 2022 IN CHICAGO, IL AND AUTHORIZING REIMBURSEMENT OF REGISTRATION FEES AND TRAVEL-RELATED EXPENSES IN AN AMOUNT NOT TO EXCEED ONE THOUSAND SEVEN HUNDRED FIFTY DOLLARS (\$1,750.00)

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

WHEREAS, pursuant to Section IV(2)(c) of the Travel Policy, the PFRS Board President, in consultation with the Plan Administrator, may authorize education and travel expenses without prior approval of the Board when prior approval cannot be obtained; and

WHEREAS, PFRS Plan Administrator Jones the NASP 33rd Annual Financial Services Conference ("the Conference") in Chicago, IL from June 27, 2022 through June 29, 2022; and

WHEREAS, pursuant to Section IV(21)(a) of the Travel Policy Plan Administrator Jones will submit documentation showing costs in an amount not to exceed One Thousand Seven Hundred Fifty Dollars (\$1,750.00) incurred as reimbursable expenses to attend the Conference within 15 days of the date of his return from the conference; and

WHEREAS, Plan Administrator Jones was unable to obtain Board approval prior to attending the Conference because he was unable to submit his request prior to the agenda posting deadline in time to bring his request to the full board before the Conference; and

WHEREAS, in compliance with Section IV(2)(c) of the Travel Policy, Plan Administrator Jones obtained written authorization from PFRS Board President Walter L. Johnson, Sr. to attend the Conference; now, therefore be it

RESOLVED: That the PFRS Board hereby ratifies the Board President's approval of PFRS Plan Administrator Jones' request to attend the NASP 33rd Annual Financial Services Conference from June 27, 2022 through June 29, 2022; and be it

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION NO. 8055

FURTHER RESOLVED: That the PFRS Board authorizes reimbursement of the expenses Plan Administrator Jones incurred to attend NASP 33rd Annual Financial Services Conference in an amount not to exceed One Thousand Seven Hundred Fifty Dollars (\$1,750.00).

IN BOARD MEETING, VIA ZOOM CONFERENCE JUNE 29, 2022

PASSED BY THE FOLLOWING VOTE:

AYES:

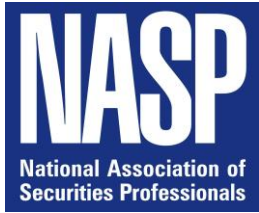
NOES:

ABSTAIN:

ABSENT:

ATTEST: _____
PRESIDENT

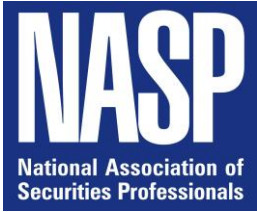
ATTEST: _____
SECRETARY



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Date: Monday; June 27, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
8:30 AM -9:00 AM	Opening & Welcome Remarks	Speaker: Ronald C. Parker, President & CEO, NASP Speaker: Richard Turnley, III, Board Chair NASP Speaker: Chicago/IL Official	Plenary	NASP HQ
9:00 AM– 10:00 AM	Morning Plenary – Global Economic Outlook	Standard Bank	Plenary	NASP HQ
10:00 AM - 10:20 AM	Program Break	N/A		
10:20 AM - 11:05 AM	Allocator Perspectives Panel	TBD	AEMS	
10:20 AM - 11:05 AM	Sourcing the Best Diverse Managers We’ve all heard the results of the Knight Foundation that diverse firms manage about 1.4% of \$69 trillion dollars in assets and it’s not due to poor performance, because these diverse managers perform as well or better than their majority-owned counterparts. Despite the social unrest in 2020 that sparked a renewed focus on DE&I, the percentage of assets allocated to diverse managers has not improved. This panel will offer solutions to increase the utilization of diverse asset managers, broker/dealers and other service providers.	Welcome Remarks Instructor: Angela Matheny, Director of Investment Staff and Diverse Manager Equity, Crewcial Partners Instructor: Winston Blake, President, Attucks Asset Management Instructor: Angela Miller-May, Chief Investment Officer, Illinois Municipal Retirement Fund	TNI	



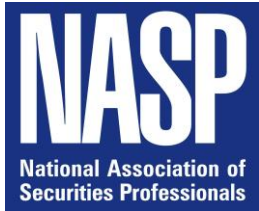
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10:20 AM - 11:05 AM	<p><i>Realize The Power of a Positive Mental Approach to Leadership</i></p> <p>The challenges of navigating business activity in periods of extreme disruption and constant change can be taxing on one’s mental and physical well-being. Leaders must strive for increased productivity but must also be concerned about employee health and potential burnout.</p> <p>Join us as mental health professionals and business leaders share thoughts on how to best manage teams with a focus on personal/professional balance, effective communication, while emphasizing the need to find joy and purpose in the work they do.</p>	<p>Panelist: Jeffrey Ferguson, Associate Director, Living Cities</p> <p>Panelist: Michelle Minus-Swittenberg, Founder, BRWL Studios</p> <p>Panelist: Stephanie Sklar Rapp, Co-Founder and CEO, EMBODY Wellness Company</p>	PDS	
11:05 AM - 11:15 AM	Program Break			
11:15 AM - 12:00 PM	<i>Infrastructure Panel</i>	TBD	AEMS	
11:15 AM - 12:00 PM	<p><i>Understanding the Federal Reserve and Fed Funds Policy</i></p> <p>The Federal Reserve was created by Congress to provide the nation with a safer, more flexible, and more stable monetary and financial system. This session will explain</p>		TNI	



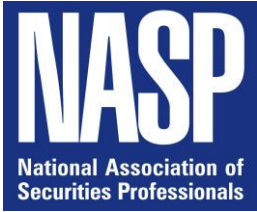
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	what the Federal Reserve is, how it works and how it affects the financial markets.			
11:15 AM - 12:00 PM	<p><i>Navigating and Excelling in Your Career in a Hybrid Work Environment</i></p> <p>With the Post-Covid transition to more flexible work experiences, how will workplace relationships change?</p> <p>What must young professionals be prepared for as they look to become leaders of diverse teams that are collaborating remotely?</p> <p>How must they be ready to engage, communicate and contribute while being self-aware and understanding of the demands and metrics that are expected.</p> <p>Listen in as a panel of HR and DE&I professionals bring to light how organizations are increasing productivity and assisting their employees with managing career goals in a more diverse and hybrid work environment.</p>	<p>Panelist: Monique Pryor, Chief Engagement & External Affairs Officer, St Francis College Brooklyn</p> <p>Panelist: Johnita Walker-Mizelle, Senior Principal, US Distribution, Sagard</p>	PDS	
12:00 PM - 1:15 PM	<i>Lunch Plenary Session</i>	Keynote	Plenary	NASP HQ
1:15 PM - 1:35 PM	Program Break			
1:35 PM – 2:20 PM	<i>Climate Finance and ESG Investing for a Green Future</i>	Panelist: Dinao Lerutla, Managing Partner, Maia Capital	AEMS	



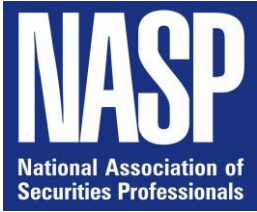
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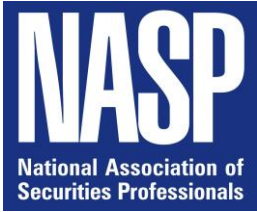
	<p>As global actors advance ambitions to be net-zero by 2050 and to keep global warming to 1.5 degrees, developing economies face the challenges of building low emission economies while being disproportionately affected by the physical risks of climate change. As such, the need for private capital to support the development of a low-carbon future and catalyzing economic growth at the same time will be crucial. This panel will discuss the current and future status of climate finance and investment models to support the green transition and the role of ESG investing more broadly. The discussion will explore the role of allocators, fund managers, corporates in investing in and meeting net-zero targets and how private actors can mitigate risk and enhance returns in the context of climate action.</p>	<p>Panelist: Hazel Taylor, Director and Head of Investor Desk, British International Investment</p>		
<p>1:35 PM – 2:20 PM</p>	<p><i>Asset Allocation: The Value of Traditional Assets in the Age of Alternatives</i></p> <p>Over the past several years, Institutional investors have increased their allocation to alternative investments such as Private Equity, Infrastructure, Real Estate & Hedge Funds. Although exposure to alternatives and private markets are good strategies to add alpha to the portfolio, investors must remember there is always a role for traditional equity and fixed income assets. This session will highlight the ever-present need for</p>	<p>Instructor: Gautam Khanna, CFA, CPA, Head of US Multi-Sector Fixed Income, Insight Investment</p>	<p>TNI</p>	



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	traditional fixed income and equities in any asset allocation strategy.			
1:35 PM – 2:20 PM	<p><i>The Making of Angels: Where Rising Stars Meet Entrepreneurs</i></p> <p>The role of angel investors is critical to the continued success and evolution of the start-up community. Sourcing early-stage capital can be the difference between early-stage success or failure. Innovative solutions to access capital for black and women entrepreneurs through connectivity diverse professional networks can truly lead to generational wealth accumulation within these communities.</p> <p>Come join us as founders and early-stage investors discuss how best to engage and support diverse founders as they look to create value and extend wealth generating opportunities.</p>	<p>Moderator: Blair Smith, Senior Director, Center for Financial Markets, The Milken Institute</p> <p>Panelist: Nicholas Antoine, Managing Partner, Red Arts Capital</p> <p>Panelist: Melanie Seymour, Director, Capital Access, Institute For Entrepreneurial Leadership</p> <p>Panelist: Keith Spears, General Partner, Include Ventures</p>	PDS	
2:20 PM - 2:30 PM	Program Break			
2:30 PM - 3:15 PM	<i>Venture Capital</i>	TBD	AEMS	
2:30 PM - 3:15 PM	<i>Portfolio Protection Strategies: Best Practices for Securities Litigation & Portfolio Monitoring</i>	Instructor: Marlon Kimpson, Member, Motley Rice, LLC	TNI	



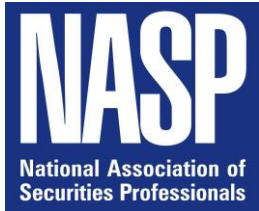
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	Securities fraud is on the rise and Institutional investors must be proactive in protecting investments from fraud, market manipulation, or breach of contracts. This session will present the merits of portfolio monitoring and the elements of securities fraud cases. The session will end with a brief overview of pension fund governance and the fiduciary responsibilities of fund trustees.			
2:30 PM - 3:15 PM	<p><i>The Growth of ESG Integration and the Demand for Critical Data</i></p> <p>As ESG continues to gain momentum, many companies are looking for ways to measure impact and hold themselves, as well as their vendors and partner firms accountable. Join us as ESG professionals discuss best practices of implementing ESG and the benefits of ESG and how it can positively influence investment decisions.</p> <p>We will discuss questions such as: What are global, as well as US, ESG trends? What capital market structures represent the best vehicle for ESG focused investments? And much more!</p>	<p>Panelist: Meg Starr, Carlyle Group</p> <p>Panelist: Brooke Guven, Head of ESG & Sustainability and Managing Director, Cerberus Capital Management</p> <p>Panelist: State Street</p>	PDS	NASP HQ
3:15 PM - 3:25 PM	Program Break			
3:25 PM - 4:25 PM	<p>Afternoon Plenary Session</p> <p><i>A Roadmap to Ensure Black, Women-Owned & Latinx Firms Proliferate</i></p>	<p>Panelist: Shawn T. Wooden, Treasurer, State of Connecticut</p>	Plenary (Muni)	NASP HQ



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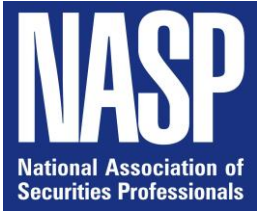
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	<p>Public and private sectors alike are eager to implement lasting diversity, equity, and inclusion initiatives because it makes good public policy and economically beneficial. Earlier this year Citi established the Diverse Financial Institutions Group to expand firm-wide engagement with Minority Depository Institutions, Diverse Broker Dealers, and Diverse Asset Managers to work collaboratively with these firms so they can prosper and grow. This panel will explore how the public and private sector can work to ensure that Black, Women-Owned, Latinx and other minority firms proliferate in the coming years.</p>	<p>Panelist: Phillip Washington, Chief Executive Officer, Denver International Airport</p>		
<p>4:30 PM - 6:30 PM</p>	<p>Welcome Reception</p>			

Date: Tuesday; June 28, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
<p>8:30 AM-9:30 AM</p>	<p>Morning Plenary Session <i>The Future Of Asset Management</i></p>	<p>Moderator: Jasmine Richards, Managing Director, Head of Diverse Research, Cambridge Associates</p>	<p>Plenary</p>	<p>NASP HQ</p>



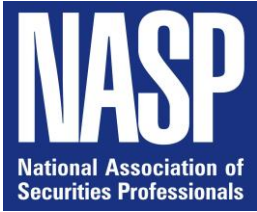
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		Panelist: Gabriel Rodriguez, Managing Partner, Empiric Institutional Panelist: Floyd Simpson, Sr. Managing Consultant, PFM		
9:30 AM -9:45 AM	Program Break			
9:45 AM -10:30 AM	<i>Municipal Finance [Post] Pandemic</i> As the pandemic abates, hear from an array of high-profile municipal issuers from around the country, on how they have navigated the past twenty-four months and what lies ahead for them from a budgeting, operating, and credit, perspective. In addition, they will advise of their capital plans in the near term. These issuers have a long demonstrated history of supporting diversity, equity, and inclusion.	Panelist: Reuben McDaniel	Muni	
9:45 AM -10:30 AM	<i>Digital Disruption: A Closer Look at Blockchain and Its Impact from Cryptocurrencies and Non-fungible Tokens (NFTs) to Decentralized Autonomous Organizations (DAOs)</i> The panel will provide insights on how Cryptocurrencies and NFTs have evolved and the implications for the current markets. We will discuss the outlook of a decentralized world and the future of finance with	Moderator: E. David Ellington, Founder and Executive Director, Silicon Valley Blockchain Society Panelist: David Weisberger, Co-founder, CoinRoutes	Institutional	



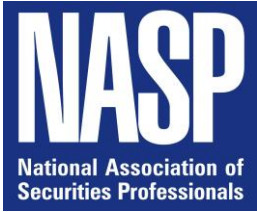
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	Blockchain and Cryptocurrencies as a major asset. Finally, we will discuss the merits for exposure to Cryptocurrencies and NFTs from an investment perspective.			
9:45 AM -10:30 AM	<p><i>Diversity in the Wealth Management Industry: Career Opportunities for Young Professionals and Career Changers</i></p> <p>Despite the obvious legacy of systemic racism in the financial sector, the current moment provides reasons for some hope that things may change for the better. Most wealth management professionals have extremely lucrative careers but the attraction of more young people of diverse backgrounds to the profession still hasn't taken root. What can WM Firms and organizations supporting the industry do to increase diverse representation in the industry.</p>	<p>Moderator: Adam Rouse, T, Rowe Price</p> <p>Panelist: Monica Handy, Morgan Stanley</p>	Wealth Management	
10:30 AM -10:45 AM	Break			
10:45 AM-11:30 AM	<i>Developing Critical Infrastructure in the Metropolis</i>		Muni	



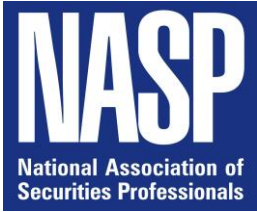
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	<p>Mayors make strategic decisions regarding the maintenance and development of critical infrastructure to promote the welfare of their cities. Their priorities shape metropolitan growth, economic development and regional prosperity. Mayors will discuss their practical experience addressing the fiscal opportunities and challenges in their region</p>			
<p>10:45 AM-11:30 AM</p>	<p><i>The Rise of Venture Investing as an Impact Vehicle</i></p> <p>A look at the rise of VC investing as a tool for Impact investing related to ESG and DEI impacts. This panel will bring together allocators, traditional institutional investors and emerging minority and women VCs. This Panel will discuss the Private Equity universe and strategies of VC investors and the growth of minority and women-owned VC firms. We will also discuss The push-pull effect of investors and the Impact it has on the financial industry.</p>	<p>Moderator: Chitra Nawbatt, Global Head of Health Assurance Partnership, General Catalyst</p> <p>Panelist: Tracy Gray, Founder and Managing Partner, The 22 Fund</p> <p>Panelist: Joe Aguilar, Chief Investment Officer, State of Illinois</p> <p>Panelist: Frederik Groce, Deal Lead, Wellington Access Ventures</p> <p>Panelist: Marcelia Freeman, NASP Board Member, Florida A & M Endowment, Former Trustee, Montgomery COUNTY (MD) Public Schools</p>	<p>Institutional</p>	



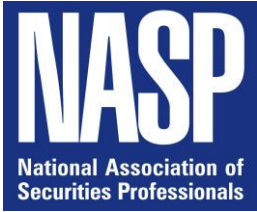
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<p>10:45 AM-11:30 AM</p>	<p><i>Overcoming Inherent Bias: What wealth management firms have done in the last three years to build inclusive environments where diverse employees can reach the top.</i></p> <p>The business case for diversity, equity and inclusion (DE&I) is stronger than ever. Taking a closer look at diversity winners reveals what can drive real progress.</p> <p>A McKinsey & Co. 2019 analysis finds that companies in the top quartile for gender diversity on executive teams were 25 percent more likely to have above-average profitability than companies in the fourth quartile—up from 21% in 2017 and 15% in 2014.</p>	<p>Moderator: Kathleen Colin, Director, Investments, Oppenheimer</p> <p>Panelist: Lattisha Jackson, AAAA</p>	<p>Wealth Management</p>	
<p>11:30 AM - 11:45 AM</p>	<p>Program Break</p>			
<p>11:45 AM – 1:15 PM</p>	<p>Afternoon Plenary <i>Joyce Johnson Luncheon</i></p>	<p>Keynote Speaker: Rosalind Brewer, CEO, Walgreens Boots Alliance</p>	<p>Plenary</p>	<p>NASP HQ</p>
<p>1:15 PM - 1:30 PM</p>	<p>Program Break</p>			
<p>1:30 PM – 2:15 PM</p>	<p><i>Environmental, Social, and Governance (ESG) Financing: Water and Sewer Bonds</i></p>	<p>Panelist: Lisa Marie Harris, Finance Director/Treasurer, San Diego County Water Authority</p>	<p>Muni</p>	



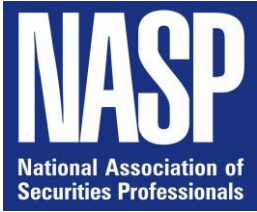
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	<p>The social mission of water and sewer systems is related to their environmental mission. Water and sewer systems are committed to environmental safety while providing affordable service. Water and sewer financings are especially strong candidates for inclusion in Environmental, Social and Governance (ESG)-sensitive strategies for investors. Panelists will discuss ESG considerations for water and sewer system financings and market participants' perceptions of ESG bonds.</p>	<p>Panelist: Chris Meister, Executive Director, Illinois Finance Authority</p>		
<p>1:30 PM – 2:15 PM</p>	<p><i>Understanding the Various Private Credit Asset Class Strategies</i></p> <p>This session will discuss the relevance of the Private Credit asset class for investors seeking higher yielding Fixed Income assets. Once a less defined and prevalent asset class, Private Credit has grown as a method of increasing yield in fixed income portfolios during the protracted low-rate interest rate environment of the past 14 years since the Great Financial Crisis. This panel seeks to provide the trends, risks, and opportunities for Private Credit as the market experiences an inflection point in the interest rate cycle to higher rates.</p>	<p>Moderator: Donna Sims Wilson, Chief Operating Officer, KAH Capital</p> <p>Panelist: Stephen Usher, Managing Director - Head of Distribution, Lafayette Square</p> <p>Panelist: Vincent Thompson, Partner, Three Line Capital</p> <p>Panelist: Sherrese Clark Soares, Founder, HarborView</p>	<p>Institutional</p>	



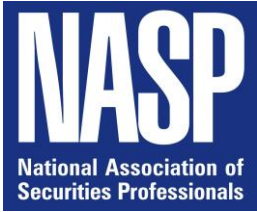
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<p>1:30 PM – 2:15 PM</p>	<p><i>Close the racial wealth gap by discussing the impact of the wealth gap and what businesses are doing to support economic inclusion</i></p> <p>It is estimated that its dampening effect on consumption and investment will cost the US economy between \$1 trillion and \$1.5 trillion between 2019 and 2028—4 to 6 percent of the projected GDP in 2028.</p> <p>The widening racial wealth gap disadvantages black families, individuals, and communities and limits black citizens’ economic power and prospects, and the effects are cyclical. Such a gap contributes to intergenerational economic precariousness: almost 70 percent of middle-class black children are likely to fall out of the middle class as adults.</p>	<p>Moderator: Christian Nwasike, Principal & Executive Managing Partner, Practice Management Consultants, LLC</p> <p>Panelist: Barrett Wragg, T. Rowe Price</p>	<p>Wealth Management</p>	
<p>2:15 PM - 2:30 PM</p>	<p>Program Break</p>			
<p>2:30 PM – 3:15 PM</p>	<p><i>What’s Next On the Runway to Recovery for the Nation’s Airports?</i></p> <p>The impacts of the coronavirus pandemic and subsequent travel restrictions on the airline industry caused total enplanements in [2020-21] to reach a level that had not been seen since 1997. Given the loss in revenues and uncertain future, many airports decided to forego or halt</p>		<p>Muni</p>	



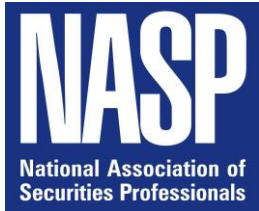
NASP 2022 Annual Financial Services Conference
Theme: Breaking the Status Quo: Leading With Renewed Purpose

June 27-29 2022

Chicago, IL

Radisson Blu Hotel

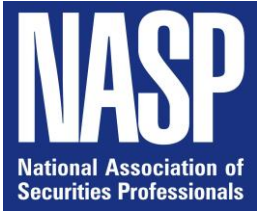
	<p>planned capital projects, deciding to wait to complete the projects until there is proof that the return to normalcy is on the horizon. This panel will discuss how airports have put their federal funds to use, how they are approaching capital planning given such uncertainty, and how construction plans have been impacted by higher costs and worker shortages</p>			
<p>2:30 PM – 3:15 PM</p>	<p><i>Real Assets 2.0: From Energy Transition to Digital Infrastructure</i></p> <p>As markets have been roiled by persistent inflation, pandemic-driven uncertainty in real estate, and a \$16 trillion infrastructure funding gap, many investors have turned to real assets to provide stability and certainty to their portfolios. This panel will explore how investments in real assets have also been a means to create change, including creating affordable housing, expanding renewables, developing smart cities, and working with diverse managers.</p>	<p>Moderator: James Celestine, Senior Investment Officer, New York State Common Retirement Fund</p>	<p>Institutional</p>	
<p>2:30 PM – 3:15 PM</p>	<p><i>FinTech Panel Discussion: How New Technologies are Disrupting Traditional Wealth Management</i></p> <p>The rapid and ongoing innovations in technology are exciting. While the robo-advisor craze is well documented, the proliferation of artificial intelligence (AI) tools hitting</p>	<p>Moderator: Lauren Ziadie, Executive Director, Morgan Stanley Wealth Management</p> <p>Panelist: Anthony Buchanan, LetBob</p>	<p>Wealth Management</p>	



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	<p>the wealth management landscape has made a dramatic entrance into the financial trade press.</p> <p>While it might be early, AI's role in financial advice is an area to watch. While some studies show that the number of financial advisors is expected to stay flat or grow moderately over the next five years, growth in assets managed by advisors shows that the industry is alive and well. The Registered Investment Advisor (RIA) Benchmarking Study from Charles Schwab shows that assets under management have increased steadily, with a five-year compound annual growth rate (CAGR) of 14.5% from 2015 to 2020.</p>			
3:15 PM - 3:30 PM	Break			
3:30 PM - 4:30 PM	<p>Afternoon Plenary CIO's Speak</p>	<p>Moderator: DeAnna Jones, Senior Consultant Specialist, NEPC</p> <p>Panelist: Thomas Lee, Chief Investment Officer, New York State Teachers' Retirement System</p> <p>Panelist: Leslie Lenzo, Chief Investment Officer, Advocate Aurora Health</p>	Plenary	NASP HQ
4:30 PM – 5:30 PM	Career Coaching			NASP HQ
5:30 PM - 6:00 PM	Program Break			
6:00 PM - 7:30 PM	Pre-Gala Reception	NASP Chapter Presidents Recognition		NASP HQ
7:30 PM – 9:30 PM	International Gala and Award Presentation	Awards Presentations	Plenary	NASP HQ



NASP 2022 Annual Financial Services Conference
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Chicago, IL

Radisson Blu Hotel

		Video Presentation/Sponsor Acknowledgements		
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Date: Wednesday; June 29, 2022 ALL TIMES CENTRAL				
Time	Session Title / Description	Speaker(s)	Track	Session Champion/ Co-Chair
9:00 AM – 10:00 AM	Morning Plenary Session NASP Update/Launch of NASP Institute Fireside Chat	Speaker: Ronald C. Parker, President & CEO, NASP Speaker: Shundrawn Thomas, Northern Trust	Plenary	NASP HQ
10:00 AM -10:15 AM	Program Break			
10:15 AM – 11:15 AM	Consultant Roundtable		Plenary	
11:15 AM – 12:30 PM	Grab & Go Lunch			
	Conference Ends			

Oakland Police & Fire Retirement System

WELLINGTON
MANAGEMENT®

Core Bond

For institutional use only. Not intended for reproduction or use with the public. Any views expressed herein are those of the author(s), are based on available information, and are subject to change without notice. Individual portfolio management teams may hold different views and may make different investment decisions for different clients. The material and/or its contents are current as of the most recent quarter end, unless otherwise noted. Certain data provided is that of a third party. While data is believed to be reliable, no assurance is being provided as to its accuracy or completeness.

Agenda

Section One

Wellington Management Company LLP overview

Section Two

CIF II Core Bond review

Wellington Management today

A trusted advisor and strategic partner to clients worldwide

BY THE NUMBERS

Business

USD 1,342 billion of client assets under management

2,485 clients

62 countries in which clients are based

People and portfolios

967 investment professionals

17 years of experience, on average

195 partners all active at the firm

Heritage: key dates

1928 Wellington Fund – the first US balanced fund

1979 Establishment of our private partnership

1994 Our first long – short strategy

2014 Our first dedicated private equity strategy

2015 Global Impact: Our first diversified impact investing strategy in public equities



OWNERSHIP MODEL

Long-term perspective of a private partnership structure

Attract and retain investment talent

Independent: No public shareholders, no outside capital

Interests aligned with clients

BUSINESS MODEL

Singular focus on investment management

Diversification by asset class, geography, and client type

Research for client benefit only

Commitment to bringing the right resources to each client

INVESTMENT MODEL

Comprehensive capabilities

Rigorous proprietary research

Career analysts

Global resources

Empowered portfolio teams

CULTURE

Open, collaborative

Performance driven

Professional/collegial

High standards, ethics, and integrity

Global diversity and inclusion



CURRENT LEADERSHIP INITIATIVES

Globalization

Sustainable investing and ESG research

Investment science and research-data analytics

Investment risk management

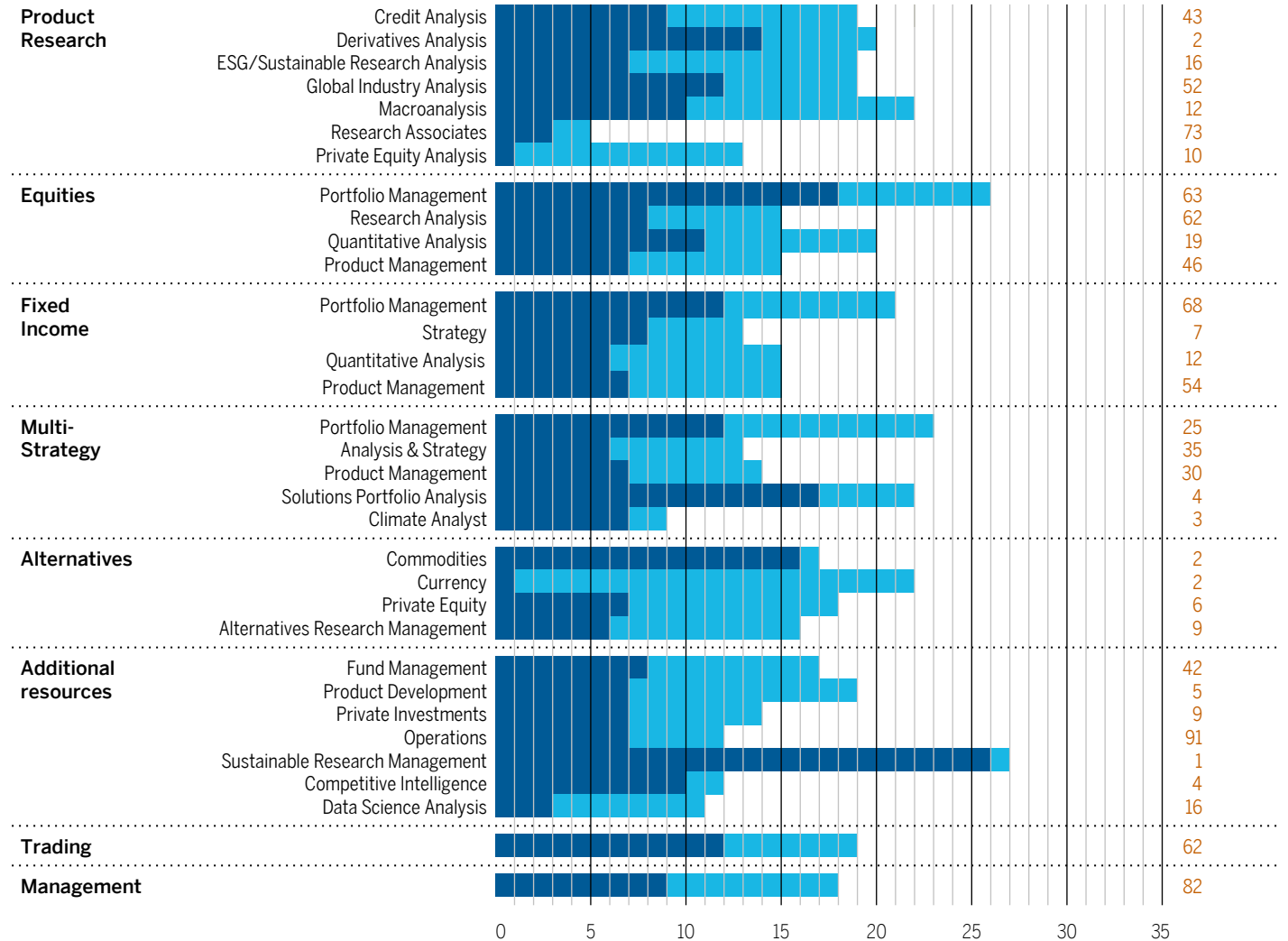
Depth, experience, and continuity create interpretation advantage

Investors draw on rigorous, proprietary research

We conduct research through fundamental; environmental, social, and corporate governance (ESG); quantitative; macro; and technical lenses

Avg years with Wellington Management
Avg years of professional experience

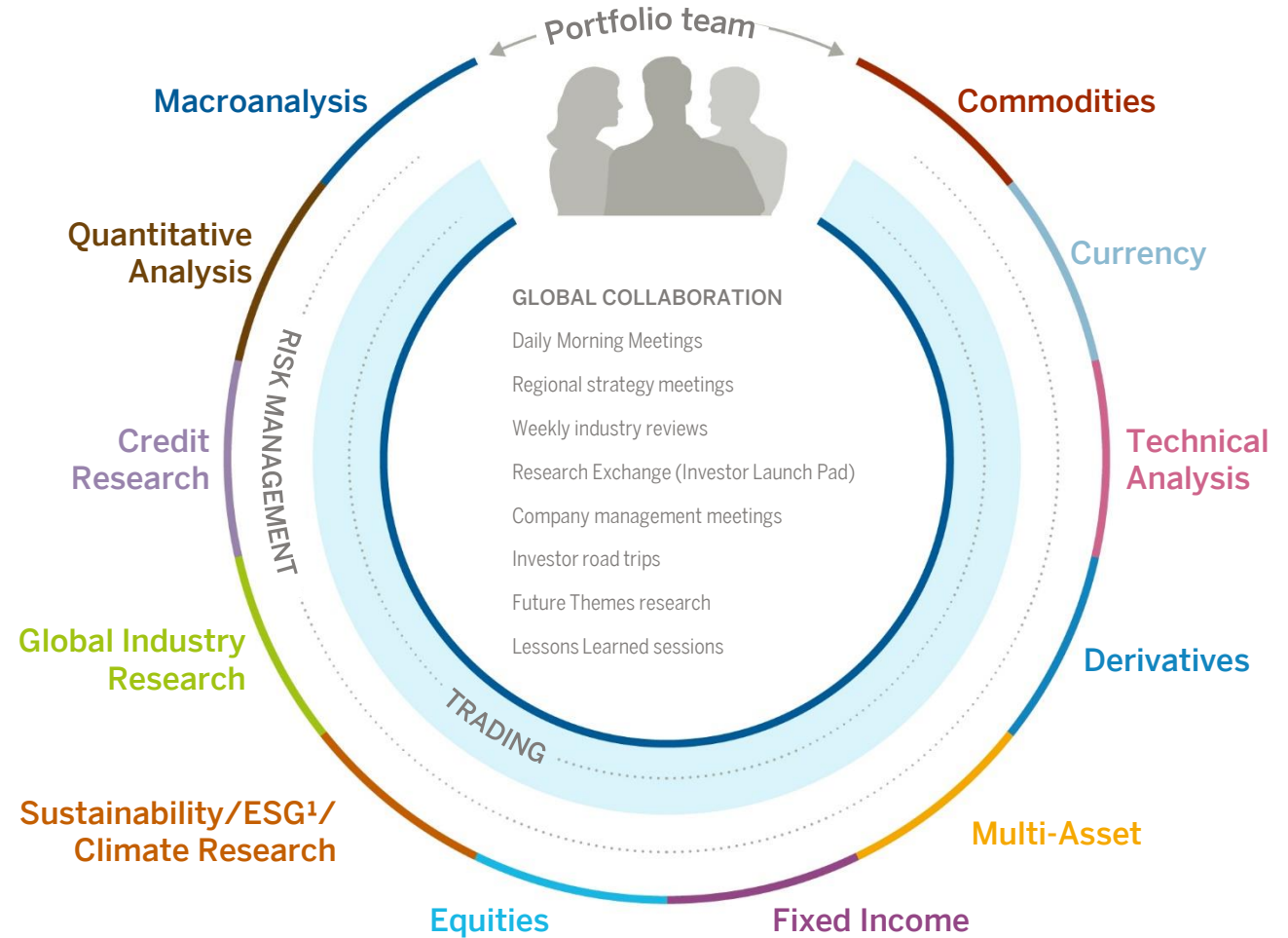
Total number of investment professionals:
967



As of 1 April 2022

Investors draw on our marketplace of ideas to build portfolios

We believe the best investment thinking is forged by the free exchange of ideas among a broadly diverse group of professionals



¹Environmental, social, and corporate governance

Diversity Representation Survey for Oakland Police and Fire

WMC Firm DATA AS OF 03/31/2022

Firm Name	Wellington Management		
Product Name	WTC-CIF II Core Bond		
Total Number of Employees	3,041		
	Percentage (%) of Board of Directors / Managing Members (1)	Percentage(%) of Firm (Entire Staff)	Percentage (%) of Firm (Investment Professionals)
Race and Ethnicity*			
African American/Black	8%	5%	5%
Asian/Hawaiian/Pacific Islander	8%	26%	23%
Latino/Hispanic		4%	4%
White	83%	58%	63%
American Indian/Alaska Native Other (2)		6%	5%
Gender			
Male	67%	55%	70%
Female	33%	45%	30%
Non-Identified/Other			

(1) The firm's Executive Committee is responsible for oversight of the firm's business. Management responsibility is carried out by the firm's line management, under the direction of the CEO. Additionally, three managing partners have responsibility for governance of the partnership.

(2) Other includes individuals identifying with two or more races/ethnicities and individuals who chose not to disclose this information.

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

Note:

Our goal is to be transparent regarding the aggregate composition of our global workforce. However, our approach will never result in an exact representation given that (1) self-identification of personal diversity attributes is strictly voluntary unless otherwise required by applicable law or regulation, and this may result in under-reporting for certain groups, and (2) in view of various government restrictions, we do not collect or report on data for certain of our global locations. In addition, as a firm, we are committed to enabling our employees to represent themselves in a way that is authentic and consistent with differing views of diversity, particularly racial and ethnic diversity. As a result, we have taken an inclusive approach to defining racial and ethnic categories. In the US, through the federal EEO-1 survey, we also report our US diversity and workforce data using prescribed definitions of race and ethnicity. Although the EEO-1 reporting format and categories used by the US Equal Employment Opportunity Commission are not necessarily representative of Wellington's organizational structure or fully represent the broad range of racial and ethnic identities our employees hold, as a firm, we have made the decision to publish our EEO-1 form on an annual basis.

Understanding that defining identities is a nuanced and very personal endeavor and in response to feedback from our employees, we also offer the ability to self-identify in a more specific way than defined by the US Equal Employment Opportunity Commission. For example, employees within the broader "Asian" category describe their identities across a much broader spectrum.

Wellington employees have the opportunity to self-identify their veteran status, LGBTIQ+, and/or disability status on an optional and voluntary basis. Due to various government restrictions, we do not collect or report on data for certain global locations. As such, data may understate the degree to which these groups are represented within the firm.

Please be aware that we consider any information provided regarding employees of Wellington Management to be strictly confidential. Accordingly, it is our expectation that you will hold this confidential information in strict confidence, and that you will not use or disclose Confidential Information other than internally for diversity reporting purposes or except as required by law. Additionally, please take all reasonable steps to ensure that any information you hold regarding Wellington's employees is destroyed immediately upon termination or cessation of the business need for the information. Please note, our privacy policy does not support providing personal information at the individual level and information provided to you by the HR Data Management, Analytics & Technology team should not be manipulated in any way.

Core Bond

Investment strategy

Objective

We seek to consistently outperform the broad fixed income market as represented by the Bloomberg US Aggregate Bond Index with equivalent or lower levels of risk

Philosophy

We believe a diversity of high quality investment ideas managed in a risk-controlled framework may lead to superior investment results

Approach

We seek to provide consistent excess returns through all market environments by

- Diversifying sources of return across multiple perspectives, investment styles, and time horizons
- Identifying skilled investors and allowing them to focus exclusively on their area of expertise
- Measuring and controlling the aggregation of risks

WTC-CIF II Core Bond

Investment returns

	As of 31 May 2022 (% , USD)		
	3 mos	1 yr	SI
WTC-CIF II Core Bond (gross)	-6.37	-8.80	-6.84
Oakland Police and Fire Retirement Sys CIF II CB (net)	-6.40	-8.91	-6.95
Bloomberg US Aggregate Bond	-5.86	-8.22	-6.20
Active return (gross vs benchmark)	-0.51	-0.58	-0.64

	YTD	2021*
WTC-CIF II Core Bond (gross)	-9.62	1.87
Oakland Police and Fire Retirement Sys CIF II CB (net)	-9.66	1.78
Bloomberg US Aggregate Bond	-8.92	1.89
Active return (gross vs benchmark)	-0.70	-0.03

*Partial calendar year (31 March 2021 to 31 December) | Inception date: 31 March 2021. The inception date represents the client's investment in the fund. | Portfolio returns are reported net of operating expenses and gross of investment management fee. | Sums may not total due to rounding. | Performance returns for periods one year or less are not annualized. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

WTC-CIF II Core Bond

Performance review (USD): Five months as of 31 May 2022

Active return: -73 bps

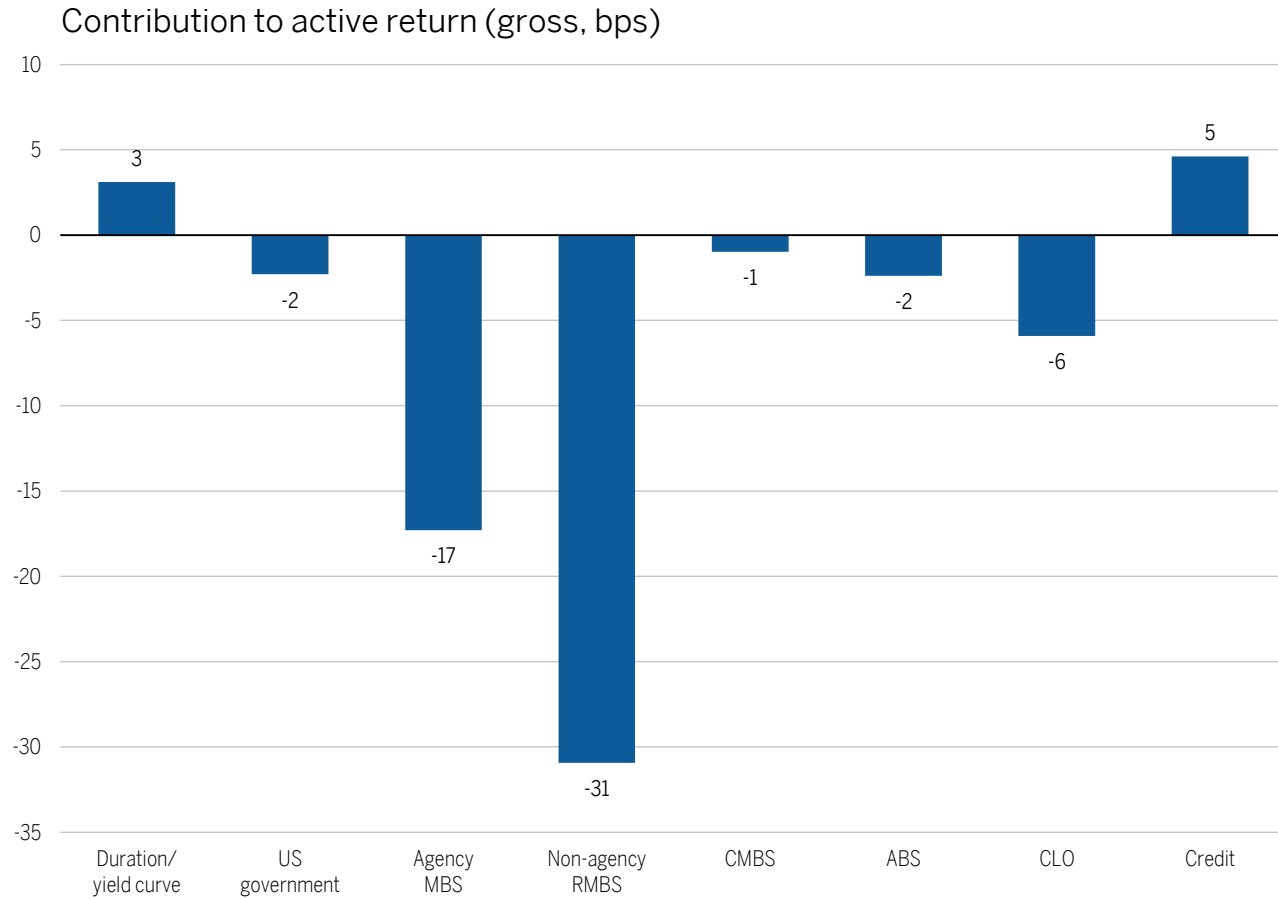


Benchmark used in the calculation of attribution data:
Bloomberg US Aggregate Bond. | Sums may not total
due to rounding. | The contribution from Cash & cash
equivalents is 0 bps. | **PAST
PERFORMANCE DOES NOT
PREDICT FUTURE RETURNS. AN
INVESTMENT CAN LOSE VALUE.**

WTC-CIF II Core Bond

Performance review (USD): One year as of 31 May 2022

Active return: -51 bps



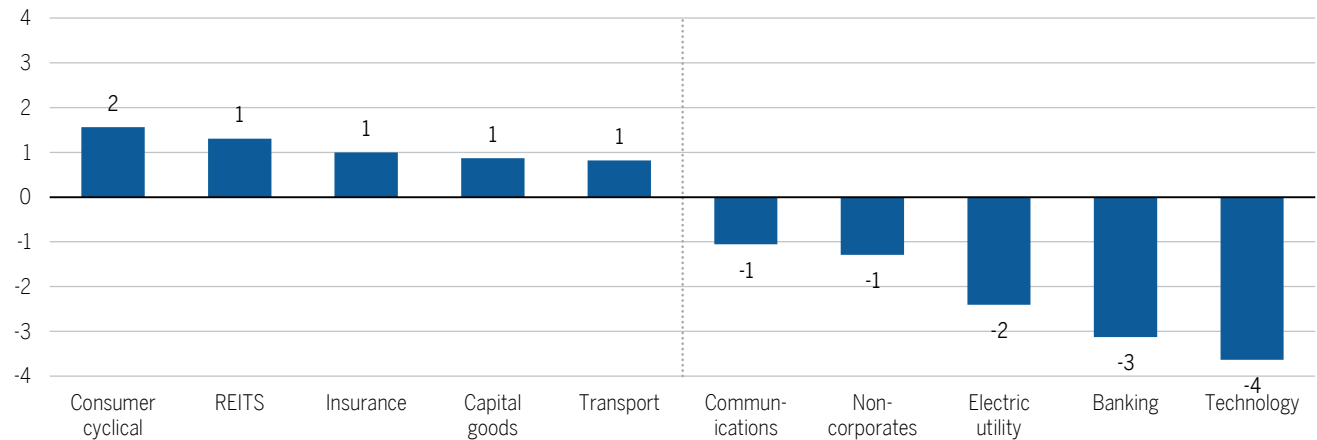
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PERFORMANCE DOES NOT
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WTC-CIF II Core Bond

Performance review (USD): Five months as of 31 May 2022

Credit detail

Top five and bottom five sector contributors, contribution to active return (gross, bps)



Top relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Rogers Cable	Communications	-0.0	1
Amazon	Cons cycl	0.1	1
Viatrix	Cons non-cycl	-0.0	0
HCA	Cons non-cycl	-0.1	0
Barclays Bank	Banking	-0.1	0

Bottom relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Bank of America	Banking	0.3	-1
Charter Communications	Communications	0.3	-1
PG&E	Electric utility	0.2	-1
Romania	Non-corporates	0.3	-1
Broadcom	Technology	0.4	-1

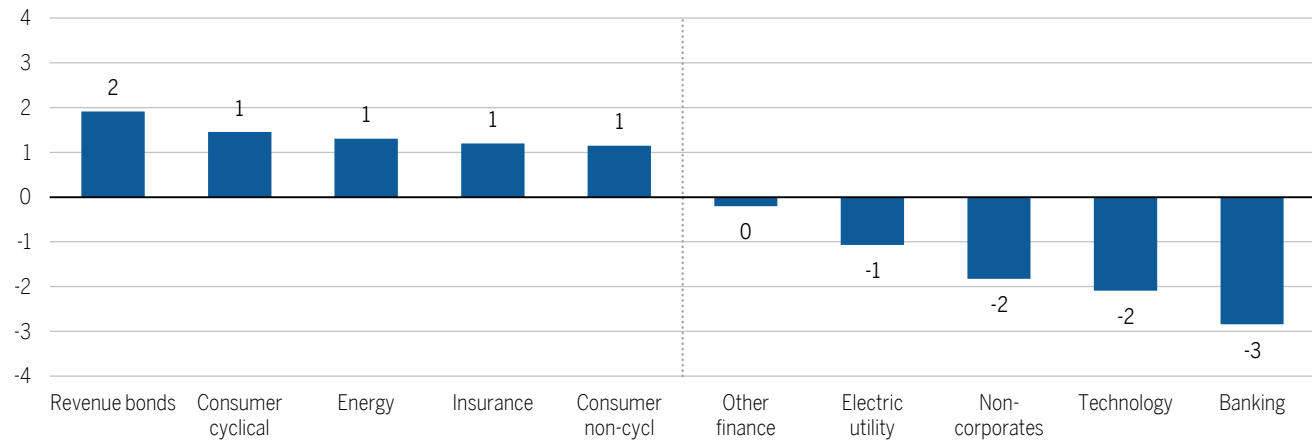
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WTC-CIF II Core Bond

Performance review (USD): One year as of 31 May 2022

Credit detail

Top five and bottom five sector contributors, contribution to active return (gross, bps)



Top relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Saudi Gov Intl Bond	Non-corporates	0.3	1
Rogers Cable	Communications	-0.0	1
Philadelphia, PA	Revenue bonds	0.2	1
Phillips 66 Partners Lp	Energy	0.0	1
Amazon	Cons cycl	-0.1	1

Bottom relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Oracle	Technology	0.1	-2
Panama Govt Intl Bd	Non-corporates	0.3	-2
Charter Communications	Communications	0.3	-2
Romania	Non-corporates	0.2	-1
PG&E	Electric utility	0.1	-1

Benchmark used in the calculation of attribution data:
Bloomberg US Aggregate Bond. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

Broad Markets Investment team

Broad markets team

 Joe Marvan, CFA Portfolio Manager 34 years of professional experience	 Brij Khurana Portfolio Manager 14 years of professional experience	 Jeremy Forster Portfolio Manager 17 years of professional experience	 Campe Goodman, CFA Portfolio Manager 23 years of professional experience	 Rob Burn, CFA Portfolio Manager 21 years of professional experience
 Lia Kirakossian Solutions Portfolio Manager 17 years of professional experience	 Adam Chrissis, CFA, FRM Senior Portfolio Analyst 9 years of professional experience	 Mihir Shah, CFA Senior Portfolio Analyst 7 years of professional experience	 Aaron Mayo, CFA Portfolio Analyst 6 years of professional experience	 Evelyn Chen Portfolio Analyst 3 years of professional Experience

Sector specialist portfolio managers

Brian Conroy, CFA Agency Mortgages 15 years of professional experience	Michael Hong, CFA Global High Yield 26 years of professional experience
Samuel Epee-Bounya Emerging Markets 22 years of professional experience	Chris Jones, CFA Global High Yield 31 years of professional experience
Kyra Fecteau, CFA Securitized Credit 13 years of professional experience	Kevin Murphy Emerging Markets 35 years of professional experience
Tim Haney, CFA Municipals 33 years of professional experience	Cory D. Perry, CFA Securitized Credit 24 years of professional experience
Jeff Heuer, CFA Bank Loans 33 years of professional experience	Scott St. John, CFA Investment Grade Credit 29 years of professional experience

Research/Trading

Global High Yield/Bank Loans 15 Credit analysts	IG Credit/Taxable Municipals 20 Credit analysts
Emerging Markets Debt 4 Credit analysts	Fixed Income Syndicate 4 traders
Securitized 4 Credit analysts	Secondary Trading 38 traders

Product Management

Anand Dharan, CFA Investment Director
Sam Rowley Investment Analyst

Additional resources

12 Macro strategists 52 Global Industry analysts 16 ESG/Sustainability research 26 Risk Professionals 20 Multi-Asset analysts

Core Bond Investment process

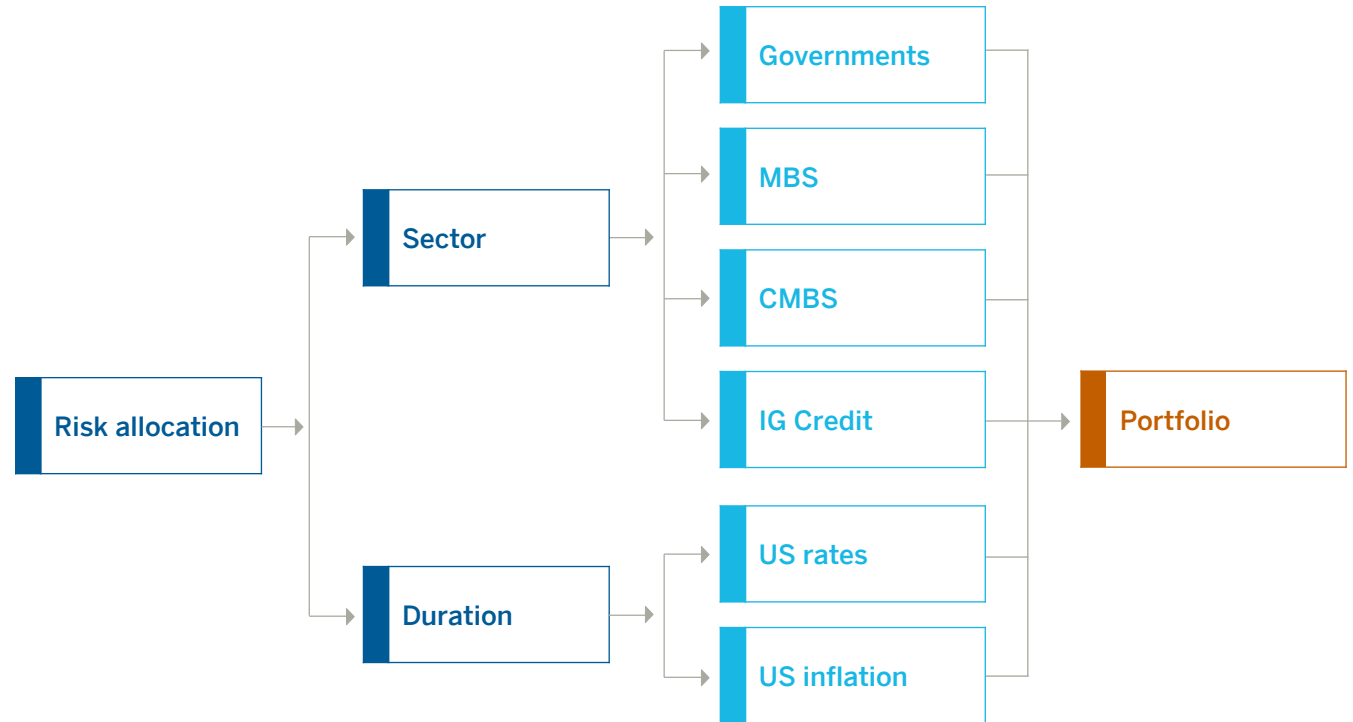


Core Bond Investment process

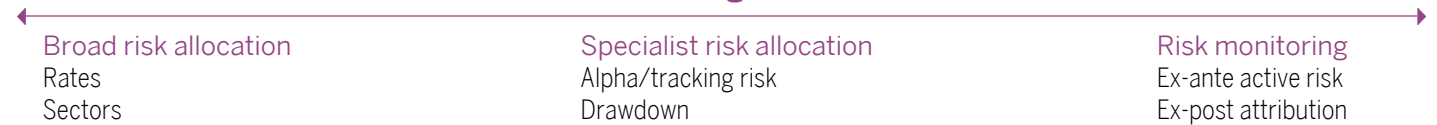
Broad strategy
Broad markets team

Sector strategy
Sector specialists

Portfolio construction
Portfolio manager



Risk management



Investment risk oversight at Wellington Management

Line Management

- Team/resource focus
- High frequency interaction
- Assess resource needs
- Investment team reviews

Product Management

- Independent reporting line
- Trade and client portfolio level focus
- High frequency interaction
- Style consistency/capacity/risks

Risk Advisory Council

- Informal, tactical
- Small group of specialists
- Focus on investment risk topics

Portfolio Manager

- Philosophy
- Process
- Risk Approach

Investment Review Group

- Formal, strategic
- Senior Portfolio Manager peer oriented review
- Focus on fiduciary topics

Global Risk and Analytics

- Independent reporting line
- Lead independent oversight
- Strategy level across asset classes
- Match risk with conviction
- Set best practices for analytics/tools

Core Bond

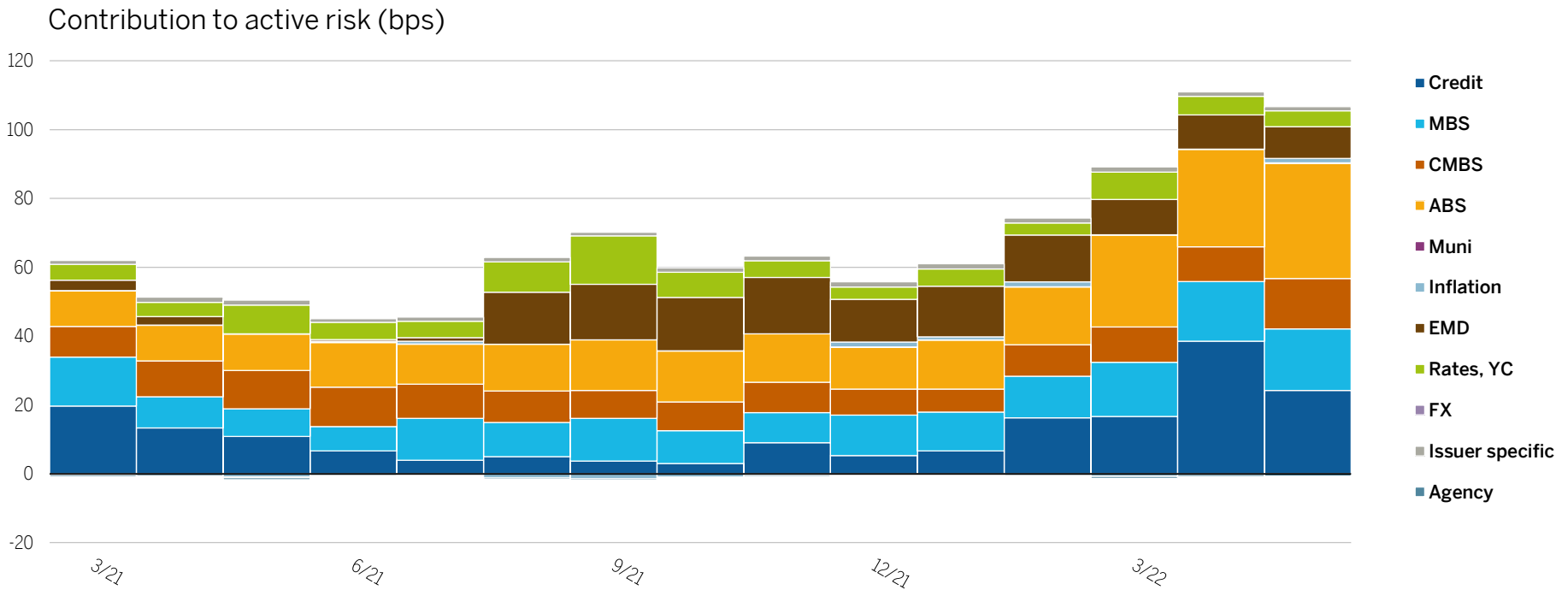
Outlook and strategy – Second quarter 2022

	Outlook	Strategy
Economy/Interest rates	<p>Expect growth to moderate from elevated level as fiscal and monetary support wane; expect series of 50bps hikes by Fed</p> <p>High savings and relatively low interest rates still supportive of consumer spending and help soften the impact of persistent inflation pressures</p>	<p>Close to neutral risk posture; preserving cash/liquidity</p> <p>Remaining tactical in duration</p>
MBS	<p>MBS spreads appear attractive relative to US Treasuries; rising rates to slow prepayment speeds</p> <p>Balance sheet normalization expected in the coming months and could pressure MBS spreads, though we don't expect outright MBS sales this year</p>	<p>Overweight to agency pass-throughs, focusing on relative value opportunities and income</p>
Corporate bonds	<p>Fundamentals at a strong starting point but could deteriorate from more shareholder-friendly actions</p> <p>Spreads likely to be volatile during inflationary environment and expected weaker technical backdrop</p>	<p>Modestly overweight IG corporate bonds; added exposure after spreads widened in response to Russia/Ukraine conflict</p> <p>Focus on identifying inefficiencies in the pricing of risk</p>
Structured finance	<p>Significant housing supply shortage and strong demand are driven by structural forces that we expect to remain intact for an extended period</p> <p>CLOs are well-diversified across sectors; benefit from improving bank loan fundamentals and rising rates</p>	<p>Own structured finance tied to residential mortgages, high quality CLOs, CMOs, and senior CMBS tranches with attractive collateral</p> <p>Focus on income and manager quality</p>

Information contained within Outlook section contains estimates and forecasts. Actual results may differ significantly from information shown. Forecasts rely upon assumptions and other expectations of future outcomes and is therefore subject to numerous limitations and biases. Future occurrences and results, which may also be formulated based on subjective inputs (i.e., strategist/analyst judgment), will differ, perhaps significantly, from those reflected in the charts and/or graphs within.

WTC-CIF II Core Bond

Active risk exposure over time

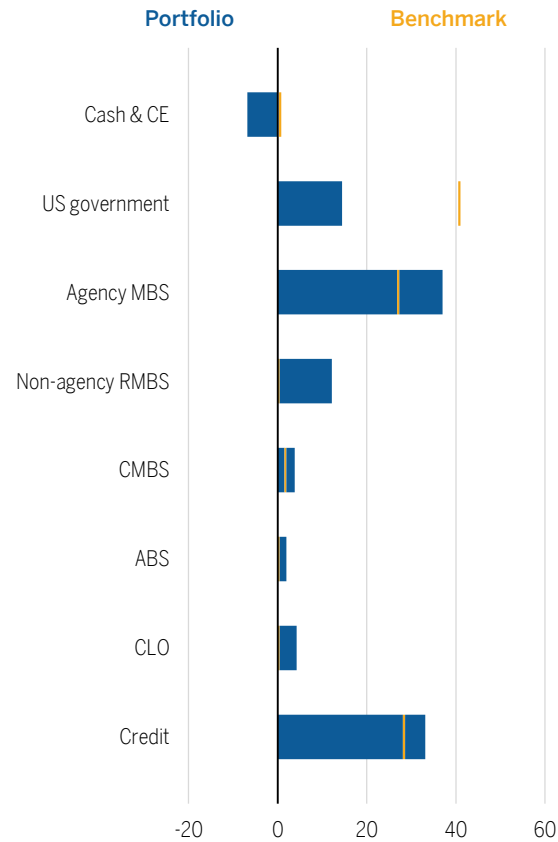


Benchmark: Bloomberg US Aggregate Bond | Source: Wellington Management Noether Risk Model. The model was implemented starting on 1 October 2020 and could result in significant one-time value changes as a result of the risk model change. Please refer to the Important Disclosures for more information. | The first data point displayed may not correspond to the inception date of the account and is based upon the account's configuration within the FIRE system. | Chart data: 31 March 2021 - 31 May 2022

WTC-CIF II Core Bond

Portfolio positioning as of 31 May 2022

Sector (MV %)



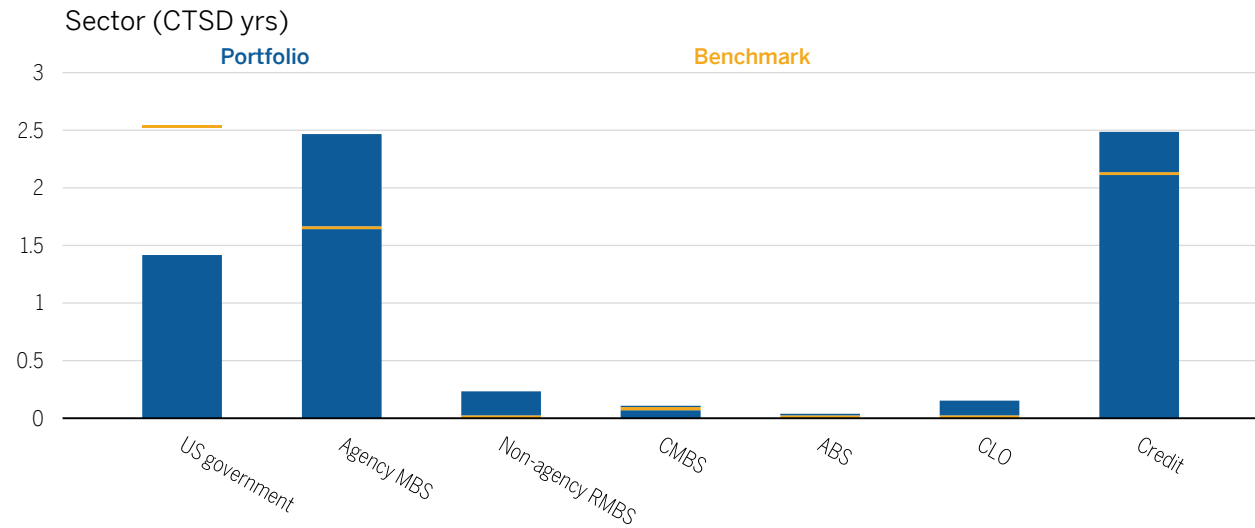
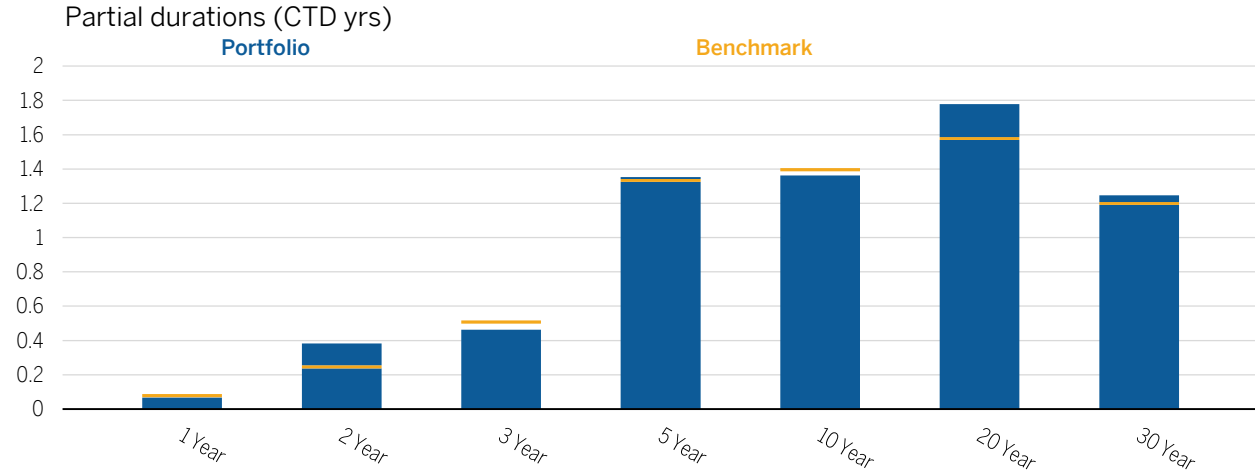
Sector detail (MV %)

	Portfolio	Benchmark
Cash & CE	-6.77	0.78
US government	14.47	41.03
Treasuries	13.93	39.69
TIPS	0.54	—
US agencies	—	1.34
Agency MBS	37.00	27.32
Pass-throughs	34.61	27.32
CMO	2.38	—
ARMs	0.00	—
Non-agency RMBS	12.17	—
CMBS	3.64	1.97
Conduit	2.65	1.08
Single borrower	0.64	—
Agency guaranteed	0.01	0.89
Other CMBS	0.34	—
ABS	1.96	0.32
Autos	0.85	0.20
Other ABS	1.11	0.12
CLO	4.27	—
Credit	33.10	28.58
Industrials	14.78	14.19
Financials	10.20	8.01
Utilities	3.94	1.96
Non-corporates	2.39	3.41
Taxable municipal	1.79	1.00
Credit index derivatives	-0.04	—
Tax exempt municipal	0.04	—
Other	0.17	—

Benchmark: Bloomberg US Aggregate Bond. | "Other" within Sector (when applicable) includes security types that do not fall within the displayed categories.

WTC-CIF II Core Bond

Portfolio positioning as of 31 May 2022



Benchmark: Bloomberg US Aggregate Bond. | "Other" within Sector (when applicable) includes security types that do not fall within the displayed categories.

WTC-CIF II Core Bond

Portfolio characteristics

Statistics

	As of 31 May 2022		
	Portfolio	Benchmark	Difference
Yield to worst (%)	4.3	3.3	1.0
% TBAs (%)	19.2	0	19.2
Option-adjusted spread (bps)	112	42	70
Average quality	AA	AA	
Duration - effective (yrs)	6.65	6.40	0.25
Duration - inflation-linked (yrs)	0.10	0	0.10
Convexity - effective	0.23	0.36	-0.13
Duration - spread (yrs)	6.90	6.45	0.45

Benchmark: Bloomberg US Aggregate Bond. Quality ratings are based on the highest of Moody's, S&P, and Fitch.

US market outlook

Second quarter 2022

Robust consumption to wane amid elevated inflation pressures, higher interest rates, and ongoing supply chain disruptions, partially offset by elevated savings and strong wages

Monetary policy shifting from tailwind to headwind as Fed hikes rates aggressively with quantitative tightening expected by midyear

Inflation expected to peak by mid-2022, will remain above target through 2023

Fundamentals at a strong starting point but could deteriorate from more shareholder-friendly actions. Spreads likely to be volatile during inflationary environment and expected weaker technical backdrop.

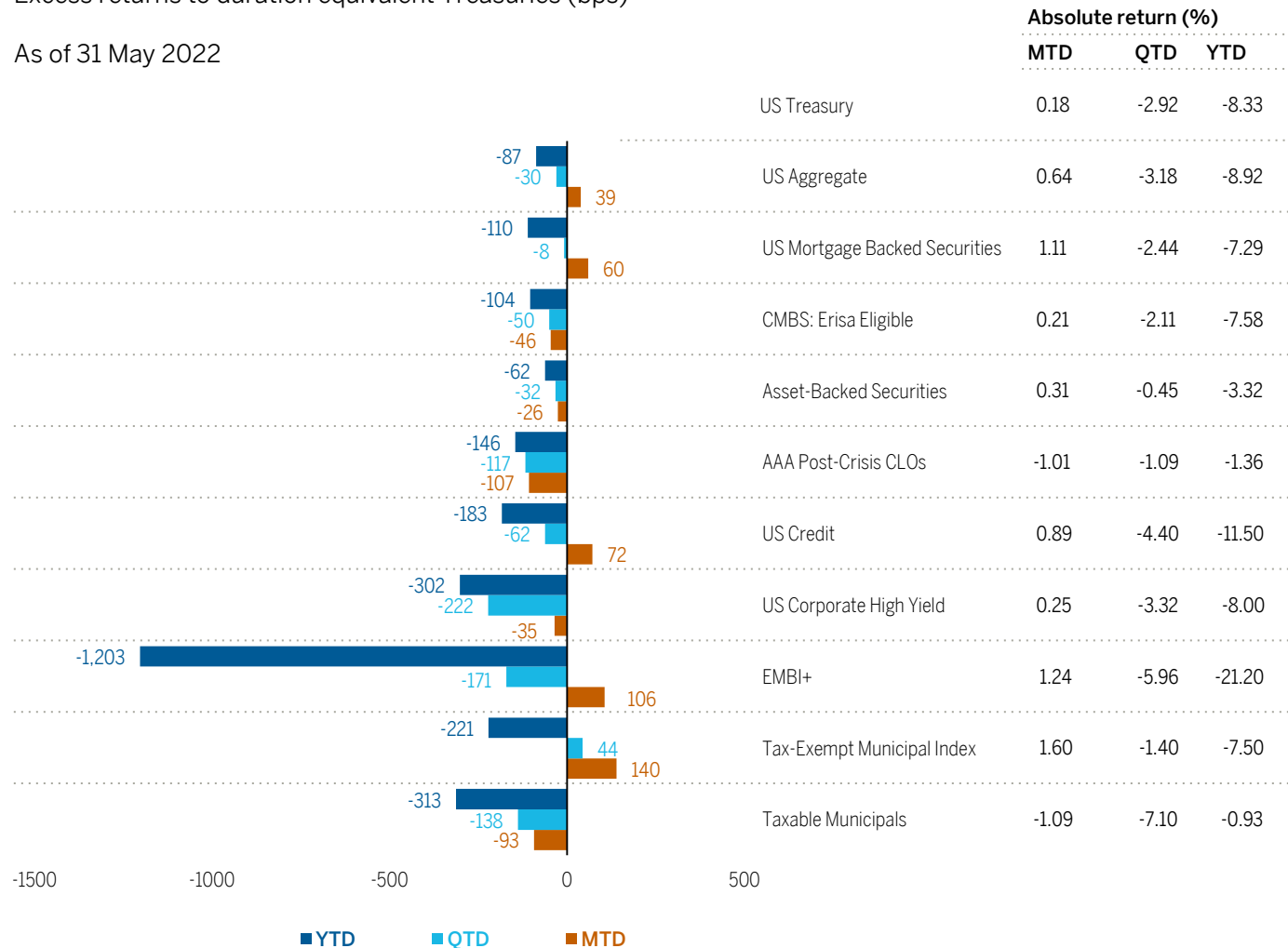
Risks we are monitoring: impact of tighter Fed policy, Russia/Ukraine conflict, China deleveraging, eroding consumer savings from higher goods/energy prices

Views expressed herein are those of the investment team, are based on available information, and are subject to change without notice. Individual portfolio management teams may hold different views and may make different investment decisions for different clients. This is not to be construed as investment advice, or a recommendation to buy or sell any specific security.

Fixed income sector performance

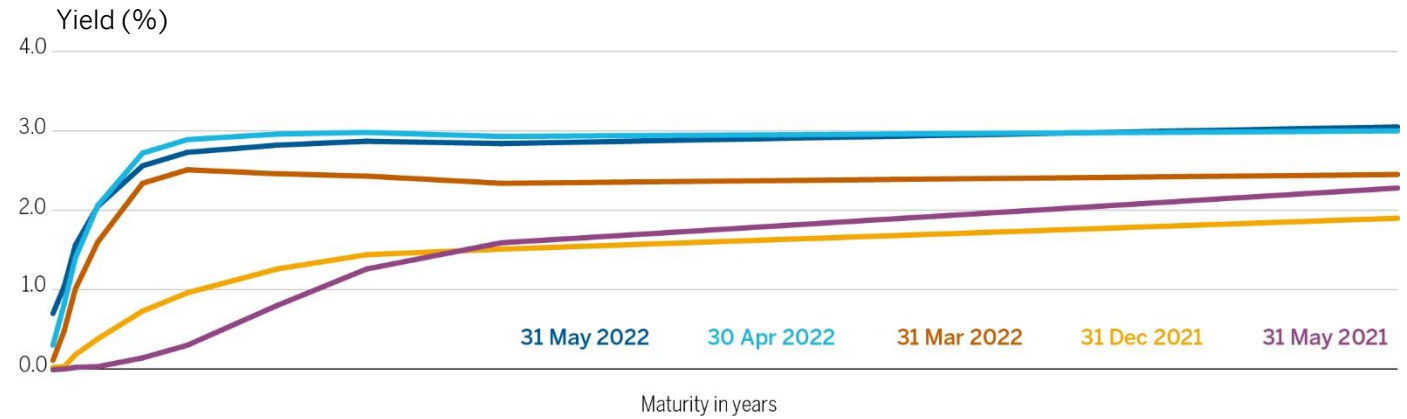
Excess returns to duration equivalent Treasuries (bps)

As of 31 May 2022



Sources: Bloomberg, JPMorgan, Merrill Lynch, Wellington Management | The EMBI+ is comprised of US dollar denominated debt instruments of the Emerging Markets | Return data presented based on representative indexes for each fixed income sector: Bloomberg US Treasury Index, Bloomberg US Aggregate Index, Bloomberg US Agency Index, Bloomberg US Fixed Rate Agency MBS Index, Bloomberg CMBS ERISA-Eligible Index, Bloomberg ABS Index, JPMorgan Post-Crisis AAA CLO Index, Bloomberg US Credit Index, Bloomberg US Corporate High Yield Index, JPMorgan EMBI+ Index, Bloomberg Taxable Municipal Index, BofA Merrill Lynch US Municipal Securities Index. MBS excess returns are based on an internally calculated proxy for the US MBS sector. Investments cannot be made directly into an index. **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

US Treasury curve



		3 mos	2 yrs	5 yrs	10 yrs	30 yrs
Curve data (yield %)	31 May 2022	1.04	2.56	2.82	2.84	3.05
	30 April 2022	0.82	2.72	2.96	2.93	3.00
	31 March 2022	0.48	2.34	2.46	2.34	2.45
	31 December 2021	0.03	0.73	1.26	1.51	1.90
	31 May 2021	0.00	0.14	0.80	1.59	2.28
Changes (bps)	MTD (30 Apr 2022 – 31 May 2022)	22	-16	-14	-9	5
	QTD (31 Mar 2022 – 31 May 2022)	56	22	36	51	60
	YTD (31 Dec 2021 – 31 May 2022)	101	182	155	133	114
	TTM (31 May 2021 – 31 May 2021)	104	242	202	125	76

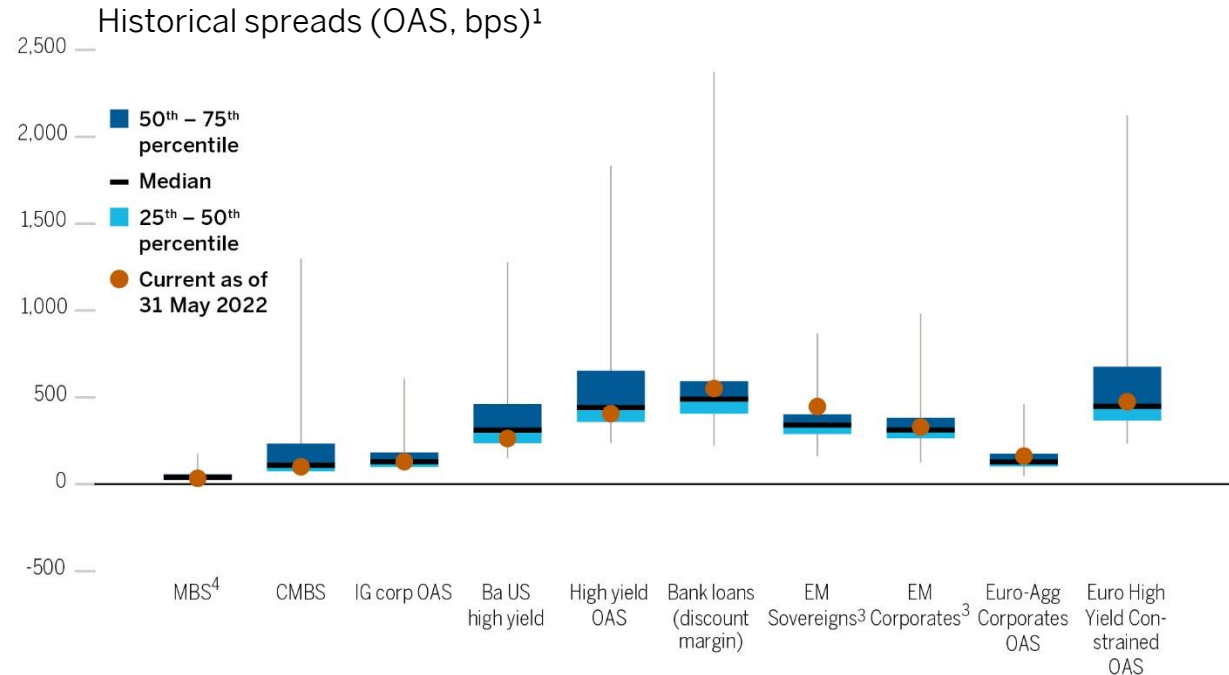
Forward curve matrix¹

		Treasury maturity					
		1 mo	3 mos	2 yrs	5 yrs	10 yrs	30 yrs
Forward time period	31 May 2022	0.70	1.04	2.56	2.82	2.84	3.05
	3 mos	2.03	2.07	2.81	2.92	2.92	3.07
	1 yr	2.98	3.04	3.06	3.01	3.02	3.08
	2 yrs	3.07	3.11	3.03	3.01	3.09	3.07
	3 yrs	2.92	2.98	2.96	2.95	3.16	3.05
	5 yrs	2.97	3.03	3.02	2.89	3.32	3.03
	10 yrs	3.78	3.84	3.82	3.82	3.82	3.00

¹The analysis presented contains forward looking estimates/projections. Actual results may vary, perhaps significantly, from data shown. | Source: Bloomberg | As of 31 May 2022

Fixed income spread sectors

Historical spread analysis



	MBS ⁴	CMBS	IG corp OAS	Ba US high yield	High yield OAS	Bank loans (discount margin)	EM Sovereigns ³	EM Corporates ³	Euro-Agg Corporates OAS	Euro High Yield Constrained OAS
Current										
Spread rank (%)	41	43	51	39	43	65	83	57	68	58
Yield (%) ²	3.46	3.80	4.21	5.64	7.09	4.65	7.44	6.17	2.41	5.50
Spread (current)										
31 May 2022	34	100	130	263	406	551	447	329	162	474
30 Apr 2022	40	87	135	273	379	448	438	303	151	454
31 Mar 2022	24	85	116	232	325	460	399	303	129	400
31 Dec 2021	31	68	92	194	283	428	367	272	95	331
31 May 2021	16	58	84	226	296	419	331	253	85	303
Spread (historical)										
Max	173	1,298	607	1,278	1,833	2,373	868	983	461	2,123
75 th percentile	57	234	182	461	653	592	402	382	176	676
Median	39	109	129	311	441	490	340	312	128	448
25 th percentile	27	74	99	237	358	406	289	264	102	367
Min	-5	56	77	151	238	222	161	127	48	235

¹Historical spread analysis based on trailing 20 years (unless otherwise noted) of month-end option adjusted spreads, as of 31 May 2022 | ²Effective yield for bank loans | ³Hard currency only. | ⁴In April 2020, May 2021 and January 2022, MBS Index spreads were impacted by updates to the Bloomberg prepayment model | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.** | Sources: JPMorgan, Bloomberg, S&P LSTA Leveraged Loan Index

Fixed Income Outlook

Economic environment



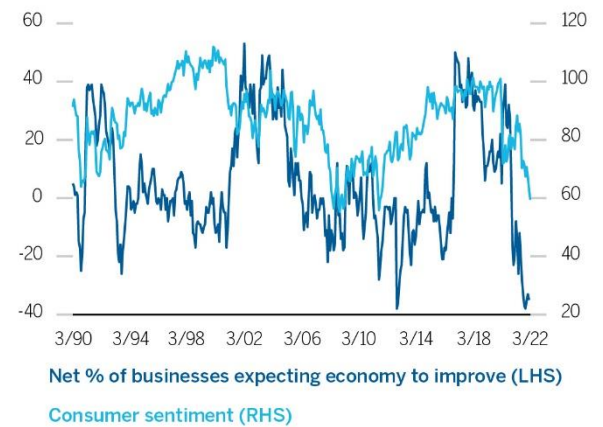
Household net worth increasing;
debt levels manageable²



Global manufacturing PMIs holding steady
(> 50 = increasing, index level)³



Business/consumer confidence
deteriorating⁴



¹Sources: FRED St. Louis Fed. Chart data: December 2000 – February 2022. Level in thousands, monthly, seasonally adjusted. | ²Sources: Federal Reserve flow of funds for households and non-profit organizations. Chart data: 31 March 1990 – 31 December 2021.

PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. |

³Source: Bloomberg and Wellington Management. Chart data: Monthly; 31 January 2010 – 28 February 2022 | ⁴Source: NFIB, University of Michigan. Chart data: March 1990 – March 2022.

Economic environment (continued)

Wages elevated as labor demand remains robust¹



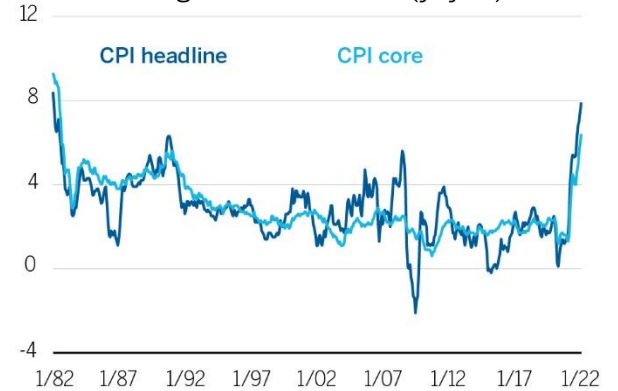
US Supply disruptions remain elevated; one component to higher Core CPI²



Productivity concerns remain amid constrained labor supply³



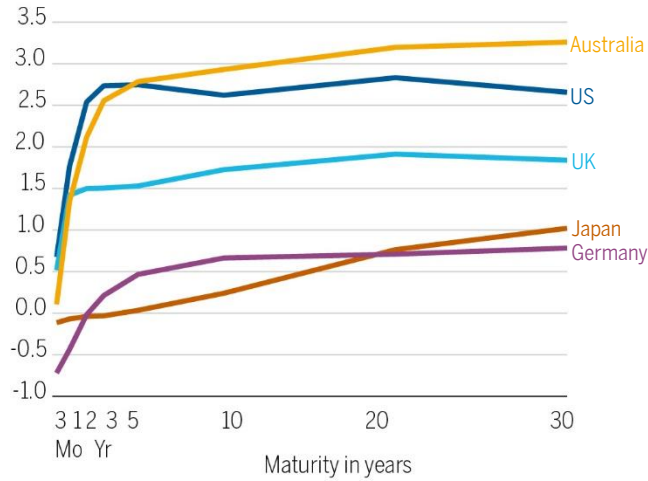
Inflation highest in 4 decades (yoy %)⁴



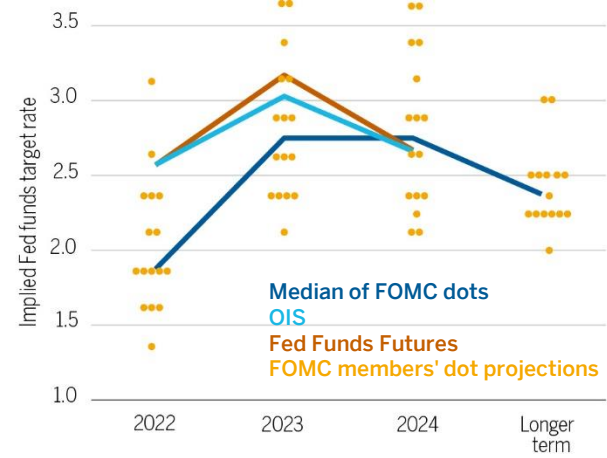
¹Chart data: March 1993 – March 2022. Source: Employment-Population Ratio: 25 – 54 Years (SA, %), ECI: Wages & Salaries: Private Industry Workers (SA, Dec-05 = 100) % Change – Year to Year. | ²Source: Institute for Supply Mgmt (NSA, % balance/diffusion index); Bloomberg. Chart data February 2000 – March 2022. | ³Source: Haver; NFIB: Single Most Important Problem: Reporting Cost & Quality of Labor (%); Nonfarm Business: Output Per Person, All Persons (SA, 2012=100) % Change - Year to Year. Chart data: March 1986 – March 2022. | ⁴Source: Bloomberg. Chart data: January 1982 – February 2022. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

US interest rate policy

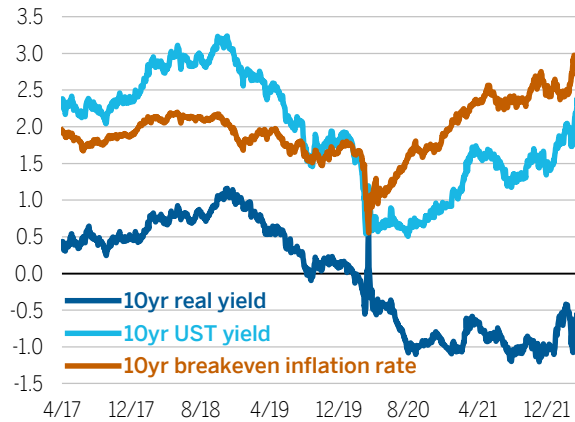
Global yield curves have flattened¹ (%)



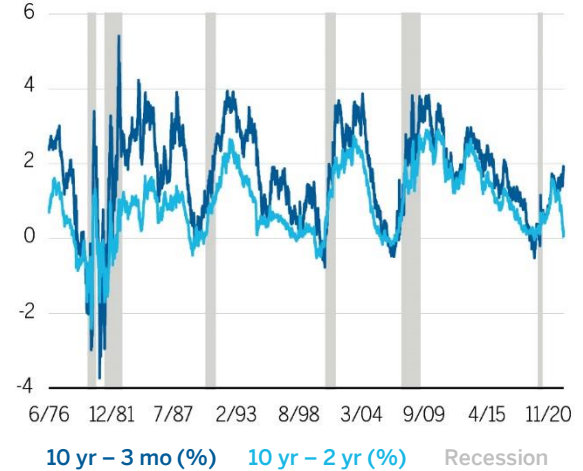
Market vs Fed² (%)



10yr US Treasury yield decomposition³



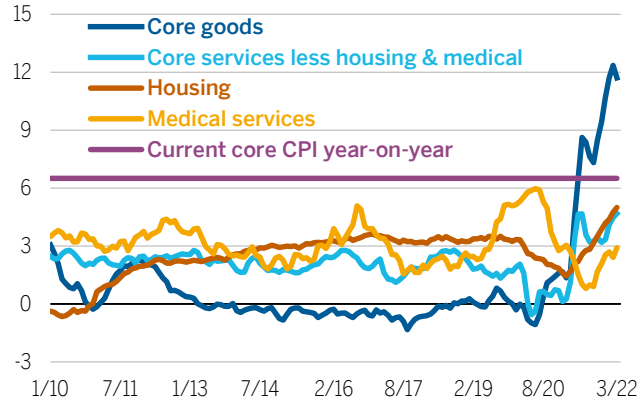
US Treasury yield curve and recessions⁴



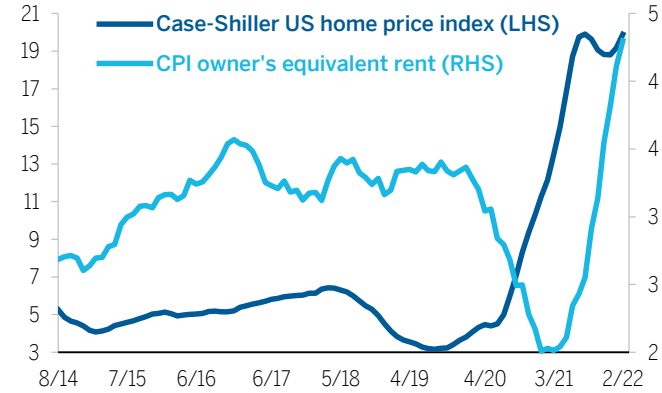
¹Source: Bloomberg. Chart data as of 6 April 2022. |
²Each shaded circle indicated the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer term. Sources: Bloomberg, US Federal Reserve. Released 15 December 2021. Longer-term – the peak for the fed funds rate once the Fed has finished tightening (or "normalizing") policy from its current levels. | ³Source: Bloomberg. Chart data: 6 April 2017 – 5 April 2022. | ⁴Source: Haver, National Bureau of Economic Research. Chart data: January 1962 – March 2022 | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Inflation environment

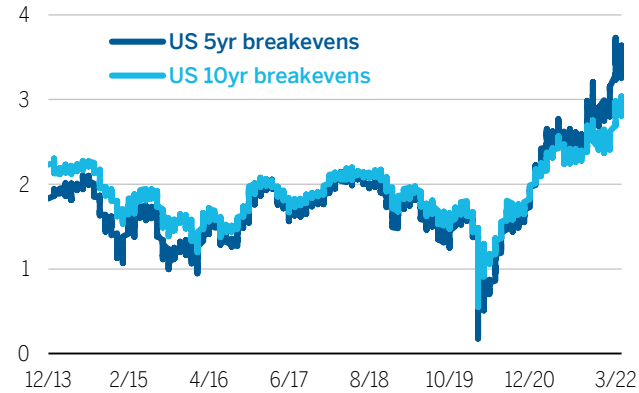
Core goods pushing inflation persistently higher (%)¹



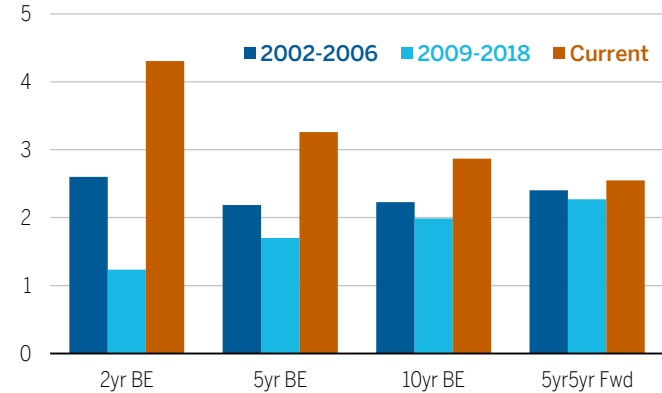
Home prices and rents have surged (% change Y/Y)²



Inflation expectations remain elevated (%)³



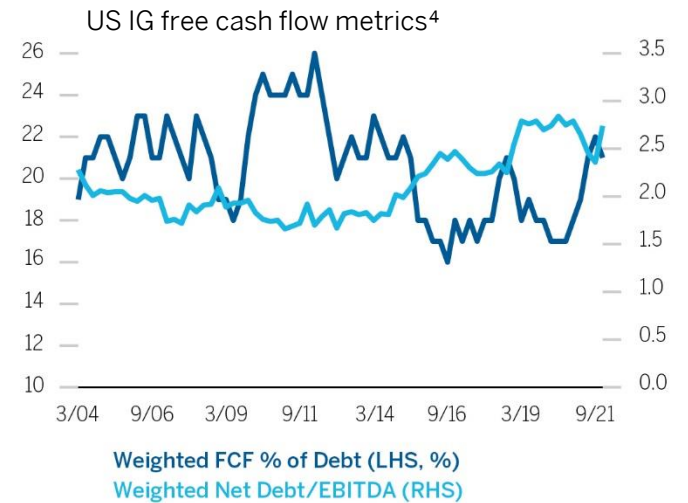
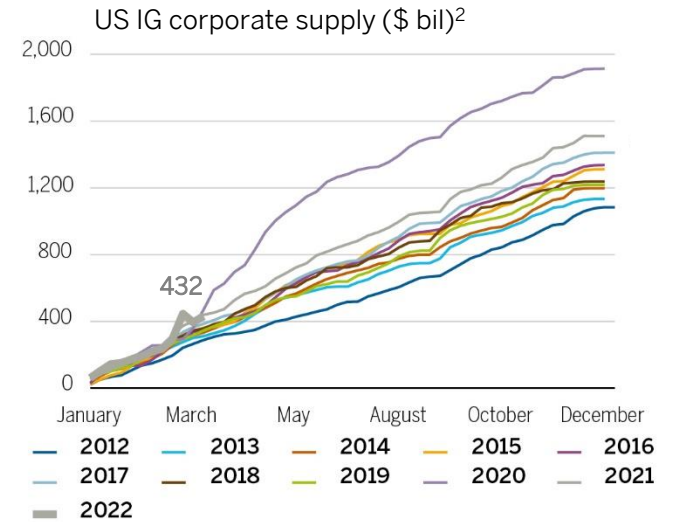
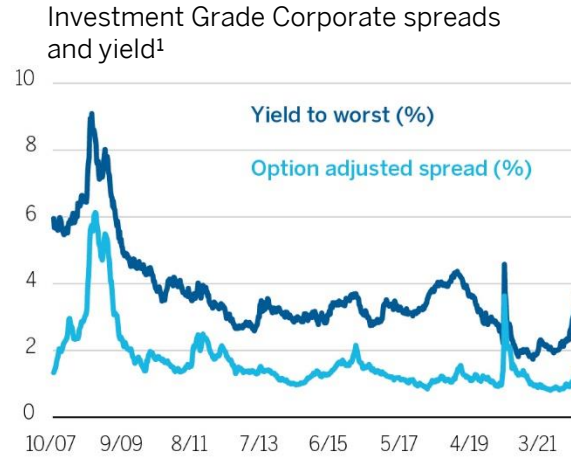
US-market implied inflation expectations⁴



¹Source: Bloomberg. Chart data January 2010 – March 2022 | ²Sources: Bloomberg, Haver Analytics. Chart data: August 2014 – February 2022 | ³Source: Bloomberg. Chart data: December 2013 – March 2022

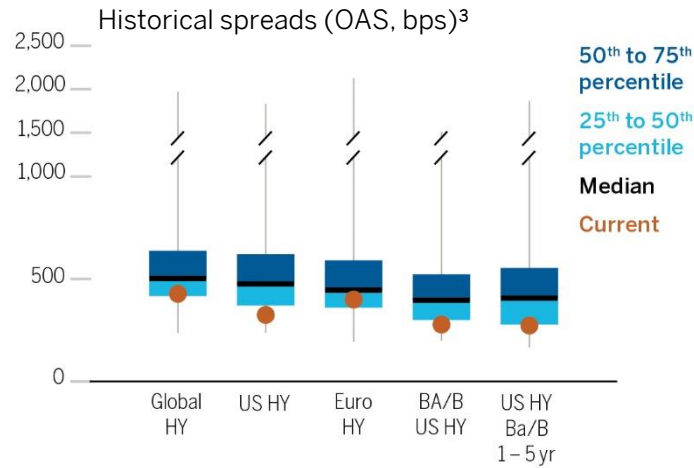
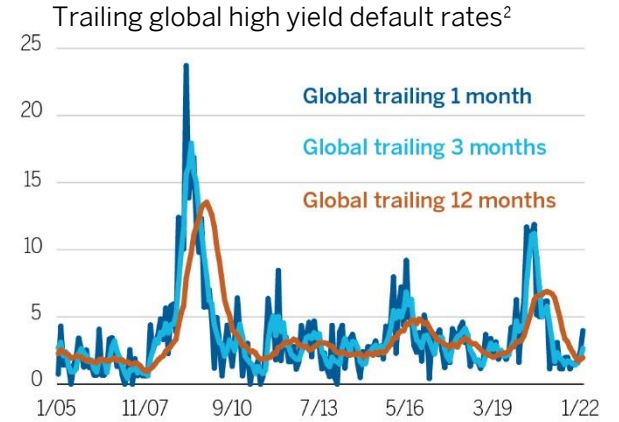
⁴Source: Bloomberg | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Investment grade corporate environment

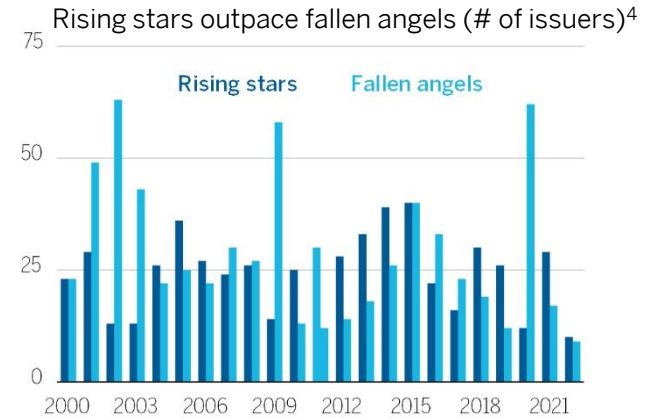


¹Source: Bloomberg US IG Corporate Index. Chart data: 1 October 2007 – 31 March 2022. | ²Source: Bloomberg. Chart data: 1 January 2012 – 31 March 2022. | ³Source: S&P, LCD. As of 31 December 2021. | ⁴Sources: S&P Global Market Intelligence, Wellington Management. Chart data: 31 March 2004 – 31 December 2021. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

High yield Market Outlook

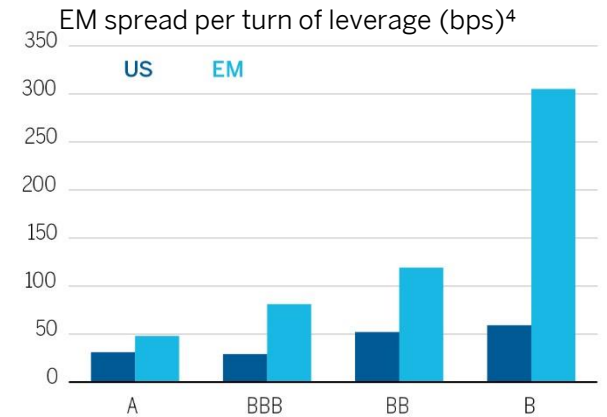
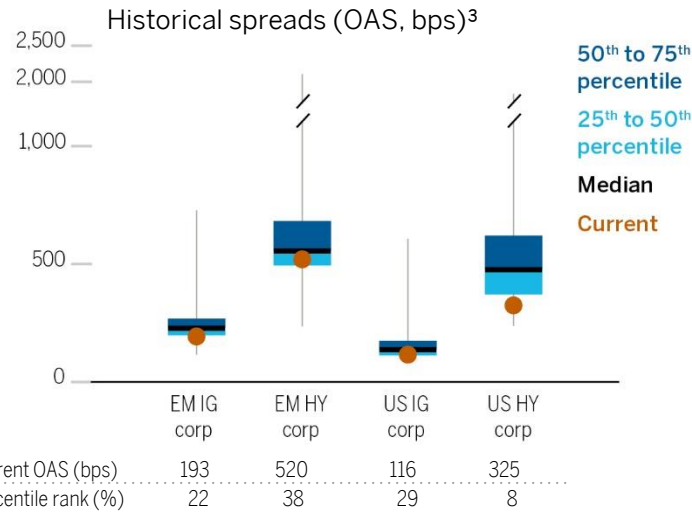
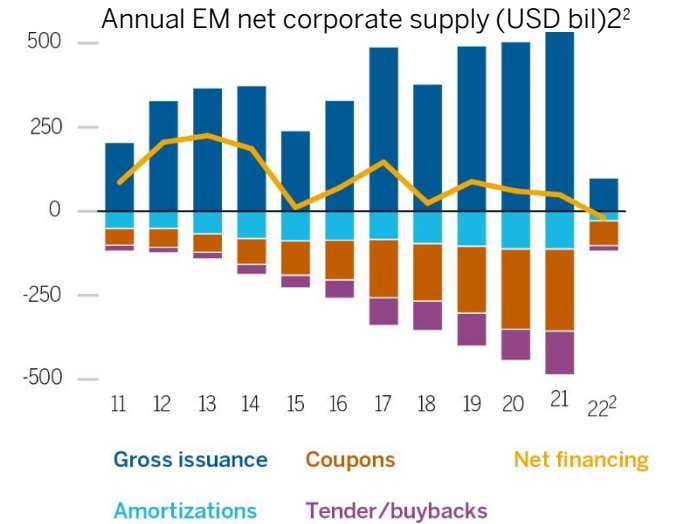
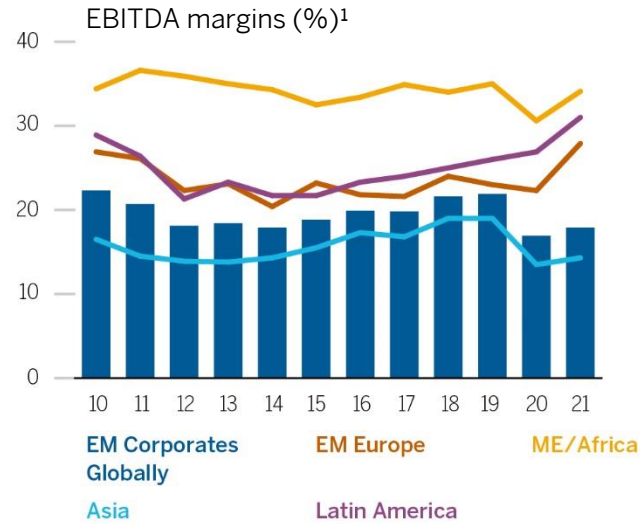


Current OAS (bps)	428	325	400	270	273
Percentile rank (%)	30	8	40	12	22



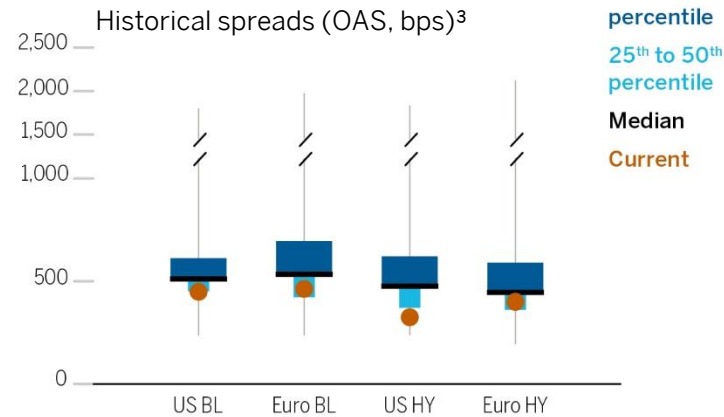
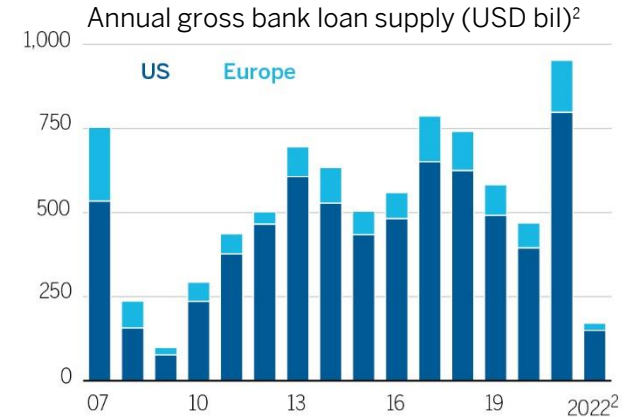
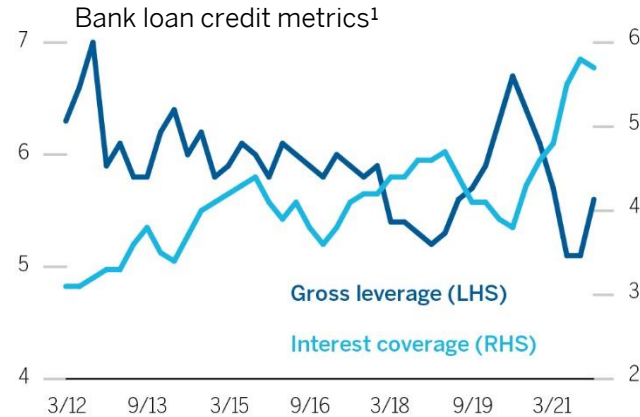
¹Chart data: 1 January 2007 – 31 March 2022. Source: JPMorgan. Europe includes high yield and leveraged loans. | ²Chart data: 1 January 2005 – 28 February 2022. Source: Bloomberg. | ³Based on monthly historical data for 15 years from 30 April 2007 – 31 March 2022: BofA Merrill Lynch Global High Yield Constrained Index; Bloomberg US High Yield Index; BofA Merrill Lynch Euro High Yield Constrained Index; Bloomberg US High Yield All Ba/B Rated 2% Capped Index; Bloomberg US High Yield Ba/B 1 – 5 Year Index | ⁴Chart data: 1 January 2000 – 31 March 2022. Source: JPMorgan. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Emerging markets corporate environment

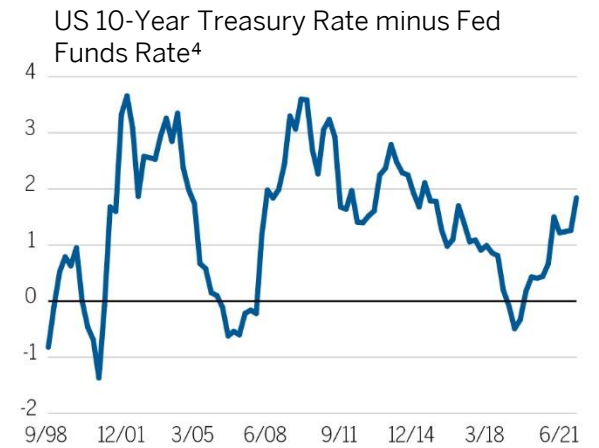


¹Source: JPMorgan. Chart data: 1 January 2010 – 31 December 2021. Based on a sample of about 150 EM corporate bond issuers where estimates are available. | ²Source: JPMorgan. As of 31 March 2022. | ³Based on monthly historical data for 15 years from 30 April 2007 – 31 March 2022: JPMorgan CEMBI; Bloomberg US Corporate Index; Bloomberg US High Yield Index | ⁴Leverage as of 30 June 2021. Spreads as of March 31 2022. Source: Bank of America Merrill Lynch. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Bank loans environment



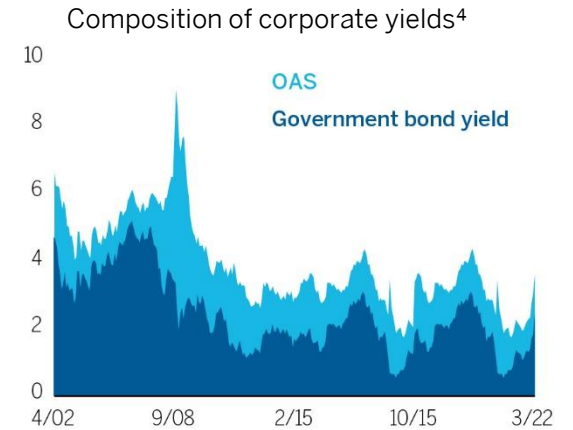
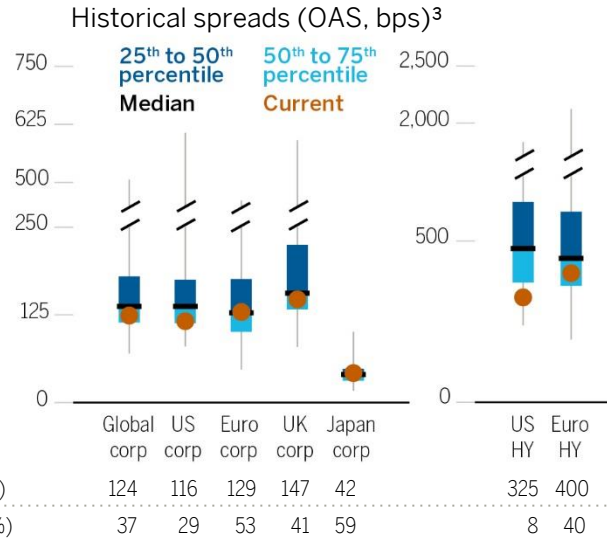
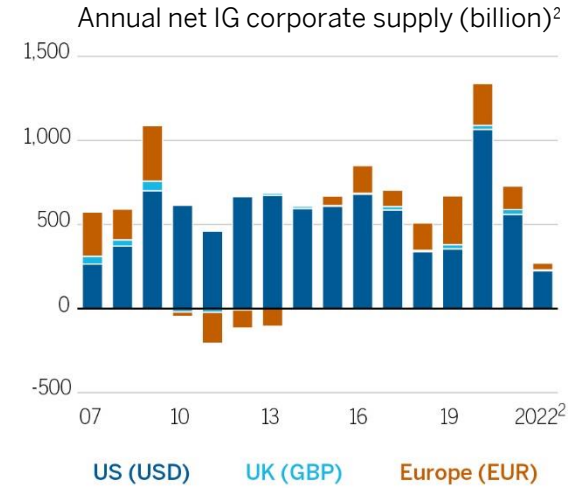
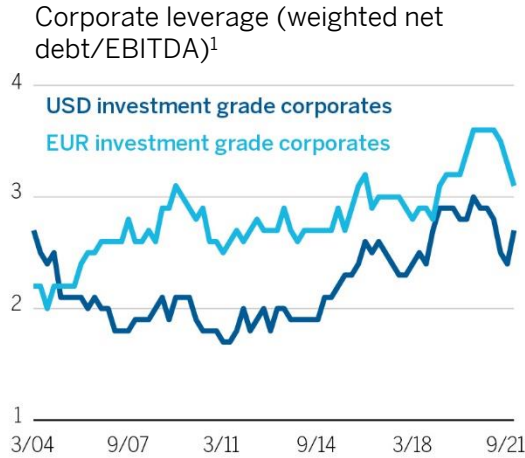
Current OAS (bps)	449	463	325	400
Percentile rank (%)	22	34	8	40



¹Trailing 10 years from 31 March 2012 – 31 December 2021. Source: S&P Global Market Intelligence. Gross leverage = Weighted-average total/LTM EBITDA. Interest coverage = LTM EBITDA/LTM Interest expense. | ²Chart data: 1 January 2007 – 31 March 2022. Source: S&P Global Market Intelligence. | ³Based on monthly historical data for 15 years from 30 April 2007 – 31 March 2022. Sources: Credit Suisse Leveraged Loan Index, Credit Suisse Western European Leveraged Loan Index, Bloomberg US High Yield Index, and BofA Merrill Lynch Euro Constrained Index. Spreads based on Discount Margin (3-year life). | ⁴Chart data: 30 September 1998 – 31 March 2022. Source: Bloomberg

PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.

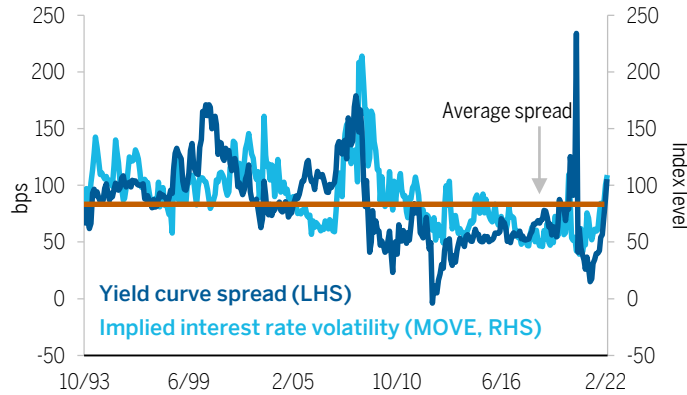
Global Credit Market outlook



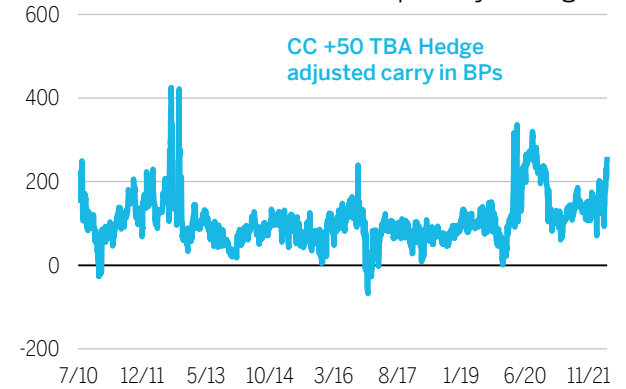
¹Sources: JPMorgan, Capital IQ. Chart data: 31 March 2004 – 31 December 2021. | ²Source: Barclays Credit Research. Chart data: 1 January 2007 – 31 March 2022. | ³Based on monthly historical data for 15 years from 30 April 2007 – 31 March 2022: Bloomberg Global Aggregate Corporate Index; Bloomberg US Corporate Index; Bloomberg Euro Aggregate Corporate Index; Bloomberg UK Aggregate Corporate Index; Bloomberg Japan Aggregate Corporate Index; Bloomberg US High Yield Index; BofAMerrill Lynch Euro High Yield Constrained Index | ⁴Source: Bloomberg Global Aggregate Corporate Index. Chart Data: 31 October 2001 – 31 March 2022. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.** If an investor's own currency is different from the currency in which the fund is denominated, the investment return may increase or decrease as a result of currency fluctuations.

Agency MBS

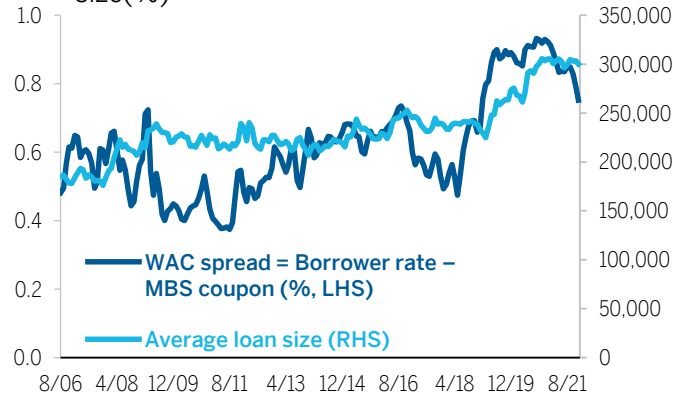
Mortgage spreads have widened with higher vol and less Fed support¹



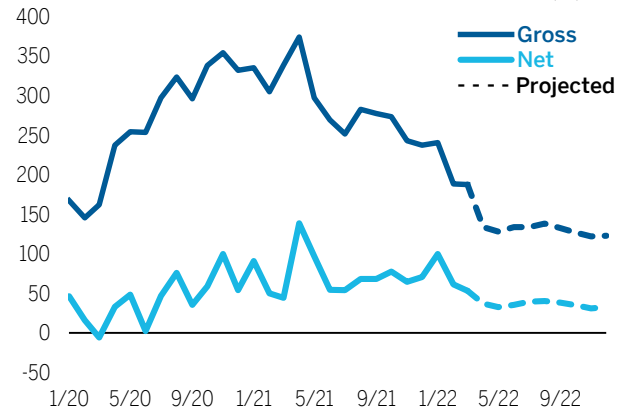
MBS income attractive, especially through TBA²



Deterioration of TBA – Increasing loan size(%)³

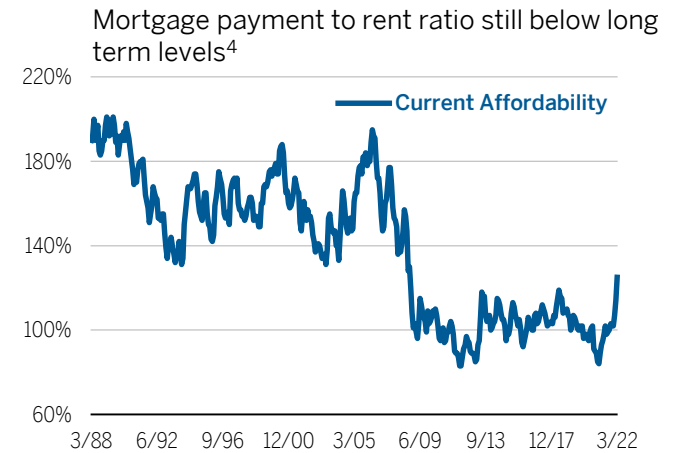
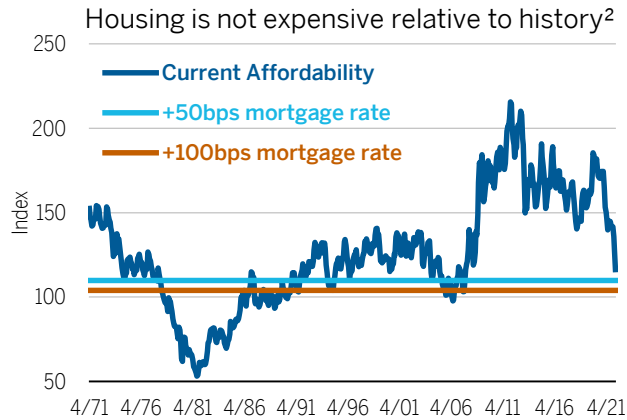
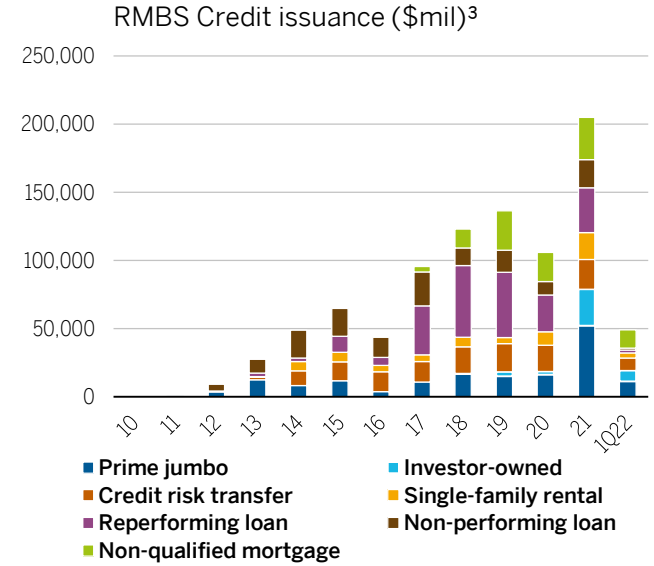
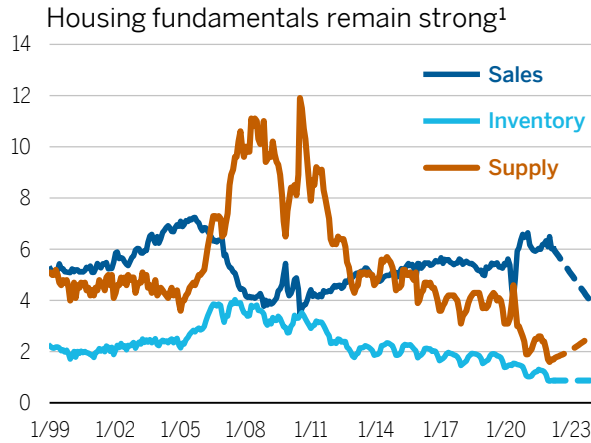


MBS Issuance – Gross and Net, billions (\$) ⁴



¹Sources: Bloomberg, Barclays LIVE. Chart data: 29 October 1993 – 31 March 2022. | ²Source: JPMorgan Markets. Chart data: 2 July 2010 – 31 March 2022. | ³Source: EMBS, Wellington Management. Chart data: 1 August 2006 – 31 December 2021 | ⁴Source: Wellington Management. Chart data: 1 January 2020 – 1 December 2022 (projected) | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Non-Agency Residential MBS (RMBS) Sector outlook

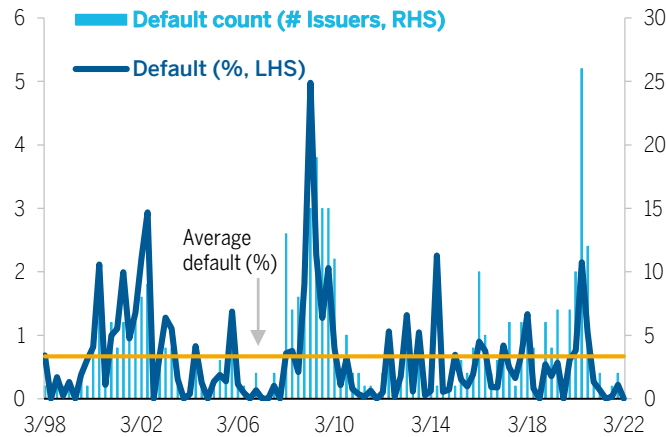


¹Sources: Bloomberg & NAR (National Association of Realtors). Chart data: 31 January 1999 – 31 March 2022; Projected from April 2022 through December 2023. Million for sales and inventory, number of months for supply | ²Sources: Bloomberg, NAR, Census. Chart data: April 1971 – March 2022. Current affordability is the NAR housing affordability index | ³As of 31 March 2022. Source: JPMorgan. Courtesy JPMorgan Chase & Co., Copyright 2021. | ⁴As of March 2022. Source: Bloomberg | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

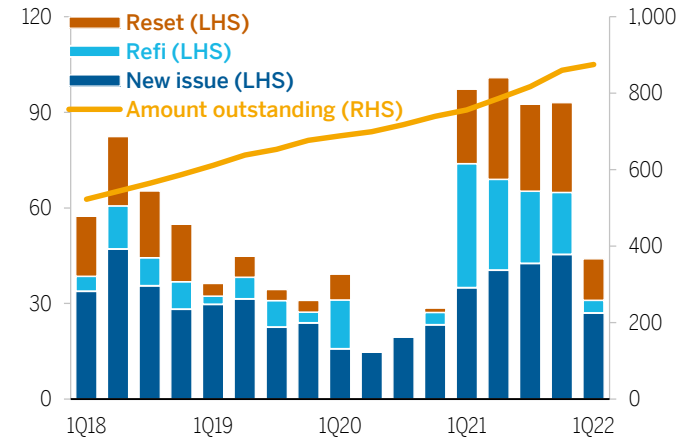
Collateralized Loan Obligations (CLOs)

Sector outlook

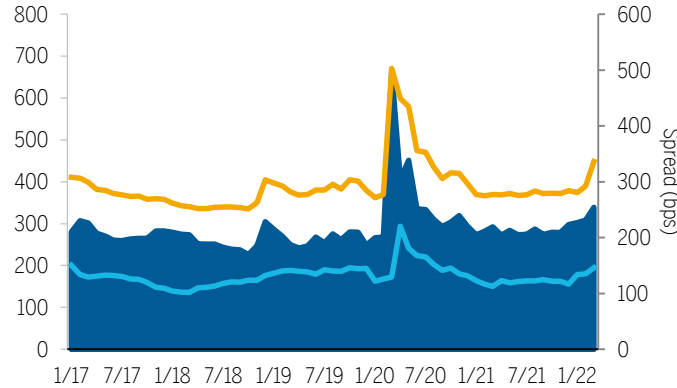
Leveraged loan defaults below long-term average¹



CLO issuance volume, billions (\$)²

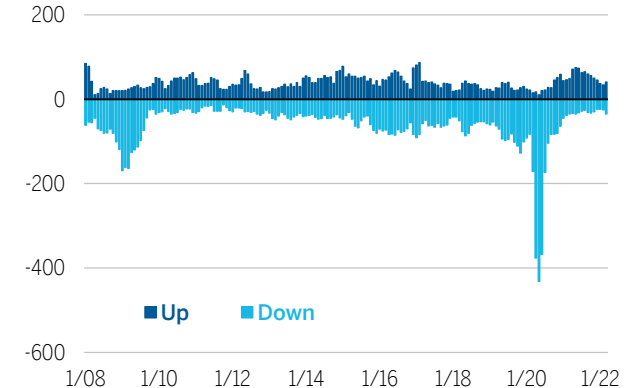


CLO "Arbitrage"³



Blended bank loan spread [A] (LHS)
CLO funding cost [B] (LHS)
CLO arbitrage [A - B] (RHS)

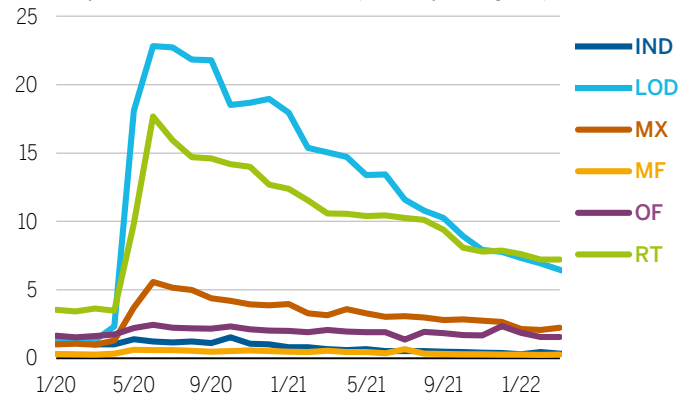
Loan upgrades are outpacing downgrades⁴



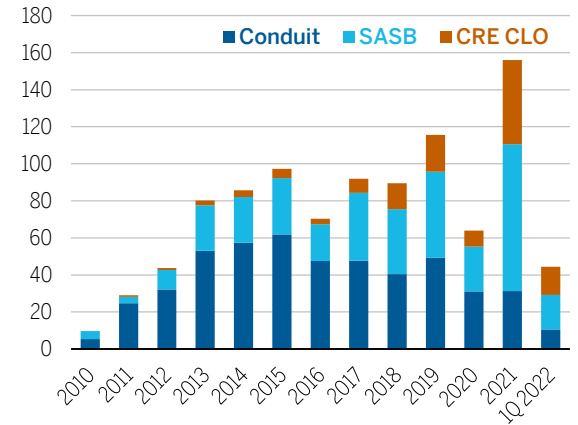
¹Source: S&P LASTA. Chart data: 1Q98 – 1Q22 |
²Sources: Intex, Bloomberg, Bank of America. Chart data: 1Q18 – 1Q22 Reprinted by permission. Copyright © 2022 Bank of America Corporation ("BAC"). The use of the above in no way implies that BAC or any of its affiliates endorses the views or interpretation or the use of such information or acts as any endorsement of the use of such information. The information is provided "as is" and none of BAC or any of its affiliates warrants the accuracy or completeness of the information. |³Source: Bloomberg, LCD, S&P, Intex. Chart data: January 2017 – March 2022 |⁴Source: LCD, an offering of S&P Global Market Intelligence; S&P/LSTA Leveraged Loan Index. Chart data: January 2008 – March 2022. Data series calculated as rolling 3-month count of loan upgrades and downgrades |
PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.

Commercial MBS (CMBS) Sector outlook

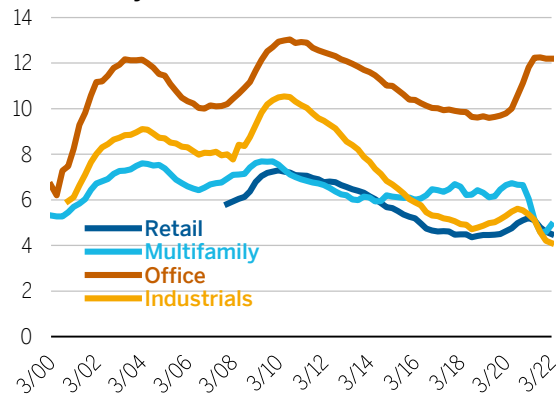
COVID impact greatest in lodging/retail but improvement continues (delinquency %)¹



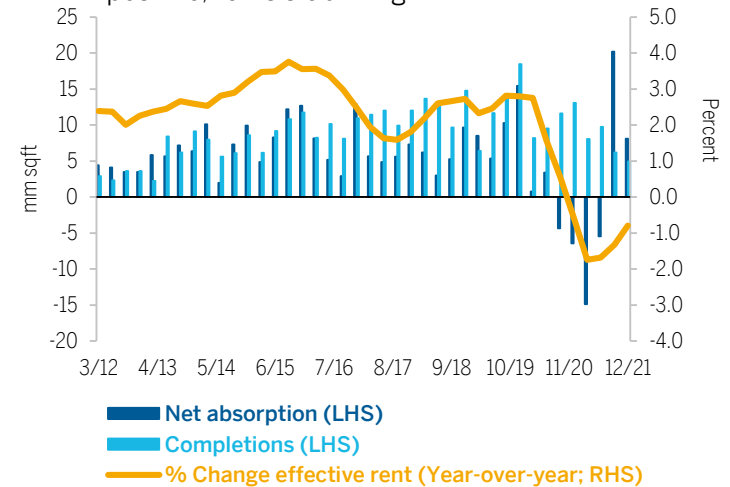
Annual CMBS Issuance, billions (\$)²



Vacancy rates show risk in office³



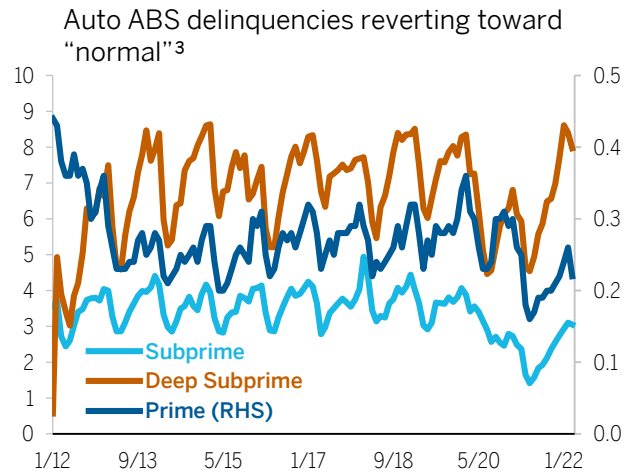
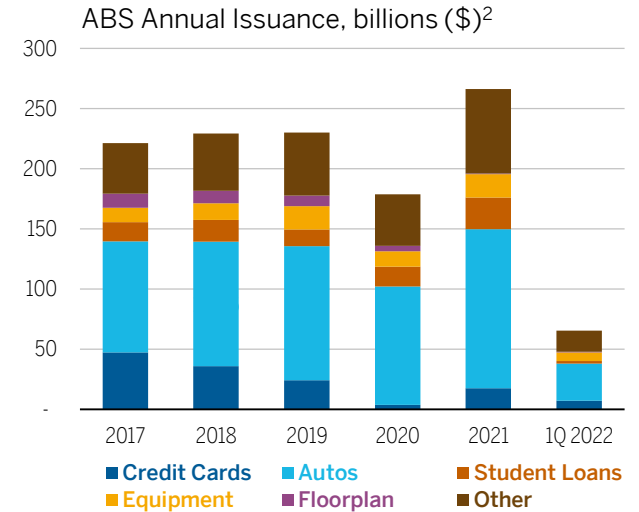
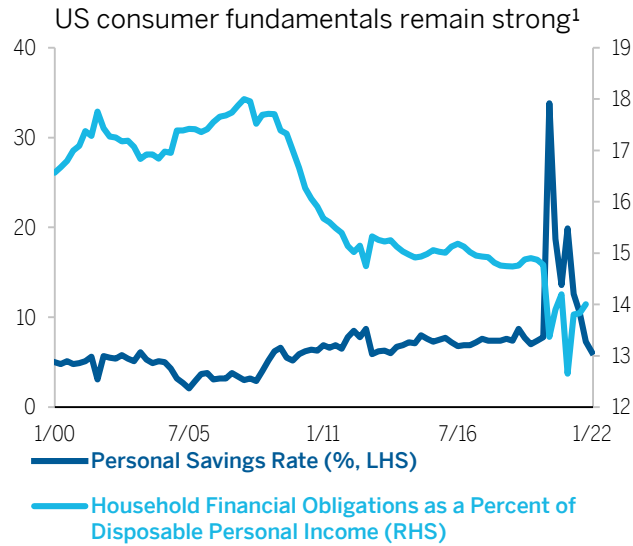
Office completions lower, net absorption positive, rents stabilizing⁴



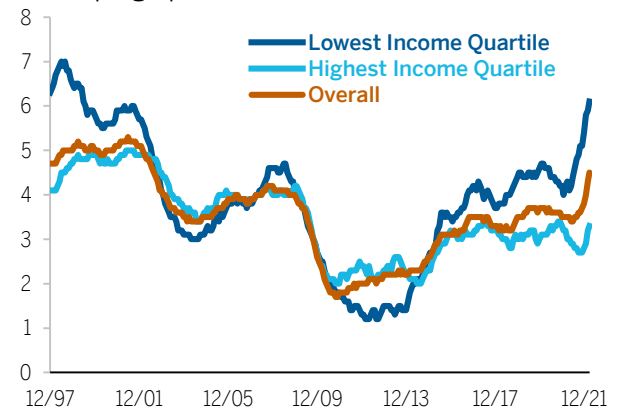
¹IND – Industrial, LOD – Lodging, MX – Mixed Use, MF – Multifamily, OF – Office, RT – Retail. Source: Trepp. Chart data: January 2020 – March 2022. | ²Data as of March 2022. Sources: JPMorgan, Commercial Mortgage Alert, Fannie Mae. Courtesy JPMorgan Chase & Co., Copyright 2021. Chart data: 2010 – 1Q2022. | ³Source: CoStar. Chart data: March 2000 – March 2022. | ⁴Sources: Bloomberg, REIS | Chart data: March 2012 – December 2021 | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Asset-Backed Securities (ABS)

Sector outlook



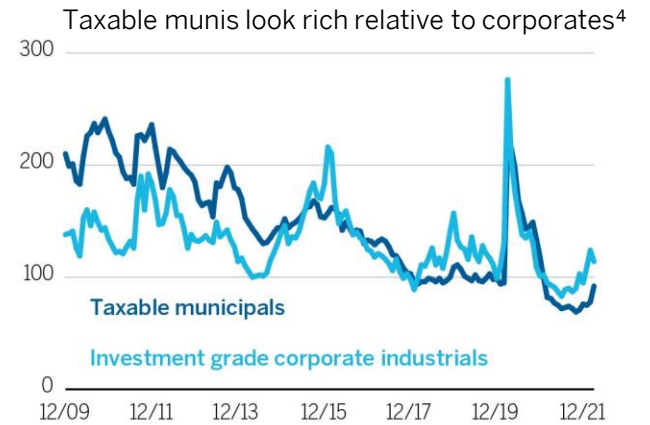
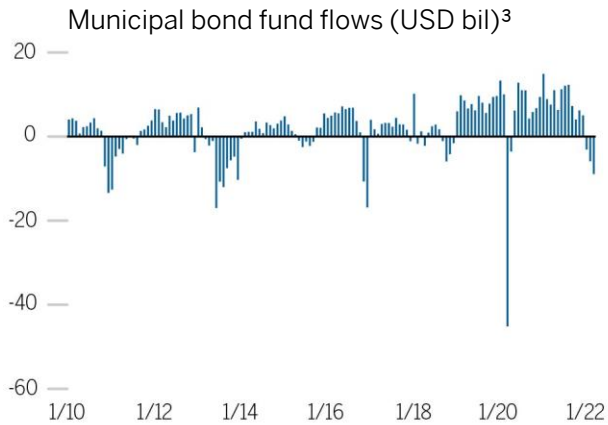
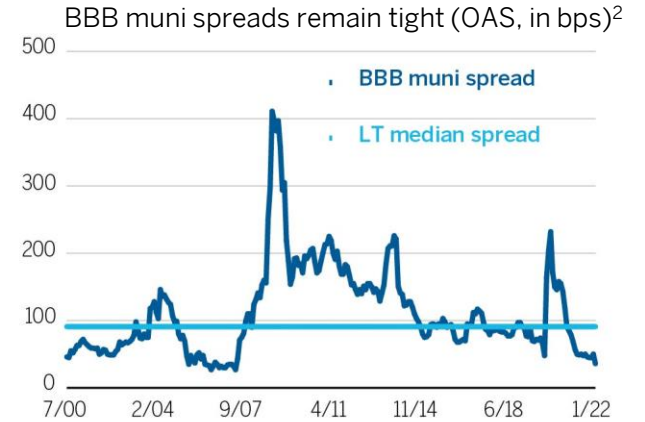
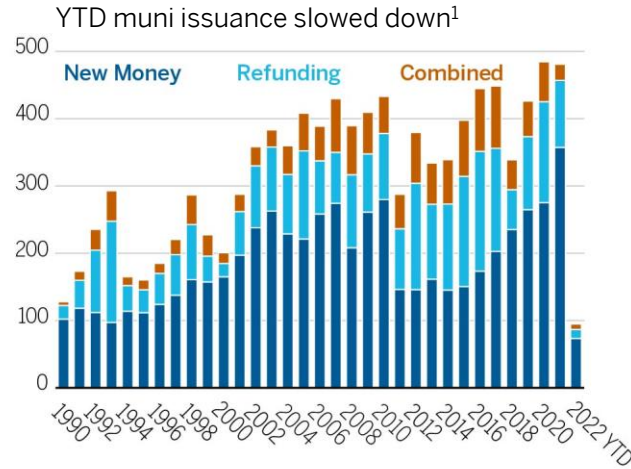
Lowest income cohort wage growth is almost keeping up with inflation⁴



¹Source: Federal Reserve Bank of St. Louis. As of September 2021. | ²Other includes unsecured consumer and miscellaneous ABS. Courtesy JPMorgan Chase & Co., Copyright 2021. Chart data: 2017 – 1Q2022. | ³Source: Intex. Chart data: January 2012 – February 2022. 60+ days delinquency. | ⁴Source: Current Population Survey, Bureau of Labor Statistics, and Federal Reserve Bank of Atlanta Calculations. Chart data: December 1997 – March 2022. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Fixed Income Sector

Municipal environment



¹Data series begins in 1987. Sources: The Bond Buyer, Merrill Lynch. Wellington Management. Chart data: December 1990 – March 2022. | ²Source: Bloomberg. BofA Merrill Lynch BBB Municipal Index. Chart data: July 2000 – March 2022. | ³Source: EPFR. Chart data: January 2010 – March 2022. | ⁴Sources: BofA Merrill Lynch Taxable Municipal Index, Bloomberg Barclays Investment Grade Corporate Industrials Index. Chart data: December 2009 – March 2022. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Important disclosures

Additional performance information

PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. There can be no assurance nor should it be assumed that future investment performance of any strategy will conform to any performance examples set forth in this material or that the portfolio's underlying investments will be able to avoid losses. The investment results and any portfolio compositions set forth in this material are provided for illustrative purposes only and may not be indicative of the future investment results or future portfolio composition. The composition, size of, and risks associated with an investment in the strategy may differ substantially from the examples set forth in this material. An investment can lose value.

Impact of fees

Illustration of impact of fees: If USD100,000 was invested and experienced a 10% annual return compounded monthly for ten years, its ending value, without giving effect to the deduction of advisory fees, would be USD270,704 with an annualized compounded return of 10.47%. If an advisory fee of 0.95% of average net assets per year were deducted monthly for the ten-year period, the annualized compounded return would be 9.43% and the ending USD value would be USD246,355. Information regarding the firm's advisory fees is available upon request.

Selection of representative account

The current representative account became effective on 1 August 1989 because it was the oldest account at the time of selection. For data shown prior to the current representative account effective date, data of the representative account(s) deemed appropriate for the time period was used. Further information regarding former representative accounts can be provided upon request. Each client account is individually managed; individual holdings will vary for each account and there is no guarantee that a particular account will have the same characteristics as described. Actual results may vary for each client due to specific client guidelines, holdings, and other factors. In limited circumstances, the designated representative account may have changed over time, for reasons including, but not limited to, account termination, imposition of significant investment restrictions, or material asset size fluctuations.

Access products

If access products are held by the portfolio they may not be included in the calculation of characteristic data. Access products are instruments used to gain access to equity markets not otherwise available and may include (but are not limited to) instruments such as warrants, total return swaps, p-notes, or zero strike options.

Additional disclosures

Securities indices are unmanaged and are not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly into an index.

Risk model

Noether is an internal proprietary system that comprises a risk model, a stress testing and scenario framework, associated software and infrastructure to calibrate the model, and to perform risk calculations. Noether provides comprehensive and internally calibrated absolute return and benchmark relative ex ante risk measurement across all portfolios managed at Wellington along with an integrated stress testing and scenario analysis capability that leverages Noether's statistical risk model, which is a multi-asset class, globally specified multi factor risk model and covers all asset classes managed at Wellington, including equity, fixed income, multi-asset, and commodities. The model was implemented starting on 1 October 2020 and could result in significant one-time value changes as a result of the risk model change. Prior to this date, the statistical model underlying the risk system is based on Barclays Capital POINT and is fully integrated with Wellington Management's pricing and analytics to provide complete coverage for all securities in Wellington Management's investable universe. The projected tracking risk for portfolios is estimated by calculating the exposures of portfolios to the risk factors in the model, which include factors such as currency, yield curve, and credit spreads, based on the historical volatilities and correlations of these risk factors. For portfolios with a history prior to 1 October 2020, over time risk data presented will have data points from both the Barclays Capital POINT model and the Noether model. Additional information is available upon request.

Benchmark definition

Bloomberg US Aggregate Bond: The Index measures the performance of the U.S. investment grade bond market.

LIBOR risk

The U.K. Financial Conduct Authority has announced cessation and non-representative dates on 35 London Inter-Bank Offered Rate (LIBOR) settings across various tenors and currencies after 2021. Notably, certain widely used US dollar (USD) LIBOR rate settings (overnight, 1-, 3-, 6-, and 12-month) will continue to be published in representative forms until 30 June 2023, enabling a smoother transition to alternative reference rates by allowing more time for “difficult-to-amend” legacy contracts/securities to mature. The elimination of LIBOR may adversely affect the interest rates on, as well as the liquidity and value of, certain portfolio investments.

Wellington has established a working group of stakeholders from key areas across the firm to manage the transition away from IBORs. Our LIBOR Replacement Working Group oversees work streams covering all aspects of the management of client assets that we anticipate could be impacted by LIBOR transition to help ensure that our client portfolios are well prepared for this upcoming change. Wellington is utilizing a multi-step implementation framework for transitioning from IBORs to alternative rates, including:

- Establishing a transition program
- Implementing a communication strategy with internal and external constituents, including several white papers
- Identifying and validating exposures across instruments, portfolios, and products as well as contractual and derivatives agreement language
- Developing operational and technology readiness plans to address the large-scale operating model, data, and technology implications required for IBOR transition
- Assessing the potential accounting and reporting implications associated with the transition away from IBORs

When IBORs are discontinued, securities that contain fallback language will transition to an alternative reference rate, depending on the deal documents. Fallback language can vary significantly for cash products based on product type, contract originator, and even origination date, as industry practices have evolved over time. For example, fallback language may provide that the replacement rate be determined based on reference bank quotations, remain permanently fixed from the previous interest period, or be determined by reference to another rate. Some securities lack any fallback language, or contain fallback language that differs from current industry standards. As a result, the liquidity and value of these securities may be adversely impacted in advance of the discontinuation of IBORs. In the event that securities lacking adequate fallback language become illiquid, clients may be forced to hold these securities to maturity.

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MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group ("Meketa")
DATE: June 29, 2022
RE: Wellington Core Fixed Income – Manager Update

Manager: Wellington Management

Inception Date:	April 2021	OPFRS AUM (5/31/2022):	\$6.9 million
Strategy:	Core Fixed Income	Firm-wide AUM (3/31/2022):	\$1.3 trillion
Benchmark:	Bloomberg US Aggregate Index	Strategy AUM (3/31/2022):	\$56.2 billion

Summary & Recommendation

Wellington began managing OPFRS's core fixed income portfolio approximately a year ago in April 2021, which is now approximately \$6.9 million or about 1.7% of OPFRS's total allocation. Over this period, Wellington has performed within expectations and guidelines for an active fixed income manager and has experienced no major organizational changes. *Therefore, Meketa does not have any major concerns with Wellington and does not recommend any action be taken at this time.*

Discussion

In this review, Meketa considered investment performance and recent organizational/personnel issues.

Investment Performance Review Summary

As of 5/31/2022, Wellington Core Bond portfolio has trailed the Bloomberg US Aggregate benchmark by (0.7%) over the 1-year period. In comparison with other core fixed income strategies, it falls below average for all the time periods measured. However, given that the portfolio was incepted only a year ago and recent market volatility, the short-term underperformance does not warrant concern.

OPFRS Portfolio Annualized Returns (as of 5/31/2022)

Manager	Market Value (\$000)	YTD	1 YR	3 YR	5 YR	Since Inception	Inception Date
Wellington Core Bond (Gross)	6,896.8	(9.7)	(8.9)	---	---	(6.8)	4/2021
Wellington Core Bond (Net)	6,896.8	(9.7)	(8.9)	---	---	(6.9)	---
<i>Bloomberg US Aggregate</i>	---	(8.9)	(8.2)	---	---	(6.2)	---
Excess Return (Net)	---	(0.8)	(0.7)	---	---	(0.7)	---
Peer Group Rank	---	88	92	---	---	94	---

1 Peer group is eVestment US Core Fixed Income (Gross) universe.

Product and Organization Review Summary

Wellington	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 Wellington Management and the Core Bond strategy revealed no significant organizational issues or changes.

Investment Philosophy & Process, per manager

Wellington Core Bond approach seeks to provide long-term total returns in excess of the Bloomberg US Aggregate Bond Index by investing in a broad range of high-quality US fixed income securities. The investment universe includes US government and agency securities, mortgage and structured finance securities, and investment-grade US dollar-denominated corporate and sovereign securities. The portfolio does not invest in securities rated below investment grade or in securities denominated in currencies other than US dollars.

The Core Bond investment process is designed to leverage the breadth of Wellington’s specialist expertise. The lead portfolio managers seek broad specialist input when making top-down cycle and sector rotation decisions, and then work closely with specialist portfolio managers and analysts to implement sector-specific allocations.

The portfolio is assigned a lead portfolio manager and a backup portfolio manager who are responsible for bringing the top-down strategies set by the Broad Markets Team together with bottom-up strategies and security selection driven by the sector specialists. Portfolio managers are accountable for all risks in the portfolio and work to ensure that portfolio construction aligns with investment objectives and guidelines.



Disclosure

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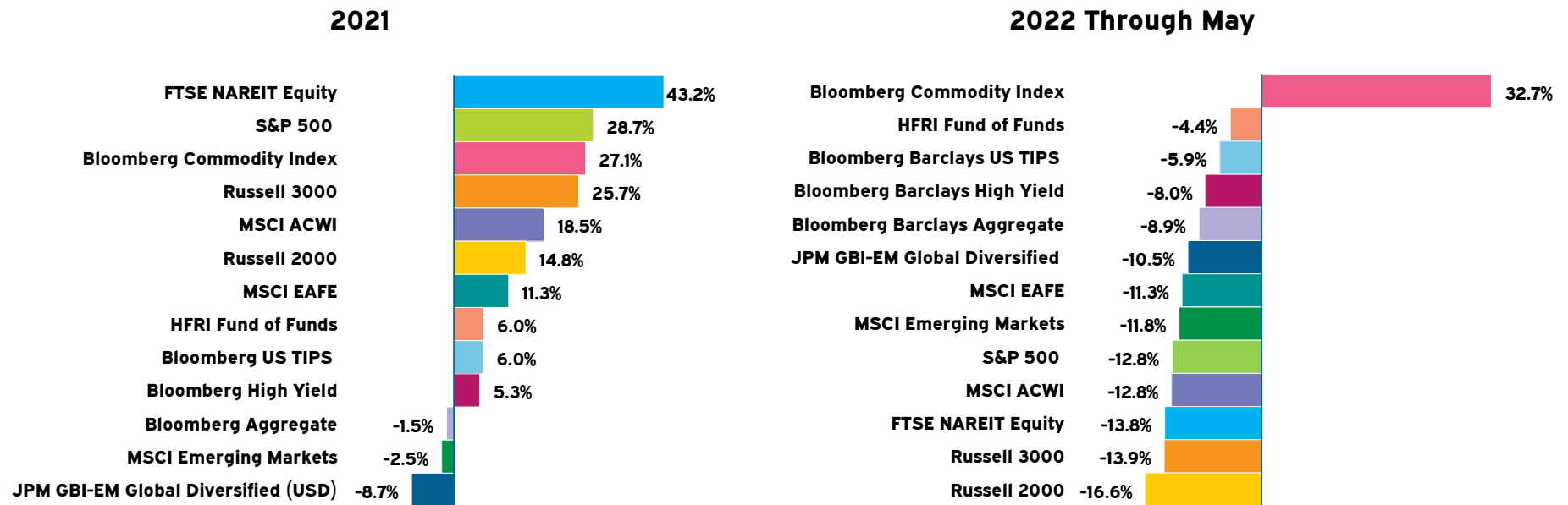
Economic and Market Update

May 2022 Report

Commentary

- There were no major market movements in May as investors waited for developments with inflation, the pace of monetary policy tightening, the war in Ukraine, ongoing supply chain issues, and China's lockdown of major economic centers to stem the spread of COVID-19.
- Equities were mixed, with international equities largely outperforming US equities.
 - Value-oriented equities outpaced growth, influenced by higher interest rates and notable weakness in some high-profile technology companies.
 - The global bond selloff slowed, as inflation fears, and policy expectations eased modestly despite monetary policy officials remaining steadfast in their near-term tightening expectations.
 - Nonetheless, inflation remains high globally.
- The war in Ukraine, lingering COVID-19 issues, persistent inflation, and strict lockdowns in China will all have considerable economic and financial consequences for the global economy going forward.

Index Returns¹



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

→ In May, many major asset classes recovered modestly from losses in the first quarter and April, with US stocks mostly unchanged and bonds higher by 0.6%.² Commodities continued to provide strong performance, adding 1.5% in May, and bringing the year-to-date gain to over 32%.

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

² As measured by the S&P 500 and Bloomberg Aggregate.

Domestic Equity Returns¹

Domestic Equity	May (%)	Q1 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	0.2	-4.6	-12.8	-0.3	16.4	13.4	14.4
Russell 3000	-0.1	-5.3	-13.9	-3.7	15.6	12.7	14.0
Russell 1000	-0.2	-5.1	-13.7	-2.7	16.0	13.1	14.2
Russell 1000 Growth	-2.3	-9.0	-21.9	-6.3	18.3	16.1	16.0
Russell 1000 Value	1.9	-0.7	-4.5	0.9	12.7	9.5	12.0
Russell MidCap	0.1	-5.7	-12.9	-6.8	12.9	10.5	12.8
Russell MidCap Growth	-3.9	-12.6	-25.4	-18.7	9.4	10.6	12.6
Russell MidCap Value	1.9	-1.8	-5.9	-0.1	13.4	9.1	12.3
Russell 2000	0.2	-7.5	-16.6	-16.9	9.7	7.7	10.8
Russell 2000 Growth	-1.9	-12.6	-24.8	-25.7	6.2	6.9	10.5
Russell 2000 Value	1.9	-2.4	-8.2	-7.7	12.2	7.8	10.7

US Equities: Russell 3000 Index declined 0.1%, and value indices significantly outperformed growth in May.

- US stocks were largely flat for the month with strong gains in energy, as well as utilities and financials, being balanced by declines in consumer-focused sectors (discretionary and staples).
- Value stocks continued to outperform growth stocks in May, maintaining the recent trend as rising rates and inflation continued to weigh on growth companies.
- Small company stocks outpaced large company stocks for the month.

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

Foreign Equity Returns¹

Foreign Equity	May (%)	Q1 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	0.7	-5.4	-10.7	-12.3	6.5	4.4	6.4
MSCI EAFE	0.7	-5.9	-11.3	-10.4	6.4	4.2	7.1
MSCI EAFE (Local Currency)	-0.2	-3.7	-5.3	1.1	8.2	5.5	9.6
MSCI EAFE Small Cap	-0.7	-8.5	-15.4	-16.0	6.6	4.1	8.9
MSCI Emerging Markets	0.4	-7.0	-11.8	-19.8	5.0	3.8	4.2
MSCI Emerging Markets (Local Currency)	-0.2	-6.1	-9.6	-15.7	6.4	5.7	6.7
MSCI China	1.2	-14.2	-16.7	-35.9	-0.1	1.3	5.0

International Equities (MSCI EAFE) gained 0.7% and Emerging Markets (MSCI EM) returned 0.4% in May.

- Non-US stocks (developed and emerging markets) outperformed US stocks in May but remain notably negative for the year-to-date period.
- The war in Ukraine, high inflation, and slowing growth continue to weigh on sentiment despite the positive return for the month in both developed and emerging markets.
- Gains in May for emerging markets were largely driven by China where COVID-19 restrictions were loosened and government stimulus increased.
- Like the US, value stocks outperformed growth stocks across developed and emerging markets.

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

Fixed Income Returns¹

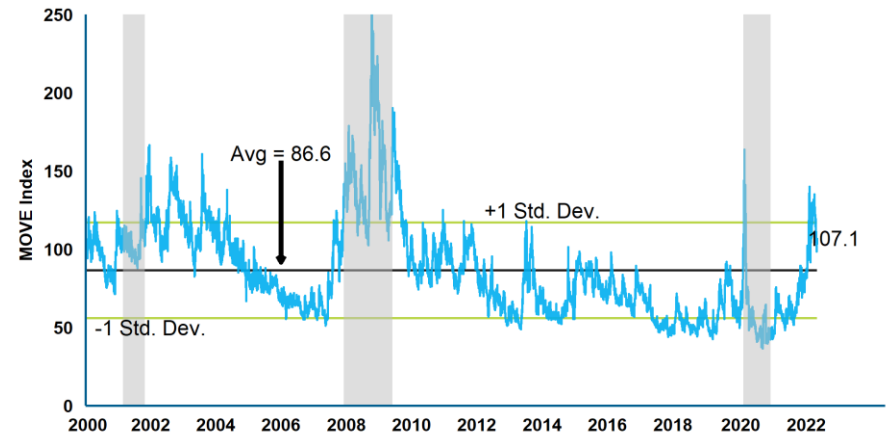
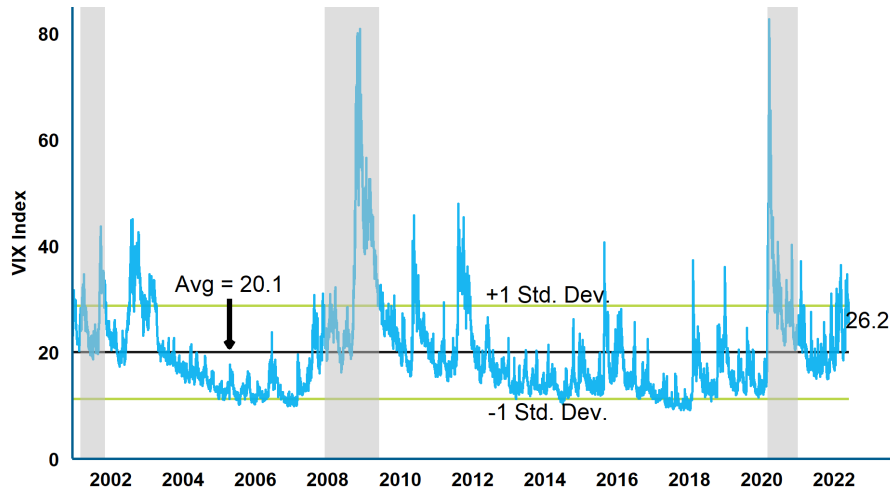
Fixed Income	May (%)	Q1 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	0.6	-6.1	-9.1	-8.4	0.2	1.3	2.1	3.8	6.5
Bloomberg Aggregate	0.6	-5.9	-8.9	-8.2	0.0	1.2	1.7	3.4	6.7
Bloomberg US TIPS	-1.0	-3.0	-5.9	-1.4	4.4	3.7	2.0	3.1	7.3
Bloomberg High Yield	0.2	-4.8	-8.0	-5.3	3.3	3.6	5.4	7.1	4.7
JPM GBI-EM Global Diversified (USD)	1.8	-6.5	-10.5	-16.5	-2.6	-1.3	-0.5	6.9	4.9

Fixed Income: Bloomberg Universal 0.6% in May.

- Slight interest rate declines led to positive performance for the broad US investment grade bond market (Bloomberg Aggregate). The nominal 10-year Treasury yield peaked at 3.13% before declining to 2.85% by month-end, while the 2-year Treasury yield declined from 2.73% to 2.56%.
- US credit spreads widened for high yield debt but tightened slightly for investment grade bonds.
- Emerging market debt led the way for the month but remains the worst performer year-to-date.

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

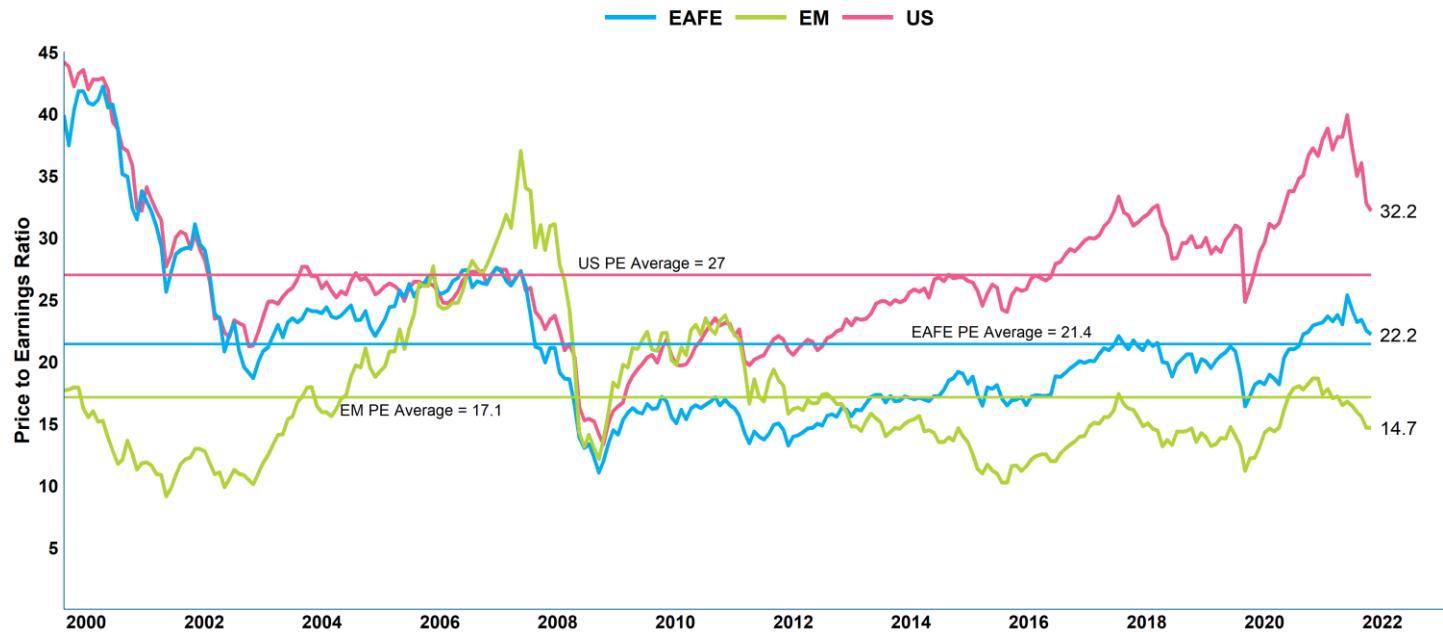
Equity and Fixed Income Volatility¹



- Volatility in both equities (VIX) and fixed income (MOVE) declined in May.
- A modest easing of inflation concerns and a decline in policy expectations supported investor sentiment.
- It is worth noting though that both have recently significantly spiked given persistently high inflation.

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 May 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.

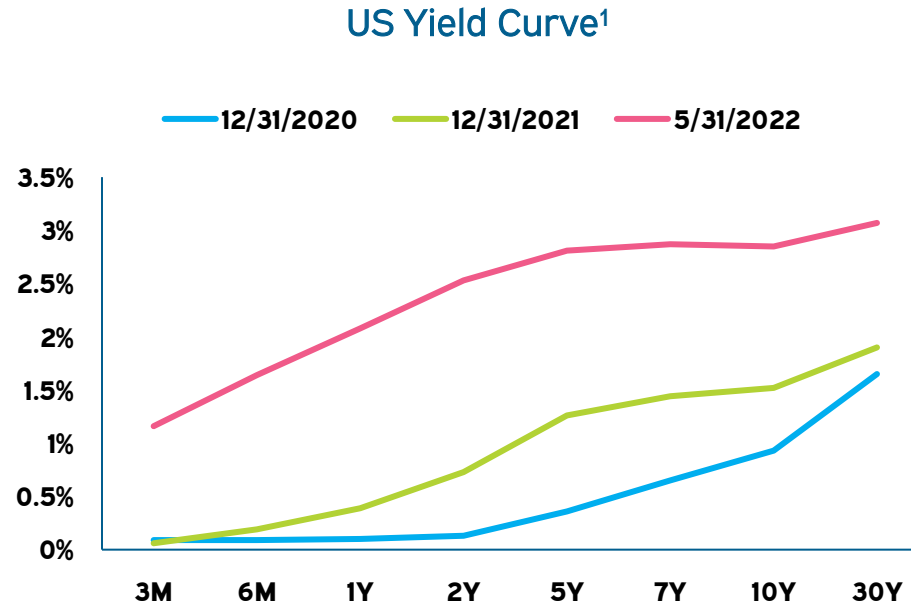
Equity Cyclically Adjusted P/E Ratios¹



→ Valuations in the US remain well above long-term averages despite the recent decline.

→ International developed market valuations remain below the US and are approaching their long-term average, with those for emerging markets under the long-term average.

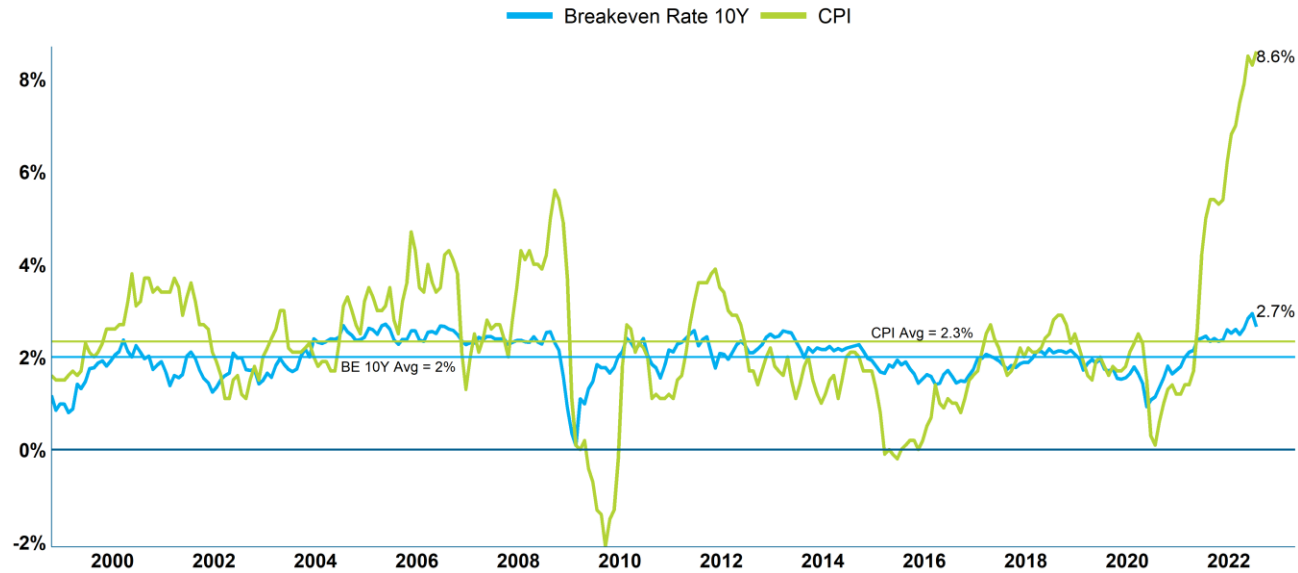
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported”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



- In May, rates remain well above those at the start of the year, as markets continue to reflect elevated inflation and rate expectations.
- After a brief inversion in April, which historically has often signaled building recessionary pressures, the spread between two-year and ten-year Treasuries ended May at around 30 basis points.
- Since month-end, rates have significantly increased across maturities with the yield curve flattening. This has been driven by the above-expectations CPI level and the Federal Reserve’s plans to tighten policy further.

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

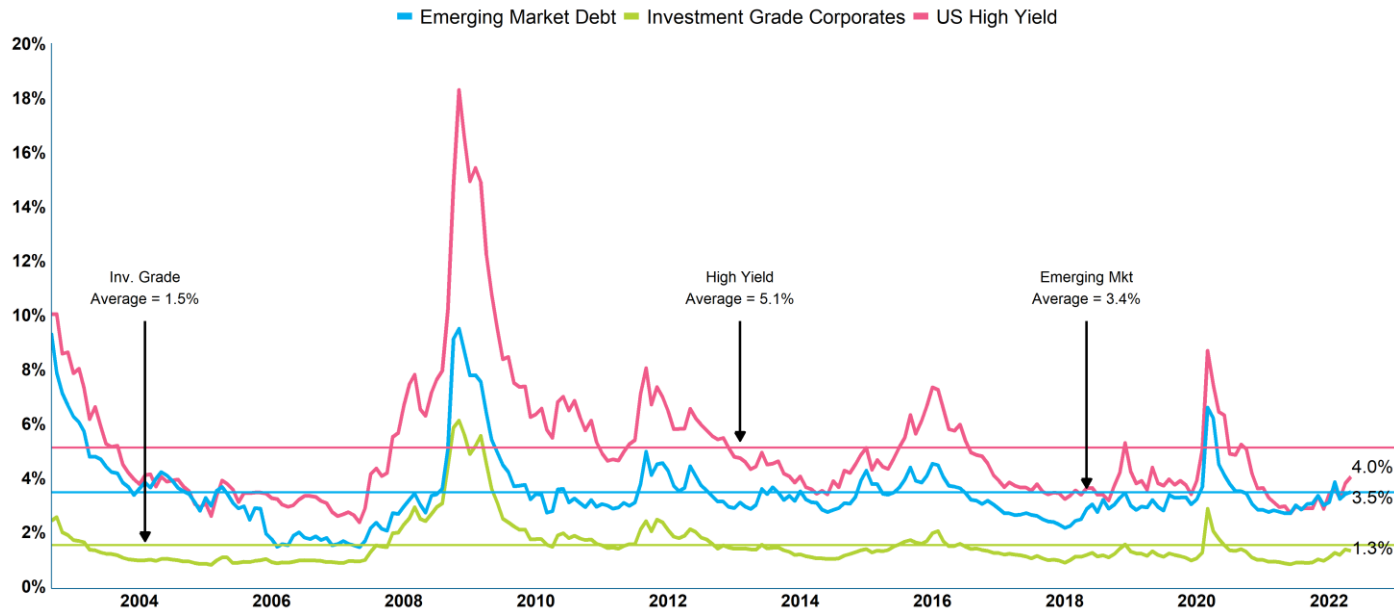
Ten-Year Breakeven Inflation and CPI¹



- Inflation expectations (breakevens) declined modestly in May after breaching 3.0% in April.
- Trailing twelve-month CPI rose in May (8.6% versus 8.3%) and notably came in above expectations. Inflation levels in the US remain well above the long-term average of 2.3%.
- Rising prices for energy (particularly oil), food, and for new and used cars, remain key drivers of higher inflation.

¹ Source: Bloomberg. Data is as of May 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) were mixed in May.
- In the US, spreads for high yield increased (4.0% versus 3.8%) while investment grade spreads remained the same. Emerging market spreads also increased (3.5% versus 3.4% during the month) but finished lower than US high yield spreads.
- Despite the recent increase, US high yield spreads remain well below the long-term average (4.0% versus 5.1%).

¹ Sources: Bloomberg. Data is as of May 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

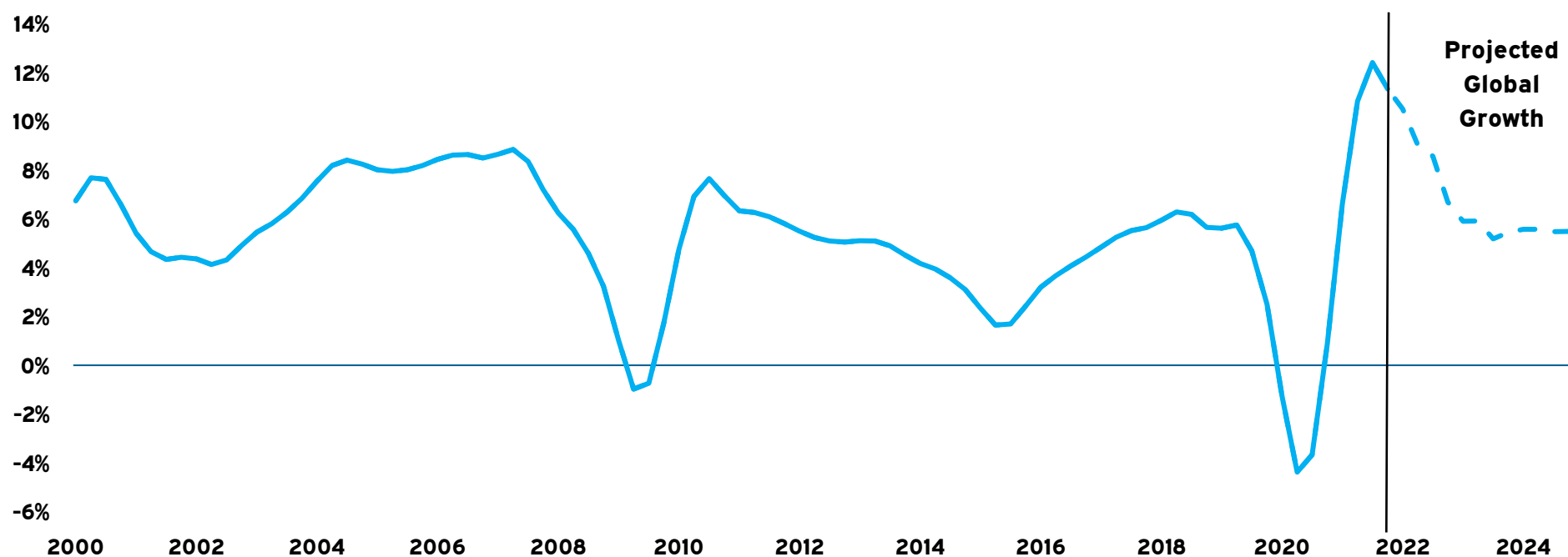
The IMF significantly lowered global growth forecasts in their latest projections, driven by the economic impacts of the war in Ukraine.

- 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 average of 3.0%.
- 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



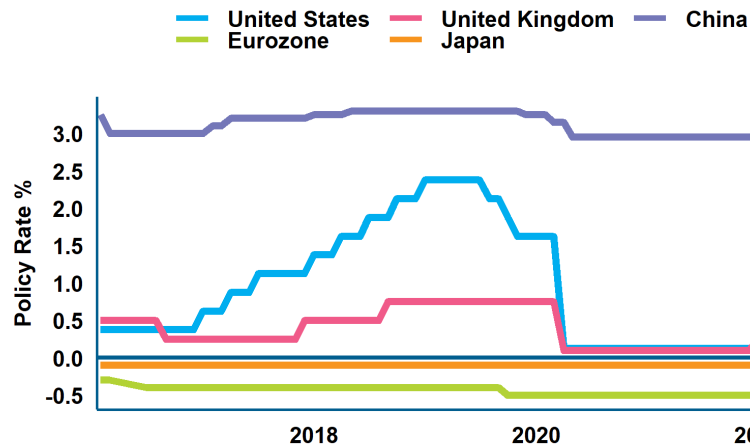
→ Global economies are expected to slow in 2022 compared to 2021.

→ Looking forward, the track of the conflict between Russia and Ukraine, continued supply chain issues, ongoing inflationary pressures, tighter monetary policy, and lingering pandemic problems all remain key with the risk for continued downgrades in growth forecasts.

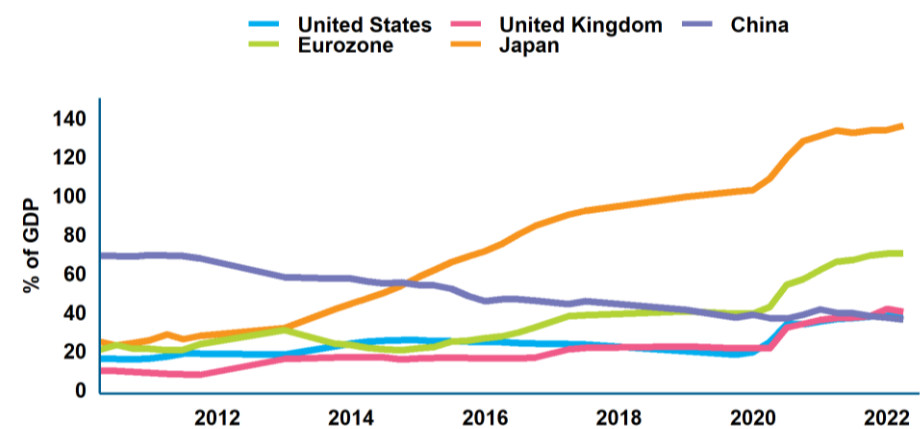
¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated May 2022.

Central Bank Response¹

Policy Rates



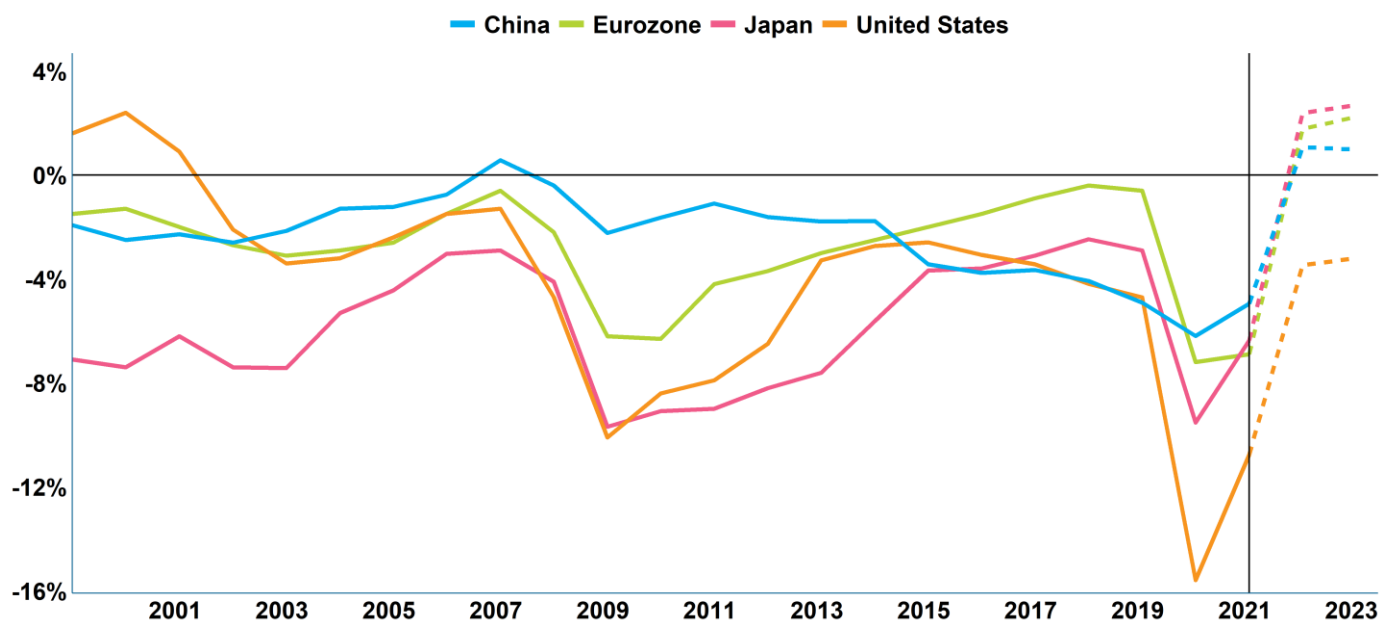
Balance Sheet as % of GDP



- 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 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 May 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 March 31, 2022.

Budget Surplus / Deficit as a Percentage of GDP¹

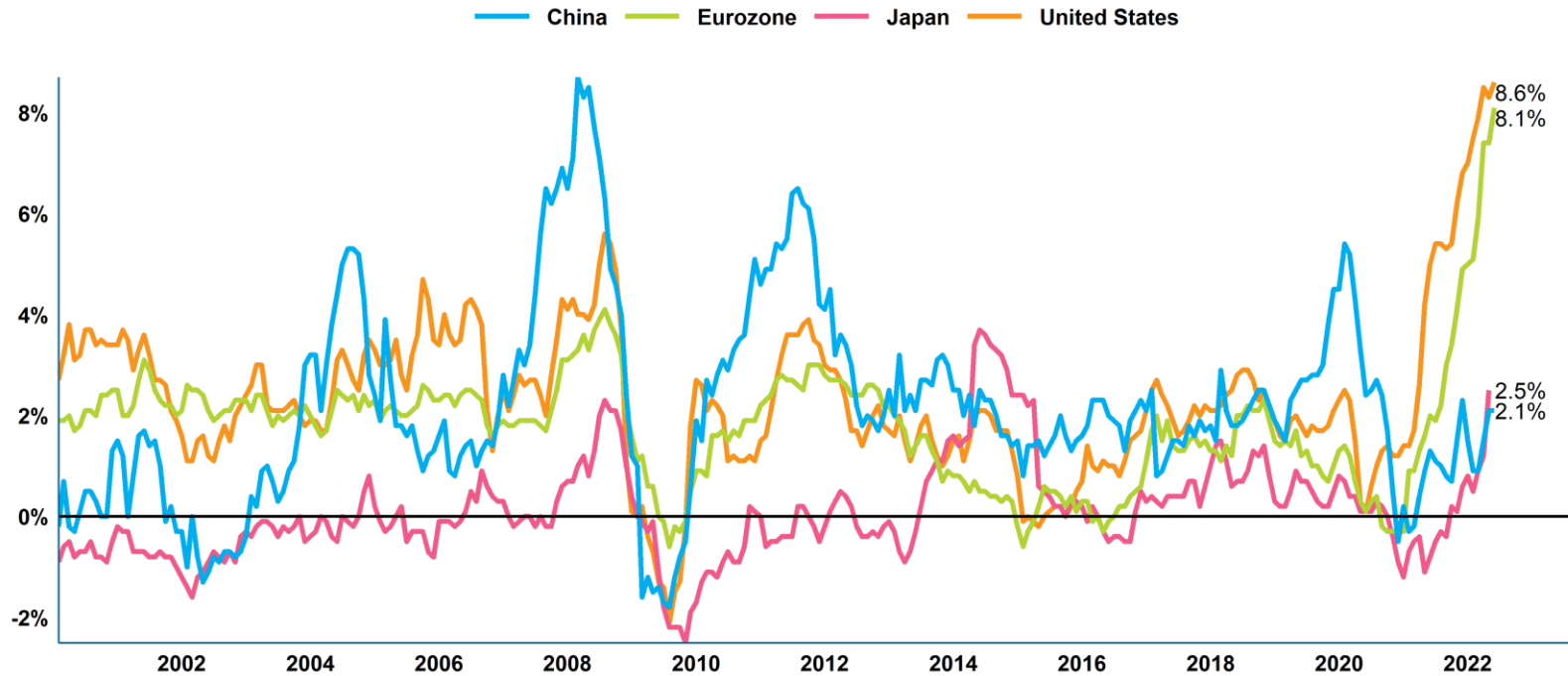


→ Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.

→ As fiscal stimulus programs end, and economic recoveries continue, deficits should improve in the coming years.

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

Inflation (CPI Trailing Twelve Months)¹

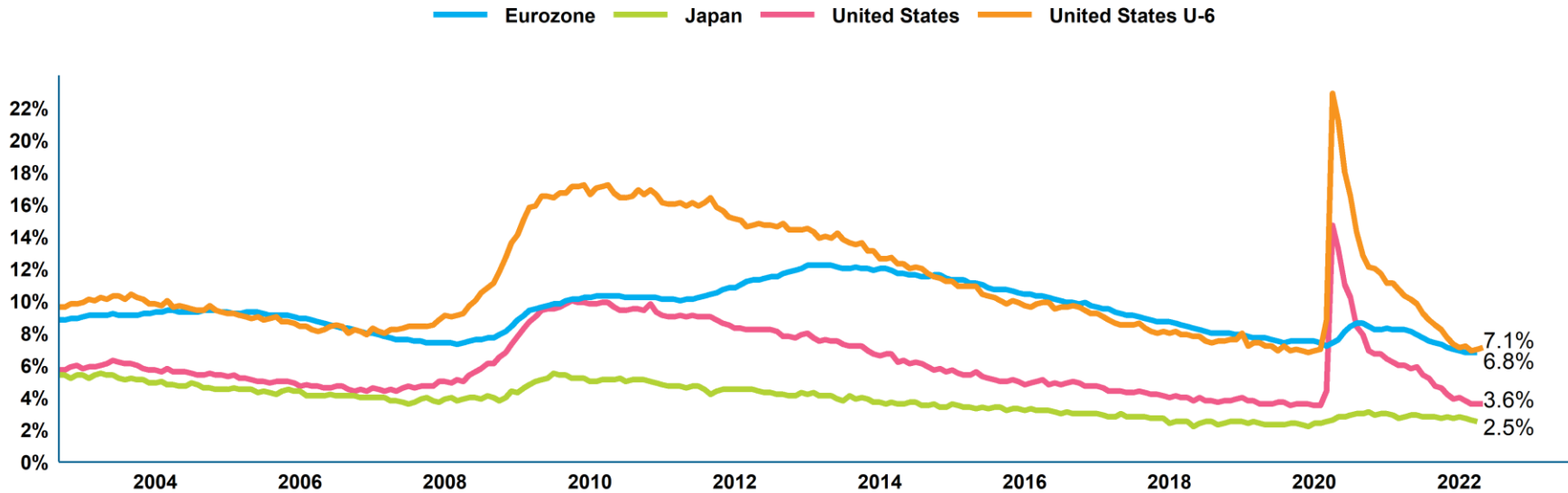


→ Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it remains at levels not seen in decades.

→ 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 May 2022, except for Japan, where the most recent data available is as of April 30, 2022.

Unemployment¹

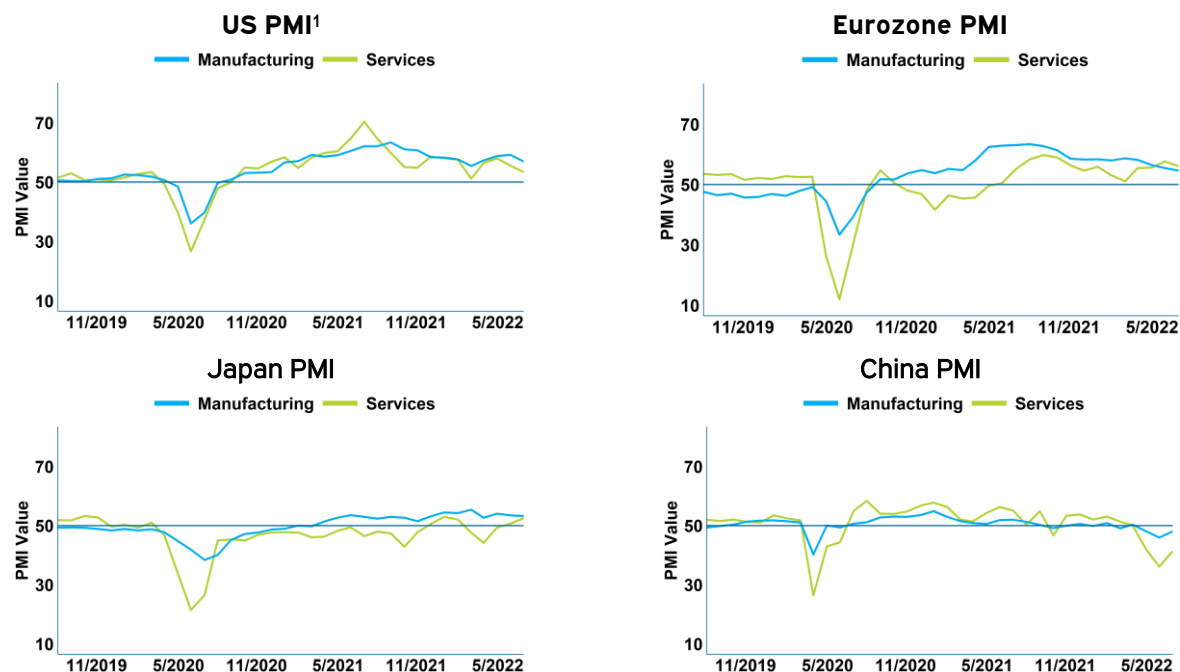


→ As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.

→ 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 7.1%.

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

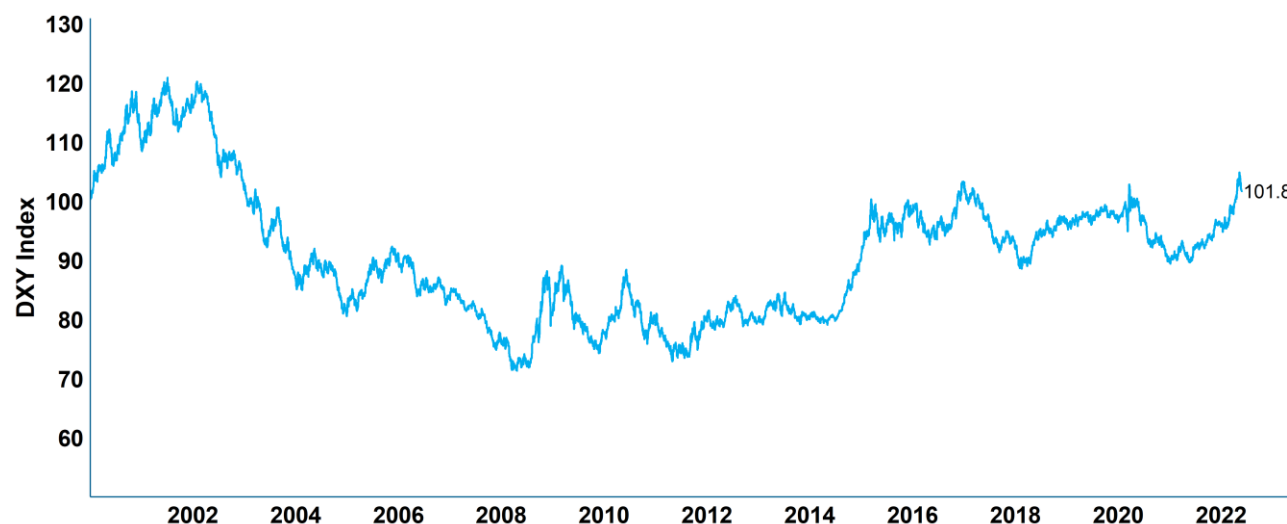
Global PMIs



- 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 they remain in contraction due to strict policies.
- In most countries, manufacturing PMIs are in expansion territory as pandemic-related production issues ease and orders increase. China is the one exception, though, with the manufacturing PMI falling below 50 due again to increased COVID-19 restrictions.

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 May 2022. Readings below 50 represent economic contractions.

US Dollar versus Broad Currencies¹



- The US dollar weakened slightly against a broad basket of peers in May.
- Safe-haven flows, relatively stronger growth, and higher rates have all been key drivers of the dollar's on-going strength.
- 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 May 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. 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 impacting growth remains.
- Valuations remain high in the US but have declined from recent peaks.
- 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.

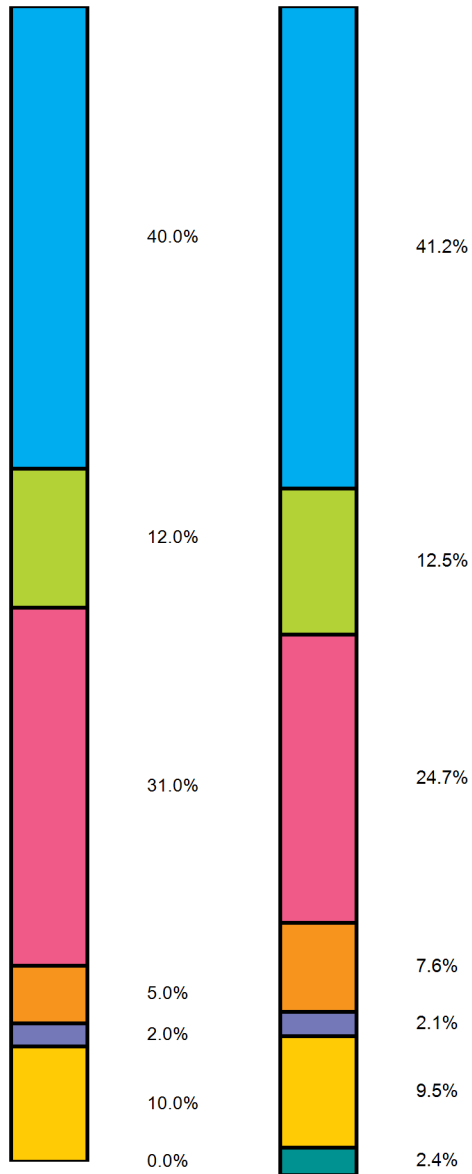
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Oakland Police and Fire Retirement System

June 29, 2022

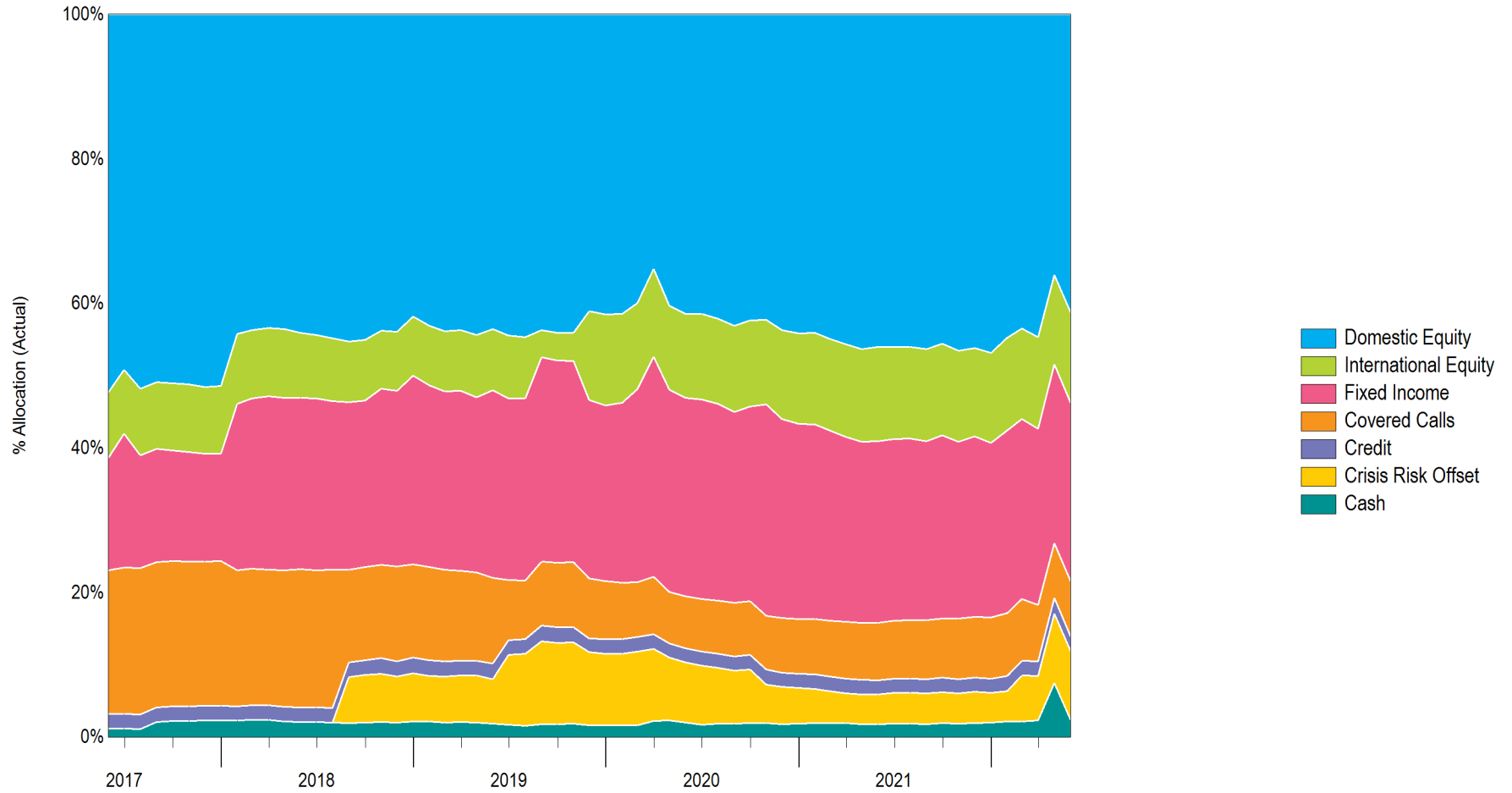
May Flash Report

As of May 31, 2022



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Within IPS Range?	
Domestic Equity	\$176,608,450	41.2%	40.0%	1.2%	Yes	
International Equity	\$53,530,993	12.5%	12.0%	0.5%	Yes	
Fixed Income	\$105,795,872	24.7%	31.0%	-6.3%	No	
Covered Calls	\$32,704,640	7.6%	5.0%	2.6%	Yes	
Credit	\$8,919,130	2.1%	2.0%	0.1%	Yes	
Crisis Risk Offset	\$40,747,394	9.5%	10.0%	-0.5%	Yes	
Cash	\$10,233,092	2.4%	0.0%	2.4%	Yes	
Total	\$428,539,571	100.0%	100.0%			

Asset Allocation History
5 Years Ending May 31, 2022



As of May 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	428,539,571	100.0	0.4	-5.7	-10.6	-4.6	7.8	7.2	8.2	6.7	Dec-88
<i>OPFRS Policy Benchmark</i>			<i>0.1</i>	<i>-6.8</i>	<i>-10.6</i>	<i>-5.5</i>	<i>7.5</i>	<i>6.7</i>	<i>7.7</i>	<i>8.0</i>	<i>Dec-88</i>
Domestic Equity	176,608,450	41.2	0.9	-4.2	-12.4	-2.8	14.8	12.3	13.8	9.0	Jun-97
<i>Russell 3000 (Blend)</i>			<i>-0.1</i>	<i>-6.0</i>	<i>-13.9</i>	<i>-3.7</i>	<i>15.6</i>	<i>12.7</i>	<i>14.0</i>	<i>9.2</i>	<i>Jun-97</i>
International Equity	53,530,993	12.5	1.1	-8.4	-10.2	-9.5	7.7	5.4	7.7	5.4	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>0.8</i>	<i>-11.4</i>	<i>-10.5</i>	<i>-12.0</i>	<i>7.0</i>	<i>4.9</i>	<i>6.9</i>	<i>5.5</i>	<i>Jan-98</i>
Fixed Income	105,795,872	24.7	0.1	-9.0	-9.2	-8.2	0.4	1.8	2.3	4.9	Dec-93
<i>Bloomberg Universal (Blend)</i>			<i>0.6</i>	<i>-9.1</i>	<i>-9.1</i>	<i>-8.4</i>	<i>0.2</i>	<i>1.3</i>	<i>2.1</i>	<i>4.8</i>	<i>Dec-93</i>
Credit	8,919,130	2.1	-1.6	-2.2	-4.6	-0.6	4.4	4.6	--	5.5	Feb-15
<i>Bloomberg US High Yield TR</i>			<i>0.2</i>	<i>-6.5</i>	<i>-8.0</i>	<i>-5.3</i>	<i>3.3</i>	<i>3.6</i>	<i>5.4</i>	<i>4.6</i>	<i>Feb-15</i>
Covered Calls	32,704,640	7.6	0.3	0.1	-9.0	2.3	13.1	9.8	--	9.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>-3.7</i>	<i>0.3</i>	<i>-7.5</i>	<i>2.5</i>	<i>6.4</i>	<i>4.9</i>	<i>6.7</i>	<i>5.8</i>	<i>Apr-14</i>
Crisis Risk Offset	40,747,394	9.5	-1.0	-10.9	-12.7	-7.4	-10.8	--	--	-10.4	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<i>1.5</i>	<i>5.8</i>	<i>4.1</i>	<i>5.5</i>	<i>-1.0</i>	<i>--</i>	<i>--</i>	<i>-0.8</i>	<i>Aug-18</i>

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 May 31, 2022

Trailing Net Performance												
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	428,539,571	100.0	--	0.4	-5.7	-10.6	-4.6	7.8	7.2	8.2	6.7	Dec-88
<i>OPFRS Policy Benchmark</i>				<i>0.1</i>	<i>-6.8</i>	<i>-10.6</i>	<i>-5.5</i>	<i>7.5</i>	<i>6.7</i>	<i>7.7</i>	<i>8.0</i>	<i>Dec-88</i>
Domestic Equity	176,608,450	41.2	41.2	0.9	-4.2	-12.4	-2.8	14.8	12.3	13.8	9.0	Jun-97
<i>Russell 3000 (Blend)</i>				<i>-0.1</i>	<i>-6.0</i>	<i>-13.9</i>	<i>-3.7</i>	<i>15.6</i>	<i>12.7</i>	<i>14.0</i>	<i>9.2</i>	<i>Jun-97</i>
Northern Trust Russell 1000	89,883,834	21.0	50.9	-0.5	-5.4	-14.0	-3.0	15.9	13.0	14.2	13.8	Jun-10
<i>Russell 1000</i>				<i>-0.2</i>	<i>-5.1</i>	<i>-13.7</i>	<i>-2.7</i>	<i>16.0</i>	<i>13.1</i>	<i>14.2</i>	<i>13.8</i>	<i>Jun-10</i>
EARNEST Partners	46,902,182	10.9	26.6	3.4	0.3	-8.9	0.2	17.7	14.5	15.5	10.8	Apr-06
<i>Russell MidCap</i>				<i>0.1</i>	<i>-8.1</i>	<i>-12.9</i>	<i>-6.8</i>	<i>12.9</i>	<i>10.5</i>	<i>12.8</i>	<i>9.0</i>	<i>Apr-06</i>
Wellington Select Quality Equity	15,000,000	3.5	8.5	0.0	--	--	--	--	--	--	0.0	May-22
<i>Russell 1000</i>				<i>-0.2</i>	<i>-5.1</i>	<i>-13.7</i>	<i>-2.7</i>	<i>16.0</i>	<i>13.1</i>	<i>14.2</i>	<i>-0.2</i>	<i>May-22</i>
Rice Hall James	14,045,517	3.3	8.0	-0.1	-17.8	-19.4	-16.2	9.3	--	--	8.0	Jul-17
<i>Russell 2000 Growth</i>				<i>-1.9</i>	<i>-29.0</i>	<i>-24.8</i>	<i>-25.7</i>	<i>6.2</i>	<i>6.9</i>	<i>10.6</i>	<i>6.3</i>	<i>Jul-17</i>
Brown Fundamental Small Cap Value	10,776,916	2.5	6.1	3.2	-2.0	-8.6	-4.6	--	--	--	1.1	Apr-21
<i>Russell 2000 Value</i>				<i>1.9</i>	<i>-7.1</i>	<i>-8.2</i>	<i>-7.7</i>	<i>12.2</i>	<i>7.8</i>	<i>10.7</i>	<i>-2.5</i>	<i>Apr-21</i>
International Equity	53,530,993	12.5	12.5	1.1	-8.4	-10.2	-9.5	7.7	5.4	7.7	5.4	Jan-98
<i>MSCI ACWI ex US (Blend)</i>				<i>0.8</i>	<i>-11.4</i>	<i>-10.5</i>	<i>-12.0</i>	<i>7.0</i>	<i>4.9</i>	<i>6.9</i>	<i>5.5</i>	<i>Jan-98</i>
SGA ACWI ex-U.S. Equity	38,291,287	8.9	71.5	0.9	-7.7	-9.7	-9.1	--	--	--	3.3	Dec-19
<i>MSCI ACWI ex USA Gross</i>				<i>0.8</i>	<i>-11.4</i>	<i>-10.5</i>	<i>-12.0</i>	<i>7.0</i>	<i>4.9</i>	<i>6.9</i>	<i>4.8</i>	<i>Dec-19</i>
Vanguard Developed Markets ETF	15,239,706	3.6	28.5	1.7	-9.8	-10.7	-10.6	--	--	--	7.6	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>				<i>0.8</i>	<i>-9.3</i>	<i>-10.7</i>	<i>-10.1</i>	<i>7.9</i>	<i>5.2</i>	<i>7.7</i>	<i>7.9</i>	<i>Sep-19</i>

Performance shown is net-of-fees and time-weighted using the Modified Dietz methodology. Fiscal year starts July 1. Since inception date and performance begin in the full calendar month following an investment's initial funding.

As of May 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Fixed Income	105,795,872	24.7	24.7	0.1	-9.0	-9.2	-8.2	0.4	1.8	2.3	4.9	Dec-93
<i>Bloomberg Universal (Blend)</i>				<i>0.6</i>	<i>-9.1</i>	<i>-9.1</i>	<i>-8.4</i>	<i>0.2</i>	<i>1.3</i>	<i>2.1</i>	<i>4.8</i>	<i>Dec-93</i>
Ramirez	71,864,045	16.8	67.9	-0.2	-9.3	-9.5	-8.4	0.2	1.7	--	2.1	Jan-17
<i>Bloomberg US Aggregate TR</i>				<i>0.6</i>	<i>-8.9</i>	<i>-8.9</i>	<i>-8.2</i>	<i>0.0</i>	<i>1.2</i>	<i>1.7</i>	<i>1.5</i>	<i>Jan-17</i>
Reams	27,035,034	6.3	25.6	0.7	-8.2	-8.5	-7.5	3.9	3.8	3.4	5.4	Feb-98
<i>Bloomberg Universal (Blend)</i>				<i>0.6</i>	<i>-9.1</i>	<i>-9.1</i>	<i>-8.4</i>	<i>0.2</i>	<i>1.3</i>	<i>2.1</i>	<i>4.4</i>	<i>Feb-98</i>
Wellington Core Bond	6,896,794	1.6	6.5	0.5	-9.6	-9.6	-8.8	--	--	--	-6.8	Apr-21
<i>Bloomberg US Aggregate TR</i>				<i>0.6</i>	<i>-8.9</i>	<i>-8.9</i>	<i>-8.2</i>	<i>0.0</i>	<i>1.2</i>	<i>1.7</i>	<i>-6.2</i>	<i>Apr-21</i>
Credit	8,919,130	2.1	2.1	-1.6	-2.2	-4.6	-0.6	4.4	4.6	--	5.5	Feb-15
<i>Bloomberg US High Yield TR</i>				<i>0.2</i>	<i>-6.5</i>	<i>-8.0</i>	<i>-5.3</i>	<i>3.3</i>	<i>3.6</i>	<i>5.4</i>	<i>4.6</i>	<i>Feb-15</i>
Polen Capital	8,919,130	2.1	100.0	-1.6	-2.2	-4.6	-0.6	4.4	4.6	--	5.5	Feb-15
<i>ICE BofA High Yield Master TR</i>				<i>0.3</i>	<i>-6.3</i>	<i>-7.8</i>	<i>-5.0</i>	<i>3.2</i>	<i>3.4</i>	<i>5.4</i>	<i>4.5</i>	<i>Feb-15</i>
Covered Calls	32,704,640	7.6	7.6	0.3	0.1	-9.0	2.3	13.1	9.8	--	9.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>-3.7</i>	<i>0.3</i>	<i>-7.5</i>	<i>2.5</i>	<i>6.4</i>	<i>4.9</i>	<i>6.7</i>	<i>5.8</i>	<i>Apr-14</i>
Parametric BXM	16,429,869	3.8	50.2	0.4	0.2	-6.8	2.0	9.4	7.1	--	7.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>-3.7</i>	<i>0.3</i>	<i>-7.5</i>	<i>2.5</i>	<i>6.4</i>	<i>4.9</i>	<i>6.7</i>	<i>5.8</i>	<i>Apr-14</i>
Parametric DeltaShift	16,274,771	3.8	49.8	0.2	-0.2	-10.9	2.2	16.4	12.1	--	11.4	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>-3.7</i>	<i>0.3</i>	<i>-7.5</i>	<i>2.5</i>	<i>6.4</i>	<i>4.9</i>	<i>6.7</i>	<i>5.8</i>	<i>Apr-14</i>

As of May 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Crisis Risk Offset	40,747,394	9.5	9.5	-1.0	-10.9	-12.7	-7.4	-10.8	--	--	-10.4	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>				<i>1.5</i>	<i>5.8</i>	<i>4.1</i>	<i>5.5</i>	<i>-1.0</i>	<i>--</i>	<i>--</i>	<i>-0.8</i>	<i>Aug-18</i>
Vanguard Long-Term Treasury ETF	15,853,085	3.7	38.9	-2.2	-18.7	-20.3	-15.4	--	--	--	-3.3	Jul-19
<i>Bloomberg US Govt Long TR</i>				<i>-1.9</i>	<i>-17.2</i>	<i>-20.0</i>	<i>-14.3</i>	<i>-2.0</i>	<i>0.9</i>	<i>1.7</i>	<i>-2.5</i>	<i>Jul-19</i>
Versor Trend Following	15,000,000	3.5	36.8	0.0	--	--	--	--	--	--	0.0	Apr-22
<i>SG Trend Index</i>				<i>-0.3</i>	<i>27.6</i>	<i>25.6</i>	<i>24.8</i>	<i>15.0</i>	<i>8.8</i>	<i>4.8</i>	<i>6.7</i>	<i>Apr-22</i>
Kepos Alternative Risk Premia	9,894,309	2.3	24.3	-0.5	--	--	--	--	--	--	-0.8	Feb-22
<i>SG Multi Alternative Risk Premia Index</i>				<i>1.5</i>	<i>5.8</i>	<i>4.1</i>	<i>5.5</i>	<i>-1.0</i>	<i>--</i>	<i>--</i>	<i>3.3</i>	<i>Feb-22</i>
Cash	10,233,092	2.4	2.4	0.0	0.0	0.0	0.0	0.9	1.2	0.7	0.6	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.7</i>	<i>1.1</i>	<i>0.6</i>	<i>0.5</i>	<i>Mar-11</i>
Cash - Treasury	7,190,000	1.7	70.3									
Cash	3,043,092	0.7	29.7	0.0	0.0	0.0	0.0	1.1	1.4	0.8	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.7</i>	<i>1.1</i>	<i>0.6</i>	<i>0.5</i>	<i>Mar-11</i>

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

Cash Flow Summary

Month to Date

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Brown Fundamental Small Cap Value	\$10,447,971	\$0	\$328,945	\$10,776,916
Cash	\$25,152,665	-\$22,109,573	\$0	\$3,043,092
Cash - Treasury	\$6,865,000	\$325,000	\$0	\$7,190,000
EARNEST Partners	\$45,339,132	\$0	\$1,563,050	\$46,902,182
Kepos Alternative Risk Premia	\$9,948,378	\$0	-\$54,070	\$9,894,309
Northern Trust Russell 1000	\$84,107,653	\$6,183,983	-\$407,802	\$89,883,834
Parametric BXM	\$16,357,603	\$0	\$72,266	\$16,429,869
Parametric DeltaShift	\$16,244,931	\$0	\$29,840	\$16,274,771
Polen Capital	\$9,070,808	\$0	-\$151,678	\$8,919,130
Ramirez	\$71,999,758	\$0	-\$135,713	\$71,864,045
Reams	\$26,835,789	\$0	\$199,245	\$27,035,034
Rice Hall James	\$14,060,617	\$0	-\$15,100	\$14,045,517
Securities Lending Northern Trust	\$0	-\$10,669	\$10,669	\$0
SGA ACWI ex-U.S. Equity	\$37,931,145	\$0	\$360,142	\$38,291,287
Vanguard Developed Markets ETF	\$14,991,906	\$0	\$247,800	\$15,239,706
Vanguard Long-Term Treasury ETF	\$16,211,209	\$0	-\$358,124	\$15,853,085
Versor Trend Following	\$15,000,000	\$0	\$0	\$15,000,000
Wellington Core Bond	\$6,861,081	\$0	\$35,712	\$6,896,794
Wellington Select Quality Equity	\$0	\$15,000,000	\$0	\$15,000,000
Total	\$427,425,646	-\$611,259	\$1,725,183	\$428,539,571

Benchmark History
As of May 31, 2022

Total Plan x Securities Lending x Reams LD Exception Comp

1/1/2019	Present	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
9/1/1988	3/31/1998	40% S&P 500 / 55% Bloomberg US Aggregate TR / 5% FTSE T-Bill 3 Months TR

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Oakland Police and Retirement System

June 29, 2022

Recommendation for 2022
Q3 Cash Flows

Asset Class / Manager Liquidity

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

Description of Liquidity Tiers

Tier	Description	Market Value (\$M)	in Months
1	Public, Scheduled Withdrawal Allowances	124.0	20.7
2	Public, Accommodating of Withdrawals	140.5	23.4
3	Public, Must Plan Withdrawals	171.8	28.6
4	Closely Held	0.0	-
Total		436.3	

Oakland PFRS Asset Allocation as of May 31, 2022¹

	Market Value		Target	Variance		Actual Cash Flows for Apr – Jun Benefits ²		Suggested Cash Flows for Jul – Sep Benefits	
	(\$M)	(%)	(%)	(\$M)	(%)	Inflow (\$M)	Outflow (\$M)	Inflow (\$M)	Outflow (\$M)
Northern Trust Russell 1000	89.9	20.6	20.0	2.6	0.6		(3.0)		
EARNEST Partners	46.9	10.7	8.0	12.0	2.7				
Wellington Defensive Equity	30.0	6.9	6.0	3.8	0.9				
Rice Hall James	14.0	3.2	3.0	1.0	0.2				
Brown Small Cap Value	10.8	2.5	3.0	(2.3)	(0.5)				
Total Domestic Equity	191.6	43.9	40.0	17.1	3.9				
SGA MSCI ACWI ex-US	38.3	8.8	8.4	1.6	0.4				
Vanguard Developed Markets ETF	15.2	3.5	3.6	(0.5)	(0.1)				
Total International Equity	53.5	12.3	12.0	1.2	0.3				
Total Public Equity	245.1	56.2	52.0	18.2	4.2				
Parametric	32.7	7.5	5.0	10.9	2.5				(6.0)
Total Covered Calls	32.7	7.5	5.0	10.9	2.5				
Vanguard Long Duration ETF	15.9	3.6	3.3	1.3	0.3				
Versor Trend Following	15.0	3.4	3.3	0.6	0.1				
Kepos Alternative Risk Premia	9.9	2.3	3.3	(4.5)	(1.0)				
Total Crisis Risk Offset	40.7	7.1	9.9	(12.5)	(2.9)				
Ramirez	71.9	16.5	17.0	(2.3)	(0.5)				
Reams	27.0	6.2	12.0	(25.3)	(5.8)				
Wellington Core Bond	6.9	1.6	2.0	(1.8)	(0.4)				
Polen Capital High Yield	8.9	2.0	2.0	0.2	0.0				
Total Public Fixed Income	114.7	26.3	33.0	(29.3)	(6.7)				
Cash	3.0	0.7	0.0	3.0	0.7	10.9	(10.9)	8.2	(8.2)
Total Stable	117.8	27.0	33.0	(26.2)	(6.0)				
Total Portfolio	436.3	100.0	100.0	---	---	10.9	(13.9)	8.2	(14.2)

¹ Report reflects change in asset allocation from 05/31/2022 values listed by Northern Trust; market value for Versor Trend Following is as of 04/30/2022. Beneficiary payments estimated at \$14.2 million on a quarterly basis per OPFRS. Report reflects quarterly City contributions of \$8.2 million. Current City of Oakland quarterly contribution amount is based on FY 2021/2022 actuarial annual required contribution of \$43.65 million.

² Benefits are payable on first of each month.

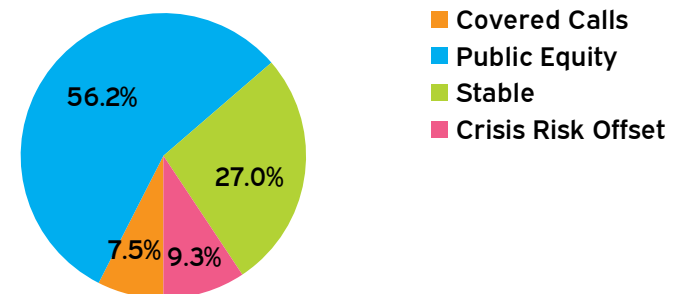
Market Value by Portfolio Segment

Portfolio Segment	Market Value (\$M)
Domestic Equity	191.6
International Equity	53.5
Total Public Equity	245.1
Covered Calls	32.7
Crisis Risk Offset	40.7
Public Fixed Income	114.7
Cash Equivalents	3.0
Total Stable	117.7
Total Portfolio	436.3

Suggested Cash Withdrawals

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

Projected Equity to Fixed Income Allocation



Market value difference in Public Equity from 52 allocation: **\$18.2 million**

Projected OPFRS Asset Allocation¹

	Estimated Market Value		Target ()	Projected Variance from Target	
	(\$M)	()		()	(\$M)
Northern Trust Russell 1000	86.9	20.3	20.0	0.3	1.4
EARNEST Partners	46.9	11.0	6.0	5.0	21.3
Wellington Defensive Equity	30.0	7.0	8.0	(1.0)	(4.2)
Rice Hall James	14.0	3.3	3.0	0.3	1.2
Brown Small Cap Value	10.8	2.5	3.0	(0.5)	(2.0)
Total Domestic Equity	188.6	44.1	40.0	4.1	17.7
SGA MSCI ACWI ex-US	38.3	9.0	3.6	5.4	22.9
Vanguard Developed Markets ETF	15.2	3.6	8.4	(4.8)	(20.7)
Total International Equity	53.5	12.5	12.0	0.5	2.2
Total Public Equity	242.1	56.7	52.0	4.7	19.9
Parametric	26.7	6.2	5.0	1.2	5.3
Total Covered Calls	26.7	6.2	5.0	1.2	5.3
Vanguard Long Duration ETF	15.9	3.7	3.3	0.4	1.6
Versor Trend Following	15.0	3.5	3.3	0.2	0.8
Kepos Alternative Risk Premia	9.9	2.3	3.3	(1.0)	(4.3)
Total Crisis Risk Offset	40.7	9.5	10.0	(0.5)	(2.0)
Ramirez	71.9	16.8	12.0	4.8	20.6
Reams	27.0	6.3	2.0	4.3	18.5
Wellington Core Bond	6.9	1.6	19.0	(17.4)	(74.3)
Polen Capital High Yield	8.9	2.1	2.0	0.1	0.4
Total Public Fixed Income	114.7	26.8	33.0	(6.2)	(26.3)
Cash	3.0	0.7	0.0	0.7	3.0
Total Stable	117.8	27.6	33.0	(5.4)	(23.3)
Total Portfolio	427.3	100.0	100.0	---	---

¹ Report reflects change in asset allocation from 05/31/2022 values listed by Northern Trust; market value for Versor Trend Following is as of 04/30/2022. Beneficiary payments estimated at \$14.2 million on a quarterly basis per OPFRS. Report reflects quarterly City contributions of \$8.2 million. Current City of Oakland quarterly contribution amount is based on FY 2021/2022 actuarial annual required contribution of \$43.65 million.

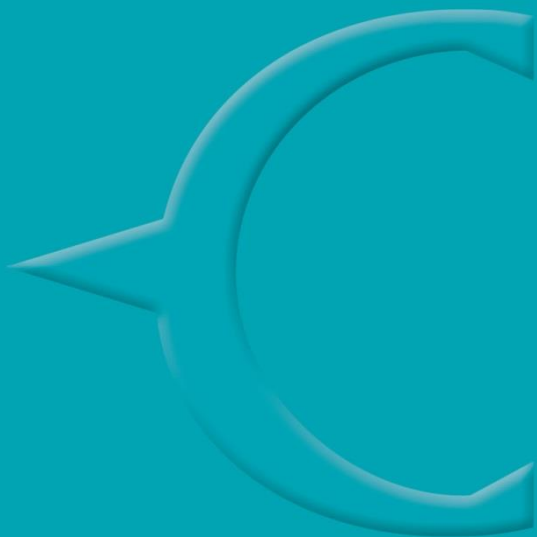
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Oakland Police and Fire Retirement System

**Actuarial Valuation Report
as of July 1, 2021**

Produced by Cheiron

January 2022

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January 13, 2022

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

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the Oakland Police and Fire Retirement System (PFRS, the Plan) as of July 1, 2021. This report contains information on the Plan's assets and liabilities. This report also discloses the employer contributions in accordance with the funding agreement between the City of Oakland and PFRS, based on the current financial status of the Plan. Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

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

The assumptions used in this report were adopted by the Board of Administration with our input at the February 28, 2018 Board meeting based on recommendations from our experience study covering plan experience for the period from July 1, 2014 through ending June 30, 2017. We believe these assumptions are reasonable for the purpose of the valuation.

The funding ratios in this report are for the purpose of establishing contribution rates. These measures are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

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

Deterministic projections in this valuation report were developed using P-scan, a proprietary tool used to illustrate the impact of changes in assumptions, methods, plan provisions, or actual experience (particularly investment experience) on the future financial status of the Plan. P-scan uses standard roll-forward techniques. Because P-scan does not automatically capture how changes in one variable affect all other variables, some scenarios may not be consistent.

Stochastic projections in this valuation report were developed using R-scan, our proprietary tool for assessing the probability of different outcomes based on a range of potential investment

returns. We relied on Cheiron colleagues for the development of the model. The stochastic projections of investment returns assume that each future year's investment return is independent from all other years and is identically distributed according to a lognormal distribution. The standard deviation used in the stochastic projection of investment returns was provided by the Plan's investment consultant.

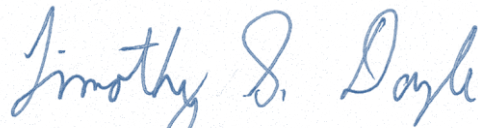
Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and, changes in plan provisions or applicable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

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

Sincerely,
Cheiron



Graham A. Schmidt, ASA, EA, FCA, MAAA
Consulting Actuary



Timothy S. Doyle, ASA, EA, MAAA
Associate Actuary

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

FOREWORD

Cheiron has performed the actuarial valuation of the Oakland Police and Fire Retirement System (PFRS, the Plan) as of July 1, 2021. The valuation is organized as follows:

- In Section I, the **Executive Summary**, we describe the purpose of an actuarial valuation, summarize the key results found in this valuation, and disclose important trends.
- The **Main Body** of the report presents details on the Plan's
 - Section II – Identification and Assessment of Risks
 - Section III – Assets
 - Section IV – Liabilities
 - Section V – Contributions
 - Section VI – Head Count and Benefit Payment Projections
- In the **Appendices**, we conclude our report with detailed information describing plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent plan provisions (Appendix C), and a glossary of key actuarial terms (Appendix D).

The results of this report rely on future experience conforming to the underlying assumptions. To the extent that actual plan experience deviates from the underlying assumptions, the results would vary accordingly.

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

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION I – EXECUTIVE SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe, and identify the following as of the valuation date:

- The financial condition of the Plan,
- Past and expected trends in the financial progress of the Plan,
- Calculation of the actuarially determined contributions for years beginning in Fiscal Year 2022-2023, and
- An assessment and disclosure of key risks.

In the balance of this Executive Summary, we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the Plan.

A. Valuation Basis

This valuation estimates the projected employer contributions in accordance with the funding agreement dated July 1, 2012 between the City of Oakland and the PFRS. Based on that agreement, employer contributions were suspended until fiscal year 2017-2018, at which time they resumed at a level based upon the recommendation of the actuary. Section V of this report shows the development of the employer contribution for fiscal year 2022-2023.

The Plan's funding policy is to contribute an amount equal to the sum of:

- The normal cost under the Entry Age Normal Cost Method (which is zero, as there are no active members),
- Amortization of the Unfunded Actuarial Liability, and
- The Plan's expected administrative expenses.

This valuation was prepared based on the plan provisions shown in Appendix C. There have been no changes in plan provisions since the prior valuation.

A summary of the assumptions and methods used in the current valuation is shown in Appendix B. There have been no changes to the actuarial assumptions or methods since the prior valuation.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION I – EXECUTIVE SUMMARY

B. Key Findings of this Valuation

The key results of the July 1, 2021 actuarial valuation are as follows:

- The actuarially determined employer contribution amount for Fiscal Year 2022-2023 is \$32.7 million, based on projecting the Actuarial Liabilities and the Actuarial Value of Assets to the end of the 2021-2022 Fiscal Year. This represents a decrease of \$12.1 million from the estimated amount in the prior valuation for the same Fiscal Year. The contribution is assumed to be paid in equal installments throughout the year, or on average at approximately January 1, 2023.
- During the year ended June 30, 2021, the return on Plan assets was 24.14% on a market value basis net of investment expenses, as compared to the 6.00% assumption for the 2020-2021 Plan year. This resulted in a market value gain on investments of \$67.8 million. The Actuarial Value of Assets (AVA) is calculated as the expected AVA plus 20% of the difference between the market value and the expected AVA, which is restricted to be between 90% and 110% of the MVA. This smoothed value of assets returned 14.16%, for an actuarial asset gain of \$29.9 million. Without the 10% corridor, the actuarial asset gain would have been \$15.1 million.
- The Plan experienced a gain on the Actuarial Liability of \$6.6 million, the net result of changes in the population and changes in benefits. The primary factor was an excess of deaths above the number expected. Combining the liability and asset gains, the Plan experienced a total gain of \$36.5 million.
- The Plan's smoothed funded ratio, the ratio of Actuarial Value of Assets over Actuarial Liability, increased from 62.2% last year to 72.2% as of June 30, 2021.
- The Plan's funded ratio increased from 63.5% to 80.2% on a Market Value of Assets (MVA) basis.
- The Unfunded Actuarial Liability (UAL) is the excess of the Plan's Actuarial Liability over the Actuarial Value of Assets. The Plan experienced a decrease in the UAL from \$225.5 million to \$159.3 million as of July 1, 2021.
- Overall participant membership decreased compared to last year. 29 members died, 12 of whom had their benefits continue to a surviving spouse. In addition, 28 surviving beneficiaries died. There are no active members of the Plan.

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- If the contribution was determined using a projected asset value based on the current market (i.e., non-smoothed) value of assets, the contribution for FY 2022-2023 would be \$22.3 million. The contribution is smaller than that determined using the projected AVA, because the current market value reflects the full amount of prior investment gains, while under the AVA projection a portion of those gains are deferred until years after FY 2022-2023.

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

TABLE I-1			
Summary of Principal Plan Results			
(\$ in thousands)			
	July 1, 2020	July 1, 2021	% Change
<u>Participant Counts</u>			
Active Participants	0	0	
Participants Receiving a Benefit	768	723	-5.9%
Total	768	723	-5.9%
Annual Pay of Active Members	\$ 0	\$ 0	
<u>Assets and Liabilities</u>			
Actuarial Liability (AL)	\$ 597,014	\$ 571,942	-4.2%
Actuarial Value of Assets (AVA)	371,467	412,680	11.1%
Unfunded Actuarial Liability (UAL)	\$ 225,547	\$ 159,262	-29.4%
Funded Ratio (AVA)	62.2%	72.2%	9.9%
Funded Ratio (MVA)	63.5%	80.2%	16.7%
<u>Contributions</u>			
Employer Contribution (FY2021-22)	\$ 43,820	N/A	
Employer Contribution (FY2022-23)	\$ 44,828	\$ 32,712	-27.0%

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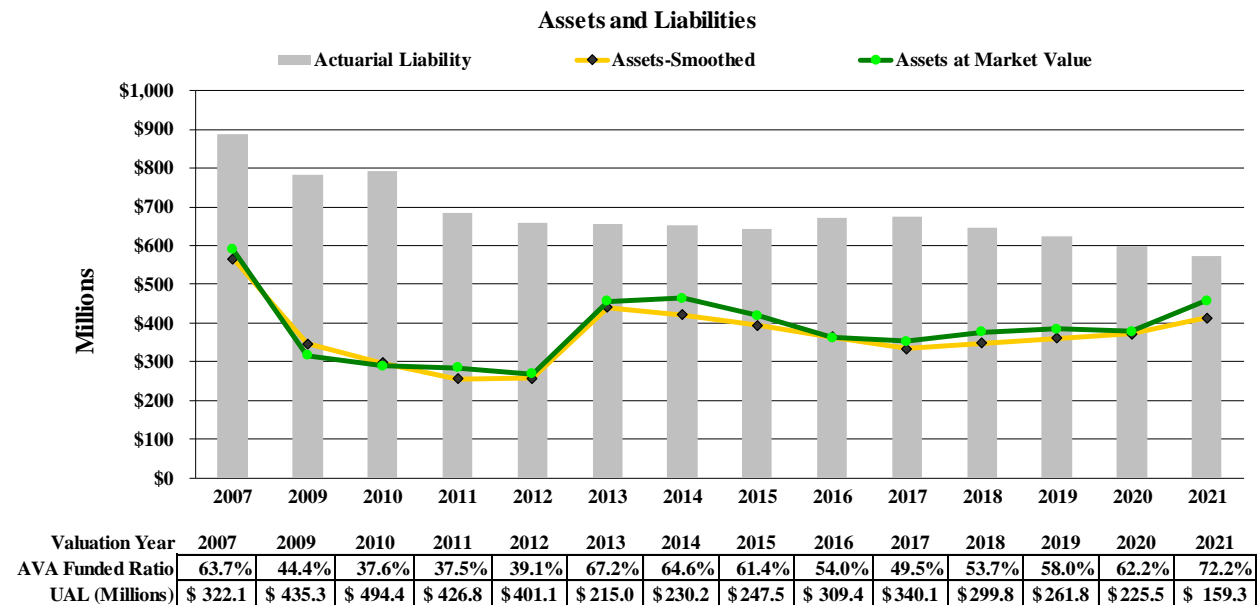
C. Historical Trends

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular, the size of the current Unfunded Actuarial Liability and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year’s valuation result relative to historical trends, as well as trends expected into the future.

Assets and Liabilities

The chart below compares the Market Value of Assets (MVA) and Actuarial Value of Assets (AVA) to the Actuarial Liabilities. The percentages shown in the table below the chart are the ratios of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). We note that for the GASB disclosure report, this ratio is disclosed using the MVA.

The funded ratio declined from 63.7% in 2007 to 37.5% in 2011 due to negative market returns and no contributions being made in that period (\$417 million in proceeds from a POB were deposited in 1997 that acted as prepayments for 15 years of contributions). The funded ratio increased between 2012 and 2013 due to a \$210 million contribution in July 2012. The funded ratio decreased from 67.2% to 49.5% between 2013 and 2017 due to assumption changes, liability losses, new Police MOUs, and the lack of contributions since the July 2012 payment. The funded ratio has increased from 49.5% to 72.2% over the past four years due to recommencement of contributions, the FYE 2021 asset gain, and to a lesser extent other asset and liability gains.

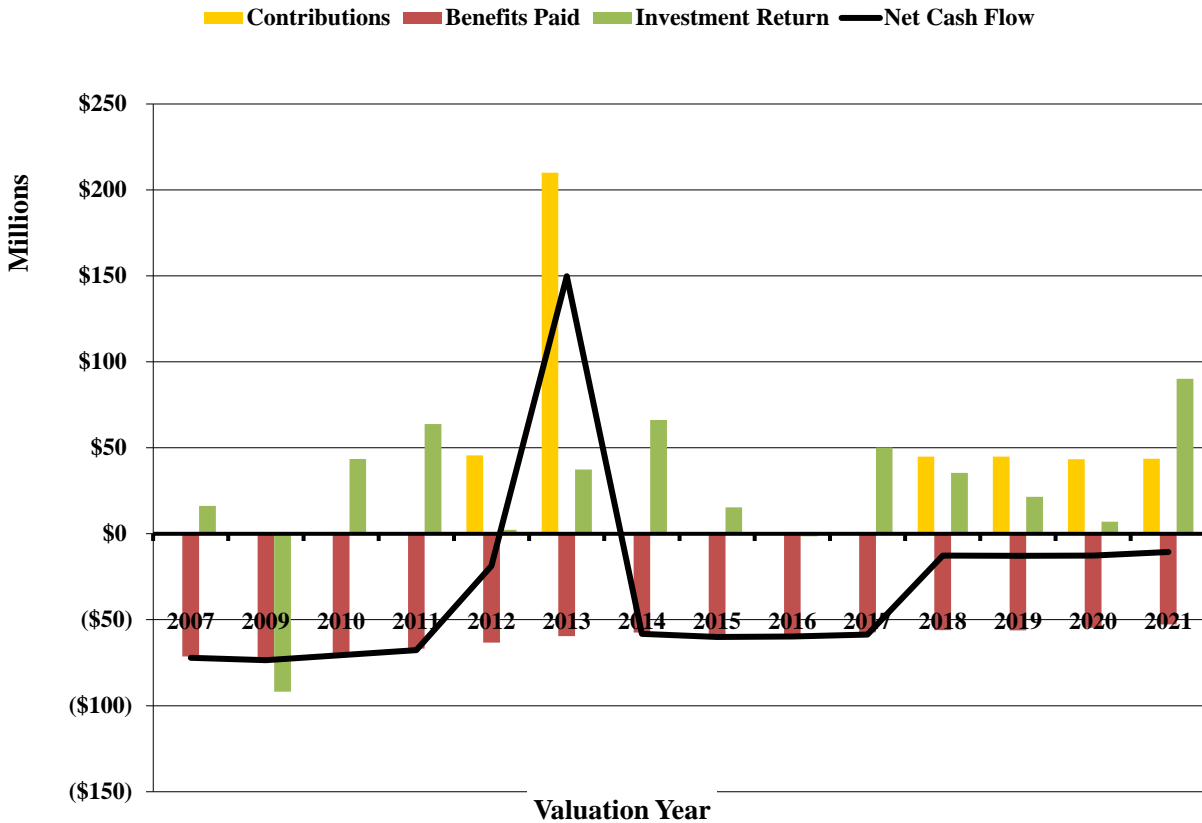


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Cash Flows

The chart below shows the Plan’s cash flow, excluding investment returns (i.e., contributions less benefit payments and expenses). This is a critical measure, as it reflects the ability to have funds available to meet benefit payments without having to make difficult investment decisions, especially during volatile markets.



The contributions, benefit payments, investment returns, and Net Cash Flow (NCF) excluding investment returns and expenses are represented by the scale on the left. The Plan’s net cash flow has been negative 13 of the last 14 fiscal years, primarily due to the lack of contributions except in 2013 and in the most recent four years. Even with the recommencing of contributions under the Plan’s funding policy, benefit payments exceeded contributions for the prior four years, with a negative cash flow rate of around 3% of plan assets per year.

A negative cash flow magnifies the losses during a market decline, hindering the Plan in its ability to absorb market fluctuations. The implications of a plan in negative cash flow are that the impact of market fluctuations can be more severe: as assets are being depleted to pay benefits in down markets, there is less principal available to be reinvested during favorable return periods. The Plan is expected to have a growing negative cash flow position going forward, since the Plan is closed and the assets are expected to decline as the remaining benefits are paid out.

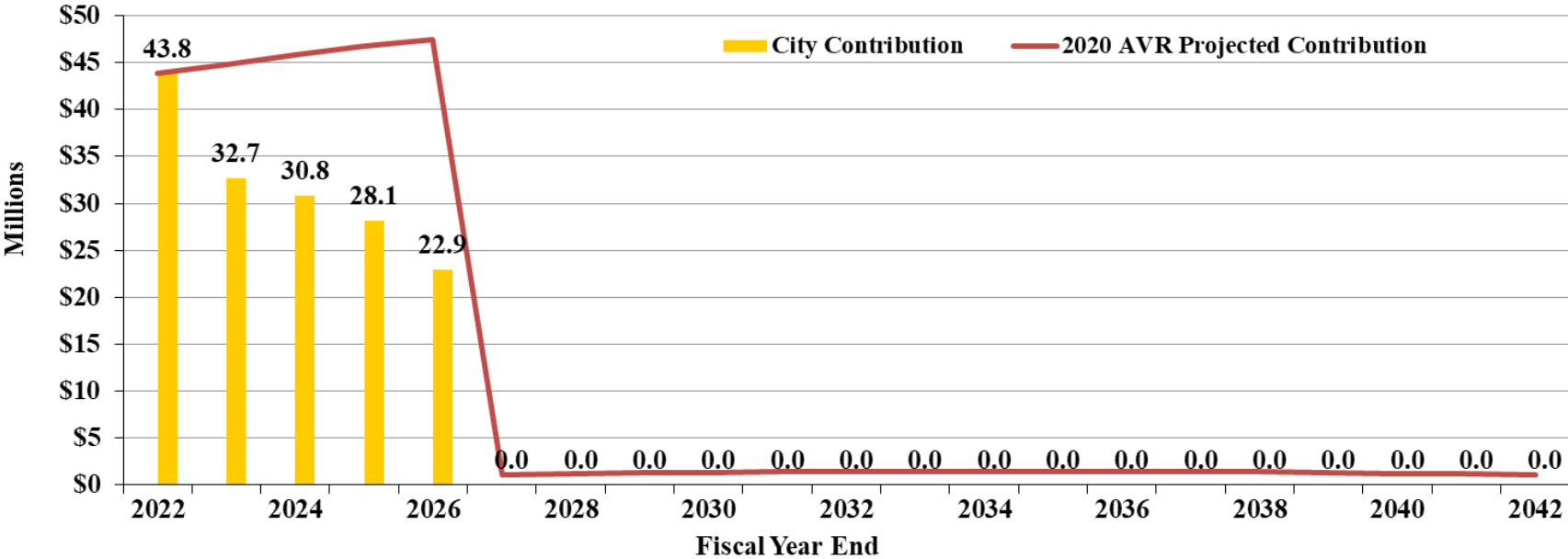
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D. Future Expected Financial Trends

The analysis of projected financial trends is perhaps the most important component of this valuation. In this section, we present our assessment of the implications of the July 1, 2021 valuation results in terms of benefit security (assets over liabilities) and contribution levels. All the projections in this section are based on the assumption that the Plan will exactly achieve the assumed rate of return each year (6.0% per year until 2027, then trending down to an annual return of 3.25% over 10 years).

Projection of Employer Contributions



The above graph shows a projection of the City’s required contributions compared to the same projections from last year’s report. The City’s required contribution decreased from \$43.8 million in fiscal year 2022 to \$32.7 million in fiscal year 2023, and then is expected to decrease by about \$2 million per year for the next two years and by \$5 million in the fourth year as the current unfunded liability is fully amortized and recent asset gains are recognized. This assumes that the annual payments by the City will equal the administrative



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expenses, plus an amount needed to amortize the remaining unfunded liability as a level percentage of overall Safety payroll by July 1, 2026, as is required under the City's charter.

After July 1, 2026, the UAL is expected to be fully amortized, and the contribution would generally be equal to the administrative expense, beginning in 2026-2027. However, under the current asset smoothing method there are still expected to be some deferred asset gains, which will not be recognized until after 2026; the deferred recognition of these gains is expected to offset all of the administrative expenses in the final years of the graph on the previous page.

Note that the graph on the previous page does not forecast any future actuarial gains or losses or changes to the amortization policy. Even relatively modest losses could push the employer contribution over \$40 million in the next few years. We also note that the occurrence of any future gains or losses in the years leading up to or following the required full amortization date (July 1, 2026) may require a reconsideration of the funding policy for those gains or losses, as otherwise these changes would need to be recognized over an extremely short period.

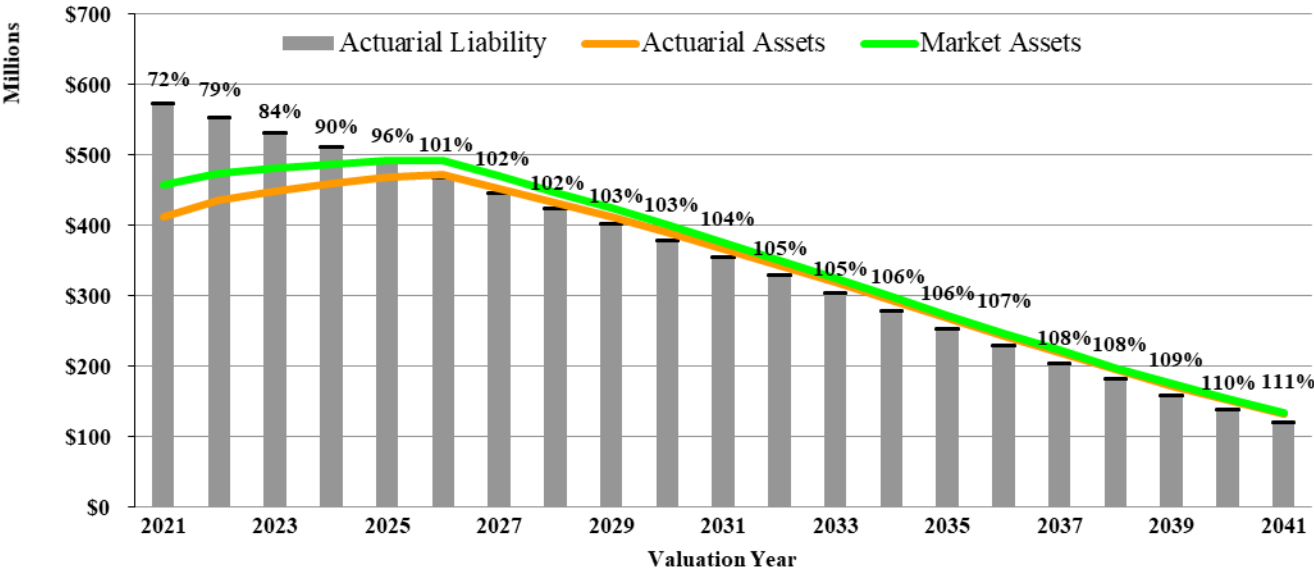
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SECTION I – EXECUTIVE SUMMARY

Asset and Liability Projections:

The following graph shows the projection of assets and liabilities assuming that assets will earn the assumed rate of return each year during the projection period.

Projection of Assets and Liabilities



The graph shows that the projected funded status increases as the current unfunded liability is fully amortized, assuming all actuarial assumptions are met. Once the Plan is projected to reach 100% funding, both the assets and liabilities are expected to decline as the Plan continues to mature.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may be significantly different. This section of the report is intended to identify the primary risks to the plan, provide some background information about those risks, and provide an assessment of those risks.

Identification of Risks

The fundamental risk to a pension plan is that the contributions needed to pay the benefits become unaffordable. While the Plan cannot determine on its own what contribution level is unaffordable, we can project expected contributions and illustrate the potential impact of key sources of risk on those contribution rates so the City can assess affordability. While there are a number of factors that could lead to contribution amounts becoming unaffordable, we believe the primary sources are:

- Investment risk,
- COLA risk,
- Longevity risk, and
- Contribution risk.

Other risks that we have not identified may also turn out to be important.

Investment Risk is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the Unfunded Actuarial Liability necessitating higher contributions in the future unless there are other gains that offset these investment losses. In contrast, higher investment returns than anticipated may create a potentially significant surplus that could be difficult to use until all benefits have been paid. Expected future investment returns and their potential volatility are determined by the Plan’s asset allocation.

COLA Risk is the potential for future COLAs to increase contributions. Retirement allowances are based on the pensionable compensation attached to the average rank held during the three years immediately preceding retirement. Cost-of-living adjustments are therefore based on salary increases for current employees with the retiree’s same rank at retirement. Salary increases less than or greater than those assumed cause gains or losses, respectively. COLA increases different from those expected over the last nine years are reflected in the “MOU Changes” column in the chart on the next page.

Longevity risk is the potential for mortality experience to be different than expected. Generally, longevity risk emerges slowly over time and is often exceeded by other changes, particularly those due to investment returns. However, for a closed plan such as PFRS the mortality experience will have a significant impact on future cash flows. The chart on the next page shows the liability gains and losses over the last nine years compared to the total change in the UAL for each year, a portion of which is associated with mortality experience.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Contribution risk is the potential for actual future actuarially determined contributions to deviate from expected future contributions. The City Charter sets the Plan’s contribution policy. It requires the unfunded liability of the plan to be fully amortized by June 20, 2026. The Actuarially Determined Contribution (ADC) is based on a short remaining amortization period. As a result, a significant loss or change in assumptions may cause a large increase in the ADC.

The table below shows a nine-year history of changes in the UAL by source.

TABLE II-1 UAL Change by Source (\$ in Thousands)							
FYE	Contributions			Liability Experience	Total UAL Change		
	MOU Changes	Assumption Changes	vs. Tread Water				
2013	\$ 4,091	\$ 0	\$ (188,922)	\$ (3,803)	\$ 2,592	\$ (186,042)	
2014	0	30,598	15,146	(10,729)	(19,869)	15,147	
2015	0	0	17,023	(6,171)	6,522	17,374	
2016	43,480	0	15,033	486	2,830	61,829	
2017	0	22,730	22,888	(4,958)	(9,959)	30,702	
2018	(1,475)	0	(24,214)	(7,128)	(7,467)	(40,284)	
2019	(7,173)	0	(26,691)	(5,919)	1,797	(37,986)	
2020	(6,541)	0	(27,417)	(1,877)	(417)	(36,252)	
2021	0	0	(29,775)	(29,872)	(6,637)	(66,284)	
Total	\$ 32,383	\$ 53,328	\$ (226,927)	\$ (69,971)	\$ (30,608)	\$ (241,796)	

The UAL was reduced by approximately \$241.8 million over the last nine years. Contributions in excess of the “tread water” level (i.e., interest on the UAL plus administrative expenses) reduced the UAL by \$226.9 million, liability experience reduced the UAL by \$30.6 million, and investment returns decreased the UAL by \$70.0 million. Meanwhile changes to MOUs increased the UAL by \$32.4 million and assumption changes increased the UAL by \$53.3 million.

Plan Maturity Measures

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of the plan.

Plan maturity can be measured in a variety of ways, but they all get at one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. Given that the Plan has been closed to new entrants since 1976 with no remaining active members, the Plan considered as a standalone entity is very mature, though because of the diminishing benefit cash flows it is expected to have a declining impact on the overall City finances.

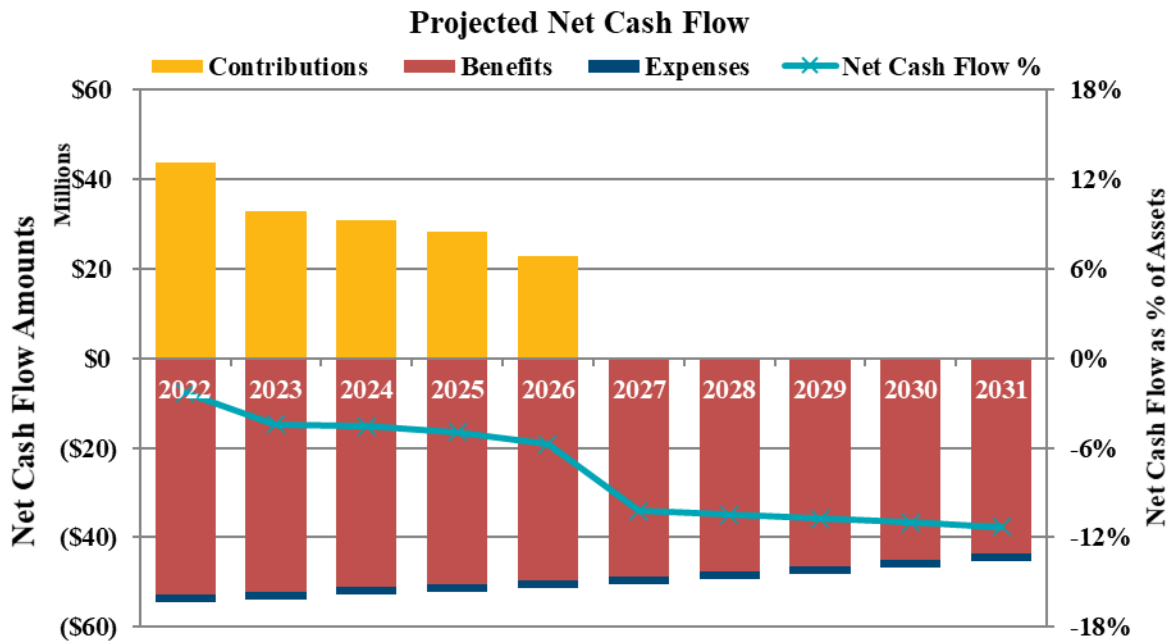
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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Net Cash Flow

The net cash flow of the plan as a percentage of the beginning of year assets indicates the sensitivity of the plan to short-term investment returns. Net cash flow is equal to contributions less benefit payments and administrative expenses. Mature plans can have large amounts of benefit payments compared to contributions, particularly if they are well funded.

The chart below shows the projected net cash flow for the next 10 fiscal years. The bars represent the dollar amounts of the different components of the projected net cash flow, and the line represents the net cash flow as a percentage of the assets as of the beginning of the fiscal year.



The Plan’s contributions are expected to cease following the 2025-2026 Fiscal Year once the unfunded liability has been paid off. Beyond that point, the negative net cash flows are expected to continue until all benefits are paid.

The first issue this change presents to the Plan is a need for liquidity in the investments so that benefits can be paid. When the cash flow was positive or close to neutral, benefits could be paid out of contributions without liquidating investments. As net cash flow becomes increasingly negative, the benefit payments will require liquidation of some investments.

The other change of note is the sensitivity to short-term investment returns. Investment losses in the short term are compounded by the net withdrawal from the plan leaving a smaller asset base to try to recover from the investment losses. On the other hand, large investment gains in the short term also tend to have a longer beneficial effect as any future losses are relative to a smaller liability base due to the negative cash flow.

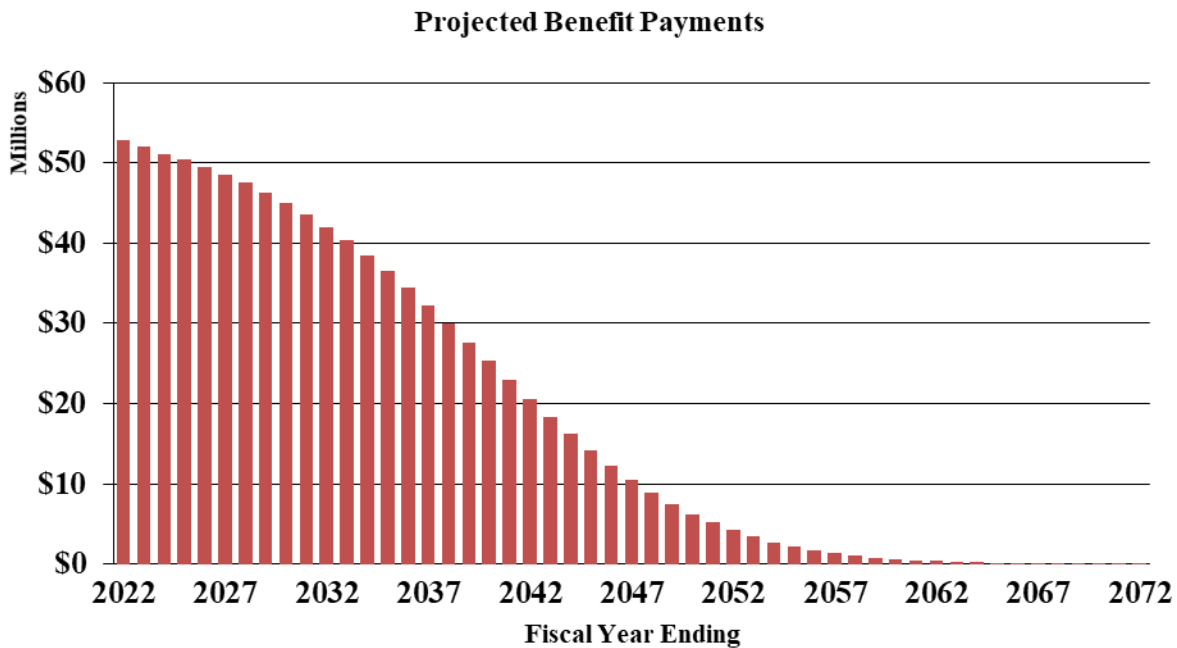
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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Assessing Costs and Risks

A closed pension plan will ultimately either end up with excess assets after all benefits have been paid or run out of assets before all benefits have been paid. The declining investment return assumption adopted by the Board implies an expectation the Plan will pursue a strategy of de-risking the Plan to minimize the impact of these scenarios, potentially by reducing the risk in its investment portfolio, immunizing investments, and/or purchase annuities to settle the remaining obligation.

However, even if the Plan were to run out of assets, PFRS would be forced to pay benefits directly on a pay-as-you-go basis. As long as PFRS (and the City) can afford the pay-as-you-go costs, benefits would remain secure. The chart below shows a projection of expected benefit payments for the closed plan.

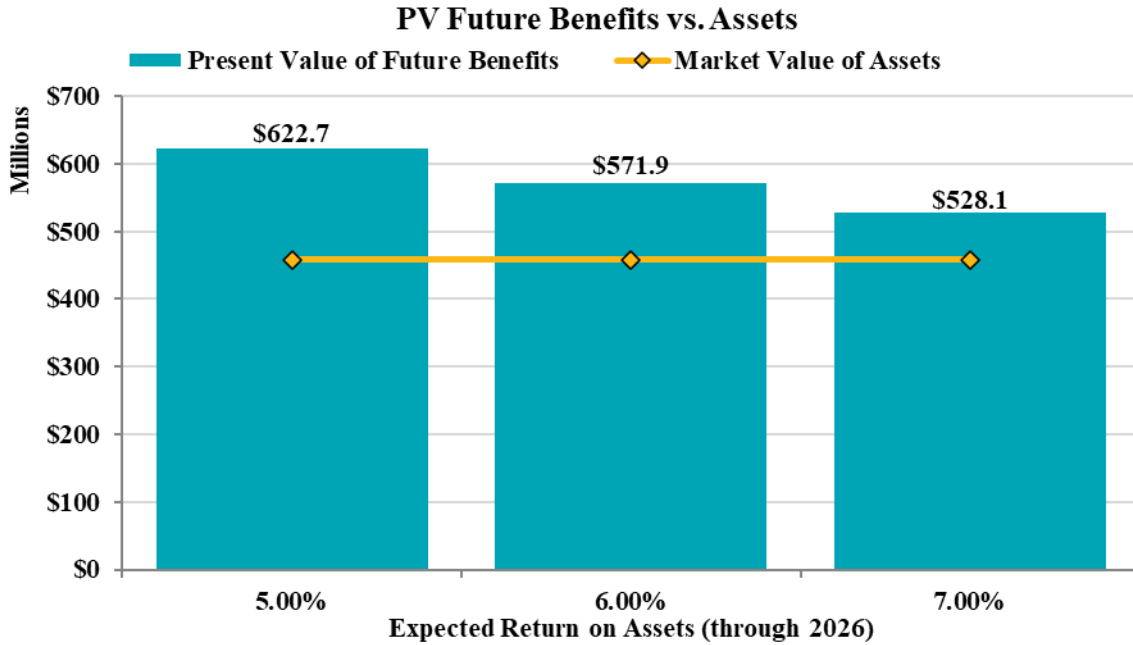


Sensitivity to Investment Returns

The chart on the next page compares assets to the present value of all projected future benefits discounted at the current expected rates of return – starting at 6.00% through 2026 and trending down to 3.25% over the following 10 years – and at investment returns 100 basis points above and below the expected rates of return for all years. The present value of future benefits is shown as a teal bar and the Market Value of Assets is shown by the gold line.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS



If actual investment returns meet the expected returns annually, the Plan would need approximately \$572 million in assets today to pay all projected benefits compared to current assets of \$458 million. If investment returns are 100 basis points lower each year, the Plan would need approximately \$623 million in assets today, and if investment returns are 100 basis points higher, the Plan would need approximately \$528 million in assets today.

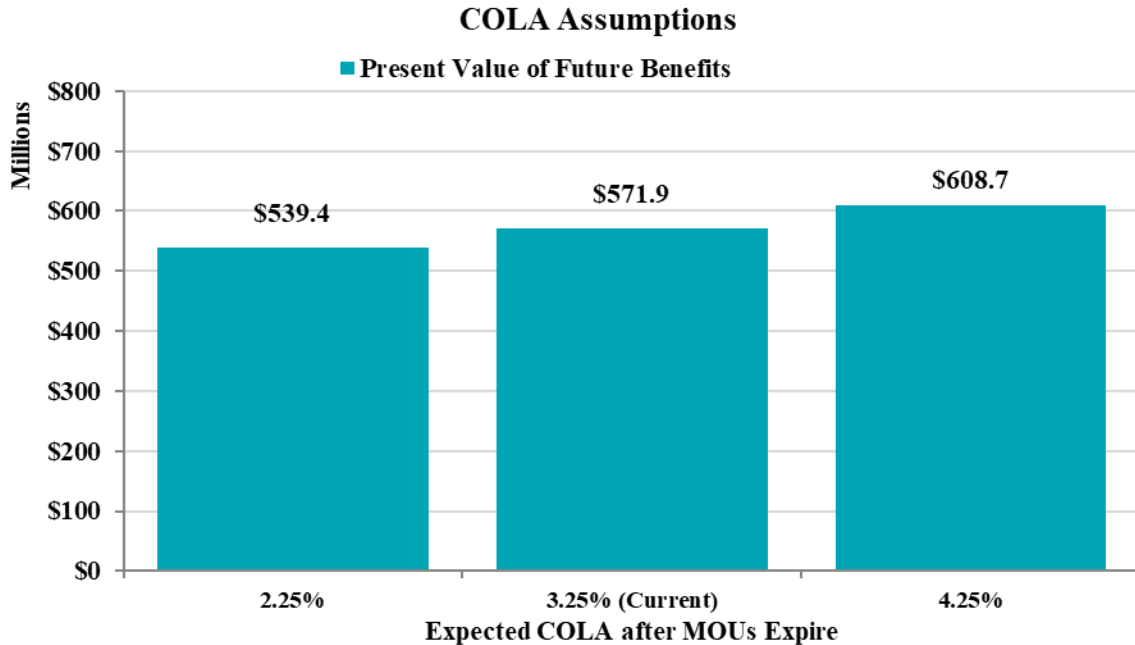
Sensitivity to COLA Changes

The present value of future benefits shown above assumes annual COLA increases of 3.25% per year once the current MOUs have expired. If COLA inflation is higher (because of higher than expected increases in the salaries of active employees); more assets would be needed to pay the benefits, and if COLA inflation is lower; fewer assets would be needed to pay benefits.

The chart on the next page shows the present value of all projected future benefits (discounted using the current expected rates of return) based on annual COLA increases of 3.25% per year once the current MOUs have expired – and at COLA increases 100 basis points above and below the current COLA assumptions.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS



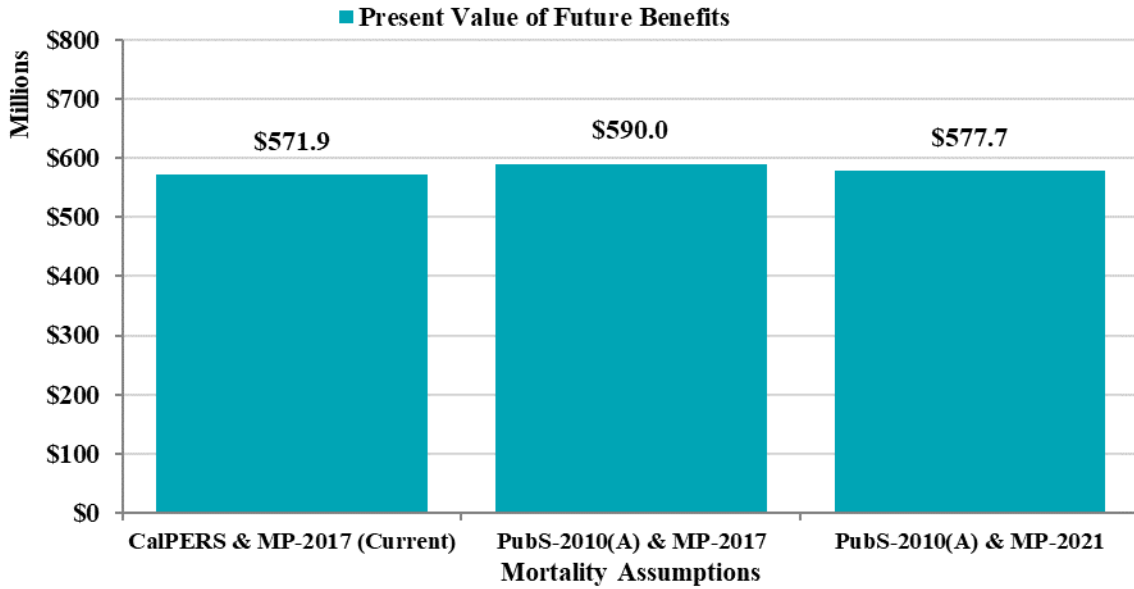
Sensitivity to Mortality Assumption Changes

The following chart on the next page shows the sensitivity of the Plan to longevity / mortality experience. In the first bar, we have shown the present value of benefits using the Plan’s current mortality assumptions (i.e., using the 2017 CalPERS mortality assumptions, with projections for generational improvements using the Society of Actuary’s MP-2017 improvement scales). In the second bar, we have shown the impact on the present value of benefits if actual longevity experience follows an alternative set of assumptions, reflecting new tables that have been developed using the experience Public Safety employees of U.S. public employers. In the third bar, we have shown an additional alternative, using the Public Sector table described above, but also reflecting a slower rate of future improvements in longevity, as reflected by the Society of Actuary’s latest improvement scale (MP-2021). As always, actual experience will drive costs, but this exhibit provides an example of the level of sensitivity of the Plan’s liabilities to recent changes in outlooks on mortality.

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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Mortality and Mortality Improvement Assumptions



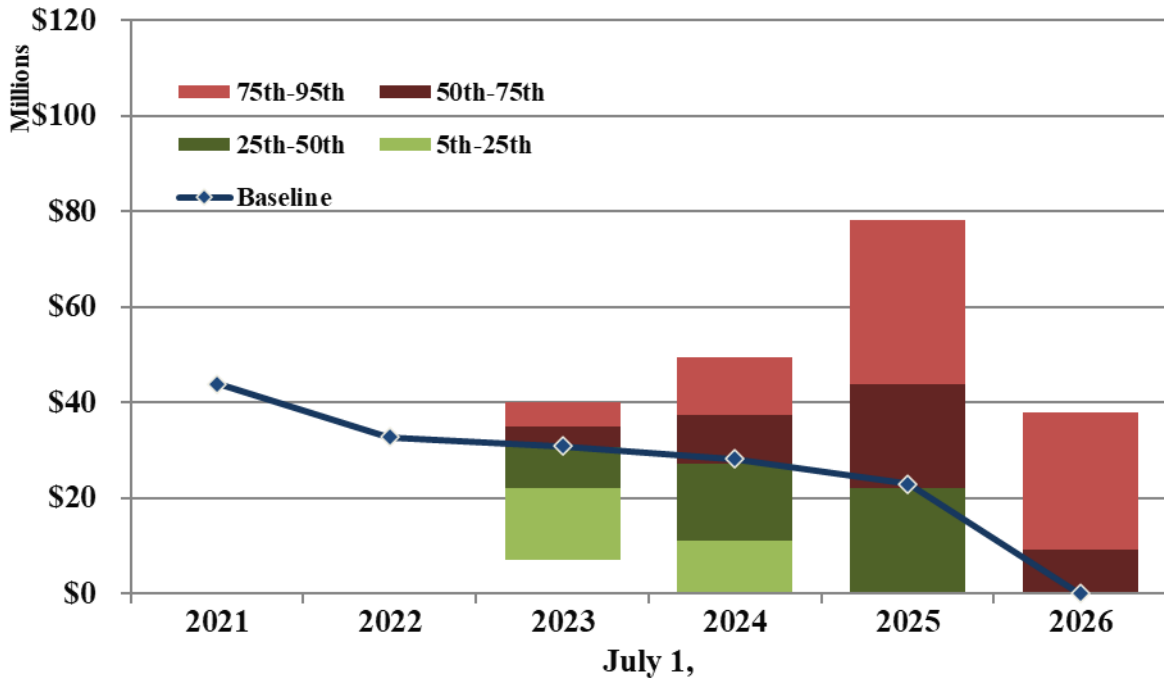
Stochastic Projections

The stochastic projections of contributions through the full funded date (June 30, 2026) in the chart on the following page shows a very wide range in future ADC's. This range is driven both by the volatility of investment returns (assumed to be 10.2% in these projections, based on previous information provided by Meketa) and by the short amortization period used to calculate the ADC. We note that if the Plan is required to remain fully funded after 2026, the contributions required will also vary widely.

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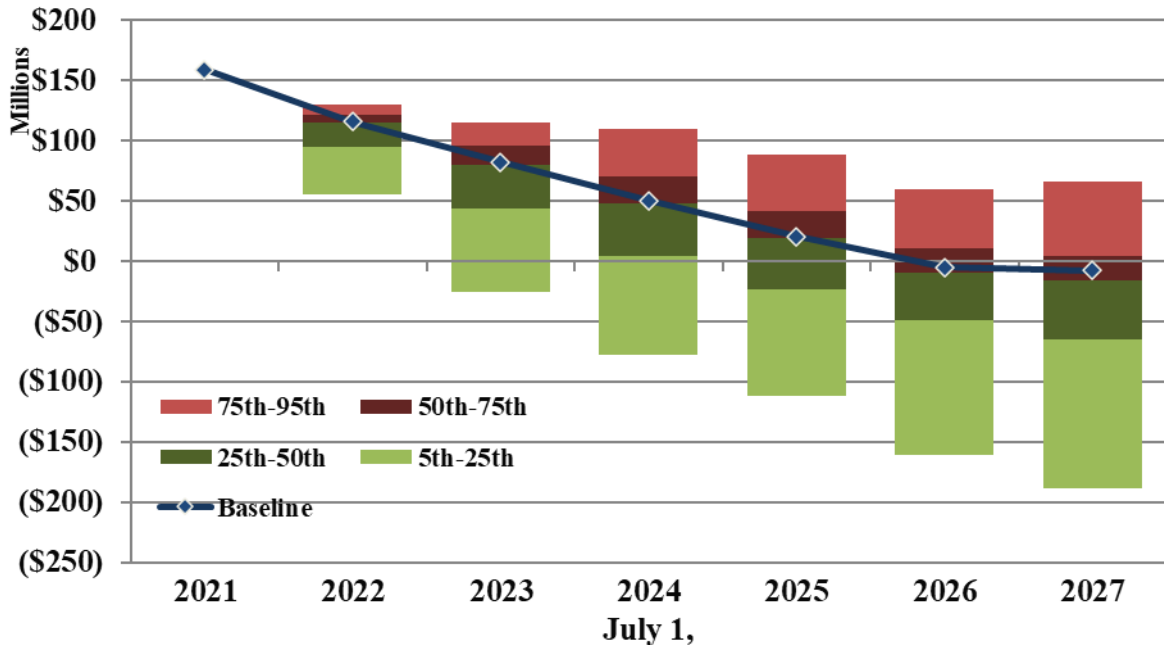
SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

Stochastic Projection of Actuarially Determined Contribution (ADC)



The chart below shows the projection of the UAL through the full funding date. While the UAL is projected in the baseline to be eliminated by 2026, because of the statutory requirement to fully fund the Plan by that time, there is still a wide range of potential outcomes.

Stochastic Projection of UAL/(Surplus)



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SECTION II – IDENTIFICATION AND ASSESSMENT OF RISKS

More Detailed Assessment

A detailed assessment of risk would be valuable in understanding the risks identified above, especially given the closed nature of the plan. We encourage the Board to consider a more detailed analysis of some of the risks identified above, in particularly in developing a funding strategy to deal with changes in the UAL after the required full funding date.

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SECTION III – ASSETS

Pension Plan assets play a key role in the financial operation of the Plan and in the decisions the Board may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants’ benefits.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of Plan assets as of June 30, 2020 and June 30, 2021,
- Statement of the **changes** in market values during the year, and
- Development of the **Actuarial Value of Assets**.

Disclosure

There are two types of asset values disclosed in the valuation, the Market Value of Assets and the Actuarial Value of Assets. The market value represents “snapshot” or “cash out” values, which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are sometimes not as suitable for long-range planning as are the Actuarial Value of Assets, which reflect smoothing of annual investment returns.

Table III-1 discloses and compares each component of the market asset value as of June 30, 2020 and June 30, 2021.

TABLE III-1			
Statement of Assets at Market Value			
June 30,			
(in thousands)			
		2020	2021
Cash and Cash Equivalents	\$	6,346	\$ 6,324
Receivables		8,079	2,462
Investments, at Fair Value		<u>404,721</u>	<u>503,781</u>
Total Assets	\$	419,146	\$ 512,567
Liabilities		40,171	54,034
Market Value of Assets	\$	378,975	\$ 458,533

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SECTION III – ASSETS

Changes in Market Value

The components of asset change are:

- Contributions (employer and employee)
- Benefit payments
- Administrative Expenses
- Investment income (realized and unrealized, net of investment expenses)

Table III-2 below shows the components of a change in the Market Value of Assets during 2020 and 2021.

TABLE III-2		
Changes in Market Values		
June 30,		
(in thousands)		
	<u>2020</u>	<u>2021</u>
Contributions		
Contributions of Plan Members	\$ 0	\$ 0
Contributions from the City	<u>43,409</u>	<u>43,648</u>
Total Contributions	<u>43,409</u>	<u>43,648</u>
Investment Income		
Miscellaneous Income	0	1
Investment Income	<u>6,997</u>	<u>90,191</u>
Total Investment Income	<u>6,997</u>	<u>90,192</u>
Disbursements		
Benefit Payments	(54,619)	(52,697)
Administrative Expenses	<u>(1,523)</u>	<u>(1,585)</u>
Total Disbursements	<u>(56,142)</u>	<u>(54,282)</u>
Net increase (Decrease)	(5,736)	79,558
Net Assets Held in Trust for Benefits:		
Beginning of Year	<u>384,711</u>	<u>378,975</u>
End of Year	\$ <u><u>378,975</u></u>	\$ <u><u>458,533</u></u>
Approximate Return	1.85%	24.14%

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SECTION III – ASSETS

Actuarial Value of Assets (AVA)

The Actuarial Value of Assets represents a “smoothed” value developed by the actuary to reduce the volatile results, which could develop due to short-term fluctuations in the Market Value of Assets. For this Plan, the Actuarial Value of Assets is calculated on a modified market-related value. The Actuarial Value of Assets recognizes one-fifth of the difference between the expected asset value (based on the 6.00% return assumption from 2020-2021) and the actual market value each year. The actuarial value is restricted to fall between 90% and 110% of the market value.

TABLE III-3 Development of Actuarial Value of Assets (in thousands)	
1. Calculate Expected Actuarial Value of Assets	
a. Value of Actuarial Value of Assets - July 1, 2020	\$ 371,467
b. Total Contributions and Misc Income	43,649
c. Administrative Expense	(1,585)
d. Benefit Payments	(52,697)
e. Expected Investment Earnings	<u>21,974</u>
f. Expected Actuarial Value of Assets - July 1, 2021	\$ 382,808
[1a + 1b + 1c + 1d + 1e]	
2. Calculate Final Actuarial Value of Assets	
a. Value of Market Value of Assets - July 1, 2021	\$ 458,533
b. Excess of MVA over Expected AVA [2a - 1f]	75,725
c. Preliminary AVA [1f + 0.2 * 2b]	397,953
d. 90% of MVA [90% * 2a]	412,680
e. 110% of MVA [110% * 2a]	504,386
3. Final Actuarial Value of Assets	\$ 412,680
[2c, not less than 2d or greater than 2e]	

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SECTION III – ASSETS

Investment Performance

The following table calculates the investment related gain/loss for the plan year on both a market value and an actuarial value basis. The market value gain/loss is an appropriate measure for comparing the actual asset performance to the previous valuation’s 6.00% assumption.

TABLE III-4 Asset Gain/(Loss) (in thousands)		
	Market Value	Actuarial Value
July 1, 2020 value	\$ 378,975	\$ 371,467
Contributions of Plan Members	0	0
Contributions from the City	43,648	43,648
Miscellaneous Income	1	1
Benefit Payments	(52,697)	(52,697)
Administrative Expenses	(1,585)	(1,585)
Expected Investment Earnings (6.00%)	22,424	21,974
Expected Value June 30, 2021	\$ 390,766	\$ 382,808
Investment Gain / (Loss)	<u>67,767</u>	<u>29,872</u>
July 1, 2021 value	458,533	412,680
Return	24.14%	14.16%

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
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SECTION IV – LIABILITIES

In this section, we present detailed information on Plan liabilities including:

- **Disclosure** of Plan liabilities on July 1, 2020 and July 1, 2021
- Statement of **changes** in these liabilities during the year

Disclosure

Several types of liabilities are typically shown in an actuarial valuation report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them. Note that these liabilities are not applicable for settlement purposes, including the purchase of annuities and the payment of lump sums.

- **Present Value of Future Benefits:** Used for measuring all future Plan obligations, the obligations of the Plan earned as of the valuation date and those to be earned in the future by current plan participants under the current Plan provisions, if all assumptions are met.
- **Actuarial Liability:** Used for funding calculations, this liability is calculated taking the present value of future benefits and subtracting the present value of future normal costs under an acceptable actuarial funding method. Because the Plan has no active members, the Actuarial Liability is equal to the present value of future benefits (i.e., all benefits are fully accrued).
- **Unfunded Actuarial Liability:** The excess of the Actuarial Liability over the Actuarial Value of Assets.

Table IV-1 on the next page discloses each of these liabilities for the current and prior valuations.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION IV – LIABILITIES

TABLE IV-1		
Liabilities/Net (Surplus)/Unfunded		
(in thousands)		
	July 1, 2020	July 1, 2021
<u>Present Value of Future Benefits</u>		
Active Participant Benefits	\$ 0	\$ 0
Retiree and Inactive Benefits	<u>597,014</u>	<u>571,942</u>
Present Value of Future Benefits (PVB)	\$ 597,014	\$ 571,942
<u>Actuarial Liability</u>		
Present Value of Future Benefits (PVB)	\$ 597,014	\$ 571,942
Present Value of Future Normal Costs (PVFNC)	<u>0</u>	<u>0</u>
Actuarial Liability (AL = PVB – PVFNC)	\$ 597,014	\$ 571,942
Actuarial Value of Assets (AVA)	<u>371,467</u>	<u>412,680</u>
Net (Surplus)/Unfunded (AL – AVA)	\$ 225,547	\$ 159,262

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION IV – LIABILITIES

Changes in Liabilities

Each of the liabilities disclosed in the prior table is expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation (not applicable for this Plan)
- Benefits accrued since the last valuation (not applicable for this Plan)
- Plan amendments
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, dying, or receiving COLA adjustments at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method or software

Unfunded liabilities will change because of all of the above and also due to changes in Plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

TABLE IV-2 Changes in Actuarial Liability (in thousands)	
Actuarial Liability at July 1, 2020	\$ 597,014
Actuarial Liability at July 1, 2021	\$ 571,942
Liability Increase (Decrease)	\$ (25,072)
Change due to:	
Plan Design Changes	\$ 0
Assumption Change	0
Accrual of Benefits	0
Actual Benefit Payments	(52,697)
Interest	34,263
Data Corrections	0
Actuarial Liability (Gain)/Loss	\$ (6,638)

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION IV – LIABILITIES

TABLE IV-3			
Liabilities by Group as of July 1, 2021			
(in thousands)			
	Police	Fire	Total
Actuarial Accrued Liability			
Active	\$ 0	\$ 0	\$ 0
Service Retirees	217,349	71,416	288,765
Disabled Retirees	79,716	77,835	157,550
Beneficiaries	<u>72,994</u>	<u>52,633</u>	<u>125,627</u>
Total Accrued Liability	\$ 370,058	\$ 201,883	\$ 571,942

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION IV – LIABILITIES

**TABLE IV-4
Development of Actuarial Gain / (Loss)
(in thousands)**

1. Unfunded Actuarial Liability at Start of Year (not less than zero)	\$	225,547
2. Employer Normal Cost at Start of Year		0
3. Interest on 1. and 2. to End of Year		13,533
4. Contributions and Miscellaneous Income for Prior Year		43,649
5. Administrative Expenses		(1,585)
6. Interest on 4. and 5. to End of Year		1,244
7. Change in Unfunded Actuarial Liability Due to Changes in Assumptions		0
8. Change in Unfunded Actuarial Liability Due to Changes in Actuarial Methods		0
9. Change in Unfunded Actuarial Liability Due to Changes in Plan Design		0
10. Change in Unfunded Actuarial Liability Due to Data Corrections		0
11. Expected Unfunded Actuarial Liability at End of Year [1. + 2. + 3. - 4. - 5. - 6. + 7. + 8. + 9. + 10.]	\$	195,772
12. Actual Unfunded Actuarial Liability at End of Year (not less than zero)		159,262
13. Unfunded Actuarial Liability Gain / (Loss) [11. – 12.]	\$	36,509

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION V – CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this Plan, the actuarial funding method used to determine the normal cost and the Unfunded Actuarial Liability is the **Entry Age Normal Cost Method**.

The normal cost rate is determined with the normal cost percentage equal to the total projected value of benefits at entry age, divided by present value of future salary at entry age. Since there are no longer any active employees, the normal cost for this plan is \$0.

The Unfunded Actuarial Liability is the difference between the EAN Actuarial Liability and the Actuarial Value of Assets. For the contribution projections, the UAL payment is based on the unfunded liability of the Plan being fully amortized by June 30, 2026, in accordance with the City Charter. Amortization payments are determined based on an assumption that payments will increase by 3.25% each year, reflecting the assumed ultimate rate of increase in overall City Safety member salaries.

An amount equal to the expected administrative expenses for the Plan is added directly to the actuarial cost calculation.

Table V-1 on the next page shows the employer contribution amount for the 2022-2023 Fiscal Year. The projected assets and liabilities assume that all actuarial assumptions are met and that contributions are made as expected between now and June 30, 2022.

For this calculation, we have shown the contribution amount using both the projected actuarial and Market Value of Assets. The current funding policy uses the AVA to determine the UAL and the associated amortization payment. We have included the contribution amount as determined using the current Market Value of Assets to demonstrate what the actuarial cost would be if all deferred asset gains were fully recognized at the time the contributions commence. In both cases, the contribution is based on an assumption that the investment returns will exactly equal the assumed rate of return during the 2021-2022 Fiscal Year.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION V – CONTRIBUTIONS

**TABLE V-I
Development of Projected 2022-2023 Employer Contribution Amount
(in thousands)**

	Actuarial Value of Assets	Market Value of Assets
1. Value of Assets at June 30, 2021:	\$ 412,680	\$ 458,533
a. Expected Contributions and Misc Income	\$ 43,820	\$ 43,820
b. Expected Administrative Expense	\$ (1,693)	\$ (1,693)
c. Expected Benefit Payments	\$ (51,839)	\$ (51,839)
d. Expected Investment Earnings	<u>\$ 24,474</u>	<u>\$ 27,225</u>
2. Expected Value of Assets at June 30, 2022:	\$ 427,441	\$ 476,045
a. Excess of Expected MVA over Expected AVA	\$ 48,604	
b. Preliminary AVA [Expected AVA + 20% * 2a]	\$ 437,162	
c. 90% of Expected MVA	\$ 428,441	
d. 110% of Expected MVA	\$ 523,650	
3. Final Expected AVA [2b, not less than 2c or greater than 2d]	\$ 437,162	\$ 476,045
4. Entry Age Liability at June 30, 2021	\$ 571,942	\$ 571,942
5. Expected Benefit Payments	\$ (51,839)	\$ (51,839)
6. Expected Interest	<u>\$ 32,784</u>	<u>\$ 32,784</u>
7. Expected Entry Age Liability at June 30, 2022	\$ 552,886	\$ 552,886
8. Projected Unfunded Actuarial Liability: (7) - (3)	\$ 115,725	\$ 76,841
9. Funded Ratio: (3) / (7)	79.1%	86.1%
10. Unfunded Actuarial Liability Amortization at Middle of Year as a Level Percentage of Payroll (4 Years Remaining) as of June 30, 2022	\$ 30,971	\$ 20,565
11. Expected Administrative Expenses for Fiscal 2022-2023	<u>\$ 1,741</u>	<u>\$ 1,741</u>
12. Total Contribution: (10) + (11)	\$ 32,712	\$ 22,305

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION VI – HEADCOUNT AND BENEFIT PAYMENT PROJECTIONS

TABLE VI-1 Benefit Payment and Headcount Projection							
Fiscal Year Ending June 30,	Police		Fire		Total		
	Count	Benefits (in thousands)	Count	Benefits (in thousands)	Count	Benefits (in thousands)	
2022	439.0	\$ 31,507	284.0	\$ 20,333	723.0	\$ 51,839	
2023	424.8	\$ 31,419	270.6	\$ 19,654	695.3	\$ 51,072	
2024	410.6	\$ 31,287	257.1	\$ 18,788	667.6	\$ 50,076	
2025	396.3	\$ 31,030	243.6	\$ 18,441	640.0	\$ 49,471	
2026	382.0	\$ 30,713	230.4	\$ 17,905	612.4	\$ 48,618	
2027	367.5	\$ 30,330	217.3	\$ 17,340	584.8	\$ 47,670	
2028	352.7	\$ 29,870	204.5	\$ 16,747	557.2	\$ 46,617	
2029	337.6	\$ 29,327	192.0	\$ 16,126	529.6	\$ 45,453	
2030	322.2	\$ 28,691	179.7	\$ 15,478	501.9	\$ 44,170	
2031	306.4	\$ 27,958	167.7	\$ 14,803	474.1	\$ 42,760	
2032	290.1	\$ 27,120	156.0	\$ 14,099	446.1	\$ 41,219	
2033	273.5	\$ 26,176	144.5	\$ 13,368	418.0	\$ 39,544	
2034	256.5	\$ 25,126	133.2	\$ 12,611	389.7	\$ 37,737	
2035	239.2	\$ 23,973	122.2	\$ 11,831	361.4	\$ 35,804	
2036	221.6	\$ 22,724	111.5	\$ 11,033	333.1	\$ 33,757	
2037	204.0	\$ 21,391	101.1	\$ 10,221	305.1	\$ 31,611	
2038	186.4	\$ 19,985	91.1	\$ 9,402	277.5	\$ 29,388	
2039	169.0	\$ 18,524	81.5	\$ 8,585	250.5	\$ 27,109	
2040	152.0	\$ 17,026	72.3	\$ 7,778	224.3	\$ 24,804	
2041	135.6	\$ 15,513	63.6	\$ 6,989	199.2	\$ 22,502	
2042	119.8	\$ 14,006	55.6	\$ 6,228	175.4	\$ 20,234	
2043	104.9	\$ 12,528	48.1	\$ 5,502	153.0	\$ 18,030	
2044	91.0	\$ 11,097	41.2	\$ 4,819	132.2	\$ 15,916	
2045	78.1	\$ 9,731	35.1	\$ 4,184	113.2	\$ 13,915	
2046	66.4	\$ 8,447	29.5	\$ 3,601	95.9	\$ 12,048	
2047	55.8	\$ 7,255	24.7	\$ 3,073	80.5	\$ 10,329	
2048	46.5	\$ 6,167	20.4	\$ 2,600	66.8	\$ 8,767	
2049	38.3	\$ 5,186	16.7	\$ 2,182	55.0	\$ 7,368	
2050	31.2	\$ 4,317	13.6	\$ 1,816	44.8	\$ 6,133	
2051	25.1	\$ 3,557	11.0	\$ 1,500	36.1	\$ 5,057	

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

SECTION VI – HEADCOUNT AND BENEFIT PAYMENT PROJECTIONS

TABLE VI-1							
Benefit Payment and Headcount Projection (Continued)							
Fiscal Year Ending June 30,	Police		Fire			Total	
	Count	Benefits (in thousands)	Count	Benefits (in thousands)	Count	Benefits (in thousands)	
2052	20.1	\$ 2,901	8.8	\$ 1,230	28.8	\$ 4,132	
2053	15.8	\$ 2,343	7.0	\$ 1,002	22.8	\$ 3,346	
2054	12.4	\$ 1,875	5.5	\$ 812	17.9	\$ 2,687	
2055	9.6	\$ 1,486	4.3	\$ 654	13.9	\$ 2,140	
2056	7.4	\$ 1,168	3.3	\$ 524	10.7	\$ 1,692	
2057	5.6	\$ 911	2.6	\$ 417	8.2	\$ 1,328	
2058	4.3	\$ 706	2.0	\$ 331	6.2	\$ 1,037	
2059	3.2	\$ 543	1.5	\$ 261	4.7	\$ 804	
2060	2.4	\$ 415	1.1	\$ 205	3.5	\$ 621	
2061	1.8	\$ 316	0.9	\$ 160	2.6	\$ 476	
2062	1.3	\$ 238	0.7	\$ 124	2.0	\$ 362	
2063	1.0	\$ 178	0.5	\$ 95	1.4	\$ 273	
2064	0.7	\$ 132	0.4	\$ 72	1.0	\$ 204	
2065	0.5	\$ 97	0.3	\$ 54	0.8	\$ 151	
2066	0.4	\$ 70	0.2	\$ 40	0.5	\$ 110	
2067	0.2	\$ 50	0.1	\$ 29	0.4	\$ 78	
2068	0.2	\$ 34	0.1	\$ 20	0.3	\$ 54	
2069	0.1	\$ 23	0.1	\$ 14	0.2	\$ 37	
2070	0.1	\$ 14	0.0	\$ 9	0.1	\$ 23	
2071	0.0	\$ 9	0.0	\$ 6	0.1	\$ 14	
2072	0.0	\$ 5	0.0	\$ 4	0.0	\$ 8	
2073	0.0	\$ 2	0.0	\$ 2	0.0	\$ 4	
2074	0.0	\$ 1	0.0	\$ 1	0.0	\$ 2	
2075	0.0	\$ 0	0.0	\$ 0	0.0	\$ 1	
2076	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0	
2077	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0	
2078	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0	
2079	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0	
2080	0.0	\$ 0	0.0	\$ 0	0.0	\$ 0	

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX A – MEMBERSHIP INFORMATION

Summary of Participant Data as of

Active Participants	July 1, 2020			July 1, 2021		
	Police	Fire	Total	Police	Fire	Total
Number	0	0	0	0	0	0
Number Vested	0	0	0	0	0	0
Average Age	0.0	0.0	0.0	0.0	0.0	0.0
Average Service	0.0	0.0	0.0	0.0	0.0	0.0
Average Pay	\$0	\$0	\$0	\$0	\$0	\$0
Service Retirees						
Number	229	95	324	220	90	310
Average Age	76.6	81.5	78.1	77.5	81.8	78.7
Average Annual Benefit	\$78,850	\$81,876	\$79,737	\$81,398	\$84,427	\$82,277
Disabled Retirees						
Number	99	96	195	88	92	180
Average Age	75.9	77.1	76.5	76.7	78.0	77.4
Average Annual Benefit	\$74,864	\$75,923	\$75,385	\$77,184	\$78,644	\$77,931
Beneficiaries						
Number	132	117	249	131	102	233
Average Age	80.5	83.1	81.7	80.2	82.7	81.3
Average Annual Benefit	\$55,725	\$56,194	\$55,946	\$55,989	\$58,723	\$57,186
All Inactives						
Number	460	308	768	439	284	723
Average Age	77.6	80.8	78.8	78.1	80.9	79.2
Average Annual Benefit	\$71,356	\$70,265	\$70,919	\$72,971	\$73,322	\$73,109

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

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX A – MEMBERSHIP INFORMATION

Changes in Plan Membership: Police

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2020	0	229	99	132	460
Retired	0	0	0	0	0
Disabled	0	0	0	0	0
Deceased	0	(9)	(11)	(12)	(32)
New Beneficiary	0	0	0	11	11
July 1, 2021	0	220	88	131	439

Changes in Plan Membership: Fire

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2020	0	95	96	117	308
Retired	0	0	0	0	0
Disabled	0	0	0	0	0
Deceased	0	(5)	(4)	(16)	(25)
New Beneficiary	0	0	0	1	1
July 1, 2021	0	90	92	102	284

Changes in Plan Membership: All

	Actives	Service Retirees	Disabled Retirees	Beneficiaries	Total
July 1, 2020	0	324	195	249	768
Retired	0	0	0	0	0
Disabled	0	0	0	0	0
Deceased	0	(14)	(15)	(28)	(57)
New Beneficiary	0	0	0	12	12
July 1, 2021	0	310	180	233	723

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX A – MEMBERSHIP INFORMATION

Service Retired Participants

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	\$0	0	\$0	0	\$0
50-54	0	\$0	0	\$0	0	\$0
55-59	0	\$0	0	\$0	0	\$0
60-64	0	\$0	0	\$0	0	\$0
65-69	14	\$1,079,118	0	\$0	14	\$1,079,118
70-74	61	\$5,242,761	17	\$1,238,231	78	\$6,480,992
75-79	91	\$6,963,191	32	\$2,724,679	123	\$9,687,870
80-84	34	\$2,688,651	12	\$1,057,125	46	\$3,745,776
85-89	9	\$955,482	13	\$1,153,800	22	\$2,109,282
90-94	8	\$665,829	11	\$990,570	19	\$1,656,399
95-99	2	\$213,433	5	\$434,021	7	\$647,454
100+	1	\$99,129	0	\$0	1	\$99,129
Total	220	\$17,907,594	90	\$7,598,426	310	\$25,506,020

Disability Retired Participants

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	\$0	0	\$0	0	\$0
50-54	0	\$0	0	\$0	0	\$0
55-59	0	\$0	0	\$0	0	\$0
60-64	0	\$0	0	\$0	0	\$0
65-69	0	\$0	3	\$245,477	3	\$245,477
70-74	43	\$3,358,268	26	\$1,843,805	69	\$5,202,073
75-79	27	\$1,971,071	34	\$2,697,441	61	\$4,668,512
80-84	11	\$876,714	18	\$1,523,229	29	\$2,399,943
85-89	5	\$393,996	7	\$585,972	12	\$979,967
90-94	2	\$192,181	3	\$271,703	5	\$463,884
95-99	0	\$0	1	\$67,653	1	\$67,653
100+	0	\$0	0	\$0	0	\$0
Total	88	\$6,792,229	92	\$7,235,279	180	\$14,027,508

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX A – MEMBERSHIP INFORMATION

Beneficiaries

Age	Police		Fire		Total	
	Number	Total Annual Benefit	Number	Total Annual Benefit	Number	Total Annual Benefit
< 50	0	\$0	0	\$0	0	\$0
50-54	0	\$0	0	\$0	0	\$0
55-59	1	\$52,095	0	\$0	1	\$52,095
60-64	3	\$175,604	2	\$148,362	5	\$323,966
65-69	9	\$576,640	7	\$446,609	16	\$1,023,248
70-74	30	\$1,542,683	14	\$852,980	44	\$2,395,663
75-79	32	\$1,701,659	18	\$1,073,595	50	\$2,775,254
80-84	15	\$797,091	16	\$917,976	31	\$1,715,067
85-89	16	\$1,026,060	21	\$1,216,295	37	\$2,242,356
90-94	17	\$1,022,988	18	\$967,371	35	\$1,990,359
95-99	7	\$359,375	6	\$366,607	13	\$725,981
100+	1	\$80,379	0	\$0	1	\$80,379
Total	131	\$7,334,574	102	\$5,989,793	233	\$13,324,367

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the actuarial valuation as of July 1, 2021 are:

Actuarial Method

The Entry Age Normal Actuarial Cost Method is used. Under this method, the Plan's Actuarial Liability (AL) is determined as the Present Value of Future Benefits (PVFB) less the Present Value of Future Normal Costs (PVFNC). Since all of the Plan's members are retired, the AL and the PVFB are the same.

The excess of the AL over the Actuarial Value of Assets (AVA) is the Unfunded Actuarial Liability (UAL). In accordance with the Plan's funding agreement with the City of Oakland, the UAL must be amortized by July 1, 2026, with contributions resuming in the 2017-2018 fiscal year. The projected fiscal year 2022-2023 contribution has been calculated using level percent of pay amortization, based on total projected City payroll for all Safety employees.

Actuarial Value of Plan Assets

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

The Actuarial Value of Assets is equal to 100% of the *expected Actuarial Value of Assets* plus 20% of the difference between the current Market Value of Assets and the expected Actuarial Value of Assets. In no event will the Actuarial Value of Assets ever be less than 90% of the Market Value of Assets or greater than 110% of the Market Value of Assets.

The expected Actuarial Value of Assets is equal to the prior year's Actuarial Value of Assets increased with actual contributions made, decreased with actual disbursements made, all items (prior assets, contributions, and disbursements) further adjusted with expected investment returns for the year.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

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

1. Rate of Return

The expected annual rates of return, net of investment expenses, on all Plan assets are shown in the table below. The equivalent single discount rate for these returns using the Plan’s expected projected benefit payments is 5.28%.

Benefit Payment Year	Expected Return
2021-2026	6.000%
2027	5.725%
2028	5.450%
2029	5.175%
2030	4.900%
2031	4.625%
2032	4.350%
2033	4.075%
2034	3.800%
2035	3.525%
2036+	3.250%

2. Inflation

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

3. Administrative Expenses

Administrative expenses for the Fiscal Year Ending June 30, 2022 are assumed to be \$1,692,500, growing at 2.85% per year.

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

Cost-of-living adjustments are based on salary increases for a retiree’s rank at retirement.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

The long-term rate of salary increase is assumed to be 3.25% (2.85% inflation plus 0.4% productivity). The following schedule shows salary increases based on the current Police contract that expires on June 30, 2023 and the Fire contract that expires on December 31, 2023. All increases shown after those dates are assumptions.

Post-Retirement Benefit Increases (Based on Salary Increases for Rank at Retirement)		
Date of Increase	Police	Fire
July 1, 2021	3.00%	1.50%
January 1, 2022	N/A	2.00%
July 1, 2022	3.50%	1.00%
July 1, 2023	3.50%	0.00%
December 1, 2023	N/A	2.00%
Annual Increases		
Starting	3.25%	3.25%
July 1, 2024		

5. Rates of Termination

None.

6. Rates of Disability

None.

7. Rates of Retirement

None.

8. Rates of Mortality for Healthy Lives

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

9. Rates of Mortality for Disabled Retirees

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

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

10. Mortality Improvement

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

11. Survivor Continuance

30% of disabled retirees' deaths are assumed to be related to injuries arising out of the performance of duty, entitling the surviving spouse to a 100% continuance.

12. Changes in Assumptions Since the Last Valuation

No changes have been made to the actuarial assumptions.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

1. Plan Year

July 1 to June 30.

2. Membership

The Plan has been closed to new members since June 30, 1976.

3. Salary

Retirement allowances are based on the pensionable compensation attached to the average rank held during the three years immediately preceding retirement.

4. Employee Contributions

There are no active employees in the Plan, and thus no employee contributions.

5. Service Retirement

Eligibility

25 years of service, or 20 years of service and age 55, or age 65. A reduced early retirement is available with 20 years of service.

Benefit Amount

50% of Salary plus 1.67% for each additional year of service beyond that required for service retirement eligibility, to a maximum of 10 years. For retirements with less than 20 years of service, benefits are pro-rated.

6. Duty-Related Disability Retirement

Equivalent to service retirement benefit if 25 or more years of service.

7. Non-Duty Related Disability Retirement

Equivalent to service retirement benefit if age 55 is attained.

8. Post-Retirement Death Benefit

For retirees without a spouse at death, a \$1,000 lump sum is paid to designated beneficiary.

9. Cost-of-Living Adjustments

Benefit increases are based on increases in salary for rank at retirement (see above definition of Salary).

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2021**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

10. Benefit Forms

Benefit is paid for the lifetime of the member. For deaths following a service retirement or non-duty disability, a 66-2/3% continuance is paid for the lifetime of the spouse. If the member retired under a duty-related disability, a continuance of 100% is paid.

11. Changes in Plan Provisions Since the Last Valuation

None.

APPENDIX D – GLOSSARY

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation, and rates of investment return.

2. Actuarial Cost Method

A procedure for determining the actuarial present value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a normal cost and an Actuarial Liability.

3. Actuarial Gain (Loss)

The difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

4. Actuarial Liability

The portion of the actuarial present value of projected benefits that will not be paid by future normal costs. It represents the value of the past normal costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The actuarial present value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

6. Actuarial Valuation

The determination, as of a specified date, of the normal cost, Actuarial Liability, Actuarial Value of Assets, and related actuarial present values for a pension plan.

7. Actuarial Value of Assets

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

8. Actuarially Equivalent

Of equal actuarial present value, determined as of a given date, with each value based on the same set of actuarial assumptions.

APPENDIX D – GLOSSARY

9. Amortization Payment

The portion of the pension plan contribution that is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

11. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

12. Normal Cost

That portion of the actuarial present value of pension plan benefits and expenses that is allocated to a valuation year by the actuarial cost method.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of actuarial assumptions, taking into account such items as increases in future compensation and service credits.

14. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.



Classic Values, Innovative Advice



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

800 FIFTH AVENUE
SUITE 2800
SEATTLE, WA 98104
P 206 694 5500
F 206 694 5581

parametricportfolio.com

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8056

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

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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

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

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION NO. 8056

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

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.

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8056

IN BOARD MEETING, VIA ZOOM CONFERENCE JUNE 29, 2022

PASSED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST: _____
PRESIDENT

ATTEST: _____
SECRETARY