

Pursuant to the Governor's Executive Order N-29-20, all members of the City Council, as well as the City Administrator, City Attorney and City Clerk will join the meeting via phone/video conference and no teleconference locations are required

Oakland Police and Fire Retirement Board meetings are being held via Tele-Conference. Please see the agenda to participate in the meeting. For additional information, contact the Retirement Unit by calling (510) 238-6481.



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

AUDIT COMMITTEE MEMBERS

John C. Speakman
Chairperson

R. Steve Wilkinson
Member

Kevin Traylor
Member

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

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

WEDNESDAY, AUGUST 25, 2021

9:30 AM

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

OBSERVE

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

PUBLIC COMMENTS

There are three ways to submit public comments.

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

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR AUDIT COMMITTEE MEETING
AUGUST 25, 2021**

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

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

--- ORDER OF BUSINESS ---

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

From: Staff of the PFRS Board
Recommendation: **APPROVE** the July 28, 2021 Audit Committee Meeting Minutes
- 2. Subject: Administrative Expenses Report**

From: Staff of the PFRS Board
Recommendation: **ACCEPT** an informational report regarding PFRS administrative expenses as of June 30, 2021
- 3. Subject: PFRS Member Verification**

From: Staff of the PFRS Board
Recommendation: **ACCEPT** an informational report regarding the status of the 2021 PFRS Member Verification
- 4. REVIEW OF PENDING AUDIT COMMITTEE MEETING AGENDA ITEMS**
- 5. OPEN FORUM**
- 6. FUTURE SCHEDULING**
- 7. ADJOURNMENT**

AN AUDIT/OPERATIONS COMMITTEE REGULAR MEETING of the Oakland Police and Fire Retirement System (“PFRS”) was held on Wednesday, July 28, 2021 via Zoom Webinar.

- Committee Members Present:
- 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
 - Jennifer Logue PFRS Legal Counsel

The meeting was called to order at 9:30 a.m. PST

1. **PFRS Audit Committee Meeting Minutes** – Member Wilkinson made a motion to approve the June 30, 2021 Audit Committee minutes, second by Member Traylor. Motion passed.

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

2. **Administrative Expenses Report** – Staff Member Jenkins presented an informational report on PFRS’s administrative expenditures as of May 31, 2021. PFRS has an approved budget of approximately \$3.5 million and have expensed just over \$2.2 million fiscal year-to-date. Membership consisted of 729 retired members, which included 441 Police Members and 288 Fire Members.

MOTION: Member Traylor made a motion to accept the administrative expenses report and forward to the Full Board for approval, second by Member Wilkinson. Motion passed.

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

3. **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) the 2006 Management Audit remains pending due to COVID-19 restrictions in place and the need for staff to be on-site to review records and normal operations resume this item will move forward; Item 2) Monitoring & Updates regarding upcoming City Council Agendas with scheduled discussions of the 2026 Actuarial Funding Date is ongoing and there are no updates to report at this time, but will convey any updates as we are informed.

4. **Open Forum** – No Report

- 5. **Future Scheduling** – The next regular Audit/Operations Committee meeting is tentatively scheduled for August 25, 2021.
- 6. **Adjournment** – Member Speakman made a motion to adjourn, second by Member Traylor. Motion passed.

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

The meeting adjourned at 9:37 a.m. PST

 JOHN C. SPEAKMAN
 COMMITTEE CHAIRPERSON

 DATE

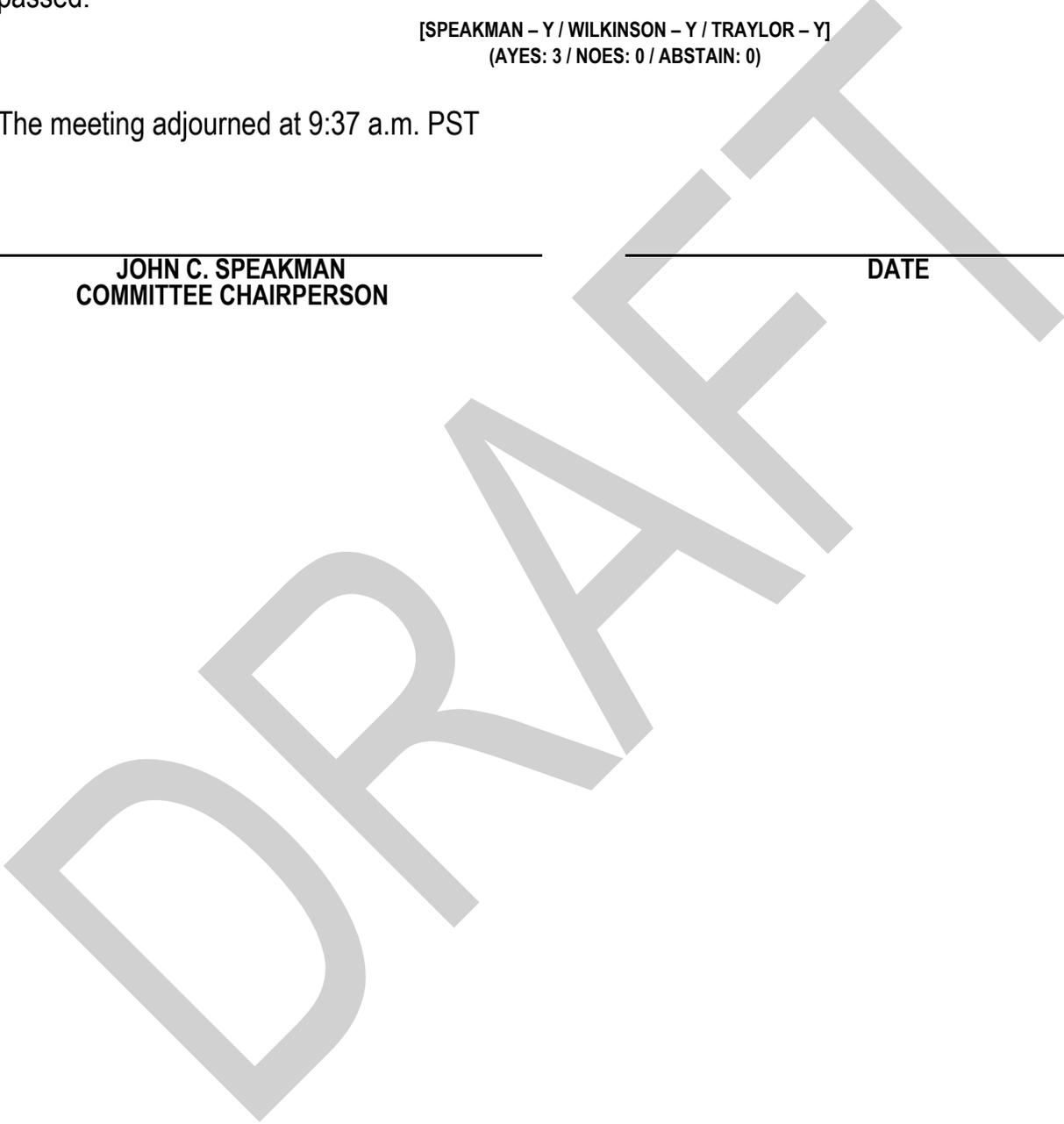


Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Administrative Budget Spent to Date (Preliminary)

As of June 30, 2021

	Approved Budget		June 2021		FYTD		Remaining		Percent Remaining	
Internal Administrative Costs										
PFRS Staff Salaries	\$	1,200,000	\$	92,084	\$	1,069,587	\$	130,413		10.9%
Board Travel Expenditures		52,500		-		-		52,500		100.0%
Staff Training		20,000		50		160		19,840		99.2%
Staff Training - Tuition Reimbursement		7,500		-		-		7,500		100.0%
Annual Report & Duplicating Services		4,000		-		-		4,000		100.0%
Board Hospitality		3,600		-		-		3,600		100.0%
Payroll Processing Fees		40,000		40,000		40,000		-		0.0%
Miscellaneous Expenditures		40,000		1,639		14,679		25,321		63.3%
Internal Service Fees (ISF)		88,000		-		74,893		13,107		14.9%
Contract Services Contingency		50,000		-		1,200		48,800		97.6%
Internal Administrative Costs Subtotal :	\$	1,505,600	\$	133,773	\$	1,200,519	\$	305,081		20.3%
Actuary and Accounting Services										
Audit	\$	45,000	\$	-	\$	45,000	\$	-		0.0%
Actuary		46,500		-		19,897		26,604		57.2%
Actuary and Accounting Subtotal:	\$	91,500	\$	-	\$	64,897	\$	26,604		29.1%
Legal Services										
City Attorney Salaries	\$	188,000	\$	18,430	\$	186,321	\$	1,679		0.9%
Legal Contingency		150,000		-		-		150,000		100.0%
Legal Services Subtotal:	\$	338,000	\$	18,430	\$	186,321	\$	151,679		44.9%
Investment Services										
Money Manager Fees	\$	1,353,000	\$	332,103	\$	1,138,140	\$	214,860		15.9%
Custodial Fee		124,000		29,125		116,500		7,500		6.0%
Investment Consultant		100,000		25,000		100,000		-		0.0%
Investment Subtotal:	\$	1,577,000	\$	386,228	\$	1,354,640	\$	222,360		14.1%
Total Operating Budget	\$	3,512,100	\$	538,431	\$	2,806,377	\$	705,723		20.09%

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of June 30, 2021

	June 2021
Beginning Cash as of 5/31/2021	\$ 6,317,964
Additions:	
City Pension Contribution - June	\$ 3,637,333
Investment Draw	\$ 1,000,000
Misc. Receipts	-
Total Additions:	\$ 4,637,333
Deductions:	
Pension Payment (May Pension Paid on 6/1/2021)	(4,326,071)
Expenditures Paid	(236,268)
Total Deductions	\$ (4,562,339)
 Ending Cash Balance as of 6/30/2021*	 \$ 6,392,958

* On 7/1/2021, May pension payment of appx \$4,295,000 will be made leaving a cash balance of \$2,098,000

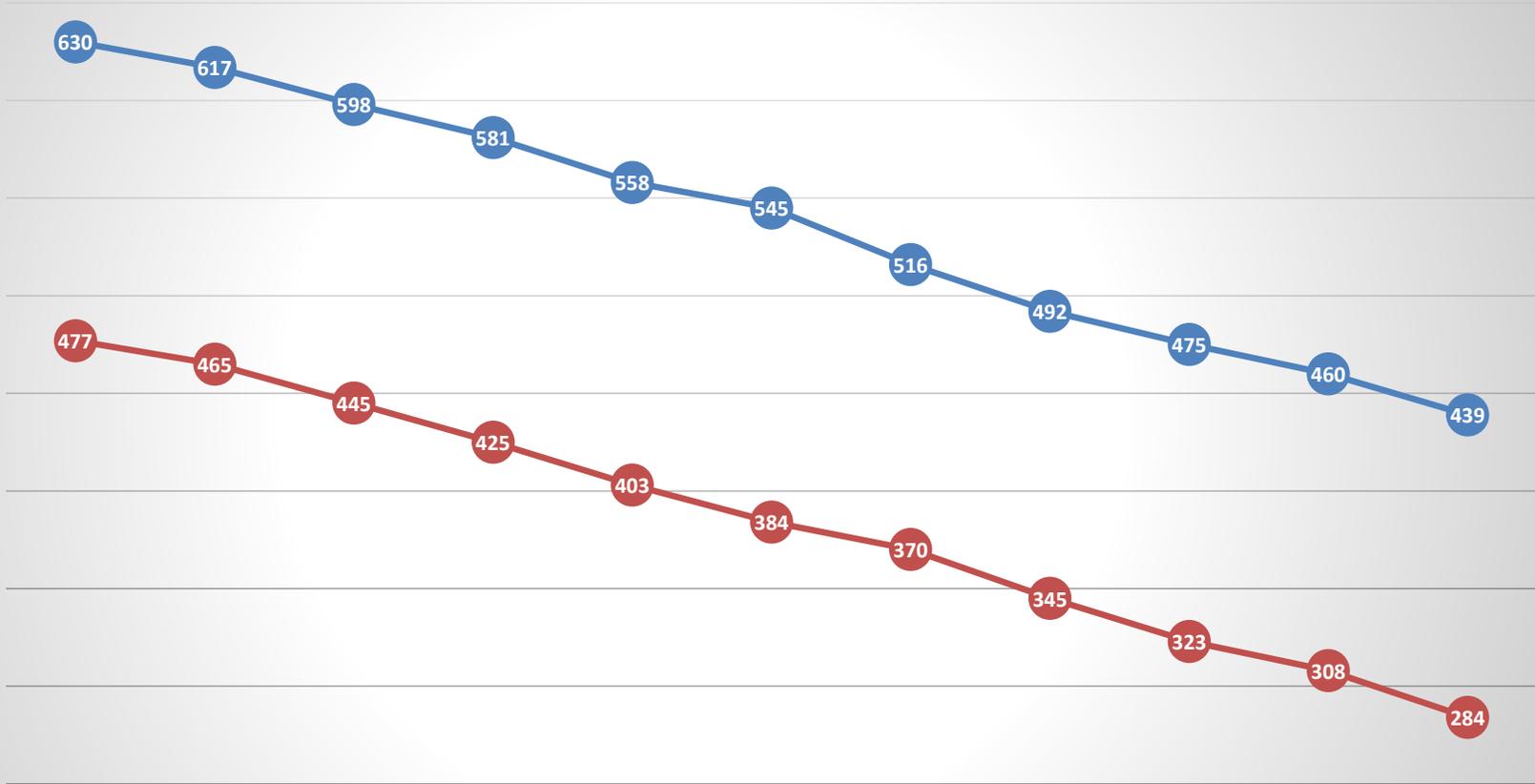
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of June 30, 2021

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	308	182	490
Beneficiary	131	102	233
<i>Total Retired Members</i>	439	284	723
<i>Total Membership:</i>	439	284	723

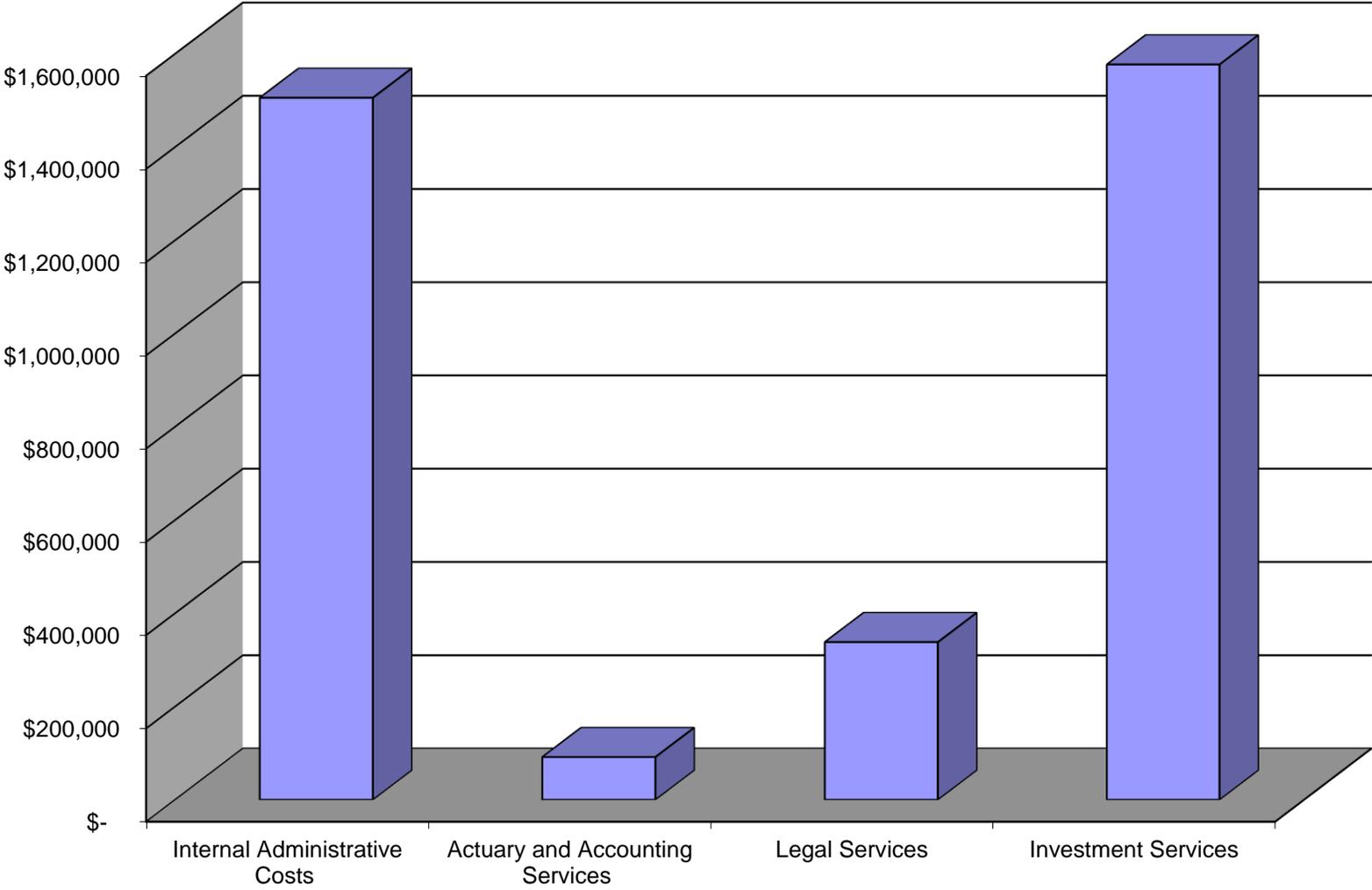
COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	293	144	437
Disability Retirement	135	127	262
Death Allowance	11	13	24
<i>Total Retired Members:</i>	439	284	723
<i>Total Membership as of June 30, 2021:</i>	439	284	723
<i>Total Membership as of June 30, 2020:</i>	460	308	768
<i>Annual Difference:</i>	-21	-24	-45

Oakland Police and Fire Retirement System Pension Plan Membership Count As of June 30, 2021 (FY 2011 - FY 2021)

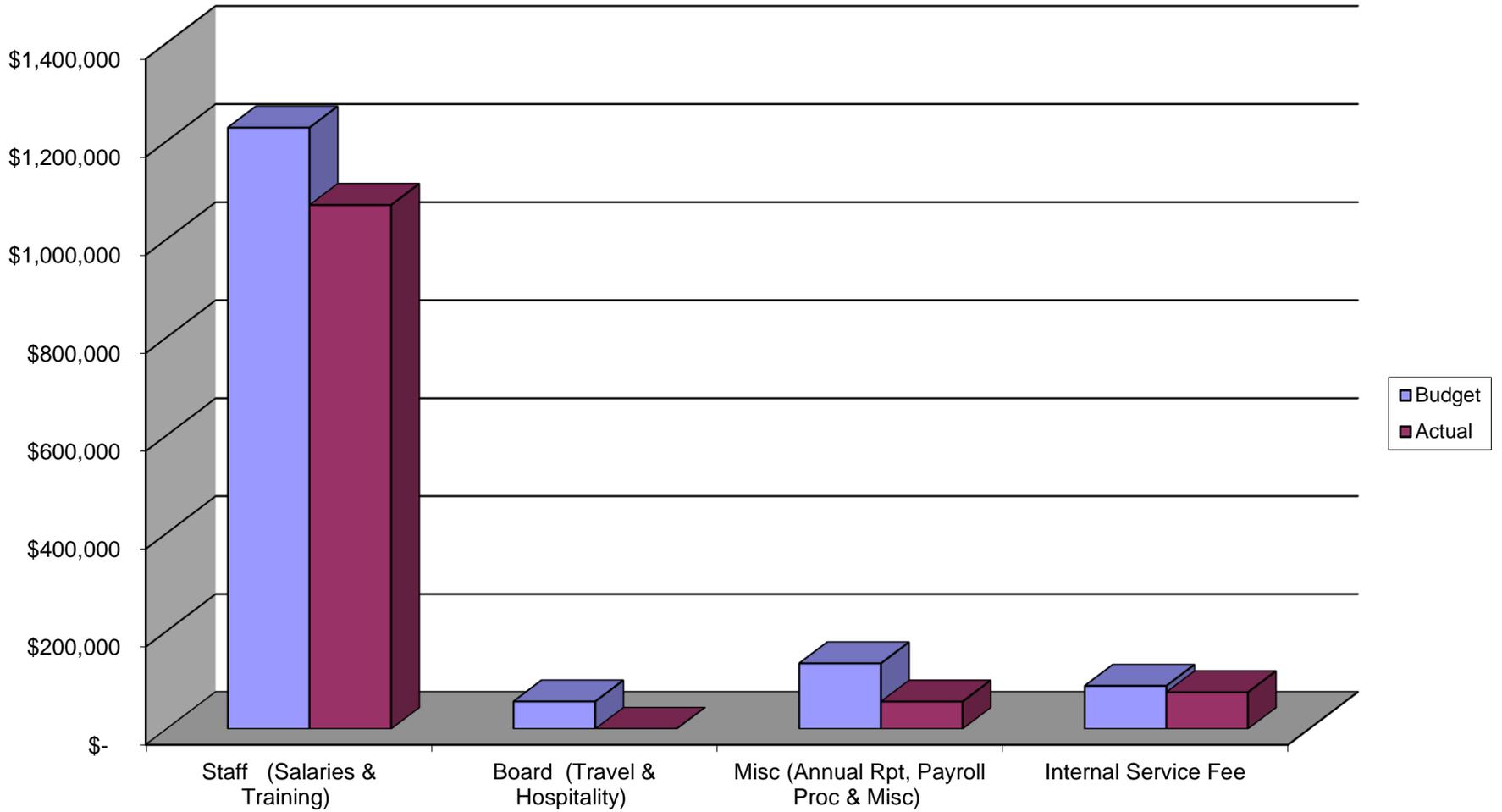


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 FYTD
Police	630	617	598	581	558	545	516	492	475	460	439
Fire	477	465	445	425	403	384	370	345	323	308	284
Total	1107	1082	1043	1006	961	929	886	837	798	768	723

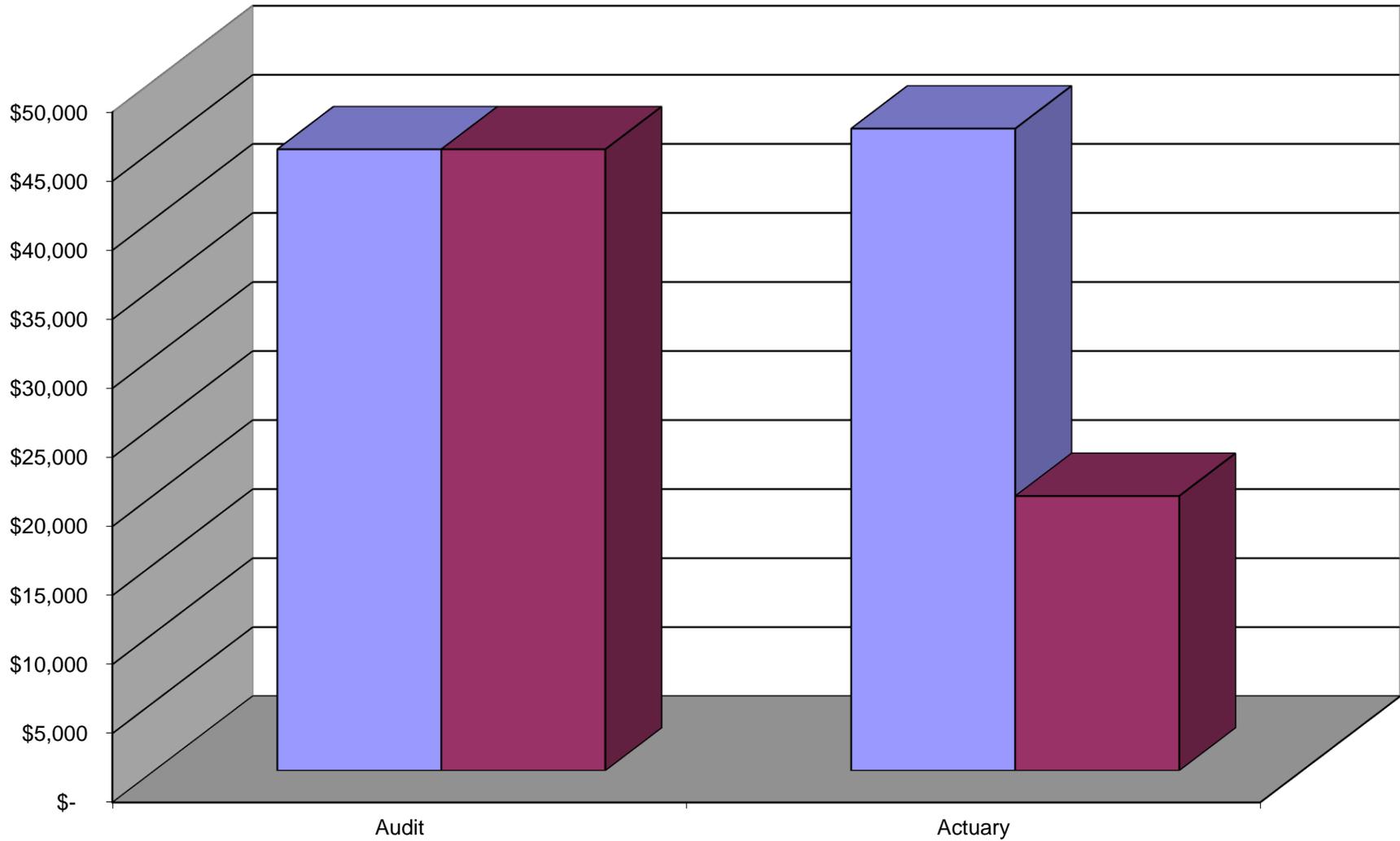
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Approved Budget
FY 2020-2021



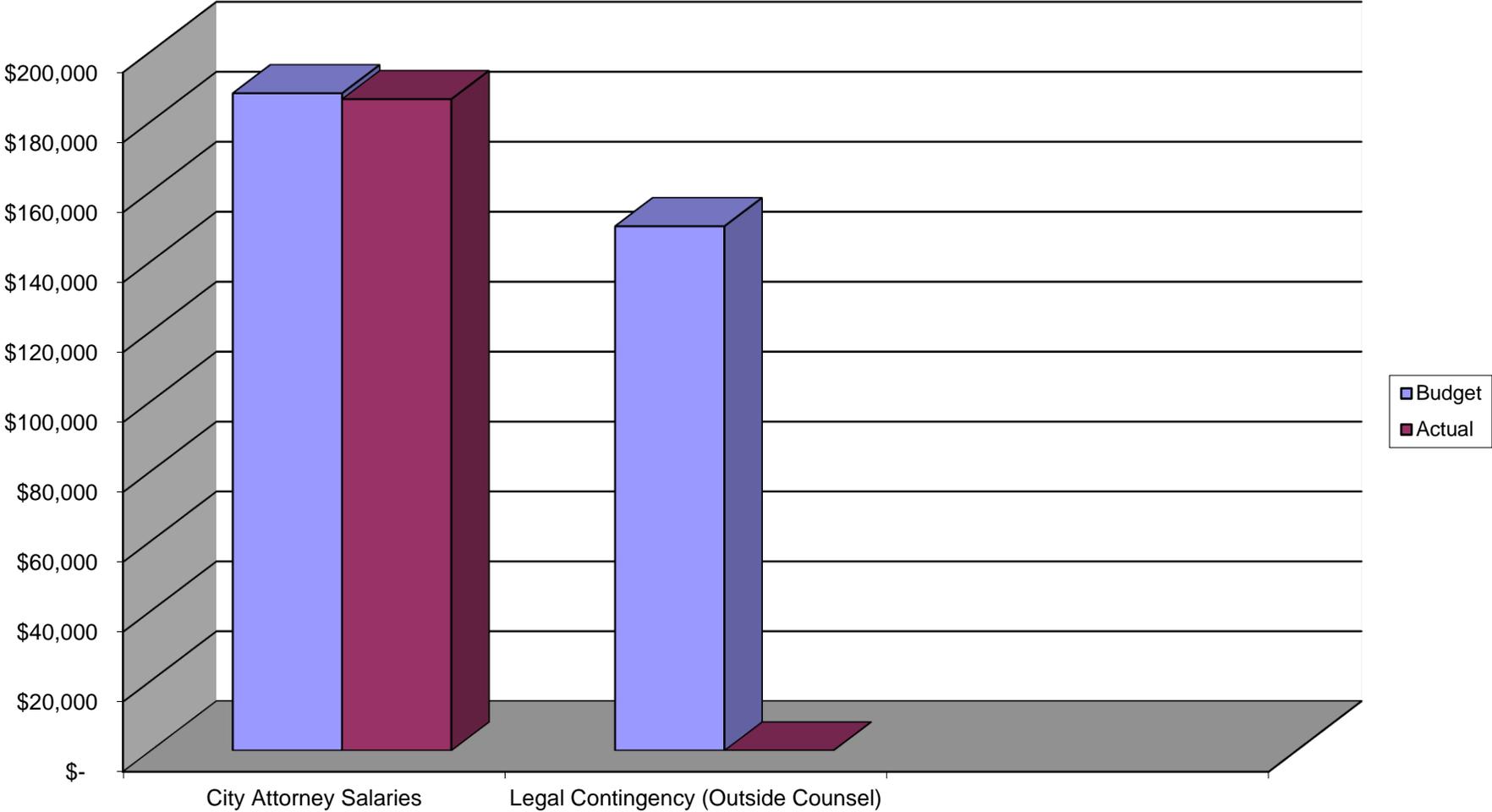
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs Actual as of June 30, 2021
Internal Administrative Costs



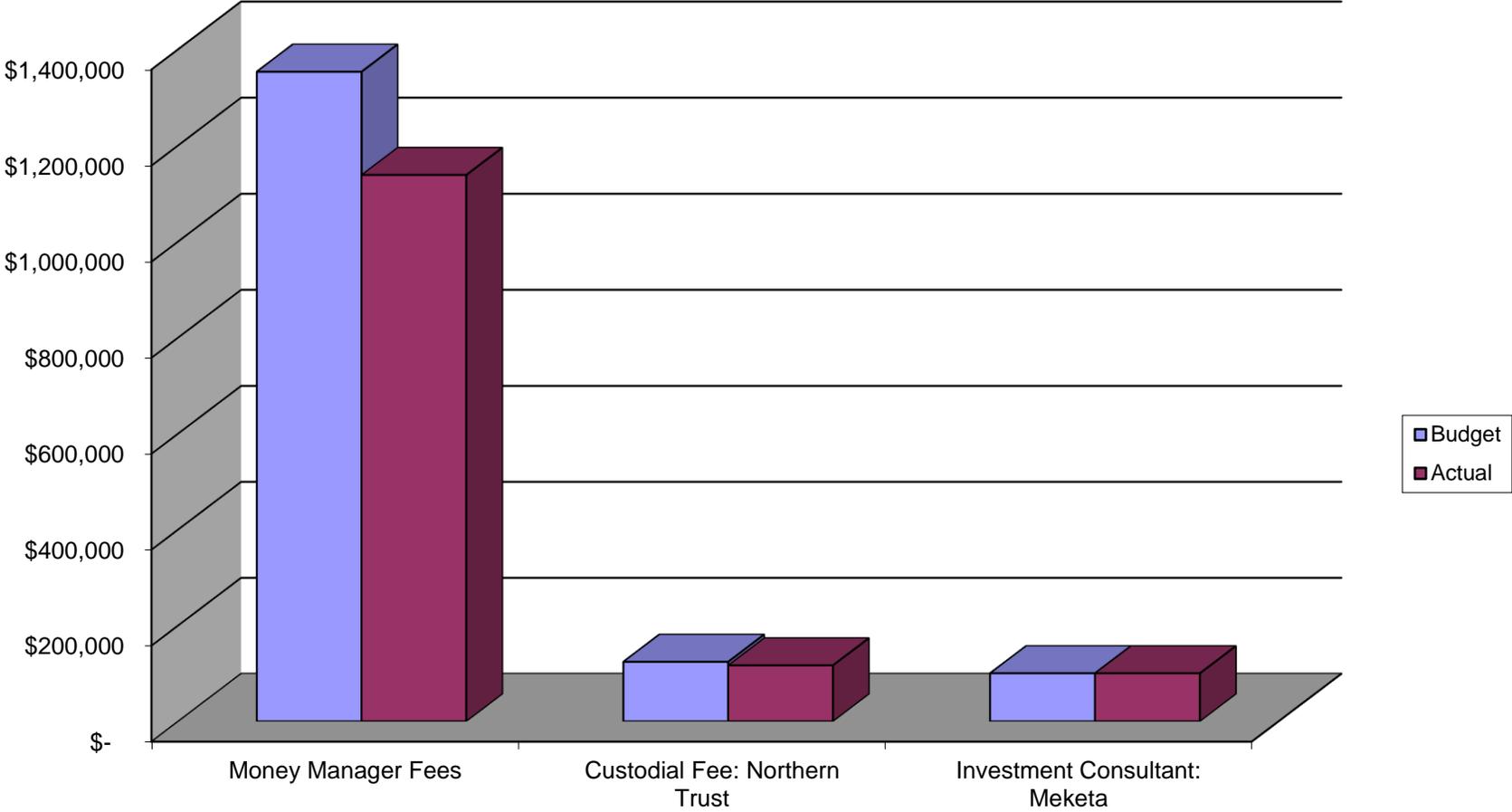
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2021
Actuary and Accounting Services



OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2021
Legal Services



OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2021
Investment Services





AGENDA REPORT

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

SUBJECT: 2021 PFRS Member Verification **DATE:** August 25, 2021

SUMMARY UPDATE

The annual PFRS Member Verification serves to confirm an accurate record of current member information. As of July 13, 2021, PFRS Staff has received responses from approximately 65% of PFRS Members and Beneficiaries as a result of the initial request mailed on June 18, 2018. Staff anticipates a second mailing to follow-up regarding any outstanding responses to occur the Week of August 30, 2021 with a due date of September 17, 2021.

BACKGROUND

On June 18, 2021, staff mailed requests to all PFRS Members and Beneficiaries to confirm and/or update the information of record with a response due date of July 19, 2021.

PFRS Staff reached out to both the Police and Fire Retiree Representatives to inform them the task is underway, so they may help advise members to be on the lookout for the mailing from our office.

Respectfully submitted,

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



AGENDA REPORT

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

FROM: David Jones
Plan Administrator

SUBJECT: Audit Committee Agenda
Pending List

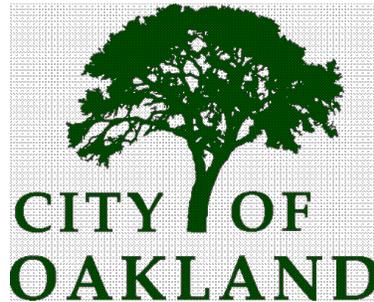
DATE: August 25, 2021

	SUBJECT	TENTATIVE SCHEDULED MTG DATE	STATUS
1	Staff Review of the 2006 Management Audit	TBD	Pending
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
Oakland Police & Fire Retirement Systems

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

AGENDA

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INVESTMENT COMMITTEE MEMBERS

Jaime T. Godfrey
Chairperson

R. Steve 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, AUGUST 25, 2021

10:00 AM

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

OBSERVE

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**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR INVESTMENT COMMITTEE MEETING
AUGUST 25, 2021**

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

--- ORDER OF BUSINESS ---

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

Recommendation: **APPROVE** July 28, 2021 Investment Committee Meeting Minutes
- 2. Subject:** **Investment Manager Performance Review – Rice Hall James & Associates, LLC**
From: Rice Hall James & Associates, LLC

Recommendation: **ACCEPT** informational report regarding investment performance, management fees, diversity and inclusion, and managerial assessment of Rice Hall James & Associates, LLC, a PFRS Small Cap Growth Investment Manager
- 3. Subject:** **Investment Manager Performance Review – Rice Hall James & Associates, LLC**
From: Meketa Investment Group

Recommendation: **ACCEPT** and **RECOMMEND BOARD APPROVAL** of Meketa Investment Group’s evaluation and review regarding investment performance, management fees, diversity and inclusion, managerial assessment, watch status update, and recommendation to continue or remove watch status of Rice Hall James & Associates, LLC, a PFRS Small Cap Growth Investment Manager

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR INVESTMENT COMMITTEE MEETING
AUGUST 25, 2021**

4. **Subject:** Investment Market Overview as of July 31, 2021
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Global Investment Markets as of July 31, 2021
5. **Subject:** Preliminary Investment Fund Performance Update as of July 31, 2021
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Preliminary Investment Fund Performance update as of July 31, 2021
6. **Subject:** Investment Fund Quarterly Performance Update as of June 30, 2021
From: Meketa Investment Group

Recommendation: **ACCEPT** the Investment Fund Quarterly Performance update as of June 30, 2021
7. **Subject:** Asset Allocation Review and Update of the PFRS Fund
From: Meketa Investment Group

Recommendation: **ACCEPT and DISCUSS** the informational report regarding the asset allocation review of the PFRS Fund and **RECOMMEND BOARD APPROVAL** of Committee's recommended changes to PFRS Investment Portfolio Target Allocation
8. **Subject:** Informational Overview Regarding Cryptocurrency
From: Meketa Investment Group

Recommendation: **ACCEPT** informational overview regarding cryptocurrency
9. **Schedule of Pending Investment Committee Meeting Agenda Items**
10. **Open Forum**
11. **Future Scheduling**
12. **Adjournment**

AN INVESTMENT AND FINANCIAL MATTERS COMMITTEE REGULAR MEETING of the Oakland Police and Fire Retirement System (“PFRS”) was held Wednesday, July 28, 2021 via Zoom Webinar.

Committee Members:	▪ Jaime T. Godfrey	Chairperson
	▪ R. Steven Wilkinson	Member
	▪ Robert W. Nichelini	Member
Additional Attendees:	▪ David F. Jones	PFRS Secretary & Plan Administrator
	▪ Jennifer Logue	PFRS Legal Counsel
	▪ Teir Jenkins	PFRS Staff Member
	▪ Maxine Visaya	PFRS Staff Member
	▪ David Sancewich	Meketa Investment Group
	▪ Matthew Sigmund	Meketa Investment Group
	▪ Paola Nealon	Meketa Investment Group
	▪ Claudiu Besoaga	Northern Trust Company (Custodian)
	▪ Jeffrey M. Porta	Northern Trust Company (Custodian)

The meeting was called to order at 10:00 a.m. PST

1. **Approval of Investment Committee Meeting Minutes** Member Nichelini made a motion to approve the June 30, 2021 Investment Committee Meeting Minutes, as written, second by Member Wilkinson. The motion passed.

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

2. **Custodial Services Update** – Claudiu Besoaga & Jeffrey M. Porta of Northern Trust Company presented an informational report regarding the current scope of custodian bank services provided to PFRS. The presentation included a firm overview, relationship management and service approach, Diversity & Inclusion policy and practices, detailed information regarding the full spectrum of custody services currently provided, key metrics of PFRS account activity for the past 12 months, cybersecurity and global technology, and written proposed fee schedules. J. Porta of Northern Trust offered a verbal fee rate for either a 3- or 5-year contract which fees would remain at the current fee for the first year and the newly proposed fee would be effective for the remainder of the selected contract term.

Committee Members and Staff made inquiries to encourage further discussion regarding diversity and inclusion from an executive standpoint, the breadth of additional services available to enhance engagement, and cybersecurity. Committee Members expressed interest in receiving a presentation on cybersecurity and global technology as it relates to PFRS at a subsequent meeting.

MOTION: Chairperson Godfrey made a motion to accept the informational report presented by Northern Trust Company, second by Member Nichelini. Motion passed.

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

3. **Continuation of Custodial Services provided by Northern Trust Company** – Staff Member Jenkins and Plan Administrator Jones expressed the working relationship and the level of service provided by Northern Trust as custodian over the past 8 years has been outstanding and recommended a 5-year contract renewal. David Sancewich of Meketa Investment Group agreed with Staff's assessment, answered questions, and also recommended a 5-year contract renewal.

MOTION: Chairperson Godfrey made a motion to recommend PFRS move forward with a contract renewal to maintain Northern Trust as custodian for an additional 5 years and accept the offer proposed by J. Porta which maintained the current fee rate for the first year and the newly proposed rate for the remainder of the contract and forward to the Full Board for approval, second by Member Wilkinson. The motion passed.

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

4. **Investment Market Overview as of June 30, 2021** – Paola Nealon of Meketa Investment Group presented an informational report regarding the Investment Market Overview as of June 30, 2021. P. Nealon highlighted market returns and current factors impacting outcomes. P. Nealon and D. Sancewich addressed questions regarding countries trading in currencies aside from the U.S. dollar and how it effects risk in Treasuries.

MOTION: Chairperson Godfrey made a motion to accept the informational report presented by Meketa Investment Group and forward to the Full Board, second by Member Wilkinson. Motion passed.

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

5. **Preliminary Investment Performance Update as of June 30, 2021** – David Sancewich of Meketa Investment Group presented an informational report regarding the Preliminary Investment Fund Performance Update as of June 30, 2021. D. Sancewich highlighted Allocation vs. Targets and Policy and the Asset Class Performance Summary.

MOTION: Chairperson Godfrey made a motion to accept the informational report presented by Meketa Investment Group and forward to the Full Board, second by Member Nichelini. Motion passed.

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

6. **Informational Overview Regarding Inflation** – David Sancewich of Meketa Investment Group presented an informational overview regarding inflation. D. Sancewich discussed various factors that drive inflation and described a few scenarios and modeled how various asset classes are affected.

MOTION: Chairperson Godfrey made a motion to accept the informational overview presented by Meketa Investment Group and forward to the Full Board, second by Member Nichelini. Motion passed.

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

7. **Asset Allocation Review and Update of the PFRS Fund** – D. Sancewich of Meketa Investment Group presented an informational report regarding the Asset Allocation Review and highlighted a comparison between the current long-term policy and the current interim policy. Meketa also provided, by use of modeling software, various asset allocation scenarios and possible outcomes as a basis point for further discussion. Chairperson Godfrey requested this item remain on the agenda for further discussion at a subsequent meeting.

MOTION: Chairperson Godfrey made a motion to accept the informational report presented by Meketa Investment Group and forward to the Full Board, second by Member Wilkinson. Motion passed.

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

8. **Schedule of Pending Investment Committee Meeting Agenda Items** – David Sancewich of Meketa Investment Group presented the 2021 Ongoing Strategic Investment Agenda for discussion. No changes, additions, or questions were presented in respect to the proposed strategic agenda.
9. **Open Forum** – Mr. Pete Peterson thanked David Sancewich and Meketa for the informational component on inflation and presentation regarding the Asset Allocation Review.
10. **Future Scheduling** – The next Regular Investment Committee Meeting is tentatively scheduled for August 25, 2021.
11. **Adjournment** – Member Nichelini made a motion to adjourn, second by Member Wilkinson. Motion passed.

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

The meeting adjourned at 11:49 a.m. PST

JAIME T. GODFREY
COMMITTEE CHAIRPERSON

DATE

Oakland Police & Fire Retirement System

RHJ Small Cap
Opportunities Strategy

August 25, 2021



RICE HALL JAMES
& ASSOCIATES, LLC

Rice Hall James & Associates, LLC
600 West Broadway, Suite 1000
San Diego, California 92101

Telephone: (619) 239-4855
E-mail: info@ricehall.com
Website: www.ricehalljames.com

Firm Profile

As of June 30, 2021

- ▶ Investment-led firm, founded in 1974
- ▶ Firm AUM + AUA: \$3.3 billion¹
- ▶ Ownership
 - Independent and 100% employee-owned. RHJ is focused solely on investment management with no other lines of business
- ▶ Personnel
 - 32 employees, including 11 owners averaging 28 years of industry experience and 21 years with Rice Hall James
- ▶ Time-Tested Investment Strategies
 - RHJ's professionals have been managing micro-, small-, and SMID-cap portfolios for more than three decades
- ▶ Established Client Base
 - 42 institutional clients, representing 84% of assets

¹Assets include assets under management and assets under advisement.



Diversity

Diversity Representation Survey for Oakland Police and Fire

DATA AS OF 6/30/2021

Firm Name	Rice Hall James & Associates, LLC
Product Name	RHJ Small Cap Opportunities
Total Number of Employees	32

Race and Ethnicity*	Percentage (%) of Board of Directors / Managing Members	Percentage(%) of Firm (Entire Staff)	Percentage (%) of Firm (Investment Professionals)
African American/Black	0%	3%	0%
Asian/Hawaiian/Pacific Islander	9%	10%	6%
Latino/Hispanic	0%	3%	0%
White	91%	84%	94%
American Indian/Alaska Native	0%	0%	0%
Other			
Gender			
Male	82%	66%	78%
Female	18%	34%	22%
Non-Identified/Other			

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



Investment Philosophy

We believe that superior, long-term, risk-adjusted returns are generated by building a portfolio of companies with three primary characteristics – **high earnings growth, high or improving returns on invested capital and better sustainability characteristics** than that of the index.



Portfolio Review



RICE HALL JAMES
& ASSOCIATES, LLC

RHJ Attribution Report

2Q21 Attribution Analysis

RHJ Small Cap Opportunities vs. Russell 2000 Growth Index

GICS Sector	Small Cap Opportunities Strategy			Russell 2000 Growth Index			Attribution Analysis		
	Avg. Port. Wt.	Port. Return	Port. Contrib.	Avg. Bmrk. Wt.	Bmrk. Return	Bmrk. Contrib.	Alloc. Effect	Select Effect	Total Effect
Total	100.00	5.08	5.08	100.00	3.91	3.91	0.37	0.80	1.17
Consumer Staples	4.24	34.31	1.35	3.25	7.44	0.25	0.04	1.01	1.05
Consumer Discretionary	14.88	12.34	1.78	15.37	5.70	0.80	0.02	0.93	0.95
Industrials	13.43	2.34	0.32	14.57	-1.06	-0.19	0.09	0.51	0.61
Materials	2.11	7.72	0.16	2.79	2.97	0.07	0.00	0.11	0.11
Utilities	0.00	0.00	0.00	1.46	0.83	0.02	0.05	0.00	0.05
Communication Services	2.35	5.90	0.15	2.21	6.46	0.12	0.02	-0.01	0.01
Energy	0.00	0.00	0.00	0.31	24.59	0.00	0.00	0.00	0.00
Financials	5.55	5.61	0.33	4.11	6.90	0.27	0.02	-0.04	-0.02
Real Estate	0.00	0.00	0.00	3.51	5.27	0.20	-0.05	0.00	-0.05
[Cash]	4.43	0.01	0.00	0.00	0.00	0.00	-0.16	0.00	-0.16
Information Technology	29.53	4.60	1.40	20.38	6.39	1.34	0.26	-0.57	-0.31
Health Care	23.48	-1.34	-0.40	32.03	3.12	1.01	0.07	-1.14	-1.07

Sources: FactSet, GICS Sector Classification, & FTSE Russell

Past performance does not guarantee future results. Attribution results are based on sector returns, which are gross of fees and include reinvestment of all income. Indices are provided for comparative purposes only. An investor cannot invest directly in an index. Comparisons have limitations because indices may have volatility, investment and other characteristics that may differ from an investment account strategy to which it is compared. Indices are unmanaged, include the reinvestment of dividends and do not reflect transaction costs, management or other fees. Please refer to disclosures at the end of this document.



RHJ Attribution Report

YTD ending July 31, 2021 Attribution Analysis

RHJ Small Cap Opportunities vs. Russell 2000 Growth Index

GICS Sector	Small Cap Opportunities Strategy			Russell 2000 Growth Index			Attribution Analysis		
	Avg. Port. Wt.	Port. Return	Port. Contrib.	Avg. Bmrk. Wt.	Bmrk. Return	Bmrk. Contrib.	Alloc. Effect	Select Effect	Total Effect
Total	100.00	13.25	13.25	100.00	5.00	5.00	2.03	6.23	8.25
Information Technology	29.99	15.84	4.63	20.75	7.38	1.41	0.28	2.27	2.55
Health Care	24.43	-2.14	-0.10	32.45	-6.56	-1.77	0.97	1.11	2.08
Consumer Staples	4.16	47.19	1.76	3.19	16.71	0.45	0.21	1.15	1.36
Financials	4.98	35.78	1.30	4.11	10.23	0.40	0.16	0.85	1.01
Industrials	13.35	15.68	2.10	14.59	10.16	1.53	0.06	0.60	0.65
Energy	0.00	0.00	0.00	0.49	49.59	-0.24	0.22	0.00	0.22
Communication Services	2.10	3.18	0.11	2.28	2.98	-0.01	0.09	0.10	0.20
Consumer Discretionary	14.49	23.63	3.20	14.76	20.96	2.51	0.09	0.10	0.19
Utilities	0.00	0.00	0.00	1.31	10.07	0.07	0.16	0.00	0.16
Materials	2.04	12.16	0.26	2.67	13.63	0.29	0.00	0.05	0.05
Real Estate	0.00	0.00	0.00	3.41	12.24	0.37	-0.11	0.00	-0.11
[Cash]	4.45	0.02	0.00	0.00	0.00	0.00	-0.16	0.00	-0.16

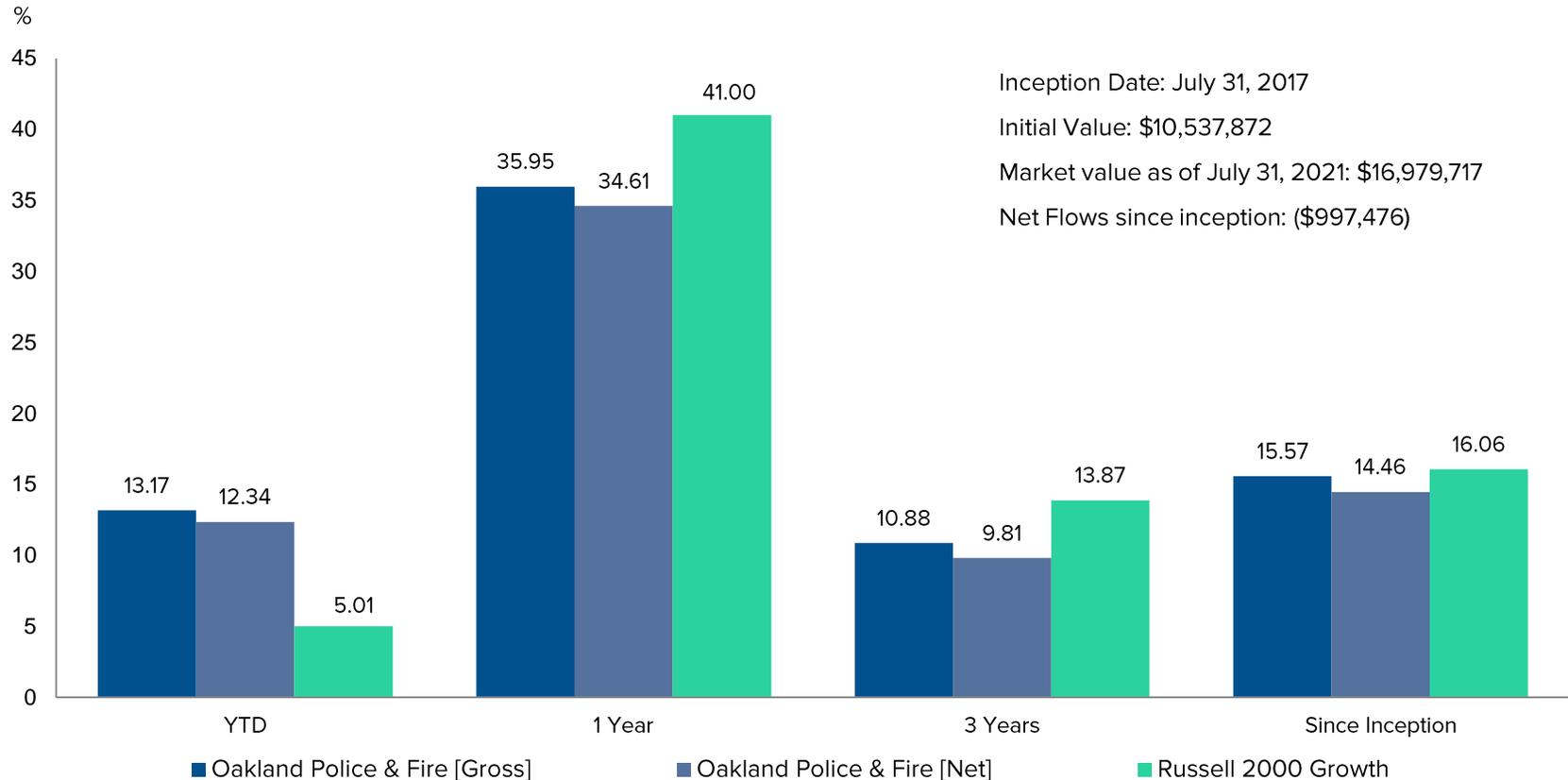
Sources: FactSet, GICS Sector Classification, & FTSE Russell

Past performance does not guarantee future results. Attribution results are based on sector returns, which are gross of fees and include reinvestment of all income. Indices are provided for comparative purposes only. An investor cannot invest directly in an index. Comparisons have limitations because indices may have volatility, investment and other characteristics that may differ from an investment account strategy to which it is compared. Indices are unmanaged, include the reinvestment of dividends and do not reflect transaction costs, management or other fees. Please refer to disclosures at the end of this document.



Oakland Police & Fire Retirement System

Performance Summary – Periods Ending July 31, 2021



Index Source: FTSE Russell

Past performance does not guarantee future results. Performance is reported in U.S. Dollars, annualized for periods greater than one year, gross of advisory fees, net of transaction costs, and inclusive of the reinvestment of dividends and other earnings. Indices are provided for comparative purposes only. An investor cannot invest directly in an index. Comparisons have limitations because indices may have volatility, investment and other characteristics that may differ from an investment account strategy to which it is compared. Indices are unmanaged, include the reinvestment of dividends and do not reflect transaction costs, management or other fees. Please see important disclosure information at the end of this presentation regarding the returns and indices shown above.

Investment Process



RICE HALL JAMES
& ASSOCIATES, LLC

Value Proposition

Long-Term Oriented

- Portfolio Manager/Analysts have an investment horizon that is longer than other micro and small cap growth managers, typically 3 to 5 years.
- Long-term focus allows us to develop an **informational edge** on companies and their management teams relative to our peer group universe.

Experienced & Stable

- Portfolio Manager/Analysts average 28 years of investment experience and 21 years working together.
- Knowledge base that includes a **deep understanding** of the companies' management teams, competitors, and customers.

Quality-Focused

- Portfolio is comprised of companies that generate high returns on invested capital or have the potential to do so in the near future.
- We invest in those companies that we believe have a **sustainable competitive advantage** compared to rivals.

Risk-Controlled

- Structure portfolio weightings in **most compelling ideas** on a risk-adjusted basis.
- Carefully monitor guideposts which are established at the time of initial investment.



Why Earnings Growth & ROIC ?

The probability of alpha generation increases when high earnings growth is coupled with high returns on invested capital.

		EARNINGS GROWTH ¹				
		Less than 0%	0%-10%	10-20%	20%-25%	More than 25%
PERFORMANCE OF RUSSELL 2000 COMPANIES RELATIVE TO OVERALL INDEX						
5-YEAR AVG ROIC ²	More than 15%	(53%)	12%	43%	46%	355%
	10% - 15%	(34%)	(22%)	58%	58%	139%
	5% - 10%	(56%)	(26%)	(11%)	34%	49%
	Less than 5%	(53%)	(46%)	(58%)	(44%)	81%

Historical performance does not guarantee future results

¹ 5-year Earnings Per Share (EPS) growth, compounded annually.

Sources: FactSet & FTSE Russell

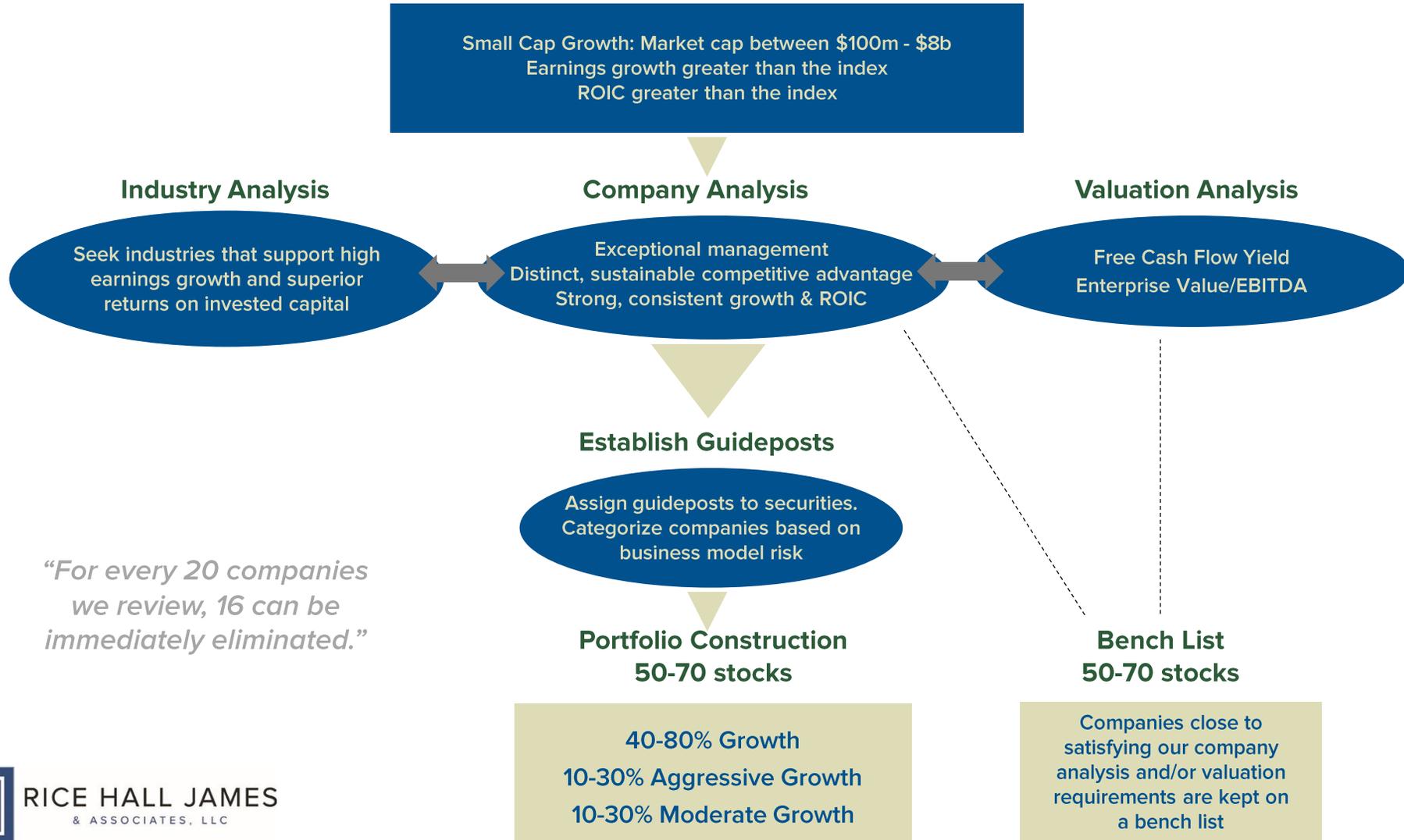
² ROIC = Return on Invested Capital.

Relative performance compares individual Russell[®] 2000 constituent performance vs. an equal-weighted index (Russell 2000) return. Only the Russell 2000 constituents (as of 12/31/2020) with 5 years of measurable history (EPS, ROIC and Performance) were used in the study. The index return is calculated using the combined equal-weighted 5 year return of these Russell 2000 constituents as of 12/31/2020. The Russell[®] 2000 Index measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 Index is a subset of the Russell 3000[®] Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership. The Russell 2000 is constructed to provide a comprehensive and unbiased small-cap barometer and is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set. The index is calculated on a total-return basis with dividends reinvested.



Portfolio Construction

Investable universe is significantly reduced by adhering to this discipline.



Industry Analysis

A large initial universe allows us the freedom to identify and implement our investment strategy within traditional, non-traditional, and emerging growth industries.

- ▶ Industries which have been **historically identified** by companies with high earnings growth and superior returns on invested capital:
 - Technology
 - Health Care
 - Consumer Discretionary

- ▶ Industries exhibiting **changing dynamics**, supporting high growth and superior returns on invested capital:
 - Natural Gas

- ▶ New and **emerging industries** that can support companies with high earnings growth and superior returns on invested capital:
 - Internet



Investment Process - Company Analysis

We perform in-depth research to identify:

▶ **Companies that generate strong and consistent ROIC and earnings growth**

- Large or growing addressable markets
- Stability of existing revenue stream
- Ability to maintain or increase pricing
- High probability of retaining or widening margins

▶ **Capable management teams**

- Experience and integrity
- Track record of success
- Clear goals and viable long-term business model

▶ **Unique, sustainable competitive advantages**

- Proprietary products, services, distribution/manufacturing advantages
- Strategy for defending against competition
- High barriers to entry
- High or improving market share
- Brand name recognition

We maintain contact with management teams of companies we own and all those considered for investment (our bench list)



Investment Process - Valuation Analysis

- ▶ Valuation analysis is a key component of our determination in how we assess a company's absolute & relative attractiveness

Valuation Analysis

- Cash flow analysis that incorporates ROIC & the duration of earnings growth
- Analyze companies across industries and sectors, using common valuation techniques
- Analyze companies relative to valuation of securities in existing portfolio

Other valuation methods:

- P/E to Growth Rate (PEG Ratio)
- Free Cash Flow Yield
- Price to earnings (P/E Ratio)
- Enterprise Value/EBITDA



Investment Process – Establishing Guideposts

- ▶ As part of our research process, we create guideposts for each security:
 - Specific factors unique to each company used to monitor company progress
 - Examples: new drug filings in Health Care, or new store sales productivity in Retail
 - Through this ongoing monitoring process, position sizes are increased or decreased
 - Guideposts help to identify deteriorating or improving fundamentals before they are reflected in the stock price



Investment Process – Portfolio Construction

- ▶ Portfolio Construction is a function of our bottom-up selection process – each holding is grouped into one of the three categories below:

Growth

40-80% of portfolio

- Industry leader and/or gaining market share
- ROIC greater than 10%
- Earnings growth higher than the relative index
- Sustainable competitive advantage
- Proven successful operating history
- High confidence in management

Aggressive Growth

10-30% of portfolio

- Emerging high growth companies with improving ROIC
- Companies in a unique/turnaround situation
- Higher volatility, but higher potential return candidates

Moderate Growth

10-30% of portfolio

- Dominant position in their industry
- Moderate, consistent earnings growth and stable ROIC
- Self-funding and generating strong cash flow



Sell Discipline

Sell discipline is a function of a review and violation of one or more of the following:

- ▶ Change in fundamentals or competitive advantages
- ▶ Missing Guideposts
- ▶ Change in management team
- ▶ Relative Valuation



Summary

- ▶ Disciplined research process with focus on high growth, high return on invested capital companies with good sustainability characteristics
- ▶ Experienced Portfolio Manager/Analysts average 28 years of investment experience and 21 years working together.
- ▶ Proven long-term results with success through a variety of economic environments



Appendix



RICE HALL JAMES
& ASSOCIATES, LLC

Small Cap Opportunities Portfolio

As of June 30, 2021

Consumer Discretionary	14.6%	Health Care	23.7%	Information Technology	29.9%
Century Casinos, Inc.	1.0%	ACADIA Pharmaceuticals, Inc.	0.5%	ACI Worldwide, Inc.	3.0%
LCI Industries	2.5%	Aerie Pharmaceuticals, Inc.	0.7%	CEVA, Inc.	1.5%
Overstock.com, Inc.	1.9%	Albireo Pharma, Inc.	0.6%	Cornerstone Ondemand, Inc.	0.7%
Points International Ltd.	0.3%	Amicus Therapeutics, Inc.	0.4%	Euronet Worldwide, Inc.	1.9%
Pool Corp.	1.4%	Arena Pharmaceuticals, Inc.	0.8%	Ituran Location and Control Ltd.	0.2%
Shutterstock, Inc.	2.3%	Biohaven Pharmaceutical Holding Co., Ltd	1.3%	j2 Global, Inc.	5.0%
Strategic Education, Inc.	1.1%	Collegium Pharmaceutical, Inc.	0.8%	MAXIMUS, Inc.	1.6%
Stride, Inc.	2.4%	Emergent BioSolutions, Inc.	1.2%	Mimecast Ltd.	0.9%
Vail Resorts, Inc.	1.7%	Fate Therapeutics, Inc.	1.4%	Qualys, Inc.	0.8%
		Global Blood Therapeutics, Inc.	0.6%	Rackspace Technology, Inc.	1.5%
Communication Services	2.3%	Insmed, Inc.	0.4%	Radware Ltd.	1.7%
World Wrestling Entertainment, Inc.	2.3%	lovance Biotherapeutics, Inc.	1.1%	Semtech Corp.	2.8%
		Karyopharm Therapeutics, Inc.	0.6%	Silicon Motion Technology Corp. ADR	2.5%
Consumer Staples	4.2%	Kiniksa Pharmaceuticals Ltd.	0.5%	SolarWinds Corp.	0.3%
Medifast, Inc.	4.2%	Ligand Pharmaceuticals, Inc.	2.0%	Wix.com Ltd.	1.8%
		Medpace Holdings, Inc.	1.8%	WNS Holdings Ltd. ADR	3.8%
		Nektar Therapeutics	0.4%		
Industrials	12.5%	OptiNose, Inc.	0.1%	Financials	6.2%
Armstrong World Industries, Inc.	2.0%	Pacira Biosciences, Inc.	0.7%	Axos Financial, Inc.	2.1%
Echo Global Logistics, Inc.	1.1%	Premier, Inc.	2.1%	Bank OZK	1.1%
Franklin Covey Co.	0.4%	Prestige Consumer Healthcare, Inc.	2.5%	Donnelley Financial Solutions, Inc.	2.3%
IAA, Inc.	1.2%	Puma Biotechnology, Inc.	0.1%	Federal Agricultural Mortgage Corp.	0.7%
Masonite International Corp.	3.6%	Reata Pharmaceuticals, Inc.	0.8%		
MSC Industrial Direct Co., Inc.	0.4%	Revance Therapeutics, Inc.	1.0%	Materials	2.1%
PGT Innovations, Inc.	1.1%	Supernus Pharmaceuticals, Inc.	1.0%	Ingevity Corp.	2.1%
Willdan Group, Inc.	0.9%	Zogenix, Inc.	0.3%		
XPO Logistics, Inc.	1.6%				

Total Equity	95.5%
Total Cash	4.5%

Sources: FactSet & S&P Dow Jones Indices LLC

Past performance is no guarantee of future results. Holdings are subject to change and are based on a representative account. Sector weightings may not add up to 100% due to rounding. A complete list of portfolio holdings and specific securities transactions for the preceding 12 months is available upon request. It should not be assumed that recommendations made in the future will be profitable or will equal the performance of securities in this article. Rice Hall James & Associates, LLC, or one or more of its officers, may have a position in the securities discussed herein and may purchase or sell such securities from time to time.

The Global Industry Classification Standard (GICS®) was developed by and is the exclusive property and a trademark of S&P and MSCI. Neither MSCI, S&P nor any other party involved in making or compiling any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.



RICE HALL JAMES
& ASSOCIATES, LLC

Portfolio Guidelines

Position Limit Parameters

Position size is scaled up or down based on evolving reward to risk profile

Position Limit at Market	6%
Portfolio Holdings	50-70
Cash Weight	Typically less than 5%

Market Cap Range

Between \$100 million and \$8.0 billion market capitalization at time of purchase

Sector Weight Parameters

Sector weights are +/-1000 basis points of the benchmark weights of the major economic sectors

Allocations as of June 30, 2021

Capitalization	RHJ Small Cap Opportunities	Russell 2000 Growth Index
>\$5 billion	26.2%	26.0%
\$2 billion - 5 billion	53.6%	51.9%
\$750 million - 2 billion	16.3%	17.1%
\$400 million - 750 million	2.2%	3.9%
<\$400 million	1.7%	1.2%

	RHJ Small Cap Opportunities	Russell 2000 Growth Index
Communication Services	2.3%	3.0%
Consumer Discretionary	14.6%	15.2%
Consumer Staples	4.2%	3.6%
Energy	0.0%	2.1%
Financials	6.2%	4.9%
Health Care	23.7%	30.4%
Industrials	12.5%	13.4%
Information Technology	29.9%	21.3%
Materials	2.1%	3.0%
Real Estate	0.0%	2.8%
Utilities	0.0%	0.3%
Cash	4.5%	0.0%

Sources: FactSet & GICS Sector Classification



Small Cap Opportunities

Portfolio Characteristics as of June 30, 2021

	RHJ Small Cap Opportunities	Russell 2000 Growth Index
Long-Term Earnings Growth Forecast	14.1%	18.5%
P/E Ratio - 1 Year Forecast ¹	19.1	21.2
Weighted Median Market Cap	\$3.58 billion	\$3.56 billion
Weighted Average Market Cap	\$4.34 billion	\$3.78 billion
Alpha (5 Years)	-0.34%	-
Beta (5 Years)	0.99	-
Information Ratio (5 Years)	-0.14	-
Standard Deviation (5 Years)	21.5%	20.8%
Active Share	94.1%	-
Number of Holdings	67	1,175

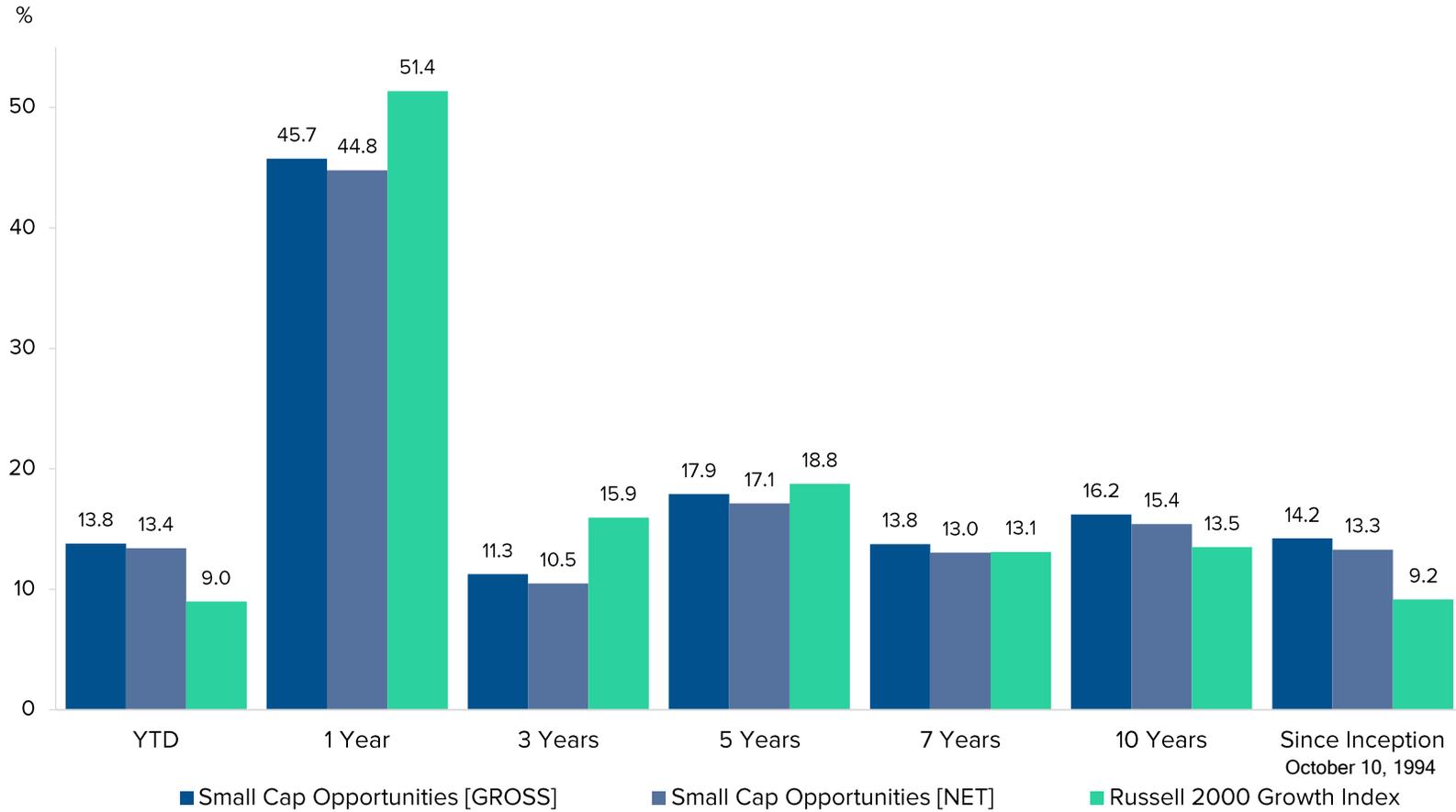
Sources: FactSet & eVestment Analytics

¹P/E Ratio calculation excludes companies with negative earnings.

The information above is based on a representative account. Please see important disclosure information at the end of this presentation regarding the indices shown above.

Small Cap Opportunities

Returns for Periods Ending June 30, 2021



Periods 1-Year or greater are Annualized

Source: FTSE Russell



Past performance does not guarantee future results. Performance is preliminary and subject to change. Composite returns are shown both gross and net of fees in U.S. dollars. Rice Hall James & Associates, LLC's compliance with the GIPS standards has been verified for the period January 1, 1993 through December 31, 2020. RHJ's GIPS Report is located at the end of this presentation as well as other important disclosure information regarding the returns and indices shown above.

Small Cap Opportunities

	RHJ Small Cap Opportunities Composite Gross of Fees	RHJ Small Cap Opportunities Composite Net of Fees	Russell 2000 Growth Index
2021 June YTD	13.79%	13.42%	8.98%
2020	24.50%	23.65%	34.63%
2019	18.85%	18.04%	28.48%
2018	-6.49%	-7.11%	-9.31%
2017	28.71%	27.93%	22.17%
2016	11.93%	11.28%	11.32%
2015	-0.06%	-0.60%	-1.38%
2014	8.41%	7.69%	5.60%
2013	56.34%	55.12%	43.30%
2012	14.56%	13.62%	14.59%
2011	9.55%	8.68%	-2.91%
2010	38.73%	37.65%	29.09%
2009	48.47%	47.27%	34.47%
2008	-43.34%	-43.71%	-38.54%
2007	10.48%	9.50%	7.05%
2006	7.10%	6.11%	13.35%
2005	11.46%	10.42%	4.15%
2004	10.03%	9.04%	14.31%
2003	50.70%	49.31%	48.54%
2002	-29.41%	-30.07%	-30.26%
2001	-28.87%	-29.52%	-9.23%
2000	-13.23%	-14.01%	-22.43%
1999	87.81%	86.06%	43.09%
1998	16.33%	15.20%	1.23%
1997	28.67%	27.41%	12.95%
1996	53.30%	51.78%	11.26%
1995	25.69%	24.45%	31.04%
1994*	20.70%	20.39%	0.43%



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*Performance represents a non-annualized partial period return beginning on the composite's inception date October 10, 1994. Source: FTSE Russell
Past performance does not guarantee future results. Performance is preliminary and subject to change. Composite returns are shown both gross and net of fees in U.S. dollars. Rice Hall James & Associates, LLC's compliance with the GIPS standards has been verified for the period January 1, 1993 through December 31, 2020. RHJ's GIPS Report is located at the end of this presentation as well as other important disclosure information regarding the returns and indices shown above.

Biographies

Portfolio Management & Analysis Team

Lou Holtz, CFA

Chief Investment Officer & Portfolio Manager/Analyst

Lou joined RHJ in October 2008 and has 29 years of investment experience. Prior to joining the firm he was a Managing Director and Portfolio Manager at Engemann Asset Management. Prior to that, Lou was a business valuation analyst at a national independent appraisal firm and an analyst for a regional real estate appraisal firm. Lou holds a Bachelor of Arts degree in business economics with honors from the University of California, Santa Barbara and an M.B.A. with an emphasis in finance from the University of Southern California, where he was on the Dean's List. Lou is a CFA® charterholder. He is a member of CFA Society Los Angeles.

Yossi Lipsker, CFA

Portfolio Manager/Analyst

Yossi joined RHJ in October 2008 and has 26 years of investment experience. Prior to joining the firm he was a Managing Director and Portfolio Manager at Engemann Asset Management. He received an M.B.A. with an emphasis in finance from Columbia Business School. While at Columbia he excelled academically, gaining membership in both the Beta Gamma Sigma Honor Society and the Dean's List. Additionally, Yossi holds a B.R.S. degree in religious studies from the Rabbinical College of America. Yossi is a CFA® charterholder. He is a member of CFA Society Los Angeles.

Anthony S. Yamarone, CFA

Analyst

Tony joined RHJ in September 2016. Prior to joining the firm, he worked at Ameriprise Financial as a member of their financial planning team. He received a B.S. in Business Administration from San Francisco State University and an M.S. in Financial Analysis and Investment Management from Saint Mary's College of California. Tony is a CFA® charterholder. He is a member of CFA Society Los Angeles.

Dakota Safford

Analyst

Dakota joined RHJ in August 2017. Prior to joining the firm, he worked at Advanced Financial Strategies as a financial analyst. He received a B.A. in Business Economics from the University of California, Irvine. While at UCI, he was involved in the Student Managed Investment Fund, where he performed equity research and evaluated portfolio structures. Dakota is a CFA® Level III candidate.

Alec R. Harrell, CFA

Analyst

Alec joined RHJ in December 2017 and has 18 years of investment experience. Prior to joining the firm he was a Senior Portfolio Manager/Analyst at Northern Trust Asset Management. Prior to that, Alec worked as a Portfolio Manager/Analyst for Convergent Fund Management and an Analyst for Needelman Asset Management. His experience includes fundamental research on U.S. and international securities as well as the development of quantitative equity strategies. He received a B.A. in politics, philosophy and economics from Claremont McKenna College and a J.D. and M.B.A. from the University of Southern California [USC]. Alec is a CFA® charterholder. He is a member of CFA Society Los Angeles.



Biographies

Trading

DJ Devin

Head Securities Trader

DJ joined the firm in June 1981 and served in several administrative and trade-related positions. In 1986, she assumed responsibility for the execution of all trades and management of soft dollars and commissions. She received a Certificate in Personal Financial Planning from San Diego State University and is a member of the Security Traders Association of Los Angeles.

Jorji-Ann McAllister

Trader

Jorji-Ann joined RHJ in May 1987 and has served in several administrative and trade related positions. Jorji-Ann completes all trading functions, including placement and execution of orders. She received a B.S. from Kearney State College, Kearney, Nebraska.

Brandon Toney

Trader

Brandon joined RHJ in March 2017. Prior to joining the firm, he worked at Wall Street Associates for two years as a trader. He received a B.S. in Finance from San Diego State University. Brandon is a CFA® charterholder. He is a member of CFA Society San Diego.

Marketing & Client Service

Thao N. Buuhoan

President & Chief Operating Officer

Thao joined RHJ in June of 2000 and was initially responsible for Institutional Marketing and Client Service. In 2009, Thao assumed responsibility as President and Chief Operating Officer and leads the growth and strategic initiatives of the firm. She also oversees Compliance, Operations, and Trading, in addition to her Marketing and Client Service responsibilities. Prior to joining RHJ, she was a Marketing Manager at State Street Global Advisors in Hong Kong, responsible for sales and marketing to Asian institutions. Thao is a former board member of AAAIM (Association of Asian American Investment Managers) and continues to be active with a number of affinity groups focused on Diversity, Equity, and Inclusion. She received a B.A. from the University of Pennsylvania.

Michael C. Meoli

Director of Client Service & Marketing

Mike joined RHJ in March 2011 and is responsible for Institutional Marketing and Consultant Relations. Prior to joining the firm, he worked at Everest Capital where he focused on consultant relations and business development. Other previous work experience includes business development at Pathway Capital Management and conducting research on investment managers at an institutional investment consulting firm. Mike holds a B.A. from Concordia University and an M.B.A. from the University of California, Irvine.



Biographies

Administration

Carl M. Obeck *Chief Financial Officer*

Carl joined RHJ as Marketing Manager in 2003 and was promoted to Chief Administrative Officer in 2004 and Chief Financial Officer in 2009. Prior to joining the firm, Carl was responsible for Institutional Consulting Relationships and Marketing at Freeman Associates Investment Management. He also served as Director of Marketing at Messner & Smith. Previous experience includes Corporate Vice President at Montgomery Asset Management and Product Manager for Citibank London NA. Carl has a B.A. from the University of Delaware and an M.A. from Webster University in Vienna, Austria.

Janine Marquez, IACCP® *Chief Compliance Officer*

Janine joined RHJ in July 2002. Janine was appointed Chief Compliance Officer (CCO) for RHJ in June 2009. As CCO, she is responsible for oversight and implementation of the compliance program and regulatory requirements for the firm. Throughout her tenure with RHJ, Janine has held various roles within Marketing, Trading and Compliance. Previously, she was a Senior Investment Analyst at Callan Associates Inc. She was responsible for researching and analyzing money management firms for pension fund plan sponsors. She holds a B.S. degree from California Polytechnic State University, San Luis Obispo, California. Additionally, Janine holds the designation of Investment Adviser Certified Compliance Professional® (IACCP®).

Shelley Hamilton *Senior Compliance Manager*

Shelley joined RHJ in February 1997, and has 32 years of industry experience. Shelley was promoted to Senior Compliance Manager for RHJ in November 2018. Throughout her tenure with RHJ, Shelley has held various roles within the Operations Department, including Operations Manager, Project Manager and Operations Administrator.

Tony Shaw, CFA *Director of Operations*

Tony joined the firm in August 2010 and has 28 years of experience in the financial services industry. Prior to joining RHJ, he served as Vice President at LPL Financial overseeing areas in operations and client services as well as issue resolution. Tony holds a B.A. degree from San Diego State University. Tony is a CFA® charterholder.

Brett Knight *Director of Information Technology*

Brett joined RHJ in April 2015 as Director of Information Technology and the acting Information Security Officer. He has 21 years of industry experience. Prior to joining the firm, Brett was a founding partner at Bravura Networks Inc., a managed service provider in the IT industry. Brett has a B.S. in Business Administration with an emphasis in Management Information Systems from San Diego State University; additionally, Brett holds a Microsoft Certified Systems Engineer (MCSE) certification.



Investment Statistics: Definitions & Formulas

Active Share - This is a measure of the percentage of stock holdings in the portfolio that differs from the benchmark index. Active Share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the portfolio versus the weight of each holding in the benchmark index and dividing by two.

Alpha - The incremental return of a manager when the market is stationary. In other words, it is the extra return due to nonmarket factors. This risk-adjusted factor takes into account both the performance of the market as a whole and the volatility of the manager. A positive alpha indicates that a manager has produced returns above the expected level at that risk level, and vice versa for a negative alpha. Alpha is the Y intercept of the regression line.

$$\text{Alpha } (\alpha) = X - [\text{Beta} * Y]$$

X = the mean return for the manager

Y = the mean return for the index

Information Ratio - This statistic is computed by subtracting the return of the market from the return of the manager to determine the excess return. The excess return is then divided by the standard deviation of the excess returns (or Tracking Error) to produce the information ratio. This ratio is a measure of the value added per unit of active risk by a manager over an index. Managers taking on higher levels of risk are expected to then generate higher levels of return, so a positive IR would indicate "efficient" use of risk by a manager. This is similar to the Sharpe Ratio, except this calculation is based on excess rates of return versus a benchmark instead of a risk-free rate.

$$\text{IR} = \frac{\text{Excess Return}}{\text{Tracking Error}}$$

Long-Term Earnings Growth Forecast - Long-Term Growth [LTG] is the annual EPS growth that the company can sustain over the next 3 or 5 years.

P/E Ratio - 1 Year Forecast - A forward-looking valuation measure of a company's common stock, excluding negative earnings. It encapsulates the amount of earnings estimated for next year per dollar of current share price. For the portfolio, the individual P/E stock ratios are then weighted by their respective portfolio market values in order to calculate a weighted average representative of the portfolio as a whole.

Sources: eVestment Analytics & FactSet



Important Disclosures

Rice Hall James, LLC ("RHJ") obtained some of the information provided herein from third party sources believed to be reliable but it is not guaranteed. Data contained herein is for informational purposes only and should not be considered a recommendation to buy or sell any securities. Nothing presented herein is or is intended to constitute investment advice, and no investment decision should be made based solely on any information provided herein. RHJ has not taken into account the investment objectives, financial situation or particular needs of any individual investor who may view this report. There is a risk of loss from an investment in securities, including the risk of loss of principal. Different types of investments involve varying degrees of risk, and there can be no assurance that any specific investment will be profitable or suitable for a particular investor's financial situation or risk tolerance. Asset allocation and portfolio diversification cannot assure or guarantee better performance and cannot eliminate the risk of investment losses.

GICS Sector Classification

The Global Industry Classification Standard (GICS®) was developed by and is the exclusive property and a trademark of S&P and MSCI. Neither MSCI, S&P nor any other party involved in making or compiling any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

Source: S&P Dow Jones Indices LLC

Indices Disclosure

Indices are provided for comparative purposes only. An investor cannot invest directly in an index. Comparisons have limitations because indices may have volatility, investment and other characteristics that may differ from an investment account strategy to which it is compared. Indices are unmanaged, include the reinvestment of dividends and do not reflect transaction costs, management or other fees. See below for a description of each index used in this presentation.

Russell 2000® Growth Index

The Russell 2000® Growth Index measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 companies with higher price-to-value ratios and higher forecasted growth values. The Russell 2000 Growth Index is constructed to provide a comprehensive and unbiased barometer for the small-cap growth segment. The Index is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set and that the represented companies continue to reflect growth characteristics.

Index Definition Source: FTSE Russell



GIPS Report

RHJ Small Cap Opportunities Composite

Year End	Annual Performance Results				3-Year Annualized Standard Deviation	
	Composite Gross Returns	Composite Net Returns	Russell 2000 Growth	Composite Dispersion Gross Returns	Composite Gross Returns	Russell 2000 Growth
2020	24.50%	23.65%	34.63%	0.43%	26.10%	25.10%
2019	18.85%	18.04%	28.48%	0.11%	15.65%	16.37%
2018	-6.49%	-7.11%	-9.31%	0.28%	16.34%	16.46%
2017	28.71%	27.93%	22.17%	0.14%	14.14%	14.59%
2016	11.93%	11.28%	11.32%	0.13%	15.57%	16.67%
2015	-0.06%	-0.60%	-1.38%	0.41%	14.26%	14.95%
2014	8.41%	7.69%	5.60%	N/A ¹	13.02%	13.82%
2013	56.34%	55.12%	43.30%	N/A ¹	14.91%	17.27%
2012	14.56%	13.62%	14.59%	N/A ¹	18.25%	20.72%
2011	9.55%	8.68%	-2.91%	N/A ¹	22.77%	24.31%
2010	38.73%	37.65%	29.09%	N/A ¹	28.56%	27.70%
2009	48.47%	47.27%	34.47%	N/A ¹	26.27%	24.85%
2008	-43.34%	-43.71%	-38.54%	N/A ¹	21.32%	21.26%
2007	10.48%	9.50%	7.05%	N/A ¹	13.87%	14.23%
2006	7.10%	6.11%	13.35%	N/A ¹	15.82%	15.57%
2005	11.46%	10.42%	4.15%	N/A ¹	17.92%	16.51%
2004	10.03%	9.04%	14.31%	N/A ¹	23.95%	21.40%
2003	50.70%	49.31%	48.54%	N/A ¹	34.03%	27.00%
2002	-29.41%	-30.07%	-30.26%	N/A ¹	43.88%	33.33%
2001	-28.87%	-29.52%	-9.23%	N/A ¹	46.49%	33.58%
2000	-13.23%	-14.01%	-22.43%	N/A ¹	42.60%	33.28%
1999	87.81%	86.06%	43.09%	N/A ¹	32.26%	26.31%
1998	16.33%	15.20%	1.23%	N/A ¹	28.77%	25.03%
1997	28.67%	27.41%	12.95%	N/A ¹	21.20%	18.27%
1996	53.30%	51.78%	11.26%	N/A ¹		
1995	25.69%	24.45%	31.04%	N/A ¹		
1994 ¹	20.70%	20.39%	1.40%	N/A ¹		



RICE HALL JAMES
& ASSOCIATES, LLC

N/A¹ - Information is not statistically meaningful due to an insufficient number of portfolios in the composite for the entire calendar year (five or fewer).

¹Results shown for the year 1994 represent partial period performance from October 10 through December 31, 1994.

GIPS Report

RHJ Small Cap Opportunities Composite

Year End	Composite Assets		Firm Assets (\$ M)			Strategy Assets (\$ M)		
	Number of Accounts	USD (\$ M)	Total Assets Under Management	Total Advisory-Only Assets	Total Assets Under Management + Advisory-Only Assets*	Total Assets Under Management	Total Advisory-Only Assets	Total Assets Under Management + Advisory-Only Assets
2020	19	1,333	3,120	205	3,325	1,634	19	1,653
2019	20	1,110	3,359	207	3,566	1,495	25	1,520
2018	20	991	3,051	199	3,250	1,383	19	1,402
2017	19	1,121	3,607	235	3,842	1,634	14	1,648
2016	20	813	2,843	65	2,907	1,194	-	1,194
2015	17	557	2,258	-	2,258	784	-	784
2014	10	255	1,955	2	1,958	434	-	434
2013	Five or fewer	54	1,514	2	1,516	66	-	66
2012	Five or fewer	30	1,087	8	1,095	31	-	31
2011	Five or fewer	35	1,144	6	1,150	36	-	36
2010	Five or fewer	50	1,312	2	1,314	50	-	50
2009	Five or fewer	40	1,203	1	1,205	41	-	41
2008	Five or fewer	27	1,030	-	1,030	28	-	28
2007	Five or fewer	187	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2006	Five or fewer	211	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2005	Five or fewer	254	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2004	Five or fewer	369	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2003	Five or fewer	360	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2002	Five or fewer	259	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2001	Five or fewer	463	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2000	Five or fewer	407	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1999	Five or fewer	244	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1998	Five or fewer	101	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1997	Five or fewer	53	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1996	Five or fewer	9	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1995	Five or fewer	2	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1994	Five or fewer	0	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹



GIPS Report

The RHJ Small Cap Opportunities Composite contains all fully discretionary, tax-exempt, institutional, and high net worth portfolios invested in small cap companies that have three primary characteristics: high earnings growth, high or improving return-on-invested capital, and sustainable competitive advantages. The composite was created on April 1, 1999, and the inception date is October 10, 1994. The performance presented prior to October 1, 2008, represents that of a prior firm and was known as the Small Cap Growth Institutional Composite. The portfolio management team members were the only individuals responsible for selecting securities to buy and sell. The minimum account size for this composite is \$1 million. From January 1, 1996 to March 31, 2004, the minimum account size was \$5 million. Prior to January 1, 1996, there was no minimum. For comparison purposes the composite is measured against the Russell 2000 Growth index.

Results are based on fully discretionary accounts under management, including those accounts no longer with the firm. As of January 1, 2005, composite policy requires the temporary removal of any portfolios incurring a client initiated significant cash inflow or outflow of 50% or greater of portfolio assets. The temporary removal of such an account occurs at the beginning of the month in which the significant cash flow occurs and the account re-enters the composite the month after the cash flow is fully invested. From January 1, 2005 to June 30, 2006, the temporary removal of such an account occurred at the beginning of the month in which the significant cash flow occurred and the account is re-entered into the composite the month after the cash flow. From July 1, 2006 to September 30, 2008, the temporary removal of such an account occurs at the beginning of the quarter in which the significant cash flow occurs and the account re-enters the composite the second calendar quarter after the cash flow. As of September 30, 2008, the temporary removal of such an account occurs at the beginning of the month in which the significant cash flow occurred and the account is re-entered into the composite the month after the cash flow. Additional information regarding the treatment of significant cash flows is available upon request. Past performance is not indicative of future results.

Founded in 1974, Rice Hall James & Associates, LLC is an SEC registered investment adviser. The firm is 100% employee owned.

The U.S. Dollar is the currency used to express performance. Returns are presented gross and net of management fees, and include the reinvestment of all income. Net of fee performance was calculated using actual management fees. The annual composite dispersion presented is an asset-weighted standard deviation calculated for the gross returns of accounts in the composite the entire year. Additional information regarding policies for valuing investments, calculating performance, and preparing GIPS Reports are available upon request. The firm maintains a complete list of pooled funds and composite descriptions, which is available upon request.

Indices are provided for comparative purposes only. An investor cannot invest directly in an index. Comparisons have limitations because indices may have volatility, investment and other characteristics that may differ from an investment account strategy to which it is compared. Indices are unmanaged, include the reinvestment of dividends, and do not reflect transaction costs, management, or other fees. The Russell 2000® Growth Index measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 companies with higher price-to-value ratios and higher forecasted growth values. The Russell 2000 Growth Index is constructed to provide a comprehensive and unbiased barometer for the small-cap growth segment. The Index is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set and that the represented companies continue to reflect growth characteristics.

The management fee schedule is as follows: 1.0% flat rate. Actual investment advisory fees incurred by clients may vary.

Rice Hall James & Associates, LLC claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Rice Hall James & Associates, LLC has been independently verified for the periods January 1, 1993 through December 31, 2020. A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. The RHJ Small Cap Opportunities Composite has had a performance examination for the periods October 1, 2008 through December 31, 2020. The verification and performance examination reports are available upon request at the following address: 600 West Broadway, Suite 1000, San Diego, California 92101.

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MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group
DATE: August 25, 2021
RE: Rice Hall James– Manager Update

Manager: Rice Hall James

Inception Date:	July, 2017	OPFRS AUM (6/30/2021):	\$17.1 million
Strategy:	Small Cap Opportunities	Firm-wide AUM (6/30/2021):	\$3.3 billion
Benchmark:	Russell 2000 Growth	Strategy AUM (6/30/2021):	\$2.7 billion

Summary & Recommendation

Rice Hall James has experienced poor relative performance in 2019 and 2020, which has resulted in negative relative performance over all longer-term periods measured. Meketa has no organizational concerns with Rice Hall James at this time; however, excess performance over the most recent periods continue to lag, therefore, **Meketa recommends Rich Hall James (RHJ) continue to be placed on “Watch” status due to performance concerns.**

Discussion

Rice Hall James began managing OPFRS’s small cap growth portfolio at the beginning of July 2017, which is now approximately \$17.1 million or about 3% of OPFRS’s total allocation. The second quarter of 2021 was beneficial to the portfolio as RHJ produced a 13.8% net of fee return compared to the Russell 2000 Growth index of 9.0%. YTD the portfolio is up 4.8% relative to the index.

OPFRS Portfolio Annualized Returns (as of 6/30/2021)

Manager	Mkt Value (\$000)	Asset Class	YTD	1 YR	3 YR	Since Inception	Inception Date
Rice Hall James (Gross)	17,077	Small Cap Growth	13.8	45.6	11.4	15.5	7/2017
<i>Russell 2000 Growth</i>	---	---	9.0	51.4	15.9	17.4	---
Excess Return	---	---	4.8	-5.8	-4.5	-1.9	---
Rice Hall James (Net)	17,077	Small Cap Growth	13.3	44.6	10.4	14.5	7/2017
<i>Russell 2000 Growth</i>	---	---	9.0	51.4	15.9	17.4	---
Excess Return	---	---	4.3	-6.8	-5.5	-2.9	---

Over the second quarter of 2021, the portfolio earned a 5.1% gross of fees return, outperforming its benchmark by 1.2%. Rice Hall James lagged its benchmark by (5.8%) over the latest 1-year period, and has underperformed its benchmark since inception by (2.9%).

Rolling 3-Month Excess Returns Since Inception– Net of Fees



The above chart displays quarterly excess returns on a rolling basis. Since inception, the portfolio has outperformed its benchmark approximately 41% of the time. Rice Hall James had mixed results in 2018, negative results in 2019 and mixed results in 2020, improving through first half of 2021.

Product and Organization Review Summary

Rice Hall James	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		Watch Status - X		Termination

A review of Rice Hall James and the Small Cap Opportunities Strategy revealed no significant organizational issues or changes. Since Rice Hall James last manager update in 2017, there has been no turnover in the portfolio management team and there was no reported turnover among the analyst team.

Investment Philosophy & Process, per manager

Rice Hall James' Small Cap Opportunities strategy employs a fundamental, bottom-up analytical process to identify companies that meet three primary criteria: high earnings growth, high or improving return-on-invested capital (ROIC), and sustainable competitive advantages. RHJ's philosophy is rooted in historical analysis indicating the high relative return potential of these factors in combination. They believe that superior results can be achieved by owning companies that exhibit not only high earnings growth, but also the ability to sustainably generate high ROIC over long periods of time. RHJ's investment universe consists of companies with market capitalizations between \$100 million and \$4 billion at the time of purchase.

The heart of RHJ's process is fundamental, bottom-up analysis at the company level. The portfolio managers conduct all research on every company held in the portfolio. As generalists, each with over twenty years of investment experience, both portfolio managers bring to bear extensive knowledge of the companies they own or follow, understanding of industries, and general expertise on the small cap landscape in various market environments. Cornerstones of the bottom-up fundamental investment process include:

- Clear understanding of a firm's competitive context and advantages
- Assessment of the sustainability characteristics of the underlying business
- Emphasis on high or improving ROIC; a clear sense of the future direction of ROIC
- Estimation of ability to generate and grow free cash flow over life of the investment
- Valuation that affords a reasonable return over investment horizon
- Scrutiny of company management, ability to identify/ execute on the right plan

Idea generation begins with an analysis of companies within the FactSet universe with market caps ranging from \$100 million to \$4 billion, with an emphasis on growth-oriented industries comprised of companies that feature high earnings growth and high ROIC criteria. Health Care, Technology, and Consumer traditionally have been rich with such companies. They also look for new or emerging industries that can support high growth companies going forward. While these types of investments typically carry more risk, certain areas of the internet and biotechnology, for example, management believes they can create space for attractive long-term growth characteristics.

Finally, RHJ looks for catalysts within industries that are not typically associated with growth characteristics, seeking to capitalize on tactical growth opportunities that arise due to demographic, regulatory and supply/demand issues. Cyclical industries can provide the landscape for attractive growth opportunities to crop up due to such changes.

At the company level, RHJ focuses on businesses that can generate above-average earnings and free cash flow relative to the benchmark. Management favors companies that they believe can achieve these results in tandem with sustained high ROIC, or that can increase their returns to above-average levels over the relevant investment horizon. It is essential that a company can protect these attributes through a well-defined, competitive position, which will protect growth, margins and returns.

Since strong relative results tend to manifest over longer holding periods, RHJ focuses on long-term sustainability factors rather than short-term data points and market movements; as such, low turnover is a notable characteristic of the portfolio.

Disclosure

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

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

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

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

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

Economic and Market Update

Data as of July 31, 2021

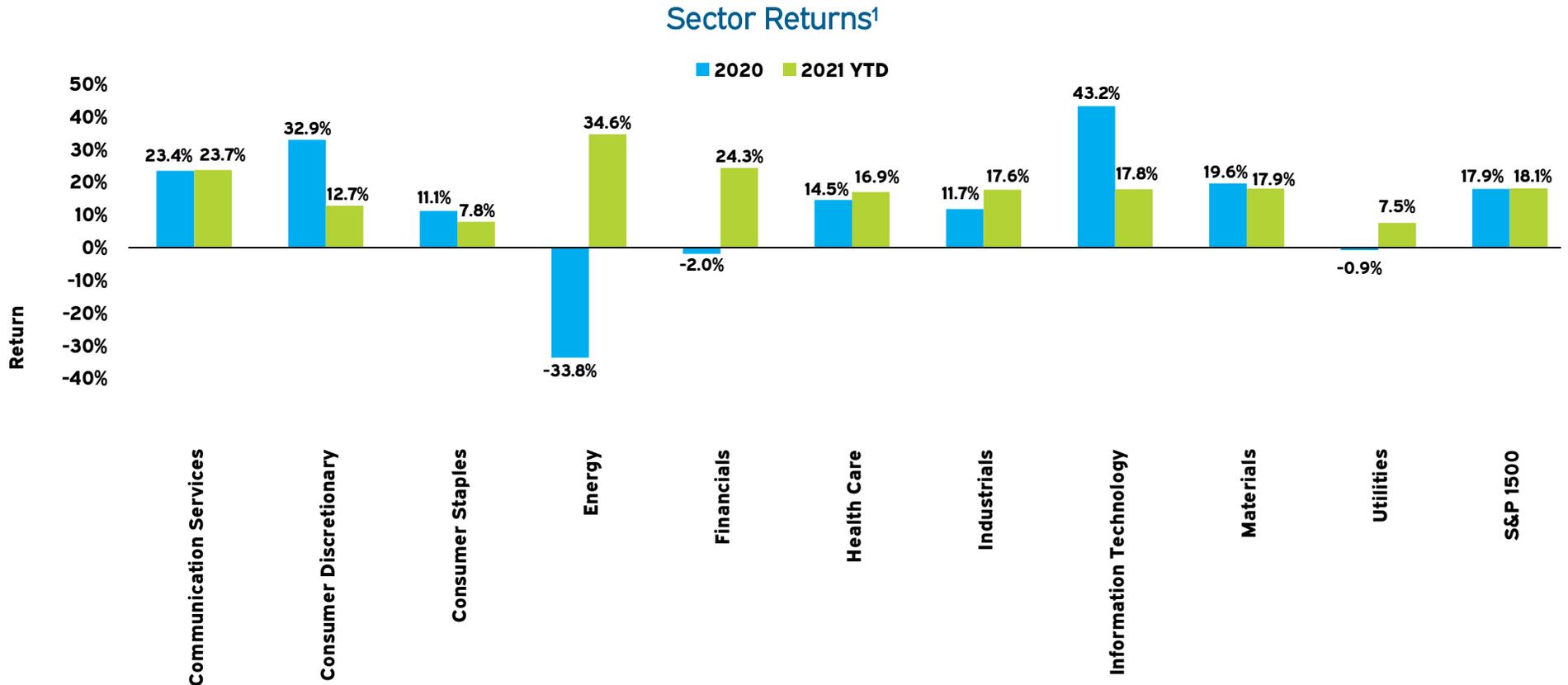


Market Returns¹

Indices	July	YTD	1 Year	3 Year	5 Year	10 Year
S&P 500	2.4%	18.0%	37.5%	18.3%	17.3%	15.3%
MSCI EAFE	0.8%	9.7%	28.5%	7.6%	9.4%	6.1%
MSCI Emerging Markets	-6.7%	0.2%	20.3%	7.8%	10.4%	3.6%
MSCI China	-13.8%	-12.3%	0.4%	5.6%	12.4%	6.2%
Bloomberg Barclays Aggregate	1.1%	-0.5%	-0.7%	5.8%	3.1%	3.3%
Bloomberg Barclays TIPS	2.7%	4.4%	7.2%	7.7%	4.5%	3.3%
Bloomberg Barclays High Yield	0.4%	4.0%	10.8%	7.2%	7.0%	6.6%
10-year US Treasury	2.2%	-2.1%	-4.9%	7.0%	2.2%	3.5%
30-year US Treasury	4.1%	-5.5%	-14.9%	10.5%	3.3%	6.8%

- Record fiscal and monetary stimulus and positive developments with the COVID-19 vaccine have led to continued strong returns in developed market equities producing significant gains over the trailing year.
- In July, Treasuries continued to rally, particularly longer dated issues, as longer-term economic growth expectations declined.
- Equity markets had mixed results in July with the US leading the way. The strengthening of the US dollar over the last few months, and continued vaccine rollout struggles, weighed on international equity markets. China's crackdown on technology and education companies weighed on the broader emerging markets index.

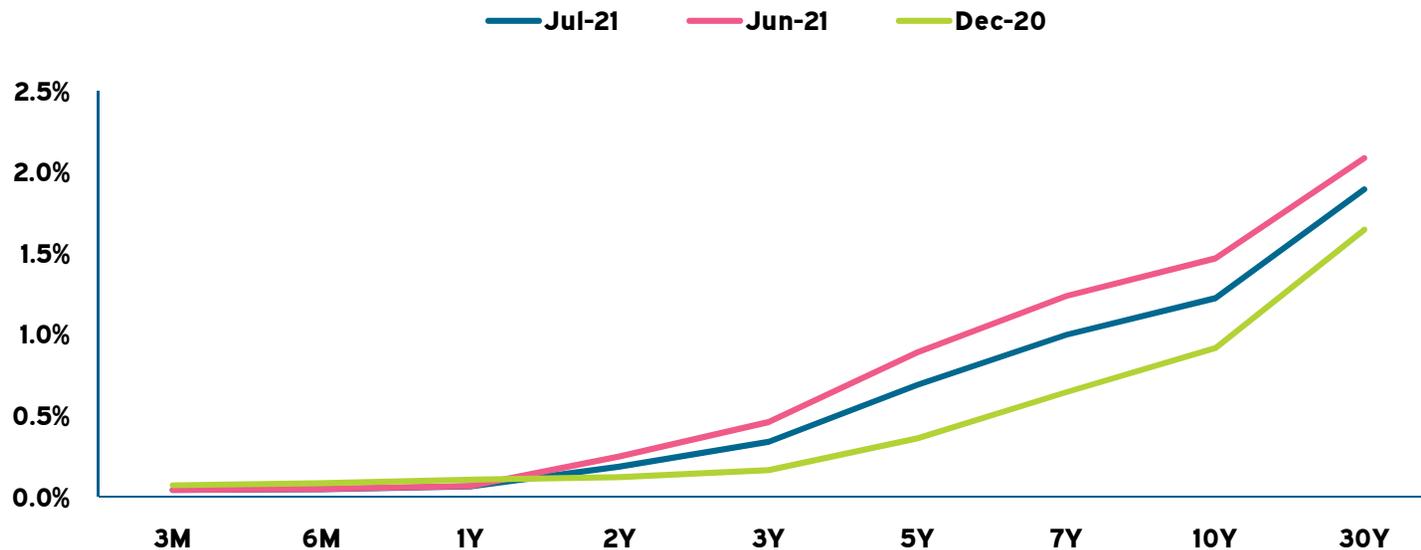
¹ Source: Investment Metrics and Bloomberg. Data is as of July 31, 2021.



- Cyclical sectors like energy and financials continue to lead the way in 2021, despite growth's recovery in June and July, as some investors rotated out of stay-at-home focused companies in the technology sector while the economy reopens.

¹ Source: Bloomberg. Data is as of July 31, 2021.

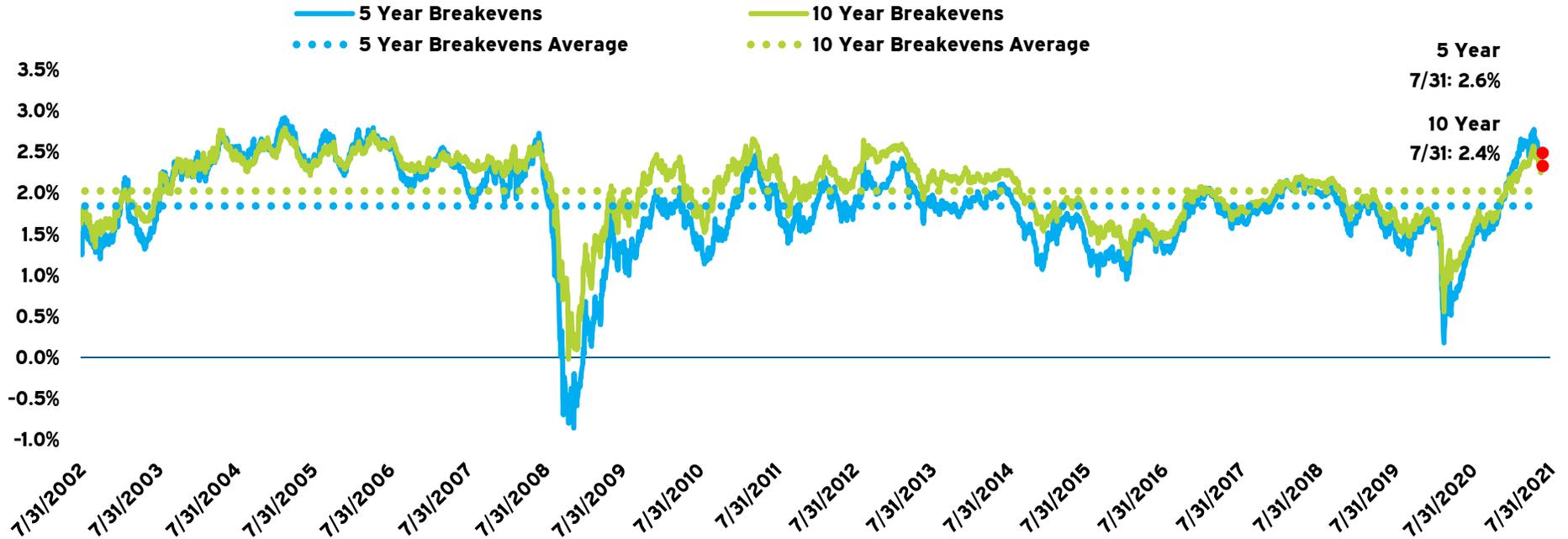
US Yield Curve Begins to Flatten After Sharp Steepening to Start 2021¹



- During the first half of 2021, the yield curve steepened, on inflation fears related to gradual signs of economic improvement given the vaccine rollout.
- Shorter-dated rates have been largely unmoved due to Fed policy. Longer-dated rates recently fell from their peak causing the yield curve to flatten as investors consider whether inflationary pressures have topped and if longer-term growth expectations are overly optimistic.
- The yield curve could resume its steepening if growth and inflation pressures build beyond current expectations. Alternatively, if the economy weakens, or if economic progress is simply accelerated versus prior expectations, the flattening trend could continue.

¹ Source: Bloomberg. Data is as of July 31, 2021.

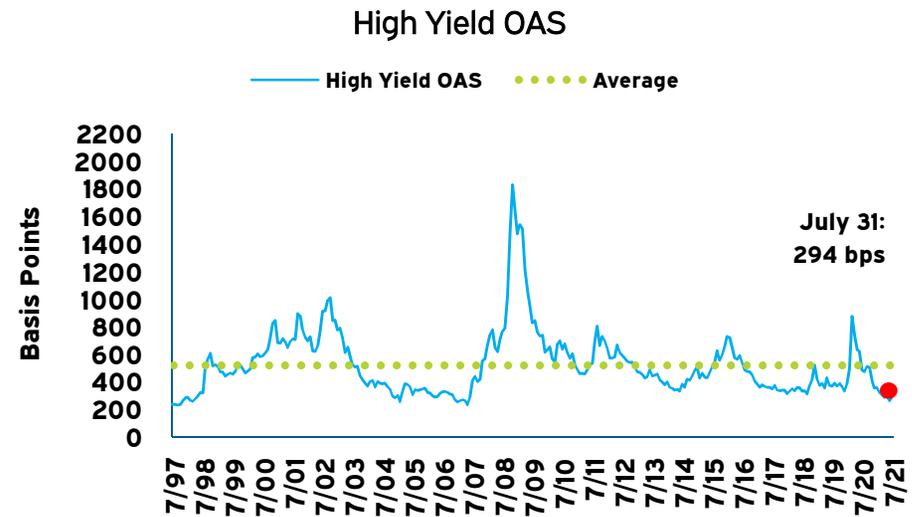
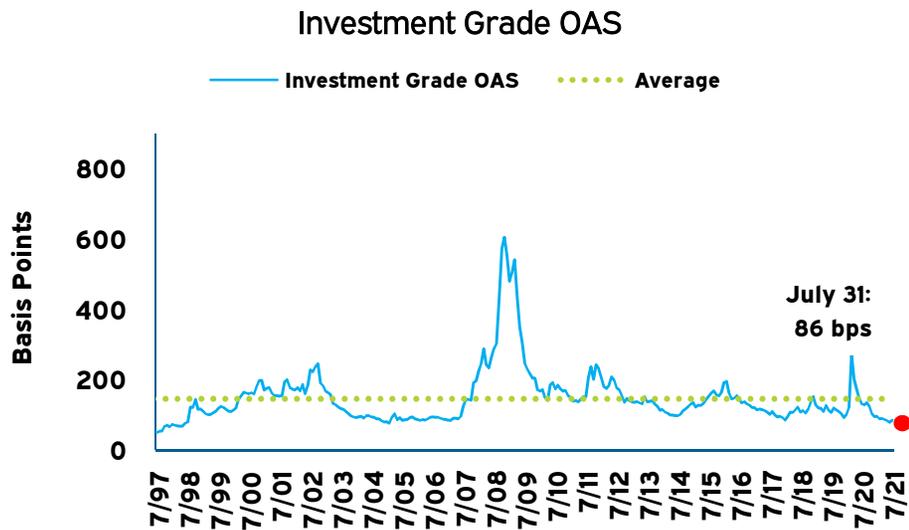
Breakeven Inflation¹



- Inflation expectations remain well above long-term averages, particularly in the short-term, with the vaccine roll-out, still relatively high raw material prices, and expected additional fiscal stimulus as key drivers.
- Recently though, inflation expectations declined from their peaks as base effects wane, growth forecasts moderate, and cost pressures slow.
- Looking ahead, the track of economic growth and the inflationary effects of the unprecedented US fiscal response will be key issues. Additionally, changes to Fed policy focused on an average inflation target may play a role in the inflation market dynamics.

¹ Source: Bloomberg. Data is as of July 31, 2021.

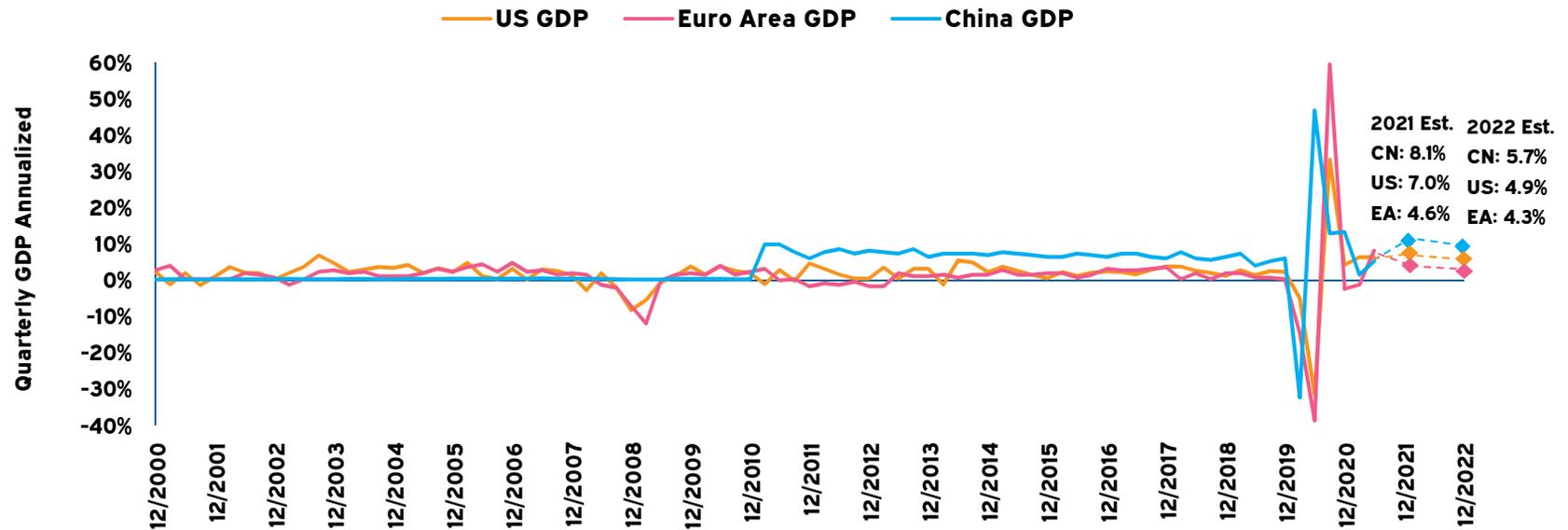
Credit Spreads (High Yield & Investment Grade)¹



- Credit spreads (the spread above a comparable maturity Treasury) for investment-grade and high yield corporate debt remain at historically low levels.
- Policy support and the search for yield in a low rate environment have been key drivers in the decline in US credit spreads to below long-term averages, particularly for high yield.

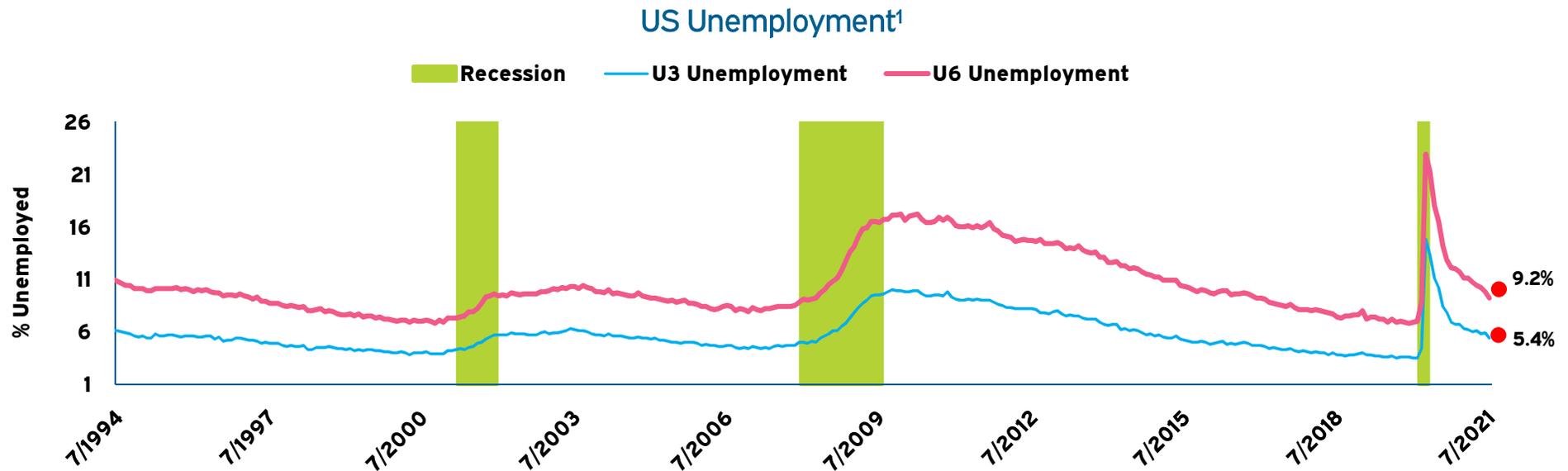
¹ Source: Barclays Live. Data represents OAS and is as of July 31, 2021.

GDP Data Shows Projected Improvements in 2021¹



- Major economies are expected to continue to recover this year as reopening trends persist with growth slowing in 2022 as demand declines.
- Looking forward, strong growth is expected in 2021 for China, projected to grow at an impressive 8.1%, a rate 1.1% above the expected US growth rate.
- The US is expected to grow faster than the euro area this year and next, with some growth pulled forward due to the success in distributing the vaccine.

¹ Source: Bloomberg, and IMF; Euro Area and China figures annualized by Meketa. Projections via July 2021 IMF World Economic Outlook and represent annual numbers.



- The unemployment rate (U3) fell in July from 5.9% to 5.4% and remains well above pre-pandemic levels, but far below the pandemic peak.
- The broader measure of unemployment (U6) that includes discouraged and underemployed workers continues to decline, but remains much higher at 9.2%.
- Pandemic related concerns, childcare issues, and a mismatch of skills and available jobs have all contributed to slack in the labor market. The track of the unemployment rate from here will be a key consideration in the Federal Reserve's pace of reducing its policy support.

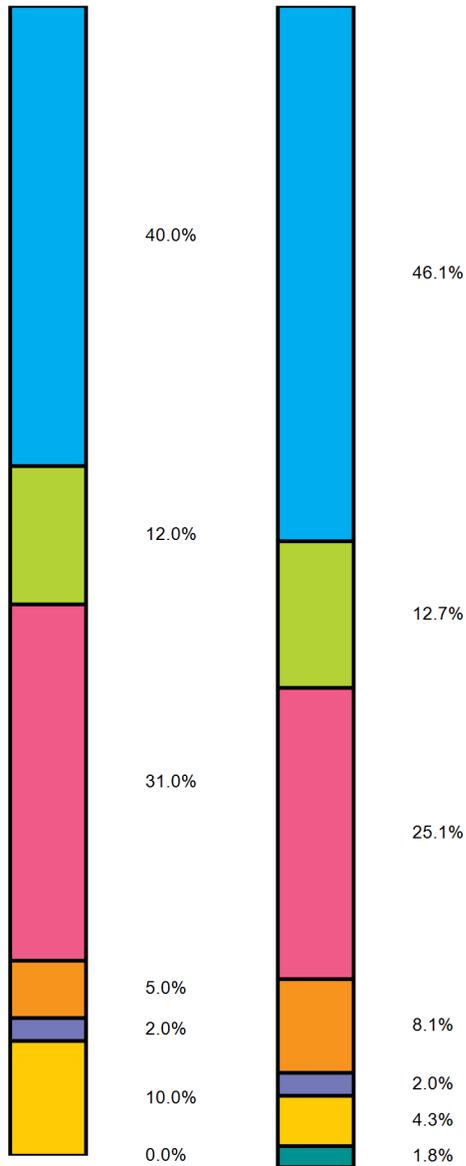
¹ Source: Bloomberg. Data is as of July 31, 2021. Bars represent recessions as observed by the National Bureau of Economic Research.

Oakland Police and Fire Retirement System

August 25, 2021

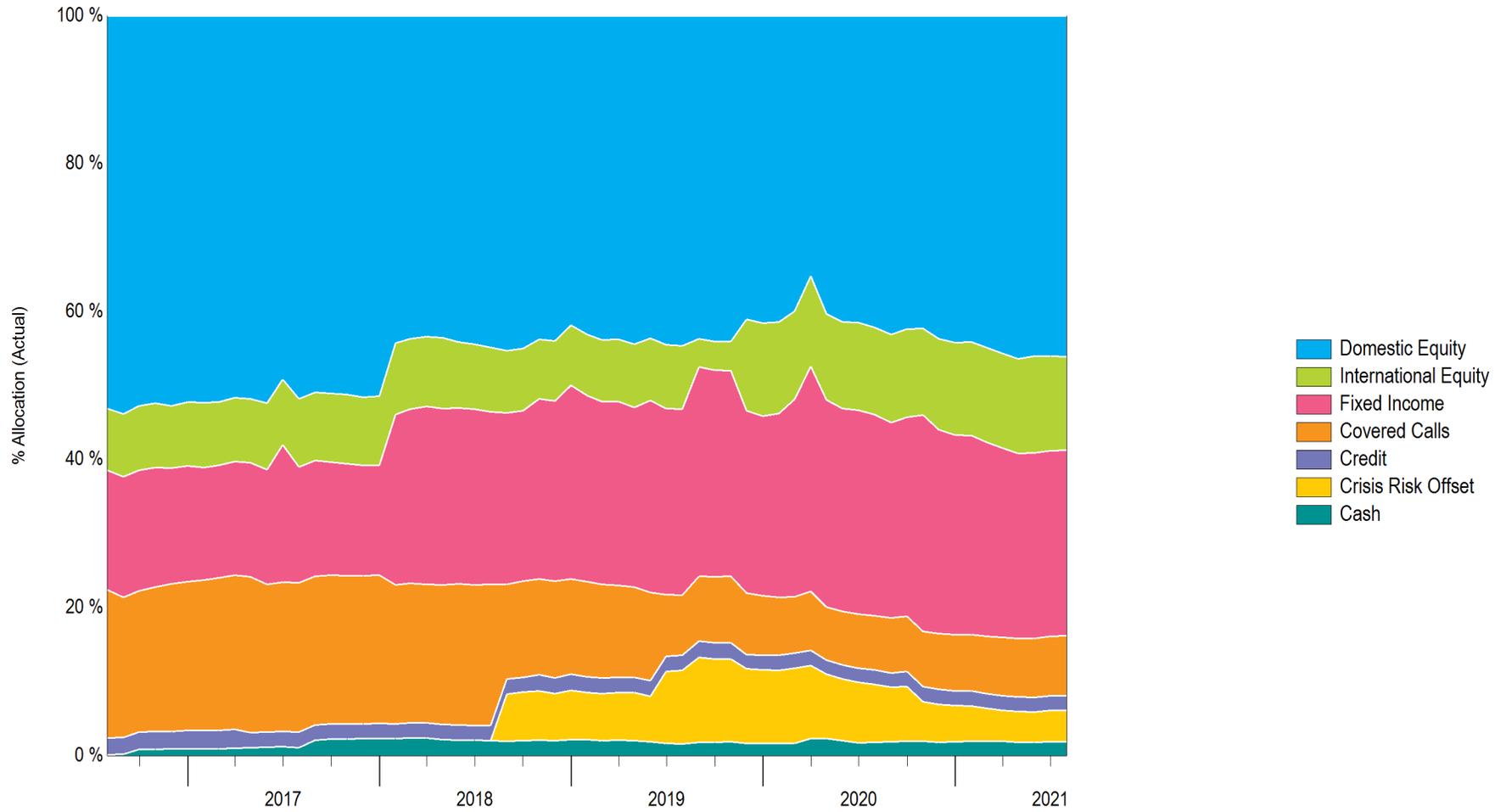
July Flash Report

OPFRS Total Plan As of July 31, 2021



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Within IPS Range?	
Domestic Equity	\$215,921,142	46.1%	40.0%	6.1%	Yes	
International Equity	\$59,387,042	12.7%	12.0%	0.7%	Yes	
Fixed Income	\$117,615,624	25.1%	31.0%	-5.9%	Yes	
Covered Calls	\$37,919,273	8.1%	5.0%	3.1%	Yes	
Credit	\$9,215,463	2.0%	2.0%	0.0%	Yes	
Crisis Risk Offset	\$20,190,606	4.3%	10.0%	-5.7%	No	
Cash	\$8,634,954	1.8%	0.0%	1.8%	Yes	
Total	\$468,884,105	100.0%	100.0%			

Asset Allocation History
5 Years Ending July 31, 2021



Asset Class Performance Summary

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	468,884,111	100.0	1.4	9.5	21.2	10.2	11.1	9.0	7.1	Dec-88
<i>OPFRS Policy Benchmark</i>			<i>1.0</i>	<i>8.4</i>	<i>19.0</i>	<i>10.0</i>	<i>10.5</i>	<i>8.6</i>	<i>8.5</i>	<i>Dec-88</i>
Domestic Equity	215,921,149	46.1	1.8	16.3	37.6	16.2	16.7	14.7	9.6	Jun-97
<i>Russell 3000 (Blend)</i>			<i>1.7</i>	<i>17.1</i>	<i>38.7</i>	<i>18.1</i>	<i>17.4</i>	<i>15.2</i>	<i>9.9</i>	<i>Jun-97</i>
International Equity	59,387,042	12.7	0.2	9.2	27.2	8.2	10.6	6.6	5.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>-1.6</i>	<i>7.7</i>	<i>28.3</i>	<i>8.4</i>	<i>10.1</i>	<i>5.9</i>	<i>6.1</i>	<i>Jan-98</i>
Fixed Income	117,615,624	25.1	1.1	0.5	1.8	6.2	4.2	4.0	5.5	Dec-93
<i>Blmbg BC Universal (Blend)</i>			<i>1.0</i>	<i>-0.2</i>	<i>0.4</i>	<i>5.9</i>	<i>3.5</i>	<i>3.7</i>	<i>5.3</i>	<i>Dec-93</i>
Credit	9,215,463	2.0	0.5	7.5	19.9	5.9	8.0	--	6.7	Feb-15
<i>BBgBarc US High Yield TR</i>			<i>0.4</i>	<i>4.0</i>	<i>10.6</i>	<i>7.2</i>	<i>7.0</i>	<i>6.6</i>	<i>6.3</i>	<i>Feb-15</i>
Covered Calls	37,919,273	8.1	1.6	15.0	29.9	12.9	12.5	--	10.6	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>0.4</i>	<i>11.5</i>	<i>23.0</i>	<i>4.8</i>	<i>7.1</i>	<i>7.2</i>	<i>6.4</i>	<i>Apr-14</i>
Crisis Risk Offset	20,190,606	4.3	3.5	-5.3	-10.8	-8.6	--	--	-8.6	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<i>0.3</i>	<i>6.2</i>	<i>3.3</i>	<i>-2.7</i>	<i>--</i>	<i>--</i>	<i>-2.7</i>	<i>Aug-18</i>
Cash	8,634,954	1.8	0.0	0.0	0.1	1.5	1.4	0.7	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>			<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>1.3</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>

Cash balances held in ETF accounts at the Custodian are reflected in the Cash account market value.

OPFRS Total Plan As of July 31, 2021

Trailing Net Performance											
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	468,884,111	100.0	--	1.4	9.5	21.2	10.2	11.1	9.0	7.1	Dec-88
<i>OPFRS Policy Benchmark</i>				<i>1.0</i>	<i>8.4</i>	<i>19.0</i>	<i>10.0</i>	<i>10.5</i>	<i>8.6</i>	<i>8.5</i>	<i>Dec-88</i>
Domestic Equity	215,921,149	46.1	46.1	1.8	16.3	37.6	16.2	16.7	14.7	9.6	Jun-97
<i>Russell 3000 (Blend)</i>				<i>1.7</i>	<i>17.1</i>	<i>38.7</i>	<i>18.1</i>	<i>17.4</i>	<i>15.2</i>	<i>9.9</i>	<i>Jun-97</i>
Northern Trust Russell 1000	118,749,383	25.3	55.0	2.1	17.4	37.9	18.6	17.6	15.4	15.7	Jun-10
<i>Russell 1000</i>				<i>2.1</i>	<i>17.3</i>	<i>38.0</i>	<i>18.6</i>	<i>17.6</i>	<i>15.4</i>	<i>15.7</i>	<i>Jun-10</i>
EARNEST Partners	47,618,246	10.2	22.1	1.9	16.2	41.6	18.7	19.0	15.4	11.6	Apr-06
<i>Russell MidCap</i>				<i>0.8</i>	<i>17.1</i>	<i>42.6</i>	<i>15.8</i>	<i>14.8</i>	<i>13.7</i>	<i>10.2</i>	<i>Apr-06</i>
Brown Fundamental Small Cap Value	10,881,290	2.3	5.0	-1.8	--	--	--	--	--	1.5	Apr-21
<i>Russell 2000 Value</i>				<i>-3.6</i>	<i>22.2</i>	<i>63.7</i>	<i>8.3</i>	<i>11.6</i>	<i>10.8</i>	<i>0.8</i>	<i>Apr-21</i>
Rice Hall James	16,980,088	3.6	7.9	-0.6	13.2	36.0	10.9	--	--	15.0	Jul-17
<i>Russell 2000 Growth</i>				<i>-3.6</i>	<i>5.0</i>	<i>41.0</i>	<i>13.9</i>	<i>16.4</i>	<i>13.6</i>	<i>16.0</i>	<i>Jul-17</i>
iShares Edge MSCI Min Vol ETF	21,692,136	4.6	10.0	3.5	13.1	22.2	--	--	--	31.6	Apr-20
<i>MSCI USA Minimum Volatility GR USD</i>				<i>3.5</i>	<i>13.1</i>	<i>22.4</i>	<i>13.9</i>	<i>12.6</i>	<i>14.2</i>	<i>31.7</i>	<i>Apr-20</i>
International Equity	59,387,042	12.7	12.7	0.2	9.2	27.2	8.2	10.6	6.6	5.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>				<i>-1.6</i>	<i>7.7</i>	<i>28.3</i>	<i>8.4</i>	<i>10.1</i>	<i>5.9</i>	<i>6.1</i>	<i>Jan-98</i>
Vanguard Developed Markets ETF	17,339,310	3.7	29.2	0.5	9.7	30.1	--	--	--	15.9	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>				<i>0.5</i>	<i>10.7</i>	<i>33.3</i>	<i>8.7</i>	<i>9.9</i>	<i>4.8</i>	<i>17.7</i>	<i>Sep-19</i>
SGA ACWI ex-U.S. Equity	41,666,265	8.9	70.2	0.4	8.9	26.3	--	--	--	10.4	Dec-19
<i>MSCI ACWI ex USA Gross</i>				<i>-1.6</i>	<i>7.7</i>	<i>28.3</i>	<i>8.4</i>	<i>10.1</i>	<i>5.9</i>	<i>14.3</i>	<i>Dec-19</i>

Throughout the report performance for new funds will be shown after one full month of investment.

International equity performance inclusive of residual cash in Hansberger transition.

OPFRS Total Plan As of July 31, 2021

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Fixed Income	117,615,624	25.1	25.1	1.1	0.5	1.8	6.2	4.2	4.0	5.5	Dec-93
<i>Blmbg BC Universal (Blend)</i>				<i>1.0</i>	<i>-0.2</i>	<i>0.4</i>	<i>5.9</i>	<i>3.5</i>	<i>3.7</i>	<i>5.3</i>	<i>Dec-93</i>
Ramirez	80,168,503	17.1	68.2	1.2	1.1	2.2	6.3	--	--	4.9	Jan-17
<i>BBgBarc US Aggregate TR</i>				<i>1.1</i>	<i>-0.5</i>	<i>-0.7</i>	<i>5.7</i>	<i>3.1</i>	<i>3.3</i>	<i>4.1</i>	<i>Jan-17</i>
Wellington Core Bond	7,724,831	1.6	6.6	1.1	--	--	--	--	--	3.0	Apr-21
<i>BBgBarc US Aggregate TR</i>				<i>1.1</i>	<i>-0.5</i>	<i>-0.7</i>	<i>5.7</i>	<i>3.1</i>	<i>3.3</i>	<i>3.0</i>	<i>Apr-21</i>
Reams	29,722,246	6.3	25.3	1.0	-0.7	1.1	9.8	5.7	5.1	6.0	Feb-98
<i>Blmbg BC Universal (Blend)</i>				<i>1.0</i>	<i>-0.2</i>	<i>0.4</i>	<i>5.9</i>	<i>3.5</i>	<i>3.7</i>	<i>5.0</i>	<i>Feb-98</i>
Credit	9,215,463	2.0	2.0	0.5	7.5	19.9	5.9	8.0	--	6.7	Feb-15
<i>BBgBarc US High Yield TR</i>				<i>0.4</i>	<i>4.0</i>	<i>10.6</i>	<i>7.2</i>	<i>7.0</i>	<i>6.6</i>	<i>6.3</i>	<i>Feb-15</i>
DDJ Capital	9,215,463	2.0	100.0	0.5	7.5	19.9	5.9	8.0	--	6.7	Feb-15
<i>ICE BofA High Yield Master TR</i>				<i>0.4</i>	<i>4.1</i>	<i>10.7</i>	<i>6.9</i>	<i>6.9</i>	<i>6.4</i>	<i>6.2</i>	<i>Feb-15</i>
Covered Calls	37,919,273	8.1	8.1	1.6	15.0	29.9	12.9	12.5	--	10.6	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>0.4</i>	<i>11.5</i>	<i>23.0</i>	<i>4.8</i>	<i>7.1</i>	<i>7.2</i>	<i>6.4</i>	<i>Apr-14</i>
Parametric BXM	16,586,114	3.5	43.7	1.1	12.1	24.1	9.0	9.5	--	8.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>0.4</i>	<i>11.5</i>	<i>23.0</i>	<i>4.8</i>	<i>7.1</i>	<i>7.2</i>	<i>6.4</i>	<i>Apr-14</i>
Parametric DeltaShift	21,333,159	4.5	56.3	1.9	17.4	34.8	16.4	15.3	--	13.1	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>0.4</i>	<i>11.5</i>	<i>23.0</i>	<i>4.8</i>	<i>7.1</i>	<i>7.2</i>	<i>6.4</i>	<i>Apr-14</i>
Crisis Risk Offset	20,190,606	4.3	4.3	3.5	-5.3	-10.8	-8.6	--	--	-8.6	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>				<i>0.3</i>	<i>6.2</i>	<i>3.3</i>	<i>-2.7</i>	<i>--</i>	<i>--</i>	<i>-2.7</i>	<i>Aug-18</i>
Vanguard Long-Term Treasury ETF	20,190,606	4.3	100.0	3.5	-5.3	-11.3	--	--	--	7.1	Jul-19
<i>BBgBarc US Govt Long TR</i>				<i>3.6</i>	<i>-4.5</i>	<i>-10.9</i>	<i>9.8</i>	<i>3.5</i>	<i>6.6</i>	<i>7.5</i>	<i>Jul-19</i>
Cash	8,634,954	1.8	1.8	0.0	0.0	0.1	1.5	1.4	0.7	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>1.3</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash	2,280,954	0.5	26.4	0.0	0.1	0.2	1.7	1.5	0.8	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>1.3</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash - Treasury	6,354,000	1.4	73.6								

Values for DDJ Capital are based on manager estimate for the month of June.

Cash balances held in ETF accounts at the Custodian are reflected in the Cash account market value.

OPFRS Total Plan As of July 31, 2021
Cash Flow Summary
Month to Date

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Brown Fundamental Small Cap Value	\$11,084,914	\$0	-\$203,624	\$10,881,290
Cash	\$2,245,344	\$6,279	\$29,331	\$2,280,954
Cash - Treasury	\$6,577,000	-\$223,000	\$0	\$6,354,000
DDJ Capital	\$9,177,102	\$0	\$38,361	\$9,215,463
EARNEST Partners	\$46,751,372	\$0	\$866,873	\$47,618,246
Hansberger Transition	\$555,417	\$0	-\$173,950	\$381,467
iShares Edge MSCI Min Vol ETF	\$20,949,332	\$0	\$742,803	\$21,692,136
Northern Trust Russell 1000	\$117,334,896	-\$1,000,000	\$2,414,487	\$118,749,383
Parametric BXM	\$16,398,176	\$0	\$187,938	\$16,586,114
Parametric DeltaShift	\$20,930,443	\$0	\$402,716	\$21,333,159
Ramirez	\$79,233,829	\$0	\$934,674	\$80,168,503
Reams	\$29,440,041	\$0	\$282,205	\$29,722,246
Reams Low Duration	\$44	\$0	\$0	\$44
Rice Hall James	\$17,077,517	\$0	-\$97,428	\$16,980,088
Securities Lending Northern Trust	\$0	\$6,279	-\$6,279	\$0
SGA ACWI ex-U.S. Equity	\$41,485,309	\$0	\$180,956	\$41,666,265
Vanguard Developed Markets ETF	\$17,252,245	\$0	\$87,065	\$17,339,310
Vanguard Long-Term Treasury ETF	\$19,507,725	\$0	\$682,882	\$20,190,606
Wellington Core Bond	\$7,639,617	\$0	\$85,214	\$7,724,831
Total	\$463,640,323	-\$1,210,442	\$6,454,224	\$468,884,105

Benchmark History
As of July 31, 2021

Total Plan x Securities Lending x Reams LD Exception Comp

1/1/2019	Present	40% Russell 3000 / 12% MSCI ACWI ex USA Gross / 33% BBgBarc US Universal TR / 5% CBOE BXM / 6.7% SG Multi Alternative Risk Premia Index / 3.3% BBgBarc US Treasury Long TR
5/1/2016	12/31/2018	48% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% BBgBarc US Universal TR / 20% CBOE BXM
10/1/2015	4/30/2016	43% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% BBgBarc 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% BBgBarc 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% BBgBarc 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% BBgBarc 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% BBgBarc US Universal TR
4/1/2006	9/30/2007	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% BBgBarc US Universal TR
1/1/2005	3/31/2006	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% BBgBarc US Aggregate TR
4/1/1998	12/31/2004	50% BBgBarc 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% BBgBarc US Aggregate TR / 5% FTSE T-Bill 3 Months TR

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

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

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

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

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

Oakland Police and Fire Retirement System

August 25, 2021

2Q 2021 Performance Report

1. Total Portfolio Summary
2. Asset Class and Manager Commentary
3. Performance as of June 30, 2021
4. Manager Monitoring / Probation List
5. Disclaimer, Glossary, and Notes

Total Portfolio Summary

Total Portfolio Summary

As of June 30, 2021, the City of Oakland Police and Fire Retirement System (OPFRS) portfolio had an aggregate value of \$463.6 million. This represents a \$23.4 million increase in investment value and (\$3.1) million in benefit payments funded from investments over the quarter. Over the one-year period, the OPFRS Total Portfolio value is higher by \$80.3 million, after withdrawals totaling (\$13.0) million for benefit payments.

Asset Allocation Trends

- The asset allocation targets throughout this report reflect those as of June 30, 2021. Target weightings reflect the interim phase (CRO = 10%) of the Plan's previously approved asset allocation (effective 5/31/2017).
- Relative to policy targets, the portfolio ended the latest quarter overweight Equities, Covered Calls and Cash, while underweight Crisis Risk Offset and Fixed Income. The Crisis Risk Offset asset class was below its acceptable ranges from the policy target.
- At the beginning of the quarter, previously approved managers – Brown Advisory and Wellington to manage small cap value and core fixed income mandates respectively – were added to the portfolio.

Recent Investment Performance

- During the most recent quarter, the OPFRS portfolio generated an absolute return of 5.1%, gross of fees, underperforming its policy benchmark by (0.2%). The portfolio also outperformed its benchmark over the 1- and 5-year periods, by 1.9% and 0.5% respectively, while keeping pace with the policy benchmark over the 3-year period.

Total Portfolio Summary

- The OPFRS portfolio underperformed the Median fund's return over the quarter by (0.2%), and by (3.4%) and (1.4%) over the one and three-year trailing periods respectively. Over the five-year trailing period, OPFRS portfolio is on par with its Median fund peers. Performance differences with respect to the Median Fund are attributed largely to differences in asset allocation.

	Quarter	CYTD	1 Year	3 Year	5 Year
Total Portfolio ¹	5.1	8.1	24.2	10.5	11.5
Policy Benchmark ²	5.3	7.4	22.3	10.5	11.0
Excess Return	-0.2	0.7	1.9	0.0	0.5
Reference: Median Fund ³	5.3	9.1	27.6	11.9	11.5
Reference: Total Net of Fees ⁴	5.1	7.9	23.9	10.1	11.1

- Over the quarter, positive absolute return was driven by Domestic Equity and Covered Calls segments each returning 6.6%. However, in terms of relative performance, Domestic Equity lagged behind its benchmark by (1.6%) while Covered Calls outperformed its benchmark by 1.5%.
- Although it was not the top performer, Crisis Risk Offset segment posted 5.9% return over the quarter, outperforming its benchmark by 3.2%, attributable to the slowly declining yields (which move inversely with bond prices) in the second half of the quarter. Likewise, Fixed Income registered positive performance of 2.5% over the quarter outperforming its benchmark by 0.5%.

¹ Gross of Fees. Performance since 2005 includes securities lending.

² Evolving Policy Benchmark consists of 40% Russell 3000, 12% MSCI ACWI ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury.

³ Investment Metrics < \$1 Billion Public Plan Universe.

⁴ Longer-term (>1 year) Net of fee returns include estimates based on OPFRS manager fee schedule (approximately 34 bps).

Asset Class and Manager Commentary

Domestic Equity

Over the quarter ending June 30, 2021, Domestic Equity returned 6.6%, trailing the Russell 3000 benchmark by (1.6%). During the quarter, passive strategy Vanguard Russell 2000 Value was liquidated, and active Brown Fundamental Small Cap Value strategy was funded. Of three active managers, one outperformed its benchmark while the other two trailed their respective benchmarks. The passive managers/ strategies (Northern Trust Russell 1000 and iShares Edge MSCI Minimum Volatility) performed in line with their respective benchmarks with acceptable tracking error.

Earnest Partners, the Plan's active mid cap core manager, returned 4.1%, underperforming the Russell Midcap benchmark by (3.4%), and placing in the 80th percentile of its peer group for the quarter. Though the manager has underperformed its benchmark over the 1-year trailing period by (3.5%), it has outperformed over the longer 3- and 5-year trailing periods with excess returns of 2.7% and 3.7% respectively, putting it in the 1st quartile of its peer group.

Rice Hall James, the Plan's active small cap growth manager, returned 5.1%, outperforming the Russell 2000 Growth benchmark by 1.2%, and placing in the 58th percentile for the quarter. However, the manager has trailed its benchmark over the 1- and 3-year periods as well as since inception by (5.8%), (4.5%), and (1.9%) respectively. The manager is on watch status for performance concerns.

Brown Fundamental, the Plan's newly funded active small cap value manager, returned 3.3% over the quarter trailing its Russell 2000 Value benchmark by (1.3%), placing it in the 70th percentile.

International Equity

For the quarter, the International Equity portfolio returned 4.7%, trailing the MSCI ACWI ex US benchmark by (0.9%). Within this portfolio, the Vanguard passive international developed markets portfolio returned 4.9%. While it deviates from tracking index's return of 5.8%, this is due to the fair-value pricing methodology that Vanguard uses.

SGA MSCI ACWI ex US ETF, the Plan's active core international equity manager, returned 4.7%, trailing its benchmark by (0.9%) over the quarter, while trailing by (4.7%) over the one-year period.

Fixed Income

Over the quarter, the Fixed Income aggregate returned 2.5%, outperforming the Bloomberg Universal benchmark by 0.5%. The asset class posted positive gains amidst the slowly declining yields in the second half of the quarter. The Plan's passive fixed income strategy iShares Core US Aggregate Bond ETF was liquidated and replaced with Wellington Core Bond during this quarter. All the active managers in this portfolio posted positive returns, outperforming their respective benchmarks.

Ramirez returned 2.6% over the quarter, outperforming the benchmark by 0.8% placing in the 9th percentile of its peer group. Ramirez also outperformed its benchmark over the one and three-year trailing periods by 3.4% and 0.6% respectively, and by 0.7% since inception. Relative to the benchmark, Ramirez's performance was helped by positioning in Treasuries (underweight) and Municipal bonds (overweight).

Reams returned 2.1% for the quarter, outperforming its benchmark by 0.1% and placing in the 80th percentile of its peer group. It also outperformed its benchmark by 1.0%, 3.7%, 2.1%, and 1.0% over 1-, 3- and 5-year and since inception periods respectively. Relative to the benchmark, Reams' positioning in Investment Grade bonds (slight overweight) and MBS (underweight) contributed to the positive gains.

Wellington Core Bond, the Plan's newly funded core fixed income manager, returned 1.9% over the quarter outperforming its benchmark by 0.1% placing it in the 76th percentile.

Covered Calls

Over the quarter, the Covered Calls portfolio returned 6.6%, outperforming its benchmark by 1.5%.

Parametric BXM, the Plan's passive covered calls allocation returned 5.1%, keeping pace with its benchmark, the CBOE BXM index. The portfolio has kept pace with its benchmark over the most recent 1-year period and outperformed over the longer 3- and 5-year periods and since inception by 3.9%, 2.3%, and 1.7% respectively.

Parametric DeltaShift, the Plan's active covered calls allocation returned 7.9%, outperforming its benchmark, the CBOE BXM, index by 2.8% over the quarter. The portfolio has outperformed the benchmark over all the time periods measured. It outperformed by 12.0%, 11.4%, 8.4%, and 6.5% over 1-, 3-, 5-year trailing periods and since inception respectively.

Credit

With DDJ as the Plan's sole High Yield & Bank Loan manager, the Credit portfolio returned 3.3% over the quarter, outperforming its benchmark, Bloomberg US High Yield, by 0.6%. It outperformed the benchmark over the 1-year and 5-year periods by 8.3% and 1.0% respectively, but trailed the benchmark by (1.2%) over the 3-year trailing period. Since inception outperformance is 0.3%

Crisis Risk Offset

Over the quarter, the Crisis Risk Offset portfolio returned 5.9%, outperforming its benchmark by 3.8%.

Vanguard Long Duration ETF, the only funded component of the Crisis Risk Offset portfolio over the quarter, returned 5.9% as yields on longer dated treasuries slow declined in the second half of the quarter. Performance slightly trailed the benchmark.

Manager searches are underway to fund the Alternative Risk Premia and Systematic Trend Following components of the Crisis Risk Offset portfolio.

Performance Update

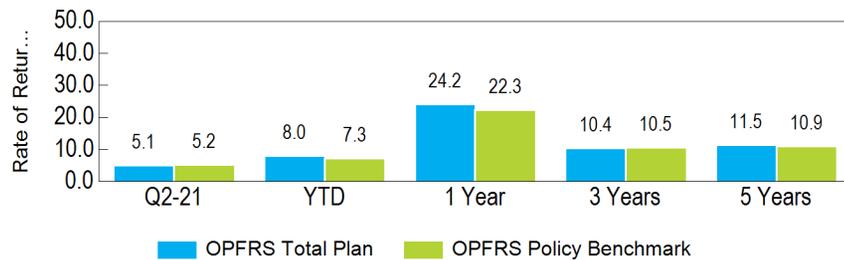
As of June 30, 2021

OPFRS Total Plan | As of June 30, 2021

6 Months Ending June 30, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	7.86%	1.08%
OPFRS Policy Benchmark	7.31%	1.06%
InvMetrics Public DB \$250mm-\$1B Gross Median	9.13%	1.10%

1 Year Ending June 30, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	23.85%	2.62%
OPFRS Policy Benchmark	22.28%	2.52%
InvMetrics Public DB \$250mm-\$1B Gross Median	27.59%	2.49%

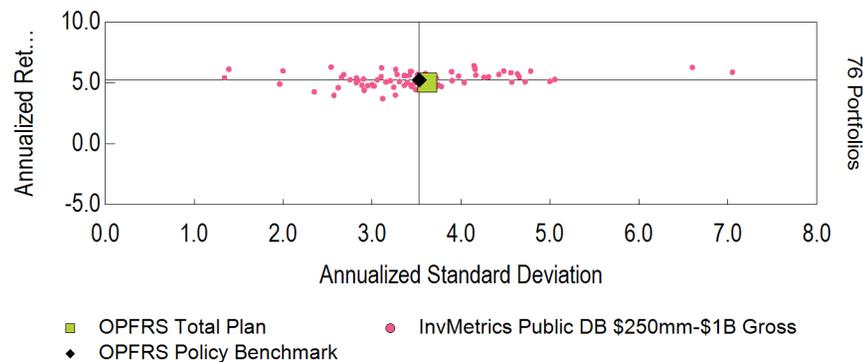
Return Summary Ending June 30, 2021



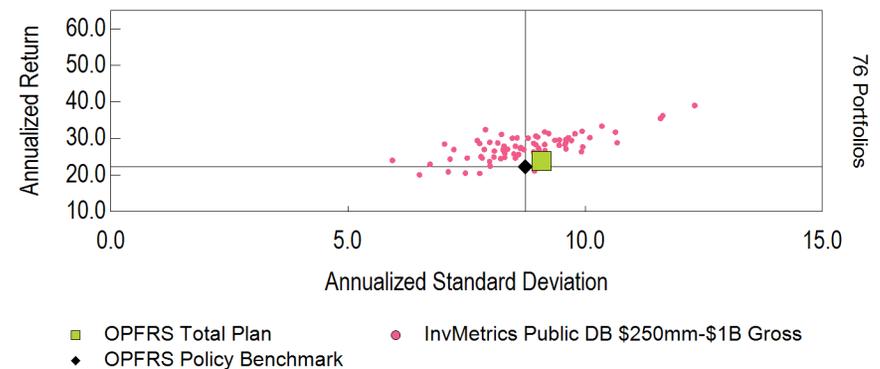
Summary of Cash Flows

	Quarter-To-Date	One Year
Beginning Market Value	\$443,301,342	\$383,325,294
Net Cash Flow	-\$3,110,171	-\$12,954,132
Capital Appreciation	\$23,449,157	\$93,269,167
Ending Market Value	\$463,640,323	\$463,640,323

Annualized Return vs. Annualized Standard Deviation 3 Months Ending June 30, 2021



Annualized Return vs. Annualized Standard Deviation 1 Year Ending June 30, 2021



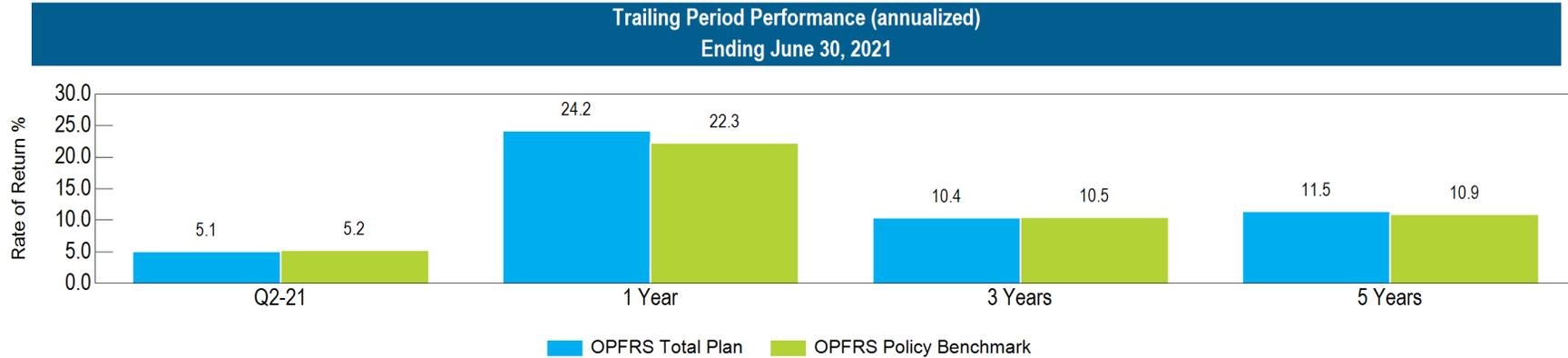
Evolving Policy Benchmark consists of 40% russell 3000, 12% MSCI ACWI ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury.

Asset Class Performance (gross of fees) | As of June 30, 2021

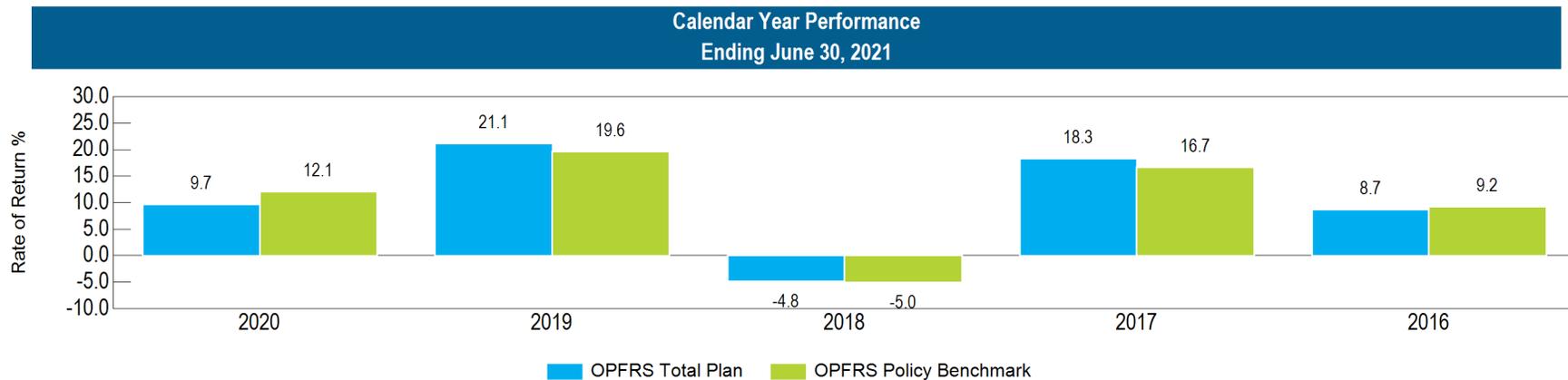
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
OPFRS Total Plan	5.1	8.0	24.2	10.4	11.5	8.6	8.7
<i>OPFRS Policy Benchmark</i>	<u>5.2</u>	<u>7.3</u>	<u>22.3</u>	<u>10.5</u>	<u>10.9</u>	<u>8.6</u>	<u>8.4</u>
Excess Return	-0.1	0.7	1.9	-0.1	0.6	0.0	0.3
Domestic Equity	6.6	14.3	42.6	16.6	17.2	13.3	14.2
<i>Russell 3000 (Blend)</i>	<u>8.2</u>	<u>15.1</u>	<u>44.2</u>	<u>18.7</u>	<u>17.9</u>	<u>14.0</u>	<u>14.7</u>
Excess Return	-1.6	-0.8	-1.6	-2.1	-0.7	-0.7	-0.5
International Equity	4.7	9.1	31.6	9.1	11.7	6.5	6.3
<i>MSCI ACWI ex US (Blend)</i>	<u>5.6</u>	<u>9.4</u>	<u>36.3</u>	<u>9.9</u>	<u>11.6</u>	<u>5.8</u>	<u>5.9</u>
Excess Return	-0.9	-0.3	-4.7	-0.8	0.1	0.7	0.4
Fixed Income	2.5	-0.6	2.7	5.9	4.1	4.0	4.1
<i>Blmbg BC Universal (Blend)</i>	<u>2.0</u>	<u>-1.1</u>	<u>1.1</u>	<u>5.6</u>	<u>3.5</u>	<u>3.5</u>	<u>3.7</u>
Excess Return	0.5	0.5	1.6	0.3	0.6	0.5	0.4
Credit	3.3	7.0	23.7	6.2	8.5	--	--
<i>BBgBarc US High Yield TR</i>	<u>2.7</u>	<u>3.6</u>	<u>15.4</u>	<u>7.4</u>	<u>7.5</u>	--	--
Excess Return	0.6	3.4	8.3	-1.2	1.0	--	--
Covered Calls	6.6	13.2	33.8	13.4	12.6	10.3	--
<i>CBOE S&P 500 BuyWrite USD</i>	<u>5.1</u>	<u>11.1</u>	<u>27.3</u>	<u>5.6</u>	<u>7.2</u>	<u>6.2</u>	--
Excess Return	1.5	2.1	6.5	7.8	5.4	4.1	--
Crisis Risk Offset	5.9	-8.5	-11.6	-9.6	--	--	--
<i>SG Multi Alternative Risk Premia Index</i>	<u>2.1</u>	<u>5.9</u>	<u>3.1</u>	--	--	--	--
Excess Return	3.8	-14.4	-14.7	--	--	--	--
Cash	0.0	0.0	0.1	1.6	1.4	1.0	0.7
<i>FTSE T-Bill 3 Months TR</i>	<u>0.0</u>	<u>0.0</u>	<u>0.1</u>	<u>1.3</u>	<u>1.1</u>	<u>0.8</u>	<u>0.6</u>
Excess Return	0.0	0.0	0.0	0.3	0.3	0.2	0.1

1. Evolving Policy Benchmark consists of 40% Russell 3000, 12% MSCI Acwi ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury,
2. Domestic Equity Benchmark consists of S&P 500 thru 3/31/98 10% Russell 1000, 20% Russell 1000 Value, 5% RMC from 4/1/98 - 12/31/04 and Russell 3000 from 1/1/05 to present.
3. International Equity Benchmark consists of MSCI EAFE thru 12/31/04 and MSCI ACWI x US thereafter.
4. Fixed Income Benchmark consists of Bbg BC Aggregate prior to 4/1/06, and Bbg BC Universal thereafter.
5. Cash balances held in ETF accounts at the Custodian are reflected in the Cash account market value.

Portfolio Relative Performance Results | As of June 30, 2021



	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)
OPFRS Total Plan	5.1	8.0	24.2	10.4	11.5	8.7	18.3	-4.8	21.1	9.7
<i>OPFRS Policy Benchmark</i>	<i>5.2</i>	<i>7.3</i>	<i>22.3</i>	<i>10.5</i>	<i>10.9</i>	<i>9.2</i>	<i>16.7</i>	<i>-5.0</i>	<i>19.6</i>	<i>12.1</i>
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>	<i>5.3</i>	<i>9.1</i>	<i>27.6</i>	<i>11.9</i>	<i>11.5</i>	<i>7.8</i>	<i>15.8</i>	<i>-4.1</i>	<i>18.6</i>	<i>13.1</i>

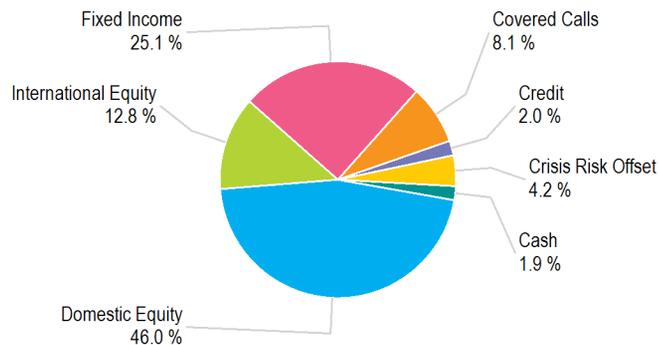


Asset Allocation vs. Target

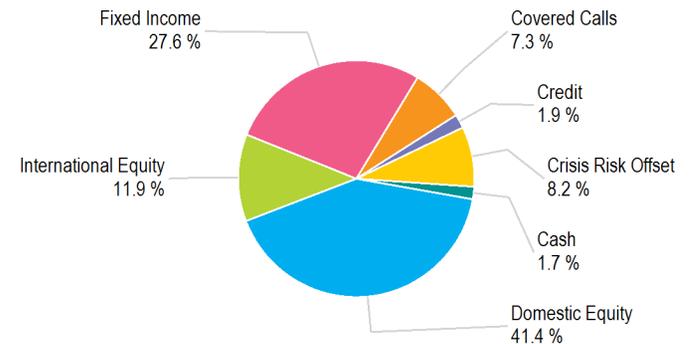
As Of June 30, 2021

	Current	%	Policy	Difference*
Domestic Equity	\$213,198,031	46.0%	40.0%	6.0%
International Equity	\$59,292,971	12.8%	12.0%	0.8%
Fixed Income	\$116,313,531	25.1%	31.0%	-5.9%
Covered Calls	\$37,328,619	8.1%	5.0%	3.1%
Credit	\$9,177,102	2.0%	2.0%	0.0%
Crisis Risk Offset	\$19,507,725	4.2%	10.0%	-5.8%
Cash	\$8,822,344	1.9%	0.0%	1.9%
Total	\$463,640,323	100.0%	100.0%	

June 30, 2021: \$463,640,323



June 30, 2020: \$341,533,320



Cash balances held in ETF accounts at the Custodian are reflected in the Cash account market value.

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

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Domestic Equity	213,198,037	100.0	6.6	14.3	42.6	16.6	17.2	9.6	Jun-97
<i>Russell 3000 (Blend)</i>			8.2	15.1	44.2	18.7	17.9	9.8	Jun-97
Excess Return			-1.6	-0.8	-1.6	-2.1	-0.7	-0.2	
Northern Trust Russell 1000	117,334,896	55.0	8.5	15.0	43.0	19.1	18.0	15.6	Jun-10
<i>Russell 1000</i>			8.5	15.0	43.1	19.2	18.0	15.6	Jun-10
Excess Return			0.0	0.0	-0.1	-0.1	0.0	0.0	
<i>eV US Large Cap Core Equity Gross Rank</i>			37	55	30	34	35	36	Jun-10
EARNEST Partners	46,751,372	21.9	4.1	14.1	46.3	19.1	19.3	11.5	Apr-06
<i>Russell MidCap</i>			7.5	16.2	49.8	16.4	15.6	10.2	Apr-06
Excess Return			-3.4	-2.1	-3.5	2.7	3.7	1.3	
<i>eV US Mid Cap Core Equity Gross Rank</i>			80	61	58	19	10	32	Apr-06
iShares Edge MSCI Min Vol ETF	20,949,332	9.8	6.7	9.2	23.4	--	--	30.3	Apr-20
<i>MSCI USA Minimum Volatility GR USD</i>			6.8	9.3	23.6	--	--	30.5	Apr-20
Excess Return			-0.1	-0.1	-0.2			-0.2	
<i>eV US Low Volatility Equity Gross Rank</i>			44	86	81	--	--	79	Apr-20
Rice Hall James	17,077,517	8.0	5.1	13.8	45.6	11.4	--	15.5	Jul-17
<i>Russell 2000 Growth</i>			3.9	9.0	51.4	15.9	--	17.4	Jul-17
Excess Return			1.2	4.8	-5.8	-4.5		-1.9	
<i>eV US Small Cap Growth Equity Gross Rank</i>			58	39	82	94	--	93	Jul-17
Brown Fundamental Small Cap Value	11,084,914	5.2	3.3	--	--	--	--	3.3	Apr-21
<i>Russell 2000 Value</i>			4.6	--	--	--	--	4.6	Apr-21
Excess Return			-1.3					-1.3	
<i>eV US Small Cap Value Equity Gross Rank</i>			70	--	--	--	--	70	Apr-21

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
International Equity	59,292,971	100.0	4.7	9.1	31.6	9.1	11.7	5.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<u>5.6</u>	<u>9.4</u>	<u>36.3</u>	<u>9.9</u>	<u>11.6</u>	<u>6.2</u>	<u>Jan-98</u>
Excess Return			-0.9	-0.3	-4.7	-0.8	0.1	-0.3	
SGA ACWI ex-U.S. Equity	41,485,309	70.0	4.2	8.4	30.9	--	--	10.6	Dec-19
<i>MSCI ACWI ex USA Gross</i>			<u>5.6</u>	<u>9.4</u>	<u>36.3</u>	--	--	<u>16.3</u>	<u>Dec-19</u>
Excess Return			-1.4	-1.0	-5.4			-5.7	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			90	73	92	--	--	99	Dec-19
Vanguard Developed Markets ETF	17,252,245	29.1	4.9	9.2	32.8	--	--	16.3	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>			<u>5.8</u>	<u>10.2</u>	<u>36.8</u>	--	--	<u>18.2</u>	<u>Sep-19</u>
Excess Return			-0.9	-1.0	-4.0			-1.9	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			80	69	92	--	--	92	Sep-19

Total International Equity market value includes cash held in closed accounts Fisher and Hansberger.

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Fixed Income	116,313,531	100.0	2.5	-0.6	2.7	5.9	4.1	5.5	Dec-93
<i>Blmbg BC Universal (Blend)</i>			<i>2.0</i>	<i>-1.1</i>	<i>1.1</i>	<i>5.6</i>	<i>3.5</i>	<i>5.3</i>	<i>Dec-93</i>
Excess Return			0.5	0.5	1.6	0.3	0.6	0.2	
Ramirez	79,233,829	68.1	2.6	-0.1	3.1	5.9	--	4.7	Jan-17
<i>BBgBarc US Aggregate TR</i>			<i>1.8</i>	<i>-1.6</i>	<i>-0.3</i>	<i>5.3</i>	--	<i>4.0</i>	<i>Jan-17</i>
Excess Return			0.8	1.5	3.4	0.6		0.7	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>9</i>	<i>8</i>	<i>10</i>	<i>62</i>	--	<i>31</i>	<i>Jan-17</i>
Reams	29,440,041	25.3	2.1	-1.6	2.1	9.3	5.6	6.0	Feb-98
<i>Blmbg BC Universal (Blend)</i>			<i>2.0</i>	<i>-1.1</i>	<i>1.1</i>	<i>5.6</i>	<i>3.5</i>	<i>5.0</i>	<i>Feb-98</i>
Excess Return			0.1	-0.5	1.0	3.7	2.1	1.0	
<i>eV US Core Plus Fixed Inc Gross Rank</i>			<i>80</i>	<i>97</i>	<i>78</i>	<i>1</i>	<i>7</i>	<i>40</i>	<i>Feb-98</i>
Wellington Core Bond	7,639,617	6.6	1.9	--	--	--	--	1.9	Apr-21
<i>BBgBarc US Aggregate TR</i>			<i>1.8</i>	--	--	--	--	<i>1.8</i>	<i>Apr-21</i>
Excess Return			0.1					0.1	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>76</i>	--	--	--	--	<i>76</i>	<i>Apr-21</i>

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Covered Calls	37,328,619	100.0	6.6	13.2	33.8	13.4	12.6	10.5	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>5.1</i>	<i>11.1</i>	<i>27.3</i>	<i>5.6</i>	<i>7.2</i>	<i>6.5</i>	<i>Apr-14</i>
Excess Return			1.5	2.1	6.5	7.8	5.4	4.0	
Parametric DeltaShift	20,930,443	56.1	7.9	15.2	39.3	17.0	15.6	13.0	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>5.1</i>	<i>11.1</i>	<i>27.3</i>	<i>5.6</i>	<i>7.2</i>	<i>6.5</i>	<i>Apr-14</i>
Excess Return			2.8	4.1	12.0	11.4	8.4	6.5	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>54</i>	<i>51</i>	<i>62</i>	<i>64</i>	<i>76</i>	<i>70</i>	<i>Apr-14</i>
Parametric BXM	16,398,176	43.9	5.1	10.8	27.3	9.5	9.5	8.2	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>5.1</i>	<i>11.1</i>	<i>27.3</i>	<i>5.6</i>	<i>7.2</i>	<i>6.5</i>	<i>Apr-14</i>
Excess Return			0.0	-0.3	0.0	3.9	2.3	1.7	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>95</i>	<i>93</i>	<i>96</i>	<i>98</i>	<i>99</i>	<i>99</i>	<i>Apr-14</i>

Manager Performance - Gross of Fees | As of June 30, 2021

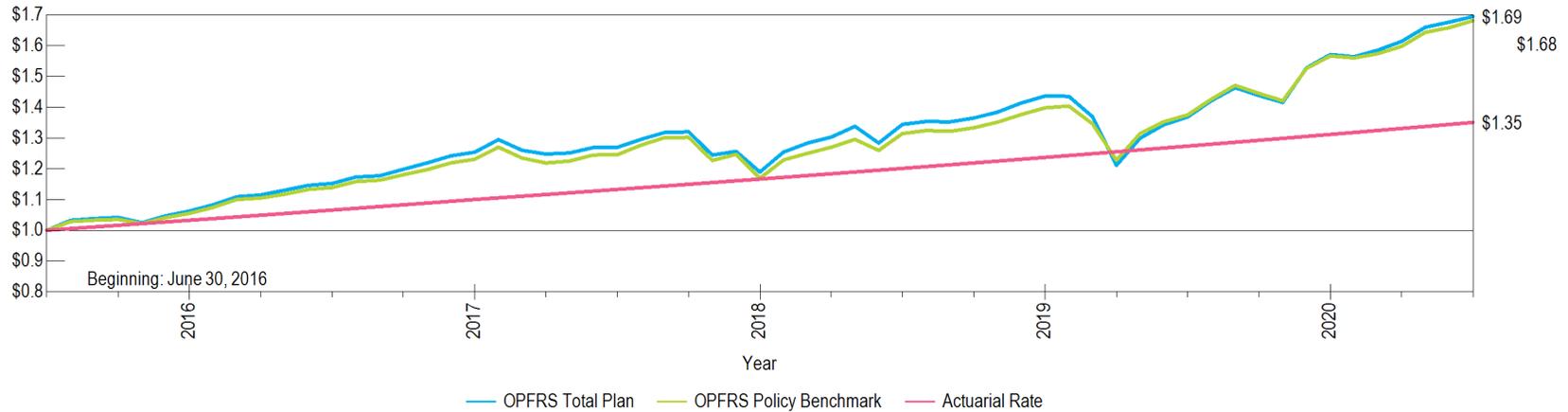
	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Credit	9,177,102	100.0	3.3	7.0	23.7	6.2	8.5	6.7	Feb-15
<i>BBgBarc US High Yield TR</i>			<i>2.7</i>	<i>3.6</i>	<i>15.4</i>	<i>7.4</i>	<i>7.5</i>	<i>6.4</i>	<i>Feb-15</i>
Excess Return			0.6	3.4	8.3	-1.2	1.0	0.3	
DDJ Capital	9,177,102	100.0	3.3	7.0	23.7	6.2	8.5	6.7	Feb-15
<i>ICE BofA High Yield Master TR</i>			<i>2.8</i>	<i>3.7</i>	<i>15.6</i>	<i>7.2</i>	<i>7.3</i>	<i>6.2</i>	<i>Feb-15</i>
Excess Return			0.5	3.3	8.1	-1.0	1.2	0.5	
<i>eV US High Yield Fixed Inc Gross Rank</i>			<i>11</i>	<i>6</i>	<i>5</i>	<i>81</i>	<i>13</i>	<i>30</i>	<i>Feb-15</i>

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Crisis Risk Offset	19,507,725	100.0	5.9	-8.5	-11.6	-9.6	--	-9.9	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<i>2.1</i>	<i>5.9</i>	<i>3.1</i>	<i>--</i>	<i>--</i>	<i>-2.9</i>	<i>Aug-18</i>
Excess Return			3.8	-14.4	-14.7			-7.0	
Vanguard Long-Term Treasury ETF	19,507,725	100.0	5.9	-8.5	-10.8	--	--	5.6	Jul-19
<i>BBgBarc US Govt Long TR</i>			<i>6.4</i>	<i>-7.8</i>	<i>-10.4</i>	<i>--</i>	<i>--</i>	<i>5.9</i>	<i>Jul-19</i>
Excess Return			-0.5	-0.7	-0.4			-0.3	
<i>eV US Long Duration - Gov/Cred Fixed Inc Net Rank</i>			<i>88</i>	<i>99</i>	<i>99</i>	<i>--</i>	<i>--</i>	<i>99</i>	<i>Jul-19</i>

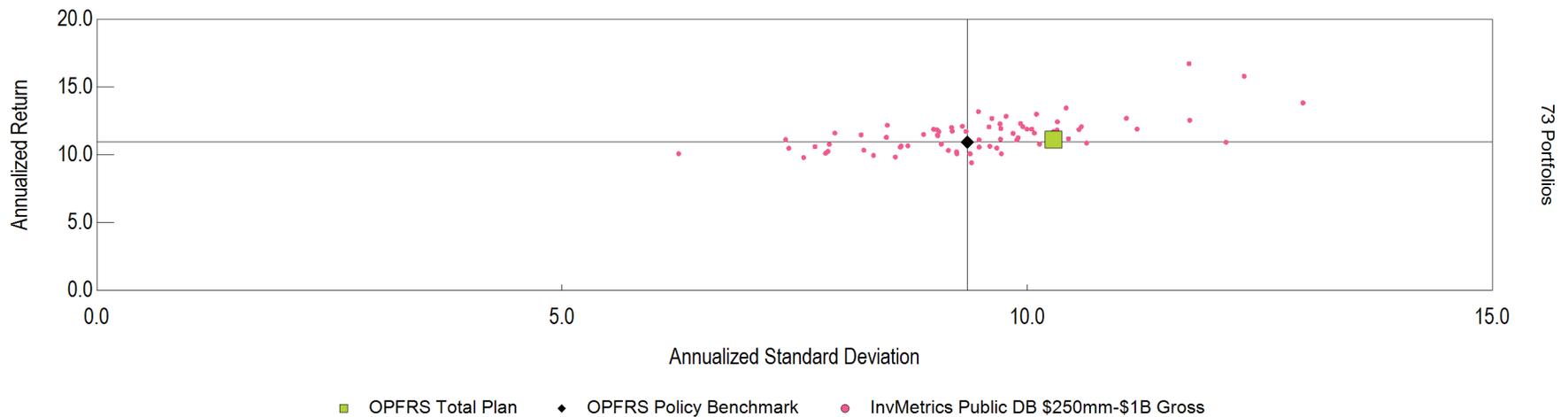
Total Portfolio 5-Year Performance | As of June 30, 2021

Growth of a Dollar

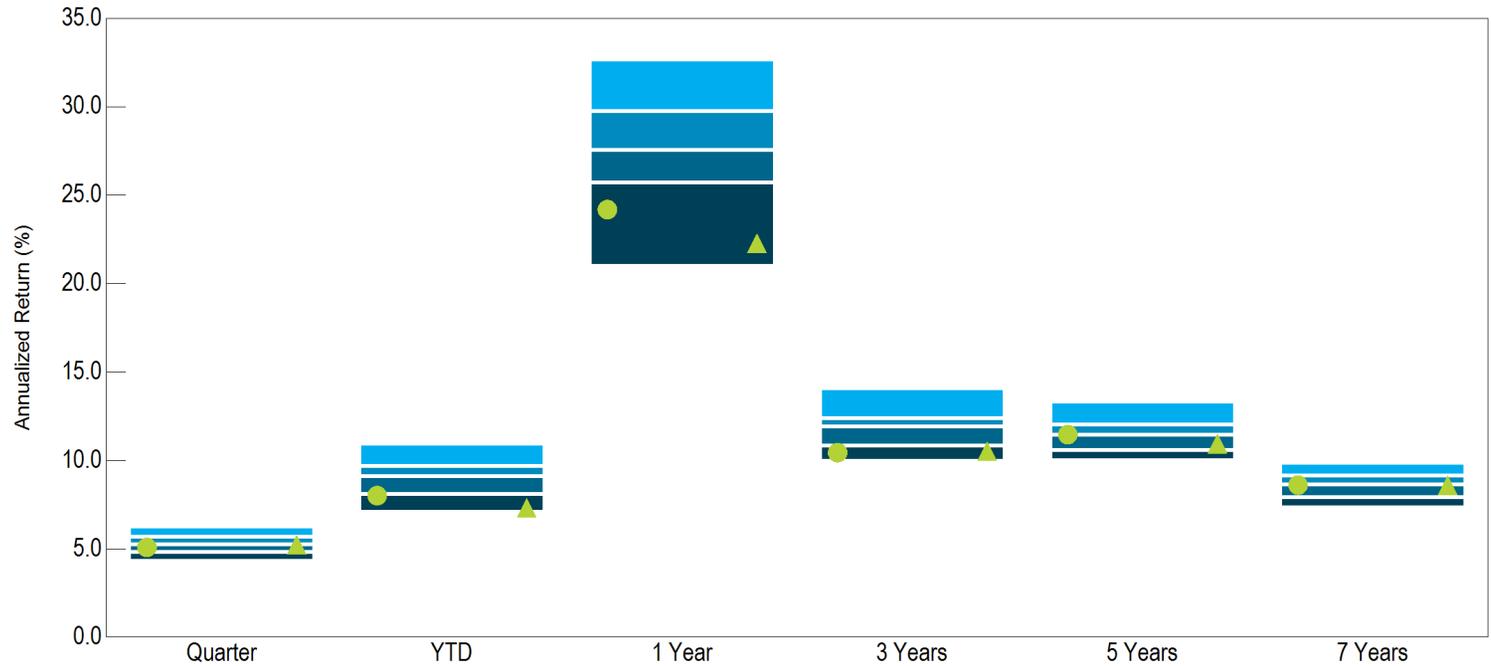


The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently

Annualized Return vs. Annualized Standard Deviation 5 Years Ending June 30, 2021

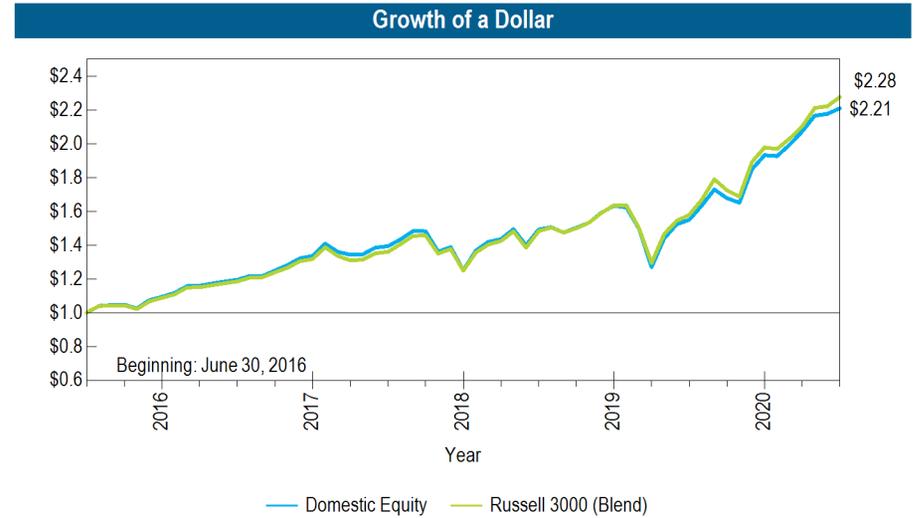
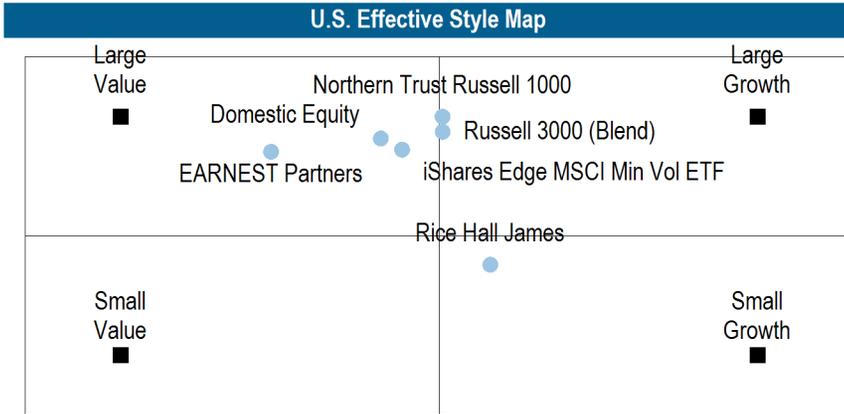


InvMetrics Public DB \$250mm-\$1B Gross Return Comparison

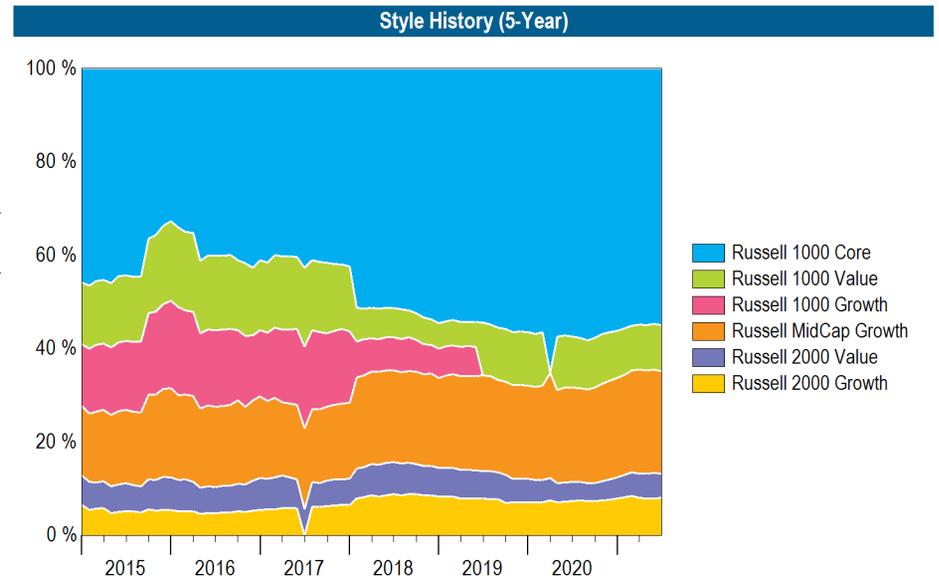
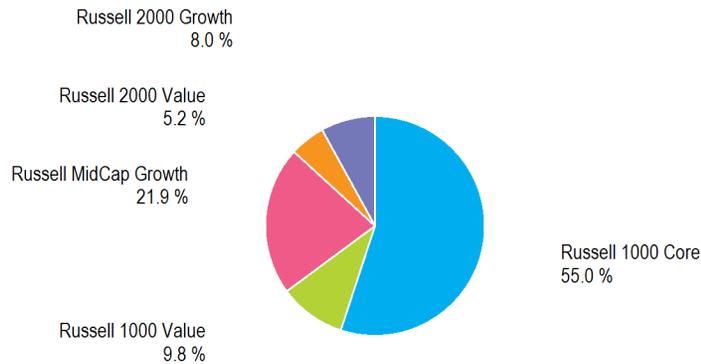


	Return (Rank)											
5th Percentile	6.2		10.9		32.6		14.0		13.3		9.9	
25th Percentile	5.7		9.7		29.8		12.4		12.0		9.2	
Median	5.3		9.1		27.6		11.9		11.5		8.7	
75th Percentile	4.8		8.1		25.7		10.9		10.6		7.9	
95th Percentile	4.3		7.1		21.0		10.0		10.0		7.4	
# of Portfolios	76		76		76		74		73		72	
● OPFRS Total Plan	5.1	(64)	8.0	(78)	24.2	(89)	10.4	(89)	11.5	(51)	8.6	(52)
▲ OPFRS Policy Benchmark	5.2	(54)	7.3	(93)	22.3	(94)	10.5	(87)	10.9	(64)	8.6	(52)

Domestic Equity | As of June 30, 2021

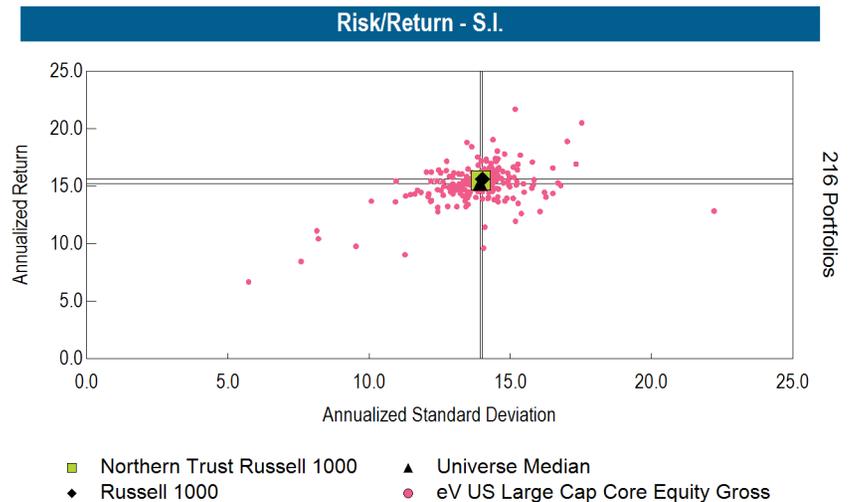
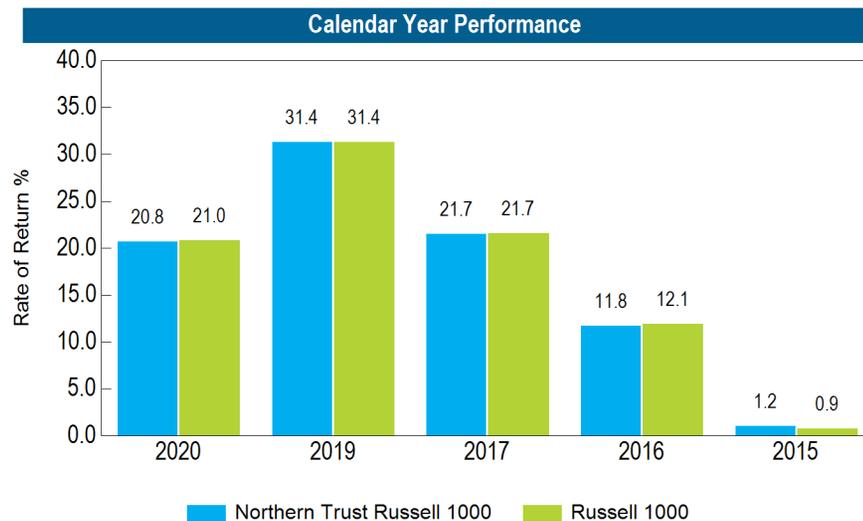
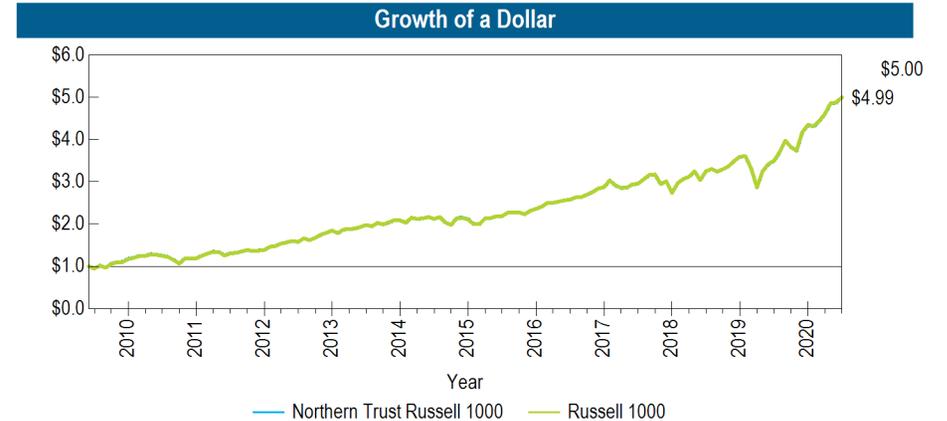
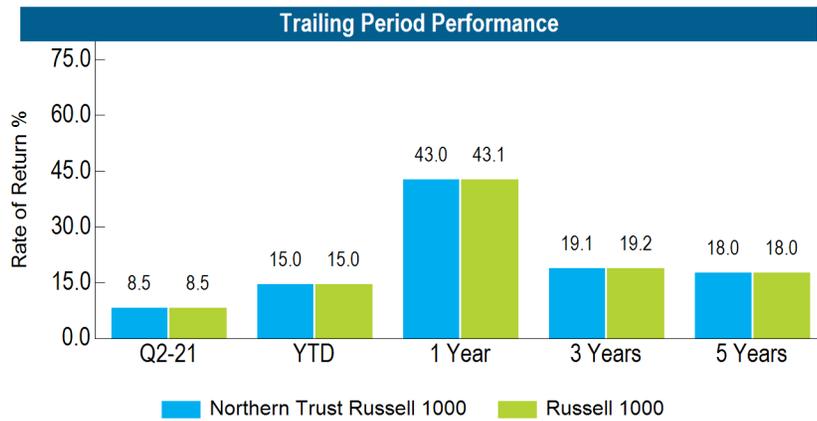


Style Exposure



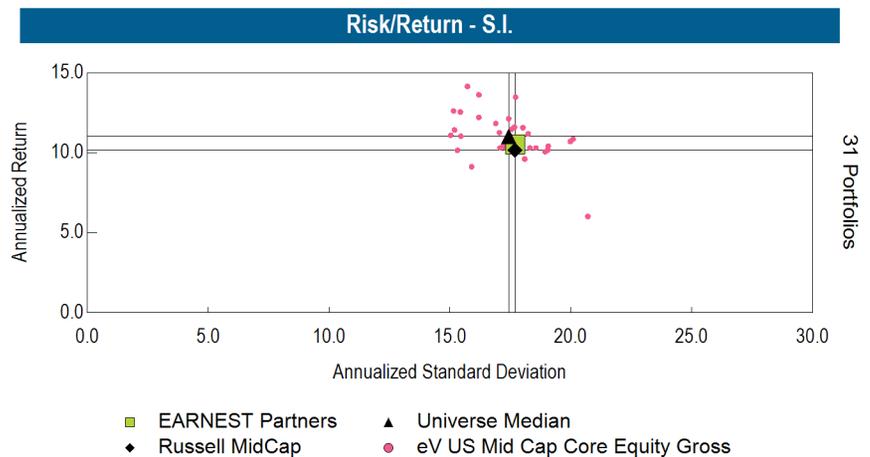
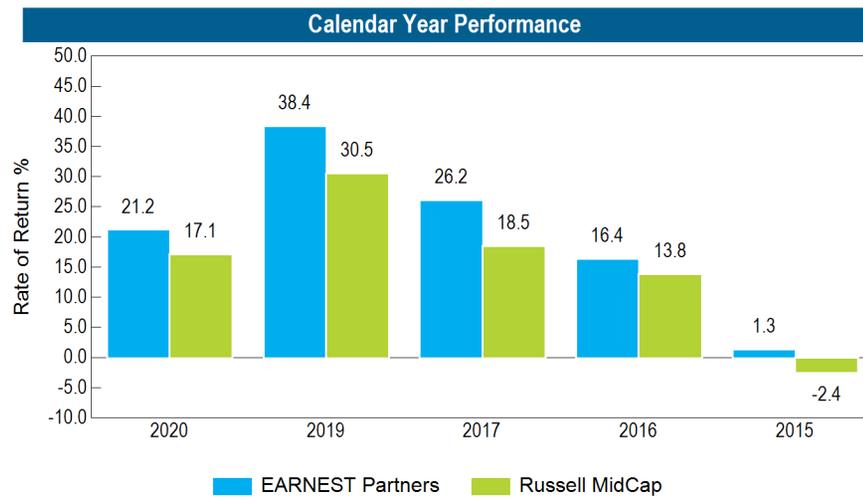
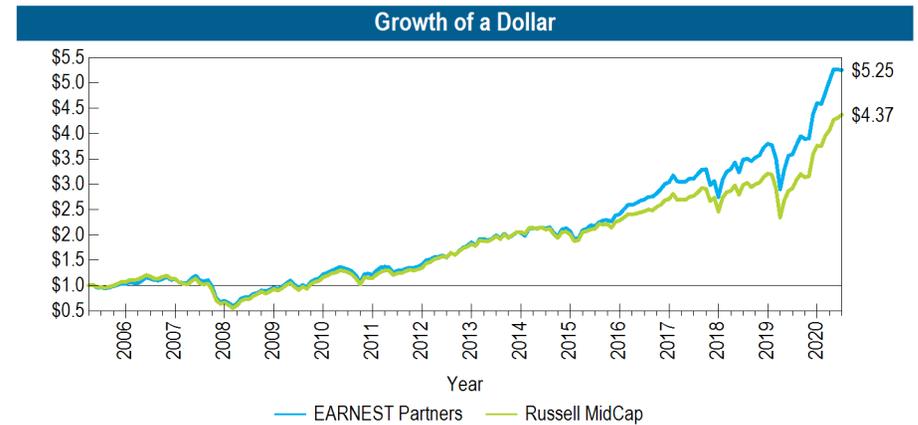
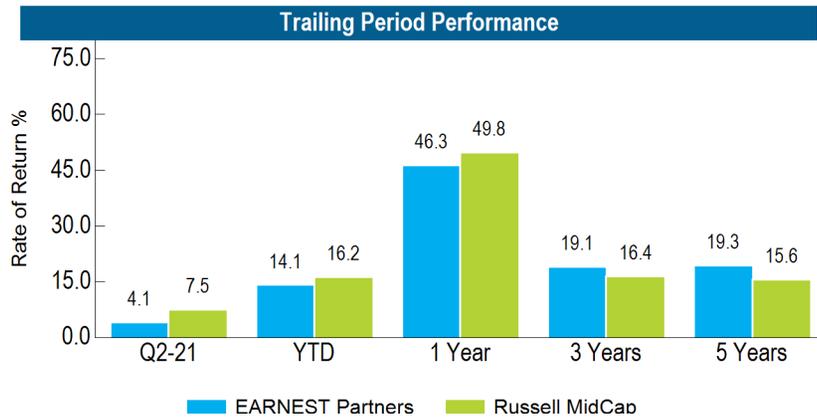
Northern Trust Russell 1000 | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust Russell 1000	15.53%	13.95%	0.00%	1.00	0.13%	98.37%	99.76%
Russell 1000	15.62%	14.01%	0.00%	1.00	0.00%	100.00%	100.00%



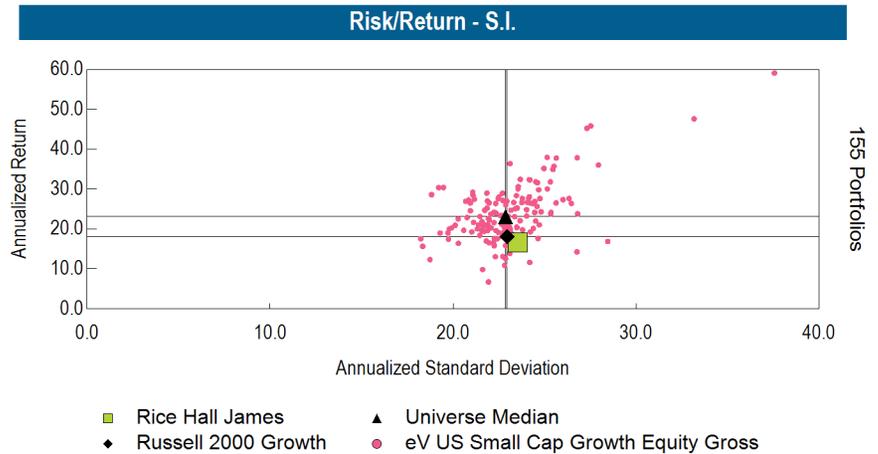
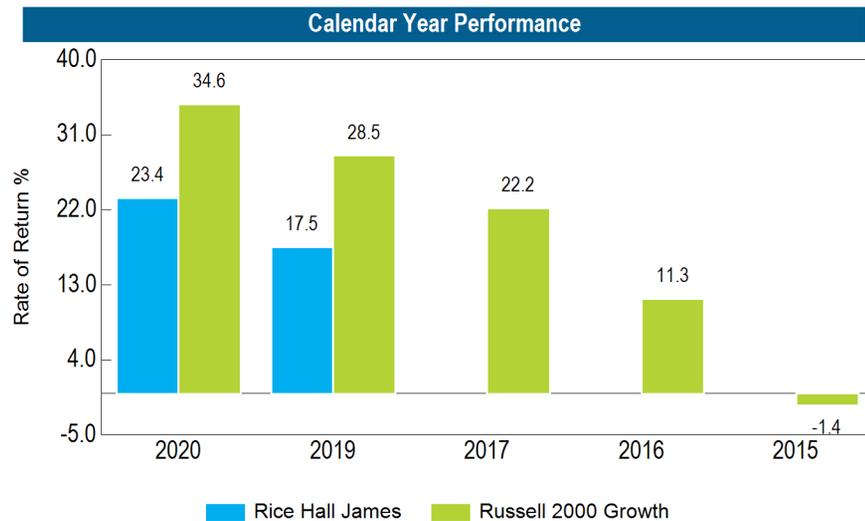
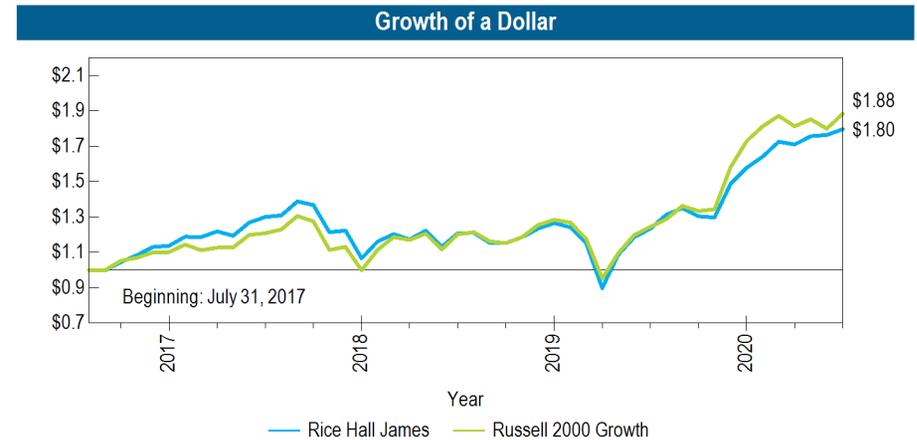
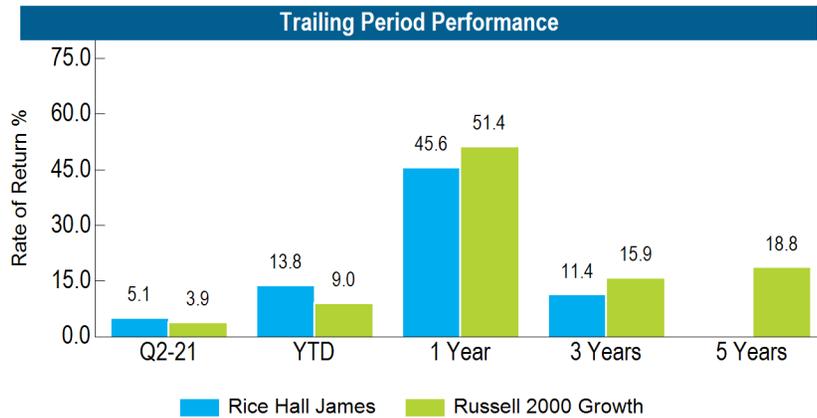
EARNEST Partners | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
EARNEST Partners	10.50%	17.70%	0.04%	0.98	0.10	3.37%	92.95%	99.11%
Russell MidCap	10.16%	17.69%	0.00%	1.00	--	0.00%	100.00%	100.00%



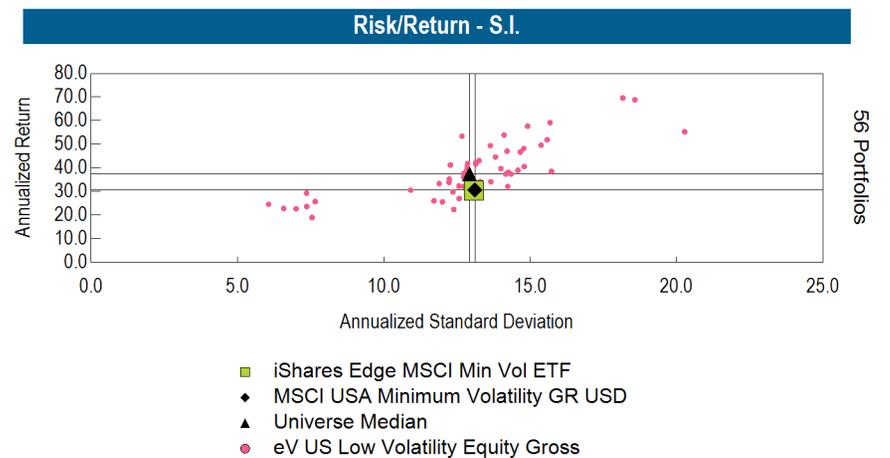
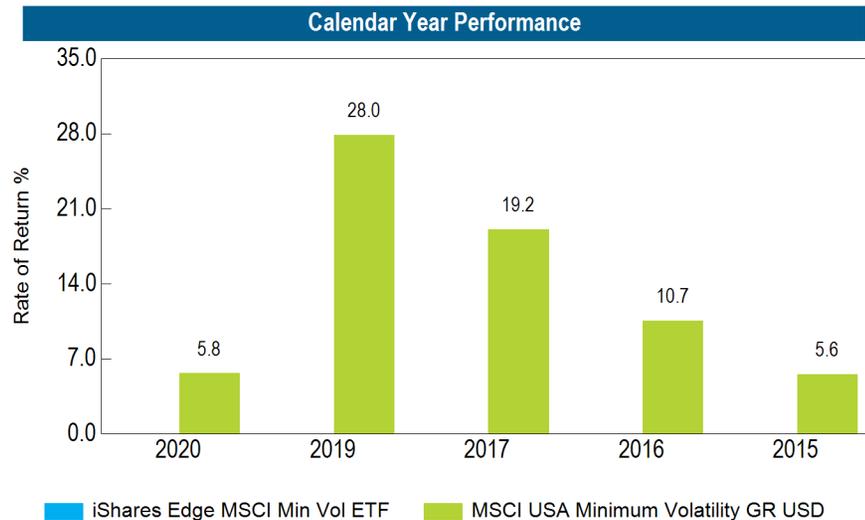
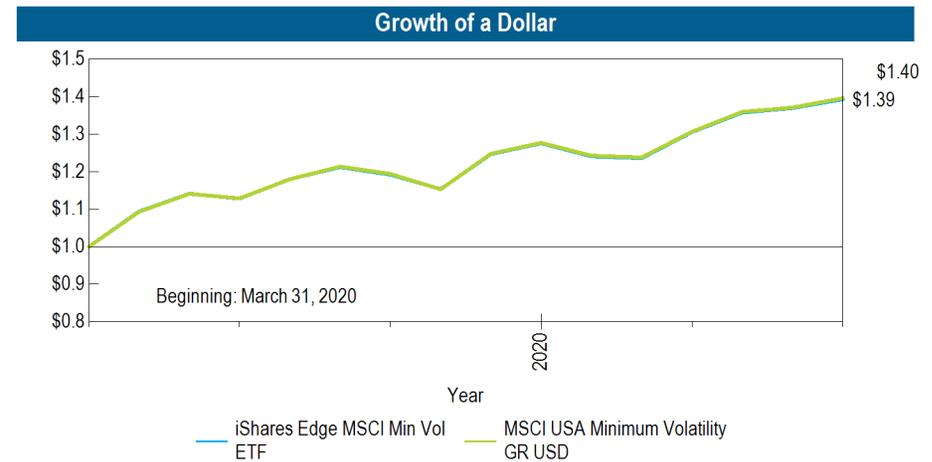
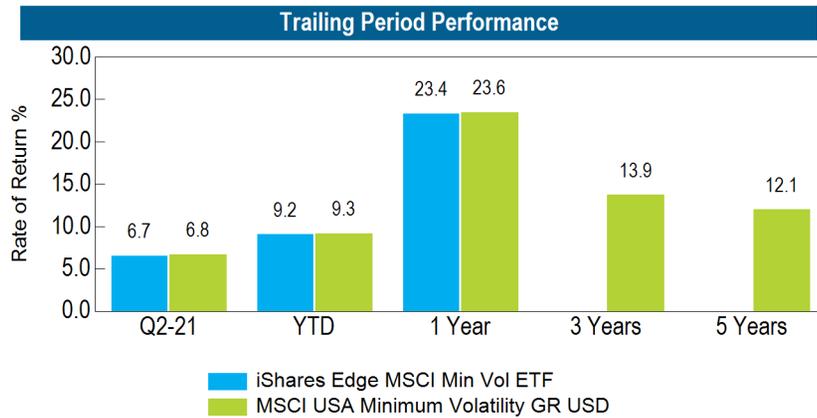
Rice Hall James | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Rice Hall James	14.96%	23.29%	-0.15%	0.98	-0.39	6.64%	87.48%	98.90%
Russell 2000 Growth	17.54%	22.71%	0.00%	1.00	--	0.00%	100.00%	100.00%



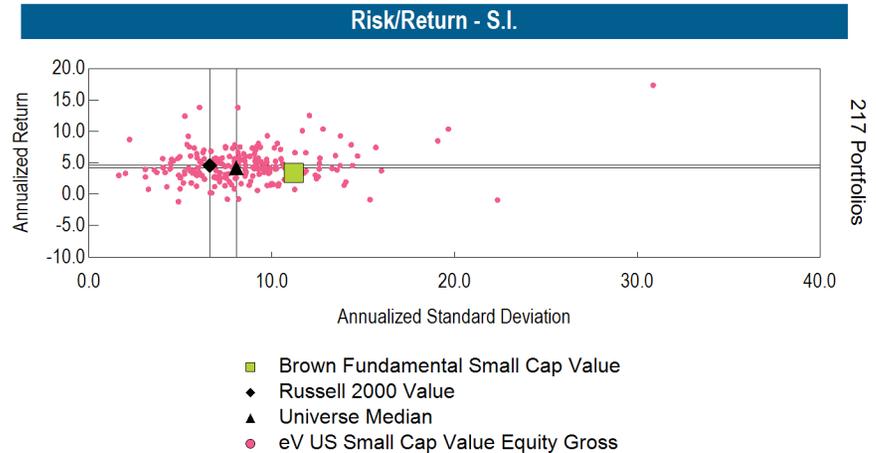
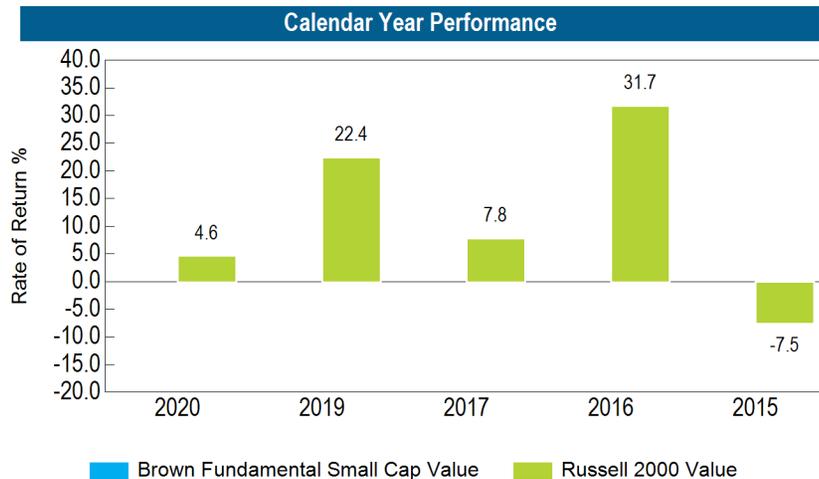
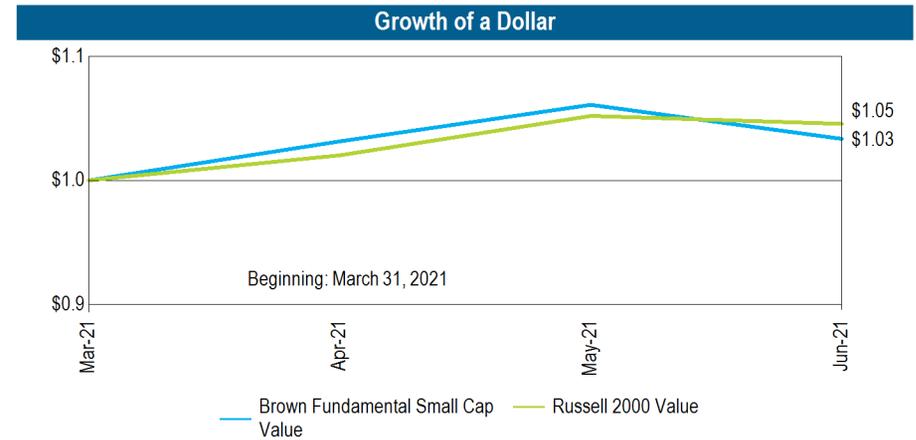
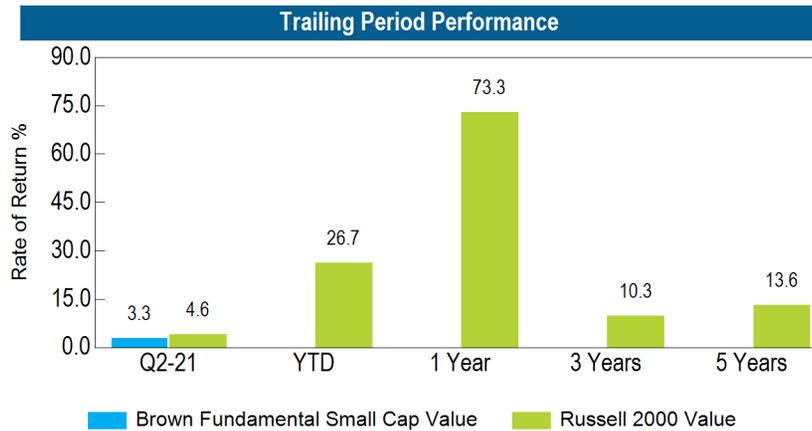
iShares Edge MSCI Min Vol ETF | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
iShares Edge MSCI Min Vol ETF	30.33%	13.08%	-0.01%	1.00	0.31%	99.29%	99.53%
MSCI USA Minimum Volatility GR USD	30.54%	13.12%	0.00%	1.00	0.00%	100.00%	100.00%

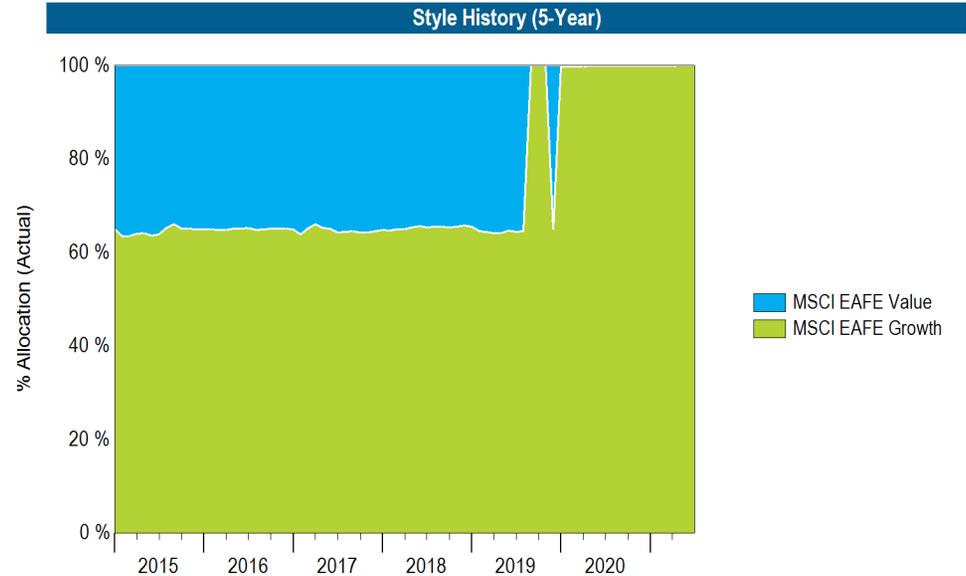
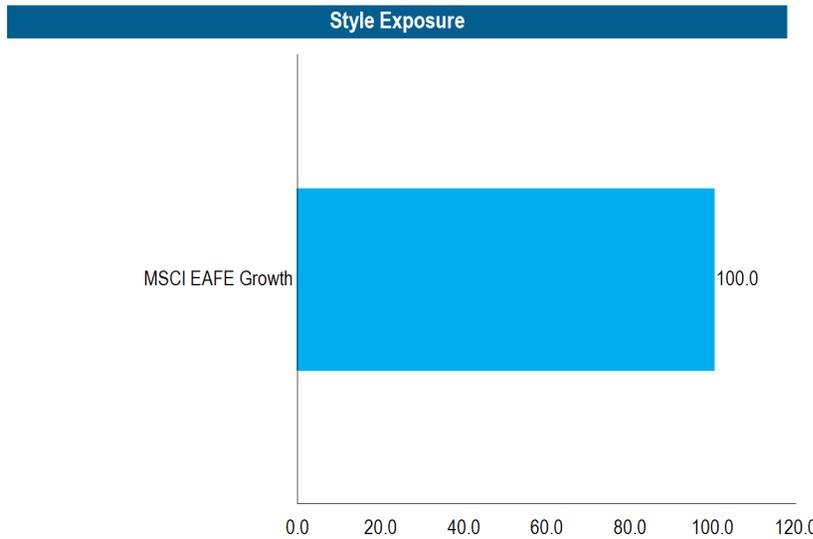
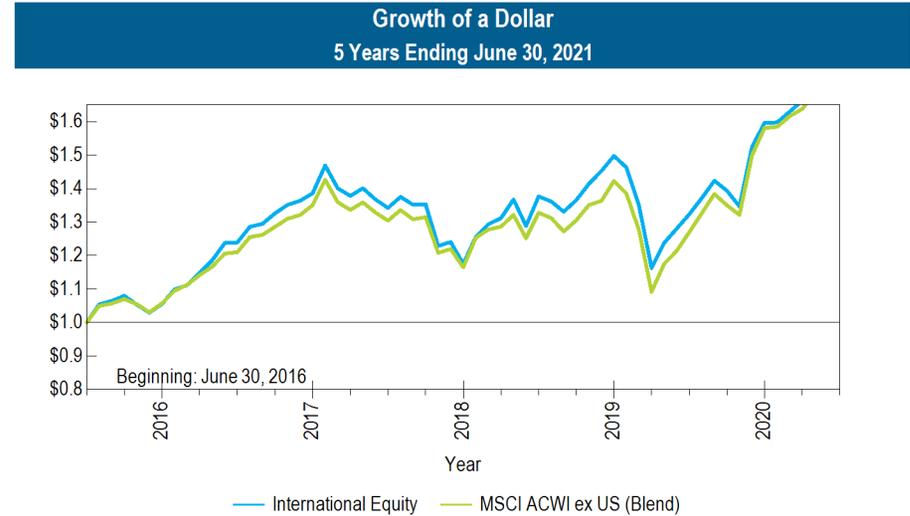
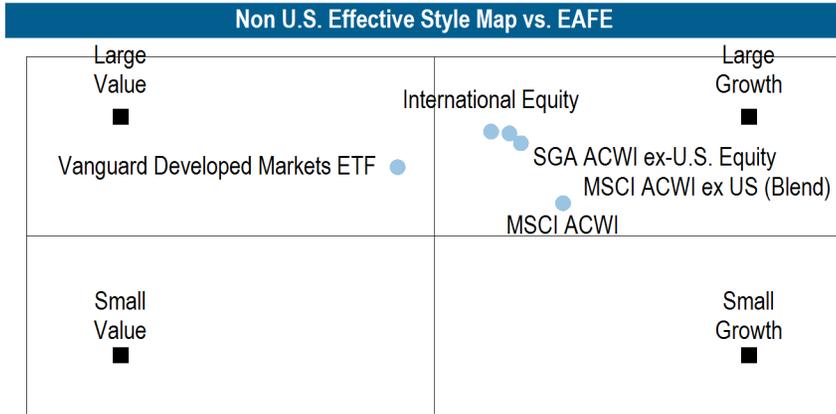


Brown Fundamental Small Cap Value | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Brown Fundamental Small Cap Value	3.13%	11.18%	-1.34%	1.60	-0.27	5.38%	114.32%	438.18%
Russell 2000 Value	4.56%	6.62%	0.00%	1.00	--	0.00%	100.00%	100.00%

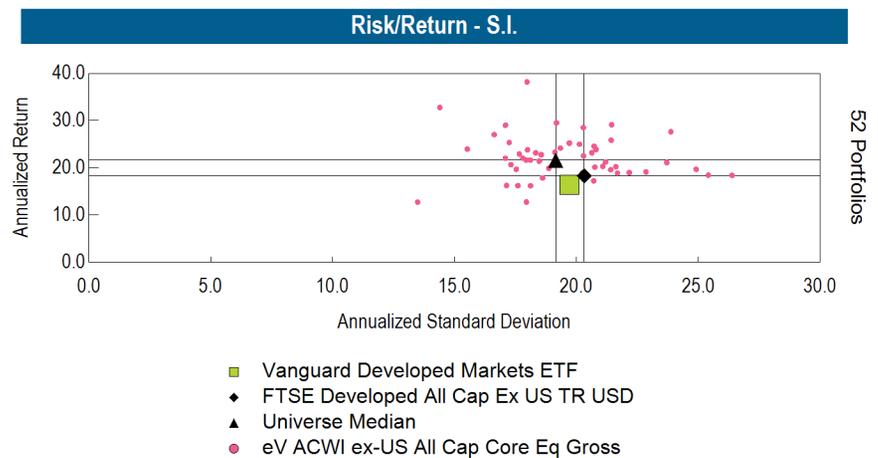
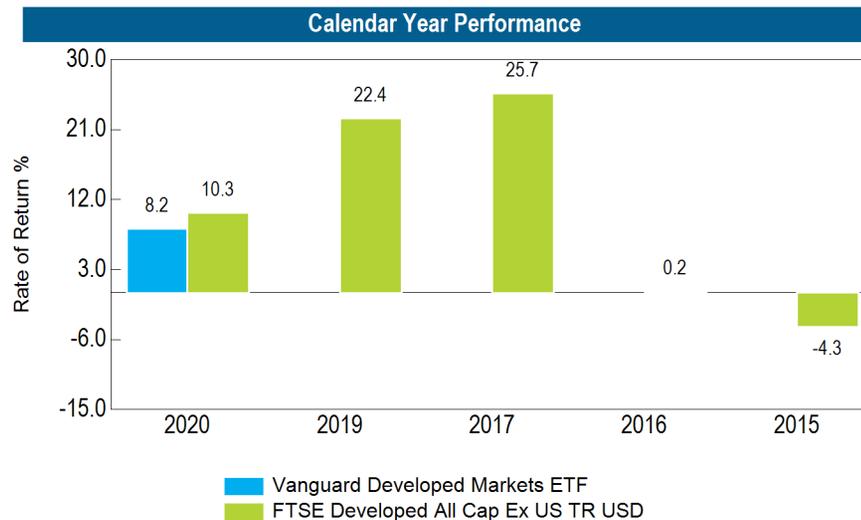
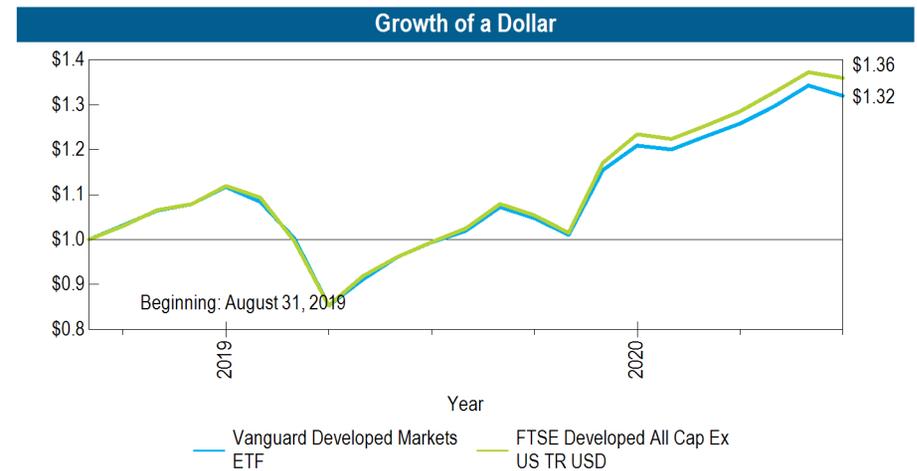
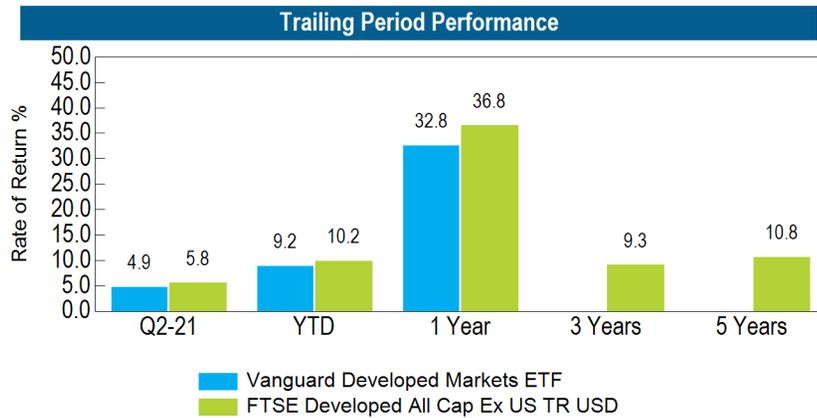


International Equity | As of June 30, 2021



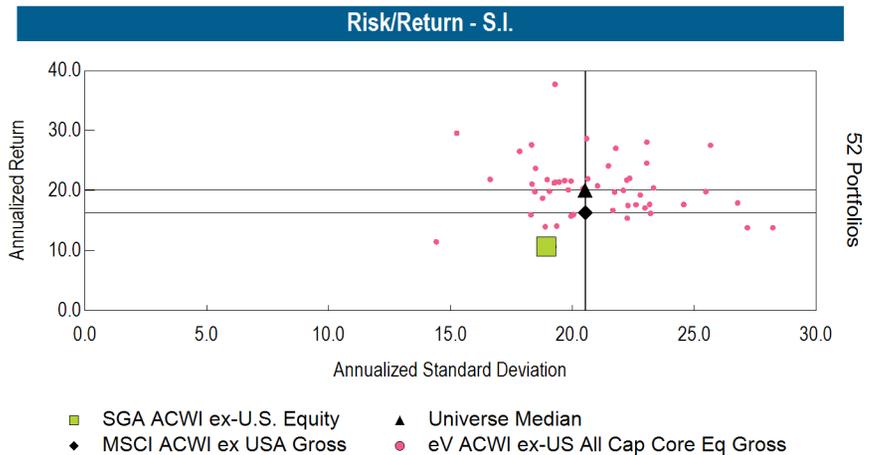
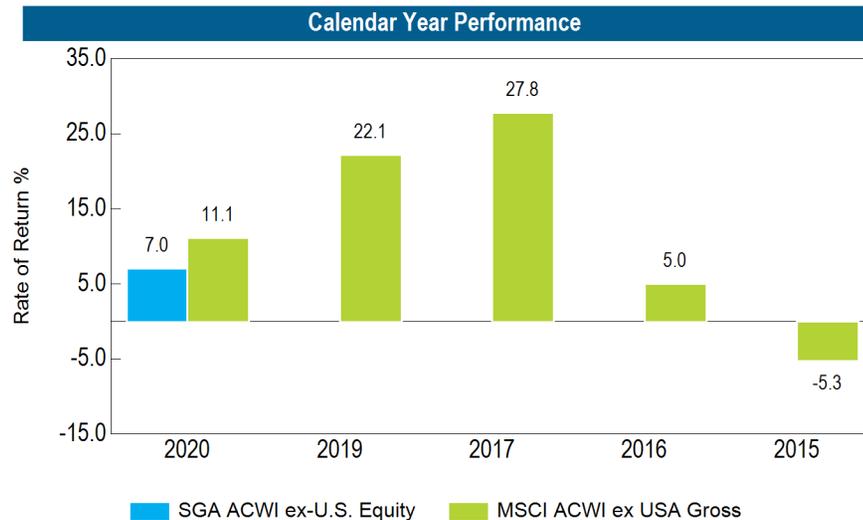
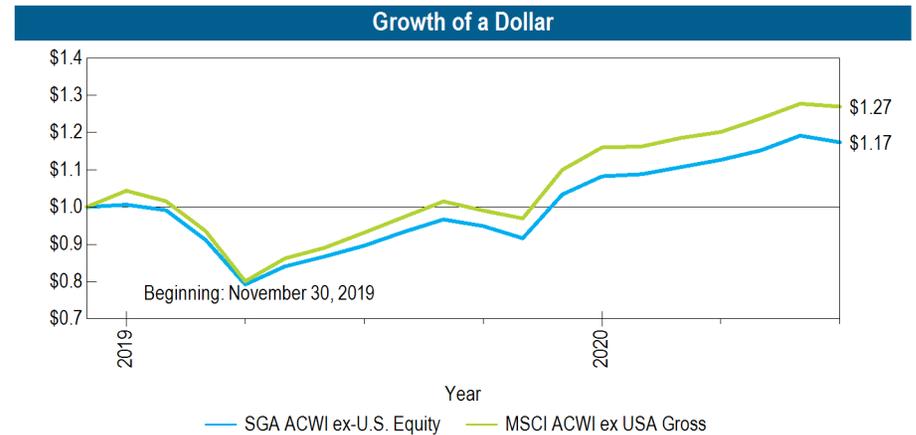
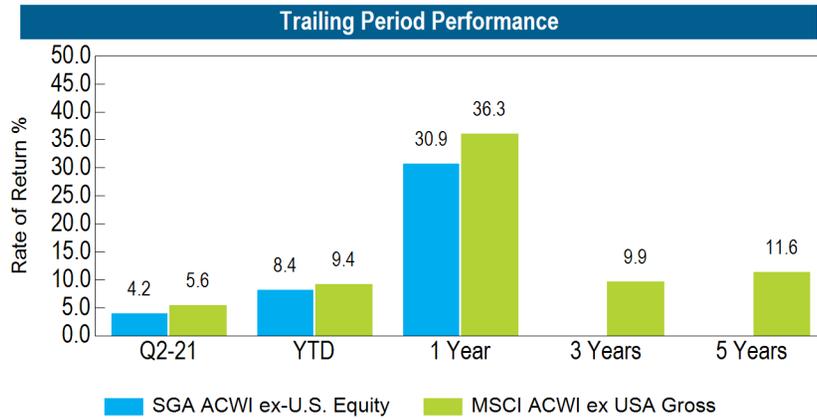
Vanguard Developed Markets ETF | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Developed Markets ETF	16.30%	19.72%	-0.10%	0.97	-1.00	1.95%	94.47%	100.79%
FTSE Developed All Cap Ex US TR USD	18.24%	20.32%	0.00%	1.00	--	0.00%	100.00%	100.00%



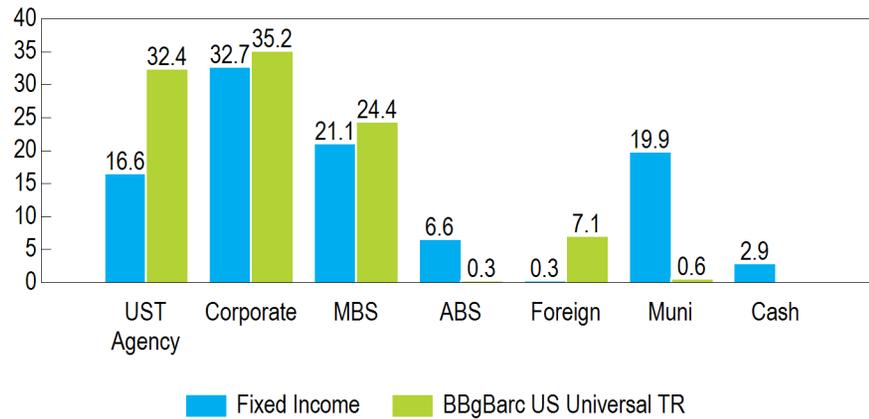
SGA ACWI ex-U.S. Equity | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
SGA ACWI ex-U.S. Equity	10.00%	18.87%	-0.36%	0.90	-1.61	3.89%	78.86%	98.16%
MSCI ACWI ex USA Gross	16.25%	20.54%	0.00%	1.00	--	0.00%	100.00%	100.00%



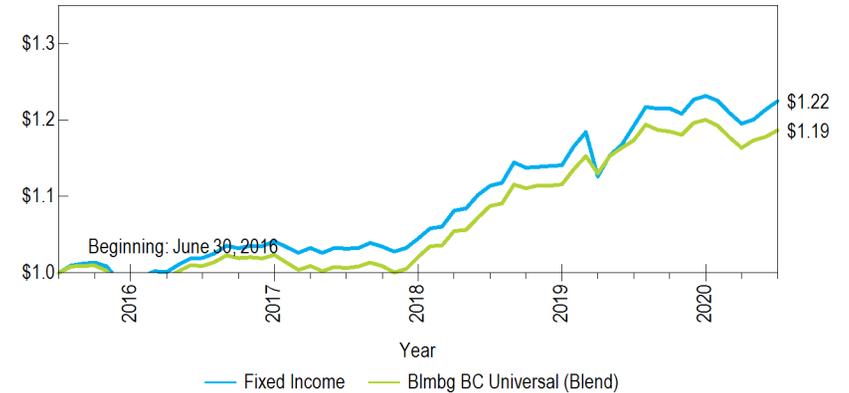
Fixed Income | As of June 30, 2021

US Sector Allocation

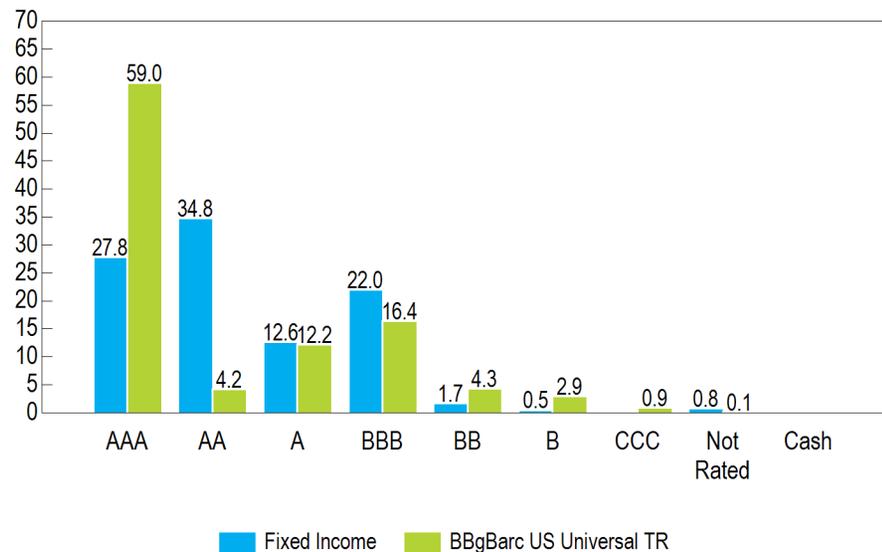


Growth of a Dollar

5 Years Ending June 30, 2021



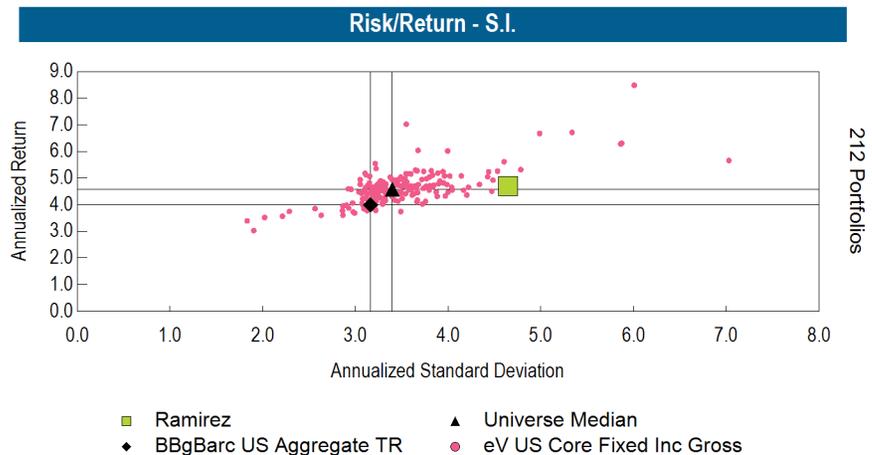
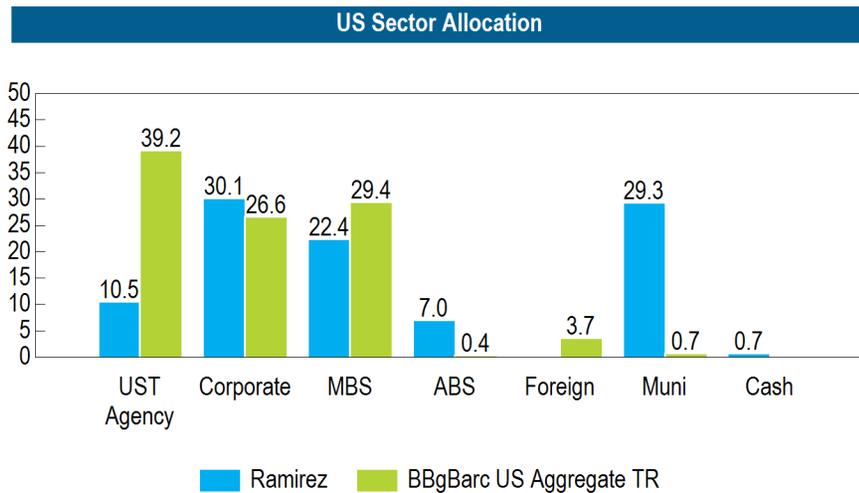
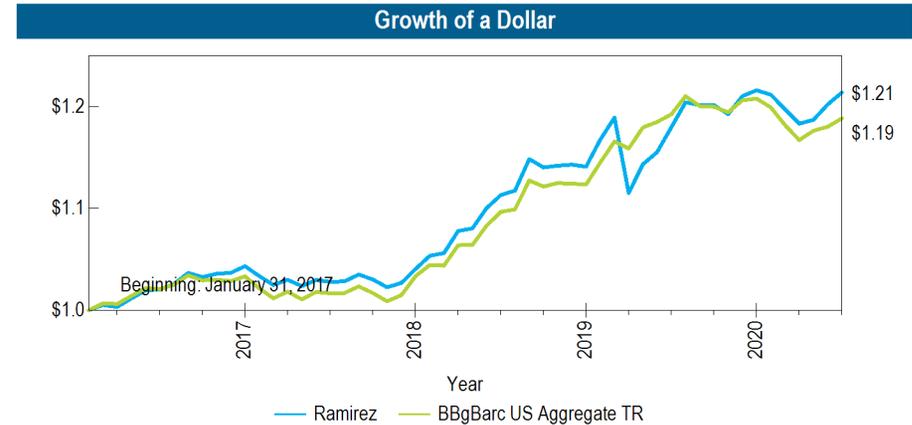
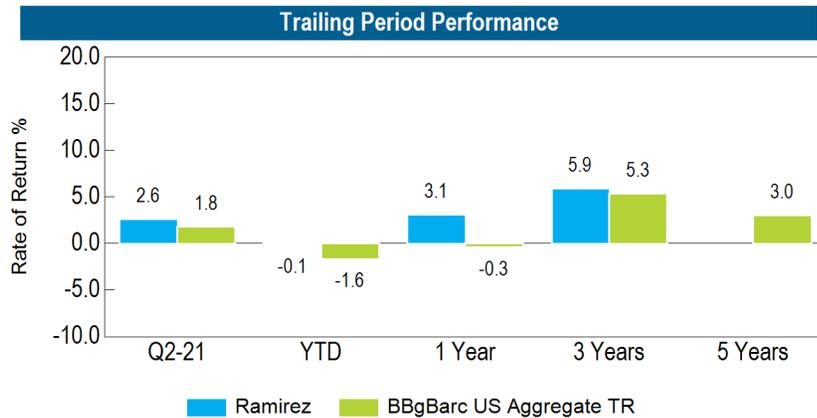
Credit Quality Allocation



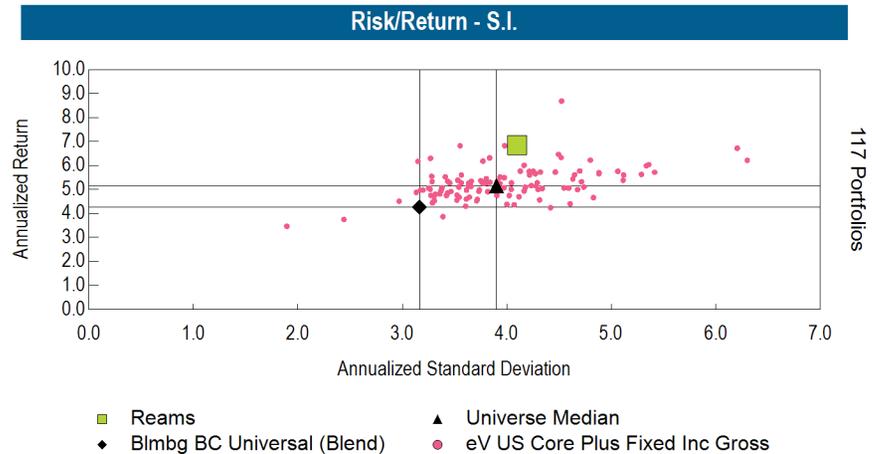
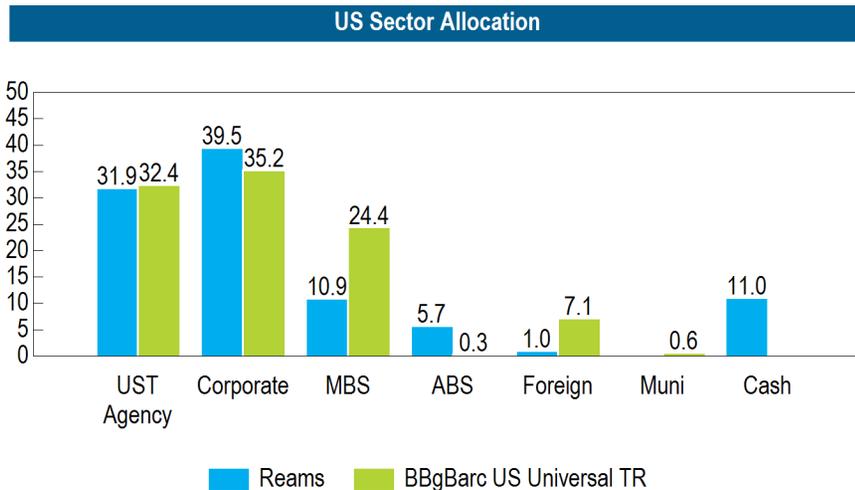
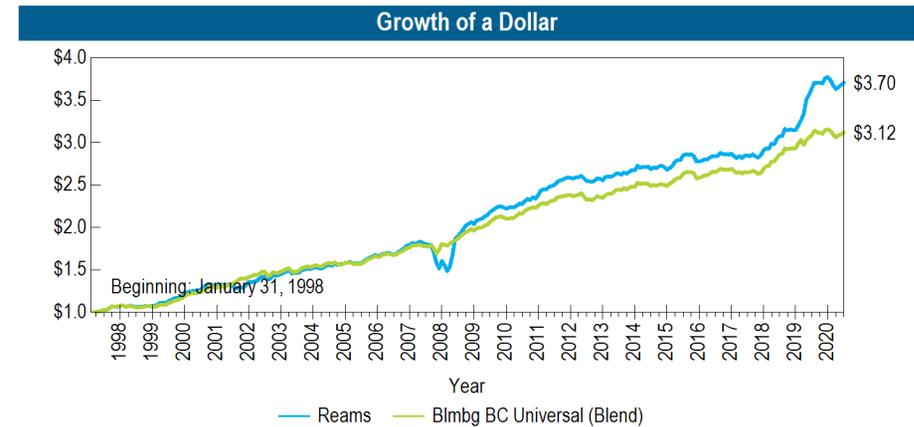
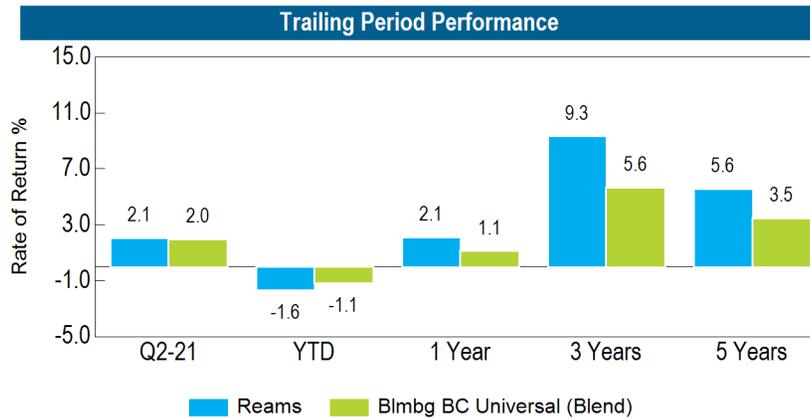
Fixed Income Fixed Income Characteristics vs. BbgBarc US Universal TR

	Portfolio Q2-21	Index Q2-21
Fixed Income Characteristics		
Yield to Maturity	1.70	1.76
Average Duration	6.17	6.42
Average Quality	A	AA
Weighted Average Maturity	8.95	12.71

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Ramirez	4.49%	4.65%	0.00%	1.13	0.17	2.98%	123.98%	130.27%
BBgBarc US Aggregate TR	3.99%	3.17%	0.00%	1.00	--	0.00%	100.00%	100.00%

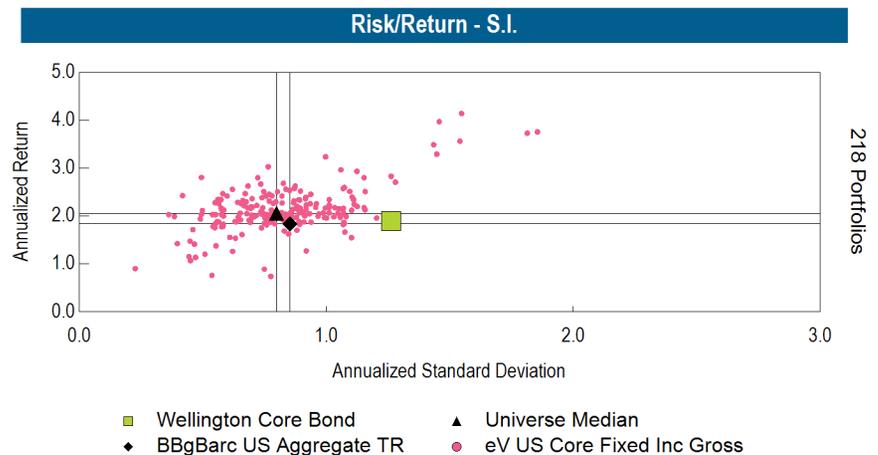
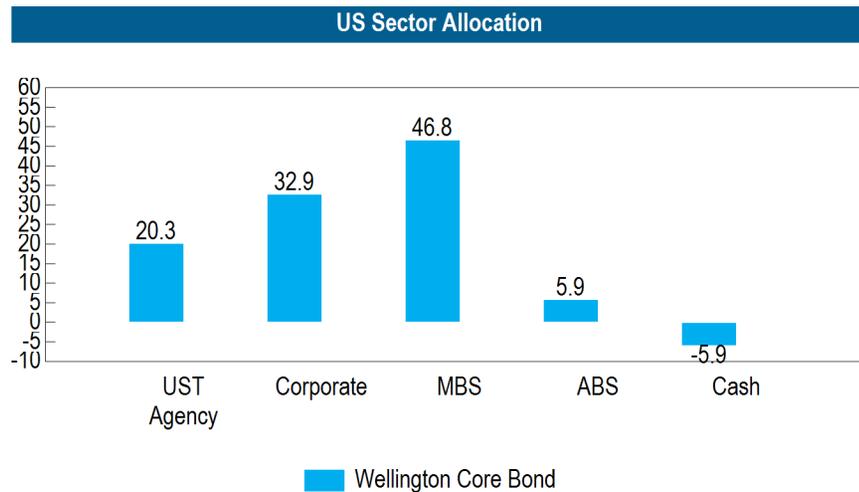
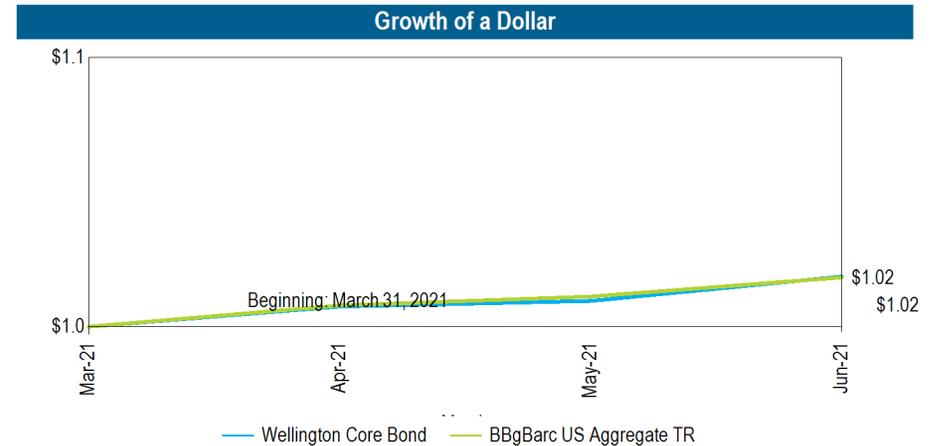
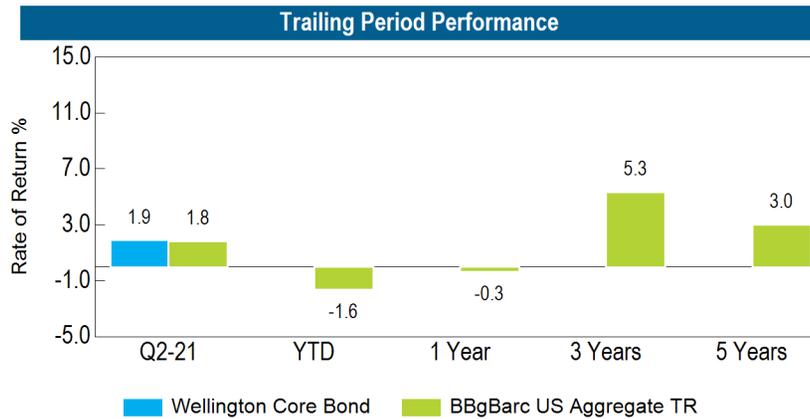


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Reams	5.75%	5.31%	0.05%	1.05	0.20	3.96%	121.75%	99.18%
Blmbg BC Universal (Blend)	4.98%	3.39%	0.00%	1.00	--	0.00%	100.00%	100.00%

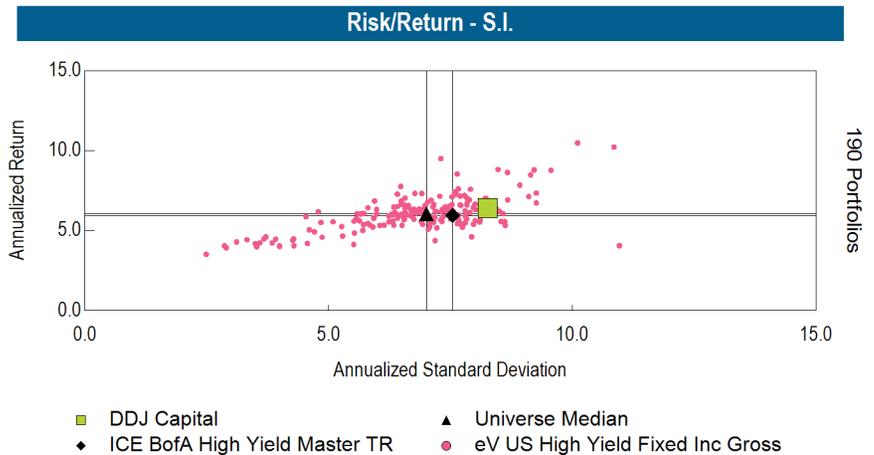
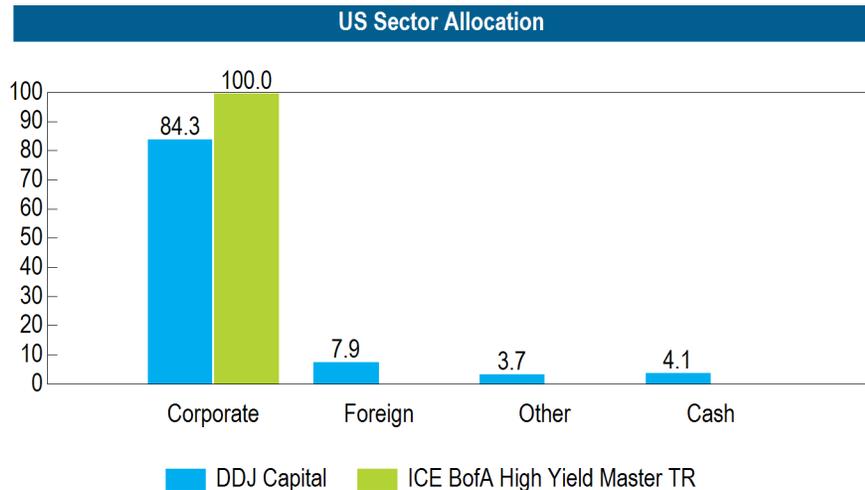
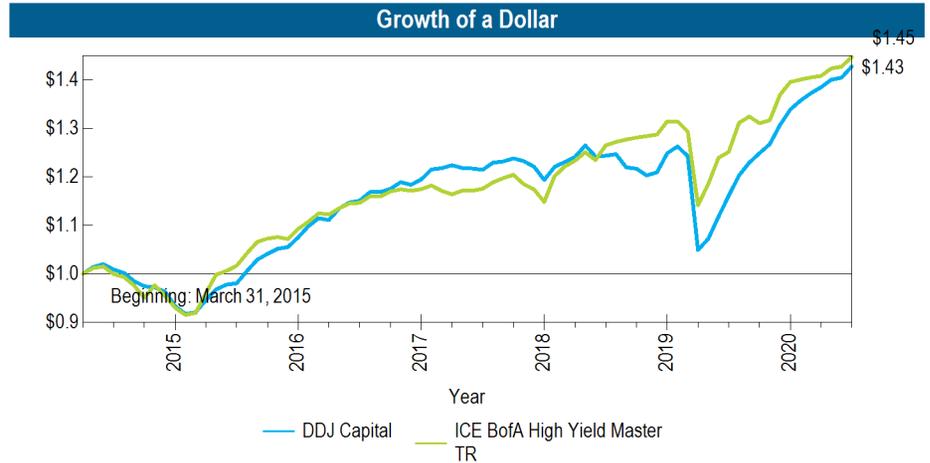
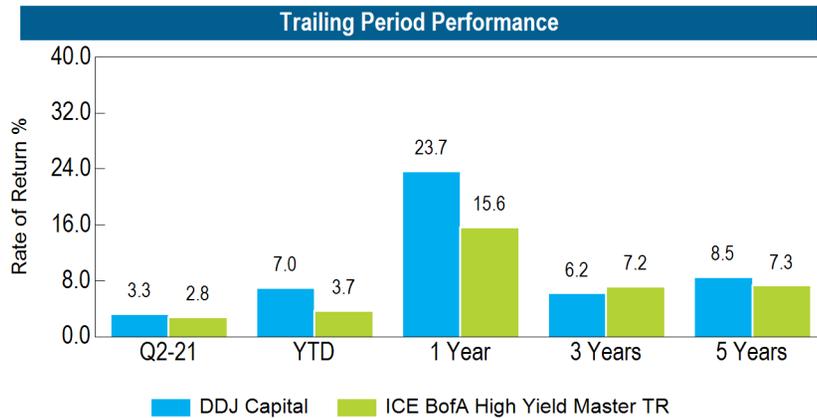


Wellington Core Bond | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Wellington Core Bond	1.86%	1.26%	-0.22%	1.37	0.06	0.57%	101.75%	--
BBgBarc US Aggregate TR	1.83%	0.85%	0.00%	1.00	--	0.00%	100.00%	--

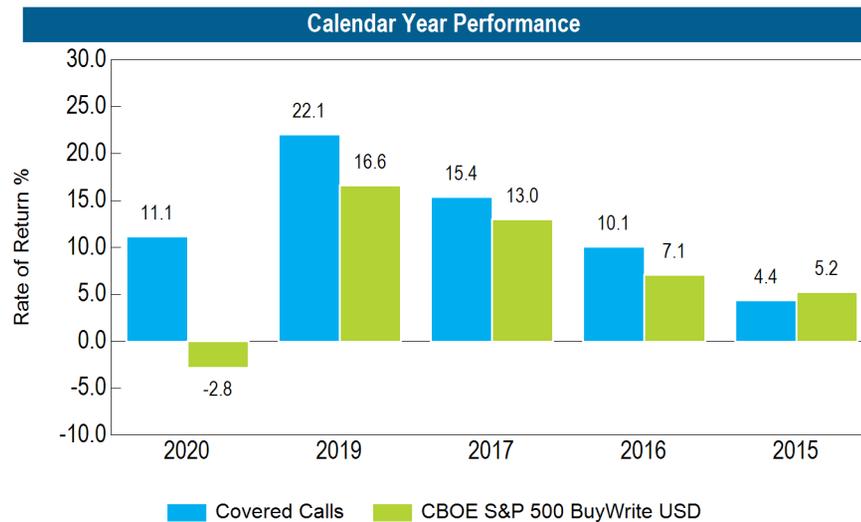
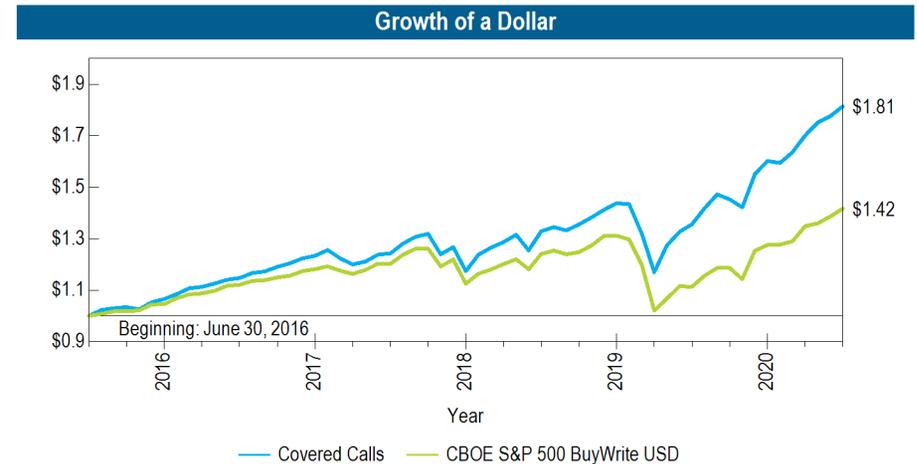
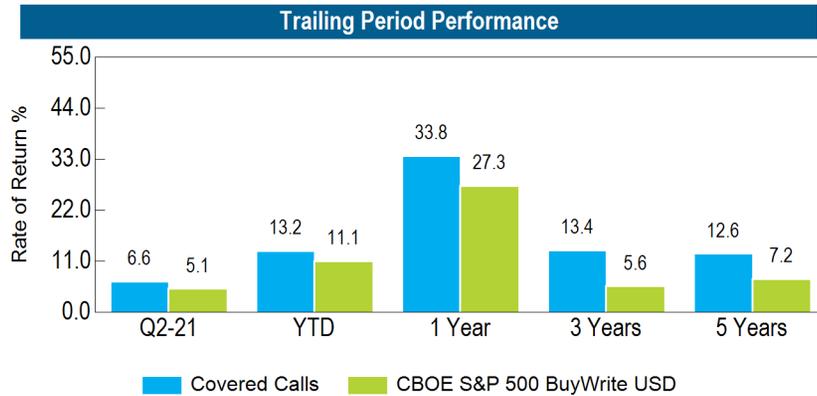


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
DDJ Capital	5.99%	8.23%	0.01%	0.97	-0.06	3.87%	90.02%	90.93%
ICE BofA High Yield Master TR	6.23%	7.53%	0.00%	1.00	--	0.00%	100.00%	100.00%



Covered Calls | As of June 30, 2021

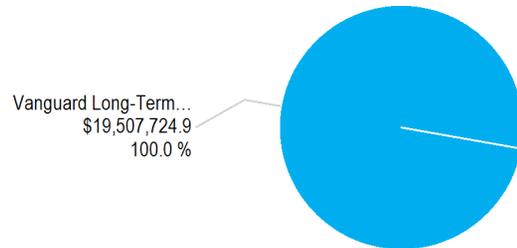
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Covered Calls	10.18%	10.68%	0.30%	0.97	1.11	3.34%	136.23%	96.60%
CBOE S&P 500 BuyWrite USD	6.47%	10.42%	0.00%	1.00	--	0.00%	100.00%	100.00%



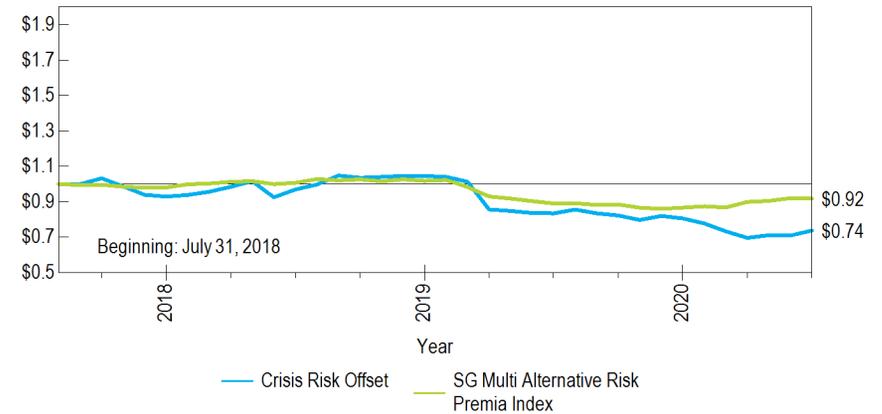
Crisis Risk Offset | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Sortino Ratio	Sharpe Ratio	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Crisis Risk Offset	-10.23%	14.21%	-0.52%	1.25	-0.59	12.38%	-0.81	-0.80	0.25	53.20%	148.91%
SG Multi Alternative Risk Premia Index	-2.89%	5.70%	0.00%	1.00	--	0.00%	-0.64	-0.71	1.00	100.00%	100.00%

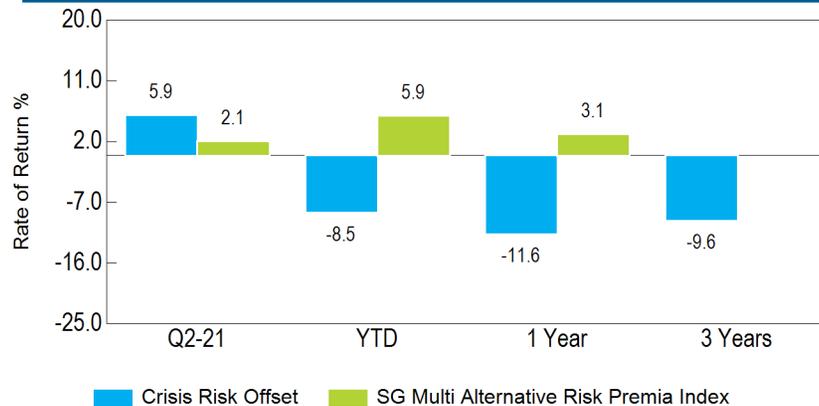
Current Allocation



Growth of a Dollar



Trailing Period Performance



Correlation Matrix 6 Months Ending June 30, 2021

	Crisis Risk Offset	MSCI ACWI	S&P 500	BBgBarc Global Aggregate TR
Crisis Risk Offset	1.00	--	--	--
MSCI ACWI	0.17	1.00	--	--
S&P 500	0.14	0.94	1.00	--
BBgBarc Global Aggregate TR	0.64	0.32	0.05	1.00

Manager Monitoring / Probation List

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

As of June 30, 2021

Portfolio	Status	Concern	Months Since Corrective Action	Performance ¹ Since Corrective Action (Gross, %)	Peer Group Percentile Ranking ²	Date of Corrective Action ³
DDJ Capital	On Watch	Performance	21	6.8	6	5/29/2019
Ice BofAML US High Yield			---	7.4		
Rice Hall James	On Watch	Performance	21	25.2	62	5/29/2019
Russell 2000 Growth	---	---	---	30.2		
Parametric	On Watch	Org changes	5	19.7	NA	10/28/2020
CBOE S&P 500 BuyWrite USD				14.5		

Investment Performance Criteria for Manager Monitoring/Probation Status

Asset Class	Short-term (Rolling 12 months)	Medium-term (Rolling 36 months)	Long-term (60 + months)
Active Domestic Equity	Fund return < benchmark return by 3.5%	Annualized Fund return < benchmark return by 1.75% for 6 consecutive months	VRR ⁴ < 0.97 for 6 consecutive months
Active International Equity	Fund return < benchmark return by 4.5%	Annualized Fund return < benchmark return by 2.0% for 6 consecutive months	VRR < 0.97 for 6 consecutive months
Passive International Equity	Tracking Error > 0.50%	Tracking Error > 0.45% for 6 consecutive months	Annualized Fund return < benchmark return by 0.40% for 6 consecutive months
Fixed Income	Fund return < benchmark return by 1.5%	Annualized Fund return < benchmark return by 1.0% for 6 consecutive months	VRR < 0.98 for 6 consecutive months

¹ Annualized performance if over one year

² Ranking over most recent quarter if on watch for less than 1 year, or over 1 year if on watch for more than a year.

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

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

Disclaimer, Glossary, and Notes

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.
The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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

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

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

MEMORANDUM

TO: Oakland Police and Fire Retirement System (PFRS)
FROM: Meketa Investment Group ("Meketa")
CC: David Sancewich; Paola Nealon - Meketa
Teir Jenkins - PFRS
DATE: August 25, 2021
RE: 2021 Expected Return Memo

The general theme of the 2021 Meketa Capital Market Assumptions are lower future expected returns. This is a theme which is consistent across the board in the industry and largely driven by the significant changes in interest rates during 2020. Lower interest rates result in lower expected returns for most yield oriented asset classes as starting yield is often a fairly reasonable predictor of future returns for many fixed income related classes. Other approaches which focus on building forecasts from a more bottom-up or fundamental view point for equities and other economic growth risk linked classes are often (or at least in some part) influenced by valuation levels. With a strong year across the board for equity markets, valuations increased across many measures.

As such, expected returns are lower for anyone relying solely on a valuation approach as well. It's important to remember that our capital market assumptions and those of other practitioners and peers have a significant range of error in terms of potential future outcomes. For example, the higher the expected standard deviation, the higher the range of possible outcomes is expected to be for any asset class or portfolio. It is also important to note that the long-term expected portfolio compound return assumes net-of-fee returns, with no attempt to seek added value via active management.

It is important to note that our capital market assumptions are over a 20-year time horizon which is different from the time horizon used by PFRS's actuary, Chieron which projects out over 30-years. Further summary comments of our 2021 capital market assumptions and the detailed projections by asset class are shown on the following page.

- In 2021 our cash return expectations declined materially from 2020 from 2.4% to 1.1% pushing the real return expectation even further into negative territory.
 - Short-term rates declined significantly, with 3 month treasury yields starting at 1.55% and dropping to 0% on March 25th and 26th 2020, before remained low the rest of the year and ending at 0.09%.
- Fixed income yields across the maturity and quality spectrum fell significantly during 2020 reducing return expectations for Fixed Income, High Yield, and Long Duration (a part of Crisis Risk Offset).
- With the exception of Public Equities, no class in the PFRS portfolio is forecasted to achieve a compound return above 7.00% over the next 20 years.
 - Public Equity contains U.S. Equity and International Equity. The next highest returning sub-asset class is Covered Calls at ~4.7%.
- Over the next 20-years the PFRS Long-term policy portfolio is projected to produce a return of 5.63%.



Current Long-Term Policy

Investment Class	2021 20-Year Assumptions		
	Target * %	Exp. Comp. Return**	Expected Std. Dev.
US Equity	40%	6.80	18.00
International Equity	12%	7.10	19.00
Covered Calls	5%	4.70	13.00
Fixed Income	21%	1.80	4.00
Credit	2%	4.20	11.00
Crisis Risk Offset	20%	4.05	8.90
Cash	---	1.10	1.00
Total	100%	5.63	10.21

Current Interim Policy

Investment Class	2021 20-Year Assumptions		
	Target * %	Exp. Comp. Return**	Expected Std. Dev.
US Equity	40%	6.80	18.00
International Equity	12%	7.10	19.00
Covered Calls	5%	4.70	13.00
Fixed Income	31%	1.80	4.00
Credit	2%	4.20	11.00
Crisis Risk Offset	10%	4.05	8.90
Cash	---	1.10	1.00
Total	100%	5.37	10.24

Long-Term Policy with Inflation

Investment Class	2021 20-Year Assumptions		
	Target * %	Exp. Comp. Return**	Expected Std. Dev.
US Equity	40%	6.80	18.00
International Equity	12%	7.10	19.00
Covered Calls	5%	4.70	13.00
Fixed Income	21%	1.80	4.00
Credit	2%	4.20	11.00
Crisis Risk Offset	15%	4.05	8.90
Inflation (Commodities)	5%	2.70	17.0
Cash	---	1.10	1.00
Total	100%	5.62	10.67

DS, PN, pq

Cryptocurrencies

August 25, 2021

Bitcoin, Blockchain, and
Institutional Investors

What is a Digital Currency?

- A cryptocurrency is a digital (or virtual) currency that is secured by cryptography¹.
 - They are anonymous and nearly impossible to counterfeit.
- Unlike traditional currencies, most cryptocurrencies are not issued by a central bank. They can be created by nearly anyone who designs a governing protocol and distributed ledger system.
 - They operate outside the control of governments.
 - They require meaningful adoption for the networks/currencies to be decentralized and functional.
- Transactions can be completed without intermediaries and at a low cost.
- The first and most popular cryptocurrency is Bitcoin, but new versions continue to be introduced.
 - The value of Bitcoin is entirely determined by market participants, the price at which buyers and sellers of Bitcoin are willing to trade with one another.
 - Other cryptocurrencies (i.e., “stablecoins”) seek to be pegged to the US dollar.

¹ Cryptography pertains to the methods for secure translation of information (e.g., encryption and decryption).

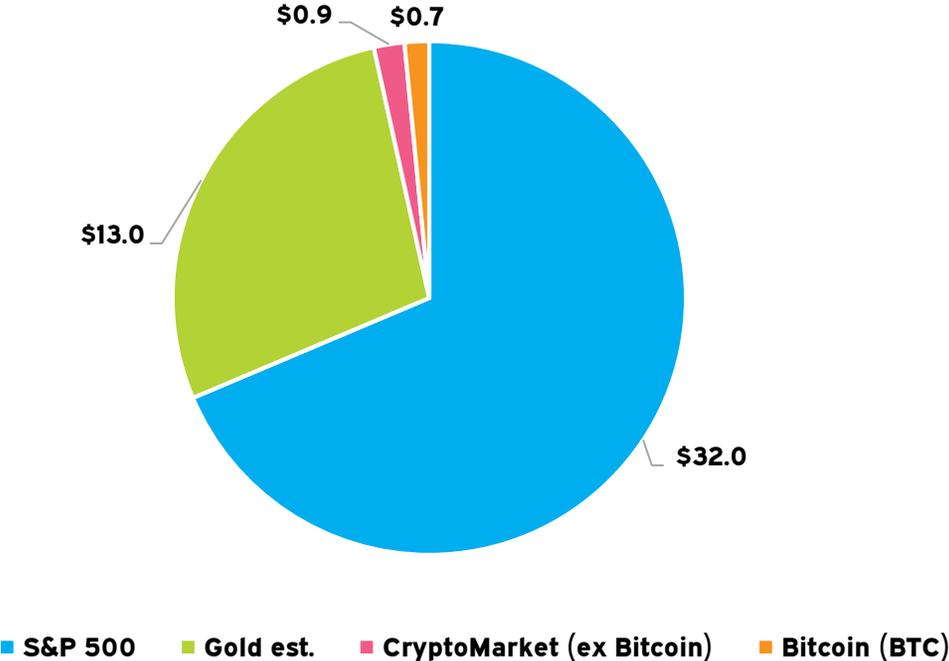
Bitcoin Network/Protocol

- The original idea of Bitcoin was first stated in an eight-page paper in 2008.
 - Bitcoin leveraged the underlying “blockchain” approach that was created in the early-1990s. A blockchain is a form of a database.
- The paper outlined the concepts and general protocols for Bitcoin.
 - The protocols represent the overarching rules and procedures for how the decentralized network operates.
- A key concept of Bitcoin is that of “hashing.”¹ This is essentially a function/procedure that converts any piece of data (e.g., numbers, letters, etc.) into a fixed-size value.
- The concept of “mining bitcoin” pertains to converting the data in a block of transactions into specific value. This requires “hashing” the data per the protocols of the Bitcoin network.
- All of the parameters of Bitcoin are incorporated into the protocol/code that operates the network.
 - As a decentralized network, no single entity can change the protocols/code; it is a collective decision per the prevailing protocols.
- Examples of protocols:
 - 21 million cap on the number of Bitcoin released in the network.
 - Reward process for miners (e.g., rewards are halved every four years).
 - Transaction verification process (i.e., the core element of the network).

¹ See Appendix for further information.

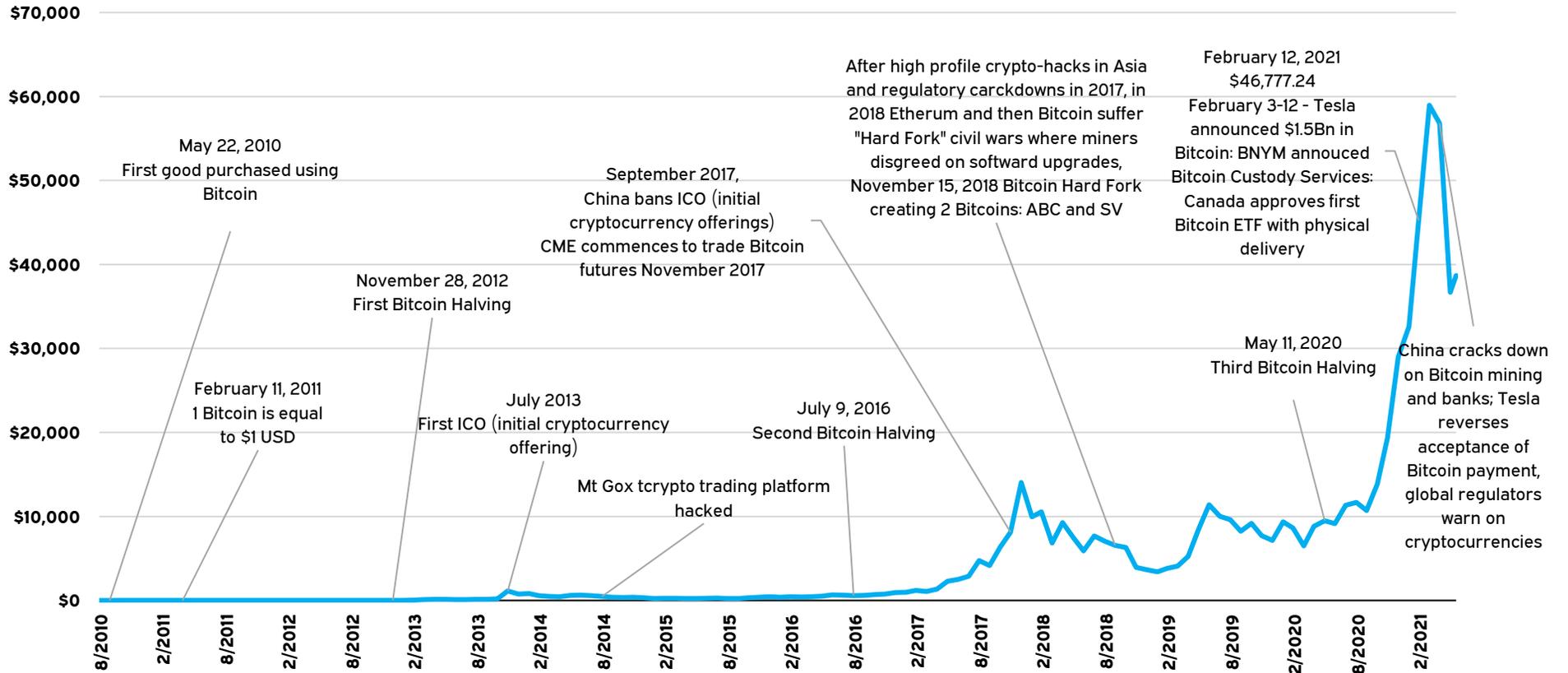
Bitcoin Market Size

Market Capitalizations (USD T.)¹



¹ Chart sources: WWW.Yardini.com, Bridgewater and www.coinmarketcap.com as of June 15, 2021.

**Bitcoin Price History and Events
(Price USD 2010-6/15/2021)**



Source: Bloomberg, Financial Times "Digital tulip or new asset class? Bitcoins bid to go mainstream," 6/15/2021.

Blockchain/Digital Wallets

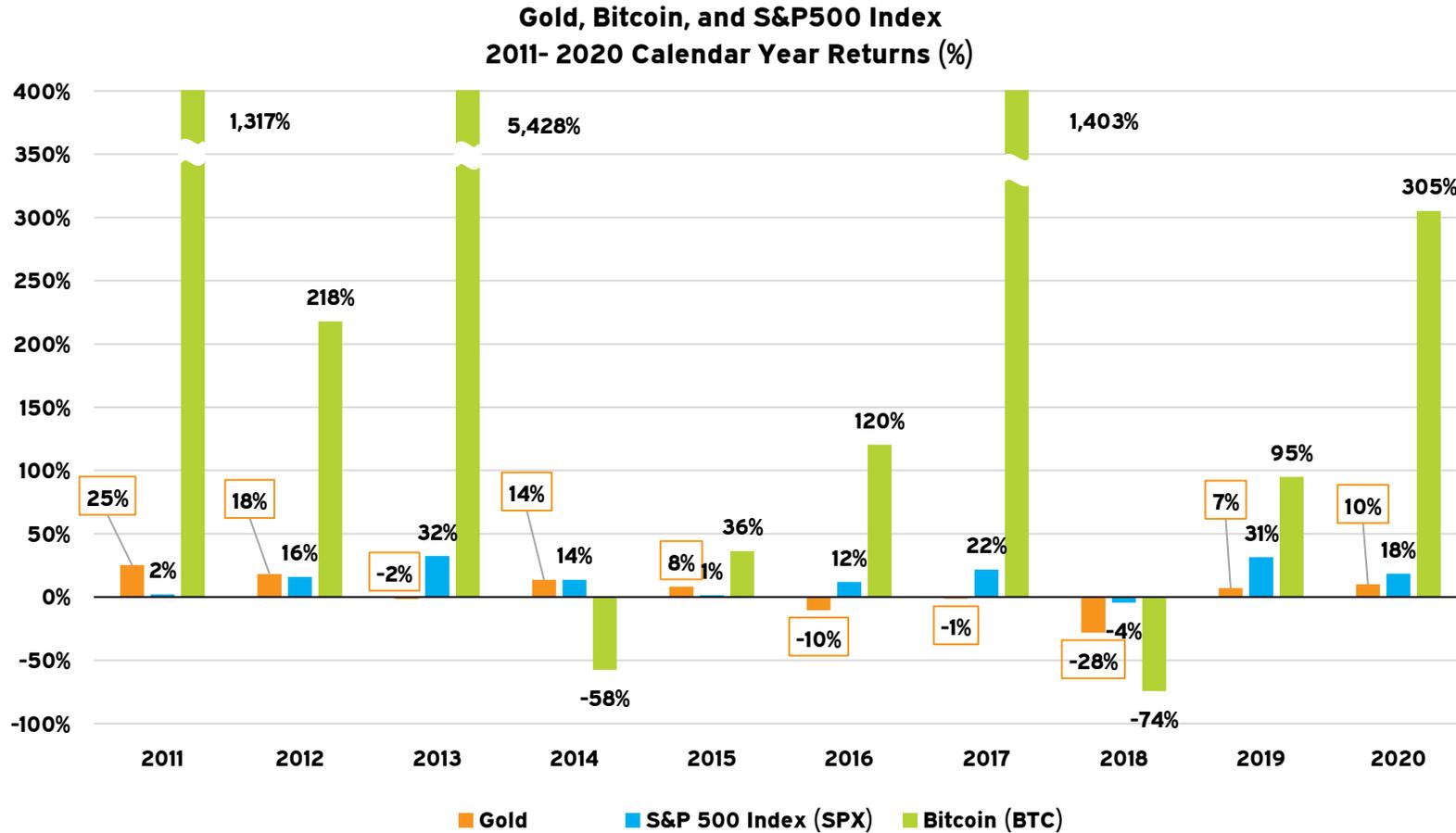
- Blockchain is distinct from Bitcoin; blockchain is a technology that enables Bitcoin functionality.
- The simplest definition of blockchain = a new form of a database.
- Lower transaction costs when the transaction is over blockchain.
- Blockchain enables faster transactions between assets.
- Blockchain users are anonymous (as long as their name isn't tied to the account).
- Because blockchain is decentralized and distributed, it's can be more secure than a centralized system.

Distributed Ledger Technology ("DLT")

- Banks and other financial institutions have begun investing in blockchain and other DLTs as a way of without investing in this new market but not taking on the risk of cryptocurrencies.
- DLTs have attributes that make it appealing for banks to invest in and adopt in future.
 - Transactions are low cost, anonymous, and secure.
 - Reduces inefficiencies in transactions (i.e., increases speed and decreases costs).
 - Reduces the time and cost of international transfers, including remittances.
- JP Morgan has been one such leader in investing in DLT technology.
 - They recently created their own DLT, the Interbank Information Network (INN).

Bitcoin Performance

- Bitcoin has outperformed Gold and the S&P 500 in 8 out of the last 10 calendar years.



Bitcoin Performance, cont.

- The net result for Bitcoin investors has been incredibly volatile, but strong performance.

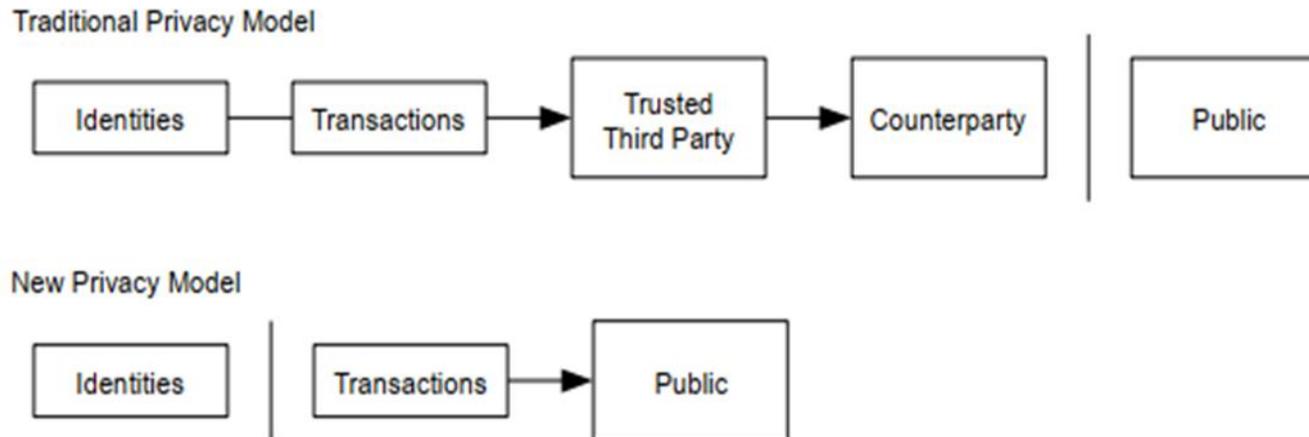
Trailing Performance¹

	Gold	S&P 500 Index	Bitcoin (BTC)
10-Yr. Annualized Return	2.9%	13.9%	215.2%
10-Yr. Standard Deviation	16.4%	13.5%	201.9%
10-Yr. Skew	0.2	-0.3	4.6
Largest Historical Drawdown	-62.2%	-86.2%	-85.9%

¹ Source: Bloomberg as of 12/31/20. Maximum Drawdowns for Gold and S&P 500 Index calculated from longest available time period. S&P 500 Index maximum drawdown from 1932 to 1933. Gold price maximum drawdown period was from 1980 to 1999, where the price of gold fell for nearly two decades and ended a \$251 an ounce.

Why Cryptocurrencies?

- Direct transactions between parties at accelerated rates of speed by eliminating trusted third parties.
 - This is less about the actual currency and more related to the transfer of funds among parties.
- Supra-national transactions outside of transaction frictions like market hours of operation, regulatory interventions, and accounting reconciliations.
- Hyper-speed transactions achieved through blockchain software capacity and encryption.
- Transactions are final and recorded in the blockchain software.
- Verification with encryption - digital keys - serve in place of banks' account verification and security.



Satoshi Nakamoto, "A Peer to Peer Electronic Cash System." ~2008

Cryptocurrency Pros & Cons¹

Pros	Cons
Distributed ledger technology could reduce financial transaction costs	Volatility reduces its usefulness as a store of value and unit of account
Independence from central banks mean that they cannot be devalued by money printing	Could diminish the effectiveness of monetary policy
Potential alternative to fiat currencies	Outside regulated banking systems
Shared ledger and anonymous transactions improves security	Crypto exchange and online wallets can be hacked
Increasing number of retail services coming online	Minimal acceptance and infrastructure limits its usefulness as a means of exchange
Transactions do not require traditional intermediaries	Global regulatory oversight is uncertain, and could limit future acceptance
Readily accessible via the internet	Nothing akin to FDIC insurance
More cryptocurrencies are becoming available	Uncertain future supply

¹ Source: Bloomberg: <https://www.bloomberg.com/news/articles/2020-09-15/india-plans-to-introduce-law-to-ban-trading-in-cryptocurrency?sref=sA9cMIUe>

Crypto Mining

- Similar to a precious metal, each individual coin must be “mined.”
 - For crypto, this term is a misnomer but the outcome is the same; more coins are created.
 - Miners are paid for their service for the network/ledger.
- The rules that govern the mining process are a part of the Bitcoin protocol and are agreed to by the decentralized network.
- Mining is the process of using computers to solve hash puzzles.
 - Computers race to solve the puzzles, and the miner that solves it first gets the reward.
- Mining is actually a byproduct of the transaction verification process.
 - It helps maintain the decentralized ledger.
- Mining incurs expenses, in the form of equipment and the electricity costs¹ needed to power and cool it.
- On average, one Bitcoin is mined every ten minutes.²

¹ As of February 2021, the amount of computer energy needed to mine bitcoin accounted for 0.56% of the world’s total electricity consumption, according to the Cambridge Centre for Alternative Finance.

² Source: <https://www.blockchain.com/charts/total-bitcoins>.

Future Supply

- Most digital currencies are designed such that a finite amount of each will ever be produced.
 - The total number of Bitcoins that can ever be mined is 21 million BTC.
 - Ethereum, however, has no upper limit.
- As of December 2020, 18.58 million Bitcoins had been mined.
 - This represents 85% of the total intended supply.
 - The final 15% is expected to be mined by 2140.
 - Miners will continue to receive fees for verifying transactions even after this date.
 - This large gap in time is due to “Halving,” which occurs approximately every 4 years.
 - Halving reduces the reward that Bitcoin miners receive by half.
 - In May 2020, the reward per block mined was reduced from 12.5 BTC to 6.25 BTC.¹
- There is no limit to the number of digital currencies that can exist.
 - This includes offshoots, or forks, of existing cryptocurrencies, such as Bitcoin Cash.
 - It is estimated that there are approximately 4,000 cryptocurrencies.

¹ Source: <https://www.blockchain.com/charts/total-bitcoins>

Crypto: Commodity or Currency?

- Most investors perceive crypto as an alternative currency.
- However, digital currencies do not meet the traditional requirements to be considered money.¹

Criteria	Current Status
Store of Value	Too volatile
Means of Exchange for Goods and Services	Minimal acceptance
Unit of Account that Measures Value	Too volatile

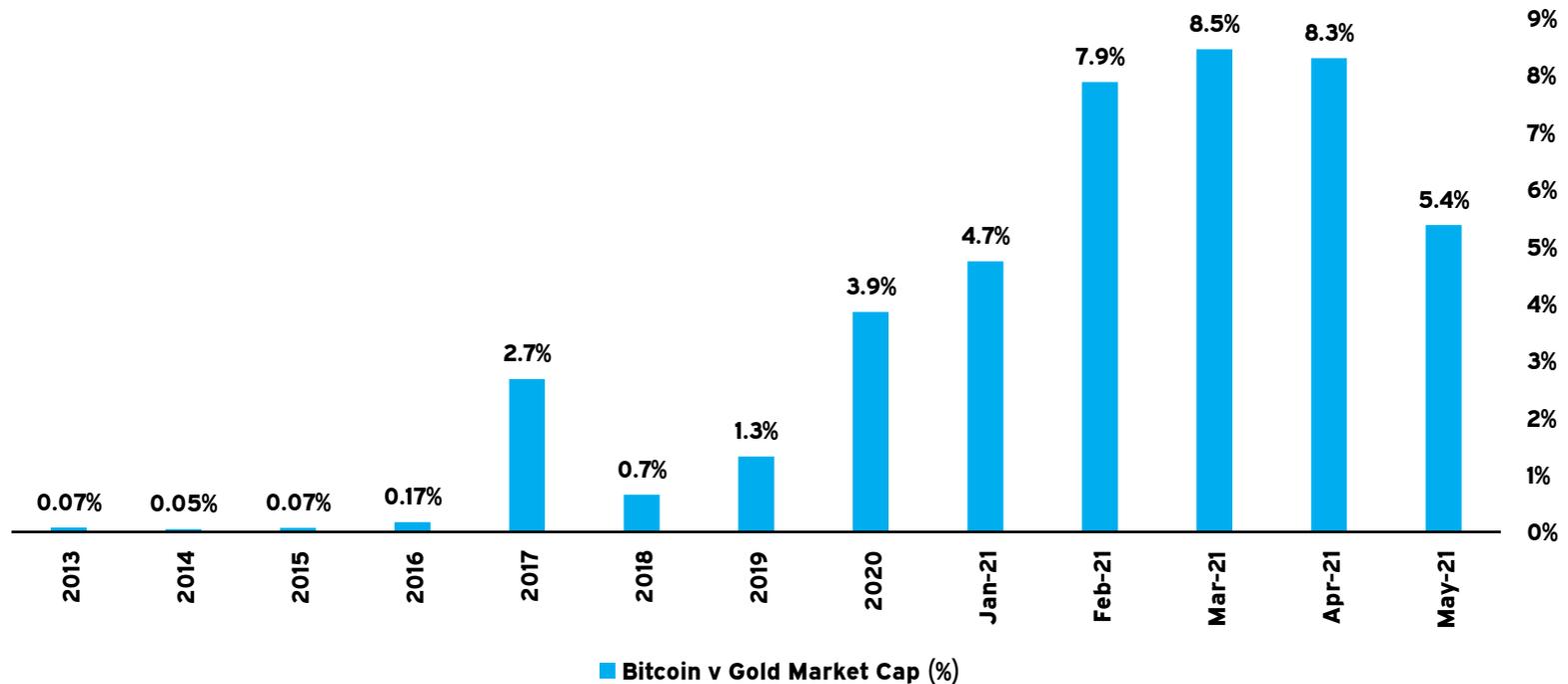
- The majority of national currencies, including the US dollar, are fiat money.
 - Fiat money is government-issued currency not backed by gold or other commodities.
 - The value of fiat money comes from the faith people hold in that country's government and economy.
- Like fiat money, Bitcoin is not backed by commodities and its value is based on the belief people hold that it does in fact have value.
 - However, one of the reasons that Bitcoin is more volatile than fiat money is because there is no government or economy on which to base its stability.

¹ IMF: <https://www.imf.org/external/pubs/ft/fandd/2018/06/what-are-cryptocurrencies-like-bitcoin/basics.htm>. See also CFTC: https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/oceo_bitcoinbasics0218.pdf

Size of the Crypto Market

- At its peak, the market capitalization of Bitcoin reached \$1 Trillion USD.¹
 - This is still a fraction of the size of the overall gold market.

Bitcoin Market Capitalization
(% est. Market Capitalization of Physical Gold USD)



¹ Source: World Gold Council annual physical gold supply and USD price per tonne. CoinMarketCap annual market capitalization for Bitcoin. Between 2013 and 2020, the number of Bitcoins in circulation increased from ~12 million to 18.6 million coins.

Crypto Platforms

- Just like stocks and derivatives are traded on exchanges by brokers, so are digital currencies.
 - A crypto platform is a site for buying and selling digital currency.
- Coinbase is the largest US cryptocurrency exchange; its offerings include:
 - A platform to buy, sell, and convert cryptocurrencies.
 - Digital wallets.
 - Loans of up to 30% of a user’s Bitcoin balance (up to \$20,000).
- Customers who purchase, sell, or transfer Bitcoin will be charged transaction fees by the cryptocurrency exchange.

Platform	Features
Coinbase Platform	<ul style="list-style-type: none"> • Most used crypto exchange in the US – wallets offered free of charge • Trading and transaction fees are charged based on estimated network transaction costs • Tiered fee assessment sized to value of transaction; 2% flat fee on credit/margin trading
Binance Platform	<ul style="list-style-type: none"> • A focus on Alt Coins (non-Bitcoin cryptocurrencies); free digital wallet services • Charges 0.1% on all transactions with a 50% discount incentive to pay fees with Binance coin • US trading suspended in 2019 – ordered to terminate crypto collateral for trading crypto futures on margin
Kraken Platform	<ul style="list-style-type: none"> • Known for advanced market trading, wallet services are free • Spot trading with account is free but with credit card transactions 3.75%, FX trading 0.04% to 0.20%, margin trading 0.01% every 4 hours, 30-day futures tiered fee 0.015% to 0.05%
Cash App Payment App	<ul style="list-style-type: none"> • Peer to Peer money transfer app (like Venmo for cryptocurrency) • Only offers/accepts Bitcoin • Service fee plus Bitcoin- market price adjustment fee, settles at mid-day price

Different Types of Crypto

- There are thousands of “altcoins” (i.e., cryptocurrencies other than Bitcoin) in the crypto market.
 - In total, altcoins comprise ~20% of the crypto market.

Name	Date Created	Operating Goal ¹	7/27/2021 Coin Price (\$)	7/27/2021 Market Capitalization (\$)
Bitcoin (BTC)	2009	Largest cryptocurrency by market capitalization and by transaction data on its blockchain, has had many software upgrades	38,419	721,446,023,665
Ethereum (ETH)	2015	Smart contracts - decentralized Applications & Financial Products	2,267	265,500,757,252
Litecoin (LTC)	2011	open-source global payment network, consumer-grade CPUs to mine	133	8,941,724,253
Cardano (ADA)	2017	Research based approach with proof of stake peers for decentralized financial applications, Ouroboros proof of stake blockchain	1	40,466,722,112
Polkadot (DOT)	2016	Inter-operability between blockchains to connect permissionless and permissioned blockchains and oracles to create systems	14	13,741,906,026
Stellar (XLM)	2014	Positioned for Institutional Transactions, allows for cross-currency exchanges	1	6,096,683,559
Chainlink (LINK)	2017	Oracle developer for cross-crypto development and payments settlement	19	8,500,567,680
Binance (BNB)	2017	Utility currency for paying fees on Binance Platform using proof of stake model, future, crypto-trading platform, crypto collateral margin trading, ERC-20	310	52,118,495,034
Tether (USDT)	2015	Stable currency pegged to USD fiat currency with blockchain	1	61,818,969,234

¹ Chart sources include: Coinbase. Market capitalization and trading volumes are as of July 27, 2021; www.coinmarketcap.com and coin proprietary websites and white papers. Coins list above represent most popularly traded cryptocurrencies as of creation of these materials.

Liquidity

- Institutional investors require the market for an asset to be liquid for it to be viable.
 - That is, they want to be able to trade in the asset without significantly effecting its price.
- Most digital currencies do not yet meet this threshold.
 - Bitcoin is coming the closest, with its liquidity growing rapidly.
 - However, much of the trading volume appears to be more indicative of speculation, not long-term investing.

	Market Capacity (Indexed)	Outstanding (USD, Bln)	Cash Volume (USD, Bln)	Derivatives Volume (USD, Bln)
USA Equities	130.4	34,629	329	479.1
USA Bonds	100.6	6,175	264	433.6
Gold	11.4	2,894	39	65.7
Silver	3.4	120	8	20.9
Iron Ore	2.0	-	-	17.6
Bitcoin	1.0	562	6	1.4

Note: Gold and silver amounts outstanding is bars, coins, recycled, and mining; Bitcoin volumes use a conservative estimate, attempting to capture flows indicative of real liquidity

US Regulators

CFTC¹:

- Cryptocurrency is classified as a commodity and as such it is regulated by the CFTC.
- Bitcoin futures trading is allowed on the CME.
- The CFTC's mandate is to regulate any derivatives contract that is based on cryptocurrencies, but not the underlying currencies.

SEC²:

- The SEC only regulates cryptocurrencies that they deem to be securities.
 - This includes Initial Cryptocurrency Offerings (“ICOs”), but excludes Bitcoin.
 - The SEC filed suit in December 2020 against Ripple for distributing their currency, XRP, without registering.

State Bank Regulators³:

- The Office of the Comptroller of the Currency (“OCC”) has ruled that state banks may take custody of cryptocurrencies.
- Any cryptocurrency regulation not mentioned above falls under state jurisdiction.
- Each state employs their own rules and so regulations are not consistent across the country.

¹ Source: CFTC: https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/oceo_bitcoinbasics0218.pdf

² Source: CNBC Interview: <https://www.youtube.com/watch?v=8YtZJRJak8E&list=ULrklCYgMWDhY&index=1169> and Bloomberg: <https://www.bloomberg.com/news/articles/2021-01-15/cryptocurrencies-face-greater-oversight-under-gensler-led-sec?sref=sA9cMIUe>

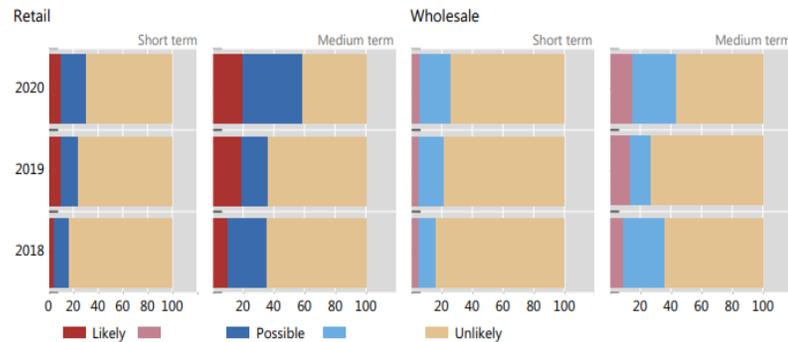
³ <https://www.occ.gov/news-issuances/news-releases/2020/nr-occ-2020-98.html>

Crypto & Global Central Banks

The likelihood of CBDC issuance continues to increase

Share of respondents

Graph 7

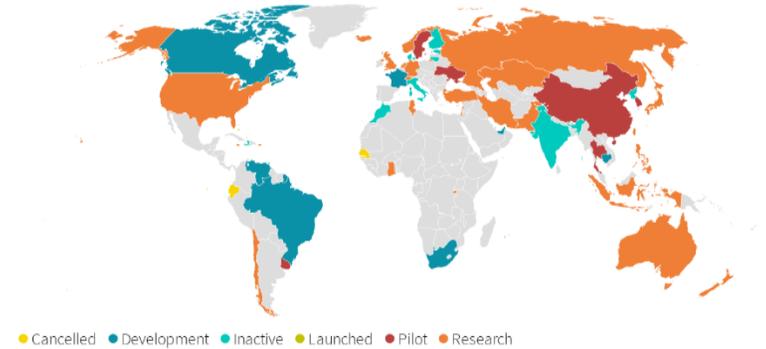


Short term: 1-3 years; Medium term: 1-6 years. "Likely" combines "very likely" and "somewhat likely". "Unlikely" combines "very unlikely" and "somewhat unlikely".

Source: BIS central bank survey on CBDCs.

Central bank digital currencies across the world

CBDC projects are moving ahead across the world - though few have gone past the drawing board



Note: European Central bank is conducting research for euro zone
Source: Harvard Kennedy School Belfer Center & Atlantic Council, Reuters research

- Global central banks are actively evaluating the costs and benefits of issuing their own digital currencies.
- The Bank for International Settlements is spearheading efforts to integrate digital currencies into central bank settlements.
- Central Bank Digital Currencies (“CBDCs”) would provide many of the benefits of digital technologies while providing regulatory oversight.
- The Central Bank of China (“PBOC”) has at least 80 patents related to the integration of digital currencies into its retail banking system, and it launched a trial in three provinces in August 2020.
- The race by Central Banks to issue digital currency may have unexpected implications for the US dollar.

Source: Reuters, “Central Bank Digital Cash”, January 27, 2021. Bank for International Settlements

How to Invest

- Investing in cryptocurrencies:
 - Buy directly from an exchange.
 - A digital wallet/custody are a prudent accessory.
 - Buy futures.
 - Similarly, a digital wallet/custody are prudent.
 - There are a small number of traditional commingled vehicles (e.g., trusts, closed-end funds).
 - Most are limited to HNW and institutional investors.
 - ETFs are coming.
 - The first bitcoin ETF has been approved in Canada.
 - In the US, regulators have yet to approve a bitcoin ETF.
 - Over 100 actively managed crypto hedge funds exist.
 - Most investors are HNW or family offices.
- Investing in the technology and infrastructure related to digital currencies:
 - There are a broad array of crypto mining and blockchain stocks.
 - There are four dedicated blockchain ETFs.
 - Venture capital investing in crypto-related technologies is growing but is still niche.

Source: Reuters February 12, 2021.

Cryptocurrency Investing Pros & Cons

Pros	Cons
High historical returns	Very high price volatility
Potentially uncorrelated with public market securities	Very short performance track record
Potential alternative to fiat currencies	Stranded/lost digital coins
Regulatory clarity has improved	Regulatory regimes are still somewhat fragmented and evolving
Likely to become more widely adopted, and hence, institutional	The market is still too small/illiquid for most institutional investors
May serve as an inflation hedge	Current digital currencies (e.g., bitcoin) could be supplanted by new ones
Limited supply of individual digital currencies	Uncertain future supply (i.e., new digital currencies)
Currencies appear to be very secure	Potential for exchanges being hacked
Institutional services (e.g., custody, insurance) are being rolled out	These service are still quite limited

Summary

- A cryptocurrency (or cyber-currency) is a digital (or virtual) currency.
- Cryptocurrency is secured by cryptography, which makes it nearly impossible to counterfeit.
- Unlike traditional currencies, most cryptocurrencies are not issued by a central bank, which means they operate outside the control of governments.
- Most fare poorly at two traditional functions of a currency:
 - Serving as a unit of account, due to extreme volatility, and
 - Serving as a store of value, due to extreme volatility.
- The first and most popular cryptocurrency is Bitcoin, but new versions continue to be introduced.
- Their future is unclear, due to governance issues, diminishing incentives, and regulatory uncertainty.
- There are different ways to invest in cryptocurrencies:
 - Direct investments via an exchange.
 - Via futures markets.
 - Indirectly investment via funds (and soon ETFs).
 - Investment in the underlying technology/infrastructure (commonly via venture capital).

Appendix

Hash Functions

- A hash function is a function (i.e., algorithm) that takes data of any kind as an input and outputs an integer value of a specific length.
 - Because everything in a computer is represented as bits (0s and 1s), anything can be used as the input.
 - Most modern hash functions will output a hexadecimal value.
 - (base 16=> 0-15 represented as 0-9 and A-F)
- Hash functions are one-way processes; you cannot reverse the output to get the original input.
 - They utilize unique mathematical properties (e.g., prime numbers) and operations to transform the input into a numerical output.
- Examples of the SHA-224 hash algorithm:
 - The second sentence has a period at the end, and the output is entirely different.

```
Input:  SHA-224("The quick brown fox jumps over the lazy dog")
Output: 730e109bd7a8a32b1cb9d9a09aa2325d2430587ddbc0c38bad911525

Input:  SHA-224("The quick brown fox jumps over the lazy dog.")
Output: 619cba8e8e05826e9b8c519c0a5c68f4fb653e8a3d8aa04bb2c8cd4c
```

Crypto Trusts & Mutual Funds

- The Grayscale Bitcoin Trust (GBTC) is publicly traded on the OTCQX.
 - The Trust's shares are the first securities solely invested in BTC.
 - The majority of investment (86%) came from institutional investors, dominated by asset managers.
- The Bitcoin Fund (QBTC.U) is a closed-end fund that trades on the Toronto Stock Exchange.
- Investors may also invest through Fidelity's mutual fund, Wise Origin Bitcoin Index Fund I, LP.
 - The fund is only available to qualified purchasers through family offices, RIAs, and other institutions.
- The first bitcoin ETF could be approved in 2021.

Source: Bloomberg: <https://www.bloomberg.com/quote/GBTC:US?sref=sA9cMIUe>

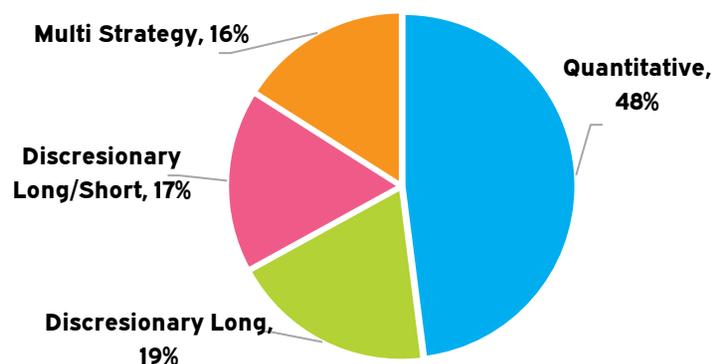
Source: Grayscale: <https://grayscale.co/insights/grayscale-q4-2020-digital-asset-investment-report/>

Source: Bloomberg: <https://www.bloomberg.com/news/articles/2020-08-26/fidelity-launches-inaugural-bitcoin-fund-for-wealthy-investors?sref=sA9cMIUe>

Crypto Hedge Funds

- As of year-end 2019, there were ~150 crypto hedge funds with aggregate AUM of over \$2 billion USD.¹
 - 90% of investors were family offices or HNW.
- Nearly half of the hedge funds pursued quantitative strategies.
- Most funds traded directly in the currencies.
 - Bitcoin (97%) and Ethereum (67%) were the two most popular.
- About half (56%) of funds traded derivatives.
 - Additional activities included cryptocurrency staking (42%), lending (38%), and borrowing (27%).
- 81% of funds used independent crypto custodians, and 86% used an independent fund administrator.

Most Common Crypto Hedge Fund Strategies



¹ Source: PWC: <https://www.pwc.com/gx/en/financial-services/pdf/pwc-elwood-annual-crypto-hedge-fund-report-may-2020.pdf>

Crypto/Blockchain Stocks and ETFs

- There are a broad array of crypto mining and blockchain stocks.
 - The market is nascent, and the hype surrounding a company may be excessive in some cases.
 - The SEC has suspended trading in several securities regarding their crypto-related activities.
- There are four dedicated blockchain ETFs.
 - BLOK - Amplify Transformational Data Sharing ETF
 - Invests in companies “actively involved in the development and utilization of transformational data sharing technologies.”
 - BLCN - Reality Shares Nasdaq NexGen Economy ETF.
 - Tracks an index that includes companies that are “developing, researching, supporting, innovating or utilizing blockchain technology.”
 - LEGR - First Trust Indxx Innovative Transaction & Process ETF.
 - Tracks an index that includes companies that are “actively using, investing in, developing, or have products that are poised to benefit from blockchain technology.”
 - KOIN - Innovation Shares NextGen Protocol ETF.
 - Tracks an index that is composed of companies that “use, or are involved in, blockchain.”

Crypto in Private Equity

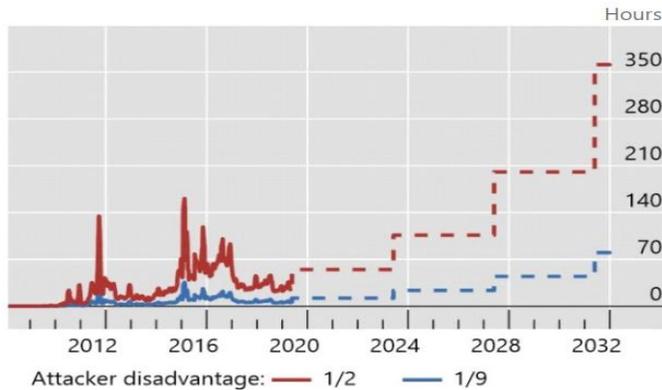
- Venture Capital investing in crypto-related technologies is growing but is still niche.
- The largest segment is in financial services linked to crypto.
 - Decentralized finance, or DeFi, which is financial software built on the blockchain that can be pieced together.
 - Bitcoin payment solutions.
 - Crypto-asset-backed loans to crypto-asset owners.
 - Tokenization (i.e., the process of issuing a token on a blockchain which represents a real asset).
 - Fund administration.
 - Crypto ATMs.
 - Trade finance.
- Investments are also being pursued in applications of blockchain in health care, energy, supply chains, and agriculture.

Crypto & Cyber Crime

- In theory, as blockchains grow they become less vulnerable to cyberattacks as encryption and computing power of the blocks increase in number, size, and power.
- However cryptotrading platforms that use variants of cloud-based digital wallets have proven vulnerable to hackers.

Bitcoin is increasingly vulnerable; others already have been “majority attacked” Graph 3

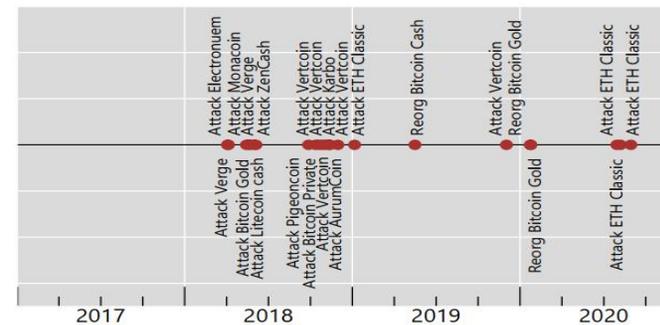
Substantially longer waiting time results when block reward declines¹



¹ The lines show the implied waiting time (number of block confirmations before merchants can safely assume that a payment is irreversible) required to make an economic attack unprofitable: the attacker rents mining equipment on a short-term basis and executes a change-of-history attack. The dashed pattern indicates predicted values (see Auer (2019) for calculations).

Sources: R Auer, “Beyond the doomsday economics of ‘proof-of-work’ in cryptocurrencies”, *BIS Working Papers*, no 765, January 2019; S Shanaev, A Shuraeva, M Vasenin and M Kuznetsov, “Cryptocurrency value and 51% attacks: evidence from event studies”, *The Journal of Alternative Investments*, Winter, 2020; blocksdecoded.com; bravenewcoin.com; btcmanager.com; coinbase.com; Coindesk.com; deribit.com; github.com; medium.com.

A timeline of cryptocurrency majority attacks since 2017

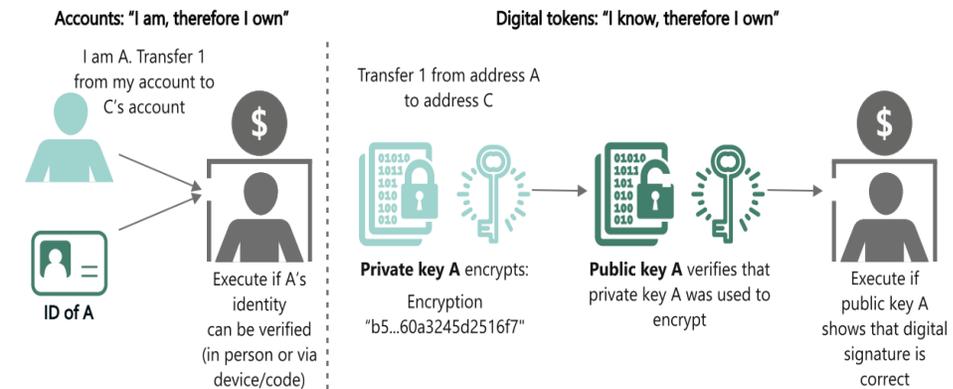


Cautionary Tale: Mt. Gox

- Mt. Gox was created in 2010 as a Bitcoin exchange platform headquartered in Japan.
 - 4 years later, it was the largest Bitcoin exchange and handled 70% of all BTC transactions.
- Mt. Gox had unknowingly been hacked and infected with a bug that over time was stealing coins from users and the company.
- The hack was discovered in 2014; a total of 850,000 BTC had been stolen.
 - This was more than 6% of all Bitcoin in circulation at the time.
- Mt. Gox filed for bankruptcy several days later.
 - After two weeks, 200,000 BTC were “found” in an old digital wallet and recovered.
 - Alexander Vinnik, owner of the crypto exchange platform BTC-e, was found guilty of aiding in and laundering the remaining 650,000 stolen Bitcoins.
- Unrelated to the hack, Mt. Gox’s CEO, Mark Karpelès, was arrested on charges of falsifying data to inflate the company’s holdings as well as embezzlement.
- As recently as December 2020, the Mt. Gox trustee submitted a plan to finally refund creditors (including users) using the previously found 200,000 Bitcoins.

Cautionary Tale: Stranded/Lost Forever?

Account-based access compared with token-based access Graph 4



In an account-based CBDC (left-hand side), ownership is tied to an identity, and transactions are authorised via identification. In a CBDC based on digital tokens (right-hand side), claims are honoured based solely on demonstrated knowledge, such as a digital signature.

Source: R Auer and R Böhme, "The technology of retail central bank digital currency", *BIS Quarterly Review*, March 2020, pp 85–100.

- Approximately 20% of existing Bitcoin appear to be stranded in digital wallets as owners may have lost or forgotten their passwords.
- Encryption parameters of digital wallets – including anonymity of cryptocurrency ownership – may render crypto assets unrecoverable.
- The complex software generation of passwords is also integral to verifying accuracy and legitimacy of crypto transactions.

Source: New York Times "Lost Passwords Lock Millionaires Out of Their Bitcoin Fortunes," January 12, 2021. Chainalysis estimate on number of stranded Bitcoin. An unclaimed digital wallet used in to test Bitcoin mining (pre-2009) holds approximately 1.1 million BTC or \$4.4bn USD . Unlike regulated banks and brokerages that can provide individuals with password support, cryptocurrencies do not have corporate support structures. Instead, crypto software generates individual, private passwords for each digital wallet through complex algorithms. These passwords serve to authenticate crypto transactions.

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

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

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

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

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

MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: David Sancewich, Paola Nealon, Jason Leong Campbell, Meketa Investment Group
DATE: August 25, 2021
RE: 2021 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 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.

2021 Preliminary Investment Project Agenda

Expected Completion Date	Task
September 2021	<ul style="list-style-type: none">• Cash Flow Report (4Q 2021)• Educational Item: SPAC's• Thermal Coal List Update: 2021• Manager Update: Northern Trust R1000
October 2021	<ul style="list-style-type: none">• Flash Performance (3Q2021)• Manager Update: SGA• Manager Update: Ramirez• Contract Renewal: Ramirez
November 2021	<ul style="list-style-type: none">• Quarterly Performance Report (3Q 2021)• Educational Item: Developments in ESG• Manager Update (and contract renewal)- Parametric
December 2021	<ul style="list-style-type: none">• Cash Flow Report (1Q 2022)• Flash performance- November• Manager Update: DDJ

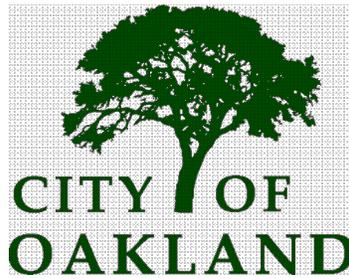
Bold are priority strategic items.

This agenda includes only major strategic items. Meketa also expects to work with the Staff and Board to complete more routine tasks and projects, as expected.

DS/PN/JLC/pq

Pursuant to the Governor's Executive Order N-29-20, all members of the City Council, as well as the City Administrator, City Attorney and City Clerk will join the meeting via phone/video conference and no teleconference locations are required

Oakland Police and Fire Retirement Board meetings are being held via Tele-Conference. Please see the agenda to participate in the meeting. For additional information, contact the Retirement Unit by calling (510) 238-6481



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

AGENDA

RETIREMENT BOARD MEMBERS

Walter L. Johnson, Sr.
President

Jaime T. Godfrey
Vice President

Robert W. Nichelini
Member

Kevin R. Traylor
Member

John C. Speakman
Member

R. Steven Wilkinson
Member

Erin Roseman
Member

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

WEDNESDAY, AUGUST 25, 2021
12:00 PM
TELE-CONFERENCE BOARD MEETING
VIA ZOOM WEBINAR

OBSERVE

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

PUBLIC COMMENTS

There are three ways to submit public comments.

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

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR BOARD MEETING
AUGUST 25, 2021**

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

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

--- ORDER OF BUSINESS ---

A. Subject: Police and Fire Retirement System (“PFRS”) Board Regular Meeting Minutes

From: Staff of the PFRS Board

Recommendation: **APPROVE** the July 28, 2021 PFRS Board Meeting Minutes

B. AUDIT & OPERATIONS COMMITTEE AGENDA – AUGUST 25, 2021

B1. Subject: Administrative Expenses Report

From: Staff of the PFRS Board

Recommendation: **ACCEPT** an informational report regarding PFRS administrative expenses as of June 30, 2021

B2. Subject: PFRS Member Verification

From: Staff of the PFRS Board

Recommendation: **ACCEPT** an informational report regarding the status of the 2021 PFRS Member Verification

C. INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – AUGUST 25, 2021

C1. Subject: Investment Manager Performance Review – Rice Hall James & Associates, LLC

From: Rice Hall James & Associates, LLC

Recommendation: **ACCEPT** informational report regarding investment performance, management fees, diversity and inclusion, and managerial assessment of Rice Hall James & Associates, LLC, a PFRS Small Cap Growth Investment Manager

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR BOARD MEETING
AUGUST 25, 2021

- C2. **Subject:** Investment Manager Performance Review – Rice Hall James & Associates, LLC
From: Meketa Investment Group
Recommendation: **DISCUSS** and **APPROVE** Meketa Investment Group’s evaluation and review regarding investment performance, management fees, diversity and inclusion, managerial assessment, watch status update, and recommendation to continue or remove watch status of Rice Hall James & Associates, LLC, a PFRS Small Cap Growth Investment Manager
- C3. **Subject:** Investment Market Overview as of July 31, 2021
From: Meketa Investment Group
Recommendation: **ACCEPT** informational report regarding the Global Investment Markets as of July 31, 2021
- C4. **Subject:** Preliminary Investment Fund Performance Update as of July 31, 2021
From: Meketa Investment Group
Recommendation: **ACCEPT** informational report regarding the Preliminary Investment Fund Performance update as of July 31, 2021
- C5. **Subject:** Investment Fund Quarterly Performance Update as of June 30, 2021
From: Meketa Investment Group
Recommendation: **ACCEPT** the Investment Fund Quarterly Performance update as of June 30, 2021
- C6. **Subject:** Asset Allocation Review and Update of the PFRS Fund
From: Meketa Investment Group
Recommendation: **ACCEPT** and **DISCUSS** the informational report regarding the asset allocation review of the PFRS Fund and **APPROVE** Committee’s recommended changes to PFRS Investment Portfolio Target Allocation
- C7. **Subject:** Informational Overview Regarding Cryptocurrency
From: Meketa Investment Group
Recommendation: **ACCEPT** informational overview regarding cryptocurrency

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
 REGULAR BOARD MEETING
 AUGUST 25, 2021**

D. Subject: Resolution No. 8024 – Resolution Authorizing the Execution of a Second Amendment to Extend the Master Custody Agreement with The Northern Trust Company to Perform Custodian Bank Services for the Oakland Police And Fire Retirement System for a Five-Year Period Ending September 30, 2026, at a Flat Rate Fee of \$116,500.00 from October 1, 2021 through September 30, 2022 and a Flat Rate Fee of \$124,500.00 from October 1, 2022 through September 30, 2026.

From: Staff of the PFRS Board

Recommendation: **APPROVE** Resolution 8024 authorizing the execution of a Second Amendment to extend the Master Custody Agreement with The Northern Trust Company to perform Custodian Bank Services for the Oakland Police And Fire Retirement System for a Five-Year Period ending September 30, 2026, at a flat rate fee of \$116,500.00 from October 1, 2021 through September 30, 2022 and a flat rate fee of \$124,500.00 from October 1, 2022 through September 30, 2026 and **AUTHORIZE** the Plan Administrator of the Police and Fire Retirement System Board to execute a Second Amendment to extend the current Master Custody Agreement with The Northern Trust Company

E. Subject: **Member Resolutions No. 8025– 8026**

From: Staff of the PFRS Board

Recommendation: **APPROVE** Member Resolutions No. 8025 – 8026

E1. Resolution No. 8025 Resolution fixing the monthly allowance of surviving spouse of the following retired member of the Oakland Police and Fire Retirement System in the amount indicated:

<u>Deceased Member</u>	<u>Surviving Spouse</u>	<u>Monthly Allowance</u>
▪ Donald C. Edwards	Diane M. Edwards	\$4,001.83
▪ James K. McCuen	Charlotte McCuen	\$3,466.65
▪ Gino J. Pacini	Mary F. Pacini	\$5,297.53

E2. Resolution No. 8026 Resolution approving death benefit payments and directing warrants thereunder in the total sum of \$1,000.00 payable to the beneficiary of the following deceased members of the Oakland Police and Fire Retirement System:

- Randal C. Bernard
- Walter McIntyre

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR BOARD MEETING
AUGUST 25, 2021**

- F. Subject: Update Regarding Post-Pandemic Brown Act Requirements for Board and Committee Meetings**
From: Legal Counsel of the PFRS Board

Recommendation: RECEIVE informational report regarding Post-Pandemic Brown Act Requirements for Board and Committee Meetings and **DISCUSS** whether PFRS Board and Committees may continue to meet virtually

- G. PENDING ITEMS**
- H. NEW BUSINESS**
- I. OPEN FORUM**
- J. FUTURE SCHEDULING**
- K. ADJOURNMENT**

A REGULAR BOARD MEETING of the Oakland Police and Fire Retirement System (“PFRS”) was held on Wednesday, July 28, 2021 via Zoom Webinar.

- Board Members:
- Walter L. Johnson President (Excused)
 - 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
 - Jennifer Logue PFRS Legal Counsel
 - Teir Jenkins PFRS Staff Member
 - Maxine Visaya PFRS Staff Member
 - David Sancewich Meketa Investment Group
 - Paola Nealon Meketa Investment Group

The meeting was called to order at 12:00 p.m. PST

- A. PFRS Board Meeting Minutes** – Member Speakman made a motion to approve the June 30, 2021 Regular Board Meeting Minutes, second by Member Nichelini. The motion passed.

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – Y / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 5 / NOES: 0 / EXCUSED: 2)

B. AUDIT AND OPERATIONS COMMITTEE AGENDA – JULY 28, 2021

- B1. Administrative Expenses Report** – Staff Member Jenkins presented an informational report on PFRS’s administrative expenditures as of May 31, 2021. PFRS has an approved budget of approximately \$3.5 million and have expensed approximately just over \$2.2 million fiscal year-to-date. Membership consisted of 729 retired members, which included 441 Police Members and 288 Fire Members.

MOTION: Member Speakman made a motion to accept the administrative expenses report as of May 31, 2021, second by Member Traylor. Motion passed.

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – Y / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 5 / NOES: 0 / EXCUSED: 2)

C. INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – JULY 28, 2021

- C1. Custodial Services Update** – Vice President Godfrey provided a summary of the presentation provided by Northern Trust Company. Vice President Godfrey noted the information was quite comprehensive and included services provided as custodian bank, diversity and inclusion, cybersecurity and global technology.

Member Wilkinson requested a copy of the firm's official diversity and inclusion report relative to staffing as reported to the CEO and Member Speakman expressed interest in receiving a presentation on cybersecurity and global technology at a subsequent meeting.

FIRST MOTION: Member Speakman made a motion to invite Northern Trust Company to a subsequent meeting to provide a presentation to the Full Board regarding cybersecurity and global technology as well as diversity and inclusion, second by Member Nichelini. Motion Passed.

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – Y / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 5 / NOES: 0 / EXCUSED: 2)

SECOND MOTION: Vice President made a motion to accept the informational report received from Northern Trust Company, second by Member Speakman. Motion Passed.

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – Y / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 5 / NOES: 0 / EXCUSED: 2)

- C2. Continuation of Custodial Services provided by Northern Trust Company** – Staff Member Jenkins provided an update regarding the expiration of the current contract on September 30, 2021, the current fees, and the proposed fee increase upon renewal and an offer which maintained the current fee rate for the first year and the newly proposed rate for the remainder of the contract. Mr. Jenkins expressed staff is very satisfied with the relationship and views Northern Trust Company as a premier provider in this space. Staff recommended the Board approve renewal of contract for 5 years with the current fee rate maintained for the first year and the newly proposed 5-year fee rate for the remainder of the contract.

MOTION: Member Nichelini made a motion approve a 5-year renewal of contract with Northern Trust Company to provide custodian services with the current fee rate maintained for the first year and the newly proposed 5-year fee rate for the remainder of the contract, second by Member Traylor. Motion Passed.

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – Y / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 5 / NOES: 0 / EXCUSED: 2)

- C3. Investment Market Overview as of June 30, 2021** – Paola Nealon and D. Sancewich of Meketa Investment Group provided a brief report regarding the Investment Market Overview as of June 30, 2021 and highlighted market returns and current factors impacting outcomes.

MOTION: Member Wilkinson made a motion to accept the informational report regarding the Investment Market Overview as of June 30, 2021 provided by Meketa Investment Group, second by Member Traylor. Motion passed.

(MEMBER NICHELINI DROPPED OFF MOMENTARILY DUE TO TECHNICAL DIFFICULTIES AND WAS UNABLE TO VOTE ON ITEM C3)

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – ABSENT / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 4 / NOES: 0 / ABSENT: 1 / EXCUSED: 2)

- C4. Preliminary Investment Fund Performance Update as of June 30, 2021** – David Sancewich of Meketa Investment Group provided a summary of the Preliminary Investment Fund Performance Update as of June 30, 2021 and highlighted the Asset Class Performance Summary.

MOTION: Member Wilkinson made a motion to accept the informational report regarding the Preliminary Investment Fund Performance Update as of June 30, 2021 provided by Meketa Investment Group, second by Member Speakman. Motion Passed.

(MEMBER NICHELINI DROPPED OFF MOMENTARILY DUE TO TECHNICAL DIFFICULTIES AND WAS UNABLE TO VOTE ON ITEM C4)

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – ABSENT / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 4 / NOES: 0 / ABSENT: 1 / EXCUSED: 2)

- C5. Informational Overview Regarding Inflation** – David Sancewich of Meketa Investment Group provided a summary of the informational overview presentation and described a few scenarios and modeled how various asset classes are affected.

MOTION: Member Traylor made a motion to accept the Informational Overview Regarding Inflation provided by Meketa Investment Group, second by Member Speakman. Motion passed.

(MEMBER NICHELINI DROPPED OFF MOMENTARILY DUE TO TECHNICAL DIFFICULTIES AND WAS UNABLE TO VOTE ON ITEM C5)

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – ABSENT / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 4 / NOES: 0 / ABSENT: 1 / EXCUSED: 2)

- C6. Asset Allocation Review and Update of the PFRS Fund** – D. Sancewich of Meketa Investment Group presented an informational report regarding the Asset Allocation Review and highlighted, by use of modeling software, various asset allocation scenarios and possible outcomes as a basis point for further discussion. Chairperson Godfrey requested at the Committee Meeting this item remain on the agenda for further discussion at a subsequent meeting.

MOTION: Member Nichelini made a motion to accept the informational report regarding the Asset Allocation Review provided by Meketa Investment Group, second by Member Speakman. Motion passed.

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – Y / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 5 / NOES: 0 / EXCUSED: 2)

D. Resolution No. 8021 – Resolution ratifying the June 30, 2021 motion of the Oakland Police and Fire Retirement System Board to hire Wellington Management Company to serve as the new PFRS Defensive Equity Investment Manager for the Oakland Police and Fire Retirement System with the management fee rate not to exceed 55 basis points (55 bps or 0.55 percent) of the portfolio’s annual asset value plus additional operating expenses and authorizing the President of the Police and Fire Retirement System Board to execute a professional service agreement with Wellington Management Company – Resolution No. 8021 – Resolution ratifying the June 30, 2021 motion of the Oakland Police and Fire Retirement System Board to hire Wellington Management Company to serve as the new PFRS Defensive Equity Investment Manager for the Oakland Police and Fire Retirement System with the management fee rate not to exceed 55 basis points (55 bps or 0.55 percent) of the portfolio’s annual asset value plus additional operating expenses and authorizing the President of the Police and Fire Retirement System Board to execute a professional service agreement with Wellington Management Company

MOTION: Member Nichelini made a motion to approve Resolution No. 8021, second by Member Speakman. Motion passed.

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – Y / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 5 / NOES: 0 / EXCUSED: 2)

E. Member Resolutions No. 8022 – 8023

E1. Resolution No. 8022 – Resolution Fixing the Monthly Allowances of Surviving Spouse of the following Retired Member of the Police and Fire Retirement System in the amount indicated:

<u>Deceased Member</u>	<u>Surviving Spouse</u>	<u>Monthly Allowance</u>
John F. Beauchamp	Lynn Beauchamp	\$ 4,051.03

MOTION: Member Nichelini made a motion to approve Resolution No. 8022, second by Member Speakman. Motion passed.

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – Y / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 5 / NOES: 0 / EXCUSED: 2)

E2. Resolution No. 8023 – Resolution Approving Death Benefit Payment and Directing Warrants Thereunder in the Total Sum of \$1,000.00 Payable to the Beneficiaries of the following Deceased Members of the Police and Fire Retirement System:

- Henry J. Tarabochia
- Robert Kenney

MOTION: Member Nichelini made a motion to approve Resolution No. 8023, second by Member Speakman. Motion passed.

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – Y / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 5 / NOES: 0 / EXCUSED: 2)

- F. **Pending Items** – Plan Administrator Jones noted there are no updates at this time regarding the ongoing pending item of Post-Pandemic Brown Act Requirements for Board and Committee Meetings and the ability to continue to meet virtually. PFRS Legal Counsel Logue provided notice an update will be available to present to the Board at the August 2021 meeting.
- G. **New Business** – No Report
- H. **Open Forum** – No Report
- I. **Future Scheduling** – The next Regular Board Meeting is scheduled for Wednesday, August 25, 2021.
- J. **Adjournment** – Member Speakman made a motion to adjourn, second by Member Wilkinson. Motion passed.

[JOHNSON – EXCUSED / GODFREY – Y / NICHELINI – Y / ROSEMAN – EXCUSED / SPEAKMAN – Y / TRAYLOR – Y / WILKINSON – Y]
(AYES: 5 / NOES: 0 / EXCUSED: 2)

The meeting adjourned at 12:41 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 June 30, 2021

	Approved Budget		June 2021		FYTD		Remaining		Percent Remaining	
Internal Administrative Costs										
PFRS Staff Salaries	\$	1,200,000	\$	92,084	\$	1,069,587	\$	130,413		10.9%
Board Travel Expenditures		52,500		-		-		52,500		100.0%
Staff Training		20,000		50		160		19,840		99.2%
Staff Training - Tuition Reimbursement		7,500		-		-		7,500		100.0%
Annual Report & Duplicating Services		4,000		-		-		4,000		100.0%
Board Hospitality		3,600		-		-		3,600		100.0%
Payroll Processing Fees		40,000		40,000		40,000		-		0.0%
Miscellaneous Expenditures		40,000		1,639		14,679		25,321		63.3%
Internal Service Fees (ISF)		88,000		-		74,893		13,107		14.9%
Contract Services Contingency		50,000		-		1,200		48,800		97.6%
Internal Administrative Costs Subtotal :	\$	1,505,600	\$	133,773	\$	1,200,519	\$	305,081		20.3%
Actuary and Accounting Services										
Audit	\$	45,000	\$	-	\$	45,000	\$	-		0.0%
Actuary		46,500		-		19,897		26,604		57.2%
Actuary and Accounting Subtotal:	\$	91,500	\$	-	\$	64,897	\$	26,604		29.1%
Legal Services										
City Attorney Salaries	\$	188,000	\$	18,430	\$	186,321	\$	1,679		0.9%
Legal Contingency		150,000		-		-		150,000		100.0%
Legal Services Subtotal:	\$	338,000	\$	18,430	\$	186,321	\$	151,679		44.9%
Investment Services										
Money Manager Fees	\$	1,353,000	\$	332,103	\$	1,138,140	\$	214,860		15.9%
Custodial Fee		124,000		29,125		116,500		7,500		6.0%
Investment Consultant		100,000		25,000		100,000		-		0.0%
Investment Subtotal:	\$	1,577,000	\$	386,228	\$	1,354,640	\$	222,360		14.1%
Total Operating Budget	\$	3,512,100	\$	538,431	\$	2,806,377	\$	705,723		20.09%

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of June 30, 2021

	June 2021
Beginning Cash as of 5/31/2021	\$ 6,317,964
Additions:	
City Pension Contribution - June	\$ 3,637,333
Investment Draw	\$ 1,000,000
Misc. Receipts	-
Total Additions:	\$ 4,637,333
Deductions:	
Pension Payment (May Pension Paid on 6/1/2021)	(4,326,071)
Expenditures Paid	(236,268)
Total Deductions	\$ (4,562,339)
 Ending Cash Balance as of 6/30/2021*	 \$ 6,392,958

* On 7/1/2021, May pension payment of appx \$4,295,000 will be made leaving a cash balance of \$2,098,000

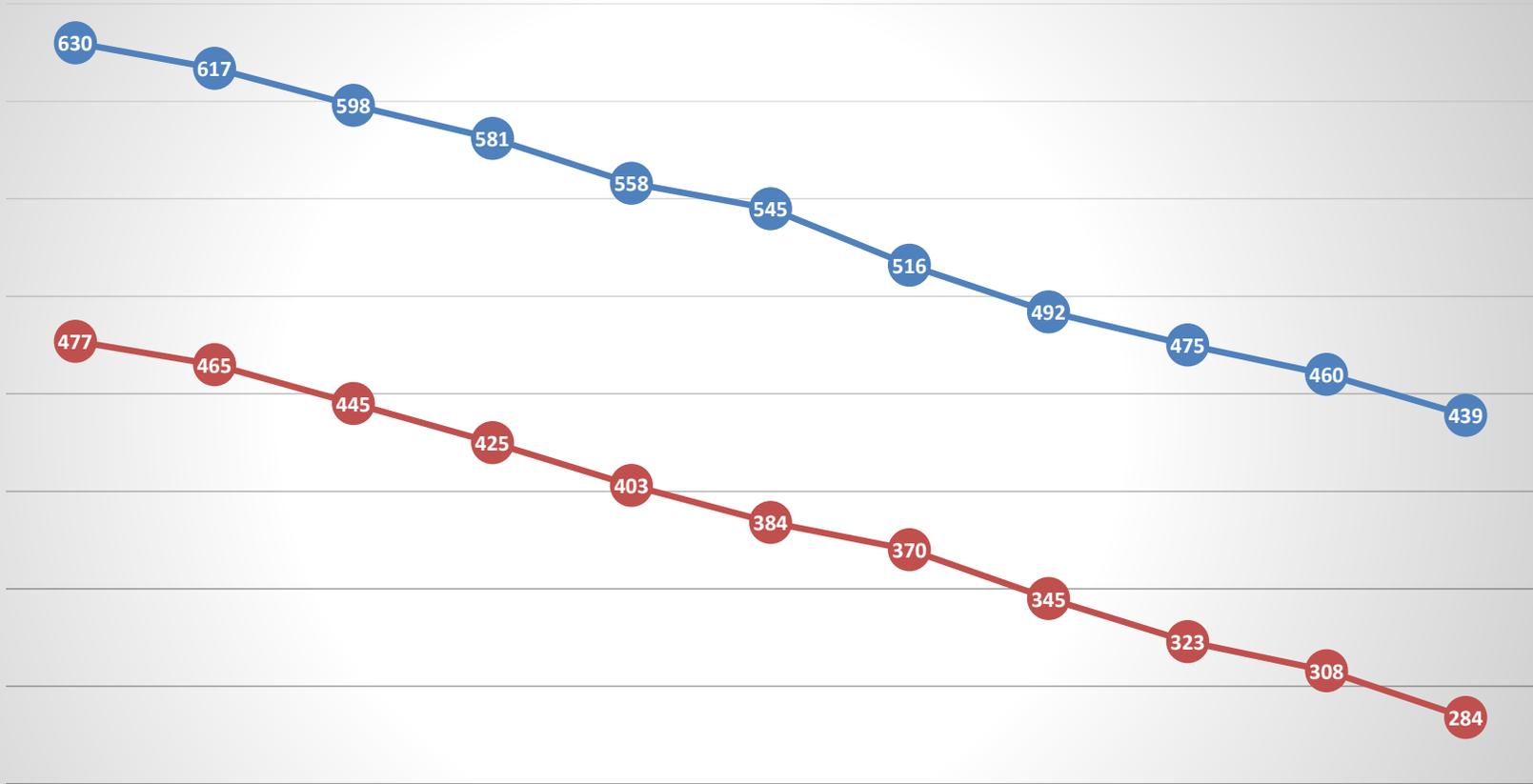
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of June 30, 2021

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	308	182	490
Beneficiary	131	102	233
<i>Total Retired Members</i>	439	284	723
<i>Total Membership:</i>	439	284	723

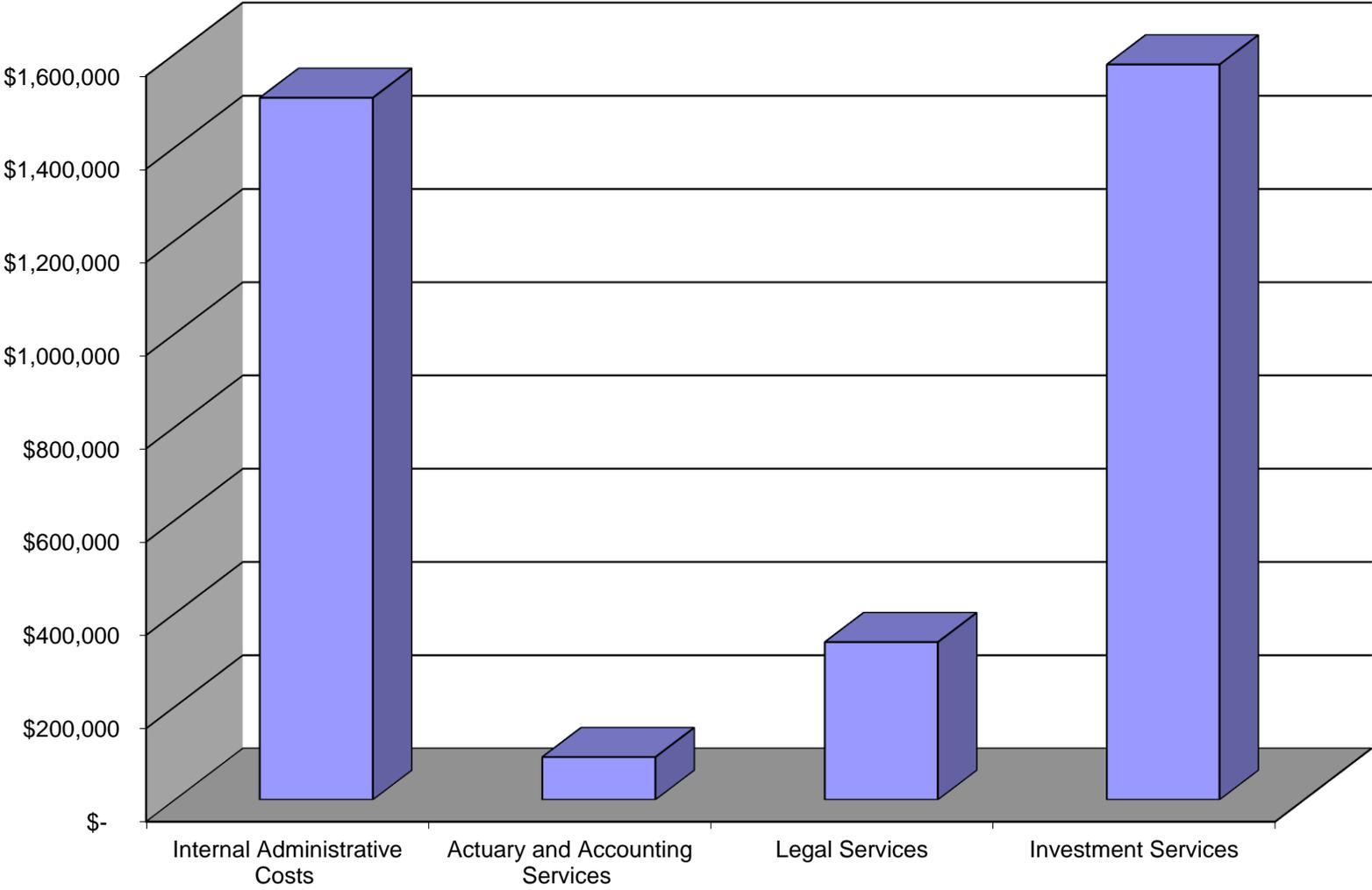
COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	293	144	437
Disability Retirement	135	127	262
Death Allowance	11	13	24
<i>Total Retired Members:</i>	439	284	723
<i>Total Membership as of June 30, 2021:</i>	439	284	723
<i>Total Membership as of June 30, 2020:</i>	460	308	768
<i>Annual Difference:</i>	-21	-24	-45

Oakland Police and Fire Retirement System Pension Plan Membership Count As of June 30, 2021 (FY 2011 - FY 2021)

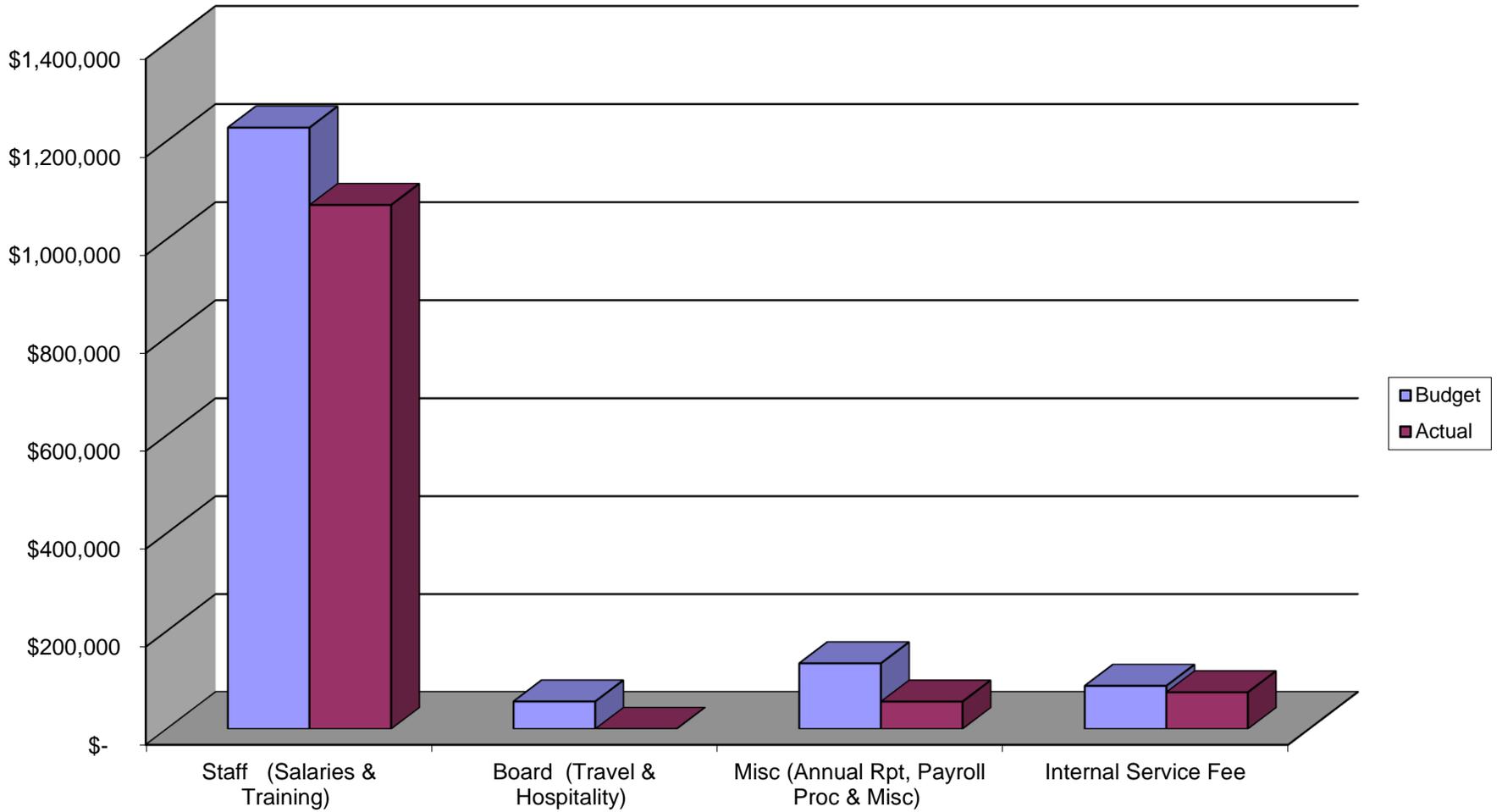


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 FYTD
Police	630	617	598	581	558	545	516	492	475	460	439
Fire	477	465	445	425	403	384	370	345	323	308	284
Total	1107	1082	1043	1006	961	929	886	837	798	768	723

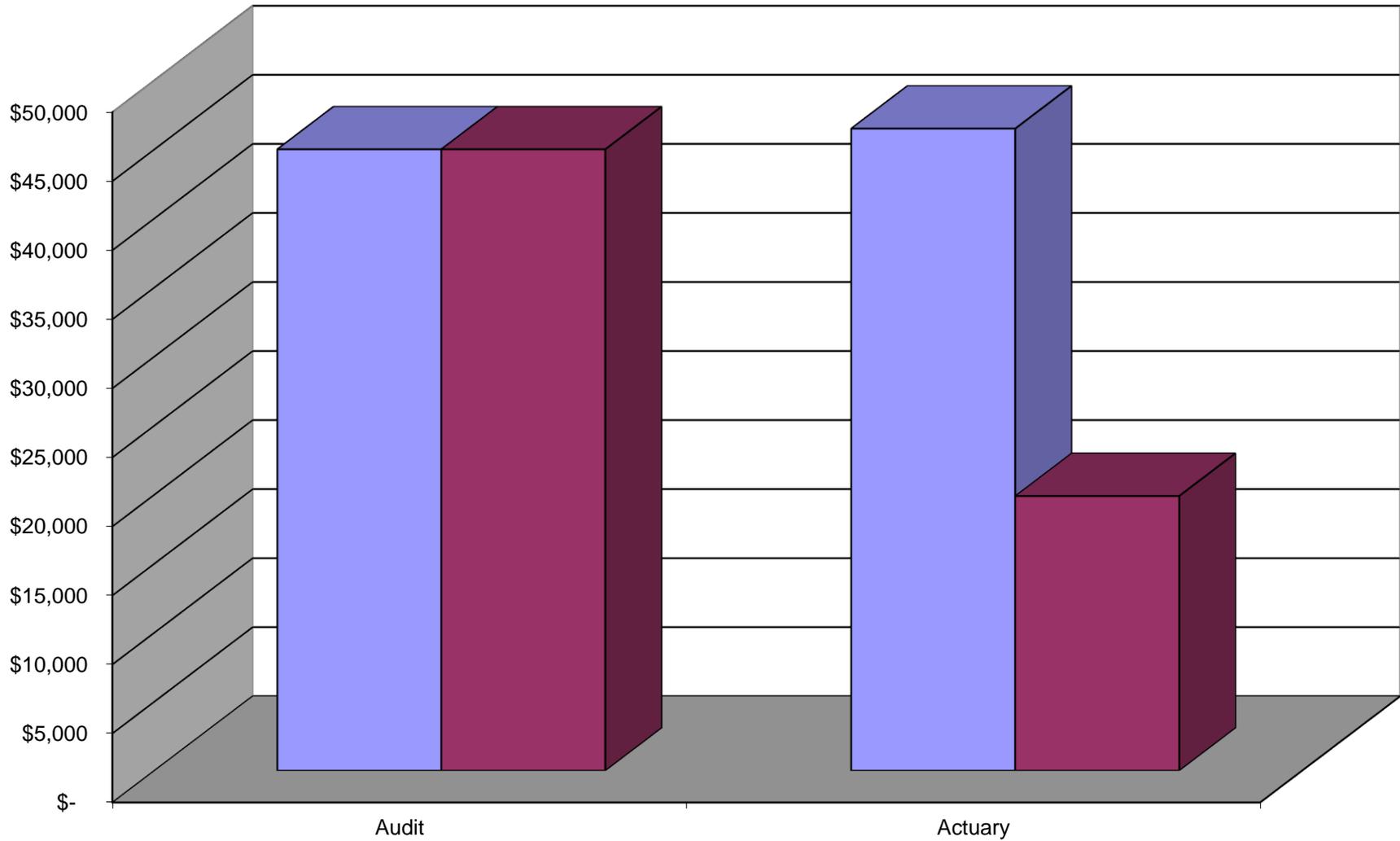
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Approved Budget
FY 2020-2021



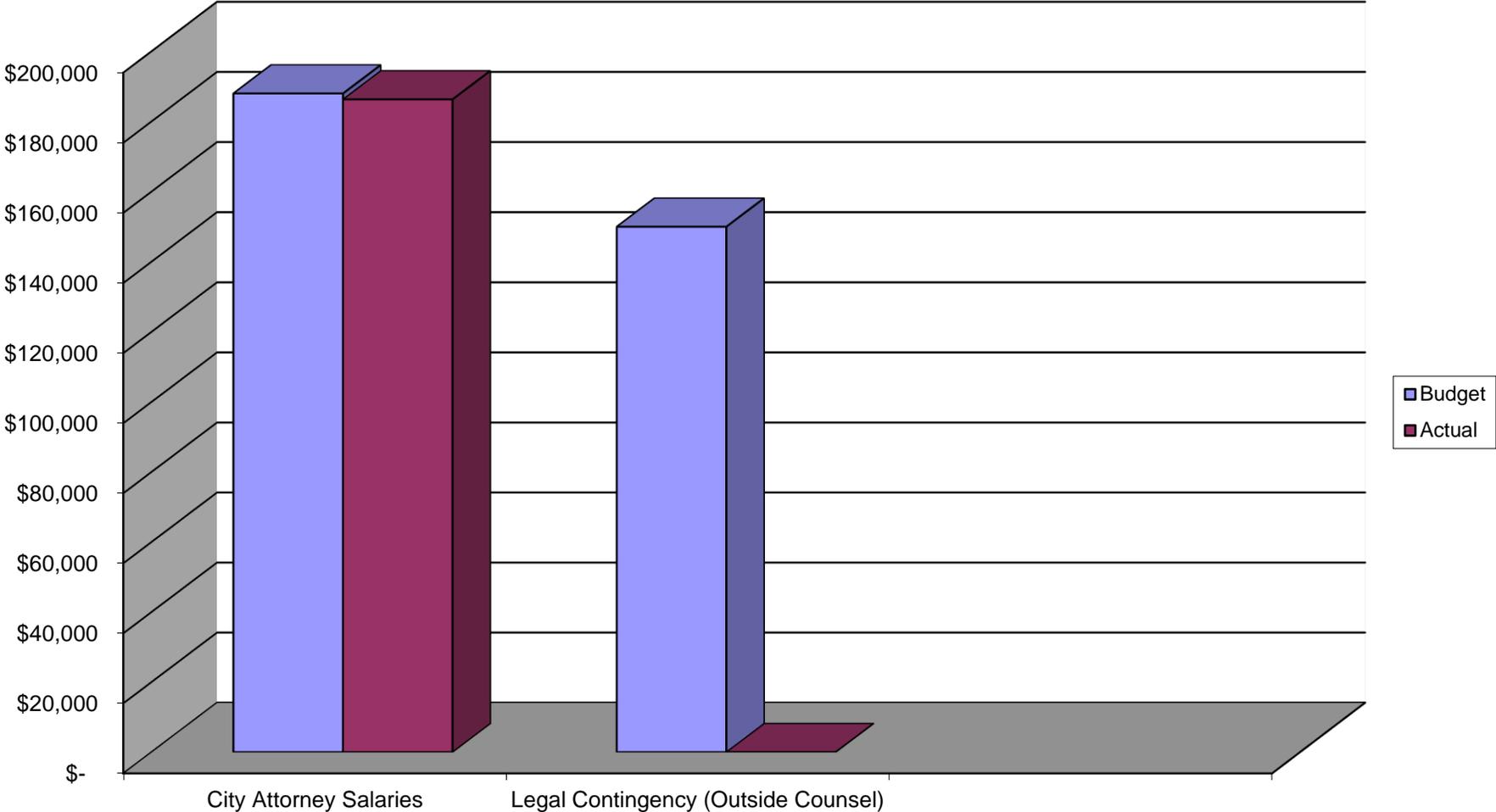
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs Actual as of June 30, 2021
Internal Administrative Costs



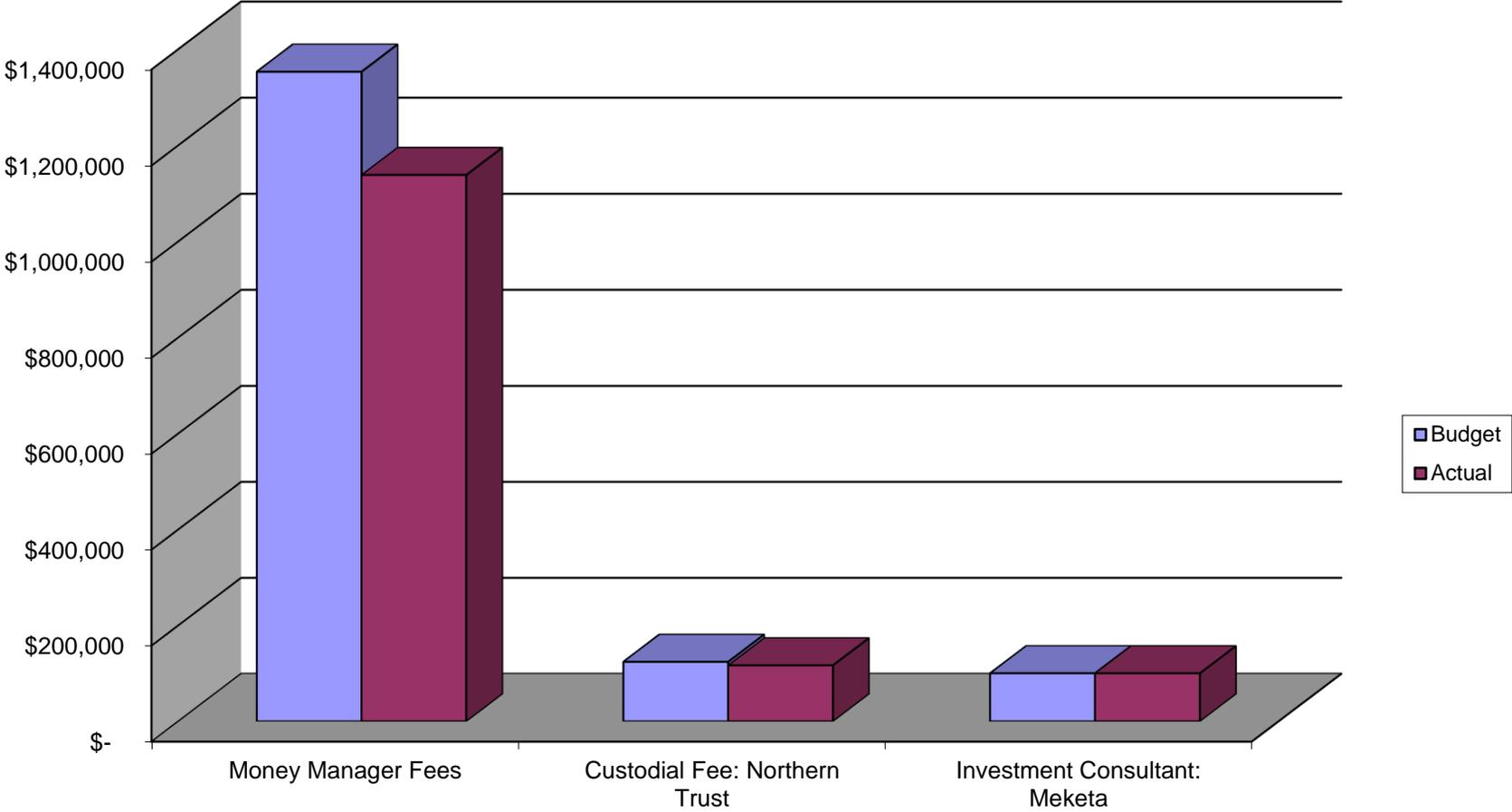
OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2021
Actuary and Accounting Services



OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2021
Legal Services



OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
Budget vs. Actual as of June 30, 2021
Investment Services





AGENDA REPORT

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

SUBJECT: 2021 PFRS Member Verification **DATE:** August 25, 2021

SUMMARY UPDATE

The annual PFRS Member Verification serves to confirm an accurate record of current member information. As of July 13, 2021, PFRS Staff has received responses from approximately 65% of PFRS Members and Beneficiaries as a result of the initial request mailed on June 18, 2018. Staff anticipates a second mailing to follow-up regarding any outstanding responses to occur the Week of August 30, 2021 with a due date of September 17, 2021.

BACKGROUND

On June 18, 2021, staff mailed requests to all PFRS Members and Beneficiaries to confirm and/or update the information of record with a response due date of July 19, 2021.

PFRS Staff reached out to both the Police and Fire Retiree Representatives to inform them the task is underway, so they may help advise members to be on the lookout for the mailing from our office.

Respectfully submitted,

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

Oakland Police & Fire Retirement System

RHJ Small Cap
Opportunities Strategy

August 25, 2021



RICE HALL JAMES
& ASSOCIATES, LLC

Rice Hall James & Associates, LLC
600 West Broadway, Suite 1000
San Diego, California 92101

Telephone: (619) 239-4855
E-mail: info@ricehall.com
Website: www.ricehalljames.com

Firm Profile

As of June 30, 2021

- ▶ Investment-led firm, founded in 1974
- ▶ Firm AUM + AUA: \$3.3 billion¹
- ▶ Ownership
 - Independent and 100% employee-owned. RHJ is focused solely on investment management with no other lines of business
- ▶ Personnel
 - 32 employees, including 11 owners averaging 28 years of industry experience and 21 years with Rice Hall James
- ▶ Time-Tested Investment Strategies
 - RHJ's professionals have been managing micro-, small-, and SMID-cap portfolios for more than three decades
- ▶ Established Client Base
 - 42 institutional clients, representing 84% of assets

¹Assets include assets under management and assets under advisement.



Diversity

Diversity Representation Survey for Oakland Police and Fire

DATA AS OF 6/30/2021

Firm Name	Rice Hall James & Associates, LLC
Product Name	RHJ Small Cap Opportunities
Total Number of Employees	32

Race and Ethnicity*	Percentage (%) of Board of Directors / Managing Members	Percentage(%) of Firm (Entire Staff)	Percentage (%) of Firm (Investment Professionals)
African American/Black	0%	3%	0%
Asian/Hawaiian/Pacific Islander	9%	10%	6%
Latino/Hispanic	0%	3%	0%
White	91%	84%	94%
American Indian/Alaska Native	0%	0%	0%
Other			
Gender			
Male	82%	66%	78%
Female	18%	34%	22%
Non-Identified/Other			

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



Investment Philosophy

We believe that superior, long-term, risk-adjusted returns are generated by building a portfolio of companies with three primary characteristics – **high earnings growth, high or improving returns on invested capital and better sustainability characteristics** than that of the index.



Portfolio Review



RICE HALL JAMES
& ASSOCIATES, LLC

RHJ Attribution Report

2Q21 Attribution Analysis

RHJ Small Cap Opportunities vs. Russell 2000 Growth Index

GICS Sector	Small Cap Opportunities Strategy			Russell 2000 Growth Index			Attribution Analysis		
	Avg. Port. Wt.	Port. Return	Port. Contrib.	Avg. Bmrk. Wt.	Bmrk. Return	Bmrk. Contrib.	Alloc. Effect	Select Effect	Total Effect
Total	100.00	5.08	5.08	100.00	3.91	3.91	0.37	0.80	1.17
Consumer Staples	4.24	34.31	1.35	3.25	7.44	0.25	0.04	1.01	1.05
Consumer Discretionary	14.88	12.34	1.78	15.37	5.70	0.80	0.02	0.93	0.95
Industrials	13.43	2.34	0.32	14.57	-1.06	-0.19	0.09	0.51	0.61
Materials	2.11	7.72	0.16	2.79	2.97	0.07	0.00	0.11	0.11
Utilities	0.00	0.00	0.00	1.46	0.83	0.02	0.05	0.00	0.05
Communication Services	2.35	5.90	0.15	2.21	6.46	0.12	0.02	-0.01	0.01
Energy	0.00	0.00	0.00	0.31	24.59	0.00	0.00	0.00	0.00
Financials	5.55	5.61	0.33	4.11	6.90	0.27	0.02	-0.04	-0.02
Real Estate	0.00	0.00	0.00	3.51	5.27	0.20	-0.05	0.00	-0.05
[Cash]	4.43	0.01	0.00	0.00	0.00	0.00	-0.16	0.00	-0.16
Information Technology	29.53	4.60	1.40	20.38	6.39	1.34	0.26	-0.57	-0.31
Health Care	23.48	-1.34	-0.40	32.03	3.12	1.01	0.07	-1.14	-1.07

Sources: FactSet, GICS Sector Classification, & FTSE Russell

Past performance does not guarantee future results. Attribution results are based on sector returns, which are gross of fees and include reinvestment of all income. Indices are provided for comparative purposes only. An investor cannot invest directly in an index. Comparisons have limitations because indices may have volatility, investment and other characteristics that may differ from an investment account strategy to which it is compared. Indices are unmanaged, include the reinvestment of dividends and do not reflect transaction costs, management or other fees. Please refer to disclosures at the end of this document.



RHJ Attribution Report

YTD ending July 31, 2021 Attribution Analysis

RHJ Small Cap Opportunities vs. Russell 2000 Growth Index

GICS Sector	Small Cap Opportunities Strategy			Russell 2000 Growth Index			Attribution Analysis		
	Avg. Port. Wt.	Port. Return	Port. Contrib.	Avg. Bmrk. Wt.	Bmrk. Return	Bmrk. Contrib.	Alloc. Effect	Select Effect	Total Effect
Total	100.00	13.25	13.25	100.00	5.00	5.00	2.03	6.23	8.25
Information Technology	29.99	15.84	4.63	20.75	7.38	1.41	0.28	2.27	2.55
Health Care	24.43	-2.14	-0.10	32.45	-6.56	-1.77	0.97	1.11	2.08
Consumer Staples	4.16	47.19	1.76	3.19	16.71	0.45	0.21	1.15	1.36
Financials	4.98	35.78	1.30	4.11	10.23	0.40	0.16	0.85	1.01
Industrials	13.35	15.68	2.10	14.59	10.16	1.53	0.06	0.60	0.65
Energy	0.00	0.00	0.00	0.49	49.59	-0.24	0.22	0.00	0.22
Communication Services	2.10	3.18	0.11	2.28	2.98	-0.01	0.09	0.10	0.20
Consumer Discretionary	14.49	23.63	3.20	14.76	20.96	2.51	0.09	0.10	0.19
Utilities	0.00	0.00	0.00	1.31	10.07	0.07	0.16	0.00	0.16
Materials	2.04	12.16	0.26	2.67	13.63	0.29	0.00	0.05	0.05
Real Estate	0.00	0.00	0.00	3.41	12.24	0.37	-0.11	0.00	-0.11
[Cash]	4.45	0.02	0.00	0.00	0.00	0.00	-0.16	0.00	-0.16

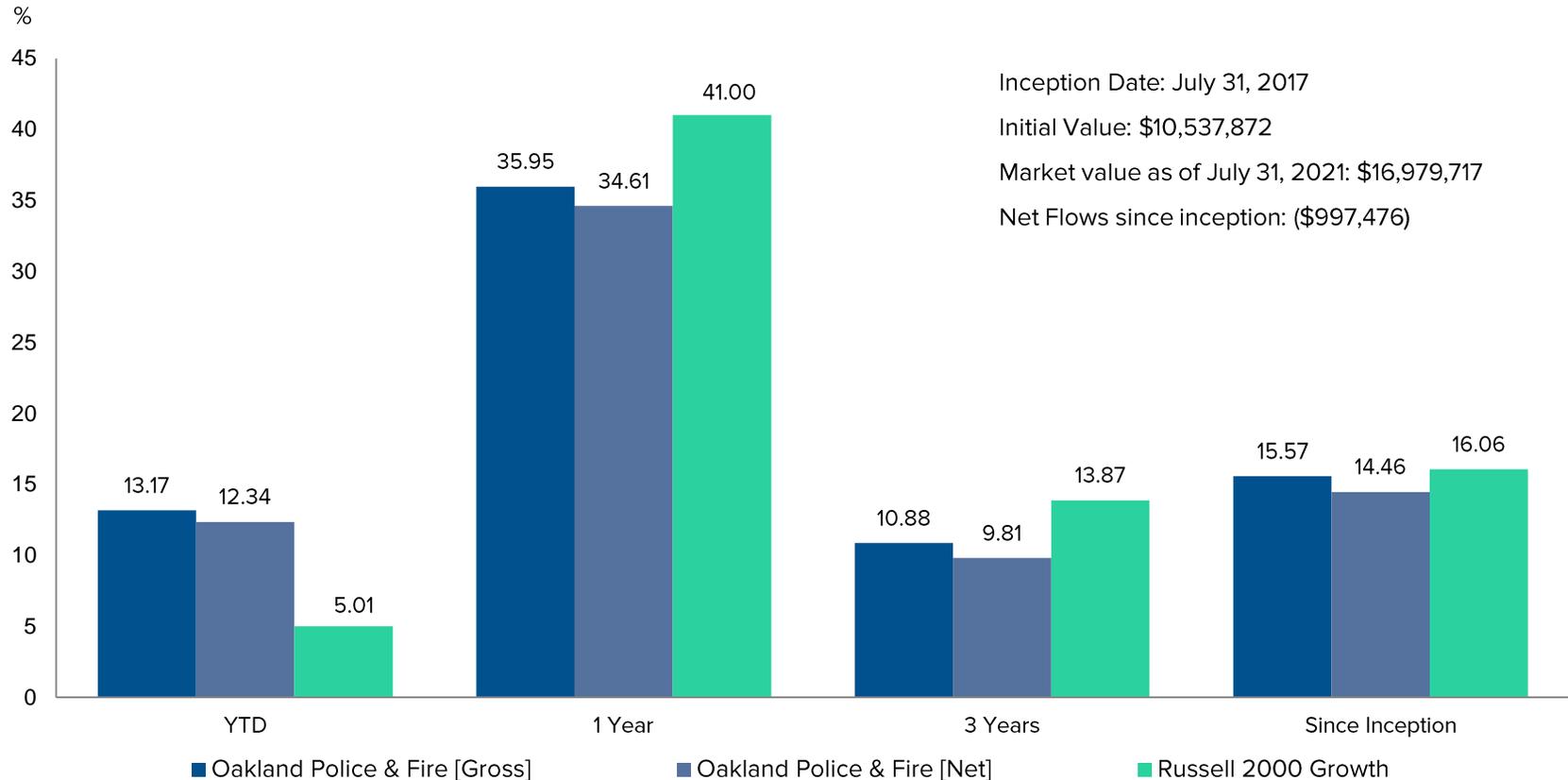
Sources: FactSet, GICS Sector Classification, & FTSE Russell

Past performance does not guarantee future results. Attribution results are based on sector returns, which are gross of fees and include reinvestment of all income. Indices are provided for comparative purposes only. An investor cannot invest directly in an index. Comparisons have limitations because indices may have volatility, investment and other characteristics that may differ from an investment account strategy to which it is compared. Indices are unmanaged, include the reinvestment of dividends and do not reflect transaction costs, management or other fees. Please refer to disclosures at the end of this document.



Oakland Police & Fire Retirement System

Performance Summary – Periods Ending July 31, 2021



Index Source: FTSE Russell

Past performance does not guarantee future results. Performance is reported in U.S. Dollars, annualized for periods greater than one year, gross of advisory fees, net of transaction costs, and inclusive of the reinvestment of dividends and other earnings. Indices are provided for comparative purposes only. An investor cannot invest directly in an index. Comparisons have limitations because indices may have volatility, investment and other characteristics that may differ from an investment account strategy to which it is compared. Indices are unmanaged, include the reinvestment of dividends and do not reflect transaction costs, management or other fees. Please see important disclosure information at the end of this presentation regarding the returns and indices shown above.

Investment Process



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Value Proposition

Long-Term Oriented

- Portfolio Manager/Analysts have an investment horizon that is longer than other micro and small cap growth managers, typically 3 to 5 years.
- Long-term focus allows us to develop an **informational edge** on companies and their management teams relative to our peer group universe.

Experienced & Stable

- Portfolio Manager/Analysts average 28 years of investment experience and 21 years working together.
- Knowledge base that includes a **deep understanding** of the companies' management teams, competitors, and customers.

Quality-Focused

- Portfolio is comprised of companies that generate high returns on invested capital or have the potential to do so in the near future.
- We invest in those companies that we believe have a **sustainable competitive advantage** compared to rivals.

Risk-Controlled

- Structure portfolio weightings in **most compelling ideas** on a risk-adjusted basis.
- Carefully monitor guideposts which are established at the time of initial investment.



Why Earnings Growth & ROIC ?

The probability of alpha generation increases when high earnings growth is coupled with high returns on invested capital.

		EARNINGS GROWTH ¹				
		Less than 0%	0%-10%	10-20%	20%-25%	More than 25%
PERFORMANCE OF RUSSELL 2000 COMPANIES RELATIVE TO OVERALL INDEX						
5-YEAR AVG ROIC ²	More than 15%	(53%)	12%	43%	46%	355%
	10% - 15%	(34%)	(22%)	58%	58%	139%
	5% - 10%	(56%)	(26%)	(11%)	34%	49%
	Less than 5%	(53%)	(46%)	(58%)	(44%)	81%

Historical performance does not guarantee future results

¹ 5-year Earnings Per Share (EPS) growth, compounded annually.

Sources: FactSet & FTSE Russell

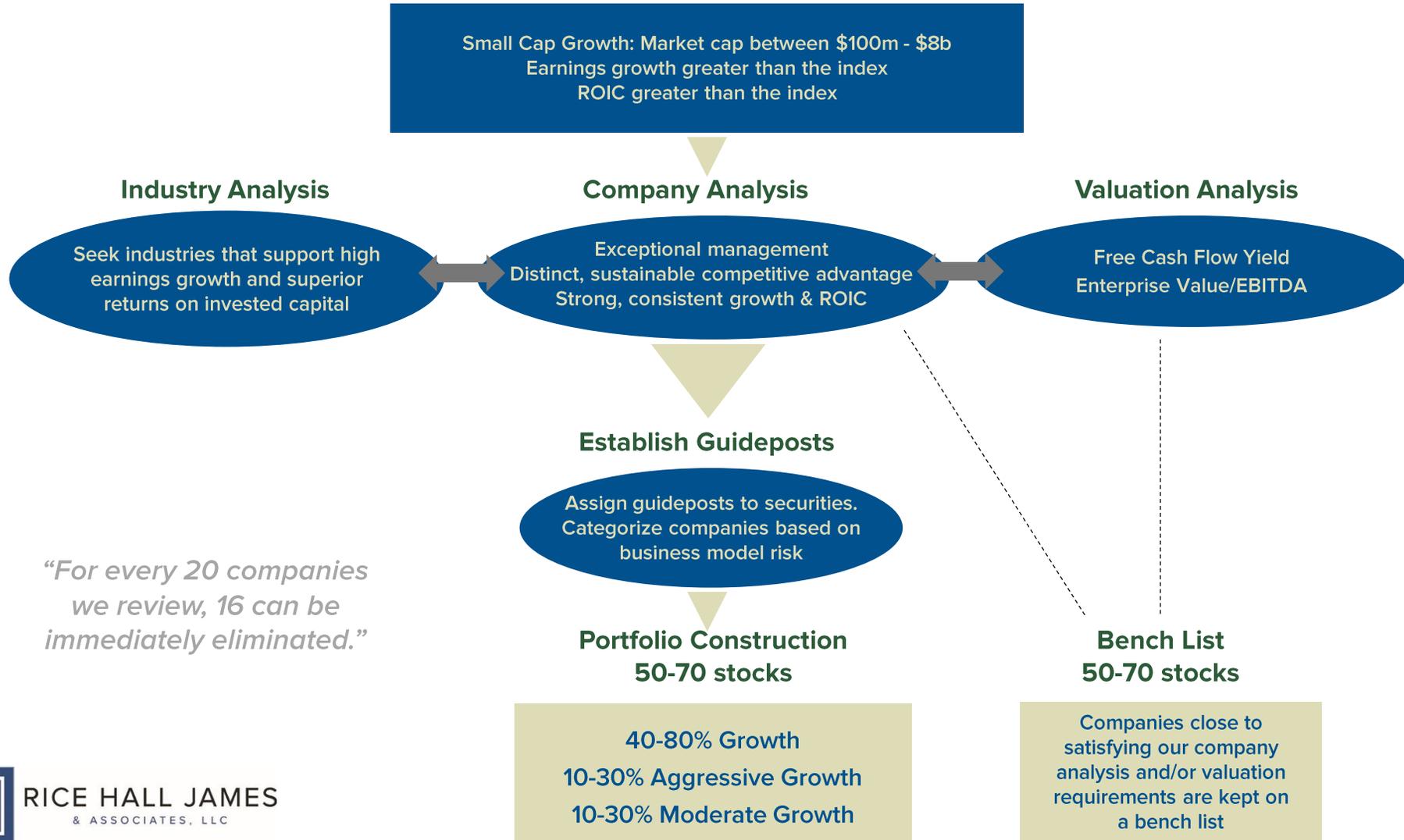
² ROIC = Return on Invested Capital.

Relative performance compares individual Russell® 2000 constituent performance vs. an equal-weighted index (Russell 2000) return. Only the Russell 2000 constituents (as of 12/31/2020) with 5 years of measurable history (EPS, ROIC and Performance) were used in the study. The index return is calculated using the combined equal-weighted 5 year return of these Russell 2000 constituents as of 12/31/2020. The Russell® 2000 Index measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 Index is a subset of the Russell 3000® Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership. The Russell 2000 is constructed to provide a comprehensive and unbiased small-cap barometer and is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set. The index is calculated on a total-return basis with dividends reinvested.



Portfolio Construction

Investable universe is significantly reduced by adhering to this discipline.



Industry Analysis

A large initial universe allows us the freedom to identify and implement our investment strategy within traditional, non-traditional, and emerging growth industries.

- ▶ Industries which have been **historically identified** by companies with high earnings growth and superior returns on invested capital:
 - Technology
 - Health Care
 - Consumer Discretionary

- ▶ Industries exhibiting **changing dynamics**, supporting high growth and superior returns on invested capital:
 - Natural Gas

- ▶ New and **emerging industries** that can support companies with high earnings growth and superior returns on invested capital:
 - Internet



Investment Process - Company Analysis

We perform in-depth research to identify:

▶ **Companies that generate strong and consistent ROIC and earnings growth**

- Large or growing addressable markets
- Stability of existing revenue stream
- Ability to maintain or increase pricing
- High probability of retaining or widening margins

▶ **Capable management teams**

- Experience and integrity
- Track record of success
- Clear goals and viable long-term business model

▶ **Unique, sustainable competitive advantages**

- Proprietary products, services, distribution/manufacturing advantages
- Strategy for defending against competition
- High barriers to entry
- High or improving market share
- Brand name recognition

We maintain contact with management teams of companies we own and all those considered for investment (our bench list)



Investment Process - Valuation Analysis

- ▶ Valuation analysis is a key component of our determination in how we assess a company's absolute & relative attractiveness

Valuation Analysis

- Cash flow analysis that incorporates ROIC & the duration of earnings growth
- Analyze companies across industries and sectors, using common valuation techniques
- Analyze companies relative to valuation of securities in existing portfolio

Other valuation methods:

- P/E to Growth Rate (PEG Ratio)
- Free Cash Flow Yield
- Price to earnings (P/E Ratio)
- Enterprise Value/EBITDA



Investment Process – Establishing Guideposts

- ▶ As part of our research process, we create guideposts for each security:
 - Specific factors unique to each company used to monitor company progress
 - Examples: new drug filings in Health Care, or new store sales productivity in Retail
 - Through this ongoing monitoring process, position sizes are increased or decreased
 - Guideposts help to identify deteriorating or improving fundamentals before they are reflected in the stock price



Investment Process – Portfolio Construction

- ▶ Portfolio Construction is a function of our bottom-up selection process – each holding is grouped into one of the three categories below:

Growth

40-80% of portfolio

- Industry leader and/or gaining market share
- ROIC greater than 10%
- Earnings growth higher than the relative index
- Sustainable competitive advantage
- Proven successful operating history
- High confidence in management

Aggressive Growth

10-30% of portfolio

- Emerging high growth companies with improving ROIC
- Companies in a unique/turnaround situation
- Higher volatility, but higher potential return candidates

Moderate Growth

10-30% of portfolio

- Dominant position in their industry
- Moderate, consistent earnings growth and stable ROIC
- Self-funding and generating strong cash flow



Sell Discipline

Sell discipline is a function of a review and violation of one or more of the following:

- ▶ Change in fundamentals or competitive advantages
- ▶ Missing Guideposts
- ▶ Change in management team
- ▶ Relative Valuation



Summary

- ▶ Disciplined research process with focus on high growth, high return on invested capital companies with good sustainability characteristics
- ▶ Experienced Portfolio Manager/Analysts average 28 years of investment experience and 21 years working together.
- ▶ Proven long-term results with success through a variety of economic environments



Appendix



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Small Cap Opportunities Portfolio

As of June 30, 2021

Consumer Discretionary	14.6%	Health Care	23.7%	Information Technology	29.9%
Century Casinos, Inc.	1.0%	ACADIA Pharmaceuticals, Inc.	0.5%	ACI Worldwide, Inc.	3.0%
LCI Industries	2.5%	Aerie Pharmaceuticals, Inc.	0.7%	CEVA, Inc.	1.5%
Overstock.com, Inc.	1.9%	Albireo Pharma, Inc.	0.6%	Cornerstone Ondemand, Inc.	0.7%
Points International Ltd.	0.3%	Amicus Therapeutics, Inc.	0.4%	Euronet Worldwide, Inc.	1.9%
Pool Corp.	1.4%	Arena Pharmaceuticals, Inc.	0.8%	Ituran Location and Control Ltd.	0.2%
Shutterstock, Inc.	2.3%	Biohaven Pharmaceutical Holding Co., Ltd	1.3%	j2 Global, Inc.	5.0%
Strategic Education, Inc.	1.1%	Collegium Pharmaceutical, Inc.	0.8%	MAXIMUS, Inc.	1.6%
Stride, Inc.	2.4%	Emergent BioSolutions, Inc.	1.2%	Mimecast Ltd.	0.9%
Vail Resorts, Inc.	1.7%	Fate Therapeutics, Inc.	1.4%	Qualys, Inc.	0.8%
		Global Blood Therapeutics, Inc.	0.6%	Rackspace Technology, Inc.	1.5%
Communication Services	2.3%	Insmed, Inc.	0.4%	Radware Ltd.	1.7%
World Wrestling Entertainment, Inc.	2.3%	lovance Biotherapeutics, Inc.	1.1%	Semtech Corp.	2.8%
		Karyopharm Therapeutics, Inc.	0.6%	Silicon Motion Technology Corp. ADR	2.5%
Consumer Staples	4.2%	Kiniksa Pharmaceuticals Ltd.	0.5%	SolarWinds Corp.	0.3%
Medifast, Inc.	4.2%	Ligand Pharmaceuticals, Inc.	2.0%	Wix.com Ltd.	1.8%
		Medpace Holdings, Inc.	1.8%	WNS Holdings Ltd. ADR	3.8%
		Nektar Therapeutics	0.4%		
Industrials	12.5%	OptiNose, Inc.	0.1%	Financials	6.2%
Armstrong World Industries, Inc.	2.0%	Pacira Biosciences, Inc.	0.7%	Axos Financial, Inc.	2.1%
Echo Global Logistics, Inc.	1.1%	Premier, Inc.	2.1%	Bank OZK	1.1%
Franklin Covey Co.	0.4%	Prestige Consumer Healthcare, Inc.	2.5%	Donnelley Financial Solutions, Inc.	2.3%
IAA, Inc.	1.2%	Puma Biotechnology, Inc.	0.1%	Federal Agricultural Mortgage Corp.	0.7%
Masonite International Corp.	3.6%	Reata Pharmaceuticals, Inc.	0.8%		
MSC Industrial Direct Co., Inc.	0.4%	Revance Therapeutics, Inc.	1.0%	Materials	2.1%
PGT Innovations, Inc.	1.1%	Supernus Pharmaceuticals, Inc.	1.0%	Ingevity Corp.	2.1%
Willdan Group, Inc.	0.9%	Zogenix, Inc.	0.3%		
XPO Logistics, Inc.	1.6%				

Total Equity	95.5%
Total Cash	4.5%

Sources: FactSet & S&P Dow Jones Indices LLC

Past performance is no guarantee of future results. Holdings are subject to change and are based on a representative account. Sector weightings may not add up to 100% due to rounding. A complete list of portfolio holdings and specific securities transactions for the preceding 12 months is available upon request. It should not be assumed that recommendations made in the future will be profitable or will equal the performance of securities in this article. Rice Hall James & Associates, LLC, or one or more of its officers, may have a position in the securities discussed herein and may purchase or sell such securities from time to time.

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Portfolio Guidelines

Position Limit Parameters

Position size is scaled up or down based on evolving reward to risk profile

Position Limit at Market	6%
Portfolio Holdings	50-70
Cash Weight	Typically less than 5%

Market Cap Range

Between \$100 million and \$8.0 billion market capitalization at time of purchase

Sector Weight Parameters

Sector weights are +/-1000 basis points of the benchmark weights of the major economic sectors

Allocations as of June 30, 2021

Capitalization	RHJ Small Cap Opportunities	Russell 2000 Growth Index
>\$5 billion	26.2%	26.0%
\$2 billion - 5 billion	53.6%	51.9%
\$750 million - 2 billion	16.3%	17.1%
\$400 million - 750 million	2.2%	3.9%
<\$400 million	1.7%	1.2%

	RHJ Small Cap Opportunities	Russell 2000 Growth Index
Communication Services	2.3%	3.0%
Consumer Discretionary	14.6%	15.2%
Consumer Staples	4.2%	3.6%
Energy	0.0%	2.1%
Financials	6.2%	4.9%
Health Care	23.7%	30.4%
Industrials	12.5%	13.4%
Information Technology	29.9%	21.3%
Materials	2.1%	3.0%
Real Estate	0.0%	2.8%
Utilities	0.0%	0.3%
Cash	4.5%	0.0%

Sources: FactSet & GICS Sector Classification



Small Cap Opportunities

Portfolio Characteristics as of June 30, 2021

	RHJ Small Cap Opportunities	Russell 2000 Growth Index
Long-Term Earnings Growth Forecast	14.1%	18.5%
P/E Ratio - 1 Year Forecast ¹	19.1	21.2
Weighted Median Market Cap	\$3.58 billion	\$3.56 billion
Weighted Average Market Cap	\$4.34 billion	\$3.78 billion
Alpha (5 Years)	-0.34%	-
Beta (5 Years)	0.99	-
Information Ratio (5 Years)	-0.14	-
Standard Deviation (5 Years)	21.5%	20.8%
Active Share	94.1%	-
Number of Holdings	67	1,175

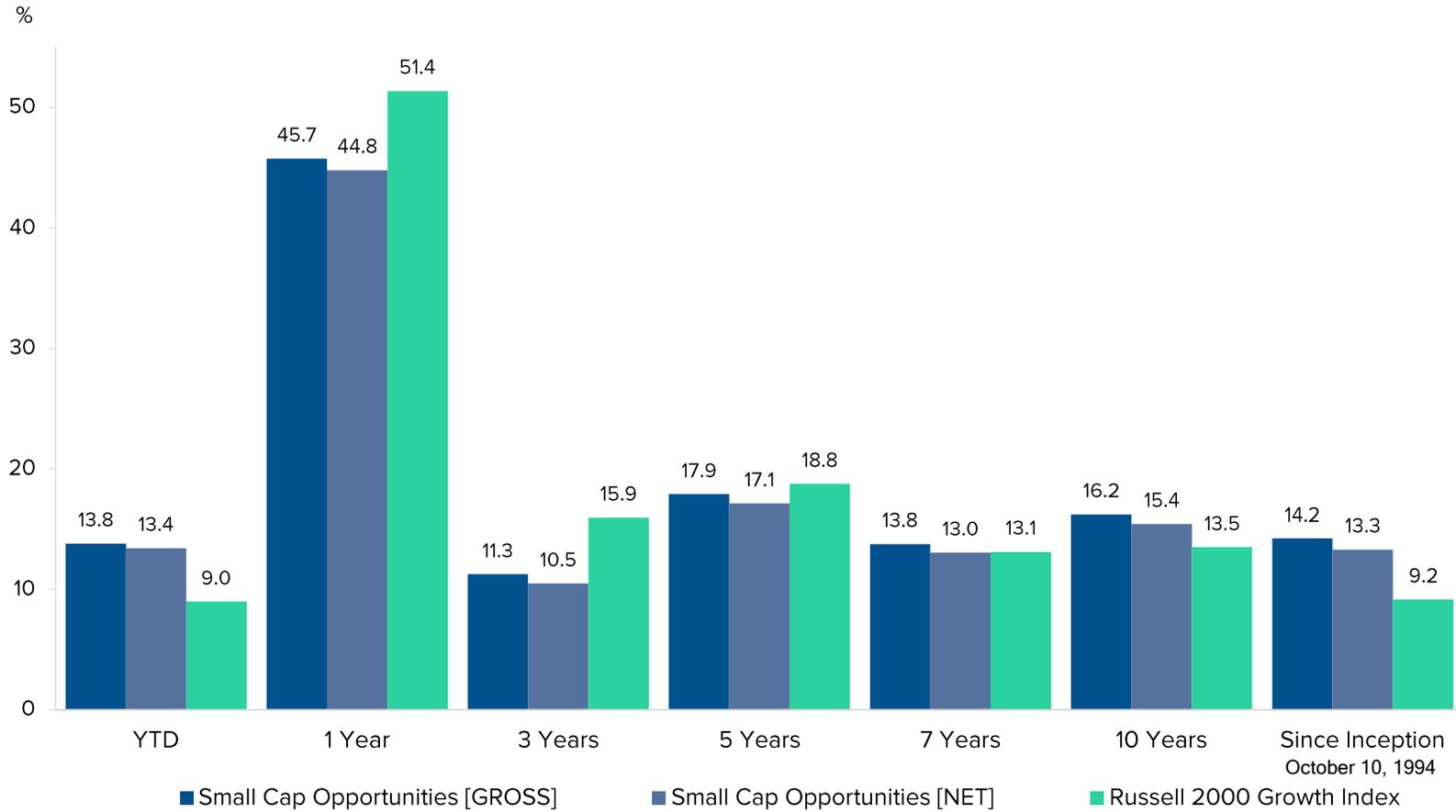
Sources: FactSet & eVestment Analytics

¹P/E Ratio calculation excludes companies with negative earnings.

The information above is based on a representative account. Please see important disclosure information at the end of this presentation regarding the indices shown above.

Small Cap Opportunities

Returns for Periods Ending June 30, 2021



Periods 1-Year or greater are Annualized

Source: FTSE Russell



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Past performance does not guarantee future results. Performance is preliminary and subject to change. Composite returns are shown both gross and net of fees in U.S. dollars. Rice Hall James & Associates, LLC's compliance with the GIPS standards has been verified for the period January 1, 1993 through December 31, 2020. RHJ's GIPS Report is located at the end of this presentation as well as other important disclosure information regarding the returns and indices shown above.

Small Cap Opportunities

	RHJ Small Cap Opportunities Composite Gross of Fees	RHJ Small Cap Opportunities Composite Net of Fees	Russell 2000 Growth Index
2021 June YTD	13.79%	13.42%	8.98%
2020	24.50%	23.65%	34.63%
2019	18.85%	18.04%	28.48%
2018	-6.49%	-7.11%	-9.31%
2017	28.71%	27.93%	22.17%
2016	11.93%	11.28%	11.32%
2015	-0.06%	-0.60%	-1.38%
2014	8.41%	7.69%	5.60%
2013	56.34%	55.12%	43.30%
2012	14.56%	13.62%	14.59%
2011	9.55%	8.68%	-2.91%
2010	38.73%	37.65%	29.09%
2009	48.47%	47.27%	34.47%
2008	-43.34%	-43.71%	-38.54%
2007	10.48%	9.50%	7.05%
2006	7.10%	6.11%	13.35%
2005	11.46%	10.42%	4.15%
2004	10.03%	9.04%	14.31%
2003	50.70%	49.31%	48.54%
2002	-29.41%	-30.07%	-30.26%
2001	-28.87%	-29.52%	-9.23%
2000	-13.23%	-14.01%	-22.43%
1999	87.81%	86.06%	43.09%
1998	16.33%	15.20%	1.23%
1997	28.67%	27.41%	12.95%
1996	53.30%	51.78%	11.26%
1995	25.69%	24.45%	31.04%
1994*	20.70%	20.39%	0.43%



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*Performance represents a non-annualized partial period return beginning on the composite's inception date October 10, 1994. Source: FTSE Russell
Past performance does not guarantee future results. Performance is preliminary and subject to change. Composite returns are shown both gross and net of fees in U.S. dollars. Rice Hall James & Associates, LLC's compliance with the GIPS standards has been verified for the period January 1, 1993 through December 31, 2020. RHJ's GIPS Report is located at the end of this presentation as well as other important disclosure information regarding the returns and indices shown above.

Biographies

Portfolio Management & Analysis Team

Lou Holtz, CFA

Chief Investment Officer & Portfolio Manager/Analyst

Lou joined RHJ in October 2008 and has 29 years of investment experience. Prior to joining the firm he was a Managing Director and Portfolio Manager at Engemann Asset Management. Prior to that, Lou was a business valuation analyst at a national independent appraisal firm and an analyst for a regional real estate appraisal firm. Lou holds a Bachelor of Arts degree in business economics with honors from the University of California, Santa Barbara and an M.B.A. with an emphasis in finance from the University of Southern California, where he was on the Dean's List. Lou is a CFA® charterholder. He is a member of CFA Society Los Angeles.

Yossi Lipsker, CFA

Portfolio Manager/Analyst

Yossi joined RHJ in October 2008 and has 26 years of investment experience. Prior to joining the firm he was a Managing Director and Portfolio Manager at Engemann Asset Management. He received an M.B.A. with an emphasis in finance from Columbia Business School. While at Columbia he excelled academically, gaining membership in both the Beta Gamma Sigma Honor Society and the Dean's List. Additionally, Yossi holds a B.R.S. degree in religious studies from the Rabbinical College of America. Yossi is a CFA® charterholder. He is a member of CFA Society Los Angeles.

Anthony S. Yamarone, CFA

Analyst

Tony joined RHJ in September 2016. Prior to joining the firm, he worked at Ameriprise Financial as a member of their financial planning team. He received a B.S. in Business Administration from San Francisco State University and an M.S. in Financial Analysis and Investment Management from Saint Mary's College of California. Tony is a CFA® charterholder. He is a member of CFA Society Los Angeles.

Dakota Safford

Analyst

Dakota joined RHJ in August 2017. Prior to joining the firm, he worked at Advanced Financial Strategies as a financial analyst. He received a B.A. in Business Economics from the University of California, Irvine. While at UCI, he was involved in the Student Managed Investment Fund, where he performed equity research and evaluated portfolio structures. Dakota is a CFA® Level III candidate.

Alec R. Harrell, CFA

Analyst

Alec joined RHJ in December 2017 and has 18 years of investment experience. Prior to joining the firm he was a Senior Portfolio Manager/Analyst at Northern Trust Asset Management. Prior to that, Alec worked as a Portfolio Manager/Analyst for Convergent Fund Management and an Analyst for Needelman Asset Management. His experience includes fundamental research on U.S. and international securities as well as the development of quantitative equity strategies. He received a B.A. in politics, philosophy and economics from Claremont McKenna College and a J.D. and M.B.A. from the University of Southern California [USC]. Alec is a CFA® charterholder. He is a member of CFA Society Los Angeles.



Biographies

Trading

DJ Devin

Head Securities Trader

DJ joined the firm in June 1981 and served in several administrative and trade-related positions. In 1986, she assumed responsibility for the execution of all trades and management of soft dollars and commissions. She received a Certificate in Personal Financial Planning from San Diego State University and is a member of the Security Traders Association of Los Angeles.

Jorji-Ann McAllister

Trader

Jorji-Ann joined RHJ in May 1987 and has served in several administrative and trade related positions. Jorji-Ann completes all trading functions, including placement and execution of orders. She received a B.S. from Kearney State College, Kearney, Nebraska.

Brandon Toney

Trader

Brandon joined RHJ in March 2017. Prior to joining the firm, he worked at Wall Street Associates for two years as a trader. He received a B.S. in Finance from San Diego State University. Brandon is a CFA® charterholder. He is a member of CFA Society San Diego.

Marketing & Client Service

Thao N. Buuhoan

President & Chief Operating Officer

Thao joined RHJ in June of 2000 and was initially responsible for Institutional Marketing and Client Service. In 2009, Thao assumed responsibility as President and Chief Operating Officer and leads the growth and strategic initiatives of the firm. She also oversees Compliance, Operations, and Trading, in addition to her Marketing and Client Service responsibilities. Prior to joining RHJ, she was a Marketing Manager at State Street Global Advisors in Hong Kong, responsible for sales and marketing to Asian institutions. Thao is a former board member of AAAIM (Association of Asian American Investment Managers) and continues to be active with a number of affinity groups focused on Diversity, Equity, and Inclusion. She received a B.A. from the University of Pennsylvania.

Michael C. Meoli

Director of Client Service & Marketing

Mike joined RHJ in March 2011 and is responsible for Institutional Marketing and Consultant Relations. Prior to joining the firm, he worked at Everest Capital where he focused on consultant relations and business development. Other previous work experience includes business development at Pathway Capital Management and conducting research on investment managers at an institutional investment consulting firm. Mike holds a B.A. from Concordia University and an M.B.A. from the University of California, Irvine.



Biographies

Administration

Carl M. Obeck *Chief Financial Officer*

Carl joined RHJ as Marketing Manager in 2003 and was promoted to Chief Administrative Officer in 2004 and Chief Financial Officer in 2009. Prior to joining the firm, Carl was responsible for Institutional Consulting Relationships and Marketing at Freeman Associates Investment Management. He also served as Director of Marketing at Messner & Smith. Previous experience includes Corporate Vice President at Montgomery Asset Management and Product Manager for Citibank London NA. Carl has a B.A. from the University of Delaware and an M.A. from Webster University in Vienna, Austria.

Janine Marquez, IACCP® *Chief Compliance Officer*

Janine joined RHJ in July 2002. Janine was appointed Chief Compliance Officer (CCO) for RHJ in June 2009. As CCO, she is responsible for oversight and implementation of the compliance program and regulatory requirements for the firm. Throughout her tenure with RHJ, Janine has held various roles within Marketing, Trading and Compliance. Previously, she was a Senior Investment Analyst at Callan Associates Inc. She was responsible for researching and analyzing money management firms for pension fund plan sponsors. She holds a B.S. degree from California Polytechnic State University, San Luis Obispo, California. Additionally, Janine holds the designation of Investment Adviser Certified Compliance Professional® (IACCP®).

Shelley Hamilton *Senior Compliance Manager*

Shelley joined RHJ in February 1997, and has 32 years of industry experience. Shelley was promoted to Senior Compliance Manager for RHJ in November 2018. Throughout her tenure with RHJ, Shelley has held various roles within the Operations Department, including Operations Manager, Project Manager and Operations Administrator.

Tony Shaw, CFA *Director of Operations*

Tony joined the firm in August 2010 and has 28 years of experience in the financial services industry. Prior to joining RHJ, he served as Vice President at LPL Financial overseeing areas in operations and client services as well as issue resolution. Tony holds a B.A. degree from San Diego State University. Tony is a CFA® charterholder.

Brett Knight *Director of Information Technology*

Brett joined RHJ in April 2015 as Director of Information Technology and the acting Information Security Officer. He has 21 years of industry experience. Prior to joining the firm, Brett was a founding partner at Bravura Networks Inc., a managed service provider in the IT industry. Brett has a B.S. in Business Administration with an emphasis in Management Information Systems from San Diego State University; additionally, Brett holds a Microsoft Certified Systems Engineer (MCSE) certification.



Investment Statistics: Definitions & Formulas

Active Share - This is a measure of the percentage of stock holdings in the portfolio that differs from the benchmark index. Active Share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the portfolio versus the weight of each holding in the benchmark index and dividing by two.

Alpha - The incremental return of a manager when the market is stationary. In other words, it is the extra return due to nonmarket factors. This risk-adjusted factor takes into account both the performance of the market as a whole and the volatility of the manager. A positive alpha indicates that a manager has produced returns above the expected level at that risk level, and vice versa for a negative alpha. Alpha is the Y intercept of the regression line.

$$\text{Alpha } (\alpha) = X - [\text{Beta} * Y]$$

X = the mean return for the manager

Y = the mean return for the index

Information Ratio - This statistic is computed by subtracting the return of the market from the return of the manager to determine the excess return. The excess return is then divided by the standard deviation of the excess returns (or Tracking Error) to produce the information ratio. This ratio is a measure of the value added per unit of active risk by a manager over an index. Managers taking on higher levels of risk are expected to then generate higher levels of return, so a positive IR would indicate "efficient" use of risk by a manager. This is similar to the Sharpe Ratio, except this calculation is based on excess rates of return versus a benchmark instead of a risk-free rate.

$$\text{IR} = \frac{\text{Excess Return}}{\text{Tracking Error}}$$

Long-Term Earnings Growth Forecast - Long-Term Growth [LTG] is the annual EPS growth that the company can sustain over the next 3 or 5 years.

P/E Ratio - 1 Year Forecast - A forward-looking valuation measure of a company's common stock, excluding negative earnings. It encapsulates the amount of earnings estimated for next year per dollar of current share price. For the portfolio, the individual P/E stock ratios are then weighted by their respective portfolio market values in order to calculate a weighted average representative of the portfolio as a whole.

Sources: eVestment Analytics & FactSet



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Source: S&P Dow Jones Indices LLC

Indices Disclosure

Indices are provided for comparative purposes only. An investor cannot invest directly in an index. Comparisons have limitations because indices may have volatility, investment and other characteristics that may differ from an investment account strategy to which it is compared. Indices are unmanaged, include the reinvestment of dividends and do not reflect transaction costs, management or other fees. See below for a description of each index used in this presentation.

Russell 2000® Growth Index

The Russell 2000® Growth Index measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 companies with higher price-to-value ratios and higher forecasted growth values. The Russell 2000 Growth Index is constructed to provide a comprehensive and unbiased barometer for the small-cap growth segment. The Index is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set and that the represented companies continue to reflect growth characteristics.



GIPS Report

RHJ Small Cap Opportunities Composite

Year End	Annual Performance Results				3-Year Annualized Standard Deviation	
	Composite Gross Returns	Composite Net Returns	Russell 2000 Growth	Composite Dispersion Gross Returns	Composite Gross Returns	Russell 2000 Growth
2020	24.50%	23.65%	34.63%	0.43%	26.10%	25.10%
2019	18.85%	18.04%	28.48%	0.11%	15.65%	16.37%
2018	-6.49%	-7.11%	-9.31%	0.28%	16.34%	16.46%
2017	28.71%	27.93%	22.17%	0.14%	14.14%	14.59%
2016	11.93%	11.28%	11.32%	0.13%	15.57%	16.67%
2015	-0.06%	-0.60%	-1.38%	0.41%	14.26%	14.95%
2014	8.41%	7.69%	5.60%	N/A ¹	13.02%	13.82%
2013	56.34%	55.12%	43.30%	N/A ¹	14.91%	17.27%
2012	14.56%	13.62%	14.59%	N/A ¹	18.25%	20.72%
2011	9.55%	8.68%	-2.91%	N/A ¹	22.77%	24.31%
2010	38.73%	37.65%	29.09%	N/A ¹	28.56%	27.70%
2009	48.47%	47.27%	34.47%	N/A ¹	26.27%	24.85%
2008	-43.34%	-43.71%	-38.54%	N/A ¹	21.32%	21.26%
2007	10.48%	9.50%	7.05%	N/A ¹	13.87%	14.23%
2006	7.10%	6.11%	13.35%	N/A ¹	15.82%	15.57%
2005	11.46%	10.42%	4.15%	N/A ¹	17.92%	16.51%
2004	10.03%	9.04%	14.31%	N/A ¹	23.95%	21.40%
2003	50.70%	49.31%	48.54%	N/A ¹	34.03%	27.00%
2002	-29.41%	-30.07%	-30.26%	N/A ¹	43.88%	33.33%
2001	-28.87%	-29.52%	-9.23%	N/A ¹	46.49%	33.58%
2000	-13.23%	-14.01%	-22.43%	N/A ¹	42.60%	33.28%
1999	87.81%	86.06%	43.09%	N/A ¹	32.26%	26.31%
1998	16.33%	15.20%	1.23%	N/A ¹	28.77%	25.03%
1997	28.67%	27.41%	12.95%	N/A ¹	21.20%	18.27%
1996	53.30%	51.78%	11.26%	N/A ¹		
1995	25.69%	24.45%	31.04%	N/A ¹		
1994 ¹	20.70%	20.39%	1.40%	N/A ¹		



RICE HALL JAMES
& ASSOCIATES, LLC

N/A¹ - Information is not statistically meaningful due to an insufficient number of portfolios in the composite for the entire calendar year (five or fewer).

¹Results shown for the year 1994 represent partial period performance from October 10 through December 31, 1994.

GIPS Report

RHJ Small Cap Opportunities Composite

Year End	Composite Assets		Firm Assets (\$ M)			Strategy Assets (\$ M)		
	Number of Accounts	USD (\$ M)	Total Assets Under Management	Total Advisory-Only Assets	Total Assets Under Management + Advisory-Only Assets*	Total Assets Under Management	Total Advisory-Only Assets	Total Assets Under Management + Advisory-Only Assets
2020	19	1,333	3,120	205	3,325	1,634	19	1,653
2019	20	1,110	3,359	207	3,566	1,495	25	1,520
2018	20	991	3,051	199	3,250	1,383	19	1,402
2017	19	1,121	3,607	235	3,842	1,634	14	1,648
2016	20	813	2,843	65	2,907	1,194	-	1,194
2015	17	557	2,258	-	2,258	784	-	784
2014	10	255	1,955	2	1,958	434	-	434
2013	Five or fewer	54	1,514	2	1,516	66	-	66
2012	Five or fewer	30	1,087	8	1,095	31	-	31
2011	Five or fewer	35	1,144	6	1,150	36	-	36
2010	Five or fewer	50	1,312	2	1,314	50	-	50
2009	Five or fewer	40	1,203	1	1,205	41	-	41
2008	Five or fewer	27	1,030	-	1,030	28	-	28
2007	Five or fewer	187	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2006	Five or fewer	211	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2005	Five or fewer	254	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2004	Five or fewer	369	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2003	Five or fewer	360	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2002	Five or fewer	259	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2001	Five or fewer	463	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
2000	Five or fewer	407	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1999	Five or fewer	244	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1998	Five or fewer	101	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1997	Five or fewer	53	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1996	Five or fewer	9	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1995	Five or fewer	2	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
1994	Five or fewer	0	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹



GIPS Report

The RHJ Small Cap Opportunities Composite contains all fully discretionary, tax-exempt, institutional, and high net worth portfolios invested in small cap companies that have three primary characteristics: high earnings growth, high or improving return-on-invested capital, and sustainable competitive advantages. The composite was created on April 1, 1999, and the inception date is October 10, 1994. The performance presented prior to October 1, 2008, represents that of a prior firm and was known as the Small Cap Growth Institutional Composite. The portfolio management team members were the only individuals responsible for selecting securities to buy and sell. The minimum account size for this composite is \$1 million. From January 1, 1996 to March 31, 2004, the minimum account size was \$5 million. Prior to January 1, 1996, there was no minimum. For comparison purposes the composite is measured against the Russell 2000 Growth index.

Results are based on fully discretionary accounts under management, including those accounts no longer with the firm. As of January 1, 2005, composite policy requires the temporary removal of any portfolios incurring a client initiated significant cash inflow or outflow of 50% or greater of portfolio assets. The temporary removal of such an account occurs at the beginning of the month in which the significant cash flow occurs and the account re-enters the composite the month after the cash flow is fully invested. From January 1, 2005 to June 30, 2006, the temporary removal of such an account occurred at the beginning of the month in which the significant cash flow occurred and the account is re-entered into the composite the month after the cash flow. From July 1, 2006 to September 30, 2008, the temporary removal of such an account occurs at the beginning of the quarter in which the significant cash flow occurs and the account re-enters the composite the second calendar quarter after the cash flow. As of September 30, 2008, the temporary removal of such an account occurs at the beginning of the month in which the significant cash flow occurred and the account is re-entered into the composite the month after the cash flow. Additional information regarding the treatment of significant cash flows is available upon request. Past performance is not indicative of future results.

Founded in 1974, Rice Hall James & Associates, LLC is an SEC registered investment adviser. The firm is 100% employee owned.

The U.S. Dollar is the currency used to express performance. Returns are presented gross and net of management fees, and include the reinvestment of all income. Net of fee performance was calculated using actual management fees. The annual composite dispersion presented is an asset-weighted standard deviation calculated for the gross returns of accounts in the composite the entire year. Additional information regarding policies for valuing investments, calculating performance, and preparing GIPS Reports are available upon request. The firm maintains a complete list of pooled funds and composite descriptions, which is available upon request.

Indices are provided for comparative purposes only. An investor cannot invest directly in an index. Comparisons have limitations because indices may have volatility, investment and other characteristics that may differ from an investment account strategy to which it is compared. Indices are unmanaged, include the reinvestment of dividends, and do not reflect transaction costs, management, or other fees. The Russell 2000® Growth Index measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 companies with higher price-to-value ratios and higher forecasted growth values. The Russell 2000 Growth Index is constructed to provide a comprehensive and unbiased barometer for the small-cap growth segment. The Index is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set and that the represented companies continue to reflect growth characteristics.

The management fee schedule is as follows: 1.0% flat rate. Actual investment advisory fees incurred by clients may vary.

Rice Hall James & Associates, LLC claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Rice Hall James & Associates, LLC has been independently verified for the periods January 1, 1993 through December 31, 2020. A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. The RHJ Small Cap Opportunities Composite has had a performance examination for the periods October 1, 2008 through December 31, 2020. The verification and performance examination reports are available upon request at the following address: 600 West Broadway, Suite 1000, San Diego, California 92101.

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MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group
DATE: August 25, 2021
RE: Rice Hall James– Manager Update

Manager: Rice Hall James

Inception Date:	July, 2017	OPFRS AUM (6/30/2021):	\$17.1 million
Strategy:	Small Cap Opportunities	Firm-wide AUM (6/30/2021):	\$3.3 billion
Benchmark:	Russell 2000 Growth	Strategy AUM (6/30/2021):	\$2.7 billion

Summary & Recommendation

Rice Hall James has experienced poor relative performance in 2019 and 2020, which has resulted in negative relative performance over all longer-term periods measured. Meketa has no organizational concerns with Rice Hall James at this time; however, excess performance over the most recent periods continue to lag, therefore, **Meketa recommends Rich Hall James (RHJ) continue to be placed on “Watch” status due to performance concerns.**

Discussion

Rice Hall James began managing OPFRS’s small cap growth portfolio at the beginning of July 2017, which is now approximately \$17.1 million or about 3% of OPFRS’s total allocation. The second quarter of 2021 was beneficial to the portfolio as RHJ produced a 13.8% net of fee return compared to the Russell 2000 Growth index of 9.0%. YTD the portfolio is up 4.8% relative to the index.

OPFRS Portfolio Annualized Returns (as of 6/30/2021)

Manager	Mkt Value (\$000)	Asset Class	YTD	1 YR	3 YR	Since Inception	Inception Date
Rice Hall James (Gross)	17,077	Small Cap Growth	13.8	45.6	11.4	15.5	7/2017
<i>Russell 2000 Growth</i>	---	---	9.0	51.4	15.9	17.4	---
Excess Return	---	---	4.8	-5.8	-4.5	-1.9	---
Rice Hall James (Net)	17,077	Small Cap Growth	13.3	44.6	10.4	14.5	7/2017
<i>Russell 2000 Growth</i>	---	---	9.0	51.4	15.9	17.4	---
Excess Return	---	---	4.3	-6.8	-5.5	-2.9	---

Over the second quarter of 2021, the portfolio earned a 5.1% gross of fees return, outperforming its benchmark by 1.2%. Rice Hall James lagged its benchmark by (5.8%) over the latest 1-year period, and has underperformed its benchmark since inception by (2.9%).

Rolling 3-Month Excess Returns Since Inception– Net of Fees



The above chart displays quarterly excess returns on a rolling basis. Since inception, the portfolio has outperformed its benchmark approximately 41% of the time. Rice Hall James had mixed results in 2018, negative results in 2019 and mixed results in 2020, improving through first half of 2021.

Product and Organization Review Summary

Rice Hall James	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		Watch Status - X		Termination

A review of Rice Hall James and the Small Cap Opportunities Strategy revealed no significant organizational issues or changes. Since Rice Hall James last manager update in 2017, there has been no turnover in the portfolio management team and there was no reported turnover among the analyst team.

Investment Philosophy & Process, per manager

Rice Hall James' Small Cap Opportunities strategy employs a fundamental, bottom-up analytical process to identify companies that meet three primary criteria: high earnings growth, high or improving return-on-invested capital (ROIC), and sustainable competitive advantages. RHJ's philosophy is rooted in historical analysis indicating the high relative return potential of these factors in combination. They believe that superior results can be achieved by owning companies that exhibit not only high earnings growth, but also the ability to sustainably generate high ROIC over long periods of time. RHJ's investment universe consists of companies with market capitalizations between \$100 million and \$4 billion at the time of purchase.

The heart of RHJ's process is fundamental, bottom-up analysis at the company level. The portfolio managers conduct all research on every company held in the portfolio. As generalists, each with over twenty years of investment experience, both portfolio managers bring to bear extensive knowledge of the companies they own or follow, understanding of industries, and general expertise on the small cap landscape in various market environments. Cornerstones of the bottom-up fundamental investment process include:

- Clear understanding of a firm's competitive context and advantages
- Assessment of the sustainability characteristics of the underlying business
- Emphasis on high or improving ROIC; a clear sense of the future direction of ROIC
- Estimation of ability to generate and grow free cash flow over life of the investment
- Valuation that affords a reasonable return over investment horizon
- Scrutiny of company management, ability to identify/ execute on the right plan

Idea generation begins with an analysis of companies within the FactSet universe with market caps ranging from \$100 million to \$4 billion, with an emphasis on growth-oriented industries comprised of companies that feature high earnings growth and high ROIC criteria. Health Care, Technology, and Consumer traditionally have been rich with such companies. They also look for new or emerging industries that can support high growth companies going forward. While these types of investments typically carry more risk, certain areas of the internet and biotechnology, for example, management believes they can create space for attractive long-term growth characteristics.

Finally, RHJ looks for catalysts within industries that are not typically associated with growth characteristics, seeking to capitalize on tactical growth opportunities that arise due to demographic, regulatory and supply/demand issues. Cyclical industries can provide the landscape for attractive growth opportunities to crop up due to such changes.

At the company level, RHJ focuses on businesses that can generate above-average earnings and free cash flow relative to the benchmark. Management favors companies that they believe can achieve these results in tandem with sustained high ROIC, or that can increase their returns to above-average levels over the relevant investment horizon. It is essential that a company can protect these attributes through a well-defined, competitive position, which will protect growth, margins and returns.

Since strong relative results tend to manifest over longer holding periods, RHJ focuses on long-term sustainability factors rather than short-term data points and market movements; as such, low turnover is a notable characteristic of the portfolio.

Disclosure

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

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

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

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

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

Economic and Market Update

Data as of July 31, 2021

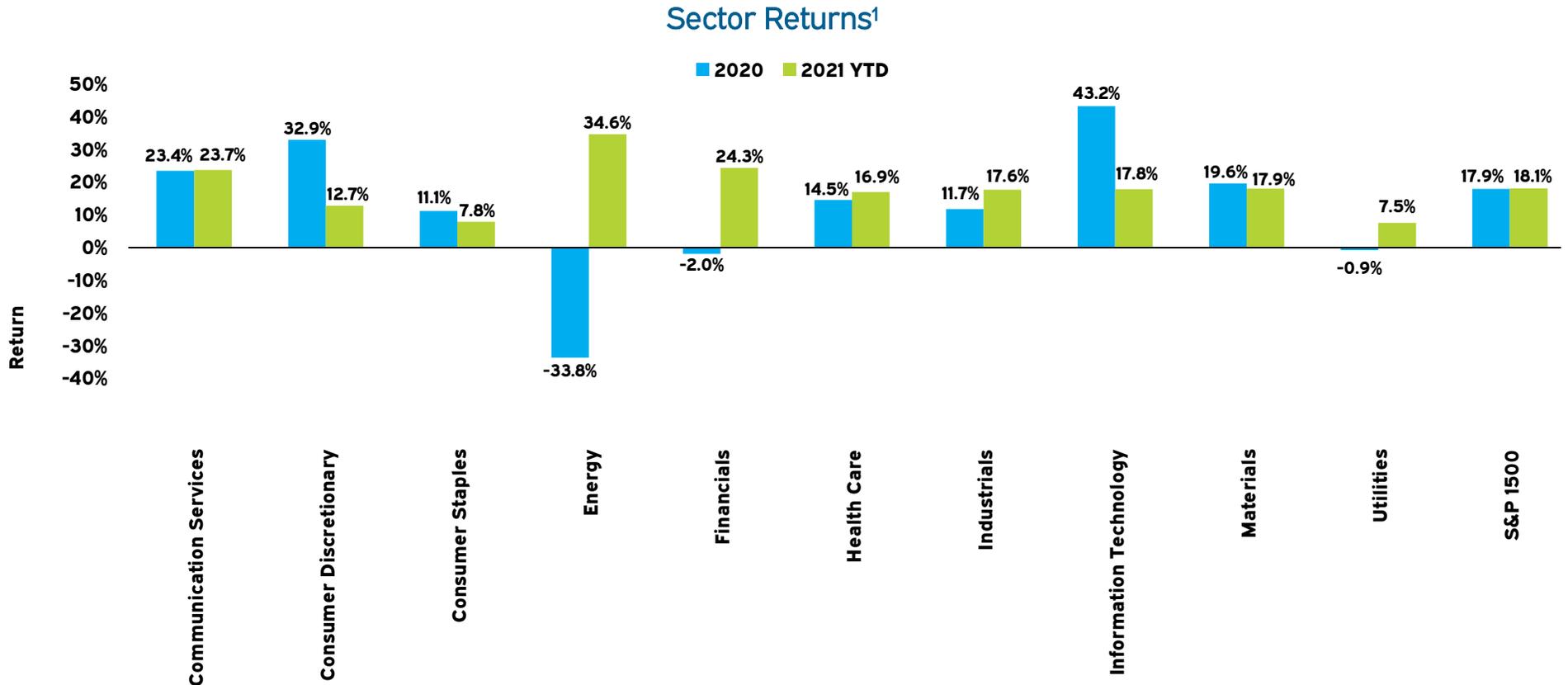


Market Returns¹

Indices	July	YTD	1 Year	3 Year	5 Year	10 Year
S&P 500	2.4%	18.0%	37.5%	18.3%	17.3%	15.3%
MSCI EAFE	0.8%	9.7%	28.5%	7.6%	9.4%	6.1%
MSCI Emerging Markets	-6.7%	0.2%	20.3%	7.8%	10.4%	3.6%
MSCI China	-13.8%	-12.3%	0.4%	5.6%	12.4%	6.2%
Bloomberg Barclays Aggregate	1.1%	-0.5%	-0.7%	5.8%	3.1%	3.3%
Bloomberg Barclays TIPS	2.7%	4.4%	7.2%	7.7%	4.5%	3.3%
Bloomberg Barclays High Yield	0.4%	4.0%	10.8%	7.2%	7.0%	6.6%
10-year US Treasury	2.2%	-2.1%	-4.9%	7.0%	2.2%	3.5%
30-year US Treasury	4.1%	-5.5%	-14.9%	10.5%	3.3%	6.8%

- Record fiscal and monetary stimulus and positive developments with the COVID-19 vaccine have led to continued strong returns in developed market equities producing significant gains over the trailing year.
- In July, Treasuries continued to rally, particularly longer dated issues, as longer-term economic growth expectations declined.
- Equity markets had mixed results in July with the US leading the way. The strengthening of the US dollar over the last few months, and continued vaccine rollout struggles, weighed on international equity markets. China's crackdown on technology and education companies weighed on the broader emerging markets index.

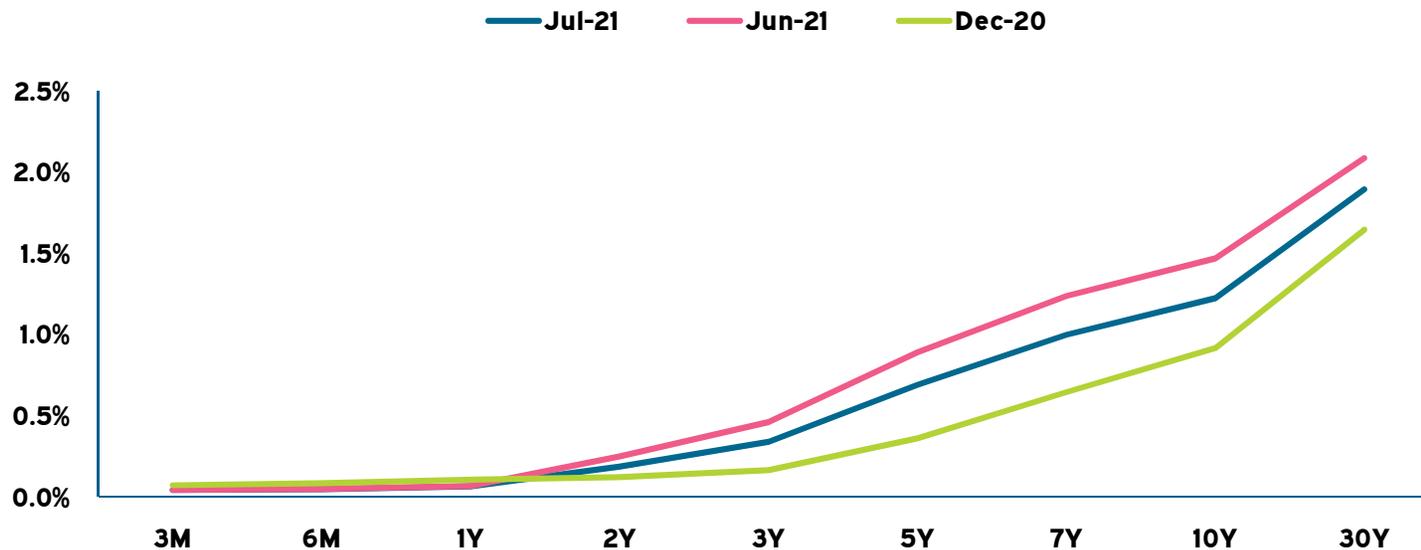
¹ Source: Investment Metrics and Bloomberg. Data is as of July 31, 2021.



- Cyclical sectors like energy and financials continue to lead the way in 2021, despite growth's recovery in June and July, as some investors rotated out of stay-at-home focused companies in the technology sector while the economy reopens.

¹ Source: Bloomberg. Data is as of July 31, 2021.

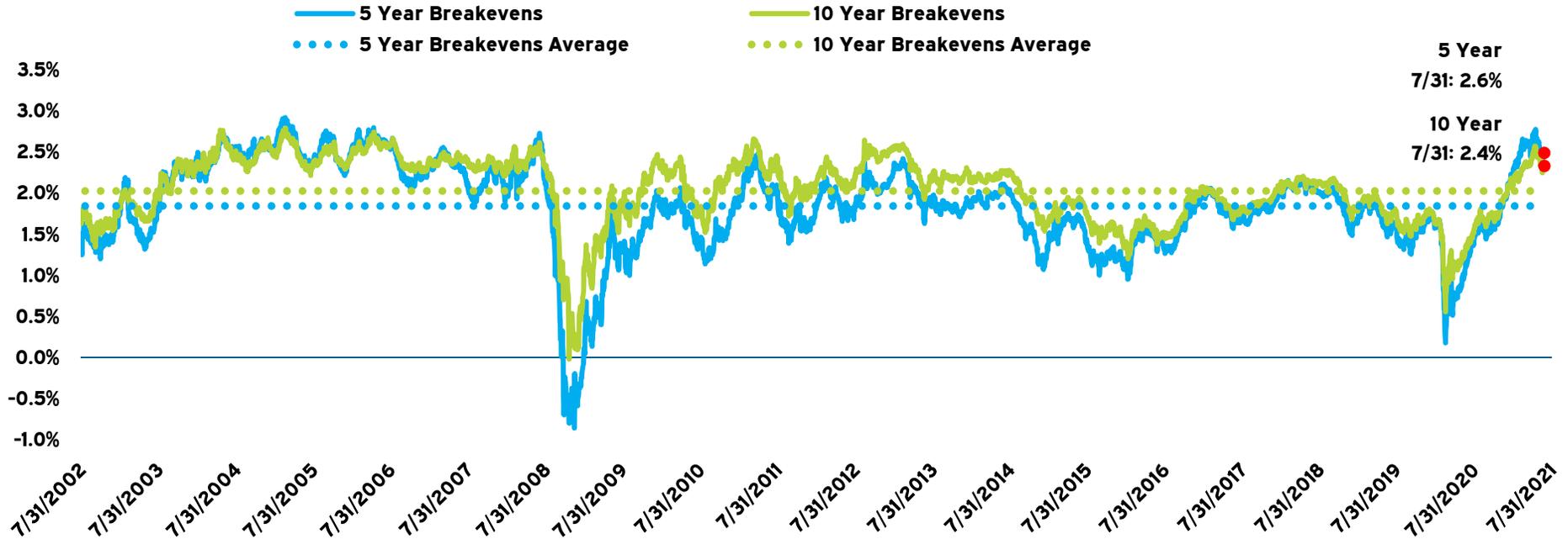
US Yield Curve Begins to Flatten After Sharp Steepening to Start 2021¹



- During the first half of 2021, the yield curve steepened, on inflation fears related to gradual signs of economic improvement given the vaccine rollout.
- Shorter-dated rates have been largely unmoved due to Fed policy. Longer-dated rates recently fell from their peak causing the yield curve to flatten as investors consider whether inflationary pressures have topped and if longer-term growth expectations are overly optimistic.
- The yield curve could resume its steepening if growth and inflation pressures build beyond current expectations. Alternatively, if the economy weakens, or if economic progress is simply accelerated versus prior expectations, the flattening trend could continue.

¹ Source: Bloomberg. Data is as of July 31, 2021.

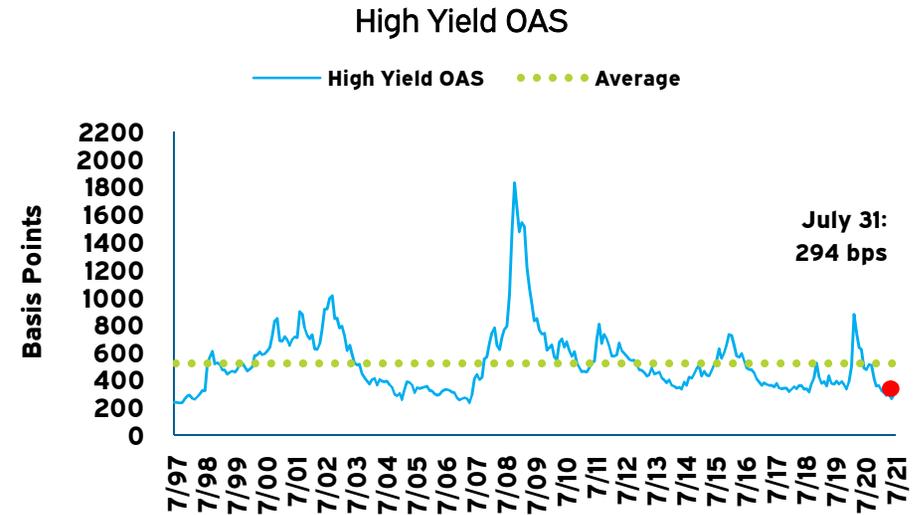
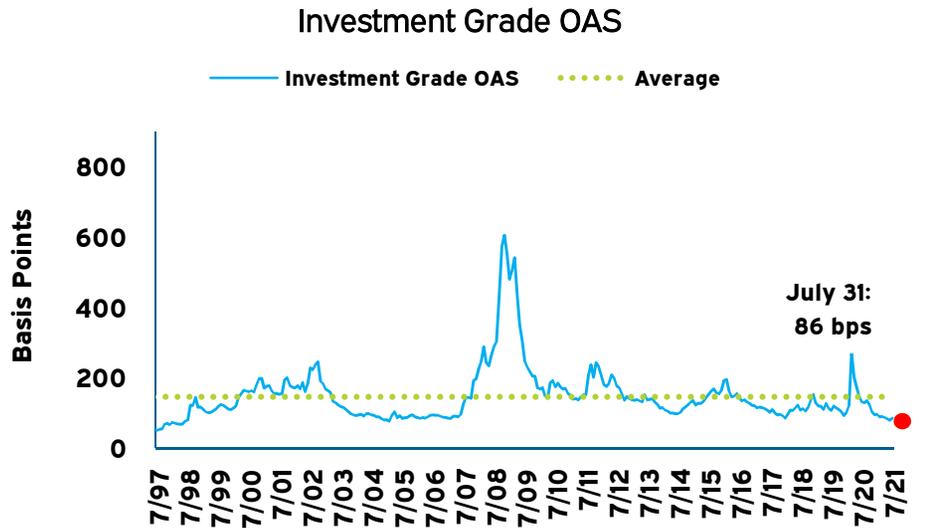
Breakeven Inflation¹



- Inflation expectations remain well above long-term averages, particularly in the short-term, with the vaccine roll-out, still relatively high raw material prices, and expected additional fiscal stimulus as key drivers.
- Recently though, inflation expectations declined from their peaks as base effects wane, growth forecasts moderate, and cost pressures slow.
- Looking ahead, the track of economic growth and the inflationary effects of the unprecedented US fiscal response will be key issues. Additionally, changes to Fed policy focused on an average inflation target may play a role in the inflation market dynamics.

¹ Source: Bloomberg. Data is as of July 31, 2021.

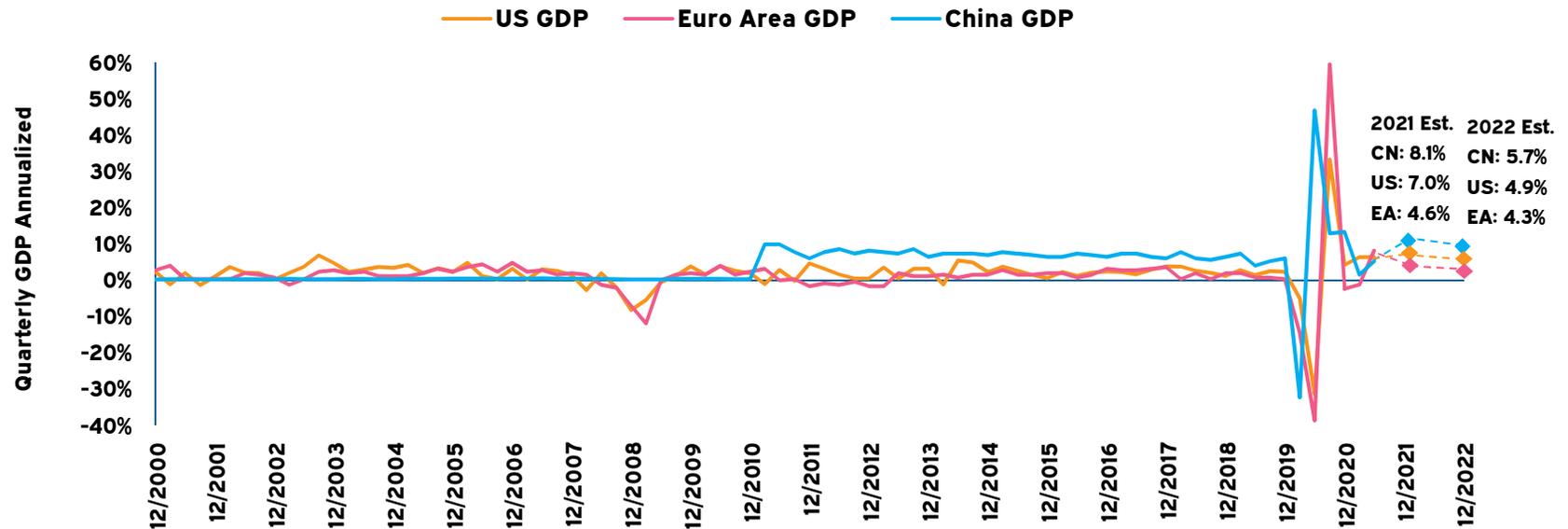
Credit Spreads (High Yield & Investment Grade)¹



- Credit spreads (the spread above a comparable maturity Treasury) for investment-grade and high yield corporate debt remain at historically low levels.
- Policy support and the search for yield in a low rate environment have been key drivers in the decline in US credit spreads to below long-term averages, particularly for high yield.

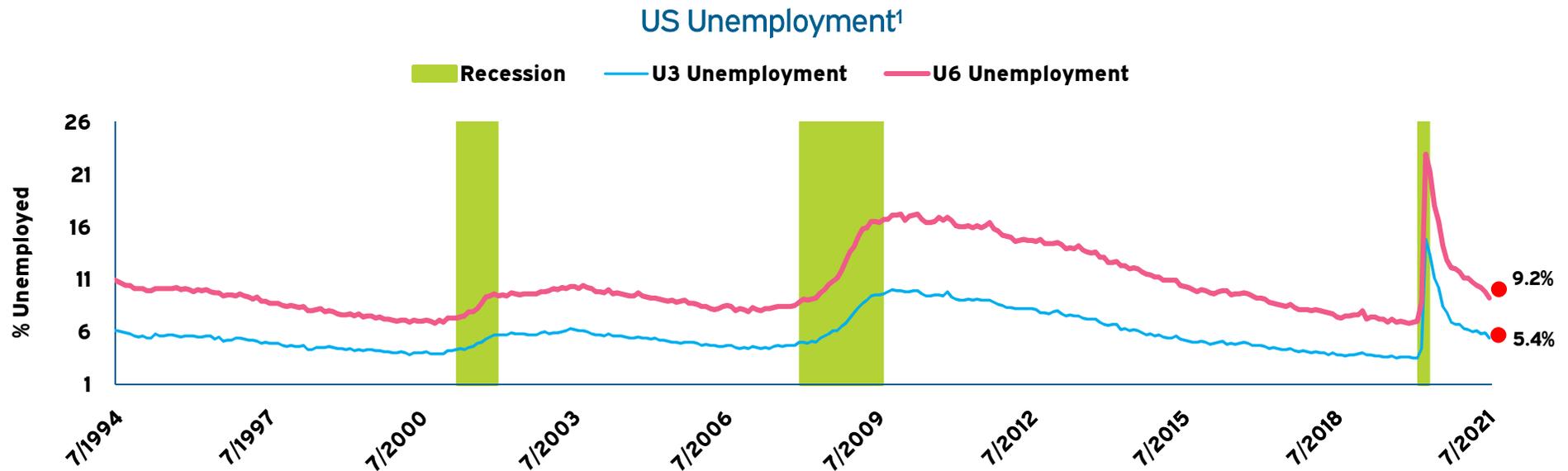
¹ Source: Barclays Live. Data represents OAS and is as of July 31, 2021.

GDP Data Shows Projected Improvements in 2021¹



- Major economies are expected to continue to recover this year as reopening trends persist with growth slowing in 2022 as demand declines.
- Looking forward, strong growth is expected in 2021 for China, projected to grow at an impressive 8.1%, a rate 1.1% above the expected US growth rate.
- The US is expected to grow faster than the euro area this year and next, with some growth pulled forward due to the success in distributing the vaccine.

¹ Source: Bloomberg, and IMF; Euro Area and China figures annualized by Meketa. Projections via July 2021 IMF World Economic Outlook and represent annual numbers.



- The unemployment rate (U3) fell in July from 5.9% to 5.4% and remains well above pre-pandemic levels, but far below the pandemic peak.
- The broader measure of unemployment (U6) that includes discouraged and underemployed workers continues to decline, but remains much higher at 9.2%.
- Pandemic related concerns, childcare issues, and a mismatch of skills and available jobs have all contributed to slack in the labor market. The track of the unemployment rate from here will be a key consideration in the Federal Reserve's pace of reducing its policy support.

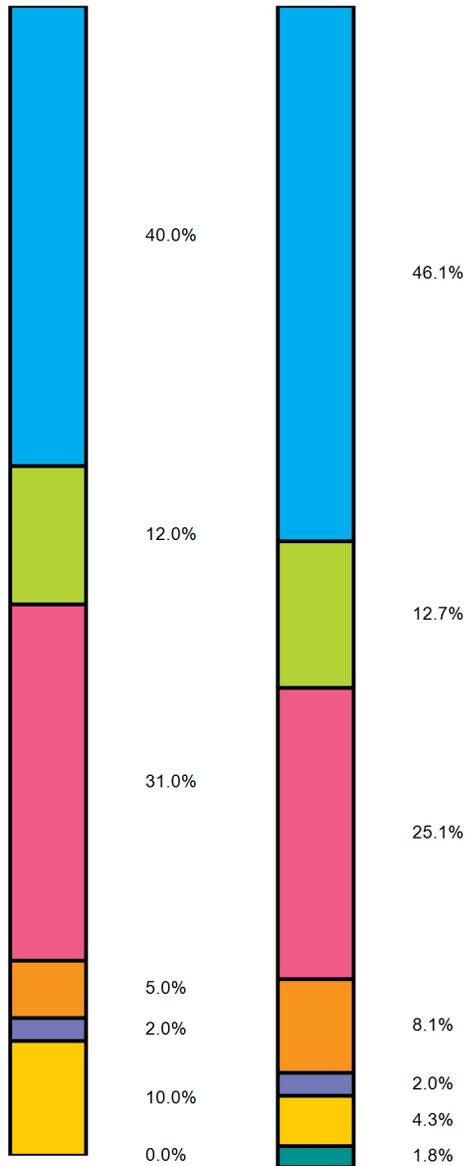
¹ Source: Bloomberg. Data is as of July 31, 2021. Bars represent recessions as observed by the National Bureau of Economic Research.

Oakland Police and Fire Retirement System

August 25, 2021

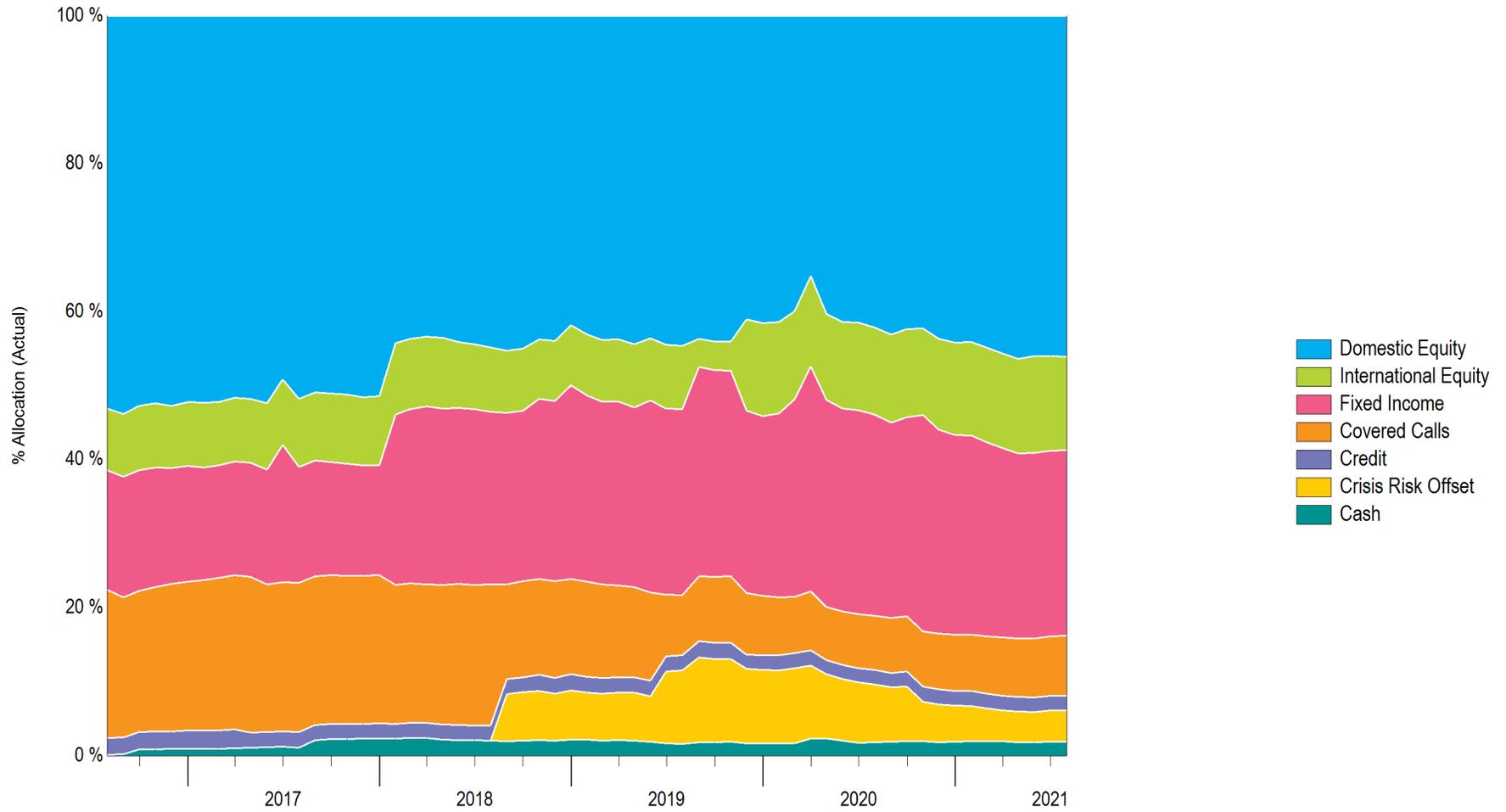
July Flash Report

OPFRS Total Plan As of July 31, 2021



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Within IPS Range?	
Domestic Equity	\$215,921,142	46.1%	40.0%	6.1%	Yes	
International Equity	\$59,387,042	12.7%	12.0%	0.7%	Yes	
Fixed Income	\$117,615,624	25.1%	31.0%	-5.9%	Yes	
Covered Calls	\$37,919,273	8.1%	5.0%	3.1%	Yes	
Credit	\$9,215,463	2.0%	2.0%	0.0%	Yes	
Crisis Risk Offset	\$20,190,606	4.3%	10.0%	-5.7%	No	
Cash	\$8,634,954	1.8%	0.0%	1.8%	Yes	
Total	\$468,884,105	100.0%	100.0%			

Asset Allocation History
5 Years Ending July 31, 2021



Asset Class Performance Summary

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	468,884,111	100.0	1.4	9.5	21.2	10.2	11.1	9.0	7.1	Dec-88
<i>OPFRS Policy Benchmark</i>			<i>1.0</i>	<i>8.4</i>	<i>19.0</i>	<i>10.0</i>	<i>10.5</i>	<i>8.6</i>	<i>8.5</i>	<i>Dec-88</i>
Domestic Equity	215,921,149	46.1	1.8	16.3	37.6	16.2	16.7	14.7	9.6	Jun-97
<i>Russell 3000 (Blend)</i>			<i>1.7</i>	<i>17.1</i>	<i>38.7</i>	<i>18.1</i>	<i>17.4</i>	<i>15.2</i>	<i>9.9</i>	<i>Jun-97</i>
International Equity	59,387,042	12.7	0.2	9.2	27.2	8.2	10.6	6.6	5.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>-1.6</i>	<i>7.7</i>	<i>28.3</i>	<i>8.4</i>	<i>10.1</i>	<i>5.9</i>	<i>6.1</i>	<i>Jan-98</i>
Fixed Income	117,615,624	25.1	1.1	0.5	1.8	6.2	4.2	4.0	5.5	Dec-93
<i>Blmbg BC Universal (Blend)</i>			<i>1.0</i>	<i>-0.2</i>	<i>0.4</i>	<i>5.9</i>	<i>3.5</i>	<i>3.7</i>	<i>5.3</i>	<i>Dec-93</i>
Credit	9,215,463	2.0	0.5	7.5	19.9	5.9	8.0	--	6.7	Feb-15
<i>BBgBarc US High Yield TR</i>			<i>0.4</i>	<i>4.0</i>	<i>10.6</i>	<i>7.2</i>	<i>7.0</i>	<i>6.6</i>	<i>6.3</i>	<i>Feb-15</i>
Covered Calls	37,919,273	8.1	1.6	15.0	29.9	12.9	12.5	--	10.6	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>0.4</i>	<i>11.5</i>	<i>23.0</i>	<i>4.8</i>	<i>7.1</i>	<i>7.2</i>	<i>6.4</i>	<i>Apr-14</i>
Crisis Risk Offset	20,190,606	4.3	3.5	-5.3	-10.8	-8.6	--	--	-8.6	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<i>0.3</i>	<i>6.2</i>	<i>3.3</i>	<i>-2.7</i>	<i>--</i>	<i>--</i>	<i>-2.7</i>	<i>Aug-18</i>
Cash	8,634,954	1.8	0.0	0.0	0.1	1.5	1.4	0.7	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>			<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>1.3</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>

Cash balances held in ETF accounts at the Custodian are reflected in the Cash account market value.

OPFRS Total Plan As of July 31, 2021

Trailing Net Performance											
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	468,884,111	100.0	--	1.4	9.5	21.2	10.2	11.1	9.0	7.1	Dec-88
<i>OPFRS Policy Benchmark</i>				<i>1.0</i>	<i>8.4</i>	<i>19.0</i>	<i>10.0</i>	<i>10.5</i>	<i>8.6</i>	<i>8.5</i>	<i>Dec-88</i>
Domestic Equity	215,921,149	46.1	46.1	1.8	16.3	37.6	16.2	16.7	14.7	9.6	Jun-97
<i>Russell 3000 (Blend)</i>				<i>1.7</i>	<i>17.1</i>	<i>38.7</i>	<i>18.1</i>	<i>17.4</i>	<i>15.2</i>	<i>9.9</i>	<i>Jun-97</i>
Northern Trust Russell 1000	118,749,383	25.3	55.0	2.1	17.4	37.9	18.6	17.6	15.4	15.7	Jun-10
<i>Russell 1000</i>				<i>2.1</i>	<i>17.3</i>	<i>38.0</i>	<i>18.6</i>	<i>17.6</i>	<i>15.4</i>	<i>15.7</i>	<i>Jun-10</i>
EARNEST Partners	47,618,246	10.2	22.1	1.9	16.2	41.6	18.7	19.0	15.4	11.6	Apr-06
<i>Russell MidCap</i>				<i>0.8</i>	<i>17.1</i>	<i>42.6</i>	<i>15.8</i>	<i>14.8</i>	<i>13.7</i>	<i>10.2</i>	<i>Apr-06</i>
Brown Fundamental Small Cap Value	10,881,290	2.3	5.0	-1.8	--	--	--	--	--	1.5	Apr-21
<i>Russell 2000 Value</i>				<i>-3.6</i>	<i>22.2</i>	<i>63.7</i>	<i>8.3</i>	<i>11.6</i>	<i>10.8</i>	<i>0.8</i>	<i>Apr-21</i>
Rice Hall James	16,980,088	3.6	7.9	-0.6	13.2	36.0	10.9	--	--	15.0	Jul-17
<i>Russell 2000 Growth</i>				<i>-3.6</i>	<i>5.0</i>	<i>41.0</i>	<i>13.9</i>	<i>16.4</i>	<i>13.6</i>	<i>16.0</i>	<i>Jul-17</i>
iShares Edge MSCI Min Vol ETF	21,692,136	4.6	10.0	3.5	13.1	22.2	--	--	--	31.6	Apr-20
<i>MSCI USA Minimum Volatility GR USD</i>				<i>3.5</i>	<i>13.1</i>	<i>22.4</i>	<i>13.9</i>	<i>12.6</i>	<i>14.2</i>	<i>31.7</i>	<i>Apr-20</i>
International Equity	59,387,042	12.7	12.7	0.2	9.2	27.2	8.2	10.6	6.6	5.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>				<i>-1.6</i>	<i>7.7</i>	<i>28.3</i>	<i>8.4</i>	<i>10.1</i>	<i>5.9</i>	<i>6.1</i>	<i>Jan-98</i>
Vanguard Developed Markets ETF	17,339,310	3.7	29.2	0.5	9.7	30.1	--	--	--	15.9	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>				<i>0.5</i>	<i>10.7</i>	<i>33.3</i>	<i>8.7</i>	<i>9.9</i>	<i>4.8</i>	<i>17.7</i>	<i>Sep-19</i>
SGA ACWI ex-U.S. Equity	41,666,265	8.9	70.2	0.4	8.9	26.3	--	--	--	10.4	Dec-19
<i>MSCI ACWI ex USA Gross</i>				<i>-1.6</i>	<i>7.7</i>	<i>28.3</i>	<i>8.4</i>	<i>10.1</i>	<i>5.9</i>	<i>14.3</i>	<i>Dec-19</i>

Throughout the report performance for new funds will be shown after one full month of investment.

International equity performance inclusive of residual cash in Hansberger transition.

OPFRS Total Plan As of July 31, 2021

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Fixed Income	117,615,624	25.1	25.1	1.1	0.5	1.8	6.2	4.2	4.0	5.5	Dec-93
<i>Blmbg BC Universal (Blend)</i>				<i>1.0</i>	<i>-0.2</i>	<i>0.4</i>	<i>5.9</i>	<i>3.5</i>	<i>3.7</i>	<i>5.3</i>	<i>Dec-93</i>
Ramirez	80,168,503	17.1	68.2	1.2	1.1	2.2	6.3	--	--	4.9	Jan-17
<i>BBgBarc US Aggregate TR</i>				<i>1.1</i>	<i>-0.5</i>	<i>-0.7</i>	<i>5.7</i>	<i>3.1</i>	<i>3.3</i>	<i>4.1</i>	<i>Jan-17</i>
Wellington Core Bond	7,724,831	1.6	6.6	1.1	--	--	--	--	--	3.0	Apr-21
<i>BBgBarc US Aggregate TR</i>				<i>1.1</i>	<i>-0.5</i>	<i>-0.7</i>	<i>5.7</i>	<i>3.1</i>	<i>3.3</i>	<i>3.0</i>	<i>Apr-21</i>
Reams	29,722,246	6.3	25.3	1.0	-0.7	1.1	9.8	5.7	5.1	6.0	Feb-98
<i>Blmbg BC Universal (Blend)</i>				<i>1.0</i>	<i>-0.2</i>	<i>0.4</i>	<i>5.9</i>	<i>3.5</i>	<i>3.7</i>	<i>5.0</i>	<i>Feb-98</i>
Credit	9,215,463	2.0	2.0	0.5	7.5	19.9	5.9	8.0	--	6.7	Feb-15
<i>BBgBarc US High Yield TR</i>				<i>0.4</i>	<i>4.0</i>	<i>10.6</i>	<i>7.2</i>	<i>7.0</i>	<i>6.6</i>	<i>6.3</i>	<i>Feb-15</i>
DDJ Capital	9,215,463	2.0	100.0	0.5	7.5	19.9	5.9	8.0	--	6.7	Feb-15
<i>ICE BofA High Yield Master TR</i>				<i>0.4</i>	<i>4.1</i>	<i>10.7</i>	<i>6.9</i>	<i>6.9</i>	<i>6.4</i>	<i>6.2</i>	<i>Feb-15</i>
Covered Calls	37,919,273	8.1	8.1	1.6	15.0	29.9	12.9	12.5	--	10.6	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>0.4</i>	<i>11.5</i>	<i>23.0</i>	<i>4.8</i>	<i>7.1</i>	<i>7.2</i>	<i>6.4</i>	<i>Apr-14</i>
Parametric BXM	16,586,114	3.5	43.7	1.1	12.1	24.1	9.0	9.5	--	8.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>0.4</i>	<i>11.5</i>	<i>23.0</i>	<i>4.8</i>	<i>7.1</i>	<i>7.2</i>	<i>6.4</i>	<i>Apr-14</i>
Parametric DeltaShift	21,333,159	4.5	56.3	1.9	17.4	34.8	16.4	15.3	--	13.1	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>0.4</i>	<i>11.5</i>	<i>23.0</i>	<i>4.8</i>	<i>7.1</i>	<i>7.2</i>	<i>6.4</i>	<i>Apr-14</i>
Crisis Risk Offset	20,190,606	4.3	4.3	3.5	-5.3	-10.8	-8.6	--	--	-8.6	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>				<i>0.3</i>	<i>6.2</i>	<i>3.3</i>	<i>-2.7</i>	<i>--</i>	<i>--</i>	<i>-2.7</i>	<i>Aug-18</i>
Vanguard Long-Term Treasury ETF	20,190,606	4.3	100.0	3.5	-5.3	-11.3	--	--	--	7.1	Jul-19
<i>BBgBarc US Govt Long TR</i>				<i>3.6</i>	<i>-4.5</i>	<i>-10.9</i>	<i>9.8</i>	<i>3.5</i>	<i>6.6</i>	<i>7.5</i>	<i>Jul-19</i>
Cash	8,634,954	1.8	1.8	0.0	0.0	0.1	1.5	1.4	0.7	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>1.3</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash	2,280,954	0.5	26.4	0.0	0.1	0.2	1.7	1.5	0.8	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>1.3</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash - Treasury	6,354,000	1.4	73.6								

Values for DDJ Capital are based on manager estimate for the month of June.

Cash balances held in ETF accounts at the Custodian are reflected in the Cash account market value.

OPFRS Total Plan As of July 31, 2021
Cash Flow Summary
Month to Date

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Brown Fundamental Small Cap Value	\$11,084,914	\$0	-\$203,624	\$10,881,290
Cash	\$2,245,344	\$6,279	\$29,331	\$2,280,954
Cash - Treasury	\$6,577,000	-\$223,000	\$0	\$6,354,000
DDJ Capital	\$9,177,102	\$0	\$38,361	\$9,215,463
EARNEST Partners	\$46,751,372	\$0	\$866,873	\$47,618,246
Hansberger Transition	\$555,417	\$0	-\$173,950	\$381,467
iShares Edge MSCI Min Vol ETF	\$20,949,332	\$0	\$742,803	\$21,692,136
Northern Trust Russell 1000	\$117,334,896	-\$1,000,000	\$2,414,487	\$118,749,383
Parametric BXM	\$16,398,176	\$0	\$187,938	\$16,586,114
Parametric DeltaShift	\$20,930,443	\$0	\$402,716	\$21,333,159
Ramirez	\$79,233,829	\$0	\$934,674	\$80,168,503
Reams	\$29,440,041	\$0	\$282,205	\$29,722,246
Reams Low Duration	\$44	\$0	\$0	\$44
Rice Hall James	\$17,077,517	\$0	-\$97,428	\$16,980,088
Securities Lending Northern Trust	\$0	\$6,279	-\$6,279	\$0
SGA ACWI ex-U.S. Equity	\$41,485,309	\$0	\$180,956	\$41,666,265
Vanguard Developed Markets ETF	\$17,252,245	\$0	\$87,065	\$17,339,310
Vanguard Long-Term Treasury ETF	\$19,507,725	\$0	\$682,882	\$20,190,606
Wellington Core Bond	\$7,639,617	\$0	\$85,214	\$7,724,831
Total	\$463,640,323	-\$1,210,442	\$6,454,224	\$468,884,105

Benchmark History
As of July 31, 2021

Total Plan x Securities Lending x Reams LD Exception Comp

1/1/2019	Present	40% Russell 3000 / 12% MSCI ACWI ex USA Gross / 33% BBgBarc US Universal TR / 5% CBOE BXM / 6.7% SG Multi Alternative Risk Premia Index / 3.3% BBgBarc US Treasury Long TR
5/1/2016	12/31/2018	48% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% BBgBarc US Universal TR / 20% CBOE BXM
10/1/2015	4/30/2016	43% Russell 3000 / 12% MSCI ACWI ex USA Gross / 20% BBgBarc 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% BBgBarc 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% BBgBarc 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% BBgBarc 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% BBgBarc US Universal TR
4/1/2006	9/30/2007	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% BBgBarc US Universal TR
1/1/2005	3/31/2006	35% Russell 3000 / 15% MSCI ACWI ex USA Gross / 50% BBgBarc US Aggregate TR
4/1/1998	12/31/2004	50% BBgBarc 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% BBgBarc US Aggregate TR / 5% FTSE T-Bill 3 Months TR

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

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

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

Oakland Police and Fire Retirement System

August 25, 2021

2Q 2021 Performance Report

1. Total Portfolio Summary
2. Asset Class and Manager Commentary
3. Performance as of June 30, 2021
4. Manager Monitoring / Probation List
5. Disclaimer, Glossary, and Notes

Total Portfolio Summary

Total Portfolio Summary

As of June 30, 2021, the City of Oakland Police and Fire Retirement System (OPFRS) portfolio had an aggregate value of \$463.6 million. This represents a \$23.4 million increase in investment value and (\$3.1) million in benefit payments funded from investments over the quarter. Over the one-year period, the OPFRS Total Portfolio value is higher by \$80.3 million, after withdrawals totaling (\$13.0) million for benefit payments.

Asset Allocation Trends

- The asset allocation targets throughout this report reflect those as of June 30, 2021. Target weightings reflect the interim phase (CRO = 10%) of the Plan's previously approved asset allocation (effective 5/31/2017).
- Relative to policy targets, the portfolio ended the latest quarter overweight Equities, Covered Calls and Cash, while underweight Crisis Risk Offset and Fixed Income. The Crisis Risk Offset asset class was below its acceptable ranges from the policy target.
- At the beginning of the quarter, previously approved managers – Brown Advisory and Wellington to manage small cap value and core fixed income mandates respectively – were added to the portfolio.

Recent Investment Performance

- During the most recent quarter, the OPFRS portfolio generated an absolute return of 5.1%, gross of fees, underperforming its policy benchmark by (0.2%). The portfolio also outperformed its benchmark over the 1- and 5-year periods, by 1.9% and 0.5% respectively, while keeping pace with the policy benchmark over the 3-year period.

Total Portfolio Summary

- The OPFRS portfolio underperformed the Median fund's return over the quarter by (0.2%), and by (3.4%) and (1.4%) over the one and three-year trailing periods respectively. Over the five-year trailing period, OPFRS portfolio is on par with its Median fund peers. Performance differences with respect to the Median Fund are attributed largely to differences in asset allocation.

	Quarter	CYTD	1 Year	3 Year	5 Year
Total Portfolio ¹	5.1	8.1	24.2	10.5	11.5
Policy Benchmark ²	5.3	7.4	22.3	10.5	11.0
Excess Return	-0.2	0.7	1.9	0.0	0.5
Reference: Median Fund ³	5.3	9.1	27.6	11.9	11.5
Reference: Total Net of Fees ⁴	5.1	7.9	23.9	10.1	11.1

- Over the quarter, positive absolute return was driven by Domestic Equity and Covered Calls segments each returning 6.6%. However, in terms of relative performance, Domestic Equity lagged behind its benchmark by (1.6%) while Covered Calls outperformed its benchmark by 1.5%.
- Although it was not the top performer, Crisis Risk Offset segment posted 5.9% return over the quarter, outperforming its benchmark by 3.2%, attributable to the slowly declining yields (which move inversely with bond prices) in the second half of the quarter. Likewise, Fixed Income registered positive performance of 2.5% over the quarter outperforming its benchmark by 0.5%.

¹ Gross of Fees. Performance since 2005 includes securities lending.

² Evolving Policy Benchmark consists of 40% Russell 3000, 12% MSCI ACWI ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury.

³ Investment Metrics < \$1 Billion Public Plan Universe.

⁴ Longer-term (>1 year) Net of fee returns include estimates based on OPFRS manager fee schedule (approximately 34 bps).

Asset Class and Manager Commentary

Domestic Equity

Over the quarter ending June 30, 2021, Domestic Equity returned 6.6%, trailing the Russell 3000 benchmark by (1.6%). During the quarter, passive strategy Vanguard Russell 2000 Value was liquidated, and active Brown Fundamental Small Cap Value strategy was funded. Of three active managers, one outperformed its benchmark while the other two trailed their respective benchmarks. The passive managers/ strategies (Northern Trust Russell 1000 and iShares Edge MSCI Minimum Volatility) performed in line with their respective benchmarks with acceptable tracking error.

Earnest Partners, the Plan's active mid cap core manager, returned 4.1%, underperforming the Russell Midcap benchmark by (3.4%), and placing in the 80th percentile of its peer group for the quarter. Though the manager has underperformed its benchmark over the 1-year trailing period by (3.5%), it has outperformed over the longer 3- and 5-year trailing periods with excess returns of 2.7% and 3.7% respectively, putting it in the 1st quartile of its peer group.

Rice Hall James, the Plan's active small cap growth manager, returned 5.1%, outperforming the Russell 2000 Growth benchmark by 1.2%, and placing in the 58th percentile for the quarter. However, the manager has trailed its benchmark over the 1- and 3-year periods as well as since inception by (5.8%), (4.5%), and (1.9%) respectively. The manager is on watch status for performance concerns.

Brown Fundamental, the Plan's newly funded active small cap value manager, returned 3.3% over the quarter trailing its Russell 2000 Value benchmark by (1.3%), placing it in the 70th percentile.

International Equity

For the quarter, the International Equity portfolio returned 4.7%, trailing the MSCI ACWI ex US benchmark by (0.9%). Within this portfolio, the Vanguard passive international developed markets portfolio returned 4.9%. While it deviates from tracking index's return of 5.8%, this is due to the fair-value pricing methodology that Vanguard uses.

SGA MSCI ACWI ex US ETF, the Plan's active core international equity manager, returned 4.7%, trailing its benchmark by (0.9%) over the quarter, while trailing by (4.7%) over the one-year period.

Fixed Income

Over the quarter, the Fixed Income aggregate returned 2.5%, outperforming the Bloomberg Universal benchmark by 0.5%. The asset class posted positive gains amidst the slowly declining yields in the second half of the quarter. The Plan's passive fixed income strategy iShares Core US Aggregate Bond ETF was liquidated and replaced with Wellington Core Bond during this quarter. All the active managers in this portfolio posted positive returns, outperforming their respective benchmarks.

Ramirez returned 2.6% over the quarter, outperforming the benchmark by 0.8% placing in the 9th percentile of its peer group. Ramirez also outperformed its benchmark over the one and three-year trailing periods by 3.4% and 0.6% respectively, and by 0.7% since inception. Relative to the benchmark, Ramirez's performance was helped by positioning in Treasuries (underweight) and Municipal bonds (overweight).

Reams returned 2.1% for the quarter, outperforming its benchmark by 0.1% and placing in the 80th percentile of its peer group. It also outperformed its benchmark by 1.0%, 3.7%, 2.1%, and 1.0% over 1-, 3- and 5-year and since inception periods respectively. Relative to the benchmark, Reams' positioning in Investment Grade bonds (slight overweight) and MBS (underweight) contributed to the positive gains.

Wellington Core Bond, the Plan's newly funded core fixed income manager, returned 1.9% over the quarter outperforming its benchmark by 0.1% placing it in the 76th percentile.

Covered Calls

Over the quarter, the Covered Calls portfolio returned 6.6%, outperforming its benchmark by 1.5%.

Parametric BXM, the Plan's passive covered calls allocation returned 5.1%, keeping pace with its benchmark, the CBOE BXM index. The portfolio has kept pace with its benchmark over the most recent 1-year period and outperformed over the longer 3- and 5-year periods and since inception by 3.9%, 2.3%, and 1.7% respectively.

Parametric DeltaShift, the Plan's active covered calls allocation returned 7.9%, outperforming its benchmark, the CBOE BXM, index by 2.8% over the quarter. The portfolio has outperformed the benchmark over all the time periods measured. It outperformed by 12.0%, 11.4%, 8.4%, and 6.5% over 1-, 3-, 5-year trailing periods and since inception respectively.

Credit

With DDJ as the Plan's sole High Yield & Bank Loan manager, the Credit portfolio returned 3.3% over the quarter, outperforming its benchmark, Bloomberg US High Yield, by 0.6%. It outperformed the benchmark over the 1-year and 5-year periods by 8.3% and 1.0% respectively, but trailed the benchmark by (1.2%) over the 3-year trailing period. Since inception outperformance is 0.3%

Crisis Risk Offset

Over the quarter, the Crisis Risk Offset portfolio returned 5.9%, outperforming its benchmark by 3.8%.

Vanguard Long Duration ETF, the only funded component of the Crisis Risk Offset portfolio over the quarter, returned 5.9% as yields on longer dated treasuries slow declined in the second half of the quarter. Performance slightly trailed the benchmark.

Manager searches are underway to fund the Alternative Risk Premia and Systematic Trend Following components of the Crisis Risk Offset portfolio.

Performance Update

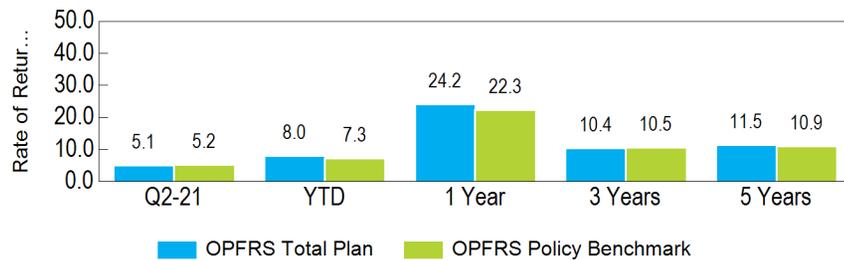
As of June 30, 2021

OPFRS Total Plan | As of June 30, 2021

6 Months Ending June 30, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	7.86%	1.08%
OPFRS Policy Benchmark	7.31%	1.06%
InvMetrics Public DB \$250mm-\$1B Gross Median	9.13%	1.10%

1 Year Ending June 30, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	23.85%	2.62%
OPFRS Policy Benchmark	22.28%	2.52%
InvMetrics Public DB \$250mm-\$1B Gross Median	27.59%	2.49%

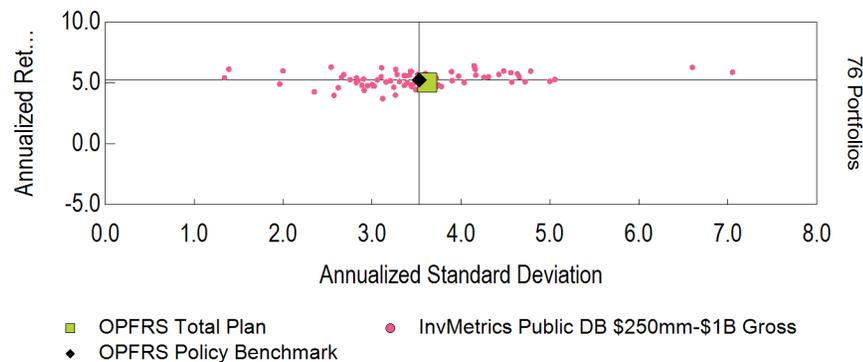
Return Summary Ending June 30, 2021



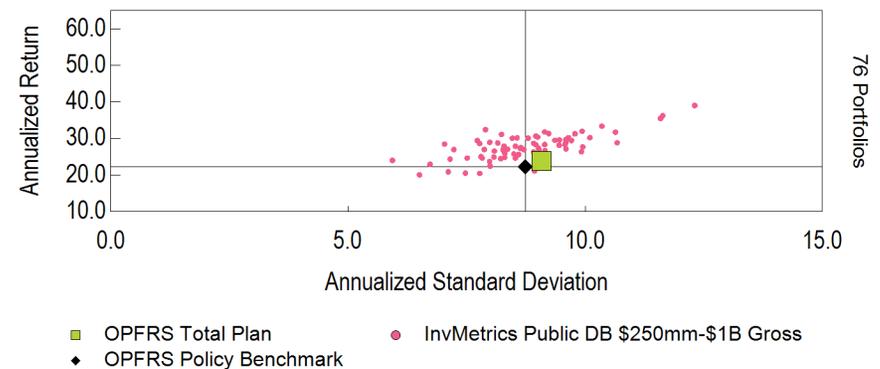
Summary of Cash Flows

	Quarter-To-Date	One Year
Beginning Market Value	\$443,301,342	\$383,325,294
Net Cash Flow	-\$3,110,171	-\$12,954,132
Capital Appreciation	\$23,449,157	\$93,269,167
Ending Market Value	\$463,640,323	\$463,640,323

Annualized Return vs. Annualized Standard Deviation 3 Months Ending June 30, 2021



Annualized Return vs. Annualized Standard Deviation 1 Year Ending June 30, 2021



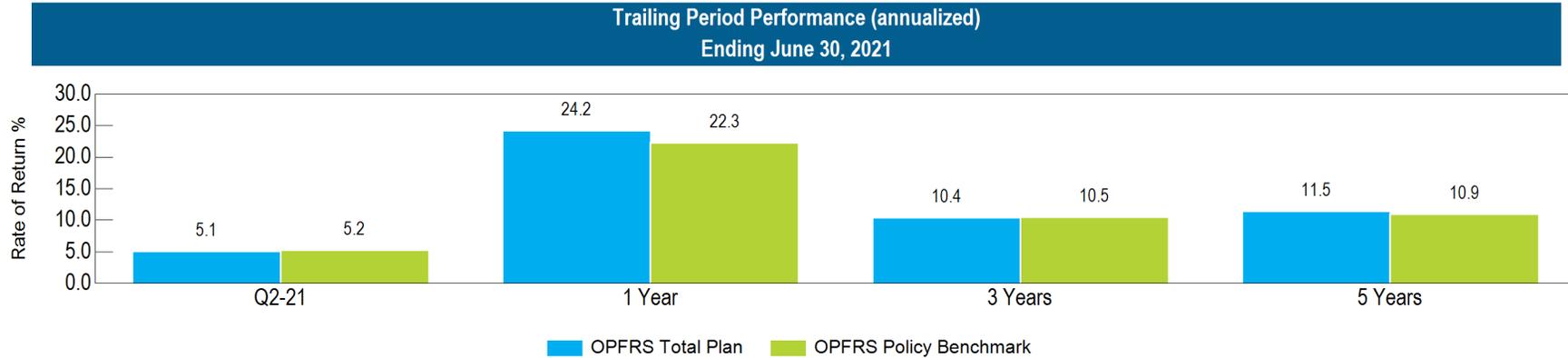
Evolving Policy Benchmark consists of 40% russell 3000, 12% MSCI ACWI ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury.

Asset Class Performance (gross of fees) | As of June 30, 2021

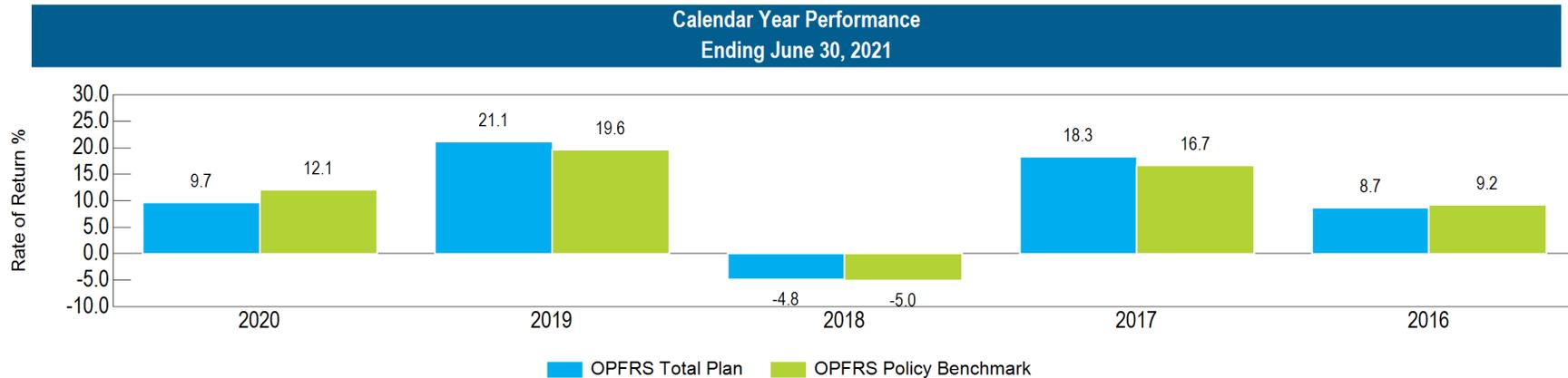
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
OPFRS Total Plan	5.1	8.0	24.2	10.4	11.5	8.6	8.7
<i>OPFRS Policy Benchmark</i>	<u>5.2</u>	<u>7.3</u>	<u>22.3</u>	<u>10.5</u>	<u>10.9</u>	<u>8.6</u>	<u>8.4</u>
Excess Return	-0.1	0.7	1.9	-0.1	0.6	0.0	0.3
Domestic Equity	6.6	14.3	42.6	16.6	17.2	13.3	14.2
<i>Russell 3000 (Blend)</i>	<u>8.2</u>	<u>15.1</u>	<u>44.2</u>	<u>18.7</u>	<u>17.9</u>	<u>14.0</u>	<u>14.7</u>
Excess Return	-1.6	-0.8	-1.6	-2.1	-0.7	-0.7	-0.5
International Equity	4.7	9.1	31.6	9.1	11.7	6.5	6.3
<i>MSCI ACWI ex US (Blend)</i>	<u>5.6</u>	<u>9.4</u>	<u>36.3</u>	<u>9.9</u>	<u>11.6</u>	<u>5.8</u>	<u>5.9</u>
Excess Return	-0.9	-0.3	-4.7	-0.8	0.1	0.7	0.4
Fixed Income	2.5	-0.6	2.7	5.9	4.1	4.0	4.1
<i>Blmbg BC Universal (Blend)</i>	<u>2.0</u>	<u>-1.1</u>	<u>1.1</u>	<u>5.6</u>	<u>3.5</u>	<u>3.5</u>	<u>3.7</u>
Excess Return	0.5	0.5	1.6	0.3	0.6	0.5	0.4
Credit	3.3	7.0	23.7	6.2	8.5	--	--
<i>BBgBarc US High Yield TR</i>	<u>2.7</u>	<u>3.6</u>	<u>15.4</u>	<u>7.4</u>	<u>7.5</u>	--	--
Excess Return	0.6	3.4	8.3	-1.2	1.0	--	--
Covered Calls	6.6	13.2	33.8	13.4	12.6	10.3	--
<i>CBOE S&P 500 BuyWrite USD</i>	<u>5.1</u>	<u>11.1</u>	<u>27.3</u>	<u>5.6</u>	<u>7.2</u>	<u>6.2</u>	--
Excess Return	1.5	2.1	6.5	7.8	5.4	4.1	--
Crisis Risk Offset	5.9	-8.5	-11.6	-9.6	--	--	--
<i>SG Multi Alternative Risk Premia Index</i>	<u>2.1</u>	<u>5.9</u>	<u>3.1</u>	--	--	--	--
Excess Return	3.8	-14.4	-14.7	--	--	--	--
Cash	0.0	0.0	0.1	1.6	1.4	1.0	0.7
<i>FTSE T-Bill 3 Months TR</i>	<u>0.0</u>	<u>0.0</u>	<u>0.1</u>	<u>1.3</u>	<u>1.1</u>	<u>0.8</u>	<u>0.6</u>
Excess Return	0.0	0.0	0.0	0.3	0.3	0.2	0.1

1. Evolving Policy Benchmark consists of 40% Russell 3000, 12% MSCI Acwi ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury,
2. Domestic Equity Benchmark consists of S&P 500 thru 3/31/98 10% Russell 1000, 20% Russell 1000 Value, 5% RMC from 4/1/98 - 12/31/04 and Russell 3000 from 1/1/05 to present.
3. International Equity Benchmark consists of MSCI EAFE thru 12/31/04 and MSCI ACWI x US thereafter.
4. Fixed Income Benchmark consists of Bbg BC Aggregate prior to 4/1/06, and Bbg BC Universal thereafter.
5. Cash balances held in ETF accounts at the Custodian are reflected in the Cash account market value.

Portfolio Relative Performance Results | As of June 30, 2021



	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)
OPFRS Total Plan	5.1	8.0	24.2	10.4	11.5	8.7	18.3	-4.8	21.1	9.7
<i>OPFRS Policy Benchmark</i>	<i>5.2</i>	<i>7.3</i>	<i>22.3</i>	<i>10.5</i>	<i>10.9</i>	<i>9.2</i>	<i>16.7</i>	<i>-5.0</i>	<i>19.6</i>	<i>12.1</i>
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>	<i>5.3</i>	<i>9.1</i>	<i>27.6</i>	<i>11.9</i>	<i>11.5</i>	<i>7.8</i>	<i>15.8</i>	<i>-4.1</i>	<i>18.6</i>	<i>13.1</i>

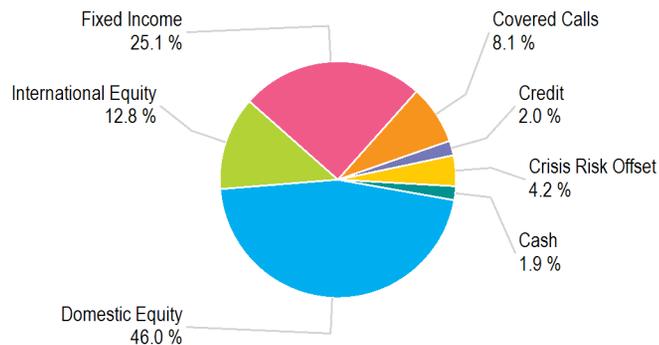


Asset Allocation vs. Target

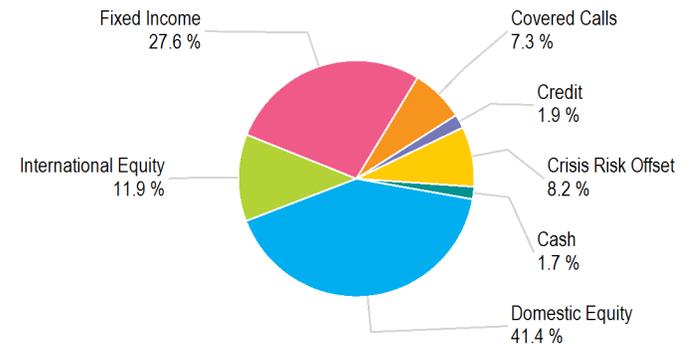
As Of June 30, 2021

	Current	%	Policy	Difference*
Domestic Equity	\$213,198,031	46.0%	40.0%	6.0%
International Equity	\$59,292,971	12.8%	12.0%	0.8%
Fixed Income	\$116,313,531	25.1%	31.0%	-5.9%
Covered Calls	\$37,328,619	8.1%	5.0%	3.1%
Credit	\$9,177,102	2.0%	2.0%	0.0%
Crisis Risk Offset	\$19,507,725	4.2%	10.0%	-5.8%
Cash	\$8,822,344	1.9%	0.0%	1.9%
Total	\$463,640,323	100.0%	100.0%	

June 30, 2021: \$463,640,323



June 30, 2020: \$341,533,320



Cash balances held in ETF accounts at the Custodian are reflected in the Cash account market value.

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

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Domestic Equity	213,198,037	100.0	6.6	14.3	42.6	16.6	17.2	9.6	Jun-97
<i>Russell 3000 (Blend)</i>			8.2	15.1	44.2	18.7	17.9	9.8	Jun-97
Excess Return			-1.6	-0.8	-1.6	-2.1	-0.7	-0.2	
Northern Trust Russell 1000	117,334,896	55.0	8.5	15.0	43.0	19.1	18.0	15.6	Jun-10
<i>Russell 1000</i>			8.5	15.0	43.1	19.2	18.0	15.6	Jun-10
Excess Return			0.0	0.0	-0.1	-0.1	0.0	0.0	
<i>eV US Large Cap Core Equity Gross Rank</i>			37	55	30	34	35	36	Jun-10
EARNEST Partners	46,751,372	21.9	4.1	14.1	46.3	19.1	19.3	11.5	Apr-06
<i>Russell MidCap</i>			7.5	16.2	49.8	16.4	15.6	10.2	Apr-06
Excess Return			-3.4	-2.1	-3.5	2.7	3.7	1.3	
<i>eV US Mid Cap Core Equity Gross Rank</i>			80	61	58	19	10	32	Apr-06
iShares Edge MSCI Min Vol ETF	20,949,332	9.8	6.7	9.2	23.4	--	--	30.3	Apr-20
<i>MSCI USA Minimum Volatility GR USD</i>			6.8	9.3	23.6	--	--	30.5	Apr-20
Excess Return			-0.1	-0.1	-0.2			-0.2	
<i>eV US Low Volatility Equity Gross Rank</i>			44	86	81	--	--	79	Apr-20
Rice Hall James	17,077,517	8.0	5.1	13.8	45.6	11.4	--	15.5	Jul-17
<i>Russell 2000 Growth</i>			3.9	9.0	51.4	15.9	--	17.4	Jul-17
Excess Return			1.2	4.8	-5.8	-4.5		-1.9	
<i>eV US Small Cap Growth Equity Gross Rank</i>			58	39	82	94	--	93	Jul-17
Brown Fundamental Small Cap Value	11,084,914	5.2	3.3	--	--	--	--	3.3	Apr-21
<i>Russell 2000 Value</i>			4.6	--	--	--	--	4.6	Apr-21
Excess Return			-1.3					-1.3	
<i>eV US Small Cap Value Equity Gross Rank</i>			70	--	--	--	--	70	Apr-21

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
International Equity	59,292,971	100.0	4.7	9.1	31.6	9.1	11.7	5.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>5.6</i>	<i>9.4</i>	<i>36.3</i>	<i>9.9</i>	<i>11.6</i>	<i>6.2</i>	<i>Jan-98</i>
Excess Return			-0.9	-0.3	-4.7	-0.8	0.1	-0.3	
SGA ACWI ex-U.S. Equity	41,485,309	70.0	4.2	8.4	30.9	--	--	10.6	Dec-19
<i>MSCI ACWI ex USA Gross</i>			<i>5.6</i>	<i>9.4</i>	<i>36.3</i>	--	--	<i>16.3</i>	<i>Dec-19</i>
Excess Return			-1.4	-1.0	-5.4			-5.7	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>90</i>	<i>73</i>	<i>92</i>	--	--	<i>99</i>	<i>Dec-19</i>
Vanguard Developed Markets ETF	17,252,245	29.1	4.9	9.2	32.8	--	--	16.3	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>			<i>5.8</i>	<i>10.2</i>	<i>36.8</i>	--	--	<i>18.2</i>	<i>Sep-19</i>
Excess Return			-0.9	-1.0	-4.0			-1.9	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>80</i>	<i>69</i>	<i>92</i>	--	--	<i>92</i>	<i>Sep-19</i>

Total International Equity market value includes cash held in closed accounts Fisher and Hansberger.

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Fixed Income	116,313,531	100.0	2.5	-0.6	2.7	5.9	4.1	5.5	Dec-93
<i>Blmbg BC Universal (Blend)</i>			<i>2.0</i>	<i>-1.1</i>	<i>1.1</i>	<i>5.6</i>	<i>3.5</i>	<i>5.3</i>	<i>Dec-93</i>
Excess Return			0.5	0.5	1.6	0.3	0.6	0.2	
Ramirez	79,233,829	68.1	2.6	-0.1	3.1	5.9	--	4.7	Jan-17
<i>BBgBarc US Aggregate TR</i>			<i>1.8</i>	<i>-1.6</i>	<i>-0.3</i>	<i>5.3</i>	<i>--</i>	<i>4.0</i>	<i>Jan-17</i>
Excess Return			0.8	1.5	3.4	0.6		0.7	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>9</i>	<i>8</i>	<i>10</i>	<i>62</i>	<i>--</i>	<i>31</i>	<i>Jan-17</i>
Reams	29,440,041	25.3	2.1	-1.6	2.1	9.3	5.6	6.0	Feb-98
<i>Blmbg BC Universal (Blend)</i>			<i>2.0</i>	<i>-1.1</i>	<i>1.1</i>	<i>5.6</i>	<i>3.5</i>	<i>5.0</i>	<i>Feb-98</i>
Excess Return			0.1	-0.5	1.0	3.7	2.1	1.0	
<i>eV US Core Plus Fixed Inc Gross Rank</i>			<i>80</i>	<i>97</i>	<i>78</i>	<i>1</i>	<i>7</i>	<i>40</i>	<i>Feb-98</i>
Wellington Core Bond	7,639,617	6.6	1.9	--	--	--	--	1.9	Apr-21
<i>BBgBarc US Aggregate TR</i>			<i>1.8</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>1.8</i>	<i>Apr-21</i>
Excess Return			0.1					0.1	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>76</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>76</i>	<i>Apr-21</i>

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Covered Calls	37,328,619	100.0	6.6	13.2	33.8	13.4	12.6	10.5	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>5.1</i>	<i>11.1</i>	<i>27.3</i>	<i>5.6</i>	<i>7.2</i>	<i>6.5</i>	<i>Apr-14</i>
Excess Return			1.5	2.1	6.5	7.8	5.4	4.0	
Parametric DeltaShift	20,930,443	56.1	7.9	15.2	39.3	17.0	15.6	13.0	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>5.1</i>	<i>11.1</i>	<i>27.3</i>	<i>5.6</i>	<i>7.2</i>	<i>6.5</i>	<i>Apr-14</i>
Excess Return			2.8	4.1	12.0	11.4	8.4	6.5	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>54</i>	<i>51</i>	<i>62</i>	<i>64</i>	<i>76</i>	<i>70</i>	<i>Apr-14</i>
Parametric BXM	16,398,176	43.9	5.1	10.8	27.3	9.5	9.5	8.2	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>5.1</i>	<i>11.1</i>	<i>27.3</i>	<i>5.6</i>	<i>7.2</i>	<i>6.5</i>	<i>Apr-14</i>
Excess Return			0.0	-0.3	0.0	3.9	2.3	1.7	
<i>eV US Large Cap Core Equity Gross Rank</i>			<i>95</i>	<i>93</i>	<i>96</i>	<i>98</i>	<i>99</i>	<i>99</i>	<i>Apr-14</i>

Manager Performance - Gross of Fees | As of June 30, 2021

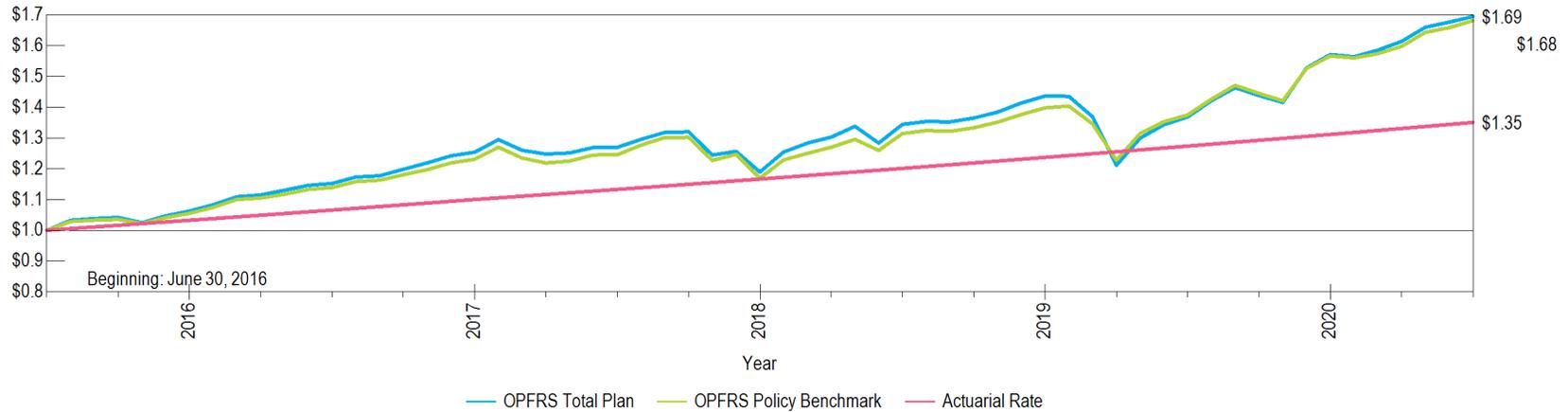
	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Credit	9,177,102	100.0	3.3	7.0	23.7	6.2	8.5	6.7	Feb-15
<i>BBgBarc US High Yield TR</i>			<i>2.7</i>	<i>3.6</i>	<i>15.4</i>	<i>7.4</i>	<i>7.5</i>	<i>6.4</i>	<i>Feb-15</i>
Excess Return			0.6	3.4	8.3	-1.2	1.0	0.3	
DDJ Capital	9,177,102	100.0	3.3	7.0	23.7	6.2	8.5	6.7	Feb-15
<i>ICE BofA High Yield Master TR</i>			<i>2.8</i>	<i>3.7</i>	<i>15.6</i>	<i>7.2</i>	<i>7.3</i>	<i>6.2</i>	<i>Feb-15</i>
Excess Return			0.5	3.3	8.1	-1.0	1.2	0.5	
<i>eV US High Yield Fixed Inc Gross Rank</i>			<i>11</i>	<i>6</i>	<i>5</i>	<i>81</i>	<i>13</i>	<i>30</i>	<i>Feb-15</i>

Manager Performance - Gross of Fees | As of June 30, 2021

	Market Value	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Crisis Risk Offset	19,507,725	100.0	5.9	-8.5	-11.6	-9.6	--	-9.9	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<i>2.1</i>	<i>5.9</i>	<i>3.1</i>	<i>--</i>	<i>--</i>	<i>-2.9</i>	<i>Aug-18</i>
Excess Return			3.8	-14.4	-14.7			-7.0	
Vanguard Long-Term Treasury ETF	19,507,725	100.0	5.9	-8.5	-10.8	--	--	5.6	Jul-19
<i>BBgBarc US Govt Long TR</i>			<i>6.4</i>	<i>-7.8</i>	<i>-10.4</i>	<i>--</i>	<i>--</i>	<i>5.9</i>	<i>Jul-19</i>
Excess Return			-0.5	-0.7	-0.4			-0.3	
<i>eV US Long Duration - Gov/Cred Fixed Inc Net Rank</i>			<i>88</i>	<i>99</i>	<i>99</i>	<i>--</i>	<i>--</i>	<i>99</i>	<i>Jul-19</i>

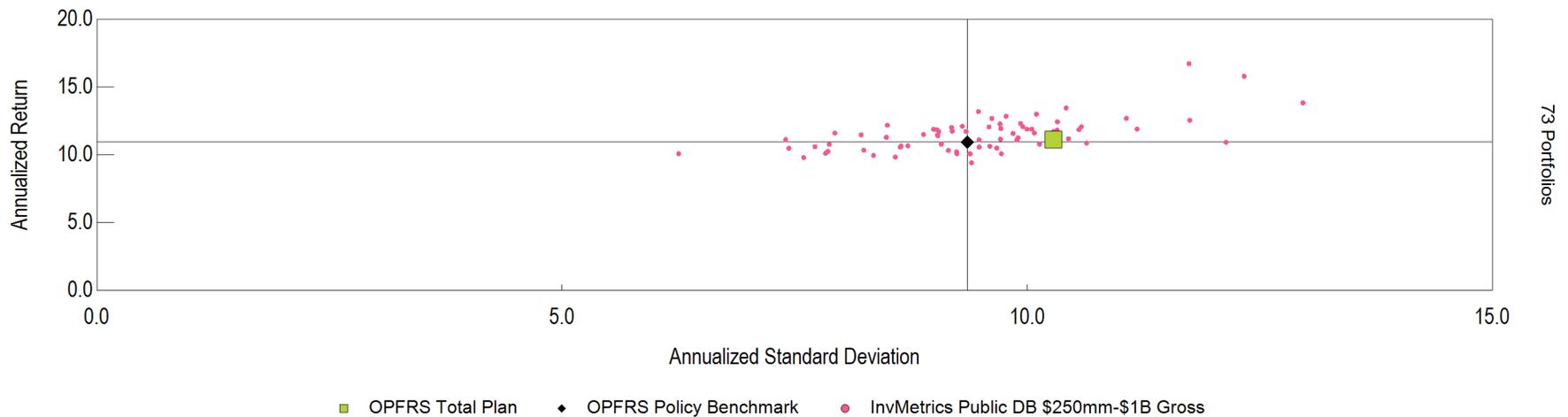
Total Portfolio 5-Year Performance | As of June 30, 2021

Growth of a Dollar

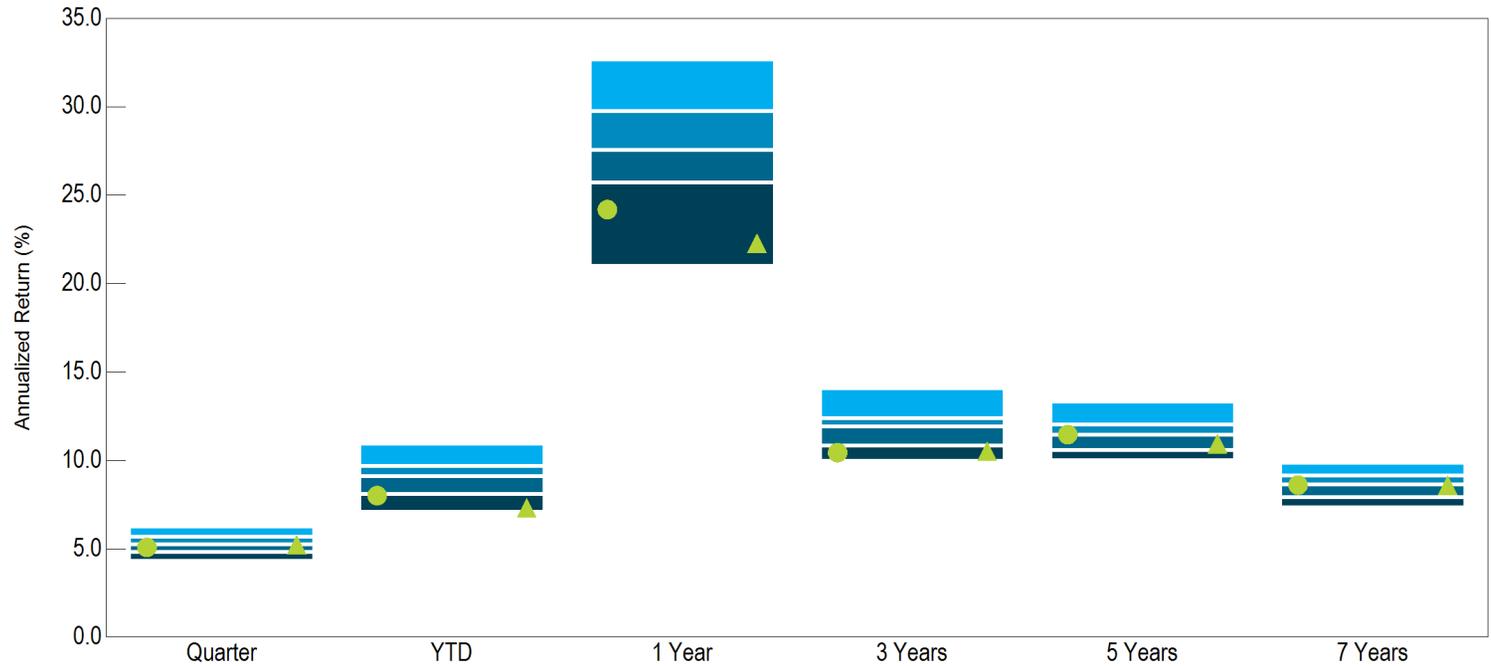


The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently

Annualized Return vs. Annualized Standard Deviation 5 Years Ending June 30, 2021



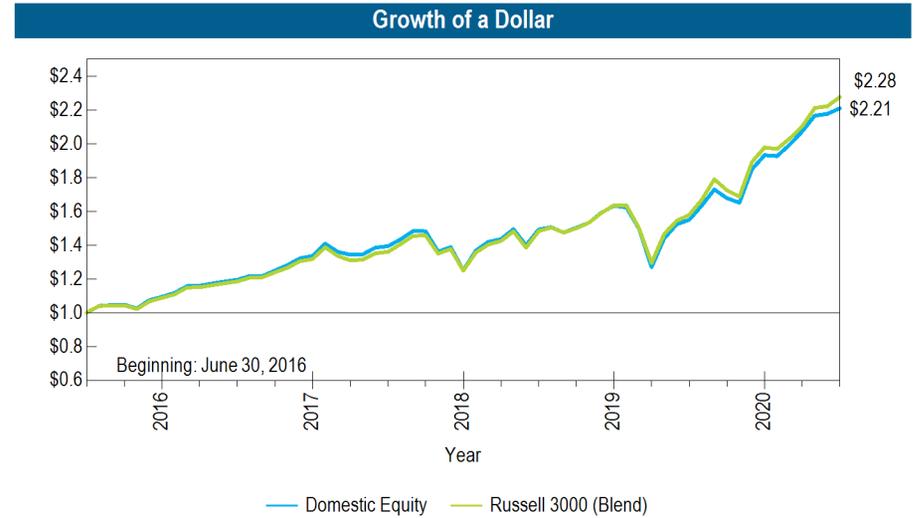
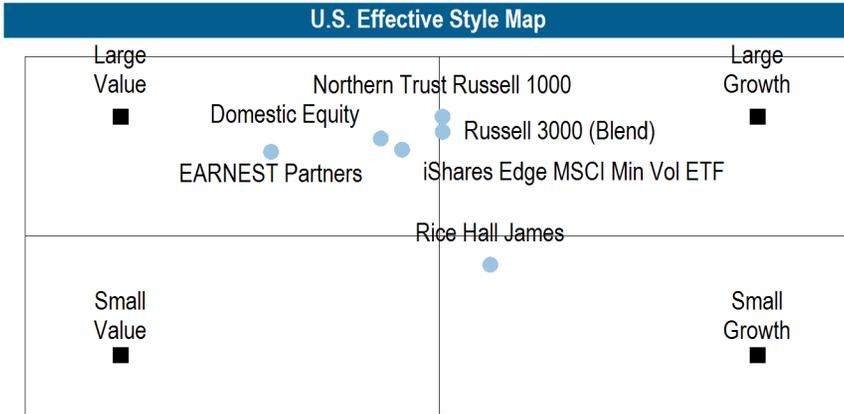
InvMetrics Public DB \$250mm-\$1B Gross Return Comparison



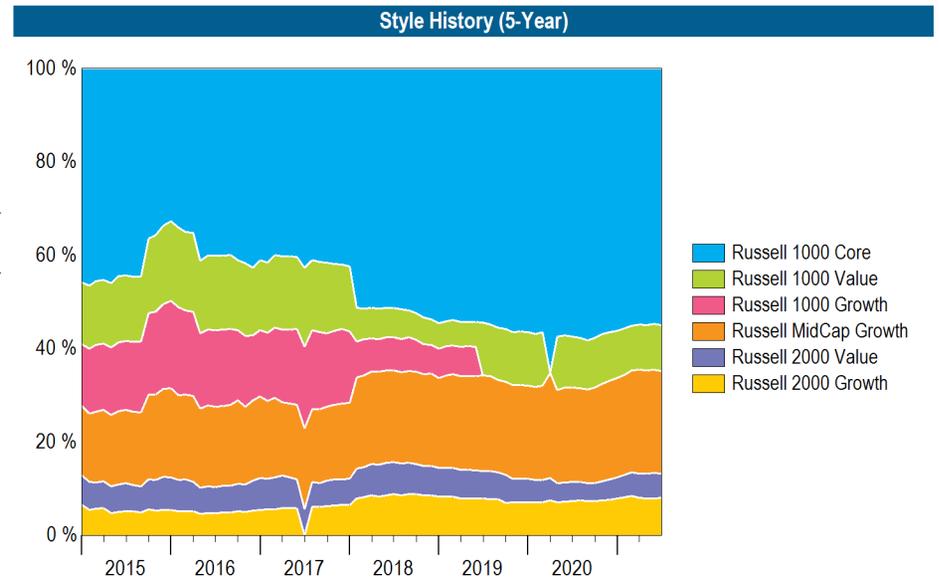
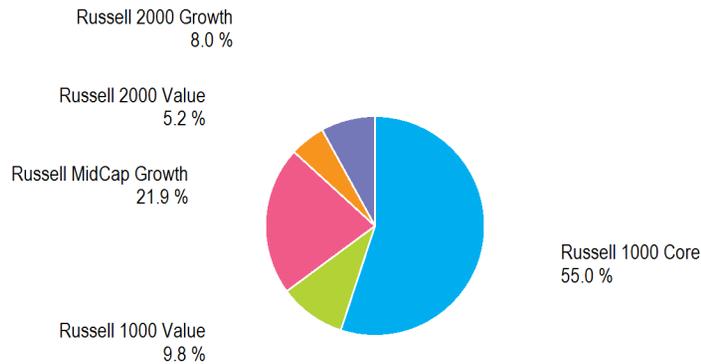
Return (Rank)

	Quarter	YTD	1 Year	3 Years	5 Years	7 Years
5th Percentile	6.2	10.9	32.6	14.0	13.3	9.9
25th Percentile	5.7	9.7	29.8	12.4	12.0	9.2
Median	5.3	9.1	27.6	11.9	11.5	8.7
75th Percentile	4.8	8.1	25.7	10.9	10.6	7.9
95th Percentile	4.3	7.1	21.0	10.0	10.0	7.4
# of Portfolios	76	76	76	74	73	72
● OPFRS Total Plan	5.1 (64)	8.0 (78)	24.2 (89)	10.4 (89)	11.5 (51)	8.6 (52)
▲ OPFRS Policy Benchmark	5.2 (54)	7.3 (93)	22.3 (94)	10.5 (87)	10.9 (64)	8.6 (52)

Domestic Equity | As of June 30, 2021

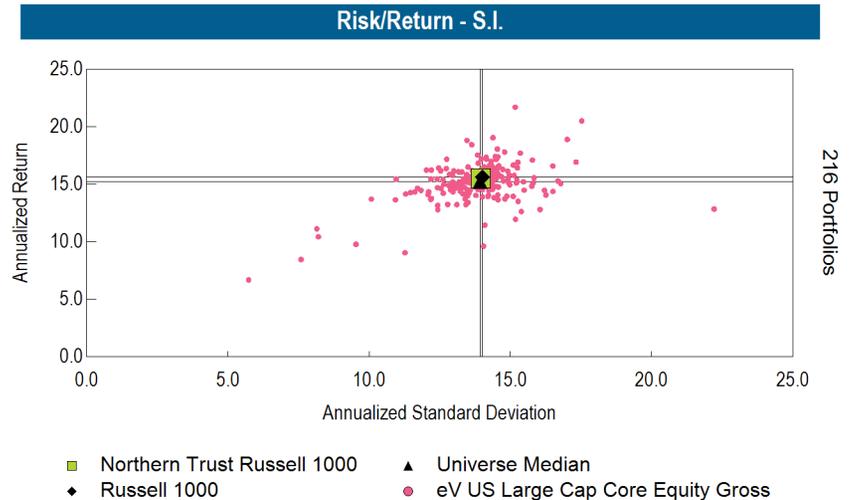
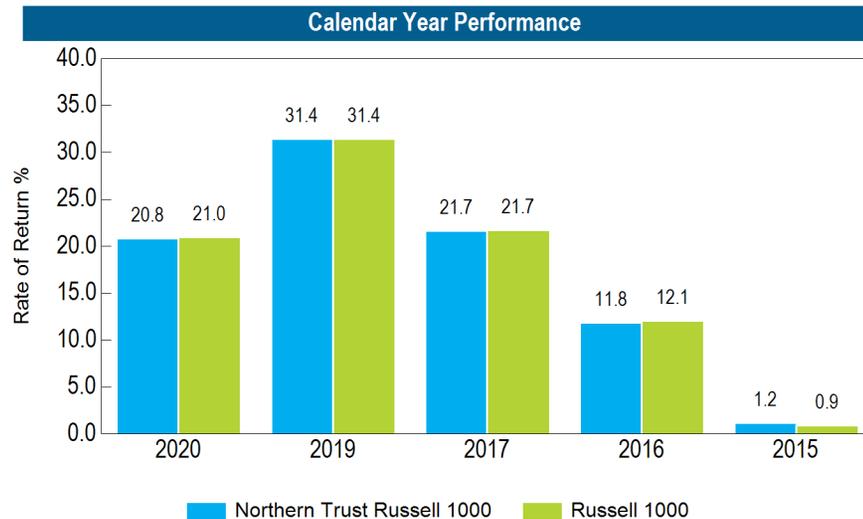
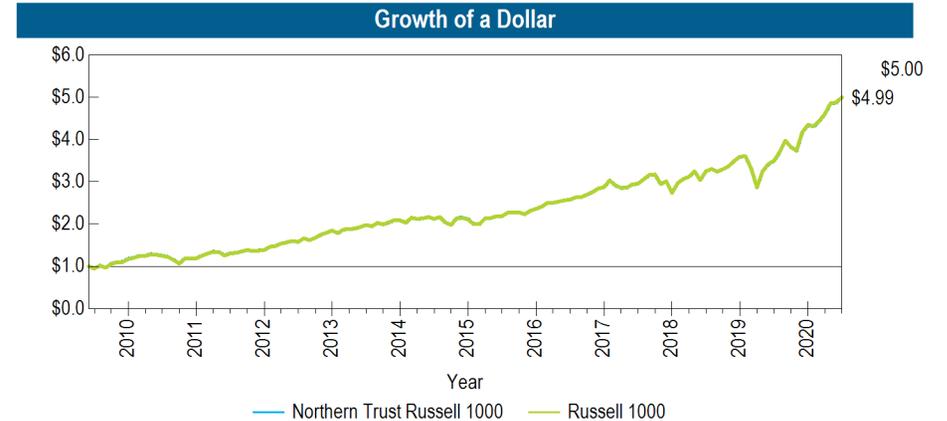
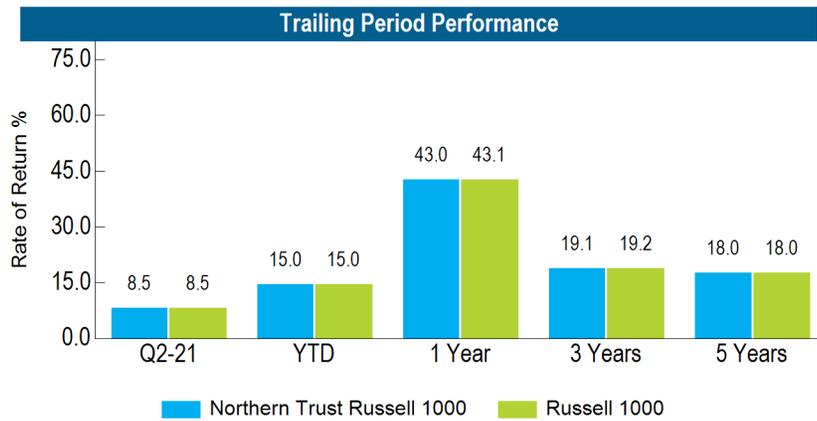


Style Exposure



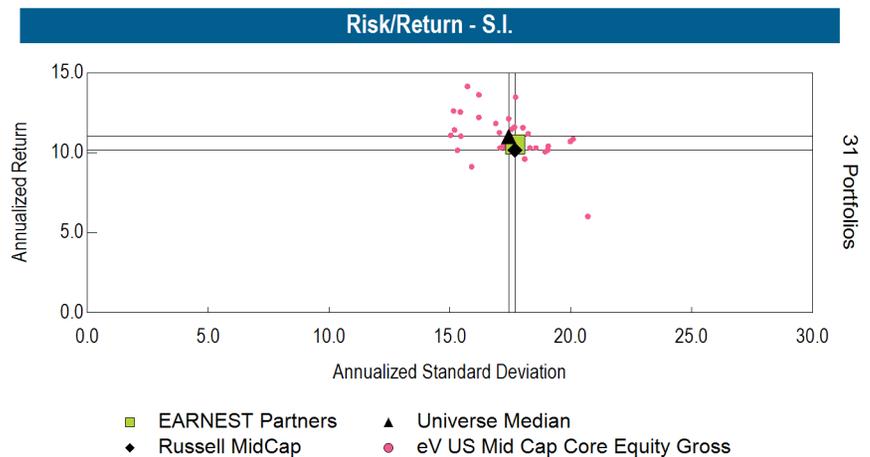
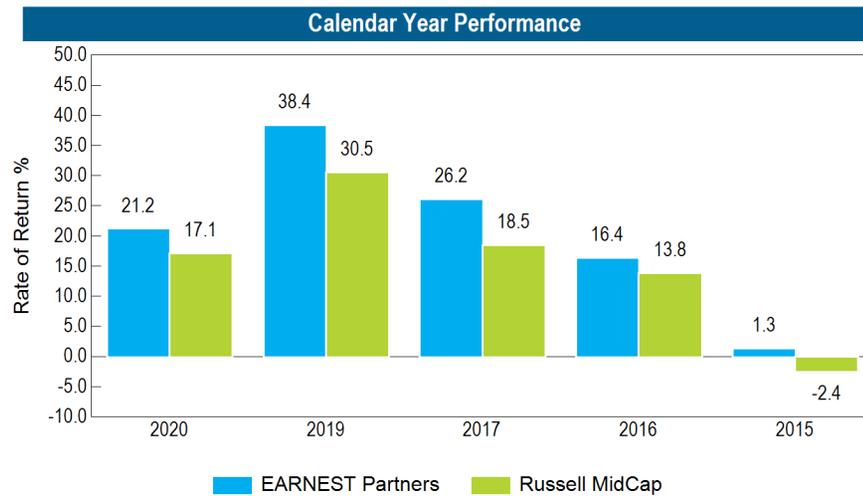
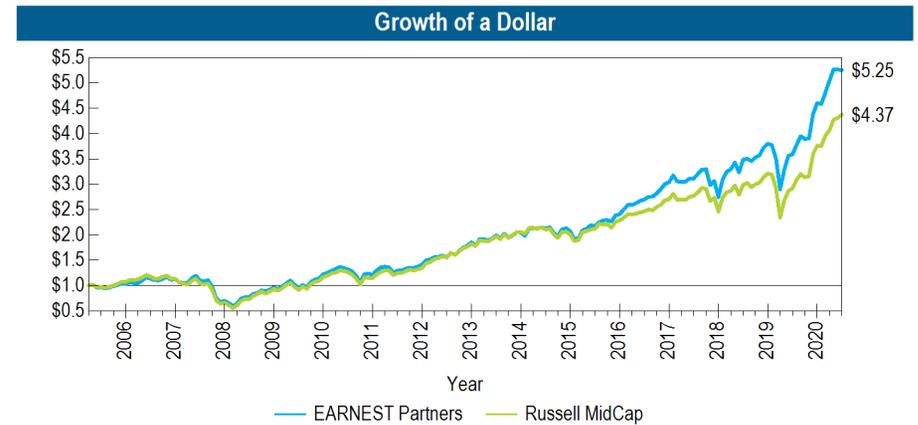
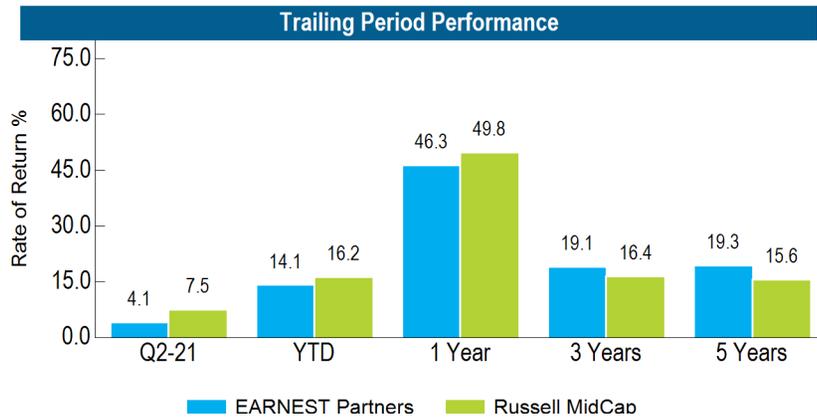
Northern Trust Russell 1000 | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust Russell 1000	15.53%	13.95%	0.00%	1.00	0.13%	98.37%	99.76%
Russell 1000	15.62%	14.01%	0.00%	1.00	0.00%	100.00%	100.00%



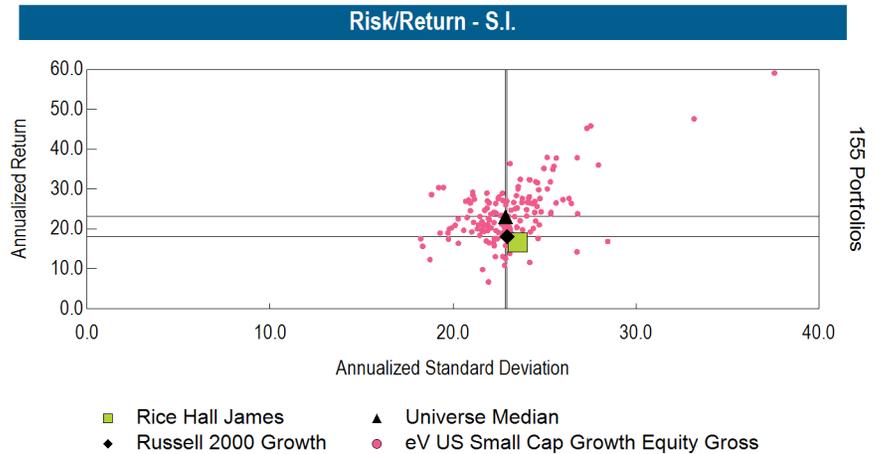
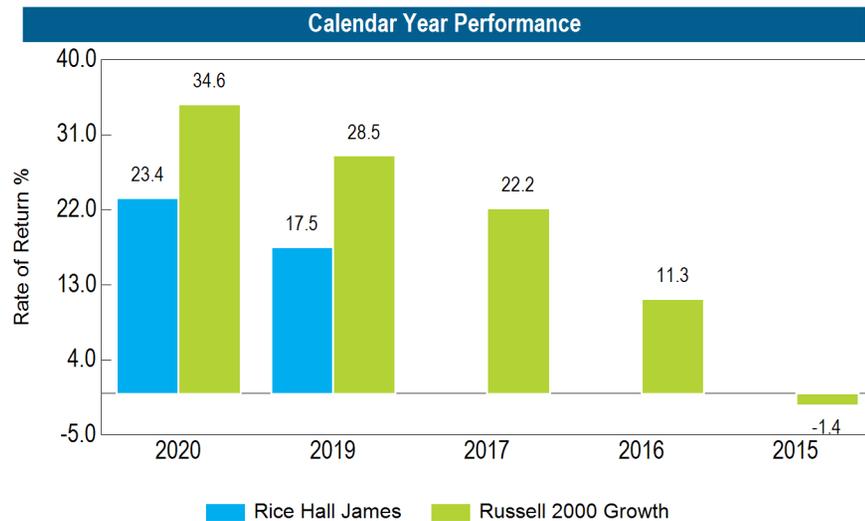
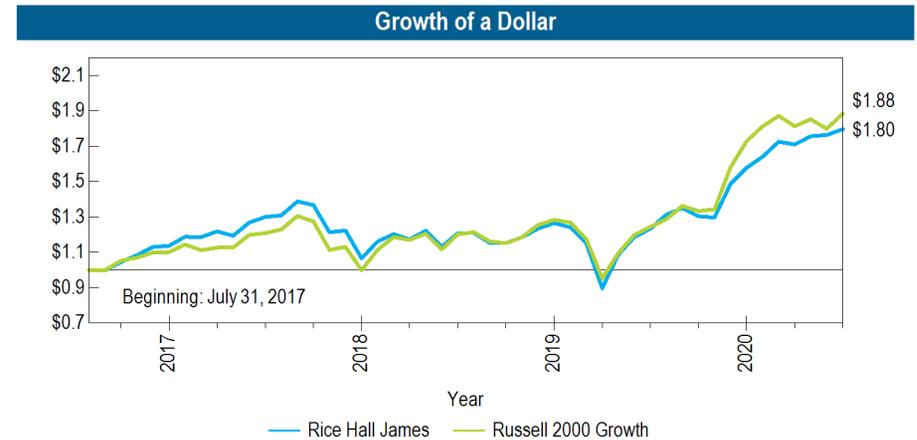
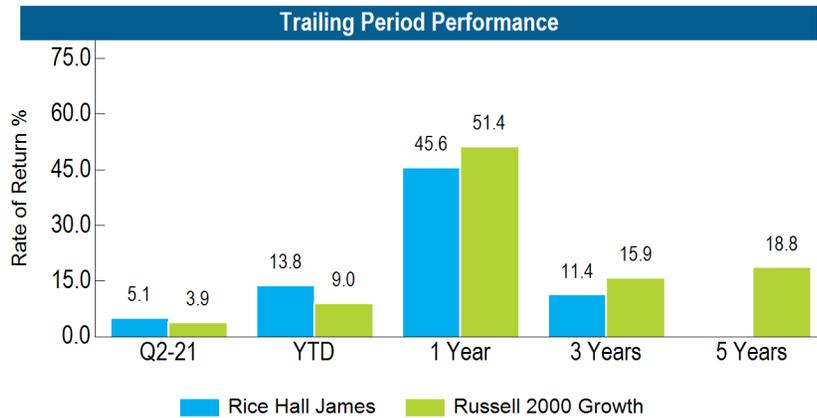
EARNEST Partners | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
EARNEST Partners	10.50%	17.70%	0.04%	0.98	0.10	3.37%	92.95%	99.11%
Russell MidCap	10.16%	17.69%	0.00%	1.00	--	0.00%	100.00%	100.00%



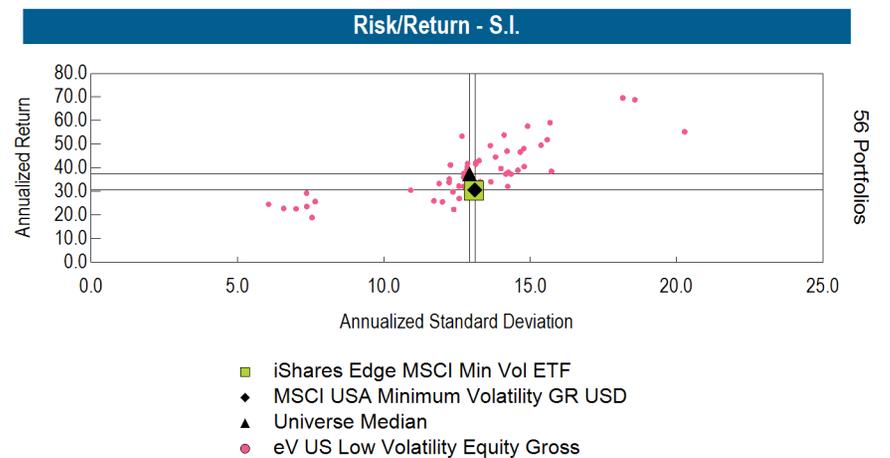
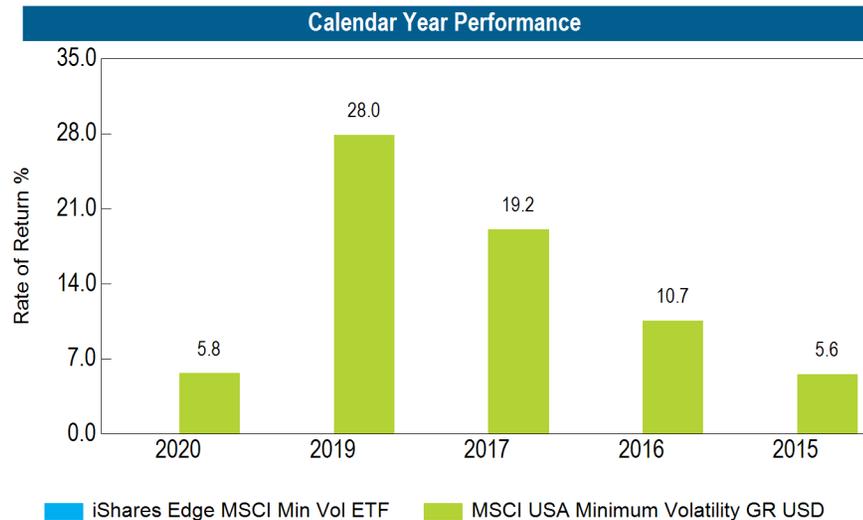
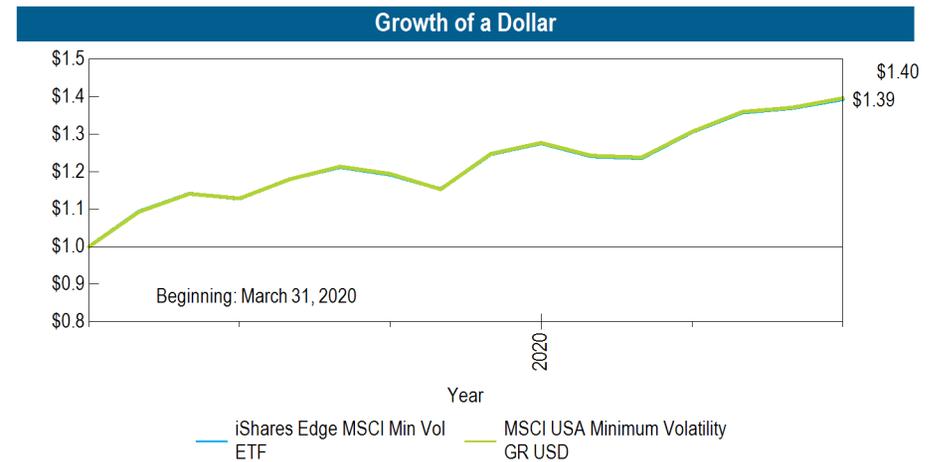
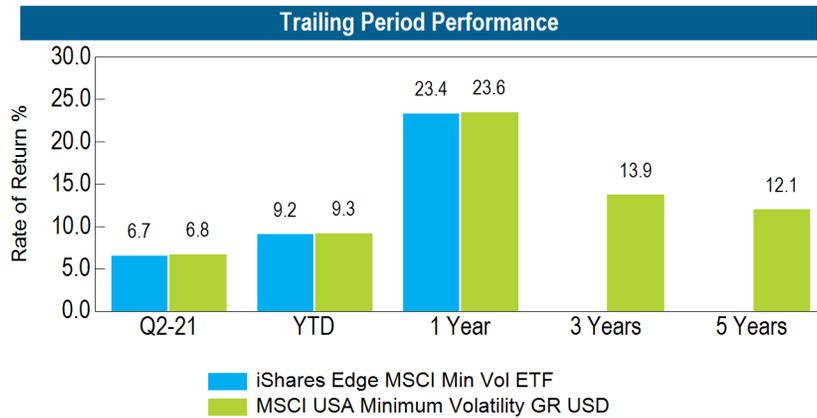
Rice Hall James | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Rice Hall James	14.96%	23.29%	-0.15%	0.98	-0.39	6.64%	87.48%	98.90%
Russell 2000 Growth	17.54%	22.71%	0.00%	1.00	--	0.00%	100.00%	100.00%



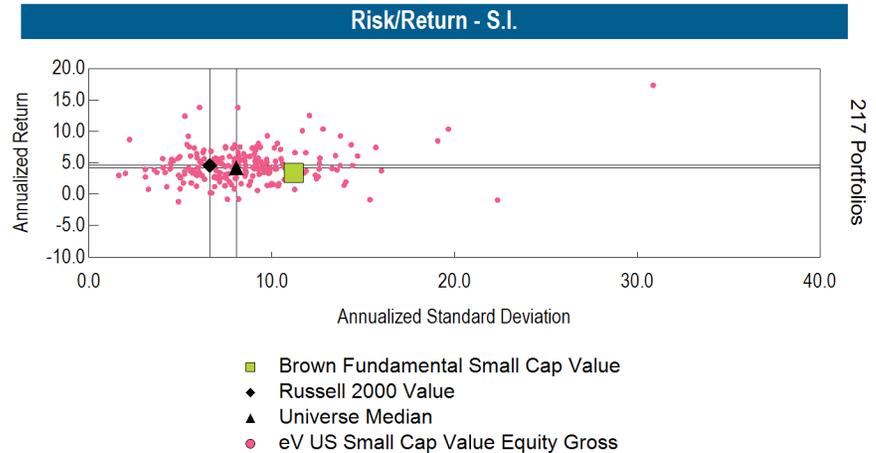
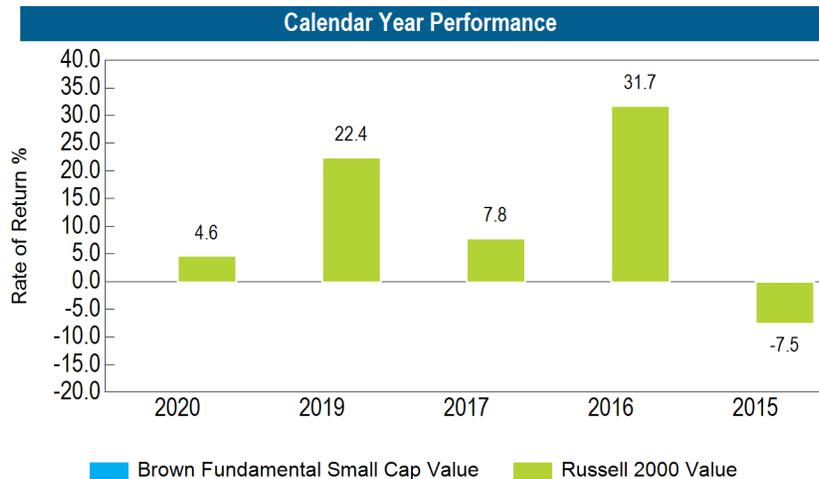
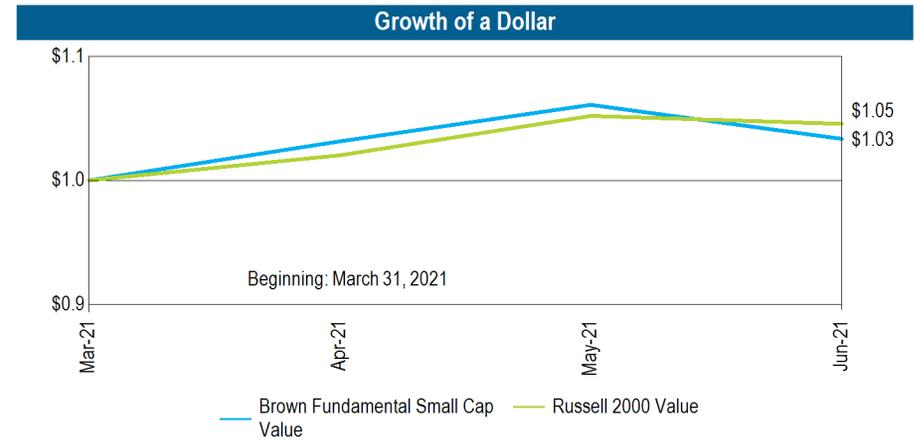
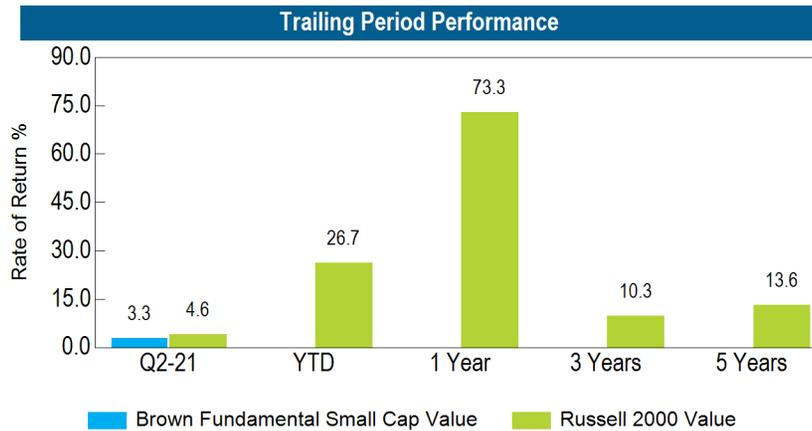
iShares Edge MSCI Min Vol ETF | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
iShares Edge MSCI Min Vol ETF	30.33%	13.08%	-0.01%	1.00	0.31%	99.29%	99.53%
MSCI USA Minimum Volatility GR USD	30.54%	13.12%	0.00%	1.00	0.00%	100.00%	100.00%

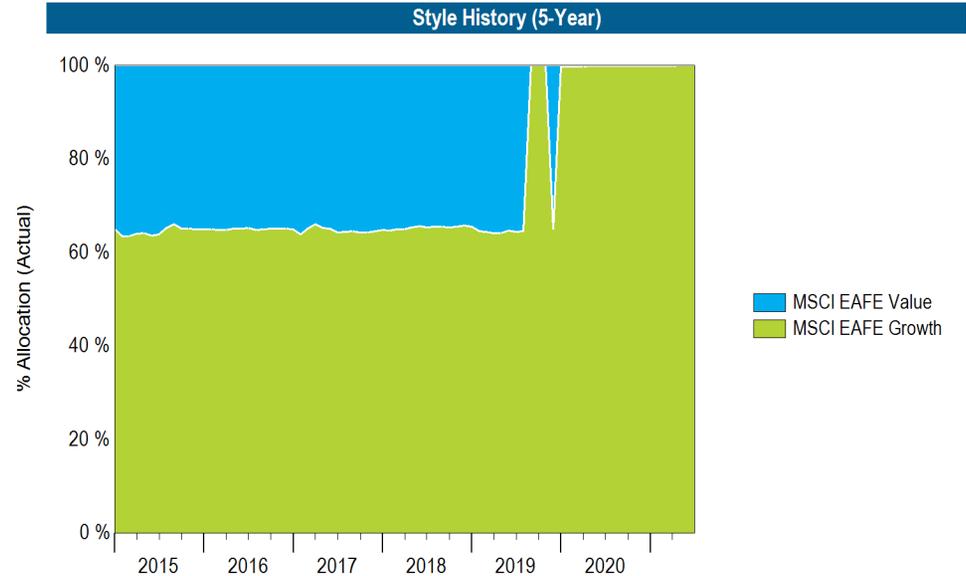
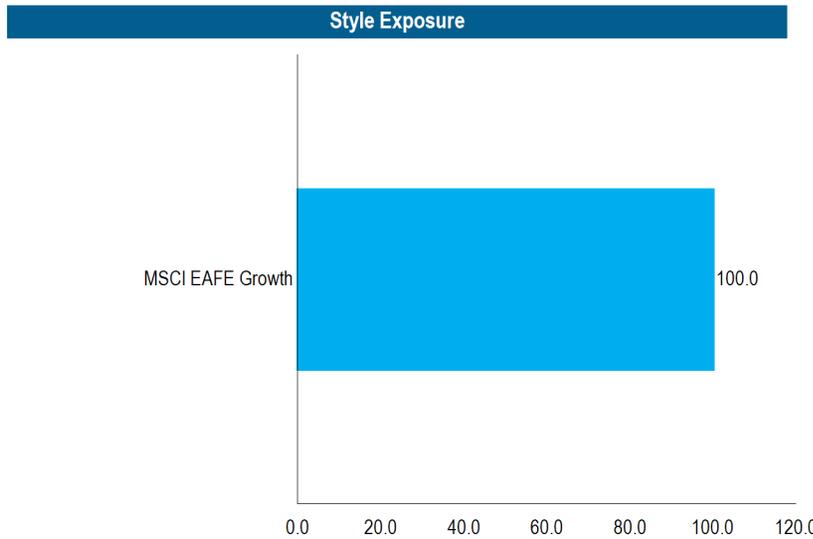
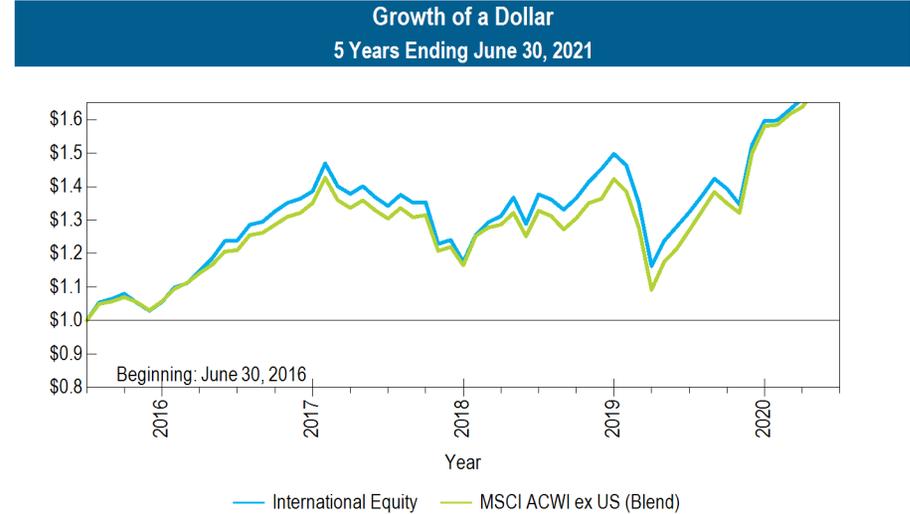
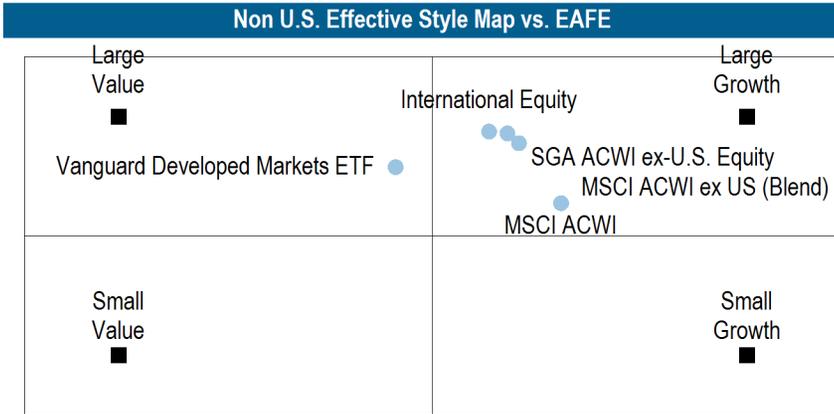


Brown Fundamental Small Cap Value | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Brown Fundamental Small Cap Value	3.13%	11.18%	-1.34%	1.60	-0.27	5.38%	114.32%	438.18%
Russell 2000 Value	4.56%	6.62%	0.00%	1.00	--	0.00%	100.00%	100.00%

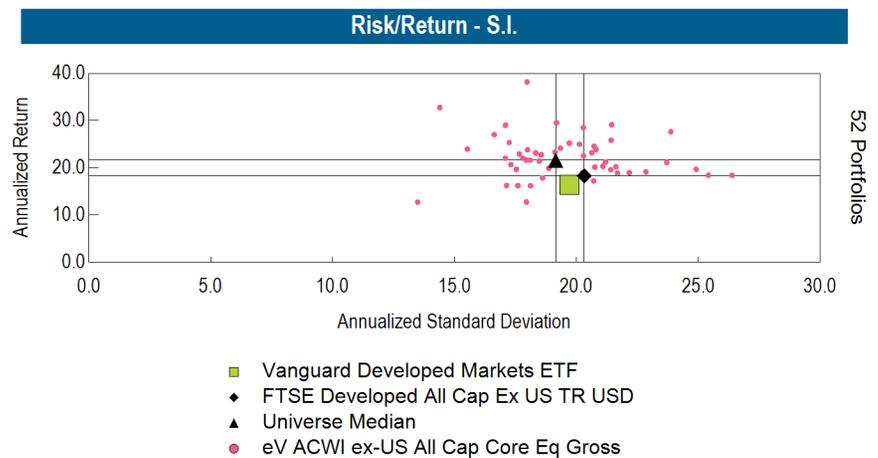
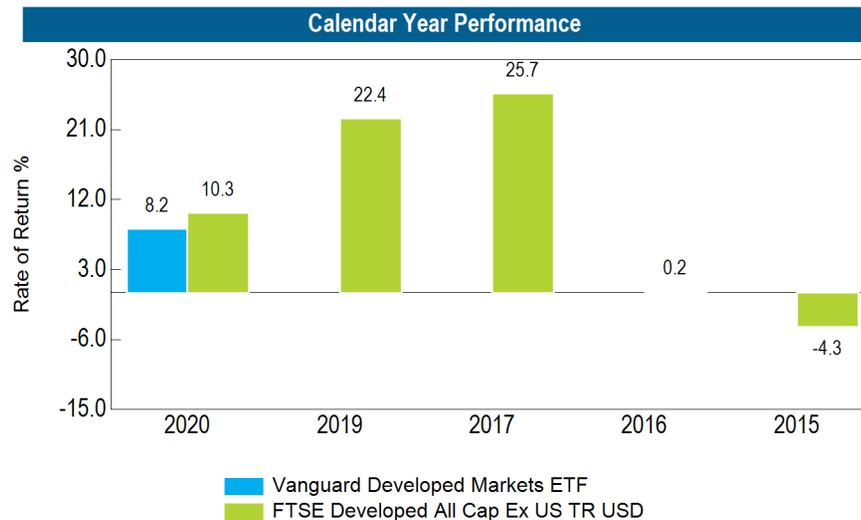
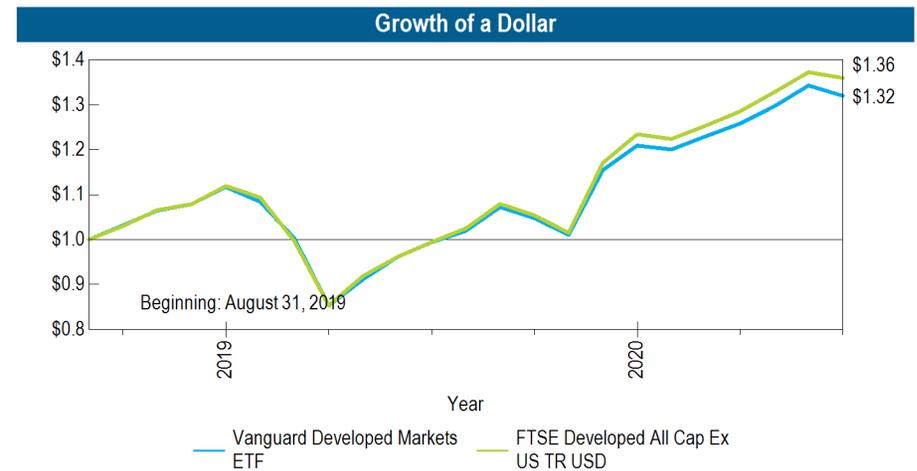
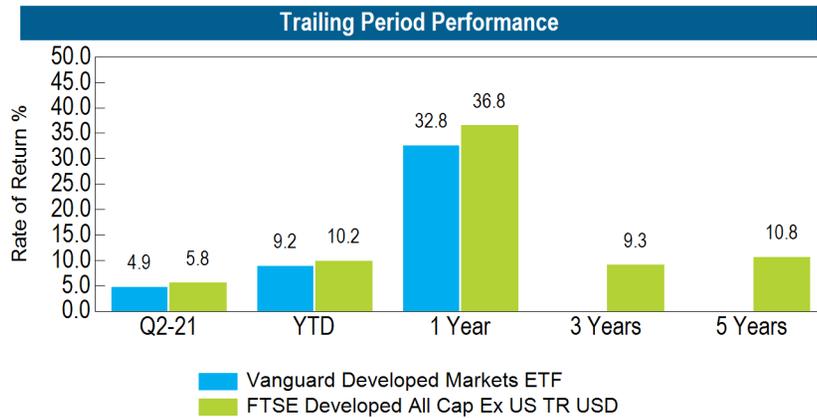


International Equity | As of June 30, 2021



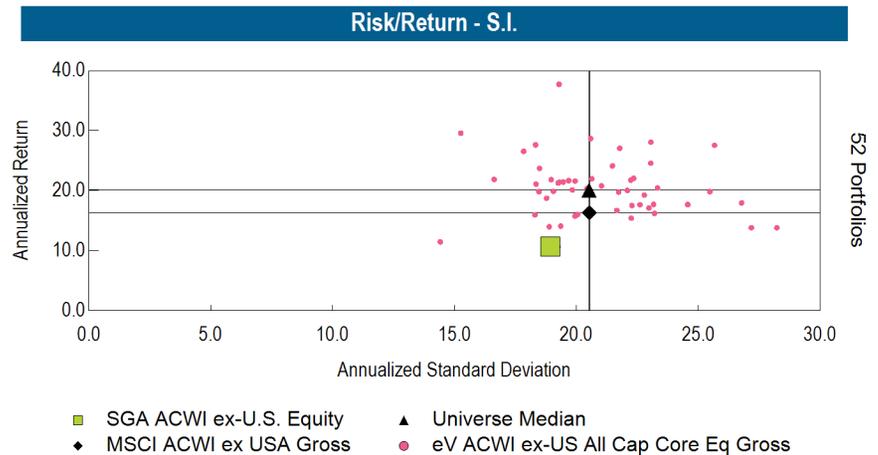
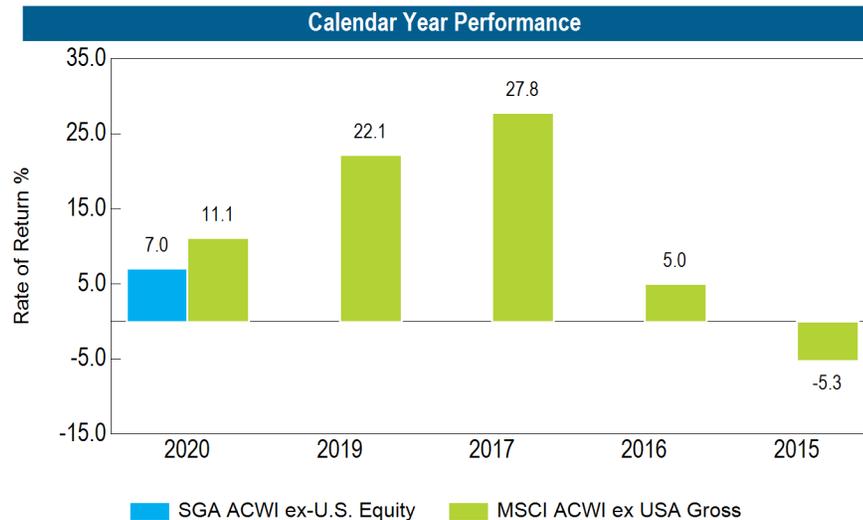
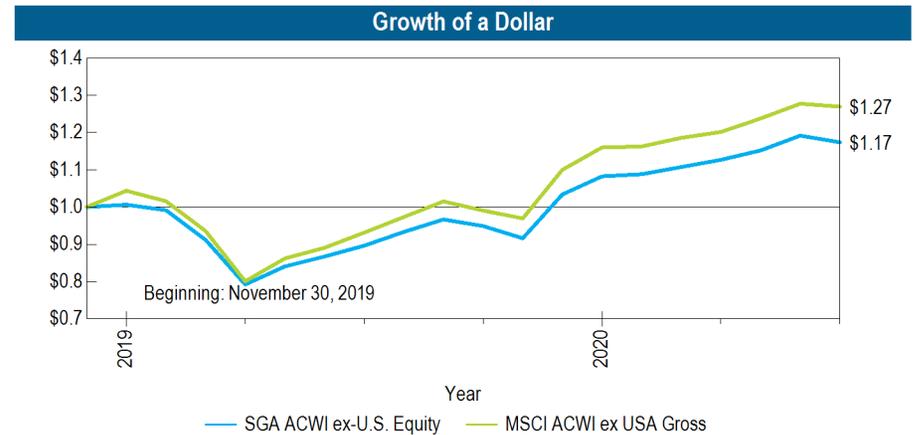
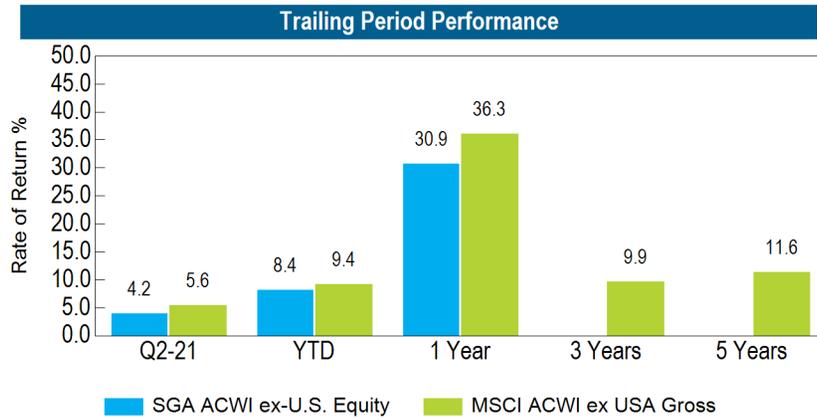
Vanguard Developed Markets ETF | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Developed Markets ETF	16.30%	19.72%	-0.10%	0.97	-1.00	1.95%	94.47%	100.79%
FTSE Developed All Cap Ex US TR USD	18.24%	20.32%	0.00%	1.00	--	0.00%	100.00%	100.00%



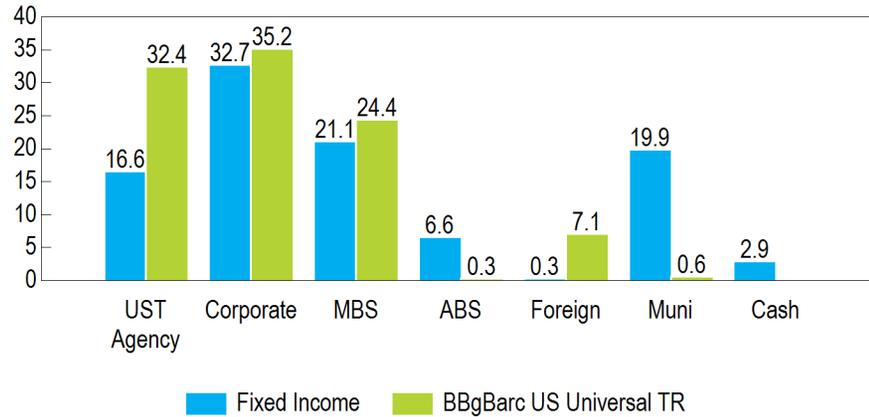
SGA ACWI ex-U.S. Equity | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
SGA ACWI ex-U.S. Equity	10.00%	18.87%	-0.36%	0.90	-1.61	3.89%	78.86%	98.16%
MSCI ACWI ex USA Gross	16.25%	20.54%	0.00%	1.00	--	0.00%	100.00%	100.00%

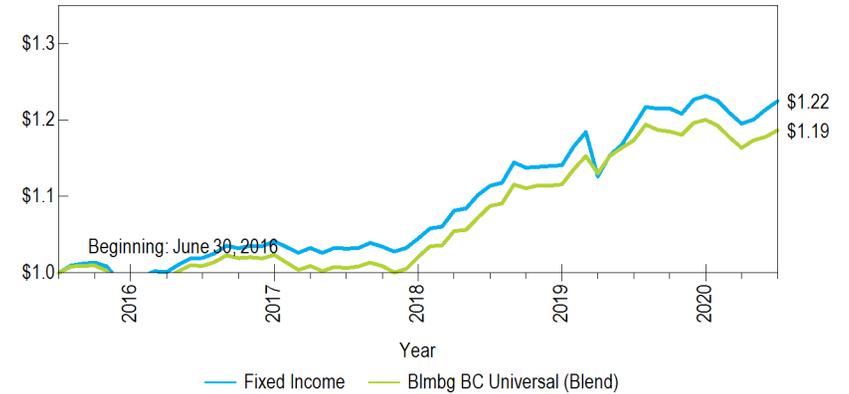


Fixed Income | As of June 30, 2021

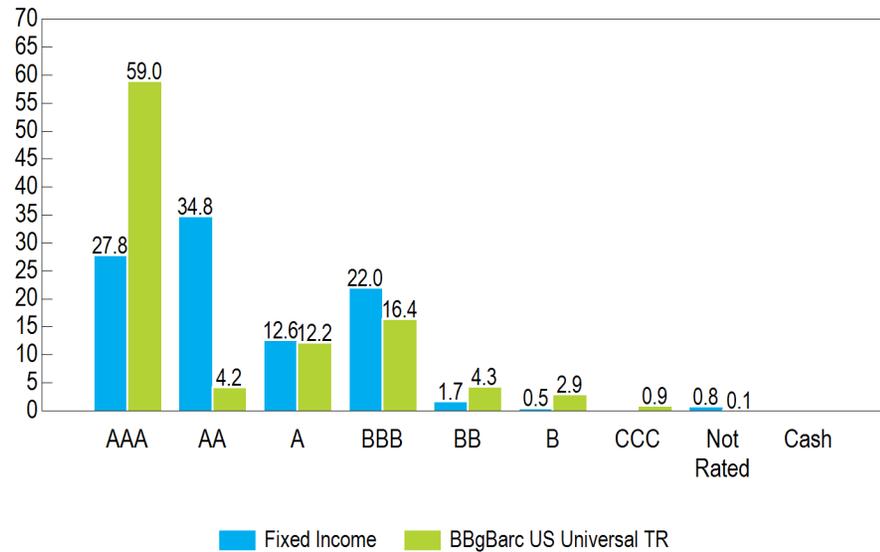
US Sector Allocation



Growth of a Dollar 5 Years Ending June 30, 2021



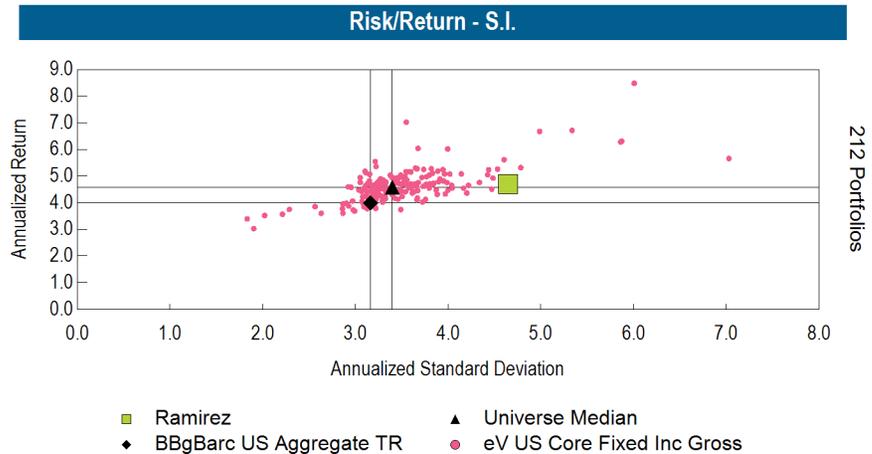
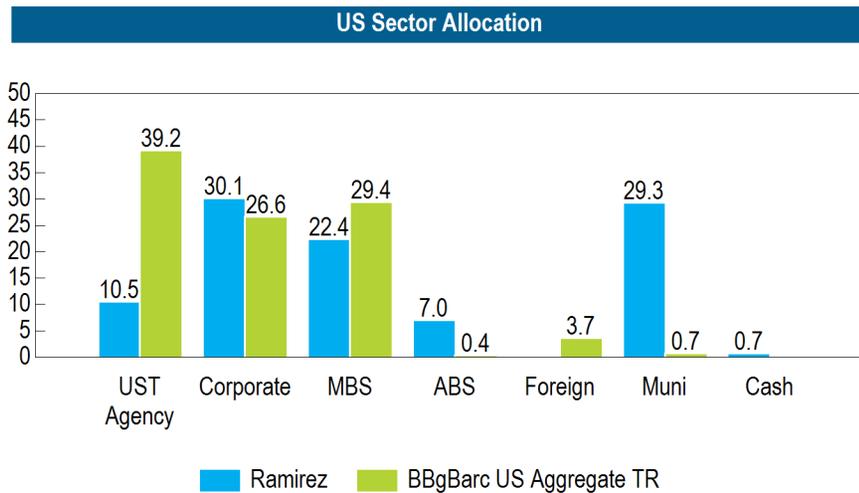
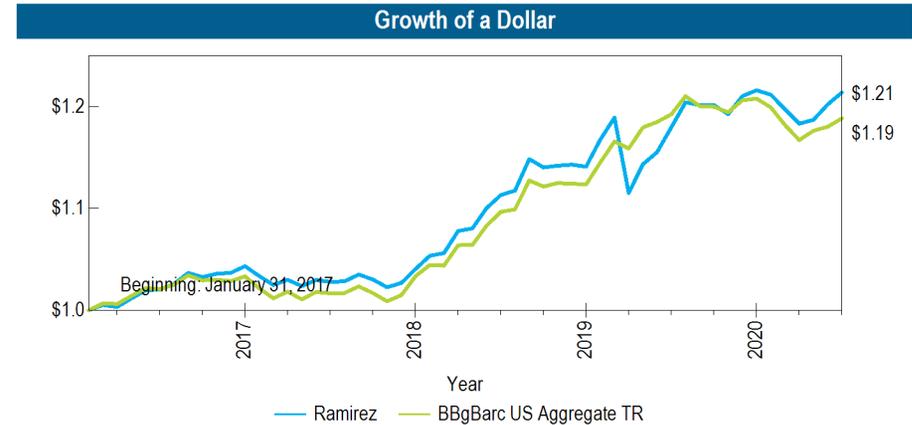
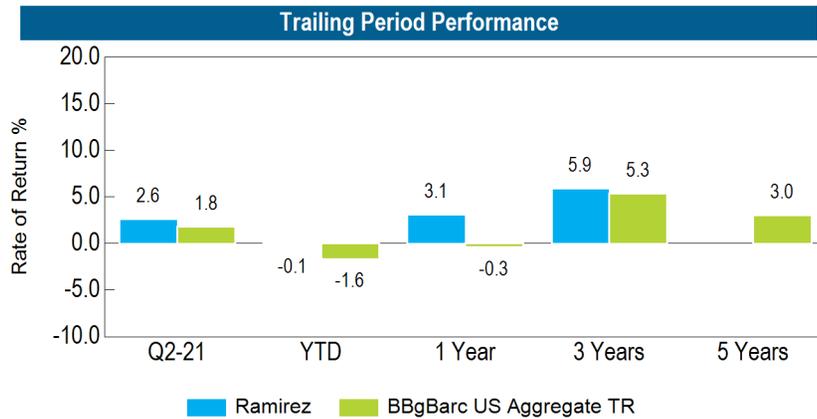
Credit Quality Allocation



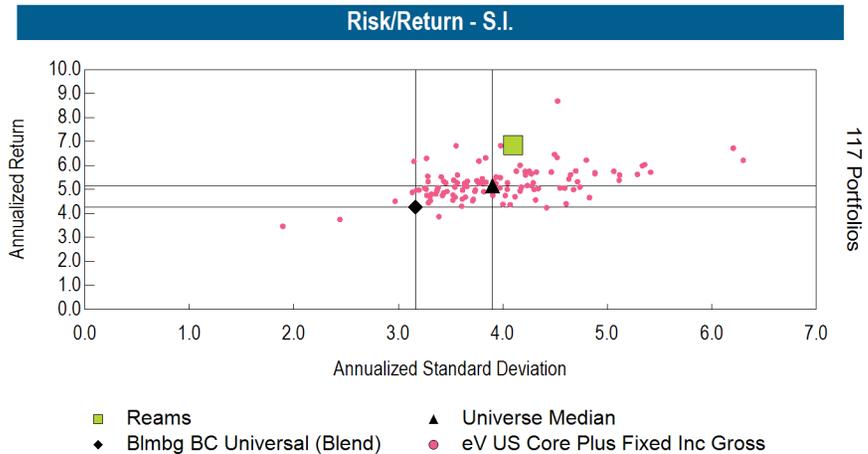
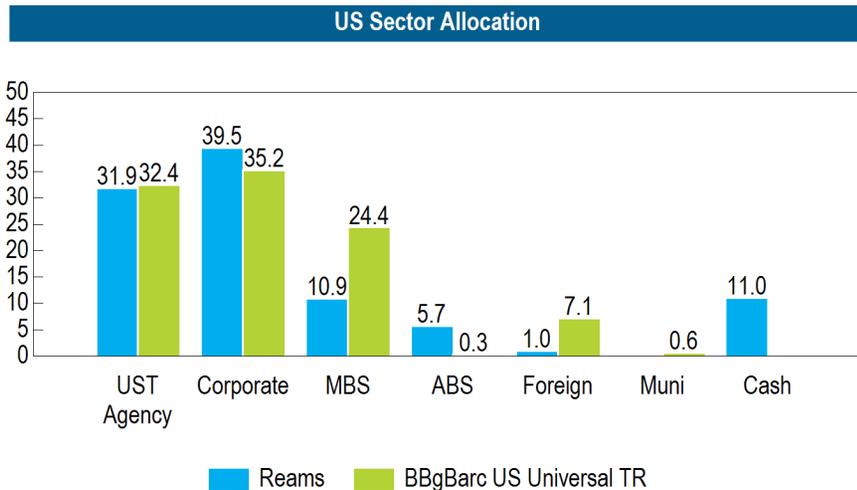
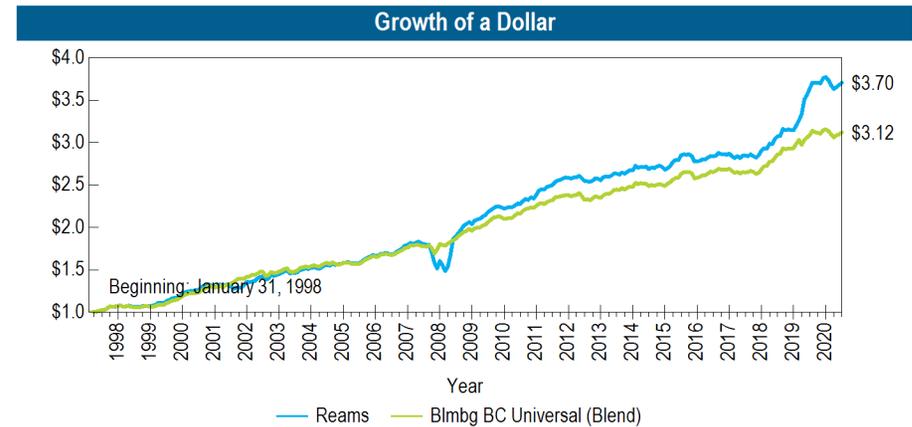
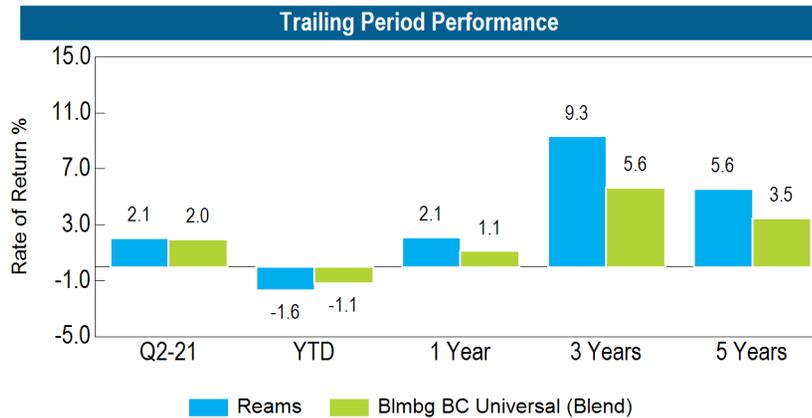
Fixed Income Fixed Income Characteristics vs. BbgBarc US Universal TR

	Portfolio Q2-21	Index Q2-21
Fixed Income Characteristics		
Yield to Maturity	1.70	1.76
Average Duration	6.17	6.42
Average Quality	A	AA
Weighted Average Maturity	8.95	12.71

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Ramirez	4.49%	4.65%	0.00%	1.13	0.17	2.98%	123.98%	130.27%
BBgBarc US Aggregate TR	3.99%	3.17%	0.00%	1.00	--	0.00%	100.00%	100.00%

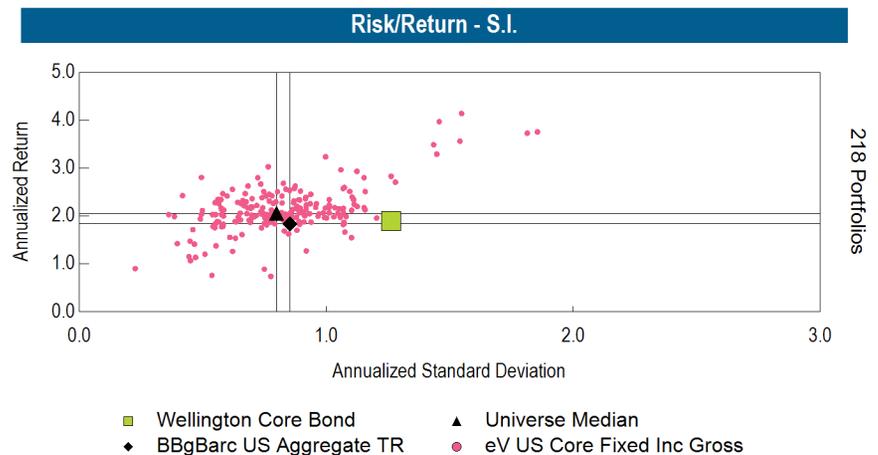
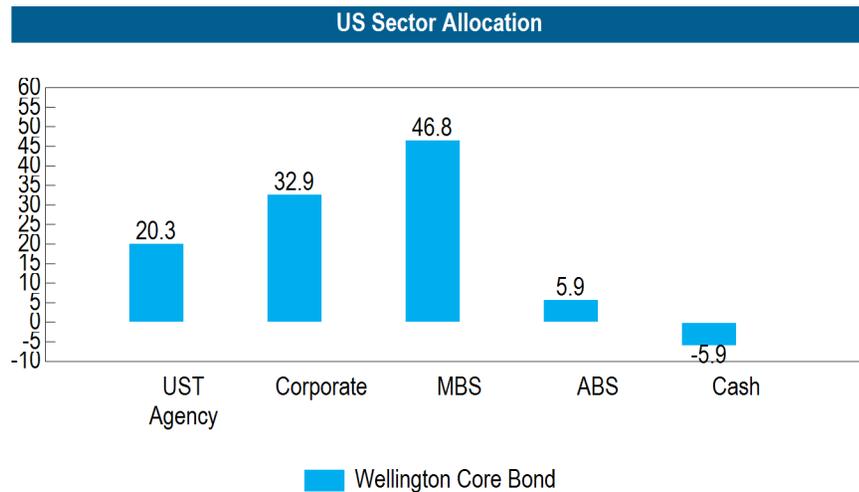
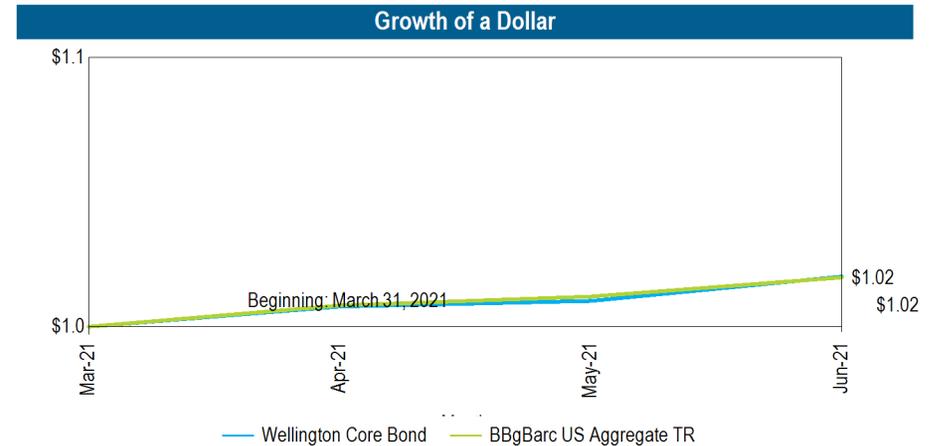
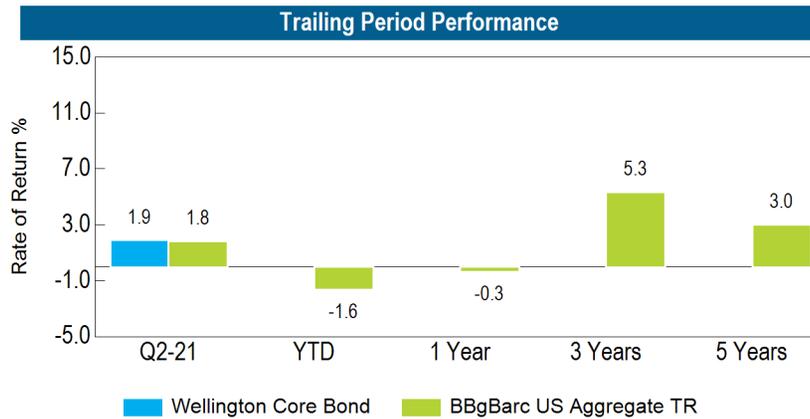


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Reams	5.75%	5.31%	0.05%	1.05	0.20	3.96%	121.75%	99.18%
Blmbg BC Universal (Blend)	4.98%	3.39%	0.00%	1.00	--	0.00%	100.00%	100.00%

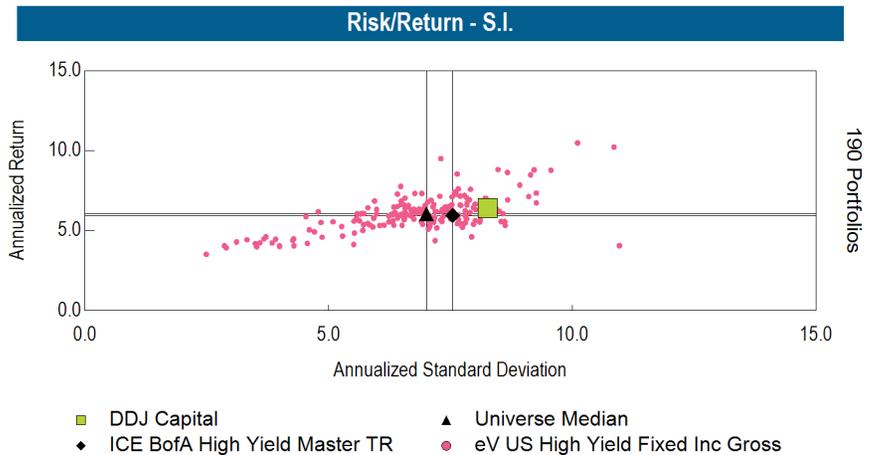
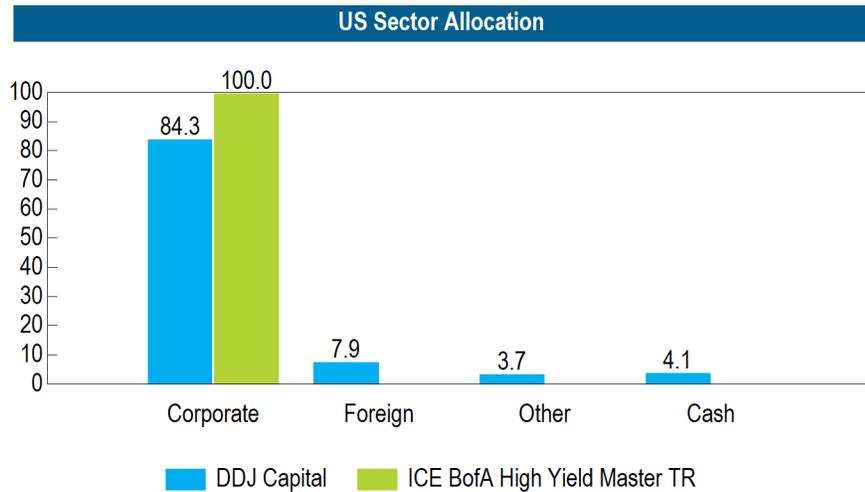
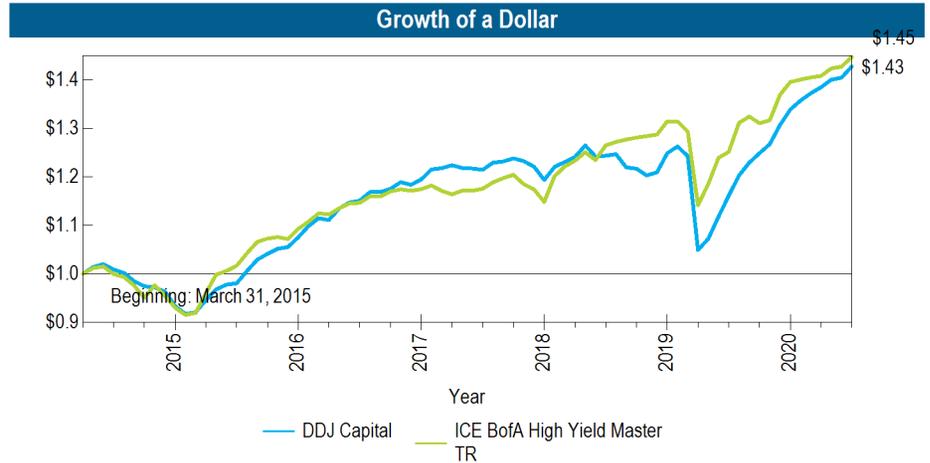
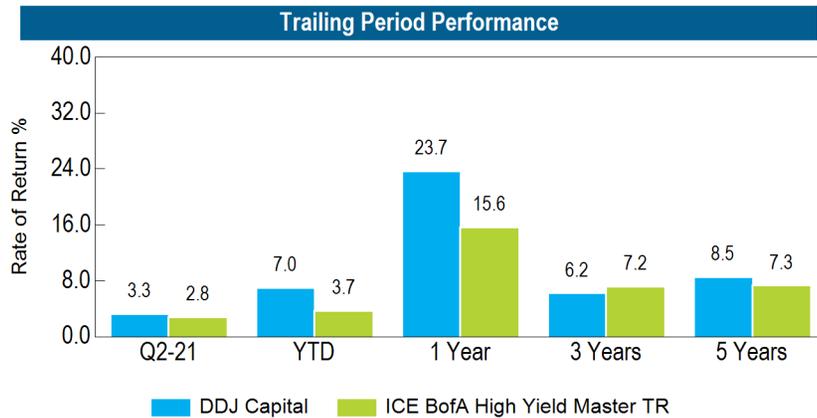


Wellington Core Bond | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Wellington Core Bond	1.86%	1.26%	-0.22%	1.37	0.06	0.57%	101.75%	--
BBgBarc US Aggregate TR	1.83%	0.85%	0.00%	1.00	--	0.00%	100.00%	--

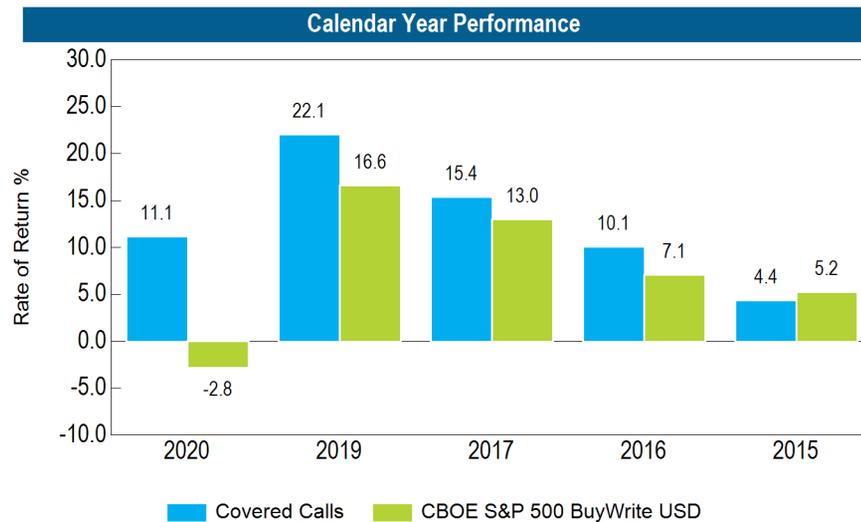
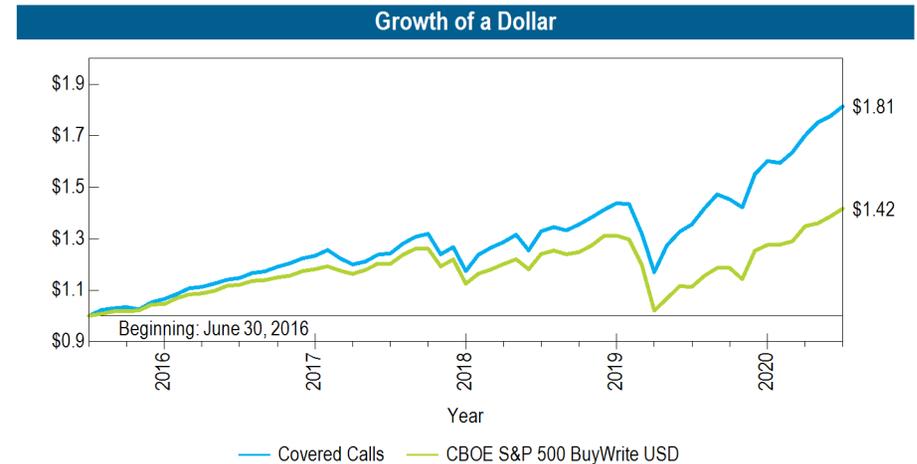
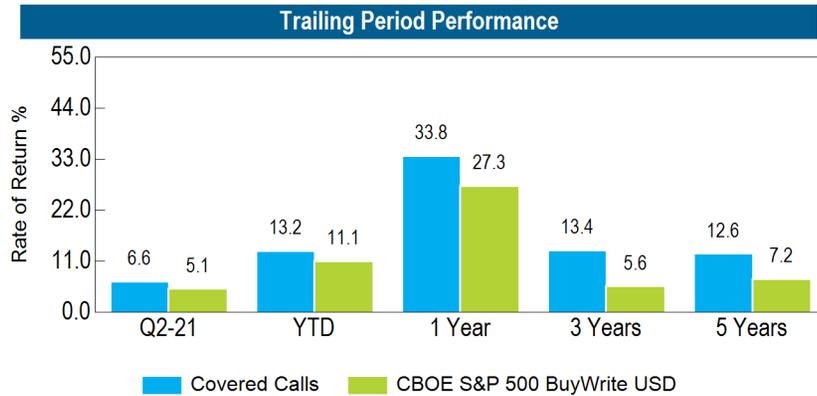


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
DDJ Capital	5.99%	8.23%	0.01%	0.97	-0.06	3.87%	90.02%	90.93%
ICE BofA High Yield Master TR	6.23%	7.53%	0.00%	1.00	--	0.00%	100.00%	100.00%



Covered Calls | As of June 30, 2021

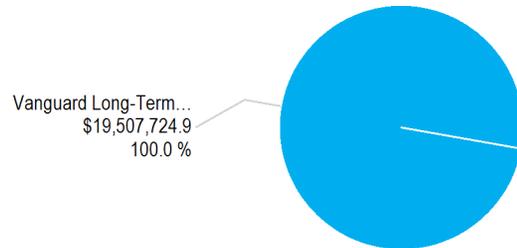
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Covered Calls	10.18%	10.68%	0.30%	0.97	1.11	3.34%	136.23%	96.60%
CBOE S&P 500 BuyWrite USD	6.47%	10.42%	0.00%	1.00	--	0.00%	100.00%	100.00%



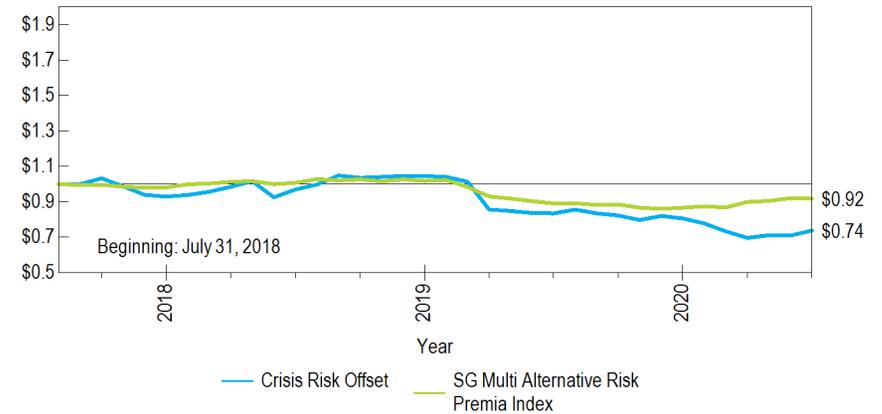
Crisis Risk Offset | As of June 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Sortino Ratio	Sharpe Ratio	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Crisis Risk Offset	-10.23%	14.21%	-0.52%	1.25	-0.59	12.38%	-0.81	-0.80	0.25	53.20%	148.91%
SG Multi Alternative Risk Premia Index	-2.89%	5.70%	0.00%	1.00	--	0.00%	-0.64	-0.71	1.00	100.00%	100.00%

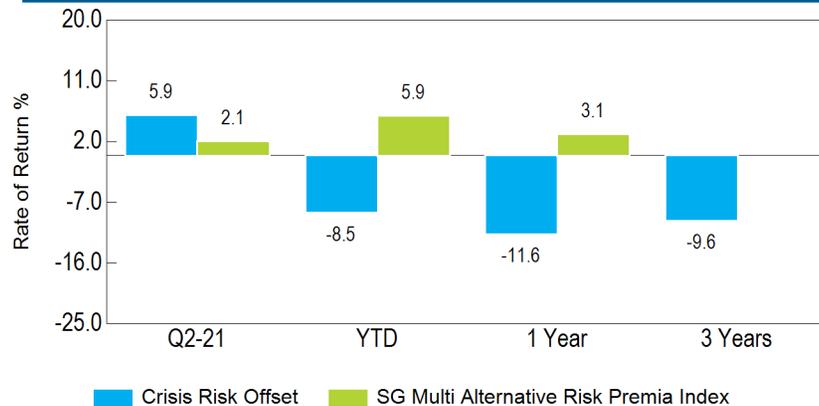
Current Allocation



Growth of a Dollar



Trailing Period Performance



Correlation Matrix 6 Months Ending June 30, 2021

	Crisis Risk Offset	MSCI ACWI	S&P 500	BBgBarc Global Aggregate TR
Crisis Risk Offset	1.00	--	--	--
MSCI ACWI	0.17	1.00	--	--
S&P 500	0.14	0.94	1.00	--
BBgBarc Global Aggregate TR	0.64	0.32	0.05	1.00

Manager Monitoring / Probation List

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

As of June 30, 2021

Portfolio	Status	Concern	Months Since Corrective Action	Performance ¹ Since Corrective Action (Gross, %)	Peer Group Percentile Ranking ²	Date of Corrective Action ³
DDJ Capital	On Watch	Performance	21	6.8	6	5/29/2019
Ice BofAML US High Yield			---	7.4		
Rice Hall James	On Watch	Performance	21	25.2	62	5/29/2019
Russell 2000 Growth	---	---	---	30.2		
Parametric	On Watch	Org changes	5	19.7	NA	10/28/2020
CBOE S&P 500 BuyWrite USD				14.5		

Investment Performance Criteria for Manager Monitoring/Probation Status

Asset Class	Short-term (Rolling 12 months)	Medium-term (Rolling 36 months)	Long-term (60 + months)
Active Domestic Equity	Fund return < benchmark return by 3.5%	Annualized Fund return < benchmark return by 1.75% for 6 consecutive months	VRR ⁴ < 0.97 for 6 consecutive months
Active International Equity	Fund return < benchmark return by 4.5%	Annualized Fund return < benchmark return by 2.0% for 6 consecutive months	VRR < 0.97 for 6 consecutive months
Passive International Equity	Tracking Error > 0.50%	Tracking Error > 0.45% for 6 consecutive months	Annualized Fund return < benchmark return by 0.40% for 6 consecutive months
Fixed Income	Fund return < benchmark return by 1.5%	Annualized Fund return < benchmark return by 1.0% for 6 consecutive months	VRR < 0.98 for 6 consecutive months

¹ Annualized performance if over one year

² Ranking over most recent quarter if on watch for less than 1 year, or over 1 year if on watch for more than a year.

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

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

Disclaimer, Glossary, and Notes

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.
The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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

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

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

MEMORANDUM

TO: Oakland Police and Fire Retirement System (PFRS)
FROM: Meketa Investment Group ("Meketa")
CC: David Sancewich; Paola Nealon - Meketa
Teir Jenkins - PFRS
DATE: August 25, 2021
RE: 2021 Expected Return Memo

The general theme of the 2021 Meketa Capital Market Assumptions are lower future expected returns. This is a theme which is consistent across the board in the industry and largely driven by the significant changes in interest rates during 2020. Lower interest rates result in lower expected returns for most yield oriented asset classes as starting yield is often a fairly reasonable predictor of future returns for many fixed income related classes. Other approaches which focus on building forecasts from a more bottom-up or fundamental view point for equities and other economic growth risk linked classes are often (or at least in some part) influenced by valuation levels. With a strong year across the board for equity markets, valuations increased across many measures.

As such, expected returns are lower for anyone relying solely on a valuation approach as well. It's important to remember that our capital market assumptions and those of other practitioners and peers have a significant range of error in terms of potential future outcomes. For example, the higher the expected standard deviation, the higher the range of possible outcomes is expected to be for any asset class or portfolio. It is also important to note that the long-term expected portfolio compound return assumes net-of-fee returns, with no attempt to seek added value via active management.

It is important to note that our capital market assumptions are over a 20-year time horizon which is different from the time horizon used by PFRS's actuary, Chieron which projects out over 30-years. Further summary comments of our 2021 capital market assumptions and the detailed projections by asset class are shown on the following page.

- In 2021 our cash return expectations declined materially from 2020 from 2.4% to 1.1% pushing the real return expectation even further into negative territory.
 - Short-term rates declined significantly, with 3 month treasury yields starting at 1.55% and dropping to 0% on March 25th and 26th 2020, before remained low the rest of the year and ending at 0.09%.
- Fixed income yields across the maturity and quality spectrum fell significantly during 2020 reducing return expectations for Fixed Income, High Yield, and Long Duration (a part of Crisis Risk Offset).
- With the exception of Public Equities, no class in the PFRS portfolio is forecasted to achieve a compound return above 7.00% over the next 20 years.
 - Public Equity contains U.S. Equity and International Equity. The next highest returning sub-asset class is Covered Calls at ~4.7%.
- Over the next 20-years the PFRS Long-term policy portfolio is projected to produce a return of 5.63%.



Current Long-Term Policy

Investment Class	2021 20-Year Assumptions		
	Target * %	Exp. Comp. Return**	Expected Std. Dev.
US Equity	40%	6.80	18.00
International Equity	12%	7.10	19.00
Covered Calls	5%	4.70	13.00
Fixed Income	21%	1.80	4.00
Credit	2%	4.20	11.00
Crisis Risk Offset	20%	4.05	8.90
Cash	---	1.10	1.00
Total	100%	5.63	10.21

Current Interim Policy

Investment Class	2021 20-Year Assumptions		
	Target * %	Exp. Comp. Return**	Expected Std. Dev.
US Equity	40%	6.80	18.00
International Equity	12%	7.10	19.00
Covered Calls	5%	4.70	13.00
Fixed Income	31%	1.80	4.00
Credit	2%	4.20	11.00
Crisis Risk Offset	10%	4.05	8.90
Cash	---	1.10	1.00
Total	100%	5.37	10.24

Long-Term Policy with Inflation

Investment Class	2021 20-Year Assumptions		
	Target * %	Exp. Comp. Return**	Expected Std. Dev.
US Equity	40%	6.80	18.00
International Equity	12%	7.10	19.00
Covered Calls	5%	4.70	13.00
Fixed Income	21%	1.80	4.00
Credit	2%	4.20	11.00
Crisis Risk Offset	15%	4.05	8.90
Inflation (Commodities)	5%	2.70	17.0
Cash	---	1.10	1.00
Total	100%	5.62	10.67

DS, PN, pq

Cryptocurrencies

August 25, 2021

Bitcoin, Blockchain, and
Institutional Investors

What is a Digital Currency?

- A cryptocurrency is a digital (or virtual) currency that is secured by cryptography¹.
 - They are anonymous and nearly impossible to counterfeit.
- Unlike traditional currencies, most cryptocurrencies are not issued by a central bank. They can be created by nearly anyone who designs a governing protocol and distributed ledger system.
 - They operate outside the control of governments.
 - They require meaningful adoption for the networks/currencies to be decentralized and functional.
- Transactions can be completed without intermediaries and at a low cost.
- The first and most popular cryptocurrency is Bitcoin, but new versions continue to be introduced.
 - The value of Bitcoin is entirely determined by market participants, the price at which buyers and sellers of Bitcoin are willing to trade with one another.
 - Other cryptocurrencies (i.e., “stablecoins”) seek to be pegged to the US dollar.

¹ Cryptography pertains to the methods for secure translation of information (e.g., encryption and decryption).

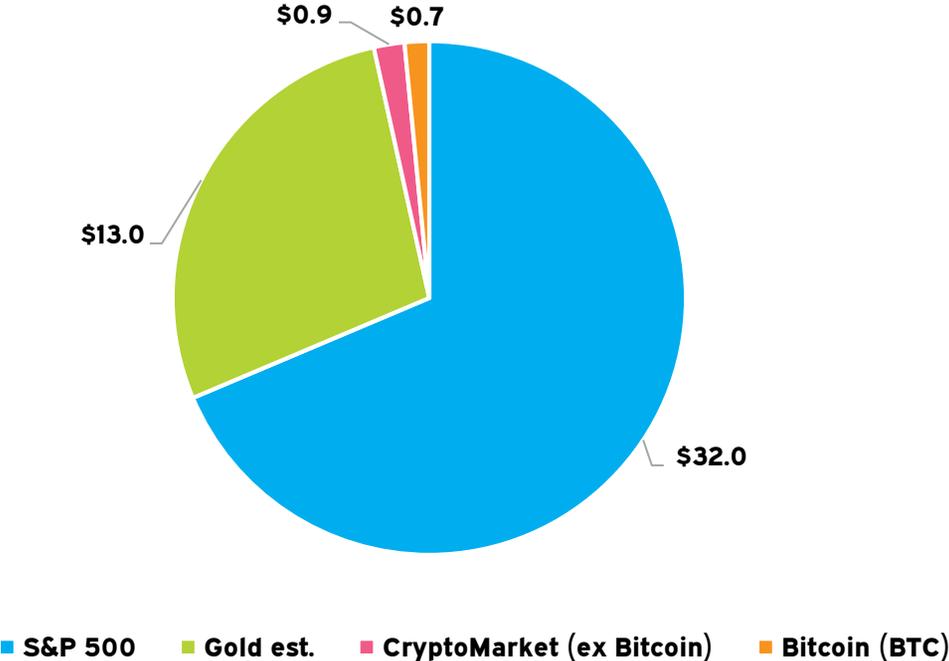
Bitcoin Network/Protocol

- The original idea of Bitcoin was first stated in an eight-page paper in 2008.
 - Bitcoin leveraged the underlying “blockchain” approach that was created in the early-1990s. A blockchain is a form of a database.
- The paper outlined the concepts and general protocols for Bitcoin.
 - The protocols represent the overarching rules and procedures for how the decentralized network operates.
- A key concept of Bitcoin is that of “hashing.”¹ This is essentially a function/procedure that converts any piece of data (e.g., numbers, letters, etc.) into a fixed-size value.
- The concept of “mining bitcoin” pertains to converting the data in a block of transactions into specific value. This requires “hashing” the data per the protocols of the Bitcoin network.
- All of the parameters of Bitcoin are incorporated into the protocol/code that operates the network.
 - As a decentralized network, no single entity can change the protocols/code; it is a collective decision per the prevailing protocols.
- Examples of protocols:
 - 21 million cap on the number of Bitcoin released in the network.
 - Reward process for miners (e.g., rewards are halved every four years).
 - Transaction verification process (i.e., the core element of the network).

¹ See Appendix for further information.

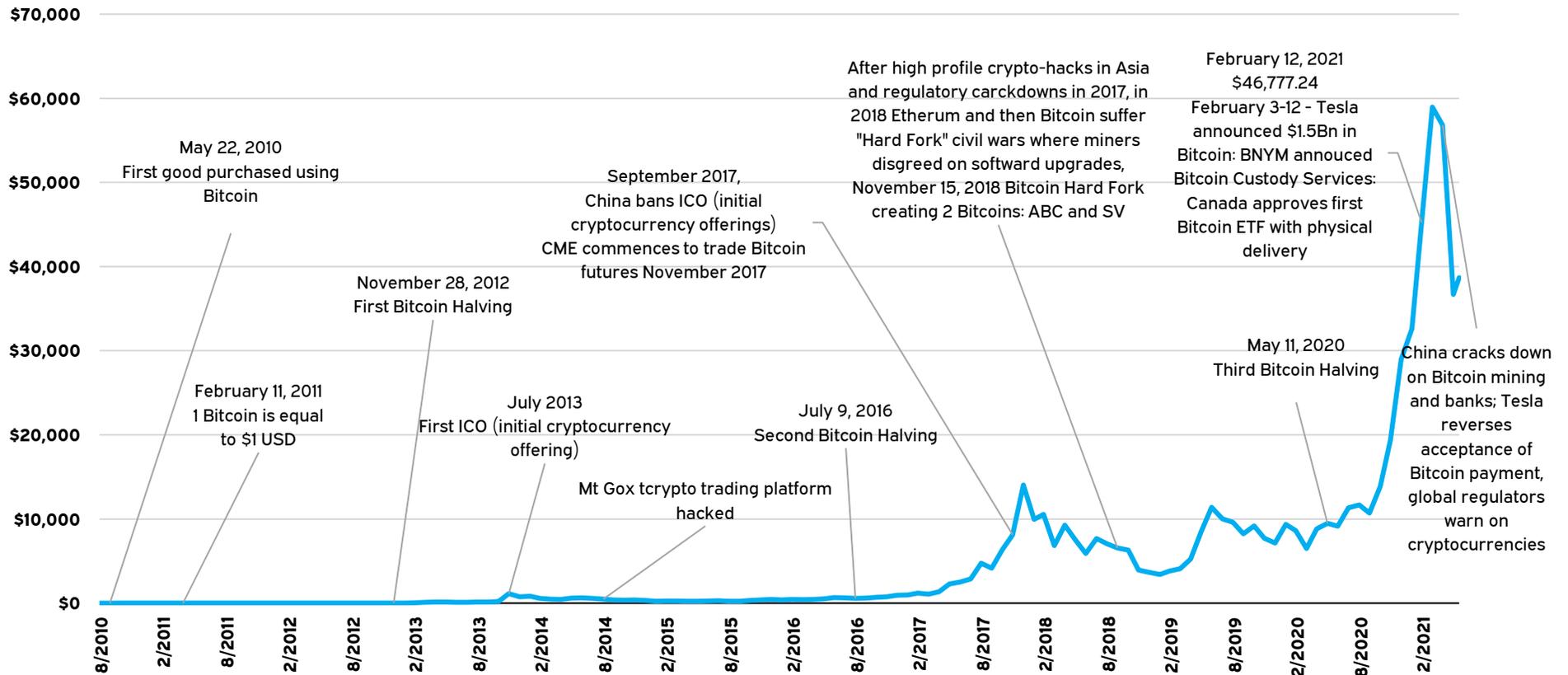
Bitcoin Market Size

Market Capitalizations (USD T.)¹



¹ Chart sources: WWW.Yardini.com, Bridgewater and www.coinmarketcap.com as of June 15, 2021.

Bitcoin Price History and Events (Price USD 2010-6/15/2021)



Source: Bloomberg, Financial Times "Digital tulip or new asset class? Bitcoins bid to go mainstream," 6/15/2021.

Blockchain/Digital Wallets

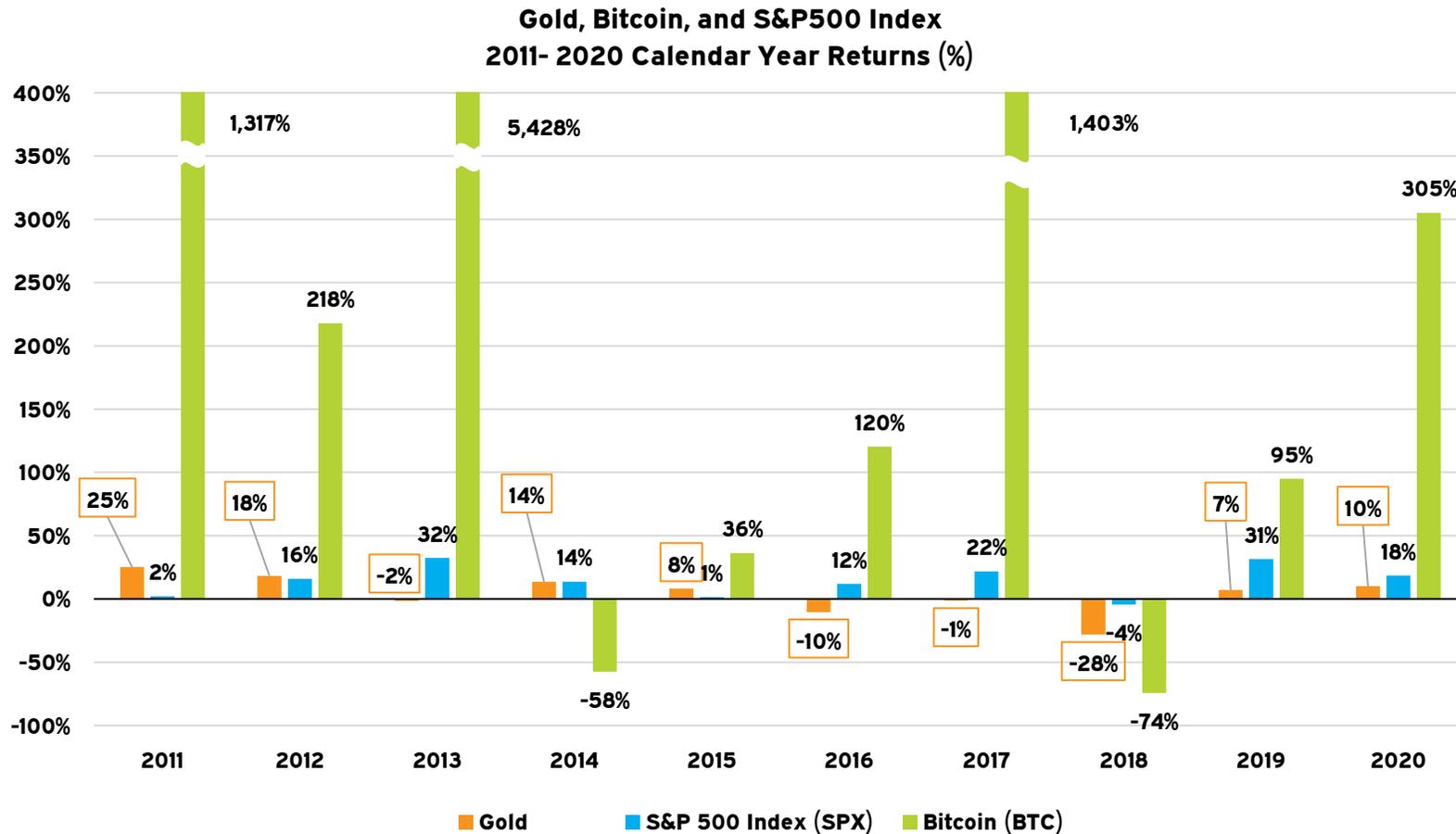
- Blockchain is distinct from Bitcoin; blockchain is a technology that enables Bitcoin functionality.
- The simplest definition of blockchain = a new form of a database.
- Lower transaction costs when the transaction is over blockchain.
- Blockchain enables faster transactions between assets.
- Blockchain users are anonymous (as long as their name isn't tied to the account).
- Because blockchain is decentralized and distributed, it's can be more secure than a centralized system.

Distributed Ledger Technology ("DLT")

- Banks and other financial institutions have begun investing in blockchain and other DLTs as a way of without investing in this new market but not taking on the risk of cryptocurrencies.
- DLTs have attributes that make it appealing for banks to invest in and adopt in future.
 - Transactions are low cost, anonymous, and secure.
 - Reduces inefficiencies in transactions (i.e., increases speed and decreases costs).
 - Reduces the time and cost of international transfers, including remittances.
- JP Morgan has been one such leader in investing in DLT technology.
 - They recently created their own DLT, the Interbank Information Network (INN).

Bitcoin Performance

- Bitcoin has outperformed Gold and the S&P 500 in 8 out of the last 10 calendar years.



Bitcoin Performance, cont.

- The net result for Bitcoin investors has been incredibly volatile, but strong performance.

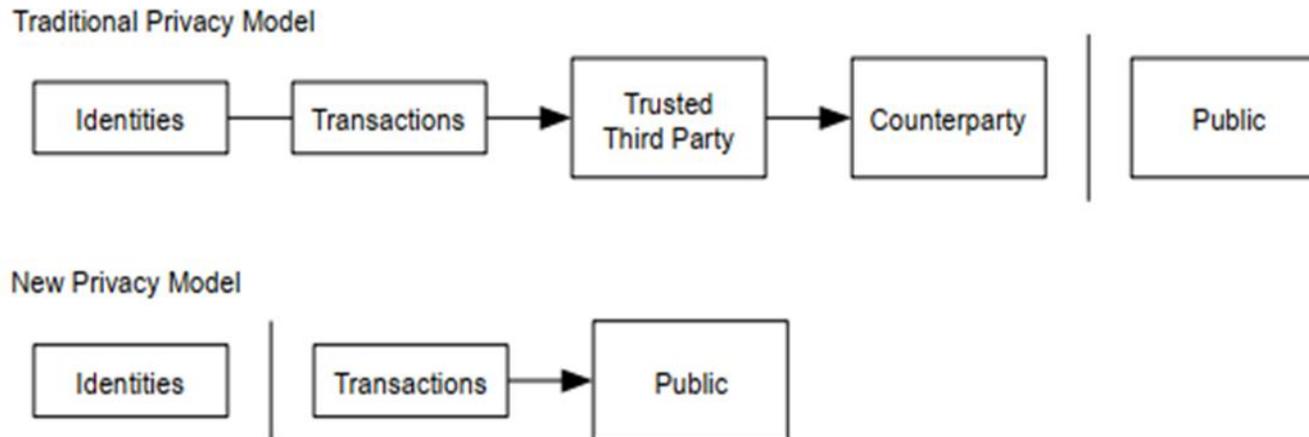
Trailing Performance¹

	Gold	S&P 500 Index	Bitcoin (BTC)
10-Yr. Annualized Return	2.9%	13.9%	215.2%
10-Yr. Standard Deviation	16.4%	13.5%	201.9%
10-Yr. Skew	0.2	-0.3	4.6
Largest Historical Drawdown	-62.2%	-86.2%	-85.9%

¹ Source: Bloomberg as of 12/31/20. Maximum Drawdowns for Gold and S&P 500 Index calculated from longest available time period. S&P 500 Index maximum drawdown from 1932 to 1933. Gold price maximum drawdown period was from 1980 to 1999, where the price of gold fell for nearly two decades and ended a \$251 an ounce.

Why Cryptocurrencies?

- Direct transactions between parties at accelerated rates of speed by eliminating trusted third parties.
 - This is less about the actual currency and more related to the transfer of funds among parties.
- Supra-national transactions outside of transaction frictions like market hours of operation, regulatory interventions, and accounting reconciliations.
- Hyper-speed transactions achieved through blockchain software capacity and encryption.
- Transactions are final and recorded in the blockchain software.
- Verification with encryption - digital keys - serve in place of banks' account verification and security.



Satoshi Nakamoto, "A Peer to Peer Electronic Cash System." ~2008

Cryptocurrency Pros & Cons¹

Pros	Cons
Distributed ledger technology could reduce financial transaction costs	Volatility reduces its usefulness as a store of value and unit of account
Independence from central banks mean that they cannot be devalued by money printing	Could diminish the effectiveness of monetary policy
Potential alternative to fiat currencies	Outside regulated banking systems
Shared ledger and anonymous transactions improves security	Crypto exchange and online wallets can be hacked
Increasing number of retail services coming online	Minimal acceptance and infrastructure limits its usefulness as a means of exchange
Transactions do not require traditional intermediaries	Global regulatory oversight is uncertain, and could limit future acceptance
Readily accessible via the internet	Nothing akin to FDIC insurance
More cryptocurrencies are becoming available	Uncertain future supply

¹ Source: Bloomberg: <https://www.bloomberg.com/news/articles/2020-09-15/india-plans-to-introduce-law-to-ban-trading-in-cryptocurrency?sref=sA9cMIUe>

Crypto Mining

- Similar to a precious metal, each individual coin must be “mined.”
 - For crypto, this term is a misnomer but the outcome is the same; more coins are created.
 - Miners are paid for their service for the network/ledger.
- The rules that govern the mining process are a part of the Bitcoin protocol and are agreed to by the decentralized network.
- Mining is the process of using computers to solve hash puzzles.
 - Computers race to solve the puzzles, and the miner that solves it first gets the reward.
- Mining is actually a byproduct of the transaction verification process.
 - It helps maintain the decentralized ledger.
- Mining incurs expenses, in the form of equipment and the electricity costs¹ needed to power and cool it.
- On average, one Bitcoin is mined every ten minutes.²

¹ As of February 2021, the amount of computer energy needed to mine bitcoin accounted for 0.56% of the world’s total electricity consumption, according to the Cambridge Centre for Alternative Finance.

² Source: <https://www.blockchain.com/charts/total-bitcoins>.

Future Supply

- Most digital currencies are designed such that a finite amount of each will ever be produced.
 - The total number of Bitcoins that can ever be mined is 21 million BTC.
 - Ethereum, however, has no upper limit.
- As of December 2020, 18.58 million Bitcoins had been mined.
 - This represents 85% of the total intended supply.
 - The final 15% is expected to be mined by 2140.
 - Miners will continue to receive fees for verifying transactions even after this date.
 - This large gap in time is due to “Halving,” which occurs approximately every 4 years.
 - Halving reduces the reward that Bitcoin miners receive by half.
 - In May 2020, the reward per block mined was reduced from 12.5 BTC to 6.25 BTC.¹
- There is no limit to the number of digital currencies that can exist.
 - This includes offshoots, or forks, of existing cryptocurrencies, such as Bitcoin Cash.
 - It is estimated that there are approximately 4,000 cryptocurrencies.

¹ Source: <https://www.blockchain.com/charts/total-bitcoins>

Crypto: Commodity or Currency?

- Most investors perceive crypto as an alternative currency.
- However, digital currencies do not meet the traditional requirements to be considered money.¹

Criteria	Current Status
Store of Value	Too volatile
Means of Exchange for Goods and Services	Minimal acceptance
Unit of Account that Measures Value	Too volatile

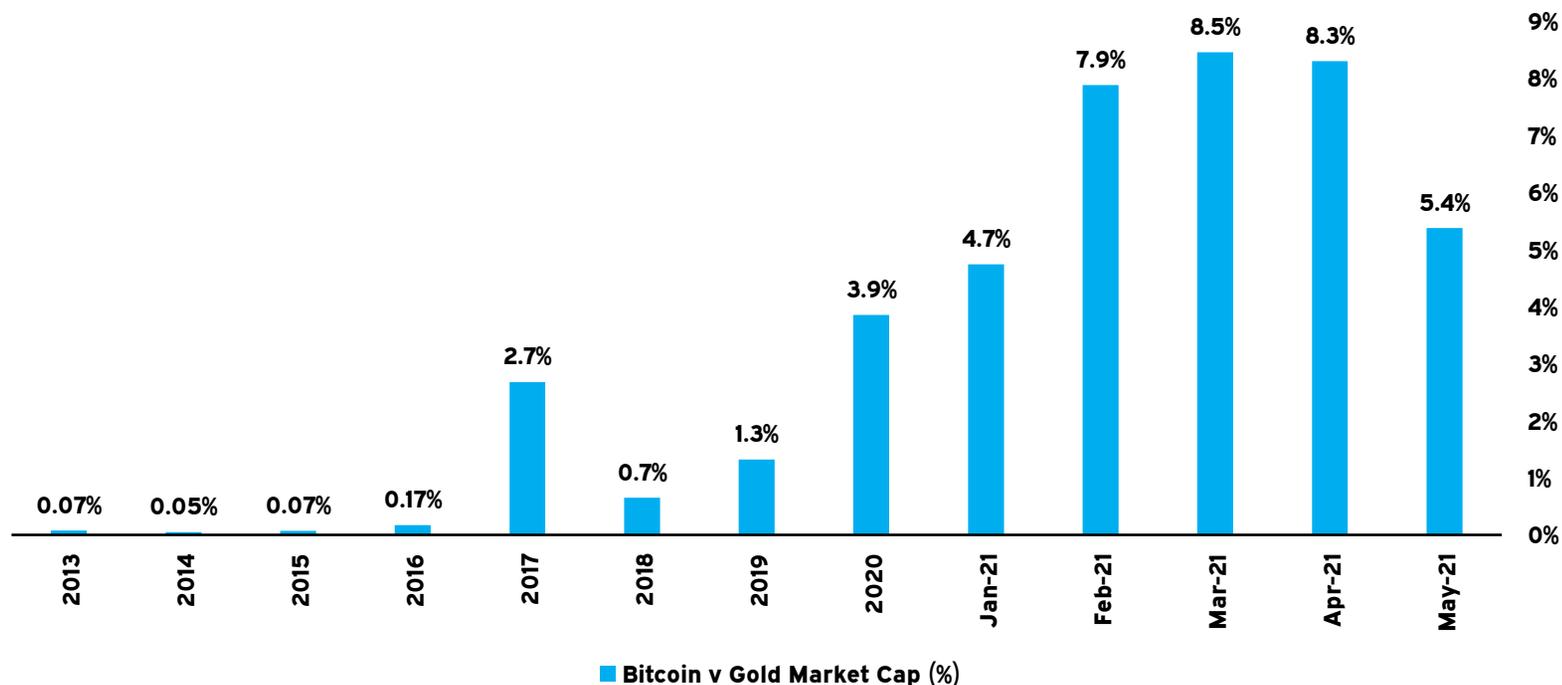
- The majority of national currencies, including the US dollar, are fiat money.
 - Fiat money is government-issued currency not backed by gold or other commodities.
 - The value of fiat money comes from the faith people hold in that country's government and economy.
- Like fiat money, Bitcoin is not backed by commodities and its value is based on the belief people hold that it does in fact have value.
 - However, one of the reasons that Bitcoin is more volatile than fiat money is because there is no government or economy on which to base its stability.

¹ IMF: <https://www.imf.org/external/pubs/ft/fandd/2018/06/what-are-cryptocurrencies-like-bitcoin/basics.htm>. See also CFTC: https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/oceo_bitcoinbasics0218.pdf

Size of the Crypto Market

- At its peak, the market capitalization of Bitcoin reached \$1 Trillion USD.¹
 - This is still a fraction of the size of the overall gold market.

Bitcoin Market Capitalization
(% est. Market Capitalization of Physical Gold USD)



¹ Source: World Gold Council annual physical gold supply and USD price per tonne. CoinMarketCap annual market capitalization for Bitcoin. Between 2013 and 2020, the number of Bitcoins in circulation increased from ~12 million to 18.6 million coins.

Crypto Platforms

- Just like stocks and derivatives are traded on exchanges by brokers, so are digital currencies.
 - A crypto platform is a site for buying and selling digital currency.
- Coinbase is the largest US cryptocurrency exchange; its offerings include:
 - A platform to buy, sell, and convert cryptocurrencies.
 - Digital wallets.
 - Loans of up to 30% of a user’s Bitcoin balance (up to \$20,000).
- Customers who purchase, sell, or transfer Bitcoin will be charged transaction fees by the cryptocurrency exchange.

Platform	Features
Coinbase Platform	<ul style="list-style-type: none"> • Most used crypto exchange in the US – wallets offered free of charge • Trading and transaction fees are charged based on estimated network transaction costs • Tiered fee assessment sized to value of transaction; 2% flat fee on credit/margin trading
Binance Platform	<ul style="list-style-type: none"> • A focus on Alt Coins (non-Bitcoin cryptocurrencies); free digital wallet services • Charges 0.1% on all transactions with a 50% discount incentive to pay fees with Binance coin • US trading suspended in 2019 – ordered to terminate crypto collateral for trading crypto futures on margin
Kraken Platform	<ul style="list-style-type: none"> • Known for advanced market trading, wallet services are free • Spot trading with account is free but with credit card transactions 3.75%, FX trading 0.04% to 0.20%, margin trading 0.01% every 4 hours, 30-day futures tiered fee 0.015% to 0.05%
Cash App Payment App	<ul style="list-style-type: none"> • Peer to Peer money transfer app (like Venmo for cryptocurrency) • Only offers/accepts Bitcoin • Service fee plus Bitcoin- market price adjustment fee, settles at mid-day price

Different Types of Crypto

- There are thousands of “altcoins” (i.e., cryptocurrencies other than Bitcoin) in the crypto market.
 - In total, altcoins comprise ~20% of the crypto market.

Name	Date Created	Operating Goal ¹	7/27/2021 Coin Price (\$)	7/27/2021 Market Capitalization (\$)
Bitcoin (BTC)	2009	Largest cryptocurrency by market capitalization and by transaction data on its blockchain, has had many software upgrades	38,419	721,446,023,665
Ethereum (ETH)	2015	Smart contracts - decentralized Applications & Financial Products	2,267	265,500,757,252
Litecoin (LTC)	2011	open-source global payment network, consumer-grade CPUs to mine	133	8,941,724,253
Cardano (ADA)	2017	Research based approach with proof of stake peers for decentralized financial applications, Ouroboros proof of stake blockchain	1	40,466,722,112
Polkadot (DOT)	2016	Inter-operability between blockchains to connect permissionless and permissioned blockchains and oracles to create systems	14	13,741,906,026
Stellar (XLM)	2014	Positioned for Institutional Transactions, allows for cross-currency exchanges	1	6,096,683,559
Chainlink (LINK)	2017	Oracle developer for cross-crypto development and payments settlement	19	8,500,567,680
Binance (BNB)	2017	Utility currency for paying fees on Binance Platform using proof of stake model, future, crypto-trading platform, crypto collateral margin trading, ERC-20	310	52,118,495,034
Tether (USDT)	2015	Stable currency pegged to USD fiat currency with blockchain	1	61,818,969,234

¹ Chart sources include: Coinbase. Market capitalization and trading volumes are as of July 27, 2021; www.coinmarketcap.com and coin proprietary websites and white papers. Coins list above represent most popularly traded cryptocurrencies as of creation of these materials.

Liquidity

- Institutional investors require the market for an asset to be liquid for it to be viable.
 - That is, they want to be able to trade in the asset without significantly effecting its price.
- Most digital currencies do not yet meet this threshold.
 - Bitcoin is coming the closest, with its liquidity growing rapidly.
 - However, much of the trading volume appears to be more indicative of speculation, not long-term investing.

	Market Capacity (Indexed)	Outstanding (USD, Bln)	Cash Volume (USD, Bln)	Derivatives Volume (USD, Bln)
USA Equities	130.4	34,629	329	479.1
USA Bonds	100.6	6,175	264	433.6
Gold	11.4	2,894	39	65.7
Silver	3.4	120	8	20.9
Iron Ore	2.0	-	-	17.6
Bitcoin	1.0	562	6	1.4

Note: Gold and silver amounts outstanding is bars, coins, recycled, and mining; Bitcoin volumes use a conservative estimate, attempting to capture flows indicative of real liquidity

US Regulators

CFTC¹:

- Cryptocurrency is classified as a commodity and as such it is regulated by the CFTC.
- Bitcoin futures trading is allowed on the CME.
- The CFTC's mandate is to regulate any derivatives contract that is based on cryptocurrencies, but not the underlying currencies.

SEC²:

- The SEC only regulates cryptocurrencies that they deem to be securities.
 - This includes Initial Cryptocurrency Offerings (“ICOs”), but excludes Bitcoin.
 - The SEC filed suit in December 2020 against Ripple for distributing their currency, XRP, without registering.

State Bank Regulators³:

- The Office of the Comptroller of the Currency (“OCC”) has ruled that state banks may take custody of cryptocurrencies.
- Any cryptocurrency regulation not mentioned above falls under state jurisdiction.
- Each state employs their own rules and so regulations are not consistent across the country.

¹ Source: CFTC: https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/oceo_bitcoinbasics0218.pdf

² Source: CNBC Interview: <https://www.youtube.com/watch?v=8YtZJRJak8E&list=ULrklCYgMWDhY&index=1169> and Bloomberg: <https://www.bloomberg.com/news/articles/2021-01-15/cryptocurrencies-face-greater-oversight-under-gensler-led-sec?sref=sA9cMIUe>

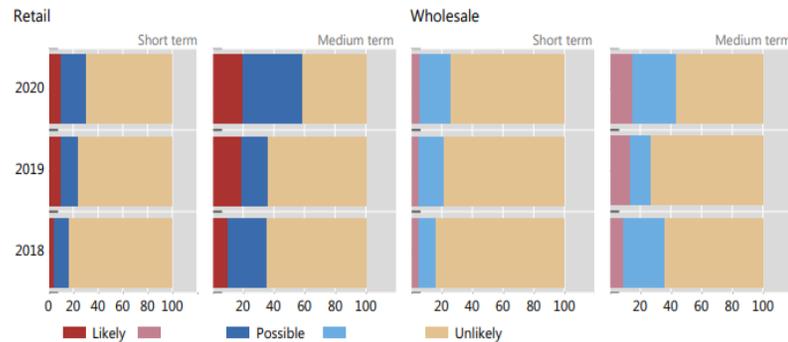
³ <https://www.occ.gov/news-issuances/news-releases/2020/nr-occ-2020-98.html>

Crypto & Global Central Banks

The likelihood of CBDC issuance continues to increase

Share of respondents

Graph 7

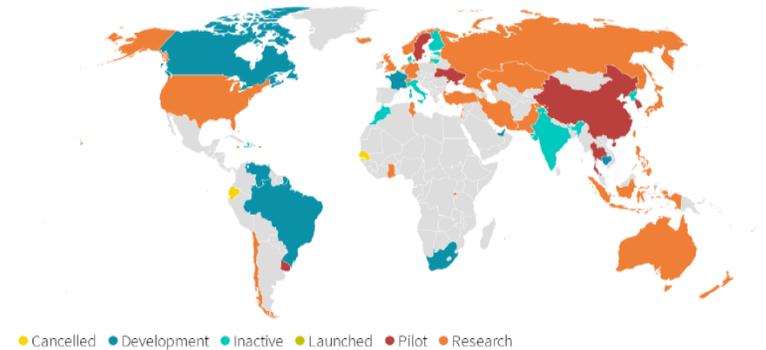


Short term: 1-3 years; Medium term: 1-6 years. "Likely" combines "very likely" and "somewhat likely". "Unlikely" combines "very unlikely" and "somewhat unlikely".

Source: BIS central bank survey on CBDCs.

Central bank digital currencies across the world

CBDC projects are moving ahead across the world - though few have gone past the drawing board



Note: European Central bank is conducting research for euro zone

Source: Harvard Kennedy School Belfer Center & Atlantic Council, Reuters research

- Global central banks are actively evaluating the costs and benefits of issuing their own digital currencies.
- The Bank for International Settlements is spearheading efforts to integrate digital currencies into central bank settlements.
- Central Bank Digital Currencies (“CBDCs”) would provide many of the benefits of digital technologies while providing regulatory oversight.
- The Central Bank of China (“PBOC”) has at least 80 patents related to the integration of digital currencies into its retail banking system, and it launched a trial in three provinces in August 2020.
- The race by Central Banks to issue digital currency may have unexpected implications for the US dollar.

Source: Reuters, “Central Bank Digital Cash”, January 27, 2021. Bank for International Settlements

How to Invest

- Investing in cryptocurrencies:
 - Buy directly from an exchange.
 - A digital wallet/custody are a prudent accessory.
 - Buy futures.
 - Similarly, a digital wallet/custody are prudent.
 - There are a small number of traditional commingled vehicles (e.g., trusts, closed-end funds).
 - Most are limited to HNW and institutional investors.
 - ETFs are coming.
 - The first bitcoin ETF has been approved in Canada.
 - In the US, regulators have yet to approve a bitcoin ETF.
 - Over 100 actively managed crypto hedge funds exist.
 - Most investors are HNW or family offices.
- Investing in the technology and infrastructure related to digital currencies:
 - There are a broad array of crypto mining and blockchain stocks.
 - There are four dedicated blockchain ETFs.
 - Venture capital investing in crypto-related technologies is growing but is still niche.

Source: Reuters February 12, 2021.

Cryptocurrency Investing Pros & Cons

Pros	Cons
High historical returns	Very high price volatility
Potentially uncorrelated with public market securities	Very short performance track record
Potential alternative to fiat currencies	Stranded/lost digital coins
Regulatory clarity has improved	Regulatory regimes are still somewhat fragmented and evolving
Likely to become more widely adopted, and hence, institutional	The market is still too small/illiquid for most institutional investors
May serve as an inflation hedge	Current digital currencies (e.g., bitcoin) could be supplanted by new ones
Limited supply of individual digital currencies	Uncertain future supply (i.e., new digital currencies)
Currencies appear to be very secure	Potential for exchanges being hacked
Institutional services (e.g., custody, insurance) are being rolled out	These service are still quite limited

Summary

- A cryptocurrency (or cyber-currency) is a digital (or virtual) currency.
- Cryptocurrency is secured by cryptography, which makes it nearly impossible to counterfeit.
- Unlike traditional currencies, most cryptocurrencies are not issued by a central bank, which means they operate outside the control of governments.
- Most fare poorly at two traditional functions of a currency:
 - Serving as a unit of account, due to extreme volatility, and
 - Serving as a store of value, due to extreme volatility.
- The first and most popular cryptocurrency is Bitcoin, but new versions continue to be introduced.
- Their future is unclear, due to governance issues, diminishing incentives, and regulatory uncertainty.
- There are different ways to invest in cryptocurrencies:
 - Direct investments via an exchange.
 - Via futures markets.
 - Indirectly investment via funds (and soon ETFs).
 - Investment in the underlying technology/infrastructure (commonly via venture capital).

Appendix

Hash Functions

- A hash function is a function (i.e., algorithm) that takes data of any kind as an input and outputs an integer value of a specific length.
 - Because everything in a computer is represented as bits (0s and 1s), anything can be used as the input.
 - Most modern hash functions will output a hexadecimal value.
 - (base 16=> 0-15 represented as 0-9 and A-F)
- Hash functions are one-way processes; you cannot reverse the output to get the original input.
 - They utilize unique mathematical properties (e.g., prime numbers) and operations to transform the input into a numerical output.
- Examples of the SHA-224 hash algorithm:
 - The second sentence has a period at the end, and the output is entirely different.

Input: SHA-224("The quick brown fox jumps over the lazy dog")

Output: 730e109bd7a8a32b1cb9d9a09aa2325d2430587ddbc0c38bad911525

Input: SHA-224("The quick brown fox jumps over the lazy dog.")

Output: 619cba8e8e05826e9b8c519c0a5c68f4fb653e8a3d8aa04bb2c8cd4c

Crypto Trusts & Mutual Funds

- The Grayscale Bitcoin Trust (GBTC) is publicly traded on the OTCQX.
 - The Trust's shares are the first securities solely invested in BTC.
 - The majority of investment (86%) came from institutional investors, dominated by asset managers.
- The Bitcoin Fund (QBTC.U) is a closed-end fund that trades on the Toronto Stock Exchange.
- Investors may also invest through Fidelity's mutual fund, Wise Origin Bitcoin Index Fund I, LP.
 - The fund is only available to qualified purchasers through family offices, RIAs, and other institutions.
- The first bitcoin ETF could be approved in 2021.

Source: Bloomberg: <https://www.bloomberg.com/quote/GBTC:US?sref=sA9cMIUe>

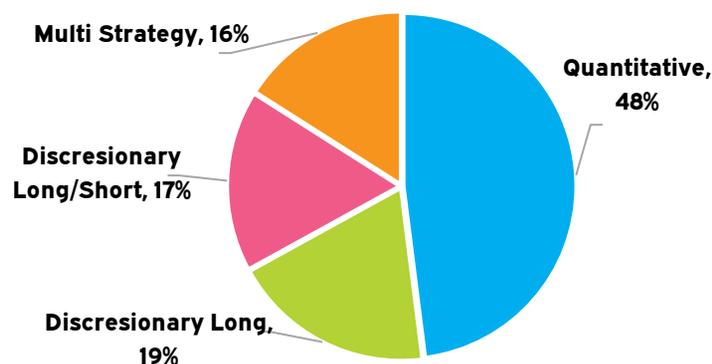
Source: Grayscale: <https://grayscale.co/insights/grayscale-q4-2020-digital-asset-investment-report/>

Source: Bloomberg: <https://www.bloomberg.com/news/articles/2020-08-26/fidelity-launches-inaugural-bitcoin-fund-for-wealthy-investors?sref=sA9cMIUe>

Crypto Hedge Funds

- As of year-end 2019, there were ~150 crypto hedge funds with aggregate AUM of over \$2 billion USD.¹
 - 90% of investors were family offices or HNW.
- Nearly half of the hedge funds pursued quantitative strategies.
- Most funds traded directly in the currencies.
 - Bitcoin (97%) and Ethereum (67%) were the two most popular.
- About half (56%) of funds traded derivatives.
 - Additional activities included cryptocurrency staking (42%), lending (38%), and borrowing (27%).
- 81% of funds used independent crypto custodians, and 86% used an independent fund administrator.

Most Common Crypto Hedge Fund Strategies



¹ Source: PWC: <https://www.pwc.com/gx/en/financial-services/pdf/pwc-elwood-annual-crypto-hedge-fund-report-may-2020.pdf>

Crypto/Blockchain Stocks and ETFs

- There are a broad array of crypto mining and blockchain stocks.
 - The market is nascent, and the hype surrounding a company may be excessive in some cases.
 - The SEC has suspended trading in several securities regarding their crypto-related activities.
- There are four dedicated blockchain ETFs.
 - BLOK - Amplify Transformational Data Sharing ETF
 - Invests in companies “actively involved in the development and utilization of transformational data sharing technologies.”
 - BLCN - Reality Shares Nasdaq NexGen Economy ETF.
 - Tracks an index that includes companies that are “developing, researching, supporting, innovating or utilizing blockchain technology.”
 - LEGR - First Trust Indxx Innovative Transaction & Process ETF.
 - Tracks an index that includes companies that are “actively using, investing in, developing, or have products that are poised to benefit from blockchain technology.”
 - KOIN - Innovation Shares NextGen Protocol ETF.
 - Tracks an index that is composed of companies that “use, or are involved in, blockchain.”

Crypto in Private Equity

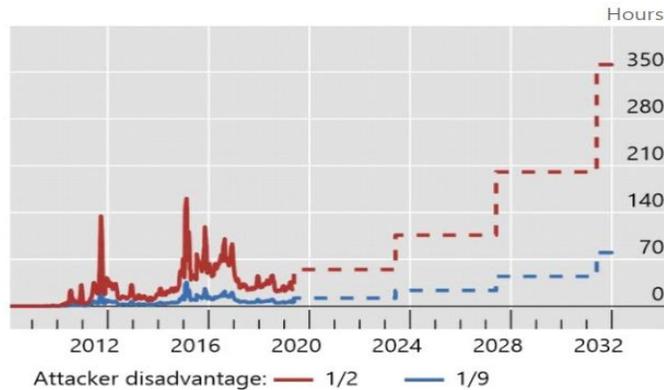
- Venture Capital investing in crypto-related technologies is growing but is still niche.
- The largest segment is in financial services linked to crypto.
 - Decentralized finance, or DeFi, which is financial software built on the blockchain that can be pieced together.
 - Bitcoin payment solutions.
 - Crypto-asset-backed loans to crypto-asset owners.
 - Tokenization (i.e., the process of issuing a token on a blockchain which represents a real asset).
 - Fund administration.
 - Crypto ATMs.
 - Trade finance.
- Investments are also being pursued in applications of blockchain in health care, energy, supply chains, and agriculture.

Crypto & Cyber Crime

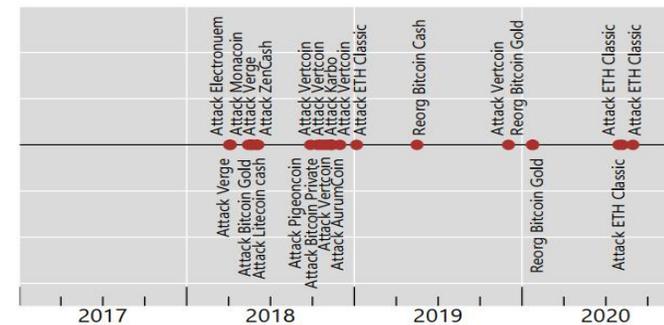
- In theory, as blockchains grow they become less vulnerable to cyberattacks as encryption and computing power of the blocks increase in number, size, and power.
- However cryptotrading platforms that use variants of cloud-based digital wallets have proven vulnerable to hackers.

Bitcoin is increasingly vulnerable; others already have been “majority attacked” Graph 3

Substantially longer waiting time results when block reward declines¹



A timeline of cryptocurrency majority attacks since 2017



¹ The lines show the implied waiting time (number of block confirmations before merchants can safely assume that a payment is irreversible) required to make an economic attack unprofitable: the attacker rents mining equipment on a short-term basis and executes a change-of-history attack. The dashed pattern indicates predicted values (see Auer (2019) for calculations).

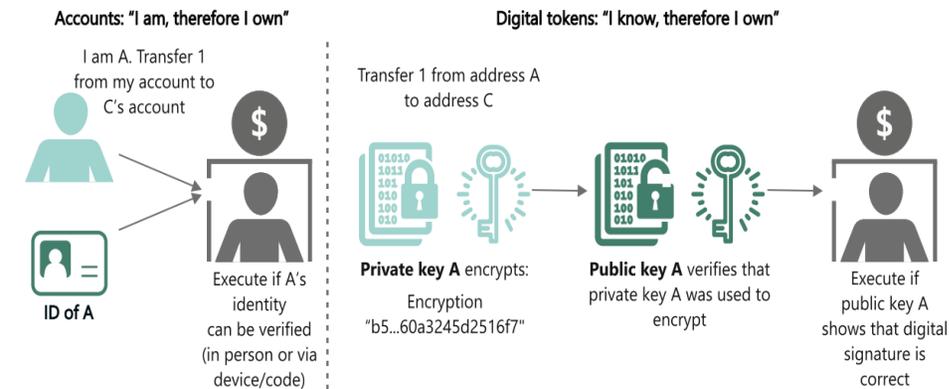
Sources: R Auer, “Beyond the doomsday economics of ‘proof-of-work’ in cryptocurrencies”, *BIS Working Papers*, no 765, January 2019; S Shanaev, A Shuraeva, M Vasenin and M Kuznetsov, “Cryptocurrency value and 51% attacks: evidence from event studies”, *The Journal of Alternative Investments*, Winter, 2020; blocksdecoded.com; bravenewcoin.com; btcmanager.com; coinbase.com; Coindesk.com; deribit.com; github.com; medium.com.

Cautionary Tale: Mt. Gox

- Mt. Gox was created in 2010 as a Bitcoin exchange platform headquartered in Japan.
 - 4 years later, it was the largest Bitcoin exchange and handled 70% of all BTC transactions.
- Mt. Gox had unknowingly been hacked and infected with a bug that over time was stealing coins from users and the company.
- The hack was discovered in 2014; a total of 850,000 BTC had been stolen.
 - This was more than 6% of all Bitcoin in circulation at the time.
- Mt. Gox filed for bankruptcy several days later.
 - After two weeks, 200,000 BTC were “found” in an old digital wallet and recovered.
 - Alexander Vinnik, owner of the crypto exchange platform BTC-e, was found guilty of aiding in and laundering the remaining 650,000 stolen Bitcoins.
- Unrelated to the hack, Mt. Gox’s CEO, Mark Karpelès, was arrested on charges of falsifying data to inflate the company’s holdings as well as embezzlement.
- As recently as December 2020, the Mt. Gox trustee submitted a plan to finally refund creditors (including users) using the previously found 200,000 Bitcoins.

Cautionary Tale: Stranded/Lost Forever?

Account-based access compared with token-based access Graph 4



In an account-based CBDC (left-hand side), ownership is tied to an identity, and transactions are authorised via identification. In a CBDC based on digital tokens (right-hand side), claims are honoured based solely on demonstrated knowledge, such as a digital signature.

Source: R Auer and R Böhme, "The technology of retail central bank digital currency", *BIS Quarterly Review*, March 2020, pp 85–100.

- Approximately 20% of existing Bitcoin appear to be stranded in digital wallets as owners may have lost or forgotten their passwords.
- Encryption parameters of digital wallets – including anonymity of cryptocurrency ownership – may render crypto assets unrecoverable.
- The complex software generation of passwords is also integral to verifying accuracy and legitimacy of crypto transactions.

Source: New York Times "Lost Passwords Lock Millionaires Out of Their Bitcoin Fortunes," January 12, 2021. Chainalysis estimate on number of stranded Bitcoin. An unclaimed digital wallet used in to test Bitcoin mining (pre-2009) holds approximately 1.1 million BTC or \$4.4bn USD . Unlike regulated banks and brokerages that can provide individuals with password support, cryptocurrencies do not have corporate support structures. Instead, crypto software generates individual, private passwords for each digital wallet through complex algorithms. These passwords serve to authenticate crypto transactions.

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

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

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

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

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

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA
RESOLUTION No. 8024

Approved to Form
and Legality



ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION AUTHORIZING THE EXECUTION OF A SECOND AMENDMENT TO EXTEND THE MASTER CUSTODY AGREEMENT WITH THE NORTHERN TRUST COMPANY TO PERFORM CUSTODIAN BANK SERVICES FOR THE OAKLAND POLICE AND FIRE RETIREMENT SYSTEM FOR A FIVE-YEAR PERIOD ENDING SEPTEMBER 30, 2026, AT A FLAT RATE FEE OF \$116,500.00 FROM OCTOBER 1, 2021 THROUGH SEPTEMBER 30, 2022 AND A FLAT RATE FEE OF \$124,500.00 FROM OCTOBER 1, 2022 THROUGH SEPTEMBER 30, 2026.

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

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

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

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

WHEREAS, on March 21, 2013, Pension Consulting Alliance (“PCA”), now Meketa Investment Group (“Meketa”), issued a Request for Information (“RFI”) for custodial services and securities lending; and

WHEREAS, four (4) banking institutions – (1) Bank of New York, (2) State Street, (3) U.S. Bank & (4) The Northern Trust Company – responded to this RFI; and

WHEREAS, pursuant to Resolution No. 6753, the PFRS Board entered into a Master Custody Agreement with the Northern Trust Company effective October 1, 2013 to provide primary custodial services and securities lending, at annual fee rates of \$116,500 per year, with an initial term of three-years; and

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION NO. 8024

WHEREAS, Resolution No. 6932 was approved by the PFRS Board at their August 31, 2016 meeting authorizing an extension to the Master Custody Agreement through September 30, 2018; and

WHEREAS, Resolution No. 7027 was approved by the PFRS Board at their October 13, 2018 meeting authorizing an extension to the Master Custody Agreement through September 30, 2021; and

WHEREAS, the Northern Trust Company has indicated that it can provide the currently required services for a flat rate fee of \$116,500.00 from October 1, 2021 through September 30, 2022 and a flat rate fee of \$124,500.00 from October 1, 2022 through September 30, 2026; and

WHEREAS, the execution of a second amendment for an extension through September 30, 2026 of the current Master Custody Agreement with The Northern Trust Company to provide primary custodial services is recommended; now, therefore, be it

RESOLVED: That the Plan Administrator is hereby authorized to execute a second amendment to extend by an additional five (5) years the October 1, 2013 Master Custody Agreement with the Northern Trust Company to perform Custodian Bank services for PFRS at a flat rate fee of \$116,500.00 from October 1, 2021 through September 30, 2022 and a flat rate fee of \$124,500.00 from October 1, 2022 through September 30, 2026.

IN BOARD MEETING, VIA ZOOM CONFERENCE _____ AUGUST 25, 2021

PASSED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ATTEST: _____
PRESIDENT

ATTEST: _____
SECRETARY

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8025

Approved to Form and Legality

[Signature]

ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION FIXING THE MONTHLY ALLOWANCE OF DIANE M. EDWARDS, SURVIVING SPOUSE OF DONALD C. EDWARDS; CHARLOTTE MCCUEN, SURVIVING SPOUSE OF JAMES K. MCCUEN; MARY F. PACINI, SURVIVING SPOUSE OF GINO J. PACINI; RETIRED MEMBERS OF THE OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

WHEREAS, the retired members of the Police and Fire Retirement System, whose names appear in Column (1) below, died on the date shown in Column (2) below; and

WHEREAS, the surviving spouses, whose names appear in Column (3) below, do not claim that their spouse's death was by reason of an injury received in, or illness caused by or arising out of the performance of duty; and

WHEREAS, there is now presented to this Board, the monthly allowance shown in Column (7) below and as calculated by the Actuary in accordance with Article XXVI of the Charter of the City of Oakland; now, therefore, be it

RESOLVED: That the Police and Fire Retirement Board does hereby fix the amount shown in Column (7) as the monthly allowance that said surviving spouses shall receive beginning on the date shown in Column (4):

Table with 7 columns: (1) Name of Deceased Member, (2) Date of Death, (3) Name of Surviving Spouse, (4) Effective Date of Allowance, (5) Form of Retirement, (6) % of Compensation Attached to Avg. Rank Held, (7) Monthly Allowance. Rows include Donald C. Edwards, James K. McCuen, and Gino J. Pacini.

IN BOARD MEETING, VIA ZOOM CONFERENCE AUGUST 25, 2021

PASSED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST: _____ PRESIDENT

ATTEST: _____ SECRETARY

OAKLAND POLICE AND FIRE RETIREMENT BOARD

CITY OF OAKLAND, CALIFORNIA

RESOLUTION No. 8026

Approved to Form and Legality

De Jager

ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION APPROVING DEATH BENEFIT PAYMENTS AND DIRECTING WARRANTS THEREUNDER IN THE AMOUNT OF \$1,000.00 PAYABLE TO THE BENEFICIARIES OF DECEASED OAKLAND POLICE AND FIRE RETIREMENT SYSTEM MEMBERS RANDAL C. BERNARD AND WALTER MCINTYRE.

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

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

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

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

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

(1)	(2)	(3)
Name of Deceased Member	Name of Beneficiary	Death Benefit Amount
Randal C. Bernard	Estate of Randal C. Bernard	\$1,000.00
Walter McIntyre	Estate of Walter McIntyre	\$1,000.00

IN BOARD MEETING, VIA ZOOM CONFERENCE _____ AUGUST 25, 2021

PASSED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ATTEST: _____ PRESIDENT

ATTEST: _____ SECRETARY



AGENDA REPORT

TO: Oakland Police and Fire Retirement System Board (PFRS)
SUBJECT: Post-Pandemic Brown Act Meeting Requirements

FROM: Jennifer Logue
Legal Counsel to PFRS Board

DATE: August 25, 2021

California’s Ralph M. Brown Act (“Brown Act”) generally requires that all meetings of the legislative body of a local agency, such as the Police and Fire Retirement System Board, be open and public, and that all persons be permitted to attend any meeting of the legislative body¹. As a result of the COVID-19 pandemic however, Governor Gavin Newsom issued an Executive Order that relieved state and local legislative bodies of the Brown Act’s in-person meeting requirements and effectively allowed legislative bodies to hold virtual meetings through Zoom or other virtual meeting platforms.² This reprieve from the Brown Act’s in-person meeting requirements has been in effect since March 17, 2020 and recently this Board has inquired about how long it will be able to continue to meet virtually through Zoom.

On June 11, 2021, Governor Newsom issued Executive Order N-08-21 (**Attachment 1**), which clarifies that the reprieve from the Brown Act’s in-person meeting requirements will **expire on September 30, 2021**. Therefore, unless the Governor issues another executive order modifying this expiration date, all local legislative bodies, including this Board, will be required to **resume in-person meetings on October 1, 2021**.

California Assembly Bill No. 339 (**Attachment 2**), currently pending before the State Legislature’s Committee on Appropriations, proposes several amendments to the Brown Act. However, as currently drafted, none of the amendments would allow for members of the legislative body to attend meetings virtually. Instead, Assembly Bill No. 339 maintains the Brown Acts requirement that all persons be permitted to attend any meeting of the legislative body in-person and imposes the additional requirement that all public meetings include an opportunity for members of the public to attend via a two-way telephonic option or a two-way internet-based service option. Therefore, in sum, the proposed amendments would allow members of the public to attend meetings telephonically or virtually but not the members of the legislative body.

Respectfully submitted,

Jennifer Logue
Counsel to the Oakland Police and Fire Retirement System

¹ See Cal. Gov’t Code sect. 54953.

² See Executive Department, State of California, Executive Order N-29-20 (March 17, 2020).

ATTACHMENT 1

EXECUTIVE DEPARTMENT
STATE OF CALIFORNIA

EXECUTIVE ORDER N-08-21

WHEREAS on March 4, 2020, I proclaimed a State of Emergency to exist in California as a result of the threat of COVID-19; and

WHEREAS since March 2020, the State has taken decisive and meaningful actions to reduce the spread, and mitigate the impacts, of COVID-19, saving an untold number of lives; and

WHEREAS as a result of the effective actions Californians have taken, as well as the successful and ongoing distribution of COVID-19 vaccines, California is turning a corner in its fight against COVID-19; and

WHEREAS on June 11, 2021, I issued Executive Order N-07-21, which formally rescinded the Stay-at-Home Order (Executive Order N-33-20, issued on March 19, 2020), as well as the framework for a gradual, risk-based reopening of the economy (Executive Order N-60-20, issued on May 4, 2020); and

WHEREAS in light of the current state of the COVID-19 pandemic in California, it is appropriate to roll back certain provisions of my COVID-19-related Executive Orders; and

WHEREAS certain provisions of my COVID-19 related Executive Orders currently remain necessary to continue to help California respond to, recover from, and mitigate the impacts of the COVID-19 pandemic, including California's ongoing vaccination programs, and the termination of certain provisions of my COVID-19 related Executive Orders during this stage of the emergency would compound the effects of the emergency and impede the State's recovery by disrupting important governmental and social functions; and

WHEREAS under the provisions of Government Code section 8571, I find that strict compliance with various statutes and regulations specified in this Order would continue to prevent, hinder, or delay appropriate actions to prevent and mitigate the effects of the COVID-19 pandemic.

NOW, THEREFORE, I, GAVIN NEWSOM, Governor of the State of California, in accordance with the authority vested in me by the State Constitution and statutes of the State of California, and in particular, Government Code sections 8567, 8571, and 8627, do hereby issue the following Order to become effective immediately:

IT IS HEREBY ORDERED THAT:

The following provisions shall remain in place and shall have full force and effect through June 30, 2021, upon which time they will expire subject to individual conditions described in the enumerated paragraphs below.

1) State of Emergency Proclamation dated March 4, 2020:

- a. Paragraph 10. Any facility operating under a waiver pursuant to this provision, memorialized in an All Facilities Letter, may operate pursuant to such a waiver through the stated expiration in the All Facilities Letter or September 30, 2021, whichever occurs first;
- b. Paragraph 11;
- c. Paragraph 12; and
- d. Paragraph 13.

2) Executive Order N-25-20:

- a. Paragraph 1; and
- b. Paragraph 7, and as applicable to local governments per Executive Order N-35-20, Paragraph 3. Effective July 1, 2021, the waivers in Executive Order N-25-20, Paragraph 7, and Executive Order N-35-20, Paragraph 3, of reinstatement requirements set forth in Government Code sections 7522.56(f) and (g) are terminated.

3) Executive Order N-26-20:

- a. Paragraph 1;
- b. Paragraph 2;
- c. Paragraph 3;
- d. Paragraph 5;
- e. Paragraph 6; and
- f. Paragraph 7.

4) Executive Order N-27-20:

- a. Paragraph 1;
- b. Paragraph 2; and
- c. Paragraph 3.

5) Executive Order N-28-20:

- a. Paragraph 3; and
- b. Paragraph 6.

6) Executive Order N-31-20:

- a. Paragraph 1; and
- b. Paragraph 2.

7) Executive Order N-35-20:

- a. Paragraph 1. Any facility operating under a waiver pursuant to this provision, memorialized in an All Facilities Letter, may operate pursuant to such a waiver through the stated expiration in the All Facilities Letter or September 30, 2021, whichever occurs first;
- b. Paragraph 4;
- c. Paragraph 6. To the extent the Director exercised their authority pursuant to this provision on or before June 30, 2021, the extension shall remain valid until the effective expiration;

- d. Paragraph 10. The State Bar shall receive the time extension in the aforementioned order for any nomination submitted to the State Bar by the Governor on or before June 30, 2021; and
- e. Paragraph 11 (as extended and clarified by N-71-20, Paragraph 6). Claims accruing before June 30, 2021 will remain subject to the 120-day extension granted in the aforementioned orders.

8) Executive Order N-36-20, Paragraph 1. To the extent the Secretary exercised their authority pursuant to this provision, the Secretary shall allow each facility to resume intake in a manner that clears intake backlog as soon as feasible.

9) Executive Order N-39-20:

- a. Paragraph 1. Any facility operating under a waiver pursuant to this provision, memorialized in an All Facilities Letter, may operate pursuant to such a waiver through the stated expiration in the All Facilities Letter or September 30, 2021, whichever occurs first;
- b. Paragraph 4; and
- c. Paragraph 7. The leases or agreements executed pursuant to this provision shall remain valid in accordance with the term of the agreement.

10) Executive Order N-40-20:

- a. Paragraph 1. For rulemakings published in the California Regulatory Notice Register pursuant to Government Code section 11346.4(a)(5) prior to June 30, 2021, the deadlines in the aforementioned order shall remain extended in accordance with the order;
- b. Paragraph 2 (as extended and clarified by N-66-20, Paragraph 12, and N-71-20, Paragraph 10). Notwithstanding the expiration of this provision, state employees subject to these training requirements shall receive the benefit of the 120-day extension granted by the aforementioned orders. All required training due on or before June 30, 2021 must be completed within 120 days of the statutorily prescribed due date;
- c. Paragraph 7 (as extended and clarified by N-66-20, Paragraph 13 and N-71-20, Paragraph 11). With regard to appeals received on or before June 30, 2021, the State Personnel Board shall be entitled to the extension in the aforementioned order to render its decision;
- d. Paragraph 8. To the extent the deadlines specified in Government Code section 22844 and California Code of Regulations, title 2, sections 599.517 and 599.518 fell on a date on or before June 30, 2021 absent the extension, they shall expire pursuant to the timeframes specified in the aforementioned orders;
- e. Paragraph 16;
- f. Paragraph 17; and
- g. Paragraph 20.

11) Executive Order N-45-20:

- a. Paragraph 4;
- b. Paragraph 8;
- c. Paragraph 9; and

- d. Paragraph 12. For vacancies occurring prior to June 30, 2021, the deadline to fill the vacancy shall remain extended for the time period in the aforementioned order.

12) Executive Order N-46-20:

- a. Paragraph 1; and
- b. Paragraph 2.

13) Executive Order N-47-20:

- a. Paragraph 2; and
- b. Paragraph 3.

14) Executive Order N-48-20, Paragraph 2 (which clarified the scope of N-34-20).

15) Executive Order N-49-20:

- a. Paragraph 1;
- b. Paragraph 3. For determinations made on or before June 30, 2021, the discharge date shall be within 14 days of the Board's determination; and
- c. Paragraph 4.

16) Executive Order N-50-20, Paragraph 2.

17) Executive Order N-52-20:

- a. Paragraph 6;
- b. Paragraph 7. To the extent an individual has commenced a training program prior to June 30, 2021, that was interrupted by COVID-19, that individual shall be entitled to the extended timeframe in the aforementioned order; and
- c. Paragraph 14; and
- d. Paragraph 16.

18) Executive Order N-53-20:

- a. Paragraph 3;
- b. Paragraph 12 (as extended or modified by N-69-20, Paragraph 10, and N-71-20, Paragraph 27); and
- c. Paragraph 13 (as extended or modified by N-69-20, Paragraph 11, and N-71-20, Paragraph 28).

19) Executive Order N-54-20, Paragraph 7. To the extent the date governing the expiration of registration of vehicles previously registered in a foreign jurisdiction falls on or before June 30, 2021, the deadline is extended pursuant to the aforementioned orders.

20) Executive Order N-55-20:

- a. Paragraph 1. Statutory deadlines related to cost reports, change in scope of service requests, and reconciliation requests occurring on

or before June 30, 2021 shall remain subject to the extended deadline in the aforementioned order;

- b. Paragraph 4;
- c. Paragraph 5;
- d. Paragraph 6;
- e. Paragraph 8;
- f. Paragraph 9;
- g. Paragraph 10;
- h. Paragraph 13;
- i. Paragraph 14. Statutory deadlines related to beneficiary risk assessments occurring on or before June 30, 2021 shall remain subject to the extended deadline in the aforementioned order; and
- j. Paragraph 16. Deadlines for fee-for-service providers to submit information required for a Medical Exemption Request extended on or before June 30, 2021 shall remain subject to the extended deadline granted under the aforementioned order.

21) Executive Order N-56-20:

- a. Paragraph 1;
- b. Paragraph 6;
- c. Paragraph 7;
- d. Paragraph 8;
- e. Paragraph 9; and
- f. Paragraph 11.

22) Executive Order N-59-20, Paragraph 6.

23) Executive Order N-61-20:

- a. Paragraph 1;
- b. Paragraph 2;
- c. Paragraph 3; and
- d. Paragraph 4.

24) Executive Order N-63-20:

- a. Paragraph 8(a) (as extended by N-71-20, Paragraph 40). The deadlines related to reports by the Division of Occupational Safety and Health (Cal/OSHA) and the Occupational Safety & Health Standards Board on proposed standards or variances due on or before June 30, 2021 shall remain subject to the extended timeframe;
- b. Paragraph 8(c). To the extent the date upon which the Administrative Director must act upon Medical Provider Network applications or requests for modifications or reapprovals falls on or before June 30, 2021 absent the extension in the aforementioned order, it shall remain subject to the extended timeframe;
- c. Paragraph 8(e). To the extent filing deadlines for a Return-to-Work Supplement appeal and any reply or responsive papers fall on or before June 30, 2021, absent the extension in the aforementioned order, they shall remain subject to the extended timeframe;
- d. Paragraph 9(a) (as extended and modified by N-71-20, Paragraph 39). Any deadline setting the time for the Labor Commissioner to

issue any citation under the Labor Code, including a civil wage and penalty assessment pursuant to Labor Code section 1741, that, absent the aforementioned order, would have occurred or would occur between May 7, 2020 and September 29, 2021 shall be extended to September 30, 2021. Any such deadline that, absent the aforementioned order, would occur after September 29, 2021 shall be effective based on the timeframe in existence before the aforementioned order;

- e. Paragraph 9(b) (as extended and modified by N-71-20, Paragraph 41);
- f. Paragraph 9(c) (as extended and modified by N-71-20, Paragraph 39). Any deadline setting the time for a worker to file complaints and initiate proceedings with the Labor Commissioner pursuant to Labor Code sections 98, 98.7, 1700.44, and 2673.1, that, absent the aforementioned order, would have occurred or would occur between May 7, 2020 and September 29, 2021 shall be extended to September 30, 2021. Any such deadline that, absent the aforementioned order, would occur after September 29, 2021 shall be effective based on the timeframe in existence before the aforementioned order;
- g. Paragraph 9(d) (as extended and modified by N-71-20, Paragraph 39). Any deadline setting the time for Cal/OSHA to issue citations pursuant to Labor Code section 6317, that, absent the aforementioned order, would have occurred or would occur between May 7, 2020 and September 29, 2021 shall be extended to September 30, 2021. Any such deadline that, absent the aforementioned order, would occur after September 29, 2021 shall be effective based on the timeframe in existence before the aforementioned order;
- h. Paragraph 9(e) (as extended and modified by N-71-20, Paragraph 41);
- i. Paragraph 10;
- j. Paragraph 12. Any peace officer reemployed on or before June 30, 2021 pursuant to the aforementioned order shall be entitled to the extended reemployment period set forth in the order;
- k. Paragraph 13;
- l. Paragraph 14; and
- m. Paragraph 15 (as extended by N-71-20, Paragraph 36).

25) Executive Order N-65-20:

- a. Paragraph 5 (as extended by N-71-20, Paragraph 35; N-80-20, Paragraph 4; and N-01-21). Identification cards issued under Health and Safety Code section 11362.71 that would otherwise have expired absent the aforementioned extension between March 4, 2020 and June 30, 2021 shall expire on December 31, 2021; and
- b. Paragraph 7.

26) Executive Order N-66-20:

- a. Paragraph 3;
- b. Paragraph 4; and
- c. Paragraph 5.

27) Executive Order N-68-20:

- a. Paragraph 1. Notwithstanding the expiration of the aforementioned order, temporary licenses granted on or before June 30, 2021 shall be valid through September 30, 2021; and
- b. Paragraph 2. Renewal fee payments otherwise due to the to the California Department of Public Health absent the extension in the aforementioned order on or before June 30, 2021, shall be entitled to the extensions of time set forth in the aforementioned order.

28) Executive Order N-71-20:

- a. Paragraph 1;
- b. Paragraph 4;
- c. Paragraph 16. Where the statutory deadline for opening or completing investigations is set to occur on or before June 30, 2021, the deadline shall remain subject to the extension in the aforementioned order; and
- d. Paragraph 17. Where the statutory deadline for serving a notice of adverse action is due on or before June 30, 2021, the deadline shall remain subject to the extension in the aforementioned order.

29) Executive Order N-75-20:

- a. Paragraph 7. Children placed in foster care on or before June 30, 2021 shall receive such examinations on or before July 31, 2021;
- b. Paragraph 8;
- c. Paragraph 9;
- d. Paragraph 10. Any facility operating under a waiver pursuant to this provision may operate pursuant to such a waiver through the expiration as set forth by the California Department of Public Health, or September 30, 2021, whichever occurs first; and
- e. Paragraph 13.

30) Executive Order N-76-20, Paragraph 3.

31) Executive Order N-77-20:

- a. Paragraph 1;
- b. Paragraph 2; and
- c. Paragraph 3.

32) Executive Order N-78-20 (as extended and modified by N-03-21):

- a. Paragraph 1; and
- b. Paragraph 2.

33) Executive Order N-83-20:

- a. Paragraph 3. To the extent the Director of the Department of Alcoholic Beverage Control suspends deadlines for renewing licenses upon payment of annual fees on or before June 30, 2021, the extension shall remain valid until the effective expiration;

- b. Paragraph 5 (which repealed and replaced N-71-20, Paragraph 19, which extended N-52-20, Paragraph 1, and N-69-20, Paragraph 3);
- c. Paragraph 6 (which repealed and replaced N-71-20, Paragraph 20, which extended N-52-20, Paragraph 2, and N-69-20, Paragraph 4); and
- d. Paragraph 7 (which repealed and replaced N-71-20, Paragraph 21, which extended N-52-20, Paragraph 3, and N-69-20, Paragraph 5).

34) Executive Order N-84-20:

- a. Paragraph 1;
- b. Paragraph 2;
- c. Paragraph 3; and
- d. Paragraph 5.

The following provisions shall remain in place and shall have full force and effect through July 31, 2021, upon which time they will expire subject to individual conditions described in the enumerated paragraphs below.

35) Executive Order N-39-20, Paragraph 8 (as extended by N-69-20, Paragraph 2 and N-71-20, Paragraph 8).

36) Executive Order N-53-20, Paragraph 11 (as extended or modified by N-68-20, Paragraph 15, and N-71-20, Paragraph 26).

37) Executive Order N-71-20, Paragraph 25.

38) Executive Order N-75-20:

- a. Paragraph 5; and
- b. Paragraph 6

The following provisions shall remain in place and shall have full force and effect through September 30, 2021, upon which time they will expire subject to individual conditions described in the enumerated paragraphs below.

39) State of Emergency Proclamation dated March 4, 2020:

- a. Paragraph 3; and
- b. Paragraph 14. Any facility operating under a waiver pursuant to this provision may operate pursuant to such a waiver through the expiration as set forth by the Department of Social Services, or September 30, 2021, whichever occurs first.

40) Executive Order N-25-20:

- a. Paragraph 2;
- b. Paragraph 3; and
- c. Paragraph 4.

41) Executive Order N-28-20:

- a. Paragraph 4; and
- b. Paragraph 5.

42) Executive Order N-29-20, Paragraph 3, is withdrawn and replaced by the following text:

Notwithstanding any other provision of state or local law (including, but not limited to, the Bagley-Keene Act or the Brown Act), and subject to the notice and accessibility requirements set forth below, a local legislative body or state body is authorized to hold public meetings via teleconferencing and to make public meetings accessible telephonically or otherwise electronically to all members of the public seeking to observe and to address the local legislative body or state body. All requirements in both the Bagley-Keene Act and the Brown Act expressly or impliedly requiring the physical presence of members, the clerk or other personnel of the body, or of the public as a condition of participation in or quorum for a public meeting are hereby waived.

In particular, any otherwise-applicable requirements that

- (i) state and local bodies notice each teleconference location from which a member will be participating in a public meeting;
- (ii) each teleconference location be accessible to the public;
- (iii) members of the public may address the body at each teleconference conference location;
- (iv) state and local bodies post agendas at all teleconference locations;
- (v) at least one member of the state body be physically present at the location specified in the notice of the meeting; and
- (vi) during teleconference meetings, a least a quorum of the members of the local body participate from locations within the boundaries of the territory over which the local body exercises jurisdiction

are hereby suspended.

A local legislative body or state body that holds a meeting via teleconferencing and allows members of the public to observe and address the meeting telephonically or otherwise electronically, consistent with the notice and accessibility requirements set forth below, shall have satisfied any requirement that the body allow members of the public to attend the meeting and offer public comment. Such a body need not make available any physical location from which members of the public may observe the meeting and offer public comment.

Accessibility Requirements: If a local legislative body or state body holds a meeting via teleconferencing and allows members of the public to observe and address the meeting telephonically or otherwise electronically, the body shall also:

- (i) Implement a procedure for receiving and swiftly resolving requests for reasonable modification or accommodation from individuals with disabilities, consistent with the Americans with Disabilities Act and resolving any doubt whatsoever in favor of accessibility; and
- (ii) Advertise that procedure each time notice is given of the means by which members of the public may observe the meeting and offer public comment, pursuant to subparagraph (ii) of the Notice Requirements below.

Notice Requirements: Except to the extent this Order expressly provides otherwise, each local legislative body and state body shall:

- (i) Give advance notice of the time of, and post the agenda for, each public meeting according to the timeframes otherwise prescribed by the Bagley-Keene Act or the Brown Act, and using the means otherwise prescribed by the Bagley-Keene Act or the Brown Act, as applicable; and
- (ii) In each instance in which notice of the time of the meeting is otherwise given or the agenda for the meeting is otherwise posted, also give notice of the means by which members of the public may observe the meeting and offer public comment. As to any instance in which there is a change in such means of public observation and comment, or any instance prior to the issuance of this Order in which the time of the meeting has been noticed or the agenda for the meeting has been posted without also including notice of such means, a body may satisfy this requirement by advertising such means using "the most rapid means of communication available at the time" within the meaning of Government Code, section 54954, subdivision (e); this shall include, but need not be limited to, posting such means on the body's Internet website.

All of the foregoing provisions concerning the conduct of public meetings shall apply through September 30, 2021.

43) Executive Order N-32-20:

- a. Paragraph 1;
- b. Paragraph 2; and
- c. Paragraph 3.

44) Executive Order N-35-20:

- a. Paragraph 2; and
- b. Paragraph 12.

45) Executive Order N-39-20:

- a. Paragraph 2;
- b. Paragraph 3; and
- c. Paragraph 6.

46) Executive Order N-40-20:

- a. Paragraph 12 (as extended or modified by N-66-20, paragraph 16, N-71-20, paragraph 14, and N-75-20, Paragraph 12). To the extent the Director exercised their authority pursuant to this provision on or before September 30, 2021, the extension shall remain valid until the effective expiration of the applicable waiver; and
- b. Paragraph 18.

47) Executive Order N-42-20.

48) Executive Order N-43-20.

49) Executive Order N-49-20, Paragraph 2.

50) Executive Order N-54-20:

- a. Paragraph 8 (as extended by N-80-20, Paragraph 6); and
- b. Paragraph 9. To the extent any timeframe within which a California Native American tribe must request consultation and the lead agency must begin the consultation process relating to an Environmental Impact Report, Negative Declaration, or Mitigated Negative Declaration under the California Environmental Quality Act extends beyond September 30, 2021, the tribe and lead agency will receive the benefit of the extension so long as the triggering event occurred on or before September 30, 2021.

51) Executive Order N-55-20:

- a. Paragraph 2;
- b. Paragraph 3;
- c. Paragraph 7. All on-site licensing visits which would have been due on or before September 30, 2021 shall occur before December 31, 2021;
- d. Paragraph 11; and
- e. Paragraph 12.

52) Executive Order N-56-20, Paragraph 10 is withdrawn and superseded by the following text:

Paragraph 42 of this Order, including the conditions specified therein, shall apply to meetings held pursuant to Article 3 of Chapter 2 of Part 21 of Division 3 of Title 2 of the Education Code and Education Code section 47604.1(b).

53) Executive Order N-58-20 (as extended by N-71-20, Paragraph 29).

54) Executive Order N-59-20:

- a. Paragraph 1. The sworn statement or verbal attestation of pregnancy must be submitted on or before September 30, 2021 and medical verification of pregnancy must be submitted within 30

working days following submittal of the sworn statement or verbal attestation for benefits to continue;

- b. Paragraph 2 (as extended and modified by N-69-20, Paragraph 14, and N-71-20, Paragraph 31);
- c. Paragraph 3 (as extended and modified by N-69-20, Paragraph 15, and N-71-20, Paragraph 32); and
- d. Paragraph 4 (as extended and modified by N-69-20, Paragraph 16, and N-71-20, Paragraph 33).

55) Executive Order N-63-20:

- a. Paragraph 8(b). To the extent filing deadlines for claims and liens fall on or before September 30, 2021, absent the extension in the aforementioned order, they shall remain subject to the extended timeframe; and
- b. Paragraph 11.

56) Executive Order N-66-20, Paragraph 6.

57) Executive Order N-71-20:

- a. Paragraph 15;
- b. Paragraph 22; and
- c. Paragraph 23.

58) Executive Order N-75-20:

- a. Paragraph 1;
- b. Paragraph 2; and
- c. Paragraph 4.

59) Executive Order N-80-20:

- a. Paragraph 3; and
- b. Paragraph 7.

60) Executive Order N-83-20

- a. Paragraph 2 is withdrawn and replaced by the following text:

The deadline to pay annual fees, including any installment payments, currently due or that will become due during the proclaimed emergency, as specified in Business and Professions Code sections 19942, 19951, 19954, 19955, 19984, and any accompanying regulations is September 30, 2021; the deadlines for submission of any application or deposit fee, as specified in Business and Professions Code sections 19951 (a), 19867, 19868, 19876, 19877, 19942, 19984, and any accompanying regulations is no later than September 30, 2021, or per existing requirements, whichever date is later.

- b. Paragraph 4.

61) Executive Order N-03-21, Paragraph 3, is withdrawn and replaced by the following text:

As applied to commercial evictions only, the timeframe for the protections set forth in Paragraph 2 of Executive Order N-28-20 (and extended by Paragraph 21 of Executive Order N-66-20, Paragraph 3 of Executive Order N-71-20, and Paragraph 2 of Executive Order N-80-20) is extended through September 30, 2021.

IT IS FURTHER ORDERED that, as soon as hereafter possible, this Order be filed in the Office of the Secretary of State and that widespread publicity and notice be given of this Order.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 11th day of June 2021.



GAVIN NEWSOM
Governor of California

ATTEST:

SHIRLEY N. WEBER, PH.D.
Secretary of State

ATTACHMENT 2

AMENDED IN SENATE JULY 5, 2021
AMENDED IN SENATE JUNE 25, 2021
AMENDED IN ASSEMBLY MAY 4, 2021
AMENDED IN ASSEMBLY APRIL 15, 2021

CALIFORNIA LEGISLATURE—2021–22 REGULAR SESSION

ASSEMBLY BILL

No. 339

**Introduced by Assembly Members Lee and Cristina Garcia
(Coauthors: Assembly Members Arambula, Cooley, Kiley, and
Robert Rivas)
(Coauthor: Senator Stern)**

January 28, 2021

An act to amend Section 54953 of, and to add and repeal Section 54953.9 of, the Government Code, relating to public meetings.

LEGISLATIVE COUNSEL'S DIGEST

AB 339, as amended, Lee. Local government: open and public meetings.

Existing law, the Ralph M. Brown Act, requires, with specified exceptions, that all meetings of a legislative body of a local agency, as those terms are defined, be open and public and that all persons be permitted to attend and participate. Under existing law, a member of the legislative body who attends a meeting where action is taken in violation of this provision, with the intent to deprive the public of information that the member knows the public is entitled to, is guilty of a crime.

This bill would require local agencies to conduct meetings subject to the act consistent with applicable state and federal civil rights laws, as specified.

This bill would, until December 31, 2023, require all open and public meetings of a city council or a county board of supervisors that governs a jurisdiction containing least 250,000 people to include an opportunity for members of the public to attend via a two-way telephonic option or a two-way internet-based service option, as specified, and would require a city council or county board of supervisors that has, as of June 15, 2021, provided video streaming, as defined, of *at least one of* its meetings to continue to provide that video streaming. The bill would require all open and public meetings to include an in-person public comment opportunity, except in specified circumstances during a declared state or local emergency. The bill would require all meetings to provide the public with an opportunity to comment on proposed legislation in person and remotely via a telephonic or an internet-based service option, as provided.

By imposing new duties on local governments and expanding the application of a crime with respect to meetings, this bill would impose a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for specified reasons.

The California Constitution requires local agencies, for the purpose of ensuring public access to the meetings of public bodies and the writings of public officials and agencies, to comply with a statutory enactment that amends or enacts laws relating to public records or open meetings and contains findings demonstrating that the enactment furthers the constitutional requirements relating to this purpose.

This bill would make legislative findings to that effect.

The bill would include findings that changes proposed by this bill address a matter of statewide concern rather than a municipal affair and, therefore, apply to all cities and counties, including charter cities and counties.

Vote: majority. Appropriation: no. Fiscal committee: yes.
State-mandated local program: yes.

The people of the State of California do enact as follows:

1 SECTION 1. Section 54953 of the Government Code is
2 amended to read:

3 54953. (a) All meetings of the legislative body of a local
4 agency shall be open and public, and all persons shall be permitted
5 to attend any meeting of the legislative body of a local agency in
6 person, except as otherwise provided in this chapter. Local agencies
7 shall conduct meetings subject to this chapter consistent with
8 applicable state and federal civil rights laws, including, but not
9 limited to, the language access and other nondiscrimination
10 obligations of Section 11135 and Subchapter V (commencing with
11 Section 2000d) of Chapter 21 of Title 42 of the United States Code.

12 (b) (1) Notwithstanding any other provision of law, the
13 legislative body of a local agency may use teleconferencing for
14 the benefit of the public and the legislative body of a local agency
15 in connection with any meeting or proceeding authorized by law.
16 The teleconferenced meeting or proceeding shall comply with all
17 requirements of this chapter and all otherwise applicable provisions
18 of law relating to a specific type of meeting or proceeding.

19 (2) Teleconferencing, as authorized by this section, may be used
20 for all purposes in connection with any meeting within the subject
21 matter jurisdiction of the legislative body. All votes taken during
22 a teleconferenced meeting shall be by rollcall.

23 (3) If the legislative body of a local agency elects to use
24 teleconferencing, it shall post agendas at all teleconference
25 locations and conduct teleconference meetings in a manner that
26 protects the statutory and constitutional rights of the parties or the
27 public appearing before the legislative body of a local agency.
28 Each teleconference location shall be identified in the notice and
29 agenda of the meeting or proceeding, and each teleconference
30 location shall be accessible to the public. During the teleconference,
31 at least a quorum of the members of the legislative body shall
32 participate from locations within the boundaries of the territory
33 over which the local agency exercises jurisdiction, except as
34 provided in subdivision (d). The agenda shall provide an
35 opportunity for members of the public to address the legislative
36 body directly pursuant to Section 54954.3 at each teleconference
37 location.

1 (4) For the purposes of this section, “teleconference” means a
2 meeting of a legislative body, the members of which are in different
3 locations, connected by electronic means, through either audio or
4 video, or both. Nothing in this section shall prohibit a local agency
5 from providing the public with additional teleconference locations.

6 (c) (1) No legislative body shall take action by secret ballot,
7 whether preliminary or final.

8 (2) The legislative body of a local agency shall publicly report
9 any action taken and the vote or abstention on that action of each
10 member present for the action.

11 (3) Prior to taking final action, the legislative body shall orally
12 report a summary of a recommendation for a final action on the
13 salaries, salary schedules, or compensation paid in the form of
14 fringe benefits of a local agency executive, as defined in
15 subdivision (d) of Section 3511.1, during the open meeting in
16 which the final action is to be taken. This paragraph shall not affect
17 the public’s right under the California Public Records Act (Chapter
18 3.5 (commencing with Section 6250) of Division 7 of Title 1) to
19 inspect or copy records created or received in the process of
20 developing the recommendation.

21 (d) (1) Notwithstanding the provisions relating to a quorum in
22 paragraph (3) of subdivision (b), if a health authority conducts a
23 teleconference meeting, members who are outside the jurisdiction
24 of the authority may be counted toward the establishment of a
25 quorum when participating in the teleconference if at least 50
26 percent of the number of members that would establish a quorum
27 are present within the boundaries of the territory over which the
28 authority exercises jurisdiction, and the health authority provides
29 a teleconference number, and associated access codes, if any, that
30 allows any person to call in to participate in the meeting and the
31 number and access codes are identified in the notice and agenda
32 of the meeting.

33 (2) Nothing in this subdivision shall be construed as
34 discouraging health authority members from regularly meeting at
35 a common physical site within the jurisdiction of the authority or
36 from using teleconference locations within or near the jurisdiction
37 of the authority. A teleconference meeting for which a quorum is
38 established pursuant to this subdivision shall be subject to all other
39 requirements of this section.

1 (3) For purposes of this subdivision, a health authority means
2 any entity created pursuant to Sections 14018.7, 14087.31,
3 14087.35, 14087.36, 14087.38, and 14087.9605 of the Welfare
4 and Institutions Code, any joint powers authority created pursuant
5 to Article 1 (commencing with Section 6500) of Chapter 5 of
6 Division 7 for the purpose of contracting pursuant to Section
7 14087.3 of the Welfare and Institutions Code, and any advisory
8 committee to a county-sponsored health plan licensed pursuant to
9 Chapter 2.2 (commencing with Section 1340) of Division 2 of the
10 Health and Safety Code if the advisory committee has 12 or more
11 members.

12 SEC. 2. Section 54953.9 is added to the Government Code, to
13 read:

14 54953.9. (a) A city council or a county board of supervisors
15 that governs a jurisdiction containing at least 250,000 people shall
16 comply with the following requirements:

17 (1) (A) All open and public meetings shall include an
18 opportunity for members of the public to attend via a two-way
19 telephonic option or a two-way internet-based service option.

20 (B) If a city council or a county board of supervisors elects to
21 provide a two-way internet-based service option, the local agency
22 shall publicly post and provide a call-in option, and activate any
23 automatic captioning function during the meeting if an automatic
24 captioning function is included with the system.

25 (2) (A) If a city council or county board of supervisors has, as
26 of June 15, 2021, provided video streaming of ~~all~~ *at least one* open
27 and public ~~meetings, meeting~~, the city council or county board of
28 supervisors shall continue to provide that video streaming.

29 (B) “Video streaming” means media in which the data from a
30 live filming or a video file is continuously delivered via the internet
31 to a remote user, allowing a video to be viewed online by the public
32 without being downloaded on a host computer or device.

33 (3) (A) Unless there are any laws that prohibit in-person
34 government meetings in the case of a declared state of emergency,
35 including a public health emergency, all open and public meetings
36 shall include an in-person public comment opportunity, wherein
37 members of the public can report to a designated site to give public
38 comment in person. The location of the designated site and any
39 relevant instructions on in-person commenting shall be included
40 with the public posting of the agenda.

1 (B) All open and public meetings shall provide the public with
2 an opportunity to comment on proposed legislation via a two-way
3 telephonic or internet-based service option, and ensure the
4 opportunity for the members of the public participating via a
5 two-way telephonic or internet-based option to comment on agenda
6 items with the same time allotment as a person attending a meeting
7 in person.

8 (b) This section shall remain in effect only until December 31,
9 2023, and as of that date is repealed.

10 SEC. 3. No reimbursement is required by this act pursuant to
11 Section 6 of Article XIII B of the California Constitution because
12 the only costs that may be incurred by a local agency or school
13 district under this act would result either from a legislative mandate
14 that is within the scope of paragraph (7) of subdivision (b) of
15 Section 3 of Article I of the California Constitution, or because
16 this act creates a new crime or infraction, eliminates a crime or
17 infraction, or changes the penalty for a crime or infraction, within
18 the meaning of Section 17556 of the Government Code, or changes
19 the definition of a crime within the meaning of Section 6 of Article
20 XIII B of the California Constitution.

21 SEC. 4. The Legislature finds and declares that Sections 1 and
22 2 of this act, which amends Section 54953 of, and adds Section
23 54953.9 to, the Government Code, furthers, within the meaning
24 of paragraph (7) of subdivision (b) of Section 3 of Article I of the
25 California Constitution, the purposes of that constitutional section
26 as it relates to the right of public access to the meetings of local
27 public bodies or the writings of local public officials and local
28 agencies. Pursuant to paragraph (7) of subdivision (b) of Section
29 3 of Article I of the California Constitution, the Legislature makes
30 the following findings:

31 The provisions of the act allow for greater public access through
32 requiring specified entities to provide a telephonic or internet-based
33 service option and instructions on how to access these options to
34 the public for specified meetings.

35 SEC. 5. The Legislature finds and declares that improving
36 accessibility to open and public meetings of local legislative bodies
37 is a matter of statewide concern and is not a municipal affair as
38 that term is used in Section 5 of Article XI of the California
39 Constitution. Therefore, Section 2 of this act adding Section

- 1 54953.9 to the Government Code applies to all cities and counties,
- 2 including charter cities and counties.

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AGENDA REPORT

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

SUBJECT: PFRS Board Agenda Pending List **DATE:** August 25, 2021

	SUBJECT	SCHEDULED BOARD MEETING UPDATE	STATUS
1	Informational Report regarding Post-Pandemic Brown Act Requirements for Board and Committee Meetings and Discussion regarding whether PFRS Board and Committees may Continue to Meet Virtually	August 25, 2021	Ongoing

Respectfully submitted,

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