

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.



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, May 26, 2021
9:00 AM
Tele-Conference Board Meeting
via Zoom Webinar

OBSERVE

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

PUBLIC COMMENTS

There are three ways to submit public comments.

- eComment. To send your comment directly to staff BEFORE the meeting starts, please email to mvisaya@oaklandca.gov 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
May 26, 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.
- 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 April 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 March 31, 2021
- 3. Subject: Review PFRS Travel Policy**
From: Staff of the PFRS Board

Recommendation: DISCUSSION regarding PFRS Travel Policy
- 4. Subject: Review PFRS Rules & Regulations**
From: Staff of the PFRS Board

Recommendation: DISCUSSION regarding PFRS Rules & Regulations
- 5. Subject: City of Oakland Pension Bond Debt Service Payment Schedule**
From: Staff of the PFRS Board

Recommendation: ACCEPT an informational report regarding the City of Oakland’s Pension Bond Debt Service Payment Schedule
- 6. Subject: Election of a 5-Year Retired Fire Representative Board Position**
From: Staff of the PFRS Board

Recommendation: ACCEPT an informational report regarding nominations for the 5-year Retired Fire Representative Board Position

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR AUDIT COMMITTEE MEETING
May 26, 2021**

- 7. REVIEW OF PENDING AUDIT COMMITTEE MEETING AGENDA ITEMS**
- 8. OPEN FORUM**
- 9. FUTURE SCHEDULING**
- 10. ADJOURNMENT**

AN AUDIT/OPERATIONS COMMITTEE REGULAR MEETING of the Oakland Police and Fire Retirement System (“PFRS”) was held on Wednesday, April 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 9:31 a.m. PST

1. **PFRS Audit Committee Meeting Minutes** – Member Traylor made a motion to approve the March 31, 2021 Audit Committee minutes, second by Member Wilkinson. 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 February 28, 2021. PFRS has an approved budget of approximately \$3.5 million and have expensed \$1.4 million to date, leaving a balance of approximately \$2.1 million. Cash in Treasury, as of February 28, 2021, has an approximate balance of \$6.3 million; however, a pension payment of \$4.4 million came due on March 1, 2021 and left a residual balance of \$1.9 million. Membership consisted of 736 retired members, which included 443 Police Members and 293 Fire Members.

MOTION: Member Wilkinson made a motion to accept the administrative expenses report and forward to the Full Board for approval, second by Member Traylor. 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 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, noting when normal operations resume this item will move forward.
4. **Open Forum** – No Report
5. **Future Scheduling** – The next regular Audit/Operations Committee meeting is tentatively scheduled for May 26, 2021.

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

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

The meeting adjourned at 9:38 a.m. PST

JOHN C. SPEAKMAN, COMMITTEE CHAIRPERSON

DATE

DRAFT

Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Administrative Budget Spent to Date (Preliminary)

As of March 31, 2021

	Approved Budget		March 2021		FYTD		Remaining		Percent Remaining	
Internal Administrative Costs										
PFRS Staff Salaries	\$	1,200,000	\$	89,994	\$	807,914	\$	392,086		32.7%
Board Travel Expenditures		52,500		-		-		52,500		100.0%
Staff Training		20,000		-		110		19,890		99.5%
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		100.0%
Miscellaneous Expenditures		40,000		1,697		10,149		29,851		74.6%
Internal Service Fees (ISF)		88,000		18,820		74,893		13,107		14.9%
Contract Services Contingency		50,000		-		1,200		48,800		97.6%
Internal Administrative Costs Subtotal :	\$	1,505,600	\$	110,511	\$	894,266	\$	611,334		40.6%
Actuary and Accounting Services										
Audit	\$	45,000	\$	-	\$	45,000	\$	-		0.0%
Actuary		46,500		1,038		19,897		26,604		57.2%
Actuary and Accounting Subtotal:	\$	91,500	\$	1,038	\$	64,897	\$	26,604		29.1%
Legal Services										
City Attorney Salaries	\$	188,000	\$	18,431	\$	137,416	\$	50,584		26.9%
Legal Contingency		150,000		-		-		150,000		100.0%
Legal Services Subtotal:	\$	338,000	\$	18,431	\$	137,416	\$	200,584		59.3%
Investment Services										
Money Manager Fees	\$	1,353,000	\$	202,255	\$	519,955	\$	833,045		61.6%
Custodial Fee		124,000		-		58,250		65,750		53.0%
Investment Consultant		100,000		25,000		75,000		25,000		25.0%
Investment Subtotal:	\$	1,577,000	\$	227,255	\$	653,205	\$	923,795		58.6%
Total Operating Budget	\$	3,512,100	\$	357,235	\$	1,749,783	\$	1,762,317		50.18%

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of March 31, 2021

	March 2021
Beginning Cash as of 2/28/2021	\$ 6,373,882
Additions:	
City Pension Contribution - March	\$ 3,637,333
Investment Draw	\$ 1,000,000
Misc. Receipts	400
Total Additions:	\$ 4,637,733
Deductions:	
Pension Payment (February Pension Paid on 3/1/2021)	(4,388,318)
Expenditures Paid	(357,235)
Total Deductions	\$ (4,745,553)
 Ending Cash Balance as of 3/31/2021*	 \$ 6,266,063

* On 4/1/2021, March pension payment of appx \$4,359,000 will be made leaving a cash balance of \$1,907,000

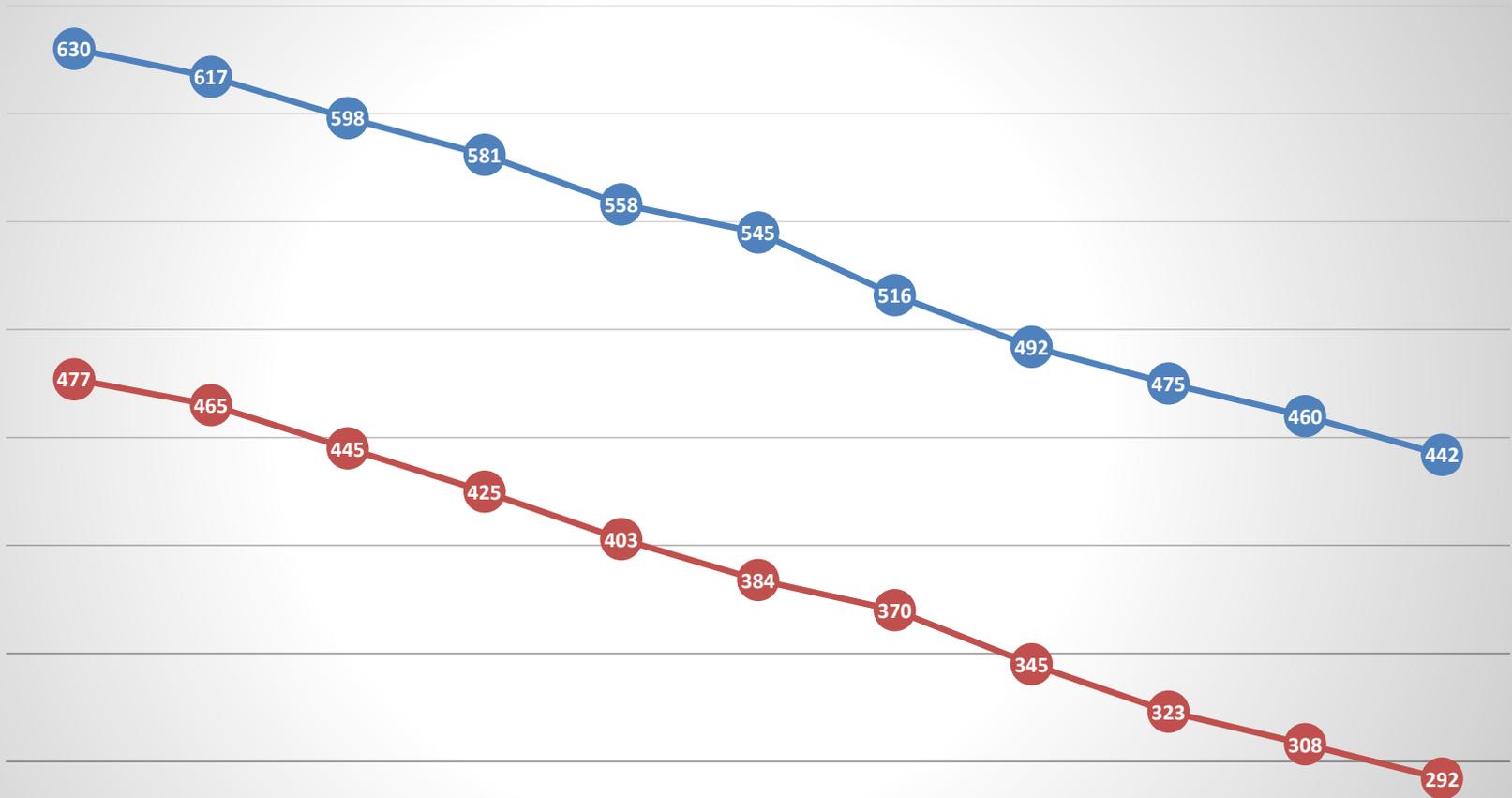
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of March 31, 2021

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	321	187	508
Beneficiary	121	105	226
<i>Total Retired Members</i>	442	292	734
<i>Total Membership:</i>	442	292	734

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	295	147	442
Disability Retirement	135	132	267
Death Allowance	12	13	25
<i>Total Retired Members:</i>	442	292	734
<i>Total Membership as of March 31, 2021:</i>	442	292	734
<i>Total Membership as of June 30, 2020:</i>	460	308	768
<i>Annual Difference:</i>	-18	-16	-34

Oakland Police and Fire Retirement System Pension Plan Membership Count As of March 31, 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	442
Fire	477	465	445	425	403	384	370	345	323	308	292
Total	1107	1082	1043	1006	961	929	886	837	798	768	734



AGENDA REPORT

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

FROM: David F. Jones
Plan Administrator

SUBJECT: Review of PFRS Travel Policy

DATE: May 26, 2021

OVERVIEW

Pursuant to Section 23 of the PFRS Education and Travel Policy, the Audit/Operations Committee shall have the responsibility of conducting a review of PFRS Education and Travel Policy as needed, but no less than three (3) years from the previous approval date and make recommendations to the board as necessary.

BACKGROUND

The PFRS Travel Policy (**ATTACHMENT 1**) was last approved April 25, 2018.

RECCOMENDATION

Review and discuss the current PFRS Travel Policy and provide direction to PFRS Staff as to next steps.

Respectfully submitted,

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

ATTACHMENT 1

***PFRS Education and Travel Policy
v.2018.04.25***

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

I. INTRODUCTION

- 1) The Retirement Board of the Oakland Police and Fire Retirement System (the "Board") recognizes and affirms its constitutional and statutory fiduciary duty to prudently administer the retirement system for the exclusive benefit of PFRS members and their beneficiaries as set forth below:
 - a) "[T]he retirement board of a public pension or retirement system shall have plenary authority and fiduciary responsibility for investment of moneys and administration of the system..." Cal. Const. Art. XVI, § 17
 - b) "Except as otherwise expressly restricted by the California Constitution and by law, the board may, in its discretion, invest, or delegate the authority to invest, the assets of the fund through the purchase, holding, or sale of any form or type of investment, financial instrument, or financial transaction when prudent in the informed opinion of the board." Cal. Gov. Code § 31595(a)
 - c) "The board and its officers and employees shall discharge their duties with respect to the system...(b) [w]ith the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims." Cal. Gov. Code § 31595(b)
- 2) The Board recognizes the need to reimburse Trustees and authorized staff for travel and other expenses reasonably and necessarily incurred while participating in educational programs, conducting due diligence, and other activities on behalf of the retirement system. These expenses are legitimate expenses of the retirement system. The Board adopts this Policy and the accompanying Preapproved Travel Expense Reimbursement Schedule (Exhibit A) to facilitate reimbursement of qualifying travel expenses.

II. PURPOSE

- 1) The objectives of this PFRS Education and Travel Policy are:
 - a) To ensure all Trustees gain the knowledge necessary to carry out their fiduciary responsibilities.
 - b) To ensure access to relevant information is made available to all Trustees.
 - c) To ensure Trustees possess shared knowledge relevant to pension administration and the investment of trust assets, to enable effective group discussion, debate, and decision-making.
 - d) To enable each Trustee to achieve and maintain proficiency in the conduct of PFRS business by educating themselves in matters central to the prudent administration of the retirement system and the investment of retirement funds.
 - e) To set forth the guidelines by which PFRS will reimburse Trustees, the Retirement Administrator, and staff for qualifying travel expenditures.
 - f) To ensure that travel expenditures incurred are prudent and cost effective, and to mitigate the risk of any impropriety (whether perceived or actual) that could arise from retirement system and/or PFRS business-related travel.
 - g) To encourage the continued education of the PFRS Board and staff.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

- 2) In order to keep pace with the continued growth and diversification of the retirement fund as well as the increasing complexity of financial and investment management systems, Board members are required to have ongoing training regarding (but not limited to):
 - a) Fiduciary Responsibility;
 - b) Pertinent Pension/Retirement Law and Standards;
 - c) Equity and Security Investing;
 - d) International Investing;
 - e) Asset Allocation; and
 - f) Pension Funding.

III. SCOPE

This policy shall apply to:

- 1) The members serving on the PFRS Board of Administration, also referred to as "Board Members" or "Trustees",
- 2) The Secretary of the PFRS Board,
- 3) The Plan Administrator,
- 4) The staff assigned to provide administrative support to the Board.

IV. EDUCATION AND TRAVEL POLICY

- 1) General Provisions
 - a) The Audit and Operations Committee of the PFRS Board will review and make recommendations regarding all travel and education reimbursement requests to the PFRS Board. The PFRS Board may act independently of the Committee if the Audit Committee does not meet.
 - b) Board members who attend educational programs and travel in their official Board capacity shall be reimbursed for their actual and necessary expenses for event registration, transportation, parking, tolls and other reasonable incidental costs. "Actual and necessary expense" does not include alcoholic beverages nor does it include expenses incurred by a travel companion.
 - c) All travel shall be reviewed by the Audit and Operations Committee and approved in advance of travel by the Board, except as described below. Membership in an organization is not of itself, a basis for travel authorization.
 - d) Travel by multiple Trustees shall be conducted in such a manner as to not violate provisions of the Brown Act (Cal. Gov. Code § 54950 et seq.) or Oakland Sunshine Ordinance (Oakland City Council Resolution No. 12483 C.M.S.).
 - e) Travel by the Plan Administrator and the staff assigned to provide administrative support to the Board are additionally subject to the travel policy of the City of Oakland for any relevant travel associated with the PFRS system.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

2) Approval

- a) Reimbursement of education and travel-related expenses for a Trustee or staff members to attend an educational program, conduct a due diligence site examination, or conduct other PFRS-related business requires the prior review by the Audit and Operations Committee and the approval of the Board.
- b) PFRS staff will include the education/travel request as an Audit and Operations Committee agenda item, noting the Board member(s) and staff who will be traveling, the purpose of the travel, and the date(s) of the travel. Any PFRS board approval shall be accomplished by resolution.
- c) The Board President, in consultation with the Plan Administrator, may authorize education or travel without prior approval of the Board in circumstances when Board approval cannot be obtained in advance and subject to the limitations in this Policy. Staff will place the expense request and authorization on the next regularly scheduled Board and Committee meeting for ratification.
- d) The Plan Administrator may approve payment of budgeted education and travel claims that do not exceed \$1,000 per item, not specifically covered by the provisions of this policy, provided the Plan Administrator determines such expenses are/were necessary in connection with official business of the Board and staff.
- e) City staff will process the approved Board education/travel by submitting assembled invoices and reimbursement requests (if any) related to Board travel to the City of Oakland, Controller Bureau.

3) Limitation on Attendance

- a) Trustees are encouraged to seek education that will further the purpose of this Policy. A Trustee may attend additional Board approved educational programs requiring overnight lodging, subject to the criteria of this Policy. The Board, at its sole discretion, may limit Trustee attendance up to the Trustee's annual Travel Expense (not to exceed \$7,500 per fiscal year).

4) Travel and Education Expense Allocation Budget

- a) The travel and education allowance for the PFRS Board and Staff will be budgeted and adopted annually during the Board's budget process.
- b) Prior to the start of the upcoming fiscal year beginning July 1, the Board will establish an education and travel allowance of up to \$7,500.00 for each Board member. These allowances shall not be exceeded without prior Board approval. However, the Board may pre-authorize expenses associated with education/travel for a Board member whose expenses are expected to exceed \$7,500.00 if, prior to the education program or travel, a cost estimate is submitted for the Board's review and the Board determines the expenses are necessary and are in connection with official Board business.
- c) The Travel Allowance for the Staff of the PFRS board will be budgeted and adopted annually during the Board's budget process. The Board will establish the next fiscal year travel allowance and education allowance prior to the start of the next fiscal year beginning July 1.
- d) Staff members whose local bargaining unit has provisions for tuition reimbursement related to professional development shall have budget allocated from the PFRS fund. The Staff Education Allowance shall only apply to tuition and/or registration fees related to class enrollment and textbooks related to enrolled classes. The Staff Education Allowance shall be

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

administered and budgeted separately from the Annual Board and Staff Travel Expense Allowance. The Staff tuition reimbursement requests and authorization related to the Staff Education Allowance shall be administered by the Plan Administrator.

5) Expenses other than Pre-approved Expenses

- a) The Board shall approve, by the affirmative vote of four members, any travel, education, and other expenses at its discretion. Board decisions are final and denial of travel made by the Board cannot be appealed.

6) Requests for Reimbursement

- a) Reimbursement for education or travel by an attendee shall be submitted on the Travel Authorization form. All such forms will be reviewed and approved (or disapproved) in accordance with the provisions of this Policy. All requests for reimbursement shall be submitted within fifteen (15) days following conclusion of event and/or return to Oakland, whichever is first.
- b) Reimbursements or advances in excess of allowable expenses must be returned to PFRS within thirty (30) days after the excess amounts become evident.

7) Gifts

- a) When traveling on official PFRS due diligence business travel, PFRS's trustees, officers, or employees shall not accept payment or gifts of travel or lodging from any person or entity (also, see Honoraria).
- b) Food and beverages provided during the normal course of the day, as part of due diligence business travel, may be accepted, provided such food and beverages are uniformly offered to all attendees.

8) Honoraria

- a) Board members and staff are not permitted to accept honoraria from event sponsors or investment managers in any form for any event included with any request for travel authorization and/or expense reimbursement.

9) Cash Advances

- a) Cash advances will not be allowed unless specifically approved by the Board.

10) Expenses for Traveling Companions

- a) Expenses of family members and/or traveling companions are not reimbursable by PFRS.

11) Limitations on Expense Allowance

- a) Reimbursement for expenses shall not exceed that which is reasonable and necessary for travel to the precise destination and date of the covered occurrence, whether by private automobile, rental vehicle or common carrier. Expense costs for extra days prior to or after a conference will be reimbursed only if such extension results in lower overall trip costs or is necessitated by the conference schedule or available flights. Such cost(s) cannot push travel costs beyond any members' overall annual travel budget allowance.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

12) Travel and Lodging Cancellations

- a) Trustees are responsible for the timely cancellation of registration fees, as well as travel and lodging reservations made on their behalf that will not be used, so that PFRS will incur no unnecessary expense. Should the Board determine that a Trustee has consistently failed to timely cancel travel, the Board may require a Trustee to personally pay any fees caused by their failure to timely cancel travel.

13) Travel Arrangements

- a) All travel arrangements for which reimbursement is or will be sought shall be coordinated with the office of the Plan Administrator. Staff will process and pay the registration fee for an event (if any) and apply the cost of registration toward the members' annual travel expense allowance.
- b) Travel requests shall be submitted to the Plan Administrator prior to travel and shall include supporting information such as: program announcements, schedules, meeting dates, and an estimate of costs.
- c) The Plan Administrator or designee will assist the Board with travel arrangements when necessary, including arranging for event registration .

14) Travel By Privately-Owned Vehicles

- a) Board members, who use their privately owned vehicles for official travel within a 150-mile radius of point of origin, will be reimbursed at the Federal mileage rate. For trips exceeding a 150-mile radius of point of origin, Board members will be reimbursed at the established full coach round trip, unrestricted airfare (as of the date of the claim).
- b) Point of origin shall refer to the residence of the Board member.

15) Travel By Common Carrier

- a) When the carrier provides transportation by more than one class of service, the full coach or economy class fare on a major airline must be used. Any costs over and above coach or economy class shall be considered personal, non-reimbursable expenses of the traveler. Whenever possible, the Oakland Airport should be used for air travel. Original receipts and the travel itinerary are required for reimbursement of airfare. Airfare purchased using "frequent flyer miles" will not be reimbursed.

16) Rental Car

- a) The use of a rental car is allowed, provided its use is the most economical and practical means of travel. Original receipts are required for rental car reimbursement (including receipts for tolls, fuel, etc.).

17) Overnight Lodging

- a) The Plan Administrator will be responsible for payment of lodging invoices. Conference discount rates are to be used if offered. Travelers may make independent reservations at a non-conference associated hotel, under unusual circumstances, and are expected to stay in reasonable economical accommodations. A receipt is required for reimbursement of lodging costs.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

18) Per Diem

- a) The current Federal per diem rate is used to cover the cost of three meals plus tips. There are no restrictions on how the meal per diem will be divided. Receipts are not necessary, since the Federal daily rate is the maximum allowable rate. If the conference registration fee includes meals, then the per diem will be reduced according to the current Federal per diem rate.
- b) The current Federal per diem rate is found at: <https://www.gsa.gov/travel/plan-book/per-diem-rates>

19) Meals

- a) For any full day out-of-city travel, the costs of meals and tips may be reimbursed at the current daily Federal per diem rate [see Section IV(18)(b)] without regard to how much is spent on individual meals (i.e., breakfast, lunch, dinner, snacks) and without receipts, subject to the following limitations:
 - i. If a Board member is on travel status for less than a full day, costs may be reimbursed for individual meals occurring within the travel time, using the per diem rates [see Section IV(18)(b)].
 - ii. Meals that are included in a meeting, conference and/or registration fee will be deducted from the per diem rates [see Section IV(18)(b)].
 - iii. Meals may be reimbursed without regard to the duration of travel. Breakfast may be reimbursed even if a board member's travel consists of less than two hours in duration. Dinners may be reimbursed even if travel consists of less than two hours duration.

20) Other Expenses

- a) Other reasonable and necessary expenses such as parking, transportation to and from the airport (shuttle, taxi, etc.), will be reimbursed when a receipt is submitted with the Travel Expense Voucher reimbursement claim. For expenses where receipts are not customarily issued, (i.e. BART, bus fare, tips), reasonableness of the expense shall be approved by the Plan Administrator.
- b) Board members who travel on a non per-diem basis must submit receipts for all expenses incurred. If a member chooses not to utilize per diem, reimbursement will be based on the submission of individual itemized receipts (i.e. 1 coffee, 1 salad, 1 sandwich, etc.) Alcoholic beverages charges and charges incurred by a travel companion will not be reimbursed.

21) Expense Submission

- a) Travel Expenses for reimbursement are due within fifteen (15) days of return from a trip. The Plan Administrator may request further justification and documentation and may deny cost claims that are not considered eligible.

22) Cancellations

- a) It is the Board member's responsibility to cancel reservations when travel plans are altered or canceled and refund the Board for all previously advanced expenses. Charges or loss of refunds resulting from failure to cancel reservations will not be reimbursed except when cancellation was not feasible.

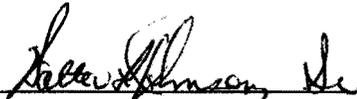
**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
EDUCATION AND TRAVEL POLICY**

23) Update of Education and Travel Policy

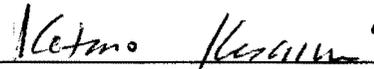
- a) The PFRS Education and Travel Policy will be reviewed by the PFRS Board as needed but no less than three years from the previous approval date.

The Education and Travel Policy of the Oakland Police and Fire Retirement System have been approved

by vote of the Board of Administration, effective April 25, 2018



WALTER L. JOHNSON, SR.
PRESIDENT
POLICE AND FIRE RETIREMENT SYSTEM BOARD



KATANO KASAINÉ
PLAN ADMINISTRATOR & BOARD SECRETARY
POLICE AND FIRE RETIREMENT SYSTEM BOARD

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

APPENDIX A – PROCEDURE: Travel Request, Authorization and Reimbursement

The PFRS Board has final approval authority regarding travel authorization and expense reimbursement for Board or staff travel for conferences and educational seminars related to the function of PFRS. Such requests and authorization is reviewed and acted upon by the Board at their Board meetings.

Board members are asked to submit their travel requests to staff no later than fourteen (14) calendar days before the next PFRS Board meeting in order to add the travel request to the upcoming board meeting agenda. Travel requests received after this 14-day window will be added to the next available Board meeting agenda.

Procedures for a travel request, travel authorization and reimbursement for travel expenses are detailed below:

1. Inform PFRS staff of intent to request travel authorization and reimbursement for an event. All reservations which can be made immediately are suggested to be made if full reimbursement can be arranged in the event of the denial of travel request.
2. Staff will create a file for this travel event, which will include the following items:
 - a. **Agenda Report** summarizing travel request (signed by Plan Administrator). This report will be submitted for Board approval at the next available Board meeting.
 - b. **PFRS Board Resolution** detailing the travel request (approved to form and legality by the PFRS Legal Counsel).
 - c. **Event Agenda**. This document must identify the event name, date, location and schedule of events.
 - d. **Travel Authorization Form** (complete; signed by Plan Administrator). The estimated travel expenses will be detailed in this document and will be signed by the Plan Administrator.
 - e. **Travel Expense Voucher** (completed following return from travel event, signed by traveler and Plan Administrator).
 - f. **Travel Reimbursement Summary** (completed by staff). The reimbursement check and itemized travel reimbursement expenses are presented to the traveler.
 - g. All event receipts.

Items A – C above shall be submitted for PFRS Board approval. No education or travel will be approved without Board review and approval.

Exception 1: A request for travel authorization and reimbursement that occurs after the 14 calendar day window for submission to the next PFRS Board agenda may be allowed if a request is made and authorized by the PFRS Board President. If the Board President authorizes the travel request for the Board agenda, and there is no violation of the Brown Act or Oakland Sunshine Ordinance, the travel request will be added to the current PFRS Board agenda for review and possible approval. This executive permission will be noted on the agenda report submitted to the Board for approval.

3. Staff will generate and submit at the next available PFRS Audit Committee an Agenda Report and PFRS Resolution requesting authorization for education and travel and reimbursement for the requested event. Staff will estimate the cost for the travel event.
4. The Audit Committee will approve or deny the recommendation for Board approval of the education/travel request. If approved, the Board shall review the travel request and approve, deny or amend it.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

5. Upon approval, staff will process registration for the event, including any registration fees. Traveler will be responsible to arrange all other related travel actions for this travel event, including airfare, lodging, other related travel expenses involved in traveling to, and returning from, the event. Traveler will need to submit all original receipts to staff upon return from event travel. If receipts are not available, traveler must complete a Lost Receipt form which attests to the loss or unavailability of obtaining a receipt for reimbursement. No reimbursement for expenses can be made without original receipts or signed affidavit.

6. Upon receiving all receipts following conclusion of event travel, staff will provide the traveler with the expense voucher, which itemizes the travel expenses from the traveler's submitted receipts. The traveler will be required to sign the expense voucher agreeing to its accuracy. Staff will review the signed expense voucher with the Plan Administrator. Upon Plan Administrator approval, staff will take submit the expense voucher to the City of Oakland Controllers department for review and disbursement. If the controller's office has any questions about the submitted expense voucher, they will contact staff before enacting any changes to the reimbursement amount. Following this review, a reimbursement check will be made to the traveler and delivered to staff.



AGENDA REPORT

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

FROM: David F. Jones
Plan Administrator

SUBJECT: Review of PFRS Rules and
Regulations

DATE: May 26, 2021

OVERVIEW

Pursuant to Article 8, Section 8.2 of the PFRS Rules and Regulations (**ATTACHMENT 1**), the Audit/Operations Committee shall have the responsibility of conducting a review of PFRS Rules and Regulations every three (3) years and make recommendations to the board as necessary.

BACKGROUND

The PFRS Rules and Regulations (**ATTACHMENT 2**) was last approved June 27, 2018.

RECCOMENDATION

Review and discuss the current PFRS Rules and Regulations and provide direction to PFRS Staff as to next steps.

Respectfully submitted,

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

Attachment (1): *Excerpt of PFRS Rules & Regulations - Standing Committees: Article 8, Section 8.2*

Attachment (2): *PFRS Rules and Regulations_v.2018.07.01*

Agenda Item B3
PFRS Board Meeting
May 26, 2021

ATTACHMENT 1

*Excerpt of
PFRS Rules & Regulations
Standing Committees
Article 8, Section 8.2*

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

RULES AND REGULATIONS

Article 8: STANDING COMMITTEES

Section 8.2: Audit/Operations Committee

The Audit/Operations Committee shall be a Standing Committee of the Board, consisting of three members. Annually, before the October meeting, the President of the Board shall appoint the members of the committee, who shall serve until their successors have been appointed. The President shall appoint a Committee chairperson from one of the three Committee members.

The Audit/Operations Committee shall have the responsibility for making recommendations to the Board in the following areas:

- Review the Plan's administrative procedures for the purpose of ensuring prompt delivery of benefits and related services to participants and their beneficiaries and recommend necessary changes to the full Board.
- Review and recommend solutions to specific issues raised by the Board that relate to administration of the PFRS Plan.
- Review the actuarial valuation report and the annual financial audit report of the Plan and recommend approval by the Board, unless the Board President determines that a report should be reviewed in the first instance by the full Board.
- Review the annual budget and recommend approval by the Board.
- Monitor the Plan's administrative budget and assist the Board in defraying reasonable expenses.
- Develop and recommend changes to Board rules, regulations and policies in non-investment areas.
- Review PFRS Rules and Regulations every three years.
- Review PFRS Travel Policy as needed but no less than three years from the previous approval date.
- Recommend approval of board member and staff travel in accordance with the PFRS Travel Policy.
- Other duties and/ or issues as directed by the Board.

ATTACHMENT 2

***PFRS Rules and Regulations
v. 2018.07.01***

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Article 1: IDENTIFICATION

Section 1.1: Name

The Oakland Police and Fire Retirement System ("PFRS") Board

Section 1.2: Office Location

Retirement Systems, 150 Frank H. Ogawa Plaza, Suite 3332, Oakland, CA 94612

Section 1.3: Authority, Statutory Requirements

The PFRS Board shall comply with all applicable laws, including but not limited to Article XVI, Section 17 of the California Constitution, Article XXVI of the Oakland City Charter, the Oakland Sunshine Ordinance (Oakland Municipal Code ("OMC") Chapter 2.20, the Ralph M. Brown Act (Government Code section 54950 et seq.), the California Public Records Act (Government Code section 6250 et seq.), and the Oakland Conflict of Interest Code (OMC Chapter 3.16).

Article 2: MISSION STATEMENT

The Oakland Police and Fire Retirement System is dedicated to the protection and prudent investment of the pension funds for the benefit of the PFRS retirees and beneficiaries. PFRS strives to give the beneficiaries of this retirement system friendly and courteous service. The Board of the Oakland Police and Fire Retirement System manages and administers the Oakland Police and Fire Retirement System and Fund. In order to fulfill this mission, the PFRS Board shall:

1. Possess power to make all necessary rules and regulations for its guidance;
2. Have exclusive control of the administration and investment of the fund established for the maintenance and operation of the System;
3. Administer the System in accordance with the provisions of Article XXVI of the Oakland City Charter;
4. Exercise its plenary authority and fiduciary responsibility for investment of the Plan's funds in accordance with Article XVI, Section 17 of the California Constitution.

Article 3: BOARD OF TRUSTEES

Section 3.1: Board Membership

The Board of the Police and Fire Retirement System consists of seven members, appointed or elected as set forth in Oakland City Charter section 2601: the Mayor (or a designated representative), a life insurance executive of a local office, a senior officer of a local bank, a community representative, an elected retired member of the Police Department, an elected retired member of the Fire Department, and an elected retired member position that alternates between the Police Department and Fire Department memberships.

Section 3.2: Procedure to Fill Vacancy of Elected Members

In the event a vacancy occurs before the end of a full term in any of the three (3) elected offices of the Board which are filled by retired members of the Retirement System, a successor shall be elected for the unexpired portion of the term vacated In accordance with Section 11.12.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Section 3.3: Procedure to Fill Vacancy of Appointed Members

In the event a vacancy occurs before the end of a five (5) year term in any of the three (3) appointed offices of the Board, the Mayor's office will be notified of the vacancy by the Retirement office. The new appointee shall be appointed by the Mayor, confirmed by Oakland City Council and sworn-in by the Oakland City Clerk's office. A successor appointed under this Section shall be appointed for the remainder of the vacated term.

Section 3.4: Holdover

In the event of a failure to appoint a successor to the Board seat held by the life insurance representative, bank representative, or community representative after the expiration of a five (5) year term, the Board member most recently filling that seat may continue to serve as a Board member during the following term in a holdover capacity for up to one year.

Section 3.5: Compensation

All Board members shall serve without compensation.

Article 4: BOARD MEMBER RESPONSIBILITIES AND CORE COMPETENCIES

Section 4.1: Attendance

All Board members are expected to attend all board and applicable committee meetings. While attendance is not always possible, board members should, once the calendar for a year is set, immediately identify any scheduling conflicts and thereafter manage their schedules to avoid creating additional conflicts. Absences for medical or other substantial reasons shall be deemed to be excused absences in the discretion of the Board President.

Section 4.2: Preparation

Board members should come to Board and committee meetings having already read the materials prepared and circulated by staff and/or consultants, and having already asked any questions of staff necessary for their understanding.

Section 4.3: Integrity

Board members shall conduct themselves with integrity and dignity, maintaining the highest ethical conduct at all times. They should understand system objectives and exercise care, prudence and diligence in handling confidential information.

Section 4.4: Conflict of Interest

No Board member and no employee of the Board shall have any interest, direct or indirect in the making of any investment, or in the gains or profits accruing there from. No member or employee of the Board, directly or indirectly, for himself or herself or as an agent or partner of others, shall borrow any of its funds or deposits or in any manner use the same except to make such current and necessary payments as are authorized by the Board; nor shall any member or employee of the Board become an endorser or surety or become in any manner an obligor for moneys invested by the Board.

Board members, staff and specified consultants are subject to the conflict of interest provisions the Oakland Municipal Code (OMC Chapter 3.16) and California state law, including but not limited to the Political Reform Act (Government Code section 81000 et seq) and Government Code section 1090.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Board members shall timely file annually the Statement of Economic Interests (Fair Political Practices Commission Form 700) as required by the City of Oakland's Conflict of Interest Code.

Section 4.5: Knowledge

Board members should develop and maintain their knowledge and understanding of the issues involved in the management of the system. The specific areas in which board members should develop and maintain a high level of knowledge should include:

- Public pension plan governance.
- Asset allocation and investment management.
- Actuarial principles and funding policies.
- Financial reporting, controls and audits.
- Benefits administration.
- Vendor selection process.
- Open meeting and public records laws.
- Fiduciary responsibility.
- Ethics and conflicts of interest.

Section 4.6: Education

Board members are expected to pursue educational opportunities that will assist them in the fulfillment of their fiduciary duties to the retirement plan and its beneficiaries. Each Board member will be allocated an educational allowance on an annual basis.

Section 4.7: Collegiality

Board members shall make every effort to engage in collegial deliberations, and to maintain an atmosphere in which board or committee members can speak freely, explore ideas before becoming committed to positions and seek information from staff and other members.

Article 5: MEETINGS

Section 5.1: Open Meetings / Quorum

Public notice of all meetings shall be provided as required by the Brown Act and the Sunshine Ordinance. Four members of the Board shall constitute a quorum for the transaction of business. Two Board Members constitute a quorum for the purpose of a Committee meeting. The powers conferred by the Charter upon the Board shall be exercised by order or resolution adopted by the affirmative votes of at least four (4) Board members. The affirmative votes of five (5) members of the Board are required for all investment decisions excluding Board approved drawdowns for benefits payments or administrative expenses.

Section 5.2: Time and Place of Regular Meetings

Section 5.2a: Full Board

The regularly scheduled meetings of the PFRS Board shall take place at Oakland City Hall on the last Wednesday of each month.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Section 5.2b: Standing Committee

The regularly scheduled meetings of the Audit/Operations Committee shall take place at Oakland City Hall on the last Wednesday of each month, at a specified time.

The regularly scheduled meetings of the Investment Committee shall take place at Oakland City Hall on the last Wednesday of each month, at a specified time.

Section 5.3: Special Meetings

The President or a majority of the members of the Board may schedule a Special Meeting of the board at any time, with notice given in accordance with the notice provisions of the Sunshine Ordinance and Brown Act.

Article 6: FISCAL YEAR

The fiscal year of the Board shall commence upon the first day of July each year and terminate on the thirtieth day of June of the following year.

Article 7: OFFICERS

Section 7.1: Elective Officers

At the regular meeting in September of each year, the Board shall elect one of its members to act as President for the ensuing year, and one to act as Vice President.

Section 7.2: Terms of President and Vice-President

The President and Vice-President shall take office at the close of the September meeting following their election and shall serve for one year or until their successors have been elected and take office.

Section 7.3: Duties of President and Vice-President

The President of the Board shall preside at all Board meetings. In his or her absence, the Vice-President shall preside. In the absence of both the President and the Vice-President, when the President has not selected a President Pro Tem in advance, the Board shall select one of its own members to preside.

The President shall also:

- Appoint the members of the Board's standing committees annually prior to the October meeting;
- Manage the Full Board Meeting Agenda and Committee Agendas in accordance with Article 9 of the PFRS Rules and Regulations;
- Ensure that Committee Chairpersons manage committee agendas in accordance with Article 9 of the PFRS Rules and Regulations;
- Schedule a Special Meeting of the Board,
- Create ad hoc committees for a limited duration and purpose, which shall be comprised of at least one but less than a quorum of board members, and may include a non-board member(s),

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

- Sign authorized contracts, agreements and financial documents on the Board's behalf; and
- Perform other duties as directed by the Board.

The Vice President shall also:

- Assume and discharge the President's duties when the President is absent or otherwise unable to perform them, or when directed by the President; and
- Perform other duties as directed by the Board.

Section 7.4: Duties of the Secretary of the Board

The Board shall also appoint a Secretary who shall hold office at its pleasure. The Secretary shall have the power to:

- Administer oaths and affirmations
- Issue subpoenas in all matters pertaining to the administration and operation of the System

Section 7.5: Duties of the Plan Administrator

The Plan Administrator is authorized to:

- Approve the withdrawal of funds for the purpose of making benefit payments to retirees and their beneficiaries in the event that the Board is unable to do so in a timely manner and submit to the board for ratification.
- Approve all demands for payment of claims against the administrative appropriation as approved by the Board.

The Plan Administrator shall also:

- Submit a monthly report to the Board that shall summarize plan expenses and membership count of the Retirement System.
- Prepare an annual report for the Board and the City Council.
- Annually submit a budget for approval by the Board and to be submitted to the City Administrator for the bi-annual budget.

Article 8: STANDING COMMITTEES

Section 8.1: Investment Committee

The Investment Committee shall be a Standing Committee of the Board, consisting of three members, whose chairperson shall be the banker representative on the Board. If the banker representative position is vacant, the Board President shall appoint a chairperson. Annually, before the October meeting, the President of the Board shall appoint the additional members of the committee, who shall serve until their successors have been appointed.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

The Investment Committee shall have the responsibility for making recommendations to the Board in the following areas:

- Review the Plan's overall investment objectives, risk tolerance and performance standards and recommend changes to the Board.
- Recommend the hire or termination of investment managers to the PFRS Board.
- Keep the Board apprised of the performance of the Plan's investment portfolio.
- Recommend the asset allocation of the Plan to the Board.
- Recommend to the Board which investments to target for the purpose of making benefit payments under the Plan.
- Review the Investment Policy and recommend changes to the Board.

Section 8.2: Audit/Operations Committee

The Audit/Operations Committee shall be a Standing Committee of the Board, consisting of three members. Annually, before the October meeting, the President of the Board shall appoint the members of the committee, who shall serve until their successors have been appointed. The President shall appoint a Committee chairperson from one of the three Committee members.

The Audit/Operations Committee shall have the responsibility for making recommendations to the Board in the following areas:

- Review the Plan's administrative procedures for the purpose of ensuring prompt delivery of benefits and related services to participants and their beneficiaries and recommend necessary changes to the full Board.
- Review and recommend solutions to specific issues raised by the Board that relate to administration of the PFRS Plan.
- Review the actuarial valuation report and the annual financial audit report of the Plan and recommend approval by the Board, unless the Board President determines that a report should be reviewed in the first instance by the full Board.
- Review the annual budget and recommend approval by the Board.
- Monitor the Plan's administrative budget and assist the Board in defraying reasonable expenses.
- Develop and recommend changes to Board rules, regulations and policies in non-investment areas.
- Review PFRS Rules and Regulations every three years.
- Review PFRS Travel Policy as needed but no less than three years from the previous approval date.
- Recommend approval of board member and staff travel in accordance with the PFRS Travel Policy.
- Other duties and/ or issues as directed by the Board.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Article 9: MEETING PROCEDURES AND BOARD ACTION

Section 9.1: Board and Committee Time Management

The Board President or Committee Chairperson is responsible for time management of the applicable body. To the greatest extent feasible, all items on Board and Committee agendas shall be supported by concise, easily accessible written information.

Section 9.2: Speakers' Cards

Members of the public wishing to speak must submit their name and the item on the agenda they wish to discuss, if any, to staff before being recognized by the presiding officer.

Members of the public who wish to speak must complete a speaker card for each agenda item s/he wishes to speak on. Multiple agenda items cannot be listed on one speaker card.

Section 9.3: Speaker Procedures

Members of the public addressing the Board shall state their name. They shall confine their remarks to the agenda item under discussion, unless they are speaking during the Open Forum portion of the agenda.

Section 9.4: Time Limits for Speakers

Any member of the public who has submitted a speaker card on an agenda item, other than open forum, shall be allotted three (3) minutes to speak prior to any vote or action by the Board.

Subject to the provisions of this Rule that apply to speakers who submit multiple speaker's cards, all speakers on any one item shall be allotted the same amount of speaking time on that item, unless given ceded time, or unless more time must be given to comply with due process or other legal requirements or in circumstances where the Board is acting in a quasi-judiciary capacity.

Section 9.5: Speakers Submitting Speaker's Cards on Multiple Items

Subject to Section 9.4 and the discretion of the presiding officer, which discretion must be exercised in accordance with Section 9.4, a speaker who submits his or her name to speak on four or more items (other than open forum) will be instructed to address all items concurrently and shall be allotted 2 minutes per item up to a maximum of 10 minutes; if the presiding officer exercises his/her discretion under Section 9.4 to reduce each speaker's time to one (1) minute, speakers who submit four or more speaker's cards shall be allotted one (1) minute per item up to a maximum of 5 minutes.

Section 9.6: Ceding Time

In case the allotted time for each speaker is less than two (2) minutes on an agenda item, a speaker may extend his or her speaking time if other speakers who have submitted their names to speak agree to cede their time to the recipient speaker. The recipient speaker will receive one (1) minute speaking time from each ceding speaker, up to a maximum of five (5) minutes. At the presiding officer's discretion, a speaker may be allotted more than five (5) minutes based on ceded time. The recipient speaker must submit the ceding speakers' speaking cards, and the ceding speakers must be present at the time the recipient speaker speaks.

Section 9.7: Open Forum

Speakers submitting their names to speak under open forum shall be allotted a maximum of three (3) minutes. A speaker may speak only once under open forum during any one meeting, subject to the

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

discretion of the presiding officer. The presiding officer may reduce each speaker's allotted time to one (1) minute if he or she publicly states all reasons justifying any reduction in speaker time, which reasons shall be based at least on consideration of the time allocated or anticipated for the meeting, the number and complexity of agenda items and the number of persons wishing to address the local body, and whether there will be sufficient time available during the meeting to consider all agenda items if all speakers are allowed two (2) minutes to speak.

The Board cannot take any action under Open Forum unless it is deemed an emergency or urgency matter under the Sunshine Ordinance and Brown Act by a vote of the Board.

Section 9.8: Procedure for Placing New Items on an Agenda

For any new business by any board member, the full Board is authorized to add the item to future agendas of any meeting by an affirmative vote of a majority of the quorum of Board members present.

Section 9.9: Procedure to Add, Remove Agenda Items

For Board items, any Board member wishing to add (or remove) a Board agenda item after the Board has met, but before the agenda is published, must obtain authorization from the President of the Board.

For Committee items, any Board member wishing to add (or remove) a Committee agenda item after the Committee has met, but before the agenda is published, must obtain authorization from the President of the Board and the Chair of the Committee.

Section 9.10: Timeline for Submission of Agenda Materials

Items which are placed onto a Board or Committee agenda pursuant to the processes described in Sections 9.8 and 9.9 normally will be supported by written materials submitted to the Plan Administrator by close of business on the Wednesday that is two (2) weeks prior to the scheduled Board/Committee meeting. If such materials are received following this deadline, the item will not be placed onto the appropriate agenda until the following month.

Section 9.11: Minutes

The Secretary shall cause to be recorded in the minutes, the time and place of each meeting of the Board, the names of Board members present and all official acts of the Board along with a summation of the Board discussion along with the votes, and shall cause the minutes to be written and presented for approval no later than the next scheduled regular meeting.

Section 9.12: Other Requests

Other requests by the plan sponsor, other entities or the public will be directed to the Plan Administrator, who will review and respond administratively. To the extent the request need to be addressed to or by the Board, the request will be brought to the full board for further direction or authorization.

Section 9.13: Requests by the Board

Any research, analyses and reports from staff as are necessary for the Board's effective oversight of PFRS operations shall be initiated by placing that item on a future agenda in accordance with section 9.8. Such requests will be agendized and considered at regularly scheduled Board meetings. If approved, the Plan Administrator will be responsible for coordinating the completion of the approved project or report within a reasonable time or by the completion date specified in the Board action.

Section 9.14: Requests by Individual Board Members

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Board members making individual requests for information will be advised to place the item on the Board meeting agenda in accordance with section 9.8 unless the information is readily available and the Plan Administrator determines that a response will not require any significant commitment of staff time or other PFRS resources.

Section 9.15: Resolutions

The Board shall act either by order or by resolutions, numbered in sequence of passage. In every instance, authorization by Board resolution shall be required for the following:

- Setting of Retirement and Disability Allowances;
- Changes to the types of compensation to be included as “Compensation” and “Compensation Attached to the Average Rank Held”;
- Approval of Death Benefits;
- Approval of continuation of allowances to eligible surviving spouse.
- Authorization of Contracts.

The Board may, in its discretion, act by resolution in other matters not listed above. Actions taken by the Board by way of order shall be set forth in the minutes of the Board.

Section 9.16: Ayes and Noes

The Board shall pass resolutions or orders only by taking the ayes and noes by an audible vote, which shall be entered in its minute book. Each resolution shall show on its face the ayes and noes vote thereon and the members so voting.

Section 9.17: Subject and Title

Every resolution of the Board shall be confined to one subject, which shall be clearly expressed in its title.

Article 10: RULES OF ORDER

Roberts’ Rules of Order shall be the final authority on all questions of procedure and parliamentary law, not otherwise provided for by the City Charter, (Article XXVI) or these rules. The deputy City Attorney in attendance will serve as the Parliamentarian for the PFRS Board and its Committees.

Article 11: ELECTION OF MEMBERS OF THE BOARD REPRESENTING RETIRED MEMBERS OF THE RETIREMENT SYSTEM

Section 11.1: Day for Counting of Ballots

The fourth Wednesday in August of the year in which such election is required to be held is hereby designated as the day for counting of ballots.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

In the event of a vacancy of one or more of the elected PFRS Retirement Board seats before the completion of the full term, the day for counting ballots for the election to fill the vacant PFRS Retirement Board seat shall be the fourth Wednesday of the month that follows 90 days after the date of being informed of the vacancy.

Section 11.2: Notice of Nomination

On or before the first business day in June of each year in which an election is required, the office of the Police and Fire Retirement Board shall send a notice stating that nomination papers may be obtained at the office of said Police and Fire Retirement Board, the place where nomination papers shall be filed and the final date of filing thereof, the date when ballots will be counted and such other information as may be appropriate to the following organizations:

- Retired Oakland Police Officers' Association (ROPOA)
- International Association of Fire Fighters, Local 55 (IAFF Local 55)

In the event of a vacancy of one of the elected PFRS Retirement Board seats before the completion of the full term, the office of the Police and Fire Retirement Board shall send notice as stated above no later than ten (10) calendar days after the date of being informed of the vacancy.

Section 11.3: Nomination for Membership

Nomination for membership on the Police and Fire Retirement Board from the retired membership of the Police and Fire Department shall be in writing on forms supplied by the office of said Police and Fire Retirement Board upon request. Nomination papers shall be substantially in the form shown in Appendix A. Nomination papers shall be signed by at least ten retired members of the Police or Fire Department, as the case may be, who are members of the POLICE AND FIRE RETIREMENT SYSTEM, other than the person nominated. Each signatory of a nominating paper shall write the date of his/her signature at the end of the line opposite his/her signature. Beneficiaries of deceased members are not eligible to vote in elections.

Section 11.4: Date of Filing Nomination Papers

Nominating papers shall be filed in the Office of the Oakland City Clerk, Room 306 of the Oakland City Hall, not less than thirty-five days before the day of counting ballots. If said date falls on a non-business day for the City of Oakland, it shall be filed on the next business day.

Section 11.5: Determination of Sufficiency of Nominating Papers

The City Clerk of the City of Oakland will determine when a member is nominated and for this purpose shall have access to the records of the Police and Fire Retirement Board the names of those retired members of the respective departments determined by him to have been nominated.

Section 11.6: Winner by Default

In the event that only one person is nominated in accordance with this Article 11 as a member of the Board, that person shall be declared a winner.

Section 11.7: Mailing of Ballots

Not less than fifteen days before the day for the counting of the ballots that shall be prepared by and mailed for the office of the Police and Fire Retirement Board to each retired member of the Police Department of Fire Department who is a member of the Police and Fire Retirement System a ballot addressed to his or

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

her address as shown by the records of the Police and Fire Retirement Board. The Ballots shall contain the names in alphabetical order of the candidates certified by the City Clerk as nominated. Such ballot, sealed in a blank envelope provided for this purpose, which shall be enclosed in another envelope, also provided for such purpose, upon which the voter shall place his or her name, may be returned to the City Clerk not later than 10:00 a.m. of the day for the counting of ballots.

Section 11.8: Roster of Eligible Voters

There shall be prepared in the office of the Police and Fire Retirement Board a roster of eligible voters which shall contain the names of the retired members of the Police or Fire Department who are members of the Police and Fire Retirement System, excluding beneficiaries of deceased members. Such roster of eligible voters shall be delivered to the City Clerk not less than fifteen days before the day for the counting of ballots and shall be in such form as to permit appropriate asking thereon by the City Clerk to indicate that an eligible member has voted.

Section 11.9: Counting of Ballots

On the day for the counting of ballots at the hour of 10:00 A.M. thereof, the ballot box shall be opened and no ballot received after said hour shall be counted. The ballots will be counted under the supervision and control of the City Clerk in such manner that the identity of the individual casting any ballot will not be disclosed. No ballot shall be counted unless it is enclosed in an envelope bearing the name of the voter. No ballot shall be counted which contains a vote for a person not nominated in accordance with Article 12. Upon the conclusion of the counting of the ballots, the City Clerk will certify the count and the candidate elected, and notify each candidate thereof by mail.

Section 11.10: Vote Necessary for Election

The candidate receiving the highest number of eligible votes shall be declared elected.

Section 11.11: Disposition of Ballots after Counting

Upon conclusion of the counting of the ballots they shall be kept by the City Clerk in the manner and for the period the ballots of municipal elections are kept.

Section 11.12: Procedure to Fill Vacancy of Elected Members

In the event a vacancy occurs before the end of a full term in any of the three (3) elected offices of the Board which are filled by retired members of the Retirement System, a successor shall be elected for the unexpired portion of the term vacated. The successor shall be elected from the same department of the member who is vacating the seat for the remainder of said unexpired three (3) year, or five (5) year, term. The election shall be governed by Article 11.

Article 12: RECALL OF MEMBER OF THE BOARD REPRESENTING RETIRED MEMBERS OF THE RETIREMENT SYSTEM

Section 12.1: Day for Counting Recall Ballots

The Ballots shall be counted not less than 90 days from receiving Recall Petition.

Section 12.2: Notice of Recall Petition

Upon receiving a Notice of Recall, the office of the Police and Fire Retirement Board shall send to the Retired Oakland Police Officers' Association (ROPOA), International Association of Fire Fighters, Local 55

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

(IAFF Local 55) and the City Clerk a notice stating that a recall petition had been received, the date when ballots will be counted and such other information as may be appropriate.

The Petition for recall of a retired member on the Police and Fire Retirement Board shall be in writing on forms supplied by the Secretary of the Board upon request. Recall petitions shall be substantially in the form as shown in Appendix B.

Recall petition shall be signed by 10 retired members of the Police or Fire Department (as the case may be). And who are members of the POLICE AND FIRE RETIREMENT SYSTEM, other than the person recalled. Each signatory of a recall petition shall write the date of his/her signature at the end of the line opposite his/her signature. Beneficiaries of deceased retired members are not eligible to sign or vote on recall.

Section 12.3: Date of Filing Recall Petition Paper

Petition papers shall be filed in the Office of the Oakland City Clerk, Room 306 of the Oakland City Hall, not more than thirty (30) days after filing the notice of recall petition.

Within seven (7) days after filing of petition the board member sought for recall may file with the City Clerk, a response, in not more than 200 words, to the statement of the proponents. If a response is filed, the City Clerk shall serve a copy by Certified Mail, to one of the proponents named in the petition.

Copies of the Petition and Response shall be distributed and posted within the offices of ROPOA, IAFF Local 55 and the City Clerk. The statement and answers shall be for voter's information and will be mailed to them upon the request.

Section 12.4: Determination of Recall Petition

The City Clerk of the City of Oakland will determine when a member is recalled and for this purpose shall have access to the records of the Police and Fire Retirement Board. The City Clerk, within five (5) days after the last day for filing Recall Petition papers will certify to the office of the Police and Retirement Board the names of those retired members of the respective departments determined by him to have been recalled.

Section 12.5: Mailing of Ballots

Not less than fifteen (15) days before the day the counting of the ballots shall be prepared by and mailed from the office of the Police and Fire Retirement Board to each retired member of the Police or Fire Department and who is a member of the Police and Fire Retirement System a ballot addressed to his or her address as shown by the records of the Police and Fire Retirement Board. The ballots shall contain the name of the member to be recalled, as certified by the City Clerk. Such ballot, sealed in a blank envelope provided for this purpose, which shall be enclosed in another envelope, also provided for such purpose, upon which the voter shall place his/her name, may be returned to the City Clerk not later than 10:00 A.M. of the day for counting of ballots.

Section 12.6: Roster of Eligible Voters

The Roster of Eligible Voters described in Section 11.8 shall be delivered to the City Clerk not less than fifteen (15) days before the day for counting of the ballots and shall be in such form as to permit appropriate marking thereon by the City Clerk to indicate that an eligible member has voted on the recall.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
RULES AND REGULATIONS**

Section 12.7: Counting of Ballots

On the day for counting of ballots at the hour of 10:00 A.M. thereof the ballot box shall be opened and no ballots received after said hour shall be counted. Upon the conclusion of the counting of the ballots, the City Clerk will certify the count and notify the Retirement Board of the results.

Section 12.8: Vote Necessary for Recall

The majority of eligible votes counted and cast to recall or not recall the board member shall prevail.

Section 12.9: Disposition of Ballots after Counting

Upon conclusion of the counting of the ballots, they shall be kept by the City Clerk in the manner and for the period, the ballots of municipal recalls are kept.

Article 13: PROCEDURE TO FILL VACANCY OF RECALLED MEMBER

A vacancy created after a successful recall pursuant to Article 12 shall be filled by the procedure set forth in Article 11.12.

These rules may be amended by a majority vote of the Board at any regular meeting or special meeting called for that purpose.

Article 14: AMENDMENT OF RULES AND REGULATIONS

These Rules and Regulations may be amended under the following procedures:

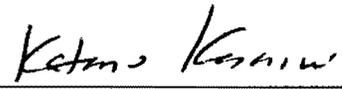
- Amendments shall be read at a regular meeting.
- No vote may be taken earlier than the next regular meeting.
- At least four (4) members of the Board must vote in favor of the amendments.

The Rules and Regulations of the Oakland Police and Fire Retirement System have been approved by vote

of the Board of Administration, effective JUNE 27, 2018



WALTER L. JOHNSON, SR.
PRESIDENT
OAKLAND POLICE & FIRE RETIREMENT SYSTEM BOARD



KATANO KASAINE
SECRETARY
OAKLAND POLICE & FIRE RETIREMENT SYSTEM BOARD

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
RULES AND REGULATIONS**

APPENDIX A

Nomination Form – Elected PFRS Member

OAKLAND POLICE AND FIRE RETIREMENT BOARD

I, undersigned, am a retired member of the Oakland Police Department (or Fire Department as the case may be), and a member of the POLICE AND FIRE RETIREMENT SYSTEM, and I hereby nominate _____, PRINT NOMINEE NAME, a member of the POLICE AND FIRE RETIREMENT SYSTEM, as a candidate for membership on the Police and Fire Retirement Board from the retired membership of the Oakland Police Department (or Fire Department as the case may be), for the term expiring August 31, _____.

	Name	Signature	Date
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____

I accept the nomination and consent to serve if elected.

Signature of Nominee

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
RULES AND REGULATIONS**

APPENDIX B

Board Member Recall Form – Elected PFRS Member

OAKLAND POLICE AND FIRE RETIREMENT BOARD

I, undersigned, am a retired member of the Oakland Police or Fire Department (as the case may be), and a member of the POLICE AND FIRE RETIREMENT SYSTEM. I hereby request that _____, a member of the POLICE AND FIRE RETIREMENT BOARD as representative for the Police or Fire Department (as the case may be), be recalled by the retired membership of said department, for the unexpired term ending _____, for the following reasons:

	Name	Signature	Date
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____



AGENDA REPORT

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

SUBJECT: Outstanding City of Oakland Pension Obligation Bond Debt Service **DATE:** May 26, 2021

SUMMARY

At the April 28, 2021 Oakland Police and Fire Retirement System (PFRS) Board meeting, a request was made regarding all outstanding City of Oakland Pension Obligation Bond Debt Service. The attached table (Attachment 1) shows the City of Oakland Pension Bond Debt Service Payment Schedule as of May 2021. The City funds these obligations from a voter approved ad valorem tax on all property within the City of Oakland and an annuity. This tax is specifically dedicated to fund PFRS pension obligations.

Respectfully submitted,

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

Attachment (1):
· *City of Oakland Pension Bond Debt Service Payment Schedule*

ATTACHMENT 1

City of Oakland Pension Bond Debt Service Payment Schedule

Attachment 1

CITY OF OAKLAND
Pension Bond Debt Service Payments

Payment Date	City of Oakland Pension Obligation Bonds Series 2001 *	City of Oakland Pension Obligation Bonds Series 2012 *	City of Oakland Interest Rate Swap (1998 Series A-1/2) **	TOTAL
6/15/2021	-	3,878,250	-	\$ 3,878,250
7/31/2021	-	-	181,680	\$ 181,680
12/15/2021	51,620,000	14,463,250	-	\$ 66,083,250
6/15/2022	-	3,677,135	-	\$ 3,677,135
12/15/2022	53,130,000	14,432,135	-	\$ 67,562,135
6/15/2023	-	3,462,035	-	\$ 3,462,035
12/15/2023	-	50,842,035	-	\$ 50,842,035
6/15/2024	-	2,431,520	-	\$ 2,431,520
12/15/2024	-	52,826,520	-	\$ 52,826,520
6/15/2025	-	1,253,285	-	\$ 1,253,285
12/15/2025	-	54,858,285	-	\$ 54,858,285
TOTAL	\$ 104,750,000	\$ 202,124,450	\$ 181,680	\$ 307,056,130

* Per the Trust Agreement, the City shall deposit with the Trustee on or before August 1 of each year an aggregate amount sufficient to pay all principal and interest due on the next December 15 and June 15.

** Representing fixed rate paid to counterparty



AGENDA REPORT

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

SUBJECT: Election of 5-Year Fire Department Representative Board Position **DATE:** May 26, 2021

SUMMARY

The 5-year fire member board seat currently held by John C. Speakman expired on August 31, 2020. Pursuant to the PFRS election guidelines outlined in Article 11 of the PFRS Rules and Regulations (**ATTACHMENT 1**), an election for this board seat will be conducted by the Staff of the PFRS board with the assistance of the City Clerk's office.

BACKGROUND

John C. Speakman, a retired PFRS Fire member, was elected to the 5-year elected term as the PFRS 5-year member in 2015. Member Speakman's board seat expired on August 31, 2020 and a new 5-year fire member needed to be elected to this seat from the retired fire membership.

Following the PFRS Rules & Regulations Article 11, Section 11.2 (**ATTACHMENT 1**), the PFRS staff informed the City Clerk's Office and the International Association of Fire Fighters, Local 55 (IAFF Local 55) of the board vacancy and delivered to them the election schedules and nomination forms.

The City Clerk's Office has certified no more than one (1) nomination form was received by the nomination form submission deadline of 5 pm, May 19, 2021. Pursuant to PFRS Rules & Regulations Article 11, Section 11.6 (**ATTACHMENT 1**), the single nominee, John C. Speakman, will be declared the winner and will be automatically elected to the nominated position and will begin the new term of the 5-Year Fire Department Representative Board Position immediately.

Respectfully submitted,

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

Attachment (1): *Rules & Regulations - Excerpt of Election: Article 11*

ATTACHMENT 1

***PFRS Rules & Regulations
Excerpt of Election
Article 11***

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

RULES AND REGULATIONS

Article 11: ELECTION OF MEMBERS OF THE BOARD REPRESENTING RETIRED MEMBERS OF THE RETIREMENT SYSTEM

Section 11.1: Day for Counting of Ballots

The fourth Wednesday in August of the year in which such election is required to be held is hereby the day for counting of ballots.

In the event of a vacancy of one or more of the elected PFRS Retirement Board seats before the completion of the full term, the day for counting ballots for the election to fill the vacant PFRS Retirement Board seat shall be the fourth Wednesday of the month that follows 90 days after the date of being informed of the vacancy.

Section 11.2: Notice of Nomination

On or before the first business day in June of each year in which an election is required, the office of the Police and Fire Retirement Board shall send a notice stating that nomination papers may be obtained at the office of said Police and Fire Retirement Board, the place where nomination papers shall be filed and the final date of filing thereof, the date when ballots will be counted and such other information as may be appropriate to the following organizations:

- Retired Oakland Police Officers' Association (ROPOA)
- International Association of Fire Fighters, Local 55 (IAFF Local 55)

In the event of a vacancy of one of the elected PFRS Retirement Board seats before the completion of the full term, the office of the Police and Fire Retirement Board shall send notice as stated above no later than ten (10) calendar days after the date of being informed of the vacancy.

Section 11.3: Nomination for Membership

Nomination for membership on the Police and Fire Retirement Board from the retired membership of the Police and Fire Department shall be in writing on forms supplied by the office of said Police and Fire Retirement Board upon request. Nomination papers shall be substantially in the form shown in Appendix A. Nomination papers shall be signed by at least ten retired members of the Police or Fire Department, as the case may be, who are members of the POLICE AND FIRE RETIREMENT SYSTEM, other than the person nominated. Each signatory of a nominating paper shall write the date of his/her signature at the end of the line opposite his/her signature. Beneficiaries of deceased members are not eligible to vote in elections.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

RULES AND REGULATIONS

Section 11.4: Date of Filing Nomination Papers

Nominating papers shall be filed in the Office of the Oakland City Clerk, Room 306 of the Oakland City Hall, not less than thirty-five days before the day of counting ballots. If said date falls on a non-business day for the City of Oakland, it shall be filed on the next business day.

Section 11.5: Determination of Sufficiency of Nominating Papers

The City Clerk of the City of Oakland will determine when a member is nominated and for this purpose shall have access to the records of the Police and Fire Retirement Board the names of those retired members of the respective departments determined by him to have been nominated.

Section 11.6: Winner by Default

In the event that only one person is nominated in accordance with this Article 11 as a member of the Board, that person shall be declared a winner.

Section 11.7: Mailing of Ballots

Not less than fifteen days before the day for the counting of the ballots that shall be prepared by and mailed for the office of the Police and Fire Retirement Board to each retired member of the Police Department of Fire Department who is a member of the Police and Fire Retirement System a ballot addressed to his or her address as shown by the records of the Police and Fire Retirement Board. The Ballots shall contain the names in alphabetical order of the candidates certified by the City Clerk as nominated. Such ballot, sealed in a blank envelope provided for this purpose, which shall be enclosed in another envelope, also provided for such purpose, upon which the voter shall place his or her name, may be returned to the City Clerk not later than 10:00 a.m. of the day for the counting of ballots.

Section 11.8: Roster of Eligible Voters

There shall be prepared in the office of the Police and Fire Retirement Board a roster of eligible voters which shall contain the names of the retired members of the Police or Fire Department who are members of the Police and Fire Retirement System, excluding beneficiaries of deceased members. Such roster of eligible voters shall be delivered to the City Clerk not less than fifteen days before the day for the counting of ballots and shall be in such form as to permit appropriate asking thereon by the City Clerk to indicate that an eligible member has voted.

Section 11.9: Counting of Ballots

On the day for the counting of ballots at the hour of 10:00 A.M. thereof, the ballot box shall be opened and no ballot received after said hour shall be counted. The ballots will be counted under the

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

RULES AND REGULATIONS

supervision and control of the City Clerk in such manner that the identity of the individual casting any ballot will not be disclosed. No ballot shall be counted unless it is enclosed in an envelope bearing the name of the voter. No ballot shall be counted which contains a vote for a person not nominated in accordance with Article 12. Upon the conclusion of the counting of the ballots, the City Clerk will certify the count and the candidate elected and notify each candidate thereof by mail.

Section 11.10: Vote Necessary for Election

The candidate receiving the highest number of eligible votes shall be declared elected.

Section 11.11: Disposition of Ballots after Counting

Upon conclusion of the counting of the ballots they shall be kept by the City Clerk in the manner and for the period the ballots of municipal elections are kept.

Section 11.12: Procedure to Fill Vacancy of Elected Members

In the event a vacancy occurs before the end of a full term in any of the three (3) elected offices of the Board which are filled by retired members of the Retirement System, a successor shall be elected for the unexpired portion of the term vacated. The successor shall be elected from the same department of the member who is vacating the seat for the remainder of said unexpired three (3) year, or five (5) year, term. The election shall be governed by Article 11.



AGENDA REPORT

TO: Oakland Police and Fire
Retirement Board

FROM: David Jones
Plan Administrator

SUBJECT: Audit Committee Agenda Pending List

DATE: May 26, 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
3	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	Ongoing	Ongoing

Respectfully submitted,

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

Agenda Item: 7
PFRS Audit Committee Meeting
May 26, 2021

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

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, May 26, 2021

10:00 AM

**Tele-Conference Board Meeting
via Zoom Webinar**

OBSERVE

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

PUBLIC COMMENTS

There are three ways to submit public comments.

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

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR INVESTMENT COMMITTEE MEETING
MAY 26, 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: Police and Fire Retirement System (“PFRS”) Investment Committee Meeting Minutes**
From: Staff of the PFRS Board

Recommendation: **APPROVE** April 28, 2021 Investment Committee Meeting Minutes
- 2. Subject: Prospective Systematic Trend Following Asset Class Investment Manager Presentations**
From: Meketa Investment Group

Recommendation: **ACCEPT** finalists’ presentations from Investment Management Firms seeking to serve as PFRS’ New Systematic Trend Following Asset Class Investment Manager

 - Versor Investments, LLC
 - LongTail Alpha, LP
 - Crabel Capital Management, LLC
 - BH-DG Systematic Trading, LLP
- 3. Subject: Selection of New Systematic Trend Following Asset Class Investment Manager**
From: Meketa Investment Group

Recommendation: **DISCUSS** Investment Management Firm Presentations, **SELECT** Investment Management Firm to serve as PFRS’ New Systematic Trend Following Asset Class Investment Manager and **RECOMMEND BOARD APPROVAL** of Committee’s selection
- 4. Subject: Investment Market Overview as of April 30, 2021**
From: Meketa Investment Group

Recommendation: **ACCEPT** informational report regarding the Global Investment Markets as of April 30, 2021

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
REGULAR INVESTMENT COMMITTEE MEETING
MAY 26, 2021**

5. **Subject:** Preliminary Investment Fund Performance Update as of April 30, 2021
From: Meketa Investment Group

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

Recommendation: **ACCEPT** informational report regarding the Quarterly Performance Report as of March 31, 2021
7. **Schedule of Pending Investment Committee Meeting Agenda Items**
8. **Open Forum**
9. **Future Scheduling**
10. **Adjournment**

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

Committee Members:	<ul style="list-style-type: none">▪ Jamie T. Godfrey▪ R. Steven Wilkinson▪ Robert W. Nichelini	Chairperson Member Member
Additional Attendees:	<ul style="list-style-type: none">▪ David Jones▪ Jennifer Logue▪ Teir Jenkins▪ Maxine Visaya▪ David Sancewich▪ Sidney Kawanguzi▪ Paola Nealon▪ Eric White▪ Mark Carhart▪ Andrew Miller▪ Alkesh Gianchandani▪ Clément Leturgie▪ Clément Mary-Dauphin▪ Roberto Hernandez Raaen▪ Renaud Verlaque	PFRS Secretary & Plan Administrator PFRS Legal Counsel PFRS Staff Member PFRS Staff Member Meketa Investment Group Meketa Investment Group Meketa Investment Group Meketa Investment Group Kepos Capital, LP Kepos Capital, LP Lombard Odier Lombard Odier Lombard Odier Two Sigma Investments Two Sigma Investments

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

1. **Approval of Investment Committee Meeting Minutes** Member Nichelini made a motion to approve the March 31, 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. **Prospective Alternative Risk Premia Asset Class Investment Manager Presentations** – Eric White of Meketa Investment Group provided a brief introduction and recommend hiring one of the three firms interviewing today to manage the approximate \$10 million mandate. Meketa requested each prospective candidate fill out the diversity template, provided to all managers, and strongly encouraged them to include the information in their presentations. The following firms provided presentations to discuss the Alternative Risk Premia Strategy:

- Kepos Capital, LP
- Lombard Odier Investment Managers
- Two Sigma Investments

Each firm’s presentation included a firm overview, values statement, Diversity & Inclusion policy and practices, fund terms, performance, and detailed investment strategy. Board Members made inquiries to encourage further discussion concerning strategies regarding risk transfer opportunities, upcoming plans in respect to the current market tear, interest rates, and the steepening yield curve over the next two years, how they stay ahead of the curve and competitive if everyone is using the same machine learning technology, how often the fund is valued, the frequency of stress testing their process, and weighting of value, carry, and momentum.

Additional topics further discussed were current firm diversity statistics, outreach activities, strategies to address and improve diversity and inclusion, participation as Principals of Responsible Investment (PRI) Signatories and incorporation of Environmental, Social, and Governance (ESG) practices.

MOTION: No action was taken on this item.

3. **Selection of New Alternative Risk Premia Asset Class Investment Manager** – After discussion, the committee voted to recommend hiring Kepos Capital, LP to serve as PFRS's New Alternative Risk Premia Asset Class Investment Manager and to advance this matter to the Full Board for approval.

MOTION: Member Wilkinson made a motion to forward the Committee's recommendation to hire Kepos Capital, LP as PFRS new Alternative Risk Premia Asset Class Investment Manager to the Full Board for approval, second by Member Nichelini. The motion passed.

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

4. **Investment Market Overview as of March 31, 2021** – In the interest of time, Chairperson Godfrey recommended that this item be heard at the Full Board meeting.

MOTION: Chairperson Godfrey made a motion to move this item to the Full Board, second by Member Nichelini. Motion passed.

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

5. **Preliminary Investment Fund Performance Update as of February 28, 2021** – In the interest of time, Chairperson Godfrey recommended that this item be heard at the Full Board meeting.

MOTION: Chairperson Godfrey made a motion to move this item to the Full Board, second by Member Nichelini. Motion passed.

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

6. **PFRS Investment Managers' Fees** – Sidney Kawanguzi of Meketa Investment Group presented an informational report regarding PFRS Manager Fee Comparison. S. Kawanguzi noted the fee charged by the following investment managers exceed current median rates: DDJ Capital Management, Rice Hall James and Assoc. LLC, and Strategic Global Advisors (SGA). D. Sancewich noted that Reams Asset Management, at 20 Basis Points, is well below the median. Chairperson Godfrey asked if, prior to contract renewal, fees can be modified to bring them in sync with the median. D. Sancewich noted DDJ Capital Management remains on watch status and will come before the Board in August/September 2021 to provide an update and fee modification can be discussed with Rice Hall James and SGA prior to their next board presentation. Staff Member Jenkins noted that DDJ Capital Management is a comingled fund and open-ended contract, SGA was funded in 2020 and is typically a 5-year contract, and he will provide more information regarding the contract terms of Rice Hall James at the Full Board meeting.

MOTION: Member Nichelini made a motion to accept Meketa's informational report regarding PFRS Investment Managers' Fees, second by Member Wilkinson. Motion passed.

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

7. **Schedule of Pending Investment Committee Meeting Agenda Items** – David Sancewich presented the 2021 Ongoing Strategic Investment Agenda for discussion. D. Sancewich noted SGA is calendared to present an update to the Board in July 2021. No additional changes, additions, or questions were presented in respect to the proposed strategic agenda.
8. **Open Forum** – No Report
9. **Future Scheduling** – The next Regular Investment Committee Meeting is tentatively scheduled for May 26, 2021.
10. **Adjournment** – Member Nichelini made a motion to adjourn, second by Chairperson Godfrey. Motion passed.

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

The meeting adjourned at 11:56 a.m. PST

JAMIE T. GODFREY, COMMITTEE CHAIRPERSON

DATE

DRAFT

Oakland Police and Fire Retirement System

Quantitative Investment Boutique Where Data, Innovation, and
Market Expertise Drive Every Decision

May 2021

Private and Confidential

Certain information in this presentation primarily consists of compilations of publicly available data. Versor Investments LP or any of its affiliates (collectively, "Versor Investments" and formerly "ARP Investments" herein after referred to as "Versor Investments") has obtained such data from what it believes to be reliable sources. However, Versor Investments has no ability, and has not attempted independently, to verify any such information. Versor Investments' analytics have been applied to such data to generate certain statistical conclusions and simulations. Such analytics necessarily involve applying Versor Investments' models to historical data on a backtested basis and are subject, accordingly, to the material inherent limitations of backtested data. See disclosures at the end of this presentation.

Versor Presenters



Deepak Gurnani, Founder and Managing Partner

Deepak Gurnani is the Founder and Managing Partner of Versor Investments. Deepak is the former CIO of Investcorp's Hedge Fund Group and was one of the founding members in 1996. He was also a member of the Management Committee there. Deepak retired from Investcorp in March 2013. Prior to Investcorp, Deepak Gurnani spent six years with Citicorp.

Deepak has conducted extensive research over the last 20+ years into various aspects of hedge fund investing – analyzing risk and return of hedge funds, quantifying alternative risk premia inherent in hedge fund returns, using tactical asset allocation to enhance hedge fund portfolio returns, integrating hedge funds into institutional asset allocation and using separate accounts for risk management. Deepak holds a BTech from the Indian Institute of Technology, Delhi, and an MBA from the Indian Institute of Management, Ahmedabad.



Ludger Hentschel, Founding Partner, Investments

Ludger Hentschel joined Versor Investments as a Founding Partner and is based in New York. Ludger has over 20 years of experience in quantitative research and investing. Prior to joining Versor Investments, he was Managing Director of Analytical Research at MSCI for leading research in global multi-asset class risk models. This included alternative investments, asset allocation and macroeconomic risk and liquidity risk. Before joining MSCI, Ludger was Head of Quantitative Research and Asset Allocation for the Hedge Fund Group at Investcorp. Previously, he was the Director of Equity Research at New York Life Investment Management, was an Associate Professor of Finance at the University of Rochester and served as an Economist for the Board of Governors of the Federal Reserve System.

Ludger earned a BS in Mechanical Engineering from Yale and a PhD in Economics from Princeton. He has published articles in leading academic finance journals, served as an Associate Editor for the Journal of Financial Economics, and is a frequent speaker at financial seminars and conferences. He serves on the Board of Directors of the Lester B. Pearson College of the Pacific US Foundation.



DeWayne Louis - Founding Partner, Investor Relations

DeWayne Louis joined Versor Investments as a Founding Partner and is based in New York. DeWayne has 20 years of experience in quantitative investment strategies, investment banking, private equity and hedge funds. Prior to Versor Investments, DeWayne joined Investcorp's Hedge Fund Group at the inception of the North America and Europe branches. He remained there for nearly a decade. Prior to Investcorp, DeWayne was an Associate Director in UBS' Private Equity Secondary Group, focusing on buying and selling private equity interests in the secondary market. Earlier in his career DeWayne was an Associate in the Investment Banking Division of Credit Suisse where he focused on mergers, acquisitions and project finance transactions.

DeWayne holds a BS in Finance and International Business with a French minor from Georgetown University. There, he was a four-year varsity letterman on the football team. Currently, he sits on the Board of Directors of Summer Search, a US based mentoring non-profit organization serving students from low-income communities, particularly students of colour.

Versor Presenters (cont.)



Leah Pozsgay – Trade Execution and Counterparty Management

Leah is responsible for trade execution and relationships with banks and other service providers. Before joining Versor Investments in 2017, she was Director at Deutsche Bank where she covered systematic funds for futures and equities. Leah started her career at Credit Suisse in 2001 where she worked in execution for macro funds trading futures, treasuries and ETFs. Leah holds a BS with concentration in Accounting and Finance from St. John's University where she graduated with Honors in 2001.

Versor Firm Overview

Quantitative Investment Boutique Where Data, Innovation, and Market Expertise Drive Every Decision



Founding Partners **experienced** in systematic, alternative investment strategies for most of their careers

Decades of quantitative investment research supported by publications

Deep and experienced quantitative team of over 40 specialists with backgrounds in mathematics, physics, computer science and engineering



Versor has spent **200+ human work years** developing quantitative investment research and electronic trading infrastructure

Scientific, data-intensive investment process leveraging a large and proprietary data set

Proprietary models for **signal design, risk, portfolio construction and trading**



Products include systematic investment and alternative risk premia strategies

Sophisticated client base of the largest institutional investors in the world

Firm-wide AUM of \$2.3 billion¹

100% employee ownership, and substantial co-investment ensure **alignment of interest**

Versor Investments is a **MWBE and over 80% owned by minorities**



Founding Partners leverage **experience** spanning several decades in futures research and investments

Versor manages **\$460 million** in futures-based strategies

Differentiated investment process

Superior track record outperforming peers

1. As of April 01, 2021 AUM reflects Regulatory AUM as per SEC definition for the purposes of Item 5.F on the Form ADV Part 1a.

Versor Team Diversity¹

- Diversity and inclusion is a core component of Versor's DNA
- 60% of the Versor's Founding Partners come from ethnically diverse backgrounds – Including 20% African American
- Over 80% of the Firm's ownership is held by ethnic and racial minority groups
- Versor is committed to gender diversity
 - Women make up 25% of Investment Advisor employees
 - Increasing gender diversity has been a key focus for the Firm

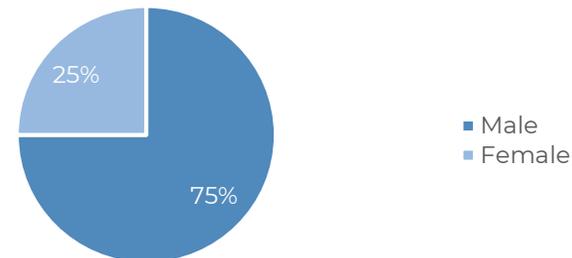
Founding Partners Diversity



Ownership Diversity²



Gender Diversity³



1. Data as of May 17, 2021.

2. References equity ownership of Versor Investments LP

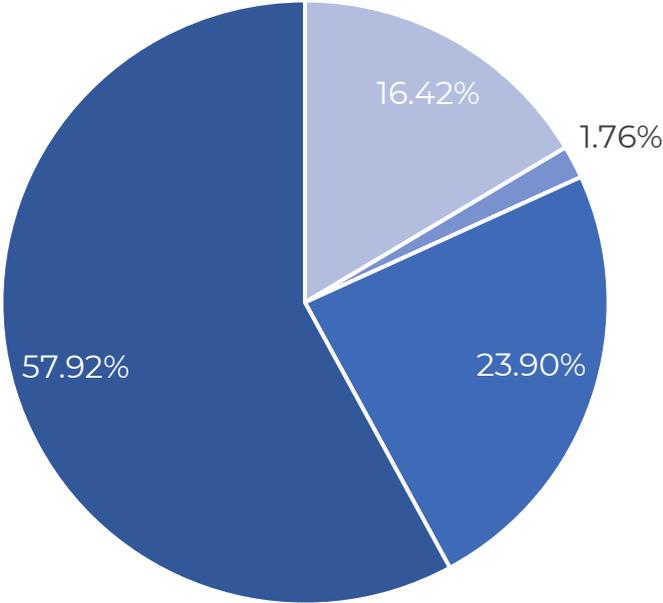
3. References Versor Investments LP.

Source: - Versor Investments (formerly "ARP Investments").

Versor AUM

AUM as of April 1, 2021 is \$ 2.3 billion¹

AUM by Client Type²



■ Private Pension ■ Proprietary ■ Public Pension ■ Consultant

1. As of April 01, 2021, AUM reflects Regulatory AUM as per SEC definition for the purposes of Item 5.F on the Form ADV Part 1a.
2. AUM by Client Type is based off NAV as of May 01, 2021.

Experienced Leadership

Deepak Gurnani	Investcorp Risk Manager	Co-Founder and Co-Head of Hedge Fund Group			Head of Hedge Funds and CIO	Versor
	Prior Employment: Citigroup Btech; Indian Institute of Technology, Delhi MBA; Indian Institute of Management, Ahmedabad	Risk management systems for hedge funds	Quantitative investment research – phase 1	Quantitative investment research – phase 2		
Ludger Hentschel	University of Rochester Assistant/Associate Professor of Finance	NY Life Investments Head of Quantitative Equity Research	Investcorp Head of Quantitative Research & Asset Allocation	MSCI Head of Research	Versor	
	Prior Employment: Board of Governors of the Federal Reserve System BS Mechanical Engineering; Yale University PhD Economics; Princeton University	Academic research and publications. Research computing system for 100+ business school users.	Proprietary system for equity research, portfolio management, and performance attribution	Quantitative investment research	Commercial risk model with global, multi-asset-class coverage	
Andrew Flynn	Moore Capital Management Accounting and Operations Manager	Maximus Capital Director of Operations	Tudor Investment Corporation Global Head of Operations		Versor	
	BS Finance; Iona College	Reconciliation, global settlement and cash management experience	Cost control/monitoring	Successfully launched the systematic trading business. Developed electronic trading infrastructure elastic to growth		
Nirav Shah, CFA*		Infosys Software Engineer	Phoenix Capital Quantitative Analyst	Investcorp Vice President	Quantmatics/ PrimeEdge CEO	Versor
	MS Finance; Illinois Institute of Technology, Chicago B.E. Computer Engineering	Scalable IT infrastructure	Portfolio construction, Trend-Following hedge fund	Quantitative investment research	Quantitative investment research	
DeWayne Louis		Credit Suisse / UBS Investment Banking Associate	Investcorp Principal, Hedge Funds Business Development		Versor	
	BS Finance; Georgetown University	Private Equity, Mergers and acquisitions	Quantitative investment research			
Joel McAndrew			D. E. Shaw & Co. Associate, Investor Relations	Investcorp VP	Gotham Asset Management Head of Institutional Sales	Versor
	Carnegie Mellon University		Quantitative Hedge Funds	Alternative Investments	Systematic Equity Strategies	
						'93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18 '19 '20 '21

*Founder & CEO of QR Systems LLP, a limited liability partnership incorporated in India. Under a services agreement, QR Systems LLP provides Versor Investments (formerly "ARP Investments") with certain services. Employees of QR Systems LLP are subject to the full oversight under the regulatory compliance program of Versor Investments.

Trend Following Investment Process

Trend Following invests in approximately 100 contracts of futures and futures-related instruments across four major asset classes: commodities, equity indices, bonds and currency markets globally. The portfolio takes long or short positions in any of these instruments in markets exhibiting price trends (up or down).

Investment Process Overview

Exploit persistent trends in futures prices using a global long-short portfolio of futures

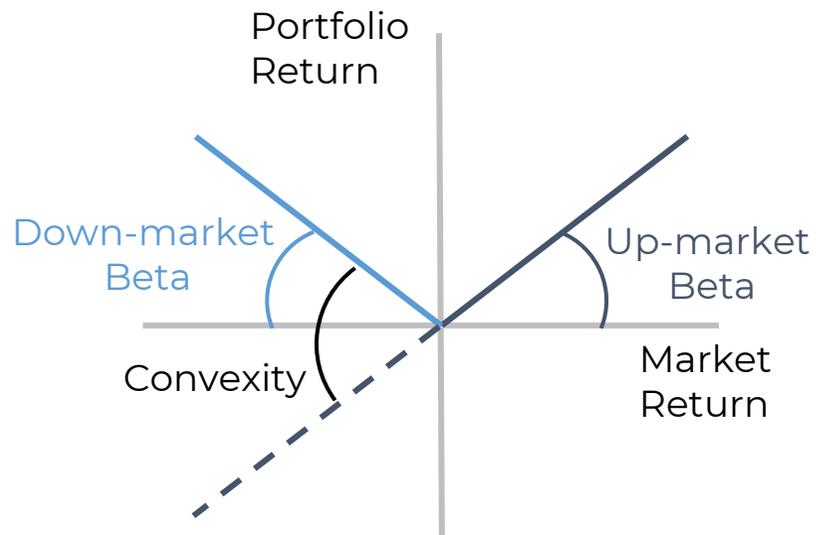
Universe	Signals/Alpha Forecast Models	Process Differentiators
<ul style="list-style-type: none">▪ Diversification across 100+ contracts<ul style="list-style-type: none">▪ Commodities▪ Equities▪ Fixed Income▪ Currencies▪ Developed and emerging markets▪ Most liquid contracts globally	<ul style="list-style-type: none">▪ Multiple proprietary alpha forecast models:<ul style="list-style-type: none">▪ Trend models▪ Futures curve▪ Multiple forecast horizons from 1 month to 1 year▪ Diversification across forecast models, time horizons and contracts	<ul style="list-style-type: none">▪ Emphasis on performance in both rising and falling markets (“Positive Convexity”)▪ Dynamic allocations based on signal strength*▪ Enhanced performance around trend reversals▪ Efficient electronic trading

* Gurnani, Deepak and Hentschel, Ludger, June 2017, *CTA Trend Following – This Time is Different?*

Return Convexity

Concept

- Make money in up markets and down markets
 - Requires a change from “long” to “short” exposures



Results

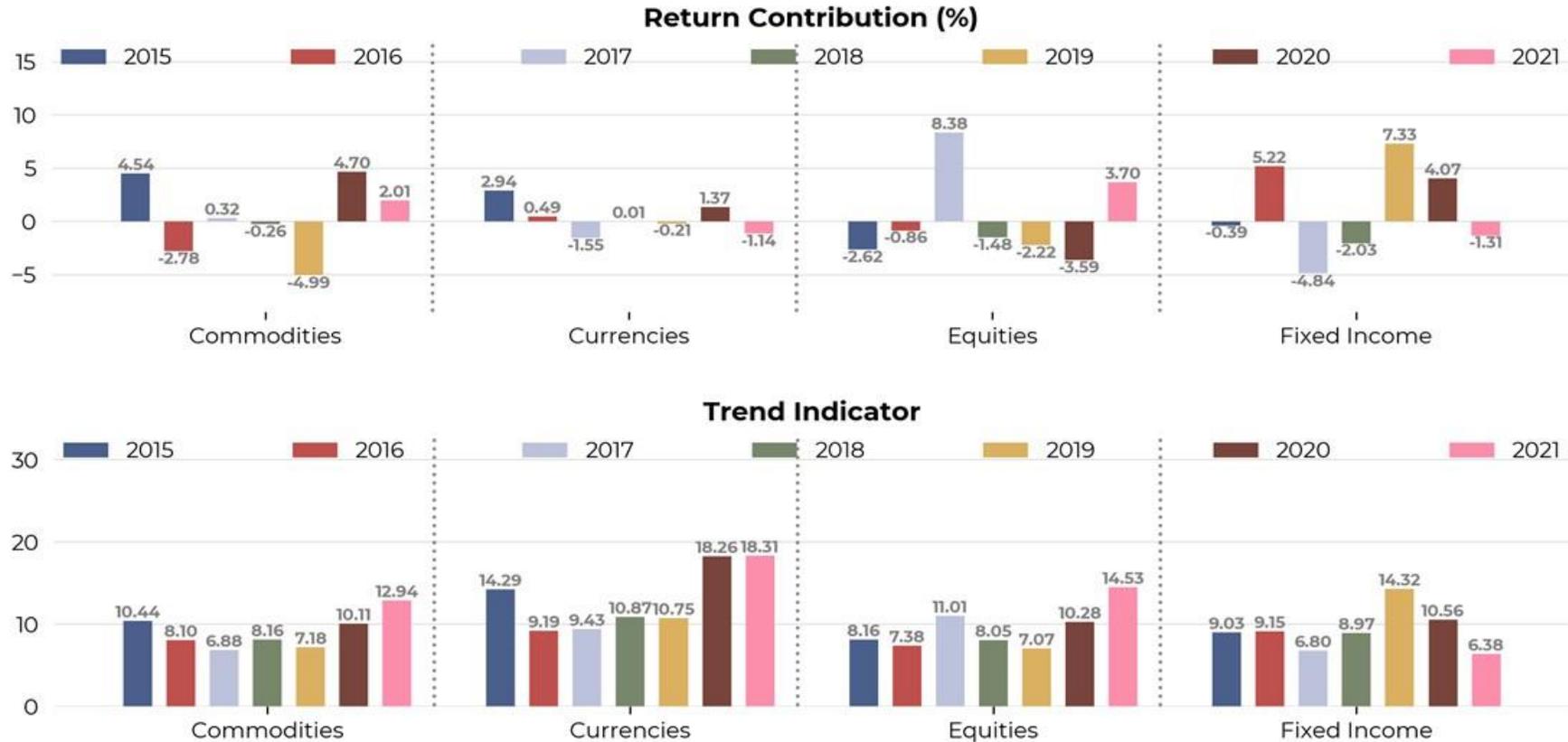
- Managers in the SG Trend Index have lost convexity over time

Period	Down Market Beta	Up Market Beta	Convexity
Long-term	-0.15	0.09	0.24
2000-2008	-0.37	0.15	0.52
2009-2021	0.15	0.04	-0.11

Source: Societe Generale, MSCI, Bloomberg, Versor.

Beta estimates based on monthly returns from January 2000 to April 2021. All returns in excess of TBill rates.

Dynamic Allocations to Asset Classes with Trends

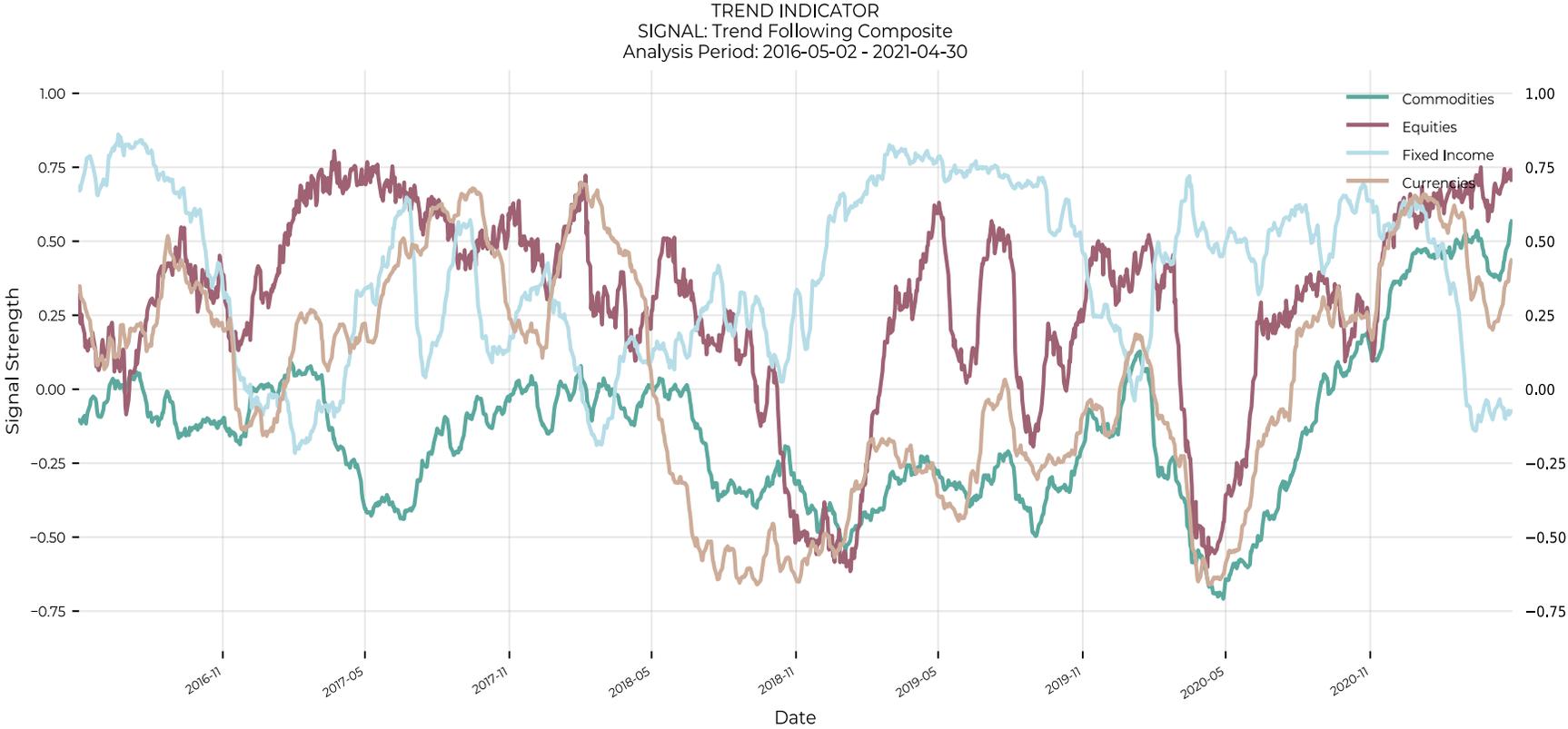


Past performance is not indicative of future results. Performance results reflect the reinvestment of income. Commodity interest trading involves substantial risk of loss.

1. The top panel of the figure shows return contributions, net of transaction costs, to overall portfolio returns for Systematic Alpha Trend Following Low Vol from asset class allocations. The bars show returns contributions by calendar year.
2. The bottom panel shows trend indicators for the same asset classes and periods. The trend indicator measures the strength of the trend, regardless of sign, divided by the variability of the trend. The trend indicator for each asset class is an average of the trend indicators for the futures contracts in the Versor Investments (formerly "ARP Investments") trend investable universe belonging to the asset class.

*As of April 30, 2021.

Dynamic Allocations to Trend Signals

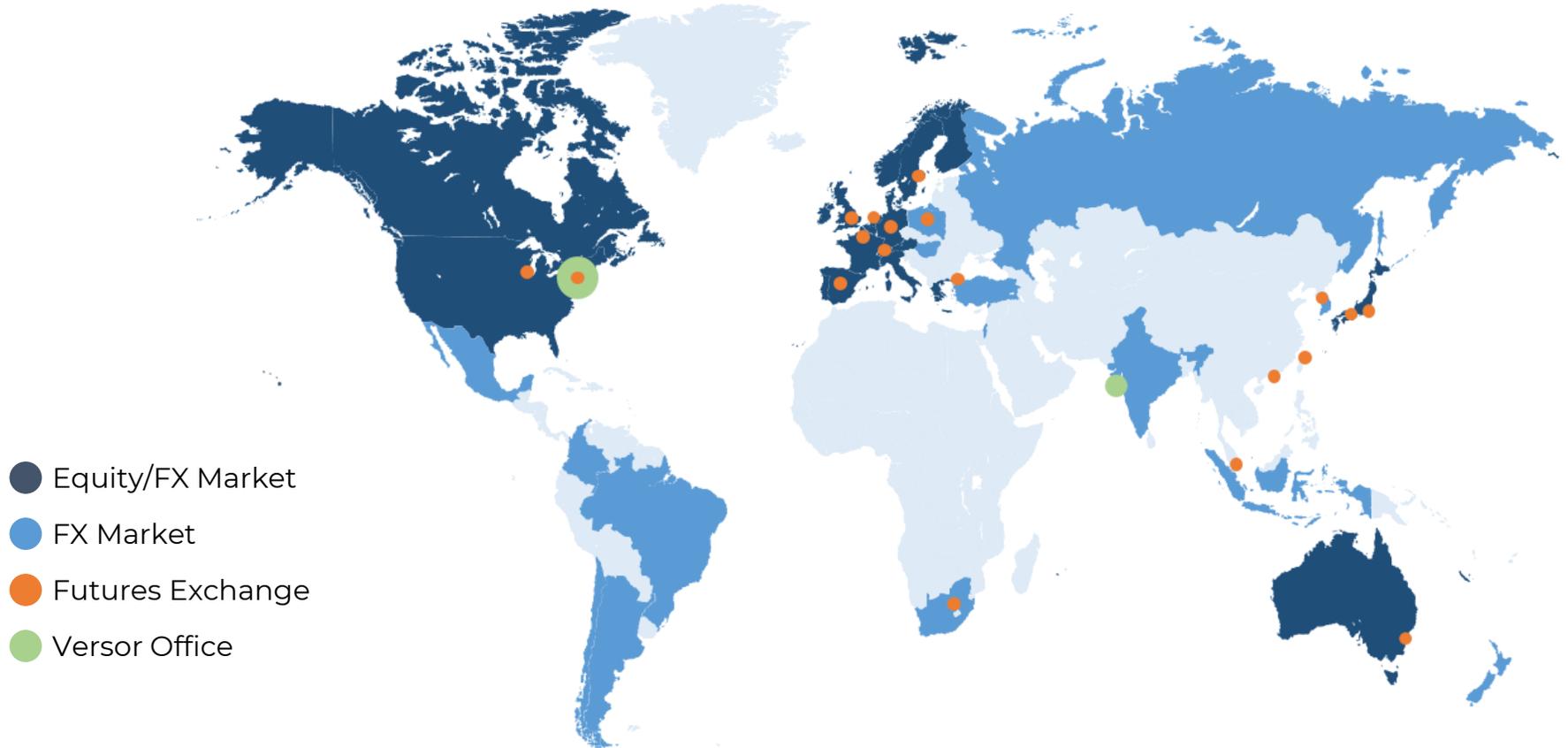


The Figure shows Trend Indicator over the period May 02, 2016 to April 30, 2021. Trend Indicator reflects the strength of the trends in the futures markets and is the average of the indicators for all the futures in the universe.

Source: Versor Investments (formerly "ARP Investments"), Bloomberg. Simulated, back-tested data. For illustrative purposes only.

Electronic Trading and Execution

- Global, 24-hour, algorithmic trading in equities, FX, and futures



Note: Geographic areas are not proportional to size of financial markets or Versor Investments (formerly "ARP Investments") exposures. Multiple futures exchanges in some cities.

Diversification – Systematic Alpha Trend Following

Negative Monthly Returns: Equity Market



Systematic Alpha Trend Following strategy has exhibited positive returns during stress periods for equity markets

Past performance is not indicative of future results. Performance results reflect the reinvestment of income. Commodity interest trading involves substantial risk of loss.

"Equity Index" refers to the returns of the MSCI ACWI. "SG Trend Index" refers to the returns of the SG Trend Index. "Systematic Alpha Trend Following strategy" refers to the returns from May 04, 2017 to December 22, 2020 for the Systematic Alpha Trend Following strategy that are estimated by applying a notional capital allocation (and applicable expenses) to the P/L associated with the portion of the ARP Alternative Risk Premia 2x Fund allocated to the strategy. When the strategy is managed in a dedicated standalone fund there will be excess cash upon meeting margin requirement. Hence the returns for the strategy have been adjusted by adding the US T-Bill return on the excess cash upon meeting margin requirement. From December 23, 2020 onwards, the reported returns are for the dedicated Fund ["the Fund"] for the Systematic Alpha Trend Following strategy.

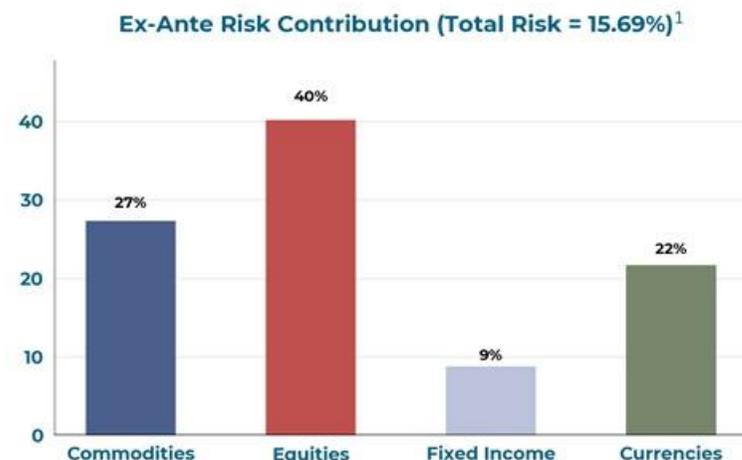
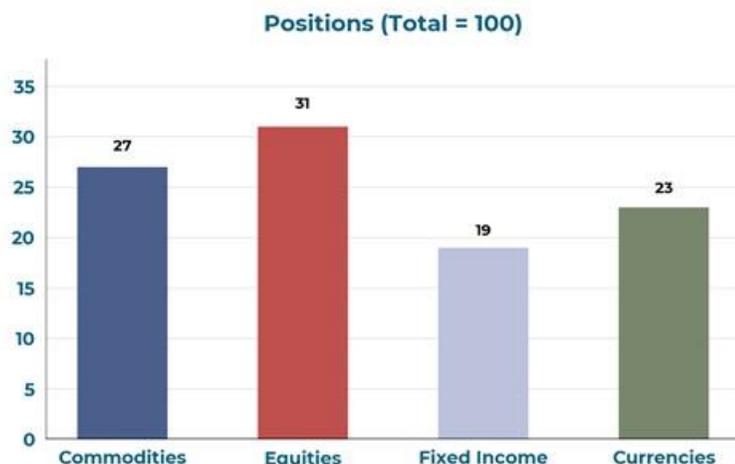
Correlation denotes the Pearson correlation between the Systematic Alpha Trend Following with the MSCI ACWI. Beta denotes the beta of the Systematic Alpha Trend Following w.r.t. the MSCI ACWI. Correlation and beta are estimated using monthly returns and include both positive and negative monthly returns to the MSCI ACWI.

The analysis covers the period May 2017 to April 2021 and includes 13 months with negative returns to MSCI ACWI.

Source: Versor Investments (formerly "ARP Investments"), MSCI.

Systematic Alpha Trend Following Positions

May 03, 2021



Risk Exposures - Top Contributors (Ex - Ante Risk)

	Ex-Ante Risk	Long MV ²	Short MV ²		Ex-Ante Risk	Long MV ²	Short MV ²
Commodities	27.33%	36.95%	-7.02%	Equities	40.19%	83.62%	-0.49%
Copper	2.61%			MSCI EAFE	4.13%		
Gasoline	2.49%			Amsterdam	2.56%		
Brent Crude	2.42%			CAC	2.54%		
Fixed Income	8.82%	54.55%	-177.53%	Currencies	21.71%	71.17%	-17.44%
Euro Buxl	2.28%			NOKUSD	2.74%		
Euro Bund	1.46%			SEKUSD	1.39%		
US Long Bond	1.27%			Dollar Index	1.30%		

1. Ex-Ante risk is based on Versor Investments' (formerly "ARP Investments") internal risk systems. Risk contribution is calculated at 16% annualized target volatility.

2. Long MV (Short MV) is computed as market value of futures contracts of Long (Short) positions as a percentage of the net asset value. Fixed income Long MV (Short MV) is expressed in US 10 years bond futures equivalent Long MV (Short MV).

Summary

Research Agenda (Ongoing)

Investible Universe

- Credit indices

Signals/Alpha Forecast Models

- Alternative data signals
- Machine learning / AI
- Short-term reversal signals
- Volatility regimes

Portfolio Construction/Risk

- Range-based volatility
- Cluster risk-parity

Trading

- Custom algorithms
- Onboarding additional execution brokers

No assurance can be given that Versor Investments (formerly "ARP Investments") will successfully integrate this research into any strategy.

Conclusion

- Scientific, data-intensive investment process
 - Differentiated investment process
 - Deep and experienced team of 40+ specialists
 - 200+ human work years spent on developing superior research and trading technology
- Systematic Alpha Trend Following offers attractive diversification for portfolios dominated by equity risk
- Uncertain macroeconomic environment presents attractive investment opportunities
- Systematic Alpha Trend Following has superior track record outperforming hedge fund peers
- Attractive terms

Disclosures

Benchmark Index Disclosures

The index returns are provided for purposes of comparison and include dividends and/or interest income and, unlike the returns presented for the various strategies, do not reflect fees or expenses. Unlike the various strategies presented which are actively managed and periodically may maintain cash positions, an index is unmanaged and fully invested. The comparison of the performance of the various strategies presented to these indices may be inappropriate because the various strategies are not as diversified as the indices, may be more or less volatile than the indices, and may include securities which are substantially different than the securities in the indices. Although information and analysis contained herein has been obtained from sources the Adviser believes to be reliable, its accuracy and completeness cannot be guaranteed. Investors cannot invest directly in indices. The indices referenced herein have been selected because they are well known, easily recognized by investors, and reflect those indices that the adviser believes, in part based on industry practice, provide a suitable benchmark against which to evaluate the investment or broader market described herein. The exclusion of "failed" or closed hedge funds may mean that each hedge fund index overstates the performance of hedge funds generally.

The **HFRX Global Hedge Fund Index** includes managers and is designed to be representative of the overall composition of the hedge fund universe. It is comprised of all eligible hedge fund strategies; including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage, and relative value arbitrage. The strategies are asset weighted based on the distribution of assets in the hedge fund industry.

The **HFRX EH: Equity Market Neutral Index** includes managers employing the Equity Market Neutral strategies. Equity Market Neutral managers typically employ sophisticated quantitative techniques of analyzing stock price and fundamental data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. These can include both Factor-based and Statistical Arbitrage/Trading strategies.

The **Credit Suisse Merger Arbitrage Liquid Index** aims to gain broad exposure to the merger arbitrage strategy using a pre-defined quantitative methodology to invest in a liquid, diversified and broadly representative set of announced merger deals.

The **SG Trend Index** includes managers employing the Systematic Diversified CTA strategy. Systematic Diversified CTA managers typically employ an investment process designed to identify opportunities in markets exhibiting trending or momentum characteristics across individual instruments or asset classes. Strategies utilize quantitative processes which focus on statistically robust or technical patterns in the return series of the asset, and typically focus on highly liquid instruments.

The **HFRX Macro: Systematic Diversified CTA Index** includes managers employing the Systematic Diversified CTA strategy. CTA managers typically employ an investment process designed to identify opportunities in markets exhibiting trending or momentum characteristics across individual instruments or asset classes. Strategies utilize quantitative processes which focus on statistically robust or technical patterns in the return series of the asset, and typically focus on highly liquid instruments.

The **Barclays CTA Index** (BARCCTA Index) provides a benchmark of representative performance of commodity trading advisors (CTAs). In order to qualify for inclusion in the Index, a CTA must

have four years of prior performance history. Refer to www.barclayhedge.com for more details on index construction methodology.

A combination of HFRX Macro: Systematic Diversified CTA Index and BARCCTA Index is used as the benchmark index for the Trend Following risk premia strategy returns. BARCCTA Index (monthly) returns are used for the period January 1990 to December 2008. HFRX Macro: Systematic Diversified CTA Index (daily) returns are used from January 2009 onwards. Combination index used due to availability of daily return data from HFRX Macro: Systematic Diversified CTA index (from January 2009 onwards).

The **Barclays Global Aggregate Index** provides a broad-based measure of the global investment-grade fixed income markets. The three major components of this index are the U.S. Aggregate, the Pan-European Aggregate, and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds, Canadian government, agency and corporate securities, and USD investment grade 144A securities.

The **Barclays Global Treasury Index** tracks fixed-rate, local currency government debt of investment grade countries, including both developed and emerging markets. The index represents the treasury sector of the Global Aggregate Index and contains issues from 37 countries denominated in 24 currencies.

The **Barclays Global High Yield Index** represents the US High Yield Index, Pan-European High Yield Index, High Yield CMBS Index, and non-investment grade portion of the Barclays Global Emerging Markets Index.

The **MSCI World Index** represents a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. As of February 2013, it includes 24 developed market country indices: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

The **MSCI ACWI** captures large and mid cap representation across 23 Developed Markets (DM) and 24 Emerging Markets (EM) countries. With 2,490 constituents, the index covers approximately 85% of the global investable equity opportunity set.

The **S&P GSCI™ Total Return index** measures a fully collateralized commodity futures investment that is rolled forward from the 5th to the 9th business day of each month. Currently the index includes 24 commodity nearby futures contracts. The Total Return is significantly different than the return from buying physical commodities.

The **SG Macro Trading Index** is a broad based performance measure for constituents that trade Global Macro strategies. The **SG Macro Trading Index (Quantitative)** is a sub-index of the SG Macro Trading Index covering quantitative Global Macro strategies. The **SG Macro Trading Index (Discretionary)** is a sub-index of the SG Macro Trading Index covering the discretionary strategies.

The **Eurekahedge Multi-Factor Risk Premia Index** is composed of multiple strategies managed by large global banks, and is

designed to provide a broad measure of the performance of a diversified portfolio of systematic drivers of risk and return across asset classes.

The **Bloomberg Barclays US Treasury: 20+ Year Total Return Index** measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint.

The **SG Multi Alternative Risk Premia Index** calculates the daily rate of return for a group of the largest ten multi-asset, multi-alternative risk premia programs managed by investment managers. These managers often trade equity indices, fixed income, currencies, commodities, and single name equities. Managers aims to systematically capture a diversity of discrete risk premia, including value, carry, momentum, and equity style premia. The index is equally weighted, and reconstituted and rebalanced on an annual basis.

The **Russell 1000 Value Index** measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values. The index was developed with a base value of 200 as of August 31, 1992.

The **Russell 2000 Value Index** measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

The **Russell 1000 Growth Index** measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values. The index was developed with a base value of 200 as of August 31, 1992.

The **Russell 2000 Growth Index** measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

The HFR Bank Systematic Risk Premia Indices are a series of benchmarks designed to reflect the performance of the universe of managers that employ a portfolio allocation strategy based on targeting risk levels across the various components of an investment portfolio.

HFR Bank Systematic Risk Premia Commodity Index: A composite of all Bank Systematic Risk Premia Commodity styles.

HFR Bank Systematic Risk Premia Credit Index: A composite of all Bank Systematic Risk Premia Credit styles

HFR Bank Systematic Risk Premia Currency Index: A composite of all Bank Systematic Risk Premia Currency styles.

HFR Bank Systematic Risk Premia Equity Index: A composite of all Bank Systematic Risk Premia Equity styles.

HFR Bank Systematic Risk Premia Rates Index: A composite of all Bank Systematic Risk Premia Rates styles.

Refer to HFR, Societe Generale, Barclayshedge, MSCI, Barclays, Credit Suisse, Russell and S&P websites for more details on their respective indices construction methodology.

General Disclosures

The information contained herein is provided for informational and discussion purposes only and is not, and may not be relied on in any manner as, legal, tax or investment advice. This document does not constitute an offer to sell or the solicitation of an offer to buy any securities or the solicitation to enter into any investment advisory or similar agreement with Versor Investments LP or any of its affiliates (collectively, "Versor Investments" and formerly "ARP Investments" herein after referred to as "Versor Investments") and may not be used or relied upon in connection with any offer or sale of securities. Any such offer may only be made by means of formal Offering Documents, the terms of which will govern in all respects. Past performance is not indicative of future results. The information set forth herein does not purport to be complete.

Investing in an investment product made available by Versor Investments or its affiliates (a "Fund") involves a high degree of risk. No person has been authorized to make any statement concerning the Fund other than as set forth in such Fund's Offering Documents and any such statements, if made, may not be relied upon. Prior to investing, investors must familiarize themselves with the Fund's offering materials and subscriptions documents (collectively, the "Offering Documents") and be prepared to absorb the risks associated with any such investment, including a total loss of all invested capital. The complete terms regarding an investment in a Fund, including but not limited to the investment program, fees and charges, tax considerations, risk factors, conflicts of interest and liquidity, are set forth in the Fund's Offering Documents.

The information contained herein is unaudited and provided as an accommodation to investors in connection with the monitoring of their investment in a Fund. The materials provided are based upon information included in our records, as well as information received from third parties. We do not represent that such information is accurate or complete, and it should not be relied upon as such. The financial information contained herein does not provide a complete picture of the Fund's financial position or results, in part because it does not reflect all applicable fees, expenses and other costs that will affect the Fund's net returns. The actual returns of the Fund will be lower - and likely much lower - than the unaudited returns included in this presentation. Please contact Versor Investments for a pro forma calculation of the impact of projected fees and expenses on the returns included herein. In the event of any discrepancy between the information contained herein and the information contained in an investor's audited account statements, the latter shall govern.

Certain information in this document may consist of compilations of publicly-available data. Versor Investments has

obtained such data from what it believes to be reliable sources. However, Versor Investments has no ability, and has not attempted independently, to verify any of such information. Versor Investments has not generated or independently verified the data included in this document and assumes no responsibility for it.

Certain information included in this document regarding Versor Investments' "implementation" of different strategies is simulated and back-tested. These are hypothetical records only. These results have been generated by applying Versor Investments' systems to historical pricing data for the publicly-traded instruments (including securities and futures) in which Versor Investments' accounts will trade. The recipient should understand that Versor Investments, in using its analytics to generate simulated results, necessarily applies Versor Investments' statistical models to historical data on a backtested basis. Different quantitative analysts will differ as to how statistically to define the different factors. While Versor Investments believes that its method of analysis is reasonable, there are other equally reasonable methods which would generate materially different results. Relying on any form of statistical, quantitative analysis in investment decision-making is speculative and involves a high degree of risk. PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. Commodity interest trading involves substantial risk of loss.

Because these results are simulated, they are subject to all of the material inherent limitations of backtested data. Due to these limitations (among others), the U.S. Commodity Futures Trading Commission requires that the following disclaimer accompany such information:

These results are based on simulated or hypothetical performance results that have certain inherent limitations. Unlike the results shown in an actual performance record, these results do not represent actual trading. Also, because these trades have not actually been executed, these results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity. Simulated or hypothetical trading programs in general are also subject to the fact that they are designed with the benefit of hindsight. Specifically, Versor Investments continuously seeks to enhance its methodologies and therefore a survivorship bias is present as these hypothetical performance results are continuously updated to apply what Versor Investments believes to be the most optimal approach at that point in time. No representation is being made that any account will or is likely to achieve profits or losses similar to these being shown. An investment with Versor Investments is speculative and involves substantial risks; investors may lose their entire investment. No

one should rely on any simulated performance in determining whether to invest with Versor Investments.

Certain analysis or statements included herein may constitute forward-looking statements. The forward-looking statements are not historical facts but reflect Versor Investments' current statistical conclusions regarding future results or events. These forward-looking statements are subject to a number of risks and uncertainties that could cause actual results or events to differ materially from history or current expectations. Although Versor Investments believes that the assumptions inherent in the forward-looking statements are reasonable, forward-looking statements are not guarantees of future results or events and, accordingly, readers are cautioned not to place undue reliance on such statements due to the inherent uncertainty therein.

Versor Investments is newly formed and in addition to the risks of its strategies, is subject to all the risks of a "start-up" business.

This document is confidential and is intended solely for the addressee. The information contained herein is proprietary and confidential to Versor Investments and may not be disclosed to third parties, or duplicated or used for any purpose other than the purpose for which it has been provided. Unauthorized reproduction or the distribution of this document (or any excerpts hereof) is strictly prohibited. The recipient agrees to dispose of this document promptly upon the request of Versor Investments.

Australia Disclosures

Australia General Disclaimer

This document is issued by Versor Investments LP (“Versor Investments” and formerly “ARP Investments”), a U.S. investment adviser registered with the U.S. Securities and Exchange Commission. The information in this document (the “Information”) has been prepared without taking into account individual objectives, financial situations or needs. It should not be relied upon as a substitute for financial or other specialist advice. This document does not constitute investment advice or any offer or solicitation to sell investment advisory services in any jurisdiction in which an offer, solicitation, purchase or sale would be unlawful under the securities law of that jurisdiction. This document is directed at and intended for wholesale clients, professional clients, eligible counterparties and other “institutional investors” (as such term is defined in various jurisdictions). This document is provided on a confidential basis for informational purposes only and may not be reproduced in any form or transmitted to any person without authorization from Versor Investments (formerly “ARP Investments”).

By accepting a copy of this presentation, you agree (a) that the Information is confidential and proprietary to Versor Investments, (b) to keep the Information confidential, (c) not to use the Information for any purpose other than to evaluate a potential investment in any product described herein, and (d) not to distribute the Information to any person other than persons within your organization or to your client that has engaged you to evaluate an investment in such product. This document is supplied on the condition that it is not passed on to any person

who is a retail client. Past performance is not indicative of future results. Unless otherwise specified, investments are not bank deposits or other obligations of a bank, and the repayment of principal is not insured or guaranteed. They are subject to investment risks, including the possibility that the value of any investment (and income derived thereof (if any)) can increase, decrease or in some cases, be entirely lost and investors may not get back the amount originally invested. The contents of this document have not been reviewed by any regulatory authority in the countries in which it is distributed. Versor Investments accepts no liability whatsoever for any direct, indirect or consequential loss arising from or in connection with any use of, or reliance on, this document which does not have any regard to the particular needs of any person. Versor Investments takes no responsibility whatsoever for any use, reliance or reference by persons other than the intended recipient of this document.

Opinions and views expressed constitute the judgment of Versor Investments as of the date of this document, may involve a number of assumptions and estimates which may not be valid, are not guaranteed, and are subject to change without notice. Although the information and any opinions or views given have been obtained from or based on sources believed to be reliable, no warranty or representation is made as to their correctness, completeness or accuracy.

The opinions and views herein are not intended to be recommendations of particular financial instruments or strategies to you. This document does not identify all the risks (direct or indirect) or other considerations which might be material to

you when entering any financial transaction. You are advised to exercise caution in relation to any information in this document. If you are in doubt about any of the contents of this document, you should seek independent professional advice.

Legal Disclaimer

It is the responsibility of any persons wishing to engage investment advisory services to inform themselves of and to observe all applicable laws and regulations of any relevant jurisdictions. Prospective clients should inform themselves as to the legal requirements and tax consequences within the countries of their citizenship, residence, domicile and place of business with respect to the acquisition, holding or disposal of any investments in stock or bonds, and any foreign exchange restrictions that maybe relevant thereto. Versor Investments products or services are not registered for public sale in Australia, New Zealand or Papua New Guinea, respectively.

The Information is provided for informational purposes only. Opinions, estimates, forecasts, and statements of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. We believe the information provided here is reliable. The views and strategies described may not be suitable for all clients.

References to specific securities, asset classes and financial markets are for illustrative purposes only and are not intended to be, and should not be interpreted as, recommendations.



Expect the Unexpected for Sustained Portfolio Performance

LongTail Alpha

*Introduction to Our Firm and Enhanced Systematic
Trend Following Strategy*

Prepared for

Oakland Police and Fire Retirement System

This material contains the current opinions of the manager and such opinions are subject to change without notice. This material has been distributed for informational purposes only and should not be considered as investment advice or a recommendation of any particular security, strategy or investment product. Information contained herein has been obtained from sources believed to be reliable, but not guaranteed. No part of this material may be reproduced in any form, or referred to in any other publication, without express written permission. LongTail Alpha, LLC, 500 Newport Center Drive, Suite 820, Newport Beach, CA 92660. ©2021, LongTail Alpha, LLC.

For Qualified Investor Use Only

For Qualified Eligible Person Use Only

Important Disclosures

LongTail Alpha, LLC is registered with the Securities & Exchange Commission (“SEC”) as an Investment Adviser. LongTail Alpha, LLC is also registered with the Commodity Futures Trading Commission (“CFTC”) as a CTA and CPO and as a member of the National Futures Association (“NFA”). Neither registration with the SEC and CFTC, nor membership with the NFA implies a certain level of skill or training. All investing involves risk of loss, including the possible loss of all amounts invested. This presentation and any attachment(s) are not an official statement.

The information provided in this presentation must be read in conjunction with a strategy’s Private Placement Memorandum, which contains additional important risk disclosures and other material information. This presentation does not constitute an offer to sell, or a solicitation of an offer to buy or sell, any securities or investment products sponsored by LongTail Alpha, LLC, and is intended for informational purposes only. All investments in securities involve a risk of loss of capital and no guarantee or representation can be made that an investment will generate profits or that an investment will not incur a total loss of invested capital. Furthermore, nothing herein is intended to imply that LongTail Alpha, LLC’s investment strategies may be considered “conservative”, “safe”, “risk free” or “risk averse.” Only qualified investors may invest in any of the strategies presented herein.

There can be no assurance that any estimated or hypothetical returns or projections included herein can be realized, that forward-looking statements will materialize or that actual returns and results will not be materially lower than those presented. Any prior investment results or returns are presented for illustrative purposes only and are not indicative of future returns. An investment in any of the strategies presented herein involves a high degree of risk and could result in the loss of your entire investment. Past performance is not a guarantee of future results.

Hypothetical performance is developed with the benefit of hindsight and has inherent limitations. Specifically, hypothetical results do not reflect actual trading or the effect of material economic and market factors on the decision-making process. Since trades have not actually been executed, results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have had on the decision-making process. Further, hypothetical results allow the security selection methodology to be adjusted until past returns are maximized. Actual performance may differ significantly from hypothetical performance.

Options involve risks and are not suitable for all investors. There are many factors that an investor should be aware of when trading options including interest rates, volatility, stock splits, stock dividends, stock distributions, currency exchange rates, etc. Investors should only engage in options trading that is best suited to their financial condition and option experience and which considers current market conditions. The use of derivative instruments, such as options contracts, can lead to losses because of adverse movements in the price or value of the underlying asset, index or rate, which may be magnified by certain features of the derivatives. Investing in options and other instruments with option-type elements may increase volatility and/or transaction expenses. An option may expire without value, resulting in a loss of an initial investment and may be less liquid and more volatile than an investment in the underlying securities. Investments in debt securities typically decrease in value when interest rates rise. This risk is usually greater for longer-term debt securities. Any “limited-risk” and “no margin call” features of options apply only to the purchase of options but not to the holding of the options themselves. The “limited-risk” feature of options includes the full amount of the premium and transaction costs including commissions.

Certain information contained herein has been obtained or derived from unaffiliated third-party sources believed by LongTail Alpha, LLC to be reliable. Neither LongTail Alpha, LLC nor any of its affiliates or representatives makes any representation or warranty, express or implied, as to the accuracy or completeness of the information contained herein.

The investment services and products mentioned in this document may often have tax consequences; therefore, it is important to bear in mind that LongTail Alpha, LLC does not provide tax advice. The levels and bases of taxation can change. Investors’ tax affairs are their own responsibility and investors should consult their own attorneys or other tax advisors in order to understand the tax consequences of any products and services mentioned in this document.

This presentation and any attachment(s) are confidential, are intended solely for the information of the person to whom it was delivered and may not be republished or redistributed, in whole or in part, to any third parties, without LongTail Alpha, LLC’s prior written consent. If the reader of this information is not the intended recipient, you are hereby notified that you have received this presentation in error and any review, dissemination, distribution, or copying of this information or any materials contained herein is strictly prohibited.

Firm Overview

About LongTail Alpha

Background

- Founded in 2015 by PIMCO Partner in charge of Quantitative Portfolios
- Team of investment professionals with extensive experience working with institutional investors
- Janus Capital Group arms-length minority equity ownership
- Minority Owned Emerging Manager

Our Expertise

- Quantitative portfolio management
- Risk and portfolio analytics
- Derivatives
- Algorithmic trading

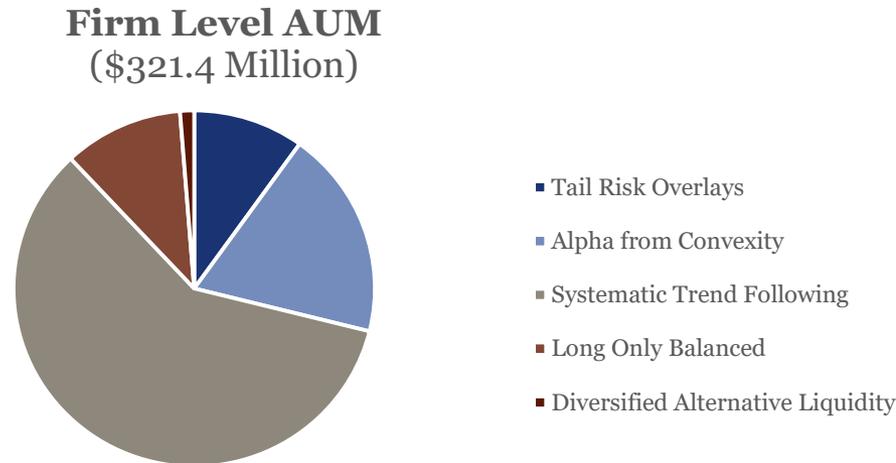
Value Proposition

- Leverage over 2 decades of experience developing many of the risk management frameworks used in the industry today
- Exclusive focus on managing the tails of market probability distributions
- Proprietary relative valuation, portfolio construction, and risk measurement systems
- Potential to provide portfolio protection and value in an uncertain and potentially volatile world

As of April 1, 2021



LongTail Alpha Manages a Spectrum of Diversifying Strategies



- Our investment platform is built around portfolio diversification strategies and risk mitigation solutions
- Trend Following is a core investment offering of LongTail Alpha

As of April 30, 2021

What We Believe the Benefits of the LongTail Alpha Enhanced Trend Following Approach Are

- True **rules-based trend following**, since markets are not always forecastable
- True diversification, especially during severe down markets in equities, achieved through **risk limits on factor exposures**
- **Limits on maximum exposures** when markets are theoretically over-extended (e.g., negatively yielding bonds)
- Option-like payoff structure but with **limited explicit option cost**
- **Diversification** versus other trend followers

Enhanced Systematic Trend Following Fund

LongTail Alpha Enhanced Systematic Trend Following Strategy Targeted Goals

- Three main building blocks:

Follow Market Trends

Optimize Cost of Carry

Limit Exposure to Assets with Guaranteed Loss of Principal

- The strategy aims to demonstrate **lower reversal risk** than the SG Trend index
- The strategy is designed to maintain **lower equity beta for rallying equity markets and negative equity beta for falling equity markets**
- The strategy seeks to **diversify both against equity markets, SG Trend Index, and other Trend Following strategies**
- The strategy has the potential to **exhibit a stronger option-like profile**

LongTail Alpha does not guarantee it will successfully achieve all of the strategy's targeted goals.

Summary of Trend Following Strategy

Strategy Summary¹

- The strategy is an enhanced time-series momentum, or trend following trading strategy, designed with the intent to capture excess returns and to provide diversification in markets that trend up and/or down, while paying attention to carry costs
- It is a *rules based, systematic strategy* for investing in liquid derivatives across interest rates, foreign exchange, commodities, equity, and volatility markets
- Cash collateral is kept in highly rated fixed income assets
- Strategy is continually enhanced by using both macro and micro-level insights
- Strategy performs best when markets trend, or when volatility rises from low to high levels

Risk and Return Targets

- Targets based on actual results of the strategy, model back tests of the strategy, and of current strategy construction are:
 - 8% to 12% annualized return (after fees and over a full market cycle)²
 - 15% volatility³
 - Low to negative correlation with risk assets
 - Positive skew, meaning that the larger the magnitude of market moves, the higher the expected return

Potential Risks and Mitigation

- Sharp reversals in market trends can drive losses
- Seek to control risks by utilizing asset and factor limits, use of options, portfolio diversification, stop losses, and profit taking rules

¹ Reference: Bhansali, V. et. al. "Carry And Trend In Lots Of Places", The Journal of Portfolio Management, Summer 2015, 41 (4) 82-90

² Target net of fee annualized returns are based off of annual investment management fees of 65 bps, which is the highest fee currently charged for the fund. Target returns should not be considered reliable predictions of future events and should not be relied on as such. The actual realized returns on investments will depend on a variety of factors, such as the value of the assets and market conditions at the time of disposition, any related transaction costs, and the timing and manner of sale, all of which may differ from the assumptions on which the targets are based. Actual realized returns on investments may differ materially from the targets presented.

³ The volatility target is the level of annual volatility to which the portfolio is adjusted by lowering or increasing the amount of leverage and exposures. There can be no assurance that the target volatility can be realized, that the underlying assumptions on which the targets are based are or will continue to be accurate, or that the actual volatility of the Fund will not be materially different than the targets presented.

Trend Following Investment Process

Entry and Exit Rules	<ul style="list-style-type: none"> ▪ Trend identification rules: non-optimized set of confirming moving averages <ul style="list-style-type: none"> ▪ Example – if prices move above the 50 day moving average we buy the asset and if prices move below the 50 day moving average we sell the asset ▪ Strategy can be both long or short ▪ Carry filters (carry/volatility thresholds) to reduce drag while waiting for trends to emerge ▪ Constraints on assets with negative long-term expected returns
Initial Scaling	<ul style="list-style-type: none"> ▪ Dollar capital committed is based on the implied level of price volatility in each underlying asset ▪ Strategy targets 15% volatility ▪ Utilizes information from options markets to size positions to targeted volatility level
Scaling Up or “Pyramiding”	<ul style="list-style-type: none"> ▪ Price trends trigger additional positions at pre-defined levels ▪ Intentionally results in concentrated positions that aim to generate convex, positively skewed payoffs ▪ Scaling rule attempts to replicate sensitivities of an exotic option straddle ▪ Additional risk managed via explicit options
Risk Limits and Controls	<ul style="list-style-type: none"> ▪ Limits on total equity, duration, commodity, and volatility exposures ▪ Position limits, stop losses, and concentration limits enforced by active risk monitoring systems and risk management ▪ Profit taking algorithm designed to reduce risk from reversals ▪ Explicit use of options beyond certain linear exposure limits
Transaction Costs Minimization	<ul style="list-style-type: none"> ▪ Transaction costs are considered in both algorithm development and in choice of trading frequency and instrument selection ▪ Direct market access and proprietary execution algorithms written and maintained at LTA
Collateral Management	<ul style="list-style-type: none"> ▪ Collateral for derivative positions is invested in cash and fixed income securities ▪ Margin and liquidity positions are monitored by LTA’s Risk Management and Collateral Management teams

Process described is for illustrative and discussion purposes only. There can be no assurance that the target volatility can be realized, that the underlying assumptions on which the targets are based are or will continue to be accurate, or that the actual volatility of the Fund will not be materially different than the targets presented.

Universe of Potential Investment Instruments

- **Primary Investment Instruments**

- Equity Index Futures and Options
- Interest Rate Futures and Options
- Bond Futures and Options
- Currency Futures, Forwards and Options
- Commodity Futures and Options
 - Precious Metals
 - Base Metals
 - Energy
 - Softs
- Volatility Futures and Options
- Digital Asset Futures

- **Other Investment Instruments**

- Credit Default Swaps and Swaptions
- Bond Market Spreads
- ETFs
- Occasional use of Large Cap Equity Baskets
- OTC instruments across asset classes

Portfolio Constraints and Risk Management

- **Enhanced Systematic Trend Following Fund investment guideline constraints**
 - Risk Factor Limits
 - Sector and Asset Class Exposure Limits
 - Single Position Limits
 - Notional and Leverage Limits
- **LongTail Alpha believes that multiple risk systems are important to create a composite picture of portfolio risk that is more robust than a single system**
 - Internally Developed Tools
 - External Risk Systems

Limits and constraints described above are for illustrative and discussion purposes only. These are subject to change based on a variety of market, economic, and strategy factors. Risk management and monitoring systems described above are for illustrative and discussion purposes only and are subject to change and may be enhanced, updated or replaced as needed.

What We Believe Differentiates Our Approach From Others

- **Option Theory Based Approach**

- Approach is based on rigorous option theory, i.e. replication of exposures of a lookback straddle
- Since explicit options can frequently be cheaper than the replicating strategy, we may also use options directly to express exposures in order to strive:
 - To mitigate reversal risk
 - To increase exposures endogenously with finite initial premium at risk
 - To dampen drawdowns
 - For quicker response to “crashes”
 - To add to the skewness of the portfolio
 - To provide better diversification

- **Explicit Carry/Volatility Tradeoff**

- Carry vs. volatility optimization results in the signaling of positions where negative carry can overwhelm trend

- **Instrument Selection and Constraints**

- Listed futures, OTC swaps, and OTC options, allowing longer dated and custom exposures, as well as relative value (e.g., swap spreads)
- Underweight instruments with negative long-term yields and guaranteed loss of capital if held to maturity

LongTail Alpha Diversity and Inclusion

LongTail Alpha Diversity Survey

Diversity Representation Survey for Oakland Police and Fire			
DATA AS OF 12/31/2020			
Firm Name	LongTail Alpha, LLC		
Product Name	LTA Enhanced Systematic Trend Following Fund, LP		
	Percentage (%) of Board of Directors / Managing Members	Percentage (%) of Firm (Entire Staff)	Percentage (%) of Firm (Investment Professionals)
Race and Ethnicity*			
African American/Black	0.00%	0%	0%
Asian/Hawaiian/Pacific Islander	66.67%	29%	33%
Latino/Hispanic	0.00%	0%	0%
White ¹	33.33%	71%	67%
American Indian/Alaska Native	0.00%	0%	0%
Other	0.00%	0%	0%
Gender			
Male ¹	100%	71%	100%
Female	0%	29%	0%
Non-Identified/Other	0%	0%	0%
TOTAL:	100%	100%	100%
TOTAL:	100%	100%	100%
* Racial/ethnic categories appear as defined by EEOC guidance.			
¹ Includes US military veteran.			

LongTail Alpha ESG Policy Statement

- LongTail Alpha believes in the importance of corporate responsibility and is committed to supporting and incorporating environmental sustainability, social responsibility, and effective governance into all aspects of our business operations.
- This ESG policy statement reflects our pledge to improve how our business decisions and policies address opportunities for sustainability and for support of diversity and inclusion efforts.
- We expect this policy statement to be upheld by all employees of LongTail Alpha.
- We aim to be transparent in our efforts and continue to evolve and improve these initiatives.

ENVIRONMENTAL SUSTAINABILITY

- We seek to operate in an environmentally responsible manner to reduce our impact on climate change, conserve natural resources, and comply with environmental regulations.
- The firm is located in a building that is LEED certified and the company is dedicated to the environmentally conscious practices of recycling and reducing the use of disposable materials.

SOCIAL RESPONSIBILITY

- We seek to be a socially responsible employer by fostering an environment of diversity and inclusion within our firm and with external relationships, operating ethically, and supporting our local communities.
- The firm supports local organizations in a number of ways, including volunteering at a food bank, organizing a clothing drive, and coordinating donations around the holidays.
- Employees are also encouraged to participate in local blood drives.
- LongTail Alpha works with local suppliers when possible and screens all third-party vendors for negative practices or regulatory non-compliance.

CORPORATE GOVERNANCE

- We seek to build a culture committed to ethical business behavior and responsible corporate activity.
- We believe strong corporate governance is fundamental to a firm's success.
- We also recognize the value of input, and diversity of input, from all members of the LongTail Alpha team.

Appendix

Professionals With Institutional Experience

- Key Personnel were Senior Executives at PIMCO for Many Years
- Vineer Bhansali, Ph.D., Founder and CIO, has held Leadership Portfolio Management Positions on both the Sell-Side and the Buy-Side including the following:
 - Citibank
 - Founded and Managed the Exotic and Hybrid Options Trading Desk
 - Salomon Brothers
 - Member of the Fixed Income Arbitrage Group
 - Credit Suisse First Boston
 - Member of the Proprietary Trading Group
 - PIMCO
 - Partner, Founder and Head of the Quantitative Portfolio Management Team
 - Head of PIMCO's Risk Mitigation practice which managed in excess of \$80 billion in notional AUM
 - Lead Portfolio Manager and designer of PIMCO Trends Managed Futures Strategy
 - Lead Portfolio Manager and designer of PIMCO Tail Risk Hedging Strategy
 - Lead Portfolio Manager PIMCO RealRetirement and RealPath Funds
 - Co-Lead Portfolio Manager PIMCO Global Relative Fund
 - Head of PIMCO's Analytics Department
 - Author
 - Written four books on finance including his most recent "Tail-Risk Hedging"
 - Written over 30 refereed papers on option-pricing, tail-hedging, asset-allocation along with other topics

External Service Providers and Relationships

Administrator

- Northern Trust Hedge Fund Services LLC

Prime Brokers, FCMs, and Custodians

- Morgan Stanley & Co.
 - Also MS ISDA Relationship
- Goldman Sachs & Co.
 - Also GS ISDA Relationship
- Northern Trust Custody

Order Management System

- Bloomberg, LP

Auditor

- KPMG LLP

Lawyers

- US: Paul Hastings LLP
- Cayman: Appleby (Cayman) Ltd.

Offshore Fund Directors

- Crestbridge Cayman Ltd.

Strategic Partner

- Janus Capital Group (Passive Minority Ownership in LongTail Alpha, LLC)

Business Support Functions

- Agile Fund Services - Bookkeeping
- Eze Castle Integration - Technology
- Golden Bear Consulting – Compliance
- TriNet – PEO

Enhanced Systematic Trend Following Fund – Investment Management Fees

NAV	Series A (bps)	Series B (bps)
First \$150,000,000	55	65
Next \$350,000,000	50	60
Next \$500,000,000	45	50
Thereafter	35	40

- There are two series of limited partnership interests – Series A and Series B
- Series A interests had been offered in the Fund during the period prior to the 12-month anniversary of the initial offering, which was January 1, 2020
- There is an initial lockup period of 12 months for Series A investors, after which point the Fund has monthly liquidity with 5 days' notice
- There is no initial lockup period for Series B investors
- Neither Series A nor Series B have performance-based fees
- Based on the relationship with Meketa, LongTail Alpha may offer the Series A interests to their clients

Enhanced Systematic Trend Following Fund – Series A – Summary

Enhanced Trend Following Fund Summary of Fund Terms

Minimum Investment	\$5 million
Investment Fees	55 bps management and no performance fee
Liquidity	Monthly, 5 days' notice
Initial Lockup	12 months from initial subscription date
Gates	None
Redemption Fee	None
Vehicle Structure	Delaware LP
Administrator	Northern Trust Hedge Fund Services

Enhanced Trend Following Fund Summary of Portfolio Characteristics

Net Exposures	-5x to 5x
Gross Exposures	12x maximum
Target Total Return	8-12% net annualized returns over a full market cycle
Target Vol	15% over a full market cycle
Number of Core Positions	75-100
Cash	Typically 50-75% in cash equivalents
Geography	Global mandate
Permitted Asset Classes	Equities, Rates, FX, Commodities, and Digital Assets (OTC and listed)

This summary is for discussion purposes only. The Fund has not yet been formed or funded. Portfolio characteristics and fund terms are subject to change.

LongTail Alpha Enhanced Systematic Trend Following Fund Performance

Net Performance - Series A (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2021	0.26	1.00	0.69	3.46*									5.50*
2020	-0.15	0.61	7.07	-0.91	-1.66	-2.68	-0.44	-3.90	-0.14	0.17	-0.15	3.15	0.53

*Estimated performance

Source: LongTail Alpha, Northern Trust

The performance shown is for illustrative, informational purposes only and is net of fees (including management fees). It reflects the hypothetical returns for a limited partner who invested in LongTail Alpha Enhanced Systematic Trend Following Fund LP, Series A on January 1, 2020 (the inception of the Fund), made no withdrawals or additional capital contributions during the period shown and is eligible to participate in new issue profits and losses. Net performance reflects the reinvestment of dividends and other earnings, the deduction of Fund expenses and a management fee of 0.55%. Returns experienced by individual investors will differ for various reasons, including based on the date of investment, the amount of management fees and performance allocations the investor actually accrues. The variance in performance may be material in some periods.



Notes & Disclosures

The information contained herein is confidential and solely intended for its recipient (“you” or the “recipient”). By accepting it, you agree to treat it as such and any unauthorized use or disclosure of this presentation or the information contained therein is strictly prohibited. This document may not be reproduced or circulated without LongTail’s express written consent.

This presentation is for informational purposes only. It should not be construed to provide any specific investment advice to you or to recommend the purchase of any securities or other assets described herein, and should not be relied upon for purposes of making any investment decision. This presentation does not constitute, and should not be construed to constitute, an offer to sell, or a solicitation of any offer to buy, interests in any private investment fund, mutual fund, exchange traded fund, or any investment strategies described herein.

Several processes, assumptions and data sources were used to create this presentation. It is possible that a different methodology may have resulted in a different outcome. This analysis may not reflect the effect of material economic and market factors. You should carefully consider the process and inherent limitations associated with creating this presentation. Past performance is no guarantee of future results.

Hypothetical performance results have many inherent limitations, some of which, but not all, are described herein. No representation is being made that any fund or account will or is likely to achieve profits or losses similar to those shown herein. In fact, there are frequently sharp differences between hypothetical performance results and the actual results subsequently realized by any particular trading program. One of the limitations of hypothetical performance results is that they are generally prepared with the benefit of hindsight. In addition, hypothetical trading does not involve financial risk, and no hypothetical trading record can completely account for the impact of financial risk in actual trading. For example, the ability to withstand losses or adhere to a particular trading program in spite of trading losses are material points which can adversely affect actual trading results. The hypothetical performance results contained herein represent the application of certain models as currently in effect and there can be no assurance that the models will remain the same in the future or that an application of the current models in the future will produce similar results because the relevant market and economic conditions that prevailed during the hypothetical performance period will not necessarily recur. There are numerous other factors related to the markets in general or to the implementation of any specific trading program which cannot be fully accounted for in the preparation of hypothetical performance results, all of which can adversely affect actual trading results. Discounting factors may be applied to reduce suspected anomalies. Hypothetical performance results are presented for illustrative purposes only and should not be relied upon in making an investment decision.

The information in this presentation is only as current as of the date indicated, and may be superseded by subsequent market events or for other reasons. This presentation does not take into account your particular investment objectives, financial situation or needs, and nothing contained herein constitutes investment, legal, tax or other advice nor it is to be relied on in making an investment or other decision.

Under no circumstance is this document to be considered as a commitment by LongTail or any affiliates to enter into any transaction.

While the data used for its analysis are from sources that LongTail believes are reliable, the results represent LongTail’s opinion only. The return information uses or includes information compiled from third-party sources, including independent market quotations and index information. LongTail believes the third-party information comes from reliable sources, but LongTail does not guarantee the accuracy of the information and may receive incorrect information from third-party providers. Unless otherwise indicated, the information has been prepared by LongTail and has not been reviewed, compiled or audited by any independent third-party or public accountant.

General analysis contained within this document regarding the market or market conditions represent the view of either the source cited or LongTail. Nothing contained herein is intended to predict the performance of any investment. There can be no assurance that actual outcomes will match the assumptions or that actual returns will match any expected returns. The information contained herein is subject to change, and LongTail assumes no obligation to update the information.

Notes & Disclosures

The target returns presented are net of performance fees, management fees and expenses and gross of taxes. Target returns are not projections, predictions or guarantees of future performance and there can be no assurance that target returns will be achieved. The target returns are based upon numerous assumptions that may not be realized. The target return objective will be based on LongTail's analysis and evaluation of investment opportunities, its ability to identify a sufficient number and mix of suitable investments and on certain other assumptions described elsewhere herein. Actual events and conditions may differ materially from the assumptions used to calculate the target returns. This information is provided to you on the understanding that, as a sophisticated investor, you understand and accept the inherent limitations of such illustrations, and you will not rely on it in making any investment decision.

There can be no assurance that the target volatility can be realized, that the underlying assumptions on which the targets are based are or will continue to be accurate, or that the actual volatility of the Fund will not be materially different than the targets presented.

Investing in the bond market is subject to certain risks including market, interest-rate, issuer, credit, and inflation risk. Equities may decline in value due to both real and perceived general market, economic, and industry conditions. Investing in foreign denominated and/or domiciled securities may involve heightened risk due to currency fluctuations, and economic and political risks, which may be enhanced in emerging markets. Mortgage and asset-backed securities may be sensitive to changes in interest rates, subject to early repayment risk, and while generally supported by a government, government-agency or private guarantor there is no assurance that the guarantor will meet its obligations. REITs are subject to risk, such as poor performance by the manager, adverse changes to tax laws or failure to qualify for tax-free pass-through of income. Commodities contain heightened risk including market, political, regulatory, and natural conditions, and may not be suitable for all investors. The value of real estate and portfolios that invest in real estate may fluctuate due to: losses from casualty or condemnation, changes in local and general economic conditions, supply and demand, interest rates, property tax rates, regulatory limitations on rents, zoning laws, and operating expenses. Derivatives may involve certain costs and risks such as liquidity, interest rate, market, credit, management and the risk that a position could not be closed when most advantageous. Investing in derivatives could lose more than the amount invested. Diversification does not ensure against loss.

Forward-looking information in these materials is subject to inherent limitations. Certain information contained herein constitutes "forward-looking information", which can be identified by the use of forward-looking terminology such as "may", "will", "seek", "expect", "anticipate", "project", "estimate", "intend", "continue", or "believe" or the negatives thereof or other variations thereon or comparable terminology. Forward-looking information is information that is not purely historical and includes, among other things, expected structural features, anticipated ratings, proposed diversification, specific investment strategies, and forecasts of future economic conditions. The forward-looking information in these materials is based on certain assumptions (whether or not stated herein), which may not be consistent with, and may differ materially from, actual events and conditions. In addition, not all relevant events or conditions may have been considered in developing such assumptions. Actual results will vary and the variations may be materials. You should understand such assumptions and evaluate whether they are appropriate for their purposes.

Virtual Currency Disclosures

LONGTAIL ALPHA, LLC IS A MEMBER OF THE NFA AND IS SUBJECT TO NFA'S REGULATORY OVERSIGHT AND EXAMINATIONS. **LONGTAIL ALPHA, LLC** HAS ENGAGED OR MAY ENGAGE IN DERIVATIVES, UNDERLYING OR SPOT VIRTUAL CURRENCY TRANSACTIONS IN TWOTAIL ALPHA MASTER FUND LP AND LONGTAIL ALPHA DIVERSIFIED ALTERNATIVE LIQUIDITY FUND LP. ALTHOUGH NFA HAS JURISDICTION OVER **LONGTAIL ALPHA, LLC, AND ITS POOLS (TWOTAIL ALPHA MASTER, TWOTAIL ALPHA ONSHORE, TWOTAIL ALPHA OFFSHORE, LONGTAIL ALPHA DIVERSIFIED ALTERNATIVE LIQUIDITY FUND)**, YOU SHOULD BE AWARE THAT NFA DOES NOT HAVE REGULATORY OVERSIGHT AUTHORITY FOR UNDERLYING OR SPOT MARKET VIRTUAL CURRENCY PRODUCTS OR TRANSACTIONS OR VIRTUAL CURRENCY EXCHANGES, CUSTODIANS OR MARKETS. YOU SHOULD ALSO BE AWARE THAT GIVEN CERTAIN MATERIAL CHARACTERISTICS OF THESE PRODUCTS, INCLUDING LACK OF A CENTRALIZED PRICING SOURCE AND THE OPAQUE NATURE OF THE VIRTUAL CURRENCY MARKET, THERE CURRENTLY IS NO SOUND OR ACCEPTABLE PRACTICE FOR NFA TO ADEQUATELY VERIFY THE OWNERSHIP AND CONTROL OF A VIRTUAL CURRENCY OR THE VALUATION ATTRIBUTED TO A VIRTUAL CURRENCY BY **LONGTAIL ALPHA, LLC**.

Risks relating to Virtual Currency Derivative, Underlying, and Spot Transactions

- **Initial Margin for Virtual Currency Derivatives.** Initial margin for virtual currency derivatives may be set as a percentage of the value of a particular contract, which means that margin requirements for long positions can increase if the price of the contract rises. Initial margin can be set larger than most futures products, including up-to and even greater than 100% of the value of the contract(s);
- **Virtual Currency Derivative FCM Trading Restrictions.** Some Futures Commission Merchants may impose restrictions on customer trading activity in virtual currency derivatives, such as requiring additional margin, imposing position limits, prohibiting naked shorting or prohibiting give-in transactions;
- **Virtual Currency Derivative DCM Trading Restrictions.** Certain designated contract markets may impose trading halts that may restrict a market participant's ability to exit a position during a period of high volatility;
- **Unique Features of Virtual Currencies.** Virtual currencies are not legal tender in the United States and many question whether they have intrinsic value. The price of many virtual currencies is based on the agreement of the parties to a transaction. The risks associated with the unique features of virtual currencies should be explained;
- **Price Volatility.** The price of a virtual currency is based on the perceived value of the virtual currency and subject to changes in sentiment, which make these products highly volatile. Certain virtual currencies have experienced daily price volatility of more than 20%. The risks associated with the extreme price volatility of virtual currencies and the possibility of rapid and substantial price movements, which could result in significant losses;
- **Valuation and Liquidity.** Virtual currencies can be traded through privately negotiated transactions and through numerous virtual currency exchanges and intermediaries around the world. The lack of a centralized pricing source poses a variety of valuation challenges. In addition, the dispersed liquidity may pose challenges for market participants trying to exit a position, particularly during periods of stress. These challenges can lead to potential mark-to-market valuation inconsistencies with the true value of the virtual currencies, which can distort the overall value of the TwoTail Master, TwoTail Alpha Onshore, TwoTail Alpha Offshore, and LongTail Alpha Diversified Alternative Liquidity funds, either overvalued or undervalued. Finding an appropriate third party to value Digital Assets may be difficult and challenging, and the reliability and capability of third party valuation vendors can be extremely inconsistent, further contributing to potentially inaccurate or stale valuations;
- **Cybersecurity.** The cybersecurity risks of virtual currencies and related "wallets" or spot exchanges include hacking vulnerabilities and a risk that publicly distributed ledgers may not be immutable. A cybersecurity event could result in a substantial, immediate and irreversible loss for market participants that trade virtual currencies. Even a minor cybersecurity event in a virtual currency is likely to result in downward price pressure on that product and potentially other virtual currencies. These hacking vulnerabilities could include at the exchange, merchant, custodian, or issuer and may result in a complete loss of investment. Finally, digital surveillance leading to 1) the theft of private keys could result in the total loss of investment and/or 2) deanonymizing users could inflict downward price pressure on the investment;

Virtual Currency Disclosures

Opaque Spot Market. Virtual currency balances are generally maintained as an address on the blockchain and are accessed through private keys, which may be held by a market participant or a custodian. Although virtual currency transactions are typically publicly available on a blockchain or distributed ledger, the public address does not identify the controller, owner or holder of the private key. Unlike bank and brokerage accounts, virtual currency exchanges and custodians that hold virtual currencies do not always identify the owner. The opaque underlying or spot market poses asset verification challenges for market participants, regulators and auditors and gives rise to an increased risk of manipulation and fraud, including the potential for Ponzi schemes, bucket shops and pump and dump schemes;

Virtual Currency Exchanges, Intermediaries and Custodians. Virtual currency exchanges, as well as other intermediaries, custodians and vendors used to facilitate virtual currency transactions, are relatively new and largely unregulated in both the United States and many foreign jurisdictions. Virtual currency exchanges generally purchase virtual currencies for their own account on the public ledger and allocate positions to customers through internal bookkeeping entries while maintaining exclusive control of the private keys. Under this structure, virtual currency exchanges collect large amounts of customer funds for the purpose of buying and holding virtual currencies on behalf of their customers. The opaque underlying spot market and lack of regulatory oversight creates a risk that a virtual currency exchange may not hold sufficient virtual currencies and funds to satisfy its obligations and that such deficiency may not be easily identified or discovered. In addition, many virtual currency exchanges have experienced significant outages, downtime and transaction processing delays and may have a higher level of operational risk than regulated futures or securities exchanges. Finally, any insurance, bond, or trust maintained by exchanges, intermediaries, or custodians or those effecting transactions may not be sufficient to cover all losses incurred by counterparties;

Regulatory Landscape. Virtual currencies currently face an uncertain regulatory landscape in the United States and many foreign jurisdictions. In the United States, virtual currencies are not subject to federal regulatory oversight but may be regulated by one or more state regulatory bodies. In addition, many virtual currency derivatives are regulated by the CFTC, and the SEC has cautioned that many initial coin offerings are likely to fall within the definition of a security and subject to U.S. securities laws. One or more jurisdictions may, in the future, adopt laws, regulations or directives that affect virtual currency networks and their users. Such laws, regulations or directives may impact the price of virtual currencies and their acceptance by users, merchants and service providers, and they could potentially ban them altogether resulting in a loss of investment;

Technology. The relatively new and rapidly evolving technology underlying virtual currencies introduces unique risks. For example, a unique private key is required to access, use or transfer a virtual currency on a blockchain or distributed ledger. The loss, theft or destruction of a private key may result in an irreversible loss. The ability to participate in forks could also have implications for investors. For example, a market participant holding a virtual currency position through a virtual currency exchange may be adversely impacted if the exchange does not allow its customers to participate in a fork that creates a new product;

Transaction Fees. Many virtual currencies allow market participants to offer miners (i.e., parties that process transactions and record them on a blockchain or distributed ledger) a fee. While not mandatory, a fee is generally necessary to ensure that a transaction is promptly recorded on a blockchain or distributed ledger. The amounts of these fees are subject to market forces and it is possible that the fees could increase substantially during a period of stress. In addition, virtual currency exchanges, wallet providers and other custodians may charge high fees relative to custodians in many other financial markets;

Digital Asset Values. Digital Asset values could go to zero or near zero;

Trading Hours. Digital Assets trade 24 hours a day, 7 days a week, and internationally. Large price moves can occur outside of normal LongTail Alpha business hours, which may result in the loss of all or a substantial majority of an investment prior to the Firm's ability to transact;

Investor Protection. Digital Asset accounts and value balances are not protected by the Federal Deposit Insurance Corporation or Securities Investor Protection Corporation;

Timing. The date or time that a Digital Asset transaction is initiated can differ from the record posted on a public ledger, and;

Taxation. Oppressive taxation regimes on Digital Assets can result in large and unforeseen negative tax consequences reducing the value and worth of assets.

Index Descriptions

The SG Trend Index is designed to track the 10 largest (by AUM) trend following CTAs and be representative of the trend followers in the managed futures space. Managers must meet the following criteria: a) Must be open to new investment; b) Must report returns on a daily basis; c) Must be an industry recognized trend follower as determined at the discretion of the SG Index Committee; and d) Must exhibit significant correlation to trend following peers and the SG Trend Indicator. The SG Trend Index is equally weighted, and rebalanced and reconstituted annually.



Oakland Police & Fire Retirement Systems Board Meeting

May 26, 2021

Presented by:

Grant Jaffarian - Portfolio Manager
Lisa Martin - Director of Business Development

Global Headquarters
10250 Constellation Blvd
Suite 2650
Los Angeles, CA 90067

ClientRelations@crabel.com
+1 310.651.2900

Crabel Capital Management, LLC • Company Introduction

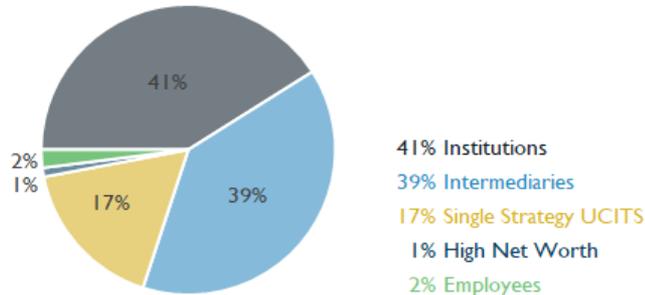
Overview

Crabel is a global alternative investment firm specializing in systematic, automated trading of worldwide futures and foreign exchange. Our Los Angeles based firm was founded by short-term trading pioneer Toby Crabel and has delivered over 25 years of uncorrelated returns for its institutional clients. The firm has developed a diverse array of trading strategies designed to systematically capture market anomalies implemented through a technologically advanced, low latency infrastructure. Global co-location facilities and proprietary execution algorithms allow the firm to efficiently trade in approximately 200 futures and foreign exchange markets.

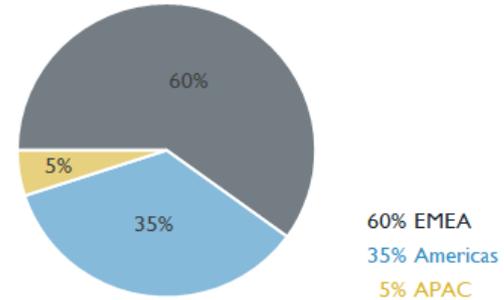
Quick Hits

Founded In	February 1987	
Staff Count	88	
Firm-wide AUM¹	\$7.90bn	
Locations	Los Angeles, CA Global Headquarters 10250 Constellation Blvd Suite 2650 Los Angeles, CA 90067	Milwaukee, WI Operational Headquarters 312 E. Buffalo Street Suite 20 Milwaukee, WI 53202

AUM Breakdown by Client Type*



AUM Breakdown by Geography*



*As of March 31, 2021

Crabel Capital Management, LLC • Research

Research Philosophy Crabel's technology focused research process has strict adherence to the scientific method. Our systematic strategies are designed to capture persistent market anomalies across a wide range of instruments while carefully managing downside risk. Research team members are involved in strategy research, algorithmic execution development, and technology integration.

Research Team Structure		Research Process	
Alpha Research	<ul style="list-style-type: none"> Dedicated to the development of systematic trading strategies Collaborative production of uncorrelated strategy concepts Research team overseen by senior portfolio managers 	Philosophy	Strategy ideas are based on market observation. We seek to identify persistent anomalies across markets.
Machine Learning	<ul style="list-style-type: none"> Supervised process using known predictive factors Technology used to explore immense factor space Recombination of factors into unique trading strategies 	In-Sample	Reduction of curve-fitting starts with intellectual integrity and experience. It should include as few strategy parameters as possible.
Execution Research	<ul style="list-style-type: none"> Algorithm development Market microstructure research Latency reduction Identification of market-specific challenges 	Out-of-Sample	Large swaths of data are reserved for strategy validation by senior researchers.
		Additional Testing	Conventional in- and out-of-sample testing is not appropriate for all trading concepts. Crabel employs a variety of testing techniques to ensure robust model development.
		Implementation	State-of-the-art real-time market impart testing environments estimate actual new strategy footprint.

Strategy Development Cycle



Crabel Capital Management, LLC • Risk Management

General

Precise risk controls are a key feature of Crabel's investment philosophy. As a systematic investment manager, risk management is incorporated within the portfolio and strategy designs and applied in an automated fashion. Each portfolio has an annual volatility target to establish the risk budget with multiple layers of risk controls at the position and portfolio levels.

Portfolio Level Risk Controls

Position Level

- Every trade includes a stop loss
- All trades dynamically sized relative to recent market volatility

Value at Risk & Co-Variance Capping

- Snapshots positions every five minutes
- Measures cross-correlation and volatility
- As risk caps are approached, new positions adding risk are trimmed while risk reducing positions are added at full size

Dynamic Portfolio Sizing (DPS)

- Uses intraday profit/loss measures to right-size existing positions
- Allows for better expression of current alpha while reducing stale positions
- If portfolio reaches -1% in a day, existing positions will be reduced; at -2% in a day, new and existing positions will be 25% of normal size

Portfolio Level

- Value at Risk & Co-Variance Capping
- Dynamic Portfolio Sizing (DPS)
- Live Position Resizing (LPR)
- One Day Max Loss Portfolio Stop

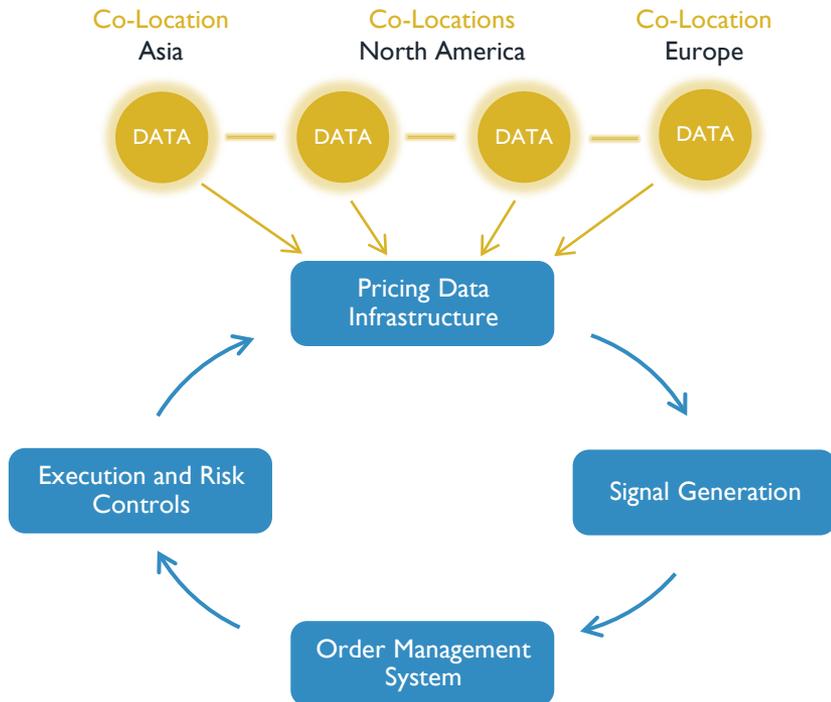
Live Position Resizing (LPR)

- Uses real-time analysis of market conditions to assess the value of trading more/less
- In favorable environments, trading additional contracts is costless
- In unfavorable environments, trading fewer contracts may be beneficial

One Day Max Loss Portfolio Stop

- If portfolio experiences a 2.5% intraday drawdown, positions are exited/reduced materially
- Trading systematically resumes the following trade day
- Due to DPS, unlikely to reach intraday stop; discontinuous market conditions could result in portfolio-wide stop

Crabel Capital Management, LLC • Execution Infrastructure



Highlights

- Co-location setups in Level 4 data centers in North America, Europe, and Asia
- Multiple co-location sites designed to support continuous, redundant connectivity across global futures markets
- Multiple data providers including, but not limited to Bloomberg, CME Direct, and over 30 FX venues
- Databases replicated across multiple locations
- Crabel Trading System (CTS) is a robust, proprietary system designed to integrate numerous functions, such as data management, internal risk controls, and trade execution
- Execution systems include redundancies to avoid trading disruptions
- Multiple layers of risk controls utilized for execution systems

Business continuity and disaster recovery plan available upon request

Crabel Capital Management, LLC • Diversity, Equity & Inclusion

Highlights

- Crabel has a formal Diversity and Inclusion Policy
- Crabel is committed to attracting and retaining employees from diverse backgrounds and fostering an inclusive, supportive environment.
- Crabel recognizes and values the contribution of people of all gender identities, ages, races, ethnicities, national origins, cultures, religious or political beliefs, languages, education levels, family or relationship statuses, sexual orientations, genetics, backgrounds, experiences, and abilities.
- We believe the diversity of our workforce along with creating an environment where all employees can thrive is key to delivering our best business results.
- Crabel's commitment to diversity extends to all areas of our firm including recruitment and selection, job assignment, compensation and benefits, talent development, promotions, employee retention, flexible work arrangements, and forms of leave available to employees.
- We are committed to creating an inclusive workplace that promotes and values diversity. We recognize and value the differences of all individuals. Crabel will continue to identify ways to foster the diversity of our firm by developing business practices that support diversity and inclusion.
- Crabel's harassment prevention training in 2020 for all employees included the topic of diversity and inclusion.

Crabel Capital Management, LLC • Diversity, Equity & Inclusion

	Percentage (%) of Firm (Entire Staff)	Percentage (%) of Firm (Investment Professionals)	Percentage (%) of Firm (Executive Committee)	Percentage (%) of Firm (Leadership Committee)	Percentage (%) of Firm Managing Members
Race and Ethnicity*					
African American/Black	0%	0.00%	0.00%	0.00%	0.00%
Asian/Hawaiian/Pacific Islander	12%	23.00%	0.00%	0.00%	0.00%
Latino/Hispanic	6%	6.00%	6.00%	0.00%	0.00%
White	81%	69.00%	94.00%	100.00%	100.00%
American Indian/Alaska Native	0%	0.00%	0.00%	0.00%	0.00%
Other (Not Reported)	1%	2.00%	0.00%	0.00%	0.00%
Gender					
Male	75%	98%	69%	80%	100%
Female	25%	2%	31%	20%	0%
Non-Identified/Other	0%	0%	0%	0%	0%
Notes:					
-Managing Members: 1. Toby Crabel and 2. Michael Pomada					
-Leadership Committee: 1. Toby Crabel, Chairman & CIO, 2. Alden Melbourne, Sr Partner, 3. Michael Pomada, President & CEO, 4. Rick Rusin, COO, 5. Connie Wick, General Counsel & CCO, and 6. Steve Wisdom, Sr Partner					
-Executive Committee includes a group of managers that monitor developments in the markets, in the financial industry, and the firm in general.					
-Investment Professionals include Research, Software Development, and Trade Execution departments.					
-Racial/ethnic categories appear as defined by EEOC guidance.					
-Data as of 12/31/2020					

Crabel Capital Management, LLC • Program Offerings

FLAGSHIP OFFERING

Crabel Multi-Product (Soft Closed)

Industry leading, systematic short-term trading strategies that function as Crabel Multi-Product sub-portfolios or stand-alone products include additional offerings below

- Strategy AUM¹: \$2.31bn (as of 5/01/2021)
- 20+ year live trading track record
- 1-day average hold timeframe with focus on execution excellence
- Uncorrelated pure alpha product combining unique portfolio research streams
- 8-10% annualized standard deviation target

Includes short-term alphas not available in other programs

	Crabel Gemini (Open)	Crabel Advanced Trend (Open)	Crabel Contra (Open)
Strategy AUM²	• \$4.08bn (as of 5/01/2021)	• \$1.40bn (as of 5/01/2021)	• \$603mm (as of 5/01/2021)
History	• 4+ year live trading track record	• 6+ year live trading track record	• 1+ year live trading track record
Holding Period	• 10-day average hold timeframe	• 35 to 45-day average hold timeframe	• 7-day average hold timeframe
Style	<ul style="list-style-type: none"> • Targets behavioral and structural market inefficiencies • Low correlation to all traditional and alternative asset classes 	<ul style="list-style-type: none"> • Seeking to be the world's best trend follower, providing alpha at beta-plus fees 	<ul style="list-style-type: none"> • Combines machine learning concepts with short-term alpha drivers • Defensive and negatively correlated to global equity markets
Access	• Onshore/offshore fund, SMA, UCITS	• Onshore/offshore fund, SMA, UCITS	• Onshore/offshore fund, SMA, UCITS launch pending
Risk Target & Terms at 1x	<ul style="list-style-type: none"> • 10% annualized standard deviation target • 2% management & 0% incentive fees • Monthly liquid with 5 business days' notice • No lock-up 	<ul style="list-style-type: none"> • 15% annualized standard deviation target • 1% management & 0% incentive fees • Monthly liquid with 5 business days' notice • No lock-up 	<ul style="list-style-type: none"> • 10% annualized standard deviation target • 2% management & 0% incentive fees • Monthly liquid with 5 business days' notice • No lock-up

Crabel Advanced Trend • Program Overview

Crabel Advanced Trend is a portfolio of systematic trading strategies designed to efficiently capture long-term trend following returns across a diverse set of global futures and foreign exchange instruments. The program aims to generate greater alpha and deliver a more competitive risk-adjusted return than the broader trend following industry. Advanced Trend is offered with a competitively priced flat management fee of 1% with no incentive participation for the 1x version (Class H).

PROGRAM DETAILS

Strategy Details

Composed of five strategies, the Advanced Trend program represents decades of research into efficient capture of medium to long-term trends.

Strategy Types

Strategies One to Four: Core directional systems are 100% Momentum. No moving average or breakout methodologies are included. Only pure momentum strategies are utilized.

Strategy Five: An assortment of modulation signals adjust exposure at the market level based on trend quality.

Strategy Weighting

Opportunistic. Relative weighting between various strategies and markets will be a function of the quality of a trend and the underlying market dynamics. The methodology of weighting is a point of differentiation and the result of extensive testing into what differentiates trend followers relative to one another.

Holding Period

The average hold timeframe is 35 to 45 days, however positions may persist for several months in some circumstances.

Markets Traded

Approximately 200 futures and foreign exchange markets are accessed through low latency execution infrastructure within global co-location facilities and markets are spread broadly by sector and geography.

Risk Limits

Stops are placed on every trade in every market as a function of proprietary volatility and risk parameters and each market and sector have size limits. Exposure is dynamically managed to target a 15% standard deviation in the 1x version (Class H).



Monthly Performance³

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
2021	-0.67%	3.51%	0.51%	3.18%*									6.62%*
2020	5.41%	4.36%	7.71%	-0.25%	-4.42%	-2.21%	2.40%	-0.96%	-2.45%	-0.40%	4.88%	8.24%	23.57%
2019	-6.81%	0.36%	6.22%	1.21%	3.60%	-0.03%	5.03%	8.62%	-4.94%	-5.79%	0.99%	-3.69%	3.48%
2018	8.86%	-10.68%	-0.30%	0.54%	-7.31%	-0.23%	-1.50%	2.98%	-1.07%	-3.95%	-2.15%	1.28%	-13.91%
2017	-3.01%	4.86%	-1.53%	-3.06%	-0.82%	-2.99%	3.11%	1.91%	-1.62%	5.83%	2.30%	2.86%	7.51%
2016	8.33%	2.66%	-5.85%	-5.16%	0.32%	6.22%	1.67%	-4.26%	-0.08%	-5.44%	-6.40%	1.22%	-7.80%
2015	15.17%	-1.24%	4.02%	-4.91%	1.21%	-5.79%	5.80%	-0.93%	3.85%	-4.24%	1.87%	-1.01%	12.76%
2014	-4.27%	5.06%	-2.59%	-0.23%	1.63%	1.26%	-3.79%	4.90%	8.27%	8.99%	13.59%	8.69%	47.90%
2013	4.04%	1.37%	1.86%	4.56%	-2.29%	-9.48%	1.92%	-4.45%	0.36%	5.52%	7.81%	-3.34%	6.77%
2012												0.31%	0.31%

Bold italicized returns are based on hypothetical back-tested results.

*estimate

Performance (VAMI)



Statistics & Terms⁴

Basic Statistics	Incep.
CAGR	9.08%
Annualized STDEV	16.51%
Sharpe Ratio (R _f = 0)	0.55
Skewness	0.29
% of Positive Months	54%
Average Positive Month	4.24%
Average Negative Month	-3.23%
Max Positive Month	15.17%
Max Negative Month	-10.68%
Max DD	-28.49%

Correlation

S&P 500 TR	-0.03
Bloomberg Barclays US Agg. Bond	0.40
SG CTA Index	0.82
SG STTI	0.61

Trading Data

Strategy AUM ²	\$1,338mm
Avg. Margin/Equity	≈ 21%
Annual Roundturns/\$1m	≈ 600
Average Holding Period	35-45 days

Crabel Capital Management, LLC • Conclusions

GENERAL

- Nearly three decades of institutional asset management experience
- Deep experience in alpha strategy development
- Research & Development focus throughout firm's history
- Flagship program has added uncorrelated portfolio value with controlled downside for several decades
- Unique culture blends two key attributes: (i) deeply experienced and tenured portfolio management talent; (ii) top tier innovative development talent

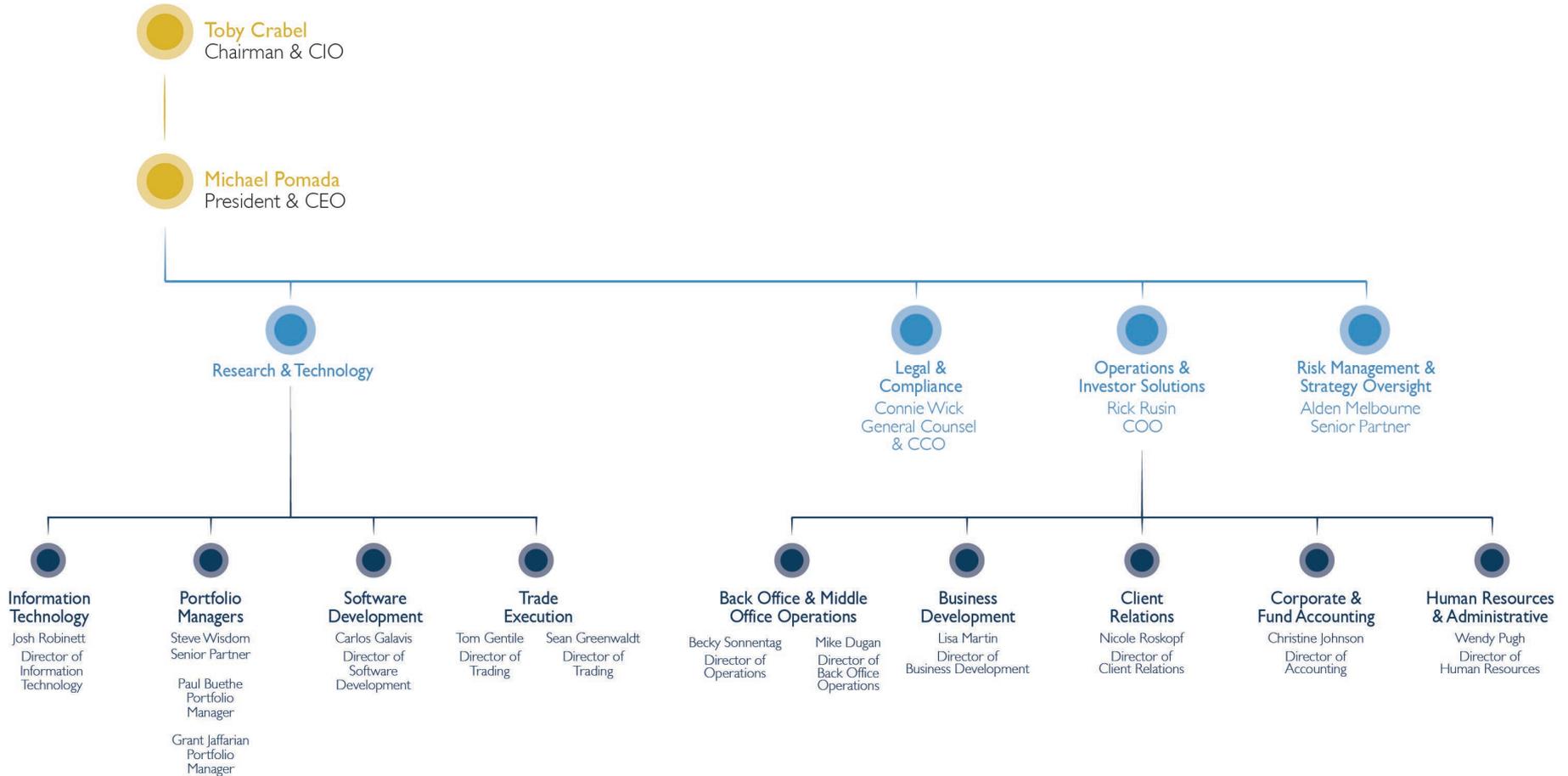
STRATEGY DEVELOPMENT

- Only unique strategies are pursued within Crabel, eliminating redundancy
- Proprietary research environment leverages firm's unique low latency execution platform

TECHNOLOGY

- Among the largest futures trading organizations in the world
- State of the art technological infrastructure to compete with the world's best proprietary high frequency trading firms
- Internal and external risk controls for trade execution complement strategy-specific risk management rules and controls
- Approximately half of Crabel's employees are dedicated to R&D

Crabel Capital Management, LLC • Organizational Structure



Crabel Capital Management, LLC • Biographies

Toby Crabel
*Founder, Chairman,
& CIO*

Toby Crabel is Founder, Chairman, and Chief Investment Officer of Crabel Capital Management ("CCM") and a member of the firm's Executive Committee. As Chairman and CIO, Toby spends his time leading the firm's ongoing research efforts, guiding the management team, and mentoring talented researchers. The firm's investment team continues to diversify a portfolio of strategies traded through a proprietary infrastructure specifically developed to implement Toby's unique style of trading. Toby began his career in 1980 with the Chicago-based brokerage firm RB&H Financial Services. At RB&H, he traded customer accounts using a discretionary approach. However, working near floor traders at the Chicago Mercantile Exchange, he quickly became interested in applying a more quantitative methodology to profit from what he believed were explainable and predictable observations in price behavior. Toby's research on the matter led him to publish a commodity advisory letter, *The Active Trader*, devoted to describing these predicted price observations. In 1989, he took his research even further and authored *Day Trading with Short Term Price Patterns and Opening Range Breakouts*, which was one of the earliest and most detailed descriptions of how to trade short-term price patterns across markets. In it, Toby detailed his core philosophy: that robust investment strategies should capture enduring and explainable market participant behavior that is often most prevalent in very short-term market patterns exhibited across futures and forex markets. In 1991, Toby joined Niederhoffer Investments where he continued his research and traded for Victor Niederhoffer while also managing a small customer portfolio that he had brought with him. In 1993, he left Niederhoffer with that portfolio to establish his own investment management firm. It was this move and Toby's early research on price patterns and market behavior that he used as the foundation to build CCM as it is known today.

Michael Pomada
*President, CEO,
& Portfolio Manager*

Michael Pomada is President and Chief Executive Officer of CCM and a member of the firm's Leadership and Executive Committees. In addition to his executive role, Michael is also the Portfolio Manager of Crabel Gemini and Crabel Contra and developed Crabel Advanced Trend. He spends his time on research and product development, as well as overseeing the front office teams. Michael joined CCM in April 2008 as a portfolio manager focusing on the firm's Equity Main strategies. In late 2009, he spearheaded a firmwide initiative to revamp the organization's trading infrastructure, execution process, and microstructure research. He went on to serve as CCM's Chief Operating Officer from June 2011 to July 2016 when he became President and CEO. Prior to joining CCM, Michael spent time at UBS and managed portfolios at Manchester Trading (Niederhoffer) and Coast Asset Management. He began his career in sales and business development in the interactive entertainment industry before transitioning into finance. A graduate of the University of California, Berkeley, Michael also holds an MBA with a concentration in investments and statistics from the University of Southern California.

Rick Rusin
COO

Rick Rusin is Chief Operating Officer of CCM and a member of the firm's Leadership and Executive Committees. Rick joined CCM in 2014 as part of its acquisition of AlphaTerra. Prior to his time at AlphaTerra, he was Chief Operating Officer and a member of the executive committee at Chesapeake Capital Corporation. He also worked at Rotella Capital Management where he served in various technology and management capacities, including as a member of Rotella's executive committee and board of directors. He began his career as an analyst at WTS, an environmental consulting firm, before transitioning into finance. Rick earned a bachelor's degree in mechanical engineering from the State University of New York at Buffalo and a master's degree in information systems management from Loyola University Chicago.

Connie Wick
*General Counsel
& CCO*

Connie Wick is General Counsel and Chief Compliance Officer of CCM and a member of the firm's Leadership and Executive Committees. Connie joined CCM in October 2015 from Castle Creek Arbitrage, where she was General Counsel and Chief Compliance Officer. Prior to her time at Castle Creek, she served as Senior Corporate Counsel at Stark Investments, Legal Counsel and Chief Compliance Officer at Heartland Advisors, and Senior Corporate Counsel at Strong Capital Management. Connie is also a member of the National Society of Compliance Professionals Private Funds Committee and member in good standing of the State Bar of Wisconsin. Connie holds a JD from Marquette University Law School and is a graduate of the University of Wisconsin-Milwaukee where she earned both her bachelor's degree in business administration and an MBA.

Alden Melbourne
Senior Partner

Alden Melbourne is a Senior Partner at CCM and a member of the firm's Leadership and Executive Committees. In June 1993, Alden began working with Toby Crabel while still in high school as a part-time employee, continued doing research with CCM throughout college, and is the firm's longest tenured employee. He assumed his full-time role as a programmer in 1996 and over the years has developed much of the software the organization utilizes today. Alden's responsibilities have evolved over time, but he currently focuses on software development and oversees many of the firm's research and risk management efforts. Alden earned a bachelor's degree in computer science from Rensselaer Polytechnic Institute.

Steve Wisdom
*Senior Partner
& Portfolio Manager*

Steve Wisdom is a Senior Partner at CCM and a member of the firm's Leadership and Executive Committees. He is also the Portfolio Manager of Crabel Gemini and Crabel Contra. Before joining CCM in January 2008, Steve served as Chief Operating Officer at Manchester Trading (Niederhoffer) with responsibility for trader management and development, research direction and oversight, technology and infrastructure, client and broker relations, and trading and position management. Prior to his time at Manchester Trading, Steve developed systematic and automated US equity trading strategies at Deephaven Fund and traded futures, forex, and energy markets for the proprietary trading group at Société Générale. He began his career in finance developing research and trading strategies at Trout Trading. Steve graduated from Harvard College with a bachelor's degree in philosophy with a focus on symbolic logic and coursework in mathematics, applied mathematics, finance, and economics.

Grant Jaffarian
Portfolio Manager

Grant Jaffarian is the Portfolio Manager of Crabel Advanced Trend and a member of the firm's Executive Committee. Grant joined CCM in 2014 as part of its acquisition of AlphaTerra where he was the Founder and Chief Investment Officer. Prior to launching AlphaTerra in April 2013, Grant served as the Chief Investment Officer at Efficient Capital Management. He began his career at Belgium-based Analytic Investment Management, a high turnover futures manager acquired by Robeco Bank. From there, he went on to found Petra Intraday, a short-term systematic investment manager, before joining Efficient. Grant earned a bachelor's degree from Wheaton College where he majored in English and holds an MBA with a concentration in economics from the University of Chicago.

Crabel Capital Management, LLC • Investment Terms

	Crabel Multi-Product		Crabel Gemini		Crabel Advanced Trend		Crabel Contra	
	1x (Class A)	1.5x (Class AA)	1x (Class M)	1.5x (Class MM)	1x (Class H)	2x (Class HHH)	1x (Class N)	1.5x (Class NN)
Management Fee	2%	3%	2%	3%	1%	2%	2%	3%
Incentive Fee (quarterly)	30%	30%	0%	0%	0%	0%	0%	0%
Fund Liquidity	Monthly		Monthly		Monthly		Monthly	
Fund Notice Period	5 business days		5 business days		5 business days		5 business days	
Lock-up	None		None		None		None	
Fund Onshore Domicile	Delaware		Delaware		Delaware		Delaware	
Fund Offshore Domicile	BVI		BVI		BVI		BVI	
Fund Investment Minimum	\$1mm		\$1mm		\$1mm		\$1mm	
SMA Investment Minimum	\$50mm		\$10mm		\$10mm		\$10mm	

Fund Service Providers

Auditor	Deloitte & Touche
Administrator	NAV Consulting
Counterparties	Barclays BofA Securities Credit Suisse Deutsche Bank Goldman Sachs JPMorgan Morgan Stanley Societe Generale
Custodian	BNY Mellon

¹AUM represents direct fund assets (adjusted by the applicable leverage factor) and managed account assets including notional equity.

²AUM represents strategy assets, which may include notional equity from managed accounts, fund investments and allocations from the Crabel Multi-Product.

³Performance results commencing April 1, 2014 are based on actual trading of the Advanced Trend program in Crabel Fund LP-Class H. Performance results prior to April 2014 are extracted from actual trading within Crabel Fund LP-Class AX where the Advanced Trend program was traded in conjunction with other strategies. While these strategies worked independent of each other, at times trading signals that were opposite to each other were matched. These matched transactions were not executed in the market but were recorded at the midpoint of the bid and ask price at a hypothetical trade time and exclude brokerage costs and market impact. Estimated brokerage costs are included on all trading orders executed in the market. All performance results include pro-forma advisor fees of a 1% management fee and a 0% incentive allocation.

⁴Basic Statistics and Correlations are based on the returns contained in the Monthly Performance table.

Applies only to Crabel Advanced Trend: HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH ARE DESCRIBED BELOW. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY ACHIEVED BY ANY PARTICULAR TRADING PROGRAM. ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS.

Futures and FX trading are speculative and involve a high degree of risk. Investing in any product or service offered by Crabel has risks and there is no guarantee that any such product or service will achieve its investment objectives. Investors should carefully read the offering materials and supporting documents for a Crabel trading program before making any investment decision. Investors should not assume that the future performance of a trading program will be profitable or comparable to past performance. Changes in investment strategies, subscriptions or withdrawals may materially alter the performance of an investor's account.

Historical correlations to investment indices are provided for general comparison purposes only. Sources utilized for investment indices and other market data include BarclayHedge and Morningstar, which are believed to be reliable, but accuracy and thoroughness cannot be guaranteed.

This presentation does not constitute an offer, or a solicitation of an offer, to buy or sell any investment product or service offered by Crabel Capital Management. This presentation is for information purposes only and may not be disclosed to any other party without the prior consent of Crabel.

Distribution: The representative of the Crabel Fund SPC, Ltd. in Switzerland is Acolin Fund Services AG, succursale Genève (formerly Hugo Fund Services SA), 6 Cours de Rive, 1204 Geneva, and the bank paying agent is Banque Heritage S.A., Route De Chene 61, 1211 Geneva. The distribution of Shares in Switzerland must exclusively be made to qualified investors. The place of performance for Shares in the Fund distributed in Switzerland is at the registered office of the Representative.

BH-DG SYSTEMATIC TRADING MASTER FUND LIMITED

APRIL 2021

PRIVATE AND CONFIDENTIAL – DO NOT COPY OR DISTRIBUTE
FOR USE WITH QUALIFIED PURCHASERS ONLY

IMPORTANT INFORMATION

This document has been prepared by, and is being communicated by DG Partners LLP (“DG Partners”) and relates to the fund or funds referred to herein (each, a “Fund” and collectively the “Funds”), which are managed by DG Partners.

DG Partners is authorised and regulated by the United Kingdom Financial Conduct Authority (the “FCA”). DG Partners is registered as a Commodity Pool Operator with the Commodity Futures Trading Commission (“CFTC”) and is a member of the National Futures Association (“NFA”).

DG Partners and each of its affiliates (including BH-DG Systematic Trading LLP (“BH-DG”)) are collectively referred to in this document as the “Group”. The investment strategies described herein may involve one or more entities which are part of the Group and certain of the functions described herein may be performed by employees of affiliates of DG Partners.

This document has been provided specifically for the use of the intended recipient only and must be treated as proprietary and confidential. It may not be passed on, nor reproduced in any form, in whole or in part, under any circumstances without express prior written consent from DG Partners. Without limitation to the foregoing, any text and statistical data or any portion thereof contained in this document may not be permanently stored in a computer, published, rewritten for broadcast or publication or redistributed in any medium, except with the express prior written permission of DG Partners.

This document is provided for information purposes only and does not constitute an invitation, solicitation or offer to subscribe for or purchase any of the investments, products or services mentioned therein, nor shall it, or the fact of its distribution or communication, form the basis of, or be relied on in connection with, any contract. This document is not intended to constitute, nor should it be construed as, investment advice. Potential investors in any investments, products or services referred to in this document or to which this document relates should seek their own independent financial, legal and tax advice. Any offer to invest in a Fund may only be made on the basis of the relevant approved prospectus or offering memorandum relating to that Fund, which must be received and reviewed prior to any investment decision and which may contain information which is different from this document and opinions contained in this document. This document is not intended to provide a sufficient basis on which to make any investment decision.

Any estimates may be subject to error and significant fluctuation, especially during periods of high market volatility or disruption. Any estimates should be taken as indicative values only and no reliance should be placed on them. Estimated results, performance or achievements may differ materially from any actual results, performance or achievements.

In this document, unless stated otherwise, returns reflect the reinvestment of income, dividends (if any) and other earnings (if any). Gross sector returns do not reflect the reinvestment of income, dividends (if any) and other earnings (if any).

The information, data and opinions contained in this document are for background purposes only, are not purported to be full or complete and no reliance should be placed on them. DG Partners believes (but has not necessarily verified) that the sources of the information, data and opinions contained in this document are reliable. However, DG Partners and its affiliates give no guarantee, representation, warranty or undertaking, either express or implied, regarding, and accept no liability, responsibility or duty of care for, the accuracy, validity, timeliness or completeness of any such information, data or opinion (whether prepared by DG Partners, BH-DG, any of their affiliates or by any third party) or that it is suitable for any particular purpose or use or that it will be free from error. To the extent that any further information, data or material is provided in relation to the investments, products or services referred to herein, no representation is made that any such further information, data or material will be calculated or produced on the same basis, or in the same format, as contained in this document. No obligation is undertaken to update any information, data or material contained herein.

Certain information contained in this document may be “forward-looking statements”, which can be identified by the use of forward-looking terminology such as “may”, “will”, “should”, “expect”, “anticipate”, “project”, “estimate”, “intend”, “continue”, “target”, “believe”, the negatives thereof, other variations thereon or comparable terminology. Due to various risks and uncertainties, actual events, results or performance may differ materially from those reflected or contemplated in such forward-looking statements.

This document is only being made available to, and the investments (including in relation to the Funds), products and services referred to herein are only available to, such persons and in such jurisdictions and in such manner as is compliant with applicable laws and regulations (including, without limitation, relevant laws and regulations relating to the promotion, offering and provision of such investments, products and services). The information herein should not be relied or acted on by any other person or in any other circumstances.

IMPORTANT INFORMATION

DG Partners' affiliate, BH-DG, is the investment manager of the Funds. BH-DG is authorised and regulated by the FCA, is registered as a CTA with the CFTC and is a member of the NFA.

UK

In the United Kingdom, this document is directed only at, and made available only to, professional clients and eligible counterparties (as defined in the FCA Handbook). This material is not intended for use by, or directed at, retail customers (as defined in the FCA Handbook). DG Partners and its affiliates neither provide investment advice to, nor receive and transmit orders from, investors in any Funds nor do they carry on any other activities with or for such investors that constitute "MiFID or equivalent third country business" (as defined in the FCA Handbook).

EEA

In relation to member states of the European Economic Area ("EEA") that have implemented the EU Directive on Alternative Investment Fund Managers (Directive (2011/61/EU)) ("AIFMD"), interests in the Fund will only be offered or sold to professional investors in any such member state to the extent that the Fund: (i) is permitted to be marketed into the relevant member state in accordance with the AIFMD (as implemented into the local law and regulations of the relevant jurisdiction); or (ii) where any interests of the Fund may otherwise be lawfully distributed, offered or placed in that jurisdiction (including at the initiative of the investor). DG Partners is the Alternative Investment Fund Manager of the Fund for the purposes of AIFMD and has delegated certain portfolio management services to BH-DG, whilst retaining risk, portfolio management oversight and certain portfolio management functions in relation thereto. This document is not intended to constitute "marketing" of any Funds as such term is understood for the purposes of the EU Directive on Alternative Investment Fund Managers (Directive (2011/61/EU)) as it has been implemented in states of the European Economic Area.

Switzerland

Shares in BH-DG Systematic Trading Fund Limited (the "Cayman Feeder") may be exclusively distributed to qualified investors (the "Qualified Investors"), as defined in the Swiss Collective Investment Schemes Act of 23 June 2006, as amended ("CISA") and its implementing ordinance (the "Swiss Distribution Rules"). Accordingly, the Cayman Feeder has not been and will not be registered with the Swiss Financial Market Supervisory Authority (FINMA). The Cayman Feeder is represented in Switzerland by ARM Swiss Representatives SA, Route de Cité-Ouest 2, 1196 Gland, Switzerland. The Cayman Feeder's paying agent in Switzerland is Banque Heritage S.A. The Prospectus, the Articles of Association and annual financial statements of the Cayman Feeder can be obtained free of charge from the representative in Switzerland. The place of performance and

jurisdiction is the registered office of the representative in Switzerland with regards to the distribution of shares in the Cayman Feeder in and from Switzerland.

US

Interests in the Funds have not been and will not be registered under any securities laws of the United States of America or any of its territories or possessions or areas subject to its jurisdiction, and may not be offered for sale or sold to nationals or residents thereof except pursuant to an exemption from the registration requirements of the U.S. Securities Act of 1933, as amended (the "Securities Act"), and any applicable state laws. This document is only being provided to United States persons who are "accredited investors" as defined in Regulation D under the Securities Act and "qualified purchasers" as defined in the U.S. Investment Company Act of 1940, as amended, and the rules promulgated thereunder. Further, the Funds are only available to persons who are "Qualified Eligible Persons" as defined in Commodity Futures Trading Commission regulation 4.7. The Funds and any other investments, products or services described in this document are only available to such persons. In the United States, Brevan Howard US LLC, a Delaware limited liability company, acts as non-exclusive placement agent with respect to the sale of interests to certain investors in the Funds, and may provide such investors with marketing and other materials on behalf of the Funds. Brevan Howard US LLC is registered as a broker-dealer under the U.S. Securities Exchange Act of 1934, as amended, and under various state securities laws, and is a member of the Financial Industry Regulatory Authority, Inc.

HFM European Quant Performance Awards

HFM provides business intelligence for hedge fund professionals, with a combination of business essential data, industry intel and market-leading events. The HFM European Quant Performance Awards recognises and celebrates the best performing hedge funds in Europe. HFM states that their judging criteria for the award includes outperformance against peers over the previous 12 months and demonstrated exceptional client service and innovation. Judges also focus on absolute performance as well as standard deviation of returns and outperformance of the relevant HFM benchmark. They also take into consideration the relative AUM, nature of the investment strategy, track-records, other supporting materials and professional knowledge they have about shortlisted funds to come to their decisions. The Systematic Master Fund was nominated in the Diversified CTA and Trend Following categories.

PLEASE REFER TO THE "FURTHER IMPORTANT INFORMATION" CONTAINED AT THE END OF THIS DOCUMENT, INCLUDING, WITHOUT LIMITATION, THE SECTION HEADED "RISK FACTORS".

CONTENTS

Firm Overview.....	6
Performance of the Strategy.....	11
The Strategy.....	19
Innovations.....	25
Conviction Trend	
Topology Trend	
Risk Modulator 1: Trend Efficiency	
Risk Modulator 2: Fear Metric	
Risk Management.....	32
Summary, Key Terms.....	34
Contact Us.....	35
Appendices, Important Notes, Glossary.....	36

EXECUTIVE SUMMARY

An Institutional Firm

- A systematic strategy with a 14-year track record dating back to 2006
- More than USD 1.7 billion of assets managed in Systematic Strategies
- Deep and experienced Investment, Research and Model-Technology teams
- A structured blend of scientific, practical and financial expertise

A Dedicated Strategy Complemented by Innovative Research

- Pure and dedicated focus on medium-term trend following
- Innovative model enhancements which aim to address changing market environments (dynamic risk allocation)
- Clear and robust risk management process

Robust Investment Performance

- Consistent outperformance (net of fees) over our suggested benchmark² over the long term and against peer group, particularly since 2016
- Positive skewness of returns, a key objective which has been built into the research and modelling
 - › The Strategy's best full calendar year adjusted performance stands at +48.2% (in 2008), net of fees.
 - › The Strategy's worst full calendar year adjusted performance is -4.10% (in 2012), net of fees.

Daily Liquidity, Competitive Fees, Highly Transparent

- The Strategy only trades liquid futures contracts and FX markets
- Consequently, we offer daily liquidity to all investors
- Highly competitive and flexible fee structures
- High levels of transparency in client reporting

Notes:

1. Data correct as at 30 April 2021. Source: BH-DG.
2. Suggested benchmark is SG Trend Index (Bloomberg: ticker "NEIXCTAT Index"). Please refer to the slide entitled, "Performance Notes" for further information.
3. Strategy full calendar year best and worst adjusted performance data is calculated for the period 1 January 2007 to 30 April 2021. Strategy performance data has been adjusted to show returns net of a 1% management fee and 0% performance fee, with a volatility target of 15%. Please refer to the tab entitled 'Track Record Methodology' for an explanation as to how the underlying data for the Strategy's performance figures were calculated. Fund performance is set forth on the slide entitled 'Performance Analysis'. No representation is being made that any investment will or is likely to achieve profits or losses similar to those shown. No third party investor has received these returns on a standalone basis.

FIRM OVERVIEW

A Brief History – Systematic Strategy Trading



FIRM OVERVIEW – THE SYSTEMATIC RISK COMMITTEE

The Systematic Risk Committee oversees and monitors all aspects of the investment strategy

SYSTEMATIC RISK COMMITTEE

David Gorton
CIO

Dr Stefanel Radu
Head of Research

Max Corden
CRO

David Gorton Chief Investment Officer

David established the firm in 2002

- Over 30 years of trading experience with roles including Executive VP and Chief Dealer in the US for HSBC and Head of Proprietary Trading for the European Rates division of Chase Manhattan
- In 1997, joined Chase Manhattan to become CIO of Chase London Diversified Fund Limited.
- In 2002, left JPMorgan Chase to establish DG Partners and manage the London Diversified Fund Limited (“LDFL”)
- In 2010, David established BH-DG as a joint venture with Brevan Howard to focus entirely on pursuing systematic trading strategies.

Dr Stefanel Radu Head of Research

Stefanel joined the firm in 2013

- Stefanel Radu is a George Soros scholar with a Doctorate in Physics from the University of the Witwatersrand, Johannesburg where he researched signatures of quantum chaos in nuclear deformation and metal clusters
- In 1995, Stefanel joined Anglo American to develop algorithms aimed at predicting seismic events in South African deep level mines
- In 1998, he joined Goldman Sachs as a proprietary trading analyst where he implemented cross asset systematic trading models for the proprietary trading desk of Goldman Sachs in Australia

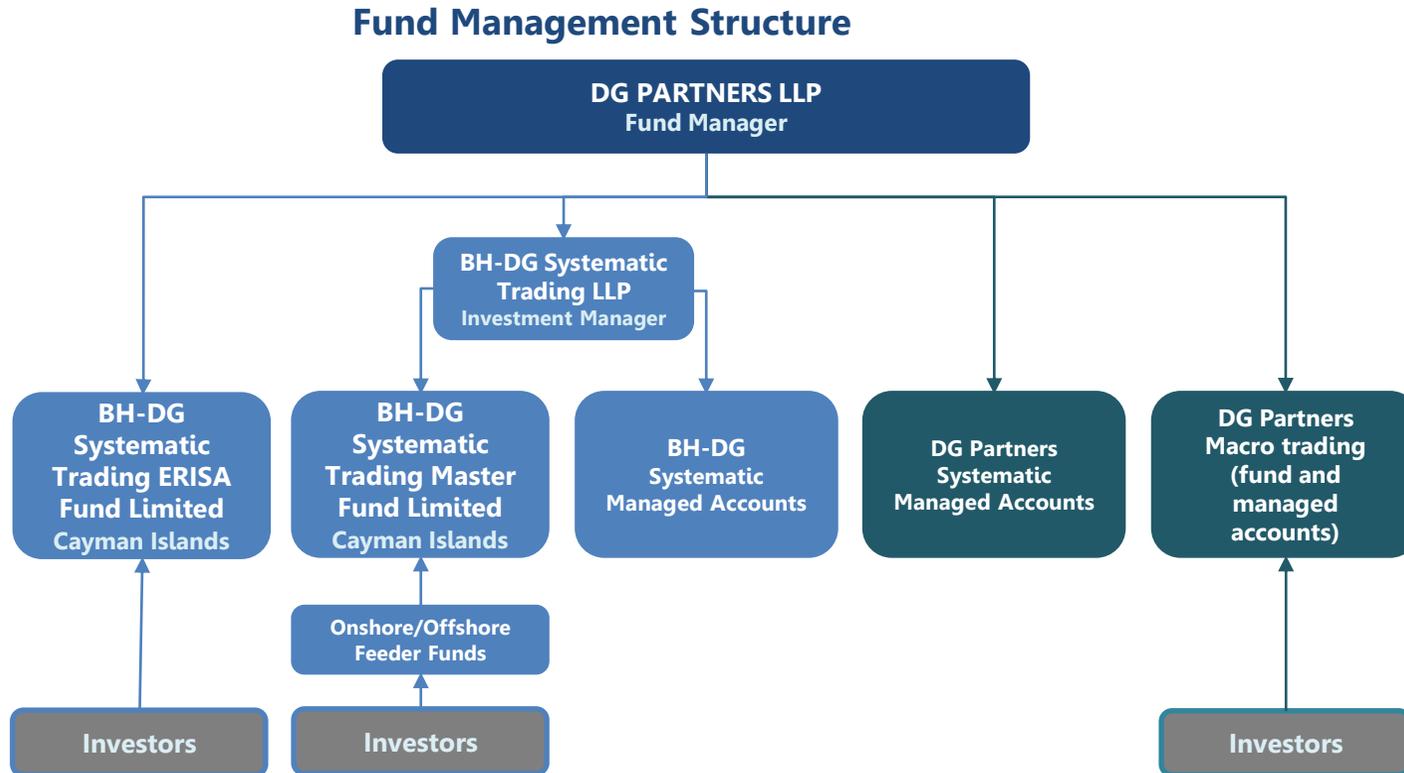
Max Corden Chief Risk Officer

Max joined the Firm in 2004.

- Max has been involved with the Strategy since its inception in 2006, having managed the integration and development of the Strategy within the Firm’s macro fund.
- In addition to his duties as Chair of the Systematic Risk Committee, Max is a member of the Firm’s Macro Risk Committee. He is also a member of the Board of the Firm and a partner of DG Partners.
- Max read Pharmacology at Kings College London and Imperial College London before graduating in 1997, going on to work at JPMorgan as an interest-rate derivatives analyst.

FIRM OVERVIEW

DG Partners LLP and BH-DG Systematic Trading LLP

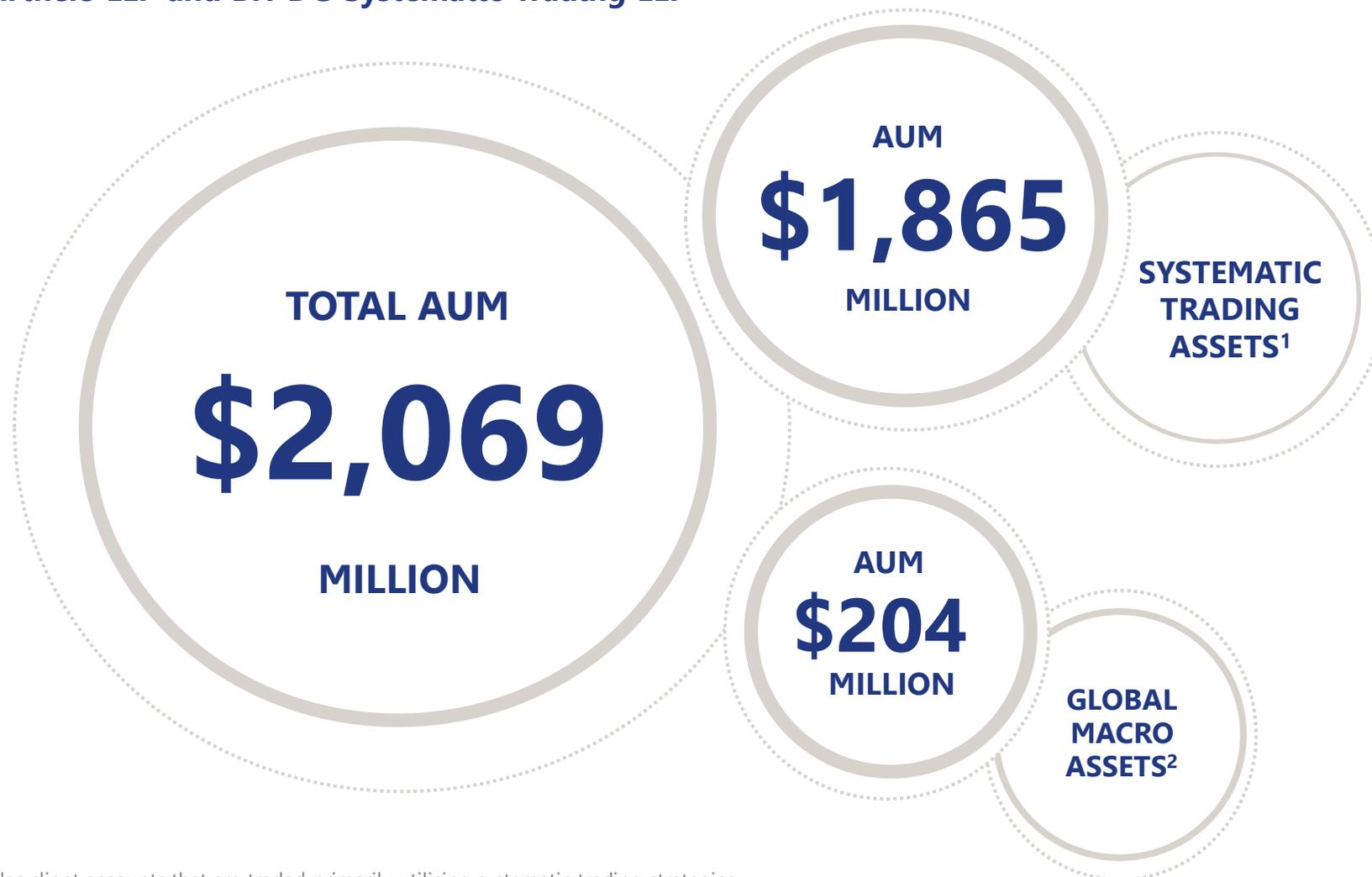


Notes:

1. Data correct as at 30 April 2021.

FIRM OVERVIEW

DG Partners LLP and BH-DG Systematic Trading LLP



Notes:

1. Includes client accounts that are traded primarily utilising systematic trading strategies
2. Includes client assets that are traded primarily utilising global macro strategies.
3. Data estimated as at 30 April 2021. Source: BH-DG/DG Partners.

THE STRATEGY: CORE TREND, CONVICTION TREND AND TOPOLOGY TREND



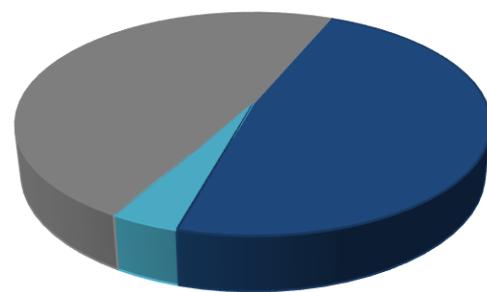
3 x medium-term trend following models:

CORE TREND
 Attempts to trade the market's direction;
always in the market

CONVICTION TREND
 Attempts to avoid 'sideways' markets and trade only the most efficient phase of the trend;
not always in the market

TOPOLOGY TREND
 Targets the least noisy market pockets;
not always in the market

- **48% CORE TREND**
 - Core Trend in place since strategy inception, 2006
 - 'Trend Efficiency' enhanced asset allocation tool utilised from June 2017
 - Fear Metric as risk-modulator in Core Trend, from August 2017



- **48% CONVICTION TREND**
 - Conviction Trend in place since January 2015
 - Fear Metric as risk-modulator in Conviction Trend, from July 2019

- **4% TOPOLOGY TREND**
 - Topology Trend in place since December 2020
 - Goes well beyond momentum to time markets and utilises a non-linear filtering technique

Notes:

1. Source: BH-DG. Data accurate as at 30 April 2021. Subject to change.

PERFORMANCE AND DIFFERENTIATING FACTORS

Profile

Strategy Inception	May 2006
Strategy	Medium-Term Systematic Trend Following
Target Volatility	15%
Holding Period	Approximately 2 months

Performance* Systematic Strategy SG Trend Index

Annualised Return	+7.6%	+3.4%
Since Inception Return	+199.20%	+64.49%
Realised Volatility	14.1%	11.4%
Downside Volatility	10.3%	8.8%
Ann. Excess Returns	+6.3%	+2.1%
Information Ratio	0.54	0.30
Sharpe Ratio	0.44	0.18
Sortino Ratio	0.61	0.24
Monthly Skewness	+0.33	+0.04

* Underlying performance data from 10 May 2006 to 30 April 2021 (inclusive).

Differentiating Factors

+4.2%

Outperformance of +4.2% per annum
 against SG Trend Index since inception

Allocation to Trend-Following

100%

Conviction
 Trend

Implementation of model which aims to
avoid sideways markets and trade only
 the most efficient part of trends

Risk modulators based on alternative risk
 premia are used with the aim of rotating
 risk tactically within the market universe
 without style drift

Rotates Risk
 Tactically

Notes:

1. Data correct as at 30 April 2021. Source: BH-DG.
2. SG Trend Index (Bloomberg: ticker "NEIXCTAT Index"). Please refer to the slide entitled, "Performance Notes" for an explanation as to how the SG Trend Index data was calculated.
3. Systematic Strategy performance data has been adjusted to show returns net of a 1% management fee and 0% performance fee, with a volatility target of 15%. Please refer to the tab entitled 'Track Record Methodology' for an explanation as to how the underlying data for the Strategy's performance figures were calculated. Please refer to the slide entitled, "Performance Notes" for an explanation as to how the Annualised Excess Returns, Information Ratio, Sharpe Ratio, Sortino Ratio and Monthly Skewness have been calculated. No representation is being made that any investment will or is likely to achieve profits or losses similar to those shown. No third party investor has received these returns on a standalone basis.

PERFORMANCE

Adjusted Strategy Performance Since Inception

Adjusted **monthly** performance,
 net of a 1% management fee and 0% performance fee,
 assuming a 15%² volatility target

%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Strategy
2006					-8.40	-3.78	-3.11	0.40	-2.11	0.45	0.93	3.10	-12.27
2007	1.67	-4.22	-2.55	7.51	2.71	1.14	-1.62	-4.01	8.22	6.43	1.28	-0.49	16.20
2008	6.86	8.99	2.61	1.13	3.02	1.61	-6.27	-2.63	-0.15	12.02	7.27	6.97	48.19
2009	-1.81	-1.06	-4.39	-4.08	6.76	-4.99	4.15	0.70	4.93	-1.59	8.50	-6.04	-0.22
2010	-3.60	2.29	3.17	2.56	-2.40	1.23	-0.41	5.79	5.00	4.74	-4.87	5.17	19.50
2011	-0.86	6.02	-3.12	11.14	-4.15	-4.18	3.78	1.92	-1.02	-3.84	-1.77	-0.21	2.58
2012	0.66	4.05	-4.13	-0.88	3.95	-5.21	2.37	-1.07	-0.04	-5.11	0.20	1.60	-4.10
2013	3.67	-2.55	1.44	3.61	-5.57	-1.82	-0.64	-1.53	0.39	0.78	3.17	2.23	2.77
2014	-5.65	-0.40	-2.89	-1.01	3.98	1.69	-1.37	4.78	3.32	0.79	9.42	1.45	14.09
2015	11.12	0.40	1.45	-6.98	0.46	-5.66	3.01	-3.82	2.16	-5.05	5.06	-2.91	-2.20
2016	7.32	4.41	-4.00	-3.01	-4.08	5.43	1.36	-2.43	-0.56	-4.33	1.35	2.34	2.96
2017	-1.39	2.75	-3.26	-0.07	0.26	-2.19	3.96	1.31	-1.17	3.69	0.60	2.46	6.84
2018	8.64	-7.79	-0.60	-1.82	1.28	-0.12	-2.18	5.40	-1.97	-3.19	-1.25	4.88	0.21
2019	-2.83	-1.59	4.84	2.41	1.74	2.50	1.48	5.48	-4.91	-6.58	-0.12	2.16	3.88
2020	-0.96	1.65	7.73	-1.86	-3.15	-2.58	7.35	0.81	-5.08	-0.10	4.75	7.60	16.15
2021	0.00	7.93	-1.10	3.71									10.70

Notes:

- Underlying performance up to 28 February 2010 (inclusive) provided by DG Partners. Underlying performance data from 1 March 2010 to 30 November 2010 (inclusive) provided by Brevan Howard Asset Management LLP ("BHAM"). Underlying performance data from 1 December 2010 onwards provided by the Systematic Master Fund's administrator, International Fund Services (Ireland) Limited. Performance calculations made by BH-DG. Data is shown net of fees and expenses. The above data has been adjusted to show returns net of a 1% management fee and 0% performance fee, with a volatility target of 15%. Active trading of the Strategy commenced on 10 May 2006. Therefore, May 2006 returns are for the period 10 – 31 May 2006. For illustrative purposes only. No investor has received these returns on a standalone basis. The Strategy was managed by DG Partners outside of the Systematic Master Fund during the period 10 May 2006 – 28 February 2010. From 1 March 2010 onwards, the Strategy was traded within the Systematic Master Fund. Please refer to the "Track Record Methodology" slide for further detail.
- Subject to change.
- Data accurate as at 30 April 2021.

PERFORMANCE RELATIVE TO THE SG TREND INDEX

Adjusted Strategy Performance Since Inception

Adjusted **daily** performance,
 net of a 1% management fee and 0% performance fee,
 assuming a 15%² volatility target



Comparison since deployment of current innovations (2015 onwards)

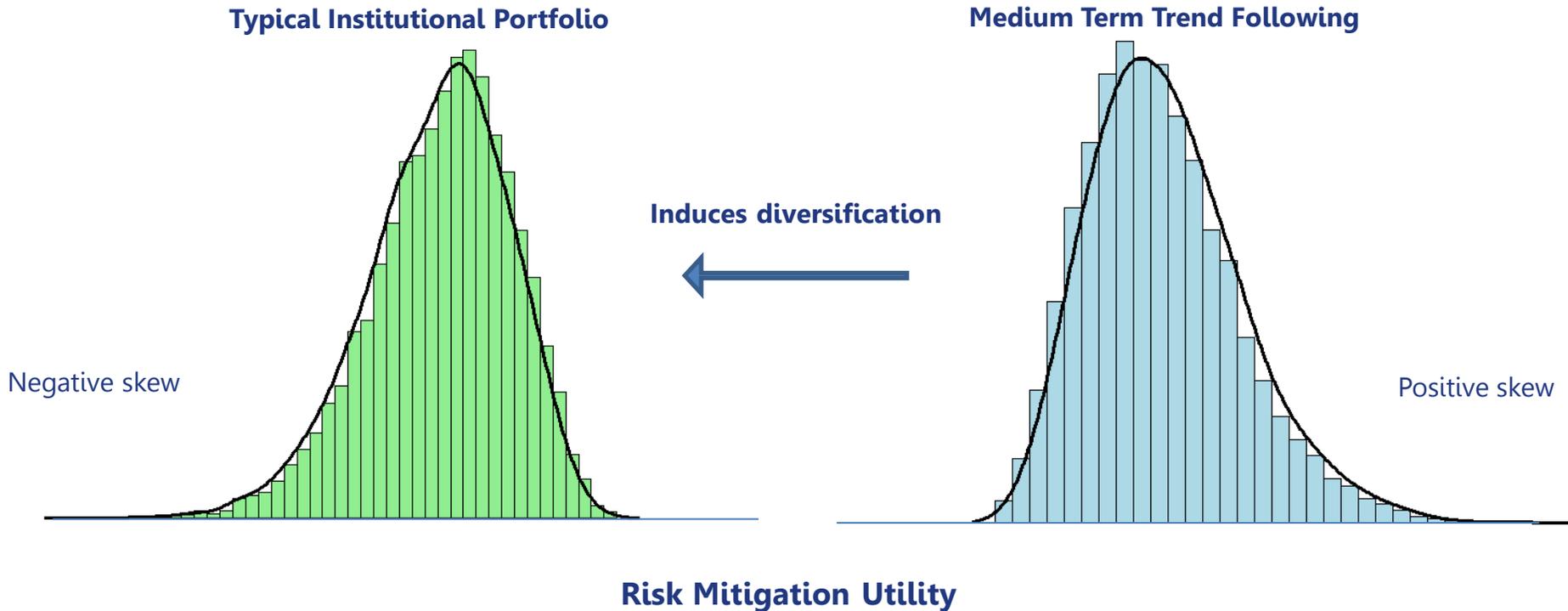


Notes:

1. Please refer to previous Performance slide for an explanation as to how the underlying performance data has been produced. For illustrative purposes only. No investor has received these returns on a standalone basis. Please refer to the "Track Record Methodology" slide for further detail.
2. Subject to change.
3. SG Trend Index (Bloomberg: ticker "NEIXCTAT Index"). Please refer to the slide entitled, "Performance Notes" for an explanation as to how the SG Trend Index data was calculated.
4. Data accurate as at 30 April 2021.

TREND FOLLOWING IN AN INSTITUTIONAL PORTFOLIO

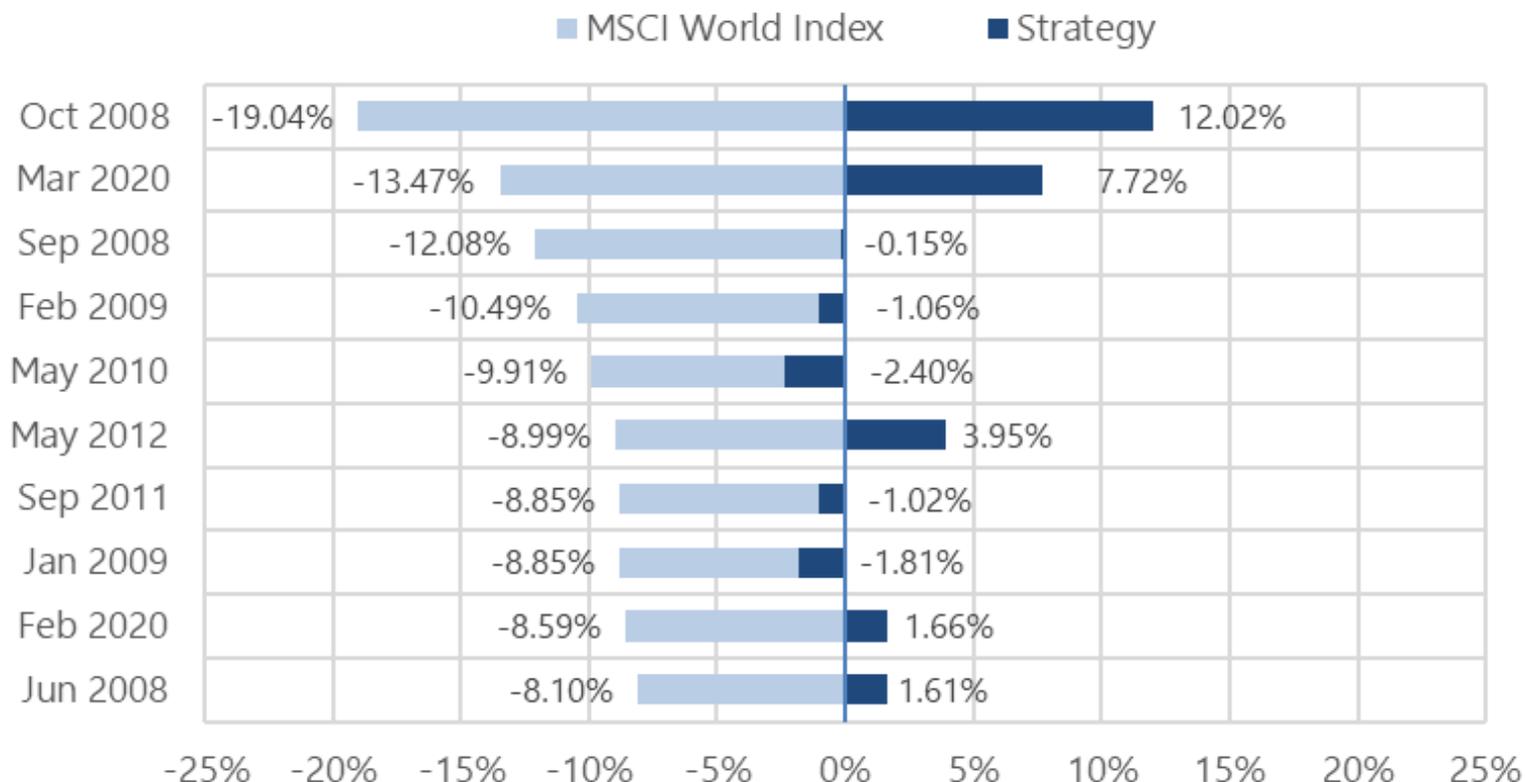
Return Profiles



Notes:
1. Source: BH-DG. For illustrative purposes only. The illustration is not intended to represent a particular fund or investment.

PERFORMANCE DURING MARKET CRASHES

Strategy Performance During the Worst Ten Months of MSCI World Index (10 May 2006 – 30 April 2021)

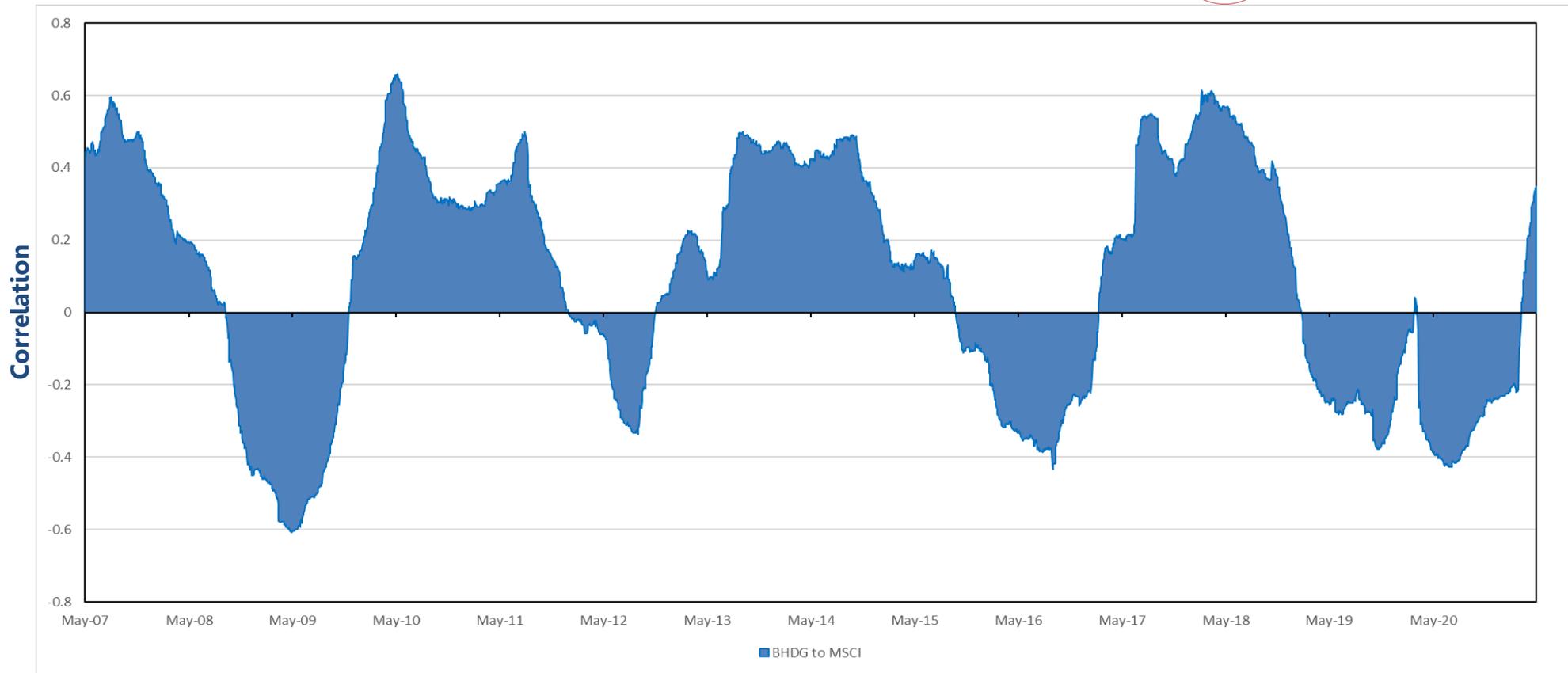


Notes:

1. Please refer to prior 'Performance' slide (Adjusted Strategy Performance Since Inception - Adjusted monthly performance) for an explanation as to how the underlying performance data has been produced. For illustrative purposes only. No investor has received these returns on a standalone basis. Please refer to the "Track Record Methodology" slide for further detail.
2. Subject to change.
3. MSCI World Index (Bloomberg: ticker "MXWO Index"), source: Bloomberg. Please refer to the slide entitled, "Performance Notes" for further detail on the MSCI World Index.
4. Data accurate as at 30 April 2021

NEAR ZERO CORRELATION TO GLOBAL EQUITIES

Strategy Correlation to MSCI World Index Between 10 May 2006 and 30 April 2021 = **-0.01**

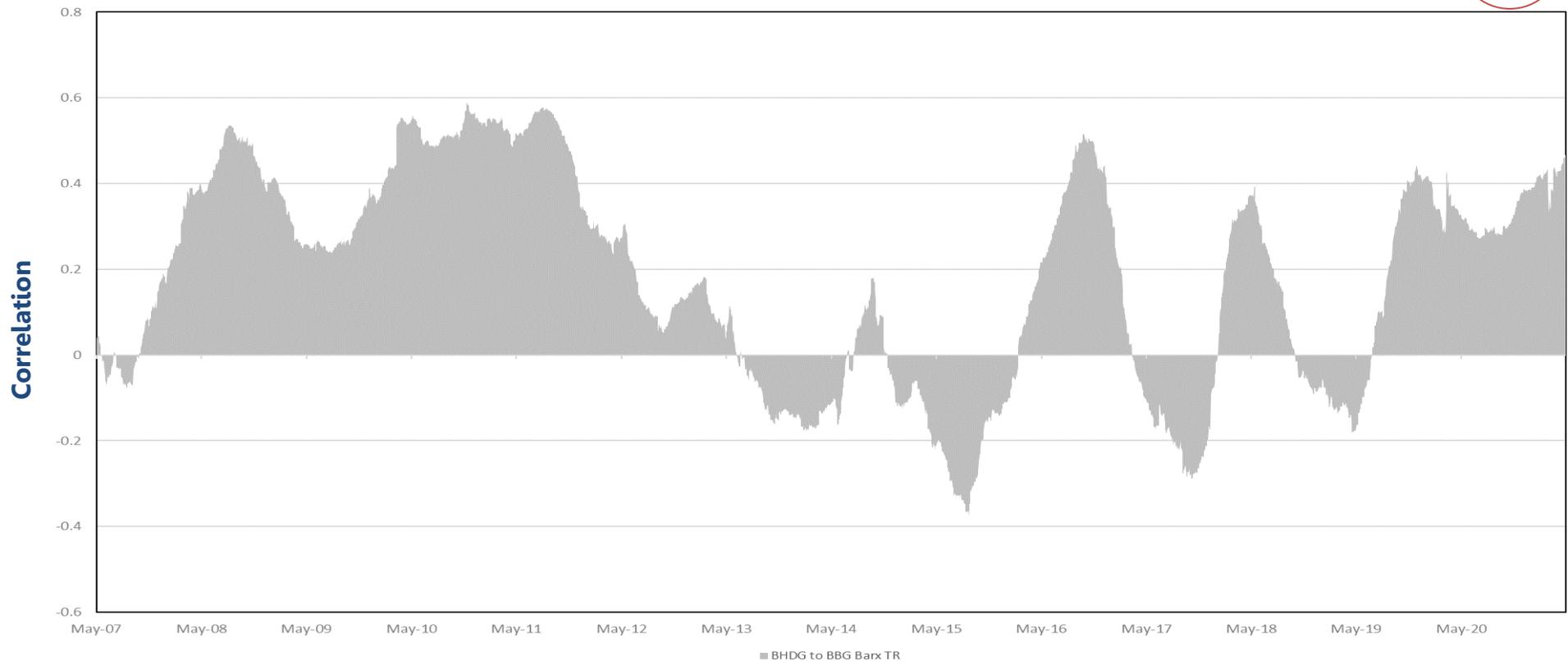


Notes:

1. Please refer to prior 'Performance' slide (Adjusted Strategy Performance Since Inception - Adjusted monthly performance) for an explanation as to how the underlying performance data has been produced. For illustrative purposes only. No investor has received these returns on a standalone basis. Please refer to the "Track Record Methodology" slide for further detail.
2. Subject to change.
3. MSCI World Index (Bloomberg: ticker "MXWO Index"), source: Bloomberg. Please refer to the slide entitled, "Performance Notes" for further detail on the MSCI World Index.
4. Data accurate as at 30 April 2021.

LOW CORRELATION TO GLOBAL BONDS

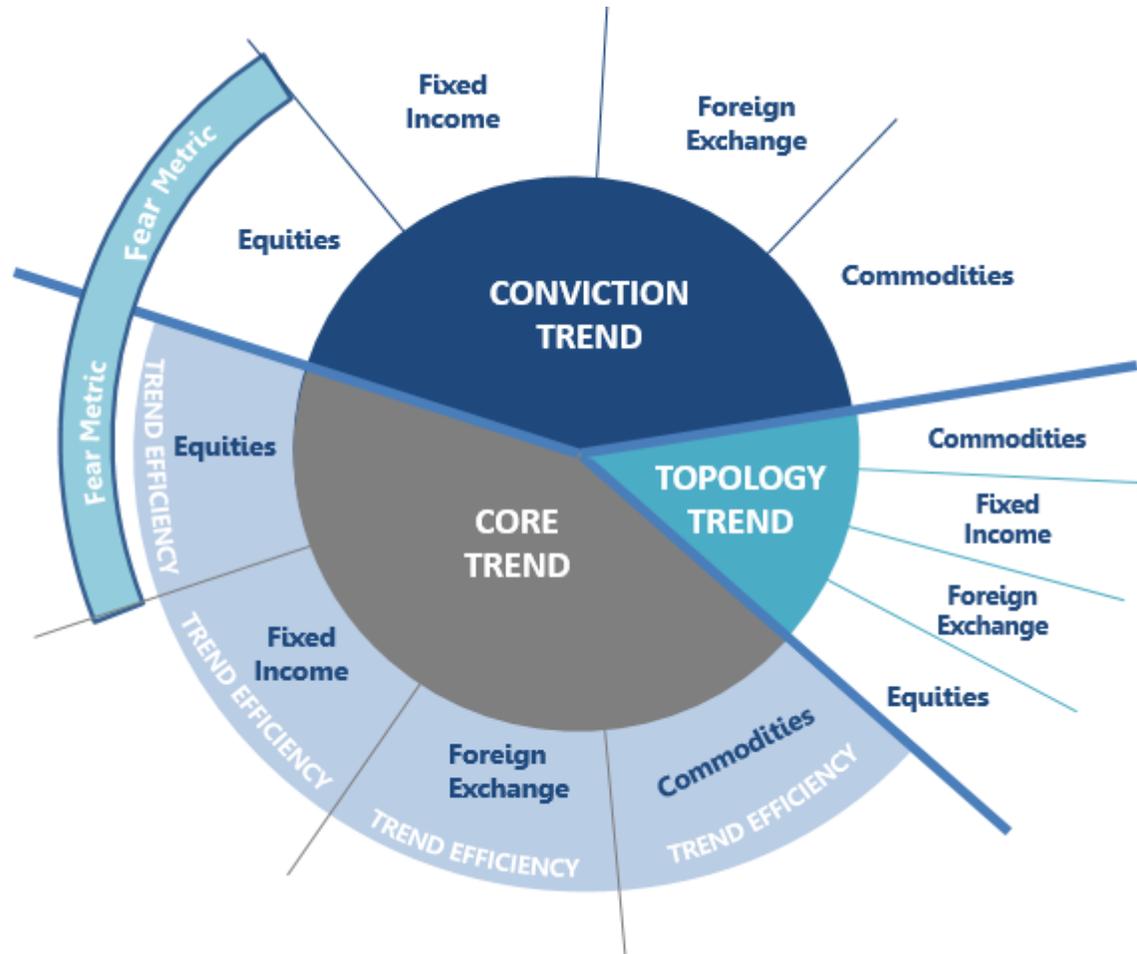
Strategy Correlation to Barclays Global - Aggregate Total Return Index Between 10 May 2006 and 30 April 2021 = **+0.23**



Notes:

1. Please refer to prior 'Performance' slide (Adjusted Strategy Performance Since Inception - Adjusted monthly performance) for an explanation as to how the underlying performance data has been produced. For illustrative purposes only. No investor has received these returns on a standalone basis. Please refer to the "Track Record Methodology" slide for further detail.
2. Subject to change.
3. Barclays Aggregate Total Return Index (Bloomberg: ticker "LGAGTRUU Index") source: Bloomberg. Please refer to the slide entitled, "Performance Notes" for further detail on the Barclays Aggregate Total Return Index.
4. Data accurate as at 30 April 2021.

THE STRATEGY: VISUALISING ALL COMPONENTS



Notes:

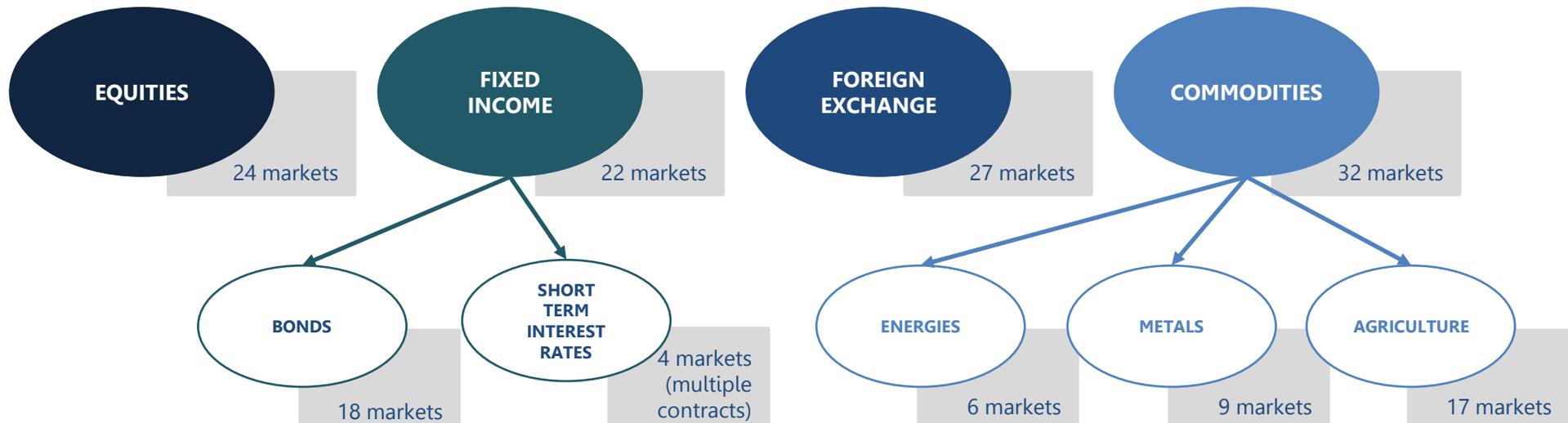
1. Source: BH-DG. Data accurate as at 30 April 2021. Subject to change.

THE STRATEGY

Portfolio characteristics

Asset classes / sub-asset classes traded	7
Number of liquid futures and FX markets	105
Coefficient of diversification	approximately 0.5
Average holding period	approximately 2 months

7 x SECTORS IN TOTAL; > 100 MARKETS TRADED

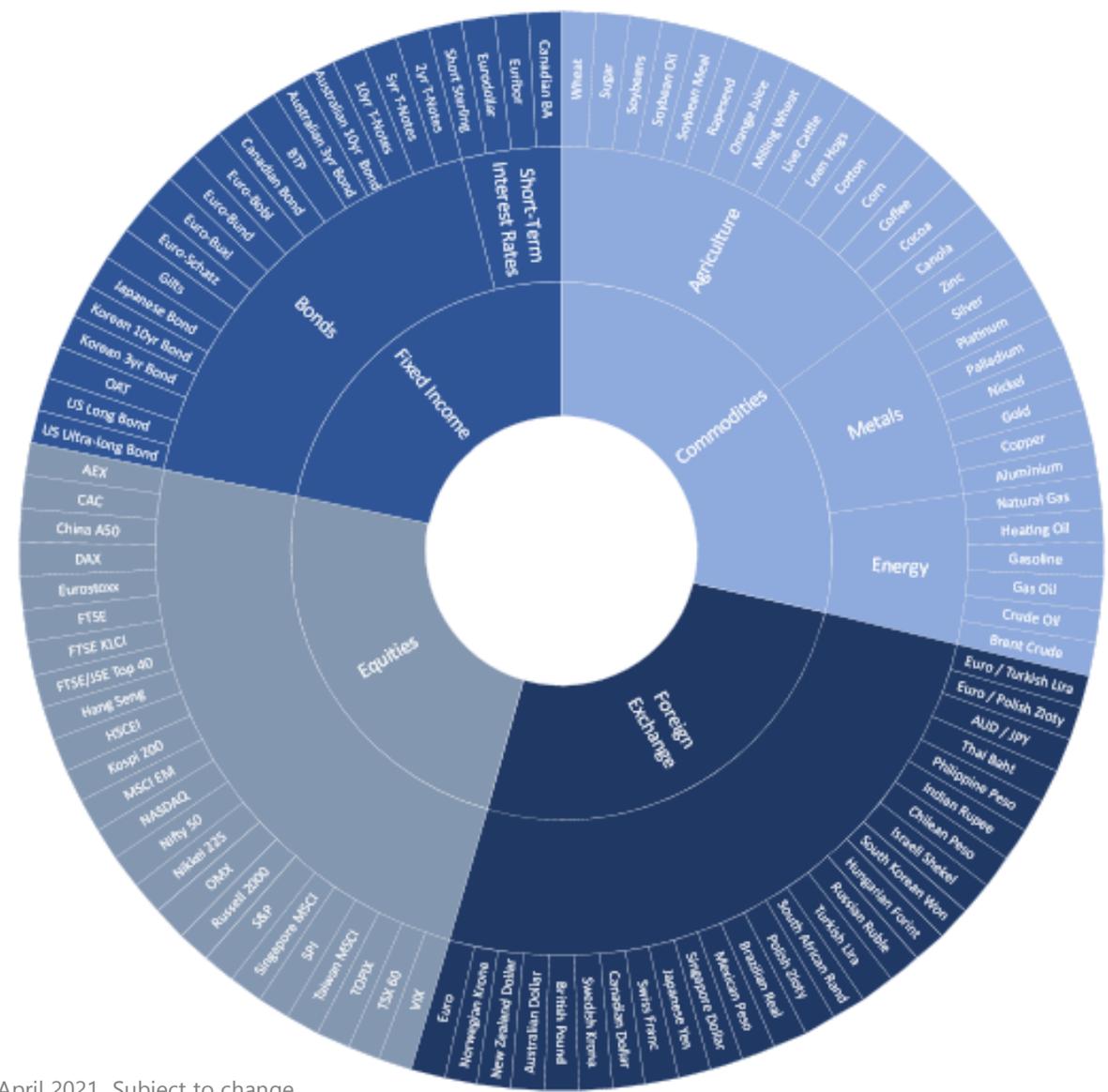


Notes:

1. Source: BH-DG. Data accurate as at 30 April 2021. Subject to change.

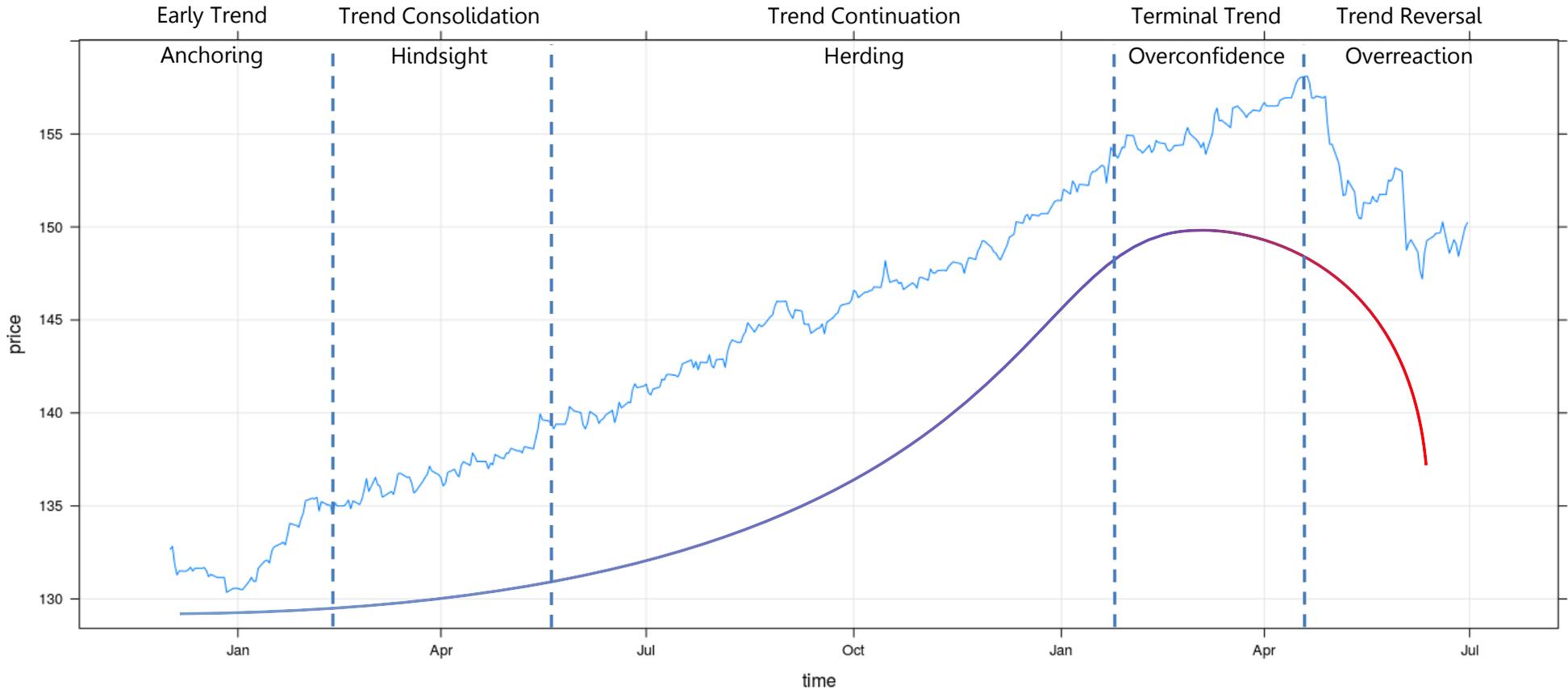
THE STRATEGY

Example markets traded¹



Notes:
 1. Source: BH-DG. Data accurate as at 30 April 2021. Subject to change.

OUR VIEW OF MEDIUM-TERM TREND FOLLOWING



German Bund Market (Bloomberg ticker RX1 Comdty)
 Dec 2013 – Jul 2015

Notes:

1. Source: Bloomberg and BH-DG. For illustrative purposes only.

CORE TREND

A strong insight into market momentum; defined and expressed over multiple timeframes



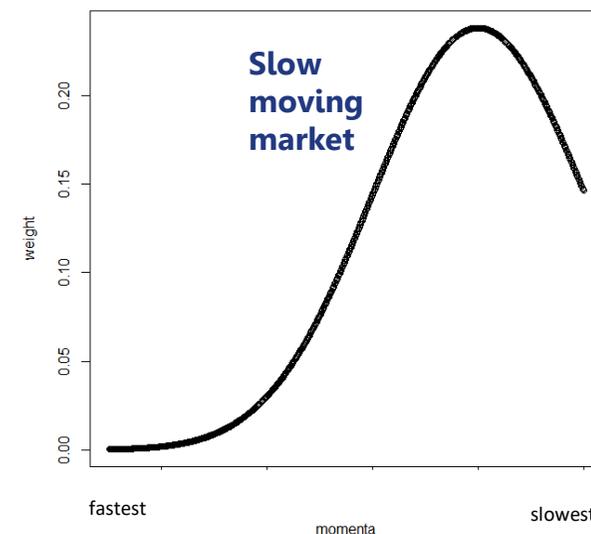
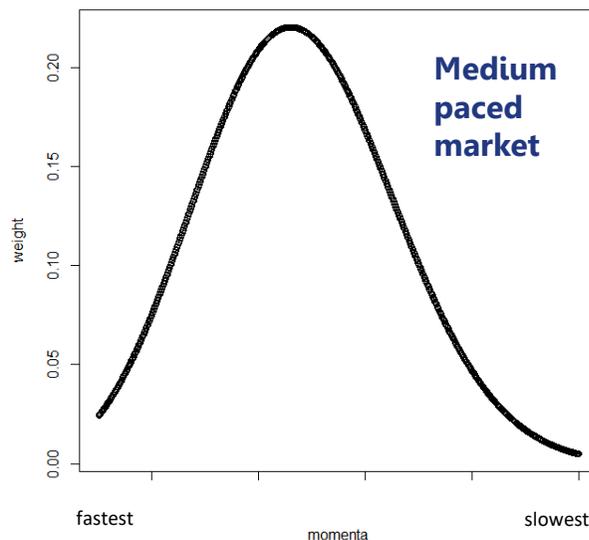
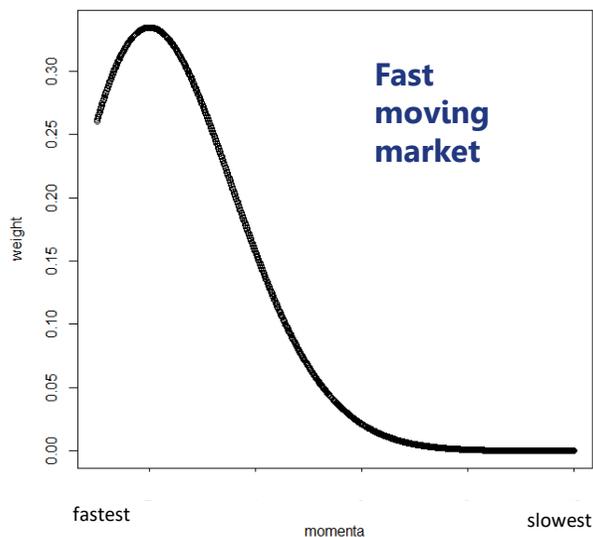
For a given speed, i

$$momentum_i = \frac{mov. avg(fast) - mov. avg(slow)}{volatility \times norm factor}$$

For a speed group

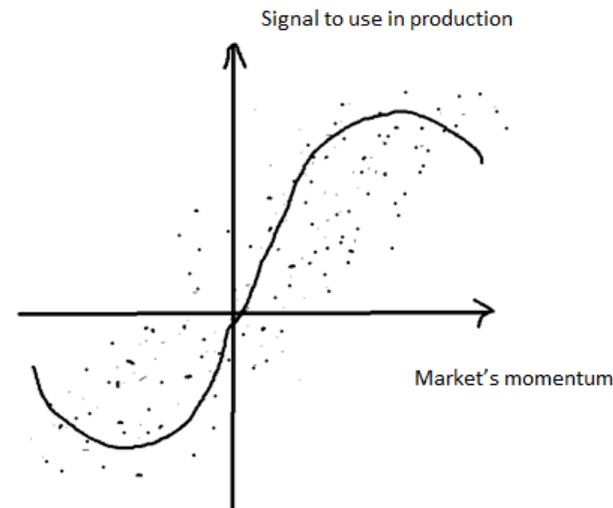
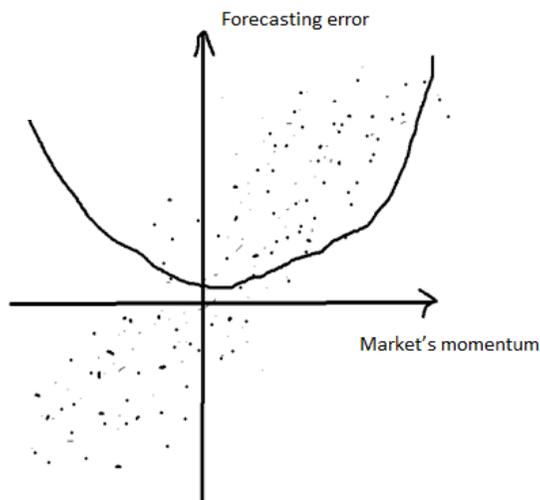
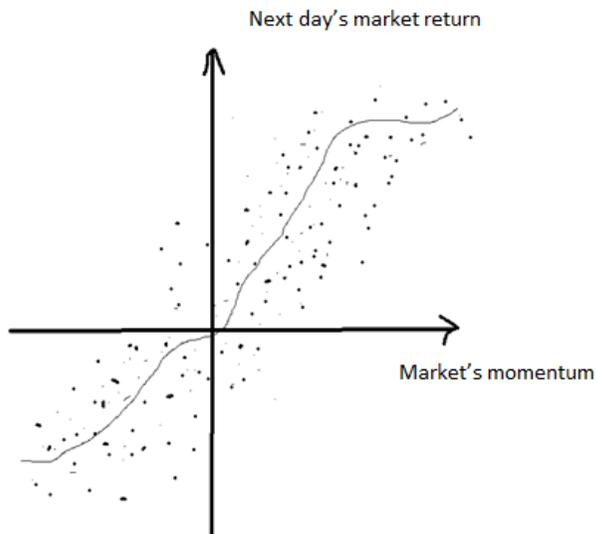
$$market momentum = \sum_i weight_i * momentum_i$$

Fast moving market



CORE TREND

A strong insight into market momentum; defined and expressed over multiple timeframes



CONVICTION TREND

Trade the most efficient part of the trend and avoid sideways markets



OBJECTIVE:

Trade the most efficient part of the trend and avoid sideways markets: the Herding Phase

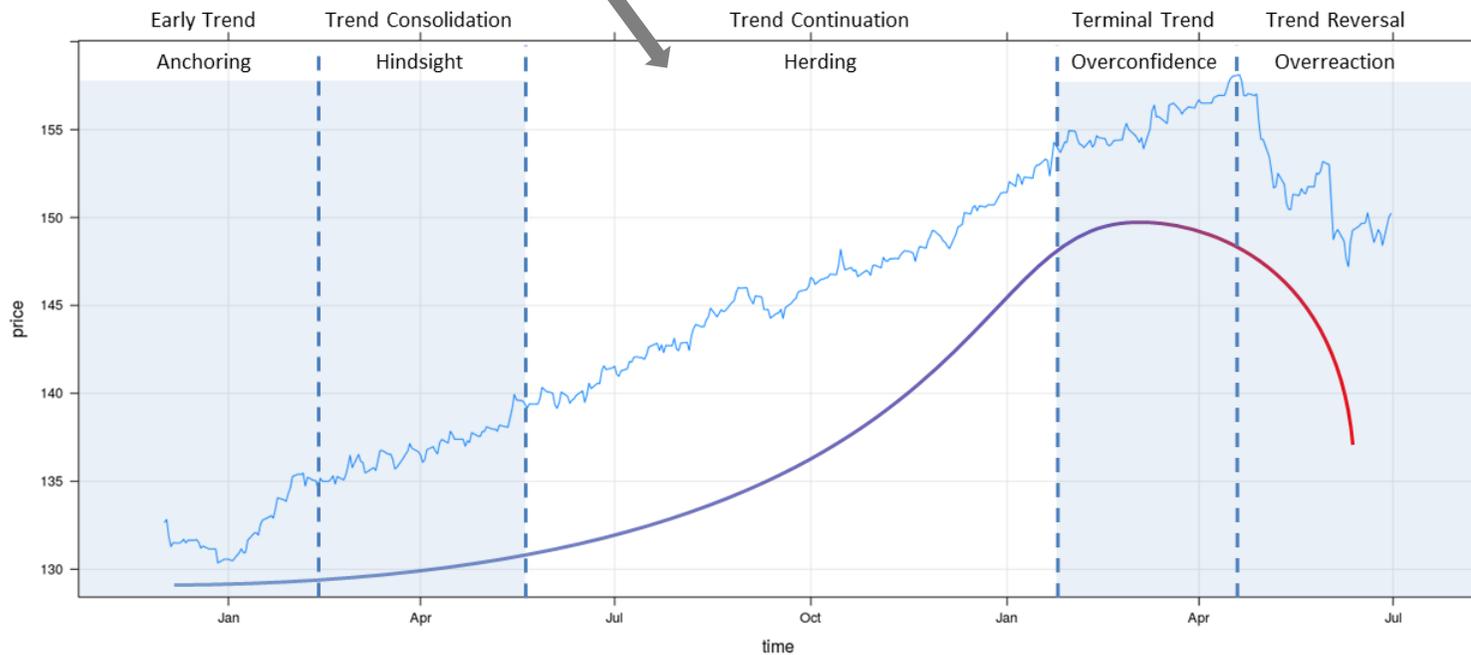
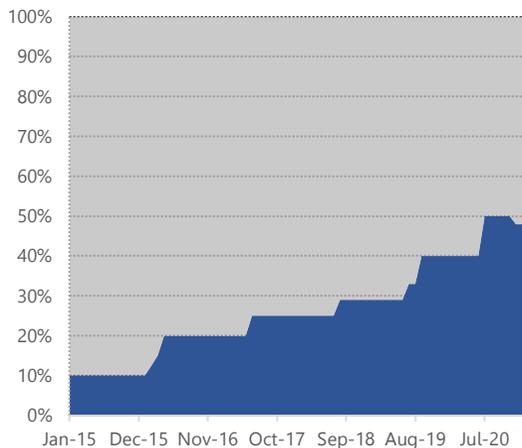
INTUITION:

Enters a trade only if it considers **market consensus is strong**

HOW IS MARKET CONSENSUS MEASURED?

- Price action informs degrees of large order flow overlap
- It is independent of momentum strength

Allocation to Conviction Trend (2015–2021)



German Bund Market (Bloomberg ticker RX1 Comdty)
 Dec 2013 – Jul 2015

Notes:

1. For illustrative purposes only. Not representative of actual trading. Investors may experience loss.

MODEL COMPARISON: CORE TREND VS. CONVICTION TREND

Example: actual trading – the Brazilian Real, January 2018 to September 2019

Key: Short Long

CORE TREND – ALWAYS IN THE MARKET



CONVICTION TREND – AIMS TO AVOID SIDWAYS MARKETS



Long bull phase

Core Trend participates in the long bull phase, but did so from the **early stage of trend, the breakout.**

Reversal, then sideways, then breakout

Core Trend participates constantly through the sideways markets with 10 changes in position, but is again able to establish a position in the **breakout upward trend from August 2019.**

Long bull phase

Conviction Trend also participates in the long bull run, but **not in the early breakout phase** (where Core Trend was already actively positioned)

Reversal, then sideways, then breakout

Conviction Trend largely **stays out of the sideways market** as it's designed to do, but again was **not positioned in the early breakout from August 2019** (where Core Trend was already positioned)

Notes:

1. Source: Bloomberg and BH-DG. Data is illustrative of long and short positions taken by Core Trend and Conviction Trend over the period shown for a client of BH-DG in the relevant instrument. The boxes on the chart do not illustrate profits or losses, merely long (blue) or short (red) positions held. Each of Core Trend and Conviction Trend may not capture trends or avoid sideways markets. Market conditions change over time and as a result, the above behaviour may not be repeated in a similar scenario in the future.
2. The portfolio characteristics and risk controls set forth are not static and may change over time. Neither DG Partners, BH-DG, nor any of their affiliates represent that the statistics, investment guidelines, capital allocation and limits disclosed herein will remain constant over time. The portfolio risk management process includes an effort to monitor and manage risk, but should not be confused with and does not imply low risk. No representation is being made by the inclusion of the investment examples and strategies presented herein that the products or strategies to which they relate will be included in any portfolio referred to herein in the future. There can be no assurance that the investment examples and strategies described herein will meet their objectives generally, or avoid losses.
3. For illustrative purposes only. Not representative of actual trading. Investors may experience loss.

CORE TREND, CONVICTION TREND AND TOPOLOGY TREND – A SUMMARY



Trading intuition

Allocation

Objective

Sizing

Holding period

Volatility targeting

CORE TREND

Momentum sign and strength

Always exposed; daily rebalancing

Aims to participate in early breakouts and take profits prior to reversals; designed to cut quickly in corrective markets

Sizes trades gradually according to various trend phases

Approximately 2 months

Multi-year look back, rolling gearing; predicated on sectoral membership

CONVICTION TREND

Market consensus is measured and forms an input

Not always in the market; aims to trade the most efficient part of the trend ("herding stage")

Aims to avoid "sideways" markets and trade the most liquid pockets; designed to cut quickly when market consensus is lost

Enters and exits trades rapidly when consensus changes; keeps sizes large when active

Approximately 2 months

Dynamic conditional correlation gearing ("DCC"), driven by liquidity classification

TOPOLOGY TREND

Entries and exits rely on relationship between momentum, curvature and noise

Not always in the market – very selective and aims to trade the most stationary part of a trend

Targets the least noisy market pockets. Cuts quickly when market consensus is lost

Enters and exits trades rapidly and keeps sizes large when active

Approximately 1 month

Short-term rolling gearing using liquidity classification

Notes:

1. Source: BH-DG. Data accurate as at 30 April 2021. Subject to change.

RISK MODULATORS – TREND EFFICIENCY and FEAR METRIC



Objective:

Rotate risk tactically across the market universe to improve performance and skewness

Approach:

Utilise risk premia **compatible with trend** with a view to distributing risk dynamically, without style drift

TREND EFFICIENCY

Inter-sectoral; measures the stability surrounding market price action

FEAR METRIC

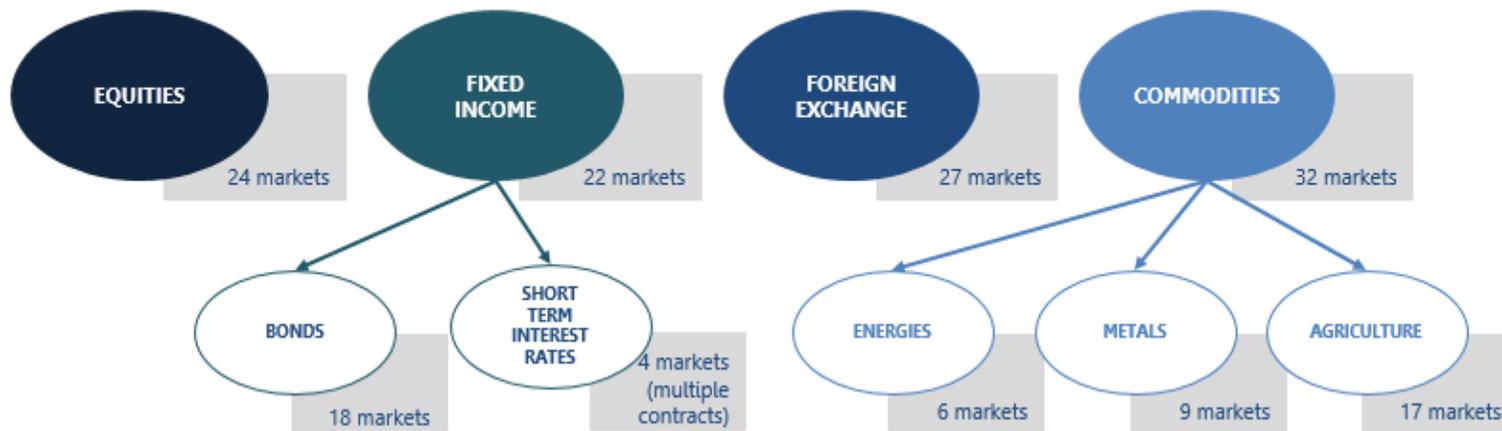
Intra-sectoral; estimates downside risk within the equities sector

RISK MODULATORS – TREND EFFICIENCY and FEAR METRIC



7 x SECTORS IN TOTAL; > 100 MARKETS TRADED

Intra-Sector Risk
 Modulation:
 'Fear Metric'



Inter-Sector Risk
 Modulation:
 'Trend Efficiency'

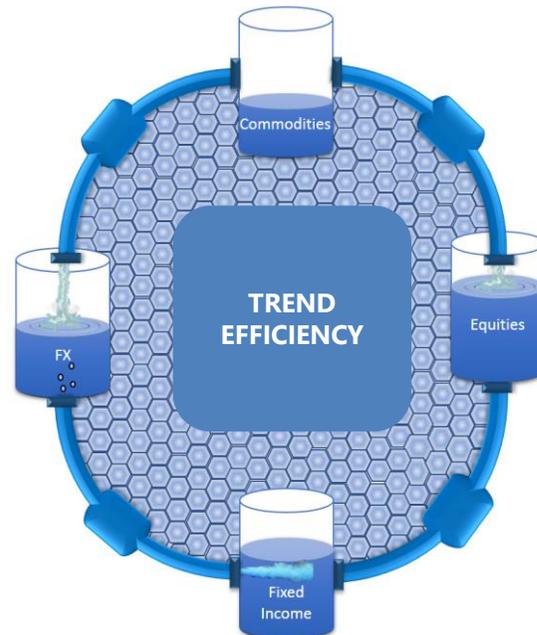
Notes:

1. Source: BH-DG. Data accurate as at 30 April 2021. Subject to change.

RISK MODULATORS – TREND EFFICIENCY



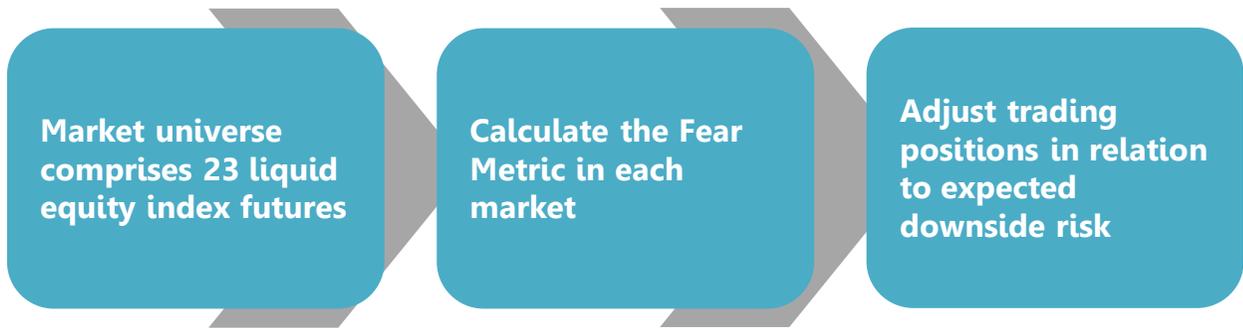
Sequence of Process



RISK MODULATORS – FEAR METRIC



Sequence of Process

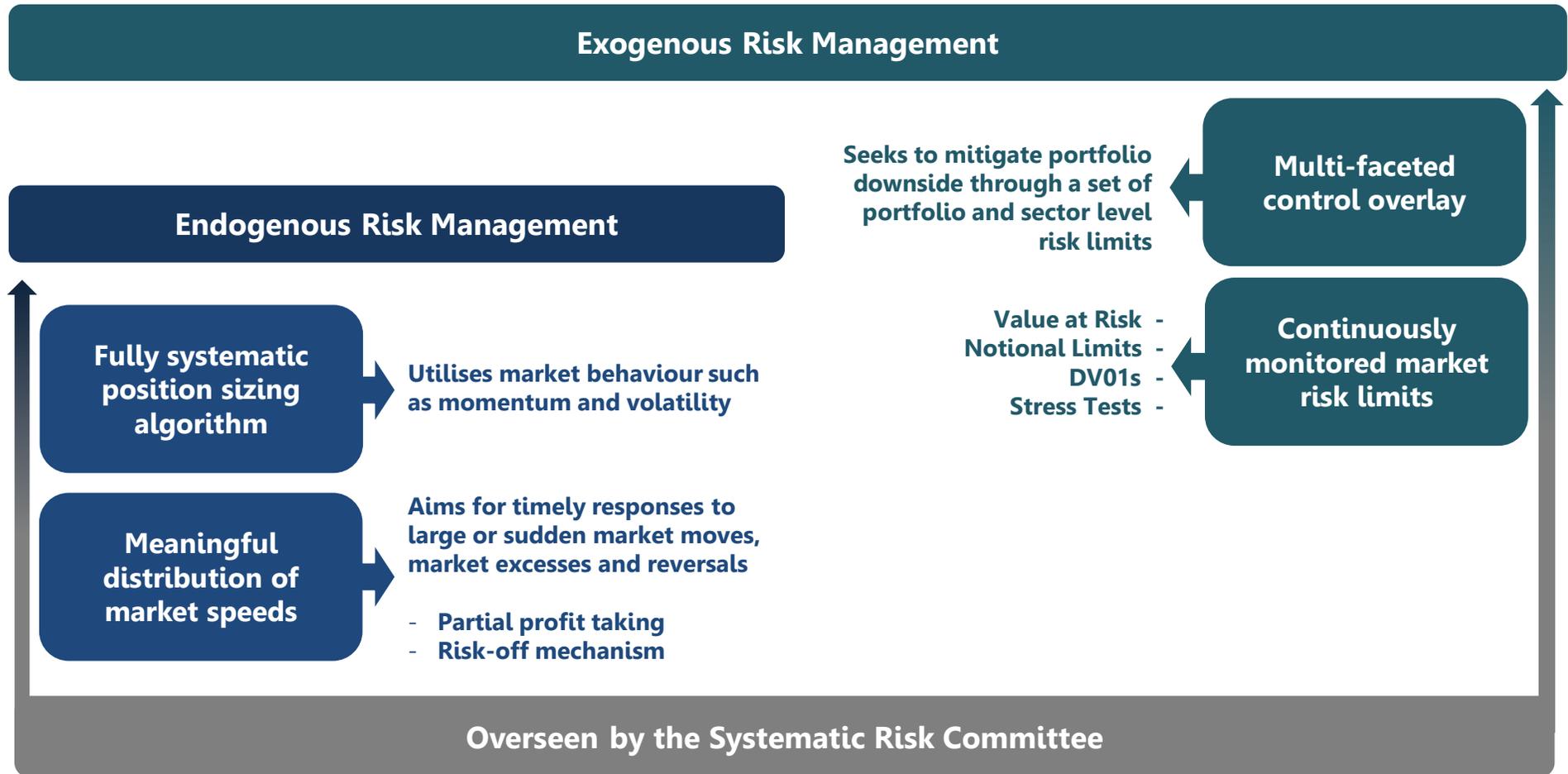


Trend Position	Fear Metric	Weight Change
LONG	LOW	INCREASE
LONG	HIGH	DECREASE
SHORT	HIGH	INCREASE
SHORT	LOW	DECREASE

Notes:
 1. Source: BH-DG. For illustrative purposes only. Not representative of actual trading. Investors may experience loss.

RISK MANAGEMENT

Endogenous and Exogenous Risks



Notes:

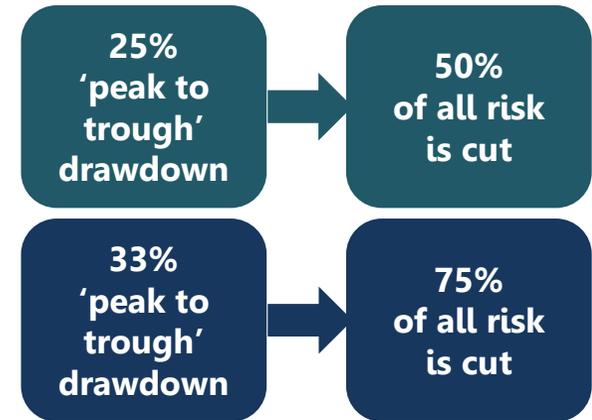
1. Data accurate as at 30 April 2021. DG Partners Market Risk Limits presentation (which includes the contract level maximum exposure guidelines) is available upon request.
2. Subject to change.

RISK MANAGEMENT

Limits and Controls

Exposure	Limit (% AUM)
VaR (2 year, 95 th percentile)	2.5%
FX net notional	200%
Equity index net notional	130%
Total interest rate DV01	30bps
Energy net notional	43.75%
Precious metal net notional	43.75%
Base metal net notional	25%
Farm net notional	22.5%
Volatility index net notional	1.875%
Stress Test: equities 10%, rates 40bps, FX 6%, commodities 15%	25%
Margin to equity	25%

Extreme Drawdown Risk Controls*

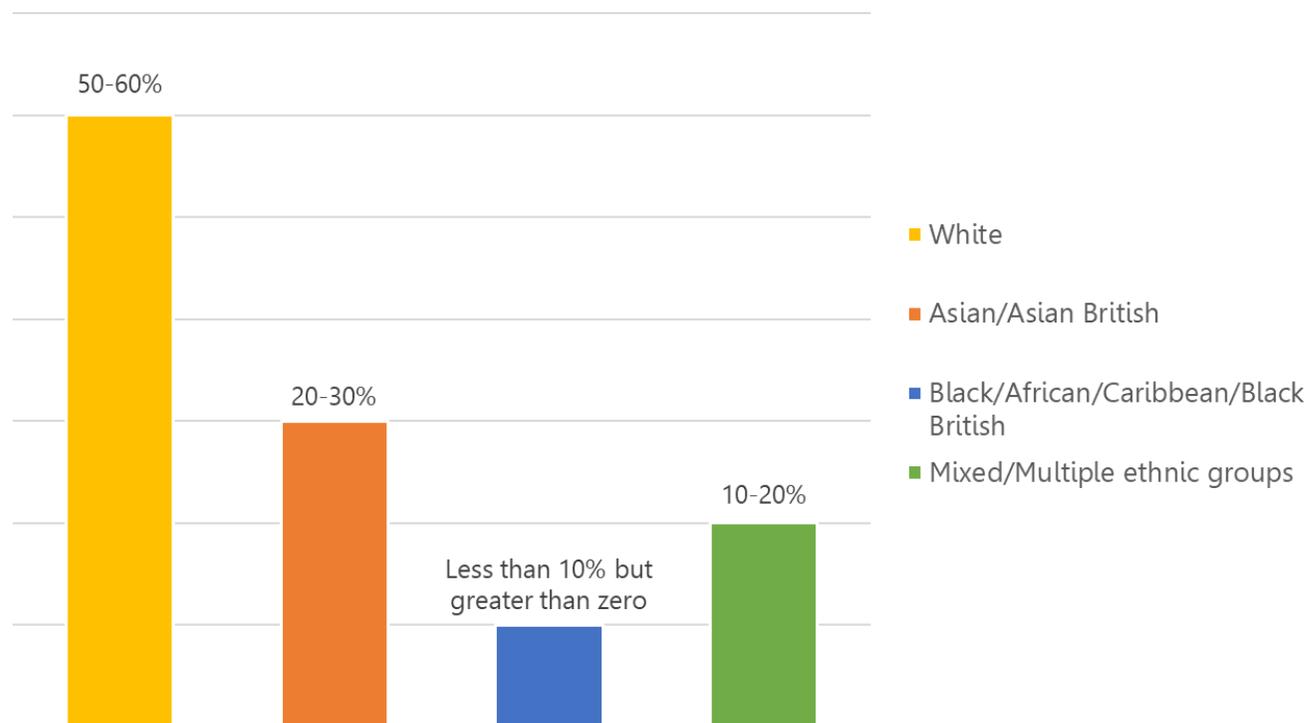


*To date, have never been activated/required

Notes:

1. Source: DG Partners. Data accurate as at 30 April 2021. DG Partners Market Risk Limits presentation (which includes the contract level maximum exposure guidelines) is available upon request. Subject to change.

D&I- Breakdown by Ethnicity (as a % of respondents)



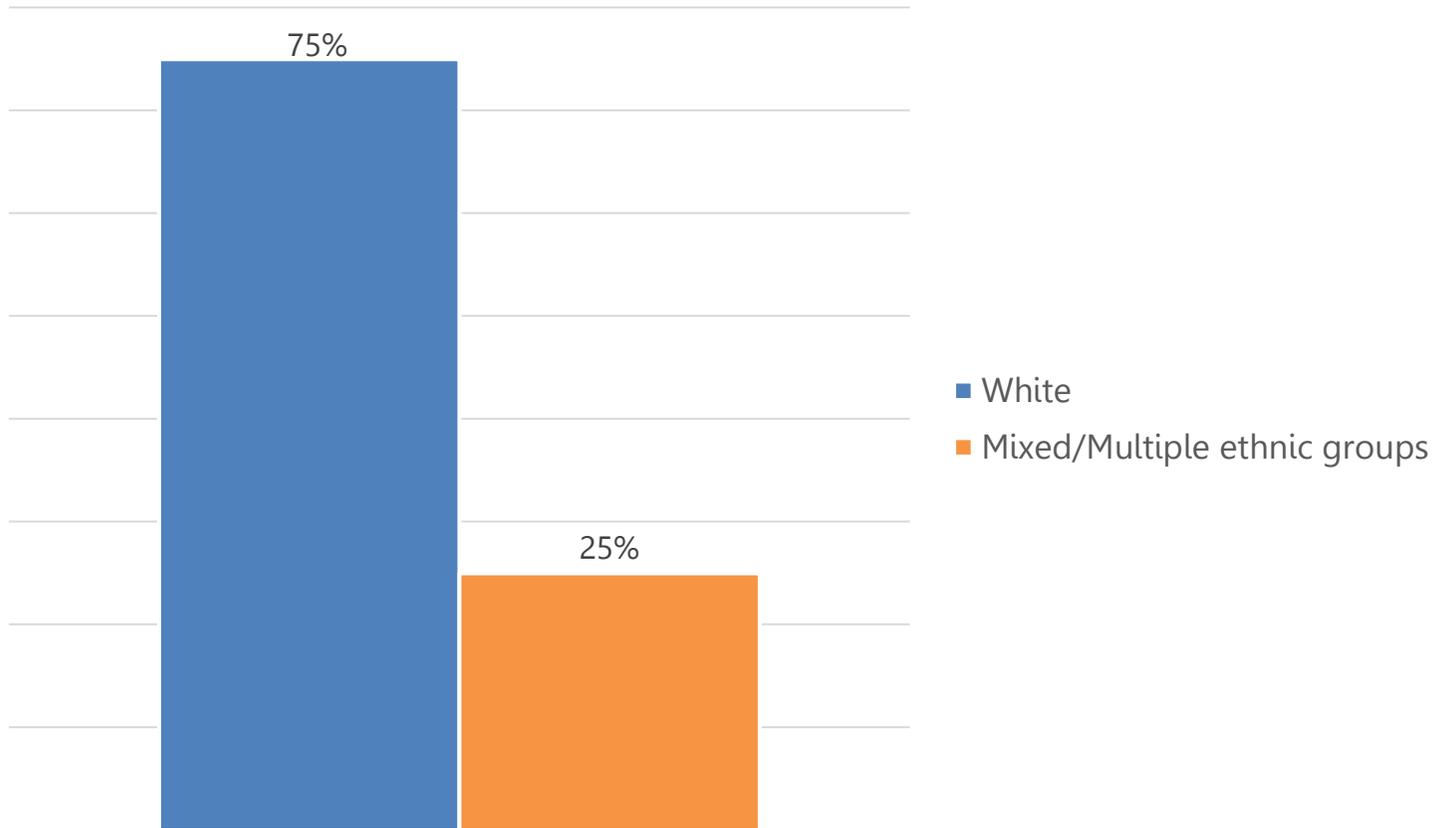
Firm Policies and Initiatives to promote D&I

- **Diversity and Equality policy:** We are committed to eliminating discrimination and promoting equality and diversity in our policies, practices and procedures.
- **Responsible Suppliers Policy:** requires our suppliers to, inter alia, demonstrate a commitment to equality of opportunity for individuals and groups enabling them to work in an environment free from discrimination, sexual harassment and oppression; and never abuse or intimidate, directly or indirectly, any member of staff.
- **Annual Firmwide D&I training**
- **Local partnerships:** we have partnered with a school in one of the most deprived parts of London to provide internships to their students allowing them to gain access to knowledge regarding roles in financial services.

Notes:

1. Data accurate as at 3 December 2020. Source: BH-DG/DG Partners.

Board Member Ethnicity



Notes:

1. Data accurate as at 3 December 2020. Source: BH-DG/DG Partners.

BH-DG Systematic Trading Master Fund Limited

Figures refer to the past, and past performance is not a reliable indicator of future results.

Private and confidential, do not copy or distribute. Commodity trading involves substantial risk of loss.

STRATEGY HIGHLIGHTS

The Strategy has a **14-year track record**, dating back to May 2006

More than **USD 1.7 billion in systematic trading assets**. An institutional client base

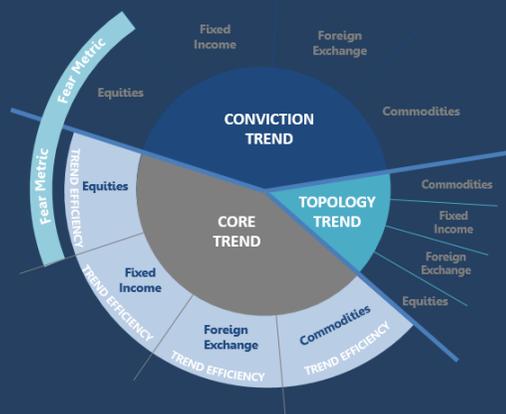
A focus on **medium-term trend following**, with numerous innovative enhancements

Daily liquidity for all investors, with highly **competitive fee structures**

Targeting **positively-skewed** monthly returns; to maximise occurrence of 'right-tail events'

Highly experienced research and model-technology group central to all R&D

VISUALISING THE STRATEGY



Adjusted daily Strategy Performance Since Inception vs SG Trend Index



	Net Return (%)
2006	-12.27
2007	16.20
2008	48.19
2009	-0.22
2010	19.50
2011	2.58
2012	-4.10
2013	2.77
2014	14.09
2015	-2.20
2016	2.96
2017	6.84
2018	0.21
2019	3.88
2020	16.15
2021	10.70

Adjusted annual Strategy performance

Notes:

- Data correct as at 30 April 2021. Source: BH-DG.
- SG Trend Index (Bloomberg: ticker "NEIXCTAT Index"). Please refer to the slide entitled, "Performance Notes" for an explanation as to how the SG Trend Index data was calculated.
- Strategy performance data has been adjusted to show returns net of a 1% management fee and 0% performance fee, with a volatility target of 15%. Please refer to the tab entitled 'Track Record Methodology' for an explanation as to how the underlying data for the Strategy's performance figures were calculated. No representation is being made that any investment will or is likely to achieve profits or losses similar to those shown. No third party investor has received these returns on a standalone basis.

KEY FUND FEATURES

Fund Inception

1 March 2010

Strategy Overview

Multi-asset, medium-term trend following, with dynamic asset allocation and risk modulators

Capacity

Strategy capacity stands at circa USD 5 billion

Feeder Funds

BH-DG Systematic Trading Fund, Limited

BH-DG Systematic Trading Fund, LP

Currencies Available

USD, EUR, GBP, JPY

USD

Fee Structure and Minimum Investments by Share Class

Class B: 1.0% Management Fee
12% Performance Fee
Min. Inv.: USD 5 million

Class I: 1.0% Management Fee
0% Performance Fee
Min. Inv.: USD 100 million

Class J: 0.5% Management Fee
10% Performance Fee
Min. Inv.: USD 100 million

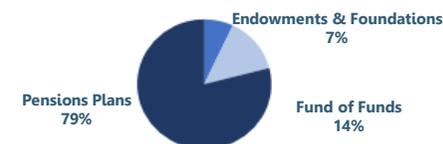
Class X: 0.93% Management Fee
0% Performance Fee
Min. Inv.: USD 250 million

Liquidity

Daily – all classes

(excluding Business Days falling between 25-Dec and 31-Dec inclusive in any year)

Client Type Breakdown



Contact Details:

UK, Europe, Middle East, Asia
investor.relations@dgparkers.co.uk
Tel: +44-207-408-5200

United States and Canada:
William.cummings@brevanhoward.com
Tel: +1-212-418-8216

CONTACT US

Business Development

William Cummings
Brevan Howard US LLC

Tel: +1-212-418-8216
William.cummings@brevanhoward.com

Address:
Brevan Howard US, LLC,
9th Floor, 590 Madison Avenue
New York, NY 10022

Appendices

- **Key Fund Terms**
- **Key Service Providers**
- **Key Personnel**
- **Client Reporting**
- **Research Process Schematic**
- **Organisational Structure**
- **Master Fund Structure**
- **Track Record Methodology**
- **Performance Analysis and Performance Notes**

Important Notes

KEY FUND TERMS

	BH-DG Systematic Trading Master Fund Limited	BH-DG Systematic Trading Fund Limited	BH-DG Systematic Trading Fund, L.P.
Fund Structure	Master Fund	Feeder Fund	Feeder Fund
Manager	DG Partners LLP		
Investment Manager	BH-DG Systematic Trading LLP		
Base Currency	USD		
Share Currencies		USD, EUR, GBP, JPY	USD
Minimum Investment		Class B Shares: USD 5,000,000 or equivalent Class I and J Shares: USD 100,000,000 or equivalent Class X Shares: USD 250,000,000 or equivalent	Series B Interests: USD 5,000,000 Series I and J Interests: USD 100,000,000 Series X Interests: USD 250,000,000
Minimum Addition		Class B, I, J and X Shares: USD 100,000 or equivalent	Series B, I, J and X Interests: USD 100,000
Fee Structure		Class B: 1% Management Fee, 12% Performance Fee Class I: 1% Management Fee, No Performance Fee Class J: 0.5% Management Fee, 10% Performance Fee Class X: 0.93% Management Fee, No Performance Fee	Series B: 1% Management Fee, 12% Performance Fee Series I: 1% Management Fee, No Performance Fee Series J: 0.5% Management Fee, 10% Performance Fee Series X: 0.93% Management Fee, No Performance Fee
High Water Mark		Yes	Yes
Liquidity		Daily (excluding Business Days falling between 25 December and 31 December inclusive in any year)	Daily (excluding Business Days falling between 25 December and 31 December inclusive in any year)

KEY FUND TERMS (Cont.)

	BH-DG Systematic Trading Master Fund Limited	BH-DG Systematic Trading Fund Limited	BH-DG Systematic Trading Fund, L.P.
Deadline for Subscriptions and Redemptions		Completed forms must be received by the administrator by no later than 12.00hrs (GMT) on the Business Day immediately preceding the relevant dealing date (along with cleared funds by 16.00hrs (GMT) for subscriptions)	Completed forms must be received by the administrator by no later than 12.00hrs (New York time) on the Business Day immediately preceding the relevant dealing date (along with cleared funds by 16.00hrs (New York time) for subscriptions)
Sales and Redemption Charges	N/A		
Anti-Dilution Levy	Discretionary – Maximum of 2% May be applied at the Fund Directors' discretion where net subscriptions or redemptions on any Valuation Day are larger than 5% of NAV		
Final Year-End	31 December		
Accounting Standard	US GAAP		

KEY SERVICE PROVIDERS

Prime Brokers	Morgan Stanley & Co. International plc 25 Cabot Square, Canary Wharf London, E14 4QA United Kingdom	JPMorganChase Bank NA 25 Bank Street, Canary Wharf London, E14 5JP United Kingdom	Credit Suisse Securities (Europe) Limited One Cabot Square London, E14 4QJ United Kingdom	Credit Suisse Securities (USA) LLC Eleven Madison Avenue New York, NY 10010 United States
Custodian	Credit Suisse Securities (USA) LLC Eleven Madison Avenue New York, NY 10010 United States	Credit Suisse Securities (Europe) Limited One Cabot Square London, E14 4QJ United Kingdom		
Fund Administrator	International Fund Services (Ireland) Limited 78 Sir John Rogerson's Quay Dublin 2 Ireland			
Fund Auditor	KPMG Cayman Islands PO Box 493 Century Yard Grand Cayman, KY1-1106 Cayman Islands	KPMG Ireland 1 Harbourmaster Place, IFSC Dublin 1 Ireland		
Legal Advisers	For English law: Simmons & Simmons LLP Citypoint One Ropemaker Street London, EC2Y 9SS United Kingdom	For US law: Sidley Austin LLP 787 Seventh Avenue New York, NY 10019 United States of America	For Cayman Islands law: Maples and Calder 11th Floor, 200 Aldersgate Street London, EC1A 4HD United Kingdom	

KEY PERSONNEL

David Gorton

Chief Investment Officer, Partner
Systematic Risk Committee Member

David has over 30 years of trading experience and has held positions including Executive VP and Chief Dealer in the US for HSBC and Head of Proprietary Trading for the European Rates division of Chase Manhattan. In 1997, David joined Chase Manhattan to become CIO of Chase London Diversified Fund Limited. In 2002, he left JP Morgan Chase to establish DG Partners and manage the London Diversified Fund Limited (“LDFL”). David was instrumental in the formation of and support for the systematic trading program at DG Partners. The Strategy has been continuously traded under his supervision from 10 May 2006 to date. In March 2010 David established BH-DG as a joint venture with Brevan Howard to focus entirely on pursuing systematic trading strategies.

Dr Stefanel Radu

Head of Research, Partner
Systematic Risk Committee Member

Stefanel Radu is a George Soros scholar with a Doctorate in Physics from the University of the Witwatersrand, Johannesburg where he researched signatures of quantum chaos in nuclear deformation and metal clusters. In 1995, Stefanel joined Anglo American to develop algorithms aimed at predicting seismic events in South African deep level mines. In 1998 he joined Goldman Sachs as a proprietary trading analyst where he implemented cross asset systematic trading models for the proprietary trading desk of Goldman Sachs in Australia. Stefanel continued his pursuit of systematic trading at Kaiser Trading in Melbourne and at FTC Capital in Vienna, where he was a Senior Portfolio Manager and Head of Research, respectively. Stefanel joined the Firm in 2013. As Head of Research, and member of the Systematic Risk Committee, he is responsible for the origination, testing, review and monitoring of all systematic trading strategies for the firm.

Maxwell Corden

Chief Risk Officer, Partner
Systematic Risk Committee Member

Max has been involved with the Strategy since its inception in 2006 having managed the integration and development of the Strategy within the Firm’s macro fund. In addition to his duties as Chair of the Systematic Risk Committee, Max is a member of the Firm’s Macro Risk Committee. He is also a member of the Board of the Firm and a partner of DG Partners. Max read Pharmacology at Kings College London and Imperial College London before graduating in 1997, going on to work at JPMorgan as an interest-rate derivatives analyst. Max joined the Firm in 2004.

KEY PERSONNEL

Umar Aziz

Chief Operating Officer, Partner

Umar is the firm's Chief Operating Officer and is also the firm's General Counsel and Chief Compliance Officer. He joined the firm in 2012. Umar is admitted as a solicitor of England and Wales and also holds the Solicitor-Advocate (All Higher Courts) qualification. Prior to joining BH-DG, he was a Senior Associate in the Investment Funds Group at Travers Smith LLP (October 2008 - January 2012), specialising in investment fund formation, advisory and related restructuring and M&A work. Before that, he was with Clifford Chance LLP (March 2003 - September 2008), where he specialised as a litigator in their Finance, Corporate and Regulatory team. He has also worked on secondment at JPMorgan. Umar read Law at the University of Bristol (receiving his LLB (Honours) in 2000). He has been listed with the NFA as a Principal of DG Partners since September 2012.

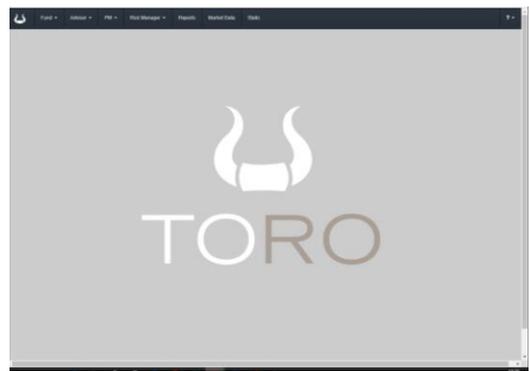
Matthew Turnbull

Chief Technology Officer, Partner

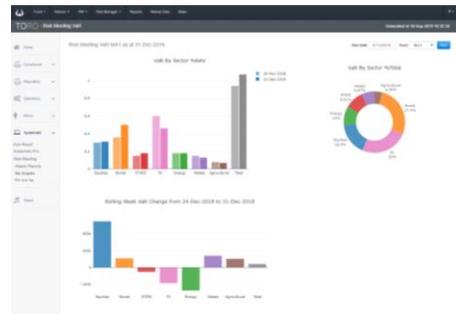
Matthew graduated from Cambridge University in 1997 with a degree in Natural Sciences. He began a career in the IT industry immediately afterwards, including 8 years with the global Systems Integration division of British Telecommunications where he was a specialist in the design and delivery of large-scale infrastructures to clients in the Government and Financial Services sectors. Following this role Matthew joined DG Partners in 2006 and was appointed Chief Technology Officer in 2015. He is responsible for all aspects of the Firm's technology, systems and security and also holds a position on the board.

REPORTING

Proprietary Internal reporting and analysis – ‘TORO’

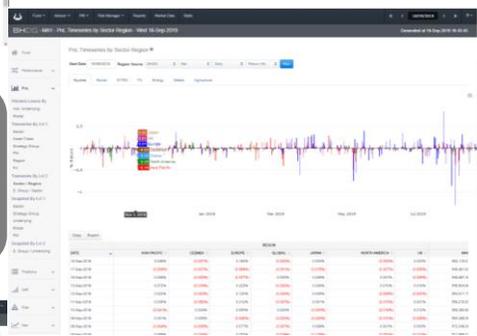


TORO is our proprietary internal reporting and analysis system, developed over a number of years by our Systems Development team in consultation with our researchers, traders model-technologists and risk professionals.

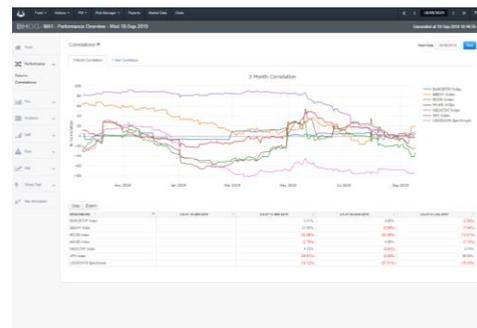


TORO allows for flexible analysis of risks and exposures

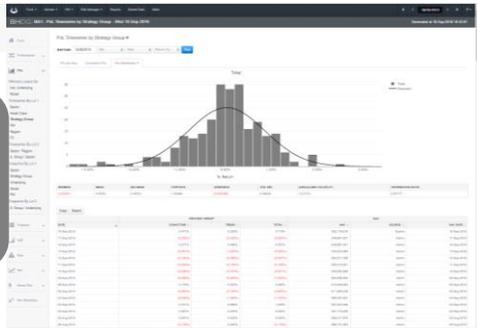
Instant review of correlations, P&L and other time series analysis



Rolling analysis can be viewed at numerous levels and sub-levels of data, across asset classes, sectors, regions, positions



Distributions, and important metrics such as skew and kurtosis can be viewed and analysed



Notes:

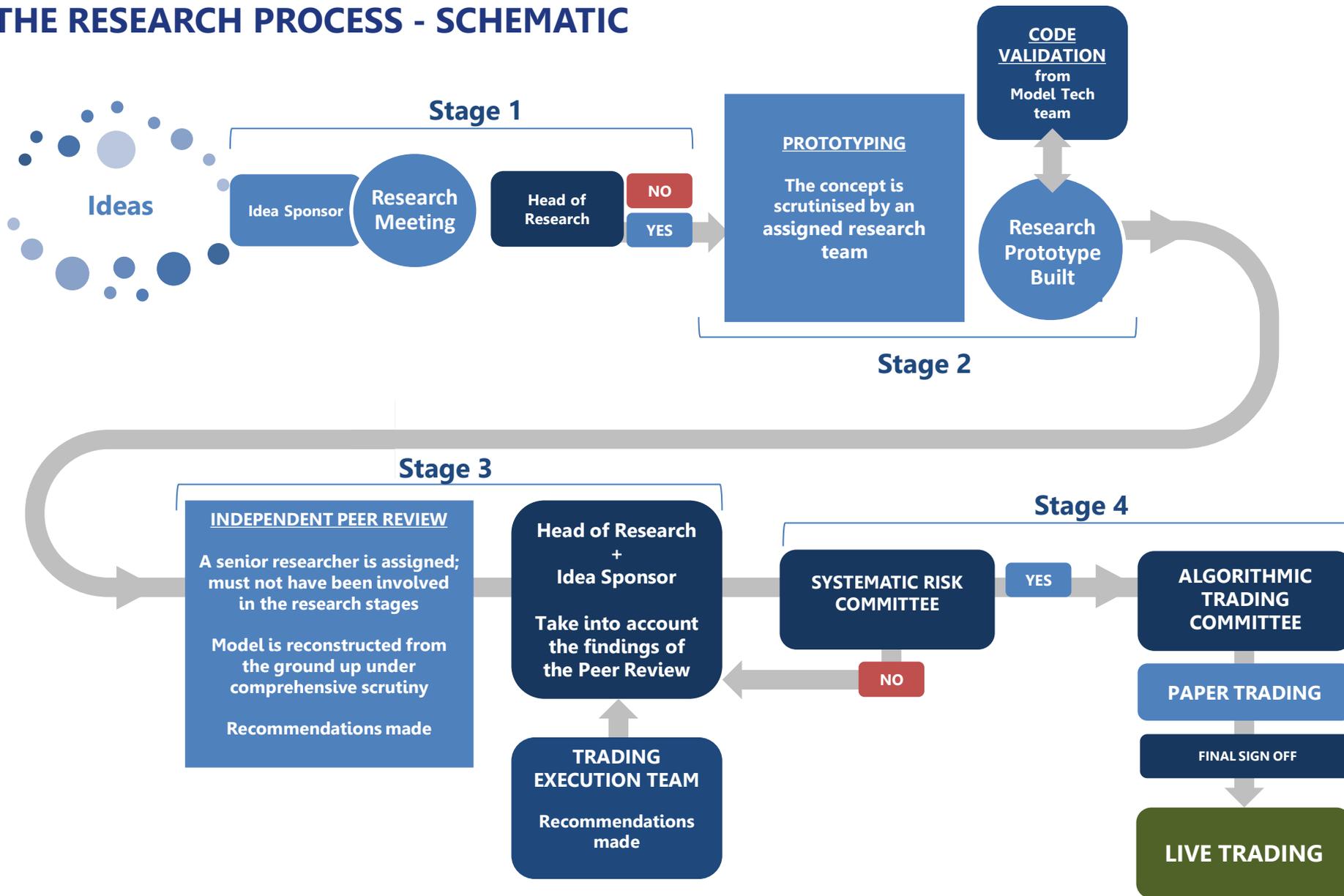
- 1. Source: BH-DG. For illustrative purposes only. Not representative of actual trading.

REPORTING

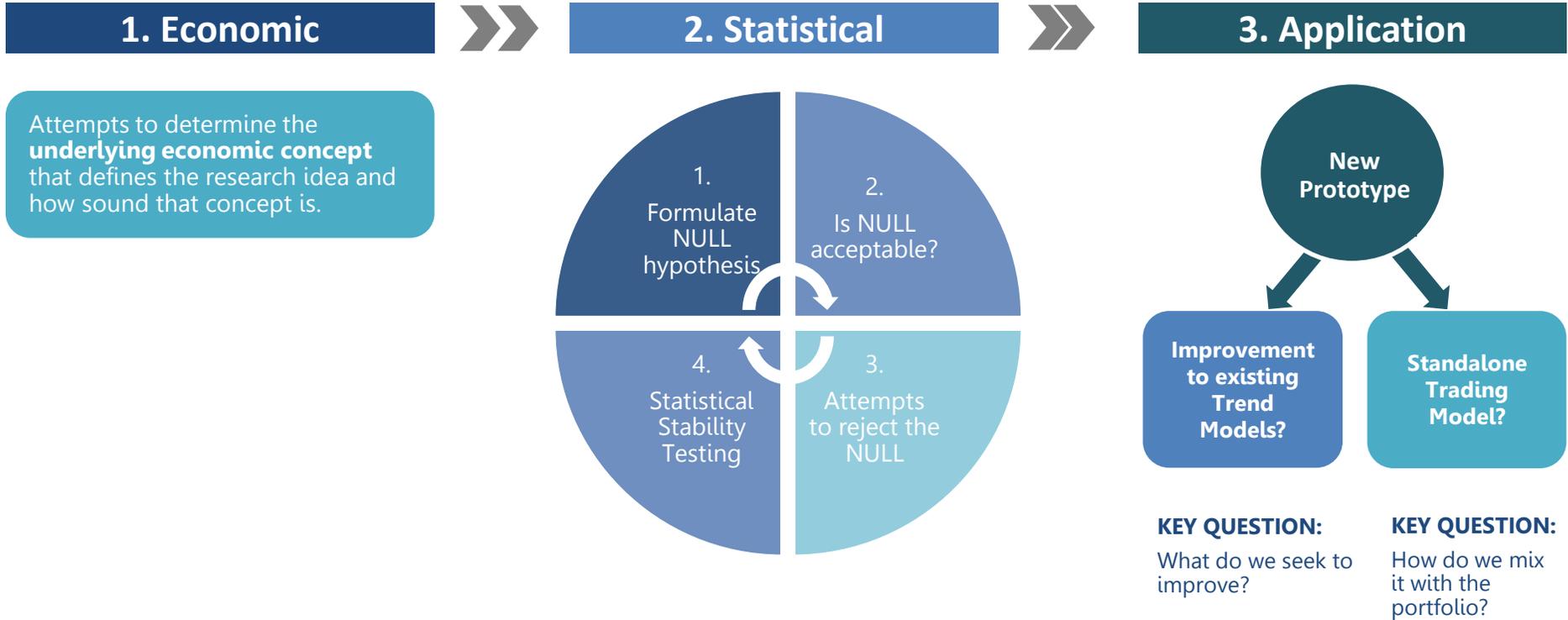
External reporting – institutional transparency and communication

Sent From	Sent To
<p>DG Partners LLP: The Fund Manager</p>	<p>Investors</p> <ul style="list-style-type: none">▪ Weekly performance by share class▪ Monthly performance by share class▪ Monthly Newsletter and Risk Report▪ Annual Letter▪ DDQs (by request) – updated semi-annually▪ Fund Presentations (by request) – updated monthly▪ PPMs / Subscription / Legal Documents (by request) – updated periodically <p>Consultants/Intermediaries</p> <ul style="list-style-type: none">▪ OPERA – Open Protocol Enabling Risk Aggregation Standards – updated monthly (Albourne/Hedge Fund Standards Board)▪ Albourne MoatSpace – updated monthly▪ Mercer Global Investment Manager Database (GIMD) – updated monthly▪ Cambridge Associates manager database – updated quarterly
<p>International Fund Services (Ireland) Limited: The Administrator</p>	<p>Investors</p> <ul style="list-style-type: none">▪ Daily performance by share class (by client request)▪ Monthly Investor Statements by share class
<p>KPMG (Ireland): The Auditor</p>	<p>Investors</p> <ul style="list-style-type: none">▪ Audited Financial Statements

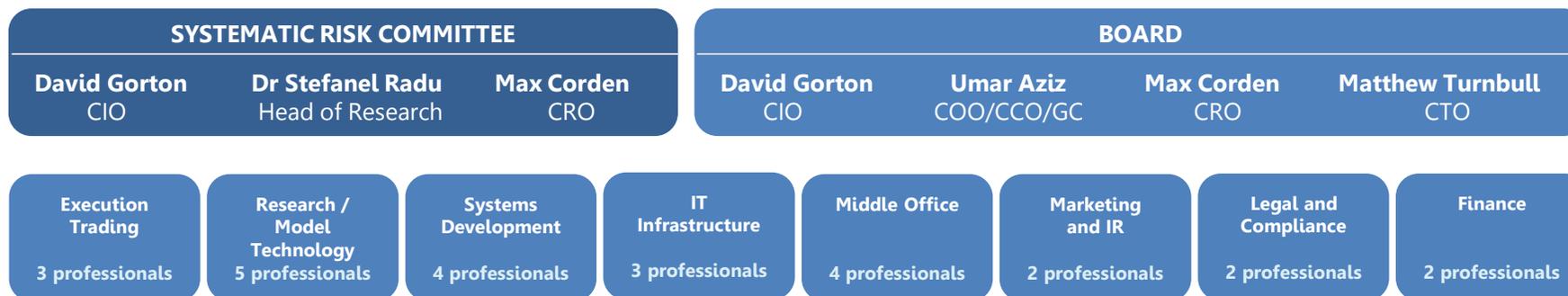
THE RESEARCH PROCESS - SCHEMATIC



THE RESEARCH PROCESS – THE THREE PILLARS OF REVIEW



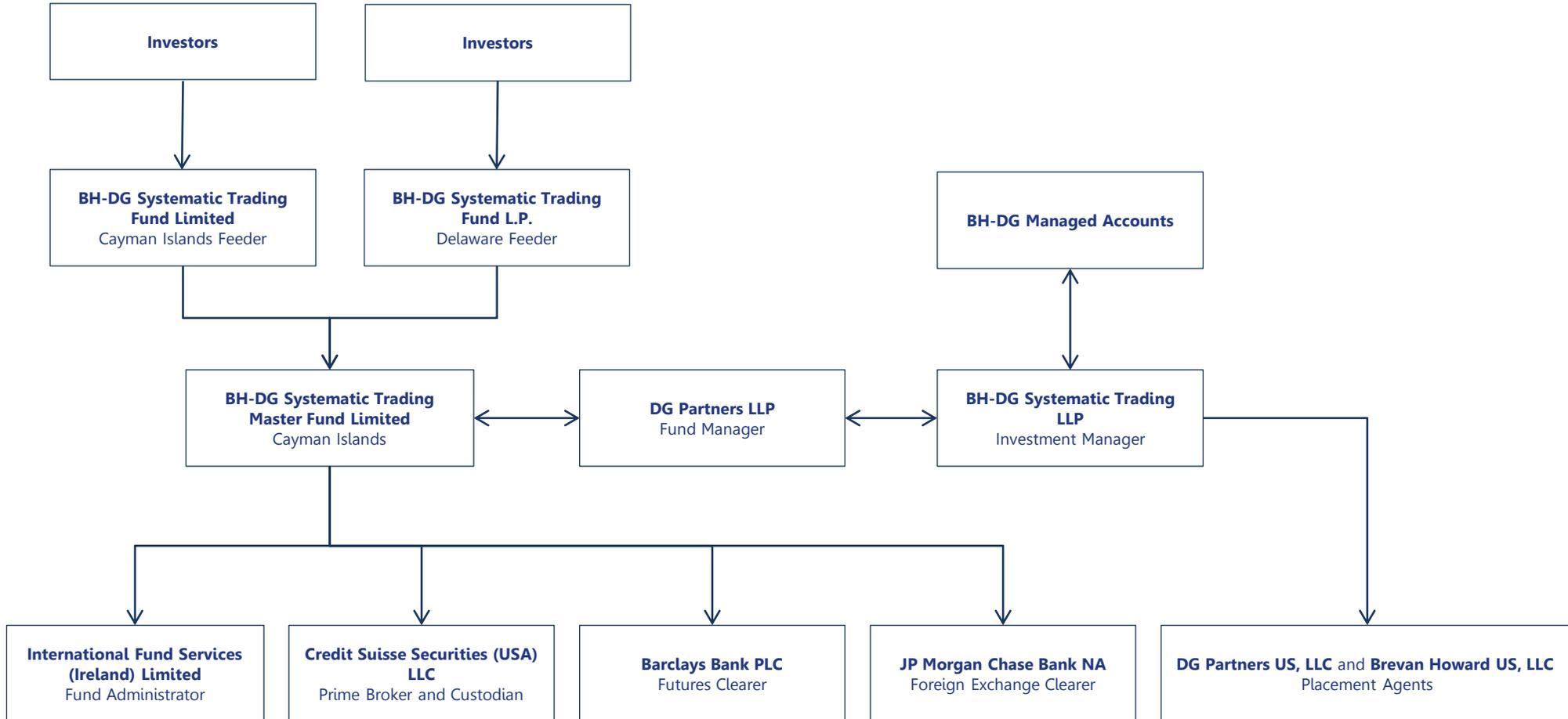
SYSTEMATIC TRADING ORGANISATIONAL STRUCTURE



Notes:

1. Source: BH-DG. Data correct as at 30 April 2021.
2. Middle Office and Execution Trading share one member of staff.
3. Board Members and Systematic Risk Committee members are not included in departmental figures.

BH-DG SYSTEMATIC TRADING MASTER FUND STRUCTURE



TRACK RECORD METHODOLOGY

The performance data presented in this document has been prepared as follows;

In order to present consistent, comparable performance data over the life of the Strategy, the Strategy performance data presented in this document has been adjusted so that it is presented net of a 1% annual management fee and 0% performance fee. Returns have been adjusted to be consistent with the current investment management fees of the Cayman Feeder USD Class I Shares and the current volatility target of 15%. The source of the underlying performance data is set forth below:

(i) Active trading of the Strategy commenced on 10 May 2006, therefore May 2006 returns are for the period 10 May to 31 May 2006. For the period from 10 May 2006 up to and including 28 February 2010: the figures represent the adjusted historic daily and monthly returns on allocated capital attributable to the “Systematic Book” (i.e. the systematic model-based trading strategies) within funds managed by DG Partners during that period.

(ii) For the period from 1 March 2010 up to and including 30 September 2010, data represents the adjusted daily and monthly returns on the sub-investment management portfolio managed by DG Partners within the Systematic Master Fund.

(iii) For the period from 1 October 2010 up to and including 30 November 2010, data represents the adjusted daily and monthly returns of the Strategy within the Systematic Master Fund.

(iv) Data from 1 December 2010 onwards represents the returns of the Cayman Feeder USD Class C Shares, adjusted as set out above.

The Cayman Feeder switched from monthly dealing to weekly dealing on 3 February 2011 and from weekly dealing to daily dealing on 31 August 2012. To continue to present daily and monthly performance information for comparative purposes, the performance data for February 2011 to August 2012 has therefore been estimated by Brevan Howard Asset Management (“BHAM”) based on indicative daily and month-end NAV data provided by IFS (save where the relevant date falls on an official weekly valuation date). No investors have dealt in the shares of the Cayman Feeder on the basis of estimated month-end NAVs. Note that the adjustments to volatility have been undertaken utilising the assumption that risk limits imposed upon the Systematic Master Fund would not have been breached, which may not in fact have been the case.

Source: Underlying performance up to 28 February 2010 (inclusive) provided by DG Partners. Underlying performance data from 1 March 2010 to 30 November 2010 (inclusive) provided by BHAM. Underlying performance data from 1 December onwards provided by the Systematic Master Fund’s administrator, IFS. Performance calculations made by BH-DG. As a result of the manner in which calculations are made by BH-DG pursuant to the abovementioned methodology, differences may occur between the adjusted returns presented when compared with the actual returns for USD Class I Shares. Actual volatility of the Systematic Master Fund has varied over time. Prior to 2 November 2015, the Systematic Master Fund utilised a volatility target of 12%. Thereafter, the Systematic Master Fund’s volatility target has been 15%.

No investor has received these returns on a standalone basis.

PERFORMANCE ANALYSIS¹

FIGURES REFER TO THE PAST AND PAST PERFORMANCE IS NOT A RELIABLE INDICATOR OF FUTURE RESULTS

Performance of USD Class I Shares, BH-DG Systematic Trading Fund Limited

(Monthly performance in % terms; net of 1% annual management fee and 0% performance fee and expenses)

%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2016			-2.53	-3.01	-4.08	5.43	1.36	-2.43	-0.56	-4.33	1.35	2.35	-6.69
2017	-1.39	2.75	-3.25	-0.07	0.26	-2.19	3.95	1.31	-1.17	3.68	0.60	2.46	6.85
2018	8.64	-7.78	-0.60	-1.82	1.29	-0.12	-2.18	5.40	-1.97	-3.19	-1.25	4.87	0.22
2019	-2.83	-1.59	4.84	2.40	1.75	2.50	1.49	5.48	-4.91	-6.57	-0.12	2.15	3.89
2020	-0.95	1.66	7.72	-1.85	-3.15	-2.58	7.35	0.81	-5.07	-0.10	4.75	7.60	16.17
2021	0.01	7.93	-1.10	3.71									10.71

Performance of USD Class B Shares, BH-DG Systematic Trading Fund Limited

(Monthly performance in % terms; net of 1% annual management fee and 12% performance fee (post 25 February 2013)² and expenses)³

%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2011										-4.71	-1.51	-0.27	-6.41
2012	0.43	3.13	-3.40	-0.80	3.05	-4.27	1.78	-0.95	-0.12	-4.20	0.06	1.17	-4.39
2013	2.83	-2.10	1.12	2.86	-4.48	-1.46	-0.52	-1.24	0.29	0.62	2.51	1.76	1.93
2014	-4.57	-0.31	-2.33	-0.83	3.15	1.34	-1.10	3.79	2.63	0.63	7.45	1.00	10.81
2015	7.73	0.27	1.02	-5.00	0.32	-4.06	2.13	-2.82	1.64	-3.97	4.85	-2.74	-1.42
2016	6.61	3.90	-3.56	-1.88	-4.08	5.43	1.29	-2.37	-0.56	-4.33	1.35	2.35	****
2017	-1.39	2.75	-3.25	-0.07	0.26	-2.19	3.95	1.31	-1.17	3.63	0.53	2.17	6.42
2018	7.60	-6.92	-0.57	-1.82	1.29	-0.12	-2.18	5.16	-1.74	-3.19	-1.25	4.84	0.19
2019	-2.81	-1.60	4.81	2.12	1.54	2.21	1.32	4.87	-4.39	-5.84	-0.11	1.90	3.42
2020	-0.95	1.57	6.80	-1.65	-2.79	-2.28	6.47	0.72	-4.51	-0.09	4.19	6.75	14.23
2021	0.00	6.98	-0.98	3.29									9.43

Notes:

1. Underlying data provided by the Funds' administrator, International Fund Services (Ireland) Limited. Return calculations made by BH-DG.
2. Data is shown net of fees and expenses.
3. Up until 25 February 2013, the investment management fees were 2% annual management fee and 20% performance fee for Class B Shares, as represented by the first blue shaded area. From 25 February 2013, the investment management fees are 1% annual management fee and 12% performance fee for Class B Shares.
4. ****On 31 March 2016, Class B was temporarily fully redeemed. Class B recommenced on 19 April 2016. As a result, YTD performance cannot be presented for Class B for 2016 due to the highwater mark being reset.
5. From 1 November 2015, the Fund's volatility target changed from 12% to 15%.
6. Data accurate as at 30 April 2021.

PERFORMANCE NOTES

SG Trend Index

“SG Trend Index” returns represent the returns of the SG Trend Index, source Bloomberg: ticker “NEIXCTAT Index”. The benchmark and its component funds may differ significantly from the Strategy deployed by the Systematic Master Fund. In particular, without limitation, NEIXCTAT reflects the performance of a number of funds which may differ materially from the Systematic Master Fund and/or the Strategy in terms of volatility, size, sector allocation methodologies, fee structures, instrument universe, risk management, taxation and legal and regulatory structure. Accordingly, although the Firm is of the view that SG Trend Index and its component funds are a suitable comparator, the performance of the benchmark and its underlying component funds may not in fact be directly comparable with the performance of the Systematic Master Fund or the Strategy. The benchmark and the component funds are only being used for general comparison purposes. It is not possible to invest directly in the benchmark and accordingly the benchmark’s performance does not reflect trading commissions or costs which might be applicable if it were investable.

Sources for the component fund data for the funds comprising the benchmark: (i) Bloomberg; (ii) www.transtrend.com/en/strategies/dtp/;

(iii) www.im.natixis.com/us/mutual-funds/asg-managed-futures-strategy-fund/AMFAX; (iv) <https://www.ahl.com/ahl-diversified>

Performance data for certain of the SG Trend Index’s component funds is not publicly available and accordingly cannot be reproduced in this document. DG Partners and its affiliates are not responsible for and give no warranty in relation to the accuracy of data published on third party websites.

Source for the identity of the component funds:

https://wholesale.banking.societegenerale.com/fileadmin/indices_feeds/SG_Trend_Index_Constituents.pdf

Source for the methodology utilised in compiling the SG Trend Index:

https://wholesale.banking.societegenerale.com/fileadmin/indices_feeds/SG_Trend_Index_Methodology.pdf

Where comparative data is provided showing the Strategy from inception versus SG Trend Index, all data runs from 10 May 2006.

MSCI World Index

The “MSCI World Index”, source Bloomberg: ticker: MXWO Index, is a broad global equity index which represents large and mid-cap equity performance across 23 developed market countries. It covers approximately 85% of the free float-adjusted market capitalisation in each country and the MSCI World Index does not offer exposure to emerging markets. For more information, visit <https://www.msci.com/index-solutions>.

The benchmark and its components may differ significantly from the Strategy deployed by the Systematic Master Fund. In particular, without limitation, MXWO reflects the performance of a number of securities (equities) which may differ materially from the Systematic Master Fund and/or the Strategy in terms of underlying securities, volatility, size, sector allocation methodologies, fee structures, instrument universe, risk management, taxation and legal and regulatory structure. Accordingly, although the Firm has presented the MSCI World Index for comparison purposes, the performance of the benchmark and its underlying component securities may not in fact be directly comparable with the performance of the Systematic Master Fund or the Strategy. The benchmark and the component securities are only being used for general comparison purposes. It is not possible to invest directly in the benchmark and accordingly the benchmark’s performance does not reflect trading commissions or costs which might be applicable if it were investable.

PERFORMANCE NOTES

Bloomberg Barclays Global Aggregate Total Return Index

The “Bloomberg Barclays Global Aggregate Index”, source Bloomberg; ticker: LGAGTRUU Index. The benchmark is a measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitised fixed-rate bonds from both developed and emerging market issuers. For more information, visit: <https://www.bloomberg.com/quote/LGAGTRUU:IND>

The benchmark and its components may differ significantly from the Strategy deployed by the Systematic Master Fund. In particular, without limitation, LGAGTRUU reflects the performance of a number of securities (investment grade debt) which may differ materially from the Systematic Master Fund and/or the Strategy in terms of volatility, size, sector allocation methodologies, fee structures, instrument universe, risk management, taxation and legal and regulatory structure. Accordingly, although the Firm has presented the Bloomberg Barclays Global Aggregate Index for comparison purposes, the performance of the benchmark and its underlying component securities may not in fact be directly comparable with the performance of the Systematic Master Fund or the Strategy. The benchmark and the component securities are only being used for general comparison purposes. It is not possible to invest directly in the benchmark and accordingly the benchmark’s performance does not reflect trading commissions or costs which might be applicable if it were investable.

Return calculation specifics for the Systematic Master Funds:

Annualised Excess Return is calculated by subtracting the month end daily Federal Funds target (upper bound) rate from the monthly daily return for each data set.

Information Ratio is calculated as: Annualised rate of return/realised volatility.

Sharpe Ratio is calculated as: Annualised Excess Return (over Federal Funds target rate)/ annualised standard deviation of total return.

Sortino Ratio is calculated as: Annualized Excess Return / downside volatility

Skewness is calculated using monthly returns

FURTHER IMPORTANT INFORMATION

Data, Projections and Analyses

The information herein reflects prevailing conditions and DG Partners' judgments as of this date, all of which are subject to change. Any portfolio characteristics and risk controls set forth are not static and may change over time. Neither DG Partners nor any of its affiliates represent that any statistics, investment guidelines, capital allocation and limits disclosed herein will remain constant over time.

Any projections or analyses contained or relating to the matters described herein may be based on subjective assessments and assumptions and may use one among alternative methodologies that produce different results. Accordingly, any such projections or analyses should not be viewed as factual and should not be relied upon as an accurate prediction of future results.

No representation is being made that any investment will or is likely to achieve profits or losses similar to those shown herein. The inclusion of any investment examples or strategies herein should not be taken to imply that performance similar to the investment examples or strategies may be obtained or losses avoided. Past performance is no guarantee of future results. Performance is shown net of management fees and performance fees. An investment in the Funds involves a significant degree of risk. Potential investors must familiarize themselves with the relevant prospectus and related materials. The prospectus and related materials will be made available to those persons eligible for participation in the Funds who demonstrate the capacity to evaluate the risks and merits of such investment.

Any indices referred to herein are unmanaged; the figures for any such index do not reflect the deduction of any fees or expenses, which would reduce returns, potentially substantially. Investors may not be able to invest directly in an index.

Additional Information

References to future returns are not promises or even estimates of actual returns that an investor may achieve. Any forecasts and other material contained in this document are for illustrative purposes only and are not to be relied upon as advice or interpreted as a

recommendation.

Neither DG Partners nor any of its affiliates give any representations, warranties or undertakings that any indicative performance or return will be achieved in the future or that the investment objectives and policies from time to time of the Funds will be met.

Past performance is no guarantee and is not indicative of future results.

As the AIFM of the Funds, DG Partners is responsible for risk management and portfolio oversight in relation thereto. DG Partners' risk management approach is intended to identify, measure, monitor, report, and where appropriate, mitigate key risks identified by the Funds' investment manager. Amongst other things, the risk management approach addresses portfolio risks (such as market, credit, liquidity, counterparty and funding risks) and operational risks. Portfolio risks which are monitored by the risk management team include, as at the date hereof, analysis of sensitivity measures, gross and net exposures, value at risk, leverage and stress tests, with a view to identifying and mitigating the potential impact of extreme market movements. These analyses may be changed from time to time. DG Partners believes its risk management approach to be appropriate but gives no warranty as to the adequacy or sufficiency of this framework, or that it is exhaustive or able to address the entire universe of possible risks to which an investment manager or a Fund may be subject. Further, while DG Partners' portfolio risk management process includes an effort to monitor and manage risk, it should not be confused with, and does not imply, low risk.

Risk Factors

Acquiring an investment in a Fund or any of the other products or services described herein may expose an investor to a significant risk of losing all or a substantial amount of the amount invested. Any person who is in any doubt about investing in a Fund or any of the other products or services described herein should consult an authorised person specialising in advising on such investments, products or services.

FURTHER IMPORTANT INFORMATION

Any person making an investment in a Fund must be able to bear the risks involved, which include, besides such other risks as may be described in any prospectus or offering memorandum for the relevant Fund, the following:

- The Funds are speculative and involve substantial risk and may have limited, or no, operating history.
- The Funds will be leveraged and will engage in speculative investment practices that may increase the risk of investment loss.
- The Funds will invest in illiquid and volatile securities.
- Investments in the Funds are subject to restrictions on transfer, withdrawal and redemption and should be considered illiquid.
- As there is no recognised market for interests in the Funds (and no secondary markets are expected to develop), it may be difficult for an investor to realise its investment or to obtain reliable information about its value or the extent of the risks to which an investor is exposed through its investment.
- Past results of the Funds' investment managers are not necessarily indicative of future performance of the Funds, and the Funds' performance may be volatile.
- While the Funds are subject to market risks common to other types of investments, including market volatility, the Funds employ certain trading techniques, such as the use of leverage and other speculative investment practices that may increase the risk of investment loss.
- The investment managers have total investment and trading authority over the Funds, and the Funds are dependent upon the services of the investment managers. The use of a single advisor could mean lack of diversification and, consequently, higher risk.
- The Funds are not required to provide periodic pricing or valuation information to investors with respect to individual investments.
- The Funds are not subject to the same regulatory requirements as mutual funds or other regulated fund products.
- The Funds and their managers are subject to conflicts of interest.
- Changes in interest rates or exchange rates may have an adverse effect on the value, price or income of interests in the Funds.
- A portion of the trades executed for the Funds may take place on markets outside the United States and the United Kingdom.
- The Funds are dependent on the services of certain key personnel, and if certain or all of them were to become unavailable, the Funds may prematurely terminate.
- The Funds' managers will receive performance-based compensation, which may give such managers an incentive to make riskier investments than they otherwise would and may offset the Funds' trading profits.

- The Funds' incentive and performance-based compensation, fees and expenses may offset their trading and investment profits.
- The Funds may involve complex tax structures and there may be delays in the provision of important tax information to investors.
- Returns generated from an investment in a Fund may not adequately compensate investors for the business and financial risks assumed.
- The Funds may make investments in securities of issuers in emerging markets. Investment in emerging markets involves particular risks, such as less strict market regulation, increased likelihood of severe inflation, unstable currencies, war, expropriation of property, limitations on foreign investments, increased market volatility, less favourable or unstable tax provisions, illiquid markets and social and political upheaval.

The above summary risk factors do not purport to be a complete description of the relevant risks of an investment in the Funds and therefore reference should be had to the prospectus or offering documents of the Funds and related offering documentation for a more detailed description of these and other relevant risks prior to making any investment.

THE FUND'S PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE PERFORMANCE OF THE FUND AND THE FUND'S PERFORMANCE MAY BE VOLATILE.

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

Benchmarks and indices are shown for illustrative purposes only, may be unavailable for direct investment, may assume reinvestment of income, and have limitations when used for comparisons because they have volatility, credit and other material characteristics, such as number and types of securities, that are different from the product.

© DG PARTNERS LLP (2021). All rights reserved.

GLOSSARY

AIFM:	the Alternative Investment Fund Manager of the Funds as defined in AIFMD;
AIFMD:	the EU Directive on Alternative Investment Fund Managers (Directive (2011/61/EU));
BH-DG:	BH-DG Systematic Trading LLP, the investment manager of the Funds;
Cayman Feeder:	BH-DG Systematic Trading Fund Limited;
Delaware Feeder:	BH-DG Systematic Trading Fund, L.P.;
IFS:	International Fund Services (Ireland) Limited, the Funds' administrator;
DG Partners:	DG Partners LLP, the manager and AIFM of the Funds;
Funds:	the Cayman Feeder, the Delaware Feeder and the Systematic Master Fund;
Strategy:	the systematic trading strategy managed by David Gorton and his team since 10 May 2006, first within portfolios managed by DG Partners and, since 1 March 2010, within the Systematic Master Fund. For the period between 10 May 2006 and 9 October 2010, David Gorton and his team worked for DG Partners and from 10 October 2010, for BH-DG as well. The Strategy involves the trading of liquid exchange traded futures and OTC foreign exchange rates and any reference in this document to categories of instruments traded should be construed accordingly; and
Systematic Master Fund:	BH-DG Systematic Trading Master Fund Limited.

MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group
DATE: May 26, 2021
RE: Selection of New Systematic Trend Following Asset Class Investment

At the January 2021 meeting, OPFRS directed Meketa to identify high quality managers for consideration as a part of the Crisis Risk Offset class. Specifically, to fill the Alternative Risk Premia and Systematic Trend Following components. The two new strategies would serve as a replacement to the original allocation which combined the exposures of the two components into one strategy. Subsequently at the March 2021 meeting, Meketa recommended and the Board approved a recommendation to interview three finalist firms for the Systematic Trend Following mandate. During the meeting, a fourth firm was added to the list of managers. This document serves to further implement the Board's decision and to provide an overview of the candidates and their strategies.

The four Systematic Trend Following Finalists candidates are presented below in alphabetical order:

1. BH-DG
2. Crabel
3. LongTail Alpha
4. Versor Investments

All four managers and their products (i) are Systematic Trend Following strategies, and (ii) possess the ability to provide OPFRS with the appropriate services. Summaries of each firm are provided on the following page.

Systematic Trend Following is a key component of the Crisis Risk Offset Class and serves as a second responder in extended equity/growth market drawdowns. The strategy is expected to be most effective when markets are trending or there are sustained market regime shifts, while least effective when sharp market reversals occur. At a high level, the managers take long or short positions in liquid futures and forwards markets. The size and direction (long or short) of each position depends on whether markets have been trending up (long) or down (short) and how sustained the trend has been or is expected to be. The investable universe includes equities, fixed income, currencies, and commodities. Related to the naming of the class, these strategies are implemented using pre-set rules and are in other words systematic. As a point of reference, other common terms that are often interchangeable with systematic trend following include managed futures, or CTAs (commodity trading advisors).

High Level Finalist Overviews

BH-DG, with approximately \$2.0 billion in total assets, is an alternative investment management firm focused on managing systematic strategies. Brevan Howard – David Gorton (BH-DG) was founded in 2010 as a joint venture between Brevan Howard and Mr. David Gorton. The firm ownership is split between David Gorton, CIO (60%) and Brevan Howard (40%). Prior to forming BH-DG, Mr. Gorton spun out of JP Morgan the London Diversified Fund Management LLP (“LDFM”) and ran the London Diversified Fund, predecessor of the BH-DG’s systematic trading program. BH-DG believes in the existence of a Momentum Style Premium, expressed as the inertia of market sentiment that is quantifiable by medium-term trend following measures. In order to capture this Premium, BH-DG aims to build a highly diversified portfolio that is continuously invested, focused on highly liquid markets, and allocated with much of its risk to trend following signals.

Crabel, is a global alternative investment firm focused on systematic investment strategies. The firm is based in Los Angeles, California, and was founded by Toby Crabel. The firm currently has approximately \$6.5 billion in assets under management, of which \$935 million is accounted for by Advanced Trend. The Advanced Trend portfolio is designed to capture long-term trend following returns across a diverse set of markets. The strategy employs multiple price-based strategies across 200 markets. Individual positions are held on average for 35 to 45 days, a shorter time horizon relative to some other peer managers. The strategy targets a standard deviation of 15% and seeks to mitigate downside risk by sizing their positions relative to market volatility and using stops on all trades throughout the portfolio. Meketa clients began to utilize Crabel’s investment strategies in 2017.

LongTail Alpha, was founded in 2015 by Vineer Bhansali, PhD, a former partner and Head of Quantitative Portfolios at PIMCO. The firm currently manages \$321mn in cash assets, including roughly \$119mn in trend following strategies. LongTail also manages several Tail Risk Overlay portfolios that result in a notional AUM of in the billions. The firm is 80% owned by Dr. Bhansali with the remaining portion held by Janus Capital Group. LongTail’s strategy is predicated on insights and approaches that are found in options strategies. In particular, the strategy incorporates unique entry rules, scaling of positions, profit/exit strategies, carry filters, and cost minimization techniques. LongTail uses a set of moving averages for trend identification that are more short-term than the others finalists (2-weeks to 3-months) while also incorporating a variety of fundamental data points (e.g., carry, expected return, etc.) in order to avoid trend headwinds. LongTail’s shorter-term focus (average holding period of 1.5 months) may allow the strategy to better react to market fulcrum points – periods in which trend following strategies often suffer material drawdowns. LongTail uses a wide set of instruments (≈200) across the major market sectors that range from traditional futures and forwards up to more sophisticated options and swaps. The goal of LongTail’s instrument selection is to provide the most cost effective, convex payoff as possible given a specific trend signal. In essence, LongTail seeks to replicate the sensitivities, exposures, and risk/return characteristics of certain diversifying, option-related strategies. Explicit position limits and factor exposures provide risk management guidelines and ensure appropriate diversification over time.

High Level Finalist Overviews (continued)

Versor Investments, with approximately \$1.8 billion in total assets, is a systematic investment firm focused exclusively on alternative risk premia (and related) strategies. The firm has offices in New York, NY and Mumbai, India. All of the firm's assets are in systematic mandates. Versor Investments was founded in 2013 to focus on this market segment and is 100% employee-owned by four employees. The firm's heritage is in the hedge fund and alternative risk premia segments, with four of the primary professionals spending time together at Investcorp, as well as separate tenures at other systematic oriented asset management firms. Versor Investments has spent a considerable amount of time building out proprietary data sets and investment models with the sole purpose of providing alternative risk premia strategies for institutional clients. The firm's construct is somewhat unique in that they wholly own another firm called QR Systems that provides the majority of the engineering talent behind the firm's investment models and systems. This firm is based in Mumbai, India and was founded by one of Versor Investment's key investment professionals prior to joining Versor Investments. This entity essentially operates as a less expensive source of high-quality human capital and talent. The strategy is largely managed by individuals in New York with analysis and engineering support provided by the broader team in Mumbai.

Finalist Summary Comparison

Firm Name	BH-DG	Crabel	LongTail Alpha	Versor Investments
Firm Inception	2010	1987	2015	2013
Firm AUM	\$2,007 ²	6,478 ¹	\$321 ²	~1,800 ³
Location	London, UK	Los Angeles, CA	Newport Beach, CA	New York, NY
Total Employees	35	88	7	45
Strategy Name	Systematic Trading	Advanced Trend	Enhanced Systematic Trend Following	Systematic Alpha Trend Following
Strategy Inception	5/2006 ⁴	12/2012 ⁵	1/2020	5/2017 ⁶
Strategy AUM	\$1,449 ²	\$935 ¹	\$119 ²	\$459 ⁷
Target Volatility	15%	15%	15%	14-15%
Risk Allocation Methodology	Security level risk management reducing positions if signals get too large. Specific drawdown limits trigger reductions in volatility. A systematic risk committee also oversees the program.	Stops are placed on every trade in addition to market and sector size limits. Sectors are generally equal weighted with slight bottom-up position modification.	Maximum exposure limits by asset class based on beta (equities) or duration (fixed income) as well as explicit options positions to limit losses in major market reversal	Positions are risk adjusted using short-term volatility measures which are then combined to form sector portfolios across commodities, equities, fixed income and currencies.
Average Holding Period	~30 days	~35-45 days	~45 days	~25 days
Asset Classes/Sectors	Equity indices, Fixed Income, Currencies, and Commodities	Equity indices, Fixed Income, Currencies, and Commodities	Commodities, Currencies, Fixed Income, Equity Indices, VIX, ETFs, CDS	Equity indices, Fixed Income, Currencies, and Commodities
Contracts Utilized	Futures and forwards across 100+ instruments	Futures and forwards across ~200 instruments	Futures, forwards, options, ETFs, swaps across ~200 instruments	100+ futures and forwards contracts.

¹ When adjusted for higher volatility solutions run, AUM is ~\$7,900 million at the firm level and ~\$1,072 million for Advanced Trend.

² As of March 31, 2021.

³ As of January 1, 2021. The Firm has seen ~\$400 million of inflows since the beginning of the year.

⁴ Inception date is representative of track record prior to forming BH-DG as a joint venture with Brevan Howard.

⁵ Inception date is the start of trading the strategy representative of extracted performance results. Live fund started 4/2014.

⁶ Inception date is the start of trading the systematic alpha trend models in another live product. Live fund started 12/2020.

⁷ Total trading systematic trend following models in futures and FX.

Systematic Trend Following Search Process

Over the last ten years, Meketa has conducted more than a half dozen manager searches for Alternative Risk Premia managers, with the most recent search occurring in 2019/2020. These searches represent over \$2.7 billion in client assets. Meketa's experience in the space has resulted in the firm being a leader with respect to manager coverage. This has ultimately resulted in Meketa developing one of the most comprehensive manager databases for Systematic Trend Following.

To begin the process, Meketa reviewed all historical RFP/RFI submissions as well as our internal manager database. To complement our internal information, Meketa also examined potential manager candidates sourced from other manager universes (e.g. eVestment, sell side manager lists, etc.). This resulted in an initial candidate list of 36 firms. Beginning with this list of managers, Meketa embarked on a two-stage review process to arrive at the three proposed finalist candidates. Each of these phases is outlined below.

Phase One

Meketa reviewed the philosophies, objectives, and approaches for each of the initial 36 strategies. In addition, the stability and long-term posture of the organization (i.e. investment team and firm) were examined along with relevant experience and dedication to the space and strategy. This phase focused on identifying which strategies were aligned with the goals and objectives of OPFRS Crisis Risk Offset class, and which firms represented potential stable, long-term partners. The main areas of emphasis are highlighted below.

- Exposure across all four asset classes (Equities, Fixed Income, Commodities, Currencies)
- Straight forward implementation process
- Stability of the investment / portfolio management team
- Stability of the firm and appropriate operational resources
- Experience managing this and similar strategies
- Strategy focused on relevant trend following implementation across asset classes
- Fees

Based on the Phase One review, Meketa narrowed the universe from an initial list of 36 firms down to a short-list of 15 candidates.

Systematic Trend Following Search Process (continued)

Phase Two

While Phase One was centered mainly on qualitative reviews of the respective firms and their strategies, Phase Two was designed to examine the remaining 19 candidates on a quantitative basis. In particular performance and characteristics relative to both the SG Trend Index and other major market indices such as the MSCI ACWI Index, BB Aggregate Bond Index, and BB Government Long Index. As the strategies may run at different volatility or risk levels than both each other and the SG Trend Index, adjustments were made to account for differences when making performance comparisons. For example, a strategy which is managed at a higher volatility than the SG Trend Index has historically exhibited would be expected to outperform the index and those which are managed at lower volatility would be expected to underperform the index, all else equal. For the 19 managers were evaluated to determine the outperformance of the strategies versus the SG Trend Index over the longer term time horizons. In addition, managers with relatively higher correlations to the SG Trend Index were also preferred. When examining the managers on this basis, five managers stood out in demonstrating relative outperformance and reasonable correlations.

The four firms were reviewed further on a qualitative and quantitative basis with trailing performance and risk statistics on the next page. All of the managers have exhibited strong performance relative to the SG Trend Index and peers.

Trailing Period Performance as of April 2021 (Green = Outperformance vs. SG Trend)

	April YTD	1-Year	3-Year	4-Year Common Period	5-Year	7-Year
BH-DG	10.7	20.8	11.1	9.9	7.1	8.9
Crabel	6.6	11.5	6.4	6.8	3.2	10.3
LongTail Alpha	5.5	-0.5	-0.1	-0.3	1.5	2.7
Versor Investments	5.3	5.7	2.6	1.6	---	---
SG Trend	6.9	10.9	5.7	4.4	1.9	4.7

Calendar Year Performance (Green = Outperformance vs. SG Trend)

	2020	2019	2018	2017	2016
BH-DG	16.2	3.9	0.2	6.8	3.0
Crabel	23.6	3.5	-13.9	7.5	-7.8
LongTail Alpha	0.5	-2.6	-9.7	12.1	1.7
Versor Investments	10.5	-1.2	-4.9	---	---
SG Trend	6.3	9.2	-8.1	2.2	-6.1
<i>MSCI ACWI</i>	<i>16.3</i>	<i>26.6</i>	<i>-9.4</i>	<i>24.0</i>	<i>7.9</i>

Correlations & Equity Drawdown Performance (Green = Outperformance vs. SG Trend)

	Correlations				Performance	
	SG Trend	MSCI ACWI	BB Aggregate	BB Long Government	1Q 2020	4Q 2018
BH-DG	0.9	-0.1	0.3	0.4	8.5	0.3
Crabel	0.9	-0.2	0.4	0.6	18.5	-4.8
LongTail Alpha	0.8	-0.2	0.2	0.4	7.6	-0.5
Versor Investments	0.7	0.1	0.1	0.3	11.5	-6.8
SG Trend	---	0.1	0.4	0.4	2.3	-5.1
<i>MSCI ACWI</i>	<i>0.4</i>	<i>---</i>	<i>0.0</i>	<i>-0.3</i>	<i>-21.4</i>	<i>-12.4</i>

Sources: Managers, Bloomberg, HFR, Societe Generale

Note: Includes estimated performance for March and April 2021

Manager Performance Notes:

Crabel: Prior to April 2014, performance is representative of extracted performance results provided by Crabel.

LongTail: Prior to January 2020, performance is representative of simulated results provided by LongTail.

Versor: May 2017 to December 2020 performance is estimated from the systematic trend sleeve in the ARP Alternative Risk Premia 2x Fund which was live. From December 2020 onwards, the returns are for the dedicated Systematic Alpha Trend Following Strategy.

Appendix

Systematic Trend Following Managers Considered			
1	BH-DG	18	Gladius
2	Crabel	19	Graham
3	LongTail	20	GSA
4	Versor Investments	21	GSAM
5	Abbey Capital	22	ISAM
6	AHL Man	23	KeyQuant
7	Allianz	24	LGT
8	AlphaSimplex	25	Lynx
9	AQR	26	Millburn
10	Aspect	27	Mount Lucas
11	Campbell	28	PIMCO
12	CFM	29	Quest
13	Credit Suisse	30	ROW
14	DUNN	31	Systematica
15	Florin Court	32	Transtrend
16	FORT	33	Welton
17	Fulcrum	34	Winton

Economic and Market Update

Data as of April 30, 2021



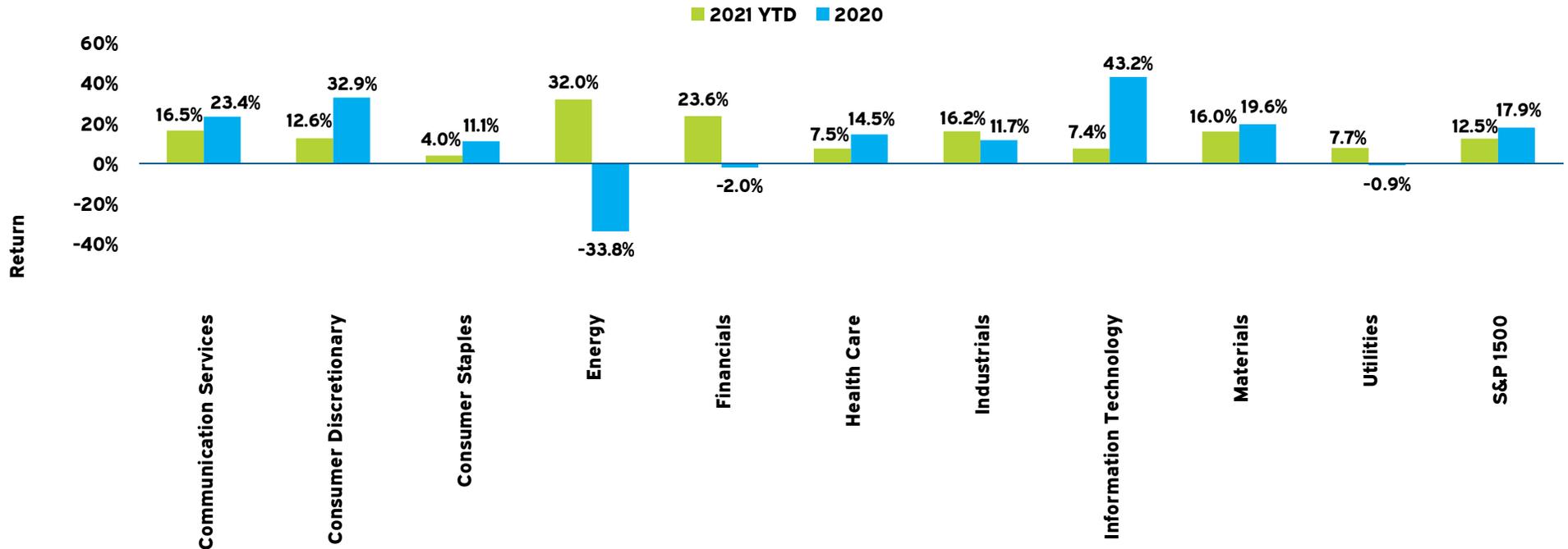
Market Returns¹

Indices	April	YTD	1 Year	3 Year	5 Year	10 Year
S&P 500	5.3%	11.8%	46.0%	18.6%	17.4%	14.2%
MSCI EAFE	3.0%	6.6%	39.9%	6.3%	8.9%	5.2%
MSCI Emerging Markets	2.5%	4.8%	48.7%	7.5%	12.5%	3.6%
MSCI China	1.4%	1.0%	37.0%	8.7%	16.5%	7.2%
Bloomberg Barclays Aggregate	0.8%	-2.6%	-0.3%	5.2%	3.2%	3.4%
Bloomberg Barclays TIPS	1.4%	-0.1%	6.1%	6.2%	4.1%	3.3%
Bloomberg Barclays High Yield	1.1%	2.0%	19.7%	7.0%	7.5%	6.4%
10-year US Treasury	1.2%	-5.9%	-7.7%	5.6%	2.0%	3.7%
30-year US Treasury	2.7%	-13.6%	-20.0%	7.3%	3.4%	6.6%

- Over the last year, global risk assets produced significant returns, largely driven by record fiscal and monetary policy stimulus and positive developments with the COVID-19 vaccine. US Treasuries did not fare as well over the same period given the rise in interest rates.
- In April, the decline in Treasury yields provided support for the bond market with TIPS erasing most of their year-to date losses.
- Equity markets across developed economies added to their 2021 gains in April, particularly in the US, as reopening optimism continued to be supportive. Emerging markets were also up in April, but trail developed markets year-to-date due to low returns in China and rising COVID-19 cases in some areas.

¹ Source: Investment Metrics and Bloomberg. Data is as of April 30, 2021.

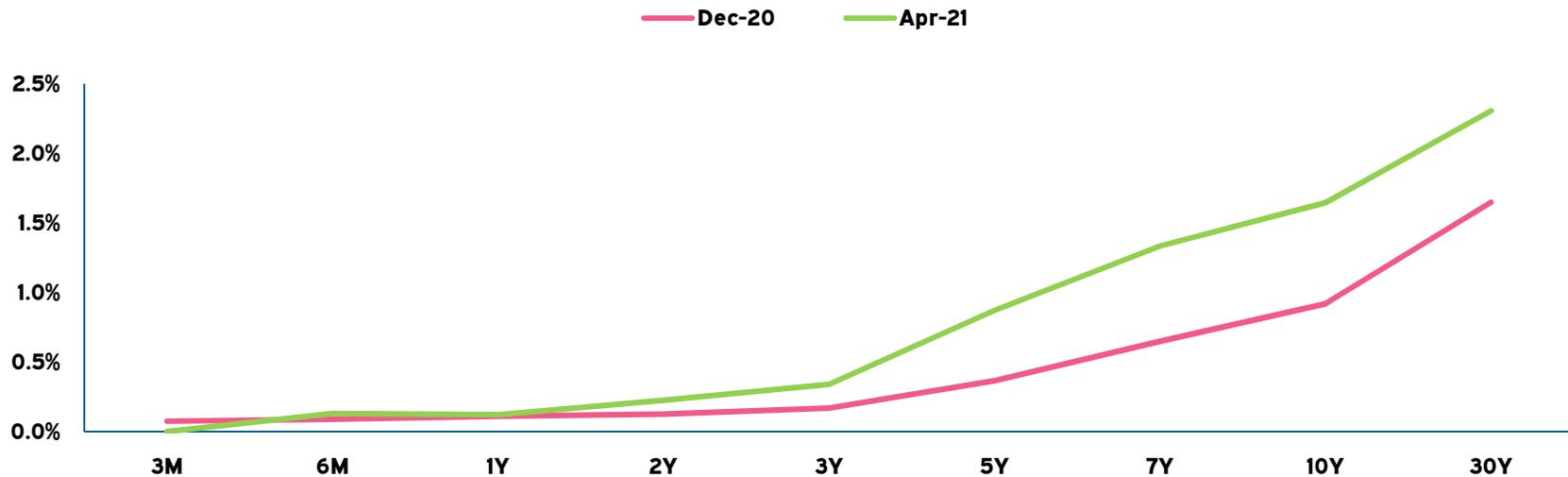
Sector Returns¹



- Cyclical sectors like energy and financials continue to lead the way in 2021, as some investors rotate out of stay-at-home focused companies in the technology sector.
- The rotation into value stocks has largely been driven by expectations for the economy to reopen, potentially higher taxes, and rising interest rates. Growth stocks typically produce more of their cash flows further into the future and increased interest rates lead to larger discounts, reducing present values.

¹ Source: Bloomberg. Data is as of April 30, 2021.

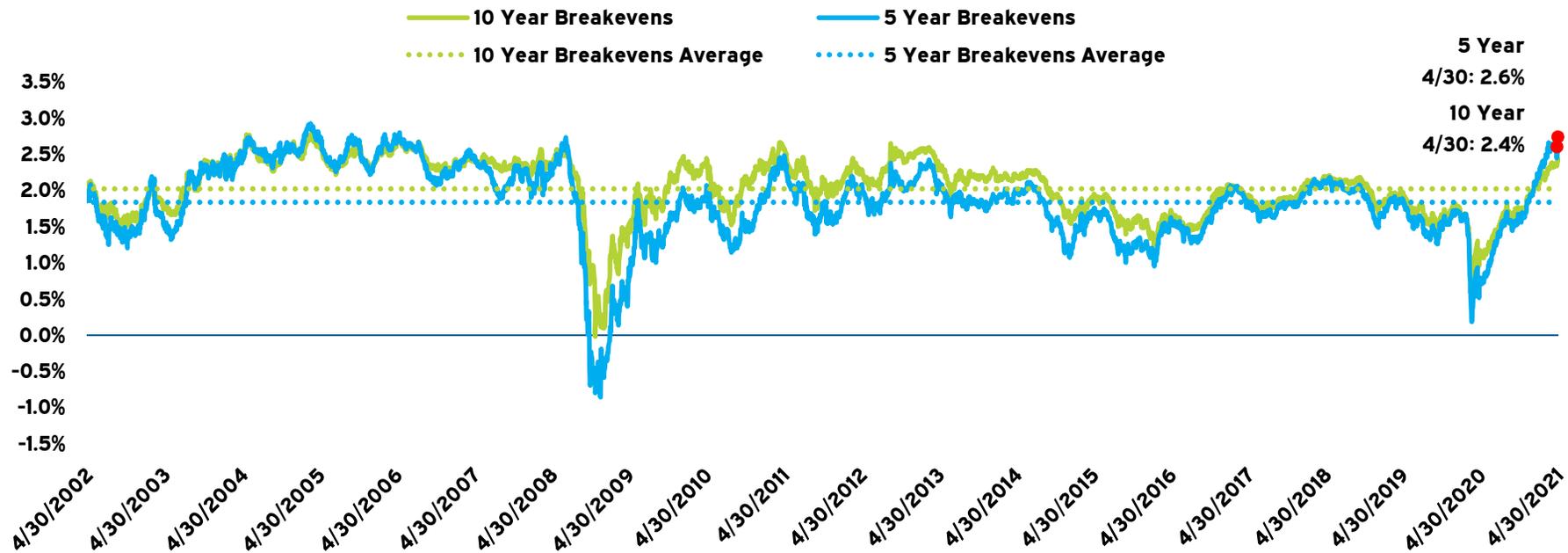
US Yield Curve Steepens¹



- Thus far in 2021, the yield curve has steepened on inflation fears related to gradual signs of economic improvement, vaccine developments, and expectations for increased Treasury issuance to support fiscal policy measures.
- The yield curve may continue to steepen if growth and inflation pressures build. Higher relative rates compared to other countries, and the Fed potentially extending the duration of their quantitative easing purchases, could counterbalance the steepening trend though.

¹ Source: Bloomberg. Data is as of April 30, 2021.

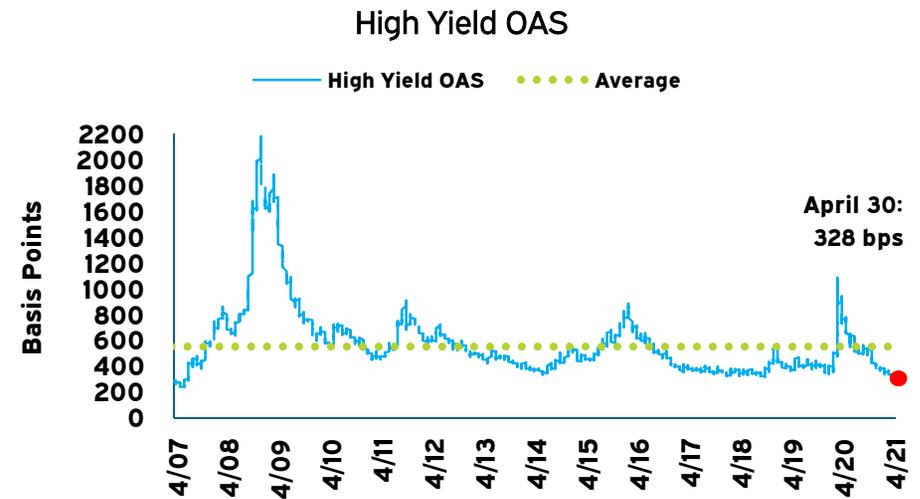
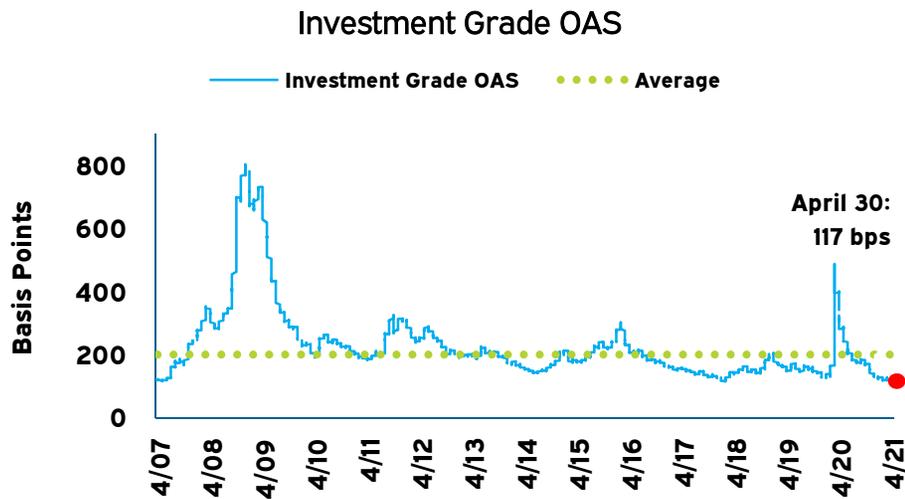
Breakeven Inflation¹



- Inflation expectations, particularly over the short-term, continued to rise in recent months to above long-term averages, with the vaccine roll-out, rising raw material prices, and expected additional fiscal stimulus as key drivers.
- Looking forward, 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 going forward.

¹ Source: Bloomberg. Data is as of April 30, 2021.

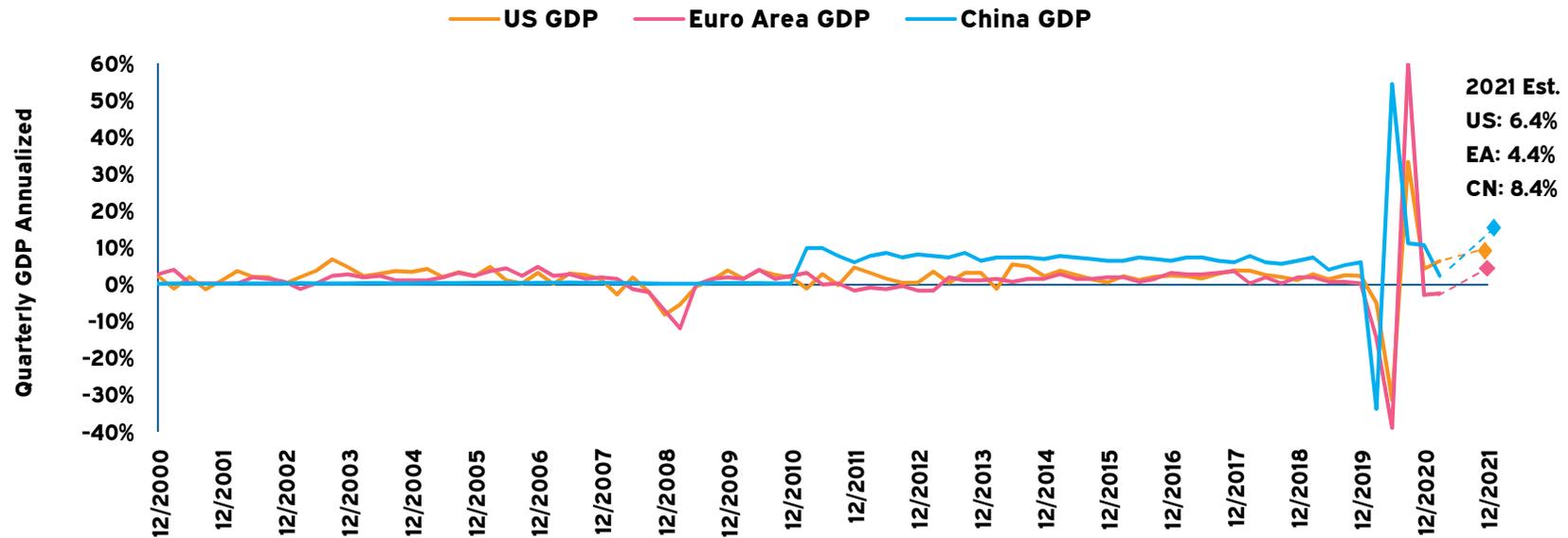
Credit Spreads (High Yield & Investment Grade)¹



- Credit spreads (the spread above a comparable maturity Treasury) for investment grade and high yield corporate debt widened sharply at the start of the pandemic as investors sought safety.
- Policy support, the search for yield in the low rate environment, and recent increases in Treasury rates have led to a decline in credit spreads to below long-term averages, particularly for high yield.

¹ Source: FRED Economic Data. Investment grade represents ICE BofA BBB US Corporate Index OAS. High Yield represents ICE BofA US High Yield Index OAS. Data is as of April 30, 2021.

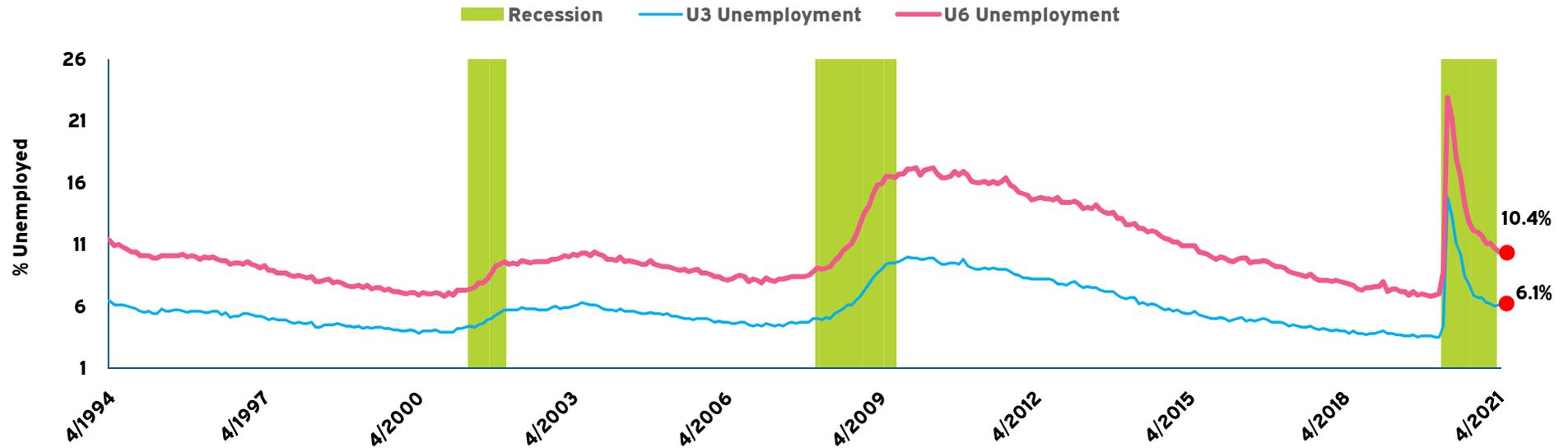
GDP Data Shows Projected Improvements in 2021¹



- Major economies experienced historic declines in growth during the second quarter of 2020 that were followed by record increases in the third quarter driven by pent-up demand from the lockdown measures earlier in the year.
- Looking forward, strong growth is expected in 2021 particularly for China, projected to grow at an impressive 8.4% given their ability to quickly control the virus and reopen their economy. The US is expected to grow faster than the euro area this year, helped by improvements in vaccine distribution.

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

US Unemployment¹



- In April, the unemployment rate (U3) rose for the first time in almost a year, from 6.0% to 6.1%.
- Despite a slight decline (-0.3%) from March, the broader measure of unemployment (U6) that includes discouraged and underemployed workers is much higher at 10.4%.
- Pandemic related concerns, childcare issues, and a mismatch of skills and available jobs have all contributed to slack in the labor market, and weak wage pressures creating a counterforce to inflationary pressures.

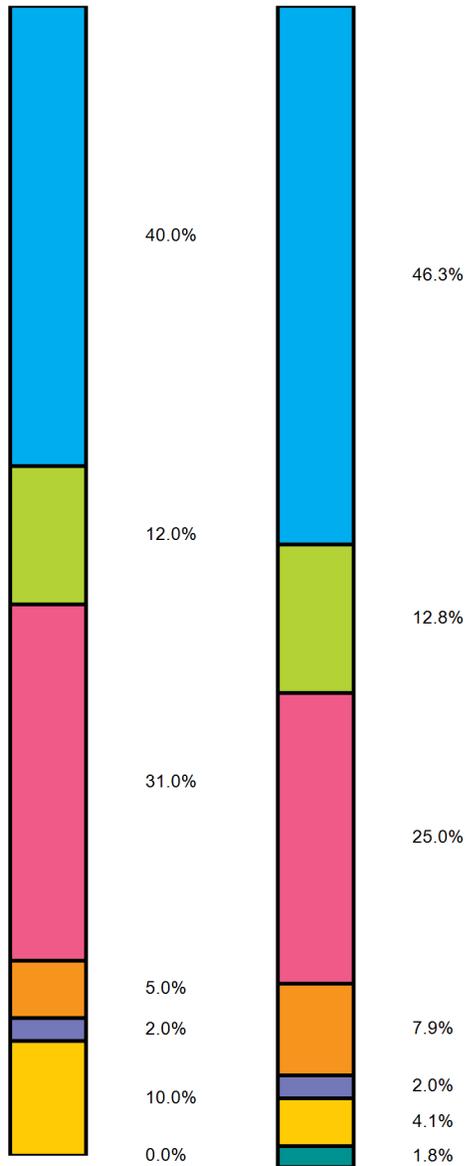
¹ Source: Bloomberg. Data is as of April 30, 2021. Bars represent recessions as observed by the National Bureau of Economic Research.

Oakland Police and Fire Retirement System

May 26, 2021

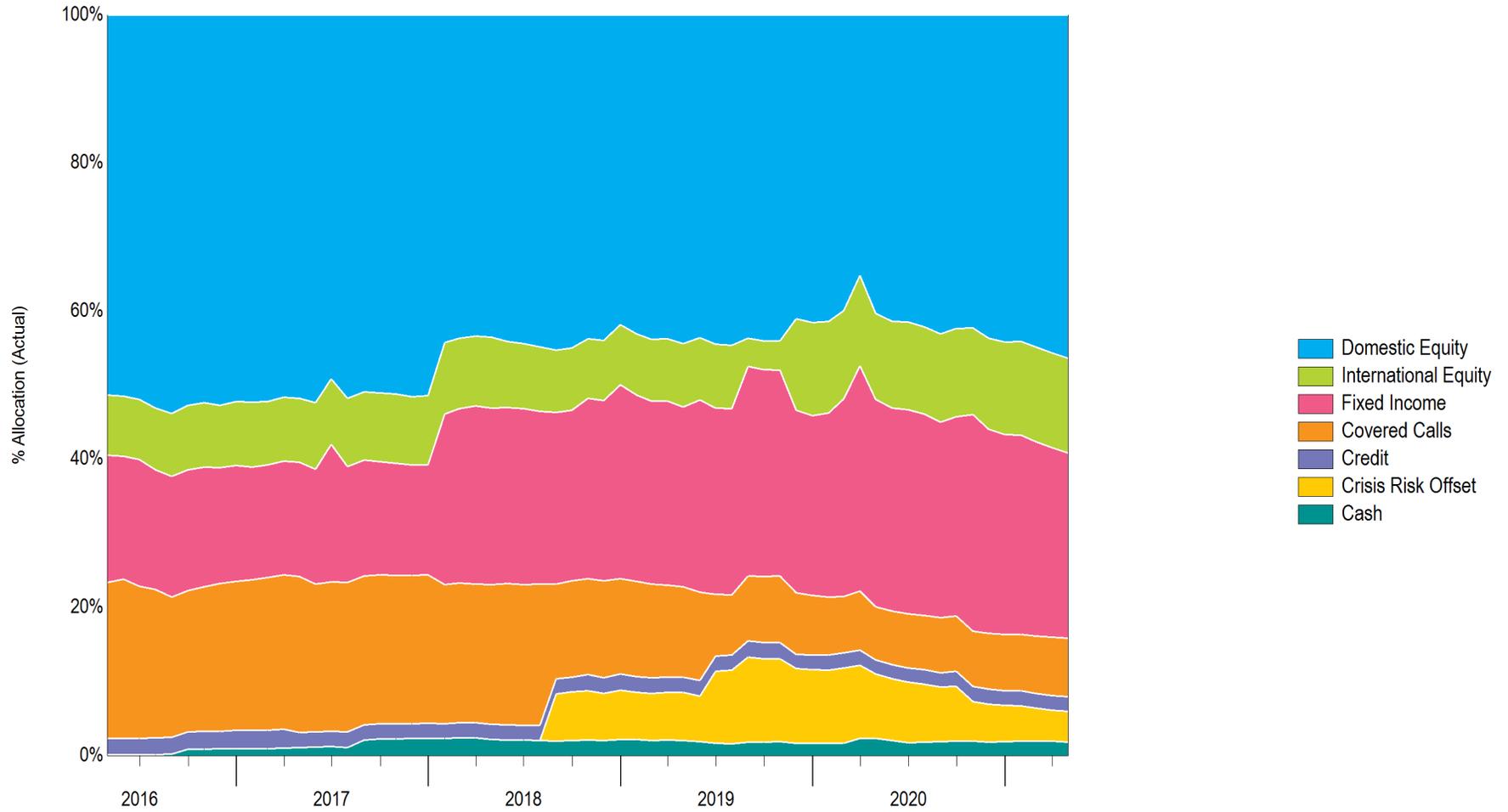
April Flash Report

OPFRS Total Plan As of April 30, 2021



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Within IPS Range?	
Domestic Equity	\$211,086,635	46.3%	40.0%	6.3%	Yes	
International Equity	\$58,219,272	12.8%	12.0%	0.8%	Yes	
Fixed Income	\$114,028,297	25.0%	31.0%	-6.0%	Yes	
Covered Calls	\$36,037,830	7.9%	5.0%	2.9%	Yes	
Credit	\$9,001,203	2.0%	2.0%	0.0%	Yes	
Crisis Risk Offset	\$18,809,273	4.1%	10.0%	-5.9%	No	
Cash	\$8,237,506	1.8%	0.0%	1.8%	Yes	
Total	\$455,420,017	100.0%	100.0%			

Asset Allocation History
5 Years Ending April 30, 2021



Asset Class Performance Summary											
	Market Value (\$)	% of Portfolio	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	455,420,017	100.0	2.9	21.6	5.7	28.1	10.2	11.3	8.2	7.1	Dec-88
<i>OPFRS Policy Benchmark</i>			<i>2.9</i>	<i>19.4</i>	<i>4.8</i>	<i>24.9</i>	<i>10.3</i>	<i>10.8</i>	<i>7.9</i>	<i>8.4</i>	<i>Dec-88</i>
Domestic Equity	211,086,635	46.3	4.5	39.8	12.1	50.6	17.2	17.2	13.6	9.6	Jun-97
<i>Russell 3000 (Blend)</i>			<i>5.2</i>	<i>40.1</i>	<i>11.8</i>	<i>50.9</i>	<i>18.9</i>	<i>17.7</i>	<i>14.0</i>	<i>9.7</i>	<i>Jun-97</i>
International Equity	58,219,272	12.8	2.8	29.2	7.1	38.2	6.9	10.8	5.7	5.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>3.0</i>	<i>32.9</i>	<i>6.7</i>	<i>43.6</i>	<i>7.5</i>	<i>10.3</i>	<i>5.2</i>	<i>6.2</i>	<i>Jan-98</i>
Fixed Income	114,028,297	25.0	0.4	0.7	-2.5	4.1	5.4	4.1	4.0	5.4	Dec-93
<i>Blmbg BC Universal (Blend)</i>			<i>0.8</i>	<i>0.0</i>	<i>-2.2</i>	<i>1.8</i>	<i>5.4</i>	<i>3.6</i>	<i>3.7</i>	<i>5.3</i>	<i>Dec-93</i>
Credit	9,001,203	2.0	1.1	21.1	4.8	31.3	5.4	8.3	--	6.5	Feb-15
<i>BBgBarc US High Yield TR</i>			<i>1.1</i>	<i>13.5</i>	<i>1.9</i>	<i>19.7</i>	<i>7.0</i>	<i>7.5</i>	<i>6.4</i>	<i>6.3</i>	<i>Feb-15</i>
Covered Calls	36,037,830	7.9	3.0	29.1	9.3	37.5	13.1	12.4	--	10.2	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>2.3</i>	<i>20.2</i>	<i>5.0</i>	<i>25.4</i>	<i>4.3</i>	<i>6.6</i>	<i>6.4</i>	<i>5.8</i>	<i>Apr-14</i>
Crisis Risk Offset	18,809,273	4.1	2.1	-14.8	-11.8	-16.2	-10.7	--	--	-11.7	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<i>0.7</i>	<i>1.7</i>	<i>4.4</i>	<i>-1.4</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-3.6</i>	<i>Aug-18</i>
Cash	8,237,506	1.8	0.0	0.1	0.0	0.1	1.7	1.4	0.7	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>			<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.1</i>	<i>1.4</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.

Trailing Net Performance												
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	455,420,017	100.0	--	2.9	21.6	5.7	28.1	10.2	11.3	8.2	7.1	Dec-88
<i>OPFRS Policy Benchmark</i>				<i>2.9</i>	<i>19.4</i>	<i>4.8</i>	<i>24.9</i>	<i>10.3</i>	<i>10.8</i>	<i>7.9</i>	<i>8.4</i>	<i>Dec-88</i>
Domestic Equity	211,086,635	46.3	46.3	4.5	39.8	12.1	50.6	17.2	17.2	13.6	9.6	Jun-97
<i>Russell 3000 (Blend)</i>				<i>5.2</i>	<i>40.1</i>	<i>11.8</i>	<i>50.9</i>	<i>18.9</i>	<i>17.7</i>	<i>14.0</i>	<i>9.7</i>	<i>Jun-97</i>
Northern Trust Russell 1000	115,928,810	25.5	54.9	5.4	38.9	11.6	49.4	19.2	17.7	14.2	15.6	Jun-10
<i>Russell 1000</i>				<i>5.4</i>	<i>38.9</i>	<i>11.6</i>	<i>49.5</i>	<i>19.2</i>	<i>17.8</i>	<i>14.2</i>	<i>15.6</i>	<i>Jun-10</i>
EARNEST Partners	46,900,858	10.3	22.2	4.4	46.8	14.5	60.3	20.0	19.9	14.5	11.6	Apr-06
<i>Russell MidCap</i>				<i>5.1</i>	<i>46.5</i>	<i>13.7</i>	<i>59.6</i>	<i>16.7</i>	<i>15.6</i>	<i>12.7</i>	<i>10.1</i>	<i>Apr-06</i>
Brown Fundamental Small Cap Value	11,079,012	2.4	5.2	3.1	--	--	--	--	--	--	3.1	Apr-21
<i>Russell 2000 Value</i>				<i>2.0</i>	<i>69.1</i>	<i>23.6</i>	<i>79.0</i>	<i>11.7</i>	<i>13.5</i>	<i>10.1</i>	<i>2.0</i>	<i>Apr-21</i>
Rice Hall James	16,701,051	3.7	7.9	2.7	42.4	11.3	61.7	13.7	--	--	15.5	Jul-17
<i>Russell 2000 Growth</i>				<i>2.2</i>	<i>48.8</i>	<i>7.2</i>	<i>69.2</i>	<i>18.0</i>	<i>18.9</i>	<i>12.9</i>	<i>17.7</i>	<i>Jul-17</i>
iShares Edge MSCI Min Vol	20,476,898	4.5	9.7	4.0	20.3	6.4	24.1	--	--	--	32.6	Apr-20
<i>MSCI USA Minimum Volatility GR USD</i>				<i>4.1</i>	<i>20.4</i>	<i>6.5</i>	<i>24.3</i>	<i>13.9</i>	<i>12.9</i>	<i>13.1</i>	<i>32.7</i>	<i>Apr-20</i>
International Equity	58,219,272	12.8	12.8	2.8	29.2	7.1	38.2	6.9	10.8	5.7	5.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>				<i>3.0</i>	<i>32.9</i>	<i>6.7</i>	<i>43.6</i>	<i>7.5</i>	<i>10.3</i>	<i>5.2</i>	<i>6.2</i>	<i>Jan-98</i>
Vanguard Developed Markets ETF	16,947,518	3.7	29.1	3.1	30.4	7.2	42.2	--	--	--	16.8	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>				<i>3.3</i>	<i>33.6</i>	<i>7.6</i>	<i>44.5</i>	<i>7.3</i>	<i>9.3</i>	<i>3.8</i>	<i>18.6</i>	<i>Sep-19</i>
SGA ACWI ex-U.S. Equity	40,713,630	8.9	69.9	2.2	28.5	6.4	37.0	--	--	--	10.5	Dec-19
<i>MSCI ACWI ex USA Gross</i>				<i>3.0</i>	<i>32.9</i>	<i>6.7</i>	<i>43.6</i>	<i>7.5</i>	<i>10.3</i>	<i>5.2</i>	<i>16.2</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 April 30, 2021

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Fixed Income	114,028,297	25.0	25.0	0.4	0.7	-2.5	4.1	5.4	4.1	4.0	5.4	Dec-93
<i>Blmbg BC Universal (Blend)</i>				<i>0.8</i>	<i>0.0</i>	<i>-2.2</i>	<i>1.8</i>	<i>5.4</i>	<i>3.6</i>	<i>3.7</i>	<i>5.3</i>	<i>Dec-93</i>
Ramirez	77,456,716	17.0	67.9	0.3	0.8	-2.3	4.0	5.3	--	--	4.4	Jan-17
<i>BBgBarc US Aggregate TR</i>				<i>0.8</i>	<i>-1.4</i>	<i>-2.6</i>	<i>-0.3</i>	<i>5.2</i>	<i>3.2</i>	<i>3.4</i>	<i>3.9</i>	<i>Jan-17</i>
Wellington Core Bond	7,556,211	1.7	6.6	0.8	--	--	--	--	--	--	0.8	Apr-21
<i>BBgBarc US Aggregate TR</i>				<i>0.8</i>	<i>-1.4</i>	<i>-2.6</i>	<i>-0.3</i>	<i>5.2</i>	<i>3.2</i>	<i>3.4</i>	<i>0.8</i>	<i>Apr-21</i>
Reams	29,015,327	6.4	25.4	0.6	0.6	-3.1	4.4	9.2	5.7	5.1	5.9	Feb-98
<i>Blmbg BC Universal (Blend)</i>				<i>0.8</i>	<i>0.0</i>	<i>-2.2</i>	<i>1.8</i>	<i>5.4</i>	<i>3.6</i>	<i>3.7</i>	<i>5.0</i>	<i>Feb-98</i>
Credit	9,001,203	2.0	2.0	1.1	21.1	4.8	31.3	5.4	8.3	--	6.5	Feb-15
<i>BBgBarc US High Yield TR</i>				<i>1.1</i>	<i>13.5</i>	<i>1.9</i>	<i>19.7</i>	<i>7.0</i>	<i>7.5</i>	<i>6.4</i>	<i>6.3</i>	<i>Feb-15</i>
DDJ Capital	9,001,203	2.0	100.0	1.1	21.1	4.8	31.3	5.4	8.3	--	6.5	Feb-15
<i>ICE BofA High Yield Master TR</i>				<i>1.1</i>	<i>13.7</i>	<i>2.0</i>	<i>20.1</i>	<i>6.7</i>	<i>7.3</i>	<i>6.3</i>	<i>6.1</i>	<i>Feb-15</i>
Covered Calls	36,037,830	7.9	7.9	3.0	29.1	9.3	37.5	13.1	12.4	--	10.2	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>2.3</i>	<i>20.2</i>	<i>5.0</i>	<i>25.4</i>	<i>4.3</i>	<i>6.6</i>	<i>6.4</i>	<i>5.8</i>	<i>Apr-14</i>
Parametric BXM	15,853,275	3.5	44.0	1.6	23.0	7.2	30.8	9.1	9.3	--	7.9	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>2.3</i>	<i>20.2</i>	<i>5.0</i>	<i>25.4</i>	<i>4.3</i>	<i>6.6</i>	<i>6.4</i>	<i>5.8</i>	<i>Apr-14</i>
Parametric DeltaShift	20,184,556	4.4	56.0	4.0	34.4	11.1	43.2	16.8	15.3	--	12.8	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>2.3</i>	<i>20.2</i>	<i>5.0</i>	<i>25.4</i>	<i>4.3</i>	<i>6.6</i>	<i>6.4</i>	<i>5.8</i>	<i>Apr-14</i>
Crisis Risk Offset	18,809,273	4.1	4.1	2.1	-14.8	-11.8	-16.2	-10.7	--	--	-11.7	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>				<i>0.7</i>	<i>1.7</i>	<i>4.4</i>	<i>-1.4</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-3.6</i>	<i>Aug-18</i>
Vanguard Long-Term Treasury ETF	18,809,273	4.1	100.0	2.1	-14.0	-11.8	-15.2	--	--	--	4.0	Jul-19
<i>BBgBarc US Govt Long TR</i>				<i>2.3</i>	<i>-13.9</i>	<i>-11.4</i>	<i>-15.3</i>	<i>7.4</i>	<i>3.7</i>	<i>6.3</i>	<i>4.2</i>	<i>Jul-19</i>
Cash	8,237,506	1.8	1.8	0.0	0.1	0.0	0.1	1.7	1.4	0.7	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.1</i>	<i>1.4</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash	1,973,506	0.4	24.0	0.0	0.5	0.1	0.6	1.9	1.5	0.8	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.1</i>	<i>1.4</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash - Treasury	6,264,000	1.4	76.0									

Market value for DDJ Capital is based on manager estimate for the month of April.

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

Cash Flow Summary

Month to Date

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Brown Fundamental Small Cap Value	\$0	\$10,987,187	\$91,825	\$11,079,012
Cash	\$2,261,995	\$10,889	-\$299,377	\$1,973,506
Cash - Treasury	\$6,279,000	-\$15,000	\$0	\$6,264,000
DDJ Capital	\$8,901,168	\$0	\$100,036	\$9,001,203
EARNEST Partners	\$44,905,705	\$0	\$1,995,152	\$46,900,858
Fisher Transition	\$67,206	-\$68,444	\$1,238	\$0
Hansberger Transition	\$342,407	\$0	\$215,719	\$558,125
iShares Core US Aggregate Bond ETF	\$7,374,902	-\$7,500,000	\$125,099	\$0
iShares Edge MSCI Min Vol	\$19,691,405	\$0	\$785,493	\$20,476,898
Northern Trust Russell 1000	\$111,018,819	-\$1,000,000	\$5,909,991	\$115,928,810
Parametric BXM	\$15,599,360	\$0	\$253,914	\$15,853,275
Parametric DeltaShift	\$19,402,866	\$0	\$781,690	\$20,184,556
Ramirez	\$77,199,344	\$0	\$257,372	\$77,456,716
Reams	\$28,845,472	\$0	\$169,854	\$29,015,327
Reams Low Duration	\$44	\$0	\$0	\$44
Rice Hall James	\$16,255,728	\$0	\$445,323	\$16,701,051
Securities Lending Northern Trust	\$0	-\$10,889	\$10,889	\$0
SGA ACWI ex-U.S. Equity	\$39,826,795	\$0	\$886,835	\$40,713,630
Vanguard Developed Markets ETF	\$16,445,220	\$0	\$502,298	\$16,947,518
Vanguard Long-Term Treasury ETF	\$18,417,784	\$0	\$391,489	\$18,809,273
Vanguard Russell 2000 Value	\$10,466,133	-\$10,987,187	\$521,060	\$6
Wellington Core Bond	\$0	\$7,500,000	\$56,211	\$7,556,211
Total	\$443,301,351	-\$1,083,444	\$13,202,110	\$455,420,017

Benchmark History
As of April 30, 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

May 26, 2021

1Q 2021 Performance Report

1. Total Portfolio Summary
2. Asset Class and Manager Commentary
3. 1Q 2021 Performance as of March 31, 2021
4. Manager Monitoring / Probation List
5. Disclaimer, Glossary, and Notes

Total Portfolio Summary

Total Portfolio Summary

As of March 31, 2021, the City of Oakland Police and Fire Retirement System (OPFRS) portfolio had an aggregate value of \$443.3 million. This represents a \$12.2 million increase in investment value and (\$3.0) million in benefit payments funded from investments over the quarter. Over the one year period, the OPFRS Total Portfolio value is higher by \$101.8 million, after withdrawals totaling (\$12.0) million for benefit payments.

Asset Allocation Trends

- The asset allocation targets throughout this report reflect those as of March 31, 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. During the quarter manager searches were undertaken to fill the Alternative Risk Premia and Systematic Trend Following components of the Crisis Risk Offset asset class. Funding those mandates will likely bring the asset class closer to its policy target.
- During the quarter, OPFRS approved funding for Brown Advisory and Wellington to manage small cap value and core fixed income mandates respectively. Both managers were funded subsequent to quarter-end.

Recent Investment Performance

- During the most recent quarter, the OPFRS portfolio generated an absolute return of 2.8%, gross of fees, outperforming its policy benchmark by 1.0%. The portfolio also outperformed its benchmark over the 1- and 5-year periods, by 3.7% and 0.6% respectively, while underperforming over the 3-year period by 10 basis points.

Total Portfolio Summary

- The OPFRS portfolio underperformed the Median fund's return over the quarter by (0.4%), and by (2.5%), (0.8%) and (0.3%) over the one, three and five-year trailing periods respectively. Performance differences with respect to the Median Fund are attributed largely to differences in asset allocation.

	Quarter	Fiscal YTD	1 Year	3 Year	5 Year
Total Portfolio ¹	2.8	18.2	33.7	9.3	10.9
Policy Benchmark ²	1.8	16.0	30.0	9.4	10.3
Excess Return	1.0	2.2	3.7	-0.1	0.6
Reference: Median Fund ³	3.2	20.3	36.2	10.1	10.6
Reference: Total Net of Fees ⁴	2.7	17.9	33.3	9.0	10.5

- Over the quarter, positive performance was driven by Domestic Equity that returned 7.3%, outperforming the benchmark by +1.0%. International Equity, Covered Calls and Credit also contributed positively, returning 4.1%, 6.2% and 3.6% respectively.
- Fixed Income and Crisis Risk Offset (Long-term Treasuries within this asset class) registered negative returns; -2.9% and -13.6% respectively, as yields (which move inversely with bond prices) rose rapidly over the quarter.

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 March 31, 2021, Domestic Equity returned 7.3%, beating the Russell 3000 benchmark by +1.0%. Both active managers in the Domestic Equity portfolio outperformed their respective benchmarks while the passive managers/strategies (Northern Trust Russell 1000, iShares Edge MSCI Minimum Volatility and the Vanguard Russell 2000 Value) performed in line with their respective benchmarks with acceptable tracking error.

Earnest Partners, the Plan's active mid cap core manager, returned 9.6%, outperforming the Russell Midcap benchmark by +1.5%, and placing in the 47th percentile of its peer group for the quarter. The manager has also outperformed its benchmark over longer trailing periods with excess returns of +0.4%, +3.7% and +4.6% over the 1-year, 3-year and 5-year periods respectively.

Rice Hall James, the Plan's active small cap growth manager, returned 8.3%, outperforming the Russell 2000 Growth benchmark by +3.4%, and placing in the 31st percentile for the quarter. The manager has also outperformed its benchmark over the 1-year period by +0.2%, but trails over the longer 3-year period and since inception by (5.3%) and (2.3%) respectively. The manager is on watch status for performance concerns.

International Equity

For the quarter ended March 31, 2020, the International Equity portfolio returned 4.1%, outperforming the MSCI ACWI benchmark by +0.5%. Within this portfolio, the passive international developed markets portfolio managed by Vanguard returned 4.0%, in line with its benchmark.

SGA MSCI ACWI ex US ETF, the Plan's active core international equity manager, returned 4.1%, outperforming the MSCI ACWI ex USA benchmark by +0.5% over the quarter, while trailing by (7.8%) over the one-year period.

Fixed Income

Over the quarter, the Fixed Income aggregate returned -2.9%, outperforming the Bloomberg Barclays Universal benchmark by +0.2%. The asset class was challenged by rapidly rising yields on treasuries. Both active managers in this portfolio posted negative returns, albeit with mixed results relative to the benchmark, while the passive strategy, the iShares Core US Aggregate Bond ETF, performed in line with its benchmark.

Asset Class and Manager Summary

Ramirez returned -2.6% over the quarter, compared to the benchmark return of -3.4%, placing in the 14th percentile of its peer group. Ramirez, also outperformed its benchmark over the one and three-year trailing periods by +5.6% and +0.2% respectively, and by +0.6% since inception. Relative to the benchmark, Ramirez's performance was helped by positioning in Treasuries (underweight) and Municipal bonds, as well as security selection in Municipals and Corporate Credit. **Reams** returned -3.6% for the quarter, trailing its benchmark by (0.5%) and placing in the 95th percentile of its peer group. Reams, however, outperformed its benchmark by +6.1%, +3.8%, +2.1% and +1.0% over 1-, 3- and 5-year and since inception periods respectively. Relative to the benchmark, Reams' security selection in investment grade credit hurt performance.

Covered Calls

Over the fourth quarter, the Covered Calls portfolio returned 6.2%, outperforming its benchmark by +3.6%.

Parametric BXM, the Plan's passive covered calls allocation returned 5.4%, outperforming its benchmark, the CBOE BXM index, by +2.8% over the quarter. The portfolio has outperformed over the most recent 1-year, 3- and 5-year periods by +7.3%, +5.0% and +2.9% respectively. Since inception outperformance is +2.3%.

Parametric DeltaShift, the Plan's active covered calls allocation returned 6.8%, outperforming its benchmark, the CBOE BXM, index by +4.2% over the quarter. The portfolio has outperformed over the most recent 1-year, 3- and 5-year periods by +26.3%, +11.5% and +8.3% respectively. Since inception outperformance is +6.8%.

Credit

DDJ, the Plan's High Yield & Bank Loan manager, returned 3.6% over the quarter, outperforming its benchmark, the Barclays US High Yield, by +2.7%. DDJ, outperformed the benchmark over the 1-year and 5-year periods by +9.5% and +0.6% respectively, but trailed the benchmark by (1.7%) over the 3-year trailing period. Since inception outperformance is +0.4%

Crisis Risk Offset

Over the quarter, the Crisis Risk Offset portfolio returned -13.6%, trailing its benchmark by (17.3%).

Vanguard Long Duration ETF, the only funded component of the Crisis Risk Offset portfolio over the quarter, returned -13.6% as yields on longer dated treasuries rose rapidly. Performance was in line with the benchmark.

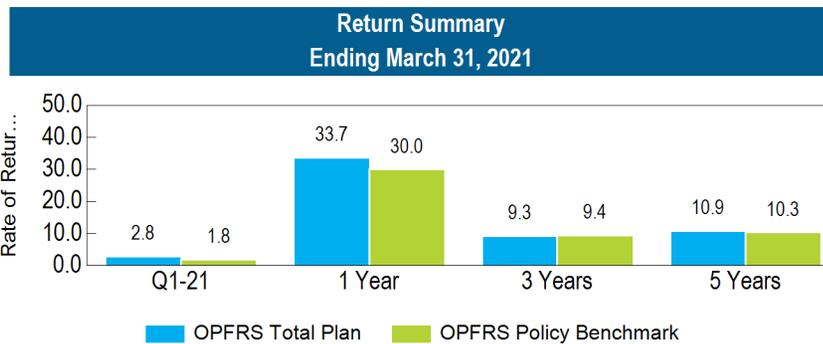
Manager searches are underway to fund the Alternative Risk Premia and Systematic Trend Following components of the Crisis Risk Offset portfolio.

1Q 2021 Performance Update
As of March 31, 2021

OPFRS Total Plan | As of March 31, 2021

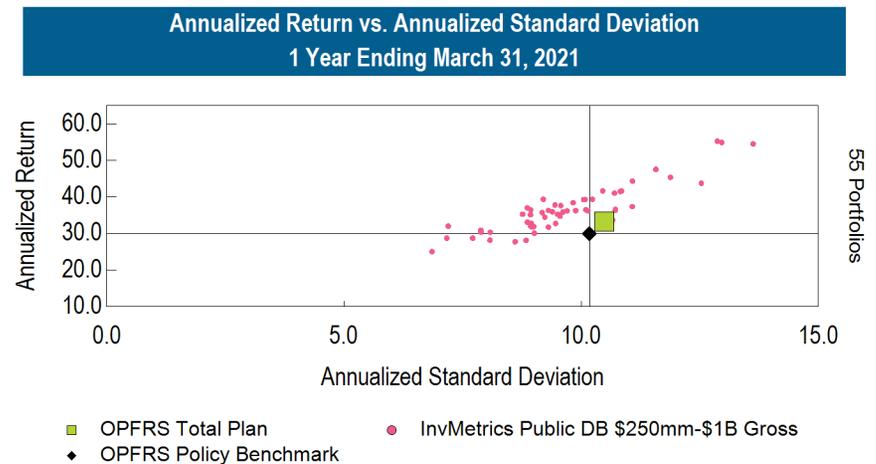
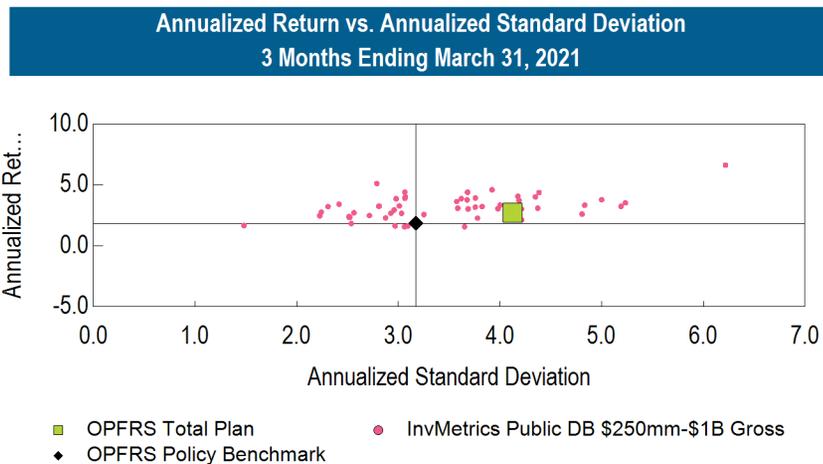
3 Months Ending March 31, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	2.71%	1.19%
OPFRS Policy Benchmark	1.83%	0.92%
InvMetrics Public DB \$250mm-\$1B Gross Median	3.19%	1.03%

1 Year Ending March 31, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	33.30%	3.03%
OPFRS Policy Benchmark	29.95%	2.94%
InvMetrics Public DB \$250mm-\$1B Gross Median	36.17%	2.73%



Summary of Cash Flows

	Quarter-To-Date	One Year
Beginning Market Value	\$434,118,470	\$341,533,320
Net Cash Flow	-\$3,048,200	-\$12,939,497
Capital Appreciation	\$12,231,081	\$114,707,528
Ending Market Value	\$443,301,351	\$443,301,351



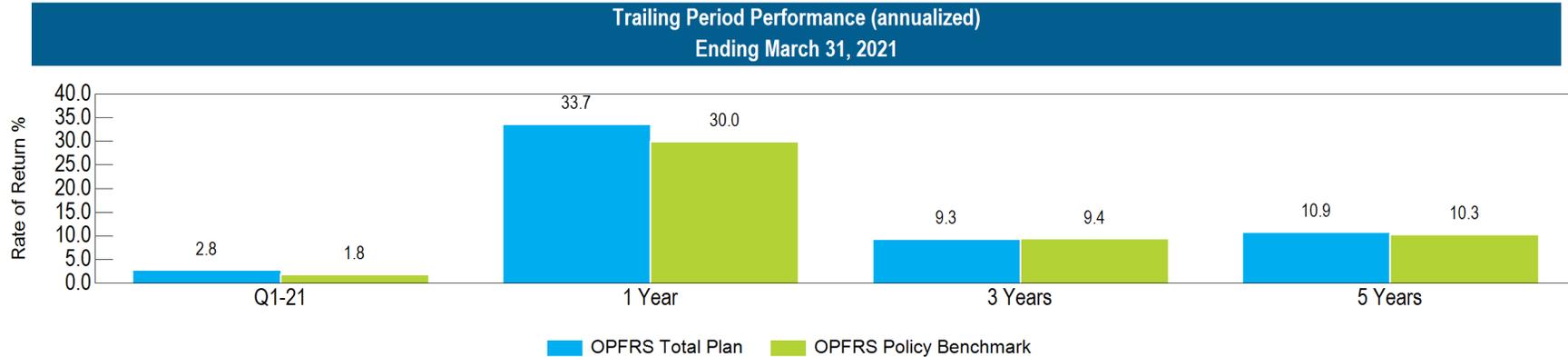
Evolving Policy Benchmark consists of 40% russell 3000, 12% MSCI ACWI ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury.

Asset Class Performance (gross of fees) | As of March 31, 2021

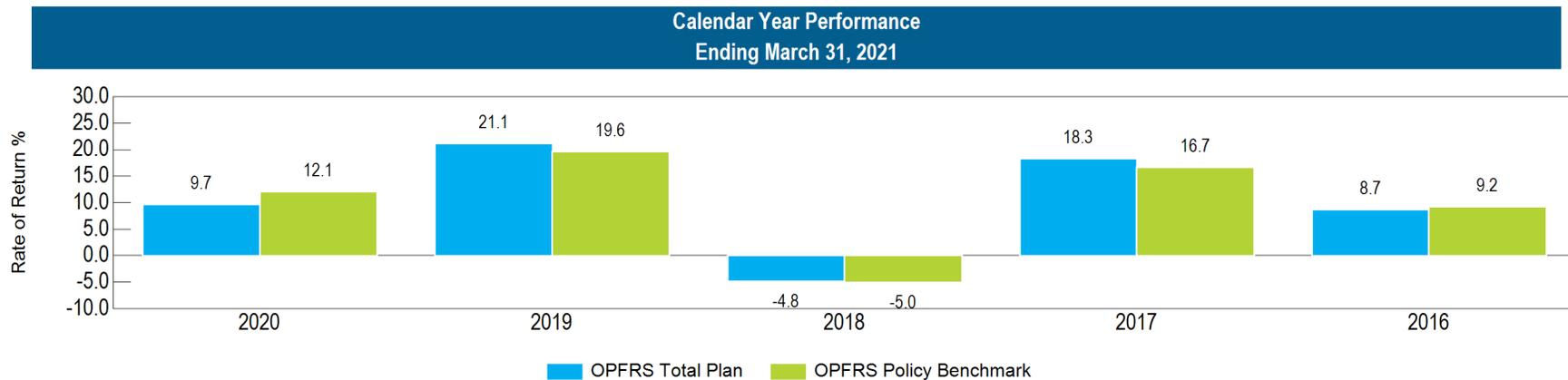
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
OPFRS Total Plan	2.8	33.7	9.3	10.9	8.4	8.2
<i>OPFRS Policy Benchmark</i>	<u>1.8</u>	<u>30.0</u>	<u>9.4</u>	<u>10.3</u>	<u>8.4</u>	<u>7.9</u>
Excess Return	1.0	3.7	-0.1	0.6	0.0	0.3
Domestic Equity	7.3	63.2	15.6	16.3	12.9	13.5
<i>Russell 3000 (Blend)</i>	<u>6.3</u>	<u>62.5</u>	<u>17.1</u>	<u>16.6</u>	<u>13.4</u>	<u>13.8</u>
Excess Return	1.0	0.7	-1.5	-0.3	-0.5	-0.3
International Equity	4.1	43.0	6.5	10.5	6.4	5.9
<i>MSCI ACWI ex US (Blend)</i>	<u>3.6</u>	<u>50.0</u>	<u>7.0</u>	<u>10.3</u>	<u>5.8</u>	<u>5.4</u>
Excess Return	0.5	-7.0	-0.5	0.2	0.6	0.5
Fixed Income	-2.9	6.1	5.0	4.2	3.9	4.1
<i>Bblmbg BC Universal (Blend)</i>	<u>-3.1</u>	<u>3.0</u>	<u>4.9</u>	<u>3.6</u>	<u>3.6</u>	<u>3.8</u>
Excess Return	0.2	3.1	0.1	0.6	0.3	0.3
Credit	3.6	32.8	4.9	8.6	--	--
<i>BBgBarc US High Yield TR</i>	<u>0.8</u>	<u>23.7</u>	<u>6.8</u>	<u>8.1</u>	--	--
Excess Return	2.8	9.1	-1.9	0.5	--	--
Covered Calls	6.2	45.4	12.3	11.9	9.9	--
<i>CBOE S&P 500 BuyWrite USD</i>	<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	--
Excess Return	3.6	17.1	8.3	5.7	4.4	--
Crisis Risk Offset	-13.6	-18.7	-11.4	--	--	--
<i>SG Multi Alternative Risk Premia Index</i>	<u>3.7</u>	<u>-3.3</u>	--	--	--	--
Excess Return	-17.3	-15.4	--	--	--	--
Cash	0.0	0.1	1.7	1.4	1.0	0.7
<i>FTSE T-Bill 3 Months TR</i>	<u>0.0</u>	<u>0.2</u>	<u>1.5</u>	<u>1.2</u>	<u>0.8</u>	<u>0.6</u>
Excess Return	0.0	-0.1	0.2	0.2	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 March 31, 2021



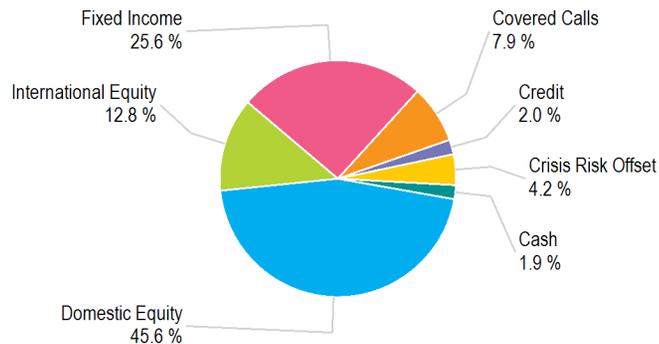
	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)
OPFRS Total Plan	2.8	18.2	33.7	9.3	10.9	8.7	18.3	-4.8	21.1	9.7
<i>OPFRS Policy Benchmark</i>	<i>1.8</i>	<i>16.0</i>	<i>30.0</i>	<i>9.4</i>	<i>10.3</i>	<i>9.2</i>	<i>16.7</i>	<i>-5.0</i>	<i>19.6</i>	<i>12.1</i>
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>	<i>3.2</i>	<i>20.3</i>	<i>36.2</i>	<i>10.1</i>	<i>10.6</i>	<i>7.8</i>	<i>15.8</i>	<i>-4.1</i>	<i>18.6</i>	<i>13.1</i>



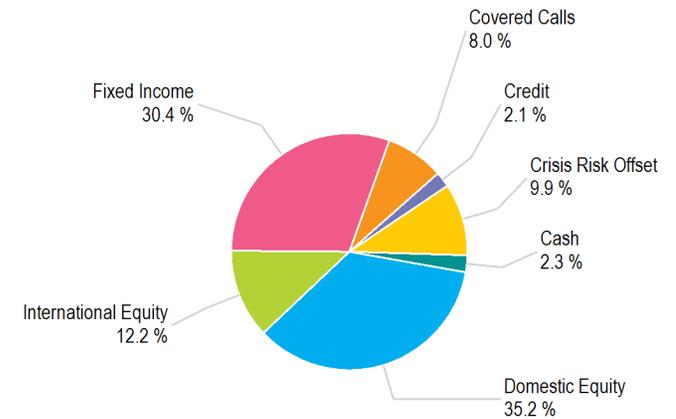
Asset Allocation vs. Target As Of March 31, 2021

	Current	%	Policy	Difference*
Domestic Equity	\$202,337,790	45.6%	40.0%	5.6%
International Equity	\$56,681,628	12.8%	12.0%	0.8%
Fixed Income	\$113,419,761	25.6%	31.0%	-5.4%
Covered Calls	\$35,002,226	7.9%	5.0%	2.9%
Credit	\$8,901,168	2.0%	2.0%	0.0%
Crisis Risk Offset	\$18,417,784	4.2%	10.0%	-5.8%
Cash	\$8,540,995	1.9%	0.0%	1.9%
Total	\$443,301,351	100.0%	100.0%	

March 31, 2021: \$443,301,351



March 31, 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 March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Domestic Equity	202,337,790	100.0	7.3	63.2	15.6	16.3	9.4	Jun-97
<i>Russell 3000 (Blend)</i>			6.3	62.5	17.1	16.6	9.6	Jun-97
Excess Return			1.0	0.7	-1.5	-0.3	-0.2	
Northern Trust Russell 1000	111,018,819	54.9	5.9	60.5	17.3	16.6	15.1	Jun-10
<i>Russell 1000</i>			5.9	60.6	17.3	16.7	15.1	Jun-10
Excess Return			0.0	-0.1	0.0	-0.1	0.0	
<i>eV US Large Cap Core Equity Gross Rank</i>			60	31	31	34	35	Jun-10
EARNEST Partners	44,905,705	22.2	9.6	74.0	18.4	19.3	11.4	Apr-06
<i>Russell MidCap</i>			8.1	73.6	14.7	14.7	9.8	Apr-06
Excess Return			1.5	0.4	3.7	4.6	1.6	
<i>eV US Mid Cap Core Equity Gross Rank</i>			47	42	10	7	27	Apr-06
iShares Edge MSCI Min Vol	19,691,405	9.7	2.3	30.5	--	--	30.5	Apr-20
<i>MSCI USA Minimum Volatility GR USD</i>			2.3	30.6	--	--	30.6	Apr-20
Excess Return			0.0	-0.1			-0.1	
<i>eV US Low Volatility Equity Gross Rank</i>			94	79	--	--	79	Apr-20
Rice Hall James	16,255,728	8.0	8.3	90.4	11.9	--	15.1	Jul-17
<i>Russell 2000 Growth</i>			4.9	90.2	17.2	--	17.4	Jul-17
Excess Return			3.4	0.2	-5.3		-2.3	
<i>eV US Small Cap Growth Equity Gross Rank</i>			31	62	95	--	92	Jul-17
Vanguard Russell 2000 Value	10,466,133	5.2	21.3	98.2	--	--	21.1	Aug-19
<i>Russell 2000 Value</i>			21.2	97.1	--	--	20.5	Aug-19
Excess Return			0.1	1.1			0.6	
<i>eV US Small Cap Value Equity Gross Rank</i>			32	41	--	--	40	Aug-19

Manager Performance - Gross of Fees | As of March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
International Equity	56,681,628	100.0	4.1	43.0	6.5	10.5	5.8	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>3.6</i>	<i>50.0</i>	<i>7.0</i>	<i>10.3</i>	<i>6.0</i>	<i>Jan-98</i>
Excess Return			0.5	-7.0	-0.5	0.2	-0.2	
SGA ACWI ex-U.S. Equity	39,826,795	70.3	4.1	42.2	--	--	9.4	Dec-19
<i>MSCI ACWI ex USA Gross</i>			<i>3.6</i>	<i>50.0</i>	--	--	<i>14.8</i>	<i>Dec-19</i>
Excess Return			0.5	-7.8			-5.4	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>46</i>	<i>97</i>	--	--	<i>97</i>	<i>Dec-19</i>
Vanguard Developed Markets ETF	16,445,220	29.0	4.0	47.5	--	--	15.6	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>			<i>4.1</i>	<i>50.6</i>	--	--	<i>17.2</i>	<i>Sep-19</i>
Excess Return			-0.1	-3.1			-1.6	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>47</i>	<i>91</i>	--	--	<i>94</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 March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Fixed Income	113,419,761	100.0	-2.9	6.1	5.0	4.2	5.4	Dec-93
<i>Blmbg BC Universal (Blend)</i>			<i>-3.1</i>	<i>3.0</i>	<i>4.9</i>	<i>3.6</i>	<i>5.3</i>	<i>Dec-93</i>
Excess Return			0.2	3.1	0.1	0.6	0.1	
Ramirez	77,199,344	68.1	-2.6	6.3	4.9	--	4.4	Jan-17
<i>BBgBarc US Aggregate TR</i>			<i>-3.4</i>	<i>0.7</i>	<i>4.7</i>	<i>--</i>	<i>3.8</i>	<i>Jan-17</i>
Excess Return			0.8	5.6	0.2		0.6	
<i>eV US Core Fixed Inc Net Rank</i>			<i>14</i>	<i>7</i>	<i>49</i>	<i>--</i>	<i>21</i>	<i>Jan-17</i>
Reams	28,845,472	25.4	-3.6	9.1	8.7	5.7	5.9	Feb-98
<i>Blmbg BC Universal (Blend)</i>			<i>-3.1</i>	<i>3.0</i>	<i>4.9</i>	<i>3.6</i>	<i>4.9</i>	<i>Feb-98</i>
Excess Return			-0.5	6.1	3.8	2.1	1.0	
<i>eV US Core Plus Fixed Inc Gross Rank</i>			<i>95</i>	<i>26</i>	<i>1</i>	<i>8</i>	<i>41</i>	<i>Feb-98</i>
iShares Core US Aggregate Bond ETF	7,374,902	6.5	-3.4	--	--	--	-2.4	Nov-20
<i>BBgBarc US Aggregate TR</i>			<i>-3.4</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-2.3</i>	<i>Nov-20</i>
Excess Return			0.0				-0.1	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>67</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>82</i>	<i>Nov-20</i>

Manager Performance - Gross of Fees | As of March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Covered Calls	35,002,226	100.0	6.2	45.4	12.3	11.9	9.9	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	<u>Apr-14</u>
Excess Return			3.6	17.1	8.3	5.7	4.4	
Parametric DeltaShift	19,402,866	55.4	6.8	54.6	15.5	14.5	12.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	<u>Apr-14</u>
Excess Return			4.2	26.3	11.5	8.3	6.8	
<i>eV US Large Cap Core Equity Gross Rank</i>			47	59	56	75	69	Apr-14
Parametric BXM	15,599,360	44.6	5.4	35.6	9.0	9.1	7.8	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	<u>Apr-14</u>
Excess Return			2.8	7.3	5.0	2.9	2.3	
<i>eV US Large Cap Core Equity Gross Rank</i>			68	97	97	98	99	Apr-14

Manager Performance - Gross of Fees | As of March 31, 2021

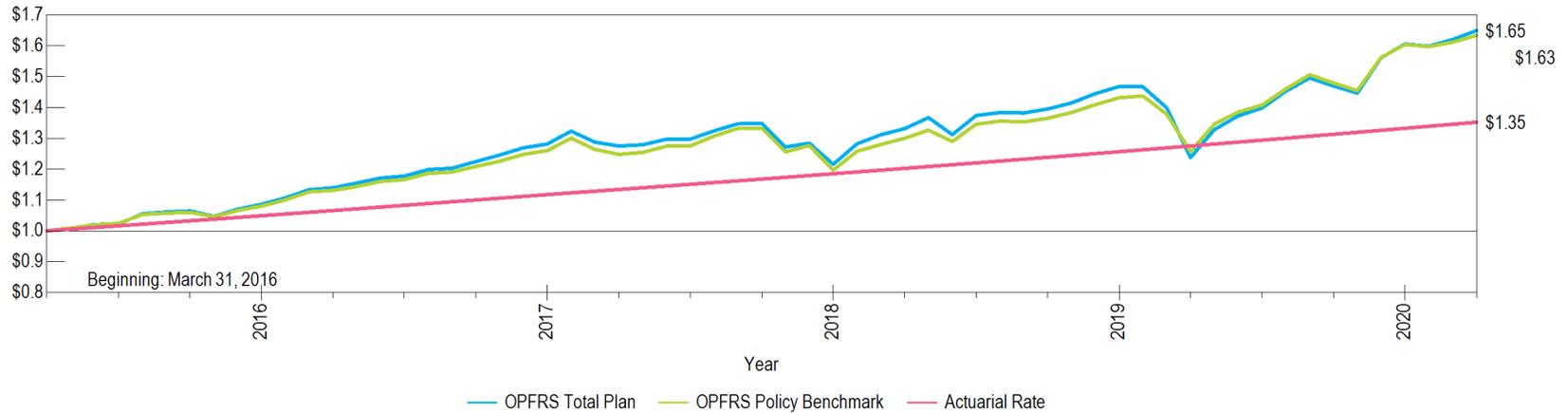
	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Credit	8,901,168	100.0	3.6	32.8	4.9	8.6	6.4	Feb-15
<i>BBgBarc US High Yield TR</i>			<u>0.8</u>	<u>23.7</u>	<u>6.8</u>	<u>8.1</u>	<u>6.2</u>	<i>Feb-15</i>
Excess Return			2.8	9.1	-1.9	0.5	0.2	
DDJ Capital	8,901,168	100.0	3.6	32.8	4.9	8.6	6.4	Feb-15
<i>ICE BofA High Yield Master TR</i>			<u>0.9</u>	<u>23.3</u>	<u>6.6</u>	<u>8.0</u>	<u>6.0</u>	<i>Feb-15</i>
Excess Return			2.7	9.5	-1.7	0.6	0.4	
<i>eV US High Yield Fixed Inc Gross Rank</i>			6	6	96	19	34	<i>Feb-15</i>

Manager Performance - Gross of Fees | As of March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Crisis Risk Offset	18,417,784	100.0	-13.6	-18.7	-11.4	--	-12.7	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<u>3.7</u>	<u>-3.3</u>	--	--	<u>-3.9</u>	<u>Aug-18</u>
Excess Return			-17.3	-15.4			-8.8	
Vanguard Long-Term Treasury ETF	18,417,784	100.0	-13.6	-16.1	--	--	3.0	Jul-19
<i>BBgBarc US Govt Long TR</i>			<u>-13.4</u>	<u>-15.6</u>	--	--	<u>3.0</u>	<u>Jul-19</u>
Excess Return			-0.2	-0.5			0.0	
<i>eV US Long Duration - Gov/Cred Fixed Inc Net Rank</i>			99	99	--	--	99	<u>Jul-19</u>

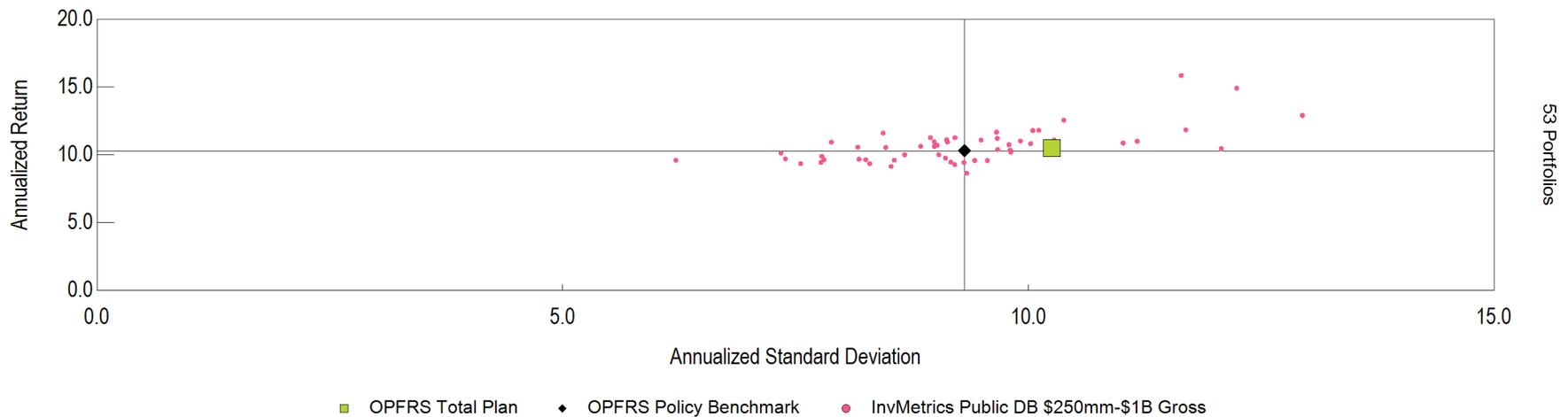
Total Portfolio 5-Year Performance | As of March 31, 2021

Growth of a Dollar

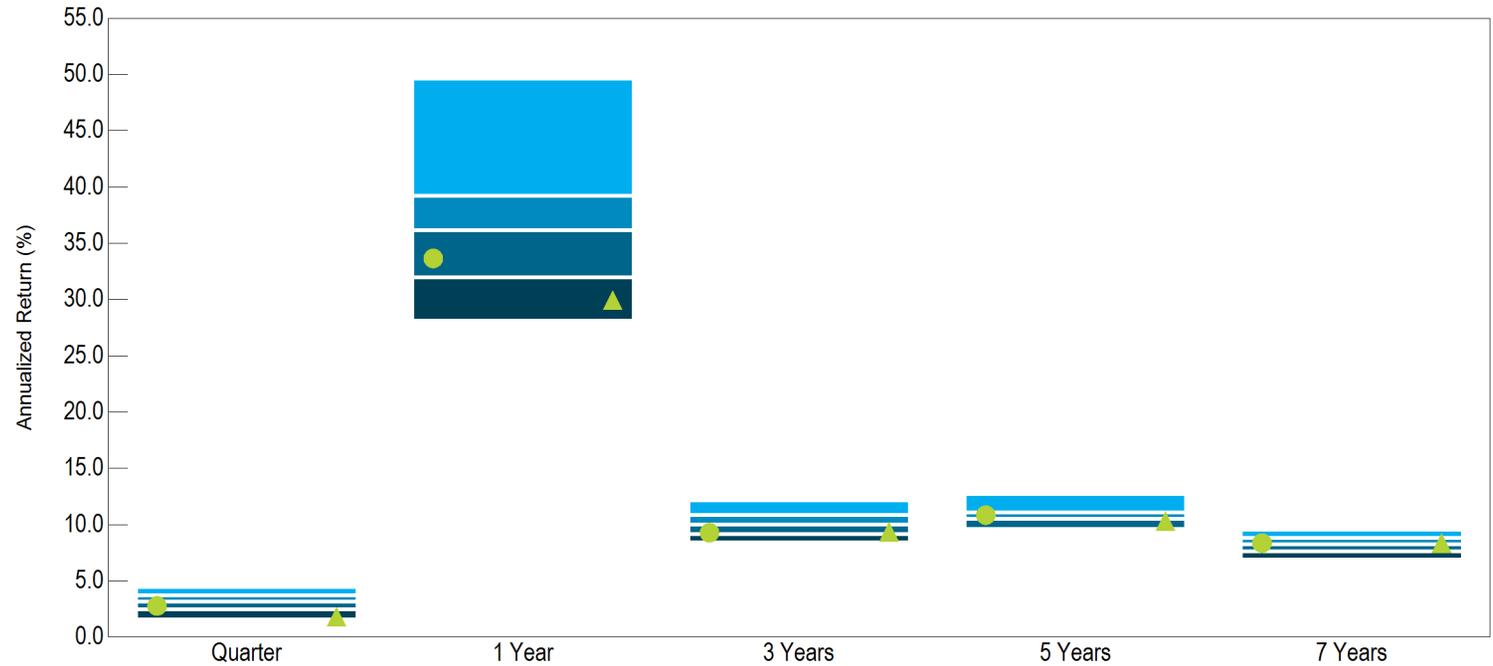


The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently

Annualized Return vs. Annualized Standard Deviation 5 Years Ending March 31, 2021

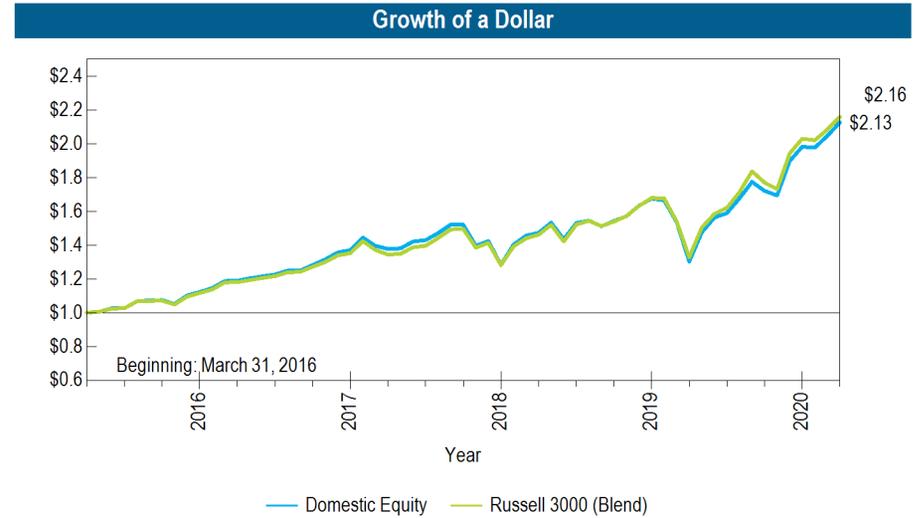
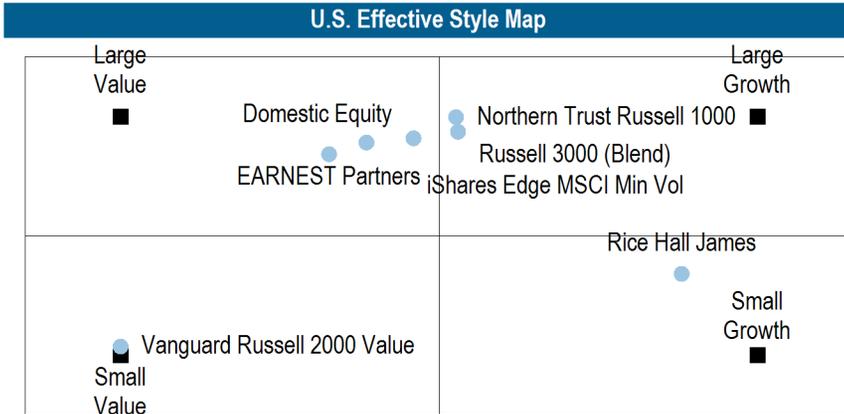


InvMetrics Public DB \$250mm-\$1B Gross Return Comparison

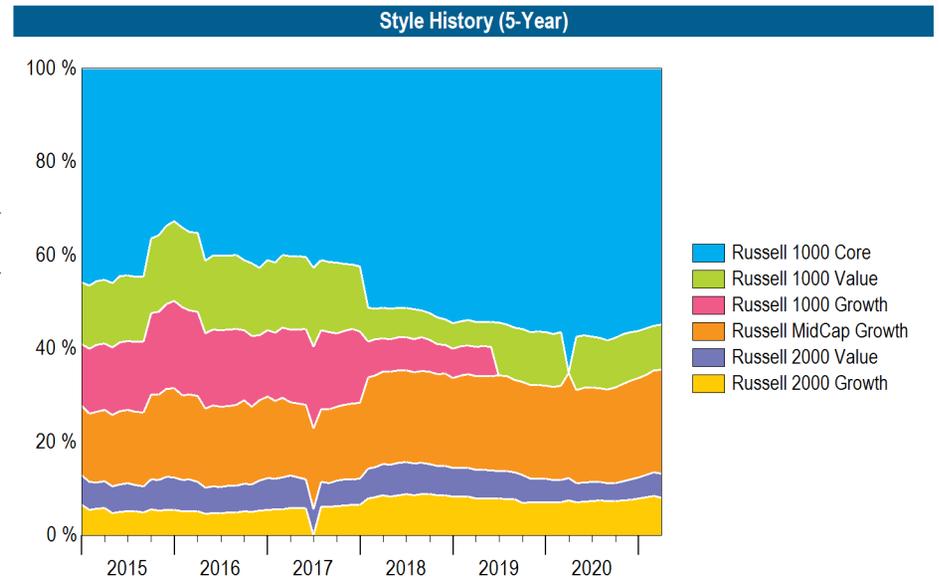
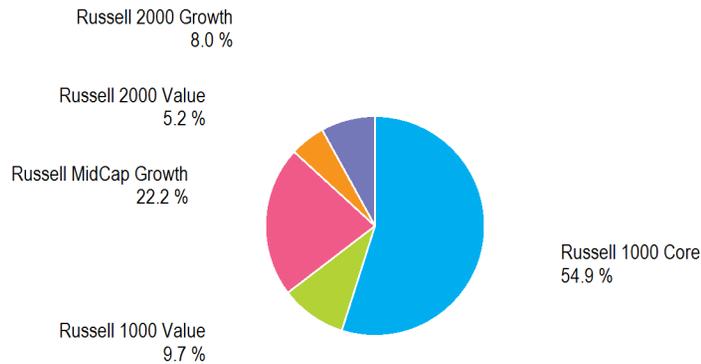


	Return (Rank)									
5th Percentile	4.5		49.6		12.1		12.7		9.5	
25th Percentile	3.8		39.3		10.9		11.1		8.8	
Median	3.2		36.2		10.1		10.6		8.3	
75th Percentile	2.5		32.0		9.2		9.7		7.7	
95th Percentile	1.6		28.1		8.4		9.3		6.9	
# of Portfolios	55		55		55		53		52	
● OPFRS Total Plan	2.8	(65)	33.7	(67)	9.3	(72)	10.9	(40)	8.4	(43)
▲ OPFRS Policy Benchmark	1.8	(91)	30.0	(90)	9.4	(67)	10.3	(59)	8.4	(43)

Domestic Equity | As of March 31, 2021

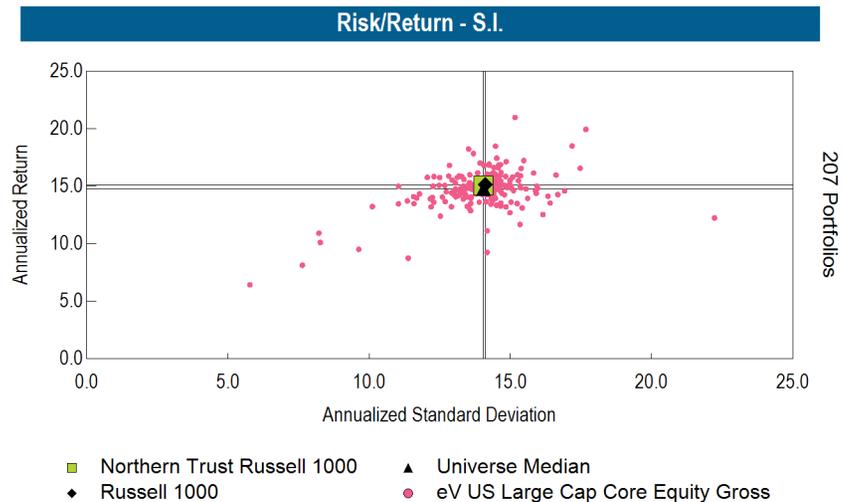
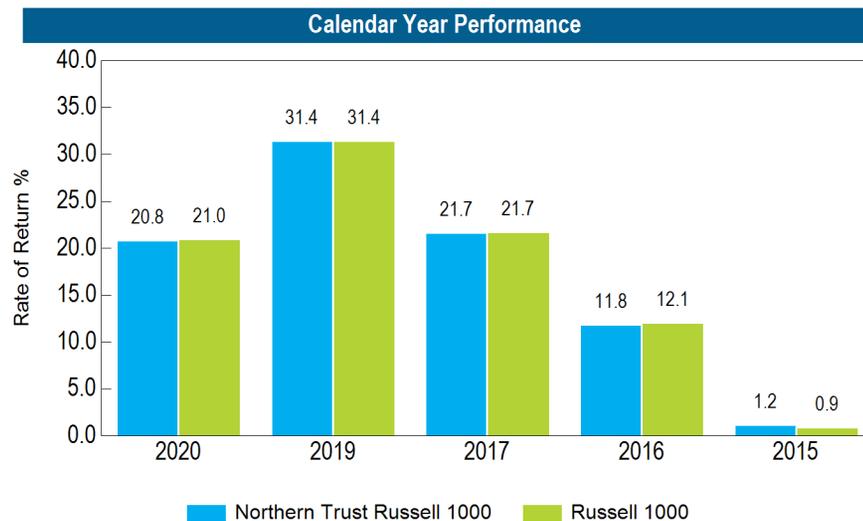
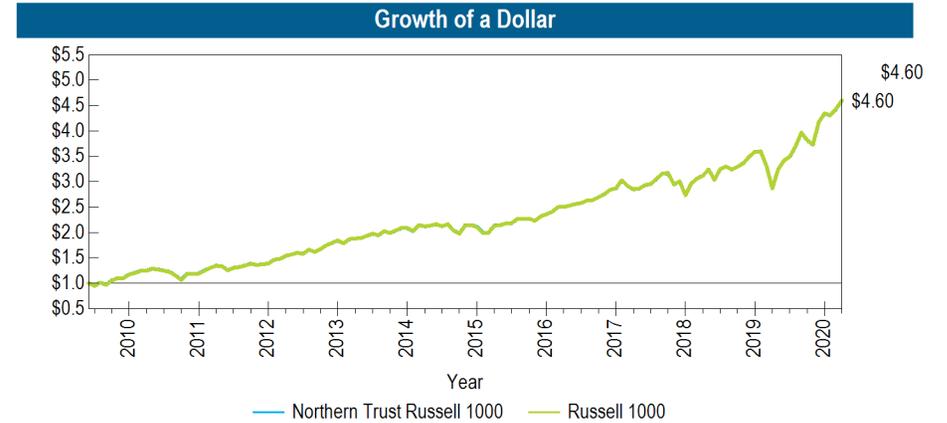
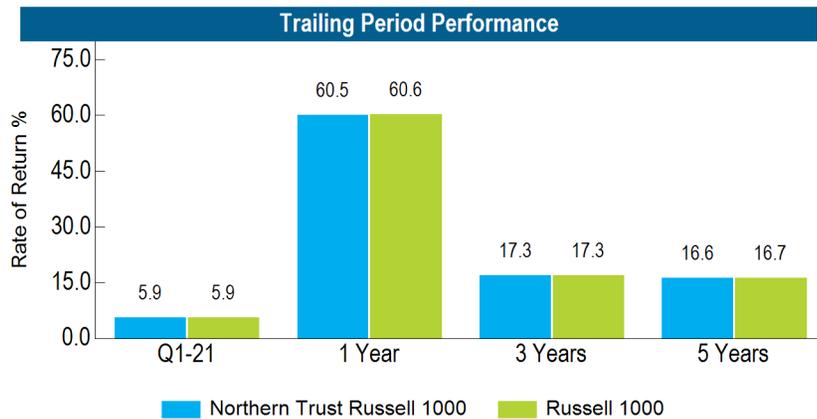


Style Exposure



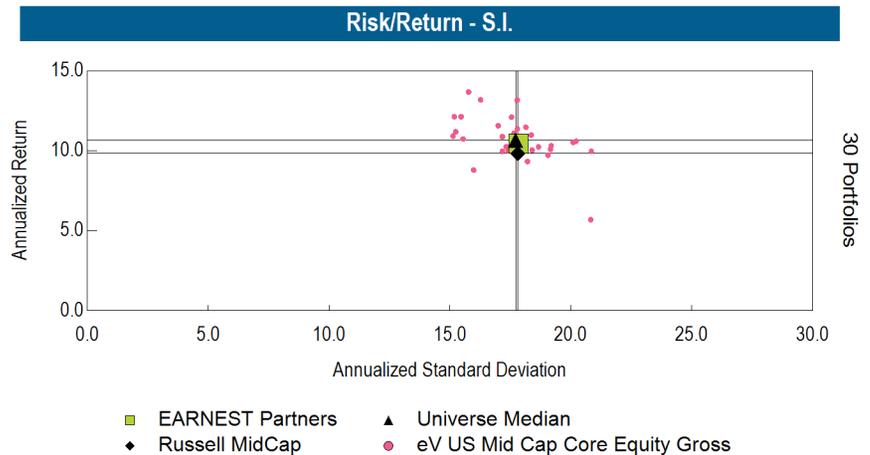
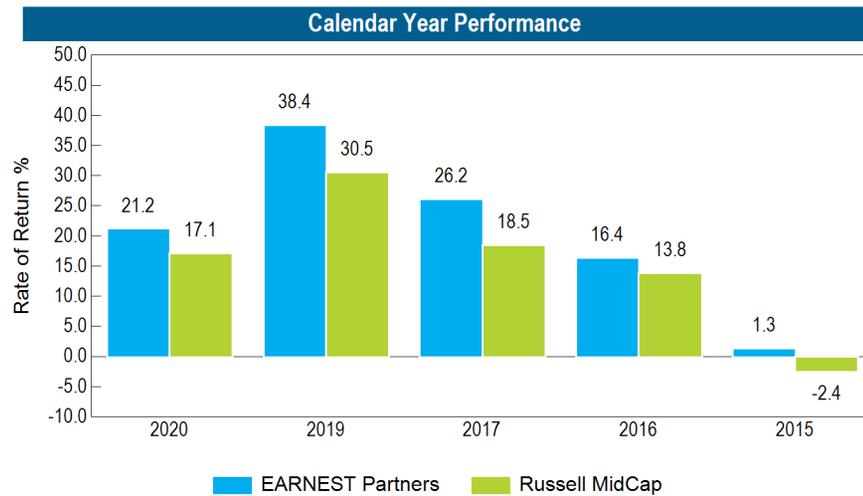
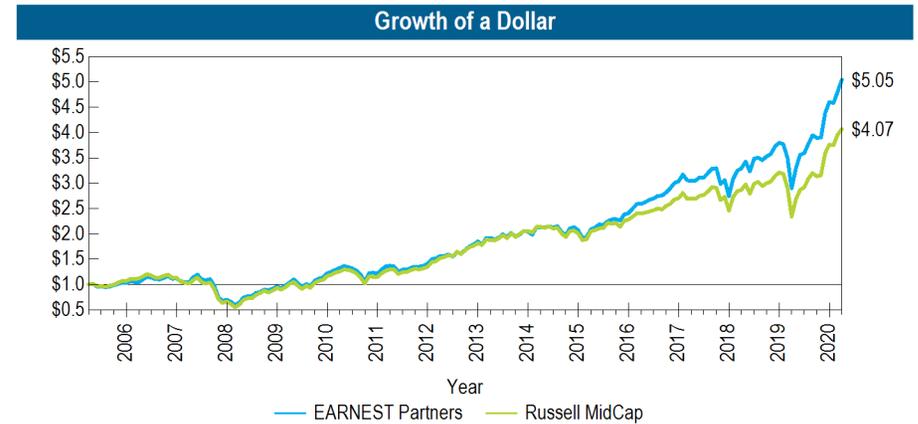
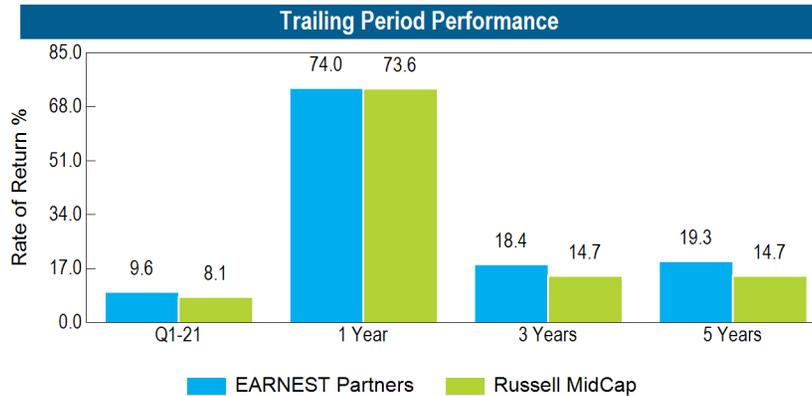
Northern Trust Russell 1000 | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust Russell 1000	15.04%	14.05%	0.00%	1.00	0.13%	98.39%	99.76%
Russell 1000	15.13%	14.11%	0.00%	1.00	0.00%	100.00%	100.00%



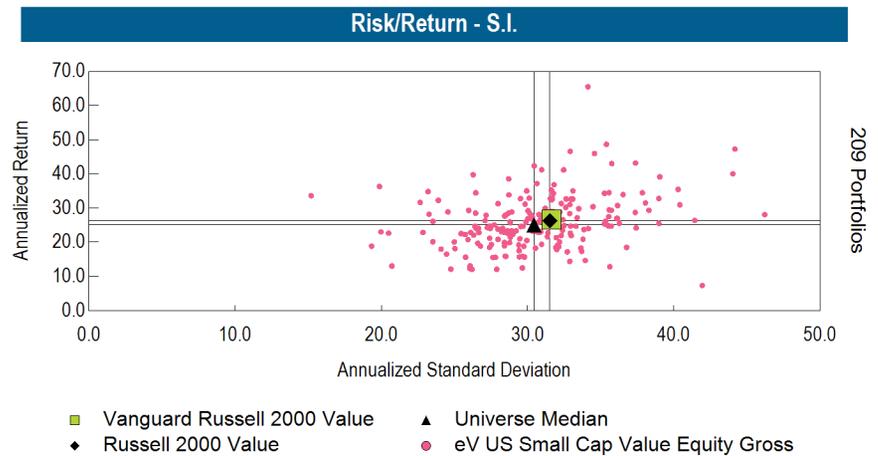
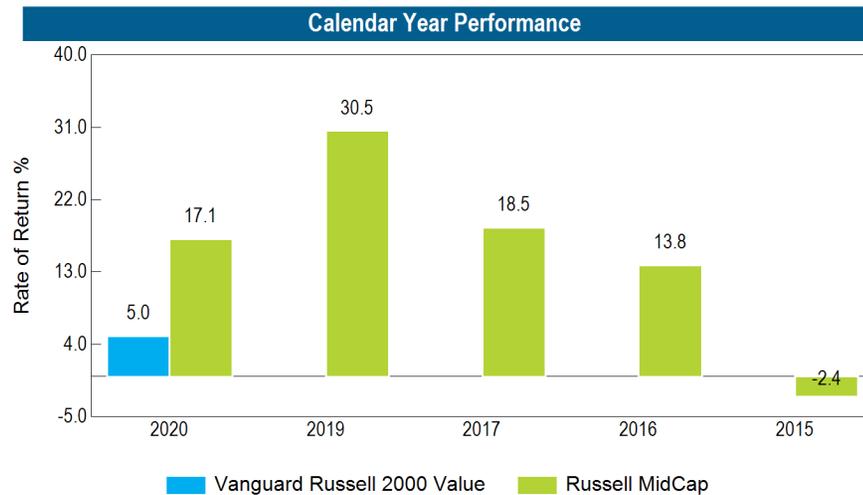
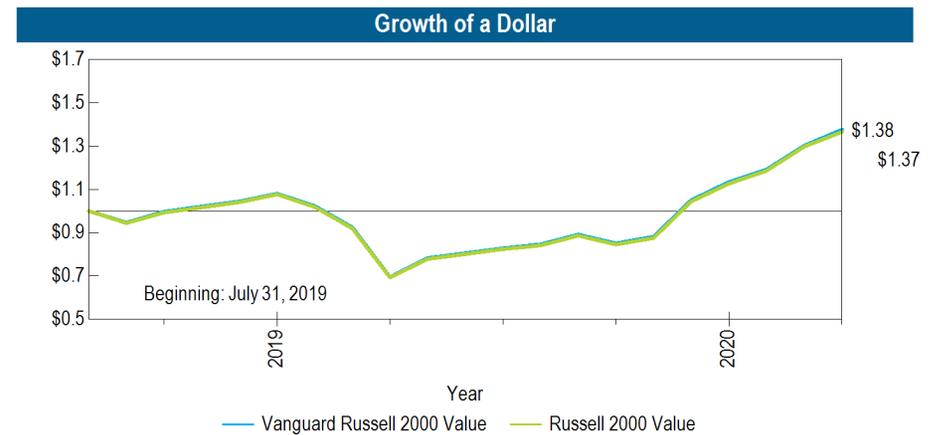
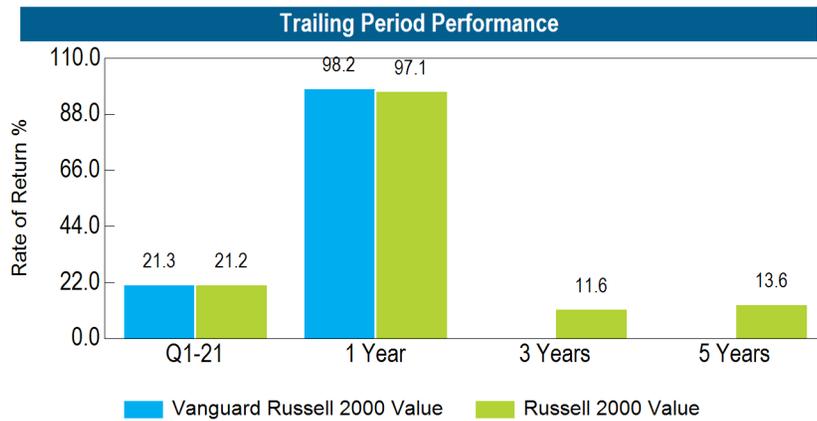
EARNEST Partners | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
EARNEST Partners	10.40%	17.82%	0.06%	0.98	0.18	3.35%	96.20%	99.11%
Russell MidCap	9.80%	17.81%	0.00%	1.00	--	0.00%	100.00%	100.00%



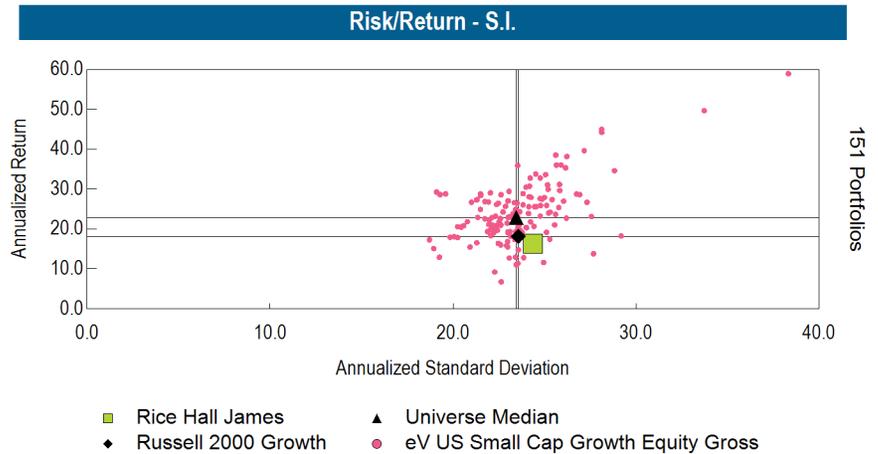
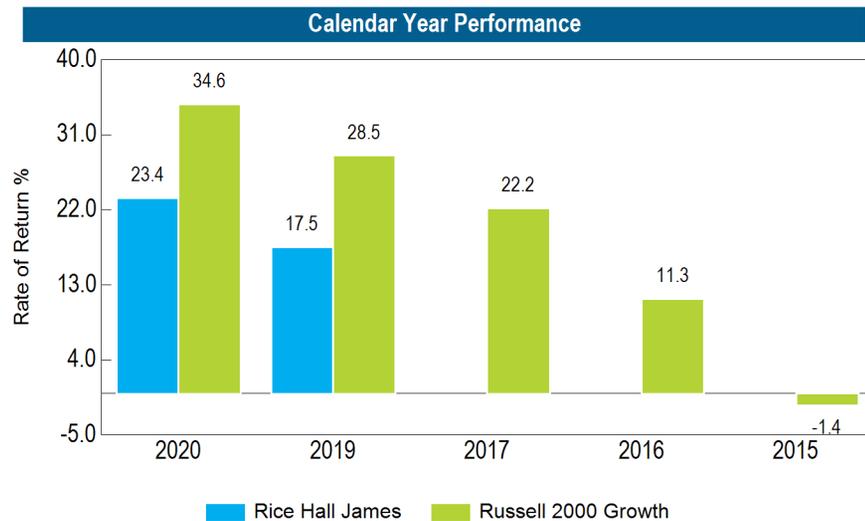
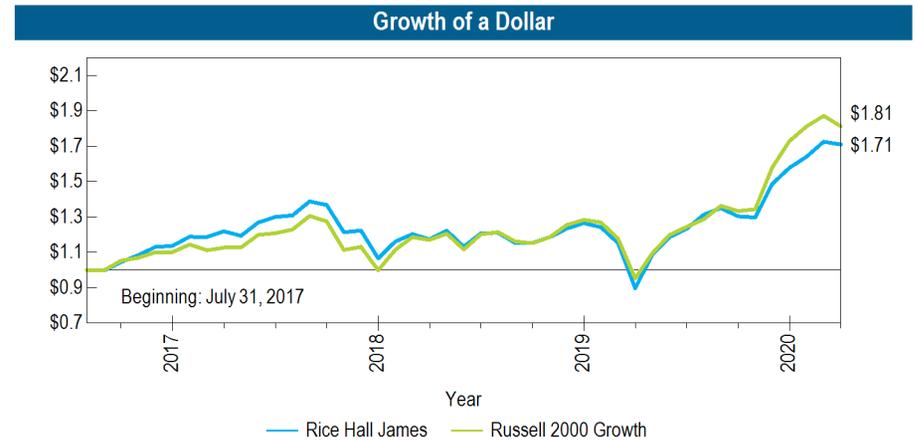
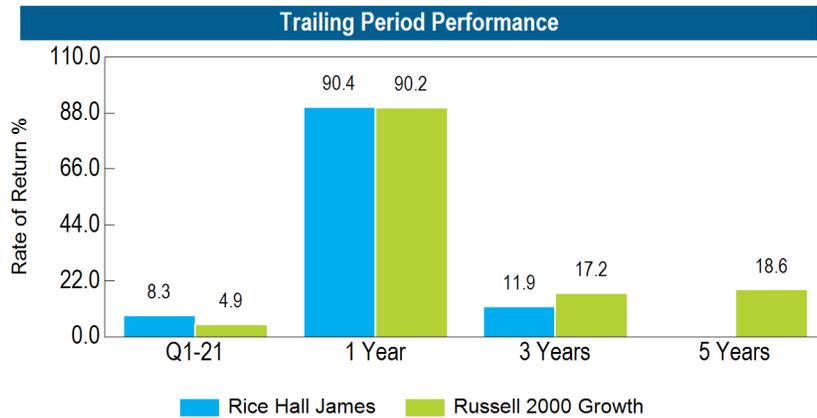
Vanguard Russell 2000 Value | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Russell 2000 Value	21.09%	31.37%	0.04%	1.00	0.59%	100.89%	99.67%
Russell 2000 Value	20.55%	31.29%	0.00%	1.00	0.00%	100.00%	100.00%



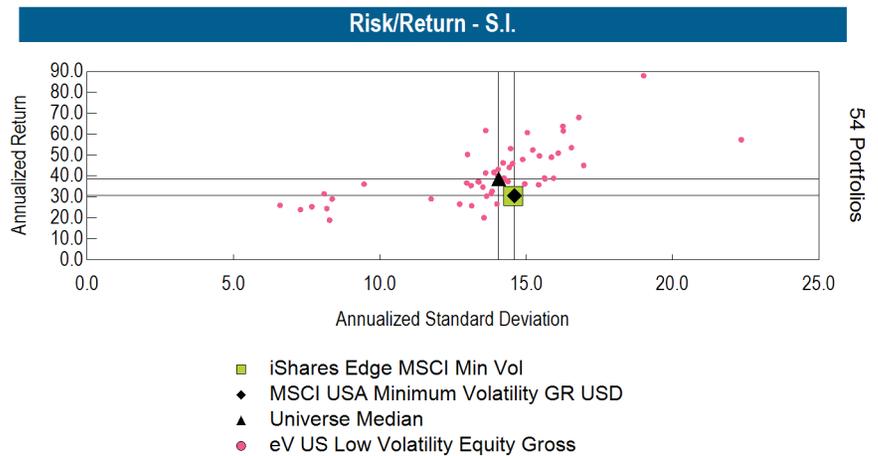
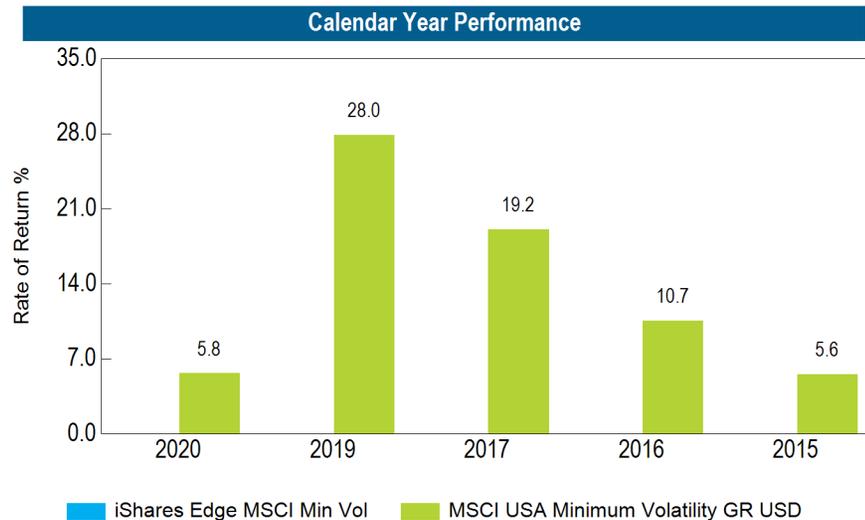
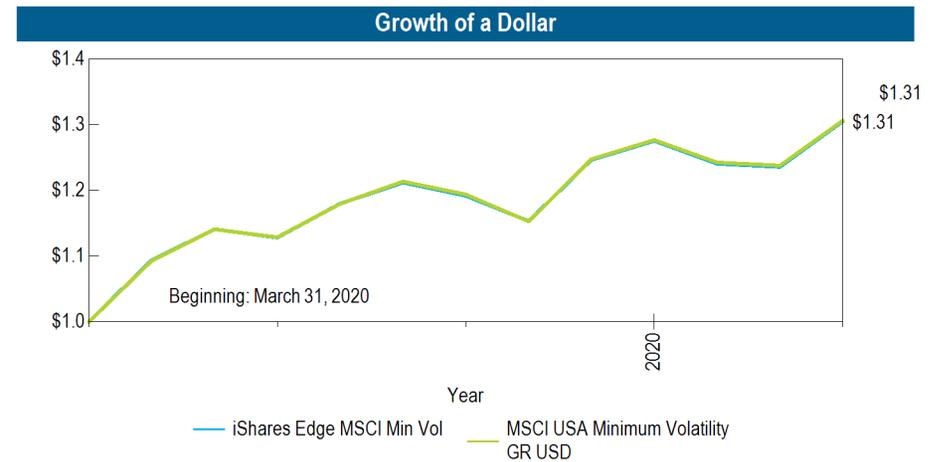
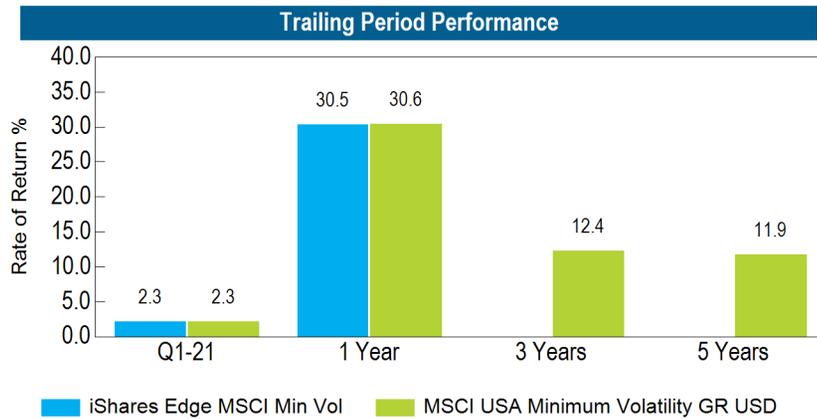
Rice Hall James | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Rice Hall James	14.58%	24.08%	-0.19%	0.99	-0.47	6.46%	90.08%	101.41%
Russell 2000 Growth	17.60%	23.31%	0.00%	1.00	--	0.00%	100.00%	100.00%

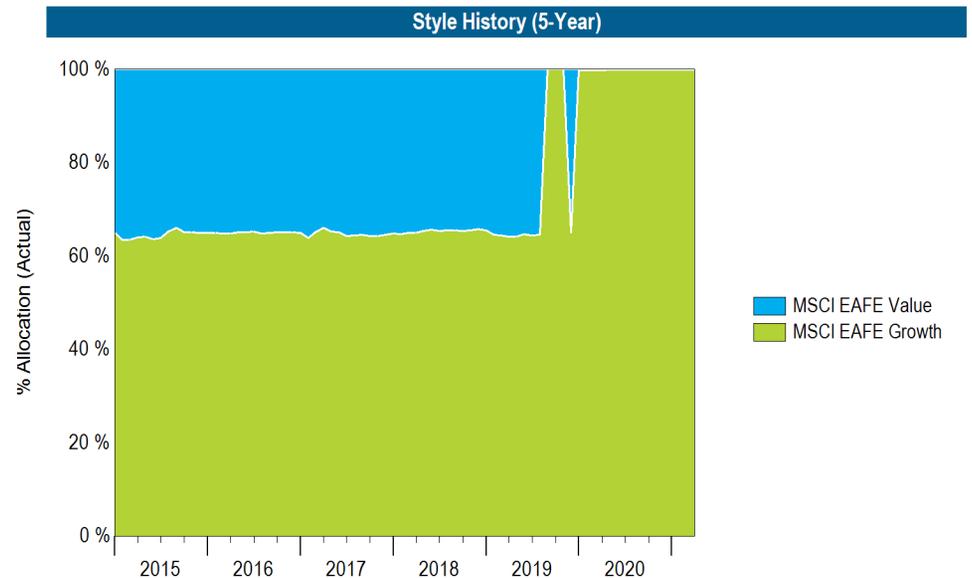
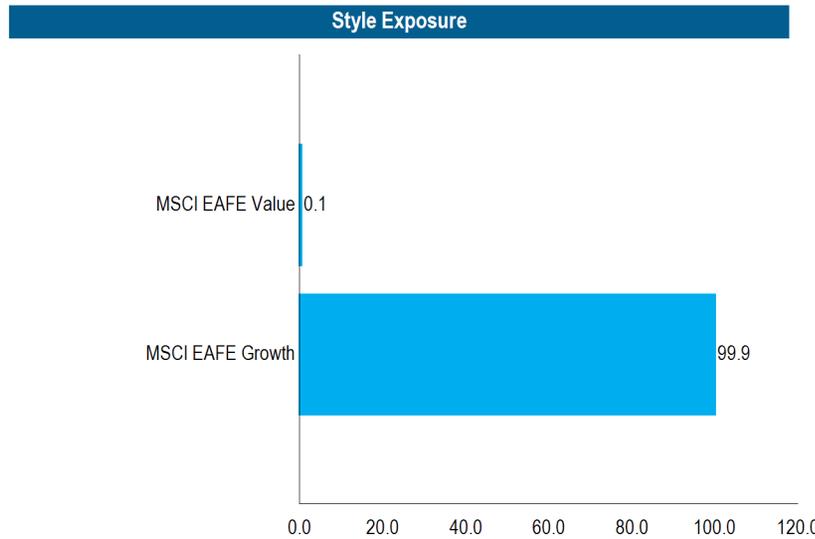
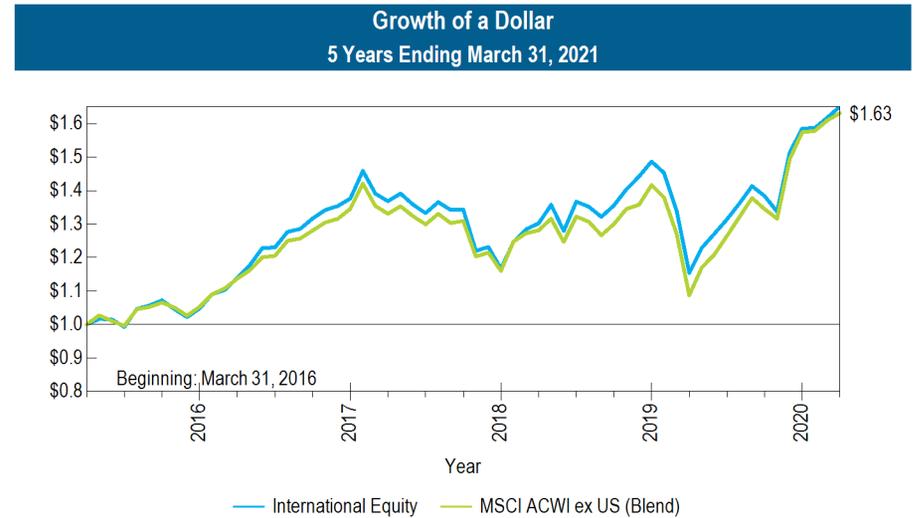
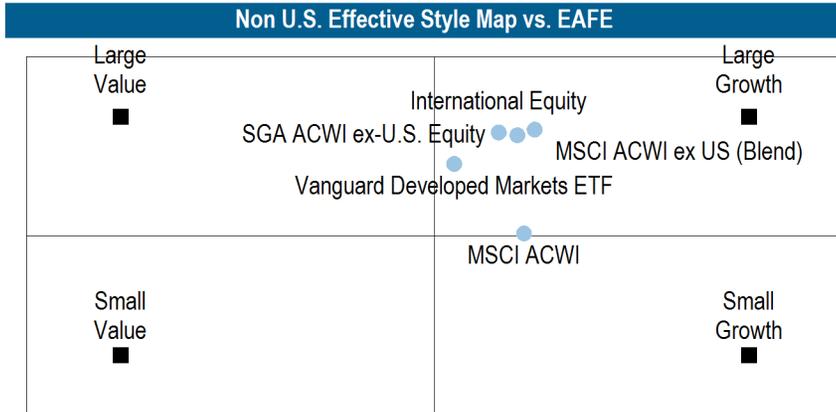


iShares Edge MSCI Min Vol | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
iShares Edge MSCI Min Vol	30.51%	14.56%	0.00%	1.00	0.32%	99.62%	99.53%
MSCI USA Minimum Volatility GR USD	30.60%	14.59%	0.00%	1.00	0.00%	100.00%	100.00%

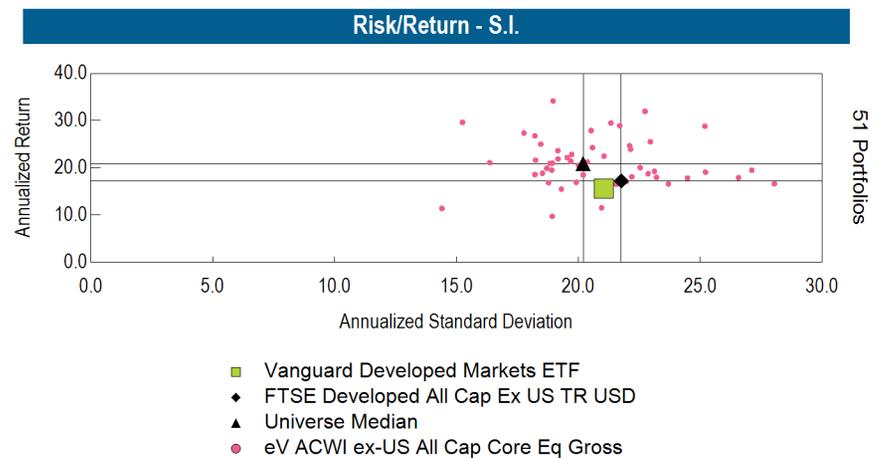
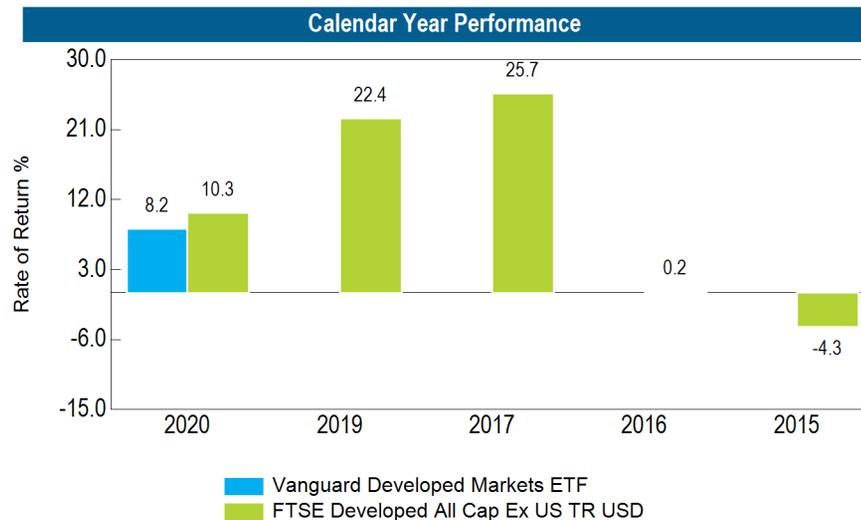
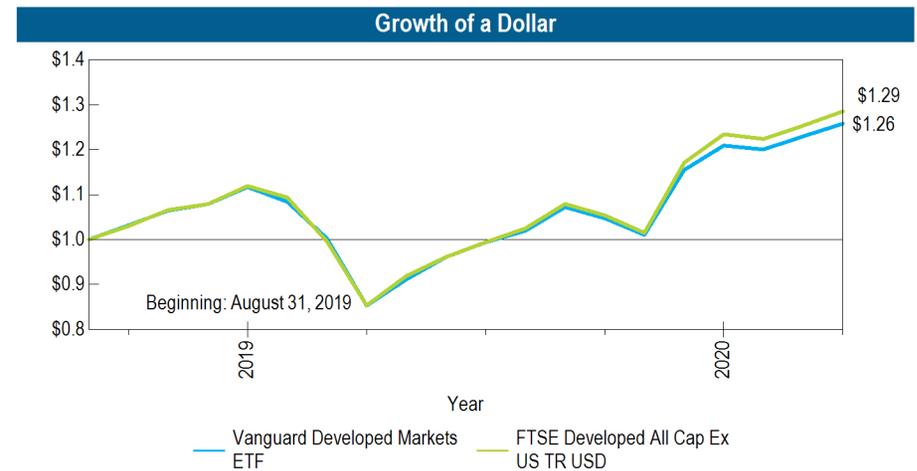
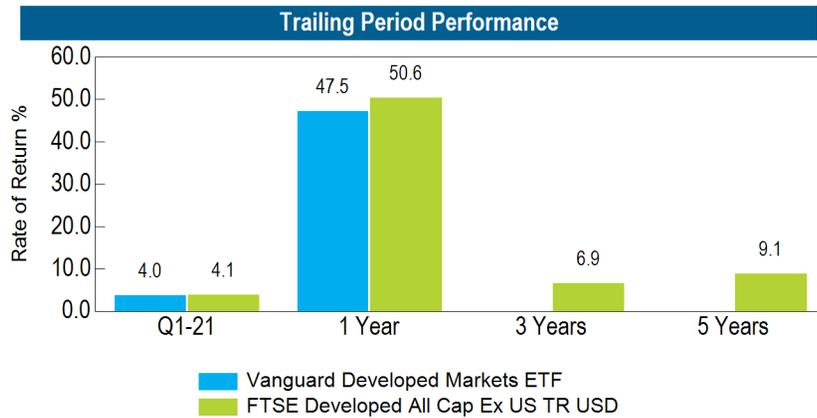


International Equity | As of March 31, 2021



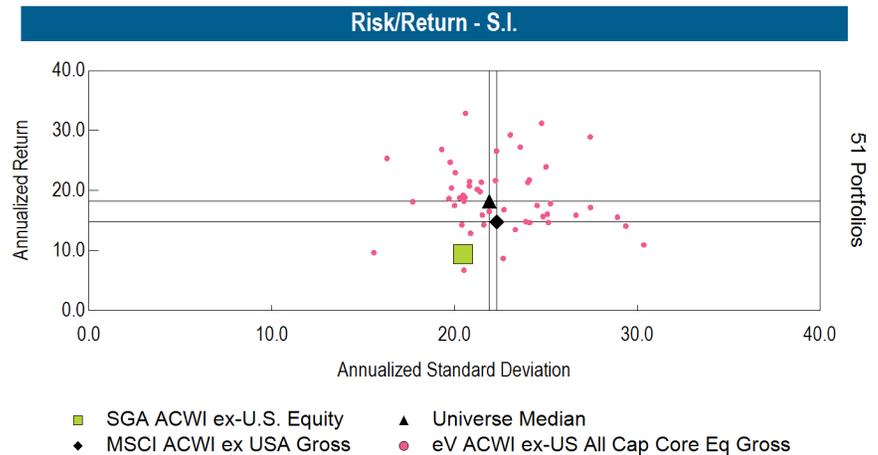
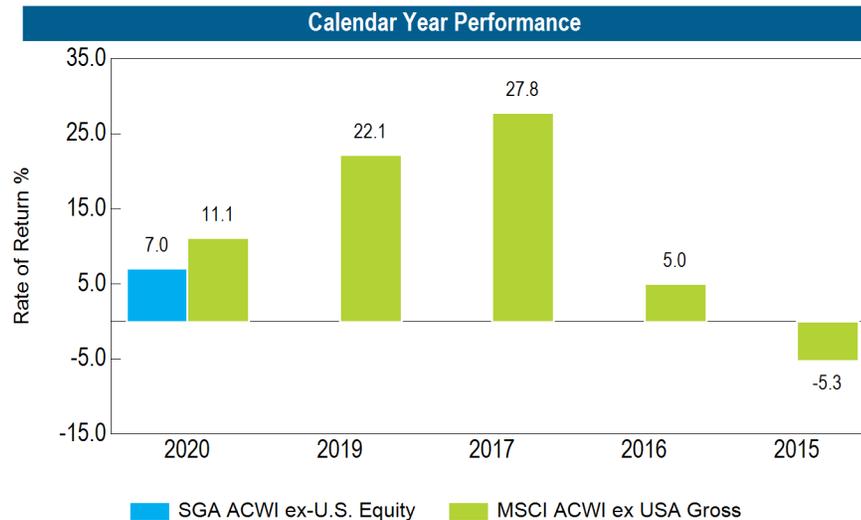
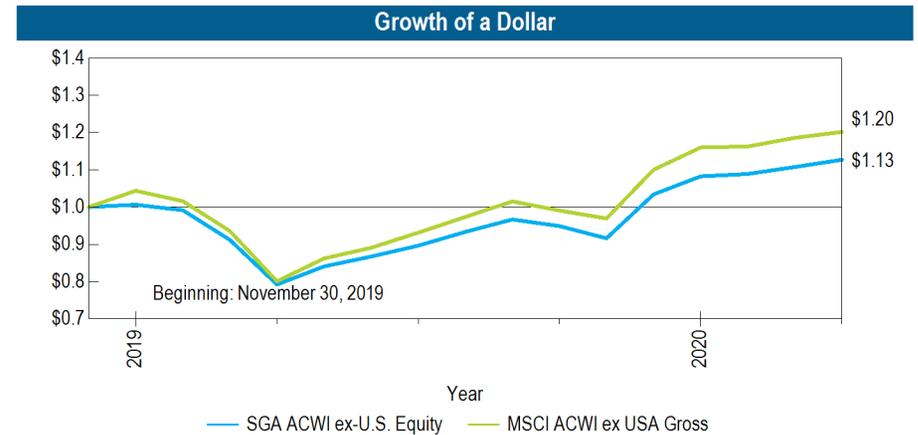
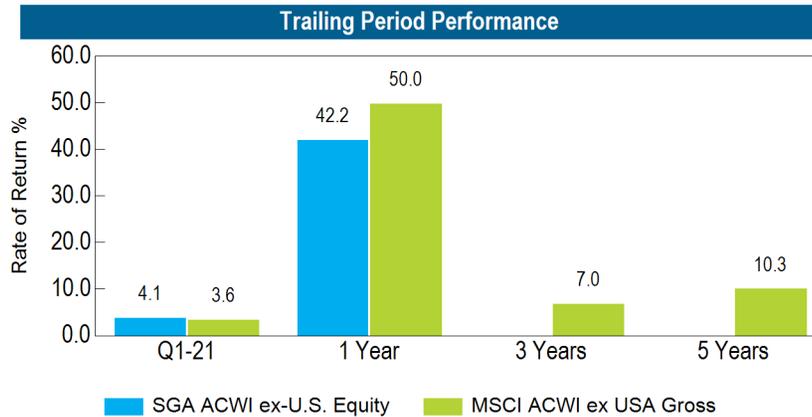
Vanguard Developed Markets ETF | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Developed Markets ETF	15.56%	21.03%	-0.07%	0.96	-0.80	2.01%	94.13%	98.86%
FTSE Developed All Cap Ex US TR USD	17.17%	21.75%	0.00%	1.00	--	0.00%	100.00%	100.00%



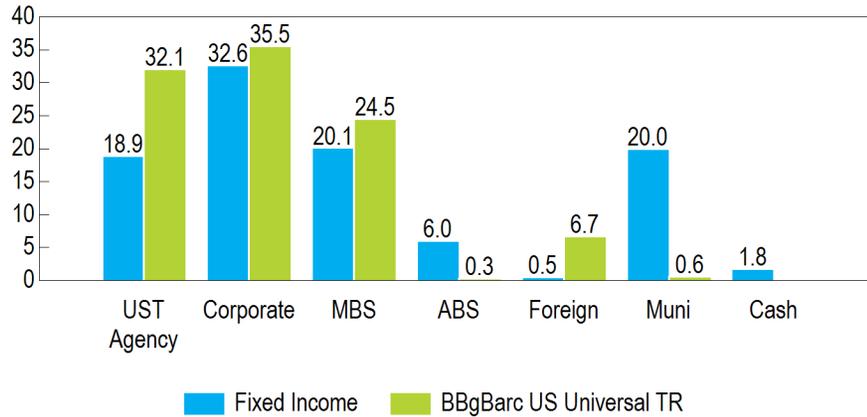
SGA ACWI ex-U.S. Equity | As of March 31, 2021

	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	8.78%	20.40%	-0.35%	0.90	-1.43	4.19%	78.43%	95.42%
MSCI ACWI ex USA Gross	14.76%	22.32%	0.00%	1.00	--	0.00%	100.00%	100.00%

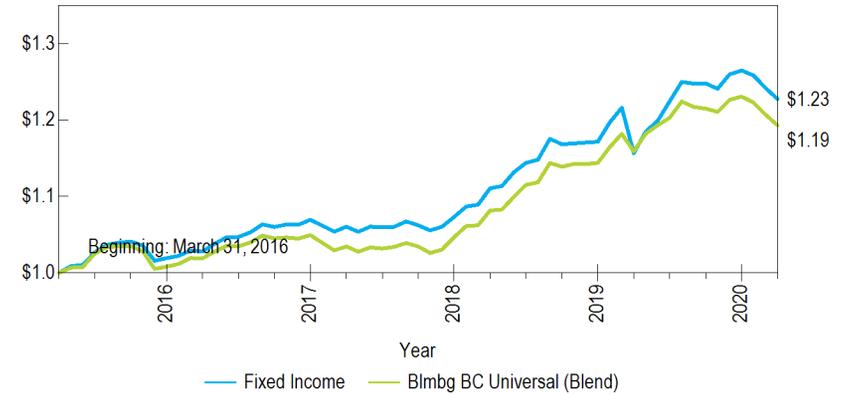


Fixed Income | As of March 31, 2021

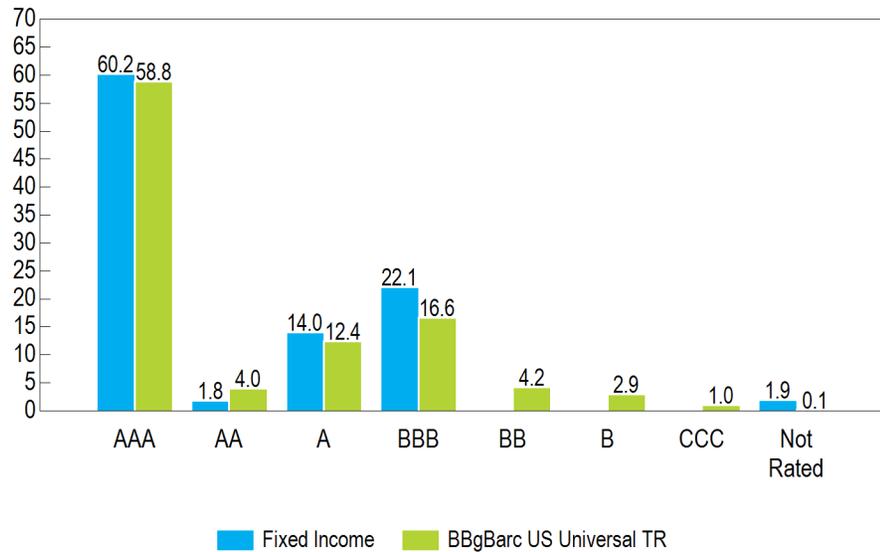
US Sector Allocation



Growth of a Dollar 5 Years Ending March 31, 2021



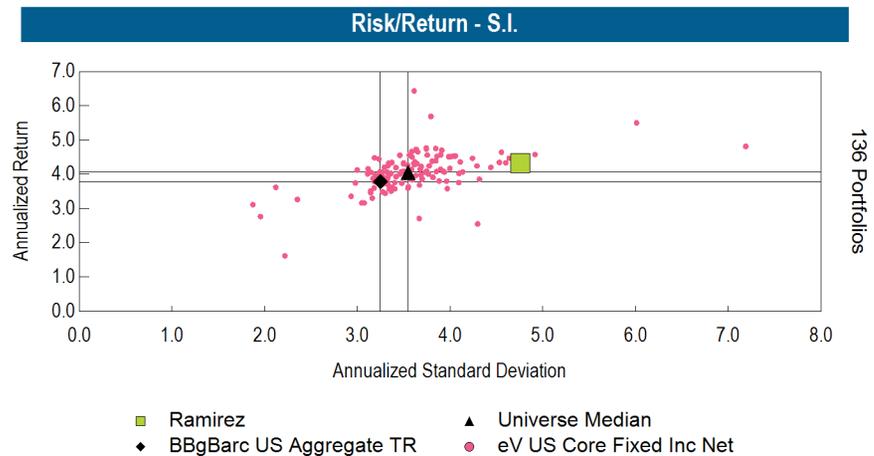
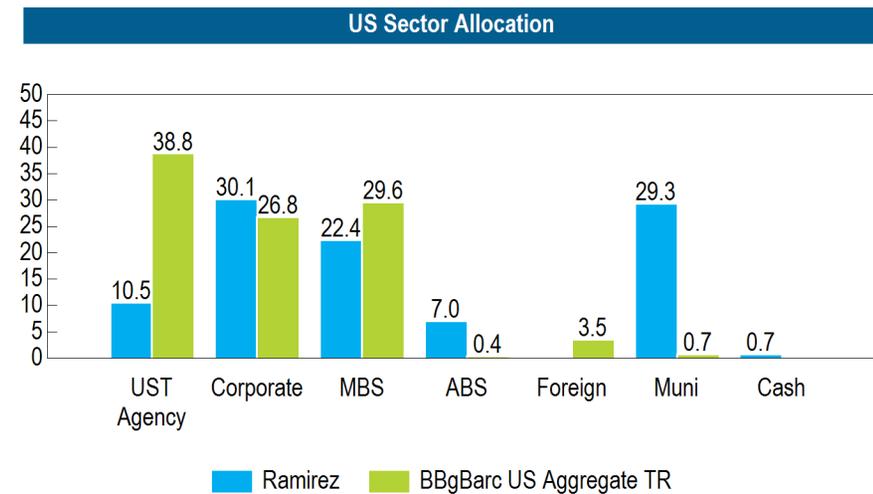
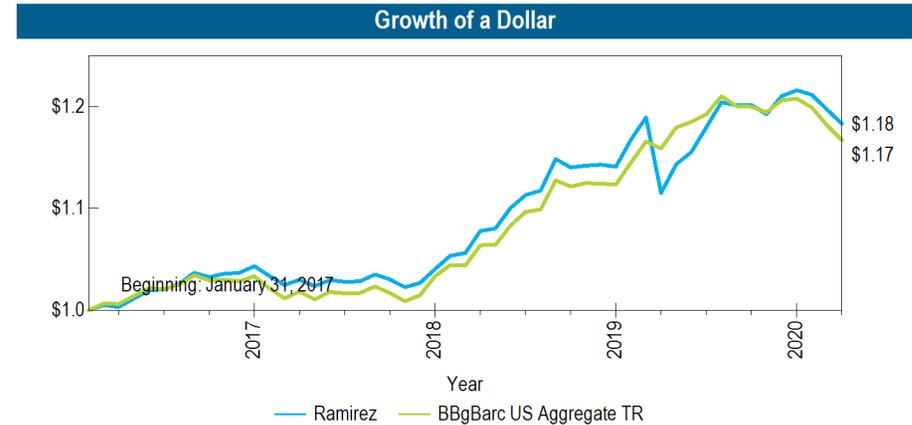
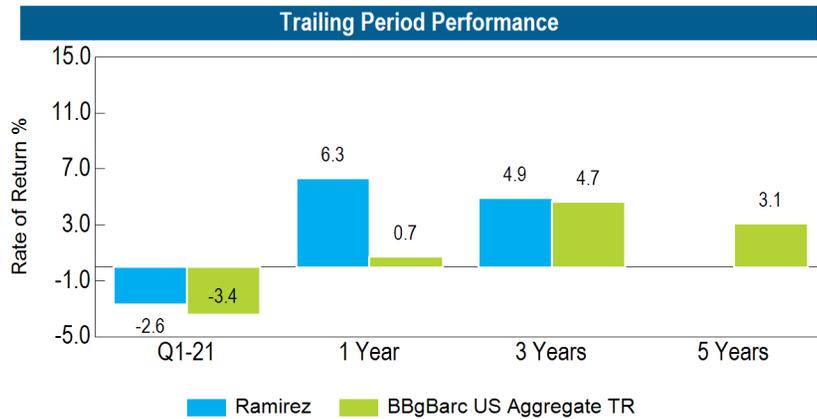
Credit Quality Allocation



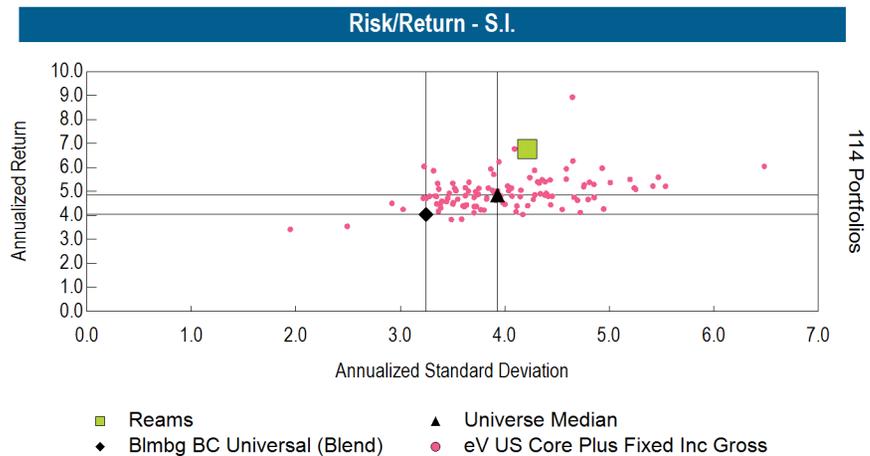
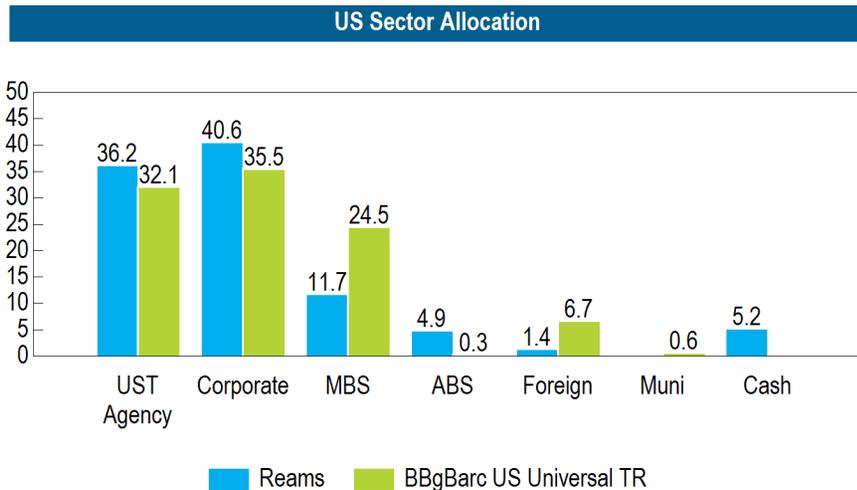
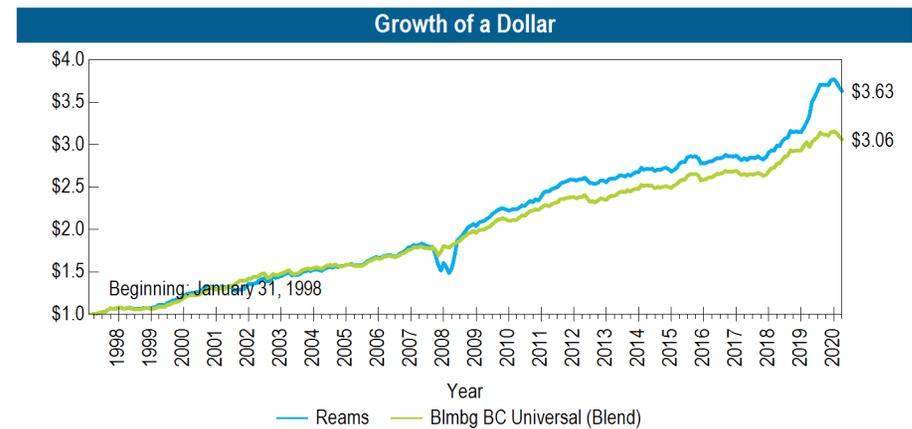
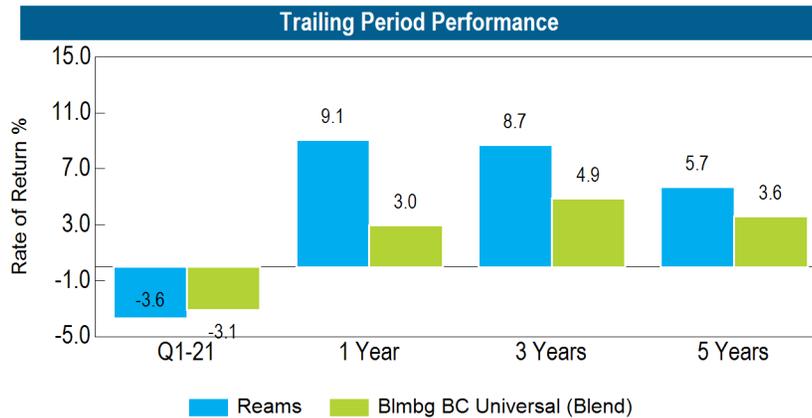
Fixed Income Fixed Income Characteristics vs. BbgBarc US Universal TR

	Portfolio Q1-21	Index Q1-21
Fixed Income Characteristics		
Yield to Maturity	1.88	1.87
Average Duration	6.11	6.22
Average Quality	A	AA
Weighted Average Maturity	8.60	12.53

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Ramirez	4.12%	4.76%	-0.01%	1.14	0.11	3.03%	122.07%	130.27%
BBgBarc US Aggregate TR	3.78%	3.25%	0.00%	1.00	--	0.00%	100.00%	100.00%

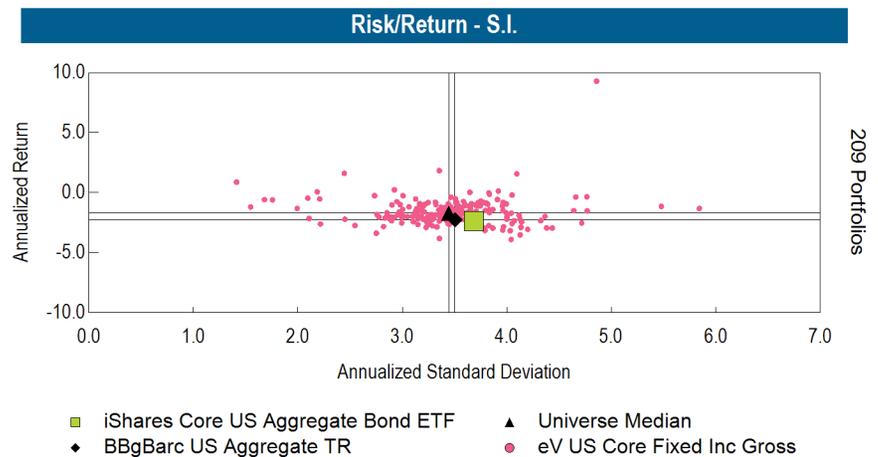
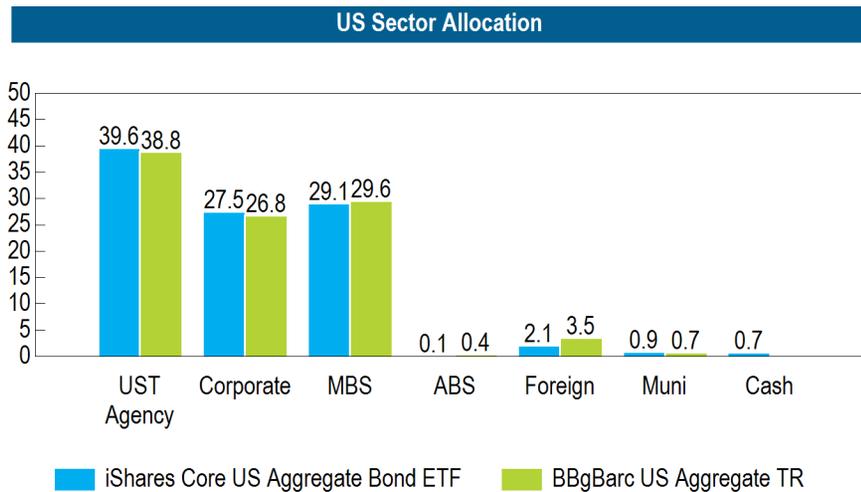
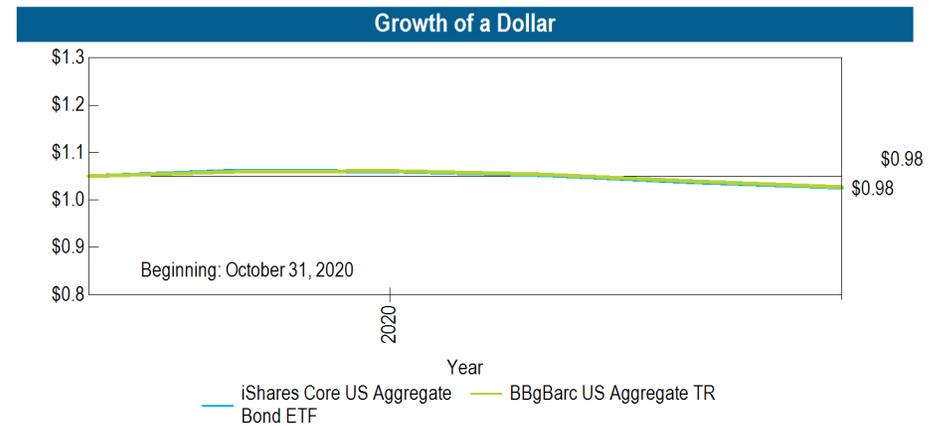
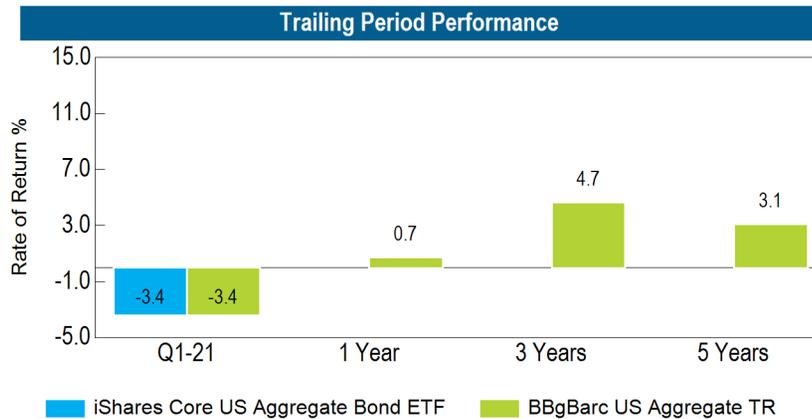


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Reams	5.72%	5.34%	0.05%	1.05	0.20	3.98%	121.78%	99.18%
Blmbg BC Universal (Blend)	4.95%	3.41%	0.00%	1.00	--	0.00%	100.00%	100.00%



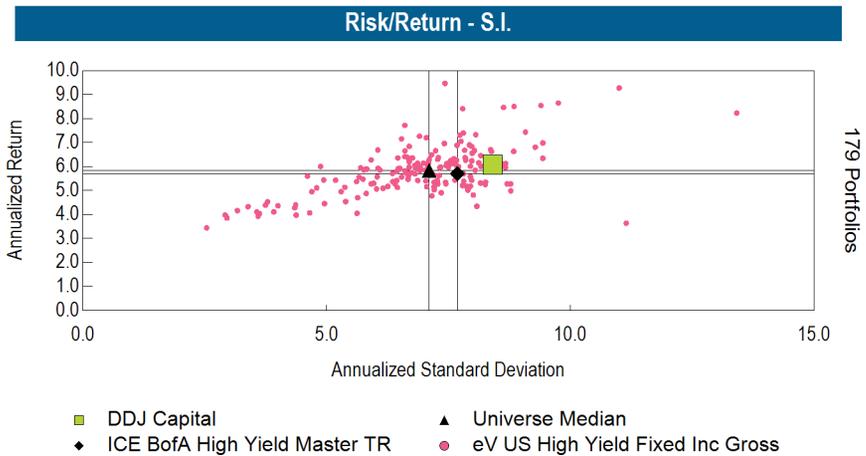
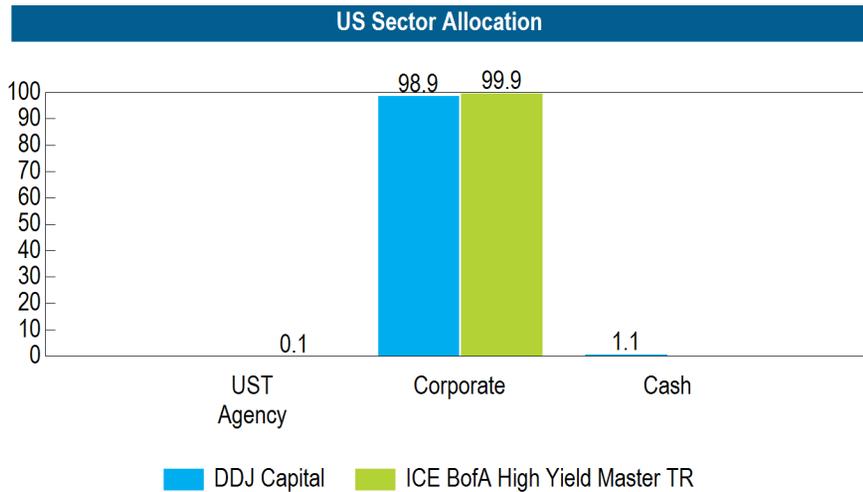
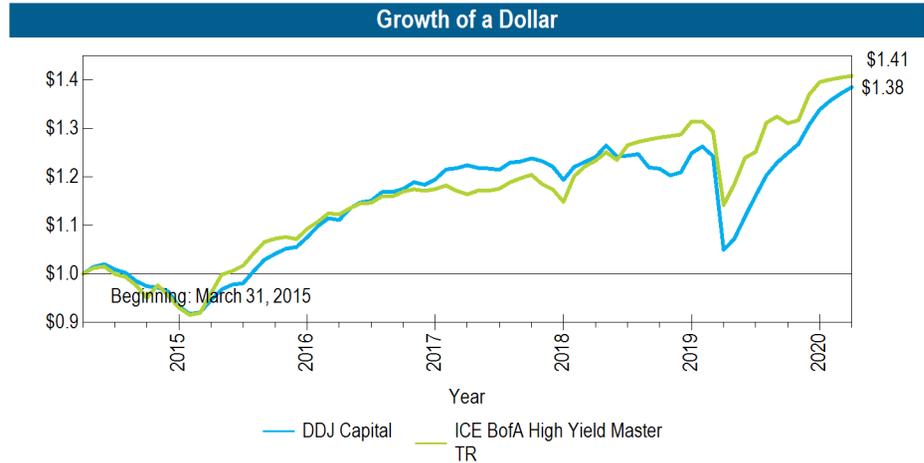
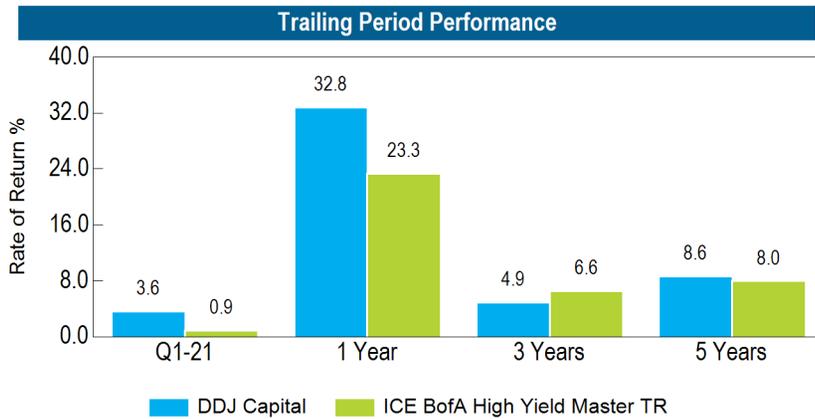
iShares Core US Aggregate Bond ETF | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
iShares Core US Aggregate Bond ETF	-2.40%	3.68%	-0.01%	1.03	-0.15	0.73%	90.20%	100.01%
BBgBarc US Aggregate TR	-2.29%	3.50%	0.00%	1.00	--	0.00%	100.00%	100.00%



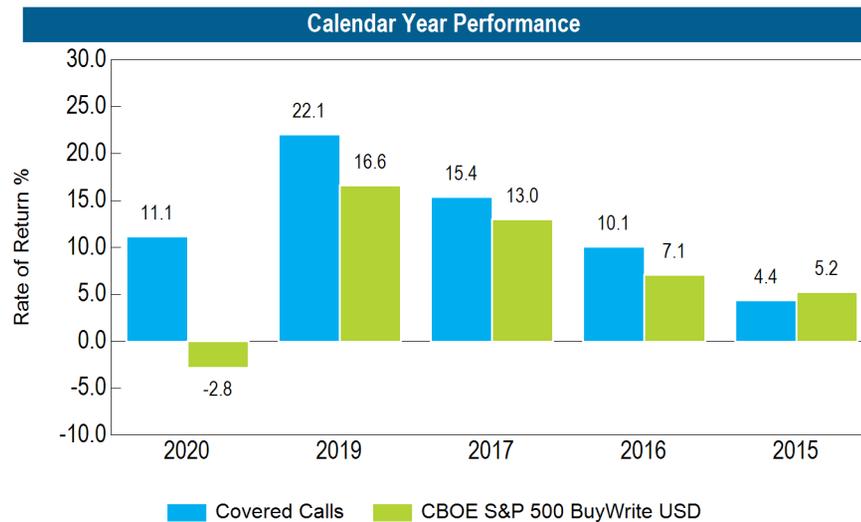
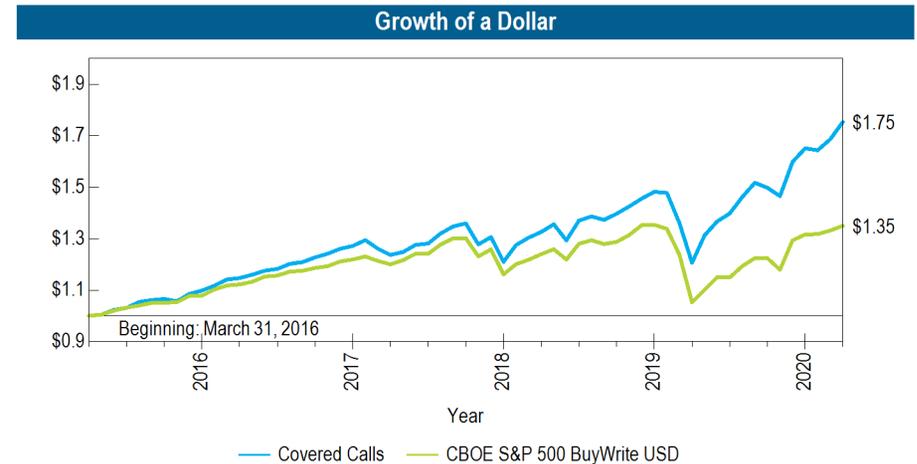
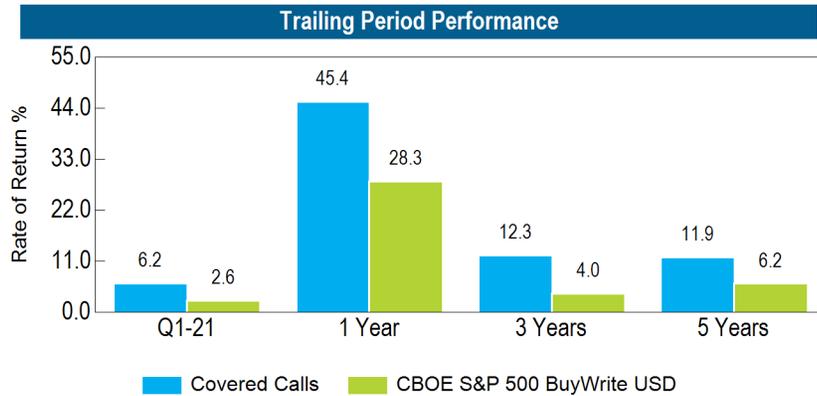
DDJ Capital | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
DDJ Capital	5.71%	8.38%	0.00%	0.96	-0.08	3.95%	89.20%	90.93%
ICE BofA High Yield Master TR	6.02%	7.67%	0.00%	1.00	--	0.00%	100.00%	100.00%



Covered Calls | As of March 31, 2021

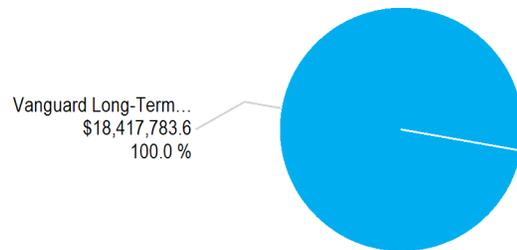
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Covered Calls	9.56%	10.83%	0.33%	0.98	1.19	3.40%	140.90%	96.60%
CBOE S&P 500 BuyWrite USD	5.49%	10.47%	0.00%	1.00	--	0.00%	100.00%	100.00%



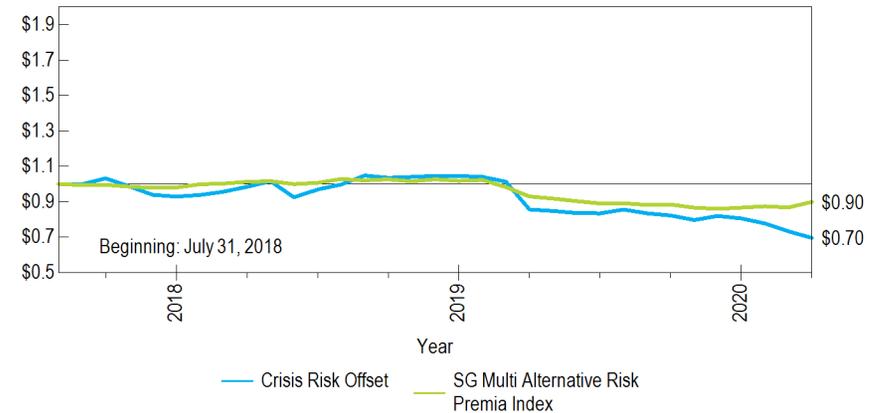
Crisis Risk Offset | As of March 31, 2021

	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	-13.03%	14.43%	-0.67%	1.26	-0.73	12.51%	-1.02	-0.99	0.26	49.73%	161.64%
SG Multi Alternative Risk Premia Index	-3.90%	5.81%	0.00%	1.00	--	0.00%	-0.86	-0.89	1.00	100.00%	100.00%

Current Allocation



Growth of a Dollar



Trailing Period Performance



Correlation Matrix 3 Months Ending March 31, 2021

	Crisis Risk Offset	MSCI ACWI	S&P 500	BBgBarc Global Aggregate TR
Crisis Risk Offset	1.00	--	--	--
MSCI ACWI	-0.92	1.00	--	--
S&P 500	-0.83	0.98	1.00	--
BBgBarc Global Aggregate TR	0.88	-1.00	-0.99	1.00

Manager Monitoring / Probation List

Manager Monitoring/Probation Status
Return vs. Benchmark since Corrective Action
As of March 31, 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

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

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

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

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

MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: David Sancewich, Paola Nealon, Sidney Kawanguzi, Meketa Investment Group
DATE: May 26, 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
June 2021	<ul style="list-style-type: none">Cash Flow Report (3Q 2021)Defensive Equity Search Interviews
July 2021	<ul style="list-style-type: none">Flash Performance (2Q2021)Manager Update: SGAEducational Item: SPACs2021 Asset Liability Review
August 2021	<ul style="list-style-type: none">Quarterly Performance Report (2Q 2021)Contract Renewal: Northern Trust (Custodian)Manager Update: Rice Hall & JamesEducational Item: Cryptocurrency
September 2021	<ul style="list-style-type: none">Cash Flow Report (4Q 2021)Educational Item: Transition from fossil fuels/ ESG TrendsThermal Coal List Update: 2021Manager Update: Northern Trust R1000
October 2021	<ul style="list-style-type: none">Flash Performance (3Q2021)Manager Update: RamirezContract Renewal: Ramirez

Expected Completion Date	Task
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/SK/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



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

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

**Wednesday, May 26, 2021
12:30 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
SPECIAL BOARD MEETING
MAY 26, 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** April 28, 2021 PFRS Board Regular Meeting Minutes
-
- B. AUDIT & OPERATIONS COMMITTEE AGENDA – MAY 26, 2021**
- B1. Subject: Administrative Expenses Report**
From: Staff of the PFRS Board
Recommendation: **ACCEPT** informational report regarding PFRS administrative expenses as of March 31, 2021
-
- B2. Subject: Review PFRS Travel Policy**
From: Staff of the PFRS Board
Recommendation: **DISCUSSION** regarding PFRS Travel Policy
-
- B3. Subject: Review PFRS Rules & Regulations**
From: Staff of the PFRS Board
Recommendation: **DISCUSSION** regarding PFRS Rules & Regulations
-
- B4. Subject: City of Oakland Pension Bond Debt Service Payment Schedule**
From: Staff of the PFRS Board
Recommendation: **ACCEPT** an informational report regarding the City of Oakland’s Pension Bond Debt Service Payment Schedule
-
- B5. Subject: Election of the 5-Year Retired Fire Representative Board Position**
From: Staff of the PFRS Board
Recommendation: **ACCEPT** an informational report regarding nominations for the 5-year Retired Fire Representative Board Position

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
SPECIAL BOARD MEETING
MAY 26, 2021

C. INVESTMENT & FINANCIAL MATTERS COMMITTEE AGENDA – MAY 26, 2021

- C1. **Subject:** Selection of New Systematic Trend Following Asset Class Investment Manager
From: Meketa Investment Group
-
- Recommendation:** **RECEIVE** report summarizing presentations at the Investment Committee Meeting from prospective Investment Management Firms seeking to serve as PFRS' New Systematic Trend Following Asset Class Investment Manager; **DISCUSS** and **APPROVE** Investment Committee's recommendation of new Systematic Trend Following Asset Class Investment Manager
- Versor Investments, LLC
 - LongTail Alpha, LP
 - Crabel Capital Management, LLC
 - BH-DG Systematic Trading, LLP
- C2. **Subject:** Investment Market Overview as of April 30, 2021
From: Meketa Investment Group
-
- Recommendation:** **ACCEPT** informational report regarding the Global Investment Markets as of April 30, 2021
- C3. **Subject:** Preliminary Investment Fund Performance Update as of April 30, 2021
From: Meketa Investment Group
-
- Recommendation:** **ACCEPT** informational report regarding the Preliminary Investment Fund Performance update as of April 30, 2021
- C4. **Subject:** Investment Fund Quarterly Performance Update as of March 31, 2021
From: Meketa Investment Group
-
- Recommendation:** **ACCEPT** informational report regarding the Quarterly Performance Report as of March 31, 2021

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
SPECIAL BOARD MEETING
MAY 26, 2021**

D. Subject: Resolution No. 8017 – Resolution ratifying the April 28, 2021 motion of the Oakland Police and Fire Retirement System Board to hire Kepos Capital, LP to serve as the Alternative Risk Premia Asset Class Investment Manager for the Oakland Police and Fire Retirement System at a management fee rate not to exceed 70 basis points (70 BPS or 0.70 percent) of the portfolio’s annual asset value and authorizing the President of the Police and Fire Retirement System Board to execute a professional services agreement with Kepos Capital, LP

From: Staff of the PFRS Board

Recommendation: **APPROVE** Resolution No. 8017 – Resolution ratifying the April 28, 2021 motion of the Oakland Police and Fire Retirement System Board to hire Kepos Capital, LP to serve as the Alternative Risk Premia Asset Class Investment Manager for the Oakland Police and Fire Retirement System at a management fee rate not to exceed 70 basis points (70 BPS or 0.70 percent) of the portfolio’s annual asset value and

E. NEW BUSINESS

F. OPEN FORUM

G. FUTURE SCHEDULING

H. ADJOURNMENT

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

- Board Members:
- Walter L. Johnson President
 - Jaime T. Godfrey Vice President
 - Robert W. Nichelini Member
 - Erin Roseman Member
 - 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
 - Margaret O'Brien PFRS Guest
 - David Sancewich Meketa Investment Group
 - Paola Nealon Meketa Investment Group

The meeting was called to order at 12:01 p.m. PST

President Johnson introduced and welcomed New PFRS Board Member and City of Oakland Finance Director Erin Roseman.

- A. PFRS Board Meeting Minutes** – Member Nichelini made a motion to approve the March 31, 2021 Regular Board Minutes, second by Member Traylor. The motion passed.

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

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

- B1. Administrative Expenses Report** – PFRS Staff Member Jenkins presented an informational report of the PFRS administrative expenditures as of February 28, 2021. PFRS has an approved budget of approximately \$3.5 million and has expensed \$1.4 million to date, leaving a balance of approximately \$2.1 million. Cash in Treasury, as of February 28, 2021, has an approximate balance of \$6.3 million; however, a pension payment of \$4.4 million came due on March 1, 2021 and left a residual balance of \$1.9 million. Currently, PFRS has a total of 736 retired members: 443 retired police Members and 293 retired fire Members.

MOTION: Member Speakman made a motion to accept the administrative expenses report as of February 28, 2021, second by Member Traylor. Motion passed.

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

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

C1. Selection of New Alternative Risk Premia Asset Class Investment Manager – Vice President Godfrey provided a brief summary of the presentations from the following prospective Investment Managers for the Alternative Risk Premia Investment Strategy: Kepos Capital, LP, Lombard Odier Investment Managers, and Two Sigma Investments, and explained that, after discussion and consideration of the presentations, the Investment Committee recommends that PFRS hire Kepos Capital, LP as the new Alternative Risk Premia Asset Class Manager. The Board discussed challenges Investment Managers face with regard to Diversity & Inclusion and what actions the Board can take to help guide and assist Investment Managers increase diversity and create a more inclusive environment within their organizations.

MOTION: Member Nichelini made a motion to hire Kepos Capital as the New PFRS Alternative Risk Premia Asset Class Investment Manager, second by Member Traylor. Motion Passed.

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

C2. Investment Market Overview as of March 31, 2021 – David Sancewich of Meketa Investment Group provided an informational report regarding the Investment Market Overview as of March 31, 2021. D. Sancewich highlighted Federal Reserve Interest Rates, the disconnect between the demand for goods, the ability to produce goods, and the supply chain, and a positive outlook towards hospitality and travel sectors. The Board asked questions to further discussion on the following topics: hospitality, restaurant, and travel sectors, the upcoming PFRS Asset Allocation Review, unemployment rates, and the effect of supply and demand challenges on consumer discretionary spending and staples.

MOTION: Vice President Godfrey made a motion to accept the informational report regarding the Investment Market Overview as of March 31, 2021 provided by Meketa Investment Group, second by Member Traylor. Motion passed.

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

C3. Preliminary Investment Fund Performance Update as of March 31, 2021 – David Sancewich of Meketa Investment Group provide a summary of the Preliminary Investment Fund Performance Update as of March 31, 2021. D. Sancewich noted that the Crisis Risk Offset portfolio is not within investment policy standards (IPS) range and explained that Meketa is in the process of addressing this as we move forward with the two new searches. D. Sancewich also reviewed the total plan asset class performance summary, noting historic returns that will likely never be seen again, and the potential impact of inflation on the portfolio and current and future strategies to address concern.

MOTION: Vice President Godfrey made a motion to accept the informational report from Meketa regarding the Preliminary Investment Fund Performance Update as of March 31, 2021, second by Member Speakman. Motion Passed.

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

- C4. PFRS Investment Managers' Fees** – Vice President Godfrey summarized the informational report provided by Meketa Investment Group regarding current Investment Manager Fees, noting data shows that Reams fees are in-line with current rates, as are the fees PFRS pays all its Investment Managers, with the exception of three outliers: DDJ, Rice Hall James, and Strategic Global Advisors (SGA). The Investment Committee and Meketa will work to figure out why the fees for the three outliers are higher than the median and what can be done to bring fees down and be more competitive. In response to a request at the Investment Committee meeting regarding the expiration date of the contracts with the three outliers, staff member Jenkins provided the following information: Rice Hall James contract expires 3/1/2022 and SGA contract expires in 2024.

MOTION: Vice President Godfrey made a motion to accept the informational report provided by Meketa regarding PFRS Investment Managers' Fees, second by Member Speakman. Motion passed.

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

- D. Resolution No. 8014 Resolution Expressing Appreciation for Board Member Margaret O'Brien** – Resolution 8014 Expressing Appreciation for Board Member Margaret O'Brien. PFRS Counsel Logue noted M. O'Brien was present at the meeting but was called away to address a work issue. Counsel Logue expressed, on behalf of Margaret O'Brien, that she wanted to say thank you very much, she really enjoyed being part of this Board and appreciates this recognition.

MOTION: Member Nichelini made a motion to approve Resolution No. 8014, second by Member Traylor. Motion passed.

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

E. Member Resolutions No. 8015 – 8016

- E1. Resolution No. 8015** – Resolution Approving Death Benefit Payment and Directing a Warrant Thereunder in the Total Sum of \$1,000.00 Payable to the Beneficiary of the following Deceased Member of the Police and Fire Retirement System:

- Steven H. Todar

MOTION: Member Traylor made a motion to approve Resolution No. 8015, second by Member Nichelini. Motion passed.

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

E2. **Resolution No. 8016** – 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>
Artis S. Wiseman	Shirley R. Wiseman	\$4,005.33

MOTION: Member Traylor made a motion to approve Resolution No. 8016, second by Member Nichelini. Motion passed.

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

F. **New Business** – Member Speakman requested a memo regarding the status of Pension Obligation Bonds. PFRS Counsel Logue acknowledged a discussion at the last meeting regarding whether the PFRS board will be able to continue meeting virtually via Zoom post-pandemic and advised that the City Attorney’s Office currently has no information regarding whether the temporary pandemic-related amendments to the Brown Act, which allow for virtual meetings, will become permanent. Counsel Logue suggested that motion be made to add an item regarding this issue to the pending list so she can monitor the situation and report back as necessary.

MOTION: Member Nichelini made a motion to add an item to the pending list regarding impacts to the format of future PFRS meetings, second by Member Speakman. Motion passed.

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

G. **Open Forum** – President Johnson commended the Audit Committee, Investment Committee, PFRS Staff, Legal Counsel, and the Investment Counsel for a job well done on their ability to come together to make our meetings beneficial and timely. President Johnson and Plan Administrator Jones welcomed Erin Roseman to the City of Oakland and the PFRS Board and are looking forward to working with her more closely in the future.

H. **Future Scheduling** – The next Regular Board Meeting is scheduled for Wednesday, May 26, 2021 with a tentative start time of 12:00 p.m. PST.

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

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

The meeting adjourned at 12:50 p.m. PST

DAVID F. JONES, SECRETARY

DATE

Table 1

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Administrative Budget Spent to Date (Preliminary)

As of March 31, 2021

	Approved Budget		March 2021		FYTD		Remaining		Percent Remaining	
Internal Administrative Costs										
PFRS Staff Salaries	\$	1,200,000	\$	89,994	\$	807,914	\$	392,086		32.7%
Board Travel Expenditures		52,500		-		-		52,500		100.0%
Staff Training		20,000		-		110		19,890		99.5%
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		100.0%
Miscellaneous Expenditures		40,000		1,697		10,149		29,851		74.6%
Internal Service Fees (ISF)		88,000		18,820		74,893		13,107		14.9%
Contract Services Contingency		50,000		-		1,200		48,800		97.6%
Internal Administrative Costs Subtotal :	\$	1,505,600	\$	110,511	\$	894,266	\$	611,334		40.6%
Actuary and Accounting Services										
Audit	\$	45,000	\$	-	\$	45,000	\$	-		0.0%
Actuary		46,500		1,038		19,897		26,604		57.2%
Actuary and Accounting Subtotal:	\$	91,500	\$	1,038	\$	64,897	\$	26,604		29.1%
Legal Services										
City Attorney Salaries	\$	188,000	\$	18,431	\$	137,416	\$	50,584		26.9%
Legal Contingency		150,000		-		-		150,000		100.0%
Legal Services Subtotal:	\$	338,000	\$	18,431	\$	137,416	\$	200,584		59.3%
Investment Services										
Money Manager Fees	\$	1,353,000	\$	202,255	\$	519,955	\$	833,045		61.6%
Custodial Fee		124,000		-		58,250		65,750		53.0%
Investment Consultant		100,000		25,000		75,000		25,000		25.0%
Investment Subtotal:	\$	1,577,000	\$	227,255	\$	653,205	\$	923,795		58.6%
Total Operating Budget	\$	3,512,100	\$	357,235	\$	1,749,783	\$	1,762,317		50.18%

Table 2

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Cash in Treasury (Fund 7100) - Preliminary

As of March 31, 2021

	March 2021
Beginning Cash as of 2/28/2021	\$ 6,373,882
Additions:	
City Pension Contribution - March	\$ 3,637,333
Investment Draw	\$ 1,000,000
Misc. Receipts	400
Total Additions:	\$ 4,637,733
Deductions:	
Pension Payment (February Pension Paid on 3/1/2021)	(4,388,318)
Expenditures Paid	(357,235)
Total Deductions	\$ (4,745,553)
 Ending Cash Balance as of 3/31/2021*	 \$ 6,266,063

* On 4/1/2021, March pension payment of appx \$4,359,000 will be made leaving a cash balance of \$1,907,000

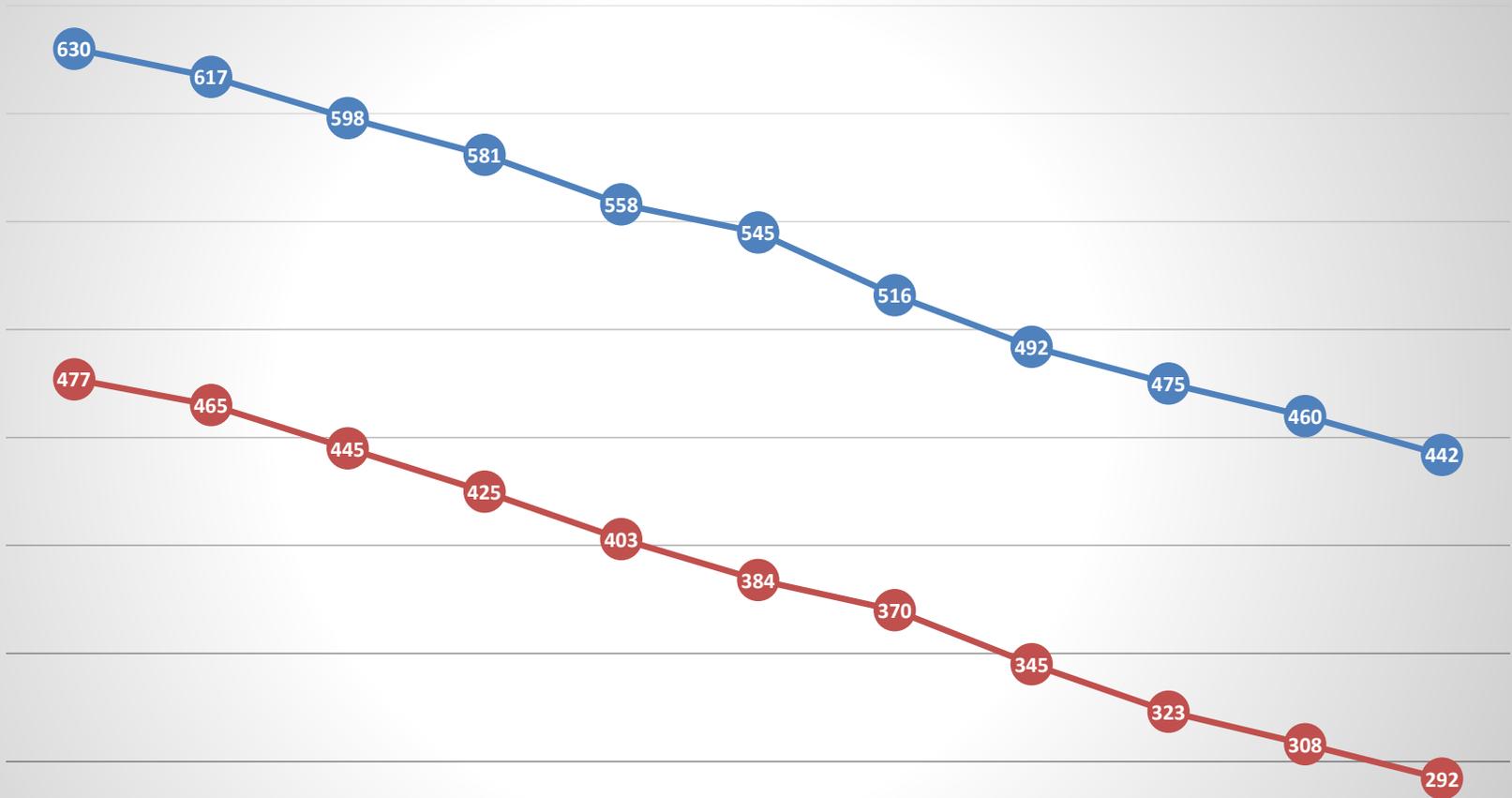
Table 3
CITY OF OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

Census
As of March 31, 2021

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Retiree	321	187	508
Beneficiary	121	105	226
<i>Total Retired Members</i>	442	292	734
<i>Total Membership:</i>	442	292	734

COMPOSITION	POLICE	FIRE	TOTAL
Retired Member:			
Service Retirement	295	147	442
Disability Retirement	135	132	267
Death Allowance	12	13	25
<i>Total Retired Members:</i>	442	292	734
<i>Total Membership as of March 31, 2021:</i>	442	292	734
<i>Total Membership as of June 30, 2020:</i>	460	308	768
<i>Annual Difference:</i>	-18	-16	-34

Oakland Police and Fire Retirement System Pension Plan Membership Count As of March 31, 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	442
Fire	477	465	445	425	403	384	370	345	323	308	292
Total	1107	1082	1043	1006	961	929	886	837	798	768	734



AGENDA REPORT

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

FROM: David F. Jones
Plan Administrator

SUBJECT: Review of PFRS Travel Policy

DATE: May 26, 2021

OVERVIEW

Pursuant to Section 23 of the PFRS Education and Travel Policy, the Audit/Operations Committee shall have the responsibility of conducting a review of PFRS Education and Travel Policy as needed, but no less than three (3) years from the previous approval date and make recommendations to the board as necessary.

BACKGROUND

The PFRS Travel Policy (**ATTACHMENT 1**) was last approved April 25, 2018.

RECCOMENDATION

Review and discuss the current PFRS Travel Policy and provide direction to PFRS Staff as to next steps.

Respectfully submitted,

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

ATTACHMENT 1

***PFRS Education and Travel Policy
v.2018.04.25***

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

I. INTRODUCTION

- 1) The Retirement Board of the Oakland Police and Fire Retirement System (the "Board") recognizes and affirms its constitutional and statutory fiduciary duty to prudently administer the retirement system for the exclusive benefit of PFRS members and their beneficiaries as set forth below:
 - a) "[T]he retirement board of a public pension or retirement system shall have plenary authority and fiduciary responsibility for investment of moneys and administration of the system..." Cal. Const. Art. XVI, § 17
 - b) "Except as otherwise expressly restricted by the California Constitution and by law, the board may, in its discretion, invest, or delegate the authority to invest, the assets of the fund through the purchase, holding, or sale of any form or type of investment, financial instrument, or financial transaction when prudent in the informed opinion of the board." Cal. Gov. Code § 31595(a)
 - c) "The board and its officers and employees shall discharge their duties with respect to the system...(b) [w]ith the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims." Cal. Gov. Code § 31595(b)
- 2) The Board recognizes the need to reimburse Trustees and authorized staff for travel and other expenses reasonably and necessarily incurred while participating in educational programs, conducting due diligence, and other activities on behalf of the retirement system. These expenses are legitimate expenses of the retirement system. The Board adopts this Policy and the accompanying Preapproved Travel Expense Reimbursement Schedule (Exhibit A) to facilitate reimbursement of qualifying travel expenses.

II. PURPOSE

- 1) The objectives of this PFRS Education and Travel Policy are:
 - a) To ensure all Trustees gain the knowledge necessary to carry out their fiduciary responsibilities.
 - b) To ensure access to relevant information is made available to all Trustees.
 - c) To ensure Trustees possess shared knowledge relevant to pension administration and the investment of trust assets, to enable effective group discussion, debate, and decision-making.
 - d) To enable each Trustee to achieve and maintain proficiency in the conduct of PFRS business by educating themselves in matters central to the prudent administration of the retirement system and the investment of retirement funds.
 - e) To set forth the guidelines by which PFRS will reimburse Trustees, the Retirement Administrator, and staff for qualifying travel expenditures.
 - f) To ensure that travel expenditures incurred are prudent and cost effective, and to mitigate the risk of any impropriety (whether perceived or actual) that could arise from retirement system and/or PFRS business-related travel.
 - g) To encourage the continued education of the PFRS Board and staff.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

- 2) In order to keep pace with the continued growth and diversification of the retirement fund as well as the increasing complexity of financial and investment management systems, Board members are required to have ongoing training regarding (but not limited to):
 - a) Fiduciary Responsibility;
 - b) Pertinent Pension/Retirement Law and Standards;
 - c) Equity and Security Investing;
 - d) International Investing;
 - e) Asset Allocation; and
 - f) Pension Funding.

III. SCOPE

This policy shall apply to:

- 1) The members serving on the PFRS Board of Administration, also referred to as "Board Members" or "Trustees",
- 2) The Secretary of the PFRS Board,
- 3) The Plan Administrator,
- 4) The staff assigned to provide administrative support to the Board.

IV. EDUCATION AND TRAVEL POLICY

- 1) General Provisions
 - a) The Audit and Operations Committee of the PFRS Board will review and make recommendations regarding all travel and education reimbursement requests to the PFRS Board. The PFRS Board may act independently of the Committee if the Audit Committee does not meet.
 - b) Board members who attend educational programs and travel in their official Board capacity shall be reimbursed for their actual and necessary expenses for event registration, transportation, parking, tolls and other reasonable incidental costs. "Actual and necessary expense" does not include alcoholic beverages nor does it include expenses incurred by a travel companion.
 - c) All travel shall be reviewed by the Audit and Operations Committee and approved in advance of travel by the Board, except as described below. Membership in an organization is not of itself, a basis for travel authorization.
 - d) Travel by multiple Trustees shall be conducted in such a manner as to not violate provisions of the Brown Act (Cal. Gov. Code § 54950 et seq.) or Oakland Sunshine Ordinance (Oakland City Council Resolution No. 12483 C.M.S.).
 - e) Travel by the Plan Administrator and the staff assigned to provide administrative support to the Board are additionally subject to the travel policy of the City of Oakland for any relevant travel associated with the PFRS system.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

2) Approval

- a) Reimbursement of education and travel-related expenses for a Trustee or staff members to attend an educational program, conduct a due diligence site examination, or conduct other PFRS-related business requires the prior review by the Audit and Operations Committee and the approval of the Board.
- b) PFRS staff will include the education/travel request as an Audit and Operations Committee agenda item, noting the Board member(s) and staff who will be traveling, the purpose of the travel, and the date(s) of the travel. Any PFRS board approval shall be accomplished by resolution.
- c) The Board President, in consultation with the Plan Administrator, may authorize education or travel without prior approval of the Board in circumstances when Board approval cannot be obtained in advance and subject to the limitations in this Policy. Staff will place the expense request and authorization on the next regularly scheduled Board and Committee meeting for ratification.
- d) The Plan Administrator may approve payment of budgeted education and travel claims that do not exceed \$1,000 per item, not specifically covered by the provisions of this policy, provided the Plan Administrator determines such expenses are/were necessary in connection with official business of the Board and staff.
- e) City staff will process the approved Board education/travel by submitting assembled invoices and reimbursement requests (if any) related to Board travel to the City of Oakland, Controller Bureau.

3) Limitation on Attendance

- a) Trustees are encouraged to seek education that will further the purpose of this Policy. A Trustee may attend additional Board approved educational programs requiring overnight lodging, subject to the criteria of this Policy. The Board, at its sole discretion, may limit Trustee attendance up to the Trustee's annual Travel Expense (not to exceed \$7,500 per fiscal year).

4) Travel and Education Expense Allocation Budget

- a) The travel and education allowance for the PFRS Board and Staff will be budgeted and adopted annually during the Board's budget process.
- b) Prior to the start of the upcoming fiscal year beginning July 1, the Board will establish an education and travel allowance of up to \$7,500.00 for each Board member. These allowances shall not be exceeded without prior Board approval. However, the Board may pre-authorize expenses associated with education/travel for a Board member whose expenses are expected to exceed \$7,500.00 if, prior to the education program or travel, a cost estimate is submitted for the Board's review and the Board determines the expenses are necessary and are in connection with official Board business.
- c) The Travel Allowance for the Staff of the PFRS board will be budgeted and adopted annually during the Board's budget process. The Board will establish the next fiscal year travel allowance and education allowance prior to the start of the next fiscal year beginning July 1.
- d) Staff members whose local bargaining unit has provisions for tuition reimbursement related to professional development shall have budget allocated from the PFRS fund. The Staff Education Allowance shall only apply to tuition and/or registration fees related to class enrollment and textbooks related to enrolled classes. The Staff Education Allowance shall be

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

administered and budgeted separately from the Annual Board and Staff Travel Expense Allowance. The Staff tuition reimbursement requests and authorization related to the Staff Education Allowance shall be administered by the Plan Administrator.

5) Expenses other than Pre-approved Expenses

- a) The Board shall approve, by the affirmative vote of four members, any travel, education, and other expenses at its discretion. Board decisions are final and denial of travel made by the Board cannot be appealed.

6) Requests for Reimbursement

- a) Reimbursement for education or travel by an attendee shall be submitted on the Travel Authorization form. All such forms will be reviewed and approved (or disapproved) in accordance with the provisions of this Policy. All requests for reimbursement shall be submitted within fifteen (15) days following conclusion of event and/or return to Oakland, whichever is first.
- b) Reimbursements or advances in excess of allowable expenses must be returned to PFRS within thirty (30) days after the excess amounts become evident.

7) Gifts

- a) When traveling on official PFRS due diligence business travel, PFRS's trustees, officers, or employees shall not accept payment or gifts of travel or lodging from any person or entity (also, see Honoraria).
- b) Food and beverages provided during the normal course of the day, as part of due diligence business travel, may be accepted, provided such food and beverages are uniformly offered to all attendees.

8) Honoraria

- a) Board members and staff are not permitted to accept honoraria from event sponsors or investment managers in any form for any event included with any request for travel authorization and/or expense reimbursement.

9) Cash Advances

- a) Cash advances will not be allowed unless specifically approved by the Board.

10) Expenses for Traveling Companions

- a) Expenses of family members and/or traveling companions are not reimbursable by PFRS.

11) Limitations on Expense Allowance

- a) Reimbursement for expenses shall not exceed that which is reasonable and necessary for travel to the precise destination and date of the covered occurrence, whether by private automobile, rental vehicle or common carrier. Expense costs for extra days prior to or after a conference will be reimbursed only if such extension results in lower overall trip costs or is necessitated by the conference schedule or available flights. Such cost(s) cannot push travel costs beyond any members' overall annual travel budget allowance.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

12) Travel and Lodging Cancellations

- a) Trustees are responsible for the timely cancellation of registration fees, as well as travel and lodging reservations made on their behalf that will not be used, so that PFRS will incur no unnecessary expense. Should the Board determine that a Trustee has consistently failed to timely cancel travel, the Board may require a Trustee to personally pay any fees caused by their failure to timely cancel travel.

13) Travel Arrangements

- a) All travel arrangements for which reimbursement is or will be sought shall be coordinated with the office of the Plan Administrator. Staff will process and pay the registration fee for an event (if any) and apply the cost of registration toward the members' annual travel expense allowance.
- b) Travel requests shall be submitted to the Plan Administrator prior to travel and shall include supporting information such as: program announcements, schedules, meeting dates, and an estimate of costs.
- c) The Plan Administrator or designee will assist the Board with travel arrangements when necessary, including arranging for event registration .

14) Travel By Privately-Owned Vehicles

- a) Board members, who use their privately owned vehicles for official travel within a 150-mile radius of point of origin, will be reimbursed at the Federal mileage rate. For trips exceeding a 150-mile radius of point of origin, Board members will be reimbursed at the established full coach round trip, unrestricted airfare (as of the date of the claim).
- b) Point of origin shall refer to the residence of the Board member.

15) Travel By Common Carrier

- a) When the carrier provides transportation by more than one class of service, the full coach or economy class fare on a major airline must be used. Any costs over and above coach or economy class shall be considered personal, non-reimbursable expenses of the traveler. Whenever possible, the Oakland Airport should be used for air travel. Original receipts and the travel itinerary are required for reimbursement of airfare. Airfare purchased using "frequent flyer miles" will not be reimbursed.

16) Rental Car

- a) The use of a rental car is allowed, provided its use is the most economical and practical means of travel. Original receipts are required for rental car reimbursement (including receipts for tolls, fuel, etc.).

17) Overnight Lodging

- a) The Plan Administrator will be responsible for payment of lodging invoices. Conference discount rates are to be used if offered. Travelers may make independent reservations at a non-conference associated hotel, under unusual circumstances, and are expected to stay in reasonable economical accommodations. A receipt is required for reimbursement of lodging costs.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

18) Per Diem

- a) The current Federal per diem rate is used to cover the cost of three meals plus tips. There are no restrictions on how the meal per diem will be divided. Receipts are not necessary, since the Federal daily rate is the maximum allowable rate. If the conference registration fee includes meals, then the per diem will be reduced according to the current Federal per diem rate.
- b) The current Federal per diem rate is found at: <https://www.gsa.gov/travel/plan-book/per-diem-rates>

19) Meals

- a) For any full day out-of-city travel, the costs of meals and tips may be reimbursed at the current daily Federal per diem rate [see Section IV(18)(b)] without regard to how much is spent on individual meals (i.e., breakfast, lunch, dinner, snacks) and without receipts, subject to the following limitations:
 - i. If a Board member is on travel status for less than a full day, costs may be reimbursed for individual meals occurring within the travel time, using the per diem rates [see Section IV(18)(b)].
 - ii. Meals that are included in a meeting, conference and/or registration fee will be deducted from the per diem rates [see Section IV(18)(b)].
 - iii. Meals may be reimbursed without regard to the duration of travel. Breakfast may be reimbursed even if a board member's travel consists of less than two hours in duration. Dinners may be reimbursed even if travel consists of less than two hours duration.

20) Other Expenses

- a) Other reasonable and necessary expenses such as parking, transportation to and from the airport (shuttle, taxi, etc.), will be reimbursed when a receipt is submitted with the Travel Expense Voucher reimbursement claim. For expenses where receipts are not customarily issued, (i.e. BART, bus fare, tips), reasonableness of the expense shall be approved by the Plan Administrator.
- b) Board members who travel on a non per-diem basis must submit receipts for all expenses incurred. If a member chooses not to utilize per diem, reimbursement will be based on the submission of individual itemized receipts (i.e. 1 coffee, 1 salad, 1 sandwich, etc.) Alcoholic beverages charges and charges incurred by a travel companion will not be reimbursed.

21) Expense Submission

- a) Travel Expenses for reimbursement are due within fifteen (15) days of return from a trip. The Plan Administrator may request further justification and documentation and may deny cost claims that are not considered eligible.

22) Cancellations

- a) It is the Board member's responsibility to cancel reservations when travel plans are altered or canceled and refund the Board for all previously advanced expenses. Charges or loss of refunds resulting from failure to cancel reservations will not be reimbursed except when cancellation was not feasible.

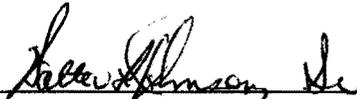
**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
EDUCATION AND TRAVEL POLICY**

23) Update of Education and Travel Policy

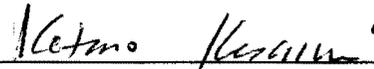
- a) The PFRS Education and Travel Policy will be reviewed by the PFRS Board as needed but no less than three years from the previous approval date.

The Education and Travel Policy of the Oakland Police and Fire Retirement System have been approved

by vote of the Board of Administration, effective April 25, 2018



WALTER L. JOHNSON, SR.
PRESIDENT
POLICE AND FIRE RETIREMENT SYSTEM BOARD



KATANO KASAINÉ
PLAN ADMINISTRATOR & BOARD SECRETARY
POLICE AND FIRE RETIREMENT SYSTEM BOARD

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM EDUCATION AND TRAVEL POLICY

APPENDIX A – PROCEDURE: Travel Request, Authorization and Reimbursement

The PFRS Board has final approval authority regarding travel authorization and expense reimbursement for Board or staff travel for conferences and educational seminars related to the function of PFRS. Such requests and authorization is reviewed and acted upon by the Board at their Board meetings.

Board members are asked to submit their travel requests to staff no later than fourteen (14) calendar days before the next PFRS Board meeting in order to add the travel request to the upcoming board meeting agenda. Travel requests received after this 14-day window will be added to the next available Board meeting agenda.

Procedures for a travel request, travel authorization and reimbursement for travel expenses are detailed below:

1. Inform PFRS staff of intent to request travel authorization and reimbursement for an event. All reservations which can be made immediately are suggested to be made if full reimbursement can be arranged in the event of the denial of travel request.
2. Staff will create a file for this travel event, which will include the following items:
 - a. **Agenda Report** summarizing travel request (signed by Plan Administrator). This report will be submitted for Board approval at the next available Board meeting.
 - b. **PFRS Board Resolution** detailing the travel request (approved to form and legality by the PFRS Legal Counsel).
 - c. **Event Agenda**. This document must identify the event name, date, location and schedule of events.
 - d. **Travel Authorization Form** (complete; signed by Plan Administrator). The estimated travel expenses will be detailed in this document and will be signed by the Plan Administrator.
 - e. **Travel Expense Voucher** (completed following return from travel event, signed by traveler and Plan Administrator).
 - f. **Travel Reimbursement Summary** (completed by staff). The reimbursement check and itemized travel reimbursement expenses are presented to the traveler.
 - g. All event receipts.

Items A – C above shall be submitted for PFRS Board approval. No education or travel will be approved without Board review and approval.

Exception 1: A request for travel authorization and reimbursement that occurs after the 14 calendar day window for submission to the next PFRS Board agenda may be allowed if a request is made and authorized by the PFRS Board President. If the Board President authorizes the travel request for the Board agenda, and there is no violation of the Brown Act or Oakland Sunshine Ordinance, the travel request will be added to the current PFRS Board agenda for review and possible approval. This executive permission will be noted on the agenda report submitted to the Board for approval.

3. Staff will generate and submit at the next available PFRS Audit Committee an Agenda Report and PFRS Resolution requesting authorization for education and travel and reimbursement for the requested event. Staff will estimate the cost for the travel event.
4. The Audit Committee will approve or deny the recommendation for Board approval of the education/travel request. If approved, the Board shall review the travel request and approve, deny or amend it.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
EDUCATION AND TRAVEL POLICY**

5. Upon approval, staff will process registration for the event, including any registration fees. Traveler will be responsible to arrange all other related travel actions for this travel event, including airfare, lodging, other related travel expenses involved in traveling to, and returning from, the event. Traveler will need to submit all original receipts to staff upon return from event travel. If receipts are not available, traveler must complete a Lost Receipt form which attests to the loss or unavailability of obtaining a receipt for reimbursement. No reimbursement for expenses can be made without original receipts or signed affidavit.

6. Upon receiving all receipts following conclusion of event travel, staff will provide the traveler with the expense voucher, which itemizes the travel expenses from the traveler's submitted receipts. The traveler will be required to sign the expense voucher agreeing to its accuracy. Staff will review the signed expense voucher with the Plan Administrator. Upon Plan Administrator approval, staff will take submit the expense voucher to the City of Oakland Controllers department for review and disbursement. If the controller's office has any questions about the submitted expense voucher, they will contact staff before enacting any changes to the reimbursement amount. Following this review, a reimbursement check will be made to the traveler and delivered to staff.



AGENDA REPORT

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

FROM: David F. Jones
Plan Administrator

SUBJECT: Review of PFRS Rules and
Regulations

DATE: May 26, 2021

OVERVIEW

Pursuant to Article 8, Section 8.2 of the PFRS Rules and Regulations (**ATTACHMENT 1**), the Audit/Operations Committee shall have the responsibility of conducting a review of PFRS Rules and Regulations every three (3) years and make recommendations to the board as necessary.

BACKGROUND

The PFRS Rules and Regulations (**ATTACHMENT 2**) was last approved June 27, 2018.

RECCOMENDATION

Review and discuss the current PFRS Rules and Regulations and provide direction to PFRS Staff as to next steps.

Respectfully submitted,

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

Attachment (1): *Excerpt of PFRS Rules & Regulations - Standing Committees: Article 8, Section 8.2*

Attachment (2): *PFRS Rules and Regulations_v.2018.07.01*

Agenda Item B3
PFRS Board Meeting
May 26, 2021

ATTACHMENT 1

*Excerpt of
PFRS Rules & Regulations
Standing Committees
Article 8, Section 8.2*

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

RULES AND REGULATIONS

Article 8: STANDING COMMITTEES

Section 8.2: Audit/Operations Committee

The Audit/Operations Committee shall be a Standing Committee of the Board, consisting of three members. Annually, before the October meeting, the President of the Board shall appoint the members of the committee, who shall serve until their successors have been appointed. The President shall appoint a Committee chairperson from one of the three Committee members.

The Audit/Operations Committee shall have the responsibility for making recommendations to the Board in the following areas:

- Review the Plan's administrative procedures for the purpose of ensuring prompt delivery of benefits and related services to participants and their beneficiaries and recommend necessary changes to the full Board.
- Review and recommend solutions to specific issues raised by the Board that relate to administration of the PFRS Plan.
- Review the actuarial valuation report and the annual financial audit report of the Plan and recommend approval by the Board, unless the Board President determines that a report should be reviewed in the first instance by the full Board.
- Review the annual budget and recommend approval by the Board.
- Monitor the Plan's administrative budget and assist the Board in defraying reasonable expenses.
- Develop and recommend changes to Board rules, regulations and policies in non-investment areas.
- Review PFRS Rules and Regulations every three years.
- Review PFRS Travel Policy as needed but no less than three years from the previous approval date.
- Recommend approval of board member and staff travel in accordance with the PFRS Travel Policy.
- Other duties and/ or issues as directed by the Board.

ATTACHMENT 2

***PFRS Rules and Regulations
v. 2018.07.01***

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Article 1: IDENTIFICATION

Section 1.1: Name

The Oakland Police and Fire Retirement System ("PFRS") Board

Section 1.2: Office Location

Retirement Systems, 150 Frank H. Ogawa Plaza, Suite 3332, Oakland, CA 94612

Section 1.3: Authority, Statutory Requirements

The PFRS Board shall comply with all applicable laws, including but not limited to Article XVI, Section 17 of the California Constitution, Article XXVI of the Oakland City Charter, the Oakland Sunshine Ordinance (Oakland Municipal Code ("OMC") Chapter 2.20, the Ralph M. Brown Act (Government Code section 54950 et seq.), the California Public Records Act (Government Code section 6250 et seq.), and the Oakland Conflict of Interest Code (OMC Chapter 3.16).

Article 2: MISSION STATEMENT

The Oakland Police and Fire Retirement System is dedicated to the protection and prudent investment of the pension funds for the benefit of the PFRS retirees and beneficiaries. PFRS strives to give the beneficiaries of this retirement system friendly and courteous service. The Board of the Oakland Police and Fire Retirement System manages and administers the Oakland Police and Fire Retirement System and Fund. In order to fulfill this mission, the PFRS Board shall:

1. Possess power to make all necessary rules and regulations for its guidance;
2. Have exclusive control of the administration and investment of the fund established for the maintenance and operation of the System;
3. Administer the System in accordance with the provisions of Article XXVI of the Oakland City Charter;
4. Exercise its plenary authority and fiduciary responsibility for investment of the Plan's funds in accordance with Article XVI, Section 17 of the California Constitution.

Article 3: BOARD OF TRUSTEES

Section 3.1: Board Membership

The Board of the Police and Fire Retirement System consists of seven members, appointed or elected as set forth in Oakland City Charter section 2601: the Mayor (or a designated representative), a life insurance executive of a local office, a senior officer of a local bank, a community representative, an elected retired member of the Police Department, an elected retired member of the Fire Department, and an elected retired member position that alternates between the Police Department and Fire Department memberships.

Section 3.2: Procedure to Fill Vacancy of Elected Members

In the event a vacancy occurs before the end of a full term in any of the three (3) elected offices of the Board which are filled by retired members of the Retirement System, a successor shall be elected for the unexpired portion of the term vacated In accordance with Section 11.12.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Section 3.3: Procedure to Fill Vacancy of Appointed Members

In the event a vacancy occurs before the end of a five (5) year term in any of the three (3) appointed offices of the Board, the Mayor's office will be notified of the vacancy by the Retirement office. The new appointee shall be appointed by the Mayor, confirmed by Oakland City Council and sworn-in by the Oakland City Clerk's office. A successor appointed under this Section shall be appointed for the remainder of the vacated term.

Section 3.4: Holdover

In the event of a failure to appoint a successor to the Board seat held by the life insurance representative, bank representative, or community representative after the expiration of a five (5) year term, the Board member most recently filling that seat may continue to serve as a Board member during the following term in a holdover capacity for up to one year.

Section 3.5: Compensation

All Board members shall serve without compensation.

Article 4: BOARD MEMBER RESPONSIBILITIES AND CORE COMPETENCIES

Section 4.1: Attendance

All Board members are expected to attend all board and applicable committee meetings. While attendance is not always possible, board members should, once the calendar for a year is set, immediately identify any scheduling conflicts and thereafter manage their schedules to avoid creating additional conflicts. Absences for medical or other substantial reasons shall be deemed to be excused absences in the discretion of the Board President.

Section 4.2: Preparation

Board members should come to Board and committee meetings having already read the materials prepared and circulated by staff and/or consultants, and having already asked any questions of staff necessary for their understanding.

Section 4.3: Integrity

Board members shall conduct themselves with integrity and dignity, maintaining the highest ethical conduct at all times. They should understand system objectives and exercise care, prudence and diligence in handling confidential information.

Section 4.4: Conflict of Interest

No Board member and no employee of the Board shall have any interest, direct or indirect in the making of any investment, or in the gains or profits accruing there from. No member or employee of the Board, directly or indirectly, for himself or herself or as an agent or partner of others, shall borrow any of its funds or deposits or in any manner use the same except to make such current and necessary payments as are authorized by the Board; nor shall any member or employee of the Board become an endorser or surety or become in any manner an obligor for moneys invested by the Board.

Board members, staff and specified consultants are subject to the conflict of interest provisions the Oakland Municipal Code (OMC Chapter 3.16) and California state law, including but not limited to the Political Reform Act (Government Code section 81000 et seq) and Government Code section 1090.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Board members shall timely file annually the Statement of Economic Interests (Fair Political Practices Commission Form 700) as required by the City of Oakland's Conflict of Interest Code.

Section 4.5: Knowledge

Board members should develop and maintain their knowledge and understanding of the issues involved in the management of the system. The specific areas in which board members should develop and maintain a high level of knowledge should include:

- Public pension plan governance.
- Asset allocation and investment management.
- Actuarial principles and funding policies.
- Financial reporting, controls and audits.
- Benefits administration.
- Vendor selection process.
- Open meeting and public records laws.
- Fiduciary responsibility.
- Ethics and conflicts of interest.

Section 4.6: Education

Board members are expected to pursue educational opportunities that will assist them in the fulfillment of their fiduciary duties to the retirement plan and its beneficiaries. Each Board member will be allocated an educational allowance on an annual basis.

Section 4.7: Collegiality

Board members shall make every effort to engage in collegial deliberations, and to maintain an atmosphere in which board or committee members can speak freely, explore ideas before becoming committed to positions and seek information from staff and other members.

Article 5: MEETINGS

Section 5.1: Open Meetings / Quorum

Public notice of all meetings shall be provided as required by the Brown Act and the Sunshine Ordinance. Four members of the Board shall constitute a quorum for the transaction of business. Two Board Members constitute a quorum for the purpose of a Committee meeting. The powers conferred by the Charter upon the Board shall be exercised by order or resolution adopted by the affirmative votes of at least four (4) Board members. The affirmative votes of five (5) members of the Board are required for all investment decisions excluding Board approved drawdowns for benefits payments or administrative expenses.

Section 5.2: Time and Place of Regular Meetings

Section 5.2a: Full Board

The regularly scheduled meetings of the PFRS Board shall take place at Oakland City Hall on the last Wednesday of each month.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Section 5.2b: Standing Committee

The regularly scheduled meetings of the Audit/Operations Committee shall take place at Oakland City Hall on the last Wednesday of each month, at a specified time.

The regularly scheduled meetings of the Investment Committee shall take place at Oakland City Hall on the last Wednesday of each month, at a specified time.

Section 5.3: Special Meetings

The President or a majority of the members of the Board may schedule a Special Meeting of the board at any time, with notice given in accordance with the notice provisions of the Sunshine Ordinance and Brown Act.

Article 6: FISCAL YEAR

The fiscal year of the Board shall commence upon the first day of July each year and terminate on the thirtieth day of June of the following year.

Article 7: OFFICERS

Section 7.1: Elective Officers

At the regular meeting in September of each year, the Board shall elect one of its members to act as President for the ensuing year, and one to act as Vice President.

Section 7.2: Terms of President and Vice-President

The President and Vice-President shall take office at the close of the September meeting following their election and shall serve for one year or until their successors have been elected and take office.

Section 7.3: Duties of President and Vice-President

The President of the Board shall preside at all Board meetings. In his or her absence, the Vice-President shall preside. In the absence of both the President and the Vice-President, when the President has not selected a President Pro Tem in advance, the Board shall select one of its own members to preside.

The President shall also:

- Appoint the members of the Board's standing committees annually prior to the October meeting;
- Manage the Full Board Meeting Agenda and Committee Agendas in accordance with Article 9 of the PFRS Rules and Regulations;
- Ensure that Committee Chairpersons manage committee agendas in accordance with Article 9 of the PFRS Rules and Regulations;
- Schedule a Special Meeting of the Board,
- Create ad hoc committees for a limited duration and purpose, which shall be comprised of at least one but less than a quorum of board members, and may include a non-board member(s),

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

- Sign authorized contracts, agreements and financial documents on the Board's behalf; and
- Perform other duties as directed by the Board.

The Vice President shall also:

- Assume and discharge the President's duties when the President is absent or otherwise unable to perform them, or when directed by the President; and
- Perform other duties as directed by the Board.

Section 7.4: Duties of the Secretary of the Board

The Board shall also appoint a Secretary who shall hold office at its pleasure. The Secretary shall have the power to:

- Administer oaths and affirmations
- Issue subpoenas in all matters pertaining to the administration and operation of the System

Section 7.5: Duties of the Plan Administrator

The Plan Administrator is authorized to:

- Approve the withdrawal of funds for the purpose of making benefit payments to retirees and their beneficiaries in the event that the Board is unable to do so in a timely manner and submit to the board for ratification.
- Approve all demands for payment of claims against the administrative appropriation as approved by the Board.

The Plan Administrator shall also:

- Submit a monthly report to the Board that shall summarize plan expenses and membership count of the Retirement System.
- Prepare an annual report for the Board and the City Council.
- Annually submit a budget for approval by the Board and to be submitted to the City Administrator for the bi-annual budget.

Article 8: STANDING COMMITTEES

Section 8.1: Investment Committee

The Investment Committee shall be a Standing Committee of the Board, consisting of three members, whose chairperson shall be the banker representative on the Board. If the banker representative position is vacant, the Board President shall appoint a chairperson. Annually, before the October meeting, the President of the Board shall appoint the additional members of the committee, who shall serve until their successors have been appointed.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

The Investment Committee shall have the responsibility for making recommendations to the Board in the following areas:

- Review the Plan's overall investment objectives, risk tolerance and performance standards and recommend changes to the Board.
- Recommend the hire or termination of investment managers to the PFRS Board.
- Keep the Board apprised of the performance of the Plan's investment portfolio.
- Recommend the asset allocation of the Plan to the Board.
- Recommend to the Board which investments to target for the purpose of making benefit payments under the Plan.
- Review the Investment Policy and recommend changes to the Board.

Section 8.2: Audit/Operations Committee

The Audit/Operations Committee shall be a Standing Committee of the Board, consisting of three members. Annually, before the October meeting, the President of the Board shall appoint the members of the committee, who shall serve until their successors have been appointed. The President shall appoint a Committee chairperson from one of the three Committee members.

The Audit/Operations Committee shall have the responsibility for making recommendations to the Board in the following areas:

- Review the Plan's administrative procedures for the purpose of ensuring prompt delivery of benefits and related services to participants and their beneficiaries and recommend necessary changes to the full Board.
- Review and recommend solutions to specific issues raised by the Board that relate to administration of the PFRS Plan.
- Review the actuarial valuation report and the annual financial audit report of the Plan and recommend approval by the Board, unless the Board President determines that a report should be reviewed in the first instance by the full Board.
- Review the annual budget and recommend approval by the Board.
- Monitor the Plan's administrative budget and assist the Board in defraying reasonable expenses.
- Develop and recommend changes to Board rules, regulations and policies in non-investment areas.
- Review PFRS Rules and Regulations every three years.
- Review PFRS Travel Policy as needed but no less than three years from the previous approval date.
- Recommend approval of board member and staff travel in accordance with the PFRS Travel Policy.
- Other duties and/ or issues as directed by the Board.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Article 9: MEETING PROCEDURES AND BOARD ACTION

Section 9.1: Board and Committee Time Management

The Board President or Committee Chairperson is responsible for time management of the applicable body. To the greatest extent feasible, all items on Board and Committee agendas shall be supported by concise, easily accessible written information.

Section 9.2: Speakers' Cards

Members of the public wishing to speak must submit their name and the item on the agenda they wish to discuss, if any, to staff before being recognized by the presiding officer.

Members of the public who wish to speak must complete a speaker card for each agenda item s/he wishes to speak on. Multiple agenda items cannot be listed on one speaker card.

Section 9.3: Speaker Procedures

Members of the public addressing the Board shall state their name. They shall confine their remarks to the agenda item under discussion, unless they are speaking during the Open Forum portion of the agenda.

Section 9.4: Time Limits for Speakers

Any member of the public who has submitted a speaker card on an agenda item, other than open forum, shall be allotted three (3) minutes to speak prior to any vote or action by the Board.

Subject to the provisions of this Rule that apply to speakers who submit multiple speaker's cards, all speakers on any one item shall be allotted the same amount of speaking time on that item, unless given ceded time, or unless more time must be given to comply with due process or other legal requirements or in circumstances where the Board is acting in a quasi-judiciary capacity.

Section 9.5: Speakers Submitting Speaker's Cards on Multiple Items

Subject to Section 9.4 and the discretion of the presiding officer, which discretion must be exercised in accordance with Section 9.4, a speaker who submits his or her name to speak on four or more items (other than open forum) will be instructed to address all items concurrently and shall be allotted 2 minutes per item up to a maximum of 10 minutes; if the presiding officer exercises his/her discretion under Section 9.4 to reduce each speaker's time to one (1) minute, speakers who submit four or more speaker's cards shall be allotted one (1) minute per item up to a maximum of 5 minutes.

Section 9.6: Ceding Time

In case the allotted time for each speaker is less than two (2) minutes on an agenda item, a speaker may extend his or her speaking time if other speakers who have submitted their names to speak agree to cede their time to the recipient speaker. The recipient speaker will receive one (1) minute speaking time from each ceding speaker, up to a maximum of five (5) minutes. At the presiding officer's discretion, a speaker may be allotted more than five (5) minutes based on ceded time. The recipient speaker must submit the ceding speakers' speaking cards, and the ceding speakers must be present at the time the recipient speaker speaks.

Section 9.7: Open Forum

Speakers submitting their names to speak under open forum shall be allotted a maximum of three (3) minutes. A speaker may speak only once under open forum during any one meeting, subject to the

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

discretion of the presiding officer. The presiding officer may reduce each speaker's allotted time to one (1) minute if he or she publicly states all reasons justifying any reduction in speaker time, which reasons shall be based at least on consideration of the time allocated or anticipated for the meeting, the number and complexity of agenda items and the number of persons wishing to address the local body, and whether there will be sufficient time available during the meeting to consider all agenda items if all speakers are allowed two (2) minutes to speak.

The Board cannot take any action under Open Forum unless it is deemed an emergency or urgency matter under the Sunshine Ordinance and Brown Act by a vote of the Board.

Section 9.8: Procedure for Placing New Items on an Agenda

For any new business by any board member, the full Board is authorized to add the item to future agendas of any meeting by an affirmative vote of a majority of the quorum of Board members present.

Section 9.9: Procedure to Add, Remove Agenda Items

For Board items, any Board member wishing to add (or remove) a Board agenda item after the Board has met, but before the agenda is published, must obtain authorization from the President of the Board.

For Committee items, any Board member wishing to add (or remove) a Committee agenda item after the Committee has met, but before the agenda is published, must obtain authorization from the President of the Board and the Chair of the Committee.

Section 9.10: Timeline for Submission of Agenda Materials

Items which are placed onto a Board or Committee agenda pursuant to the processes described in Sections 9.8 and 9.9 normally will be supported by written materials submitted to the Plan Administrator by close of business on the Wednesday that is two (2) weeks prior to the scheduled Board/Committee meeting. If such materials are received following this deadline, the item will not be placed onto the appropriate agenda until the following month.

Section 9.11: Minutes

The Secretary shall cause to be recorded in the minutes, the time and place of each meeting of the Board, the names of Board members present and all official acts of the Board along with a summation of the Board discussion along with the votes, and shall cause the minutes to be written and presented for approval no later than the next scheduled regular meeting.

Section 9.12: Other Requests

Other requests by the plan sponsor, other entities or the public will be directed to the Plan Administrator, who will review and respond administratively. To the extent the request need to be addressed to or by the Board, the request will be brought to the full board for further direction or authorization.

Section 9.13: Requests by the Board

Any research, analyses and reports from staff as are necessary for the Board's effective oversight of PFRS operations shall be initiated by placing that item on a future agenda in accordance with section 9.8. Such requests will be agendized and considered at regularly scheduled Board meetings. If approved, the Plan Administrator will be responsible for coordinating the completion of the approved project or report within a reasonable time or by the completion date specified in the Board action.

Section 9.14: Requests by Individual Board Members

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

Board members making individual requests for information will be advised to place the item on the Board meeting agenda in accordance with section 9.8 unless the information is readily available and the Plan Administrator determines that a response will not require any significant commitment of staff time or other PFRS resources.

Section 9.15: Resolutions

The Board shall act either by order or by resolutions, numbered in sequence of passage. In every instance, authorization by Board resolution shall be required for the following:

- Setting of Retirement and Disability Allowances;
- Changes to the types of compensation to be included as “Compensation” and “Compensation Attached to the Average Rank Held”;
- Approval of Death Benefits;
- Approval of continuation of allowances to eligible surviving spouse.
- Authorization of Contracts.

The Board may, in its discretion, act by resolution in other matters not listed above. Actions taken by the Board by way of order shall be set forth in the minutes of the Board.

Section 9.16: Ayes and Noes

The Board shall pass resolutions or orders only by taking the ayes and noes by an audible vote, which shall be entered in its minute book. Each resolution shall show on its face the ayes and noes vote thereon and the members so voting.

Section 9.17: Subject and Title

Every resolution of the Board shall be confined to one subject, which shall be clearly expressed in its title.

Article 10: RULES OF ORDER

Roberts' Rules of Order shall be the final authority on all questions of procedure and parliamentary law, not otherwise provided for by the City Charter, (Article XXVI) or these rules. The deputy City Attorney in attendance will serve as the Parliamentarian for the PFRS Board and its Committees.

Article 11: ELECTION OF MEMBERS OF THE BOARD REPRESENTING RETIRED MEMBERS OF THE RETIREMENT SYSTEM

Section 11.1: Day for Counting of Ballots

The fourth Wednesday in August of the year in which such election is required to be held is hereby designated as the day for counting of ballots.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

In the event of a vacancy of one or more of the elected PFRS Retirement Board seats before the completion of the full term, the day for counting ballots for the election to fill the vacant PFRS Retirement Board seat shall be the fourth Wednesday of the month that follows 90 days after the date of being informed of the vacancy.

Section 11.2: Notice of Nomination

On or before the first business day in June of each year in which an election is required, the office of the Police and Fire Retirement Board shall send a notice stating that nomination papers may be obtained at the office of said Police and Fire Retirement Board, the place where nomination papers shall be filed and the final date of filing thereof, the date when ballots will be counted and such other information as may be appropriate to the following organizations:

- Retired Oakland Police Officers' Association (ROPOA)
- International Association of Fire Fighters, Local 55 (IAFF Local 55)

In the event of a vacancy of one of the elected PFRS Retirement Board seats before the completion of the full term, the office of the Police and Fire Retirement Board shall send notice as stated above no later than ten (10) calendar days after the date of being informed of the vacancy.

Section 11.3: Nomination for Membership

Nomination for membership on the Police and Fire Retirement Board from the retired membership of the Police and Fire Department shall be in writing on forms supplied by the office of said Police and Fire Retirement Board upon request. Nomination papers shall be substantially in the form shown in Appendix A. Nomination papers shall be signed by at least ten retired members of the Police or Fire Department, as the case may be, who are members of the POLICE AND FIRE RETIREMENT SYSTEM, other than the person nominated. Each signatory of a nominating paper shall write the date of his/her signature at the end of the line opposite his/her signature. Beneficiaries of deceased members are not eligible to vote in elections.

Section 11.4: Date of Filing Nomination Papers

Nominating papers shall be filed in the Office of the Oakland City Clerk, Room 306 of the Oakland City Hall, not less than thirty-five days before the day of counting ballots. If said date falls on a non-business day for the City of Oakland, it shall be filed on the next business day.

Section 11.5: Determination of Sufficiency of Nominating Papers

The City Clerk of the City of Oakland will determine when a member is nominated and for this purpose shall have access to the records of the Police and Fire Retirement Board the names of those retired members of the respective departments determined by him to have been nominated.

Section 11.6: Winner by Default

In the event that only one person is nominated in accordance with this Article 11 as a member of the Board, that person shall be declared a winner.

Section 11.7: Mailing of Ballots

Not less than fifteen days before the day for the counting of the ballots that shall be prepared by and mailed for the office of the Police and Fire Retirement Board to each retired member of the Police Department of Fire Department who is a member of the Police and Fire Retirement System a ballot addressed to his or

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

her address as shown by the records of the Police and Fire Retirement Board. The Ballots shall contain the names in alphabetical order of the candidates certified by the City Clerk as nominated. Such ballot, sealed in a blank envelope provided for this purpose, which shall be enclosed in another envelope, also provided for such purpose, upon which the voter shall place his or her name, may be returned to the City Clerk not later than 10:00 a.m. of the day for the counting of ballots.

Section 11.8: Roster of Eligible Voters

There shall be prepared in the office of the Police and Fire Retirement Board a roster of eligible voters which shall contain the names of the retired members of the Police or Fire Department who are members of the Police and Fire Retirement System, excluding beneficiaries of deceased members. Such roster of eligible voters shall be delivered to the City Clerk not less than fifteen days before the day for the counting of ballots and shall be in such form as to permit appropriate asking thereon by the City Clerk to indicate that an eligible member has voted.

Section 11.9: Counting of Ballots

On the day for the counting of ballots at the hour of 10:00 A.M. thereof, the ballot box shall be opened and no ballot received after said hour shall be counted. The ballots will be counted under the supervision and control of the City Clerk in such manner that the identity of the individual casting any ballot will not be disclosed. No ballot shall be counted unless it is enclosed in an envelope bearing the name of the voter. No ballot shall be counted which contains a vote for a person not nominated in accordance with Article 12. Upon the conclusion of the counting of the ballots, the City Clerk will certify the count and the candidate elected, and notify each candidate thereof by mail.

Section 11.10: Vote Necessary for Election

The candidate receiving the highest number of eligible votes shall be declared elected.

Section 11.11: Disposition of Ballots after Counting

Upon conclusion of the counting of the ballots they shall be kept by the City Clerk in the manner and for the period the ballots of municipal elections are kept.

Section 11.12: Procedure to Fill Vacancy of Elected Members

In the event a vacancy occurs before the end of a full term in any of the three (3) elected offices of the Board which are filled by retired members of the Retirement System, a successor shall be elected for the unexpired portion of the term vacated. The successor shall be elected from the same department of the member who is vacating the seat for the remainder of said unexpired three (3) year, or five (5) year, term. The election shall be governed by Article 11.

Article 12: RECALL OF MEMBER OF THE BOARD REPRESENTING RETIRED MEMBERS OF THE RETIREMENT SYSTEM

Section 12.1: Day for Counting Recall Ballots

The Ballots shall be counted not less than 90 days from receiving Recall Petition.

Section 12.2: Notice of Recall Petition

Upon receiving a Notice of Recall, the office of the Police and Fire Retirement Board shall send to the Retired Oakland Police Officers' Association (ROPOA), International Association of Fire Fighters, Local 55

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM RULES AND REGULATIONS

(IAFF Local 55) and the City Clerk a notice stating that a recall petition had been received, the date when ballots will be counted and such other information as may be appropriate.

The Petition for recall of a retired member on the Police and Fire Retirement Board shall be in writing on forms supplied by the Secretary of the Board upon request. Recall petitions shall be substantially in the form as shown in Appendix B.

Recall petition shall be signed by 10 retired members of the Police or Fire Department (as the case may be). And who are members of the POLICE AND FIRE RETIREMENT SYSTEM, other than the person recalled. Each signatory of a recall petition shall write the date of his/her signature at the end of the line opposite his/her signature. Beneficiaries of deceased retired members are not eligible to sign or vote on recall.

Section 12.3: Date of Filing Recall Petition Paper

Petition papers shall be filed in the Office of the Oakland City Clerk, Room 306 of the Oakland City Hall, not more than thirty (30) days after filing the notice of recall petition.

Within seven (7) days after filing of petition the board member sought for recall may file with the City Clerk, a response, in not more than 200 words, to the statement of the proponents. If a response is filed, the City Clerk shall serve a copy by Certified Mail, to one of the proponents named in the petition.

Copies of the Petition and Response shall be distributed and posted within the offices of ROPOA, IAFF Local 55 and the City Clerk. The statement and answers shall be for voter's information and will be mailed to them upon the request.

Section 12.4: Determination of Recall Petition

The City Clerk of the City of Oakland will determine when a member is recalled and for this purpose shall have access to the records of the Police and Fire Retirement Board. The City Clerk, within five (5) days after the last day for filing Recall Petition papers will certify to the office of the Police and Retirement Board the names of those retired members of the respective departments determined by him to have been recalled.

Section 12.5: Mailing of Ballots

Not less than fifteen (15) days before the day the counting of the ballots shall be prepared by and mailed from the office of the Police and Fire Retirement Board to each retired member of the Police or Fire Department and who is a member of the Police and Fire Retirement System a ballot addressed to his or her address as shown by the records of the Police and Fire Retirement Board. The ballots shall contain the name of the member to be recalled, as certified by the City Clerk. Such ballot, sealed in a blank envelope provided for this purpose, which shall be enclosed in another envelope, also provided for such purpose, upon which the voter shall place his/her name, may be returned to the City Clerk not later than 10:00 A.M. of the day for counting of ballots.

Section 12.6: Roster of Eligible Voters

The Roster of Eligible Voters described in Section 11.8 shall be delivered to the City Clerk not less than fifteen (15) days before the day for counting of the ballots and shall be in such form as to permit appropriate marking thereon by the City Clerk to indicate that an eligible member has voted on the recall.

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
RULES AND REGULATIONS**

Section 12.7: Counting of Ballots

On the day for counting of ballots at the hour of 10:00 A.M. thereof the ballot box shall be opened and no ballots received after said hour shall be counted. Upon the conclusion of the counting of the ballots, the City Clerk will certify the count and notify the Retirement Board of the results.

Section 12.8: Vote Necessary for Recall

The majority of eligible votes counted and cast to recall or not recall the board member shall prevail.

Section 12.9: Disposition of Ballots after Counting

Upon conclusion of the counting of the ballots, they shall be kept by the City Clerk in the manner and for the period, the ballots of municipal recalls are kept.

Article 13: PROCEDURE TO FILL VACANCY OF RECALLED MEMBER

A vacancy created after a successful recall pursuant to Article 12 shall be filled by the procedure set forth in Article 11.12.

These rules may be amended by a majority vote of the Board at any regular meeting or special meeting called for that purpose.

Article 14: AMENDMENT OF RULES AND REGULATIONS

These Rules and Regulations may be amended under the following procedures:

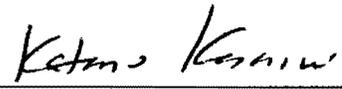
- Amendments shall be read at a regular meeting.
- No vote may be taken earlier than the next regular meeting.
- At least four (4) members of the Board must vote in favor of the amendments.

The Rules and Regulations of the Oakland Police and Fire Retirement System have been approved by vote

of the Board of Administration, effective JUNE 27, 2018



WALTER L. JOHNSON, SR.
PRESIDENT
OAKLAND POLICE & FIRE RETIREMENT SYSTEM BOARD



KATANO KASAINÉ
SECRETARY
OAKLAND POLICE & FIRE RETIREMENT SYSTEM BOARD

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
RULES AND REGULATIONS**

APPENDIX A

Nomination Form – Elected PFRS Member

OAKLAND POLICE AND FIRE RETIREMENT BOARD

I, undersigned, am a retired member of the Oakland Police Department (or Fire Department as the case may be), and a member of the POLICE AND FIRE RETIREMENT SYSTEM, and I hereby nominate _____, PRINT NOMINEE NAME, a member of the POLICE AND FIRE RETIREMENT SYSTEM, as a candidate for membership on the Police and Fire Retirement Board from the retired membership of the Oakland Police Department (or Fire Department as the case may be), for the term expiring August 31, _____.

	Name	Signature	Date
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____

I accept the nomination and consent to serve if elected.

Signature of Nominee

**OAKLAND POLICE AND FIRE RETIREMENT SYSTEM
RULES AND REGULATIONS**

APPENDIX B

Board Member Recall Form – Elected PFRS Member

OAKLAND POLICE AND FIRE RETIREMENT BOARD

I, undersigned, am a retired member of the Oakland Police or Fire Department (as the case may be), and a member of the POLICE AND FIRE RETIREMENT SYSTEM. I hereby request that _____, a member of the POLICE AND FIRE RETIREMENT BOARD as representative for the Police or Fire Department (as the case may be), be recalled by the retired membership of said department, for the unexpired term ending _____, for the following reasons:

	Name	Signature	Date
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____



AGENDA REPORT

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

SUBJECT: Outstanding City of Oakland Pension Obligation Bond Debt Service **DATE:** May 26, 2021

SUMMARY

At the April 28, 2021 Oakland Police and Fire Retirement System (PFRS) Board meeting, a request was made regarding all outstanding City of Oakland Pension Obligation Bond Debt Service. The attached table (Attachment 1) shows the City of Oakland Pension Bond Debt Service Payment Schedule as of May 2021. The City funds these obligations from a voter approved ad valorem tax on all property within the City of Oakland and an annuity. This tax is specifically dedicated to fund PFRS pension obligations.

Respectfully submitted,

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

Attachment (1):
· *City of Oakland Pension Bond Debt Service Payment Schedule*

ATTACHMENT 1

City of Oakland Pension Bond Debt Service Payment Schedule

Attachment 1

CITY OF OAKLAND
Pension Bond Debt Service Payments

Payment Date	City of Oakland Pension Obligation Bonds Series 2001 *	City of Oakland Pension Obligation Bonds Series 2012 *	City of Oakland Interest Rate Swap (1998 Series A-1/2) **	TOTAL
6/15/2021	-	3,878,250	-	\$ 3,878,250
7/31/2021	-	-	181,680	\$ 181,680
12/15/2021	51,620,000	14,463,250	-	\$ 66,083,250
6/15/2022	-	3,677,135	-	\$ 3,677,135
12/15/2022	53,130,000	14,432,135	-	\$ 67,562,135
6/15/2023	-	3,462,035	-	\$ 3,462,035
12/15/2023	-	50,842,035	-	\$ 50,842,035
6/15/2024	-	2,431,520	-	\$ 2,431,520
12/15/2024	-	52,826,520	-	\$ 52,826,520
6/15/2025	-	1,253,285	-	\$ 1,253,285
12/15/2025	-	54,858,285	-	\$ 54,858,285
TOTAL	\$ 104,750,000	\$ 202,124,450	\$ 181,680	\$ 307,056,130

* Per the Trust Agreement, the City shall deposit with the Trustee on or before August 1 of each year an aggregate amount sufficient to pay all principal and interest due on the next December 15 and June 15.

** Representing fixed rate paid to counterparty



AGENDA REPORT

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

SUBJECT: Election of 5-Year Fire Department Representative Board Position **DATE:** May 26, 2021

SUMMARY

The 5-year fire member board seat currently held by John C. Speakman expired on August 31, 2020. Pursuant to the PFRS election guidelines outlined in Article 11 of the PFRS Rules and Regulations (**ATTACHMENT 1**), an election for this board seat will be conducted by the Staff of the PFRS board with the assistance of the City Clerk's office.

BACKGROUND

John C. Speakman, a retired PFRS Fire member, was elected to the 5-year elected term as the PFRS 5-year member in 2015. Member Speakman's board seat expired on August 31, 2020 and a new 5-year fire member needed to be elected to this seat from the retired fire membership.

Following the PFRS Rules & Regulations Article 11, Section 11.2 (**ATTACHMENT 1**), the PFRS staff informed the City Clerk's Office and the International Association of Fire Fighters, Local 55 (IAFF Local 55) of the board vacancy and delivered to them the election schedules and nomination forms.

The City Clerk's Office has certified no more than one (1) nomination form was received by the nomination form submission deadline of 5 pm, May 19, 2021. Pursuant to PFRS Rules & Regulations Article 11, Section 11.6 (**ATTACHMENT 1**), the single nominee, John C. Speakman, will be declared the winner and will be automatically elected to the nominated position and will begin the new term of the 5-Year Fire Department Representative Board Position immediately.

Respectfully submitted,

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

Attachment (1): *Rules & Regulations - Excerpt of Election: Article 11*

ATTACHMENT 1

***PFRS Rules & Regulations
Excerpt of Election
Article 11***

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

RULES AND REGULATIONS

Article 11: ELECTION OF MEMBERS OF THE BOARD REPRESENTING RETIRED MEMBERS OF THE RETIREMENT SYSTEM

Section 11.1: Day for Counting of Ballots

The fourth Wednesday in August of the year in which such election is required to be held is hereby the day for counting of ballots.

In the event of a vacancy of one or more of the elected PFRS Retirement Board seats before the completion of the full term, the day for counting ballots for the election to fill the vacant PFRS Retirement Board seat shall be the fourth Wednesday of the month that follows 90 days after the date of being informed of the vacancy.

Section 11.2: Notice of Nomination

On or before the first business day in June of each year in which an election is required, the office of the Police and Fire Retirement Board shall send a notice stating that nomination papers may be obtained at the office of said Police and Fire Retirement Board, the place where nomination papers shall be filed and the final date of filing thereof, the date when ballots will be counted and such other information as may be appropriate to the following organizations:

- Retired Oakland Police Officers' Association (ROPOA)
- International Association of Fire Fighters, Local 55 (IAFF Local 55)

In the event of a vacancy of one of the elected PFRS Retirement Board seats before the completion of the full term, the office of the Police and Fire Retirement Board shall send notice as stated above no later than ten (10) calendar days after the date of being informed of the vacancy.

Section 11.3: Nomination for Membership

Nomination for membership on the Police and Fire Retirement Board from the retired membership of the Police and Fire Department shall be in writing on forms supplied by the office of said Police and Fire Retirement Board upon request. Nomination papers shall be substantially in the form shown in Appendix A. Nomination papers shall be signed by at least ten retired members of the Police or Fire Department, as the case may be, who are members of the POLICE AND FIRE RETIREMENT SYSTEM, other than the person nominated. Each signatory of a nominating paper shall write the date of his/her signature at the end of the line opposite his/her signature. Beneficiaries of deceased members are not eligible to vote in elections.

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

RULES AND REGULATIONS

Section 11.4: Date of Filing Nomination Papers

Nominating papers shall be filed in the Office of the Oakland City Clerk, Room 306 of the Oakland City Hall, not less than thirty-five days before the day of counting ballots. If said date falls on a non-business day for the City of Oakland, it shall be filed on the next business day.

Section 11.5: Determination of Sufficiency of Nominating Papers

The City Clerk of the City of Oakland will determine when a member is nominated and for this purpose shall have access to the records of the Police and Fire Retirement Board the names of those retired members of the respective departments determined by him to have been nominated.

Section 11.6: Winner by Default

In the event that only one person is nominated in accordance with this Article 11 as a member of the Board, that person shall be declared a winner.

Section 11.7: Mailing of Ballots

Not less than fifteen days before the day for the counting of the ballots that shall be prepared by and mailed for the office of the Police and Fire Retirement Board to each retired member of the Police Department of Fire Department who is a member of the Police and Fire Retirement System a ballot addressed to his or her address as shown by the records of the Police and Fire Retirement Board. The Ballots shall contain the names in alphabetical order of the candidates certified by the City Clerk as nominated. Such ballot, sealed in a blank envelope provided for this purpose, which shall be enclosed in another envelope, also provided for such purpose, upon which the voter shall place his or her name, may be returned to the City Clerk not later than 10:00 a.m. of the day for the counting of ballots.

Section 11.8: Roster of Eligible Voters

There shall be prepared in the office of the Police and Fire Retirement Board a roster of eligible voters which shall contain the names of the retired members of the Police or Fire Department who are members of the Police and Fire Retirement System, excluding beneficiaries of deceased members. Such roster of eligible voters shall be delivered to the City Clerk not less than fifteen days before the day for the counting of ballots and shall be in such form as to permit appropriate asking thereon by the City Clerk to indicate that an eligible member has voted.

Section 11.9: Counting of Ballots

On the day for the counting of ballots at the hour of 10:00 A.M. thereof, the ballot box shall be opened and no ballot received after said hour shall be counted. The ballots will be counted under the

OAKLAND POLICE AND FIRE RETIREMENT SYSTEM

RULES AND REGULATIONS

supervision and control of the City Clerk in such manner that the identity of the individual casting any ballot will not be disclosed. No ballot shall be counted unless it is enclosed in an envelope bearing the name of the voter. No ballot shall be counted which contains a vote for a person not nominated in accordance with Article 12. Upon the conclusion of the counting of the ballots, the City Clerk will certify the count and the candidate elected and notify each candidate thereof by mail.

Section 11.10: Vote Necessary for Election

The candidate receiving the highest number of eligible votes shall be declared elected.

Section 11.11: Disposition of Ballots after Counting

Upon conclusion of the counting of the ballots they shall be kept by the City Clerk in the manner and for the period the ballots of municipal elections are kept.

Section 11.12: Procedure to Fill Vacancy of Elected Members

In the event a vacancy occurs before the end of a full term in any of the three (3) elected offices of the Board which are filled by retired members of the Retirement System, a successor shall be elected for the unexpired portion of the term vacated. The successor shall be elected from the same department of the member who is vacating the seat for the remainder of said unexpired three (3) year, or five (5) year, term. The election shall be governed by Article 11.

MEMORANDUM

TO: Oakland Police and Fire Retirement System (OPFRS)
FROM: Meketa Investment Group
DATE: May 26, 2021
RE: Selection of New Systematic Trend Following Asset Class Investment

At the January 2021 meeting, OPFRS directed Meketa to identify high quality managers for consideration as a part of the Crisis Risk Offset class. Specifically, to fill the Alternative Risk Premia and Systematic Trend Following components. The two new strategies would serve as a replacement to the original allocation which combined the exposures of the two components into one strategy. Subsequently at the March 2021 meeting, Meketa recommended and the Board approved a recommendation to interview three finalist firms for the Systematic Trend Following mandate. During the meeting, a fourth firm was added to the list of managers. This document serves to further implement the Board's decision and to provide an overview of the candidates and their strategies.

The four Systematic Trend Following Finalists candidates are presented below in alphabetical order:

1. BH-DG
2. Crabel
3. LongTail Alpha
4. Versor Investments

All four managers and their products (i) are Systematic Trend Following strategies, and (ii) possess the ability to provide OPFRS with the appropriate services. Summaries of each firm are provided on the following page.

Systematic Trend Following is a key component of the Crisis Risk Offset Class and serves as a second responder in extended equity/growth market drawdowns. The strategy is expected to be most effective when markets are trending or there are sustained market regime shifts, while least effective when sharp market reversals occur. At a high level, the managers take long or short positions in liquid futures and forwards markets. The size and direction (long or short) of each position depends on whether markets have been trending up (long) or down (short) and how sustained the trend has been or is expected to be. The investable universe includes equities, fixed income, currencies, and commodities. Related to the naming of the class, these strategies are implemented using pre-set rules and are in other words systematic. As a point of reference, other common terms that are often interchangeable with systematic trend following include managed futures, or CTAs (commodity trading advisors).

High Level Finalist Overviews

BH-DG, with approximately \$2.0 billion in total assets, is an alternative investment management firm focused on managing systematic strategies. Brevan Howard – David Gorton (BH-DG) was founded in 2010 as a joint venture between Brevan Howard and Mr. David Gorton. The firm ownership is split between David Gorton, CIO (60%) and Brevan Howard (40%). Prior to forming BH-DG, Mr. Gorton spun out of JP Morgan the London Diversified Fund Management LLP (“LDFM”) and ran the London Diversified Fund, predecessor of the BH-DG’s systematic trading program. BH-DG believes in the existence of a Momentum Style Premium, expressed as the inertia of market sentiment that is quantifiable by medium-term trend following measures. In order to capture this Premium, BH-DG aims to build a highly diversified portfolio that is continuously invested, focused on highly liquid markets, and allocated with much of its risk to trend following signals.

Crabel, is a global alternative investment firm focused on systematic investment strategies. The firm is based in Los Angeles, California, and was founded by Toby Crabel. The firm currently has approximately \$6.5 billion in assets under management, of which \$935 million is accounted for by Advanced Trend. The Advanced Trend portfolio is designed to capture long-term trend following returns across a diverse set of markets. The strategy employs multiple price-based strategies across 200 markets. Individual positions are held on average for 35 to 45 days, a shorter time horizon relative to some other peer managers. The strategy targets a standard deviation of 15% and seeks to mitigate downside risk by sizing their positions relative to market volatility and using stops on all trades throughout the portfolio. Meketa clients began to utilize Crabel’s investment strategies in 2017.

LongTail Alpha, was founded in 2015 by Vineer Bhansali, PhD, a former partner and Head of Quantitative Portfolios at PIMCO. The firm currently manages \$321mn in cash assets, including roughly \$119mn in trend following strategies. LongTail also manages several Tail Risk Overlay portfolios that result in a notional AUM of in the billions. The firm is 80% owned by Dr. Bhansali with the remaining portion held by Janus Capital Group. LongTail’s strategy is predicated on insights and approaches that are found in options strategies. In particular, the strategy incorporates unique entry rules, scaling of positions, profit/exit strategies, carry filters, and cost minimization techniques. LongTail uses a set of moving averages for trend identification that are more short-term than the others finalists (2-weeks to 3-months) while also incorporating a variety of fundamental data points (e.g., carry, expected return, etc.) in order to avoid trend headwinds. LongTail’s shorter-term focus (average holding period of 1.5 months) may allow the strategy to better react to market fulcrum points – periods in which trend following strategies often suffer material drawdowns. LongTail uses a wide set of instruments (≈ 200) across the major market sectors that range from traditional futures and forwards up to more sophisticated options and swaps. The goal of LongTail’s instrument selection is to provide the most cost effective, convex payoff as possible given a specific trend signal. In essence, LongTail seeks to replicate the sensitivities, exposures, and risk/return characteristics of certain diversifying, option-related strategies. Explicit position limits and factor exposures provide risk management guidelines and ensure appropriate diversification over time.

High Level Finalist Overviews (continued)

Versor Investments, with approximately \$1.8 billion in total assets, is a systematic investment firm focused exclusively on alternative risk premia (and related) strategies. The firm has offices in New York, NY and Mumbai, India. All of the firm's assets are in systematic mandates. Versor Investments was founded in 2013 to focus on this market segment and is 100% employee-owned by four employees. The firm's heritage is in the hedge fund and alternative risk premia segments, with four of the primary professionals spending time together at Investcorp, as well as separate tenures at other systematic oriented asset management firms. Versor Investments has spent a considerable amount of time building out proprietary data sets and investment models with the sole purpose of providing alternative risk premia strategies for institutional clients. The firm's construct is somewhat unique in that they wholly own another firm called QR Systems that provides the majority of the engineering talent behind the firm's investment models and systems. This firm is based in Mumbai, India and was founded by one of Versor Investment's key investment professionals prior to joining Versor Investments. This entity essentially operates as a less expensive source of high-quality human capital and talent. The strategy is largely managed by individuals in New York with analysis and engineering support provided by the broader team in Mumbai.

Finalist Summary Comparison

Firm Name	BH-DG	Crabel	LongTail Alpha	Versor Investments
Firm Inception	2010	1987	2015	2013
Firm AUM	\$2,007 ²	6,478 ¹	\$321 ²	~1,800 ³
Location	London, UK	Los Angeles, CA	Newport Beach, CA	New York, NY
Total Employees	35	88	7	45
Strategy Name	Systematic Trading	Advanced Trend	Enhanced Systematic Trend Following	Systematic Alpha Trend Following
Strategy Inception	5/2006 ⁴	12/2012 ⁵	1/2020	5/2017 ⁶
Strategy AUM	\$1,449 ²	\$935 ¹	\$119 ²	\$459 ⁷
Target Volatility	15%	15%	15%	14-15%
Risk Allocation Methodology	Security level risk management reducing positions if signals get too large. Specific drawdown limits trigger reductions in volatility. A systematic risk committee also oversees the program.	Stops are placed on every trade in addition to market and sector size limits. Sectors are generally equal weighted with slight bottom-up position modification.	Maximum exposure limits by asset class based on beta (equities) or duration (fixed income) as well as explicit options positions to limit losses in major market reversal	Positions are risk adjusted using short-term volatility measures which are then combined to form sector portfolios across commodities, equities, fixed income and currencies.
Average Holding Period	~30 days	~35-45 days	~45 days	~25 days
Asset Classes/Sectors	Equity indices, Fixed Income, Currencies, and Commodities	Equity indices, Fixed Income, Currencies, and Commodities	Commodities, Currencies, Fixed Income, Equity Indices, VIX, ETFs, CDS	Equity indices, Fixed Income, Currencies, and Commodities
Contracts Utilized	Futures and forwards across 100+ instruments	Futures and forwards across ~200 instruments	Futures, forwards, options, ETFs, swaps across ~200 instruments	100+ futures and forwards contracts.

¹ When adjusted for higher volatility solutions run, AUM is ~\$7,900 million at the firm level and ~\$1,072 million for Advanced Trend.

² As of March 31, 2021.

³ As of January 1, 2021. The Firm has seen ~\$400 million of inflows since the beginning of the year.

⁴ Inception date is representative of track record prior to forming BH-DG as a joint venture with Brevan Howard.

⁵ Inception date is the start of trading the strategy representative of extracted performance results. Live fund started 4/2014.

⁶ Inception date is the start of trading the systematic alpha trend models in another live product. Live fund started 12/2020.

⁷ Total trading systematic trend following models in futures and FX.

Systematic Trend Following Search Process

Over the last ten years, Meketa has conducted more than a half dozen manager searches for Alternative Risk Premia managers, with the most recent search occurring in 2019/2020. These searches represent over \$2.7 billion in client assets. Meketa's experience in the space has resulted in the firm being a leader with respect to manager coverage. This has ultimately resulted in Meketa developing one of the most comprehensive manager databases for Systematic Trend Following.

To begin the process, Meketa reviewed all historical RFP/RFI submissions as well as our internal manager database. To complement our internal information, Meketa also examined potential manager candidates sourced from other manager universes (e.g. eVestment, sell side manager lists, etc.). This resulted in an initial candidate list of 36 firms. Beginning with this list of managers, Meketa embarked on a two-stage review process to arrive at the three proposed finalist candidates. Each of these phases is outlined below.

Phase One

Meketa reviewed the philosophies, objectives, and approaches for each of the initial 36 strategies. In addition, the stability and long-term posture of the organization (i.e. investment team and firm) were examined along with relevant experience and dedication to the space and strategy. This phase focused on identifying which strategies were aligned with the goals and objectives of OPFRS Crisis Risk Offset class, and which firms represented potential stable, long-term partners. The main areas of emphasis are highlighted below.

- Exposure across all four asset classes (Equities, Fixed Income, Commodities, Currencies)
- Straight forward implementation process
- Stability of the investment / portfolio management team
- Stability of the firm and appropriate operational resources
- Experience managing this and similar strategies
- Strategy focused on relevant trend following implementation across asset classes
- Fees

Based on the Phase One review, Meketa narrowed the universe from an initial list of 36 firms down to a short-list of 15 candidates.

Systematic Trend Following Search Process (continued)

Phase Two

While Phase One was centered mainly on qualitative reviews of the respective firms and their strategies, Phase Two was designed to examine the remaining 19 candidates on a quantitative basis. In particular performance and characteristics relative to both the SG Trend Index and other major market indices such as the MSCI ACWI Index, BB Aggregate Bond Index, and BB Government Long Index. As the strategies may run at different volatility or risk levels than both each other and the SG Trend Index, adjustments were made to account for differences when making performance comparisons. For example, a strategy which is managed at a higher volatility than the SG Trend Index has historically exhibited would be expected to outperform the index and those which are managed at lower volatility would be expected to underperform the index, all else equal. For the 19 managers were evaluated to determine the outperformance of the strategies versus the SG Trend Index over the longer term time horizons. In addition, managers with relatively higher correlations to the SG Trend Index were also preferred. When examining the managers on this basis, five managers stood out in demonstrating relative outperformance and reasonable correlations.

The four firms were reviewed further on a qualitative and quantitative basis with trailing performance and risk statistics on the next page. All of the managers have exhibited strong performance relative to the SG Trend Index and peers.

Trailing Period Performance as of April 2021 (Green = Outperformance vs. SG Trend)

	April YTD	1-Year	3-Year	4-Year Common Period	5-Year	7-Year
BH-DG	10.7	20.8	11.1	9.9	7.1	8.9
Crabel	6.6	11.5	6.4	6.8	3.2	10.3
LongTail Alpha	5.5	-0.5	-0.1	-0.3	1.5	2.7
Versor Investments	5.3	5.7	2.6	1.6	---	---
SG Trend	6.9	10.9	5.7	4.4	1.9	4.7

Calendar Year Performance (Green = Outperformance vs. SG Trend)

	2020	2019	2018	2017	2016
BH-DG	16.2	3.9	0.2	6.8	3.0
Crabel	23.6	3.5	-13.9	7.5	-7.8
LongTail Alpha	0.5	-2.6	-9.7	12.1	1.7
Versor Investments	10.5	-1.2	-4.9	---	---
SG Trend	6.3	9.2	-8.1	2.2	-6.1
<i>MSCI ACWI</i>	<i>16.3</i>	<i>26.6</i>	<i>-9.4</i>	<i>24.0</i>	<i>7.9</i>

Correlations & Equity Drawdown Performance (Green = Outperformance vs. SG Trend)

	Correlations				Performance	
	SG Trend	MSCI ACWI	BB Aggregate	BB Long Government	1Q 2020	4Q 2018
BH-DG	0.9	-0.1	0.3	0.4	8.5	0.3
Crabel	0.9	-0.2	0.4	0.6	18.5	-4.8
LongTail Alpha	0.8	-0.2	0.2	0.4	7.6	-0.5
Versor Investments	0.7	0.1	0.1	0.3	11.5	-6.8
SG Trend	---	0.1	0.4	0.4	2.3	-5.1
<i>MSCI ACWI</i>	<i>0.4</i>	<i>---</i>	<i>0.0</i>	<i>-0.3</i>	<i>-21.4</i>	<i>-12.4</i>

Sources: Managers, Bloomberg, HFR, Societe Generale

Note: Includes estimated performance for March and April 2021

Manager Performance Notes:

Crabel: Prior to April 2014, performance is representative of extracted performance results provided by Crabel.

LongTail: Prior to January 2020, performance is representative of simulated results provided by LongTail.

Versor: May 2017 to December 2020 performance is estimated from the systematic trend sleeve in the ARP Alternative Risk Premia 2x Fund which was live. From December 2020 onwards, the returns are for the dedicated Systematic Alpha Trend Following Strategy.

Appendix

Systematic Trend Following Managers Considered			
1	BH-DG	18	Gladius
2	Crabel	19	Graham
3	LongTail	20	GSA
4	Versor Investments	21	GSAM
5	Abbey Capital	22	ISAM
6	AHL Man	23	KeyQuant
7	Allianz	24	LGT
8	AlphaSimplex	25	Lynx
9	AQR	26	Millburn
10	Aspect	27	Mount Lucas
11	Campbell	28	PIMCO
12	CFM	29	Quest
13	Credit Suisse	30	ROW
14	DUNN	31	Systematica
15	Florin Court	32	Transtrend
16	FORT	33	Welton
17	Fulcrum	34	Winton

Economic and Market Update

Data as of April 30, 2021



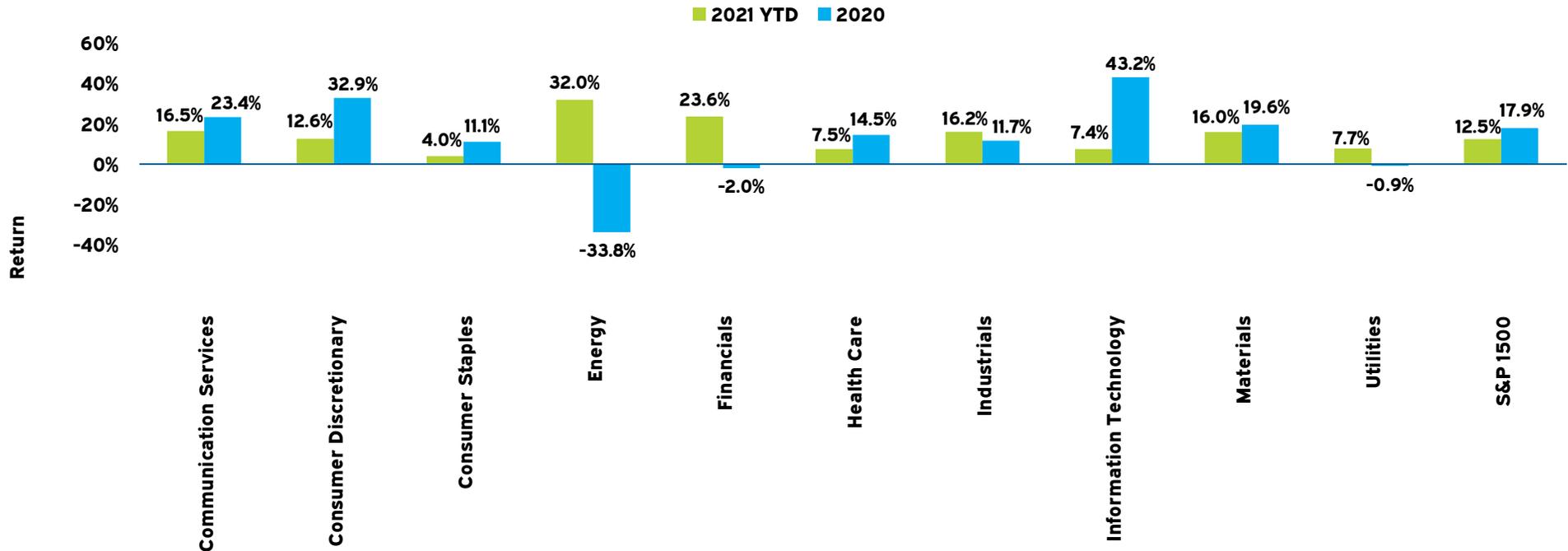
Market Returns¹

Indices	April	YTD	1 Year	3 Year	5 Year	10 Year
S&P 500	5.3%	11.8%	46.0%	18.6%	17.4%	14.2%
MSCI EAFE	3.0%	6.6%	39.9%	6.3%	8.9%	5.2%
MSCI Emerging Markets	2.5%	4.8%	48.7%	7.5%	12.5%	3.6%
MSCI China	1.4%	1.0%	37.0%	8.7%	16.5%	7.2%
Bloomberg Barclays Aggregate	0.8%	-2.6%	-0.3%	5.2%	3.2%	3.4%
Bloomberg Barclays TIPS	1.4%	-0.1%	6.1%	6.2%	4.1%	3.3%
Bloomberg Barclays High Yield	1.1%	2.0%	19.7%	7.0%	7.5%	6.4%
10-year US Treasury	1.2%	-5.9%	-7.7%	5.6%	2.0%	3.7%
30-year US Treasury	2.7%	-13.6%	-20.0%	7.3%	3.4%	6.6%

- Over the last year, global risk assets produced significant returns, largely driven by record fiscal and monetary policy stimulus and positive developments with the COVID-19 vaccine. US Treasuries did not fare as well over the same period given the rise in interest rates.
- In April, the decline in Treasury yields provided support for the bond market with TIPS erasing most of their year-to date losses.
- Equity markets across developed economies added to their 2021 gains in April, particularly in the US, as reopening optimism continued to be supportive. Emerging markets were also up in April, but trail developed markets year-to-date due to low returns in China and rising COVID-19 cases in some areas.

¹ Source: Investment Metrics and Bloomberg. Data is as of April 30, 2021.

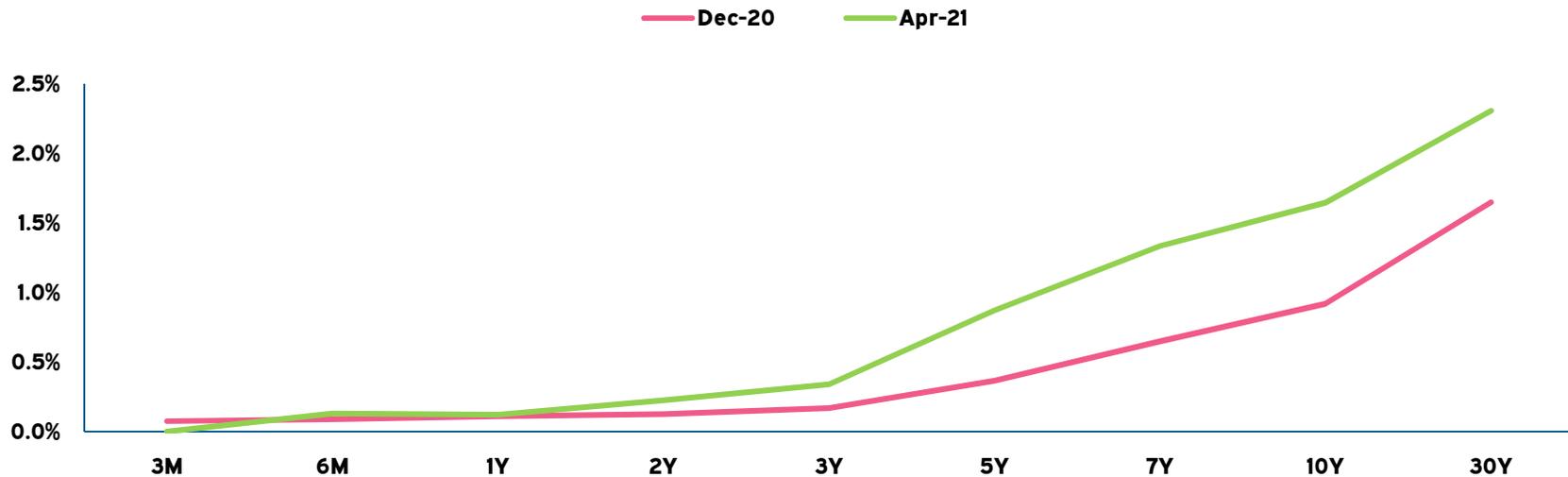
Sector Returns¹



- Cyclical sectors like energy and financials continue to lead the way in 2021, as some investors rotate out of stay-at-home focused companies in the technology sector.
- The rotation into value stocks has largely been driven by expectations for the economy to reopen, potentially higher taxes, and rising interest rates. Growth stocks typically produce more of their cash flows further into the future and increased interest rates lead to larger discounts, reducing present values.

¹ Source: Bloomberg. Data is as of April 30, 2021.

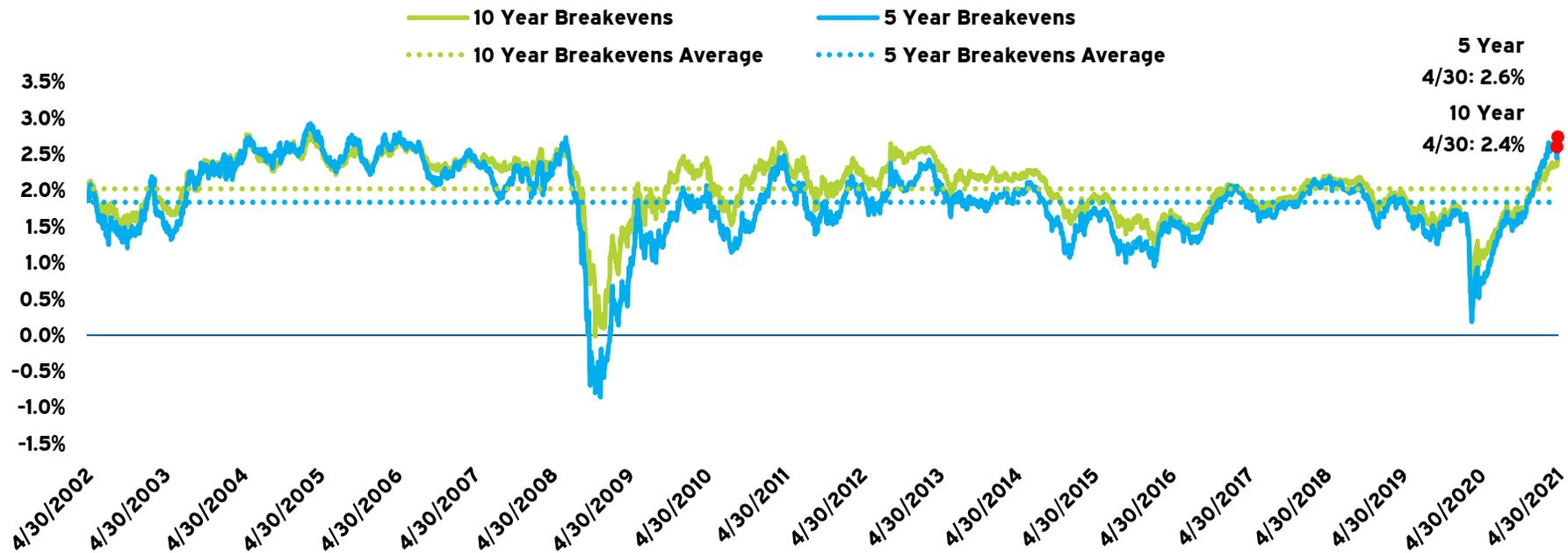
US Yield Curve Steepens¹



- Thus far in 2021, the yield curve has steepened on inflation fears related to gradual signs of economic improvement, vaccine developments, and expectations for increased Treasury issuance to support fiscal policy measures.
- The yield curve may continue to steepen if growth and inflation pressures build. Higher relative rates compared to other countries, and the Fed potentially extending the duration of their quantitative easing purchases, could counterbalance the steepening trend though.

¹ Source: Bloomberg. Data is as of April 30, 2021.

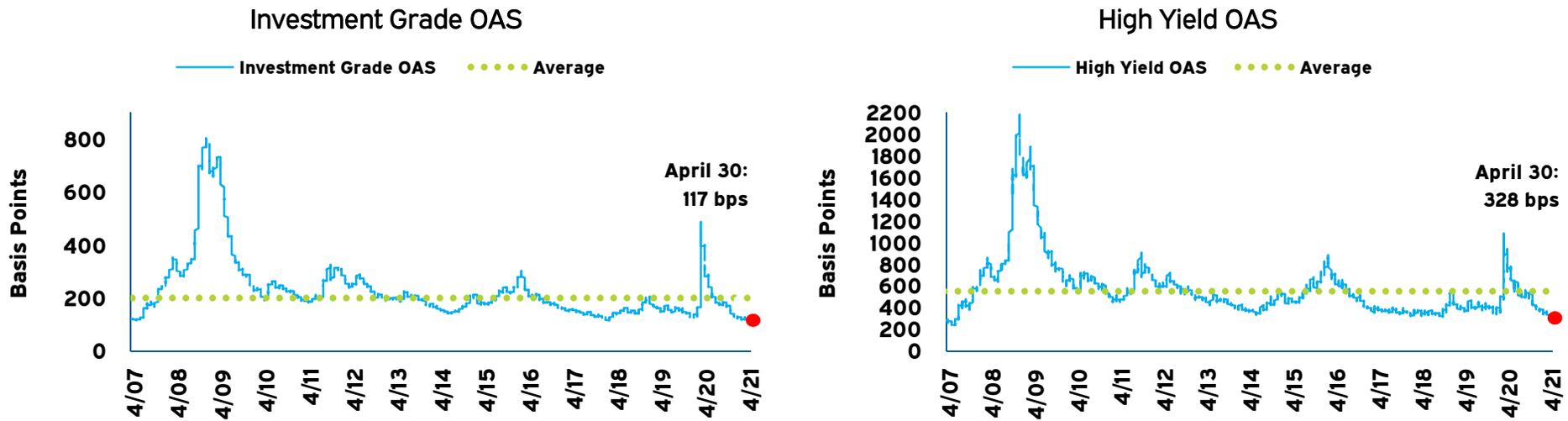
Breakeven Inflation¹



- Inflation expectations, particularly over the short-term, continued to rise in recent months to above long-term averages, with the vaccine roll-out, rising raw material prices, and expected additional fiscal stimulus as key drivers.
- Looking forward, 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 going forward.

¹ Source: Bloomberg. Data is as of April 30, 2021.

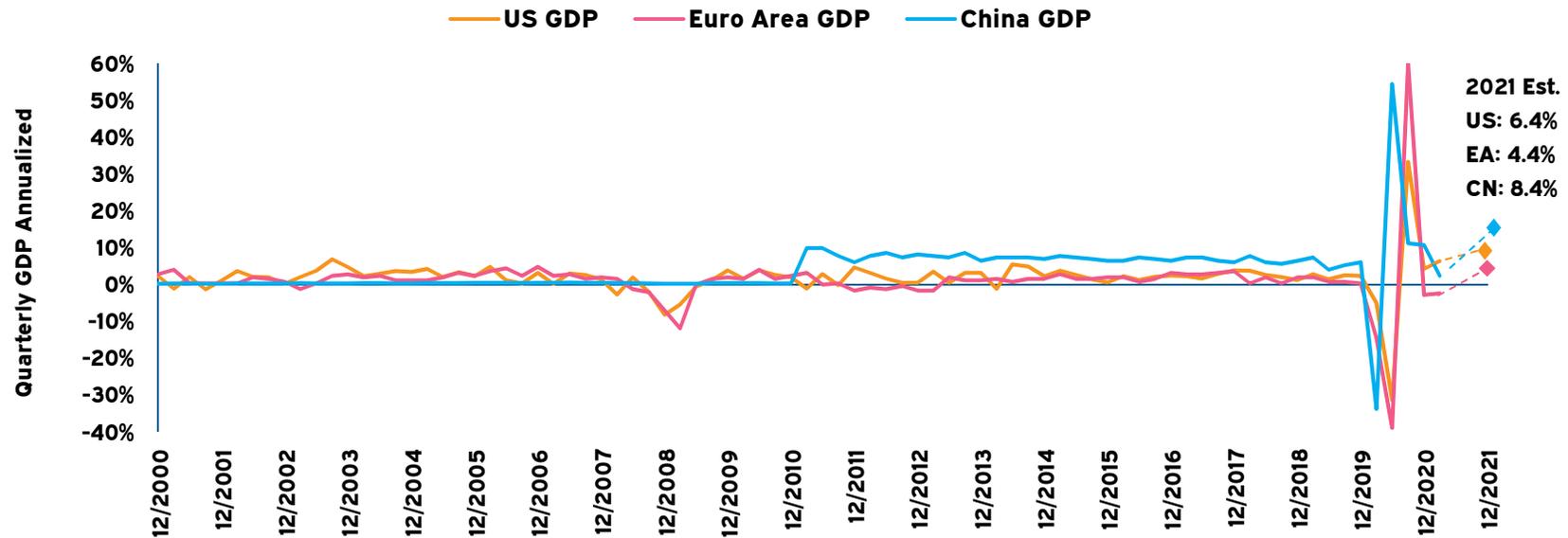
Credit Spreads (High Yield & Investment Grade)¹



- Credit spreads (the spread above a comparable maturity Treasury) for investment grade and high yield corporate debt widened sharply at the start of the pandemic as investors sought safety.
- Policy support, the search for yield in the low rate environment, and recent increases in Treasury rates have led to a decline in credit spreads to below long-term averages, particularly for high yield.

¹ Source: FRED Economic Data. Investment grade represents ICE BofA BBB US Corporate Index OAS. High Yield represents ICE BofA US High Yield Index OAS. Data is as of April 30, 2021.

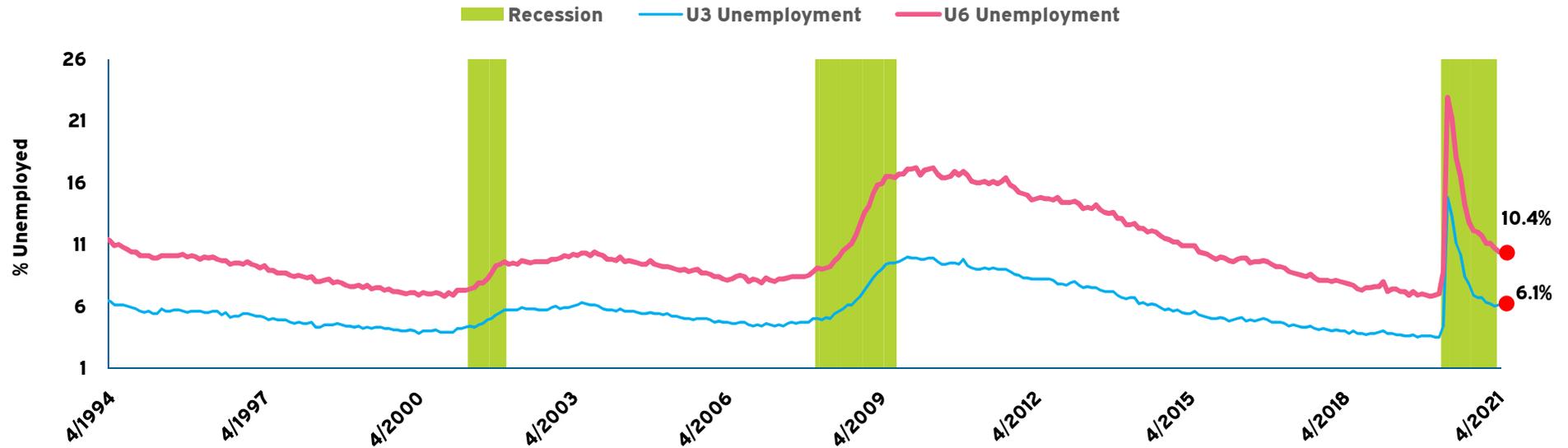
GDP Data Shows Projected Improvements in 2021¹



- Major economies experienced historic declines in growth during the second quarter of 2020 that were followed by record increases in the third quarter driven by pent-up demand from the lockdown measures earlier in the year.
- Looking forward, strong growth is expected in 2021 particularly for China, projected to grow at an impressive 8.4% given their ability to quickly control the virus and reopen their economy. The US is expected to grow faster than the euro area this year, helped by improvements in vaccine distribution.

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

US Unemployment¹



- In April, the unemployment rate (U3) rose for the first time in almost a year, from 6.0% to 6.1%.
- Despite a slight decline (-0.3%) from March, the broader measure of unemployment (U6) that includes discouraged and underemployed workers is much higher at 10.4%.
- Pandemic related concerns, childcare issues, and a mismatch of skills and available jobs have all contributed to slack in the labor market, and weak wage pressures creating a counterforce to inflationary pressures.

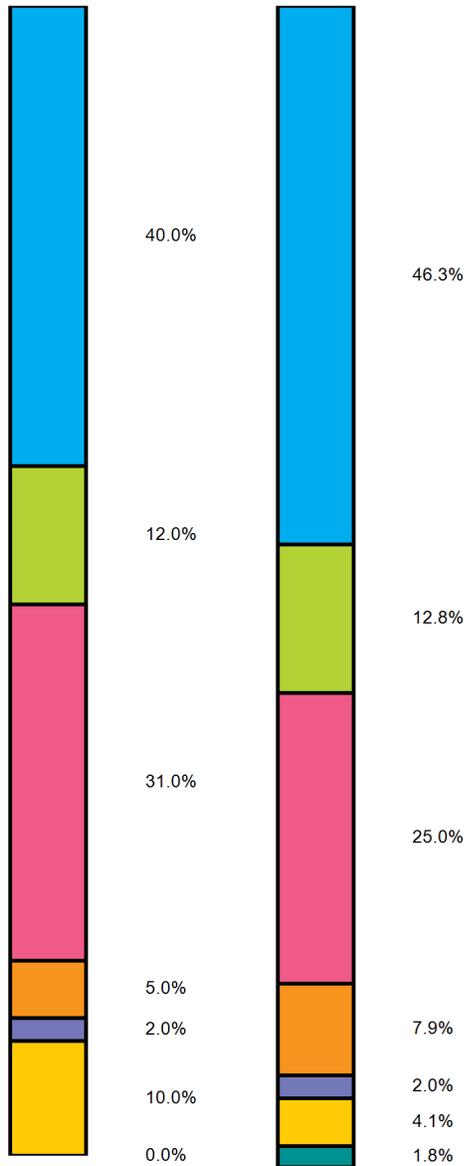
¹ Source: Bloomberg. Data is as of April 30, 2021. Bars represent recessions as observed by the National Bureau of Economic Research.

Oakland Police and Fire Retirement System

May 26, 2021

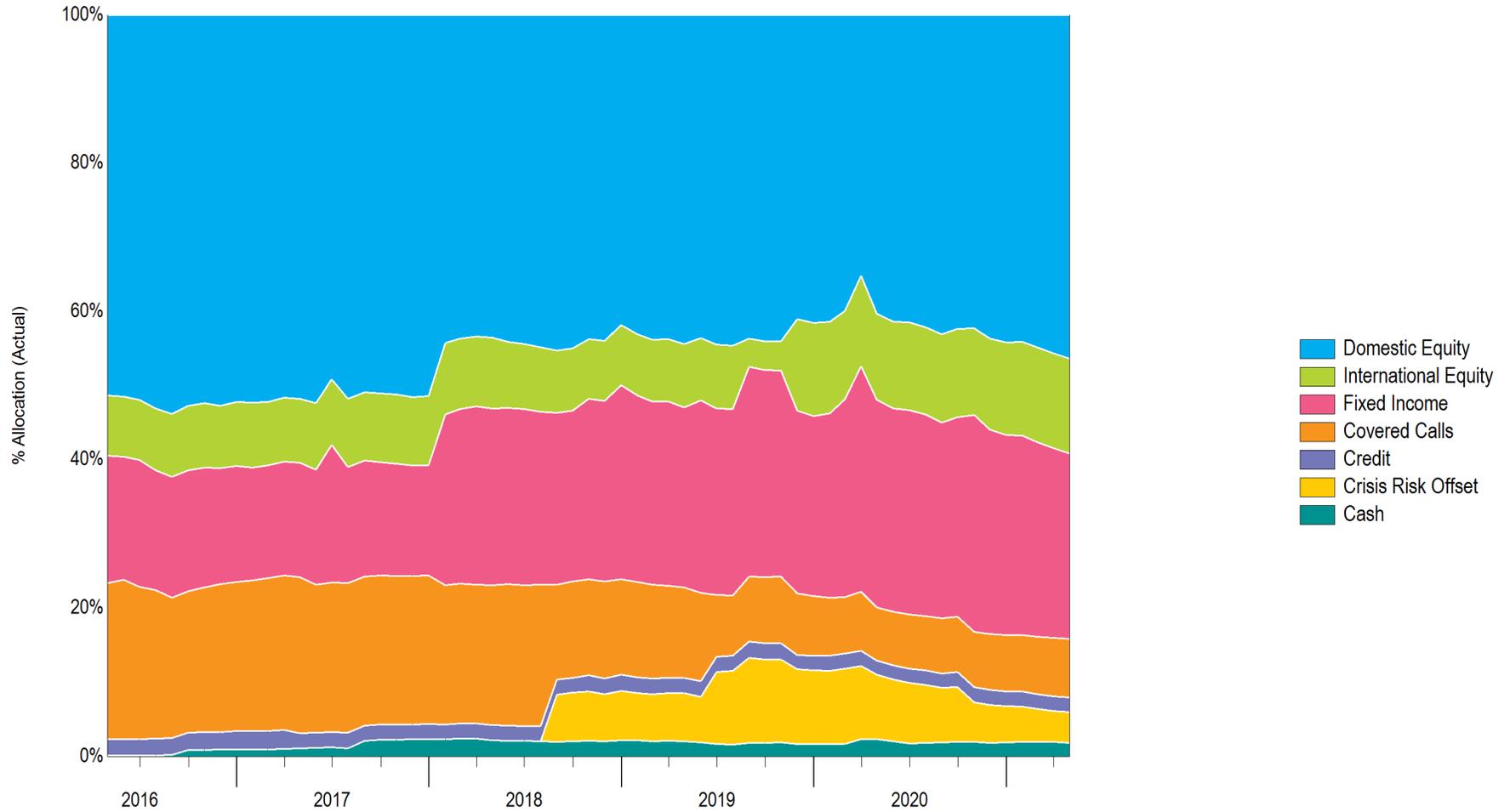
April Flash Report

OPFRS Total Plan As of April 30, 2021



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Within IPS Range?	
Domestic Equity	\$211,086,635	46.3%	40.0%	6.3%	Yes	
International Equity	\$58,219,272	12.8%	12.0%	0.8%	Yes	
Fixed Income	\$114,028,297	25.0%	31.0%	-6.0%	Yes	
Covered Calls	\$36,037,830	7.9%	5.0%	2.9%	Yes	
Credit	\$9,001,203	2.0%	2.0%	0.0%	Yes	
Crisis Risk Offset	\$18,809,273	4.1%	10.0%	-5.9%	No	
Cash	\$8,237,506	1.8%	0.0%	1.8%	Yes	
Total	\$455,420,017	100.0%	100.0%			

Asset Allocation History
5 Years Ending April 30, 2021



Asset Class Performance Summary

	Market Value (\$)	% of Portfolio	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	455,420,017	100.0	2.9	21.6	5.7	28.1	10.2	11.3	8.2	7.1	Dec-88
<i>OPFRS Policy Benchmark</i>			<i>2.9</i>	<i>19.4</i>	<i>4.8</i>	<i>24.9</i>	<i>10.3</i>	<i>10.8</i>	<i>7.9</i>	<i>8.4</i>	<i>Dec-88</i>
Domestic Equity	211,086,635	46.3	4.5	39.8	12.1	50.6	17.2	17.2	13.6	9.6	Jun-97
<i>Russell 3000 (Blend)</i>			<i>5.2</i>	<i>40.1</i>	<i>11.8</i>	<i>50.9</i>	<i>18.9</i>	<i>17.7</i>	<i>14.0</i>	<i>9.7</i>	<i>Jun-97</i>
International Equity	58,219,272	12.8	2.8	29.2	7.1	38.2	6.9	10.8	5.7	5.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>3.0</i>	<i>32.9</i>	<i>6.7</i>	<i>43.6</i>	<i>7.5</i>	<i>10.3</i>	<i>5.2</i>	<i>6.2</i>	<i>Jan-98</i>
Fixed Income	114,028,297	25.0	0.4	0.7	-2.5	4.1	5.4	4.1	4.0	5.4	Dec-93
<i>Blmbg BC Universal (Blend)</i>			<i>0.8</i>	<i>0.0</i>	<i>-2.2</i>	<i>1.8</i>	<i>5.4</i>	<i>3.6</i>	<i>3.7</i>	<i>5.3</i>	<i>Dec-93</i>
Credit	9,001,203	2.0	1.1	21.1	4.8	31.3	5.4	8.3	--	6.5	Feb-15
<i>BBgBarc US High Yield TR</i>			<i>1.1</i>	<i>13.5</i>	<i>1.9</i>	<i>19.7</i>	<i>7.0</i>	<i>7.5</i>	<i>6.4</i>	<i>6.3</i>	<i>Feb-15</i>
Covered Calls	36,037,830	7.9	3.0	29.1	9.3	37.5	13.1	12.4	--	10.2	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<i>2.3</i>	<i>20.2</i>	<i>5.0</i>	<i>25.4</i>	<i>4.3</i>	<i>6.6</i>	<i>6.4</i>	<i>5.8</i>	<i>Apr-14</i>
Crisis Risk Offset	18,809,273	4.1	2.1	-14.8	-11.8	-16.2	-10.7	--	--	-11.7	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<i>0.7</i>	<i>1.7</i>	<i>4.4</i>	<i>-1.4</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-3.6</i>	<i>Aug-18</i>
Cash	8,237,506	1.8	0.0	0.1	0.0	0.1	1.7	1.4	0.7	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>			<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.1</i>	<i>1.4</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.

Trailing Net Performance												
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
OPFRS Total Plan	455,420,017	100.0	--	2.9	21.6	5.7	28.1	10.2	11.3	8.2	7.1	Dec-88
<i>OPFRS Policy Benchmark</i>				<i>2.9</i>	<i>19.4</i>	<i>4.8</i>	<i>24.9</i>	<i>10.3</i>	<i>10.8</i>	<i>7.9</i>	<i>8.4</i>	<i>Dec-88</i>
Domestic Equity	211,086,635	46.3	46.3	4.5	39.8	12.1	50.6	17.2	17.2	13.6	9.6	Jun-97
<i>Russell 3000 (Blend)</i>				<i>5.2</i>	<i>40.1</i>	<i>11.8</i>	<i>50.9</i>	<i>18.9</i>	<i>17.7</i>	<i>14.0</i>	<i>9.7</i>	<i>Jun-97</i>
Northern Trust Russell 1000	115,928,810	25.5	54.9	5.4	38.9	11.6	49.4	19.2	17.7	14.2	15.6	Jun-10
<i>Russell 1000</i>				<i>5.4</i>	<i>38.9</i>	<i>11.6</i>	<i>49.5</i>	<i>19.2</i>	<i>17.8</i>	<i>14.2</i>	<i>15.6</i>	<i>Jun-10</i>
EARNEST Partners	46,900,858	10.3	22.2	4.4	46.8	14.5	60.3	20.0	19.9	14.5	11.6	Apr-06
<i>Russell MidCap</i>				<i>5.1</i>	<i>46.5</i>	<i>13.7</i>	<i>59.6</i>	<i>16.7</i>	<i>15.6</i>	<i>12.7</i>	<i>10.1</i>	<i>Apr-06</i>
Brown Fundamental Small Cap Value	11,079,012	2.4	5.2	3.1	--	--	--	--	--	--	3.1	Apr-21
<i>Russell 2000 Value</i>				<i>2.0</i>	<i>69.1</i>	<i>23.6</i>	<i>79.0</i>	<i>11.7</i>	<i>13.5</i>	<i>10.1</i>	<i>2.0</i>	<i>Apr-21</i>
Rice Hall James	16,701,051	3.7	7.9	2.7	42.4	11.3	61.7	13.7	--	--	15.5	Jul-17
<i>Russell 2000 Growth</i>				<i>2.2</i>	<i>48.8</i>	<i>7.2</i>	<i>69.2</i>	<i>18.0</i>	<i>18.9</i>	<i>12.9</i>	<i>17.7</i>	<i>Jul-17</i>
iShares Edge MSCI Min Vol	20,476,898	4.5	9.7	4.0	20.3	6.4	24.1	--	--	--	32.6	Apr-20
<i>MSCI USA Minimum Volatility GR USD</i>				<i>4.1</i>	<i>20.4</i>	<i>6.5</i>	<i>24.3</i>	<i>13.9</i>	<i>12.9</i>	<i>13.1</i>	<i>32.7</i>	<i>Apr-20</i>
International Equity	58,219,272	12.8	12.8	2.8	29.2	7.1	38.2	6.9	10.8	5.7	5.9	Jan-98
<i>MSCI ACWI ex US (Blend)</i>				<i>3.0</i>	<i>32.9</i>	<i>6.7</i>	<i>43.6</i>	<i>7.5</i>	<i>10.3</i>	<i>5.2</i>	<i>6.2</i>	<i>Jan-98</i>
Vanguard Developed Markets ETF	16,947,518	3.7	29.1	3.1	30.4	7.2	42.2	--	--	--	16.8	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>				<i>3.3</i>	<i>33.6</i>	<i>7.6</i>	<i>44.5</i>	<i>7.3</i>	<i>9.3</i>	<i>3.8</i>	<i>18.6</i>	<i>Sep-19</i>
SGA ACWI ex-U.S. Equity	40,713,630	8.9	69.9	2.2	28.5	6.4	37.0	--	--	--	10.5	Dec-19
<i>MSCI ACWI ex USA Gross</i>				<i>3.0</i>	<i>32.9</i>	<i>6.7</i>	<i>43.6</i>	<i>7.5</i>	<i>10.3</i>	<i>5.2</i>	<i>16.2</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 April 30, 2021

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Fixed Income	114,028,297	25.0	25.0	0.4	0.7	-2.5	4.1	5.4	4.1	4.0	5.4	Dec-93
<i>Blmbg BC Universal (Blend)</i>				<i>0.8</i>	<i>0.0</i>	<i>-2.2</i>	<i>1.8</i>	<i>5.4</i>	<i>3.6</i>	<i>3.7</i>	<i>5.3</i>	<i>Dec-93</i>
Ramirez	77,456,716	17.0	67.9	0.3	0.8	-2.3	4.0	5.3	--	--	4.4	Jan-17
<i>BBgBarc US Aggregate TR</i>				<i>0.8</i>	<i>-1.4</i>	<i>-2.6</i>	<i>-0.3</i>	<i>5.2</i>	<i>3.2</i>	<i>3.4</i>	<i>3.9</i>	<i>Jan-17</i>
Wellington Core Bond	7,556,211	1.7	6.6	0.8	--	--	--	--	--	--	0.8	Apr-21
<i>BBgBarc US Aggregate TR</i>				<i>0.8</i>	<i>-1.4</i>	<i>-2.6</i>	<i>-0.3</i>	<i>5.2</i>	<i>3.2</i>	<i>3.4</i>	<i>0.8</i>	<i>Apr-21</i>
Reams	29,015,327	6.4	25.4	0.6	0.6	-3.1	4.4	9.2	5.7	5.1	5.9	Feb-98
<i>Blmbg BC Universal (Blend)</i>				<i>0.8</i>	<i>0.0</i>	<i>-2.2</i>	<i>1.8</i>	<i>5.4</i>	<i>3.6</i>	<i>3.7</i>	<i>5.0</i>	<i>Feb-98</i>
Credit	9,001,203	2.0	2.0	1.1	21.1	4.8	31.3	5.4	8.3	--	6.5	Feb-15
<i>BBgBarc US High Yield TR</i>				<i>1.1</i>	<i>13.5</i>	<i>1.9</i>	<i>19.7</i>	<i>7.0</i>	<i>7.5</i>	<i>6.4</i>	<i>6.3</i>	<i>Feb-15</i>
DDJ Capital	9,001,203	2.0	100.0	1.1	21.1	4.8	31.3	5.4	8.3	--	6.5	Feb-15
<i>ICE BofA High Yield Master TR</i>				<i>1.1</i>	<i>13.7</i>	<i>2.0</i>	<i>20.1</i>	<i>6.7</i>	<i>7.3</i>	<i>6.3</i>	<i>6.1</i>	<i>Feb-15</i>
Covered Calls	36,037,830	7.9	7.9	3.0	29.1	9.3	37.5	13.1	12.4	--	10.2	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>2.3</i>	<i>20.2</i>	<i>5.0</i>	<i>25.4</i>	<i>4.3</i>	<i>6.6</i>	<i>6.4</i>	<i>5.8</i>	<i>Apr-14</i>
Parametric BXM	15,853,275	3.5	44.0	1.6	23.0	7.2	30.8	9.1	9.3	--	7.9	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>2.3</i>	<i>20.2</i>	<i>5.0</i>	<i>25.4</i>	<i>4.3</i>	<i>6.6</i>	<i>6.4</i>	<i>5.8</i>	<i>Apr-14</i>
Parametric DeltaShift	20,184,556	4.4	56.0	4.0	34.4	11.1	43.2	16.8	15.3	--	12.8	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>				<i>2.3</i>	<i>20.2</i>	<i>5.0</i>	<i>25.4</i>	<i>4.3</i>	<i>6.6</i>	<i>6.4</i>	<i>5.8</i>	<i>Apr-14</i>
Crisis Risk Offset	18,809,273	4.1	4.1	2.1	-14.8	-11.8	-16.2	-10.7	--	--	-11.7	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>				<i>0.7</i>	<i>1.7</i>	<i>4.4</i>	<i>-1.4</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-3.6</i>	<i>Aug-18</i>
Vanguard Long-Term Treasury ETF	18,809,273	4.1	100.0	2.1	-14.0	-11.8	-15.2	--	--	--	4.0	Jul-19
<i>BBgBarc US Govt Long TR</i>				<i>2.3</i>	<i>-13.9</i>	<i>-11.4</i>	<i>-15.3</i>	<i>7.4</i>	<i>3.7</i>	<i>6.3</i>	<i>4.2</i>	<i>Jul-19</i>
Cash	8,237,506	1.8	1.8	0.0	0.1	0.0	0.1	1.7	1.4	0.7	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.1</i>	<i>1.4</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash	1,973,506	0.4	24.0	0.0	0.5	0.1	0.6	1.9	1.5	0.8	0.7	Mar-11
<i>FTSE T-Bill 3 Months TR</i>				<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.1</i>	<i>1.4</i>	<i>1.1</i>	<i>0.6</i>	<i>0.6</i>	<i>Mar-11</i>
Cash - Treasury	6,264,000	1.4	76.0									

Market value for DDJ Capital is based on manager estimate for the month of April.

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

Cash Flow Summary

Month to Date

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Brown Fundamental Small Cap Value	\$0	\$10,987,187	\$91,825	\$11,079,012
Cash	\$2,261,995	\$10,889	-\$299,377	\$1,973,506
Cash - Treasury	\$6,279,000	-\$15,000	\$0	\$6,264,000
DDJ Capital	\$8,901,168	\$0	\$100,036	\$9,001,203
EARNEST Partners	\$44,905,705	\$0	\$1,995,152	\$46,900,858
Fisher Transition	\$67,206	-\$68,444	\$1,238	\$0
Hansberger Transition	\$342,407	\$0	\$215,719	\$558,125
iShares Core US Aggregate Bond ETF	\$7,374,902	-\$7,500,000	\$125,099	\$0
iShares Edge MSCI Min Vol	\$19,691,405	\$0	\$785,493	\$20,476,898
Northern Trust Russell 1000	\$111,018,819	-\$1,000,000	\$5,909,991	\$115,928,810
Parametric BXM	\$15,599,360	\$0	\$253,914	\$15,853,275
Parametric DeltaShift	\$19,402,866	\$0	\$781,690	\$20,184,556
Ramirez	\$77,199,344	\$0	\$257,372	\$77,456,716
Reams	\$28,845,472	\$0	\$169,854	\$29,015,327
Reams Low Duration	\$44	\$0	\$0	\$44
Rice Hall James	\$16,255,728	\$0	\$445,323	\$16,701,051
Securities Lending Northern Trust	\$0	-\$10,889	\$10,889	\$0
SGA ACWI ex-U.S. Equity	\$39,826,795	\$0	\$886,835	\$40,713,630
Vanguard Developed Markets ETF	\$16,445,220	\$0	\$502,298	\$16,947,518
Vanguard Long-Term Treasury ETF	\$18,417,784	\$0	\$391,489	\$18,809,273
Vanguard Russell 2000 Value	\$10,466,133	-\$10,987,187	\$521,060	\$6
Wellington Core Bond	\$0	\$7,500,000	\$56,211	\$7,556,211
Total	\$443,301,351	-\$1,083,444	\$13,202,110	\$455,420,017

Benchmark History
As of April 30, 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

May 26, 2021

1Q 2021 Performance Report

1. Total Portfolio Summary
2. Asset Class and Manager Commentary
3. 1Q 2021 Performance as of March 31, 2021
4. Manager Monitoring / Probation List
5. Disclaimer, Glossary, and Notes

Total Portfolio Summary

Total Portfolio Summary

As of March 31, 2021, the City of Oakland Police and Fire Retirement System (OPFRS) portfolio had an aggregate value of \$443.3 million. This represents a \$12.2 million increase in investment value and (\$3.0) million in benefit payments funded from investments over the quarter. Over the one year period, the OPFRS Total Portfolio value is higher by \$101.8 million, after withdrawals totaling (\$12.0) million for benefit payments.

Asset Allocation Trends

- The asset allocation targets throughout this report reflect those as of March 31, 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. During the quarter manager searches were undertaken to fill the Alternative Risk Premia and Systematic Trend Following components of the Crisis Risk Offset asset class. Funding those mandates will likely bring the asset class closer to its policy target.
- During the quarter, OPFRS approved funding for Brown Advisory and Wellington to manage small cap value and core fixed income mandates respectively. Both managers were funded subsequent to quarter-end.

Recent Investment Performance

- During the most recent quarter, the OPFRS portfolio generated an absolute return of 2.8%, gross of fees, outperforming its policy benchmark by 1.0%. The portfolio also outperformed its benchmark over the 1- and 5-year periods, by 3.7% and 0.6% respectively, while underperforming over the 3-year period by 10 basis points.

Total Portfolio Summary

- The OPFRS portfolio underperformed the Median fund's return over the quarter by (0.4%), and by (2.5%), (0.8%) and (0.3%) over the one, three and five-year trailing periods respectively. Performance differences with respect to the Median Fund are attributed largely to differences in asset allocation.

	Quarter	Fiscal YTD	1 Year	3 Year	5 Year
Total Portfolio ¹	2.8	18.2	33.7	9.3	10.9
Policy Benchmark ²	1.8	16.0	30.0	9.4	10.3
Excess Return	1.0	2.2	3.7	-0.1	0.6
Reference: Median Fund ³	3.2	20.3	36.2	10.1	10.6
Reference: Total Net of Fees ⁴	2.7	17.9	33.3	9.0	10.5

- Over the quarter, positive performance was driven by Domestic Equity that returned 7.3%, outperforming the benchmark by +1.0%. International Equity, Covered Calls and Credit also contributed positively, returning 4.1%, 6.2% and 3.6% respectively.
- Fixed Income and Crisis Risk Offset (Long-term Treasuries within this asset class) registered negative returns; -2.9% and -13.6% respectively, as yields (which move inversely with bond prices) rose rapidly over the quarter.

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 March 31, 2021, Domestic Equity returned 7.3%, beating the Russell 3000 benchmark by +1.0%. Both active managers in the Domestic Equity portfolio outperformed their respective benchmarks while the passive managers/strategies (Northern Trust Russell 1000, iShares Edge MSCI Minimum Volatility and the Vanguard Russell 2000 Value) performed in line with their respective benchmarks with acceptable tracking error.

Earnest Partners, the Plan's active mid cap core manager, returned 9.6%, outperforming the Russell Midcap benchmark by +1.5%, and placing in the 47th percentile of its peer group for the quarter. The manager has also outperformed its benchmark over longer trailing periods with excess returns of +0.4%, +3.7% and +4.6% over the 1-year, 3-year and 5-year periods respectively.

Rice Hall James, the Plan's active small cap growth manager, returned 8.3%, outperforming the Russell 2000 Growth benchmark by +3.4%, and placing in the 31st percentile for the quarter. The manager has also outperformed its benchmark over the 1-year period by +0.2%, but trails over the longer 3-year period and since inception by (5.3%) and (2.3%) respectively. The manager is on watch status for performance concerns.

International Equity

For the quarter ended March 31, 2020, the International Equity portfolio returned 4.1%, outperforming the MSCI ACWI benchmark by +0.5%. Within this portfolio, the passive international developed markets portfolio managed by Vanguard returned 4.0%, in line with its benchmark.

SGA MSCI ACWI ex US ETF, the Plan's active core international equity manager, returned 4.1%, outperforming the MSCI ACWI ex USA benchmark by +0.5% over the quarter, while trailing by (7.8%) over the one-year period.

Fixed Income

Over the quarter, the Fixed Income aggregate returned -2.9%, outperforming the Bloomberg Barclays Universal benchmark by +0.2%. The asset class was challenged by rapidly rising yields on treasuries. Both active managers in this portfolio posted negative returns, albeit with mixed results relative to the benchmark, while the passive strategy, the iShares Core US Aggregate Bond ETF, performed in line with its benchmark.

Asset Class and Manager Summary

Ramirez returned -2.6% over the quarter, compared to the benchmark return of -3.4%, placing in the 14th percentile of its peer group. Ramirez, also outperformed its benchmark over the one and three-year trailing periods by +5.6% and +0.2% respectively, and by +0.6% since inception. Relative to the benchmark, Ramirez's performance was helped by positioning in Treasuries (underweight) and Municipal bonds, as well as security selection in Municipals and Corporate Credit. **Reams** returned -3.6% for the quarter, trailing its benchmark by (0.5%) and placing in the 95th percentile of its peer group. Reams, however, outperformed its benchmark by +6.1%, +3.8%, +2.1% and +1.0% over 1-, 3- and 5-year and since inception periods respectively. Relative to the benchmark, Reams' security selection in investment grade credit hurt performance.

Covered Calls

Over the fourth quarter, the Covered Calls portfolio returned 6.2%, outperforming its benchmark by +3.6%.

Parametric BXM, the Plan's passive covered calls allocation returned 5.4%, outperforming its benchmark, the CBOE BXM index, by +2.8% over the quarter. The portfolio has outperformed over the most recent 1-year, 3- and 5-year periods by +7.3%, +5.0% and +2.9% respectively. Since inception outperformance is +2.3%.

Parametric DeltaShift, the Plan's active covered calls allocation returned 6.8%, outperforming its benchmark, the CBOE BXM, index by +4.2% over the quarter. The portfolio has outperformed over the most recent 1-year, 3- and 5-year periods by +26.3%, +11.5% and +8.3% respectively. Since inception outperformance is +6.8%.

Credit

DDJ, the Plan's High Yield & Bank Loan manager, returned 3.6% over the quarter, outperforming its benchmark, the Barclays US High Yield, by +2.7%. DDJ, outperformed the benchmark over the 1-year and 5-year periods by +9.5% and +0.6% respectively, but trailed the benchmark by (1.7%) over the 3-year trailing period. Since inception outperformance is +0.4%

Crisis Risk Offset

Over the quarter, the Crisis Risk Offset portfolio returned -13.6%, trailing its benchmark by (17.3%).

Vanguard Long Duration ETF, the only funded component of the Crisis Risk Offset portfolio over the quarter, returned -13.6% as yields on longer dated treasuries rose rapidly. Performance was in line with the benchmark.

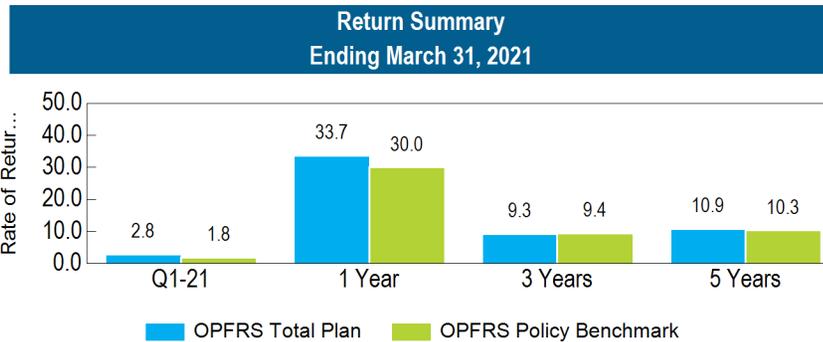
Manager searches are underway to fund the Alternative Risk Premia and Systematic Trend Following components of the Crisis Risk Offset portfolio.

1Q 2021 Performance Update
As of March 31, 2021

OPFRS Total Plan | As of March 31, 2021

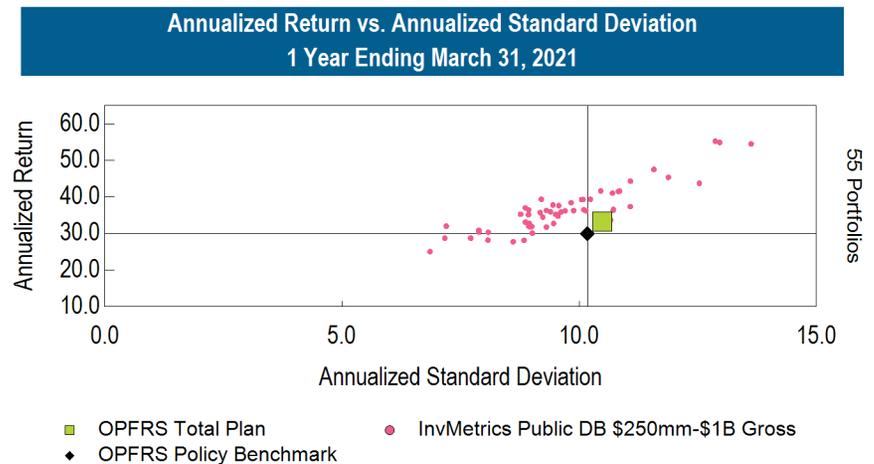
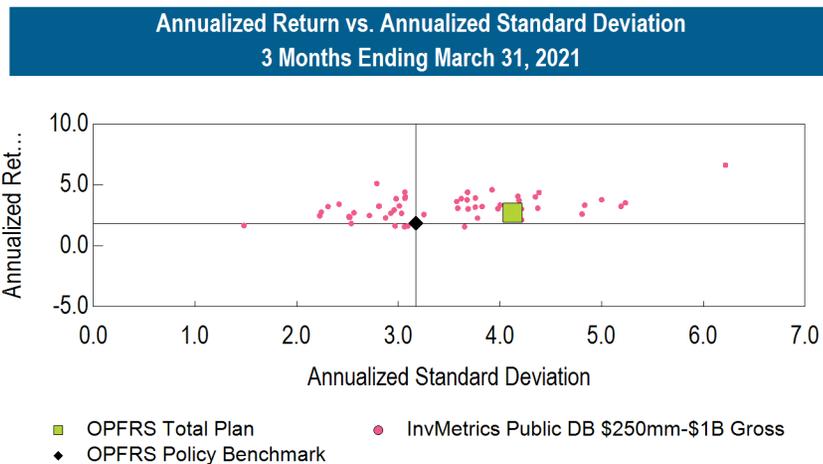
3 Months Ending March 31, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	2.71%	1.19%
OPFRS Policy Benchmark	1.83%	0.92%
InvMetrics Public DB \$250mm-\$1B Gross Median	3.19%	1.03%

1 Year Ending March 31, 2021		
	Anlzd Return	Standard Deviation
OPFRS Total Plan	33.30%	3.03%
OPFRS Policy Benchmark	29.95%	2.94%
InvMetrics Public DB \$250mm-\$1B Gross Median	36.17%	2.73%



Summary of Cash Flows

	Quarter-To-Date	One Year
Beginning Market Value	\$434,118,470	\$341,533,320
Net Cash Flow	-\$3,048,200	-\$12,939,497
Capital Appreciation	\$12,231,081	\$114,707,528
Ending Market Value	\$443,301,351	\$443,301,351



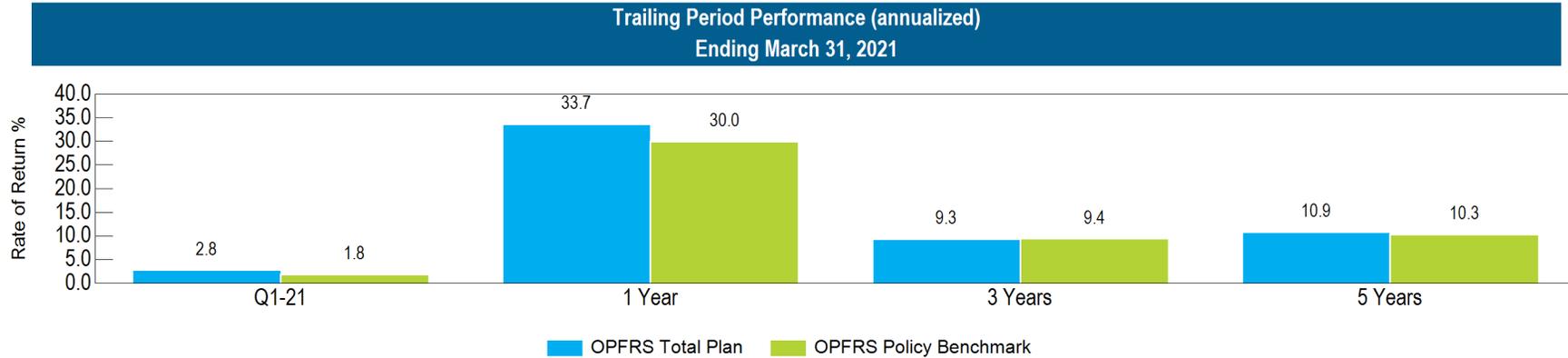
Evolving Policy Benchmark consists of 40% russell 3000, 12% MSCI ACWI ex U.S., 33% Bbg BC Universal, 5% CBOE BXM, 6.7% SG Multi Asset Risk Premia, 3.3% Bbg BC Long Treasury.

Asset Class Performance (gross of fees) | As of March 31, 2021

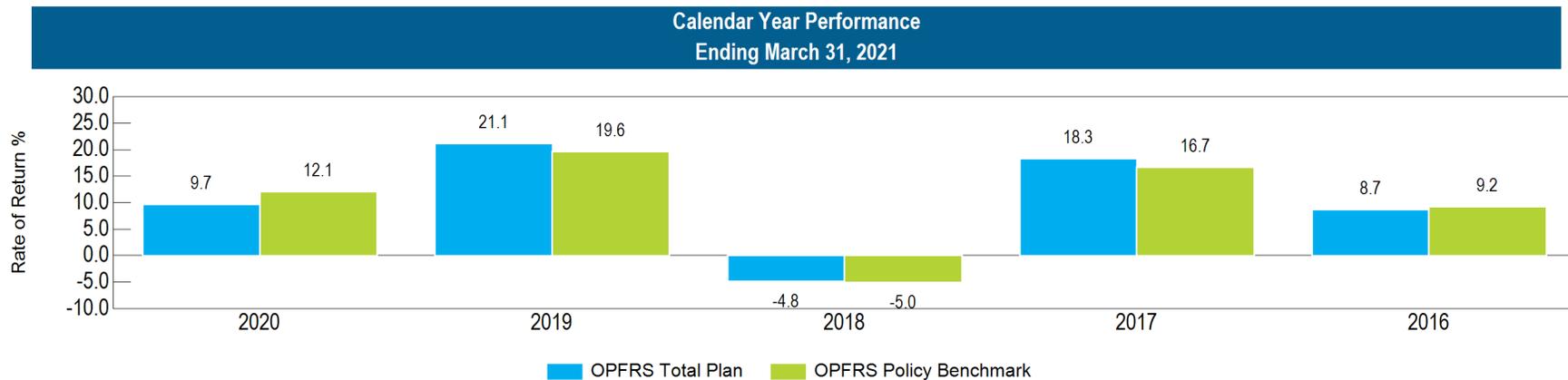
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
OPFRS Total Plan	2.8	33.7	9.3	10.9	8.4	8.2
<i>OPFRS Policy Benchmark</i>	<u>1.8</u>	<u>30.0</u>	<u>9.4</u>	<u>10.3</u>	<u>8.4</u>	<u>7.9</u>
Excess Return	1.0	3.7	-0.1	0.6	0.0	0.3
Domestic Equity	7.3	63.2	15.6	16.3	12.9	13.5
<i>Russell 3000 (Blend)</i>	<u>6.3</u>	<u>62.5</u>	<u>17.1</u>	<u>16.6</u>	<u>13.4</u>	<u>13.8</u>
Excess Return	1.0	0.7	-1.5	-0.3	-0.5	-0.3
International Equity	4.1	43.0	6.5	10.5	6.4	5.9
<i>MSCI ACWI ex US (Blend)</i>	<u>3.6</u>	<u>50.0</u>	<u>7.0</u>	<u>10.3</u>	<u>5.8</u>	<u>5.4</u>
Excess Return	0.5	-7.0	-0.5	0.2	0.6	0.5
Fixed Income	-2.9	6.1	5.0	4.2	3.9	4.1
<i>Bmbg BC Universal (Blend)</i>	<u>-3.1</u>	<u>3.0</u>	<u>4.9</u>	<u>3.6</u>	<u>3.6</u>	<u>3.8</u>
Excess Return	0.2	3.1	0.1	0.6	0.3	0.3
Credit	3.6	32.8	4.9	8.6	--	--
<i>BBgBarc US High Yield TR</i>	<u>0.8</u>	<u>23.7</u>	<u>6.8</u>	<u>8.1</u>	--	--
Excess Return	2.8	9.1	-1.9	0.5		
Covered Calls	6.2	45.4	12.3	11.9	9.9	--
<i>CBOE S&P 500 BuyWrite USD</i>	<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	--
Excess Return	3.6	17.1	8.3	5.7	4.4	
Crisis Risk Offset	-13.6	-18.7	-11.4	--	--	--
<i>SG Multi Alternative Risk Premia Index</i>	<u>3.7</u>	<u>-3.3</u>	--	--	--	--
Excess Return	-17.3	-15.4				
Cash	0.0	0.1	1.7	1.4	1.0	0.7
<i>FTSE T-Bill 3 Months TR</i>	<u>0.0</u>	<u>0.2</u>	<u>1.5</u>	<u>1.2</u>	<u>0.8</u>	<u>0.6</u>
Excess Return	0.0	-0.1	0.2	0.2	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 March 31, 2021



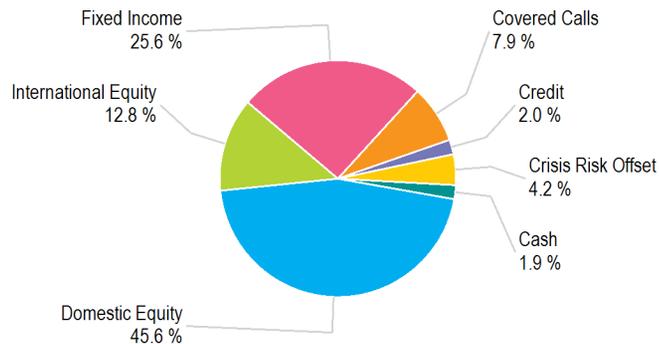
	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)
OPFRS Total Plan	2.8	18.2	33.7	9.3	10.9	8.7	18.3	-4.8	21.1	9.7
<i>OPFRS Policy Benchmark</i>	<i>1.8</i>	<i>16.0</i>	<i>30.0</i>	<i>9.4</i>	<i>10.3</i>	<i>9.2</i>	<i>16.7</i>	<i>-5.0</i>	<i>19.6</i>	<i>12.1</i>
<i>InvMetrics Public DB \$250mm-\$1B Gross Median</i>	<i>3.2</i>	<i>20.3</i>	<i>36.2</i>	<i>10.1</i>	<i>10.6</i>	<i>7.8</i>	<i>15.8</i>	<i>-4.1</i>	<i>18.6</i>	<i>13.1</i>



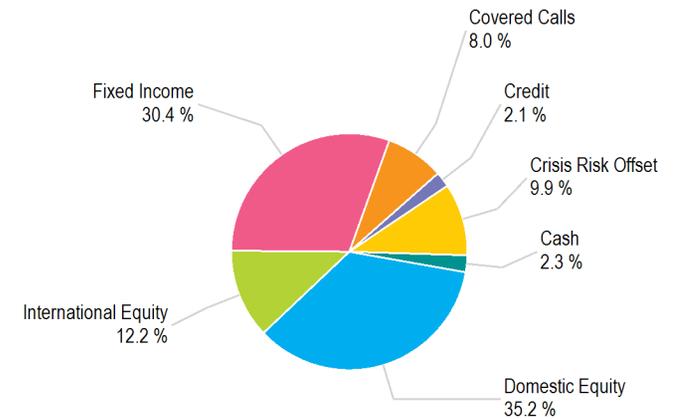
Asset Allocation vs. Target As Of March 31, 2021

	Current	%	Policy	Difference*
Domestic Equity	\$202,337,790	45.6%	40.0%	5.6%
International Equity	\$56,681,628	12.8%	12.0%	0.8%
Fixed Income	\$113,419,761	25.6%	31.0%	-5.4%
Covered Calls	\$35,002,226	7.9%	5.0%	2.9%
Credit	\$8,901,168	2.0%	2.0%	0.0%
Crisis Risk Offset	\$18,417,784	4.2%	10.0%	-5.8%
Cash	\$8,540,995	1.9%	0.0%	1.9%
Total	\$443,301,351	100.0%	100.0%	

March 31, 2021: \$443,301,351



March 31, 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 March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Domestic Equity	202,337,790	100.0	7.3	63.2	15.6	16.3	9.4	Jun-97
<i>Russell 3000 (Blend)</i>			6.3	62.5	17.1	16.6	9.6	Jun-97
Excess Return			1.0	0.7	-1.5	-0.3	-0.2	
Northern Trust Russell 1000	111,018,819	54.9	5.9	60.5	17.3	16.6	15.1	Jun-10
<i>Russell 1000</i>			5.9	60.6	17.3	16.7	15.1	Jun-10
Excess Return			0.0	-0.1	0.0	-0.1	0.0	
<i>eV US Large Cap Core Equity Gross Rank</i>			60	31	31	34	35	Jun-10
EARNEST Partners	44,905,705	22.2	9.6	74.0	18.4	19.3	11.4	Apr-06
<i>Russell MidCap</i>			8.1	73.6	14.7	14.7	9.8	Apr-06
Excess Return			1.5	0.4	3.7	4.6	1.6	
<i>eV US Mid Cap Core Equity Gross Rank</i>			47	42	10	7	27	Apr-06
iShares Edge MSCI Min Vol	19,691,405	9.7	2.3	30.5	--	--	30.5	Apr-20
<i>MSCI USA Minimum Volatility GR USD</i>			2.3	30.6	--	--	30.6	Apr-20
Excess Return			0.0	-0.1			-0.1	
<i>eV US Low Volatility Equity Gross Rank</i>			94	79	--	--	79	Apr-20
Rice Hall James	16,255,728	8.0	8.3	90.4	11.9	--	15.1	Jul-17
<i>Russell 2000 Growth</i>			4.9	90.2	17.2	--	17.4	Jul-17
Excess Return			3.4	0.2	-5.3		-2.3	
<i>eV US Small Cap Growth Equity Gross Rank</i>			31	62	95	--	92	Jul-17
Vanguard Russell 2000 Value	10,466,133	5.2	21.3	98.2	--	--	21.1	Aug-19
<i>Russell 2000 Value</i>			21.2	97.1	--	--	20.5	Aug-19
Excess Return			0.1	1.1			0.6	
<i>eV US Small Cap Value Equity Gross Rank</i>			32	41	--	--	40	Aug-19

Manager Performance - Gross of Fees | As of March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
International Equity	56,681,628	100.0	4.1	43.0	6.5	10.5	5.8	Jan-98
<i>MSCI ACWI ex US (Blend)</i>			<i>3.6</i>	<i>50.0</i>	<i>7.0</i>	<i>10.3</i>	<i>6.0</i>	<i>Jan-98</i>
Excess Return			0.5	-7.0	-0.5	0.2	-0.2	
SGA ACWI ex-U.S. Equity	39,826,795	70.3	4.1	42.2	--	--	9.4	Dec-19
<i>MSCI ACWI ex USA Gross</i>			<i>3.6</i>	<i>50.0</i>	--	--	<i>14.8</i>	<i>Dec-19</i>
Excess Return			0.5	-7.8			-5.4	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>46</i>	<i>97</i>	--	--	<i>97</i>	<i>Dec-19</i>
Vanguard Developed Markets ETF	16,445,220	29.0	4.0	47.5	--	--	15.6	Sep-19
<i>FTSE Developed All Cap Ex US TR USD</i>			<i>4.1</i>	<i>50.6</i>	--	--	<i>17.2</i>	<i>Sep-19</i>
Excess Return			-0.1	-3.1			-1.6	
<i>eV ACWI ex-US All Cap Core Eq Gross Rank</i>			<i>47</i>	<i>91</i>	--	--	<i>94</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 March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Fixed Income	113,419,761	100.0	-2.9	6.1	5.0	4.2	5.4	Dec-93
<i>Blmbg BC Universal (Blend)</i>			<i>-3.1</i>	<i>3.0</i>	<i>4.9</i>	<i>3.6</i>	<i>5.3</i>	<i>Dec-93</i>
Excess Return			0.2	3.1	0.1	0.6	0.1	
Ramirez	77,199,344	68.1	-2.6	6.3	4.9	--	4.4	Jan-17
<i>BBgBarc US Aggregate TR</i>			<i>-3.4</i>	<i>0.7</i>	<i>4.7</i>	<i>--</i>	<i>3.8</i>	<i>Jan-17</i>
Excess Return			0.8	5.6	0.2		0.6	
<i>eV US Core Fixed Inc Net Rank</i>			<i>14</i>	<i>7</i>	<i>49</i>	<i>--</i>	<i>21</i>	<i>Jan-17</i>
Reams	28,845,472	25.4	-3.6	9.1	8.7	5.7	5.9	Feb-98
<i>Blmbg BC Universal (Blend)</i>			<i>-3.1</i>	<i>3.0</i>	<i>4.9</i>	<i>3.6</i>	<i>4.9</i>	<i>Feb-98</i>
Excess Return			-0.5	6.1	3.8	2.1	1.0	
<i>eV US Core Plus Fixed Inc Gross Rank</i>			<i>95</i>	<i>26</i>	<i>1</i>	<i>8</i>	<i>41</i>	<i>Feb-98</i>
iShares Core US Aggregate Bond ETF	7,374,902	6.5	-3.4	--	--	--	-2.4	Nov-20
<i>BBgBarc US Aggregate TR</i>			<i>-3.4</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>-2.3</i>	<i>Nov-20</i>
Excess Return			0.0				-0.1	
<i>eV US Core Fixed Inc Gross Rank</i>			<i>67</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>82</i>	<i>Nov-20</i>

Manager Performance - Gross of Fees | As of March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Covered Calls	35,002,226	100.0	6.2	45.4	12.3	11.9	9.9	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	<u>Apr-14</u>
Excess Return			3.6	17.1	8.3	5.7	4.4	
Parametric DeltaShift	19,402,866	55.4	6.8	54.6	15.5	14.5	12.3	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	<u>Apr-14</u>
Excess Return			4.2	26.3	11.5	8.3	6.8	
<i>eV US Large Cap Core Equity Gross Rank</i>			47	59	56	75	69	Apr-14
Parametric BXM	15,599,360	44.6	5.4	35.6	9.0	9.1	7.8	Apr-14
<i>CBOE S&P 500 BuyWrite USD</i>			<u>2.6</u>	<u>28.3</u>	<u>4.0</u>	<u>6.2</u>	<u>5.5</u>	<u>Apr-14</u>
Excess Return			2.8	7.3	5.0	2.9	2.3	
<i>eV US Large Cap Core Equity Gross Rank</i>			68	97	97	98	99	Apr-14

Manager Performance - Gross of Fees | As of March 31, 2021

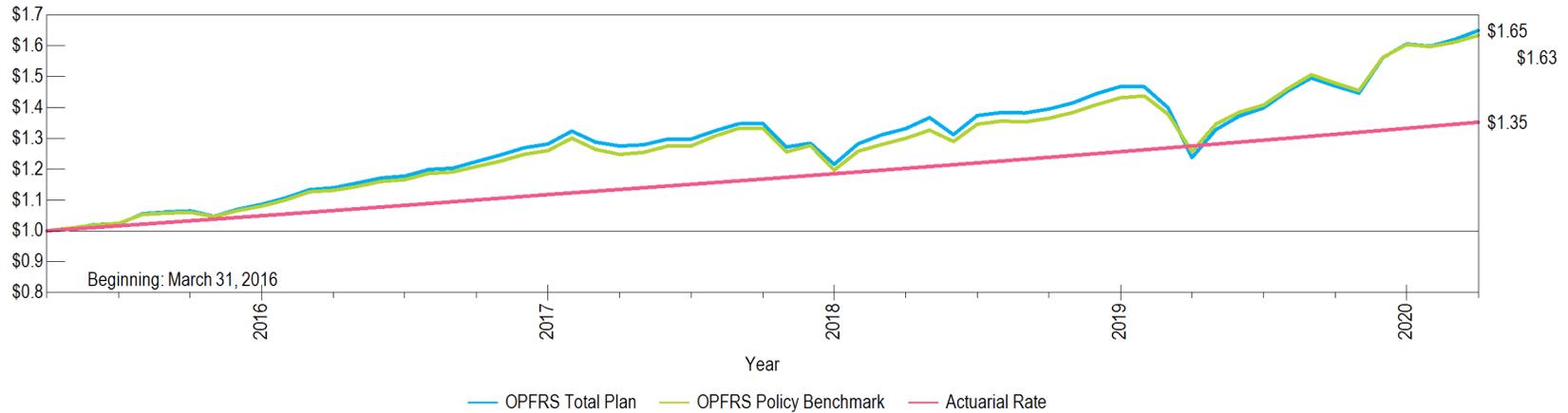
	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Credit	8,901,168	100.0	3.6	32.8	4.9	8.6	6.4	Feb-15
<i>BBgBarc US High Yield TR</i>			<u>0.8</u>	<u>23.7</u>	<u>6.8</u>	<u>8.1</u>	<u>6.2</u>	<u>Feb-15</u>
Excess Return			2.8	9.1	-1.9	0.5	0.2	
DDJ Capital	8,901,168	100.0	3.6	32.8	4.9	8.6	6.4	Feb-15
<i>ICE BofA High Yield Master TR</i>			<u>0.9</u>	<u>23.3</u>	<u>6.6</u>	<u>8.0</u>	<u>6.0</u>	<u>Feb-15</u>
Excess Return			2.7	9.5	-1.7	0.6	0.4	
<i>eV US High Yield Fixed Inc Gross Rank</i>			6	6	96	19	34	<i>Feb-15</i>

Manager Performance - Gross of Fees | As of March 31, 2021

	Market Value	% of Portfolio	QTD	1 Yr	3 Yrs	5 Yrs	S.I.	S.I. Date
Crisis Risk Offset	18,417,784	100.0	-13.6	-18.7	-11.4	--	-12.7	Aug-18
<i>SG Multi Alternative Risk Premia Index</i>			<u>3.7</u>	<u>-3.3</u>	--	--	<u>-3.9</u>	<u>Aug-18</u>
Excess Return			-17.3	-15.4			-8.8	
Vanguard Long-Term Treasury ETF	18,417,784	100.0	-13.6	-16.1	--	--	3.0	Jul-19
<i>BBgBarc US Govt Long TR</i>			<u>-13.4</u>	<u>-15.6</u>	--	--	<u>3.0</u>	<u>Jul-19</u>
Excess Return			-0.2	-0.5			0.0	
<i>eV US Long Duration - Gov/Cred Fixed Inc Net Rank</i>			99	99	--	--	99	<u>Jul-19</u>

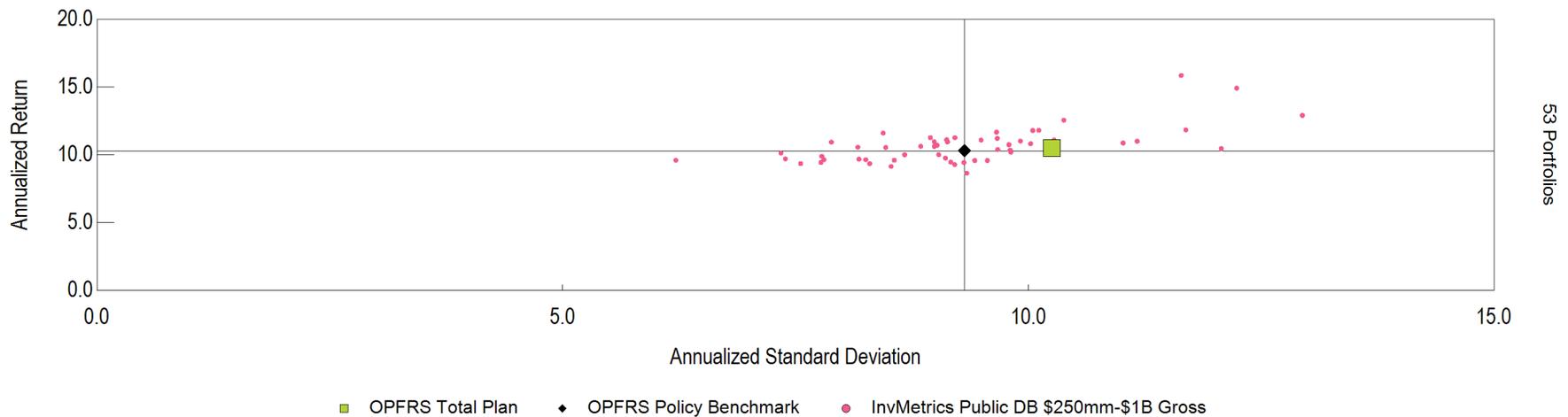
Total Portfolio 5-Year Performance | As of March 31, 2021

Growth of a Dollar

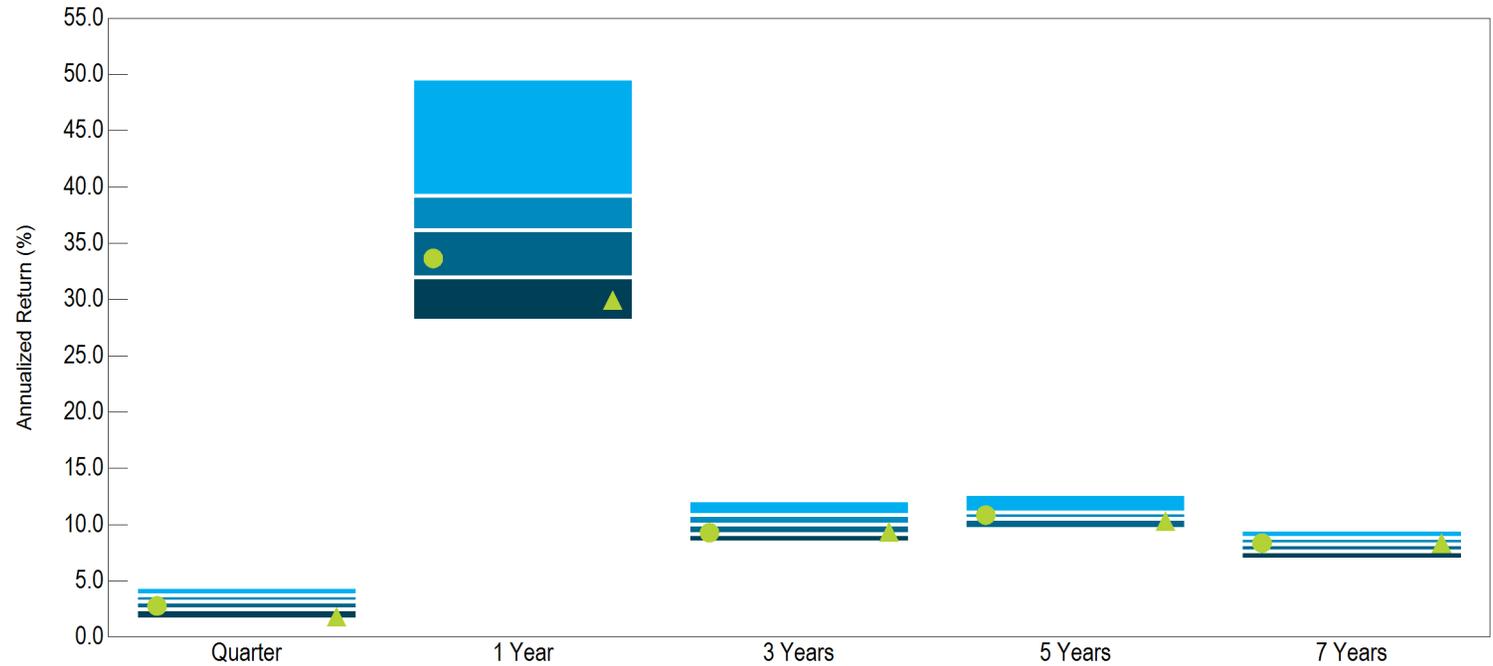


The actuarial expected rate of return was 8% through 6/30/2009, 7.5% through 6/30/2010, 7% through 6/30/2011, 6.75% through 6/30/2014, 6.5% through 2/31/2017 and 6.0% currently

Annualized Return vs. Annualized Standard Deviation 5 Years Ending March 31, 2021

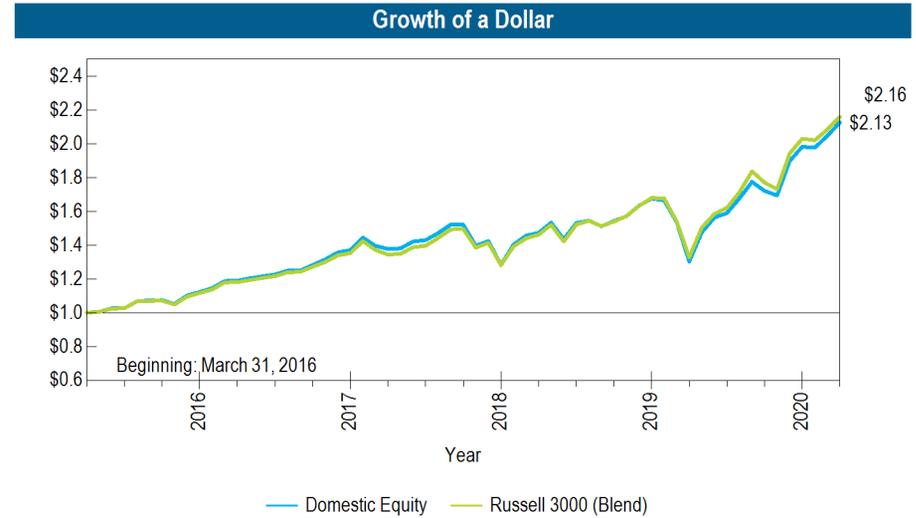
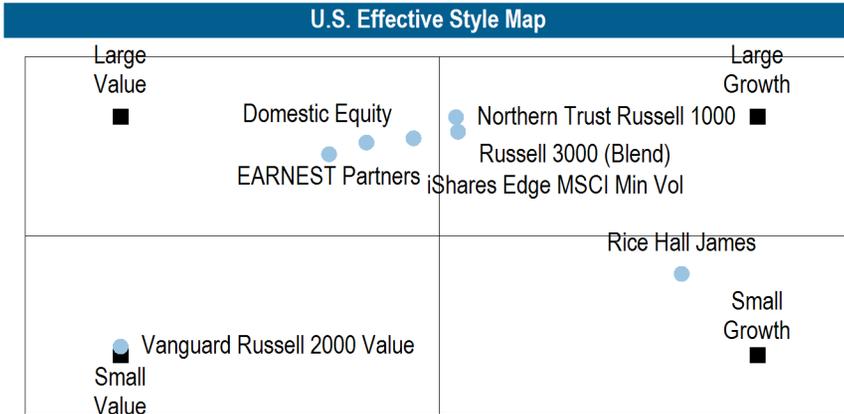


InvMetrics Public DB \$250mm-\$1B Gross Return Comparison

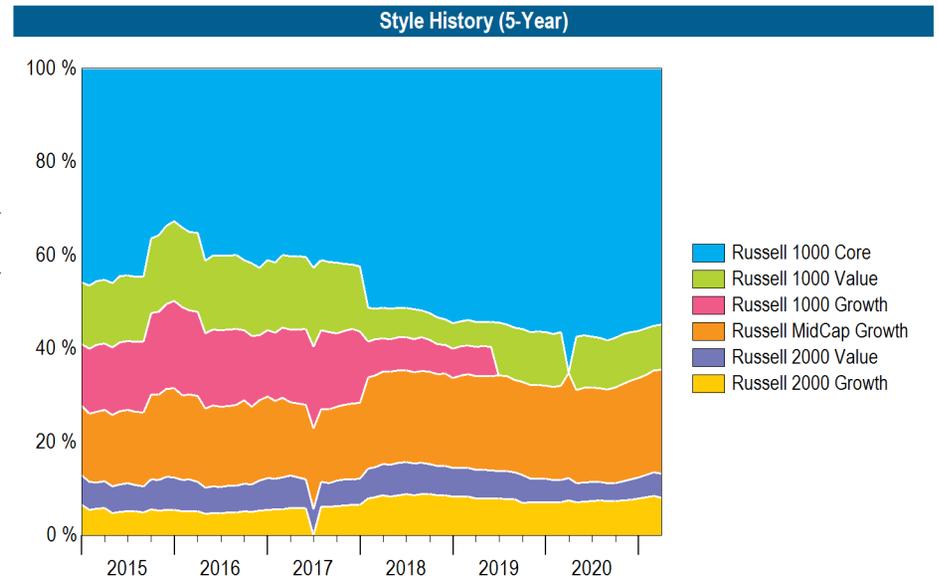
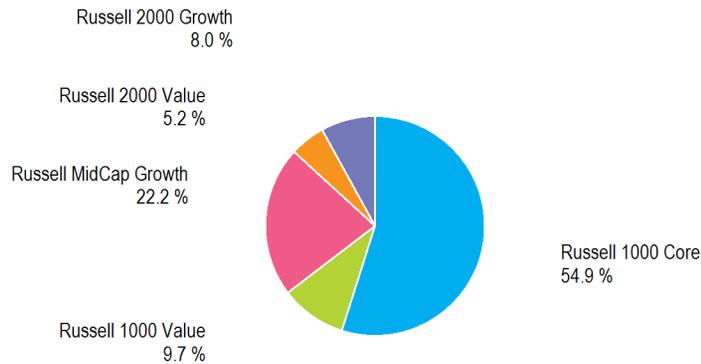


	Return (Rank)									
5th Percentile	4.5		49.6		12.1		12.7		9.5	
25th Percentile	3.8		39.3		10.9		11.1		8.8	
Median	3.2		36.2		10.1		10.6		8.3	
75th Percentile	2.5		32.0		9.2		9.7		7.7	
95th Percentile	1.6		28.1		8.4		9.3		6.9	
# of Portfolios	55		55		55		53		52	
● OPFRS Total Plan	2.8	(65)	33.7	(67)	9.3	(72)	10.9	(40)	8.4	(43)
▲ OPFRS Policy Benchmark	1.8	(91)	30.0	(90)	9.4	(67)	10.3	(59)	8.4	(43)

Domestic Equity | As of March 31, 2021

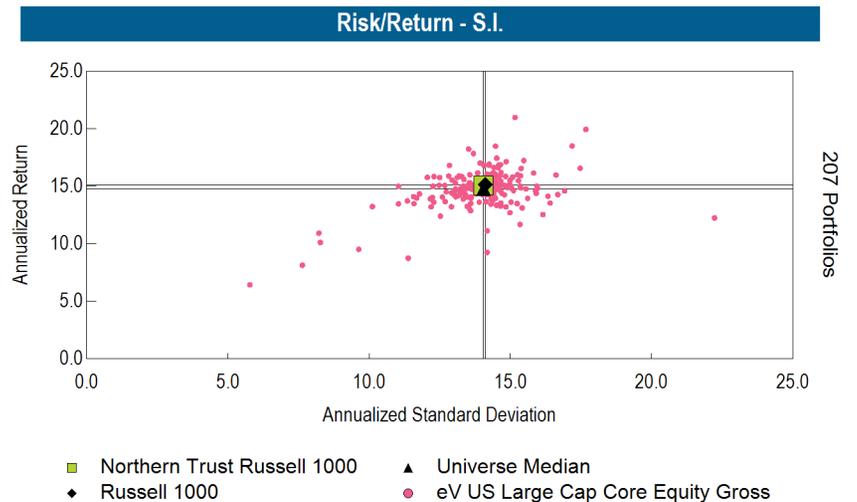
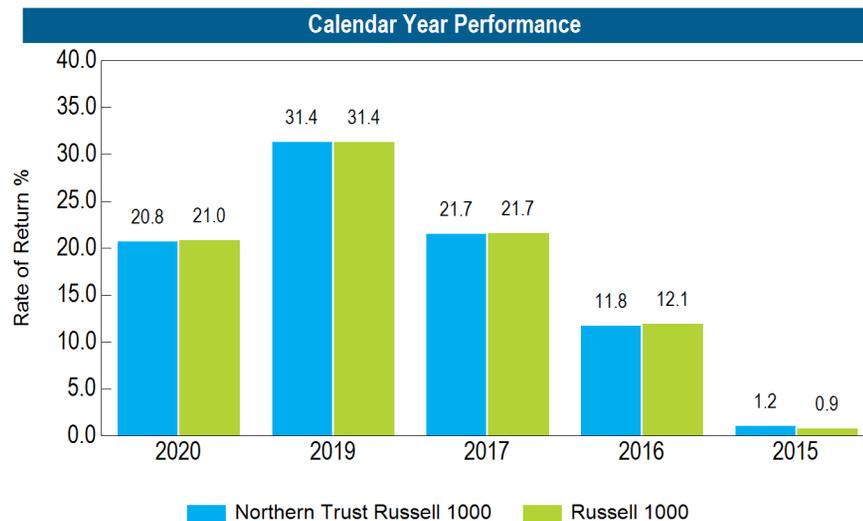
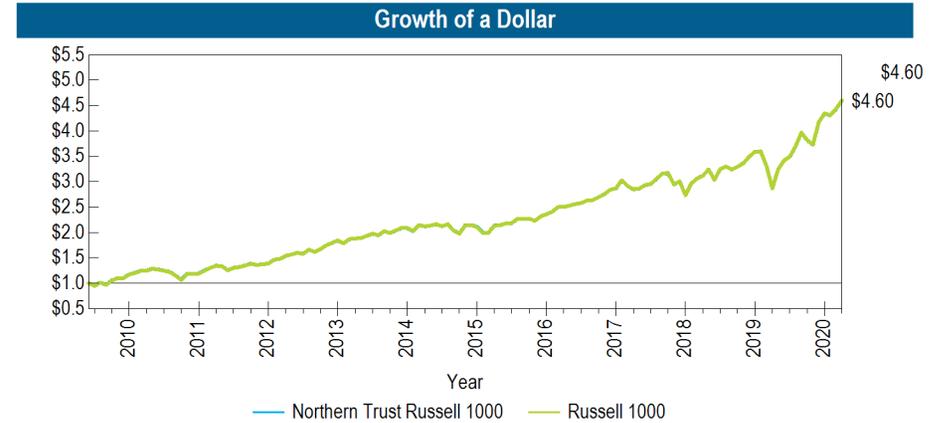
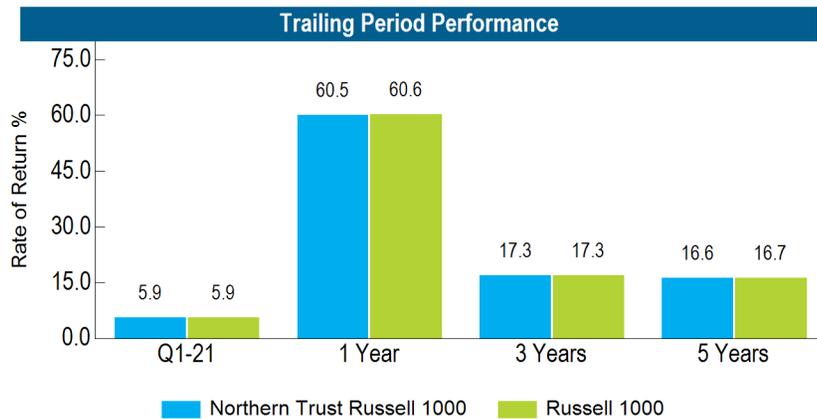


Style Exposure



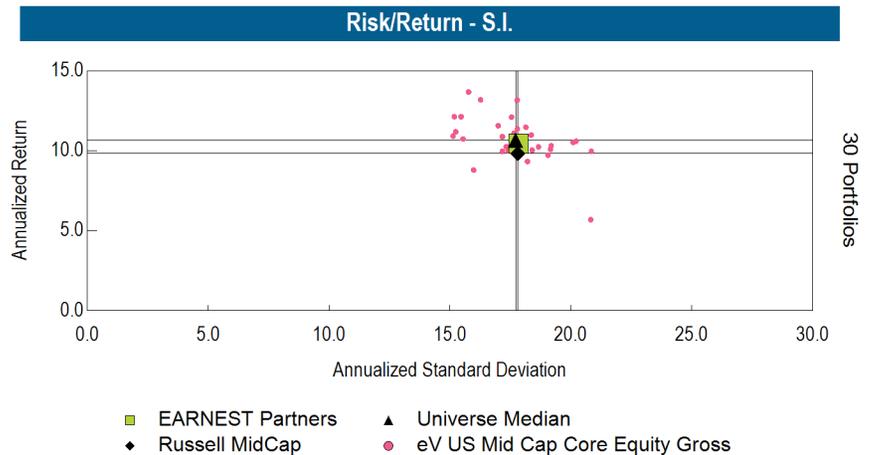
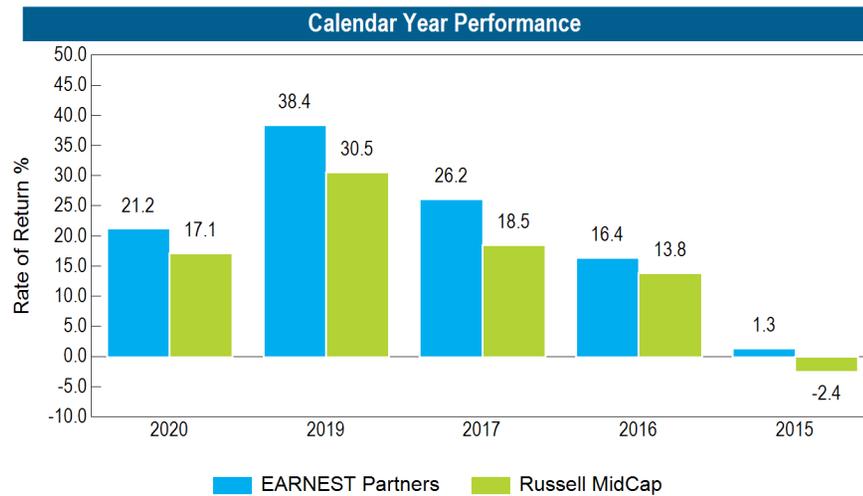
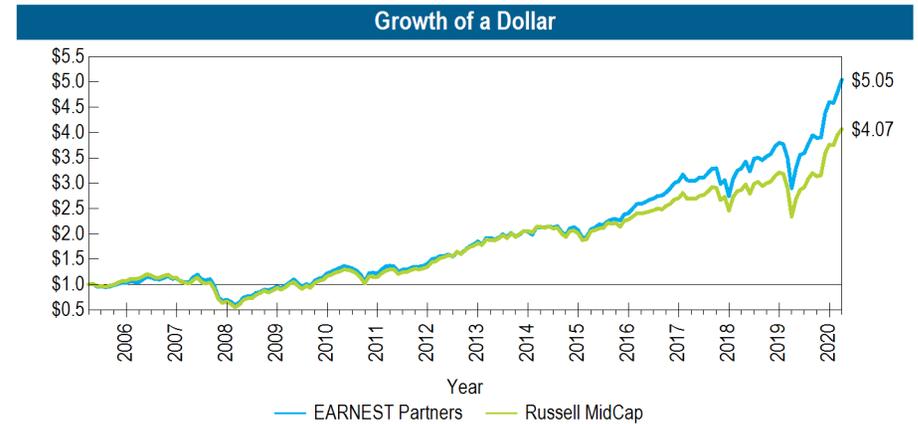
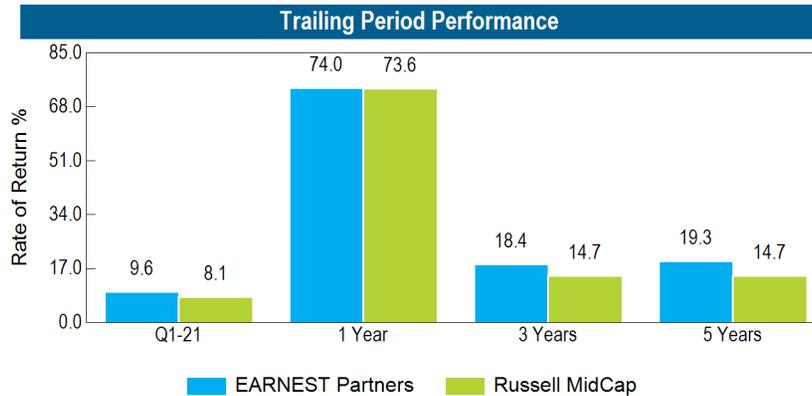
Northern Trust Russell 1000 | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Northern Trust Russell 1000	15.04%	14.05%	0.00%	1.00	0.13%	98.39%	99.76%
Russell 1000	15.13%	14.11%	0.00%	1.00	0.00%	100.00%	100.00%



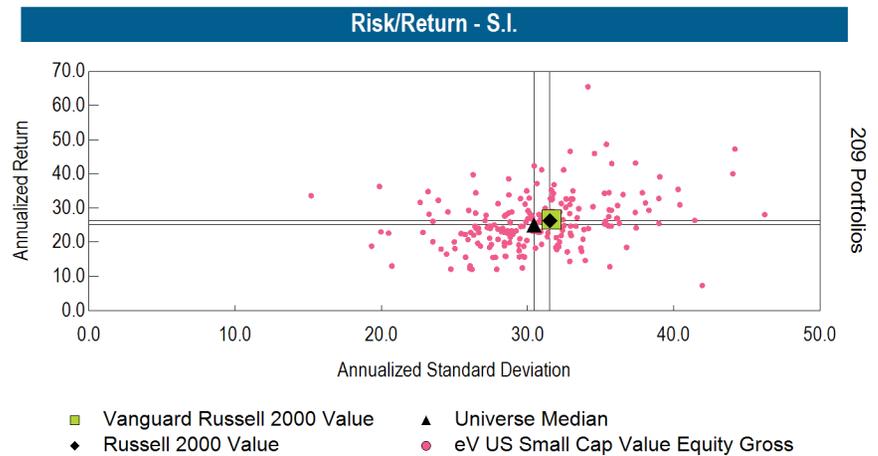
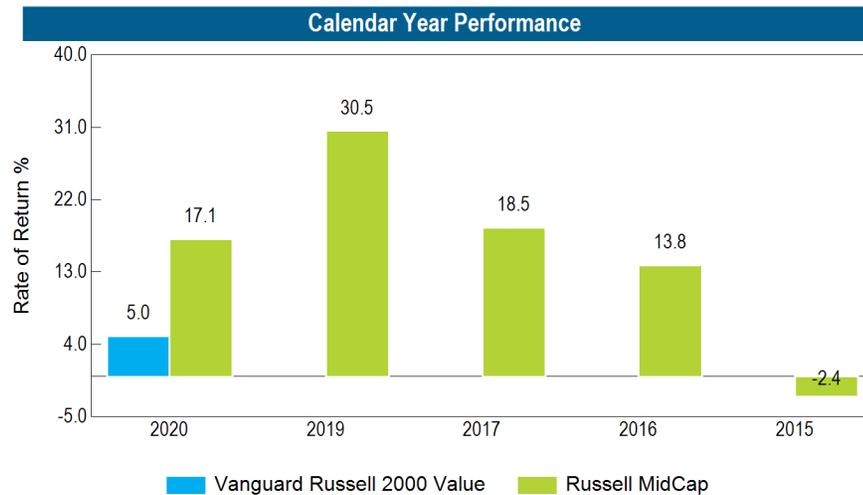
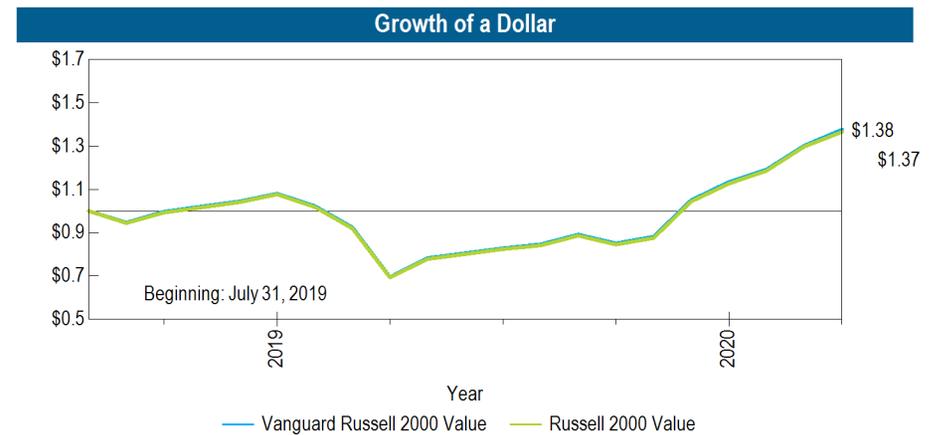
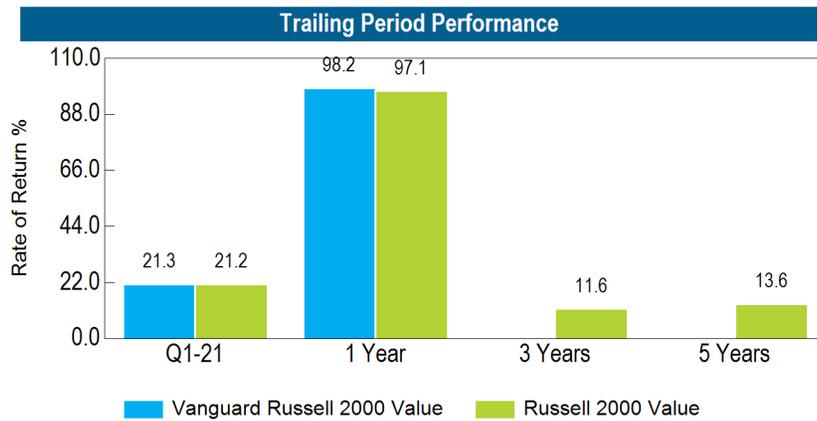
EARNEST Partners | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
EARNEST Partners	10.40%	17.82%	0.06%	0.98	0.18	3.35%	96.20%	99.11%
Russell MidCap	9.80%	17.81%	0.00%	1.00	--	0.00%	100.00%	100.00%



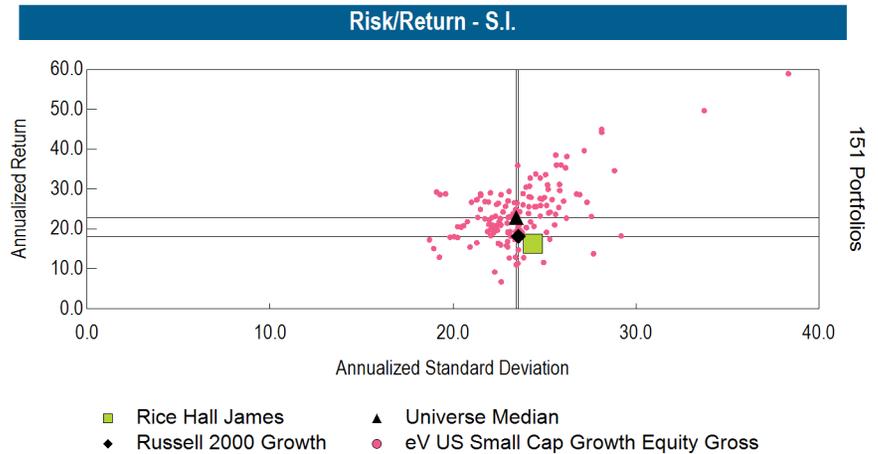
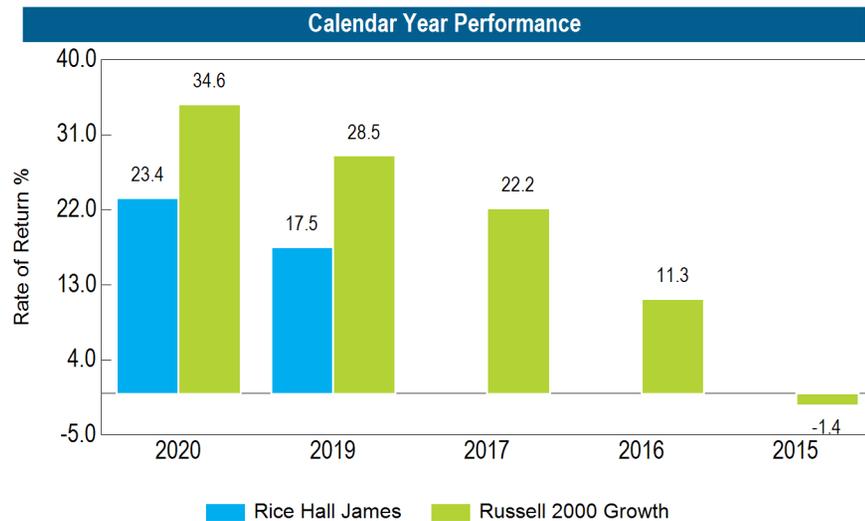
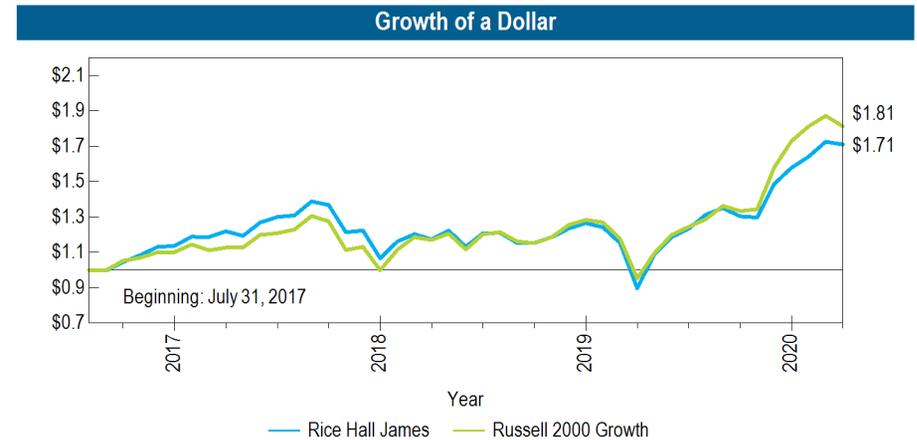
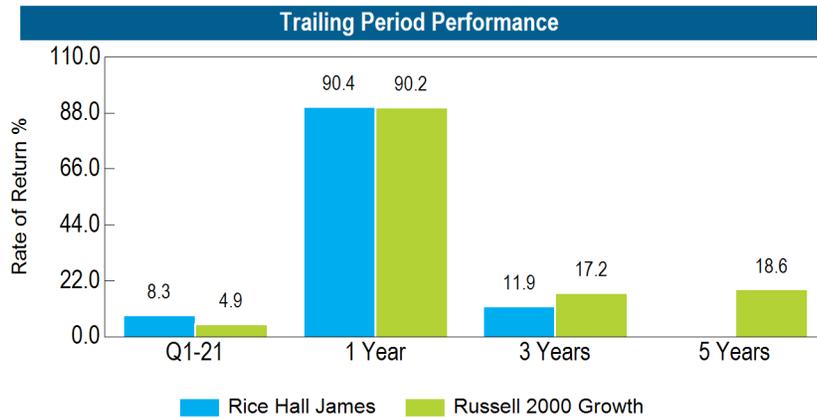
Vanguard Russell 2000 Value | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Russell 2000 Value	21.09%	31.37%	0.04%	1.00	0.59%	100.89%	99.67%
Russell 2000 Value	20.55%	31.29%	0.00%	1.00	0.00%	100.00%	100.00%



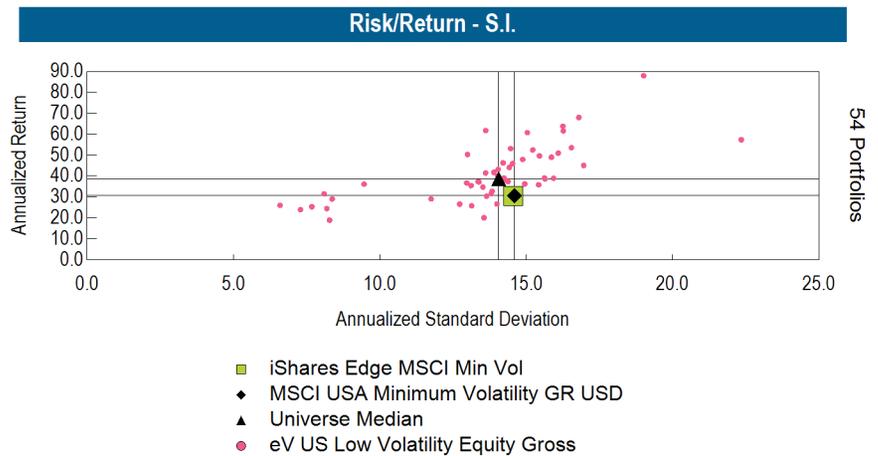
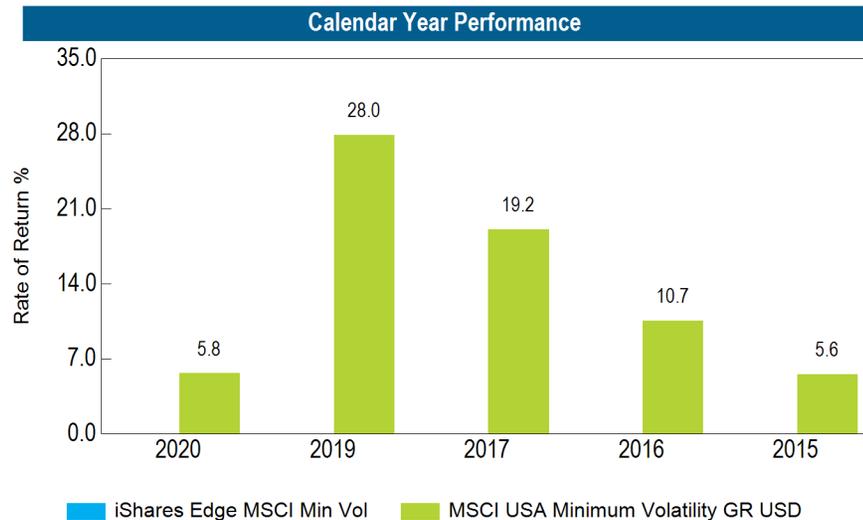
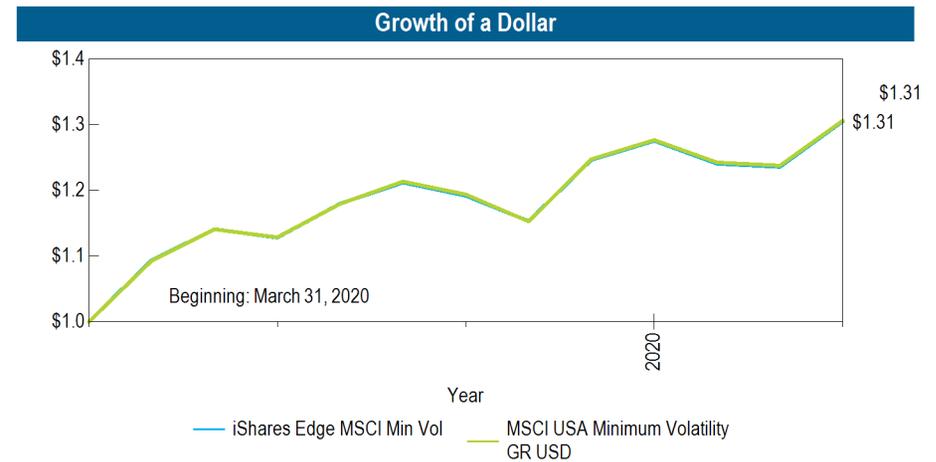
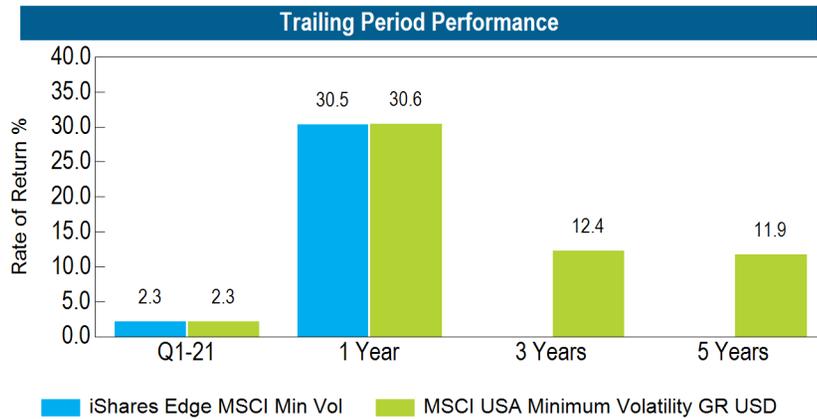
Rice Hall James | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Rice Hall James	14.58%	24.08%	-0.19%	0.99	-0.47	6.46%	90.08%	101.41%
Russell 2000 Growth	17.60%	23.31%	0.00%	1.00	--	0.00%	100.00%	100.00%

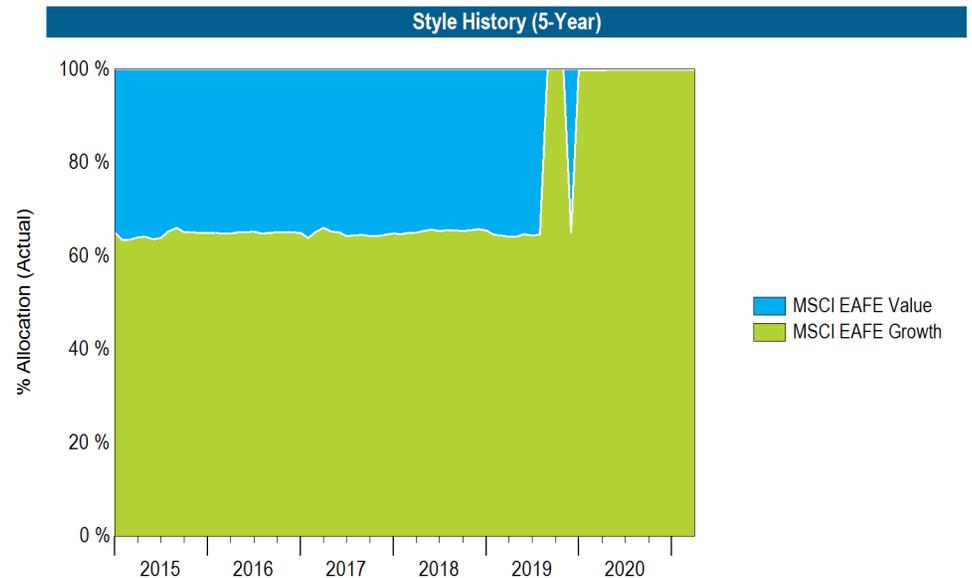
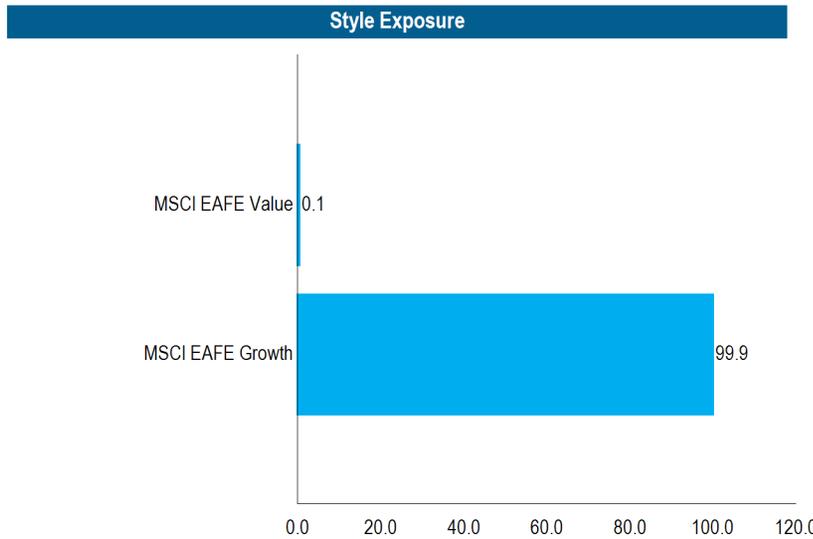
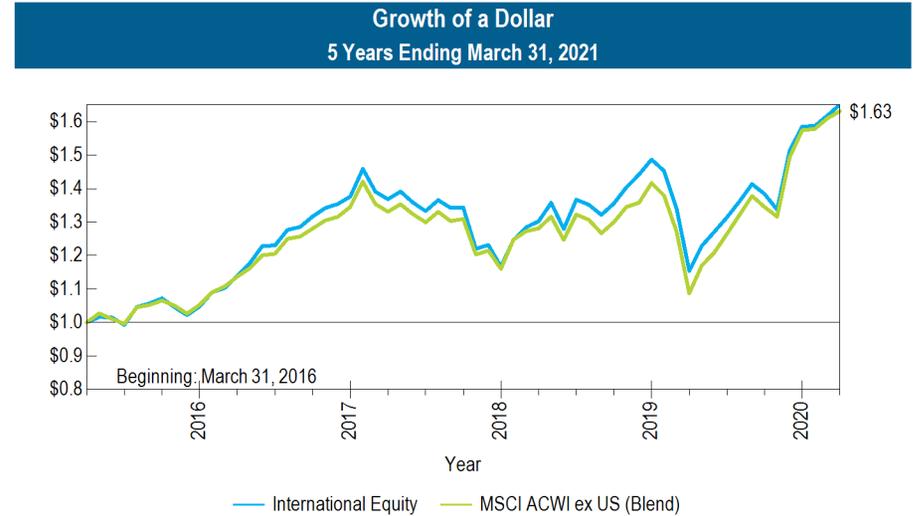
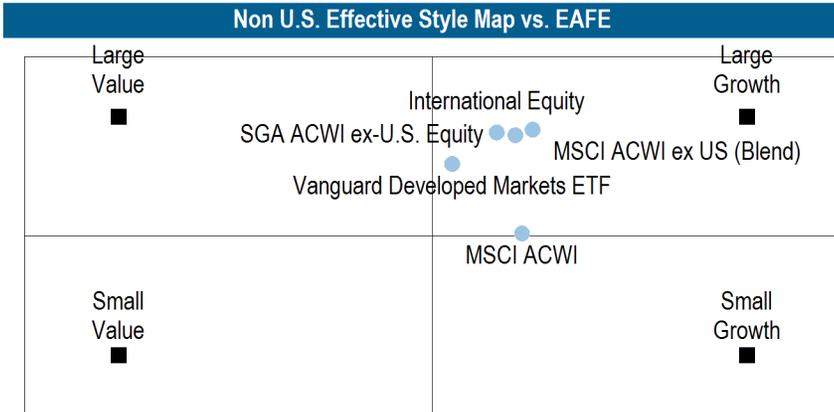


iShares Edge MSCI Min Vol | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
iShares Edge MSCI Min Vol	30.51%	14.56%	0.00%	1.00	0.32%	99.62%	99.53%
MSCI USA Minimum Volatility GR USD	30.60%	14.59%	0.00%	1.00	0.00%	100.00%	100.00%

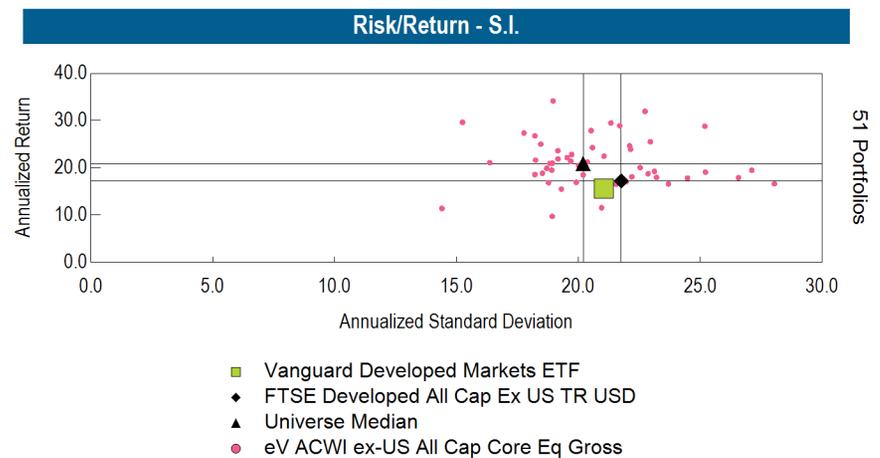
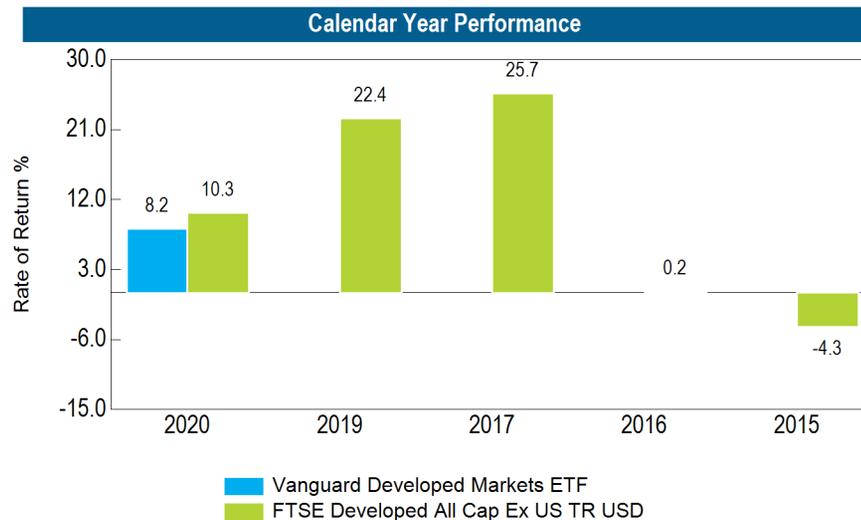
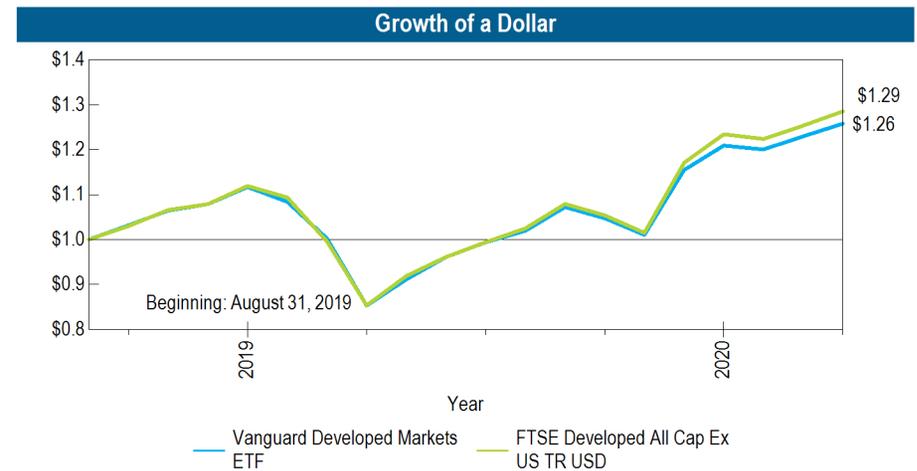
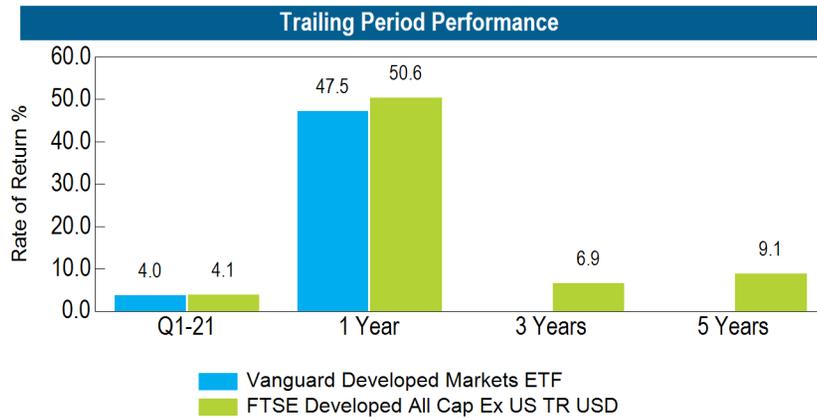


International Equity | As of March 31, 2021



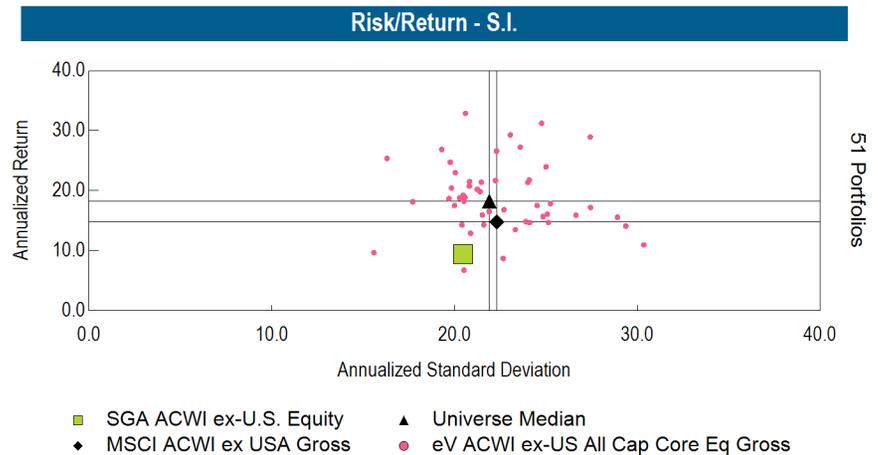
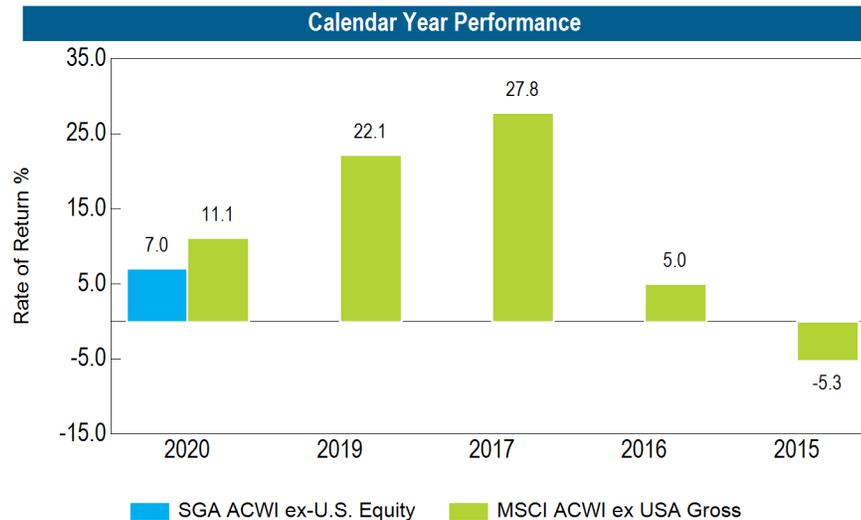
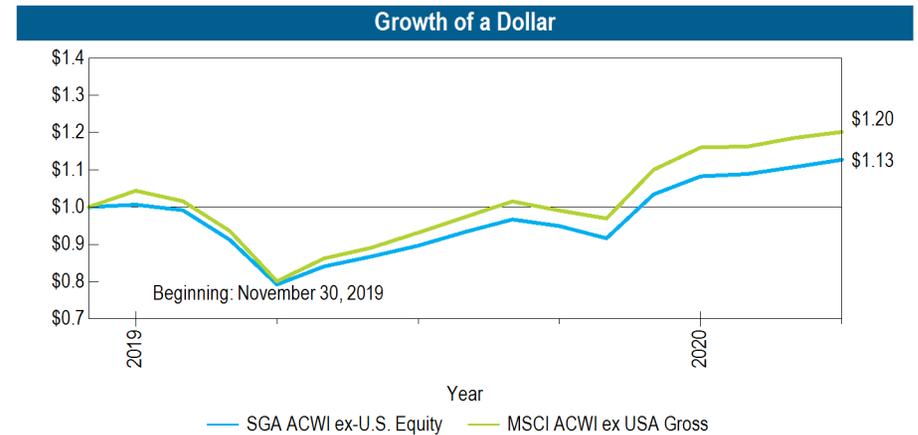
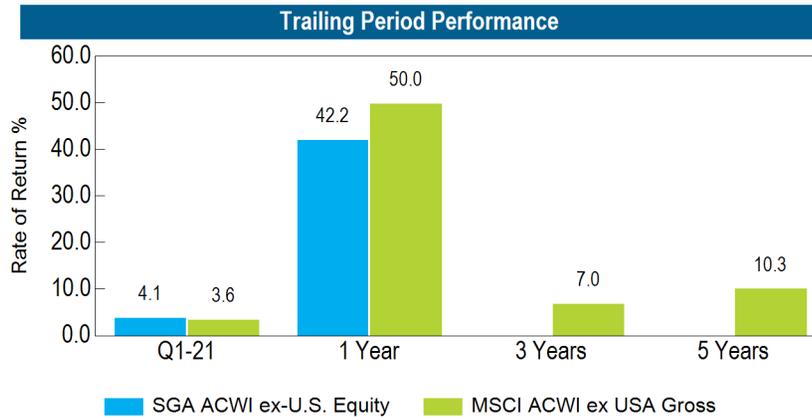
Vanguard Developed Markets ETF | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Vanguard Developed Markets ETF	15.56%	21.03%	-0.07%	0.96	-0.80	2.01%	94.13%	98.86%
FTSE Developed All Cap Ex US TR USD	17.17%	21.75%	0.00%	1.00	--	0.00%	100.00%	100.00%



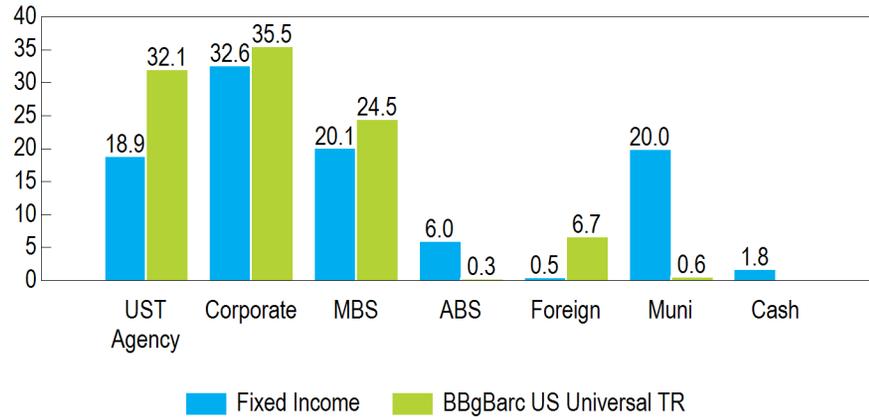
SGA ACWI ex-U.S. Equity | As of March 31, 2021

	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	8.78%	20.40%	-0.35%	0.90	-1.43	4.19%	78.43%	95.42%
MSCI ACWI ex USA Gross	14.76%	22.32%	0.00%	1.00	--	0.00%	100.00%	100.00%

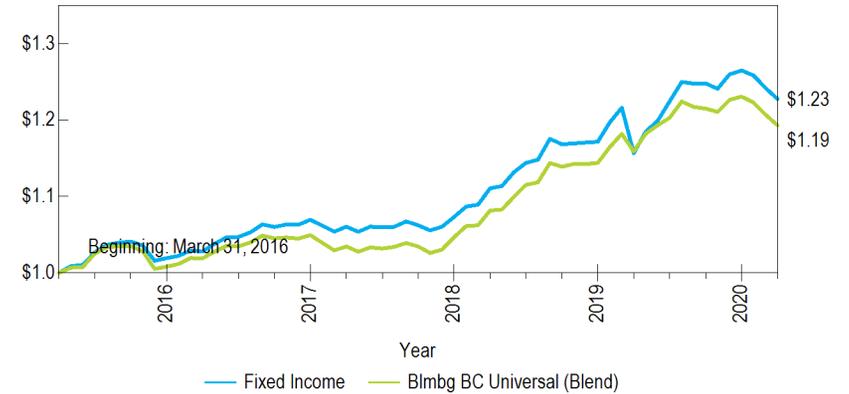


Fixed Income | As of March 31, 2021

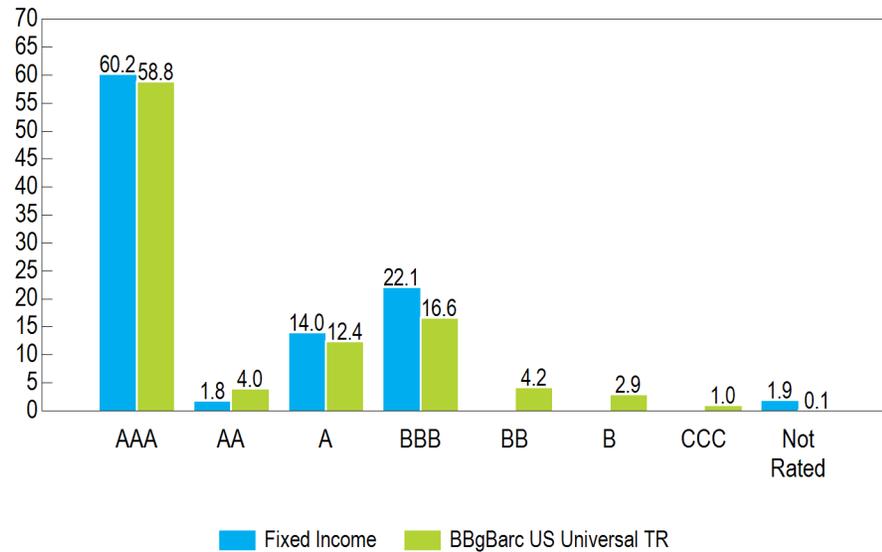
US Sector Allocation



Growth of a Dollar 5 Years Ending March 31, 2021



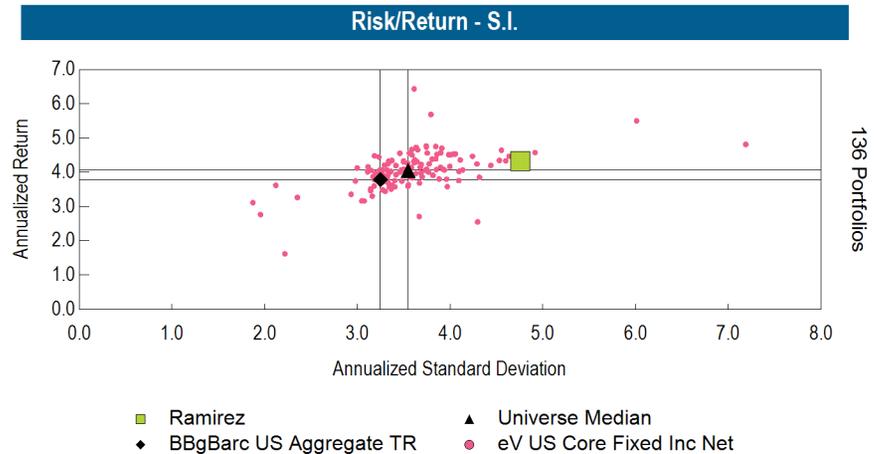
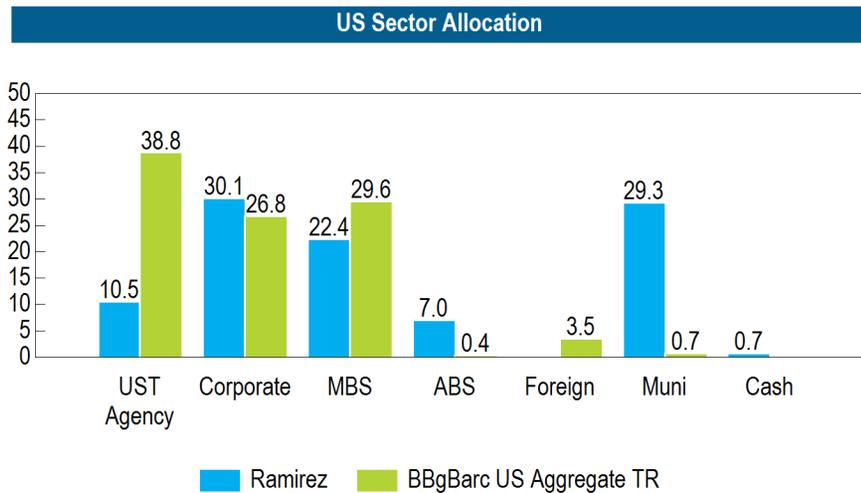
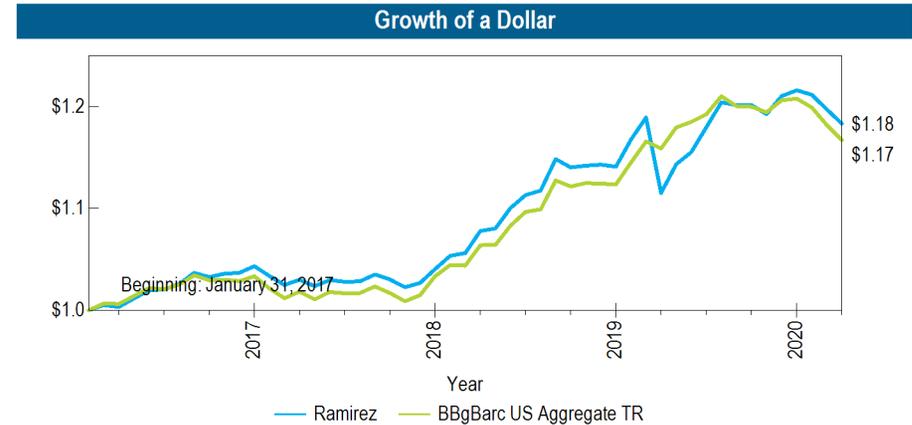
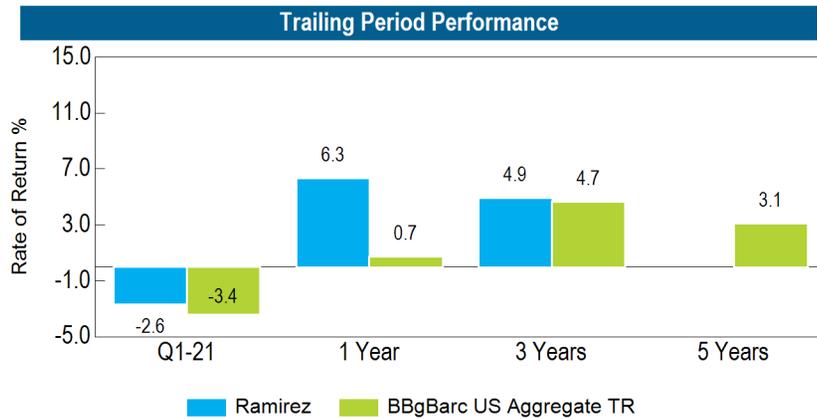
Credit Quality Allocation



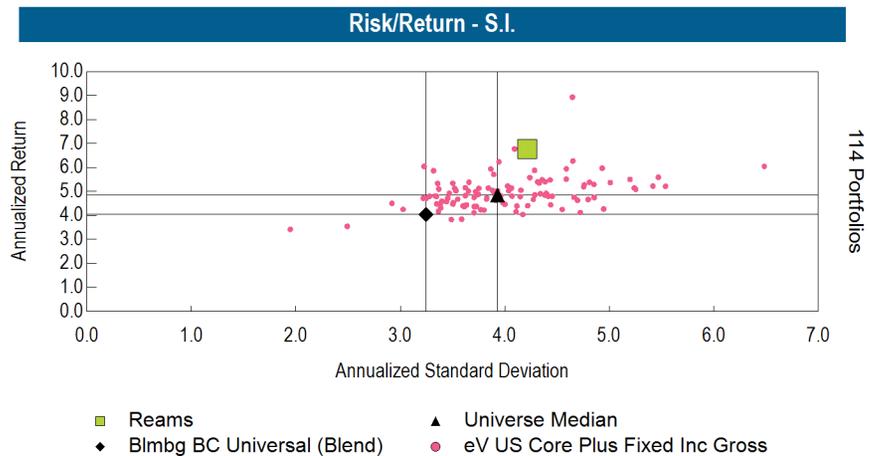
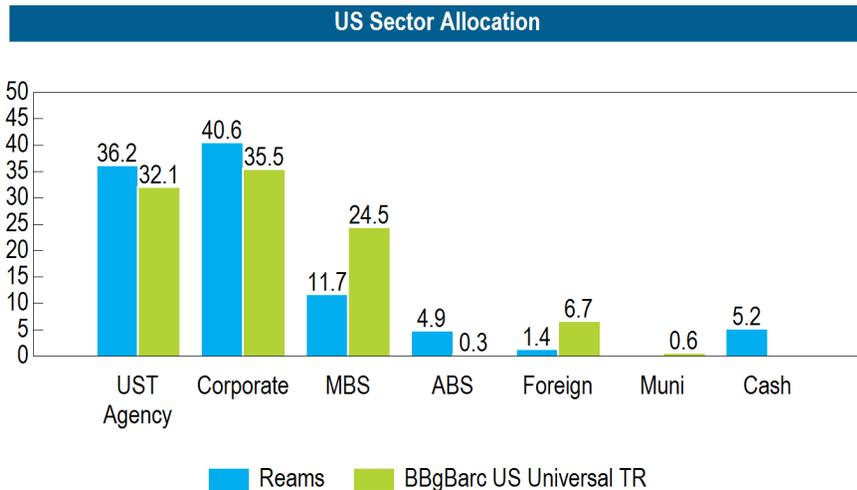
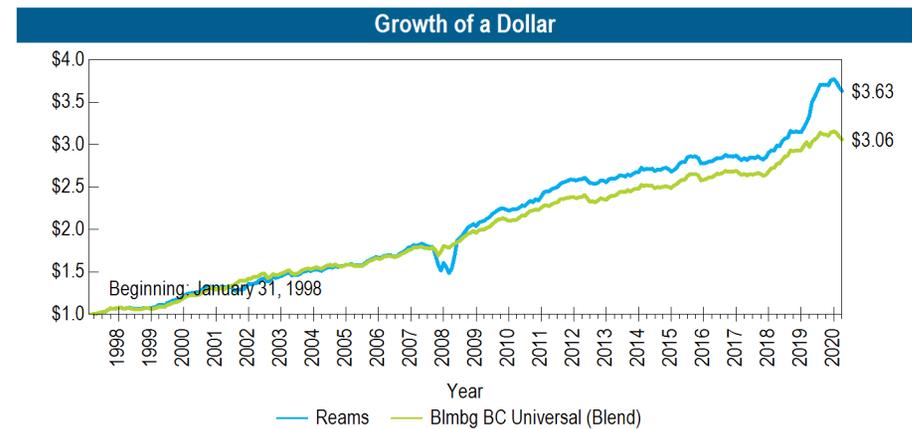
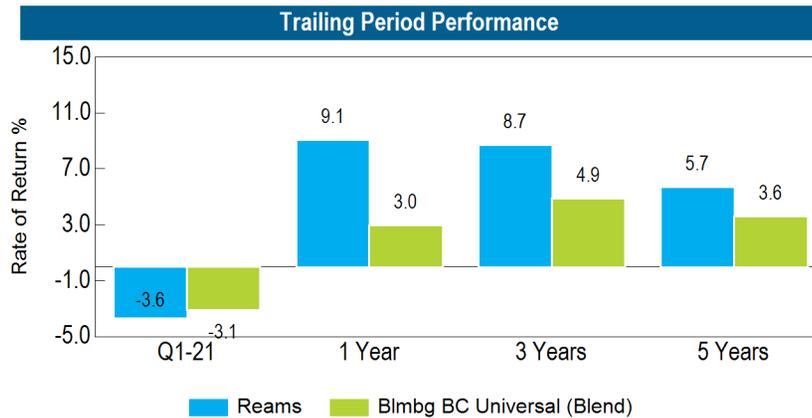
Fixed Income Fixed Income Characteristics vs. BbgBarc US Universal TR

	Portfolio Q1-21	Index Q1-21
Fixed Income Characteristics		
Yield to Maturity	1.88	1.87
Average Duration	6.11	6.22
Average Quality	A	AA
Weighted Average Maturity	8.60	12.53

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Ramirez	4.12%	4.76%	-0.01%	1.14	0.11	3.03%	122.07%	130.27%
BBgBarc US Aggregate TR	3.78%	3.25%	0.00%	1.00	--	0.00%	100.00%	100.00%

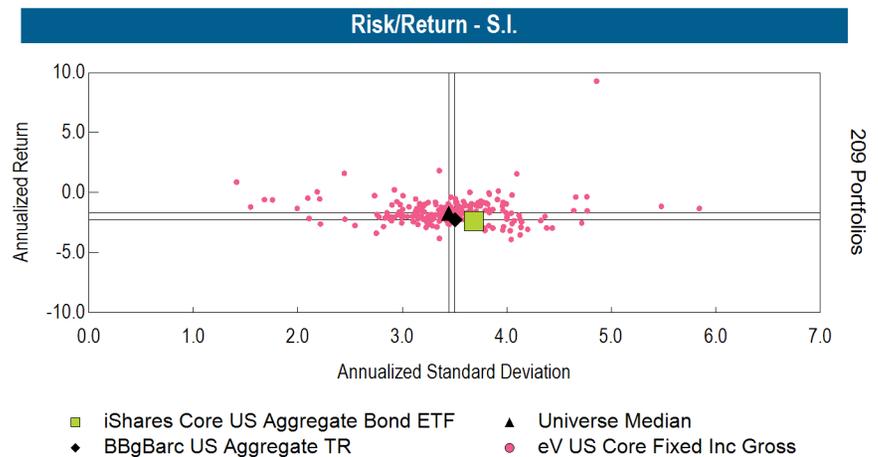
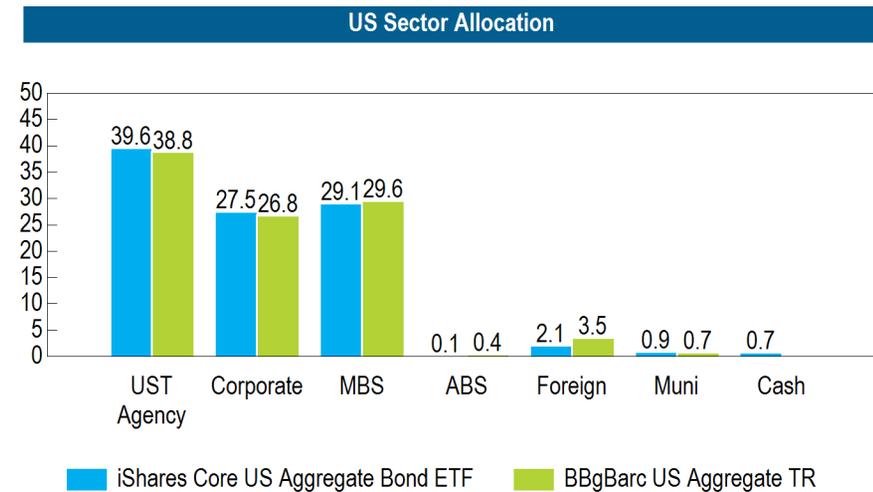
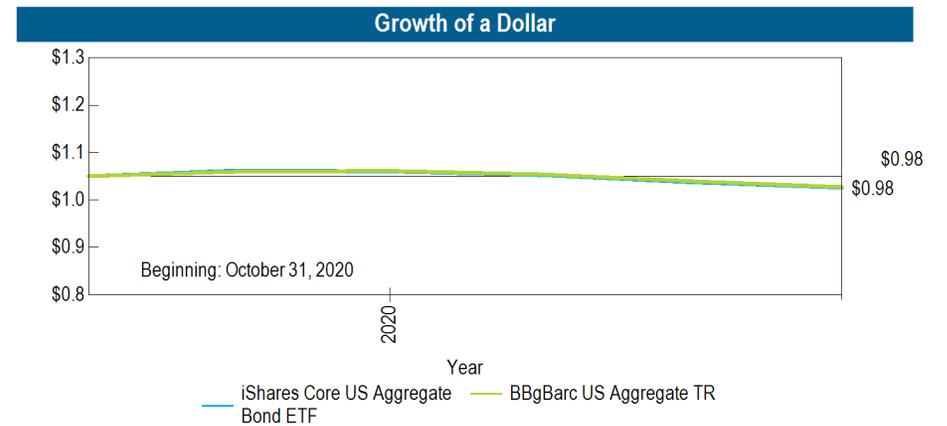
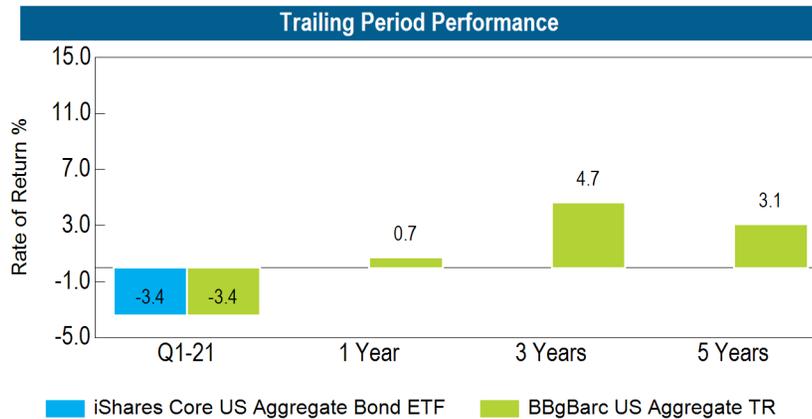


	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Reams	5.72%	5.34%	0.05%	1.05	0.20	3.98%	121.78%	99.18%
Bimbg BC Universal (Blend)	4.95%	3.41%	0.00%	1.00	--	0.00%	100.00%	100.00%



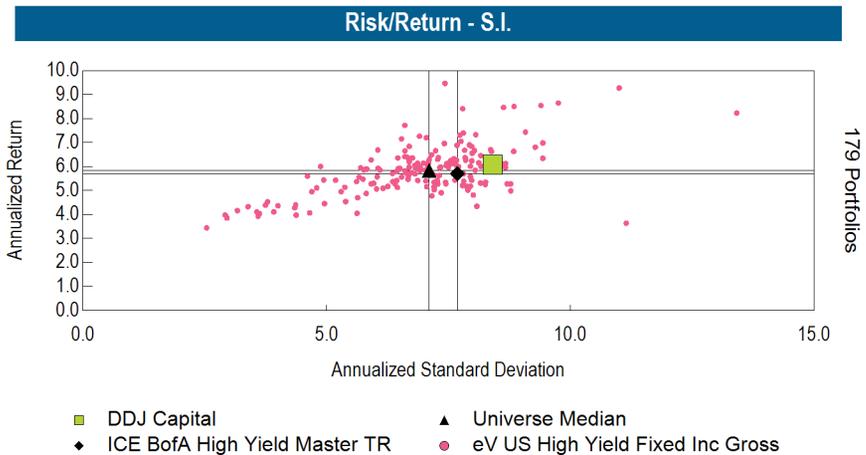
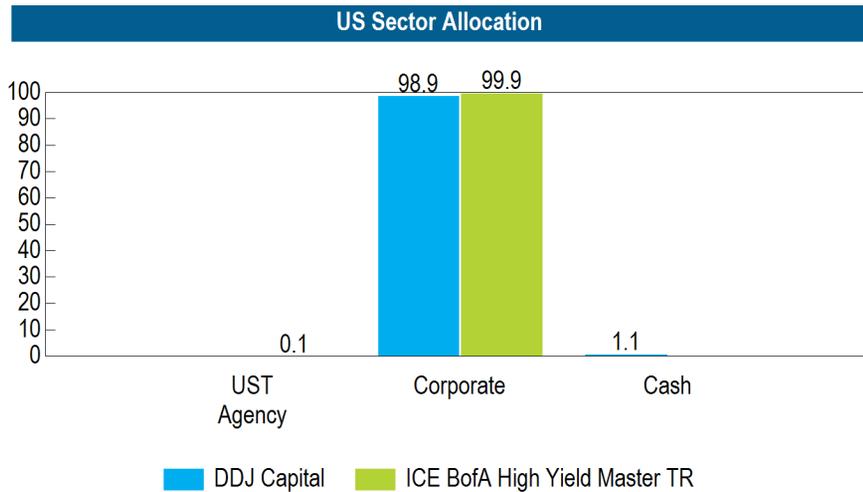
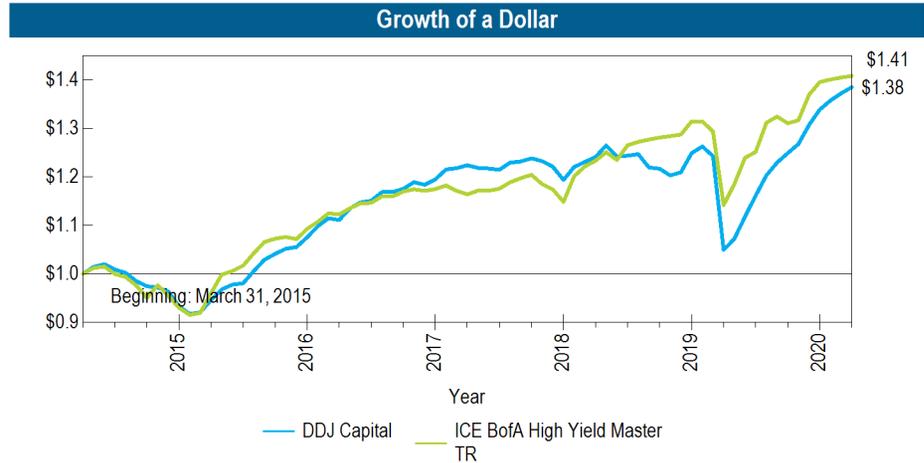
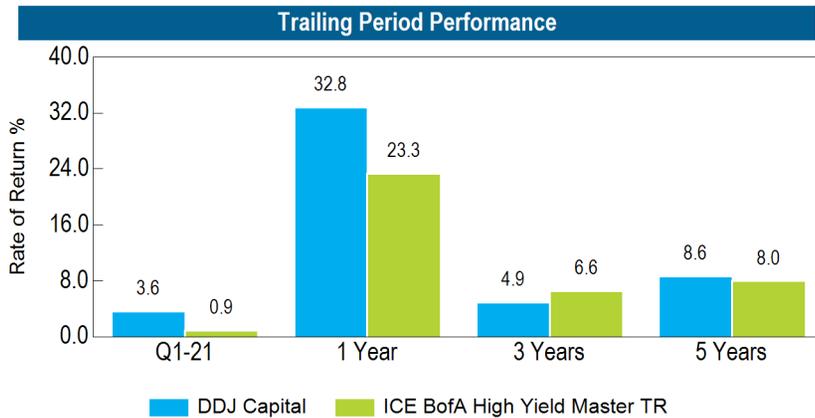
iShares Core US Aggregate Bond ETF | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
iShares Core US Aggregate Bond ETF	-2.40%	3.68%	-0.01%	1.03	-0.15	0.73%	90.20%	100.01%
BBgBarc US Aggregate TR	-2.29%	3.50%	0.00%	1.00	--	0.00%	100.00%	100.00%



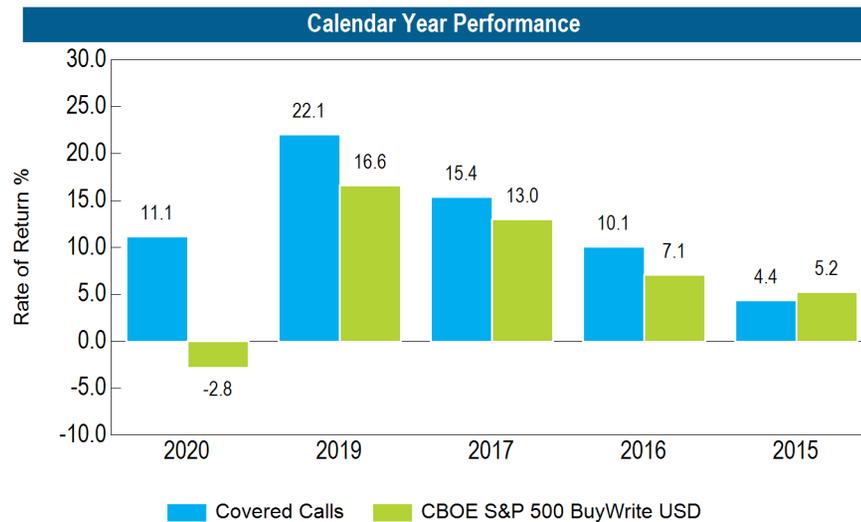
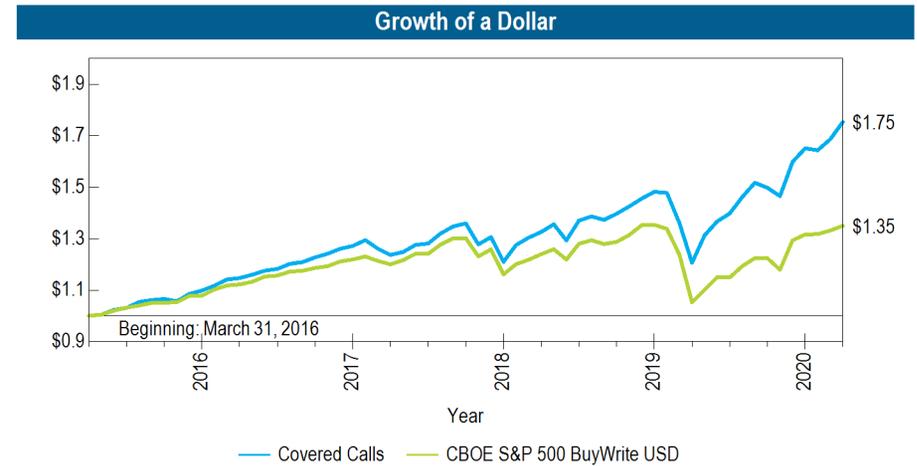
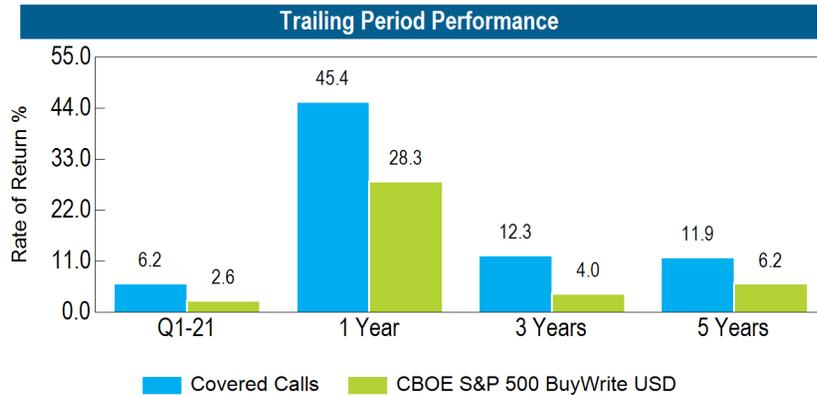
DDJ Capital | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
DDJ Capital	5.71%	8.38%	0.00%	0.96	-0.08	3.95%	89.20%	90.93%
ICE BofA High Yield Master TR	6.02%	7.67%	0.00%	1.00	--	0.00%	100.00%	100.00%



Covered Calls | As of March 31, 2021

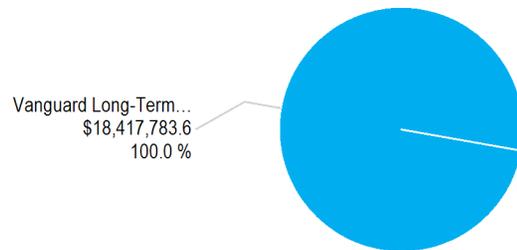
	Anlzd Return	Anlzd Standard Deviation	Alpha	Beta	Information Ratio	Tracking Error	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Covered Calls	9.56%	10.83%	0.33%	0.98	1.19	3.40%	140.90%	96.60%
CBOE S&P 500 BuyWrite USD	5.49%	10.47%	0.00%	1.00	--	0.00%	100.00%	100.00%



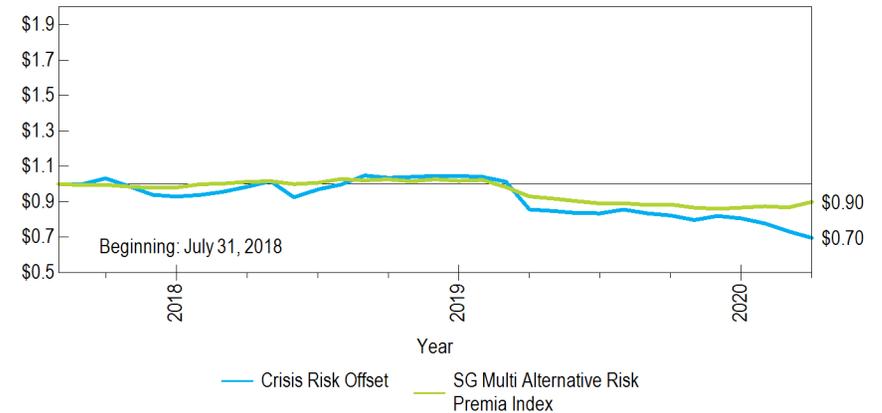
Crisis Risk Offset | As of March 31, 2021

	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	-13.03%	14.43%	-0.67%	1.26	-0.73	12.51%	-1.02	-0.99	0.26	49.73%	161.64%
SG Multi Alternative Risk Premia Index	-3.90%	5.81%	0.00%	1.00	--	0.00%	-0.86	-0.89	1.00	100.00%	100.00%

Current Allocation



Growth of a Dollar



Trailing Period Performance



Correlation Matrix 3 Months Ending March 31, 2021

	Crisis Risk Offset	MSCI ACWI	S&P 500	BBgBarc Global Aggregate TR
Crisis Risk Offset	1.00	--	--	--
MSCI ACWI	-0.92	1.00	--	--
S&P 500	-0.83	0.98	1.00	--
BBgBarc Global Aggregate TR	0.88	-1.00	-0.99	1.00

Manager Monitoring / Probation List

Manager Monitoring/Probation Status
Return vs. Benchmark since Corrective Action
As of March 31, 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

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

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

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

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

OAKLAND POLICE AND FIRE RETIREMENT BOARD
CITY OF OAKLAND, CALIFORNIA

*Approved as to
Form and Legality*



RESOLUTION NO. 8017

ON MOTION OF MEMBER _____ SECONDED BY MEMBER _____

RESOLUTION RATIFYING THE APRIL 28, 2021 MOTION OF THE OAKLAND POLICE AND FIRE RETIREMENT SYSTEM BOARD TO HIRE KEPOS CAPITAL, LP TO SERVE AS THE ALTERNATIVE RISK PREMIA ASSET CLASS INVESTMENT MANAGER FOR THE OAKLAND POLICE AND FIRE RETIREMENT SYSTEM AT A FEE RATE NOT TO EXCEED 70 BASIS POINTS (70 BPS OR 0.70 PERCENT) OF THE PORTFOLIO'S ANNUAL ASSET VALUE AND AUTHORIZING THE PRESIDENT OF THE POLICE AND FIRE RETIREMENT SYSTEM BOARD TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH KEPOS CAPITAL, LP

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

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

WHEREAS, the Oakland City Charter section 2601(e) gives the Board of the Oakland Police and Fire Retirement System ("PFRS 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 City 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 January 27, 2021, pursuant to direction from the PFRS Board, the PFRS Investment Consultant, Meketa Investment Group ("Meketa"), reviewed all responses to the 2019 Request for Information ("RFI") for the Alternative Risk Premia Plan Component of the Crisis Risk Offset Investment Strategy and compiled list of qualified candidates to recommend for interview; and

WHEREAS, on March 31, 2021, Meketa, recommended that the PFRS Board interview: 1) Kepos Capital LP; 2) Lombard Odier Investment Managers, and 3) Two Sigma Investments for the Alternative Risk Premia Asset Class Investment Manager position; and

WHEREAS, Meketa did provide its rationale for recommending Kepos Capital LP, Lombard Odier Investment Managers, and Two Sigma Investments for consideration as the new Alternative Risk Premia Asset Class Investment Manager for the Oakland Police and Fire Retirement System; and

WHEREAS, on April 28, 2021, after interviewing the recommended candidates and discussing the qualifications of each candidate, the PFRS Board passed a motion to hire Kepos Capital, LP to serve as the Alternative Risk Premia Asset Class Investment Manager for the Oakland Police and Fire Retirement System at a fee rate not to exceed 70 basis points (70 BPS or 0.70 percent) of the portfolio's annual asset value, which is presently valued at approximately Ten Million Dollars (\$10,000,000); now, therefore, be it

RESOLVED: That the PFRS Board hereby ratifies its April 28, 2021 motion to hire Kepos Capital, L.P. to serve as the Alternative Risk Premia Asset Class Investment Manager for the Oakland Police and Fire Retirement System at a fee rate not to exceed 70 basis points (70 BPS or 0.70 percent) of the portfolio's annual asset value; and be it

FURTHER RESOLVED: That the PFRS Board hereby authorizes the Oakland Police and Fire Retirement System Board President to execute, on behalf of the Oakland Police and Fire Retirement System and its Board, a Professional Service Agreement with Kepos Capital, LP to serve as the Alternative Risk Premia Asset Class Investment Manager for the Oakland Police and Fire Retirement System at a fee rate not to exceed 70 basis points (70 BPS or 0.70 percent) of the portfolio's assets value each year.

IN BOARD MEETING, VIA ZOOM TELE-CONFERENCE MAY 26, 2021

PASSED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST: _____
PRESIDENT

ATTEST: _____
SECRETARY