#### **AGENDA**

## INVESTMENT COMMITTEE MEETING MARIN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION (MCERA)

One McInnis Parkway, 1st Floor Retirement Board Chambers San Rafael, CA

December 16, 2020 – 9:00 a.m.

This meeting will be held via teleconference pursuant to Executive Order N-25-20, issued by Governor Newsom on March 12, 2020, Executive Order N-29-20, issued by Governor Newsom on March 17, 2020, and Executive Order N-35-20, issued by Governor Newsom on March 21, 2020.

The public may listen to and observe the meeting on YouTube at <a href="https://youtu.be/90TKFfdlwS0">https://youtu.be/90TKFfdlwS0</a>. If members of the public wish to comment, those comments may be submitted to MCERA via email at <a href="mailto:MCERABoard@marincounty.org">MCERABoard@marincounty.org</a>. This account will be monitored prior to and for the duration of the meeting. If the comment pertains to a particular agenda item, please identify that item number and the comment will be read to the Board during that discussion. Otherwise, the comment will be read under Item A, Open Time for Public Expression. All public comments submitted before or during the meeting that pertain to topics within the jurisdiction of the MCERA Board and otherwise comply with MCERA guidelines will be read in open session and kept as part of the permanent record.

The Board of Retirement for the Marin County Employees' Retirement Association encourages a respectful presentation of public views to the Committee. The Board, staff and public are expected to be polite and courteous, and refrain from questioning the character or motives of others. Please help create an atmosphere of respect during Board and Committee meetings. If members of the public wish to speak on any agendized items, please alert the Retirement Administrator to that request prior to the matter being called.

#### **CALL TO ORDER**

#### **ROLL CALL**

#### A. OPEN TIME FOR PUBLIC EXPRESSION

Note: The public may also address the Committee regarding any agenda item when the Committee considers the item.

Open time for public expression, from three to five minutes per speaker, on items not on the Committee Agenda. While members of the public are welcome to address the Committee during this time on matters within the Committee's jurisdiction, except as otherwise permitted by the Ralph M. Brown Act (Government Code Sections 54950 et seq.), no deliberation or action may be taken by the Committee concerning a non-agenda item. Members of the

Committee may (1) briefly respond to statements made or questions posed by persons addressing the Committee, (2) ask a question for clarification, or (3) provide a reference to staff for factual information.

#### **B. MANAGER REPORTS**

- 1. Manager Overview Jim Callahan, Callan LLC
- 2. AEW Core Real Estate Mike Acton, Lily Kao, Candida Hoeberichts 9:05 a.m.

#### C. NEW BUSINESS

1. <u>Institutional Shareholder Services (ISS) Governance Risk Report – Jack Ferdon, Nathan Worthington</u>

Presentation of the ISS Quarterly Governance Risk Report

- 2. <u>Proxy Voting Education Jeff Wickman, Retirement Administrator</u>
  Review MCERA's current proxy voting process, discuss potential options to the current approach and discuss the current proxy voting policy.
- 3. <u>Public Real Assets Structure Review (Action) Callan LLC Jim Callahan, Jay Kloepfer</u> Consider, discuss, and take possible action regarding real asset allocations
- 4. Investment Manager Personnel and Other Updates
  - a. Morgan Stanley Anne Heaphy, Callan LLC
  - b. Morgan Stanley/Eaton Vance Anne Heaphy, Callan LLC
  - c. Colchester Anne Heaphy, Callan LLC
- 5. Watch Period Review Callan LLC Jim Callahan, Anne Heaphy
  - a. <u>Parametric Emerging Markets Equity (Action)</u>
     Consider and take possible action regarding Watchlist status
  - b. <u>Artisan International Growth Equity (**Action**)</u> Consider and take possible action regarding Watchlist status
  - c. <u>Morgan Stanley International Equity (**Action**)</u> Consider and take possible action regarding Watchlist status
  - d. <u>Colchester Global Fixed Income (Action)</u>
     Consider and take possible action regarding Watchlist status

#### D. INVESTMENT CONSULTANT QUARTERLY REPORT

- 1. Quarterly Report as of September 30, 2020
  - a. Summary Report
  - b. Flash Performance Update

Note on Process: Items designated for information are appropriate for Committee action if the Committee wishes to take action.

Note on Voting: As provided by statute, the Alternate Safety Member votes in the absence of the Elected General or Safety Member, and in the absence of both the Retired and Alternate Retired Members. The Alternate Retired Member votes in the absence of the Elected Retired Member. If both Elected General Members, or the Safety Member and an Elected General Member, are absent, then the Elected Alternate Retired Member may vote in place of one absent Elected General Member.











Agenda material is provided upon request. Requests may be submitted by email to MCERABoard@marincounty.org, or by phone at (415) 473-6147.

MCERA is committed to assuring that its public meetings are accessible to persons with disabilities. If you are a person with a disability and require an accommodation to participate in a County program, service, or activity, requests may be made by calling (415) 473-4381 (Voice), Dial 711 for CA Relay, or by email at least five business days in advance of the event. We will do our best to fulfill requests received with less than five business days' notice. Copies of documents are available in alternative formats upon request.

The agenda is available on the Internet at http://www.mcera.org.

## B.1 Manager Overview

This is a discussion with no backup.

## **AEW Attendees**



MICHAEL ACTON, CFA®

Managing Director, Head of AEW Research

Mr. Acton is a Managing Director of the firm and AEW's Head of Research with responsibility for directing the activities of AEW Research, the firm's in-house research group. He works closely with the Fund's investment management team in the development of the Fund's investment strategy and criteria. Mr. Acton joined the firm in 1990 and has 35 years of experience as an economic analyst and forecaster. He is a standing member of the firm's Investment Committee, Management Committee and Risk Management Committee. The resources of AEW Research are an integral part of AEW's investment process and Mr. Acton works closely with senior professionals in all areas of the firm to develop investment strategies that match clients' risk/reward objectives with market opportunities. Mr. Acton is also a member of the firm's Compliance Committee. Prior to joining AEW, he was with DRI/McGraw-Hill where he managed the Metropolitan Area Forecasting Service. He is a graduate of Bates College (B.A.), and a CFA charterholder, as well as a member of the CFA Institute and CFA Society Boston.



**LILY KAO** 

Senior Portfolio Manager

Ms. Kao has been with the firm since 1998 and is currently a Director and Senior Portfolio Manager for the AEW Core Property Trust. In this role, she is responsible for overseeing all aspects of the fund's investments, operations, and investor relations. She co-chairs the firm's Social Committee, which oversees the firm's social responsibilities in conjunction with AEW's ESG+R Steering Committee. In addition, she is also a member of AEW's Diversity & Inclusion Committee and Charitable Giving Committee. Prior to joining the Core Property Trust team, Ms. Kao served as the Asset Management Team Leader for AEW's Los Angeles office where she was responsible for overseeing a team of over 15 professionals responsible for the management of a \$5 billion West Coast portfolio consisting of over 19 million square feet of commercial property and 10,000 multifamily units. Ms. Kao holds a B.S. in business administration from the University of Southern California.



**CANDIDA HOEBERICHTS** 

Director, AEW Investor Relations

Ms. Hoeberichts is a Director in AEW Investor Relations with responsibility for marketing AEW's investment services and for developing and maintaining client and consultant relationships in the western United States. Based in San Francisco, Ms. Hoeberichts has over 26 years of institutional real estate experience. Prior to joining AEW, she led the West Coast client service and business development effort for Metropolitan Real Estate Equity Management. Prior to her position at Metropolitan, Ms. Hoeberichts was a portfolio manager at Deutsche Bank Asset & Wealth Management (formerly RREEF), where her responsibilities included designing and executing strategies for separate account clients. She has also held positions at KPMG, Merrill Lynch and Cushman & Wakefield. Ms. Hoeberichts earned her B.S. from Syracuse University and a Master of Science in Real Estate Finance from New York University.



## **Table of Content**

- . AEW Overview
- II. Market Outlook
- III. AEW Core Property Trust

## Section I AEW Overview

#### **GLOBAL OVERVIEW**

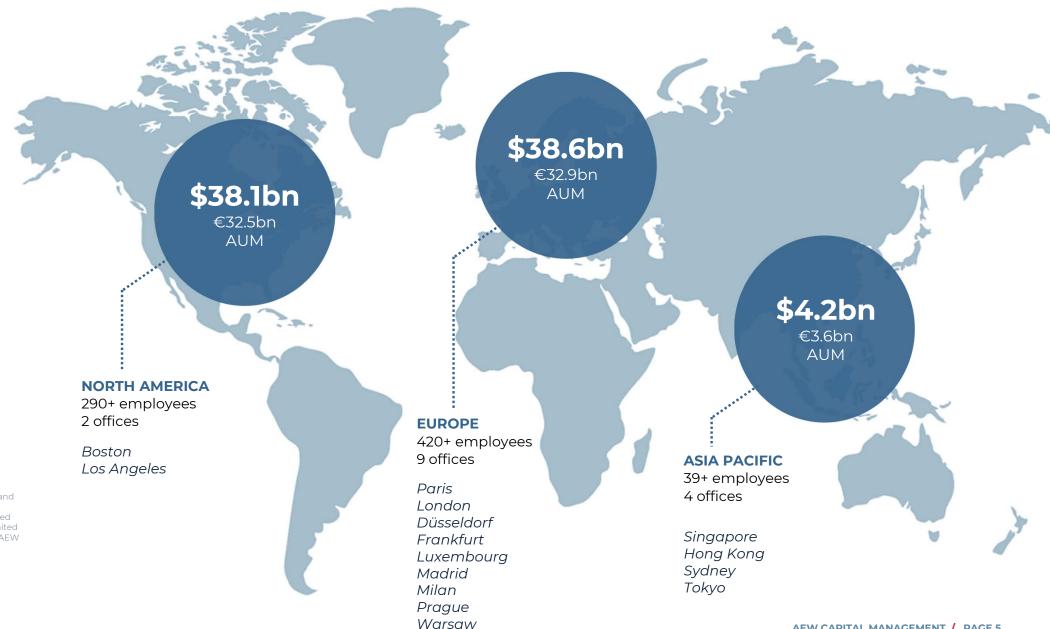
## **About AEW**

- Over 35 years of real estate investment experience and exclusively focused on real estate
- Among the largest real estate investment managers in the world
- Over 750 employees in 15 offices
- AEW Capital Management, L.P. is a registered investment advisor and regulated by the SEC
- Our mission is to be our clients' most trusted and effective advisor
- Broad experience across all property types and geographic regions

Gross asset value as of September 30, 2020. Total AEW AUM of \$80.9 billion includes \$37.8 billion in assets managed by AEW SA and its affiliates and \$265 million in advisory/subadvisory, wrap and other accounts for which AEW Capital Management provides only a model portfolio. Staff and offices include AEW Capital Management and

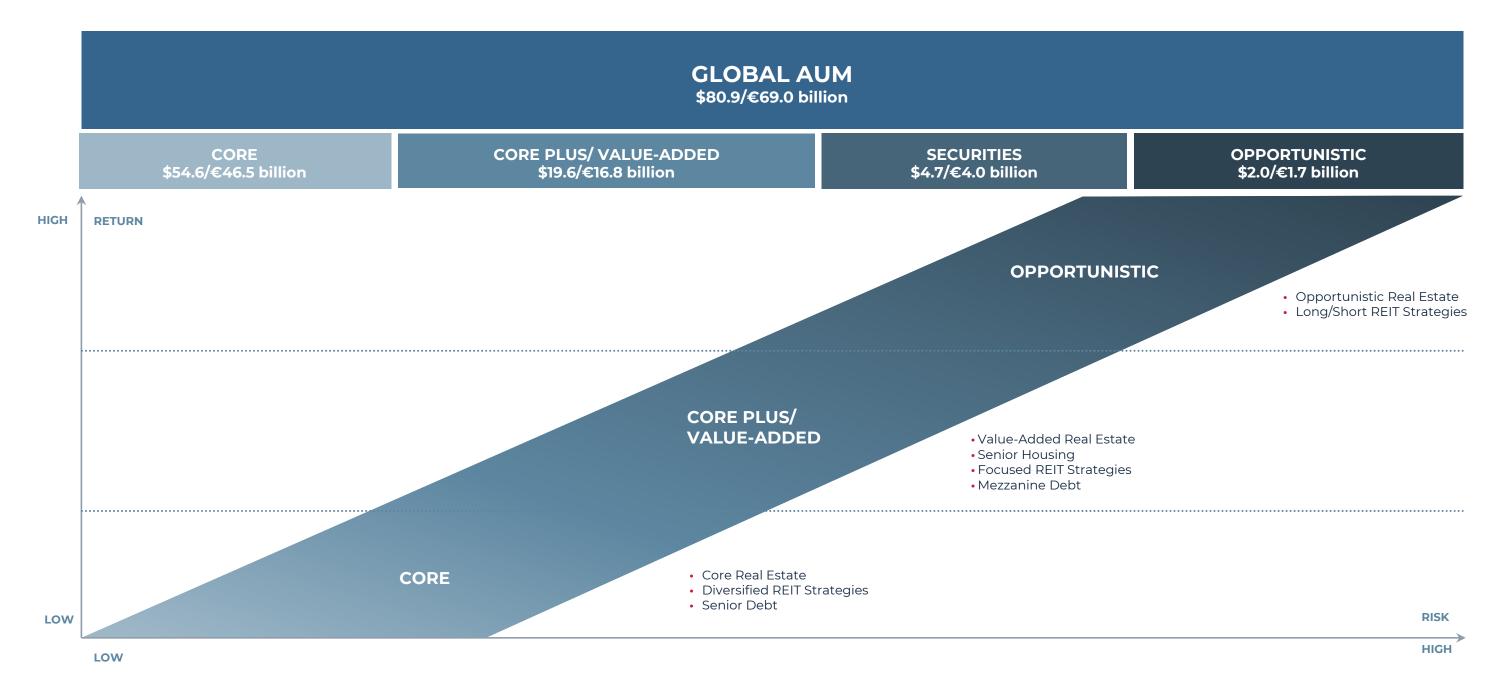
AEW includes (i) AEW Capital Management, L.P. in North America and its wholly owned subsidiaries, AEW Global Advisors (Europe) Ltd., AEW Asia Pte. Ltd. and AEW Asia Limited and (ii) affiliated company AEW SA and its subsidiaries. AEW Capital Management is AEW SA's sister company and is commonly owned by Natixis Investment Managers.

\$80.9/€69.0 billion in direct and listed assets under management in North America, Europe and Asia Pacific





## Broad Investment Platform





#### **AEW INVESTMENT AND RISK MANAGEMENT COMMITTEES**

## Long-Tenured, Stable Executive Team with Experience Across Multiple Market Cycles



**Jeffrey Furber** 

CHIEF EXECUTIVE OFFICER 36 years of experience 23 years at AEW



Pamela Herbst

**AEW DIRECT INVESTMENTS** 38 years of experience 37 years at AEW



**Marc Davidson** 

**AEW PARTNERS FUNDS** 39 years of experience 25 years at AEW



Maureen Joyce

**AEW VALUE INVESTORS FUNDS** 34 years of experience 18 years at AEW



**Anthony Crooks, CFA®** 

**AEW PARTNERS FUNDS** 24 years of experience 9 vears at AEW



James Finnegan

**GENERAL COUNSEL** 35 years of experience 27 vears at AEW



Michael Byrne

**CHIEF INVESTMENT OFFICER & AEW CORE PROPERTY TRUST** 20 years of experience 16 years at AEW



**Robert Plumb** 

**CHIEF INVESTMENT STRATEGIST** 37 years of experience 31 years at AEW



Michael Acton, CFA®

**HEAD OF AEW RESEARCH** 35 years of experience 30 years at AEW

#### IN ADDITION TO THE ABOVE IC MEMBERS, RISK MANAGEMENT COMMITTEE ALSO INCLUDES:

Jonathan Martin Chief Operating Officer **Thomas Mullahey** Acquisitions

J.T. Straub **AEW Securities**  Jay Struzziery, CFA®

**Investor Relations** 

As of September 30, 2020.

Daniel Bradley, Senior Portfolio Manager, serves as a standing investment Committee member for AEW Core Property Trust. CFA® and Chartered Financial Analyst® are registered trademarks owned by the CFA Institute.



## COMMITTEE

**INVESTMENT** 

- Reviews all new investment opportunities
- Unanimous approval is required to invest

## **RISK MANAGEMENT** COMMITTEE

- Provides guidance on operational and investment risk
- Reviews and approves annual business plans, including asset dispositions

## Section II Market Outlook



## Outlook

#### PANDEMIC - THIRD WAVE SURGE MEETS PROMISING VACCINE

- U.S. approaching 200,000 new infections and early 2,500 COVID related deaths per day.
- Highly encouraging vaccine results reported in the past week, but broad distribution remains many months away.

#### **ELECTION RESULTS AND IMPLICATION FOR POLICY**

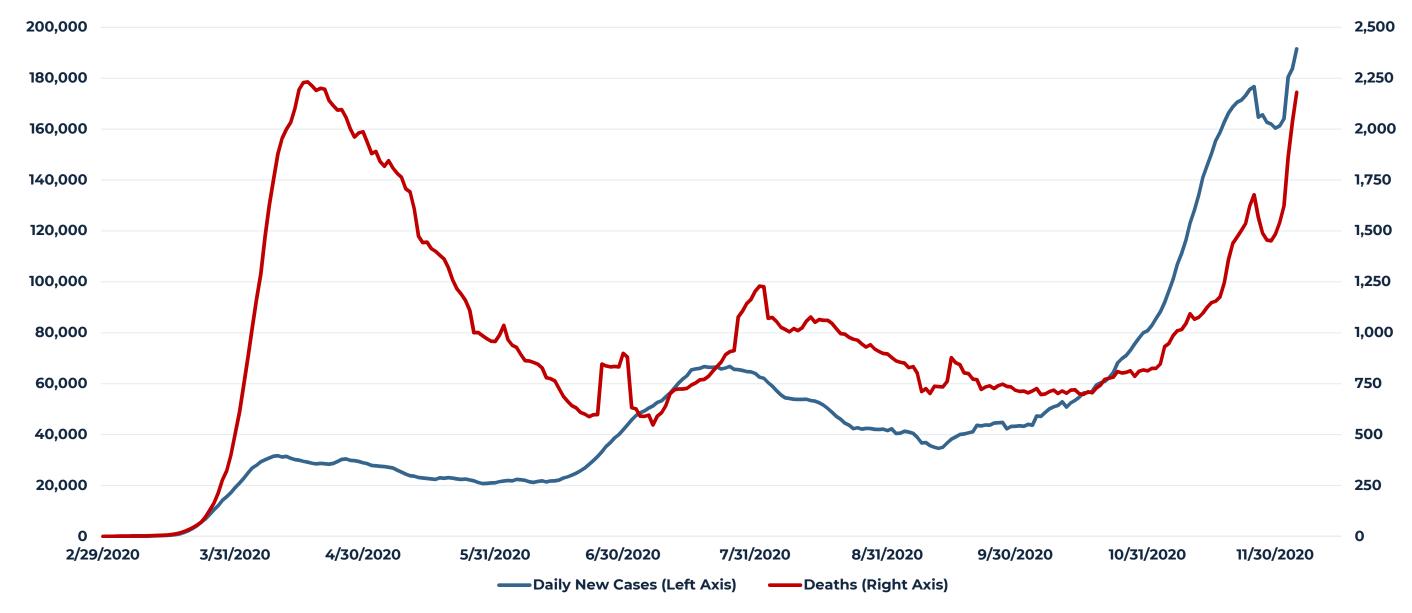
- Despite taking back the White House, Democrats largely under performed in House and Senate races curtailing any type of Blue Wave mandate.
- Significant policy changes seem likely unachievable if Republican control of the Senate remains intact following early January run off elections in Georgia.
- To the extent that Trump administration policies were enacted through executive order only, most or all likely to be reversed.
- Economic recovery from Q2 contraction well underway, but easiest gains have already occurred.
- Continued progress through 2021 and beyond will vary considerably by industry and location (K-shaped recovery).

## **PROPERTY MARKET PROSPECTS**

- U.S. property markets were largely balanced prior to pandemic. COVID impact varies greatly by market, property sector and subsector.
- Significant dry powder capital raised, ready to invest and looking for either re-pricing or high conviction.
- Property yields remain highly attractive, but property performance will have its own K-shape.

## COVID-19 Spreads Rapidly as Winter Approaches

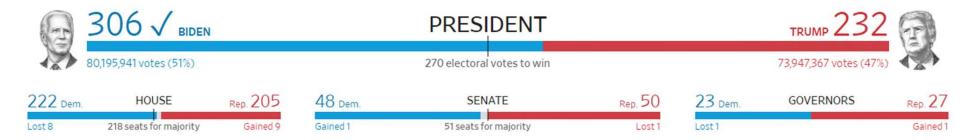
## DAILY NEW COVID-19 INFECTIONS AND DEATHS (7 DAY MOVING AVERAGE)

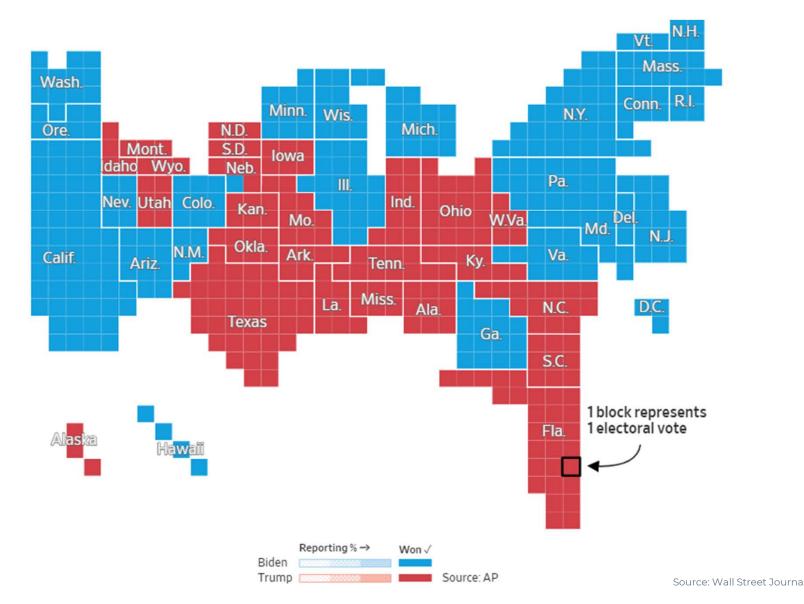




# Where Does the Voting Stand?

- Biden wins with exactly the number of electrical college votes as Trump in 2016 but with 7+ million lead in the popular vote
- Biden outperformed the down ballot while Trump underperformed.
- Democratic lead in House narrows and control of the Senate will be determined by Georgia run-off in January.
- Narrow margins suggest more limited legislative agenda but there is a deal to be had around parts of the 2017 tax bill that expire over the next several years.



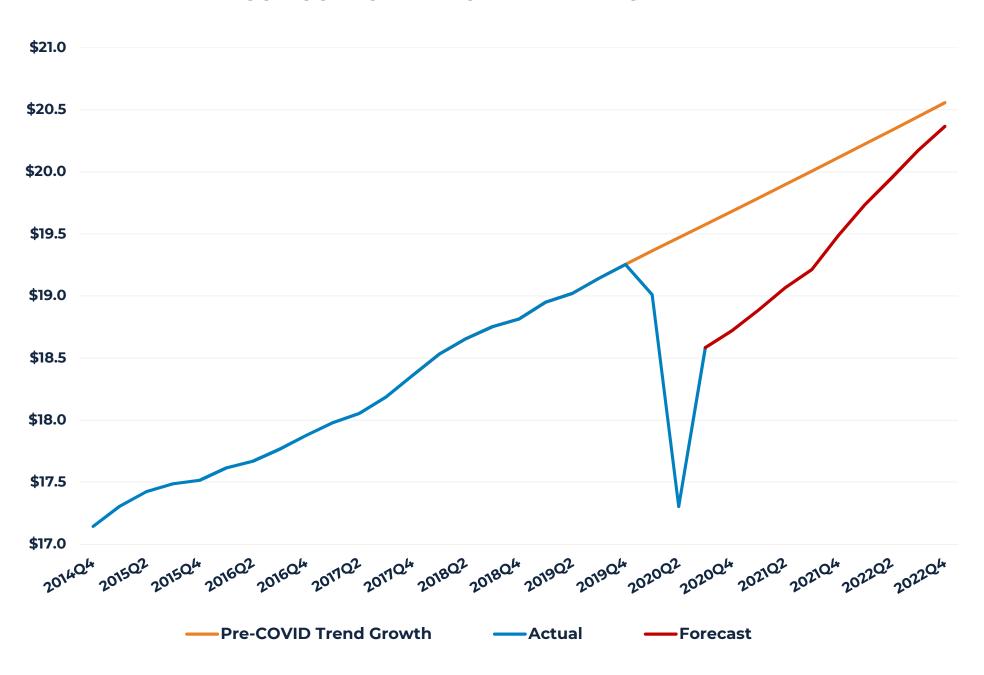




#### **OUTLOOK FOR REAL GDP AND EMPLOYMENT**

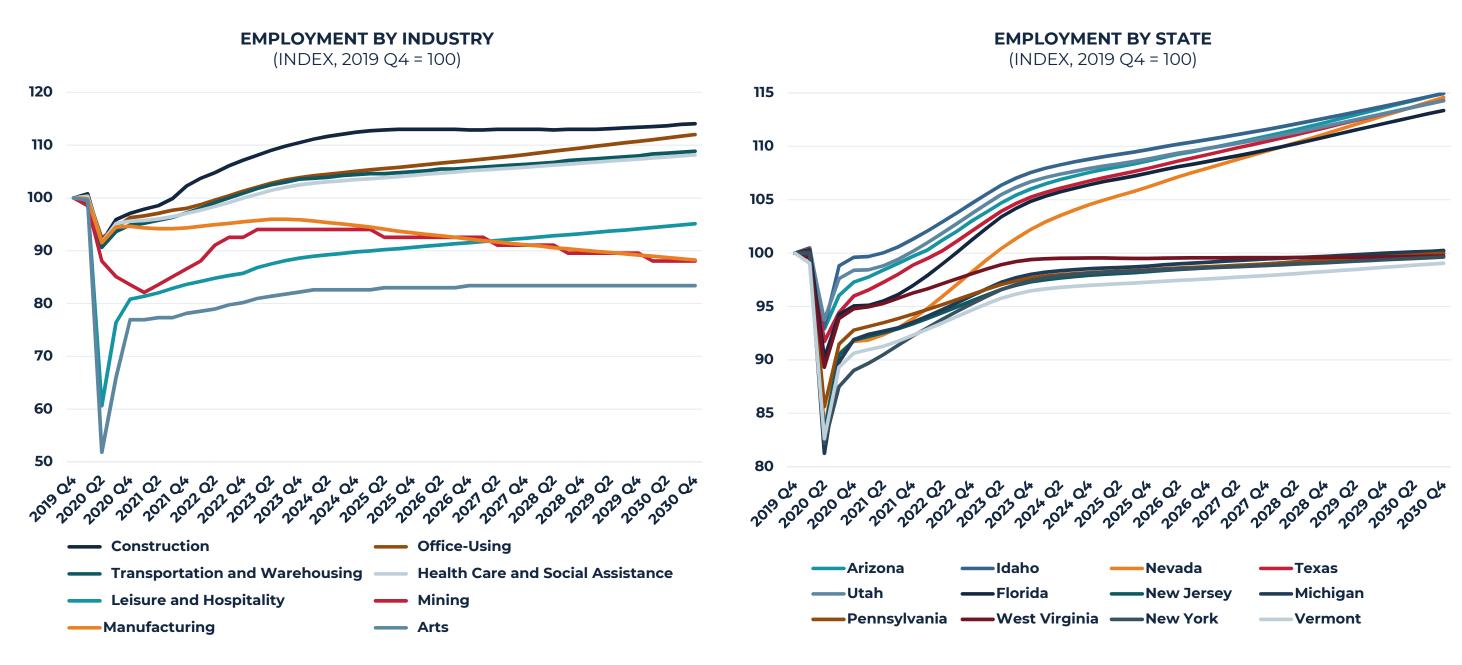
## Full V-Shaped Recovery Unlikely

- Despite strong bounce back over the past few months, continued v-shaped recovery path is unlikely to continue
- Growing divergence among industries, locations and property sectors expected





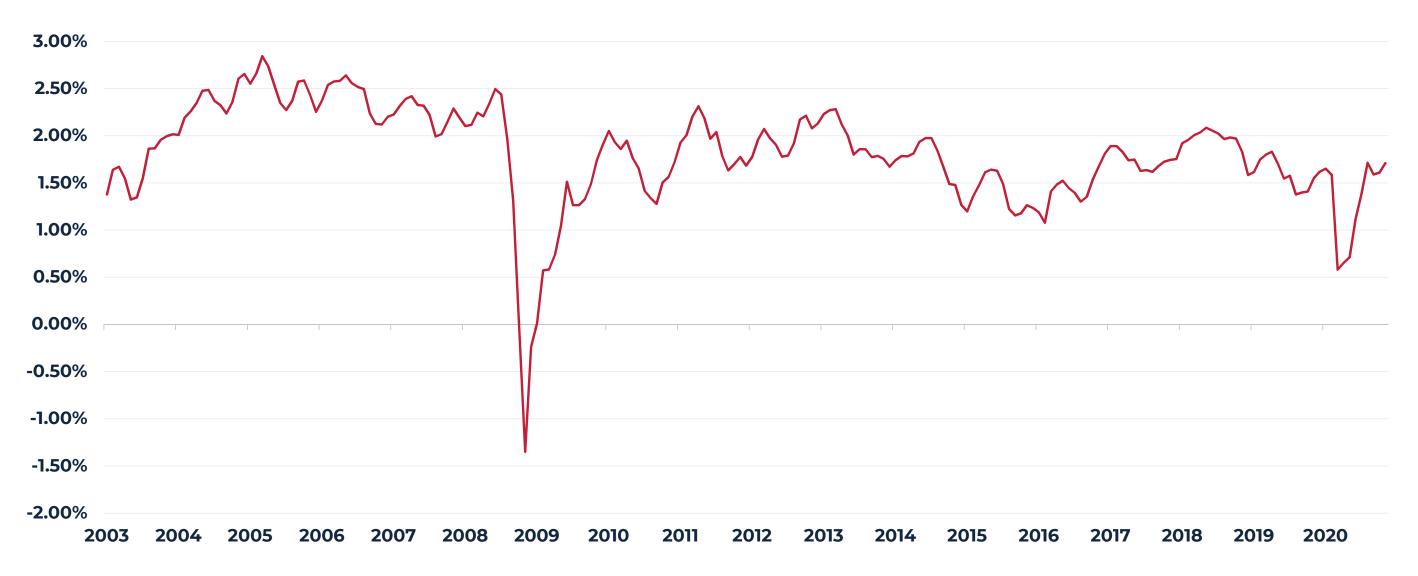
## Expect K-Shaped Recovery





## Fed Trying to Re-Centering Inflation Expectations to 2%

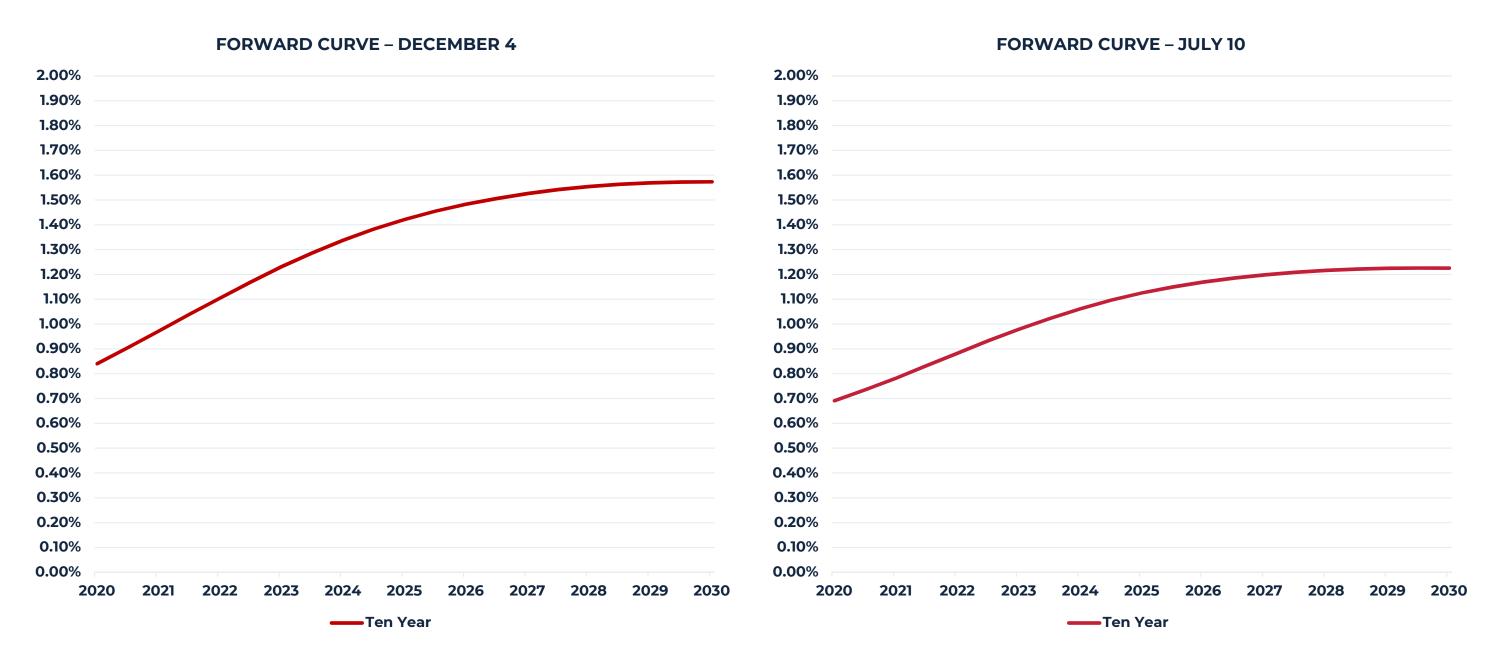
#### **EXPECTED INFLATION**



— Expected Inflation Over Next 5 Years



## Interest Rates Stay Low But Not Quite So Low

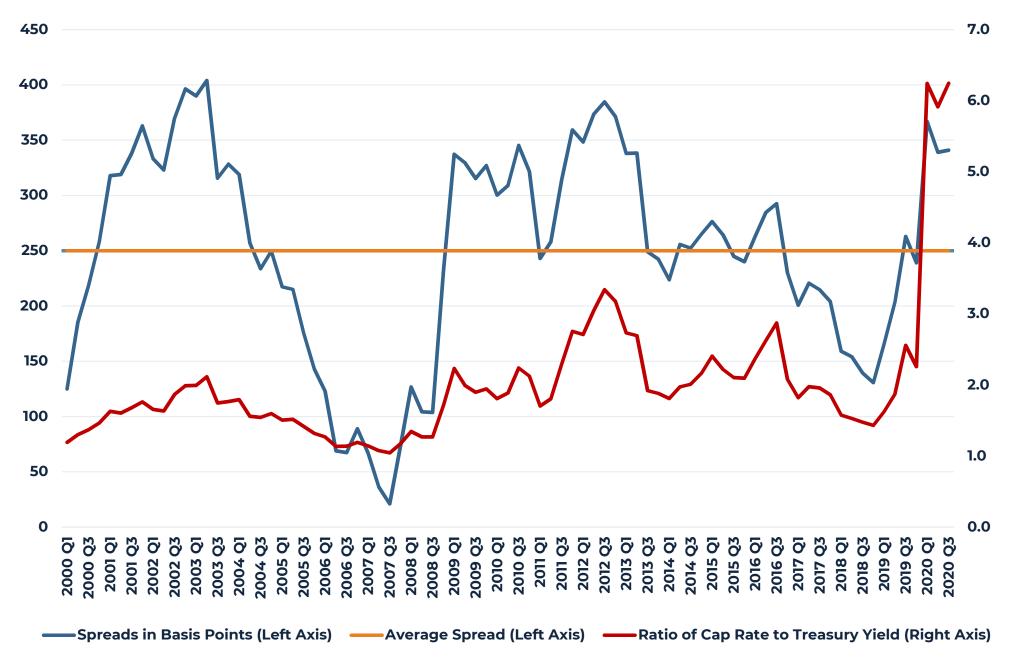




## NCREIF PROPERTY INDEX CAP RATE SPREAD TO 10-YEAR TREASURY YIELD (BP)

## Property Yields Remain Highly Attractive

- Plenty of room for selected cap rate compression even if interest rates move up.
- Current spread (measured in basis points) is close to all time high.
- The ratio of average cap rates to
   Treasury yields at highest level ever.

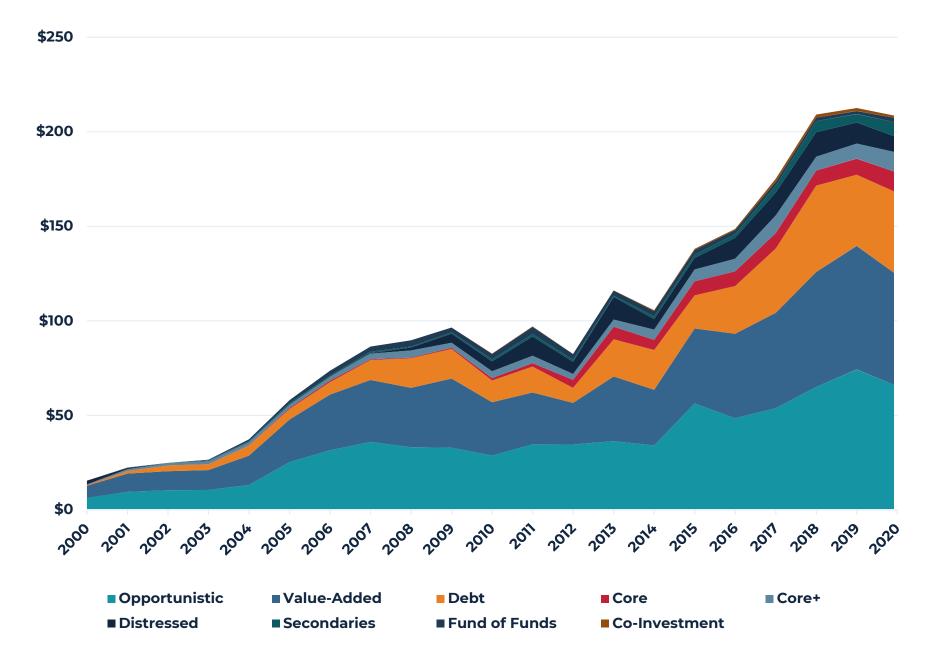




## Significant Dry Powder Capital Waiting

- Currently more than \$200 billion of capital waiting to be-deployed in North America, nearly \$350 billion globally
- Vast majority of dry powder capital in opportunistic, value-added and debt funds
- U.S. open ended core funds currently have aggregate investment queues of approximately \$5 billion and redemption queues of more than \$15 billion

## "DRY POWDER" CAPITAL AVAILABLE FOR PE CRE INVESTMENT IN NORTH AMERICA

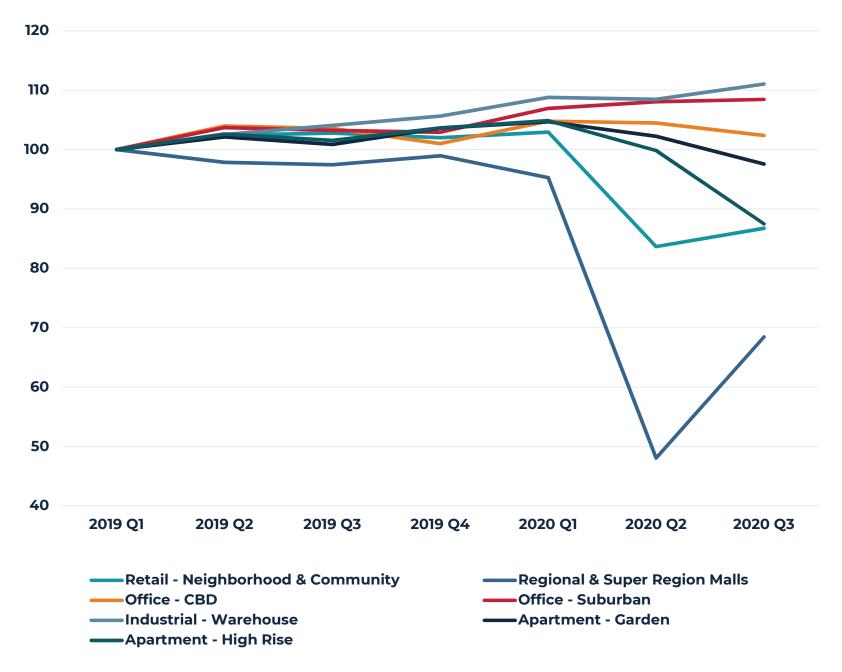




## Where Will It Go? K-Shaped Property Market Performance Too

- Clear near-term out-performing and under performing sectors
- Do these trends continue when COVID concerns begin to fade?

## NOI BY PROPERTY SECTOR, INDEX = 100 2019 Q1





## **Section III** AEW Core Property Trust

## Marin County Employees' Retirement Association

#### **INVESTMENT HISTORY**

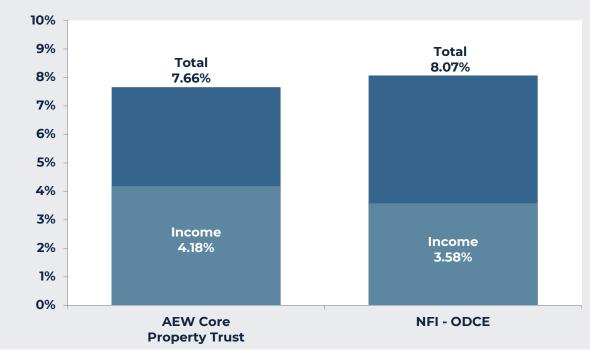
- Marin County Employees' Retirement Association committed \$15 million to the Fund in Q1 2013.
- Marin County Employees' Retirement Association committed an additional \$50 million to the Fund in Q3 2013.
- Marin County Employees' Retirement Association's entire commitment has been called by the Fund.
- Since inception, Marin County Employees' Retirement Association has received dividends of approximately \$24.8 million, equating to a dividend yield of 4.1%.
- Marin County Employees' Retirement Association has elected to reinvest its dividends in CPT.

#### **INVESTMENT SUMMARY**

Marin County ERA	Since Inception - (in millions)
Total Commitment Unfunded Commitment	\$65.0 -
Invested Capital	65.0
Dividend Reinvestments*	23.9
Income	29.4
Appreciation	16.1
Management Fees	(5.5)
Dividends Paid	(24.8)
Current Net Asset Value	\$104.1
*Quarterly dividends are not reinvested until the su	ubsequent quarter

#### SINCE INCEPTION ANNUALIZED TOTAL NET RETURN

Inception Date: Q2 2013





As of September 30, 2020

## Time-Tested and Experienced Team



**DANIEL BRADLEY** 

Senior Portfolio Manager 36 years of experience 21 years at AEW



**MICHAEL BYRNE** 

Senior Portfolio Manager 19 years of experience 16 years at AEW



**SARA CASSIDY** 

Senior Portfolio Manager 20 years of experience 1 year at AEW



LILY KAO

Senior Portfolio Manager 22 years of experience 22 years at AEW



STEPHEN REISSFELDER

Vice President of Finance 20 years of experience 14 years at AEW



**ELIZABETH LANE** 

Portfolio Controller 15 years of experience 12 years at AEW



**ADRIENNE ORTYL** 

Director Research 22 years of experience 18 years at AEW

ASSET MANAGEMENT
50+ Professionals

**MULTIFAMILY** 

OFFICE

RETAIL

INDUSTRIAL

THE AEW PLATFORM

**AEW RESEARCH** 

ACCOUNTING/REPORTING
Susan Cahill
40+ Professionals

INSURANCE RISK MANAGEMENT
Claire Skinner
4 Professionals

LEGAL/COMPLIANCE
James Finnegan
7 Professionals

ARCHITECTURE/ENGINEERING
Anne Peck
3 Professionals

Kevin Stotts
4 Professionals

As of September 30, 2020.

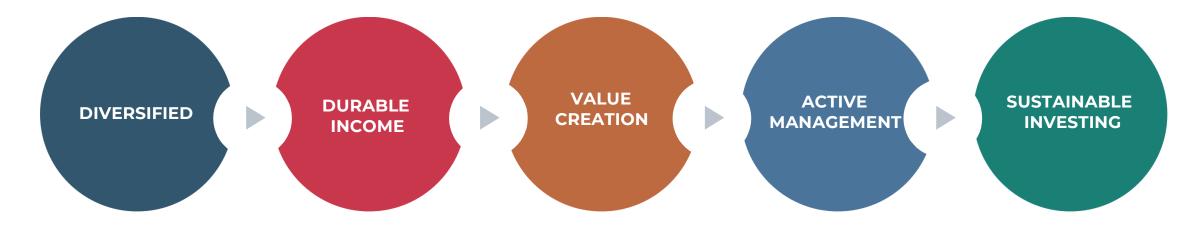


## 2020 Year End Update

GROSS PROPERTY VALUE	\$9.5 Billion
NET ASSET VALUE	\$7.1 Billion
PROPERTIES	189
OCCUPANCY	95%
LTV	26%

## 2020 CPT Highlights:

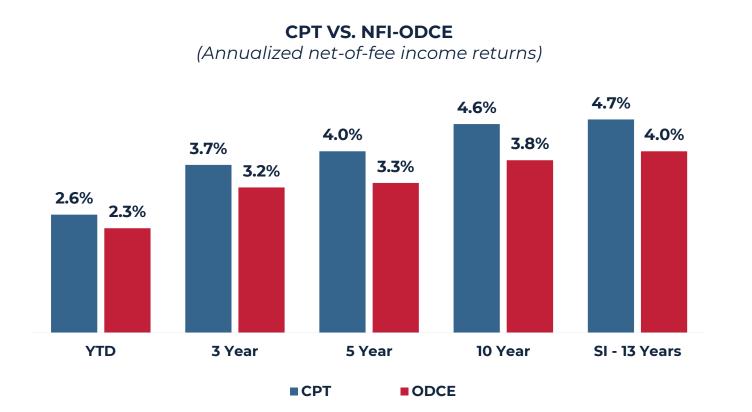
- High-quality, well occupied portfolio mitigates pandemic impact and provides resilient rent collections
- Durable income profile continues to drive income return outperformance
- Active Fund management with a clear path to execution of 2020 disposition plan
- Risk awareness resulting in solid balance sheet with limited debt maturities
- Continued to pivot exposure to capitalize on opportunities for growth

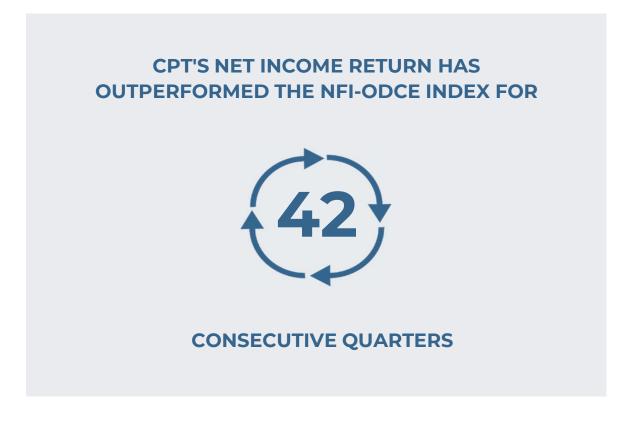




## Performance

	Q3 2020	YTD	3 YEAR	5 YEAR	10 YEAR	SINCE INCEPTION 13 YEARS
СРТ	0.2%	-1.0%	4.4%	5.8%	9.0%	4.8%
NFI-ODCE	0.3%	-0.7%	4.3%	5.7%	9.3%	4.1%
Over/(Under)	-10 BPS	-27 BPS	+10 BPS	+13 BPS	-27 BPS	+68 BPS







## 2020 Impacts To Income

#### **RENT COLLECTIONS**

 Rent collections have averaged 93% since April

#### **RENT RELIEF**

 Rent abatement has been minimal and represents 0.5% of annual fund revenue

#### **AR RESERVES**

 Rent deferral agreements are mostly with retail tenants and total 1.5% of annual fund revenue; 35% of which has been reserved

## 2020 QUARTERLY INCOME RETURN

Q1 1.11%

Q2 0.96%

Q3 1.07%

#### **RENT COLLECTIONS**

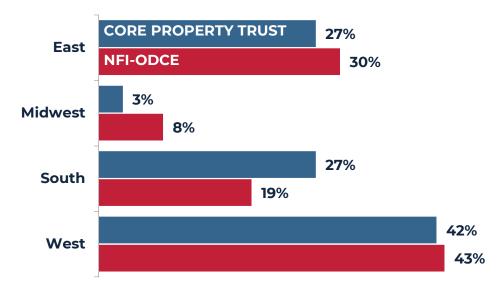
	CPT Q2 2020	ODCE Q2 2020	CPT Q3 2020	ODCE Q3 2020	CPT OCTOBER 2020	ODCE OCTOBER 2020
MULTIFAMILY	97%	96%	97%	96%	97%	97%
INDUSTRIAL	93%	97%	98%	98%	97%	97%
OFFICE	97%	95%	95%	95%	96%	95%
RETAIL	61%	61%	89%	78%	100%	81%
TOTAL	91%	90%	95%	93%	97%	94%



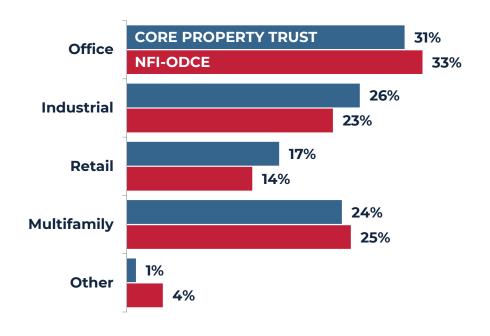
## Diversified Portfolio



#### **DIVERSIFICATION BY REGION**



#### **DIVERSIFICATION BY PROPERTY TYPE**





## 2020 Impacts To Valuation

# RETAIL OFFICE -12.1% -4.7%

MULTIFAMILY

INDUSTRIAL

3.2%

## **ASSUMPTION CHANGES**

- Slower absorption
- Increased concessions
- Reduced rent growth
- Increased credit loss

TOP 5 PERFORMERS				
Property	Property Type	Location		
Civica Commons	Office	Bellevue, WA		
Patterson Logistics	Industrial	Perris, CA		
Towers Caballero	Industrial	Various, CA		
NJ Industrial Portfolio	Industrial	Various, NJ		
Prime Industrial	Industrial	Various, IL		

BOTTOM 5 PERFORMERS				
Property	Property Type	Location		
Eldridge Oaks	Office	Houston, TX		
Creekside Town Center	Retail	Roseville, CA		
Peachtree Forum	Retail	Atlanta, GA		
500 Folsom	Multifamily	San Francisco, CA		
Tempe Marketplace	Retail	Tempe, AZ		



As of September 30, 2020

## Leasing Key Highlights

**4.2** MILLION SF

**5.5** MILLION SF



## **2020 MAJOR LEASES EXECUTED**



#### **PATTERSON LOGISTICS CENTER**

Industrial 912,000 SF



#### MCDONOUGH LOGISTICS INDUSTRIAL

Industrial 728,000 SF



#### **TX STONERIDGE**

Industrial 400,000 SF



#### **1060 WINEVILLE**

Industrial 345,000 SF



## **CREEKSIDE TOWN CENTER**

Retail 120,000 SF



#### **TEMPE MARKETPLACE**

Retail 120,000 SF



#### **SOUTHPARK**

Office 100,000 SF

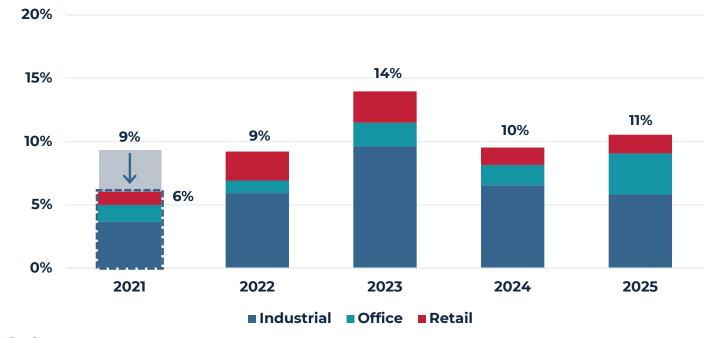


## Fund Operations

#### **OCCUPANCY**

	12/31/19	9/30/20
Industrial	95.6%	97.8%
Office	92.6%	91.3%
Multifamily	94.4%	93.0%
Retail	93.0%	92.3%
TOTAL FUND	94.3%	94.9%

## ROLLOVER (by square feet)



WEIGHTED-AVER	AGE LEASE TERM
Industrial	5.0 years
Office	6.1 years
Retail	4.6 years
FUND	5.2 years

- Reduced 2021 leasing exposure by 30% with proactive asset management
  - Renewed largest office expiration (100,000 sf), reducing office exposure to 1.3%
  - Early retail renewals total approximately 100,000 sf, reducing retail exposure to 1.1%
  - Renewed largest industrial expiration (at 49% mark to market), reducing industrial exposure by 2%

## Non-Core Positioning

Q2 2020

9%

Q3 2020

5%

#### **REDUCTION OF ALLOCATION TO 5%**

Patterson Logistics Center

Perris, CA 912,000 SF

McDonough Logistics Industrial

Atlanta, GA 728,000 SF

**500 Folsom** San Francisco, CA 537 Units



Leased



Leased

82% Leased

#### **REMAINING NON-CORE EXPOSURE OF 5%**



## Development

2 Industrial Property2 Multifamily Property



## **Acquired Vacancy**

2 Industrial Properties

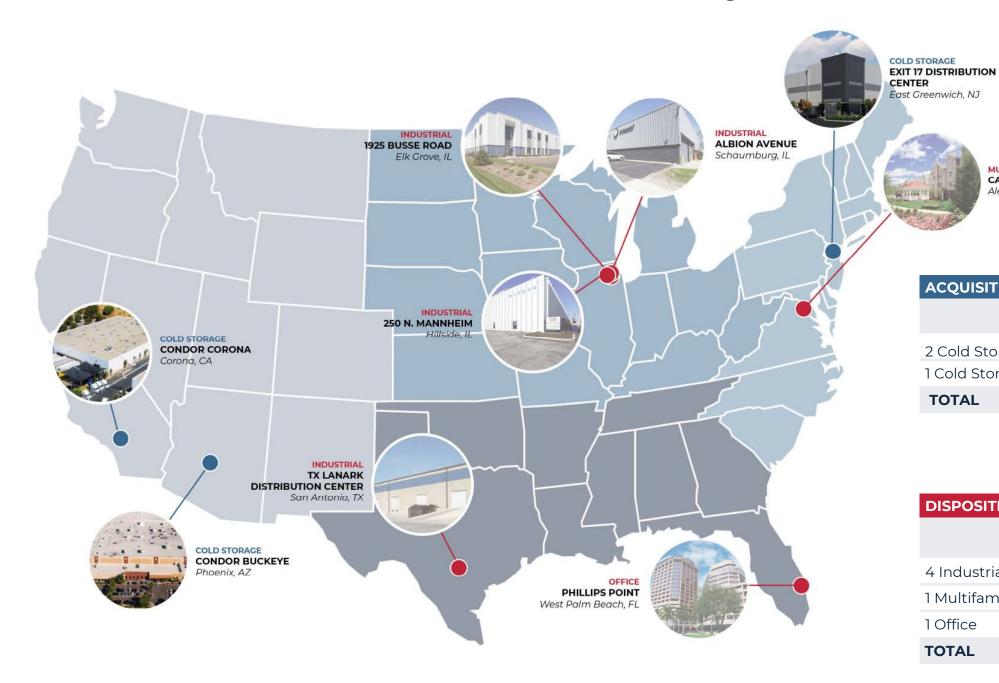


## Pre-Development Pipeline

4 Multifamily Property1 Mixed-use Property



## Recent Transaction Activity



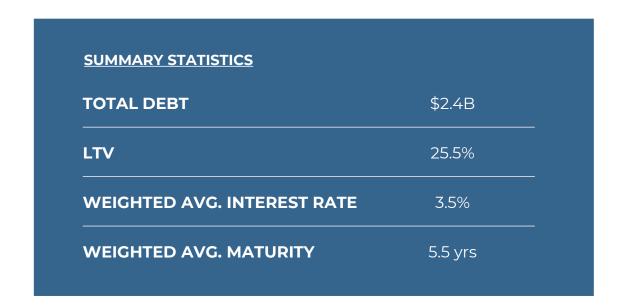
ACQUISITIONS				
	STATUS	GPV	EQUITY	CAP RATE
2 Cold Storage	Closed	\$57.8	\$27.5	5.7%
1 Cold Storage	Pending	\$45.3	\$42.1	6.0%
TOTAL		\$103.1	\$69.6	5.8%

MULTIFAMILY CAMERON COURT Alexandria, VA

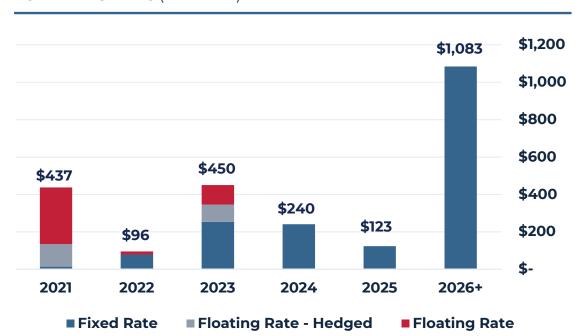
DISPOSITIONS				
	STATUS	GPV	EQUITY	CONTRACT PRICE VS. CARRY VALUE
4 Industrial	Under Contract	\$72.1	\$72.1	+9.9%
1 Multifamily	Under Contract	\$172.0	\$172.0	+6.7%
1 Office	Under Contract	\$282.0	\$282.0	+1.4%
TOTAL		\$526.1	\$526.1	+4.2%



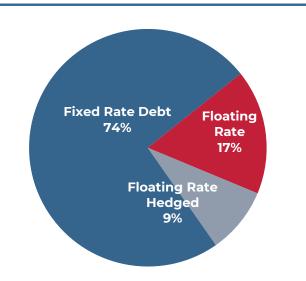
## Debt Strategy



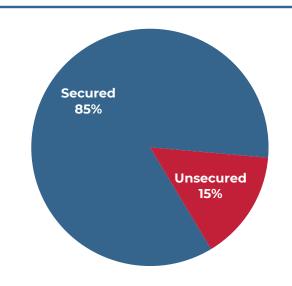
#### **LOAN MATURITIES** (MILLIONS)



#### **FIXED/FLOATING ALLOCATION**



#### SECURED/UNSECURED ALLOCATION



INVESTMENT	BALANCE	MATURITY	LTV	<b>ACTION PLAN</b>
500 Folsom	\$66	Jan-21	35%	Extend
One NY Plaza	\$120	Mar-21	45%	Refinance
Ludlam Trail II & III	\$11	Mar-21	45%	Extend
Boardwalk	\$146	Jun-21	45%	Extend
Towers Caballero	\$14	Jul-21	30%	Repay
Southpark Center	\$80	Dec-21	25%	Refinance



## Portfolio Strategy and Positioning

SECTOR	2019 EXECUTION	CUMULATIVE CHANGE INCLUDING 2020	2021 PLAN
INDUSTRIAL	+600 bps	630 bps	<ul> <li>INCREASE EXPOSURE</li> <li>Last mile serving e-commerce needs</li> <li>Distribution assets in traditional gateway markets</li> <li>Cold Storage</li> <li>Build and Acquire</li> </ul>
MULTIFAMILY	+100 bps	<b>80</b> bps	<ul> <li>INCREASE EXPOSURE</li> <li>Infill suburban with access to amenities</li> <li>Growth markets with employment strength and economic diversity</li> <li>Select urban opportunities</li> <li>Build and Acquire</li> </ul>
OFFICE	-200 bps	300 bps	<ul> <li>DECREASE EXPOSURE</li> <li>Purpose built office = Life Science, MOB</li> <li>Dispositions to include low growth markets, commodity-like product</li> </ul>
RETAIL	-500 bps	410 bps	DECREASE EXPOSURE  Selectively evaluate dispositions Patience for retail capital markets to stabilize

# **ESG+R Commitment**







**Status:** Non-listed

**Strategy:** Core

**Location:** United States of America

Property type: Diversified

#### **ESG BREAKDOWN**



#### **Environmental**

GRESB Average 38 Benchmark Average 37



#### Social

GRESB Average 15 Benchmark Average 17



#### Governance

GRESB Average 17 Benchmark Average 18



**AEW CORE PROPERTY TRUST** 

# Final Comments

- High occupancy and strong credit tenancy reduces risk and drives durable income
- Disciplined execution of investment strategy including pivoting toward industrial and multifamily sector allocations provides strong positioning for the recovery
- Sale of non-strategic assets improves fund positioning and further increases liquidity
- Solid balance sheet positions the Fund to respond to strategic acquisition opportunities



BOSTON LOS ANGELES LONDON PARIS DÜSSELDORF HONG KONG SINGAPORE SYDNEY TOKYO | AEW.COM



#### **Governance Risk Report**

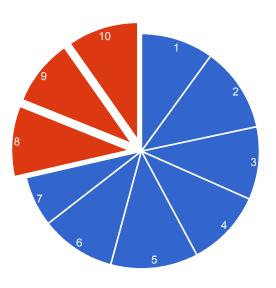
02-Oct-2020

Reporting Period: 01-Jul-2020 to 30-Sep-2020

- Artisan Partners
- > DIMENSIONAL FUND ADVISORS INC.
- > Morgan Stanley Investment Management- New York #132
- > PARAMETRIC PORTFOLIO ASSOC
- > State Street Global Advisors
- > TimesSquare Capital Management, LLC

Reporting Period: 01-Jul-2020 to 30-Sep-2020

#### Portfolio Risk by ISS Governance QualityScore



**29%**<sup>2</sup> of the companies within your portfolio that held meetings during the reporting period are high risk, falling within the ISS Governance QualityScore range of **10** through **8**.

#### **Largest Portfolio Positions with High Governance Risk**

The table below highlights the top 15 largest positions for those companies deemed high-risk, as indicated by an ISS Governance QualityScore between 8 and 10. Companies are only shown if they held a meeting during the reporting period.

Company	Ticker	Position Value (USD) <sup>1</sup>	ISS Governance QualityScore	Board Structure Subscore	Compensation Subscore	Shareholder Rights Subscore	Audit Subscore
Fresenius SE & Co. KGaA	FRE	38.4 M	8	6	8	1	10
Constellation Software Inc.	CSU	37.1 M	10	10	8	7	1
AVEVA Group Plc	AVV	17.0 M	9	8	9	1	1
China Petroleum & Chemical Corporation	386	14.9 M	9	6	6	10	2
NIKE, Inc.	NKE	4.1 M	9	2	10	8	2
Amarin Corporation plc	AMRN	3.6 M	8	8	7	9	2
Bharti Airtel Limited	532454	1.9 M	9	3	10	5	9
Yanzhou Coal Mining Co., Ltd.	1171	1.5 M	8	6	1	10	1
Maruti Suzuki India Limited	532500	1.0 M	9	7	1	8	8
Sun Pharmaceutical Industries Limited	524715	975,746.7	8	8	1	5	8
Korea Electric Power Corp.	015760	946,338.8	8	6	2	10	2
Country Garden Services Holdings Company Limited	6098	866,685.7	9	3	9	9	2
Nine Dragons Paper Holdings Ltd.	2689	859,504.4	9	10	10	3	1
China Evergrande Group	3333	825,919.6	10	9	5	9	2
Guangzhou Baiyunshan Pharmaceutical Holdings Co., Ltd.	874	772,554.9	8	5	1	10	2

ISS Governance QualityScore is a data driven scoring and screening solution designed to identify governance risk within companies. ISS Governance QualityScore is derived from publicly disclosed data on the company's governance practices. Scores indicate decile rank relevant to index or region. For more information on ISS Governance QualityScore, visit <a href="https://www.issgovernance.com/solutions/iss-analytics/qualityscore/">https://www.issgovernance.com/solutions/iss-analytics/qualityscore/</a>.

'Values are based on shares held on record date for the company's most recently held meeting during the reporting period. Please contact your ISS Client Service Team with any questions related to how this value is calculated.

<sup>2</sup>Percentages based on the universe of holdings within the ISS Governance QualityScore coverage universe.



#### **Investment Manager Summary**

Investment Manager	% Meetings Voted	% of Companies with ISS Governance QualityScore of 8, 9 or 10 <sup>1</sup>	% of Votes Cast Against Management	% of Votes Cast Against ISS Benchmark Policy	% of Votes Cast Against Public Fund Policy
Artisan Partners	100%	25%	0%	6%	15%
DIMENSIONAL FUND ADVISORS INC.	99%	28%	13%	4%	32%
Morgan Stanley Investment Management- New York #132	100%	33%	6%	0%	0%
PARAMETRIC PORTFOLIO ASSOC	97%	28%	20%	7%	0%
State Street Global Advisors	100%	33%	10%	10%	40%
TimesSquare Capital Management, LLC	100%	25%	8%	5%	11%
TOTALS	98%	29%	18%	7%	10%

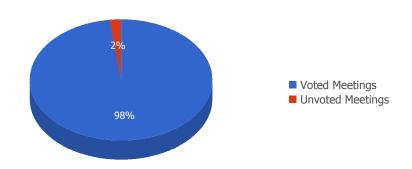
<sup>&</sup>lt;sup>1</sup>Percentages based on the universe of holdings within the ISS Governance QualityScore coverage universe.



#### **Meeting Overview**

Category	Number
Votable Meetings	559
Meetings Voted	548
Proxy Contests Voted	0
Meetings with Against Management Votes	317
Meetings with Against ISS Votes	170

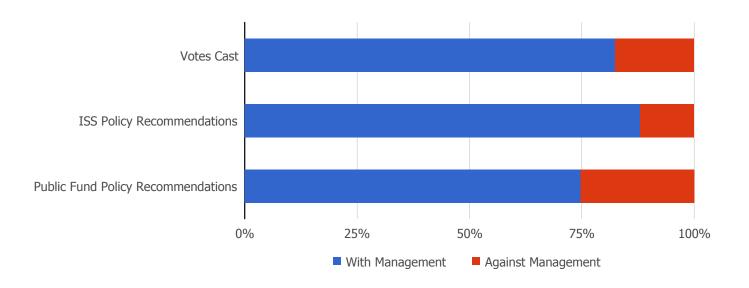
#### **Comparison of Meetings Voted**



With 559 meetings available to vote during the period, 548 were voted, equating to approximately 98% of the votable meetings with close to 2% unvoted.

#### **Alignment with Management**

- Comparing vote alignment with management recommendations highlights similarities and differences between investment managers' governance philosophies and companies' approach to key corporate governance issues.
- The votes cast on ballots during the reporting period are aligned with management recommendations in 82% of cases, while the ISS Benchmark Policy recommendations are at 88%.
- The recommendations of the specialized policy selected as referenced, the Public Fund policy, follow management recommendations for 75% of proposals.

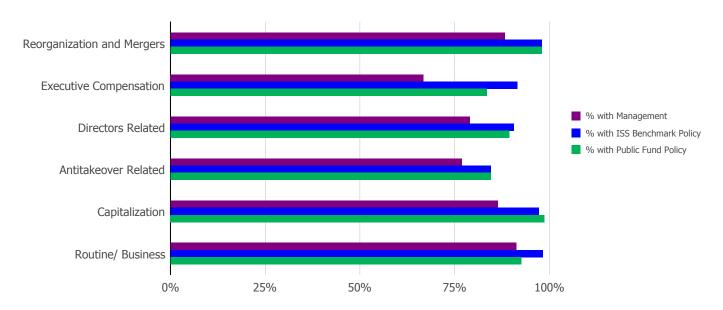


Reporting Period: 01-Jul-2020 to 30-Sep-2020

#### ISS

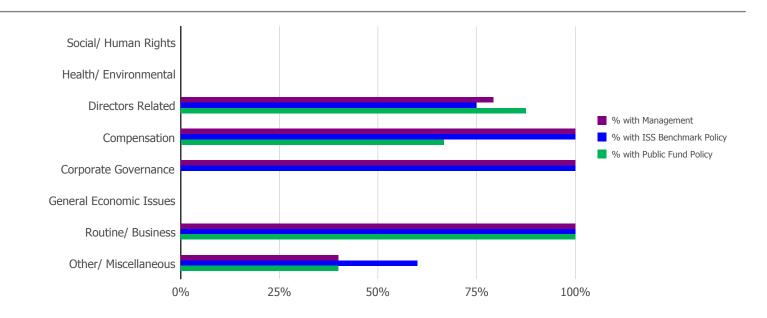
#### Votes Cast on Management Proposal Categories

- The breakdown of proposals into the major proposal categories and the comparison of votes cast to management recommendations, ISS Benchmark Policy recommendations and the recommendations of the selected specialized policy, the Public Fund Policy, provide insight into the positioning of votes cast on proposals submitted by management against these benchmarks.
- Votes cast during the reporting period were least in line with management on Executive Compensation matters, where only 67% of votes followed management recommendations.
- Across categories, votes cast on management proposals show the closest alignment to the ISS Benchmark Policy guidelines.



#### **Votes Cast on Shareholder Proposal Categories**

- Votes cast on shareholder proposals, in opposition to management, reflect support for proposals submitted by shareholders.
- During the reporting period, has shown the highest level of support for shareholder proposals related to Other/ Miscellaneous, at 60% and the lowest level of support for shareholder proposals related to Compensation, Corporate Governance, Routine/ Business, with 0% of proposals supported in this category.
- Across categories, votes cast on shareholder proposals show the closest alignment to the Public Fund Policy guidelines.



#### **Vote Benchmark Report**

Reporting Period: 01-Jul-2020 to 30-Sep-2020

C.1

ISS

**Contested Meetings Overview** 

There is no applicable content to display for the reporting period.



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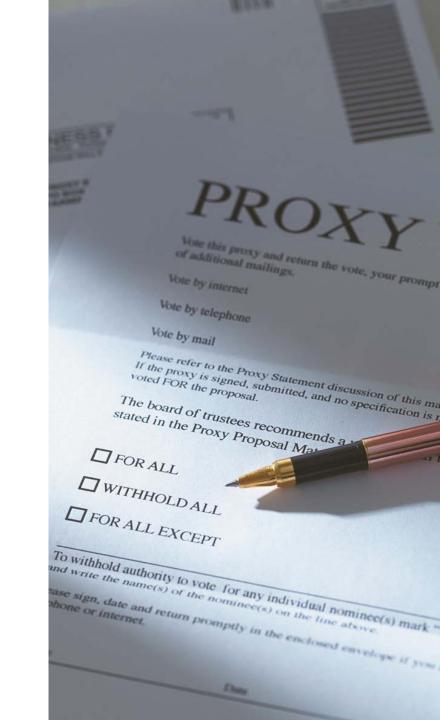
# Proxy Voting Education

**Investment Committee Meeting December 16, 2020** 

Marin County Employees' Retirement Association

# Agenda

- » Proxy Voting Basics
- » Proxy Voting Options
- » Third Party Service Providers
- » Proxy Voting Model Guidelines
- » MCERA's Voting Approach
- » MCERA's Proxy Voting Policy
- » Recommendations



# **Proxy Voting Basics**

# What is proxy voting?

- A way for shareholders to vote on corporate actions when they are not able to attend a company's annual meeting (i.e. vote via proxy)
- The primary means that shareholders, as owners of a company, can express their views and influence a company's operations

- Common corporate issues voted on by shareholders include:
  - Electing Board of Directors
  - Ratification of Auditors
  - Executive Compensation
  - Corporate Citizenship and Governance Issues



# **Proxy Voting Basics**

# Requirements for CA Public Plans to Vote Shareholder Ballots

#### **Fiduciary Duty**

- Voting rights related to shares of stock are considered plan assets
- Voting rights should be managed in a manner consistent with the fiduciary duties and responsibilities assigned to the management of plan assets
- Proxy voting plays an important role for shareholders to communicate their preferences to corporate board of directors and protect their economic interests as owners

# California Government Code Requirements

 Code sections 7450 and 7451 require local agencies (including pension retirement systems) owning common stock to vote each proxy



# **Proxy Voting Options**

# Option A:

# **Internal Voting by Staff**

- Generally performed by the largest pension plans that have necessary resources
- Process includes reviewing potentially thousands of proxy ballots and issues, and the economic impact from voting decisions

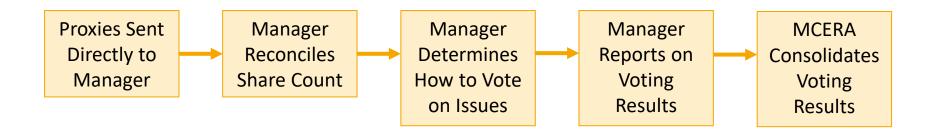


# **Proxy Voting Options**

## Option B:

# **Outsource to Public Equity Managers**

- Equity managers should be well informed on the voting issues and potential impact to the underlying security
- Votes must still be reconciled and monitored
- Requires institutional investor to relinquish control over the process



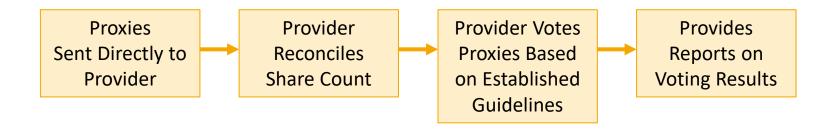


# **Proxy Voting Options**

# Option C:

# **Use Third-Party Service Provider**

- Ease of execution, monitoring and reporting
- Effective and efficient way to meet fiduciary and regulatory requirements
- Institutional investor maintains adequate control over the process





# **Third Party Service Providers**

#### **Guidelines**

- Proxy advisory firms establish proxy voting guidelines designed to meet the needs of a broad range of investors
- Address a large number of issues including governance and corporate citizenship
- Advisory firms offer guidelines tailored to the needs of different investors



# **Third Party Service Providers**

# **Proxy Advisory Firms**

While there are a number of proxy advisory firms in the U.S., the industry is dominated by the two largest firms, Institutional Shareholder Services (ISS) and Glass, Lewis & Co (Glass Lewis). Recent research estimates that these two firms combined have a 97% market share for proxy advisory services.

#### ISS

Largest in the U.S. and globally; used by at least two CERL systems; founded in 1985; based in Rockville MD, and has 30 offices across 13 countries globally; has over 1,600 institutional clients and executes more than 10 million proxy ballots annually, representing over 4 trillion shares; covers over 44,000 meetings across 115 global markets.

#### Glass Lewis

Founded in 2003; second largest firm; serves over 1,300 clients and covers over 20,000 meetings annually across 100 global markets.



# **Proxy Voting Model Guidelines**

# **ISS Policy Perspectives - S&P 500**

	ISS Benchmark Policy	Sustainability Policy	SRI Policy	Climate Policy	Catholic Policy	Public Fund Policy	Taft-Hartley Policy
Policy Focus	All – including Investment managers and institutional investors of all sizes	UN PRI Signatories or similarly aligned investment managers & asset owners	SRI investment firms, religious groups, charitable foundations & university endowments	Climate-focused investors, inclusive of asset managers, asset owners and mutual funds	Catholic faith-based investors, including dioceses & Catholic healthcare systems	Public pension fund managers & public plan sponsors/trustees	Taft-Hartley pension funds & investment managers (ERISA)
Orientation	"Best practice" governance standards that promote total, long-term shareholder value & risk mitigation	United Nations Principles for Responsible Investment (UN PRI)	The "triple bottom line" value creation	Widely recognized frameworks, including the Task Force on Climate-related Financial Disclosures (TCFD)	Economic gain, social justice, environmental stewardship, ethical conduct & teachings of the Catholic Church (USCCB)	Long-term best interests of public plan participants & beneficiaries	Worker-owner view of long-term corporate value based on the AFL- CIO proxy voting guidelines
Key Policy Highlights: 1. <u>Board</u>	Independence (50%), composition, accountability and responsiveness	Independence (50%), composition, accountability and responsiveness – including on ESG topics	Independence (50%), composition, accountability and responsiveness - including on ESG topics, diversity	Independence (50%), composition, accountability and responsiveness - including on ESG topics, with focus on climate- related risk oversight	Independence (50%), composition, accountability and responsiveness - including on ESG topics, diversity	Independence (50%), composition, accountability and responsiveness	Independence (67%), composition, accountability and responsiveness
2. <u>Compensation</u>	Alignment of pay and performance, presence of problematic compensation practices, shareholder value transfer (SVT)	Alignment of pay and performance, presence of problematic compensation practices, shareholder value transfer (SVT)	Alignment of pay and performance including on ESG topics, presence of problematic compensation practices, shareholder value transfer (SVT)	Alignment of pay and performance, presence of problematic compensation practices, shareholder value transfer (SVT)	Alignment of pay and performance - including on ESG topics, presence of problematic compensation practices, shareholder value transfer (SVT)	Alignment of pay & performance, presence of problematic compensation practices, voting power dilution (15%)	Alignment of pay & performance, presence of problematic compensation practices, voting power dilution (10%)
3. Environmental & Social	Consider shareholder proposals on social, environmental and labor/human rights issues on a case-by-case basis	Generally support shareholder proposals advocating ESG disclosure or universal norms/codes of conduct	Generally support shareholder proposals on social, environmental and labor/human rights issues	Generally support shareholder proposals promoting greater disclosure of corporate environmental policies and practices	Generally support shareholder proposals on social, environmental and labor/human rights issues	Generally support shareholder proposals on social, environmental & labor/human rights issues	Generally support shareholder proposals on social, environmental & labor/human rights issues
Board Opposition	2%	2%	11%	7%	22%	30%	37%
Auditor Ratification Opposition	0%	0%	6%	0%	6%	91%	91%
Equity Pay Plans	10%	10%	10%	17%	10%	76%	80%
Say on Pay Opposition	10%	10%	15%	29%	14%	25%	24%
Gov. Shareholder Proposal Support	67%	79%	82%	80%	82%	86%	86%
E&S Shareholder Proposal Support	66%	75%	95%	75%	95%	94%	94%

# **Proxy Voting Model Guidelines**

## **ISS Policy Perspectives - Russell 3000**

	ISS Benchmark Policy	Sustainability Policy	SRI Policy	Climate Policy	Catholic Policy	Public Fund Policy	Taft-Hartley Policy
Policy Focus	All – including Investment managers and institutional investors of all sizes	UN PRI Signatories or similarly aligned investment managers & asset owners	SRI investment firms, religious groups, charitable foundations & university endowments	Climate-focused investors, inclusive of asset managers, asset owners and mutual funds	Catholic faith-based investors, including dioceses & Catholic healthcare systems	Public pension fund managers & public plan sponsors/trustees	Taft-Hartley pension funds & investment managers (ERISA)
Orientation	"Best practice" governance standards that promote total, long-term shareholder value & risk mitigation	United Nations Principles for Responsible Investment (UN PRI)	The "triple bottom line" value creation	Widely recognized frameworks, including the Task Force on Climate-related Financial Disclosures (TCFD)	Economic gain, social justice, environmental stewardship, ethical conduct & teachings of the Catholic Church (USCCB)	Long-term best interests of public plan participants & beneficiaries	Worker-owner view of long-term corporate value based on the AFL- CIO proxy voting guidelines
Key Policy Highlights: 1. <u>Board</u>	Independence (50%), composition, accountability and responsiveness	Independence (50%), composition, accountability and responsiveness – including on ESG topics	Independence (50%), composition, accountability and responsiveness - including on ESG topics, diversity	Independence (50%), composition, accountability and responsiveness - including on ESG topics, with focus on climate- related risk oversight	Independence (50%), composition, accountability and responsiveness - including on ESG topics, diversity	Independence (50%), composition, accountability and responsiveness	Independence (67%), composition, accountability and responsiveness
2. <u>Compensation</u>	Alignment of pay and performance, presence of problematic compensation practices, shareholder value transfer (SVT)	Alignment of pay and performance, presence of problematic compensation practices, shareholder value transfer (SVT)	Alignment of pay and performance including on ESG topics, presence of problematic compensation practices, shareholder value transfer (SVT)	Alignment of pay and performance, presence of problematic compensation practices, shareholder value transfer (SVT)	Alignment of pay and performance - including on ESG topics, presence of problematic compensation practices, shareholder value transfer (SVT)	Alignment of pay & performance, presence of problematic compensation practices, voting power dilution (15%)	Alignment of pay & performance, presence of problematic compensation practices, voting power dilution (10%)
3. Environmental & Social	Consider shareholder proposals on social, environmental and labor/human rights issues on a case-by-case basis	Generally support shareholder proposals advocating ESG disclosure or universal norms/codes of conduct	Generally support shareholder proposals on social, environmental and labor/human rights issues	Generally support shareholder proposals promoting greater disclosure of corporate environmental policies and practices	Generally support shareholder proposals on social, environmental and labor/human rights issues	Generally support shareholder proposals on social, environmental & labor/human rights issues	Generally support shareholder proposals on social, environmental & labor/human rights issues
Board Opposition	12%	12%	29%	9%	49%	36%	43%
Auditor Ratification Opposition	0%	0%	4%	0%	5%	66%	65%
Equity Pay Plans	20%	20%	19%	10%	17%	88%	91%
Say on Pay Opposition	10%	10%	19%	33%	19%	25%	25%
Gov. Shareholder Proposal Support	70%	80%	83%	83%	82%	86%	86%
E&S Shareholder Proposal Support	68%	77%	95%	75%	95%	94%	94%

# MCERA's Voting Approach

# **Current Proxy Voting Policy**

- MCERA's Proxy Voting and Corporate Governance Policy was adopted by the Board in November 2004 and last amended in June 2020
- MCERA currently delegates proxy voting to its investment managers
- Proxy Voting and Corporate Governance Policy modeled after Council for Institutional Investors (CII) policies
- MCERA policy is largely in line with the Institutional Shareholders Services (ISS) Benchmark policy but there are gaps in the MCERA policy that are discussed further in this presentation



# **Key Areas of Difference between MCERA Policy and Benchmark Policies**

- MCERA's current proxy voting policy focuses on good governance practices of corporations, and is largely in line with other benchmark policies
- However, in key areas the policy lacks language addressing certain voting situations

 The following tables highlight examples of the gaps in MCERA's policy using the ISS Benchmark policy as a comparison



## Policy Revisions Required if Third-Party is Used

Proposal Topic	MCERA Proxy Voting Policies	ISS Benchmark Guidelines
Proxy Contests	MCERA policy is silent on the framework for evaluating contested meetings.	Vote case-by-case on the election of directors in contested elections, considering the following factors:  Long-term financial performance of the company relative to its industry;  Management's track record;  Background to the contested election;  Nominee qualifications and any compensatory arrangements;  Strategic plan of dissident slate and quality of the critique against management;  Likelihood that the proposed goals and objectives can be achieved (both slates); and  Stock ownership positions.
M&A	MCERA policy for voting on mergers and acquisitions does not appear to be addressed aside from a note on reincorporation for US companies to offshore locations.	Vote case-by-case on mergers and acquisitions. Review and evaluate the merits and drawbacks of the proposed transaction, balancing various and sometimes countervailing factors including: valuation, market reaction, strategic rationale, negotiations and process, conflicts of interest

## Policy Revisions Required if Third-Party is Used

Proposal Topic	MCERA Proxy Voting Policies	ISS Benchmark Guidelines
Shareholder rights plans, aka Poison Pills	MCERA policies do not appear to provide guidance for management proposals to adopt shareholder rights plan	Vote case-by-case on management proposals on poison pill ratification, focusing on the features of the shareholder rights plan. Rights plans should contain the following attributes:  No lower than a 20 percent trigger, flip-in or flip-over;  A term of no more than three years;  No feature that limits the ability of a future board to redeem the pill
Shareholder requests to appoint an independent director as board chair	MCERA policies generally support high levels of board independence but do not provide specific guidance on proposals to seek an independent chair	Generally vote for shareholder proposals requiring that the board chair position be filled by an independent director, taking into consideration the following:  • The scope and rationale of the proposal;  • The company's current board leadership structure;  • The company's governance structure and practices;  • Company performance; and  • Any other relevant factors that may be applicable.  The document goes on to specify factors that increase the likelihood of a "for" recommendation.

December 16, 2020 Proxy Voting

## Policy Revisions Required if Third-Party is Used

Proposal Topic	MCERA Proxy Voting Policies	ISS Benchmark Guidelines
Shareholder resolutions related to the environment; for example requesting that a company disclose information on the risks it faces related to climate change	MCERA policies do not appear to provide guidance for shareholder proposals on this or similar topics	<ul> <li>Generally vote for, considering:</li> <li>Whether the company already provides current, publicly-available information on the impact that climate change may have on the company as well as associated company policies and procedures to address related risks and/or opportunities;</li> <li>The company's level of disclosure compared to industry peers; and</li> <li>Whether there are significant controversies, fines, penalties, or litigation associated with the company's climate change-related performance.</li> </ul>

# Policy Clarifications Required if Third-Party is Used

Proposal Topic	MCERA Proxy Voting Policies	ISS Benchmark Guidelines
Board Diversity	3.7b Board Diversity: MCERA supports a diverse board. MCERA believes a diverse board has benefits that can enhance corporate financial performance, particularly in today's global marketplace. Nominating committee charters, or equivalent, ought to reflect that boards should be diverse, including such considerations as background, experience, age, race, gender, ethnicity, and culture.	Diversity: For companies in the Russell 3000 or S&P 1500 indices, generally vote against or withhold from the chair of the nominating committee (or other directors on a case-by-case basis) at companies where there are no women on the company's board. Mitigating factors include:  • Until Feb. 1, 2021, a firm commitment, as stated in the proxy statement, to appoint at least one woman to the board within a year;  • The presence of a woman on the board at the preceding annual meeting and a firm commitment to appoint at least one woman to the board within a year; or  • Other relevant factors as applicable.

December 16, 2020 Proxy Voting

# Policy Clarifications Required if Third-Party is Used

Proposal Topic	MCERA Proxy Voting Policies	ISS Benchmark Guidelines
Say on Pay	While MCERA's policy is clear on the areas to review, some specifics are missing, such as how a peer group would be constructed and what the definition of and calculations for pay for performance should be used in determining if the pay package is reasonable.	ISS has several FAQs on how they make these evaluations in investor policies

## Recommendations

#### **Board Actions**

- If the Board wishes to vote proxies directly, a third party provider should be engaged to provide the service
- Adopt a model or benchmark policy offered by the third party provider to address the gaps in MCERA's current Proxy Voting policy
- Update MCERA's Proxy Voting Policy to bring it in line with any adopted benchmark policy and include Staff and Board monitoring and reporting (see next slides)
- Schedule ISS to present their proxy voting services to the Investment Committee at the January 2021 meeting



## Recommendations

#### **Staff Actions**

- Staff will review outside proxy voting service providers and make a recommendation to the Board for hiring the provider.
- As necessary, Staff will review proxy ballots to ensure votes are cast accurately and in accordance with approved proxy voting guidelines.
- While established proxy voting guidelines cover the majority of issues, there may be certain matters that require Staff to take action to ensure proxy ballots are voted, such as when established guidelines are not sufficient to make a voting recommendation on a specific issue. The Board will need to determine whether they want to delegate to the Retirement Administrator the authority to vote proxies in these instances.
- Staff will report to the Board, at least quarterly, a summary of the results of the proxy voting process. The quarterly report should contain information on how votes were cast and any deviations from established voting guidelines, including proxy votes by Staff.
- Staff will ask third party provider to prepare a policy review on an annual basis to advise on any changes in market practice, regulatory environment, and/or investor preferences for review to potentially drive any updates to the policy that may be appropriate.



# Callan



December 16, 2020

#### **Public Real Assets Structure Review**

#### James Callahan

President

#### **Anne Heaphy**

Fund Sponsor Consulting

#### Jay Kloepfer

Capital Market Research

#### **Executive Summary**

The case for a diversified real asset (DRA) allocation in the MCERA portfolio

- Provide diversification relative to equities, fixed income, and CPI
- Inflation hedging is a secondary objective
- Allocation to TIPS and commodities typically defines risk posture for a DRA fund;
- The case for a commodities allocation inside is challenged; alternative designs can meet the goals of a DRA option, but require other real asset building blocks with attendant potential increase in complication and cost

MCERA implementation of public diversified real assets

- Complement to private real estate
- Current MCERA implementation includes 25% exposure to each of commodities, US REITs, TIPS and natural resource equity
- Comparable performance to Callan real asset peer group
- Traditional, simple structure; marketplace is increasingly embracing strategies with additional diversification, such as KBI Global Resources and Global Listed Infrastructure (not in current portfolio)
- Combined active/passive implementation results in management fee of 41bps

Recommendation – reconfirm objectives for the DRA allocation within the MCERA total portfolio and the public real assets allocation with private real estate

- Reconsider the role of commodities within public real assets, and confirm, reduce or eliminate exposure
- Re-assign commodity assets to existing asset categories, and/or consider adding global infrastructure as diversifier, additional
  inflation hedge and return generator
- A lower allocation to commodities and additional equity diversification has generally outperformed
- Fees will likely be comparable or lower, depending on whether additional active management is used in the reassigned commodity assets



# Callan

The Case for a Diversified Real Asset Allocation

#### **Why Inflation Matters**

#### Impact of High Inflation on Traditional Asset Classes

Time horizon matters when evaluating the impact of rising inflation on a portfolio

#### **Fixed Income**

- Erodes the present value of future interest and principal payments
- Historical record periods of high or rising inflation exhibited poor (negative) real return performance
- Inflation-linked bonds are the exception, although history does not exist for periods of sharply higher inflation
- Longer term higher expected inflation eventually leads to higher coupons (return)

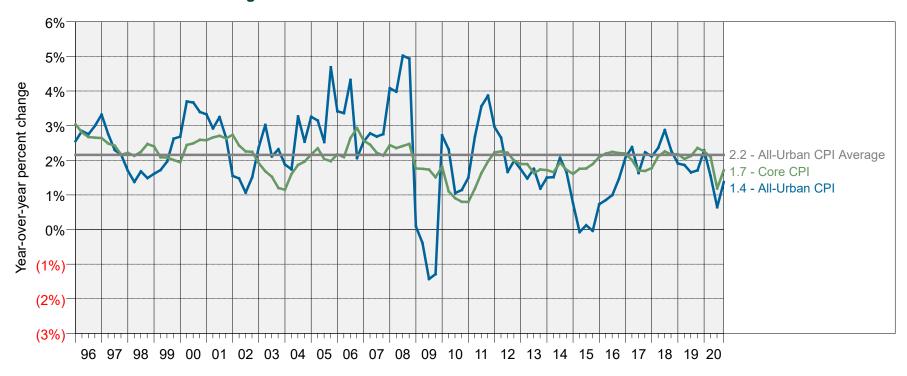
#### Equity

- Erodes the present value of future profits and capital appreciation
- Higher interest rates constrain credit and restrict economic growth, thereby lowering the growth in profit and appreciation
- Historical record periods of high or rising inflation exhibited poor (negative) real return performance
- Longer term ownership is a claim on the underlying real economy; equity is expected to provide long-term inflation protection (a positive real return)



#### **Consumer Price Inflation Remains Benign**

#### Inflation - Year Over Year % Change



Inflation has been subdued for decades, with modest increases in 2005 and 2007-2008 which proved to be short-lived. Energy prices show outsized influence in drawdowns.

GFC and the pandemic pulled inflation back from paths that signaled incipient rise

Massive stimulus following GFC did NOT spur inflation as expected; restart with COVID stimulus may be a catalyst this time, with stimulus a response to external shock rather than systematic financial impairment

Source: Callan LLC, US Dept of Labor



#### Is Rising Inflation an Emerging Threat?

#### A Refrain Familiar From Our Recent Past

#### Economic theory says inflation HAS to take off:

- Unprecedented, synchronized global monetary stimulus in response to the pandemic
- Unprecedented fiscal stimulus
- Historically low interest rates (again!)

#### Practical reality:

- The U.S. and the rest of the world face very slow recoveries
- Solidifying U.S. job market, but no wage pressures
- Tight lending standards
- Interest rates could rise eventually without a surge in inflation

#### Inflation a very real threat, but it may be 2-4 years away

- Commodity prices represent a wildcard threat in the shorter term, particularly a supply-side disruption
  - Commodity spike more likely to trigger another slowdown than a general price spiral
- Containment of the pandemic and a vaccine could unleash pent-up demand across the economy, and a sudden spike in prices and wages

Best time to consider an inflation hedge may be when the risk of occurrence is low



## Why Real Assets?

Provides hedge for inflation-driven liabilities and commitments

- Defined benefit plans (active liabilities, COLAs)
- Health care liabilities
- Endowments, foundations
- Defined contribution investors (target date funds)

Real Assets are deemed inflation sensitive because:

- Cash flows will ultimately adjust for inflation
- Replacement costs adjust for inflation

Provide hedge against losses in rising or high inflation scenarios

• Sharply rising inflation will cause short-run to intermediate-run underperformance in equities and bonds (potentially severe)

Provide diversification benefits in low-inflation environments

Create additional potential for alpha-generation by active managers



#### Inflation Betas of Various Sectors

### Relative to CPI All Urban for 10 1/4 Years Ended September 30, 2020

Inflation beta is a measure of the responsiveness of an asset's returns to observed changes in inflation

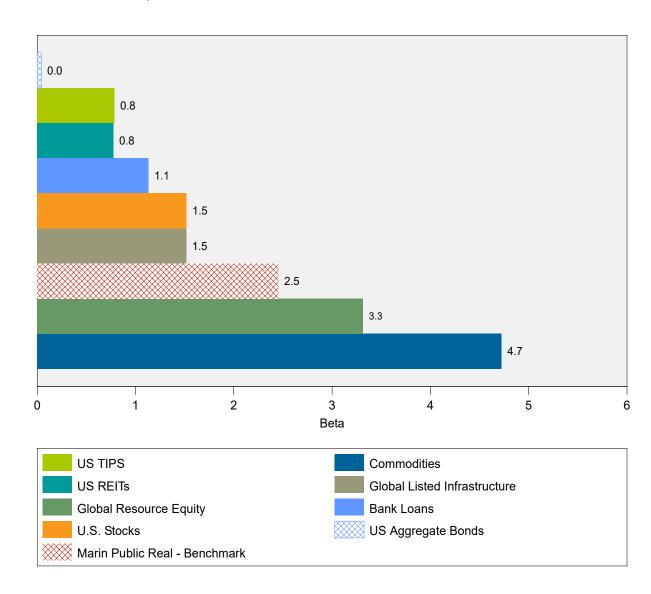
 For example, one dollar worth of commodity investment has the potential to provide over four dollars worth of inflation hedging

Real assets tend to exhibit positive inflation betas while nominal assets tend to exhibit negative inflation betas

 This finding is particularly relevant over longer time periods

Marin Public Real Assets Benchmark:

- 25% Bloomberg TIPS
- 25% Bloomberg Commodities Total Return
- 25% S&P Select REITs
- 25% S&P Global Natural Resources





## First Principles for Diversified Real Asset (DRA) Portfolio Structures

### Complement to MCERA's Private Real Estate

Demand for the three core principles drives appropriate portfolio construction

- 1. Diversification
- 2. Short-term inflation sensitivity
- 3. Long-term real returns
- Longer time horizon: prioritize diversification and longer-term real returns, less concern with near term inflation
- Shorter time horizon: prioritize near-term price sensitivity, reduced volatility, improved liquidity

Time horizon for an open public DB plan is typically long

- For a public DRA portfolio, plan sponsor has to articulate risk posture for the optimal design
- Conservative to moderate risk posture = greater exposure to near-term inflation protection (TIPS), less tolerance for volatility (equity and commodities, even though commodities offer greater diversification)
- Moderate to aggressive risk posture = greater exposure to long-term inflation protection through assets with higher return
- Does the DRA portfolio still serve a role and provide value in the absence of inflation?
- MCERA Considerations
  - -The current MCERA DRA targets a <u>balanced, moderate risk posture</u>, with 25% in TIPS, 25% in commodities, 25% in REITs, and 25% in global natural resource equity; suitable for shorter-term inflation sensitivity with reasonable expectations for growth, with 50% in equity strategies
  - Dissatisfaction with commodity exposure examine alternatives with less or no commodities, potential alternative strategies to replace commodities
  - Design of current DRA portfolio is intended to complement private real estate in the total 15% allocation to real assets does this
    design and implementation line up with the objectives and expectations?



## Common Components of a Public Diversified Real Assets Portfolio

#### Short term inflation hedging:

- Treasury Inflation-Protected Securities (TIPS)
  - Hedge against rising prices and helps to mitigate volatility introduced by equity oriented real assets categories
- Commodities
- High correlation to CPI
- Historically strong diversifier to stocks and bonds
- High volatility systematic rebalancing required to deliver the desired correlation benefit
- Returns have been challenged, with very high volatility, in a strong equity market with little inflation. Inflation-sensitive equity has been substituted in some strategies, boosting return, at the cost of potentially reducing the correlation benefit.
- Institutional Floating-Rate bond strategies (not in the current portfolio)
  - Interest rates adjust to reflect expected changes in inflation
  - Below investment grade but higher in the capital structure than high yield

Positive long term real returns: equity whose underling assets are inflation sensitive

- REITs
- Natural Resources Equity
- Global Listed Infrastructure (not in the current portfolio)



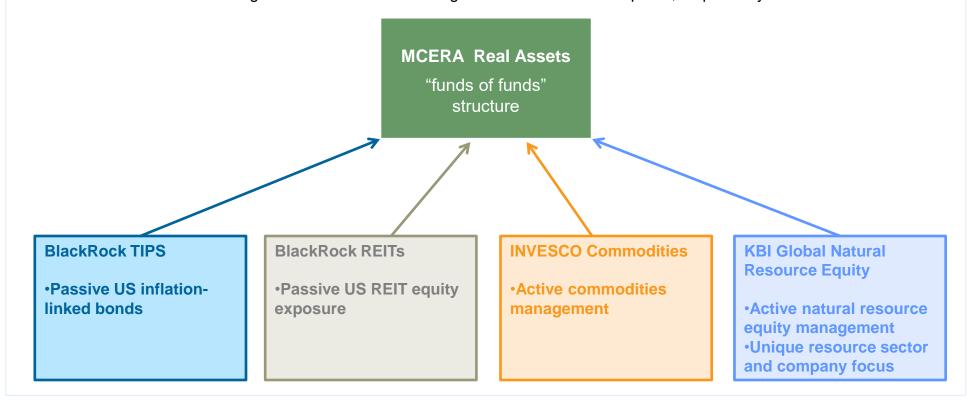
# Callan

# **MCERA Public Real Assets Review**

### **MCERA DRA Overview**

### Balanced exposure to four components

- 25% allocations to each of US TIPS, commodities, US REITs, and global natural resource equity
- Designed to be public real asset complement (7% of total fund) to the private real estate exposure (8% of the total fund) within the
   15% allocation to real assets
- Each component is managed separately and assembled, monitored and rebalanced by MCERA. Custom benchmark is the weighted average of each strategy's benchmark. Allocations are rebalanced to maintain beta exposure, with alpha generation expected from Invesco's and KBI's active management of commodities and global natural resource equities, respectively.





# **Current Public Real Asset Portfolio (9/30/20 Asset Values)**

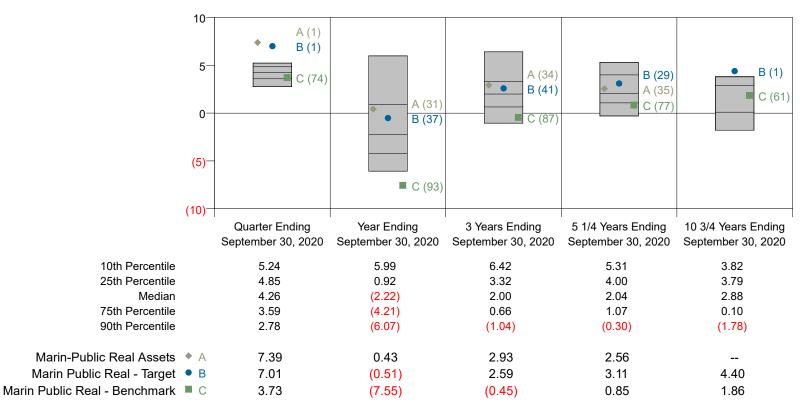
					Fe	es
Strategy	Manager	Benchmark	Target %	Target \$M	(%)	(\$ Thou.)
US TIPS	BlackRock TIPS	Bloomberg TIPS	25%	\$42.33	0.03%	\$12.70
US REITs	BlackRock REITs	DJ US Select REIT	25%	\$42.33	0.06%	\$25.40
Commodities	Invesco Commodities	Bloomberg Commodities Total Return	25%	\$42.33	0.70%	\$296.30
Global Natural Resources	KBI Global Resources Fund	S&P Global Natural Resources Index	25%	\$42.33	0.85%	\$359.80
Total			100%	\$169.30	0.41%	\$694.10

- Passive index management in TIPS and REITs
- Low cost, diversified exposure to the asset class
- Active management in commodities and global natural resources
  - Substantial difference in portfolio exposures and resulting return performance from underlying index benchmarks
- Invesco Commodity Fund
- "Balanced Risk" strategy Strategic allocation set by balancing risk contribution from two methods of evaluating the universe of assets. Tactical overlay to take advantage of opportunities and optimal roll yield. Positions can deviate substantially from those of the Bloomberg Commodity TR index.
- KBI Global Resources Fund
- Goal of providing long-term return and portfolio diversification to traditional stocks and bonds, as well as alpha through investment in companies providing solutions to global natural resource challenges
- Focus on water, food and clean energy; substantially different exposures than that of Natural Resource Index and peers



#### Performance – MCERA DRA

Returns for Periods Ended September 30, 2020 Group: Callan Real Assets Database



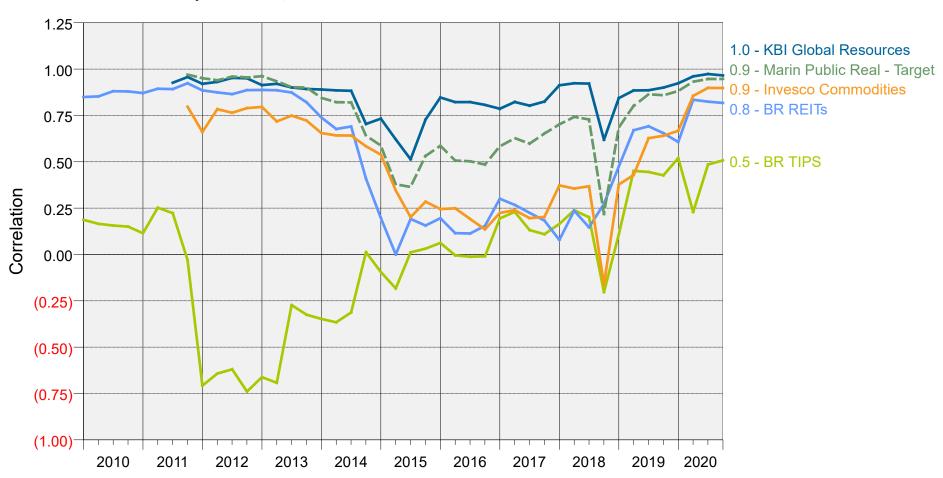
- Marin Public Real Assets = actual fund performance as represented in quarterly performance report, includes manager changes since inception of public real assets (Q2 2015)
- Marin Public Real Target = current managers at target weights, held constant over history
  - Target includes MCERA performance plus product composite performance back to 2010
- Marin Public Real Benchmark = public real assets policy benchmark
- Two key time horizons: since inception at MCERA (5 ¼ years), 10 years (data available for manager composites)



# **Correlation to Equity**

Diversification potential vs. US Equity in certain environments

Rolling 12 Quarter Correlation Relative To S&P:500 for 10 3/4 Years Ended September 30, 2020



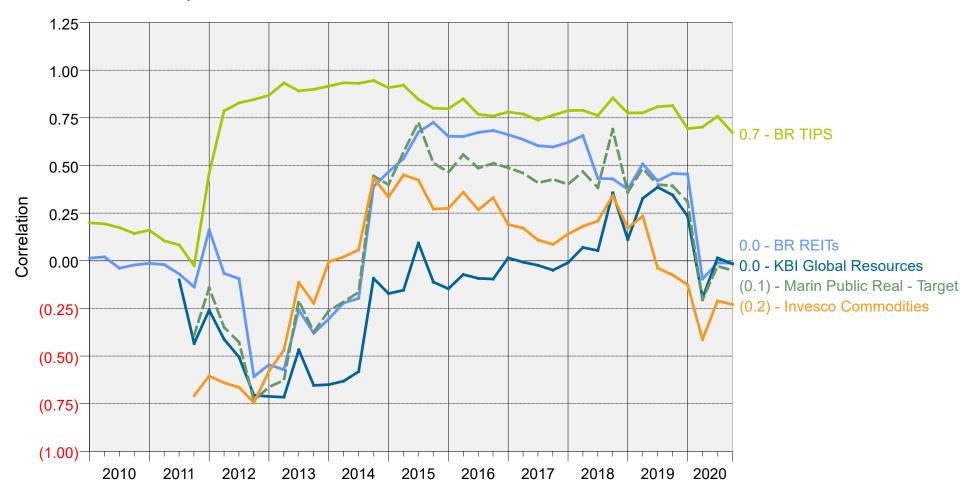




#### **Correlation to Fixed Income**

## Material diversification potential vs. US Fixed Income

Rolling 12 Quarter Correlation Relative To Blmbg:Aggregate for 10 3/4 Years Ended September 30, 2020

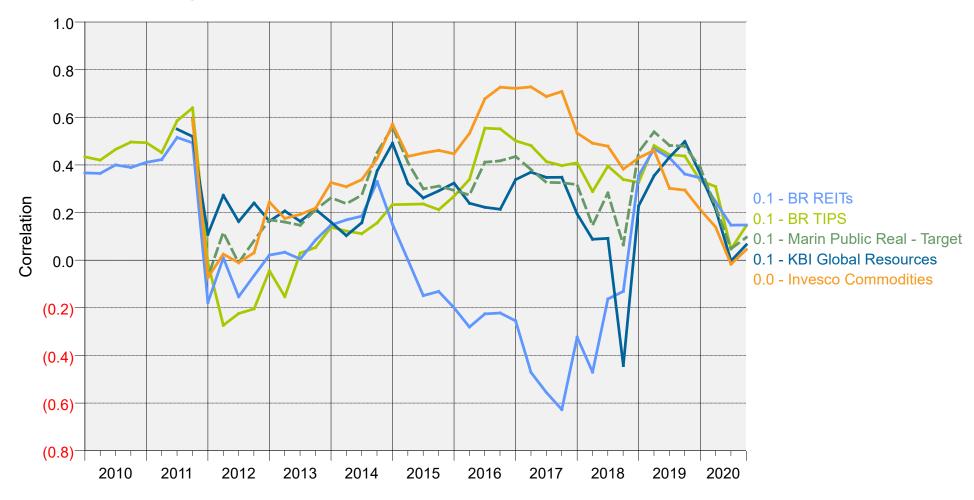




## **Correlation to CPI**

Diversification capability but inflation has been low during this period

Rolling 12 Quarter Correlation Relative To US DOL:CPI All Urban Cons for 10 3/4 Years Ended September 30, 2020



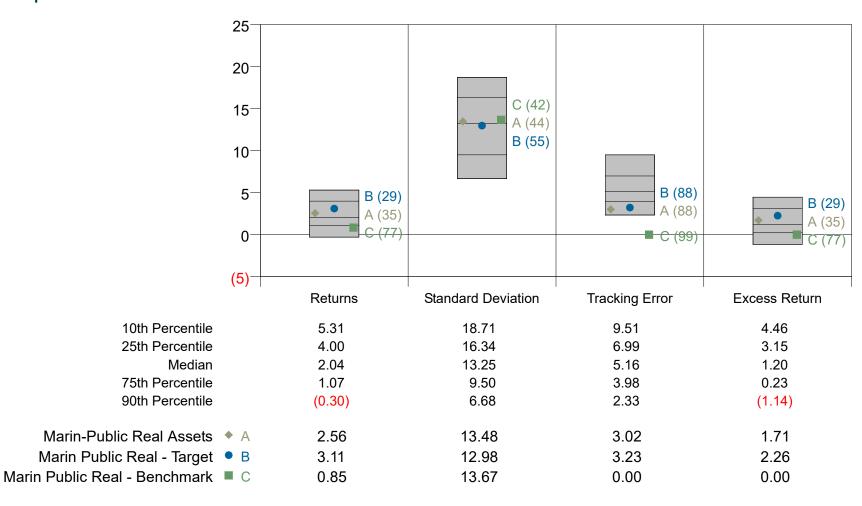




## **Marin Public Real Assets – Performance Metrics**

## 5 1/4 Years Since Inception Through September 30, 2020

# Statistics for 5 1/4 Years Ended September 30, 2020 Group: Callan Real Assets Database





# Callan

**Overview of Real Asset Fund Alternatives** 

## The Case for Considering an Alternative Approach to Public Markets Real Assets

It has been common for diversified real asset funds built from public markets asset classes to include an allocation to commodities – typically 20-30% or more.

MCERA's DRA structure blends allocations to four asset classes in fixed weights

1. TIPS 25%

2. REITs 25%

3. Commodities 25%

4. Global Natural Resources 25%

Performance for the commodities asset class has been challenged the past several years.

Diversified Real Asset funds that reduce allocations to commodities and utilize other complementary asset classes have had success meeting traditional DRA objectives of portfolio diversification and purchasing power protection to some extent.

This section evaluates potential alternative DRA structures

- Retain/refine diversification benefit of TIPS and commodities
  - Balance benefit of diversification with challenging return environment expected for commodities
- Smaller or no allocation to commodities
- Diversified exposure to inflation-sensitive equity natural resources, US REITs, consider listed infrastructure



## **Real Asset Class Performance**

Periods Ending September 30, 2020

	Periods Ended September 30, 2020					
	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 10 Years
BR TIPS	3.10	10.31	8.74	5.95	4.31	3.81
BR REITs	0.84	(22.26)	(4.84)	(1.79)	2.52	8.17
Invesco Commodities	10.13	(2.70)	(4.55)	(1.82)	(1.74)	(1.19)
KBI Global Resources	14.25	13.88	8.17	6.45	5.73	6.68
FTSE Dev Markets Infrastructure	3.17	(8.04)	3.77	2.75	5.90	9.19
Marin Public Real Assets	7.39	0.43	2.86	2.93	2.56	
Marin Public Real - Target	7.01	(0.51)	2.27	2.59	3.11	4.79
Marin Public Real - Benchmark	3.73	(7.55)	(3.27)	(0.45)	0.85	2.43
CPI All Urban	0.96	1.37	1.54	1.79	1.67	1.75
BB Aggregate	0.62	6.98	8.63	5.24	4.22	3.79
S&P:500	8.93	15.15	9.57	12.28	12.00	14.58

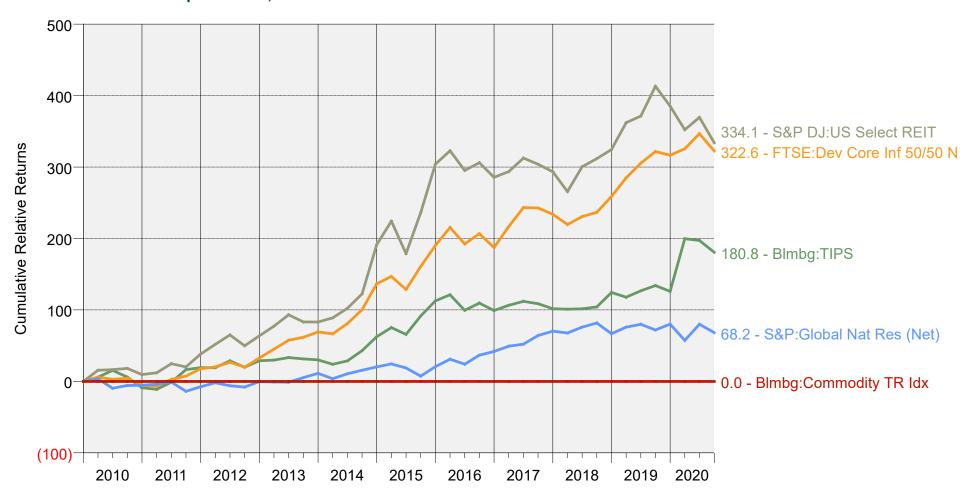
FTSE Infrastructure Index shown for representative return, as potential replacement for commodity exposure



## Relative Cumulative Performance for Commodities – 10 Years

#### **Index Benchmarks**

Cumulative Relative Returns Relative To Blmbg:Commodity TR Idx for 10 3/4 Years Ended September 30, 2020



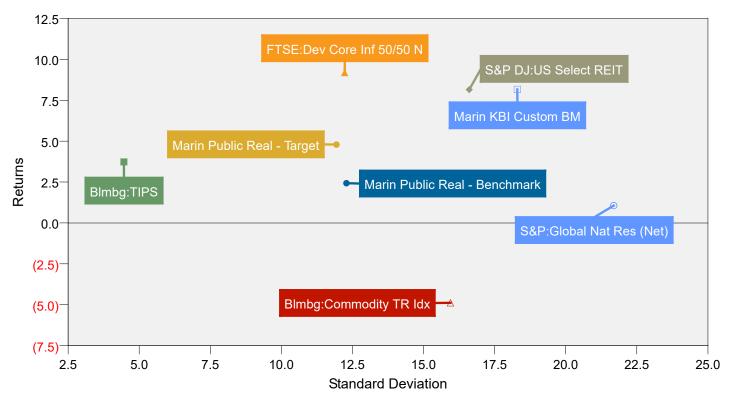




## Commodities: High Risk With Low Return vs. Other Potential DRA Components

Index Benchmarks Plus Marin Public Real Assets Target Allocation

Return vs Standard Deviation - Benchmarks for 10 1/4 Years Ended September 30, 2020



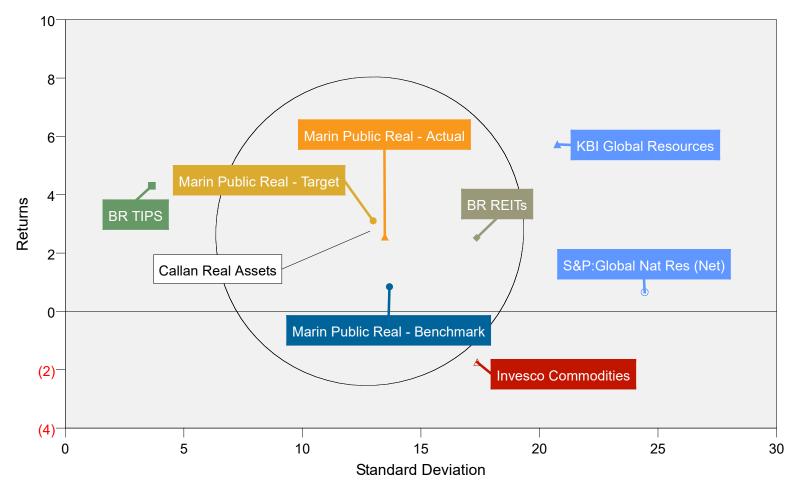
- Target = current managers at target weights, held constant over history
  - Target includes Marin performance plus product composite performance back to 2010
- "Public Real Assets" = actual fund performance as represented in quarterly performance report, includes manager changes since inception of public real assets (Q2 2015)



# MCERA DRA Falls Squarely Within Peer Group for Risk and Return

5 1/4 Years = Inception of Marin DRA Program

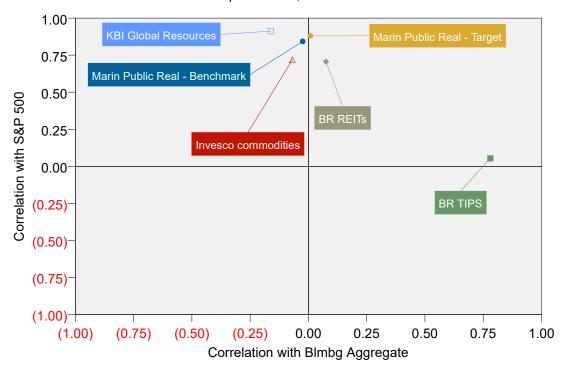
Return vs Standard Deviation - Funds for 5 1/4 Years Ended September 30, 2020





## **Correlation of MCERA DRA Over Last 10 Years Tilts Toward Equity**

Correlation for 10 1/4 Years Ended September 30, 2020 - Funds



Correlation for 10 ¼ Years Ended September 30, 2020 - Funds

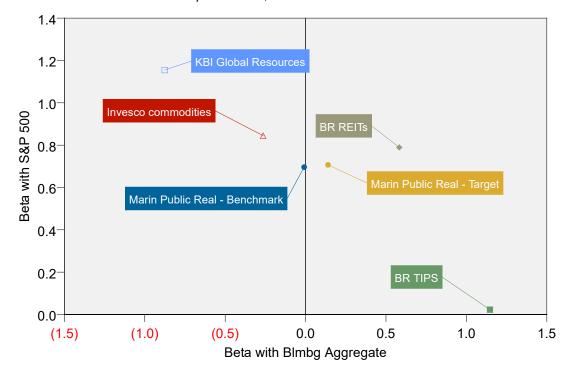
	US DOL:		
	CPI AII	S&P	Bloomberg
	Urban Cons	500	Aggregate
BR TIPS	0.25	0.05	0.78
Invesco Commodities	0.30	0.72	(0.07)
BR REITs	0.00	0.71	0.08
KBI Global Resources	0.17	0.91	(0.16)
S&P 500	80.0	1.00	(0.21)
Bloomberg Aggregate	0.04	(0.21)	1.00
Marin Public Real - Target	0.20	0.88	0.01

- TIPS offer the lowest correlation to stocks, but the highest correlation to bonds
- Global natural resource equity and commodities offer lowest correlation to bonds
- Commodities offer an attractive correlation combination, but at a cost of low return relative to both stocks and bonds
- REITs offer comparable correlation to equity but with higher correlation to bonds



## Beta to CPI, Stocks and Bonds Over Last 10 Years

Beta for 10 1/4 Years Ended September 30, 2020 - Funds



Beta for 10 ¼ Years Ended September 30, 2020 - Funds

	US DOL: CPI All Urban Cons	S&P 500	Bloomberg Aggregate
BR TIPS	0.79	0.02	1.15
Invesco Commodities	4.17	0.85	(0.26)
BR REITs	0.77	0.79	0.58
KBI Global Resources	2.81	1.15	(0.88)
S&P 500	1.52	1.00	(0.91)
Bloomberg Aggregate	0.04	(0.04)	1.00
Marin Public Real - Target	2.16	0.71	0.14

- Commodities and Natural Resource Equity offer the greatest beta to the CPI-U. However, both asset classes exhibit the greatest volatility and with the most challenged returns over the past 10 years
  - KBI portfolio is substantially different from the S&P Global Natural Resource Index, and has generated comparable beta to stocks, bonds and CPI, but at much higher return
- TIPS show a much lower beta to inflation, comparable to that of REITs, but offer the lowest beta to stocks, followed by levered loans



# **Why Global Listed Infrastructure?**

#### Characteristics

"The basic facilities, services, and installations needed for the functioning of a community or society, such as transportation and communications systems, water and power lines, and public institutions including schools, post offices, and prisons." (Dictionary.com)

Provides essential economic or social services	<ul><li>Long-life assets</li></ul>
Monopolistic or near-monopolistic in nature	• Stable cash flow
High barriers to entry	<ul><li>Illiquidity</li></ul>
Low demand elasticity	<ul> <li>High leverage</li> </ul>

	Economic Infrastructure		Social Infrastructure
Transportation     Bridges     Toll Roads     Tunnels     Airports     Seaports     Rail	<ul><li>Utilities</li><li>Gas pipelines</li><li>Electricity works</li><li>Power generation</li><li>Water and sewage</li><li>Renewable energy</li></ul>	Communications	<ul> <li>Educational facilities</li> <li>Hospitals</li> <li>Correctional facilities</li> <li>Public transportation</li> </ul>



# **Global Listed Infrastructure (GLI)**

## Public Equity

#### Listed Infrastructure Investments

- Consists of publicly traded stocks of companies engaged in infrastructure-related activities
- Economic infrastructure rather than social infrastructure
- Emphasis on appreciation

#### Strengths

- Quickly and easily assembled
- Liquidity
- Flexibility

#### Weaknesses

- Shares volatility of equity markets substituting commodity exposure for GLI increases portfolio equity exposure
- Higher emphasis on capital gains rather than income
- Appropriate benchmark changing over time, moving away from S&P Global Infrastructure Index
- FTSE Developed Core Infrastructure 50/50 Net has become the benchmark of choice for active managers
- −FTSE is more diversified (~250 names vs ~75), more US-oriented, and has slightly larger weights to utilities and communication names at the expense of slightly lower weights to transportation and energy infrastructure



#### **Alternative Public Real Asset Portfolios**

Manager	Benchmark	Target %	Mix 1	Mix 2	Mix 3
BlackRock TIPS	Bloomberg TIPS	25%	30%	25%	33%
BlackRock REITs	DJ US Select REIT	25%	30%	25%	33%
Invesco Commodities	Bloomberg Commodities Total Return	25%	10%	0%	0%
KBI Global Resources Fund	S&P Global Natural Resources Index	25%	30%	25%	33%
TBD	FTSE Dev Core Infrastructure 50/50 Net	0%	0%	25%	0%
		100%	100%	100%	100%
Total Portfolio Expected Return		6.64%	6.66%	6.69%	6.67%
Projected Risk (Std Deviation)		13.22%	13.30%	13.45%	13.36%
Fees (%)		0.41%	0.35%	0.42%	0.31%
Fees (\$ Thousands)		\$694	\$596	\$715	\$531

- Mix 1 retains commodities but reduces exposure to 10%, allocates an additional 5% to each of REITs, TIPS and Global Natural Resources
  - Rationale: retain diversification benefit of commodities, but reduce exposure to enable greater potential return from REITs and Global Resources,
     balanced with higher allocation to TIPS
- Mix 2 removes commodities and adds a 25% allocation to Global Listed Infrastructure
- Rationale: remove commodities to address MCERA dissatisfaction with the strategy; add listed infrastructure to diversify equity exposure in Global Resources and REITs. Listed infrastructure could be passive or actively managed; Callan has identified a peer group of global listed infrastructure managers and products.
- Mix 3 removes commodities and reallocates the assets to the existing strategies: REITs, TIPS and Global Resources
- Rationale: remove commodities to address MCERA dissatisfaction with the strategy; reallocate assets to existing strategies equally to balance higher equity risk with TIPS, and to keep the public real assets portfolio streamlined. KBI will be the only active strategy within public real assets.
- Callan prefers active management in Global Listed Infrastructure
  - Opportunity set is idiosyncratic enough to benefit active management; passive products are limited primarily to ETFs, with relatively high fees (41 bps to 76 bps); for active management we believe 75 bps is a reasonable estimate, and is used in the table above



# **Custom Capital Market Assumptions for MCERA Public Real Return Portfolio**

Asset Class	10-Year Compound Return	Projected Standard Deviation	Real Return
Broad Domestic Equity	7.15%	18.10%	4.90%
Global ex-US Equity	7.25%	20.50%	5.00%
Domestic Fixed Income	2.75%	3.75%	0.50%
Private Equity	8.50%	27.80%	6.25%
Real Estate	6.25%	14.00%	4.00%
Public Real Assets - Current	5.45%	12.65%	3.20%
Mix 1	5.75%	13.35%	3.50%
Mix 2	6.20%	15.55%	3.95%
Mix 3	5.90%	14.10%	3.65%
Public Real Assets Components			
TIPS	2.40%	5.05%	0.15%
Commodities	2.75%	18.00%	0.50%
REITS	6.70%	20.70%	4.45%
Natural Resource Equity	6.60%	23.50%	4.35%
Global Listed Infrastructure	6.80%	21.00%	4.55%
Cash Equivalents	2.25%	0.90%	0.00%

	MCERA			
	Target	Mix 1	Mix 2	Mix 3
Broad US Equity	32%	32%	32%	32%
Broad International Equity	22%	22%	22%	22%
Broad US Fixed Income	23%	23%	23%	23%
Private Equity	8%	8%	8%	8%
Real Estate	8%	8%	8%	8%
Public Real Assets - Current	7%	0%	0%	0%
Mix 1	0%	7%	0%	0%
Mix 2	0%	0%	7%	0%
Mix 3	0%	0%	0%	7%
Totals				

Expected Return	6.64%	6.66%	6.69%	6.67%
Real Return	4.39%	4.41%	4.44%	4.42%
Risk (Standard Deviation)	13.22%	13.30%	13.45%	13.36%

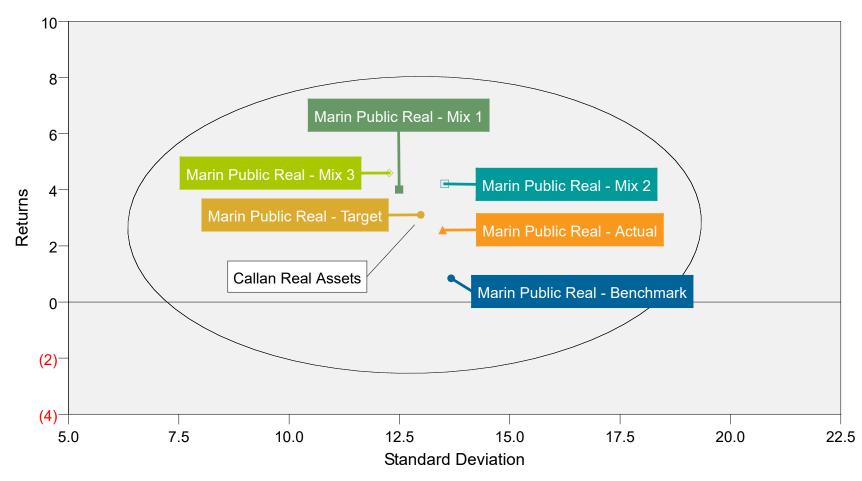
Public Real Assets Target % Mix 3 Mix 1 Mix 2 TIPS 25% 30% 25% 33% REITs 33% 25% 30% 25% 25% 0% Commodities 10% 0% Natural Resource Equity 25% 30% 25% 33% Global Listed Infrastructure 0% 0% 0% 25%



# Risk vs. Return – Real Asset Funds (5 1/4 Years)

# **Including Alternative Asset Mixes**

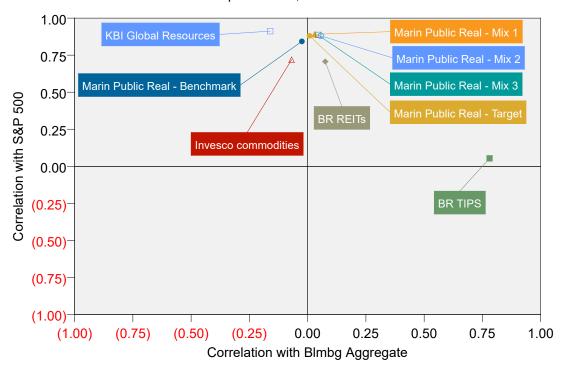
Return vs Standard Deviation - Funds for 5 1/4 Years Ended September 30, 2020





# Correlation of Current DRA and Alts to Stocks and Bonds Still Tilts Toward Equity

Correlation for 10 1/4 Years Ended September 30, 2020 - Funds



Correlation for 10 ¼ Years Ended September 30, 2020 - Funds

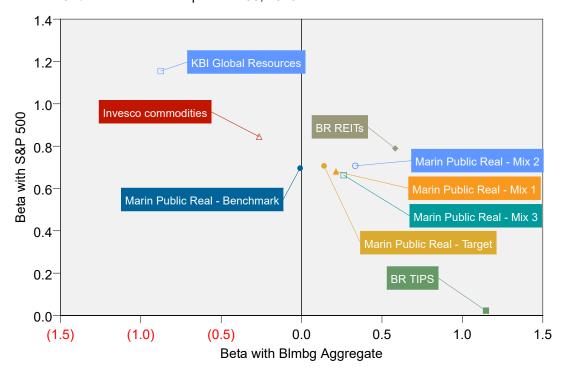
	US DOL:		
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	Urban Cons	500	Aggregate
BR TIPS	0.25	0.05	0.78
Invesco Commodities	0.30	0.72	(0.07)
BR REITs	0.00	0.71	0.08
KBI Global Resources	0.17	0.91	(0.16)
S&P 500	0.08	1.00	(0.21)
Bloomberg Aggregate	0.04	(0.21)	1.00
Marin Public Real - Target	0.20	0.88	0.01
Marin Public Real - Mix 1	0.16	0.89	0.03
Marin Public Real - Mix 2	0.15	0.88	0.06
Marin Public Real - Mix 3	0.13	0.89	0.04

- TIPS offer the lowest correlation to stocks, but the highest correlation to bonds
- Global natural resource equity and commodities offer lowest correlation to bonds
- Commodities offer an attractive correlation combination, but at a cost of low return relative to both stocks and bonds
- REITs offer comparable correlation to equity but with higher correlation to bonds



## Beta of Alts to CPI and Stocks Slightly Lower, and Higher to Bonds

Beta for 10 1/4 Years Ended September 30, 2020 - Funds



Beta for 10 ¼ Years Ended September 30, 2020 - Funds

	US DOL:		
	CPI AII	S&P	Bloomberg
	Urban Cons	500	Aggregate
BR TIPS	0.79	0.02	1.15
Invesco Commodities	4.17	0.85	(0.26)
BR REITs	0.77	0.79	0.58
KBI Global Resources	2.81	1.15	(0.88)
S&P 500	1.52	1.00	(0.91)
Bloomberg Aggregate	0.04	(0.04)	1.00
Marin Public Real - Target	2.16	0.71	0.14
Marin Public Real - Mix 1	1.75	0.68	0.21
Marin Public Real - Mix 2	1.76	0.71	0.33
Marin Public Real - Mix 3	1.48	0.66	0.26

- Commodities and Natural Resource Equity offer the greatest beta to the CPI-U. However, both asset classes exhibit the greatest volatility and with the most challenged returns over the past 10 years
  - KBI portfolio is substantially different from the S&P Global Natural Resource Index, and has generated comparable beta to stocks, bonds and CPI, but at much higher return
- TIPS show a much lower beta to inflation, comparable to that of REITs, but offer the lowest beta to stocks, followed by levered loans



#### Inflation Betas For Alternative Mixes

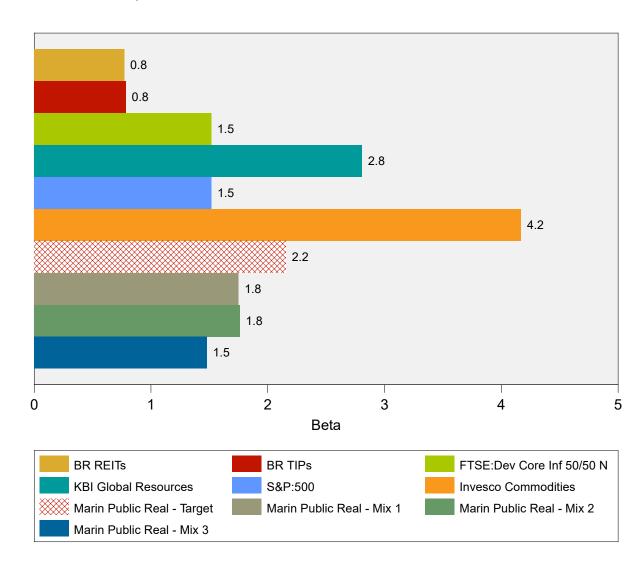
## Relative to CPI All Urban for 10 1/4 Years Ended September 30, 2020

Alternative mixes show lower beta to inflation than the current portfolio

- Reduce or eliminate exposure to commodities, the asset class with the highest inflation beta
- Mix 3 shows a beta comparable to that of US stocks
- Mix 2 with Global Listed Infrastructure generates a comparable beta to that of Mix 1, which retains 10% in commodities

Trade-off to reducing or eliminating commodities

- Greater return
- Greater equity exposure
- I ower inflation beta







# Callan

**Summary** 

## Summary

Objective of DRA allocation is diversification to the total fund, inflation protection and to be a complement to private real estate in the total public real assets allocation

Portfolio construction is critical to delivering on these three objectives

- REITS, Infrastructure, and Natural Resources Equity provide inflation sensitivity but equity market correlation is high
- Diversification will largely come from inclusion of TIPS and Commodities
- Current DRA implementation may look uncompetitive in the absence of inflation, given low return expectations for commodities and TIPS
- The beta of the portfolio to inflation is a critical factor; highest historical beta comes from commodities, natural resources and infrastructure

#### **Current MCERA implementation**

- MCERA DRA employs a traditional static allocation to TIPS, commodities, REITs and global natural resources. TIPS and REITs are implemented passively, while commodities and natural resources employ active management
- Current portfolio reflects moderate risk, lower than that of the total MCERA portfolio, due to the diversification benefit of half of the
  portfolio in TIPS and commodities. This diversification benefit has come at a cost of lower return; reducing or removing commodity
  exposure will likely result in greater potential return due to higher equity exposure in each of the alternatives. The level of risk as
  measured by standard deviation will be comparable, but the source of the risk will be different greater equity exposure, less
  commodity market exposure.

#### Callan's recommendations

- Reconfirm objectives for the DRA allocation within the MCERA total portfolio and the real assets allocation with private real estate
- Reconsider the role of commodities within the public real assets portfolio, and confirm, reduce or eliminate exposure. Re-assign
  commodity assets to existing asset categories, and/or consider adding global infrastructure as diversifier, additional inflation hedge
  and return generator.



# Callan

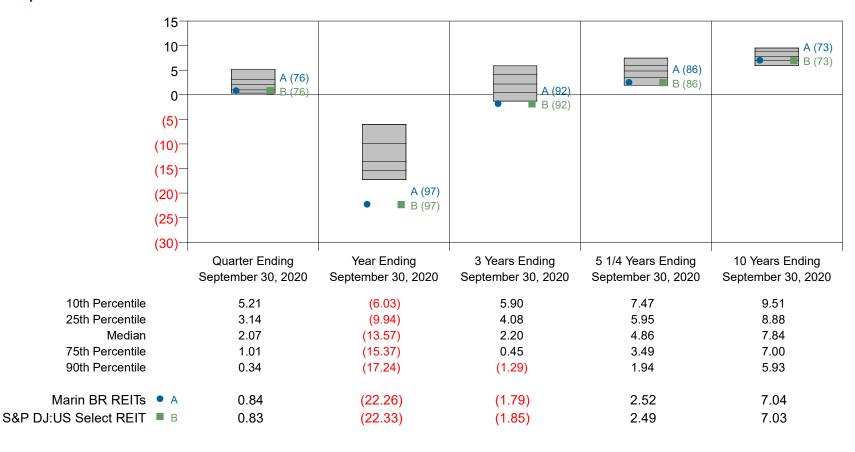
Appendix: MCERA DRA Portfolio Supporting Slides

## **MCERA DRA Components – REITs**

#### BlackRock REIT Index Fund

Seeks to replicate the return and risk of the DJ US Select REIT index

Returns for Periods Ended September 30, 2020 Group: Callan Real Estate Mutual Funds



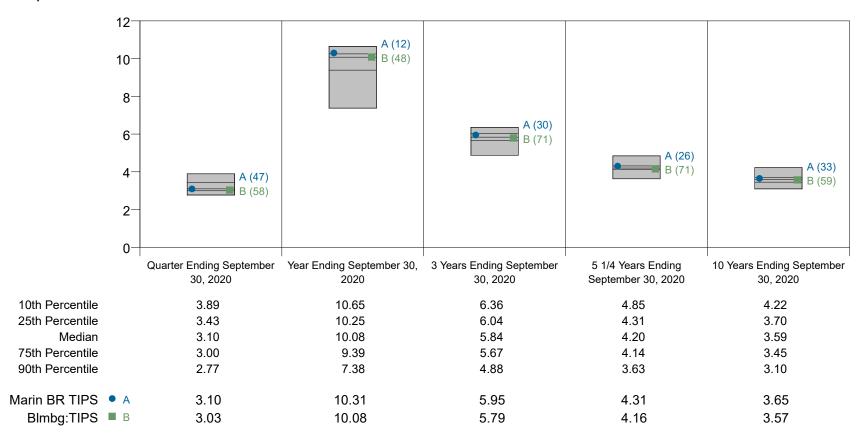


## **MCERA DRA Components –TIPS Fund**

#### BlackRock TIPS Index Fund

Seeks to replicate the return and risk of the Bloomberg TIPS index

Returns for Periods Ended September 30, 2020 Group: Real Returns Database



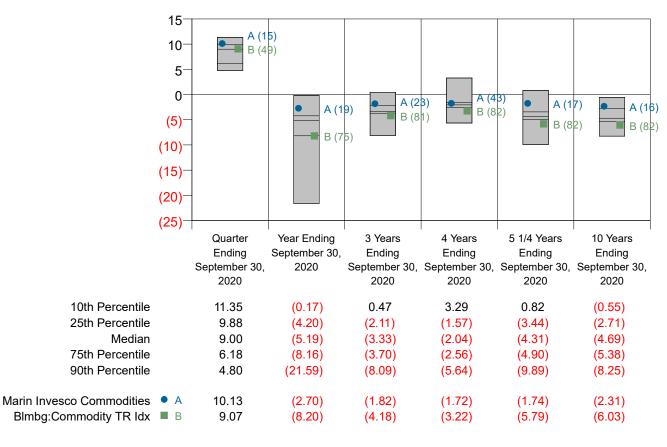


## **MCERA DRA Components – Commodity Fund**

### Invesco Commodity Fund

- Goal of providing inflation protection and low correlation to traditional stocks and bonds, as well as alpha through active management of the commodity futures exposures
- Strategic allocation set by balancing risk contribution from two methods of evaluating the universe of assets: term structure and equal risk contribution from each major commodity sector. Tactical overlay to take advantage of opportunities and optimal roll yield.
- Performance begins 3Q16; fund has outperformed index and peer group median over 1, 3 and 4 years.
- Prior performance is that of the product composite

#### Returns for Periods Ended September 30, 2020 Group: Callan Commodities



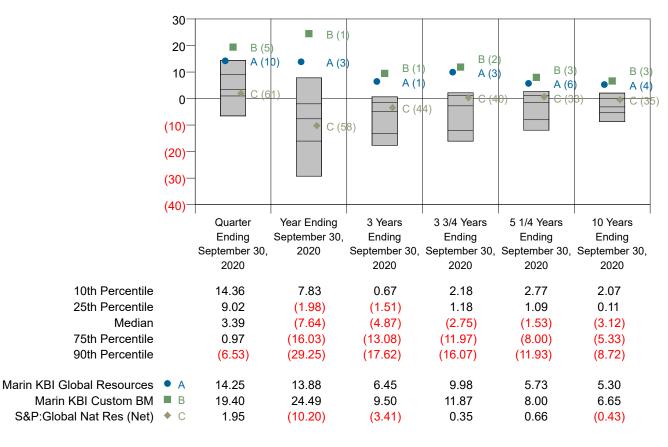


## MCERA DRA Components – Global Natural Resources Equity Fund

#### KBI Global Resources Fund

- Goal of providing long-term return and portfolio diversification to traditional stocks and bonds, as well as alpha through investment in companies providing solutions to global natural resource challenges
- Current positioning: focus on water, food and clean energy; substantially different exposures than that of Index and peers
- Performance begins 4Q16; fund has outperformed index and peer group median over 1, 3 and 3-3/4 years
- Custom KBI benchmark to better capture strategy exposures:
- 33.3% S-Network Global Water Index
- 33.3% Wilderhill New Energy
   Global Innovation Index
- 33.3% DAX Global Agribusiness Index

Returns for Periods Ended September 30, 2020 Group: Callan Global Natural Rsrcs Mut Funds

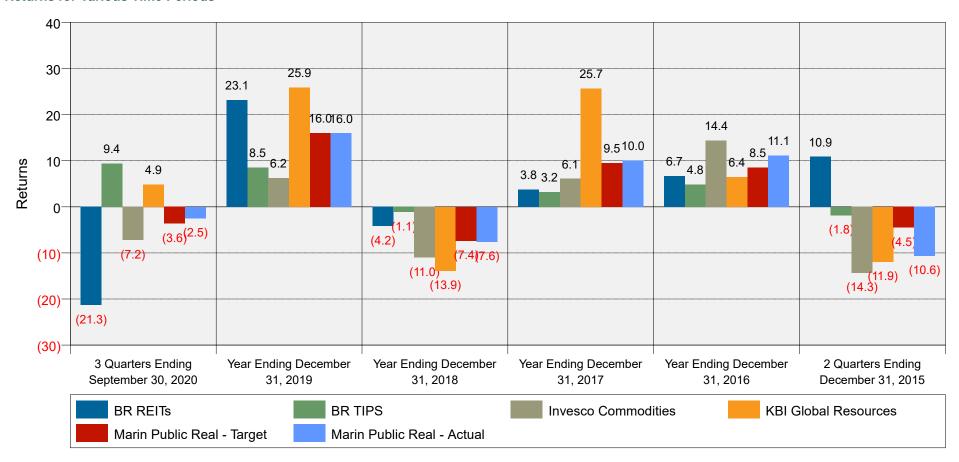






## **Calendar Year Performance**

#### **Returns for Various Time Periods**





## **Disclaimers**

This report is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation.

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#### Memorandum

To: MCERA Board and Staff

From: Jim Callahan, CFA

Anne Heaphy

Date: November 30, 2020

Subject: Morgan Stanley Investment Management Team Update

Morgan Stanley Investment Management announced the upcoming retirement of Dirk Hoffmann-Becking, who spent the last seven years as a portfolio manager on the International Equity team, effective March 31, 2021. Hoffmann-Becking notified William Lock, head of the International Equity team, of his plans to resign in August 2020 after a bit of self-reflection stoked by COVID-19. Hoffmann-Becking intends to take some time off and eventually pursue interests in academics and bank consulting. Hoffmann-Becking's coverage in banks and leisure will be absorbed by Richard Perrott and Nathan Wong, respectively. Hoffmann-Becking has no leisure names and four bank names in the International Equity strategy, totaling ~3.5% as of the third quarter of 2020.

There has been a fair amount of turnover on this team over the last eight years. Lock is the key founding member of the strategy and has been at MSIM for 26 years. The International Equity team consists of nine investment professionals and employs a cross-sector coverage structure which has been able to fairly seamlessly accommodate these various team changes. The performance and process has remained consistent despite the personnel changes.

Lock is very mindful of succession planning. Lock, Bruno Paulson, and Nic Sochovsky are Managing Directors on the team. The vintage of the team has a nice mix of investment professionals ranging from 30+ to 50+ years of age. The resignation of Hoffmann-Becking is not expected to fuel further team departures. For these reasons, we do not recommend any action at this time. Nevertheless, we will continue to closely monitor the team and portfolio for changes in characteristics and performance.

#### Memorandum

To: MCERA Board and Staff

From: Jim Callahan, CFA

Anne Heaphy

Date: November 30, 2020

Subject: Morgan Stanley/Eaton Vance Organizational Announcement

Morgan Stanley (NYSE: MS) announced its intention to acquire Eaton Vance Corp. (NYSE: EV) for an equity value of approximately \$7 billion. The transaction is expected to close in the second quarter of 2021, subject to regulatory approval. The combination will result in assets under management of roughly \$1.2 trillion for Morgan Stanley Investment Management (MSIM) – about \$500 billion from Eaton Vance and \$665 billion from MSIM. While the two firms have some complementary capabilities across asset classes, there are many details that are yet unknown. These include the degree to which Eaton Vance and its affiliates (Parametric Portfolio Associates, Calvert, Atlanta Capital, and Hexavest) will be integrated, the impact on culture, potential ramifications of shared infrastructure (including investment systems), changes in personnel, and sources of cost savings.

MCERA invests in the MSIM International Equity strategy. The International Equity team oversees \$50 billion in global and international equity strategies of which the International Equity strategy comprises \$10 billion. MCERA also invests in an Eaton Vance affiliate, Parametric Portfolio Associates, via the Parametric Emerging Markets Strategy and the Parametric Policy Implementation Overlay Services. Parametric's total assets under management as of September 30, 2020 are \$315.5 billion. Of that, Emerging Markets Equity comprises \$3 billion and the Parametric Overlay Services comprise approximately \$90 billion. We will monitor the situation closely as further details are made known.

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#### Memorandum

To: MCERA Board and Staff

From: Jim Callahan, CFA

Anne Heaphy

Date: December 7, 2020

**Subject:** Colchester Personnel Update

It was recently announced that Janhavi Kumar, Head of Distribution for North America, will be departing the firm on December 18, 2020 for personal reasons. Kumar joined the firm in 2010 and has been MCERA's client service contact since 2019. She replaced Mamak Shahbazi, Colchester's former President and Head of Marketing and Client Services, who suddenly departed the firm in May 2019. They will be hiring someone to replace Kumar, but until then, Jeremy Church, Product Specialist, will lead client coverage for North America out of the London office.

Neither Kumar nor Shahbazi had any investment responsibilities. The investment team has been very stable and is deeply resourced, consisting of 10 professionals led by Ian Sims, Chief Investment Officer, and Keith Lloyd, Chief Executive Officer. Nevertheless, we will continue to monitor the firm closely for any additional departures that might indicate organizational issues.





#### Memorandum

To: MCERA Board of Trustees

From: Jim Callahan, CFA

Anne Heaphy

Date: December 16, 2020

Subject: One-year Watch Period Review - Updated

Manager: Parametric Portfolio Associates – Emerging Markets Equity Portfolio

On Watchlist due to: Underperformance and organizational changes

Placed on Watchlist: First quarter of 2015

Date notified: June 16, 2015

MCERA's Criteria for Investment Manager Termination and Watchlist in the Investment Policy Statement states:

MCERA understands the cyclical nature of investment performance and the potential for its investment managers not to meet objectives over short-term periods. While it is not the Board's intention to terminate a manager for short-term underperformance relative to objectives, the Board has implemented the following process as a means of monitoring and evaluating managers that have experienced performance difficulties in the short-term to assess the impact on longer-term performance.

If a manager trails its relevant benchmark by more than 100 basis points (net of fees) and ranks in the bottom quartile of its peer universe (gross of fees ranking) for the trailing three years, or if a manager trails its relevant benchmark (net of fees) or ranks below median of its peer universe (gross of fees ranking) for the trailing five years, then the manager may be placed on the Watchlist.

If the underperformance of a manager on the Watchlist persists over a reasonable period in the future (as defined by the Staff, Board and Consultant based on the unique circumstances surrounding the manager and current market conditions), the Board may and will consider termination.

The Watchlist provisions have also established a one-year watch period to assess whether a manager should be removed from the Watchlist, have the watch period extended, or be terminated.

Procedures Following the Initiation of Watch Status

The watch period will be established for a one-year total duration. If at the end of the watch period, performance has improved to above-benchmark and/or above the manager median over a market cycle, the manager will be removed from the Watchlist.

C.5.a

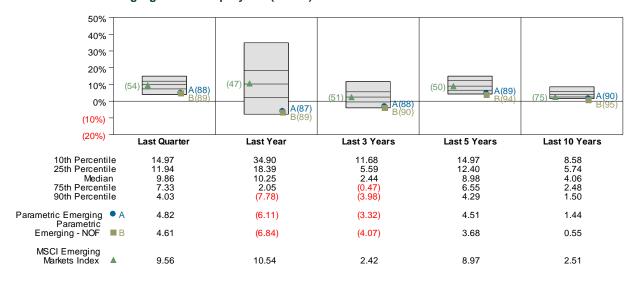
If at the end of the watch period, the manager is underperforming the manager may be terminated or remain on the Watchlist for a period defined by the Investment Committee.

Since Parametric was notified of its Watchlist status in June 2015, the Investment Committee has reviewed its status on an annual basis, and Parametric has remained on watch. Parametric still qualifies for the Watchlist based on the quantitative criteria. Over the trailing three year period, their net of fee return trails the benchmark by more than 100 basis points and their gross of fee ranks in the 88<sup>th</sup> percentile versus peers. Over the trailing five year period, their net of fee return trails the benchmark and the gross of fee return ranks below median.

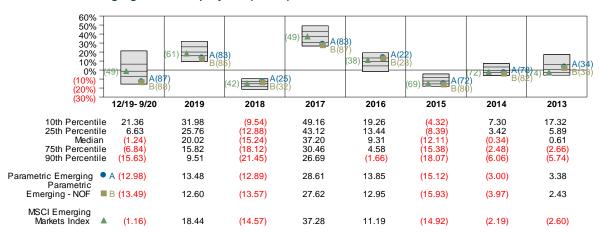
Parametric's relative underperformance is a function of their process and diversified exposures. Parametric employs a systematic process that weights emerging and frontier countries into four equal-weighted tiers (tier weights: 6%, 3%, 1.5%, and 0.75%) based on size and liquidity constraints. China is the one outlier with a nearly 14% weight (see last page for portfolio country weights) given its outsized allocation within the MSCI Emerging Markets Index (42%). Parametric's portfolio is intended to look quite different from the MSCI Emerging Markets Index in an effort to provide broader and more diversified exposure. The index is very concentrated with 3 countries comprising 67% of the index (China, South Korea, and Taiwan). As a result, Parametric's performance pattern will also look quite different, and their sizeable underweight to China will be a driving factor of relative returns.

It was recently announced that Morgan Stanley Investment Management (MSIM) will be acquiring Eaton Vance, of which Parametric Portfolio Associates is an affiliate. Although the CEO of Morgan Stanley publicly announced how Parametric fits in its strategic plan, his focus was more on solutions capabilities (including the Parametric overlay service) rather than the long-only offerings. As such, the firm's commitment to the strategy is uncertain, and this uncertainty is further exacerbated by a number of personnel departures and protracted redemptions and underperformance over the years. As of September 30, assets under management for the Emerging Markets Strategy in which MCERA is invested is \$3 billion, down from a high of \$16 billion in 2014. For these various reasons, we suggest that MCERA conduct a search to evaluate alternative emerging markets strategies.

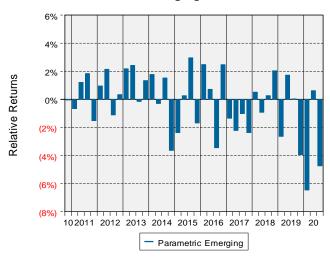
# Periods Ending September 30, 2019 Performance vs Emerging Markets Equity DB (Gross)



#### Performance vs Emerging Markets Equity DB (Gross)



#### Relative Returns vs MSCI Emerging Markets Index



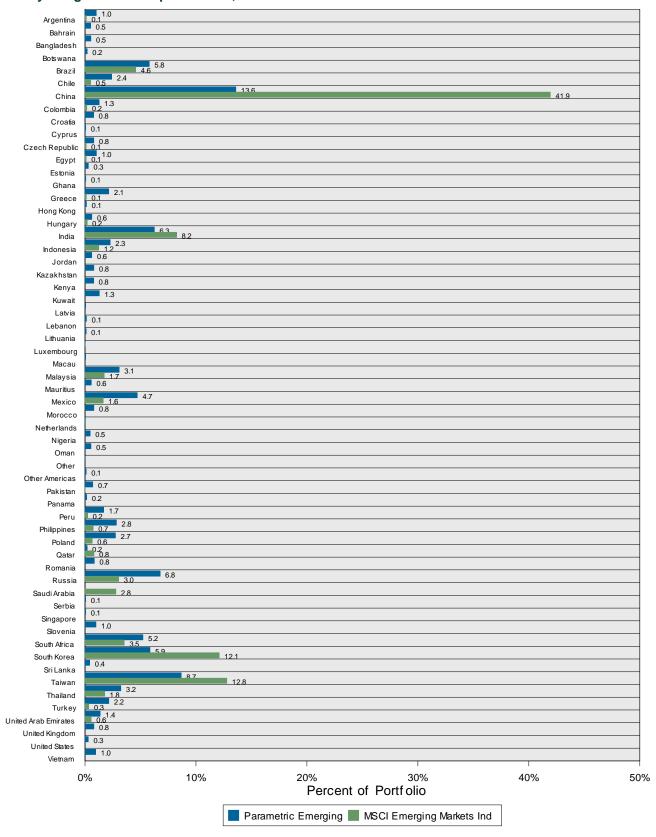
Product AUM - Total for 15 Years Ended September 30, 2020



#### Recommendation

Callan recommends that the Investment Committee keep Parametric on the Watchlist while a search is conducted to evaluate alternative strategies.

#### Country Weights as of September 30, 2020





#### Memorandum

To: MCERA Board of Trustees

From: Jim Callahan, CFA

Anne Heaphy

Date: December 16, 2020

**Subject:** MCERA Watchlist Qualification

Manager: Artisan – International Equity Portfolio
On Watchlist due to: Peer group performance
Placed on Watchlist: Fourth Quarter 2017

Date notified: November 29, 2017

MCERA's Criteria for Investment Manager Termination and Watchlist in the Investment Policy Statement states:

MCERA understands the cyclical nature of investment performance and the potential for its investment managers not to meet objectives over short-term periods. While it is not the Board's intention to terminate a manager for short-term underperformance relative to objectives, the Board has implemented the following process as a means of monitoring and evaluating managers that have experienced performance difficulties in the short-term to assess the impact on longer-term performance.

If a manager trails its relevant benchmark by more than 100 basis points (net of fees) and ranks in the bottom quartile of its peer universe (gross of fees ranking) for the trailing three years, or if a manager trails its relevant benchmark (net of fees) or ranks below median of its peer universe (gross of fees ranking) for the trailing five years, then the manager may be placed on the Watchlist.

If the underperformance of a manager on the Watchlist persists over a reasonable period in the future (as defined by the Staff, Board and Consultant based on the unique circumstances surrounding the manager and current market conditions), the Board may and will consider termination.

The Watchlist provisions have also established a one-year watch period to assess whether a manager should be removed from the Watchlist, have the watch period extended, or be terminated.

Procedures Following the Initiation of Watch Status

The watch period will be established for a one-year total duration. If at the end of the watch period, performance has improved to above-benchmark and/or above the manager median over a market cycle, the manager will be removed from the Watchlist.

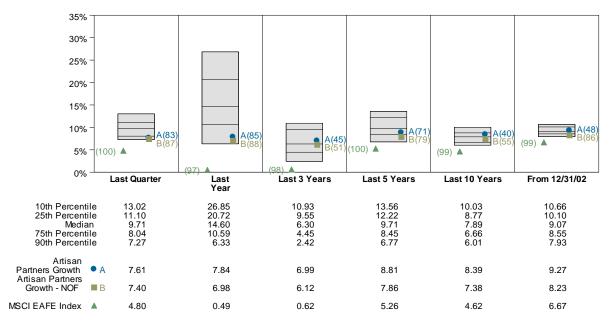
If at the end of the watch period, the manager is underperforming the manager may be terminated or remain on the Watchlist for a period defined by the Investment Committee.

Artisan was notified of its Watchlist status in November 2017. Artisan still qualifies for the Watchlist based on the quantitative criteria. Artisan's five year net of fee returns easily exceeds the benchmark; however the five year gross of fee peer group ranking is below median (71st percentile).

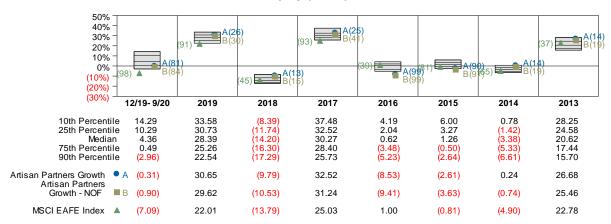
Callan is comfortable with Artisan's International Equity portfolio. Relative performance has been very strong. Artisan employs a bottom-up stock selection process focused on identifying long-term growth opportunities. The team seeks to invest in attractively valued companies that are industry leaders and have meaningful exposure to, and will benefit from, long-term secular growth trends. The team identifies global or regional investment themes and corresponding companies that are likely to benefit from their exposure to above trend growth rates. Current themes include: changing demographics, developing technology, privatization of economic resources, and infrastructure.

The root of Artisan's underperformance that caused the manager to initially qualify for the watchlist can be traced to 2016 when growth stocks were out of favor and energy and materials stocks were the largest contributors. Artisan was not properly positioned for the commodities bounce back after a challenging 2015. Additionally, a number of Artisan's stocks suffered from Brexit and US presidential election-related concerns. Since 2016, Artisan has outperformed the benchmark in 12 of the last 15 guarters.

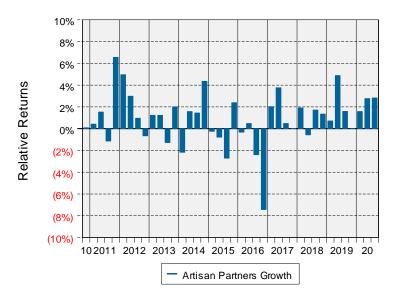
Periods Ending September 30, 2020
Performance vs Callan Non-US Broad Growth Equity (Gross)



#### Performance vs Callan Non-US Broad Growth Equity (Gross)



#### Relative Return vs MSCI EAFE Index



#### Recommendation

Based on the quantitative criteria, Callan recommends that the Investment Committee keep Artisan on the watchlist. Artisan will be re-evaluated in one year unless the Investment Committee determines a different course of action is required before then.



#### Memorandum

To: MCERA Board of Trustees

From: Jim Callahan, CFA

Anne Heaphy

Date: December 16, 2020

**Subject:** MCERA Watchlist Qualification

Manager: Morgan Stanley - International Equity Portfolio

On Watchlist due to: Personnel changes
Placed on Watchlist: Fourth Quarter 2017

Date notified: November 29, 2017

MCERA's Criteria for Investment Manager Termination and Watchlist in the Investment Policy Statement states:

MCERA understands the cyclical nature of investment performance and the potential for its investment managers not to meet objectives over short-term periods. While it is not the Board's intention to terminate a manager for short-term underperformance relative to objectives, the Board has implemented the following process as a means of monitoring and evaluating managers that have experienced performance difficulties in the short-term to assess the impact on longer-term performance.

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The Watchlist provisions have also established a one-year watch period to assess whether a manager should be removed from the Watchlist, have the watch period extended, or be terminated.

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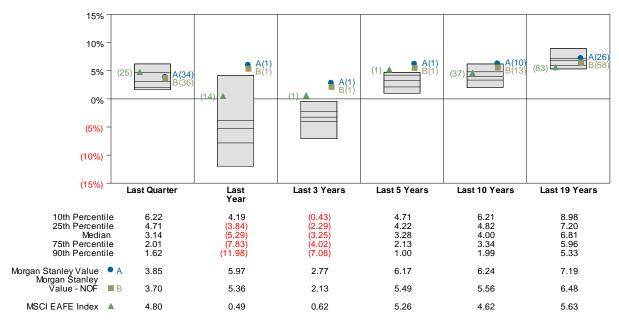
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If at the end of the watch period, the manager is underperforming the manager may be terminated or remain on the Watchlist for a period defined by the Investment Committee.

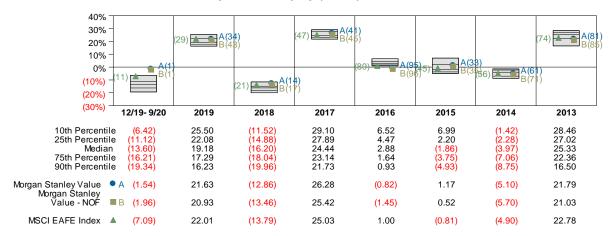
Morgan Stanley was notified of its Watchlist status in November 2017. Morgan Stanley Investment Management's (MSIM) International equity portfolio no longer qualifies for the Watchlist based on the quantitative criteria. However, watchlist status is still warranted due to personnel changes on the team.

Callan is comfortable with MSIM's International Equity portfolio. The MSIM International Equity portfolio is fundamentally based and focused on absolute return through buying superior franchises at the right price. The team is focused on understanding the franchise (dominant market share with effective barriers to entry), financial strength (improving returns on operating capital employed), and management (allocation of capital and compensation). The portfolio has performed very well and has provided very good downside protection this year. There has been a fair amount of turnover on the team in recent years. Although the portfolio's performance and process has remained intact through the changes, it is still worth monitoring MSIM.

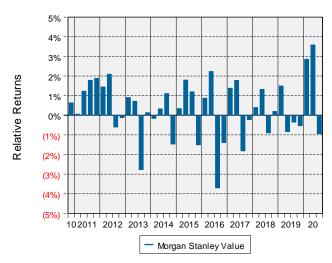
Periods Ending September 30, 2020
Performance vs Callan Non-US Developed Value Equity (Gross)



#### Performance vs Callan Non-US Developed Value Equity (Gross)



#### Relative Return vs MSCI EAFE Index



#### Recommendation

Callan recommends that the Investment Committee keep MSIM on the watchlist given the team changes. MSIM will be re-evaluated in one year unless the Investment Committee determines a different course of action is required before then.





#### Memorandum

To: MCERA Board of Trustees

From: Jim Callahan, CFA

Anne Heaphy

Date: December 16, 2020

**Subject:** MCERA Watchlist Qualification

Manager: Colchester - Global Fixed Income Portfolio

No Longer Qualifies for Watchlist

MCERA's Criteria for Investment Manager Termination and Watchlist in the Investment Policy Statement states:

MCERA understands the cyclical nature of investment performance and the potential for its investment managers not to meet objectives over short-term periods. While it is not the Board's intention to terminate a manager for short-term underperformance relative to objectives, the Board has implemented the following process as a means of monitoring and evaluating managers that have experienced performance difficulties in the short-term to assess the impact on longer-term performance.

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The Watchlist provisions have also established a one-year watch period to assess whether a manager should be removed from the Watchlist, have the watch period extended, or be terminated.

Procedures Following the Initiation of Watch Status

The watch period will be established for a one-year total duration. If at the end of the watch period, performance has improved to above-benchmark and/or above the manager median over a market cycle, the manager will be removed from the Watchlist.

If at the end of the watch period, the manager is underperforming the manager may be terminated or remain on the Watchlist for a period defined by the Investment Committee.

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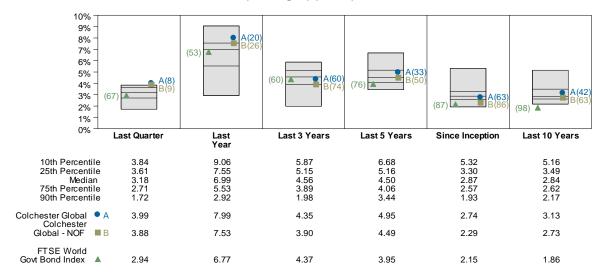
C.5.d

Colchester qualified last year for the Watchlist based on the quantitative criteria. At the time, the trailing trailing five year net of fee return was below the benchmark and their peer group ranking was below median. That has since reversed, and they no longer qualify for the watchlist based on quantitative data.

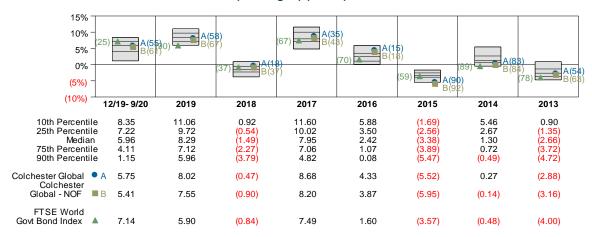
Callan is comfortable with Colchester's global fixed income portfolio. Colchester applies a value driven framework in their evaluation of sovereign bonds and currencies. They invest mainly in high quality sovereign bonds that offer attractive real yields. Similarly on the currency side, Colchester believes currencies are mean reverting and invest in currencies that are most undervalued according to their real exchange rate. About two-thirds of the portfolio's relative return is derived from bond selection and one third from currency management.

Colchester has had two departures in the last two years with MCERA's client service contacts – Mamak Shahbazi in 2019 and Janhavi Kumar this month; however, the investment team remains very stable. We do not believe these departures warrant watchlist status, but we will continue to monitor the firm for any additional departures.

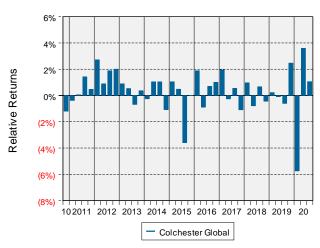
Periods Ending September 30, 2020
Performance vs Callan Global Fixed Income (Unhedged) (Gross)



#### Performance vs Callan Global Fixed Income (Unhedged) (Gross)



#### Relative Returns vs FTSE World Govt Bond Index



#### Recommendation

Callan recommends that the Investment Committee remove Colchester from the Watchlist.

September 30, 2020

Marin County
Employees' Retirement Association

Investment Measurement Service
Quarterly Review

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### Caution Needed— Hard Road Ahead!

**ECONOMY** 

The huge jump in 3Q GDP still leaves it 3.5% below its previous peak (4Q19). Employment remains more than 10 million jobs short of the level reached in the U.S. in February of this year, and many other measures of economic activity remain below pre-pandemic levels.

# Virus Hit All Sectors; Activit REITs Lagged Equities Impac

REAL ESTATE/REAL ASSETS

All sectors experienced negative appreciation in 3Q20, but income rose for every sector except for Hotels. Rent collection held up well for most sectors. All property types will see an impact on vacancy rates due to the pandemic. Most REITs trade at a discount to net asset value.

# **Equity Jump Provided Some Help to Returns**

INSTITUTIONAL INVESTORS

Institutional investors saw more gains in 3Q20 PAGE as equities rebounded, but not enough to overcome lagging global ex-U.S. equity returns, which hindered performance against a 60% equities/40% bonds benchmark. But results over 20 years continue to match the benchmark.

## Activity Muted by Impact of Pandemic

PRIVATE EQUITY

Most private equity activity measures were down in 3Q20 compared to the previous quarter, a pattern that also held for most year-to-date comparisons. A rough averaging across fundraising and private investments and exits indicates a 30% drop in year-over-year activity.

# Continued Gains, but With a Big Asterisk

EQUITY

The S&P 500 rose in 3Q20 and has gained PAGE 5.6% year to date, but would be negative without the big jumps of the major technology firms. Supported by low rates, global equity returns were broadly positive across developed and emerging markets but have been muted YTD.

## Low Returns in U.S.; Muted Gain Globally

FIXED INCOME

U.S. Treasury yields were relatively unchanged, and the Aggregate was roughly flat. Corporate and CMBS were the strongest investment grade sectors as investors hunted for yield. Global fixed income rose amid rate cuts, but U.S. dollar weakness dampened hedged returns.

## Stimulus Hopes, Fed Boost Risky Trades

HEDGE FUNDS/MACs

Representing a portfolio of hedge fund interests without implementation costs, the Credit Suisse Hedge Fund Index rose 3.4% in 3Q20. As a live hedge fund portfolio, net of fees and expenses, the median manager in the Callan Hedge Fund-of-Funds Database Group advanced 3.7%.

# Index's 2Q20 Gain of 15% Largest Ever

DEFINED CONTRIBUTION

The Callan DC Index's rebound comes one quarter after the largest drop since 4Q08. The index also had its largest-ever increase in balances, driven primarily by robust investment returns. TDFs regained their position atop the inflows leaderboard.

## **Broad Market Quarterly Returns**

U.S. Equity Russell 3000



Global ex-U.S. Equity MSCI ACWI ex USA



**U.S. Fixed Income**Bloomberg Barclays Agg



Global ex-U.S. Fixed Income Bloomberg Barclays Gbl ex US



Sources: Bloomberg Barclays, FTSE Russell, MSCI

### Caution—Hard Road Ahead!

#### **ECONOMY** | Jay Kloepfer

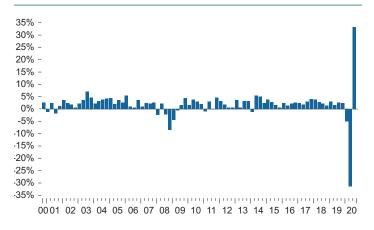
GDP growth came roaring back in 3Q20 as expected, notching a 33.1% gain, following the 31.4% decline in 2Q. The 3Q growth rate set a record by a wide margin (as did the decline), but the interpretation of quarterly GDP growth is problematic when trying to understand the true condition of the U.S. and global economies. GDP is customarily reported as guarterly growth, translated to an annual rate, which helps remove some of the seasonal noise that interferes with evaluating economic activity in normal times. The past nine months have been anything but normal, and annualized quarterly growth rates on either side of a global economic shutdown are perhaps less meaningful than analyzing the level of current and future economic activity relative to that seen before the onset of the pandemic. The huge jump in 3Q still leaves GDP 3.5% below its previous peak (4Q19). Employment remains more than 10 million jobs short of the level reached in the U.S. in February of this year, and many other measures of economic activity such as personal consumption remain below pre-pandemic levels.

The surge in 3Q GDP clearly reflects the gradual reopening of the U.S. and global economies that began back in May. The sharp increases in jobs, spending, and output were concentrated in May, June, and July. Growth in subsequent months has been much more modest. High-frequency tracking of the economy from the likes of GDPNow (from the Federal Reserve) and IHS Markit not only signaled slowing growth in August and September, but these forecasters are now expecting 4Q GDP growth to cycle back down to 5% annualized.

This would bring the level of GDP back close to where we started 2020, but the road forward into 2021 will be challenging. Growth across industry sectors, regions within the U.S., and occupations and income groups has been widely disparate. Technology illustrates the dichotomy. Defined as a combination of the Information Technology and Communication Services sectors, technology has seen lights-out performance in the stock market, up 22% collectively year-to-date through September, and accounts for 39% of the market cap of the S&P 500. Yet

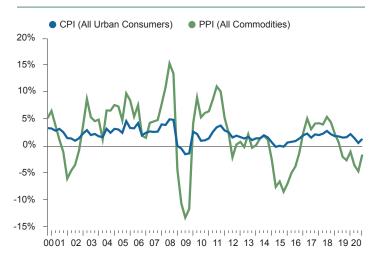
#### **Quarterly Real GDP Growth**

(20 Years)



Source: Bureau of Economic Analysis

#### Inflation Year-Over-Year



Source: Bureau of Labor Statistics

these two sectors account for just 6% of GDP, and only 2% of the U.S. job market as of August. The vast majority of jobs lost during the pandemic were in services (transportation, health care, financial business, and personal) as well as hospitality and retail. These sectors are underrepresented in the stock market, yet they employed a substantial portion of the U.S. workforce as the pandemic struck.

The slowdown in August, September, and into the fourth quarter came in part from a concern by both businesses and consumers about the end to the stimulus payments and to extended unemployment benefits in September. Without another round of stimulus and further extension of jobless aid, growth will likely be restrained as the economy continues to operate under pandemic constraints and the effect from the stimulus earlier in the year wanes. The increase in COVID-19 infection rates both around the U.S. and the world, the so-called third wave, will further burden strained medical systems and increase pandemic-related deaths. The rising tide of infections may force the return of more stringent restrictions at the state level to control the virus, although a sudden stop to economic activity similar to what happened in the spring is unlikely.

Not all the economic news is dour as we head into the fourth quarter. Manufacturers' orders for durable goods have shown considerable strength, and consumer purchases of durable goods have been incredibly robust. Excluding capital goods like defense hardware and civilian aircraft, orders for durable goods have fully recovered to pre-pandemic levels. Trade has surprised on the upside with a narrowing of the trade deficit, even with demand for exports depressed by weakness in the global economy. Another surprising source of strength has been the housing market. Investment in new housing has already reached its pre-pandemic peak, driven by low mortgage rates and newly created demand for improved and larger housing by people leaving the urban cores of many large cities. Underlying demographics such as the aging baby boom and the maturation of families in the next generation suggest this trend is near-term in nature and will likely fade as we see some sort of resolution to the pandemic, perhaps in the second half of 2021.

Government assistance targeted to aid those affected by pandemic-related closures helped greatly to support household

The Long-Term View

		Р	eriods	Ended	9/30/20
Index	3Q20	Year	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	9.2	15.0	13.7	13.5	9.3
S&P 500	8.9	15.1	14.1	13.7	9.3
Russell 2000	4.9	0.4	8.0	9.9	8.0
Global ex-U.S. Equity					
MSCI EAFE	4.8	0.5	5.3	4.6	4.6
MSCI ACWI ex USA	6.3	3.0	6.2	4.0	
MSCI Emerging Markets	9.6	10.5	9.0	2.5	
MSCI ACWI ex USA Small Cap	10.5	7.0	6.8	5.3	5.8
Fixed Income					
Bloomberg Barclays Agg	0.6	7.0	4.2	3.6	5.3
90-Day T-Bill	0.0	1.1	1.2	0.6	2.3
Bloomberg Barclays Long G/C	1.2	12.9	8.8	7.4	7.7
Bloomberg Barclays Gl Agg ex US	4.1	5.5	3.6	1.3	3.9
Real Estate					
NCREIF Property	0.7	2.0	6.3	9.4	9.1
FTSE Nareit Equity	1.4	-18.2	3.9	7.9	9.3
Alternatives					
CS Hedge Fund	3.4	2.4	2.8	3.6	7.3
Cambridge PE*	9.9	7.7	11.4	13.4	14.9
Bloomberg Commodity	9.1	-8.2	-3.1	-6.0	0.9
Gold Spot Price	5.3	28.7	11.2	3.8	6.6
Inflation – CPI-U	1.0	1.4	1.8	1.8	2.1

\*Data for most recent period lags by a quarter. Data as of 6/30/20. Sources: Bloomberg, Bloomberg Barclays, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, Refinitiv/Cambridge, S&P Dow Jones Indices

incomes, spending, and therefore production. While the job market has a long way to go to recover all the jobs lost, the unemployment rate has surprised to the positive, falling from 14.7% in April to 7.9% in September. The thorn in the job market's side has been the number of initial unemployment claims. which remains stubbornly high at 837,000 in September, still far above prior periods of stress. For reference, at the bottom of the GFC in March 2009, initial claims hit 665,000.

#### **Recent Quarterly Economic Indicators**

	3Q20	2Q20	1Q20	4Q19	3Q19	2Q19	1Q19	4Q18
Employment Cost–Total Compensation Growth	2.4%	2.7%	2.8%	2.7%	2.8%	2.7%	2.8%	2.9%
Nonfarm Business–Productivity Growth	4.9%*	10.1%	-0.3%	1.6%	0.3%	2.0%	3.7%	0.8%
GDP Growth	33.1%	-32.9%	-5.0%	2.4%	2.6%	1.5%	2.9%	1.3%
Manufacturing Capacity Utilization	70.3%	63.1%	73.9%	75.0%	75.4%	75.5%	76.4%	77.0%
Consumer Sentiment Index (1966=100)	75.6	74.0	96.4	97.2	93.8	98.4	94.5	98.2

<sup>\*</sup> Estimate

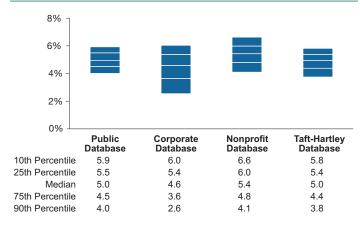
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

## **Equity Gains Provided Some Help to 3Q Returns**

#### **INSTITUTIONAL INVESTORS**

- The continuing equity rebound helped boost institutional investors' returns over the 12 months ending Sept. 30, especially compared to the negative results at the end of 1Q20. Corporate plans performed the best, possibly driven by higher bond allocations given the performance of the Bloomberg Barclays US Aggregate Bond Index. Taft-Hartley plans trailed their peers.
- But the exceptionally strong gains in U.S. equity did not provide a big-enough short-term boost to investor returns to help them match a 60% S&P 500/40% Aggregate benchmark during 3Q20, held down by lagging results for global ex-U.S. equities.
- Over shorter time periods ranging up to 10 years, all investor types lagged the 60%/40% benchmark, but over a 20-year time period, all types posted returns roughly in line with that benchmark.
- Institutional investors continued to increase allocations to alternative asset classes, while interest in increasing exposure to equities or fixed income was minimal.

#### **Quarterly Returns, Callan Database Groups**



Source: Callan

- Amid the pandemic, investors are shifting their focus from "What happened?" to "What should we do now?"
- Their liquidity needs have eased, but they are still top of mind.

#### Callan Database Median and Index Returns\* for Periods Ended 9/30/20

Database Group	Quarter	Year-to-date	Year	3 Years	5 Years	10 Years
Public Database	5.0	2.2	7.5	6.2	8.1	7.7
Corporate Database	4.6	4.9	9.5	7.5	8.9	8.2
Nonprofit Database	5.4	1.5	7.3	5.9	8.0	7.5
Taft-Hartley Database	5.0	1.6	7.1	6.4	8.2	8.1
All Institutional Investors	5.0	2.4	7.8	6.4	8.2	7.9
Large (>\$1 billion)	4.9	2.8	8.0	6.8	8.3	8.1
Medium (\$100mm - \$1bn)	5.0	2.4	7.9	6.5	8.3	8.0
Small (<\$100 million)	5.2	2.1	7.6	6.1	8.0	7.6

<sup>\*</sup>Returns less than one year are not annualized.

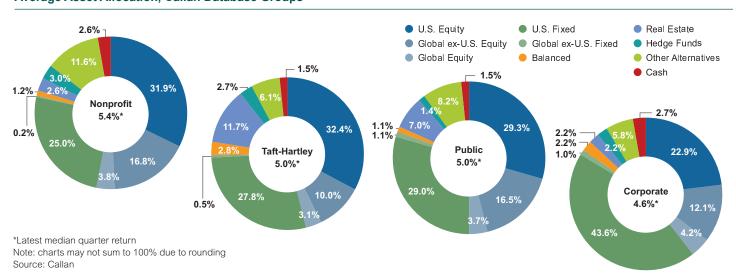
Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

#### INSTITUTIONAL INVESTORS (Continued)

- Investors across the board are reevaluating the purpose and the future of all asset classes:
  - Fixed income
  - Public equity
  - Hedge funds and liquid alternatives
  - Private equity, private credit, and the notion of private capital
- Asset class structures are the focus of many investors.
- It has been business as usual for many investors in the face of political, economic, and public health upheaval; this is a rational response when so much is uncertain.
- Many institutional investors are examining active vs. passive, value, and alternatives to cap-weighted passive allocations for their global equity structure.
- Opportunistic allocations are making a return as investors eye tactical investments.
- Both corporate and public defined benefit (DB) plans have prioritized funding status.
- DB plans also indicated they planned to reduce their passive exposure, a shift from previous quarters.
- More corporate DB plans are putting their liability-driven investing (LDI) plans on hold, and there was a reduction in LDI interest for corporate DB plans amid concerns about the impact of a continued low-rate environment.
- Public DB plans continued to focus beyond the traditional

- asset classes.
- They are also exploring alternatives to cap-weighted passive exposures to combat the concentration risk in U.S. equity.
- Some have also re-introduced opportunistic buckets—with a zero target, up to 5% allocation—to fund opportunities as they arise.
- Fees continue to be the top issue for DC plan sponsors. But they have expressed growing interest in investment structures and reducing the number of options in the plan.
- DC litigation has not slowed down during the pandemic.
- Recordkeeper consolidation activity picked up in 3Q20 with notable announcements from two key providers.
- Nonprofits showed growing interest in private real estate. But their appetite for ESG investing significantly declined, although there was a notable rise in the share of clients hiring staff specifically for ESG.
- More nonprofits expressed interest in private real estate.
- Callan's strategic asset allocation work with endowments and community foundations is focused on evaluating investment portfolios that can support the desired distribution rate in order to balance intergenerational equity. Subdued expectations for capital markets returns are challenging both the risk tolerance of the organization and the sustainability of established spending rates.

#### **Average Asset Allocation, Callan Database Groups**



## **Equity**

#### **U.S. Equities**

#### **Gains YTD**

- S&P +8.9% for the quarter, bringing YTD to +5.6%
- Consumer Discretionary (+15%) and Industrials (+13%) dominated, with Tech (+12%) a close third in risk-on market.
- S&P 500 YTD would be negative if not for Facebook, Microsoft, Amazon, Alphabet, and Apple, representing 33% of the return.
- YTD, pandemic punished some sectors, rewarded others
- Tech +29% YTD; Cons. Disc. +23% (online retailers +60%)
- Energy -48% amid declining crude and natural gas prices
- Demand from hotels/cruise lines/airlines down as those industries have dropped 40%+

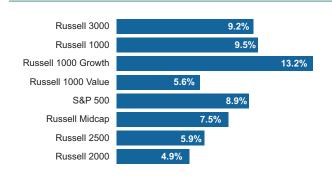
#### Small cap reverses to trail large cap

- Following a stellar 2Q20 recovery, small cap trailed large.
- Behind large cap by a wide margin over last 12 months

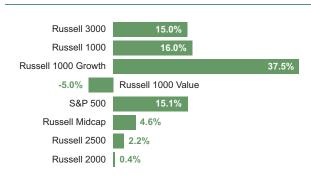
#### Growth continues to outpace value across market caps

- Growth, value dispersion near all-time high driven by Tech
- YTD RUS1G +25% vs. RUS1V -12%
- Growth stock P/E near 2x historical average across market caps
- Today's index concentration surpasses levels seen in the late 90's Dot-Com boom.
- Index concentration of the top five names is at 5 standard deviations above the 30-year average of approximately 13%.
- Large and small value indices continue to underperform large and small growth in 3Q20 and YTD.

#### **U.S. Equity: Quarterly Returns**



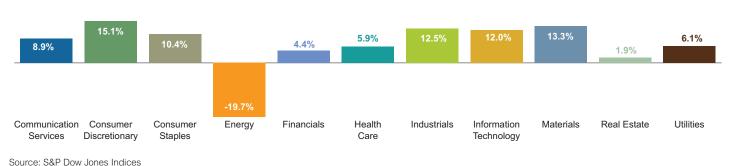
#### **U.S. Equity: One-Year Returns**



Sources: FTSE Russell and S&P Dow Jones Indices

- Higher interest rates, a steeper yield curve, economic growth, and improving consumer confidence are among the catalysts that could result in value outperforming.
- S&P 500 Index currently delivers a dividend yield well above the 10-year Treasury, which can help support current valuation levels.

#### **Quarterly Performance of Industry Sectors**



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#### **EQUITY** (Continued)

#### Global/Global ex-U.S. Equity

#### Continued recovery into 3Q20

- Returns broadly positive across developed and emerging markets but muted YTD
- Recent support from ultra-low interest rates and upward earnings revisions
- EM recovery driven by global risk-on environment; key countries within EM (China and South Korea) have better managed the pandemic
- Small cap continued to outperform large as lockdowns eased and business confidence improved.

#### Rebound for cyclicals

- Materials, Industrials, and Consumer Discretionary outperformed as consumption and production resumed.
- Factor performance led by momentum (rebound) and volatility (risk-on market mentality)

#### U.S. dollar vs. other currencies

 U.S. dollar lost ground versus every developed market currency on expectation of lower-for-longer U.S. rates due to Fed's shift in approach toward inflation and employment.

#### COVID-19 exacerbated outperformance of growth vs. value

- Growth outpaced value by 34% year-to-date as of Sept. 30.
- Extremely narrow market with performance dominated by Tech
- Growth benefited from strong performance by Information Technology (27%), while Financials (-22%) and Energy (-46%) weighed on value.
- YTD performance gap between growth and value has not been seen over the past 45 years.

#### What may stoke value rotation?

- Higher bond yields may be needed to drive value rebound.
- Bond yields correlated to value/growth since the GFC

#### Key drivers: global recovery, U.S. elections

- Management of COVID-19 a key variable to recovery
- Advanced economies have struggled to contain the pandemic relative to emerging markets.

Asian currencies have maintained resiliency relative to the U.S. dollar due to better COVID-19 management and economic outlook.

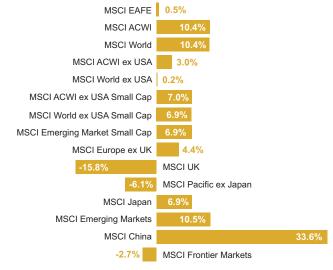
#### Global ex-U.S. Equity: Quarterly Returns

(U.S. Dollar)



#### Global ex-U.S. Equity: One-Year Returns

(U.S. Dollar)



Source: MSCI

### **Fixed Income**

#### U.S. Fixed Income

#### Treasury yields largely unchanged

- 10-year UST yield at 0.69% in 3Q20, up 3 bps from 2Q20 but off sharply from year-end level of 1.92%
- TIPS did well as inflation expectations rose from 1.34% to 1.63%.
- No rate hikes expected until at least 2023

#### **Bloomberg Barclays Aggregate roughly flat**

- Corporate and CMBS the strongest investment grade sectors as investors hunted for yield
- Corporate supply (\$1 trillion YTD) at a record as companies rushed to take advantage of ultra-low interest rates

#### Risk-on sentiment helped high yield and loans

- Non-investment grade sectors rallied, but remained roughly flat YTD.
- The high yield bond market also experienced high levels of net new issuance (over \$120 billion YTD).

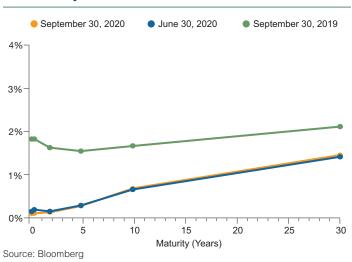
#### Munis boosted by favorable supply/demand dynamics

- Robust demand and muted supply of tax-exempt municipals
- Issuance in taxable municipals sharply higher
- Tax revenues better than expected, but challenges remain and stimulus uncertain (but needed)

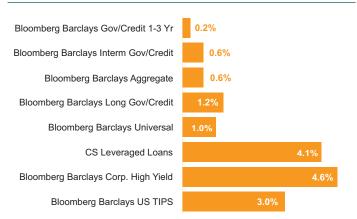
#### High yield trended higher in quality

- BB/Ba-rated debt, the highest-quality category within high yield, experienced a surge of new issuance as 2020 remains a year of record new issuance across corporate debt.
- Reconstitution of downgraded investment grade debt into high yield has also added to the category.
- BBs now represent over half of the Bloomberg Barclays US High Yield Index.
- Historically, composition changes have generated market inefficiencies that managers can seek to exploit.

#### **U.S. Treasury Yield Curves**

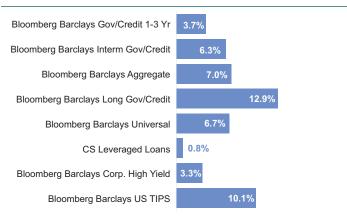


#### **U.S. Fixed Income: Quarterly Returns**



Sources: Bloomberg Barclays and Credit Suisse

#### U.S. Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and Credit Suisse

#### FIXED INCOME (Continued)

#### Default rate has trended higher, but below GFC levels

Additionally, spreads at the height of COVID-19 implied a 16.8% default rate, but thus far defaults have been well below market expectations at 5.8%.

#### High yield spreads have rallied; managers are putting a greater focus on security selection

- Recovery rates remain low relative to the 30-year average, concentrated within pandemic-sensitive sectors (particularly retail and energy) and subordinated debt.
- The ratio of downgrades to upgrades is higher than in 2008.

#### **Global Fixed Income**

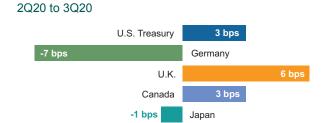
#### Rate cuts spur gains

- Central banks continued to act aggressively to provide support via rate cuts, asset purchase programs, and other forms of stimulus.
- Broad-based U.S. dollar weakness dampened hedged returns as the USD lost 4% versus the euro and the British pound, and 2% versus the ven.
- Over 70% of global sovereign debt has negative real yields, a record high, according to JP Morgan.

#### Emerging market debt made up ground

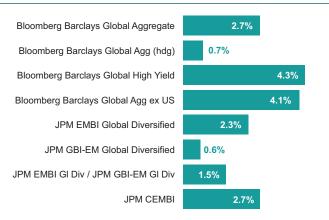
- Emerging market debt indices gained in 3Q20 but remain down from year-end.
- U.S. dollar-denominated index (EMBI Global Diversified) outperformed local currency as U.S. rates fell; returns were mixed across the 70+ constituents, but most were positive.
- Local currency index (GBI-EM Global Diversified) was up slightly but returns varied widely among constituents (Russia: -8%; Brazil: -3%; Mexico and S. Africa: +6%).
- Staggered inclusion of China bonds continued with the weight rising to 7% in the JPM GBI-EM Global Diversified Index.

#### Change in 10-Year Global Government Bond Yields



Source: Bloomberg Barclays

#### **Global Fixed Income: Quarterly Returns**



Sources: Bloomberg Barclays and JPMorgan Chase

#### Global Fixed Income: One-Year Returns



Sources: Bloomberg Barclays and JPMorgan Chase

## Pandemic Hit All Sectors; REITs Gained but Trailed Equities

#### REAL ESTATE/REAL ASSETS | Munir Iman

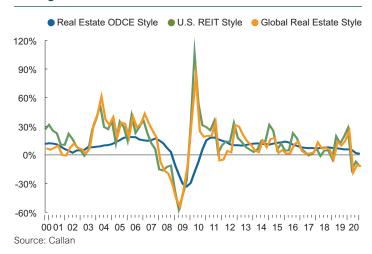
#### All sectors saw negative appreciation

- Pandemic's impact reflected in 3Q20 results
- Income remained positive except in Hotel sector.
- All sectors experienced negative appreciation; Industrial remained the best performer.
- Dispersion of returns by manager within the ODCE Index due to both composition of underlying portfolios and valuation methodologies/approach
- Negative appreciation returns expected for 4Q and beyond

#### U.S. real estate fundamentals

- Vacancy rates for all property types are or will be impacted.
- Net operating income has declined as retail continues to suffer.

#### **Rolling One-Year Returns**



#### Sector Quarterly Returns by Property Type and Region



- 3Q rent collections showed relatively stable income throughout the quarter in the Industrial, Apartment, and Office sectors. The Retail sector remained challenged, with regional malls impacted most heavily.
- Class A/B urban apartments relatively strong, followed by certain types of Industrial and Office
- New construction will be basically halted in future quarters except for pre-leased properties.
- Transaction volume dropped off during the quarter with the exception of industrial assets with strong-credit tenants trading at pre-COVID-19 levels.
- Cap rates remained steady during the quarter. The spread between cap rates and 10-year Treasuries is relatively high, leading some market participants to speculate that cap rates will not adjust much. Price discovery is happening and there are limited transactions.

#### Global REITs rose but lagged the equity market recovery

- Global REITs underperformed in 3Q20, gaining 2.1% compared to 7.9% for global equities (MSCI World).
- U.S. REITs rose 1.4% in 3Q20, lagging the S&P 500 Index, which jumped 8.9%.
- Globally, REITs except in the U.S. and Singapore are trading at a discount to net asset value. In some regions the discount is at a five-year high.
- Property sectors are mixed, between trading at a discount or premium.

#### Real estate investment opportunities

- Primary opportunity: purchase of mispriced publicly traded real estate, both equity and debt
- Emerging opportunity: purchase of mezzanine loans from forced sellers
- Industrial development can be implemented by well-capitalized owners that do not need a construction loan.
- Low LTV loans on core properties
- Distress, take-privates, rescue capital, recapitalizations, value add re-leasing strategies, and lending strategies will move into the opportunity set for investment as the pandemic

#### REAL ESTATE/REAL ASSETS (Continued)

- and social distancing continue and operating income is squeezed by tenants not paying rent.
- If core open end real estate funds are on the sidelines due to redemption queues, there may be more opportunities to buy core assets with less competition or to buy assets from the funds themselves.
- Industrial has been the one bright spot, as e-commerce take up has accelerated.

#### Infrastructure opportunities

- Strong performance from communications assets has drawn interest from infrastructure investors across the sector, and in some cases real estate investors for data centers.
- Pandemic could accelerate the purchase of assets or formation of PPPs from cash-strapped governments/municipalities

- Potential purchase of mispriced publicly traded infrastructure
- Some sellers looking to secure strong pricing for stable assets with steady cash flows
- Opportunity for purchase of assets from over-leveraged buyers and/or with GDP-linked revenue

#### Timberland and farmland opportunities

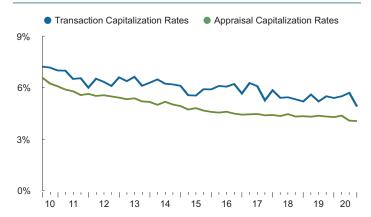
- Investment in farmland may increase if it proves to be a true diversifier in the pandemic.
- Volatility in commodity prices and changing supply chains may provide buying opportunities from overleveraged farmers and those who cannot shift crops away from restaurant/institutional use to grocery stores and suppliers to individual consumers.
- Institutional investment in timber has been waning for several years. The pandemic is unlikely to turn that tide.

#### **NCREIF Capitalization Rates by Property Type**



Source: NCREIF. Capitalization rates (net operating income / current market value (or sale price)) are appraisal-based.

#### **NCREIF Transaction and Appraisal Capitalization Rates**



Source: NCREIF

Note: Transaction capitalization rate is equal weighted.

#### Callan Database Median and Index Returns\* for Periods Ended 9/30/20

Private Real Assets	Quarter	Year to Date	Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	0.3	-0.4	1.2	4.6	6.3	9.4	5.7
NFI-ODCE (value wt net)	0.3	-0.7	0.5	4.2	5.7	9.3	5.7
NCREIF Property	0.7	0.4	2.0	5.1	6.3	9.4	7.4
NCREIF Farmland	0.6	1.1	2.1	4.7	5.8	10.7	12.7
NCREIF Timberland	0.0	0.2	0.2	2.1	2.6	4.4	6.1
Public Real Estate							
Global Real Estate Style	3.1	-13.9	-11.8	2.6	4.4	6.9	5.3
FTSE EPRA Nareit Developed	2.1	-19.7	-18.3	-1.5	2.0	4.7	
Global ex-U.S. Real Estate Style	5.5	-12.0	-6.7	3.6	4.8	6.6	5.5
FTSE EPRA Nareit Dev ex US	3.9	-18.5	-13.9	-0.6	2.5	3.7	
U.S. REIT Style	1.8	-12.3	-12.0	3.4	5.8	9.2	7.0
EPRA Nareit Equity REITs	1.4	-17.5	-18.2	0.2	3.9	7.9	5.9

\*Returns less than one year are not annualized.

Sources: Callan, FTSE Russell, NCREIF

## **Pandemic's Impact Muted**

#### PRIVATE EQUITY | Gary Robertson

Private equity activity measures were generally down in 3Q20, although the IPO market for both venture capital and buyouts showed large increases. So far this year, venture capital has been less affected by the pandemic than buyouts. While capital markets seemed to stabilize in the quarter, pricing private transactions based on future earnings power remains challenging.

Private equity partnerships holding final closes totaled \$107 billion, with 224 new partnerships formed, according to PitchBook. The dollar volume fell 36% from 2Q20, and the number of funds holding final closes fell 12%. So far this year, 2020 is running 7% behind 2019. Energy and mezzanine have fallen out of favor with investors, but other strategies are in line with historical market share.

The number of new buyout transactions increased but transactions were smaller, according to PitchBook. Funds closed 1,500 company investments with \$65 billion in disclosed deal value, a 31% increase in count but a 32% drop in dollar value from 2Q20.

According to PitchBook, new financing rounds in venture capital companies totaled 6,234, with \$76 billion of announced value. The number of investments was down 13% from the prior guarter, and announced value rose 7%. The median pre-money valuations of Series A through D rounds continued to increase, with only seed stage remaining flat.

#### Funds Closed 1/1/20 to 9/30/20

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	409	81,381	19%
Growth Equity	69	42,029	10%
Buyouts	195	196,737	45%
Mezzanine Debt	9	7,501	2%
Distressed	18	22,924	5%
Energy	4	6,216	1%
Secondary and Other	57	59,609	14%
Fund-of-Funds	44	20,612	5%
Totals	805	437,009	100%

Source: PitchBook (Figures may not total due to rounding.)

There were 294 private M&A exits of private equity-backed companies (excluding venture capital), PitchBook reports, with disclosed values totaling \$37 billion. Exits were up 12% from the prior guarter but announced dollar volume plunged 70%. The year-to-date exit count declined 41%. There were 40 privateequity backed IPOs in 3Q raising \$6 billion, a steep jump from 17 totaling \$12 billion previously.

Venture-backed M&A exits totaled 336 transactions with disclosed value of \$15 billion. The number of sales increased 3% and announced dollar volume slid 35%. The year-to-date exit count declined 24%. There were 122 VC-backed IPOs with a combined float of \$15 billion. For comparison, 2Q had 326 IPOs and total issuance of \$23 billion.

Private Equity Performance (%) (Pooled Horizon IRRs through 6/30/20\*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	11.51	14.97	17.99	12.08	15.98	11.88	5.95	27.61
Growth Equity	12.85	13.08	16.42	13.12	14.11	13.10	10.94	14.66
All Buyouts	9.25	5.77	11.38	11.79	14.17	12.29	11.36	12.95
Mezzanine	2.99	2.91	8.50	8.85	10.79	10.03	7.87	9.50
Credit Opportunities	5.61	-5.64	2.35	4.30	8.65	8.50	9.30	9.41
Control Distressed	9.49	-1.35	3.85	6.29	10.15	9.39	9.96	10.43
All Private Equity	10.02	7.82	12.53	11.28	13.82	11.90	9.68	13.94
S&P 500	20.54	7.51	10.73	10.73	13.99	8.83	5.91	9.27
Russell 3000	22.03	6.67	10.19	9.96	14.57	9.36	8.00	9.10

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and S&P Dow Jones Indices \*Most recent data available at time of publication

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of Capital Markets Review and other Callan publications.

## **Stimulus Hopes Boosted Risky Bets**

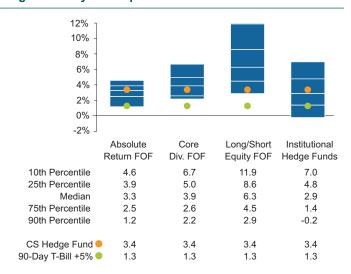
#### HEDGE FUNDS/MACs | Jim McKee

Hope may not be a strategy, but it elevated risk appetites in 3Q20. Active bets of hedge funds proved mostly positive amid the backdrop of rebounding equity and credit markets, continued low rates, and the potential for additional government stimulus payments.

Representing a paper portfolio of hedge fund interests without implementation costs, the Credit Suisse Hedge Fund Index (CS HFI) rose 3.4% in 3Q20. As a live hedge fund portfolio, net of fees and expenses, the median manager in the Callan Hedge Fund-of-Funds Peer Group advanced 3.7%.

Representing 50 large, broadly diversified hedge funds with low-beta exposure to equity markets, the average manager in the Callan Institutional Hedge Fund (CIHF) Peer Group added 3.1%. The average CIHF fund focused on Hedged Equity grew 4.1%, benefiting from continued stock and sector

#### **Hedge Fund Style Group Returns**



Sources: Callan, Credit Suisse, Federal Reserve

#### Callan Peer Group Median and Index Returns\* for Periods Ended 9/30/20

Hedge Fund Universe	Quarter	Year to Date	Year	3 Years	5 Years	10 Years
Callan Institutional Hedge Fund Peer Group	2.9	1.6	4.4	3.9	4.7	5.6
Callan Fund-of-Funds Peer Group	3.7	2.4	5.1	3.5	3.8	4.2
Callan Absolute Return FOF Style	3.3	1.1	2.0	3.1	2.8	3.6
Callan Core Diversified FOF Style	3.9	2.1	5.0	3.5	3.8	4.1
Callan Long/Short Equity FOF Style	6.3	6.6	10.1	5.0	5.0	5.5
BB GS Cross Asset Risk Premia 6% Vol Idx	-0.7	-5.5	-6.8	2.5	2.8	5.0
Credit Suisse Hedge Fund	3.4	0.0	2.4	2.7	2.8	3.6
CS Convertible Arbitrage	5.6	5.8	9.4	4.1	4.5	4.0
CS Distressed	0.9	-4.9	-3.7	-1.2	1.3	3.2
CS Emerging Markets	4.9	6.3	14.6	3.9	6.3	4.5
CS Equity Market Neutral	3.1	1.0	2.0	-0.4	0.2	1.6
CS Event-Driven Multi	6.1	-3.5	-0.9	1.2	1.3	2.1
CS Fixed Income Arb	3.6	0.3	2.6	3.2	3.6	4.5
CS Global Macro	4.6	0.5	1.3	4.1	3.4	3.9
CS Long/Short Equity	2.8	0.2	5.3	3.5	3.6	4.9
CS Managed Futures	-1.0	-3.8	-6.3	1.4	-1.4	0.5
CS Multi-Strategy	3.4	0.5	1.8	2.3	3.6	5.6
CS Risk Arbitrage	4.0	4.2	6.3	3.1	4.3	2.7
HFRI Asset Wtd Composite	2.5	-4.4	-2.2	1.4	2.4	3.4
90-Day T-Bill + 5%	1.3	4.4	6.1	6.7	6.2	5.6

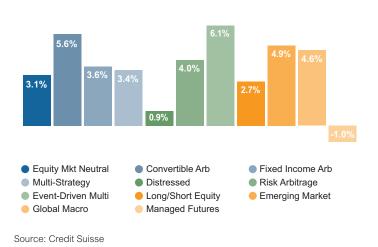
\*Net of fees. Sources: Bloomberg Barclays GSAM, Callan, Credit Suisse, Hedge Fund Research

dispersion. Those more exposed to Hedged Credit strategies advanced 3.1% on average but were still suffering a 2.4% year-to-date loss, as the recovery of illiquid credit lagged more liquid markets.

Within the Callan Hedge Fund-of-Funds Group, market exposures notably affected performance in 3Q. Benefiting from beta tailwinds, the median Callan Long/Short Equity FOF (+6.3%) easily beat the Callan Absolute Return FOF (+3.3%). which typically have exposures to less liquid risk premia like credit. With fuller exposure to both non-directional and directional styles, the Core Diversified FOF gained 3.9%.

Within CS HFI, the best-performing strategy last guarter was Event-Driven Multi-Strategy (+6.1%), which tends to benefit more in risk-on environments with soft equity catalysts. Another strong strategy was Convertible Arbitrage (+5.6%), as it benefited from unusually strong issuance with discounted pricing. Although the big interest in risk assets helped, Distressed clawed ahead only 0.9% with its deep value assets mired in COVID-stricken parts of the economy. Without any meaningful asset class trends to track, Managed Futures (-1.0%) was the only CS HFI strategy that lost value.

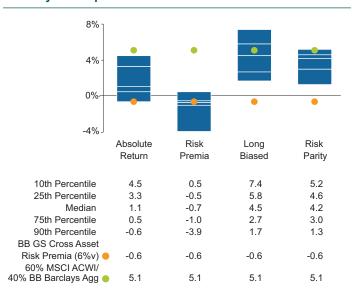
#### Credit Suisse Hedge Fund Strategy Returns



Measuring the performance of systematic risk premia in 3Q, the Bloomberg GSAM Risk Premia Index (RPI) lost 0.6% based upon a 6% volatility target. Among the Index's unlevered components of risk premia, the biggest detractor was U.S. Equity Value L/S (-6.5%), which has now fallen 22.8% YTD. Another big detractor within the RPI was Currency Carry (-2.4%). As the risk premia that often complements the performance of value, U.S. Equity Momentum L/S gained 3.2%.

Within Callan's database of liquid alternative solutions, the median managers of Callan Multi-Asset Class (MAC) Style Groups generated mixed results, gross of fees, consistent with their underlying risk exposures. For example, the median Callan Risk Premia MAC fell 0.7% based on its exposures to alternative betas (such as those in the Bloomberg GSAM index noted above) targeting 5% to 15% portfolio volatility. Typically targeting equal risk-weighted allocations to major asset classes with leverage, the Callan Risk Parity MAC (+4.2%) trailed the traditional unlevered benchmark of 60% MSCI ACWI and 40% Bloomberg Barclays US Aggregate Bond Index (+5.1%) that was less impacted by a stalled bond market. Though usually long equity bias within its dynamic asset allocation mandate, the Callan Long-Biased MAC (+4.5%) similarly underperformed the 60%/40% index.

#### **MAC Style Group Returns**



Sources: Bloomberg Barclays, Callan, Eurekahedge, S&P Dow Jones Indices

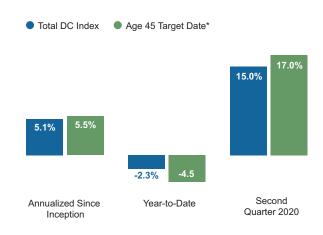
# Index's 2Q20 Gain of 15% Is Its Largest Ever

#### **DEFINED CONTRIBUTION | Patrick Wisdom**

- The Callan DC Index™ jumped 15.0% in 2Q20, its largest gain since inception. It was also a sharp reversal from its 15.0% plunge in the first quarter, which was the largest drop since 4Q08. The Age 45 Target Date Fund (analogous to the 2040 vintage) posted a larger second-quarter gain (17.0%), attributable to its higher allocation to equity, which outperformed fixed income during the quarter.
- The Index also recorded its largest-ever increase in balances during 2Q (15.1%), a quarter after experiencing its biggest-ever quarterly drop. The quarter's robust investment returns were the primary driver.
- After an unusual first quarter in which target date funds (TDFs) received only 1.9% of net inflows, TDFs reclaimed their usual spot atop the inflow leaderboard with quarterly net flows of 41.4%.
- Brokerage windows (7.2%) saw their second consecutive quarter of inflows. On the other hand, U.S. small/mid cap equity (-28.3%) had the largest percentage of outflows.
- Second-quarter turnover (i.e., net transfer activity levels within DC plans) returned to a more typical level, decreasing to 0.37% from the previous guarter's measure of 0.96%.
- The Index's overall allocation to equity increased to 68.4% after dipping to 66.0% in the previous guarter, the smallest since 2012.
- The percentage of assets allocated to U.S. large cap increased by more than 1.6 percentage points, bringing the overall allocation to 25.4%. U.S. small/mid cap (7.7%) saw the next largest increase from the previous quarter.
- Stable value (10.2%) had the largest decrease in allocation after having the largest gain during the previous quarter.
- The prevalence of a money market offering (47.7%) increased by nearly 4 percentage points from the previous quarter and sits at its highest mark since 3Q17.

The Callan DC Index is an equally weighted index tracking the cash flows and performance of over 100 plans, representing nearly \$300 billion in assets. The Index is updated quarterly and is available on Callan's website.

#### **Investment Performance**



#### **Growth Sources**



# Net Cash Flow Analysis (2Q20)

(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	41.40%
U.S. Fixed Income	31.91%
U.S. Large Cap	-21.06%
U.S. Smid Cap	-28.29%
Total Turnover**	0.37%

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

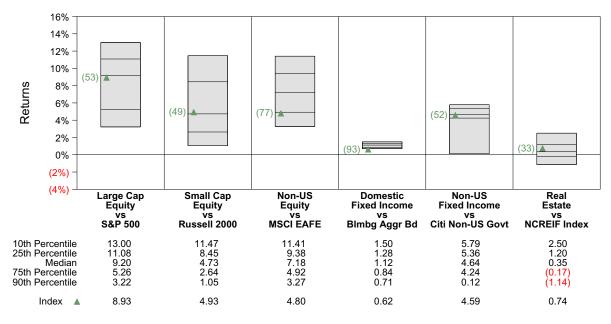
- The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.
- \*\* Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

# Market Overview Active Management vs Index Returns

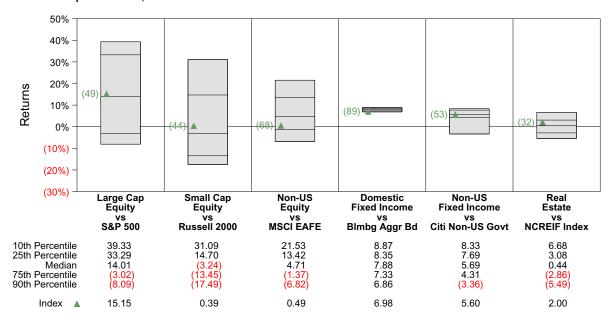
#### **Market Overview**

The charts below illustrate the range of returns across managers in Callan's Separate Account database over the most recent one quarter and one year time periods. The database is broken down by asset class to illustrate the difference in returns across those asset classes. An appropriate index is also shown for each asset class for comparison purposes. As an example, the first bar in the upper chart illustrates the range of returns for domestic equity managers over the last quarter. The triangle represents the S&P 500 return. The number next to the triangle represents the ranking of the S&P 500 in the Large Cap Equity manager database.

#### Range of Separate Account Manager Returns by Asset Class One Quarter Ended September 30, 2020



#### Range of Separate Account Manager Returns by Asset Class One Year Ended September 30, 2020





# **Investment Manager Asset Allocation**

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2020, with the distribution as of June 30, 2020. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

#### **Asset Distribution Across Investment Managers**

	September 3	0, 2020			June 30, 2	:020
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Domestic Equity	\$791,623,696	29.15%	\$(41,948,101)	\$58,349,146	\$775,222,651	29.67%
SSGA S&P 500 Index Fund	589,402,166	21.70%	(2,492,033)	48,482,998	543,411,201	20.79%
DFA Small Cap Core	216,076,142	7.96%	(734,837)	7,530,932	209,280,047	8.01%
Parametric Domestic Equity Futures	-13,854,612	(0.51%)	(38,721,230)	2,335,216	22,531,402	0.86%
International Equity	\$584,453,106	21.52%	\$(49,694,162)	\$38,218,048	\$595,929,220	22.80%
Morgan Stanley Value	174,195,468	6.41%	0	6,463,554	167,731,914	6.42%
Artisan Partners Growth	194,234,277	7.15%	0	13,378,381	180,855,895	6.92%
TimesSquare Intl Small Cap	109,578,571	4.03%	(225,671)	9,409,626	100,394,617	3.84%
Parametric Emerging Markets	93,540,463	3.44%	0	4,125,907	89,414,557	3.42%
Parametric International Equity Futures	12,904,327	0.48%	(49,468,491)	4,840,580	57,532,238	2.20%
Fixed Income	\$628,571,460	23.14%	\$74,476,622	\$11,436,022	\$542,658,816	20.77%
Wellington Core Plus	269,895,773	9.94%	(1,724,139)	3,431,135	268,188,777	10.26%
Western Intermediate Credit	148,853,109	5.48%	(1,151,600)	2,238,151	147,766,558	5.65%
Colchester Global	146,467,639	5.39%	(154,535)	5,630,969	140,991,205	5.40%
Parametric Fixed Income Futures	63,354,939	2.33%	77,506,896	135,767	-14,287,724	(0.55%)
Real Estate	\$241,262,577	8.88%	\$814,111	\$170,056	\$240,278,410	9.19%
Woodmont	18,821,592	0.69%	1,426,515	(1)	17,395,078	0.67%
UBS Trumbull Property Fund	118,312,747	4.36%	(186,788)	(217,528)	118,717,063	4.54%
AEW Core Property Trust	104,117,349	3.83%	(425,617)	387,140	104,155,826	3.99%
AEW Partners V, LP **	10,888	0.00%	Ó	445	10,443	0.00%
Public Real Assets	\$169,303,903	6.23%	\$(72,870)	\$11,660,395	\$157,716,379	6.04%
INVESCO Commodities Fund	42,215,278	1.55%	(72,870)	3,891,165	38,396,983	1.47%
BlackRock TIPS Index Fund	42,169,938	1.55%	Ó	1,266,665	40,903,273	1.57%
KBI Global Resources Fund	49,777,416	1.83%	0	6,208,872	43,568,544	1.67%
Blackrock REIT Index Fund	35,141,271	1.29%	0	293,692	34,847,579	1.33%
Private Equity*	\$300,627,670	11.07%	\$(795,841)	\$0	\$301,423,511	11.53%
Abbott ACE VI*	56,938,370	2.10%	(3,112,931)	0	60,051,301	2.30%
Abbott ACE VII*	39,702,873	1.46%	(435,000)	0	40,137,873	1.54%
Abbott 2016*	37,842,893	1.39%	825,000	0	37,017,893	1.42%
Abbott 2017*	8,448,517	0.31%	697,500	0	7,751,017	0.30%
Pathway PPEF 2008*	62,869,865	2.31%	(522,637)	(0)	63,392,502	2.43%
Pathway PE I-7*	38,451,249	1.42%	(158,122)	(0)	38,609,371	1.48%
Pathway PE I-8*	48,776,277	1.80%	1,568,605	Ò	47,207,672	1.81%
Pathway PE I-9*	7,597,626	0.28%	341,744	(0)	7,255,882	0.28%
Total Fund	\$2,715,842,412	100.0%	\$(17,220,241)	\$119,833,667	\$2,613,228,986	100.0%

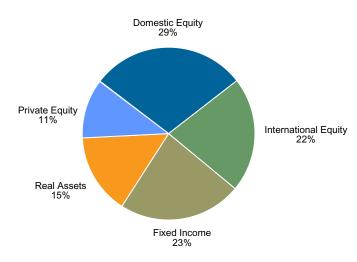


<sup>\*</sup>Current market values are those of the prior quarter, adjusted for capital calls and distributions of current quarter.
\*\*Estimate

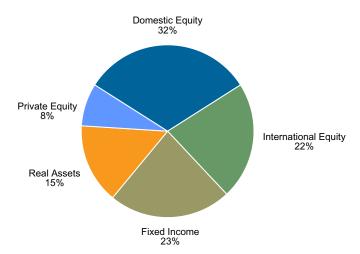
# Actual vs Target Asset Allocation As of September 30, 2020

The first chart below shows the Fund's asset allocation as of September 30, 2020. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

#### **Actual Asset Allocation**



# **Target Asset Allocation**



Asset Class	\$Millions Actual	Weight Actual	Min Target	Target	Max Target	Percent Difference	\$Millions Difference
Domestic Equity	792	29.1%	28.0%	32.0%	36.0%	(2.9%)	(77)
International Equity	584	21.5%	19.0%	22.0%	25.0%	(0.5%)	(13)
Fixed Income	629	23.1%	20.0%	23.0%	26.0%	`0.1%′	` 4′
Real Assets	411	15.1%	12.0%	15.0%	18.0%	0.1%	3
Private Equity	301	11.1%	0.0%	8.0%	12.0%	3.1%	83
Total	2.716	100.0%		100.0%			

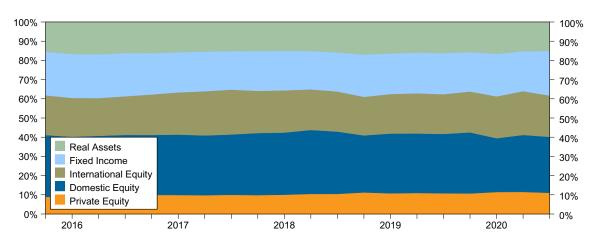
<sup>\*</sup> Current Quarter Target = 32.0% Russell 3000 Index, 22.0% MSCI ACWI ex US IMI, 11.5% Blmbg Aggregate, 8.0% NCREIF NFI-ODCE Eq Wt Net, 6.4% Russell 3000 Index (Lagged), 5.8% FTSE WGBI, 5.8% Blmbg Intmdt Credit, 1.8% S&P Global Nat Res (Net), 1.8% Blmbg Commodity TR Idx, 1.8% S&P DJ US Select REIT, 1.8% Blmbg:TIPS and 1.6% MSCI ACWI ex US IMI (Lagged).



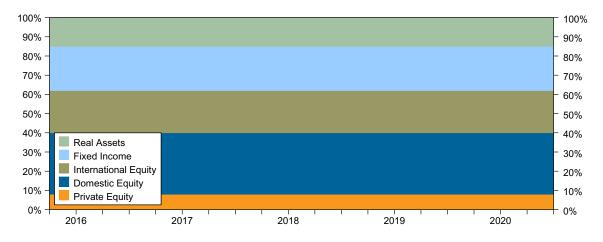
# **Actual vs Target Historical Asset Allocation**

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, the fund's historical target asset allocation, and the historical asset allocation of the average fund in the Callan Public Fund Spons - Large (>1B).

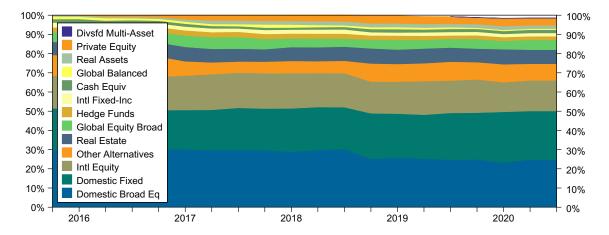
#### **Actual Historical Asset Allocation**



#### **Target Historical Asset Allocation**



#### Average Callan Public Fund Spons - Large (>1B) Historical Asset Allocation



<sup>\*</sup> Current Quarter Target = 32.0% Russell 3000 Index, 22.0% MSCI ACWI ex US IMI, 11.5% Blmbg Aggregate, 8.0% NCREIF NFI-ODCE Eq Wt Net, 6.4% Russell 3000 Index (Lagged), 5.8% FTSE WGBI, 5.8% Blmbg Intmdt Credit, 1.8% S&P Global Nat Res (Net), 1.8% Blmbg Commodity TR Idx, 1.8% S&P DJ US Select REIT, 1.8% Blmbg:TIPS and 1.6% MSCI ACWI ex US IMI (Lagged).

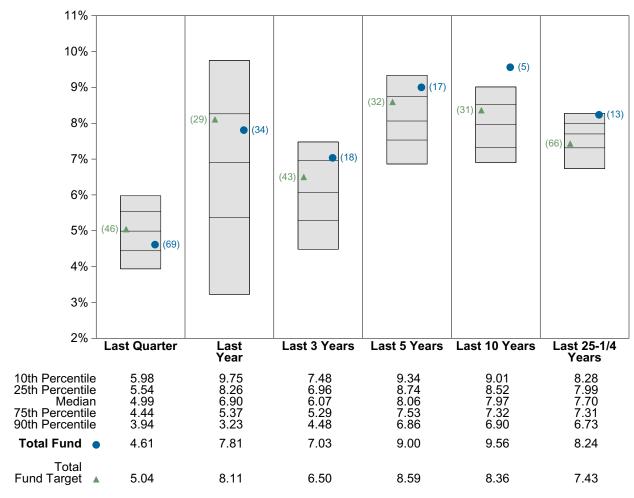


# Total Fund Period Ended September 30, 2020

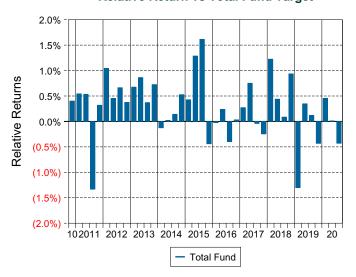
#### **Quarterly Summary and Highlights**

- Total Fund's portfolio posted a 4.61% return for the quarter placing it in the 69 percentile of the Callan Public Fund Spons Large (>1B) group for the quarter and in the 34 percentile for the last year.
- Total Fund's portfolio underperformed the Total Fund Target by 0.43% for the quarter and underperformed the Total Fund Target for the year by 0.30%.

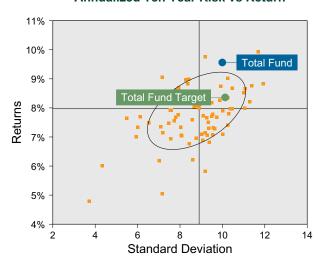
#### Performance vs Callan Public Fund Spons - Large (>1B) (Gross)



#### **Relative Return vs Total Fund Target**



# Callan Public Fund Spons - Large (>1B) (Gross) Annualized Ten Year Risk vs Return



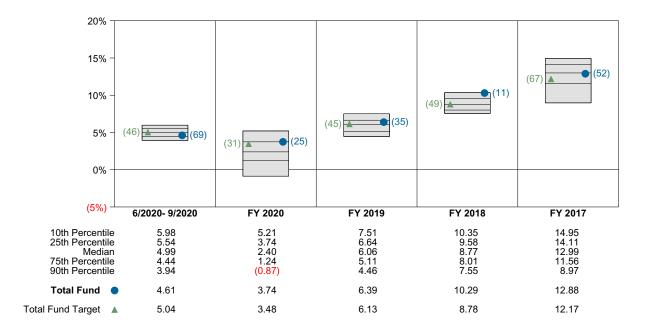


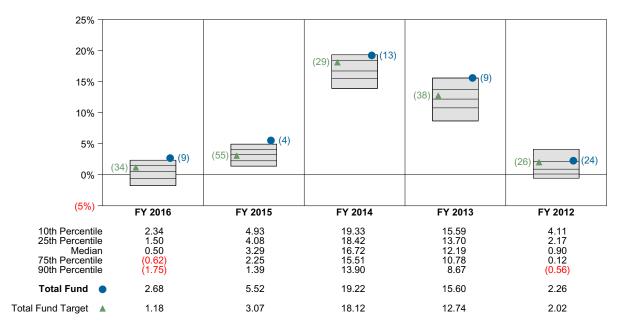
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# Marin County Employees' Retirement Association Performance vs Callan Public Fund Spons - Large (>1B)

#### **Return Ranking**

The chart below illustrates fund rankings over various periods versus the Callan Public Fund Spons - Large (>1B). The bars represent the range of returns from the 10th percentile to the 90th percentile for each period for all funds in the Callan Public Fund Spons - Large (>1B). The numbers to the right of the bar represent the percentile rankings of the fund being analyzed. The table below the chart details the rates of return plotted in the graph above.





<sup>\*</sup> Current Quarter Target = 32.0% Russell 3000 Index, 22.0% MSCI ACWI ex US IMI, 11.5% Blmbg Aggregate, 8.0% NCREIF NFI-ODCE Eq Wt Net, 6.4% Russell 3000 Index (Lagged), 5.8% FTSE WGBI, 5.8% Blmbg Intmdt Credit, 1.8% S&P Global Nat Res (Net), 1.8% Blmbg Commodity TR Idx, 1.8% S&P DJ US Select REIT, 1.8% Blmbg:TIPS and 1.6% MSCI ACWI ex US IMI (Lagged).



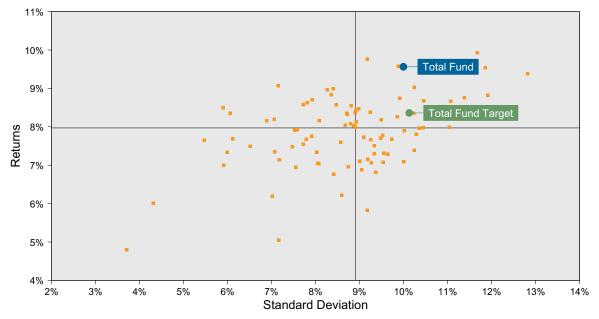
# **Cumulative Performance Relative to Target**

The first chart below illustrates the cumulative performance of the Total Fund relative to the cumulative performance of the Fund's Target Asset Mix. The Target Mix is assumed to be rebalanced each quarter with no transaction costs. The second chart below shows the return and the risk of the Total Fund and the Target Mix, contrasted with the returns and risks of the funds in the Callan Public Fund Spons - Large (>1B).

#### **Cumulative Returns Actual vs Target**



#### Ten Year Annualized Risk vs Return



Squares represent membership of the Callan Public Fund Spons - Large (>1B)

<sup>\*</sup> Current Quarter Target = 32.0% Russell 3000 Index, 22.0% MSCI ACWI ex US IMI, 11.5% Blmbg Aggregate, 8.0% NCREIF NFI-ODCE Eq Wt Net, 6.4% Russell 3000 Index (Lagged), 5.8% FTSE WGBI, 5.8% Blmbg Intmdt Credit, 1.8% S&P Global Nat Res (Net), 1.8% Blmbg Commodity TR Idx, 1.8% S&P DJ US Select REIT, 1.8% Blmbg:TIPS and 1.6% MSCI ACWI ex US IMI (Lagged).



# MCERA - Total Fund Historical Consistency Analysis

#### **Consistency of Standard Deviation and Sharpe Ratio**

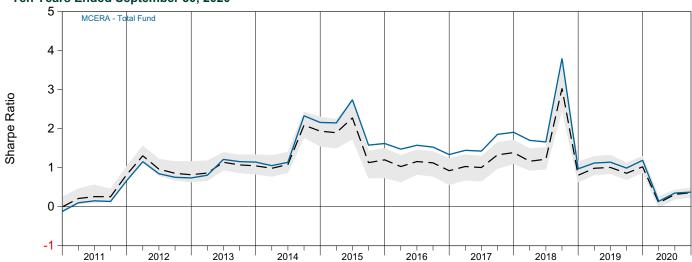
The first chart below illustrates the consistency of standard deviation over rolling three year periods. The gray area represents the range of standard deviation for the 10th through 90th percentile for the Callan Public Fund Spr DB. The second chart below illustrates the consistency of sharpe ratio over rolling three year periods. The tables provide summary statistics for the median manager of the group and the portfolio.

### Rolling Three Year Standard Deviation Ten Years Ended September 30, 2020



Rolling Three Year Period Analysis	Median	Portfolio
Average Annual Standard Deviation	8.56%	9.19%
% Positive Periods	100%	100%
Average Ranking	50	40

#### Rolling Three Year Sharpe Ratio Relative to Composite Benchmark Ten Years Ended September 30, 2020



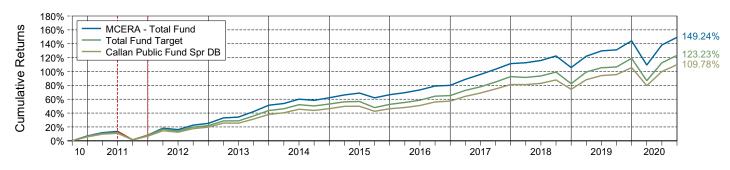
Rolling Three Year Period Analysis	Median	Portfolio
Average Annual Sharpe Ratio	1.05%	1.24%
% Positive Periods	100%	98%
Average Ranking	50	33



# MCERA - Total Fund Drawdown Analysis for Ten Years Ended September 30, 2020

The following analysis focuses on downside risk by looking at cumulative drawdowns experienced from peak-to-trough for the portfolio, index, and peer group. Drawdown is measured from the "high-water mark" of cumulative return to the subsequent "trough". The first chart illustrates the Worst Absolute Drawdown as well as the Current Drawdown (cumulative return from high-water mark to now). The second chart focuses on Relative Drawdown (negative excess return vs. index). The bottom charts highlight the portfolio's peer rankings during drawdown periods.

#### **Absolute Cumulative Drawdown Analysis**



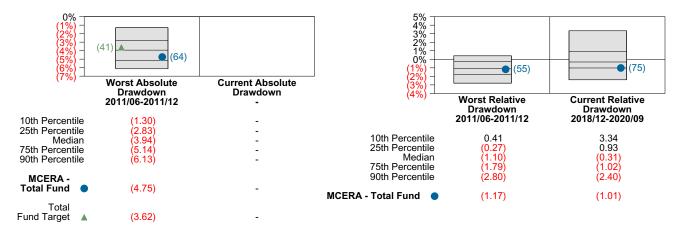
		Worst Absolute Drawdown					Current Absolute Drawdown				
	Return	Years	Period	Index	Peers	Return	Years_	Period	_Index_	Peers	
MCERA - Total Fund	(4.75)%	0.50	2011/06-2011/12	(3.62)%	(3.76)%	-	-	_	-	-	
Recovery from Trough	9.28%	0.25	2011/12-2012/03	8.24%	7.31%	-	-	-	-	-	
Total Fund Target	(8.43)%	0.25	2018/09-2018/12			-	-	-			
Callan Public Fund Spr DB	(7.17)%	0.25	2018/09-2018/12			-	-	-			

# Relative Cumulative Drawdown Analysis vs. Total Fund Target



	VVOI	ist Kelative L	rawdown	Curre	ni Kelative L	rawdown
	Rel Rtn	Years	Period	Rel Rtn	_Years_	Period
MCERA - Total Fund	(1.17)%	0.50	2011/06-2011/12	(1.01)%	1.75	2018/12-2020/09
Recovery from Trough	1.43%	0.50	2011/12-2012/06	0.18%	1.50+	2019/03-2020/09

Drawdown Rankings vs. Total Fund Target Rankings against Callan Public Fund Sponsor Database Ten Years Ended September 30, 2020

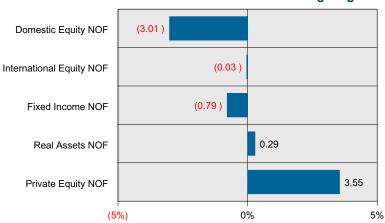




# Quarterly Total Fund Relative Attribution - September 30, 2020

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

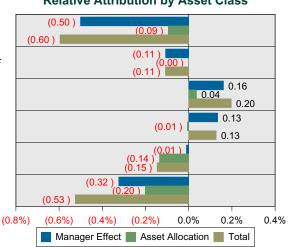




# **Actual vs Target Returns**

#### Domestic Equity NOF 9.21 6.31 International Equity NOF 6.80 2.08 1.35 2.81 (0.09)4.52 5.04 (2%)0% 4% 6% 8% 10% 12% Actual Target

### **Relative Attribution by Asset Class**



#### Relative Attribution Effects for Quarter ended September 30, 2020

Fixed Income NOF

Real Assets NOF

Private Equity NOF

Total

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity NOF		32%	7.48%	9.21%	(0.50%)	(0.09%)	(0.60%)
International Equity No Fixed Income NOF	OF 22% 22%	22% 23%	6.31% 2.08%	6.80% 1.35%	( <mark>0.11%)</mark> 0.16%	( <mark>0.00%)</mark> 0.04%	( <mark>0.11%)</mark> 0.20%
Real Assets NOF Private Equity NOF	15% 12%	15% 8%	2.81% (0.09%)	1.94% 0.00%	0.13% (0.01%)	(0.01%) (0.14%)	0.13% (0.15%)
Frivate Equity NOI	12 /0	0 70	(0.09 /8)	0.00 /6	(0.0176)	(0.1476)	(0.1376)
Total			4.52% =	5.04% +	(0.32%) +	(0.20%)	(0.53%)

<sup>\*</sup> Current Quarter Target = 32.0% Russell 3000 Index, 22.0% MSCI ACWI ex US IMI, 11.5% Blmbg Aggregate, 8.0% NCREIF NFI-ODCE Eq Wt Net, 6.4% Russell 3000 Index (Lagged), 5.8% FTSE WGBI, 5.8% Blmbg Intmdt Credit, 1.8% S&P Global Nat Res (Net), 1.8% Blmbg Commodity TR Idx, 1.8% S&P DJ US Select REIT, 1.8% Blmbg:TIPS and 1.6% MSCI ACWI ex US IMI (Lagged). Net-of-fee attribution

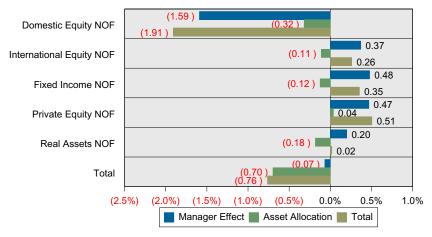


#### D.1

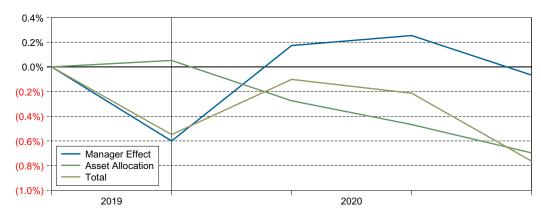
# Cumulative Total Fund Relative Attribution - September 30, 2020

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

#### **One Year Relative Attribution Effects**



#### **Cumulative Relative Attribution Effects**



#### One Year Relative Attribution Effects

Asset Class  Domestic Equity NOF International Equity N Fixed Income NOF Private Equity NOF Real Assets NOF	Effective Target Weight 32% 22% 23% 8% 15%	Actual Return 9.25% 5.18% 9.56% 8.94% (0.83%)	Target Return 15.00% 3.51% 6.85% 3.60% (1.96%)	Manager Effect (1.59%) 0.37% 0.48% 0.47% 0.20%	Asset Allocation (0.32%) (0.11%) (0.12%) 0.04% (0.18%)	Total Relative Return (1.91%) 0.26% 0.35% 0.51% 0.02%
Total		7.34% =	8.11% +	(0.07%) +	(0.70%)	(0.76%)

<sup>\*</sup> Current Quarter Target = 32.0% Russell 3000 Index, 22.0% MSCI ACWI ex US IMI, 11.5% Blmbg Aggregate, 8.0% NCREIF NFI-ODCE Eq Wt Net, 6.4% Russell 3000 Index (Lagged), 5.8% FTSE WGBI, 5.8% Blmbg Intmdt Credit, 1.8% S&P Global Nat Res (Net), 1.8% Blmbg Commodity TR Idx, 1.8% S&P DJ US Select REIT, 1.8% Blmbg:TIPS and 1.6% MSCI ACWI ex US IMI (Lagged). Net-of-fee attribution

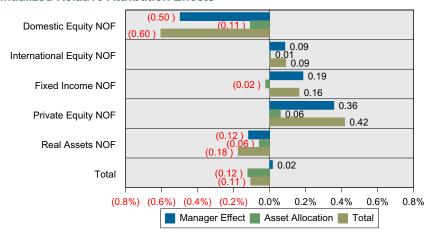


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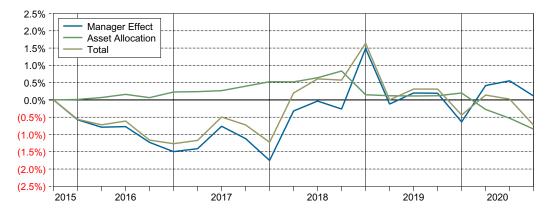
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#### **Five Year Annualized Relative Attribution Effects**



#### **Cumulative Relative Attribution Effects**



#### **Five Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity NOF International Equity N		32% 22%	11.93% 6.63%	13.69% 6.31%	( <mark>0.50%)</mark> 0.09%	(0.11%) 0.01%	( <mark>0.60%)</mark> 0.09%
Fixed Income NOF	22%	23%	5.11%	4.19%	0.19%	(0.02%)	0.16%
Private Equity NOF Real Assets NOF	10% 16%	8% 15%	14.12% 4.14%	10.35% 4.88%	0.36% (0.12%)	(0.06%)	0.42% (0.18%)
					,		
Total			8.49% =	8.59%	+ 0.02% +	(0.12%)	(0.11%)

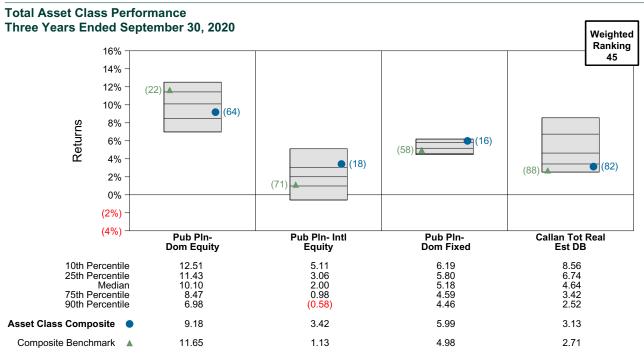
<sup>\*</sup> Current Quarter Target = 32.0% Russell 3000 Index, 22.0% MSCI ACWI ex US IMI, 11.5% Blmbg Aggregate, 8.0% NCREIF NFI-ODCE Eq Wt Net, 6.4% Russell 3000 Index (Lagged), 5.8% FTSE WGBI, 5.8% Blmbg Intmdt Credit, 1.8% S&P Global Nat Res (Net), 1.8% Blmbg Commodity TR Idx, 1.8% S&P DJ US Select REIT, 1.8% Blmbg:TIPS and 1.6% MSCI ACWI ex US IMI (Lagged). Net-of-fee attribution



### **Asset Class Rankings**

The charts below show the rankings of each asset class component of the Total Fund relative to appropriate comparative databases. In the upper right corner of each graph is the weighted average of the rankings across the different asset classes. The weights of the fund's actual asset allocation are used to make this calculation. The weighted average ranking can be viewed as a measure of the fund's overall success in picking managers and structuring asset classes.



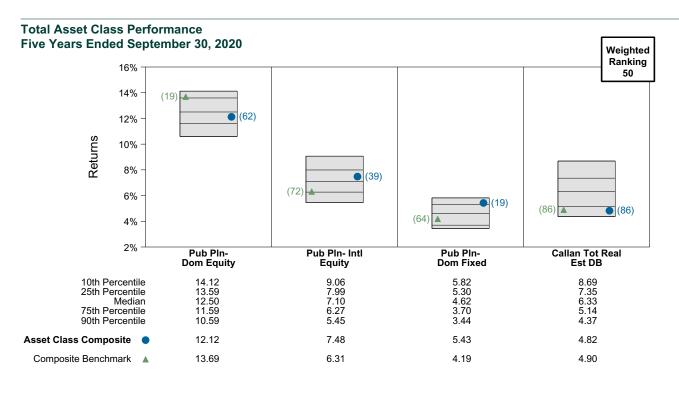


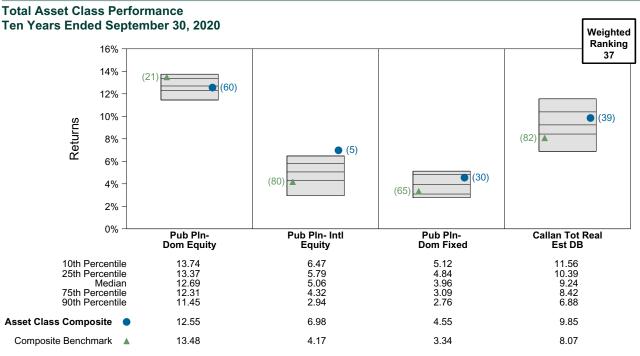
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### **Asset Class Rankings**

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The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

#### Returns for Periods Ended September 30, 2020

			Last	Last	Last
	Last	Last	3	5	10
	Quarter	Year	Years	Years	Years
Domestic Equity Equity Benchmark	<b>7.51%</b> 9.21%	<b>9.37%</b> 15.00%	<b>9.18%</b> 11.65%	<b>12.12%</b> 13.69%	<b>12.55%</b> 13.48%
Large Cap Equity SSGA S&P 500 Index Fund	<b>9.14%</b> 8.93%	<b>15.49%</b> 15.11%	<b>12.34%</b> 12.27%	<b>14.23%</b> 14.16%	13.65%
S&P 500 Index Fulld	8.93%	15.15%	12.28%	14.15%	13.74%
Small Cap Equity	3.69%	(4.54%)	1.08%	6.63%	9.69%
DFA Small Cap Core Russell 2000 Index	3.59% 4.93%	( <mark>6.45%)</mark> 0.39%	- 1.77%	8.00%	9.85%
International Equity	6.49%	5.93%	3.42%	7.48%	6.98%
International Benchmark	6.80%	3.51%	1.13%	6.31%	4.17%
Morgan Stanley Value	3.85%	5.97%	2.77%	6.17%	6.24%
Artisan Partners Growth	7.61%	7.84%	6.99%	8.81%	8.39%
MSCI EAFE Index TimesSquare Intl Small Cap	4.80% 9.61%	0.49% 8.49%	0.62%	5.26%	4.62%
MSCI EAFE Small Cap Index	10.25%	6.84%	1.40%	7.37%	7.33%
Parametric Emerging	4.82%	(6.11%)	(3.32%)	4.51%	1.44%
MSCI Emerging Markets Index	9.56%	10.54%	2.42%	8.97%	2.51%
Fixed Income	2.14%	10.03%	5.99%	5.43%	4.55%
Fixed Income Benchmark	1.35%	6.85%	4.98%	4.19%	3.34%
Wellington Core Plus	1.28%	8.88%	6.22%	5.53%	4.85%
Bloomberg Aggregate Index	0.62%	6.98%	5.24%	4.18%	3.64%
Western Asset Intermediate Credit	1.52%	8.61%	5.70%	5.42%	4.80%
Blended Benchmark****	1.24%	6.49%	4.96%	4.33%	3.56%
Colchester Global	3.99%	7.99%	4.35%	4.95%	
FTSE World Govt Bond Index	2.94%	6.77%	4.37%	3.95%	1.86%
Real Assets Real Asset Benchmark	<b>2.96%</b> 1.94%	<b>(0.18%)</b> (1.96%)	<b>3.13%</b> 2.71%	<b>4.82%</b> 4.90%	<b>9.85%</b> 8.07%
Private Real Estate	0.07%	(0.24%)	3.36%	5.12%	10.70%
NFI-ODCE Equal Weight Net	0.37%	0.89%	4.64%	6.09%	9.42%
UBS Trumbull Property Fund	(0.18%)	(2.13%)	1.66%	3.80%	-
AEW Core Property Trust	0.37%	0.97%	5.29%	6.74%	-
Public Real Assets	7.39%	0.43%	2.93%	4.69%	-
Public Real Assets Benchmark	3.72%	(6.89%)	(0.26%)	3.01%	-
BlackRock TIPS Index Fund	3.10%	10.31%	5.95%	4.79%	-
Bloomberg US TIPS Index	3.03%	10.08%	5.79%	4.61%	3.57%
BlackRock REIT Index Fund (1)	0.84%	(22.26%)	(1.79%)	2.77%	-
DJ US Select REIT Index	0.83%	(22.33%)	(1.85%)	1.99%	7.03%
Invesco Commodity Fund (2) Bloomberg Commodity Index	10.13% 9.07%	(2.70%) (8.20%)	(1.87%) (4.18%)	(1.59%) (3.09%)	(6.03%)
KBI Global Resources Fund (3)	14.25%	13.88%	6.45%	11.29%	(0.0370)
S&P Global Natural Resources Index	1.95%	(10.20%)	(3.41%)	6.00%	(0.43%)
KBI Custom Benchmark (4)	19.87%	25.20%	9.66%	11.82%	6.75%
Private Equity**	0.00%	9.78%	14.65%	15.27%	14.31%
Total Fund	4.61%	7.81%	7.03%	9.00%	9.56%
Total Fund - NOF	4.52%	7.34%	6.53%	8.49%	9.02%
Total Fund - IRR	4.63%	7.34%	6.72%	8.86%	8.94%
Total Fund Target	5.04%	8.11%	6.50%	8.59%	8.36%
Public Fund Sponsor Database	4.95%	7.46%	6.22%	8.06%	7.70%

<sup>\*\*\*\*</sup>Blended Index = Bloomberg Aggregate through 2/10/14 and Bloomberg U.S. Intermediate Credit thereafter.



The Total Fund/Plan IRR Calculation is based upon best available data.
(1) MCERA changed managers in 3Q17. Prior returns linked to Vanguard REIT Index Fund.
(2) MCERA changed managers in 2Q16. Prior returns linked to BlackRock Commodity Index Fund.
(3) MCERA changed managers in 3Q16. Prior returns linked to SSGA Natural Resources Index Fund.
(4) KBI Custom Benchmark consists of 1/3 each: S-Network Global Water Index, Wilderhill New Energy

Global Innovation Index, and Dax Global Agribusiness Index.

\*\*Current market values are those of the prior quarter, adjusted for capital calls and distributions

of current quarter.
\*\*\*Estimate

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	6/2020-				
	9/2020	FY 2020	FY 2019	FY 2018	FY 2017
Domestic Equity Equity Benchmark	<b>7.51%</b> 9.21%	<b>2.37%</b> 6.53%	<b>6.41%</b> 8.98%	<b>16.87%</b> 14.78%	<b>19.56%</b> 18.51%
	0.440/	7 500/	40.220/	44.260/	19.079/
Large Cap Equity SSGA S&P 500 Index Fund	<b>9.14%</b> 8.93%	<b>7.59%</b> 7.46%	<b>10.33%</b> 10.44%	<b>14.36%</b> 14.40%	<b>18.07%</b> 17.97%
S&P 500 Index	8.93%	7.51%	10.42%	14.37%	17.90%
Small Cap Equity	3.69%	(9.70%)	(4.42%)	23.31%	23.47%
DFA Small Cap Core	3.59%	(11.40%)	(4.42 /0)	-	-
Russell 2000 Index	4.93%	(6.63%)	(3.31%)	17.57%	24.60%
letomotic and Familia	C 400/	(4.700/)	2.420/	0.05%	40.440/
International Equity International Benchmark	<b>6.49%</b> 6.80%	<b>(1.79%)</b> (4.74%)	<b>3.12%</b> 0.26%	<b>8.05%</b> 7.75%	<b>18.41%</b> 20.43%
Morgan Stanley Value	3.85%	0.59%	0.95%	6.61%	17.87%
Artisan Partners Growth	7.61%	0.73%	9.99%	8.77%	14.74%
MSCI EAFE Index	4.80%	(5.13%)	1.08%	6.84%	20.27%
FIAM International Small Cap	-	` <b>-</b>	-	12.26%	23.14%
S&P EPAC Small Cap Index	10.45%	(4.00%)	(6.38%)	11.27%	22.97%
TimesSquare Intl Small Cap	9.61%	(2.24%)	- (0.050()	-	-
MSCI EAFE Small Cap Index	10.25%	(3.52%)	(6.35%)	12.45%	23.18%
Parametric Emerging	4.82%	(14.19%)	2.98%	4.27%	18.89%
MSCI Emerging Markets Index	9.56%	(3.39%)	1.22%	8.20%	23.75%
Fixed Income	2.14%	9.35%	7.68%	0.31%	1.28%
Fixed Income Benchmark	1.35%	7.29%	7.36%	0.21%	(0.83%)
Wellington Core Plus	1.28%	10.09%	8.35%	0.34%	2.40%
Bloomberg Aggregate Index	0.62%	8.74%	7.87%	(0.40%)	(0.31%)
Western Asset Intermediate Credit	1.52%	8.18%	8.94%	(0.02%)	3.11%
Blended Benchmark****	1.24%	6.97%	8.23%	(0.36%)	1.36%
Colchester Global FTSE World Govt Bond Index	3.99% 2.94%	4.09% 4.60%	5.88% 5.48%	1.47% 1.90%	(0.81%) (4.14%)
					, ,
Real Assets Real Assets Benchmark	<b>2.96%</b> 1.94%	<b>(1.63%)</b> (3.21%)	<b>3.10%</b> 3.80%	<b>7.29%</b> 8.58%	<b>4.10%</b> 4.30%
Pint Polent	0.070/	0.000/	2.000/	7.00%	0.550/
Private Real Estate NFI-ODCE Equal Weight Net	<b>0.07%</b> 0.37%	<b>0.99%</b> 1.70%	<b>3.08%</b> 5.99%	<b>7.60%</b> 7.68%	<b>6.55%</b> 7.23%
UBS Trumbull Property Fund	(0.18%)	(0.86%)	0.04%	7.70%	5.60%
AEW Core Property Trust	0.37%	2.35%	6.92%	8.16%	7.77%
Public Real Assets	7.39%	(4.91%)	3.14%	6.80%	0.39%
Public Real Asset Benchmark	3.72%	(10.20%)	0.91%	9.51%	1.01%
BlackRock TIPS Index Fund	3.10%	8.43%	4.95%	2.30%	(0.38%)
Bloomberg US TIPS Index	3.03%	8.28%	4.84%	2.11%	(0.63%)
BlackRock REIT Index Fund (1)	0.84%	(17.64%)	9.81%	5.26%	(1.79%)
DJ US Select REIT Index	0.83%	(17.71%)	9.75%	4.23%	(2.43%)
Invesco Commodity Fund (2)	10.13%	(13.42%)	(7.44%)	12.37%	(8.47%)
Bloomberg Commodity Index	9.07%	(17.38%)	(6.75%)	7.35%	(6.50%)
KBI Global Resources Fund (3)	14.25%	(0.81%)	4.65%	7.54%	13.43%
S&P Global Natural Resources Index KBI Custom Benchmark (4)	1.95% 19.87%	(17. <mark>36%)</mark> 3.67%	<mark>(4.63%)</mark> 7.71%	24.07% 5.46%	14.70% 12.80%
Private Equity**	0.00%	11.53%	16.55%	20.80%	20.43%
Total Fund	4.61%	3.74%	6.39%	10.29%	12.88%
Total Fund - NOF	4.52%	3.26%	5.88%	9.74%	12.34%
Total Fund -IRR	4.63%	3.29%	6.02%	10.19%	12.82%
Total Fund Target	5.04%	3.48%	6.13%	8.78%	12.17%
Public Fund Sponsor Database	4.95%	3.07%	6.14%	8.29%	12.35%
7.00% Actuarial Assumption	1.71%	7.00%	7.00%	7.00%	7.00%

<sup>\*\*\*\*\*</sup>Blended Index = Bloomberg Aggregate through 2/10/14 and Bloomberg U.S. Intermediate Credit thereafter.



The Total Fund/Plan IRR Calculation is based upon best available data.

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Domestic Equity		FY 2016	FY 2015	FY 2014	FY 2013	FY 2012
Dodge & Cox Value					22.55%	
Dodge & Cox Value	Large Cap Equity	4.00%	7.47%	24.60%	21.36%	2.46%
S&P 500 Index         3.99%         7.42%         24.61%         20.60%         5.45%           Small Cap Equity Russell 2000 Index         (6.73%)         6.49%         23.57%         25.33%         (3.63%)           DFA Value Russell 2000 Value Index Russell 2000 Value Index Russell 2000 Growth Index         (2.58%)         3.50%         25.94%         24.76%         (1.44%)           Russell 2000 Growth Index         (10.75%)         12.34%         24.73%         23.67%         (2.71%)           International Equity International Benchmark         (9.61%)         (1.97%)         22.58%         19.76%         (7.18%)           Morgan Stanley Value Artisan Partners Growth         (10.76%)         0.60%         23.84%         21.84%         (2.57%)           MSCI EAFE Index         (10.76%)         0.60%         23.84%         21.84%         (2.57%)           MSCI EAFE Index         (10.76%)         0.60%         23.57%         26.27%         (1.25%)           Fixed Income         6.68%         (0.57%)         6.02%         1.89%         7.74%           Fixed Income         6.68%         (0.57%)         6.02%         1.89%         7.47%           Wellington         6.05%         1.79%         6.31%         1.74%         8.39% <tr< td=""><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>0.40%</td></tr<>		-	-	-	-	0.40%
Small Cap Equity   (11.13%)   7.05%   23.57%   25.33%   (3.63%)     Russell 2000 Index   (6.73%)   6.49%   23.64%   24.21%   (2.09%)     DFA Value   (5.31%)   3.50%   25.92%   33.04%   (3.56%)     Russell 2000 Growth Index   (2.58%)   0.78%   22.54%   24.76%   (1.44%)     Russell 2000 Growth Index   (10.75%)   12.34%   24.76%   24.76%   (2.71%)     International Equity   (6.92%)   (1.97%)   22.56%   19.76%   (7.18%)     International Equity   (6.92%)   (1.97%)   22.28%   13.91%   (14.79%)     International Equity   (9.61%)   (4.97%)   22.28%   13.91%   (14.79%)     Morgan Stanley Value   (7.41%)   (2.55%)   20.84%   19.69%   (7.10%)     Artisan Partners Growth   (10.76%)   0.60%   23.64%   21.84%   (2.57%)     MSCI EAFE Index   (10.16%)   (4.22%)   23.57%   18.62%   (13.83%)     FIAM International Small Cap   (2.74%)   1.65%   27.34%   26.27%   (12.50%)     S&P EPAC Small Cap Index   (4.77%)   0.33%   29.15%   20.11%   (15.62%)     Fixed Income   6.68%   (0.57%)   6.02%   1.89%   8.77%     Fixed Income Benchmark   7.05%   (10.2%)   4.36%   (0.69%)   7.47%     Wellington   6.05%   1.79%   6.31%   1.74%   8.39%     Bloomberg Aggregate Index   6.00%   1.86%   4.37%   (0.69%)   7.47%     Western Asset   5.09%   1.44%   5.22%   2.93%   8.80%     Bloomberg Aggregate Index   6.00%   1.86%   4.37%   (0.69%)   7.47%     Real Assets   13.68%   22.79%   13.73%   13.23%   13.02%     Real Estate   19.84%   22.84%   13.73%   13.23%   13.02%     NCREIF Total Index   10.64%   12.99%   11.21%   10.72%   12.04%     NFI-ODCE Equal Weight Net   11.24%   13.64%   11.37%   10.80%   11.46%     Woodmont   43.44%   37.42%   14.06%   13.03%   12.26%     REEF America III   (9.18%)   24.69%   27.76%   20.69%   23.82%     RREEF America III   (9.18%)   24.69%   27.46%   11.97%   20.69%     Total Fund Target   9.29%   10.45%   25.66%   15.01%   15.60%   2.26%     Total Fund Target   1.18%   3.07%   18.12%   15.60%   12.44%   10.07%   12.04%   10.01%   10.01%   10.01%   10.01%   10.01%   10.01%   10.01%   10.01%   10.01%   10.01%   10.01%		-	-	-	-	
Russell 2000 Index (6.73%) 6.49% 23.64% 24.21% (2.08%)  DFA Value (5.31%) 3.50% 25.92% 33.04% (3.56%)  Russell 2000 Value Index (2.58%) 0.78% 22.54% 24.76% (1.44%)  Russell 2000 Growth Index (10.75%) 12.34% 24.73% 23.67% (2.71%)  International Equity (6.92%) (1.97%) 22.56% 19.76% (7.18%)  International Benchmark (9.61%) (4.97%) 22.28% 13.91% (14.79%)  Morgan Stanley Value (7.41%) (2.55%) 20.84% 19.69% (7.10%)  Arlisan Partners Growth (10.76%) 0.60% 23.64% 21.84% (2.57%)  MSCI EAFE Index (10.16%) (4.22%) 23.57% 18.62% (13.83%)  FIAM International Small Cap (2.74%) 1.65% 27.34% 26.27% (12.50%)  S&P EPAC Small Cap Index (4.77%) 0.33% 29.15% (0.69%) 8.77%  Fixed Income 6.68% (0.57%) 6.02% 1.89% (0.69%) 8.77%  Fixed Income 6.68% (0.55%) 1.79% 6.31% 1.74% 8.39%  Bloomberg Aggregate Index 6.00% 1.86% 4.37% (0.69%) 7.47%  Welstern Asset 5.09% 1.44% 5.22% 2.93% 8.80%  Bloomberg Aggregate Index 6.00% 1.86% 4.37% (0.69%) 7.47%  Real Assets 8.13.88% 22.79% 13.373% 13.23% 13.09%  Real Assets Benchmark 6.79% 13.15% 11.21% 10.72% 12.04%  NCREIF Total Index 10.64% 12.98% 11.21% 10.72% 12.04%  NFI-ODCE Equal Weight Net 11.24% 13.64% 11.37% 10.80% 11.66%  NCREIF Total Index 10.64% 12.98% 11.21% 10.72% 12.04%  NFI-ODCE Equal Weight Net 11.24% 13.64% 11.37% 10.80% 11.66%  NCREIF Total Index 10.64% 12.98% 11.21% 10.72% 12.04%  NFI-ODCE Equal Weight Net 11.24% 13.64% 11.37% 10.80% 11.66%  NCREIF Total Index 10.64% 12.98% 11.21% 10.72% 12.04%  NFI-ODCE Equal Weight Net 11.24% 13.64% 11.37% 10.80% 11.66%  NCREIF Total Index 10.64% 12.98% 11.21% 10.72% 12.04%  NFI-ODCE Equal Weight Net 11.24% 13.64% 11.37% 10.80% 11.66%  NCREIF Total Index 10.64% 12.98% 11.21% 10.72% 12.04%  NFI-ODCE Equal Weight Net 11.24% 13.64% 11.37% 10.80% 11.66%  NCREIF Total Index 10.64% 12.98% 11.21% 10.72% 12.04%  NFI-ODCE Equal Weight Net 11.24% 13.64% 11.37% 10.80% 11.66%  NCREIF Total Index 10.64% 12.98% 11.21% 10.72% 12.04%  NFI-ODCE Equal Weight Net 11.24% 13.64% 11.37% 10.80% 11.66%  NCREIF Total Index 10.64% 13.03% 12.26% 12.64% 13.00% 13.00% 13.65% 13.	S&P 500 Index	3.99%	7.42%	24.61%	20.60%	5.45%
DFA Value Russell 2000 Value Index (2.58%) 0.78% 25.92% 33.04% (3.56%) Russell 2000 Growth Index (10.75%) 12.34% 24.73% 23.67% (2.71%) International Equity International		(11.13%)		23.57%	25.33%	
Russell 2000 Value Index (2.58%) 0.78% 22.54% 24.76% (1.44%) Russell 2000 Growth Index (10.75%) 12.34% 23.67% (2.71%) 11	Russell 2000 Index	(6.73%)	6.49%	23.64%	24.21%	(2.08%)
Russell 2000 Value Index (2.58%) 0.78% 22.54% 24.76% (1.44%) Russell 2000 Growth Index (10.75%) 12.34% 23.67% (2.71%) 11	DFA Value	(5.31%)	3.50%	25.92%	33.04%	(3.56%)
International Equity	Russell 2000 Value Index		0.78%	22.54%	24.76%	
International Benchmark	Russell 2000 Growth Index	(10.75%)	12.34%	24.73%	23.67%	(2.71%)
Morgan Stanley Value	International Equity	(6.92%)	(1.97%)	22.56%	19.76%	(7.18%)
Artisan Partner's Growth MSCI EAFE Index (10.16%) (4.22%) 23.57% 18.62% (13.83%) FIAM International Small Cap (2.74%) 1.65% 27.34% 26.27% (12.50%) S&P EPAC Small Cap Index (4.77%) 0.33% 29.15% 20.11% (15.62%)  Fixed Income 6.68% (0.57%) 6.02% 1.89% 8.77% Fixed Income Benchmark 7.05% (1.02%) 4.36% (0.69%) 7.47%  Wellington 6.05% 1.79% 6.31% 1.74% 8.39% Bloomberg Aggregate Index 6.00% 1.86% 4.37% (0.69%) 7.47% Western Asset 5.09% 1.44% 5.22% 2.93% 8.80% Bloomberg Aggregate Index 6.00% 1.86% 4.37% (0.69%) 7.47% Western Asset 5.09% 1.44% 5.22% 2.93% 8.80% Bloomberg Aggregate Index 6.00% 1.86% 4.37% (0.69%) 7.47%  Real Assets 6.00% 1.86% 4.37% (0.69%) 7.47%  Real Assets 9.13.68% 22.79% 13.73% 13.23% 13.02% Real Assets Benchmark 6.79% 13.15% 11.21% 10.72% 12.04%  NFI-ODCE Equal Weight Net 11.24% 13.64% 11.37% 10.80% 11.46%  Woodmont 43.44% 37.42% 14.06% 13.03% 12.26% AEW Partners V Fund 35.97% 44.36% 27.76% 20.69% 23.82% RREEF America III (9.18%) 24.69% 27.46% 19.17% 20.69% ING Clarion 10.01%  Private Equity 9.29% 10.45% 25.66% 12.34% 5.16%  Total Fund - NOF 2.19% 5.02% 18.65% 15.01% 1.67%  Total Fund Target 1.18% 3.07% 18.12% 12.74% 2.02% Public Fund Target 1.18% 3.07% 18.12% 12.74% 2.02% Public Fund Sponsor Database 0.88% 3.20% 16.37% 11.99% 1.24%	International Benchmark	(9.61%)	(4.97%)	22.28%	13.91%	(14.79%)
Artisan Partner's Growth MSCI EAFE Index (10.16%) (4.22%) 23.57% 18.62% (13.83%) FIAM International Small Cap (2.74%) 1.65% 27.34% 26.27% (12.50%) S&P EPAC Small Cap Index (4.77%) 0.33% 29.15% 20.11% (15.62%)  Fixed Income 6.68% (0.57%) 6.02% 1.89% 8.77% Fixed Income Benchmark 7.05% (1.02%) 4.36% (0.69%) 7.47%  Wellington 6.05% 1.79% 6.31% 1.74% 8.39% Bloomberg Aggregate Index 6.00% 1.86% 4.37% (0.69%) 7.47% Western Asset 5.09% 1.44% 5.22% 2.93% 8.80% Bloomberg Aggregate Index 6.00% 1.86% 4.37% (0.69%) 7.47% Western Asset 5.09% 1.44% 5.22% 2.93% 8.80% Bloomberg Aggregate Index 6.00% 1.86% 4.37% (0.69%) 7.47%  Real Assets 6.00% 1.86% 4.37% (0.69%) 7.47%  Real Assets 9.13.68% 22.79% 13.73% 13.23% 13.02% Real Assets Benchmark 6.79% 13.15% 11.21% 10.72% 12.04%  NFI-ODCE Equal Weight Net 11.24% 13.64% 11.37% 10.80% 11.46%  Woodmont 43.44% 37.42% 14.06% 13.03% 12.26% AEW Partners V Fund 35.97% 44.36% 27.76% 20.69% 23.82% RREEF America III (9.18%) 24.69% 27.46% 19.17% 20.69% ING Clarion 10.01%  Private Equity 9.29% 10.45% 25.66% 12.34% 5.16%  Total Fund - NOF 2.19% 5.02% 18.65% 15.01% 1.67%  Total Fund Target 1.18% 3.07% 18.12% 12.74% 2.02% Public Fund Target 1.18% 3.07% 18.12% 12.74% 2.02% Public Fund Sponsor Database 0.88% 3.20% 16.37% 11.99% 1.24%	Morgan Stanley Value	(7.41%)	(2.55%)	20.84%	19.69%	(7.10%)
FIAM International Small Cap   (2.74%)   1.65%   27.34%   26.27%   (12.50%)   S&P EPAC Small Cap Index   (4.77%)   0.33%   29.15%   20.11%   (15.62%)				23.64%	21.84%	
S&P EPAC Small Cap Index         (4.77%)         0.33%         29.15%         20.11%         (15.62%)           Fixed Income Fixed Income Benchmark         6.68%         (0.57%)         6.02%         1.89%         8.77%           Fixed Income Benchmark         7.05%         (1.02%)         4.36%         (0.69%)         7.47%           Wellington         6.05%         1.79%         6.31%         1.74%         8.39%           Bloomberg Aggregate Index         6.00%         1.86%         4.37%         (0.69%)         7.47%           Western Asset         5.09%         1.44%         5.22%         2.93%         8.80%           Bloomberg Aggregate Index         6.00%         1.86%         4.37%         (0.69%)         7.47%           Real Assets         13.68%         22.79%         13.73%         13.23%         13.02%           Real Assets Benchmark         6.79%         13.15%         11.21%         10.72%         12.04%           Real Estate         19.84%         22.84%         13.73%         13.23%         13.02%           NCREIF Total Index         10.64%         12.98%         11.21%         10.72%         12.04%           NFI-ODCE Equal Weight Net         11.24%         13.64%         11.37% <td>MSCI EAFE Index</td> <td>(10.16%)</td> <td>(4.22%)</td> <td>23.57%</td> <td>18.62%</td> <td>(13.83%)</td>	MSCI EAFE Index	(10.16%)	(4.22%)	23.57%	18.62%	(13.83%)
Fixed Income         6.68%         (0.57%)         6.02%         1.89%         8.77%           Fixed Income Benchmark         7.05%         (1.02%)         4.36%         (0.69%)         7.47%           Wellington         6.05%         1.79%         6.31%         1.74%         8.39%           Bloomberg Aggregate Index         6.00%         1.86%         4.37%         (0.69%)         7.47%           Western Asset         5.09%         1.44%         5.22%         2.93%         8.80%           Bloomberg Aggregate Index         6.00%         1.86%         4.37%         (0.69%)         7.47%           Western Asset         5.09%         1.44%         5.22%         2.93%         8.80%           Bloomberg Aggregate Index         6.00%         1.86%         4.37%         (0.69%)         7.47%           Western Assets         13.68%         22.79%         13.73%         13.23%         13.02%           Real Assets         13.68%         22.79%         13.73%         13.23%         13.02%           Real Assets Benchmark         19.84%         22.84%         13.73%         13.23%         13.02%           Real Estate         19.84%         22.84%         13.73%         13.23%         13.02% </td <td></td> <td>(2.74%)</td> <td></td> <td></td> <td></td> <td>(12.50%)</td>		(2.74%)				(12.50%)
Fixed Income Benchmark         7.05%         (1.02%)         4.36%         (0.69%)         7.47%           Wellington Bloomberg Aggregate Index         6.05%         1.79%         6.31%         1.74%         8.39%           Bloomberg Aggregate Index         6.00%         1.86%         4.37%         (0.69%)         7.47%           Western Asset         5.09%         1.44%         5.22%         2.93%         8.80%           Bloomberg Aggregate Index         6.00%         1.86%         4.37%         (0.69%)         7.47%           Real Assets         13.68%         22.79%         13.73%         13.23%         13.02%           Real Assets Benchmark         6.79%         13.15%         11.21%         10.72%         12.04%           Real Estate         19.84%         22.84%         13.73%         13.23%         13.02%           NCREIF Total Index         10.64%         12.98%         11.21%         10.72%         12.04%           NFI-ODCE Equal Weight Net         11.24%         13.64%         11.37%         10.80%         11.46%           Woodmont         43.44%         37.42%         14.06%         13.03%         12.26%           REEF America III         (9.18%)         24.69%         27.76%	S&P EPAC Small Cap Index	(4.77%)	0.33%	29.15%	20.11%	(15.62%)
Wellington Bloomberg Aggregate Index         6.05% 6.00%         1.79% 1.86%         6.31% 4.37%         1.74% (0.69%)         8.39% 7.47%           Western Asset Bloomberg Aggregate Index         5.09% 6.00%         1.44% 1.86%         5.22% 2.93%         2.93% 8.80% 8.30% 8.80% 8.3					1.89%	
Bloomberg Aggregate Index   6.00%   1.86%   4.37%   (0.69%)   7.47%   Western Asset   5.09%   1.44%   5.22%   2.93%   8.80%   8.80%   6.00%   1.86%   4.37%   (0.69%)   7.47%   1.86%   4.37%   (0.69%)   7.47%   1.86%   4.37%   (0.69%)   7.47%   1.86%   4.37%   (0.69%)   7.47%   1.86%   4.37%   (0.69%)   7.47%   1.86%   4.37%   (0.69%)   7.47%   1.86%   4.37%   1.86%   1.	Fixed Income Benchmark	7.05%	(1.02%)	4.36%	(0.69%)	7.47%
Western Asset         5.09%         1.44%         5.22%         2.93%         8.80%           Bloomberg Aggregate Index         6.00%         1.86%         4.37%         (0.69%)         7.47%           Real Assets         13.68%         22.79%         13.73%         13.23%         13.02%           Real Assets Benchmark         6.79%         13.15%         11.21%         10.72%         12.04%           Real Estate         19.84%         22.84%         13.73%         13.23%         13.02%           NCREIF Total Index         10.64%         12.98%         11.21%         10.72%         12.04%           NFI-ODCE Equal Weight Net         11.24%         13.64%         11.37%         10.80%         11.46%           Woodmont         43.44%         37.42%         14.06%         13.03%         12.26%           AEW Partners V Fund         35.97%         44.36%         27.76%         20.69%         23.82%           RREEF America III         (9.18%)         24.69%         27.46%         19.17%         20.69%           ING Clarion         -         -         -         -         -         -         -         -         -         -         -         -         -         - <td></td> <td>6.05%</td> <td>1.79%</td> <td>6.31%</td> <td>1.74%</td> <td>8.39%</td>		6.05%	1.79%	6.31%	1.74%	8.39%
Bloomberg Aggregate Index   6.00%   1.86%   4.37%   (0.69%)   7.47%						
Real Assets         13.68%         22.79%         13.73%         13.23%         13.02%           Real Assets Benchmark         6.79%         13.15%         11.21%         10.72%         12.04%           Real Estate         19.84%         22.84%         13.73%         13.23%         13.02%           NCREIF Total Index         10.64%         12.98%         11.21%         10.72%         12.04%           NFI-ODCE Equal Weight Net         11.24%         13.64%         11.37%         10.80%         11.46%           Woodmont         43.44%         37.42%         14.06%         13.03%         12.26%           AEW Partners V Fund         35.97%         44.36%         27.76%         20.69%         23.82%           RREEF America III         (9.18%)         24.69%         27.46%         19.17%         20.69%           ING Clarion         -         -         -         -         -         10.01%           Private Equity         9.29%         10.45%         25.66%         12.34%         5.16%           Total Fund - NOF         2.19%         5.02%         18.65%         15.01%         1.67%           Total Fund Target         1.18%         3.07%         18.12%						
Real Assets Benchmark       6.79%       13.15%       11.21%       10.72%       12.04%         Real Estate NCREIF Total Index NFI-ODCE Equal Weight Net       19.84%       22.84%       13.73%       13.23%       13.02%         NFI-ODCE Equal Weight Net       10.64%       12.98%       11.21%       10.72%       12.04%         NFI-ODCE Equal Weight Net       11.24%       13.64%       11.37%       10.80%       11.46%         Woodmont AEW Partners V Fund AEW Partners V Fund AEW Partners U Fund Sports U Fund Sponsor Database       35.97%       44.36%       27.76%       20.69%       23.82%         RREEF America III (9.18%)       24.69%       27.46%       19.17%       20.69%         ING Clarion       -       -       -       -       -         Private Equity       9.29%       10.45%       25.66%       12.34%       5.16%         Total Fund - NOF       2.19%       5.02%       18.65%       15.01%       1.67%         Total Fund Target Public Fund Sponsor Database       1.18%       3.07%       18.12%       12.74%       2.02%         Public Fund Sponsor Database       0.88%       3.20%       16.37%       11.99%       1.24%	Bloomberg Aggregate Index	6.00%	1.86%	4.37%	(0.69%)	7.47%
Real Estate         19.84%         22.84%         13.73%         13.23%         13.02%           NCREIF Total Index NFI-ODCE Equal Weight Net         10.64%         12.98%         11.21%         10.72%         12.04%           NFI-ODCE Equal Weight Net         11.24%         13.64%         11.37%         10.80%         11.46%           Woodmont AEW Partners V Fund         43.44%         37.42%         14.06%         13.03%         12.26%           RREEF America III         (9.18%)         24.69%         27.76%         20.69%         23.82%           RREEF America III         (9.18%)         24.69%         27.46%         19.17%         20.69%           ING Clarion         -         -         -         -         -         10.01%           Private Equity         9.29%         10.45%         25.66%         12.34%         5.16%           Total Fund - NOF         2.19%         5.02%         19.22%         15.60%         2.26%           Total Fund Target Public Fund Sponsor Database         1.18%         3.07%         18.12%         12.74%         2.02%           Public Fund Sponsor Database         0.88%         3.20%         16.37%         11.99%         1.24%						
NCREIF Total Index NFI-ODCE Equal Weight Net       10.64%       12.98%       11.21%       10.72%       12.04%         NFI-ODCE Equal Weight Net       11.24%       13.64%       11.37%       10.80%       11.46%         Woodmont AEW Partners V Fund AEW Partners V Fund SING Clarion       43.44%       37.42%       14.06%       13.03%       12.26%         RREEF America III ING Clarion       (9.18%)       24.69%       27.46%       19.17%       20.69%         ING Clarion       -       -       -       -       -       -       10.01%         Private Equity       9.29%       10.45%       25.66%       12.34%       5.16%         Total Fund - NOF       2.19%       5.02%       18.65%       15.01%       1.67%         Total Fund Target Public Fund Sponsor Database       1.18%       3.07%       18.12%       12.74%       2.02%         Public Fund Sponsor Database       0.88%       3.20%       16.37%       11.99%       1.24%	Real Assets Benchmark	6.79%	13.15%	11.21%	10.72%	12.04%
NCREIF Total Index NFI-ODCE Equal Weight Net       10.64%       12.98%       11.21%       10.72%       12.04%         NFI-ODCE Equal Weight Net       11.24%       13.64%       11.37%       10.80%       11.46%         Woodmont AEW Partners V Fund AEW Partners V Fund AEW Partners U Fund RREEF America III       35.97%       44.36%       27.76%       20.69%       23.82%         RREEF America III       (9.18%)       24.69%       27.46%       19.17%       20.69%         ING Clarion       -       -       -       -       -       -       10.01%         Private Equity       9.29%       10.45%       25.66%       12.34%       5.16%         Total Fund - NOF       2.19%       5.02%       18.65%       15.01%       1.67%         Total Fund Target Public Fund Sponsor Database       1.18%       3.07%       18.12%       12.74%       2.02%         Public Fund Sponsor Database       0.88%       3.20%       16.37%       11.99%       1.24%	Poal Estato	10 9/1%	22 84%	12 720/	12 22%	13 02%
NFI-ODCE Equal Weight Net       11.24%       13.64%       11.37%       10.80%       11.46%         Woodmont AEW Partners V Fund STEP America III       43.44%       37.42%       14.06%       13.03%       12.26%         RREEF America III       (9.18%)       24.69%       27.46%       19.17%       20.69%         ING Clarion       -       -       -       -       -         Private Equity       9.29%       10.45%       25.66%       12.34%       5.16%         Total Fund Total Fund - NOF       2.19%       5.02%       19.22%       15.60%       2.26%         Total Fund Target Public Fund Sponsor Database       1.18%       3.07%       18.12%       12.74%       2.02%         Public Fund Sponsor Database       0.88%       3.20%       16.37%       11.99%       1.24%						
AEW Partners V Fund RREEF America III (9.18%) 24.69% 27.76% 20.69% 23.82% 24.69% 27.46% 19.17% 20.69% ING Clarion 10.01% 25.66% 12.34% 5.16% 27.46% 19.17% 20.69% ING Clarion 10.01% 25.66% 12.34% 5.16% 25.66% 12.34% 5.16% 25.66% 12.34% 5.16% 25.66% 15.01% 15.01% 16.7% 26.8% 27.76% 27.						
AEW Partners V Fund RREEF America III (9.18%) 24.69% 27.76% 20.69% 23.82% 24.69% 27.46% 19.17% 20.69% ING Clarion 10.01% 25.66% 12.34% 5.16% 27.46% 19.17% 20.69% ING Clarion 10.01% 25.66% 12.34% 5.16% 25.66% 12.34% 5.16% 25.66% 12.34% 5.16% 25.66% 15.01% 15.01% 16.7% 26.8% 27.76% 27.	Woodmont	43 44%	37 42%	14 06%	13 03%	12 26%
RREEF America III ING Clarion       (9.18%)       24.69%       27.46%       19.17%       20.69% Inc.         Private Equity       9.29%       10.45%       25.66%       12.34%       5.16%         Total Fund Total Fund - NOF       2.19%       5.02%       19.22%       15.60%       2.26% Inc.         Total Fund Target Public Fund Sponsor Database       1.18%       3.07%       18.12%       12.74%       2.02% Inc.         Public Fund Sponsor Database       0.88%       3.20%       16.37%       11.99%       1.24%						
ING Clarion       -       -       -       -       -       -       10.01%         Private Equity       9.29%       10.45%       25.66%       12.34%       5.16%         Total Fund       2.68%       5.52%       19.22%       15.60%       2.26%         Total Fund - NOF       2.19%       5.02%       18.65%       15.01%       1.67%         Total Fund Target Public Fund Sponsor Database       1.18%       3.07%       18.12%       12.74%       2.02%         Public Fund Sponsor Database       0.88%       3.20%       16.37%       11.99%       1.24%						
Total Fund         2.68%         5.52%         19.22%         15.60%         2.26%           Total Fund - NOF         2.19%         5.02%         18.65%         15.01%         1.67%           Total Fund Target         1.18%         3.07%         18.12%         12.74%         2.02%           Public Fund Sponsor Database         0.88%         3.20%         16.37%         11.99%         1.24%	ING Clarion	- '	-	-	-	10.01%
Total Fund - NOF       2.19%       5.02%       18.65%       15.01%       1.67%         Total Fund Target       1.18%       3.07%       18.12%       12.74%       2.02%         Public Fund Sponsor Database       0.88%       3.20%       16.37%       11.99%       1.24%	Private Equity	9.29%	10.45%	25.66%	12.34%	5.16%
Total Fund - NOF       2.19%       5.02%       18.65%       15.01%       1.67%         Total Fund Target       1.18%       3.07%       18.12%       12.74%       2.02%         Public Fund Sponsor Database       0.88%       3.20%       16.37%       11.99%       1.24%	Total Fund	2.68%	5.52%	19.22%	15.60%	2.26%
Public Fund Sponsor Database 0.88% 3.20% 16.37% 11.99% 1.24%						
Public Fund Sponsor Database 0.88% 3.20% 16.37% 11.99% 1.24%	Total Fund Target	1 18%	3.07%	18 12%	12 74%	2 02%
1.00/0 1.00/0 1.00/0 1.00/0 1.00/0 1.00/0 1.00/0	7.00% Actuarial Assumption	7.00%	7.00%	7.00%	7.00%	7.00%



The table below details the rates of return for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	12/2019-				
	9/2020	2019	2018	2017	2016
Domestic Equity Equity Benchmark	<b>0.31%</b> 5.41%	<b>28.93%</b> 31.02%	<b>(5.14%)</b> (5.24%)	<b>20.85%</b> 21.13%	<b>13.35%</b> 12.74%
Large Cap Equity	5.80%	31.67%	(4.56%)	21.89%	12.04%
SSGA S&P 500 Index Fund	5.53%	31.46%	(4.36%)	21.86%	12.03%
S&P 500 Index	5.57%	31.49%	(4.38%)	21.83%	11.96%
Small Cap Equity	(12.19%)	22.34%	(8.19%)	18.21%	16.70%
DFA Small Cap Core	(13.87%)	22.19%			· · · ·
Russell 2000 Index	(8.69%)	25.52%	(11.01%)	14.65%	21.31%
International Equity	(2.63%)	24.44%	(12.81%)	29.99%	0.23%
International Benchmark	(5.21%)	21.63%	(14.76%)	27.81%	4.41%
Morgan Stanley Value	(1.54%)	21.63%	(12.86%)	26.28%	(0.82%)
Artisan Partners Growth	(0.31%)	30.65%	`(9.79%)	32.52%	(8.53%)
MSCI EAFE Index	(7.09%)	22.01%	(13.79%)	25.03%	1.00%
TimesSquare Intl Small Cap MSCI EAFE Small Cap	(3.45%) (4.20%)	24.96%	(17.89%)	33.01%	- 2.18%
Parametric Emerging	(12.98%)	13.48%	(17.89%)	28.61%	13.85%
MSCI Emerging Markets Index	(1.16%)	18.44%	(14.57%)	37.28%	11.19%
Fixed Income	9.12%	8.87%	(0.09%)	5.43%	4.55%
Fixed Income Benchmark	6.59%	8.21%	(0.17%)	4.55%	2.70%
Wellington Core Plus	8.35%	10.16%	(0.17%)	5.11%	4.93%
Bloomberg Aggregate Index	6.79%	8.72%	0.01%	3.54%	2.65%
Western Asset Intermediate Credit	7.10%	10.11%	(0.07%)	4.43%	5.21%
Blended Benchmark**** Colchester Global	5.45% 5.75%	9.52% 8.02%	0.01% (0.47%)	3.67% 8.68%	3.68% 4.33%
FTSE World Govt Bond Index	7.14%	5.90%	(0.84%)	7.49%	1.60%
Real Assets	(1.71%)	7.26%	1.01%	7.91%	9.37%
Real Asset Benchmark	(4.13%)	9.32%	0.40%	7.42%	11.18%
Private Real Estate	(0.76%)	1.54%	7.30%	6.57%	8.11%
NFI-ODCE Equal Weight Net	(0.40%)	5.18%	7.30%	6.92%	8.36%
UBS Trumbull Property Fund	(2.17%)	(1.91%)	6.97%	6.29%	7.21%
AEW Core Property Trust	(0.18%)	6.24%	7.73%	7.96%	8.49%
Public Real Assets	(2.47%)	15.95%	(7.59%)	10.03%	11.14%
Public Real Assets Benchmark	(9.90%)	14.08%	(7.27%)	7.95%	14.37%
BlackRock TIPS Index Fund	9.40%	8.53%	(1.12%)	3.24%	4.84%
Bloomberg US TIPS Index	9.22%	8.43%	(1.26%)	3.01%	4.68%
BlackRock REIT Index Fund (1)	(21.30%)	23.15%	(4.16%)	6.10%	8.62%
DJ US Select REIT Index	(21.36%)	23.10%	(4.22%)	3.76%	6.68%
MSCI REIT Index	(17.12%)	25.84%	(4.57%)	5.07%	8.60%
Invesco Commodity Fund (2) Bloomberg Commodity Index	(7.20%) (12.08%)	6.23% 7.69%	(10.99%) (11.25%)	5.91% 1.70%	11.05% 11.77%
KBI Global Resources Fund (3)	4.86%	25.87%	(13.86%)	25.66%	21.17%
S&P Global Natural Resources Index	(17.90%)	16.41%	(13.08%)	21.98%	31.45%
KBI Custom Benchmark (4)	13.00%	28.74%	(13.77%)	21.95%	7.57%
Private Equity**	4.05%	18.53%	16.44%	22.16%	13.53%
Total Fund	2.06%	18.73%	(2.68%)	17.41%	8.10%
Total Fund - NOF	1.73%	18.19%	(3.16%)	16.81%	7.61%
Total Fund -IRR	1.61%	18.56%	(2.91%)	17.28%	8.13%
Total Fund Target	1.93%	20.11%	(5.33%)	16.58%	8.26%
Public Fund Sponsor Database	2.15%	17.96%	(3.82%)	15.55%	7.73%

<sup>\*\*\*\*</sup>Blended Index = Bloomberg Aggregate through 2/10/14 and Bloomberg U.S. Intermediate Credit thereafter.



The Total Fund/Plan IRR Calculation is based upon best available data.
(1) MCERA changed managers in 3Q17. Prior returns linked to Vanguard REIT Index Fund.
(2) MCERA changed managers in 2Q16. Prior returns linked to BlackRock Commodity Index Fund.
(3) MCERA changed managers in 3Q16. Prior returns linked to SSGA Natural Resources Index Fund.

<sup>(4)</sup> KBI Custom Benchmark consists of 1/3 each: S-Network Global Water Index, Wilderhill New Energy

Global Innovation Index, and Dax Global Agribusiness Index.

\*\*Current market values are those of the prior quarter, adjusted for capital calls and distributions

of current quarter.
\*\*\*Estimate

The table below details the rates of return for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Domestic Equity		2015	2014	2013	2012	2011
Equity Benchmark  0.48% 12.56% 33.55% 16.42% 1.03%  Large Cap Equity  1.46% 13.70% 32.40% 16.68% (0.79%)  SSGA SSP 500 Index Fund  1.44% 13.69% 32.39% 16.07% 2.14%  SRP 500 Index  1.38% 13.69% 32.39% 16.00% 2.11%  Small Cap Equity  (6.22%) 4.65% 38.37% 18.28% (2.29%)  Russell 2000 Index  (4.41%) 4.89% 38.82% 16.03% (4.18%)  DFA Value  (6.62%) 4.65% 38.37% 18.28% (2.29%)  Russell 2000 Index  (7.47%) 4.22% 34.52% 16.03% (5.55%)  Russell 2000 Value Index  (7.47%) 4.22% 34.52% 16.05% (5.55%)  Russell 2000 Growth Index  (7.47%) 4.22% 34.52% 16.05% (5.55%)  Russell 2000 Growth Index  (1.38%) 5.60% 43.30% 14.59% (2.91%)  International Equity  (0.66%) (3.27%) 22.57% 23.53% (8.87%)  International Enchmark  (4.60%) (3.89%) 15.82% 17.04% (14.31%)  Morgan Stanley Value  1.17% (5.10%) 22.75% 23.53% (8.87%)  International Benchmark  (2.61%) (2.44% 26.68% 26.68% 26.67% (6.12%)  MSCI EAFE Index  (0.81%) (2.49% 26.68% 26.68% 26.67% (6.12%)  IRSU EAFE Index  (0.81%) (3.90%) 3.30% 14.59% (12.41%)  FIAM International Small Cap 12.54% (5.75%) 31.84% 26.26% (13.39%)  SAP EPAC Small Cap Index  (3.81%) (3.55%) (3.00%) 3.30% (14.40%)  Fored Income  (0.61%) (3.95%) 3.74% (2.02%) 4.21% 7.84%  Wellington Core Plus  8000 Energing Markets Index  (1.45.2%) (2.19%) (2.60%) 18.23% (13.39%)  Fixed Income Benchmark  (0.39%) 3.74% (2.02%) 4.21% 7.84%  Wellington Core Plus  8000 Energing Markets Index  (3.35%) (3.55%) (3.00%) 3.30% (3.42%) (3.55%) (3.55%)  FISE World Govt Bond Index  (3.35%) 15.55% (3.00%) 1.65% (3.00%) 1.65% (3.35%)  Fixed Income Benchmark  (0.39%) 1.555% (1.00%) 1.65% (1.28%) 1.428%  Private Real Estate  (0.90%) 1.555% (1.00%) 1.65% (1.28%) 1.428%  NCREST Foreign Markets Index  (1.42%) 1.66% (1.29%) 1.66% (1.29%) 1.65% (1.29%) 1.65%  FISE World Govt Bond Index  (3.37%) 1.65% (3.00%) 1.65% (3.00%) 1.65% (3.00%) 1.65%  REAL Assets Enchmark  (0.90%) 1.555% (1.90%) 1.28% (1.428%) 1.428%  NFILE Foreign Markets Index  (1.42%) 1.66% (3.00%) 1.65% (3.00%) 1.65% (3.00%) 1.65%  REAL Assets Enchmark  (1.42%) 1.66% (3.00%) 1.65% (3.00%) 1.6	Domestic Equity	(0.72%)	11.02%	34.25%	17.20%	(1.09%)
SSGÅ S&P 500 Index Fund		0.48%				1.03%
SSGÅ S&P 500 Index Fund	Large Cap Equity	1.46%	13.70%	32.40%	16.68%	(0.79%)
Dodge & Cox Value						
RCM Growth		-	-	-	20.59%	(3.02%)
S&P 500 Index 1.38% 13.69% 32.39% 16.00% 2.11% (Small Cap Equity Russell 2000 Index (4.41%) 4.65% 38.7% 18.28% (2.29%) Russell 2000 Index (4.41%) 4.89% 38.82% 16.33% (4.18%) DFA Value (6.06%) 5.04% 42.66% 22.41% (6.75%) 6.75% Columbus Circle Growth (6.66%) 4.51% 32.88% 14.09% 2.49% Russell 2000 Growth Index (1.38%) 5.60% 43.30% 14.59% (2.91%) International Equity (0.66%) (3.27%) 22.57% 23.53% (6.87%) International Equity (0.66%) (3.27%) 22.57% 23.53% (6.87%) International Enchmark (4.60%) (3.89%) 15.82% 17.04% (1.431%) Artisan Partners Growth (2.61%) 0.24% 26.68% 26.87% (6.12%) Artisan Partners Growth (2.61%) 0.24% 26.68% 26.87% (6.12%) Artisan Partners Growth (2.61%) 0.24% 26.68% 26.87% (6.12%) FIAM International Small Cap 12.54% (5.75%) 31.84% 26.26% (13.39%) FIAM International Small Cap 12.54% (5.75%) 31.84% 26.26% (13.39%) Parametric Emerging (15.12%) (3.00%) 3.38% 21.17% (17.23%) MSCI EARC Small Cap Index 8.58% (3.43%) 27.93% 19.92% (14.44%) Parametric Emerging (15.12%) (3.00%) 3.38% 21.17% (17.23%) Rixed Income Benchmark (14.92%) (2.19%) (2.00%) 4.21% (7.84%) Rixed Income Benchmark (15.55% 5.97% (2.00%) 4.21% (7.39%) Rixed Income Benchmark (15.55% 5.97% (2.00%) 4.21% (7.39%) Rixed Income Benchmark (15.55% 5.97% (2.00%) 4.21% (7.84%) Rixed Income Benchma		-	-	-	10.26%	(3.73%)
DFA Value	S&P 500 Index	1.38%	13.69%	32.39%	16.00%	2.11%
DFA Value	Small Cap Equity	(6,22%)	4.65%	38.37%	18.28%	(2.29%)
Russell 2000 Value Index			4.89%	38.82%	16.35%	(4.18%)
Russell 2000 Value Index	DFA Value	(6.06%)	5 04%	42 66%	22 41%	(6.75%)
Columbus Circle Growth (6.66%) 4.51% 32.88% 14.09% 2.49% (2.91%) Russell 2000 Growth Index (1.38%) 5.60% 43.30% 14.59% (2.91%) International Equity (0.66%) (3.27%) 22.57% 23.53% (8.87%) International Benchmark (4.60%) (3.89%) 15.82% 17.04% (14.31%) Morgan Stanley Value 1.17% (5.10%) 22.57% 20.70% (7.40%) Artisan Partners Growth (2.61%) 0.24% 26.68% 26.87% (6.12%) MSCI EAFE Index (0.81%) (4.90%) 22.78% 17.32% (12.14%) FIAM International Small Cap Index 8.56% (3.43%) 27.93% 19.92% (14.74%) S&P EPAC Small Cap Index 8.56% (3.43%) 27.93% 19.92% (14.74%) MSCI Emerging Markets Index (1.492%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.02%) 4.21% (2.02%) 4.21		(7.47%)				
Russell 2000 Growth Index  (1.38%) 5.60% 43.30% 14.59% (2.91%)  International Equity (0.66%) (3.27%) 22.57% 23.53% (8.87%)  Morgan Stanley Value 1.17% (5.10%) 21.79% 20.70% (7.40%)  Morgan Stanley Value 1.17% (5.10%) 21.79% 20.70% (7.40%)  Artisan Partners Growth (2.61%) 0.24% 26.68% 26.87% (6.12%)  MSCI EAFE Index (0.81%) (4.90%) 22.78% 17.32% (12.14%)  FIAM International Small Cap 12.54% (5.75%) 31.84% 26.26% (13.39%)  SSAP EPAC Small Cap Index 8.58% (3.34%) 27.93% 19.92% (14.74%)  Parametric Emerging (15.12%) (3.00%) 3.38% 21.17% (17.23%)  MSCI Emerging Markets Index (14.92%) (2.60%) 18.23% (18.42%)  Fixed Income (0.61%) 4.46% (0.90%) 8.28% 7.93%  Fixed Income (0.61%) 4.46% (0.90%) 8.28% 7.93%  Fixed Income (0.55% 5.97% (2.02%) 4.21% 7.84%  Wellington Core Plus 0.30% 6.40% (0.79%) 8.03% 7.82%  Bloomberg Aggregate Index 0.55% 5.97% (2.02%) 4.21% 7.84%  Western Asset 1.25% 4.56% (0.66%) 9.79% 7.39%  Blended Benchmark*** 0.90% 4.16% (2.02%) 4.21% 7.84%  Vestern Asset 1.25% 4.56% (0.66%) 9.79% 7.39%  PETSE World Govt Bond Index (3.57%) (0.48%) (0.48%) 10.99% 10.54% 14.26%  Private Real Estate 29.00% 15.55% 13.01% 14.69% 13.57%  Real Assets 18.37% 15.55% 13.01% 14.69% 13.57%  NCREIF Total Index 13.33% 11.82% 10.99% 10.54% 14.26%  Private Real Estate 29.00% 15.55% 13.01% 14.69% 13.57%  NCREIF Total Index 13.33% 11.82% 10.99% 10.54% 14.26%  Private Real Estate 29.00% 15.55% 13.01% 14.69% 13.57%  NCREIF Total Index 13.33% 11.82% 10.99% 10.54% 14.26%  Private Real Estate 29.00% 15.55% 13.01% 14.69% 13.57%  NCREIF Total Index 13.33% 11.82% 10.99% 10.54% 14.26%  Private Real Estate 29.00% 15.55% 13.01% 14.69% 13.57%  NCREIF Total Index 13.33% 11.82% 10.99% 10.54% 14.26%  Private Real Estate 29.00% 15.55% 13.01% 15.09% 10.54% 14.26%  Private Real Estate 29.00% 15.55% 13.01% 15.09% 10.54% 14.26%  Private Real Estate 29.00% 15.55% 13.01% 15.09% 10.54% 14.26%  Private Real Estate 29.00% 15.55% 13.01% 15.09% 10.54% 14.26%  Private Real Estate 29.00% 15.55% 13.09% 10.54% 10.54% 14.26%  Private Real Estate 29.00% 15.55% 13.09		(6.66%)				
International Benchmark						
International Benchmark	ntornational Equity	(0.66%)	(3.27%)	22 57%	22 53%	(9.97%)
Artisan Partner's Growth (2.61%) (2.4% (26.68% 26.87% (6.12%) MSCI EAFE Index (0.81%) (4.90%) 22.78% 17.32% (12.14%) FIAM International Small Cap 12.54% (5.75%) 31.84% 26.26% (13.39%) S&P EPAC Small Cap Index 8.58% (3.43%) 27.93% 19.92% (14.74%) Parametric Emerging (15.12%) (3.00%) 3.38% 21.17% (17.23%) MSCI Emerging Markets Index (14.92%) (2.19%) (2.60%) 18.23% (18.42%) Fixed Income (0.61%) 4.46% (0.90%) 82.88% 7.33% Fixed Income Benchmark (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.88%) 4.16% (2.02%) 4.21% 7.84% (0.66%) 9.79% 7.39% (0.88%) 4.16% (2.02%) 4.21% 7.84% (0.66%) 9.79% 7.39% (0.88%) 4.16% (0.98%)						
Artisan Partner's Growth (2.61%) (2.4% (26.68% 26.87% (6.12%) MSCI EAFE Index (0.81%) (4.90%) 22.78% 17.32% (12.14%) FIAM International Small Cap 12.54% (5.75%) 31.84% 26.26% (13.39%) S&P EPAC Small Cap Index 8.58% (3.43%) 27.93% 19.92% (14.74%) Parametric Emerging (15.12%) (3.00%) 3.38% 21.17% (17.23%) MSCI Emerging Markets Index (14.92%) (2.19%) (2.60%) 18.23% (18.42%) Fixed Income (0.61%) 4.46% (0.90%) 82.88% 7.33% Fixed Income Benchmark (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.66%) 9.79% 7.39% (0.88%) 4.16% (2.02%) 4.21% 7.84% (0.66%) 9.79% 7.39% (0.88%) 4.16% (2.02%) 4.21% 7.84% (0.66%) 9.79% 7.39% (0.88%) 4.16% (0.98%)	Margan Stanlay Value	4 470/	,	24.700/	20.700/	,
MSCI EAFE Index   (0.81%)   (4.90%)   (2.78%   17.32%   (12.14%)   (5.75%)   31.84%   (26.26%   13.39%)   S&P EPAC Small Cap Index   (8.58%   (3.43%)   27.93%   19.92%   (14.74%)   (14.74%)   (2.19%)   (2.60%)   18.23%   (18.42%)   (14.92%)   (2.19%)   (2.60%)   (18.23%   (18.42%)   (18.42%)   (14.92%)   (2.19%)   (2.60%)   (2.60%)   (18.23%   (18.42%)   (18.42%)   (18.42%)   (2.19%)   (2.60%)   (2.60%)   (18.23%   (18.42%)   (18.42%)   (18.42%)   (18.42%)   (18.42%)   (18.42%)   (18.42%)   (18.42%)   (2.19%)   (2.60%)   (18.23%   (18.42%)	Morgan Stanley Value		(5.10%)			
FIAM International Small Cap 12.54% (5.75%) 31.84% 26.26% (13.39%) S&P EPAC Small Cap Index 8.58% (3.43%) 27.93% 19.92% (14.74%) Parametric Emerging (15.12%) (3.00%) 3.38% 21.17% (17.23%) MSCI Emerging Markets Index (14.92%) (2.19%) (2.60%) 18.23% (18.42%) (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.60%) 18.23% (18.42%) (2.19%) (2.00%) 4.21% 7.84% (2.02%) 4.21% 7.24% 7.24% 7.24% 7.24% 7.24% 7.24% 7.24% 7.24% 7.24% 7.24% 7.24% 7.24% 7.24% 7.24						
S&P EPAC Small Cap Index Parametric Emerging Parametric Emerging MSCI Emerging Markets Index (14.92%) (2.19%) (2.60%) MSCI Emerging Markets Index (14.92%) (2.19%) (2.60%) MSCI Emerging Markets Index (14.92%) (2.19%) (2.60%) MSCI Emerging Markets Index (18.42%) (18.43%) (2.02%) (4.21%) (4.21%) (2.02%) (4.21%) (4.21%) (2.02%) (4.21%) (4.21%) (2.02%) (4.21%) (4.21%) (2.02%) (4.21%) (4.20%) (4.21%) (2.02%) (4.00%) (4.00%) (1.65%) (5.5%) (5.5%) (5.6%) (5.6%)						
Parametric Emerging (15, 12%) (3,00%) 3,38% 21,17% (17,23%) MSCI Emerging Markets Index (14,92%) (2,19%) (2,60%) 18,23% (18,42%) (18,42%) (2,19%) (2,60%) 18,23% (18,42%) (18,42%) (18,42%) (2,00%) 18,23% (18,42%) (18,42%						
MSCI Emerging Markets Index   (14.92%)   (2.19%)   (2.60%)   18.23%   (18.42%)			(3.43%)			
Fixed Income Fixed Income Fixed Income Fixed Income Benchmark (0.39%) 3.74% (2.02%) 4.21% 7.84% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% 7.84% (0.39%) 3.74% (2.02%) 4.21% 7.84% (0.39%) 4.50% 5.97% (2.02%) 4.21% 7.84% (0.66%) 9.79% 7.39% (0.66%) 9.30% 10.55% (0.65%) 13.01% 14.69% 13.57% (0.66%) 9.98% 10.54% 14.26% (0.66%) 9.79% 7.39% (0.66%) 9.98% 10.54% 14.26% (0.66%) 9.93% 10.54% 10.54% 10.26% (0.66%) 9.93% 10.26% (0.66%) 9.93% 10.26% (0.66%) 9.93% 10			(3.00%)			
Fixed Income Benchmark  (0.39%)  3.74%  (2.02%)  4.21%  7.84%  Wellington Core Plus  0.30%  6.40%  (0.79%)  8.03%  7.82%  Bloomberg Aggregate Index  0.55%  5.97%  (2.02%)  4.21%  7.84%  Western Asset  1.25%  4.56%  (0.66%)  9.79%  7.39%  Blended Benchmark****  0.90%  4.16%  (2.02%)  4.21%  7.84%  7.84%  Colchester Global  (5.52%)  FTSE World Govt Bond Index  (3.57%)  Real Assets  18.37%  15.55%  13.01%  14.69%  13.57%  Real Assets Benchmark  7.84%  11.82%  10.98%  10.54%  11.65%  13.57%  NCREIF Total Index  NCREIF Total Index  NFI-ODCE Equal Weight Net  14.18%  11.42%  12.36%  13.48%  15.29%  11.86%  UBS Trumbull Property Fund  12.93%  11.56%  13.48%  15.29%  11.86%  UBS Trumbull Property Fund  12.93%  11.56%  11.31%	MSCI Emerging Markets Index	(14.92%)	(2.19%)	(2.60%)	18.23%	(18.42%)
Wellington Core Plus         0.30%         6.40%         (0.79%)         8.03%         7.82%           Bloomberg Aggregate Index         0.55%         5.97%         (2.02%)         4.21%         7.84%           Western Asset         1.25%         4.56%         (0.66%)         9.79%         7.39%           Blended Benchmark*****         0.90%         4.16%         (2.02%)         4.21%         7.84%           Colchester Global         (5.52%)         -         -         -         -           FTSE World Govt Bond Index         (3.57%)         (0.48%)         (4.00%)         1.65%         6.35%           Real Assets         18.37%         15.55%         13.01%         14.69%         13.57%           Real Assets Benchmark         5.44%         11.82%         10.98%         10.54%         14.26%           Private Real Estate         29.00%         15.55%         13.01%         14.69%         13.57%           NCREIF Total Index         13.33%         11.82%         10.98%         10.54%         14.26%           NFI-ODCE Equal Weight Net         14.18%         11.42%         12.36%         9.93%         14.99%           Woodmont         64.21%         18.76%         1.348%         15.29%						
Bloomberg Aggregate Index   0.55%   5.97%   (2.02%)   4.21%   7.84%   Western Asset   1.25%   4.56%   (0.66%)   9.79%   7.39%   Blended Benchmark****   0.90%   4.16%   (2.02%)   4.21%   7.84%   Colchester Global   (5.52%)   -	Fixed Income Benchmark	(0.39%)	3.74%	(2.02%)	4.21%	7.84%
Bloomberg Aggregate Index   0.55%   5.97%   (2.02%)   4.21%   7.84%   Western Asset   1.25%   4.56%   (0.66%)   9.79%   7.39%   Blended Benchmark****   0.90%   4.16%   (2.02%)   4.21%   7.84%   Colchester Global   (5.52%)   -	Wellington Core Plus	0.30%	6.40%	(0.79%)	8.03%	7.82%
Western Asset*         1.25%         4.56%         (0.66%)         9.79%         7.39%           Blended Benchmark****         0.90%         4.16%         (2.02%)         4.21%         7.84%           Colchester Global         (5.52%)         - <td></td> <td>0.55%</td> <td>5.97%</td> <td>(2.02%)</td> <td>4.21%</td> <td>7.84%</td>		0.55%	5.97%	(2.02%)	4.21%	7.84%
Blended Benchmark**** Colchester Global FTSE World Govt Bond Index  8eal Assets Real Assets Real Assets Benchmark  7rivate Real Estate NCREIF Total Index NFI-ODCE Equal Weight Net 14.18%  15.55% 13.01% 14.69% 13.57% 15.55% 13.01% 14.69% 13.57% 14.26% 15.55% 13.01% 14.69% 13.57% 14.26% 15.55% 13.01% 14.69% 13.57% 14.26% 15.55% 13.01% 14.69% 14.26% 14.26% 15.55% 13.01% 14.69% 14.69% 14.26% 15.55% 13.01% 14.69% 14.26% 15.55% 13.01% 14.69% 15.55% 13.01% 14.69% 14.26% 15.55% 13.01% 14.69% 15.55% 13.01% 14.69% 15.55% 13.01% 14.69% 15.55% 13.01% 14.69% 15.55% 13.01% 14.69% 15.55% 13.01% 14.69% 15.55% 13.01% 14.69% 15.55% 13.01% 14.69% 15.56% 10.98% 10.54% 14.26% 14.99% 15.20% 15.36% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.29% 11.86% 15.55% 16.97% 15.03% 15.03% 15.03% 15.00% 15.		1.25%	4.56%		9.79%	7.39%
Colchester Global FTSE World Govt Bond Index (3.57%) (0.48%) (4.00%) 1.65% 6.35% 6.35% Real Assets			4.16%			7.84%
FTSE World Govt Bond Index   (3.57%)   (0.48%)   (4.00%)   1.65%   6.35%     Real Assets   18.37%   15.55%   13.01%   14.69%   13.57%     Real Assets Benchmark   5.44%   11.82%   10.98%   10.54%   14.26%     Private Real Estate   29.00%   15.55%   13.01%   14.69%   13.57%     NCREIF Total Index   13.33%   11.82%   10.98%   10.54%   14.26%     NFI-ODCE Equal Weight Net   14.18%   11.42%   12.36%   9.93%   14.99%     Woodmont   64.21%   18.72%   13.48%   15.29%   11.86%     UBS Trumbull Property Fund   12.93%   11.56%   -	Colchester Global	(5.52%)		-	_	-
Private Real Estate         29.00%         15.55%         13.01%         14.69%         13.57%           NCREIF Total Index         13.33%         11.82%         10.98%         10.54%         14.26%           NFI-ODCE Equal Weight Net         14.18%         11.82%         10.98%         10.54%         14.26%           Woodmont         64.21%         18.72%         13.48%         15.29%         11.86%           UBS Trumbull Property Fund         12.93%         11.56%         -         -         -         -           AEW Core Property Trust         13.76%         11.31%         - <td></td> <td></td> <td>(0.48%)</td> <td>(4.00%)</td> <td>1.65%</td> <td>6.35%</td>			(0.48%)	(4.00%)	1.65%	6.35%
Private Real Estate         29.00%         15.55%         13.01%         14.69%         13.57%           NCREIF Total Index         13.33%         11.82%         10.98%         10.54%         14.26%           NFI-ODCE Equal Weight Net         14.18%         11.82%         10.98%         10.54%         14.26%           Woodmont         64.21%         18.72%         13.48%         15.29%         11.86%           UBS Trumbull Property Fund         12.93%         11.56%         -         -         -         -           AEW Core Property Trust         13.76%         11.31%         - <td>Real Assets</td> <td>18 37%</td> <td>15 55%</td> <td>13 01%</td> <td>14 69%</td> <td>13 57%</td>	Real Assets	18 37%	15 55%	13 01%	14 69%	13 57%
NCREIF Total Index NFI-ODCE Equal Weight Net       13.33%       11.82%       10.98%       10.54%       14.26%         Woodmont UBS Trumbull Property Fund UBS Trumbull Property Fund AEW Core Property Trust       12.93%       11.56%       -       <						
NCREIF Total Index NFI-ODCE Equal Weight Net       13.33%       11.82%       10.98%       10.54%       14.26%         Woodmont UBS Trumbull Property Fund UBS Trumbull Property Fund AEW Core Property Trust       12.93%       11.56%       -       <						
NCREIF Total Index       13.33%       11.82%       10.98%       10.54%       14.26%         NFI-ODCE Equal Weight Net       14.18%       11.42%       12.36%       9.93%       14.99%         Woodmont       64.21%       18.72%       13.48%       15.29%       11.86%         UBS Trumbull Property Fund       12.93%       11.56%       -       -       -         AEW Core Property Trust       13.76%       11.31%       -       -       -       -         AEW Partners V (estimated)       45.46%       46.59%       26.24%       19.92%       17.13%         RREEF America III       8.52%       27.93%       16.97%       23.73%       55.41%         ING Clarion       -       -       -       -       -         Private Equity**       11.24%       14.19%       20.25%       12.28%       6.63%         Fotal Fund       2.73%       7.10%       20.94%       15.70%       1.00%         Total Fund - NOF       2.24%       6.59%       20.37%       15.03%       0.42%         Total Fund Target       (0.26%)       6.51%       17.92%       12.93%       1.13%	Private Real Estate	29.00%	15.55%	13.01%	14.69%	13.57%
NFI-ODCE Equal Weight Net  14.18%  11.42%  12.36%  9.93%  14.99%  Woodmont  Woodmont  UBS Trumbull Property Fund  12.93%  11.56%						
UBS Trumbull Property Fund AEW Core Property Trust 13.76% 11.31%						
UBS Trumbull Property Fund AEW Core Property Trust 13.76% 11.31%	Woodmont	6/1 21%	18 72%	13 /18%	15 20%	11 86%
AEW Core Property Trust 13.76% 11.31%						
AEW Partners V (estimated) RREEF America III RREEF America III REQUIRED 1				-	-	-
RREEF America III 8.52% 27.93% 16.97% 23.73% 55.41% 1NG Clarion 18.70%  Private Equity** 11.24% 14.19% 20.25% 12.28% 6.63%  Fotal Fund 7.10% 20.94% 15.70% 1.00% 6.59% 20.37% 15.03% 0.42%  Total Fund Target (0.26%) 6.51% 17.92% 12.93% 1.13%	AEW Core Property Trust  AEW Partners V (actimated)			26 24%	10.02%	17 13%
ING Clarion 18.70%  Private Equity** 11.24% 14.19% 20.25% 12.28% 6.63%  Total Fund 2.73% 7.10% 20.94% 15.70% 1.00%  Total Fund - NOF 2.24% 6.59% 20.37% 15.03% 0.42%  Total Fund Target (0.26%) 6.51% 17.92% 12.93% 1.13%						
Fotal Fund         2.73%         7.10%         20.94%         15.70%         1.00%           Total Fund - NOF         2.24%         6.59%         20.37%         15.03%         0.42%           Total Fund Target         (0.26%)         6.51%         17.92%         12.93%         1.13%		0.32 /0				
Fotal Fund         2.73%         7.10%         20.94%         15.70%         1.00%           Total Fund - NOF         2.24%         6.59%         20.37%         15.03%         0.42%           Total Fund Target         (0.26%)         6.51%         17.92%         12.93%         1.13%	Private Equitv**	11.24%	14.19%	20.25%	12.28%	6.63%
Total Fund - NOF       2.24%       6.59%       20.37%       15.03%       0.42%         Total Fund Target       (0.26%)       6.51%       17.92%       12.93%       1.13%	• •					
Total Fund Target (0.26%) 6.51% 17.92% 12.93% 1.13%						
	Total Fund - NOF	2.24%	6.59%	20.37%	15.03%	0.42%
	Total Fund Target	(0.26%)	6.51%	17.92%	12.93%	1.13%
	Public Fund Sponsor Database	0.03%	6.03%	15.77%	12.65%	0.91%



<sup>\*</sup> Current Quarter Target = 32.0% Russell 3000 Index, 22.0% MSCI ACWI ex US IMI, 11.5% Blmbg Aggregate, 8.0% NCREIF NFI-ODCE Eq Wt Net, 6.4% Russell 3000 Index, 5.8% Blmbg Intmdt Credit, 5.8% FTSE WGBI, 1.8% MSCI US REIT Index, 1.8% Blmbg Commodity TR Idx, 1.8% Blmbg:TIPS, 1.8% S&P Glb L/M Cmdty+NR (Nt) and 1.6% MSCI ACWI ex US IMI. \*\*Current market values are those of the prior quarter, adjusted for capital calls and distributions

of current quarter.

\*\*\*\*Blended Index = Bloomberg Aggregate through 2/10/14 and Bloomberg U.S. Intermediate Credit thereafter.

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2020. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

#### Returns for Periods Ended September 30, 2020

			Last	Last	Last
	Last	Last	3	5	10
Not of Food	Quarter	Year	Years	Years	Years
Net-of-Fees					
Domestic Equity Equity Benchmark	<b>7.48%</b> 9.21%	<b>9.25%</b> 15.00%	<b>9.02%</b> 11.65%	<b>11.93%</b> 13.69%	<b>12.32%</b> 13.48%
Large Cap Equity SSGA S&P 500 Index Fund	9.14% 8.92%	15.46% 15.08%	12.31% 12.24%	14.20% 14.13%	13.56%
S&P 500 Index	8.93%	15.15%	12.28%	14.15%	13.74%
Small Cap Equity	3.61% 3.51%	(4.86%) (6.77%)	0.61%	6.07%	9.06%
DFA Small Cap Core Russell 2000 Index	4.93%	0.39%	1.77%	8.00%	9.85%
International Equity International Benchmark	<b>6.31%</b> 6.80%	<b>5.18%</b> 3.51%	<b>2.64%</b> 1.13%	<b>6.63%</b> 6.31%	<b>6.16%</b> 4.17%
Morgan Stanley Value	3.70%	5.36%	2.13%	5.49%	5.56%
Artisan Partners Growth MSCI EAFE Index	7.40% 4.80%	6.98% 0.49%	6.12%	7.86%	7.38%
TimesSquare Intl Small Cap	4.80% 9.61%	0.49% 8.49%	0.62%	5.26%	4.62%
MSCI EAFE Small Cap Index	10.25%	6.84%	1.40%	7.37%	7.33%
Parametric Emerging	4.61%	(6.84%)	(4.07%)	3.68%	0.55%
MSCI Emerging Markets Index	9.56%	10.54%	2.42%	8.97%	2.51%
ixed Income Fixed Income Benchmark	<b>2.08%</b> 1.35%	<b>9.56%</b> 6.85%	<b>5.66%</b> 4.98%	<b>5.11%</b> 4.19%	<b>4.26%</b> 3.34%
Wellington Core Plus	1.23%	8.65%	6.00%	5.32%	4.64%
Bloomberg Aggregate Index Western Asset Intermediate Credit	0.62% 1.44%	6.98% 8.29%	5.24% 5.39%	4.18% 5.11%	3.64% 4.50%
Blended Benchmark****	1.24%	6.49%	4.96%	4.33%	3.56%
Colchester Global	3.88%	7.53%	3.90%	4.49%	-
FTSE World Govt Bond Index	2.94%	6.77%	4.37%	3.95%	1.86%
Real Assets Real Assets Benchmark	<b>2.81%</b> 1.94%	<b>(0.83%)</b> (1.96%)	<b>2.45%</b> 2.71%	<b>4.14%</b> 4.90%	<b>9.31%</b> 8.07%
Private Real Estate	(0.10%)	(1.07%)	2.50%	4.22%	10.03%
NFI-ODCE Equal Weight Net	0.37%	0.89%	4.64%	6.09%	9.42%
UBS Trumbull Property Fund AEW Core Property Trust	( <mark>0.34%)</mark> 0.15%	(2.82%) (0.13%)	0.81% 4.28%	2.88% 5.74%	<u>-</u>
Public Real Assets	7.28%	0.02%	2.52%	4.32%	_
Public Real Assets Benchmark	3.72%	(6.89%)	(0.26%)	3.01%	- -
BlackRock TIPS Index Fund	3.09%	10.27%	5.92%	4.76%	-
Bloomberg US TIPS Index	3.03%	10.08%	5.79%	4.61%	3.57%
BlackRock REIT Index Fund (1) DJ US Select REIT Index	0.83% 0.83%	(22.31%) (22.33%)	(1.85%) (1.85%)	2.70% 1.99%	- 7.03%
Invesco Commodity Fund (2)	9.94%	(3.38%)	(2.50%)	(2.18%)	7.03%
Bloomberg Commodity Index	9.07%	(8.20%)	(4.18%)	(3.09%)	(6.03%)
KBI Global Resources Fund (3)	14.01%	12.92%	5.55%	10.50%	(0.400)
S&P Global Natural Resources Index KBI Custom Benchmark (4)	1.95% 19.87%	(10.20%) 25.20%	( <mark>3.41%)</mark> 9.66%	6.00% 11.82%	( <mark>0.43%)</mark> 6.75%
Private Equity**	(0.09%)	8.94%	13.62%	14.10%	11.52%
Fotal Fund	4.52%	7.34%	6.53%	8.49%	9.02%
Total Fund Target	5.04%	8.11%	6.50%	8.59%	8.36%
Public Fund Sponsor Database	4.95%	7.46%	6.22%	8.06%	7.70%

of current quarter.
\*\*\*\*Blended Index = Bloomberg Aggregate through 2/10/14 and Bloomberg U.S. Intermediate Credit thereafter.



<sup>\*</sup> Current Quarter Target = 32.0% Russell 3000 Index, 22.0% MSCI ACWI ex US IMI, 11.5% Blmbg Aggregate, 8.0% NCREIF NFI-ODCE Eq Wt Net, 6.4% Russell 3000 Index (Lagged), 5.8% FTSE WGBI, 5.8% Blmbg Intmdt Credit, 1.8% S&P Global Nat Res (Net), 1.8% Blmbg Commodity TR Idx, 1.8% S&P DJ US Select REIT, 1.8% Blmbg:TIPS and 1.6% MSCI ACWI ex US Nat Res (Net), 1.8% Blmbg Commodity TR Idx, 1.8% S&P DJ US Select REIT, 1.8% Blmbg:TIPS and 1. IMI (Lagged).

(1) MCERA changed managers in 3Q17. Prior returns linked to Vanaguard REIT Index Fund.

(2) MCERA changed managers in 2Q16. Prior returns linked to BlackRock Commodity Index Fund.

(3) MCERA changed managers in 3Q16. Prior returns linked to SSGA Natural Resources Index Fund.

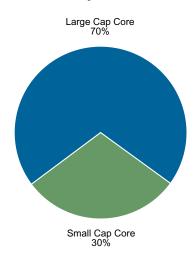
(4) KBI Custom Benchmark consists of 1/3 each: S-Network Global Water Index, Wilderhill New Energy Global Innovation Index, and Dax Global Agribusiness Index.

<sup>\*\*</sup>Current market values are those of the prior quarter, adjusted for capital calls and distributions

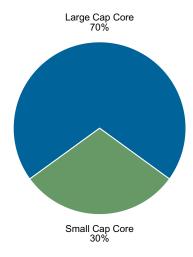
# **Actual vs Target Style Allocation** As of September 30, 2020

The first chart below shows the Fund's style allocation as of September 30, 2020. The second chart shows the Fund's target style allocation as outlined in the investment policy statement.

#### **Actual Style Allocation**



# **Target Style Allocation**



Asset Class	\$Millions Actual	Weight Actual	Target	Percent Difference	\$Millions Difference
Large Cap Core	556	70.2%	70.0%	0.2%	2
Small Cap Core	236	29.8%	30.0%	(0.2%)	(2)
Total	792	100.0%	100.0%	,	

<sup>\*</sup> Current Quarter Target = 70.0% S&P 500 Index and 30.0% Russell 2000 Index.



# Domestic Equity Composite Period Ended September 30, 2020

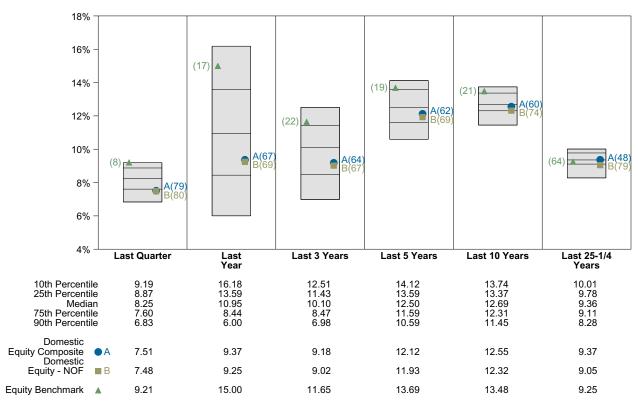
#### **Investment Philosophy**

The Equity Benchmark is comprised of 51.1% S&P/BARRA Value, 22.2% S&P 500, 15.6% Russell 2000 and 11.1% S&P/BARRA Growth through 12/31/1999, 80% S&P 500 and 20% Russell 2000 from 12/31/1999 to 06/30/2010, and 100% Russell 3000 from 06/30/2010 to present.

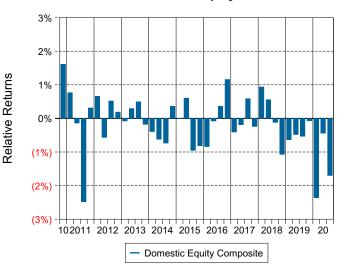
#### **Quarterly Summary and Highlights**

- Domestic Equity Composite's portfolio posted a 7.51% return for the quarter placing it in the 79 percentile of the Public Fund - Domestic Equity group for the quarter and in the 67 percentile for the last year.
- Domestic Equity Composite's portfolio underperformed the Equity Benchmark by 1.70% for the quarter and underperformed the Equity Benchmark for the year by 5.63%.

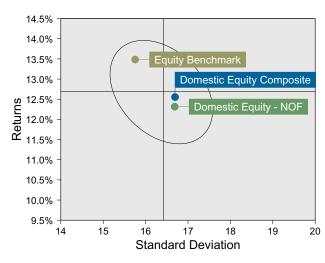
#### Performance vs Public Fund - Domestic Equity (Gross)



#### Relative Return vs Equity Benchmark



# Public Fund - Domestic Equity (Gross) Annualized Ten Year Risk vs Return



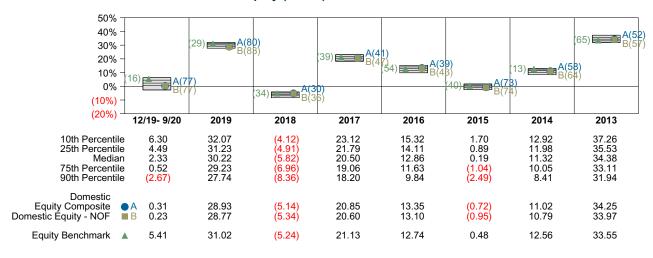


# **Domestic Equity Composite Return Analysis Summary**

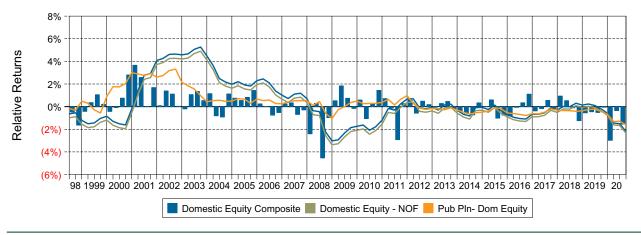
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

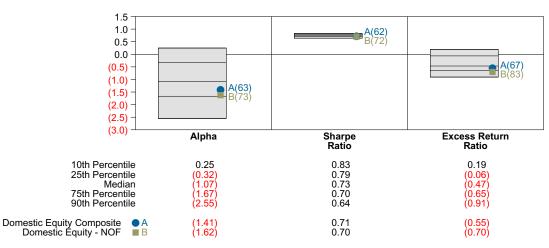
#### Performance vs Public Fund - Domestic Equity (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs Equity Benchmark



Risk Adjusted Return Measures vs Equity Benchmark Rankings Against Public Fund - Domestic Equity (Gross) Ten Years Ended September 30, 2020



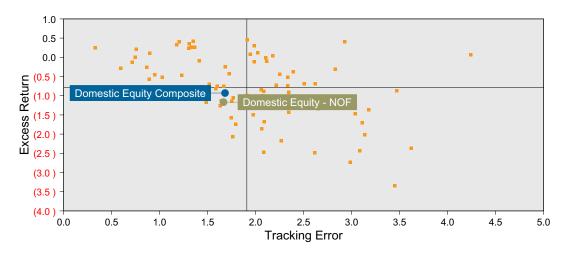


# **Domestic Equity Composite Risk Analysis Summary**

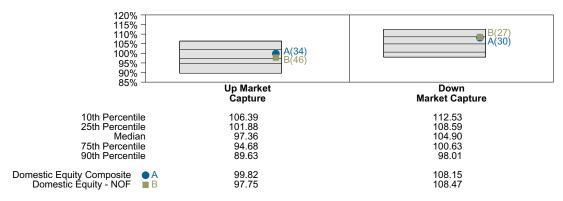
#### **Risk Analysis**

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

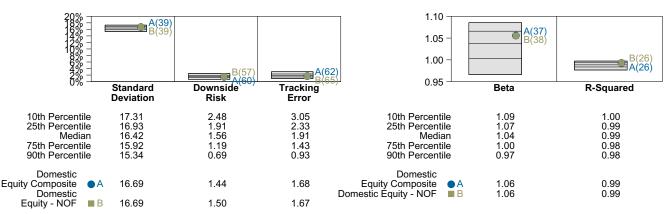
#### Risk Analysis vs Public Fund - Domestic Equity (Gross) Ten Years Ended September 30, 2020



Market Capture vs Equity Benchmark Rankings Against Public Fund - Domestic Equity (Gross) Ten Years Ended September 30, 2020



Risk Statistics Rankings vs Equity Benchmark Rankings Against Public Fund - Domestic Equity (Gross) Ten Years Ended September 30, 2020



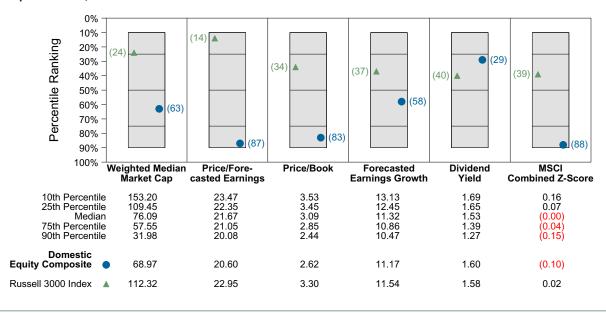


# Domestic Equity Composite Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

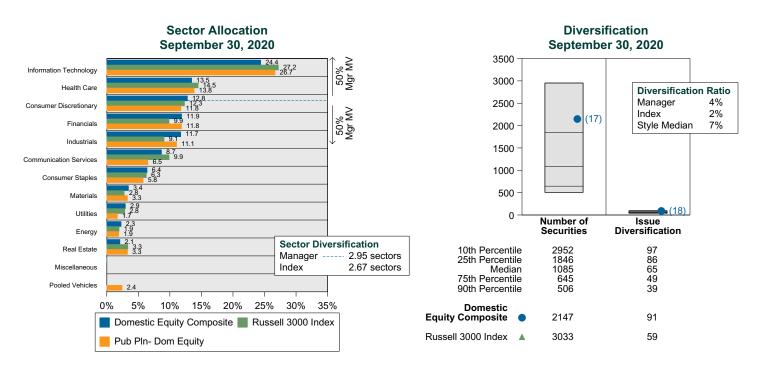
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Portfolio Characteristics Percentile Rankings Rankings Against Public Fund - Domestic Equity as of September 30, 2020



#### **Sector Weights**

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

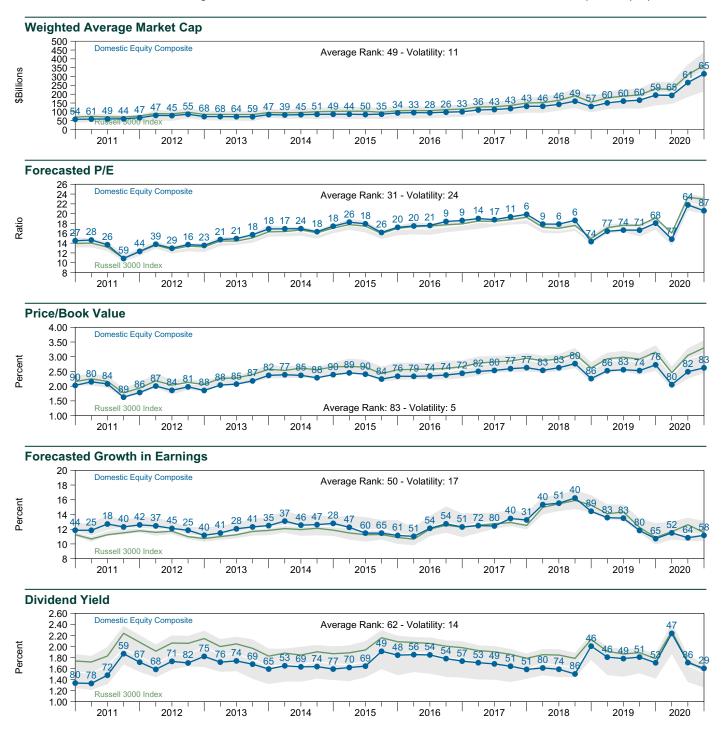




# **Portfolio Characteristics Analysis**

#### **Pub Pln-Dom Equity**

The charts below illustrate the behavior of the product over different portfolio characteristics through time. As a backdrop the range (from 10th to 90th percentile) is shown for the Pub Pln- Dom Equity Universe. The ranking of the product in this group is shown above each quarter end dot. The average ranking of the product and, if there are at least 12 data points, the standard deviation of that ranking is also shown on the chart. The Russell 3000 Index is shown for comparison purposes.



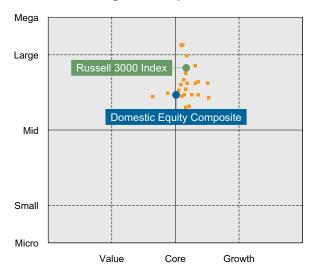
Any particular portfolio characteristic observation(s) may be missing due to a failure to pass a minimum "coverage hurdle" intended to ensure quality. This can occur when the portfolio has a significant weight in stocks for which the data vendor(s) cannot supply the particular relevant financial metric.



# Current Holdings Based Style Analysis Domestic Equity Composite As of September 30, 2020

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

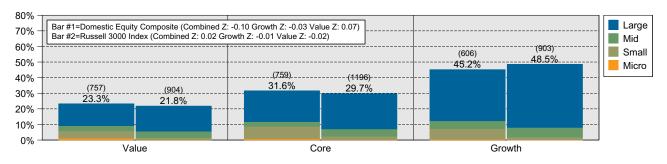
# Style Map vs Pub Pln- Dom Equity Holdings as of September 30, 2020



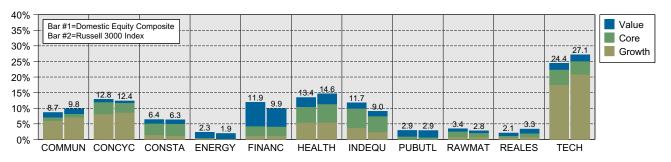
### Style Exposure Matrix Holdings as of September 30, 2020

1.2% (325) 0.2% (371) 23.3% (757) 21.8% (904)	0.8% (195) 0.2% (380) 31.6% (759) 29.7% (1196)	0.5% (92) 0.1% (150) <b>45.2% (606)</b> <b>48.5% (903)</b>	2.5% (612) 0.6% (901) 100.0% (2122) 100.0% (3003)
0.2% (371)	0.2% (380)	0.1% (150)	0.6% (901)
0.2% (371)	0.2% (380)	0.1% (150)	0.6% (901)
, ,	, ,	, ,	, ,
1.2% (325)	0.8% (195)	0.5% (92)	2.5% (612)
1.2% (325)	0.8% (195)	0.5% (92)	2.5% (612)
1.3% (293)	2.2% (513)	1.8% (396)	5.4% (1202)
. ,		, ,	` ′
4.7% (227)	7.9% (352)	6.8% (300)	19.4% (879)
4.1% (154)	4.7% (198)	6.1% (248)	14.9% (600)
3.3% (120)	3.1% (109)	5.0% (129)	11.4% (358)
16.1% (86)	22.6% (105)	40.4% (109)	79.2% (300)
14.170 (03)	13.070 (103)	32.0 /0 (03)	00.070 (273)
1/1 10/- (05)	10.8% (102)	32 8% (05)	66.8% (273)
	3.3% (120) 4.1% (154) 4.7% (227)	16.1% (86) 22.6% (105) 3.3% (120) 3.1% (109) 4.1% (154) 4.7% (198) 4.7% (227) 7.9% (352)	16.1% (86) 22.6% (105) 40.4% (109) 3.3% (120) 3.1% (109) 5.0% (129) 4.1% (154) 4.7% (198) 6.1% (248) 4.7% (227) 7.9% (352) 6.8% (300)

# Combined Z-Score Style Distribution Holdings as of September 30, 2020



### Sector Weights Distribution Holdings as of September 30, 2020



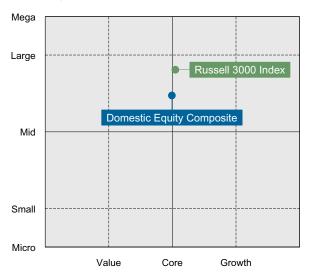


# Historical Holdings Based Style Analysis Domestic Equity Composite For Three Years Ended September 30, 2020

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The next two style exposure charts illustrate the actual quarterly cap/style and style only segment exposures of the portfolio through history.

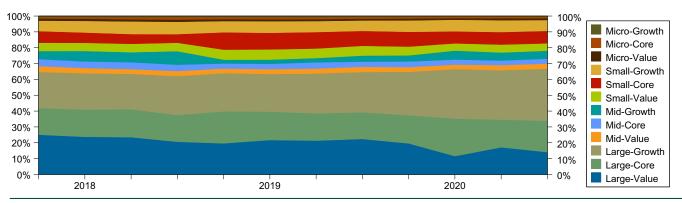
#### Average Style Map vs Pub Pln- Dom Equity Holdings for Three Years Ended September 30, 2020

#### Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2020

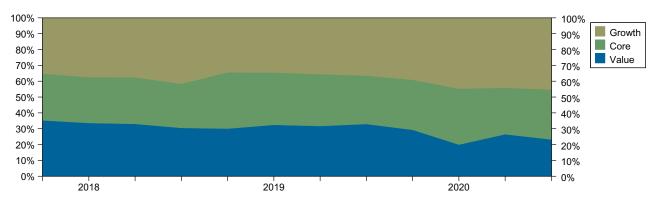




#### **Domestic Equity Composite Historical Cap/Style Exposures**



#### **Domestic Equity Composite Historical Style Only Exposures**

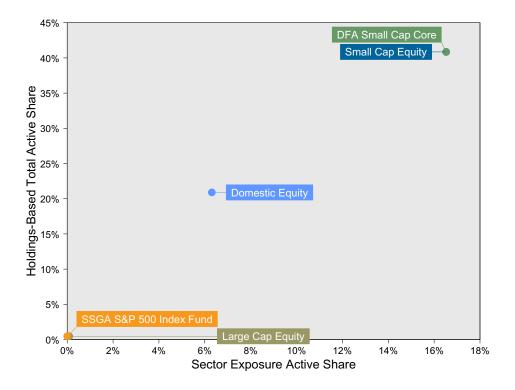




# Active Share Structure Analysis For One Quarter Ended September 30, 2020

This analysis compares multiple portfolios and composites in an active share context, illustrating the varying degrees of active risk taken by individual portfolios, and how they combine into active risk profiles for composites and the equity structure. Two sources of active share (active risk) are shown: 1) Total Holdings-Based Active Share based on individual position comparisons to the index (and the subcomponent from holding non-index securities), and 2) Sector Exposure Active Share that quantifies the more macro-level sector differences from the index.

#### Active Share Analysis Ended September 30, 2020



	Weight %	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities	Security Diverse
Small Cap Equity DFA Small Cap Core	<b>29.77%</b> 27.30%	Russell 2000 Russell 2000	<b>40.86%</b> 40.86%	<b>10.65%</b> 10.65%	<b>16.52%</b> 16.52%	<b>1665</b> 1665	<b>289.51</b> 289.51
Large Cap Equity SSGA S&P 500 Index Fund	<b>70.23%</b> 74.45%	<b>S&amp;P 500</b> S&P 500	<b>0.46%</b> 0.46%	<b>0.00%</b> 0.00%	<b>0.09%</b> 0.00%	<b>505</b> 505	<b>38.77</b> 38.76
Domestic Equity	100.00%	Russell 3000	20.89%	0.27%	6.31%	2147	90.66



# SSGA S&P 500 Index Fund Period Ended September 30, 2020

#### **Investment Philosophy**

SSGA believes that their passive investment strategy can provide market-like returns with minimal transaction costs. The first full guarter of performance is 2Q11. Performance prior to 2Q11 is that of the manager's composite.

#### **Quarterly Summary and Highlights**

- SSGA S&P 500 Index Fund's portfolio posted a 8.93% return for the quarter placing it in the 53 percentile of the Callan Large Capitalization group for the quarter and in the 49 percentile for the last year.
- SSGA S&P 500 Index Fund's portfolio underperformed the S&P 500 Index by 0.00% for the quarter and underperformed the S&P 500 Index for the year by 0.04%.

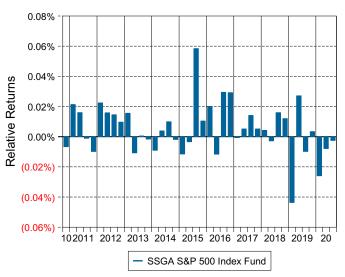
#### **Quarterly Asset Growth**

Beginning Market Value	\$543,411,201
Net New Investment	\$-2,492,033
Investment Gains/(Losses)	\$48,482,998
Ending Market Value	\$589,402,166

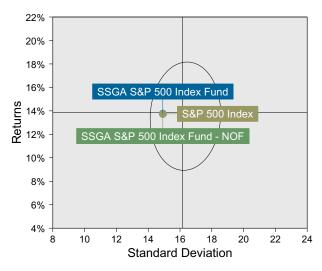
### Performance vs Callan Large Capitalization (Gross)



#### Relative Return vs S&P 500 Index



# Callan Large Capitalization (Gross) Annualized Ten Year Risk vs Return



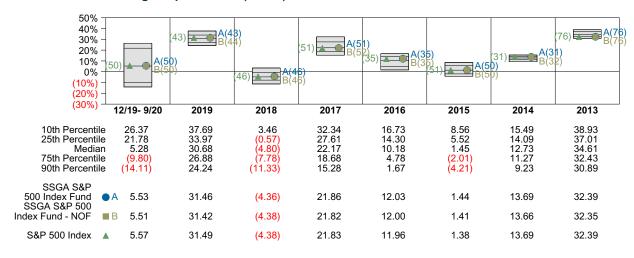


# SSGA S&P 500 Index Fund Return Analysis Summary

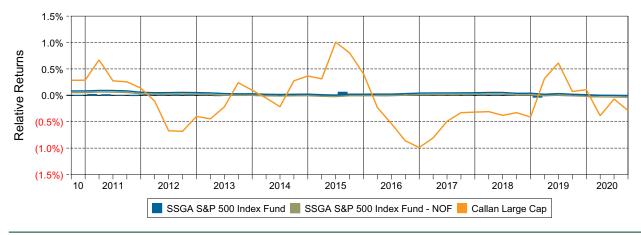
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

#### Performance vs Callan Large Capitalization (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs S&P 500 Index



Risk Adjusted Return Measures vs S&P 500 Index Rankings Against Callan Large Capitalization (Gross) Ten Years Ended September 30, 2020





# DFA Small Cap Core Period Ended September 30, 2020

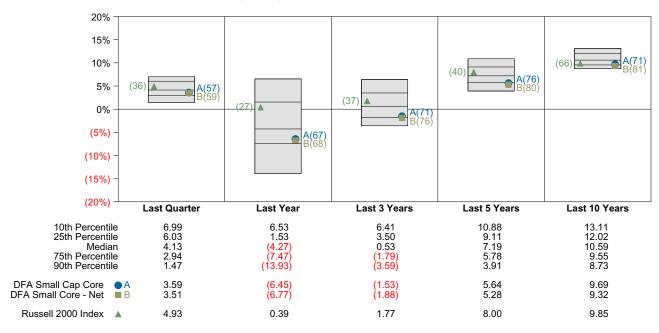
#### **Investment Philosophy**

Dimensional's core philosophical principles are: public capital markets work (Dimensional uses information in market prices to identify reliable dimensions of expected market returns: size, relative price, and profitability and to design and implement strategies along those dimensions); diversification is essential (helps reduce uncertainty, manage risk, increase the reliability of outcomes, and provide flexibility); and managing tradeoffs adds value (Dimensional seeks to add value by targeting market premiums efficiently and continuously, reducing the costs associated with turnover, and implementing a flexible trading strategy). The first full quarter of performance is 1Q19. Prior performance is that of the manager's composite.

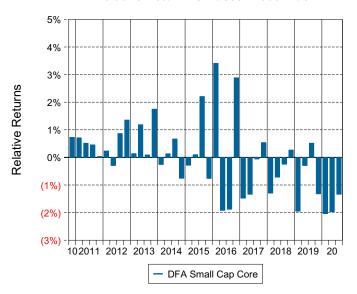
#### **Quarterly Summary and Highlights**

- DFA Small Cap Core's portfolio posted a 3.59% return for the quarter placing it in the 57 percentile of the Callan Small Cap Core group for the quarter and in the 67 percentile for the last year.
- DFA Small Cap Core's portfolio underperformed the Russell 2000 Index by 1.34% for the quarter and underperformed the Russell 2000 Index for the year by 6.84%.

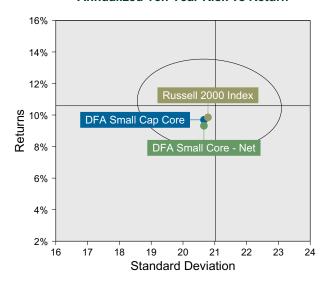
#### Performance vs Callan Small Cap Core (Gross)



#### Relative Return vs Russell 2000 Index



# Callan Small Cap Core (Gross) Annualized Ten Year Risk vs Return



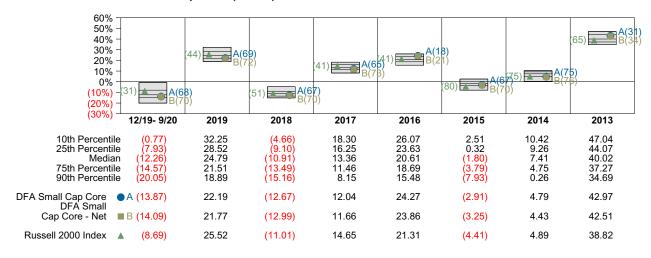


### DFA Small Cap Core Return Analysis Summary

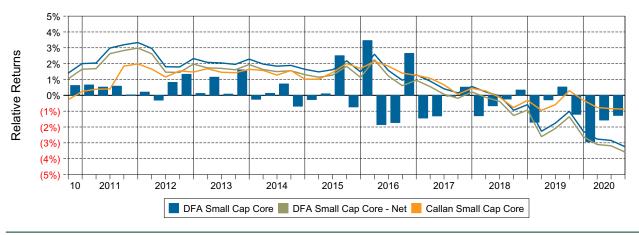
### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

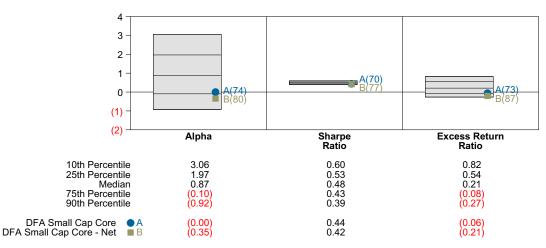
### Performance vs Callan Small Cap Core (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs Russell 2000 Index



Risk Adjusted Return Measures vs Russell 2000 Index Rankings Against Callan Small Cap Core (Gross) Ten Years Ended September 30, 2020



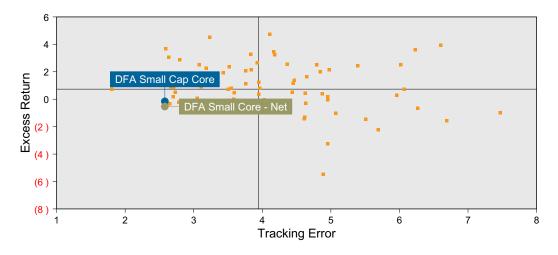


### DFA Small Cap Core Risk Analysis Summary

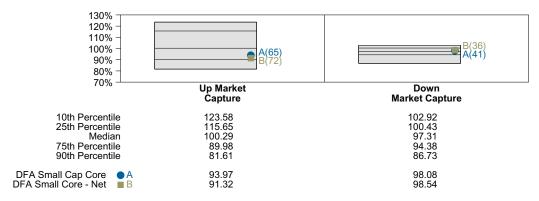
### **Risk Analysis**

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

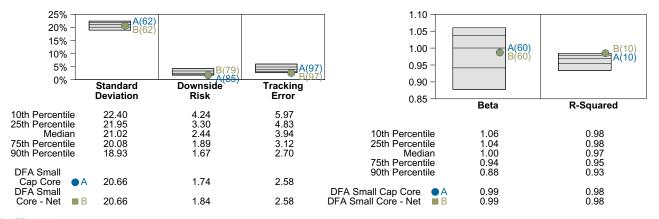
### Risk Analysis vs Callan Small Cap Core (Gross) Ten Years Ended September 30, 2020



Market Capture vs Russell 2000 Index Rankings Against Callan Small Cap Core (Gross) Ten Years Ended September 30, 2020



Risk Statistics Rankings vs Russell 2000 Index Rankings Against Callan Small Cap Core (Gross) Ten Years Ended September 30, 2020



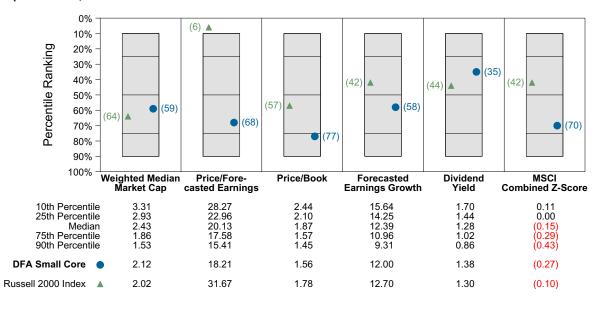


### DFA Small Core Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

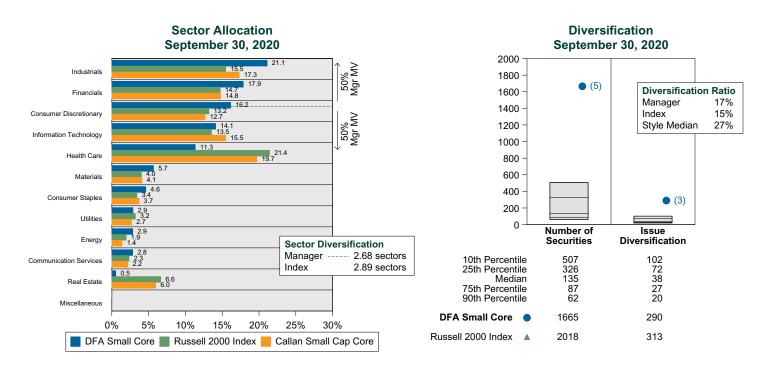
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

### Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Cap Core as of September 30, 2020



### **Sector Weights**

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.

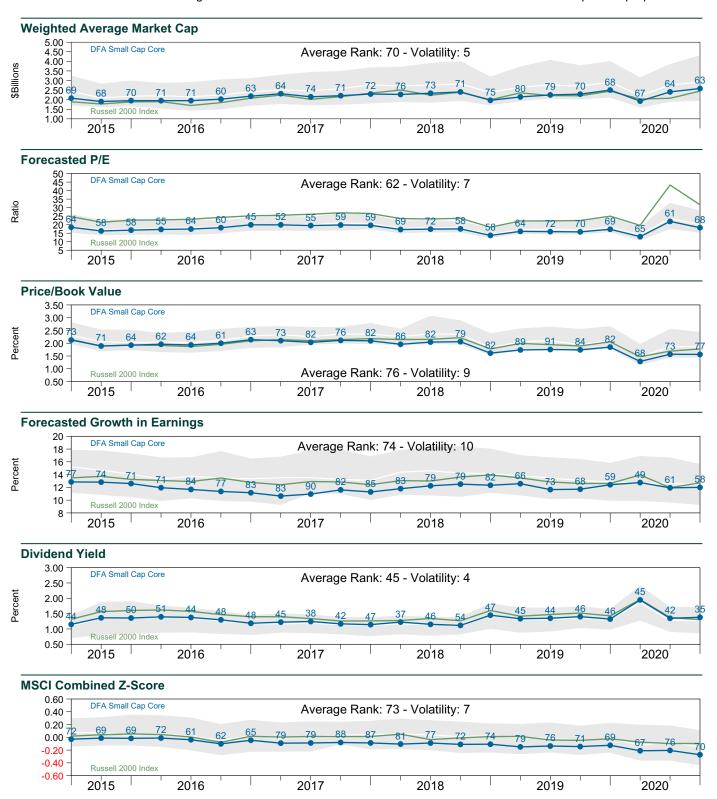




### **Portfolio Characteristics Analysis**

### Callan Small Cap Core

The charts below illustrate the behavior of the product over different portfolio characteristics through time. As a backdrop the range (from 10th to 90th percentile) is shown for the Callan Small Cap Core Universe. The ranking of the product in this group is shown above each quarter end dot. The average ranking of the product and, if there are at least 12 data points, the standard deviation of that ranking is also shown on the chart. The Russell 2000 Index is shown for comparison purposes.



Any particular portfolio characteristic observation(s) may be missing due to a failure to pass a minimum "coverage hurdle" intended to ensure quality. This can occur when the portfolio has a significant weight in stocks for which the data vendor(s) cannot supply the particular relevant financial metric.



# Marin Co. - DFA Small Core **Top 10 Portfolio Holdings Characteristics** as of September 30, 2020

### 10 Largest Holdings

						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Topbuild	Consumer Discretionary	\$981,809	0.5%	50.03%	5.65	23.18	0.00%	20.60%
Quidel Corp	Health Care	\$904,284	0.4%	(1.95)%	9.20	14.90	0.00%	39.60%
Darling Ingredients Inc	Consumer Staples	\$896,138	0.4%	46.34%	5.84	19.66	0.00%	(24.87)%
Amedisys	Health Care	\$855,167	0.4%	19.08%	7.68	40.78	0.00%	14.10%
Lithia Mtrs Inc Cl A	Consumer Discretionary	\$844,290	0.4%	50.80%	5.84	14.16	0.54%	25.20%
Trex Co Inc	Industrials	\$788,173	0.4%	10.09%	8.29	45.03	0.00%	15.25%
Tetra Tech	Industrials	\$778,134	0.4%	20.92%	5.15	28.17	0.71%	15.00%
Lhc Group Inc	Health Care	\$759,477	0.4%	21.94%	6.71	38.51	0.00%	15.00%
Boston Beer Inc CI A	Consumer Staples	\$757,923	0.4%	64.61%	8.75	55.22	0.00%	28.46%
Dicks Sporting Goods	Consumer Discretionary	\$722,227	0.3%	41.07%	3.77	13.82	2.16%	3.95%

### **10 Best Performers**

						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Tupperware Brands Corp	Consumer Discretionary	\$127,653	0.1%	324.45%	0.99	8.81	0.00%	(1.32)%
Big 5 Sporting Goods Corp	Consumer Discretionary	\$32,538	0.0%	292.08%	0.16	23.23	5.35%	-
Sunrun	Industrials	\$121,925	0.1%	290.82%	9.78	159.57	0.00%	(0.10)%
Owens & Minor Inc New	Health Care	\$181,495	0.1%	229.58%	1.60	20.04	0.04%	45.10%
Limbach Hldgs Inc Com	Industrials	\$12,936	0.0%	190.76%	0.08	13.81	0.00%	-
Digital Turbine Inc	Information Technology	\$286,180	0.1%	160.46%	2.87	62.96	0.00%	-
Fulgent Genetics Inc	Health Care	\$39,680	0.0%	150.25%	0.89	21.47	0.00%	44.45%
Contura Energy Inc	Energy	\$14,406	0.0%	140.79%	0.13	(0.92)	0.00%	(26.41)%
Penn Natl Gaming Inc	Consumer Discretionary	\$153,542	0.1%	138.05%	11.13	(105.67)	0.00%	42.64%
Gamestop Corp New Cl A	Consumer Discretionary	\$79,254	0.0%	135.03%	0.66	(12.91)	0.00%	(15.71)%

### **10 Worst Performers**

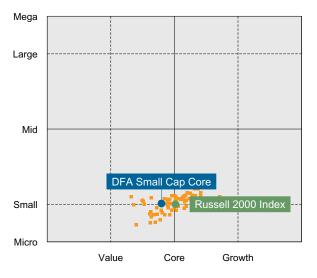
						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Akebia Therapeutics Inc	Health Care	\$31,400	0.0%	(81.52)%	0.35	(2.31)	0.00%	-
Mallinckrodt Pub Ltd Co Shs	Health Care	\$9,737	0.0%	(63.76)%	0.08	0.21	0.00%	2.23%
Klx Energy Servics Holdngs I	Energy	\$2,523	0.0%	(61.43)%	0.03	(0.65)	0.00%	-
Express Inc	Consumer Discretionary	\$7,845	0.0%	(60.31)%	0.04	(0.46)	0.00%	(29.49)%
Gritstone Oncology Inc	Health Care	\$5,226	0.0%	(60.09)%	0.10	(1.03)	0.00%	-
Obseva	Health Care	\$1,989	0.0%	(58.30)%	0.14	(1.79)	0.00%	-
Callon Pete Co Del	Energy	\$30,332	0.0%	(58.04)%	0.19	1.17	0.00%	41.21%
Sm Energy Co Com	Energy	\$31,042	0.0%	(57.60)%	0.18	(1.04)	1.26%	(66.05)%
Inovio Pharmaceuticals Inc	Health Care	\$98,090	0.0%	(56.95)%	1.94	141.46	0.00%	
Alector Inc	Health Care	\$61,946	0.0%	(56.90)%	0.84	(4.41)	0.00%	(13.10)%



### Current Holdings Based Style Analysis DFA Small Cap Core As of September 30, 2020

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

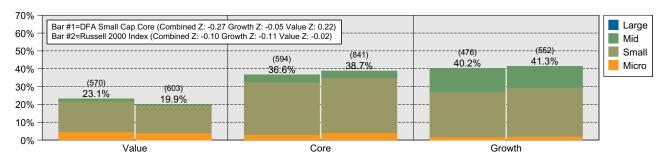
# Style Map vs Callan Small Cap Core Holdings as of September 30, 2020



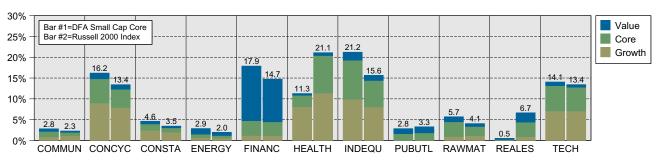
### Style Exposure Matrix Holdings as of September 30, 2020

	19.9% (603)	38.7% (841)	41.3% (552)	100.0% (1996)
Total	23.1% (570)	36.6% (594)	40.2% (476)	100.0% (1640)
	4.0% (371)	4.1% (380)	2.1% (150)	10.2% (901)
Micro	4.0 /6 (323)	3.176 (195)	1.7 /0 (92)	9.3 /6 (612)
	4.6% (325)	3.1% (195)	1.7% (92)	9.3% (612)
Small	15.6% (230)	30.8% (443)	27.2% (356)	73.6% (1029)
0 "	17.2% (224)	29.4% (351)	25.6% (298)	72.2% (873)
IVIIG	0.4% (2)	3.8% (18)	12.1% (46)	16.2% (66)
Mid	1.4% (21)	4.1% (48)	13.0% (86)	18.4% (155)
Large	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Large	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

# Combined Z-Score Style Distribution Holdings as of September 30, 2020



### Sector Weights Distribution Holdings as of September 30, 2020



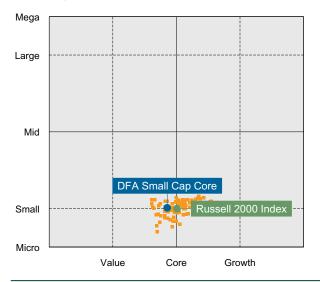


### Historical Holdings Based Style Analysis DFA Small Cap Core For Three Years Ended September 30, 2020

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization segments are dictated by capitalization decile breakpoints. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each capitalization/style segment of the market. The next two style exposure charts illustrate the actual quarterly cap/style and style only segment exposures of the portfolio through history.

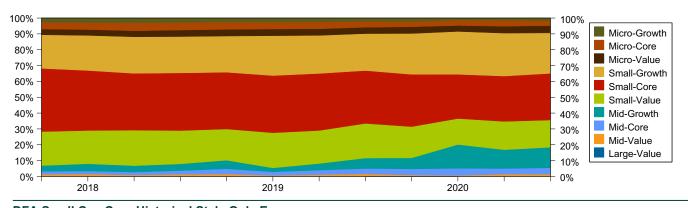
### Average Style Map vs Callan Small Cap Core Holdings for Three Years Ended September 30, 2020

### Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2020

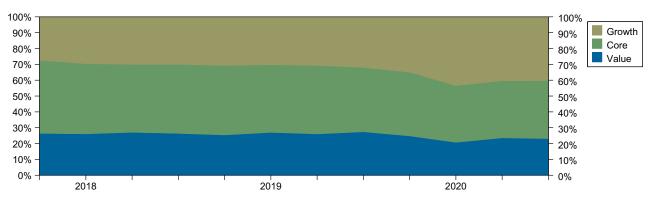




### **DFA Small Cap Core Historical Cap/Style Exposures**



**DFA Small Cap Core Historical Style Only Exposures** 





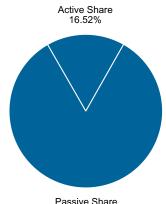
### DFA Small Core Active Share Analysis as of September 30, 2020 vs. Russell 2000 Index

Active Share analysis compares the holdings of a portfolio to an index to measure how aggressively it differs from the index. Active share is measured at the individual stock level ("holdings-level active share") and using sector weights ("sector exposure active share"). Holdings-level active share comes from: 1) Index Active Share - over/under weighting of stocks in the index, and 2) Non-Index Active Share - positions in stocks not in the index. This analysis displays active share by sector and compares the portfolio to a relevant peer group.

### **Holdings-Level Active Share**

# Index Active Share 30.21% Non-Index Active Share 10.65% Passive Share 59.14%

### **Sector Exposure Active Share**



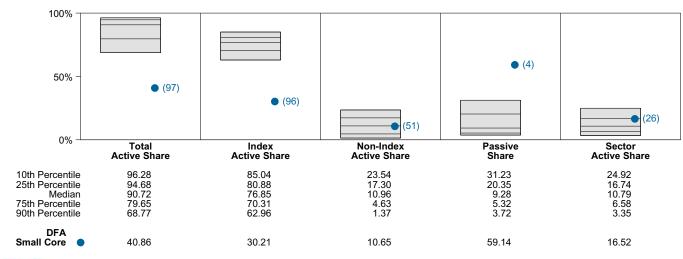
Passive Share 83.48%

Total Active Share: 40.86%

Communication Services
Consumer Discretionary
Consumer Staples
Energy
Financials
Health Care
Industrials
Information Technology
Materials
Miscellaneous
Real Estate
Utilities
Total

Index Active Share Within Sector	Non-Index Active Share Within Sector	Total Active Share Within Sector	Index Weight	Manager Weight	Contribution to Total Portfolio Active Share
24.41%	12.53%	36.93%	2.35%	2.84%	1.04%
25.11%	11.02%	36.13%	13.20%	16.15%	5.75%
22.54%	12.06%	34.60%	3.41%	4.62%	1.59%
21.90%	15.06%	36.96%	1.94%	2.85%	1.00%
21.81%	11.13%	32.95%	14.74%	17.87%	5.70%
45.74%	9.66%	55.40%	21.43%	11.34%	8.84%
16.43%	9.62%	26.05%	15.48%	21.11%	5.72%
28.25%	10.37%	38.62%	13.55%	14.11%	5.41%
19.65%	13.52%	33.17%	4.03%	5.68%	1.73%
0.00%	100.00%	100.00%	-	0.00%	0.00%
89.83%	3.51%	93.34%	6.64%	0.55%	3.22%
24.33%	5.42%	29.75%	3.21%	2.88%	0.85%
30.21%	10.65%	40.86%	100.00%	100.00%	40.86%

### Active Share vs. Callan Small Cap Core





# Actual vs Target Style Allocation As of September 30, 2020

The first chart below shows the Fund's style allocation as of September 30, 2020. The second chart shows the Fund's target style allocation as outlined in the investment policy statement.

### **Actual Style Allocation**



### **Target Style Allocation**



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
International Value	174,195	30.5%	30.0%	0.5%	2,731
International Growth	194,234	34.0%	30.0%	4.0%	22,770
International Small Cap	109,579	19.2%	20.0%	(0.8%)	(4,731)
Emerging Markets ·	93,540	16.4%	20.0%	(3.6%)	(20,769)
Total	571,549	100.0%	100.0%		

<sup>\*</sup> Current Quarter Target = 30.0% MSCI EAFE, 30.0% MSCI ACWI ex US IMI, 20.0% MSCI EM Gross and 20.0% S&P Dev ex US Small Cap.



# International Equity Composite Period Ended September 30, 2020

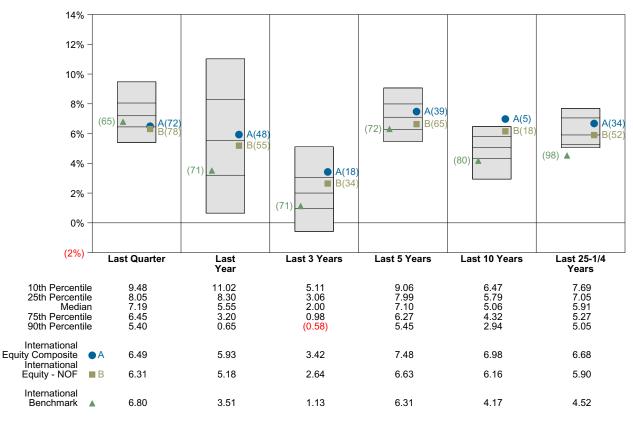
### **Investment Philosophy**

The International Benchmark is comprised of 100% MSCI EAFE Index through 06/30/2010, and 100% MSCI ACWI ex-US IMI Index thereafter.

### **Quarterly Summary and Highlights**

- International Equity Composite's portfolio posted a 6.49% return for the quarter placing it in the 72 percentile of the Public Fund - International Equity group for the quarter and in the 48 percentile for the last year.
- International Equity Composite's portfolio underperformed the International Benchmark by 0.30% for the quarter and outperformed the International Benchmark for the year by 2.42%.

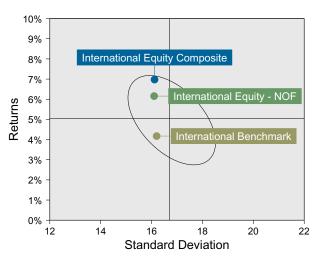
### Performance vs Public Fund - International Equity (Gross)



### Relative Return vs International Benchmark



# Public Fund - International Equity (Gross) Annualized Ten Year Risk vs Return



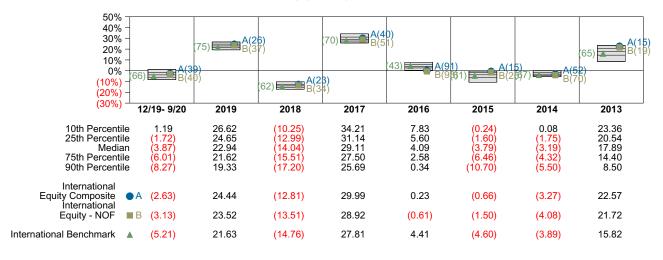


# International Equity Composite Return Analysis Summary

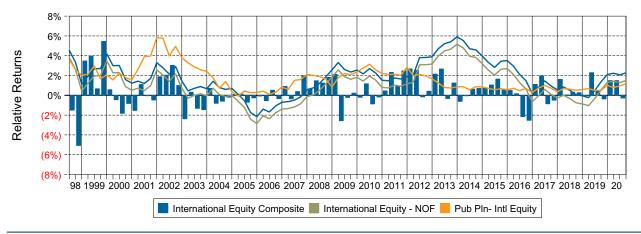
### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

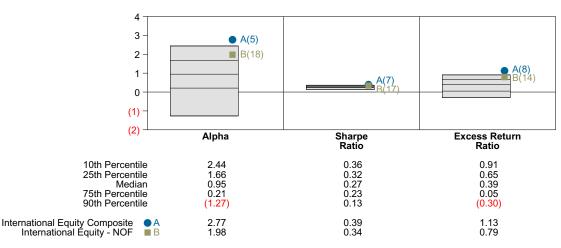
### Performance vs Public Fund - International Equity (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs International Benchmark



Risk Adjusted Return Measures vs International Benchmark Rankings Against Public Fund - International Equity (Gross) Ten Years Ended September 30, 2020



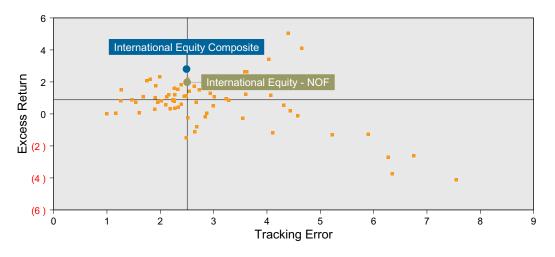


# International Equity Composite Risk Analysis Summary

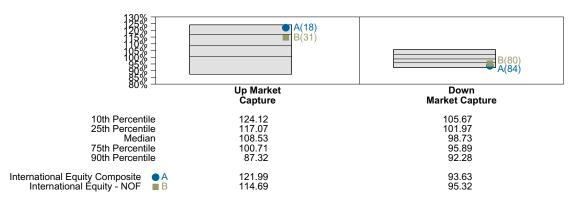
### **Risk Analysis**

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

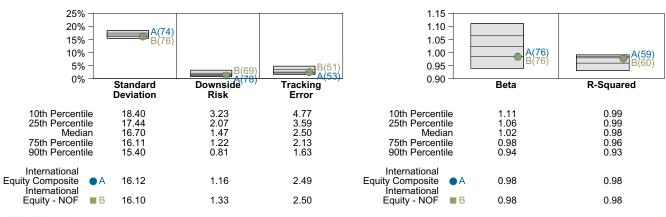
### Risk Analysis vs Public Fund - International Equity (Gross) Ten Years Ended September 30, 2020



Market Capture vs MSCI ACWI ex US IMI Index (USD Net Div) Rankings Against Public Fund - International Equity (Gross) Ten Years Ended September 30, 2020



Risk Statistics Rankings vs MSCI ACWI ex US IMI Index (USD Net Div) Rankings Against Public Fund - International Equity (Gross) Ten Years Ended September 30, 2020



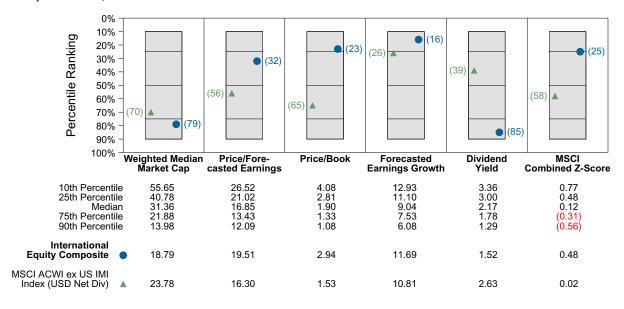


# International Equity Composite Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

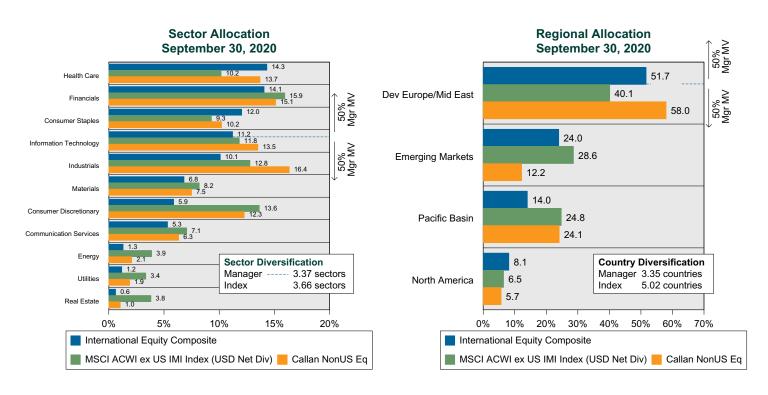
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

### Portfolio Characteristics Percentile Rankings Rankings Against Callan Non-US Equity as of September 30, 2020



### **Sector Weights**

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. The regional allocation chart compares the manager's geographical region weights with those of the benchmark as well as the median region weights of the peer group.

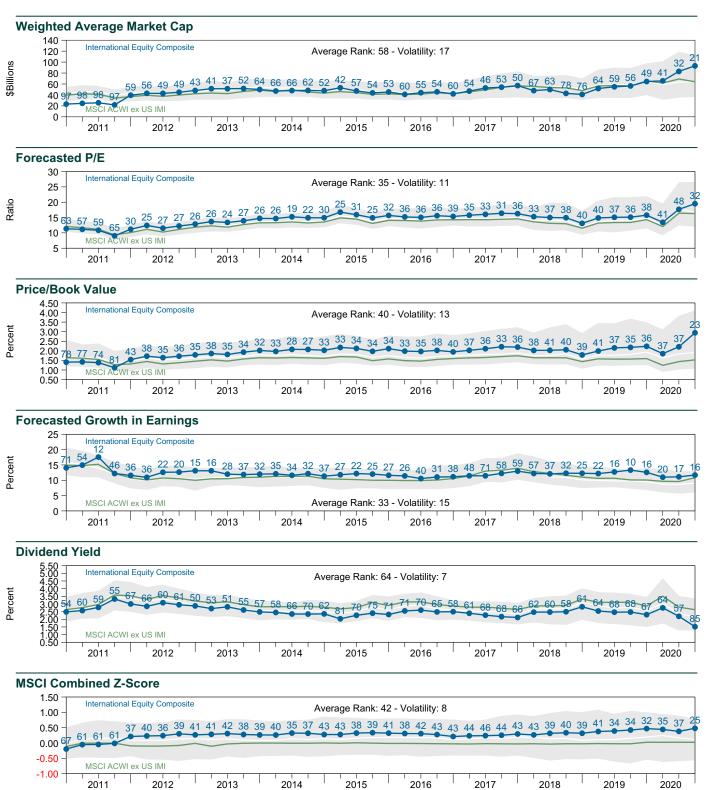




### **Portfolio Characteristics Analysis**

### Callan NonUS Eq

The charts below illustrate the behavior of the product over different portfolio characteristics through time. As a backdrop the range (from 10th to 90th percentile) is shown for the Callan NonUS Eq Universe. The ranking of the product in this group is shown above each quarter end dot. The average ranking of the product and, if there are at least 12 data points, the standard deviation of that ranking is also shown on the chart. The MSCI ACWI ex US IMI is shown for comparison purposes.



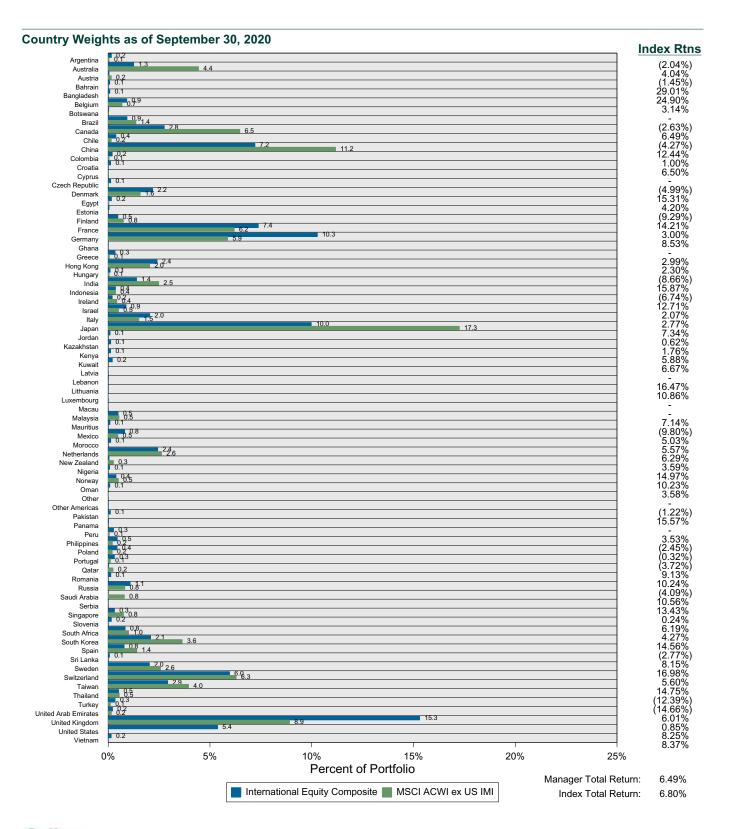
Any particular portfolio characteristic observation(s) may be missing due to a failure to pass a minimum "coverage hurdle" intended to ensure quality. This can occur when the portfolio has a significant weight in stocks for which the data vendor(s) cannot supply the particular relevant financial metric.



# Country Allocation International Equity Composite VS MSCI ACWI ex US IMI

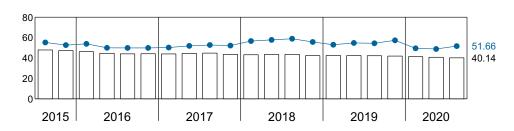
### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of September 30, 2020. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.

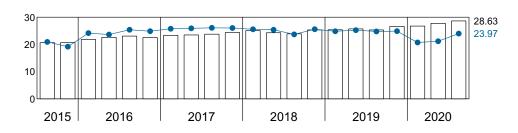




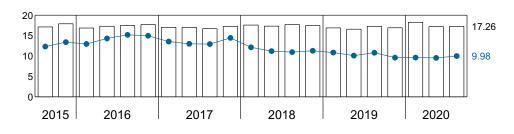




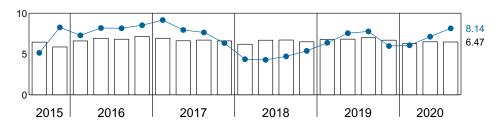
### **Emerging Markets**



### Japan



### **North America**



### **Pacific Basin**

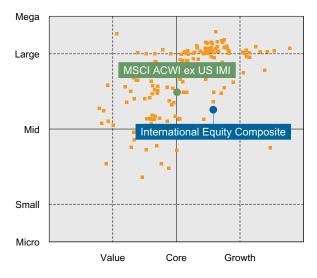




# Current Holdings Based Style Analysis International Equity Composite As of September 30, 2020

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

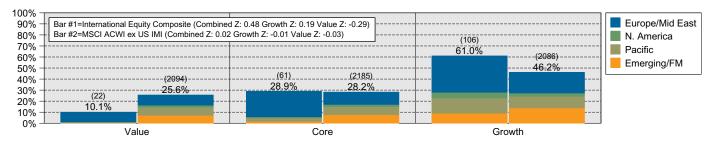
### Style Map vs Callan NonUS Eq Holdings as of September 30, 2020



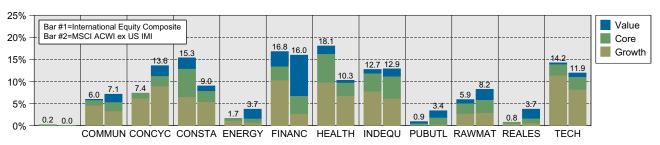
# Style Exposure Matrix Holdings as of September 30, 2020

	Value	Core	Growth	Total
	25.6% (2094)	28.2% (2185)	46.2% (2086)	100.0% (6365)
Total				
	10.1% (22)	28.9% (61)	61.0% (106)	100.0% (189)
Emerging/ FM	7.2% (992)	7.7% (1009)	13.9% (902)	28.8% (2903)
	0.0% (0)	1.6% (5)	9.0% (16)	10.6% (21)
	7.4% (590)	7.4% (585)	10.6% (577)	25.3% (1752)
Pacific	(1)	,	( ),	
	1.1% (3)	3.1% (11)	13.8% (28)	18.1% (42)
	1.9% (87)	1.9% (100)	2.9% (89)	6.6% (276)
N. America	, ,	, ,	, ,	, ,
	0.0% (0)	1.0% (2)	5.1% (8)	6.2% (10)
Europe/ Mid East	9.2% (425)	11.3% (491)	18.8% (518)	39.3% (1434)
	8.9% (19)	23.1% (43)	33.1% (54)	65.1% (116)

# Combined Z-Score Style Distribution Holdings as of September 30, 2020



### Sector Weights Distribution Holdings as of September 30, 2020





### Historical Holdings Based Style Analysis International Equity Composite For Three Years Ended September 30, 2020

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various region and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The next two style exposure charts illustrate the actual quarterly region/style and style only segment exposures of the portfolio through history.

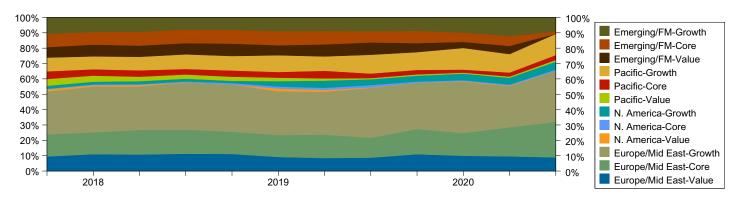
### Average Style Map vs Callan NonUS Eq Holdings for Three Years Ended September 30, 2020

### Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2020

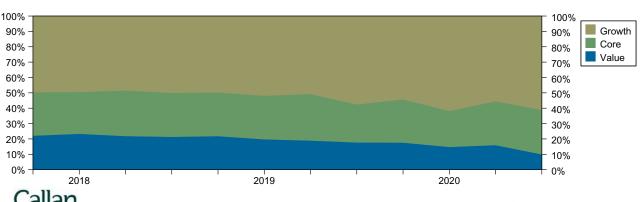




### International Equity Composite Historical Region/Style Exposures



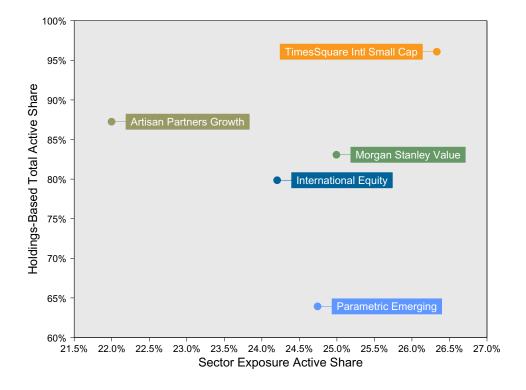
### International Equity Composite Historical Style Only Exposures



# Active Share Structure Analysis For One Quarter Ended September 30, 2020

This analysis compares multiple portfolios and composites in an active share context, illustrating the varying degrees of active risk taken by individual portfolios, and how they combine into active risk profiles for composites and the equity structure. Two sources of active share (active risk) are shown: 1) Total Holdings-Based Active Share based on individual position comparisons to the index (and the subcomponent from holding non-index securities), and 2) Sector Exposure Active Share that quantifies the more macro-level sector differences from the index.

### Active Share Analysis Ended September 30, 2020



	Weight		Total	Non-ldx	Sector	Number	Security
	%	Index	Act Share	Act Share	Act Share	Securities	Diverse
International Equity	100.00%	MSCI ACWI ex US IMI	79.86%	14.20%	24.20%	200	28.23
Morgan Stanley Value	29.80%	MSCI EAFE	83.08%	8.80%	24.99%	59	16.28
Artisan Partners Growth	33.23%	MSCI EAFE	87.25%	21.24%	22.00%	60	12.82
TimesSquare Intl Small Cap	18.75%	MSCI EAFE Small Cap	96.09%	19.43%	26.33%	86	23.77
*Parametric Emerging	16.00%	MSCI EM	63.93%	17.87%	24.74%	1546	186.40

<sup>\*9/30/20</sup> portfolio characteristics generated using most recently available holdings (6/30/20) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



### Morgan Stanley Value Period Ended September 30, 2020

### **Investment Philosophy**

The International Equity team uses a value-driven, bottom-up approach to maximize return potential, combined with sufficient diversification to minimize investment risk. The first full quarter of performance began 4Q01. Prior performance is that of the manager's composite. Cash percentage listed is the cash represented in the commingled trust.

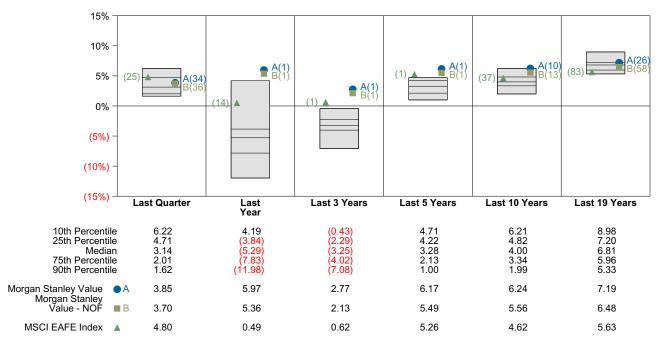
### **Quarterly Summary and Highlights**

- Morgan Stanley Value's portfolio posted a 3.85% return for the quarter placing it in the 34 percentile of the Callan Non-US Developed Value Equity group for the quarter and in the 1 percentile for the last year.
- Morgan Stanley Value's portfolio underperformed the MSCI EAFE Index by 0.94% for the quarter and outperformed the MSCI EAFE Index for the year by 5.48%.

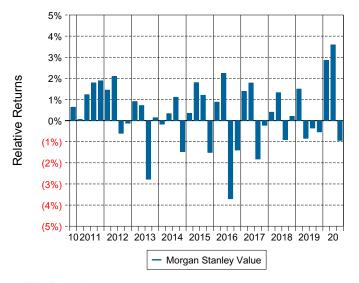
### **Quarterly Asset Growth**

Beginning Market Value	\$167,731,914
Net New Investment	\$0
Investment Gains/(Losses)	\$6,463,554
Ending Market Value	\$174.195.468

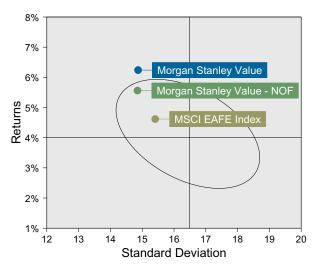
### Performance vs Callan Non-US Developed Value Equity (Gross)



### Relative Return vs MSCI EAFE Index



# Callan Non-US Developed Value Equity (Gross) Annualized Ten Year Risk vs Return



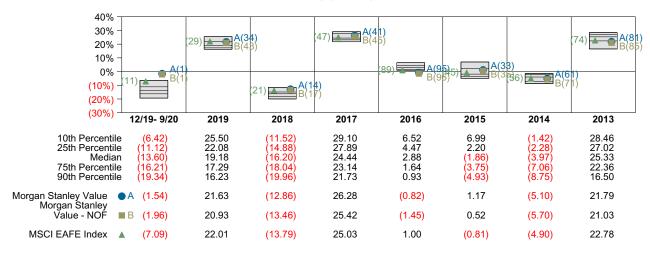


# Morgan Stanley Value Return Analysis Summary

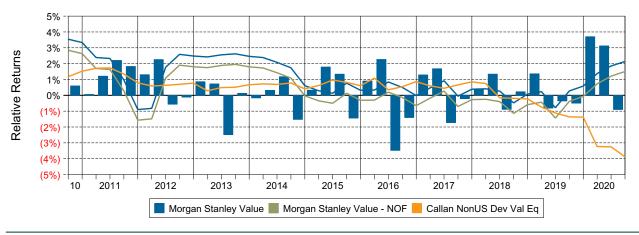
### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

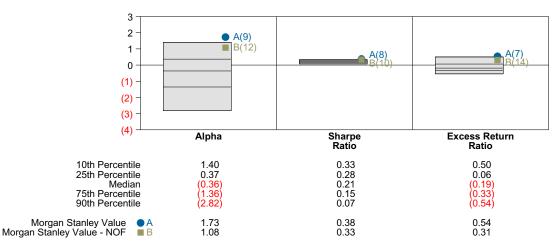
### Performance vs Callan Non-US Developed Value Equity (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs MSCI EAFE Index



Risk Adjusted Return Measures vs MSCI EAFE Index Rankings Against Callan Non-US Developed Value Equity (Gross) Ten Years Ended September 30, 2020



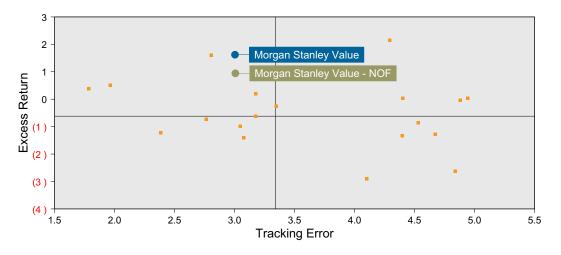


# Morgan Stanley Value Risk Analysis Summary

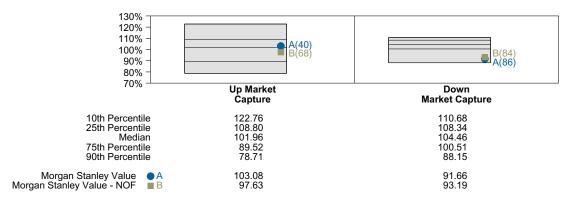
### **Risk Analysis**

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

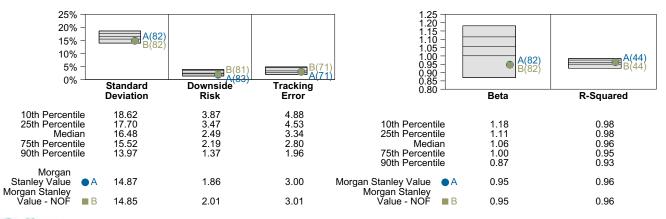
### Risk Analysis vs Callan Non-US Developed Value Equity (Gross) Ten Years Ended September 30, 2020



### Market Capture vs MSCI EAFE Index Rankings Against Callan Non-US Developed Value Equity (Gross) Ten Years Ended September 30, 2020



### Risk Statistics Rankings vs MSCI EAFE Index Rankings Against Callan Non-US Developed Value Equity (Gross) Ten Years Ended September 30, 2020



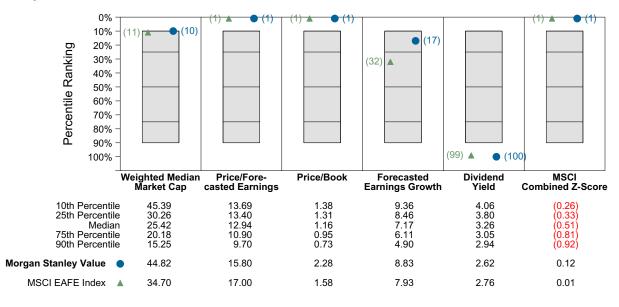


### Morgan Stanley Value Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

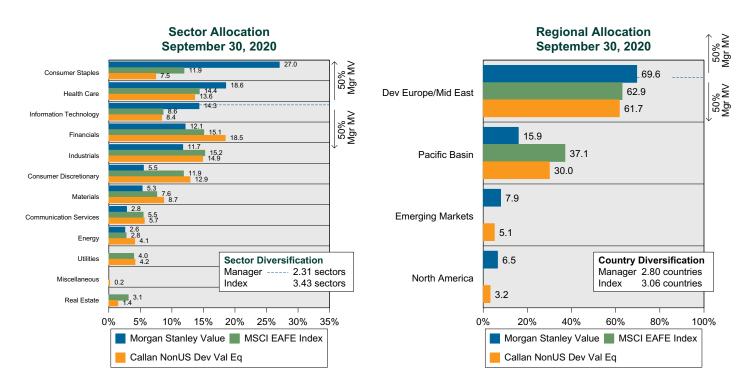
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

### Portfolio Characteristics Percentile Rankings Rankings Against Callan Non-US Developed Value Equity as of September 30, 2020



### **Sector Weights**

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. The regional allocation chart compares the manager's geographical region weights with those of the benchmark as well as the median region weights of the peer group.

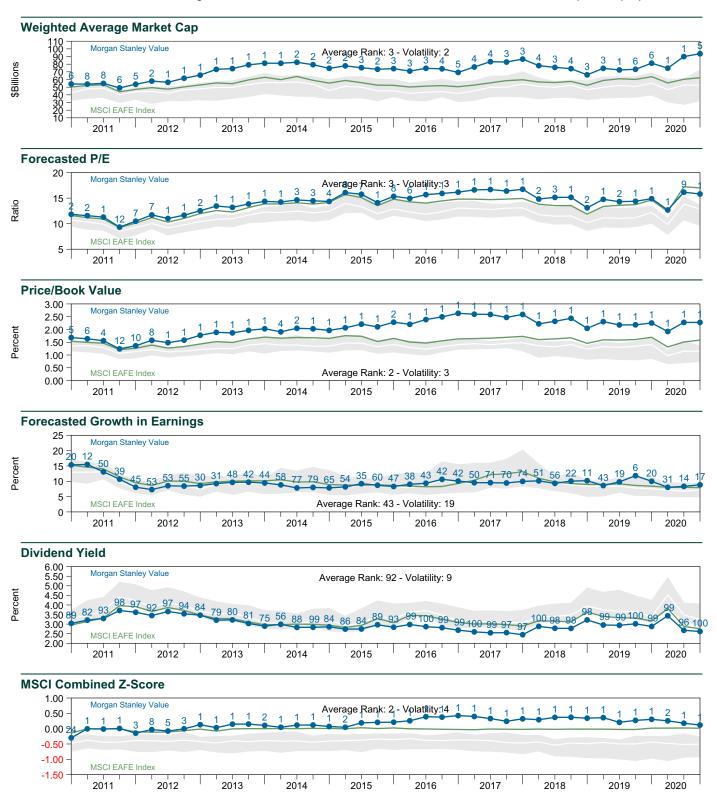




### **Portfolio Characteristics Analysis**

### Callan NonUS Dev Val Eq

The charts below illustrate the behavior of the product over different portfolio characteristics through time. As a backdrop the range (from 10th to 90th percentile) is shown for the Callan NonUS Dev Val Eq Universe. The ranking of the product in this group is shown above each quarter end dot. The average ranking of the product and, if there are at least 12 data points, the standard deviation of that ranking is also shown on the chart. The MSCI EAFE Index is shown for comparison purposes.



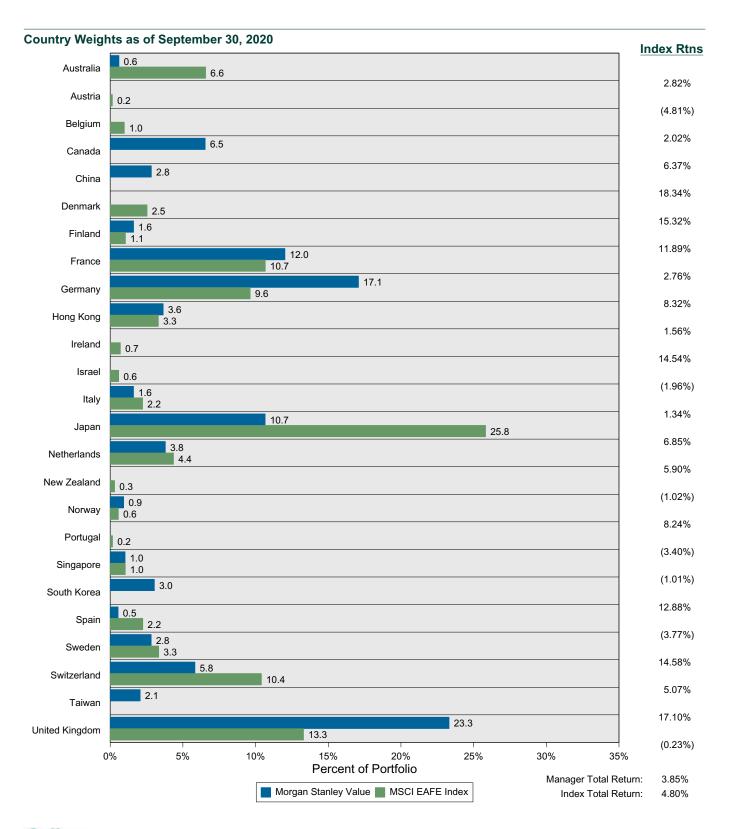
Any particular portfolio characteristic observation(s) may be missing due to a failure to pass a minimum "coverage hurdle" intended to ensure quality. This can occur when the portfolio has a significant weight in stocks for which the data vendor(s) cannot supply the particular relevant financial metric.



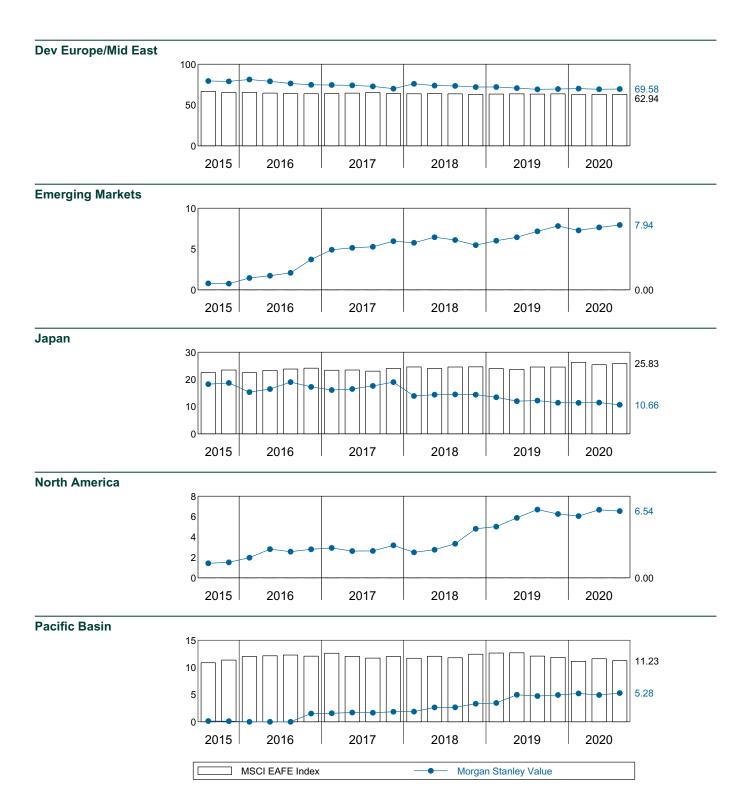
# Country Allocation Morgan Stanley Value VS MSCI EAFE Index

### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of September 30, 2020. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.







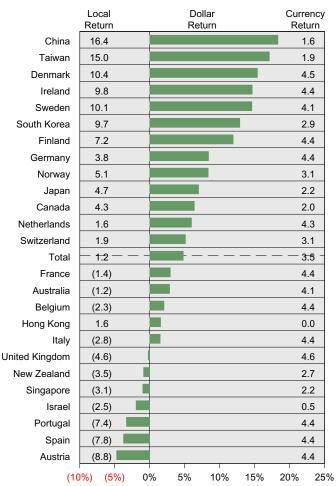


### Morgan Stanley Value vs MSCI EAFE Index Attribution for Quarter Ended September 30, 2020

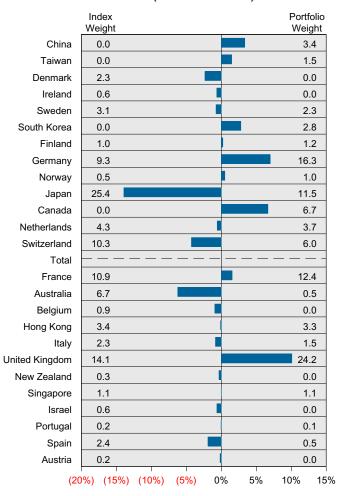
### International Attribution

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.

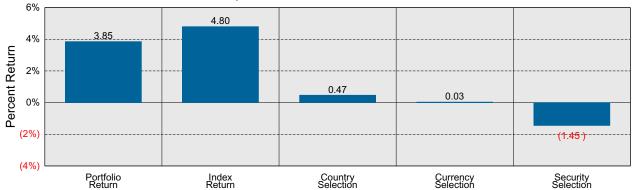




# Beginning Relative Weights (Portfolio - Index)



### Attribution Factors for Quarter Ended September 30, 2020

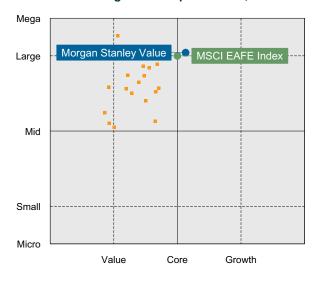




### **Current Holdings Based Style Analysis Morgan Stanley Value** As of September 30, 2020

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

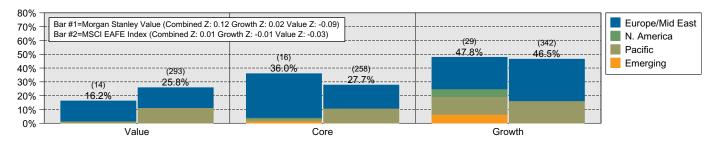
### Style Map vs Callan NonUS Dev Val Eq Holdings as of September 30, 2020



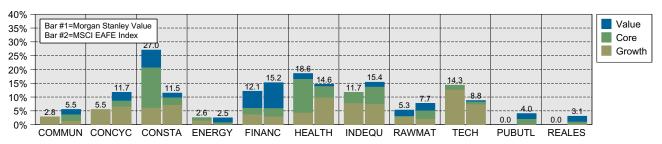
### **Style Exposure Matrix** Holdings as of September 30, 2020

			Г	
	14.7% (13)	31.9% (13)	23.0% (15)	69.6% (41)
Europe/				
Mid East	14.6% (133)	16.9% (120)	30.3% (187)	61.8% (440)
	0.0% (0)	1.0% (1)	5.6% (2)	6.5% (3)
N. America	, ,	, ,	, ,	. ,
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
	1.5% (1)	1.6% (1)	12.9% (9)	15.9% (11)
Pacific	,	, ,	( )	, ,
	11.2% (160)	10.8% (138)	16.2% (155)	38.2% (453)
	0.0% (0)	1.6% (1)	6.4% (3)	7.9% (4)
Emerging	, ,	, ,	, ,	. ,
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
	16.2% (14)	36.0% (16)	47.8% (29)	100.0% (59)
Total				
	25.8% (293)	27.7% (258)	46.5% (342)	100.0% (893)
	Value	Core	Growth	Total

### **Combined Z-Score Style Distribution** Holdings as of September 30, 2020



### **Sector Weights Distribution** Holdings as of September 30, 2020



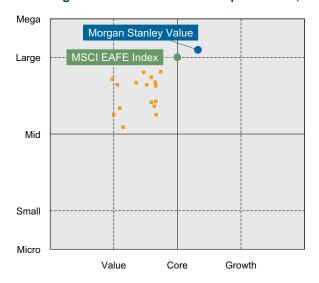


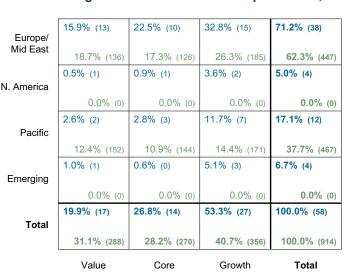
### Historical Holdings Based Style Analysis Morgan Stanley Value For Three Years Ended September 30, 2020

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various region and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The next two style exposure charts illustrate the actual quarterly region/style and style only segment exposures of the portfolio through history.

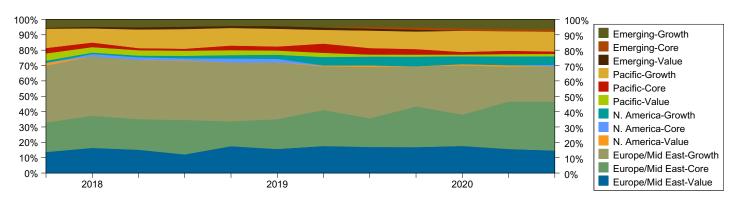
### Average Style Map vs Callan NonUS Dev Val Eq Holdings for Three Years Ended September 30, 2020

### Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2020

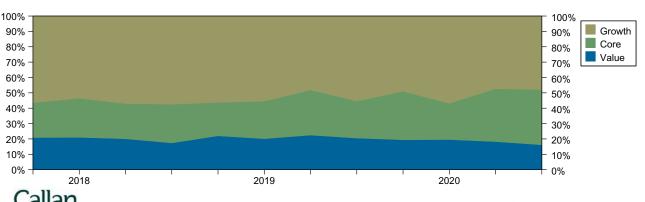




### Morgan Stanley Value Historical Region/Style Exposures



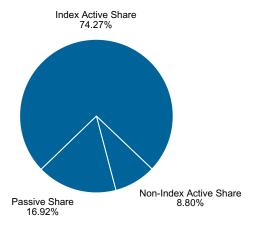
### Morgan Stanley Value Historical Style Only Exposures



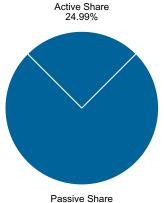
# Morgan Stanley Value Active Share Analysis as of September 30, 2020 vs. MSCI EAFE Index

Active Share analysis compares the holdings of a portfolio to an index to measure how aggressively it differs from the index. Active share is measured at the individual stock level ("holdings-level active share") and using sector weights ("sector exposure active share"). Holdings-level active share comes from: 1) Index Active Share - over/under weighting of stocks in the index, and 2) Non-Index Active Share - positions in stocks not in the index. This analysis displays active share by sector and compares the portfolio to a relevant peer group.

### **Holdings-Level Active Share**



### **Sector Exposure Active Share**



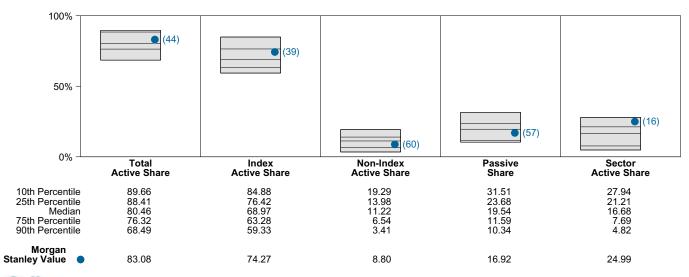
Passive Shar 75.01%

### Total Active Share: 83.08%

Communication Services
Consumer Discretionary
Consumer Staples
Energy
Financials
Health Care
Industrials
Information Technology
Materials
Real Estate
Utilities
Total

Index Active Share Within Sector	Non-Index Active Share Within Sector	Total Active Share Within Sector	Index Weight	Manager Weight	Contribution to Total Portfolio Active Share
50.00%	50.00%	100.00%	5.47%	2.84%	4.15%
78.66%	7.90%	86.56%	11.86%	5.52%	6.97%
72.94%	5.87%	78.81%	11.94%	27.05%	16.68%
75.58%	18.53%	94.11%	2.77%	2.56%	2.50%
82.70%	2.32%	85.02%	15.07%	12.13%	11.34%
59.71%	0.00%	59.71%	14.36%	18.55%	10.67%
90.00%	0.00%	90.00%	15.23%	11.74%	11.96%
51.99%	22.24%	74.24%	8.62%	14.31%	9.25%
65.25%	26.79%	92.04%	7.62%	5.31%	5.86%
100.00%	0.00%	100.00%	3.10%	-	1.55%
100.00%	0.00%	100.00%	3.97%	-	1.99%
74.27%	8.80%	83.08%	100.00%	100.00%	82.91%

### Active Share vs. Callan NonUS Dev Val Eq





### Artisan Partners Growth Period Ended September 30, 2020

### **Investment Philosophy**

Artisan's Non-U.S. Growth team identifies themes and/or industries that Artisan believes are likely to exhibit strong growth. Once these themes are identified, securities are selected based on their ability to excel within their industry. The first full quarter of performance is 1Q03. MCERA is invested in the mutual fund until 02/15/2018. Cash percentage listed is the cash represented in the CIT. Switch to a CIT account on 02/15/2018 Tier III.

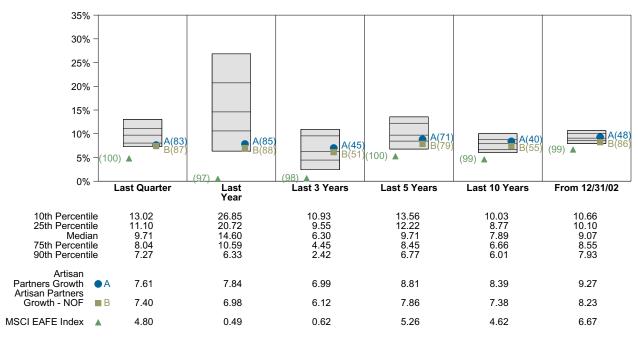
### **Quarterly Summary and Highlights**

- Artisan Partners Growth's portfolio posted a 7.61% return for the quarter placing it in the 83 percentile of the Callan Non-US Broad Growth Equity group for the quarter and in the 85 percentile for the last year.
- Artisan Partners Growth's portfolio outperformed the MSCI EAFE Index by 2.82% for the quarter and outperformed the MSCI EAFE Index for the year by 7.34%.

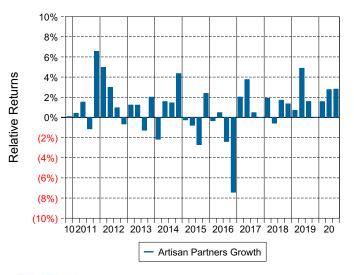
### **Quarterly Asset Growth**

Beginning Market Value	\$180,855,895
Net New Investment	\$0
Investment Gains/(Losses)	\$13,378,381
Ending Market Value	\$194,234,277

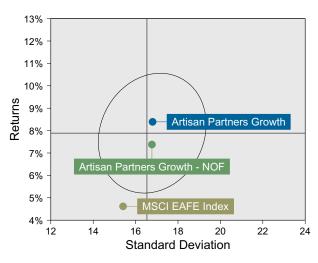
### Performance vs Callan Non-US Broad Growth Equity (Gross)



### Relative Return vs MSCI EAFE Index



# Callan Non-US Broad Growth Equity (Gross) Annualized Ten Year Risk vs Return



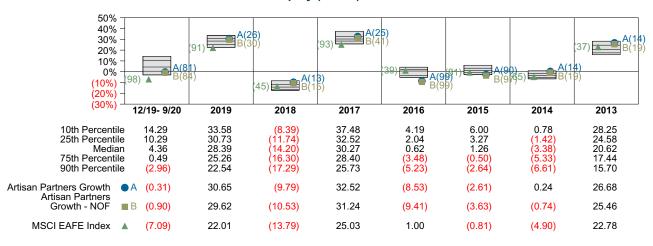


# Artisan Partners Growth Return Analysis Summary

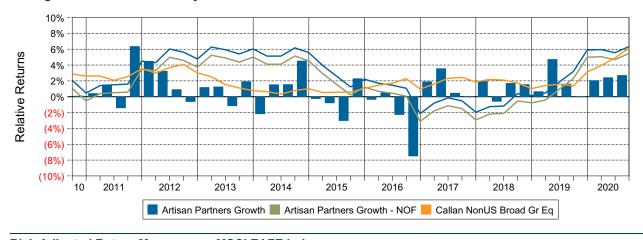
### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

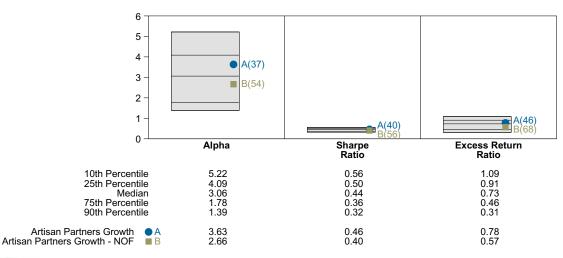
### Performance vs Callan Non-US Broad Growth Equity (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs MSCI EAFE Index



Risk Adjusted Return Measures vs MSCI EAFE Index Rankings Against Callan Non-US Broad Growth Equity (Gross) Ten Years Ended September 30, 2020



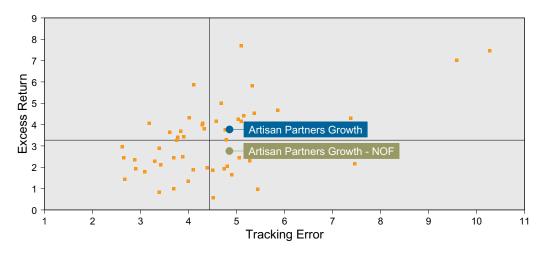


# Artisan Partners Growth Risk Analysis Summary

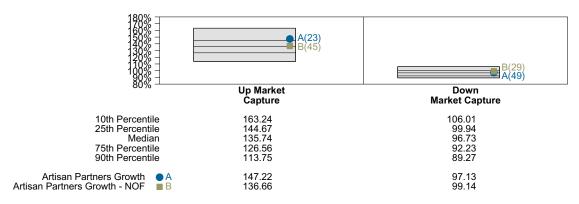
### **Risk Analysis**

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

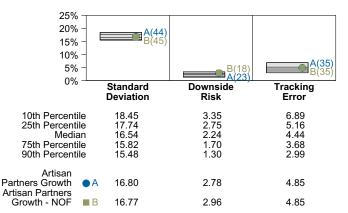
### Risk Analysis vs Callan Non-US Broad Growth Equity (Gross) Ten Years Ended September 30, 2020

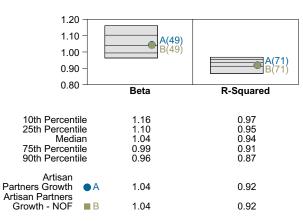


### Market Capture vs MSCI EAFE Index Rankings Against Callan Non-US Broad Growth Equity (Gross) Ten Years Ended September 30, 2020



### Risk Statistics Rankings vs MSCI EAFE Index Rankings Against Callan Non-US Broad Growth Equity (Gross) Ten Years Ended September 30, 2020





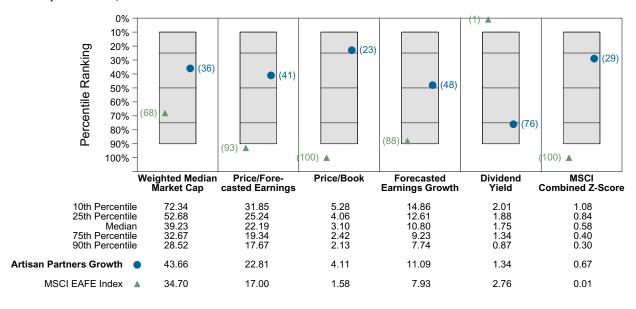


# Artisan Partners Growth Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

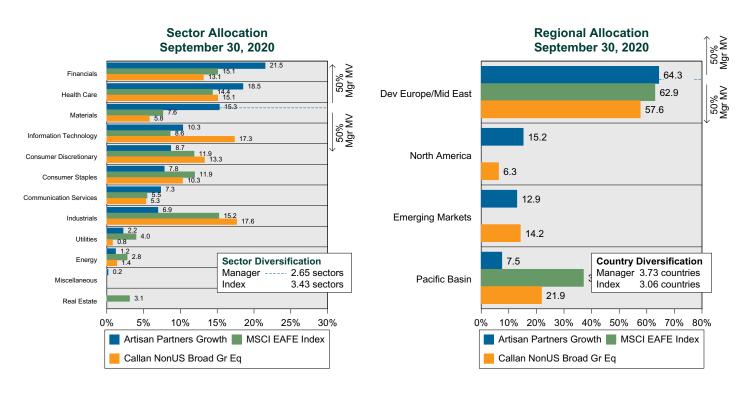
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

### Portfolio Characteristics Percentile Rankings Rankings Against Callan Non-US Broad Growth Equity as of September 30, 2020



### **Sector Weights**

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. The regional allocation chart compares the manager's geographical region weights with those of the benchmark as well as the median region weights of the peer group.

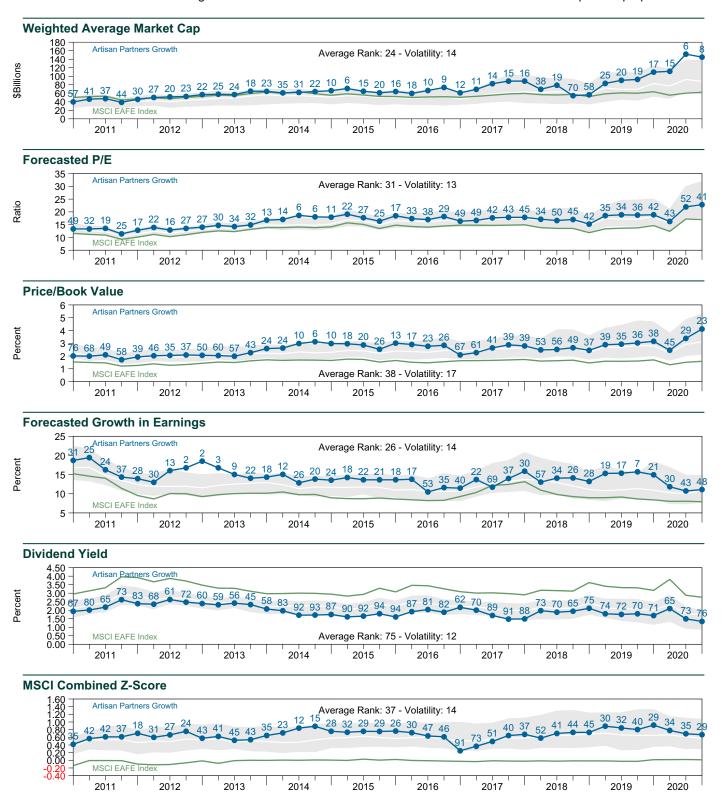




### **Portfolio Characteristics Analysis**

### Callan NonUS Broad Gr Eq

The charts below illustrate the behavior of the product over different portfolio characteristics through time. As a backdrop the range (from 10th to 90th percentile) is shown for the Callan NonUS Broad Gr Eq Universe. The ranking of the product in this group is shown above each quarter end dot. The average ranking of the product and, if there are at least 12 data points, the standard deviation of that ranking is also shown on the chart. The MSCI EAFE Index is shown for comparison purposes.



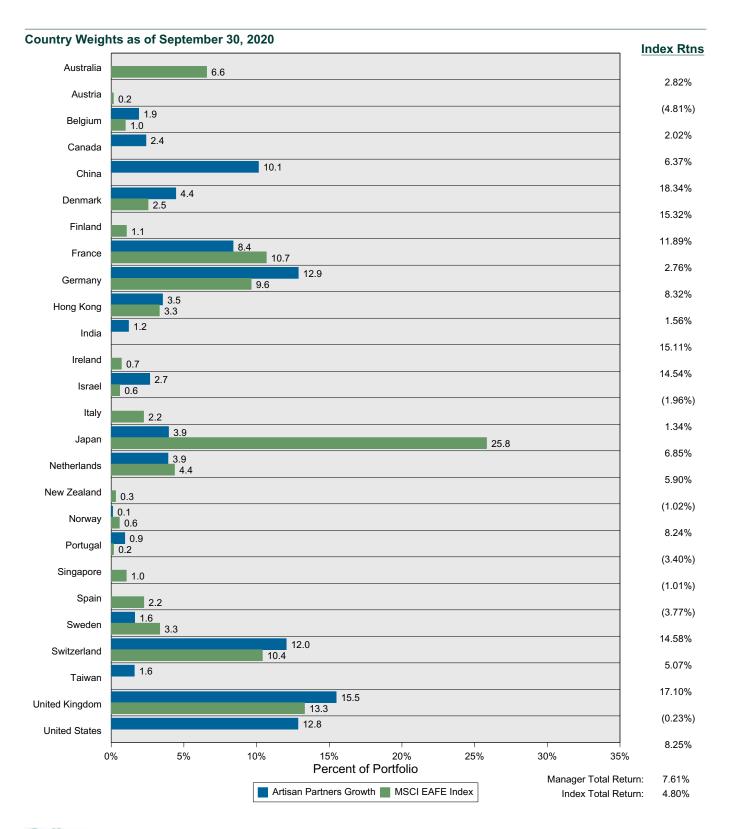
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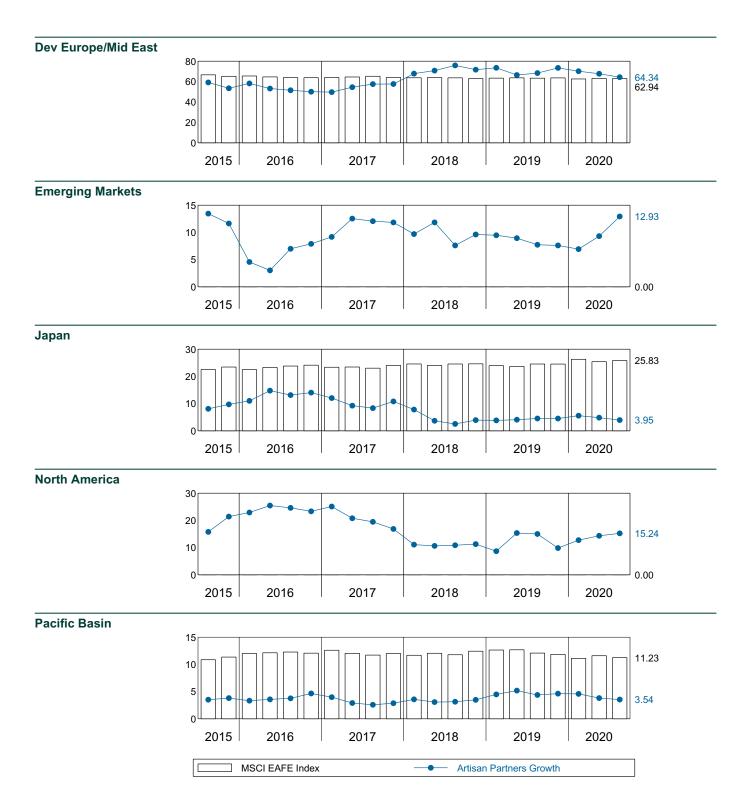
## Country Allocation Artisan Partners Growth VS MSCI EAFE Index

#### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of September 30, 2020. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.







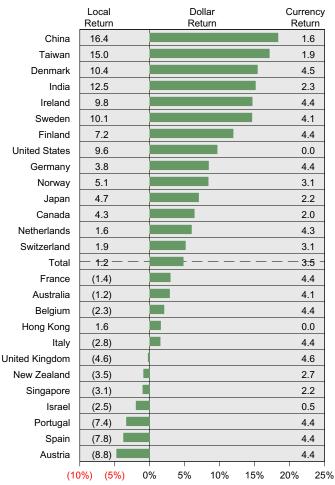


#### Artisan Partners Growth vs MSCI EAFE Index Attribution for Quarter Ended September 30, 2020

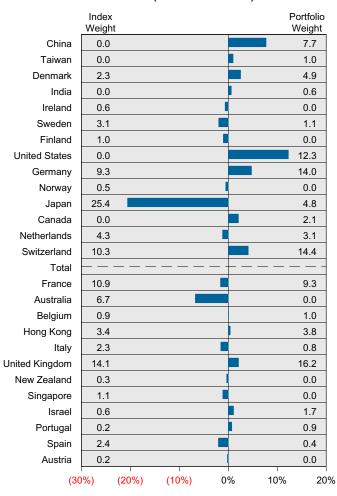
#### **International Attribution**

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.

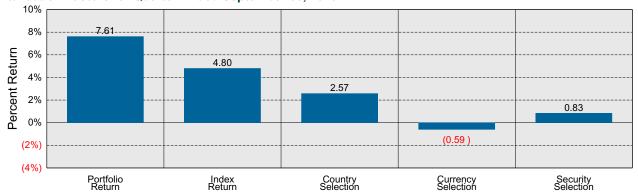




## Beginning Relative Weights (Portfolio - Index)



#### Attribution Factors for Quarter Ended September 30, 2020

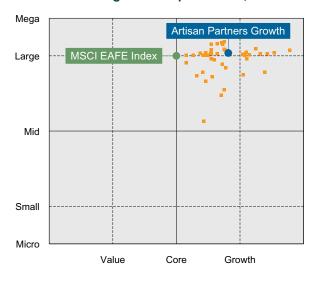




#### **Current Holdings Based Style Analysis Artisan Partners Growth** As of September 30, 2020

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

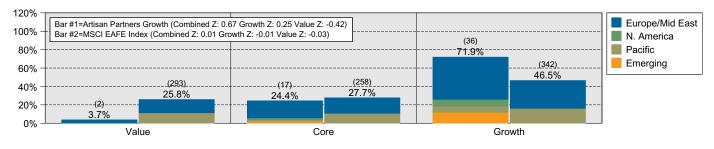
#### Style Map vs Callan NonUS Broad Gr Eq Holdings as of September 30, 2020



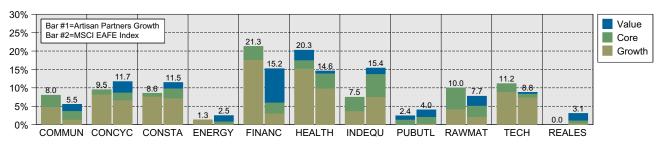
#### **Style Exposure Matrix** Holdings as of September 30, 2020

	Value	Core	Growth	Total
	25.8% (293)	27.7% (258)	46.5% (342)	100.0% (893)
Total				
	3.7% (2)	24.4% (17)	71.9% (36)	100.0% (55)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Emerging				
	0.0% (0)	2.2% (3)	11.9% (5)	14.1% (8)
	11.2% (160)	10.8% (138)	16.2% (155)	38.2% (453)
Pacific	, ,	, ,	, ,	, ,
	0.0% (0)	1.7% (2)	6.5% (4)	8.2% (6)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
N. America				
	0.0% (0)	1.8% (1)	7.6% (5)	9.3% (6)
Europe/ Mid East	14.6% (133)	16.9% (120)	30.3% (187)	61.8% (440)
Furana/	3.7% (2)	18.7% (11)	46.0% (22)	68.3% (35)

#### **Combined Z-Score Style Distribution** Holdings as of September 30, 2020



#### **Sector Weights Distribution** Holdings as of September 30, 2020



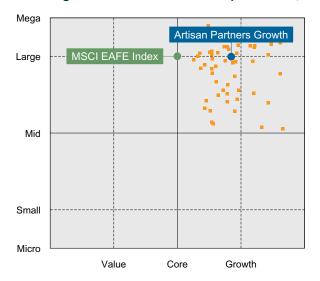


#### Historical Holdings Based Style Analysis Artisan Partners Growth For Three Years Ended September 30, 2020

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various region and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The next two style exposure charts illustrate the actual quarterly region/style and style only segment exposures of the portfolio through history.

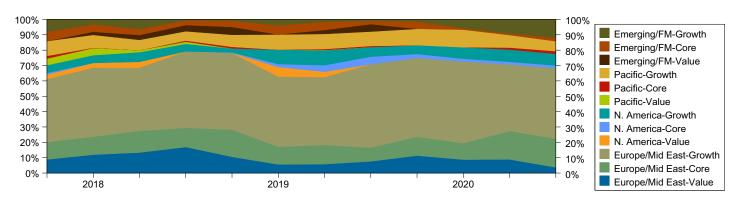
#### Average Style Map vs Callan NonUS Broad Gr Eq Holdings for Three Years Ended September 30, 2020

#### Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2020

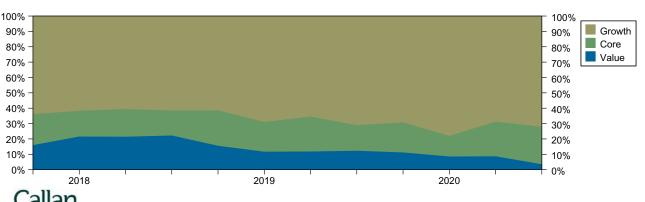




#### **Artisan Partners Growth Historical Region/Style Exposures**



#### **Artisan Partners Growth Historical Style Only Exposures**



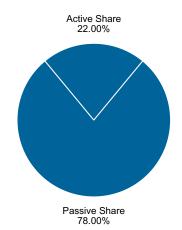
# Artisan Partners Growth Active Share Analysis as of September 30, 2020 vs. MSCI EAFE Index

Active Share analysis compares the holdings of a portfolio to an index to measure how aggressively it differs from the index. Active share is measured at the individual stock level ("holdings-level active share") and using sector weights ("sector exposure active share"). Holdings-level active share comes from: 1) Index Active Share - over/under weighting of stocks in the index, and 2) Non-Index Active Share - positions in stocks not in the index. This analysis displays active share by sector and compares the portfolio to a relevant peer group.

#### **Holdings-Level Active Share**

# Passive Share 12.75% Non-Index Active Share 21.24%

#### **Sector Exposure Active Share**

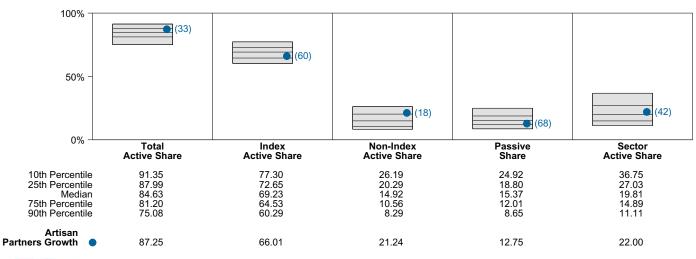


Total Active Share: 87.25%

Communication Services
Consumer Discretionary
Consumer Staples
Energy
Financials
Health Care
Industrials
Information Technology
Materials
Miscellaneous
Real Estate
Utilities
Total

Index Active Share Within Sector	Non-Index Active Share Within Sector	Total Active Share Within Sector	Index Weight	Manager Weight	Contribution to Total Portfolio Active Share
62.45%	29.54%	91.98%	5.47%	7.32%	5.91%
48.17%	45.75%	93.92%	11.86%	8.69%	9.35%
63.39%	9.54%	72.93%	11.94%	7.81%	6.59%
50.00%	50.00%	100.00%	2.77%	1.20%	1.98%
67.03%	25.41%	92.43%	15.07%	21.51%	17.00%
62.45%	14.37%	76.82%	14.36%	18.50%	13.40%
76.77%	9.92%	86.69%	15.23%	6.94%	9.01%
76.87%	18.12%	94.99%	8.62%	10.33%	8.97%
68.02%	20.11%	88.13%	7.62%	15.30%	10.45%
0.00%	100.00%	100.00%	-	0.18%	0.09%
100.00%	0.00%	100.00%	3.10%	-	1.55%
92.92%	0.00%	92.92%	3.97%	2.21%	2.80%
66.01%	21.24%	87.25%	100.00%	100.00%	87.09%

#### Active Share vs. Callan NonUS Broad Gr Eq





#### TimesSquare Intl Small Cap Period Ended September 30, 2020

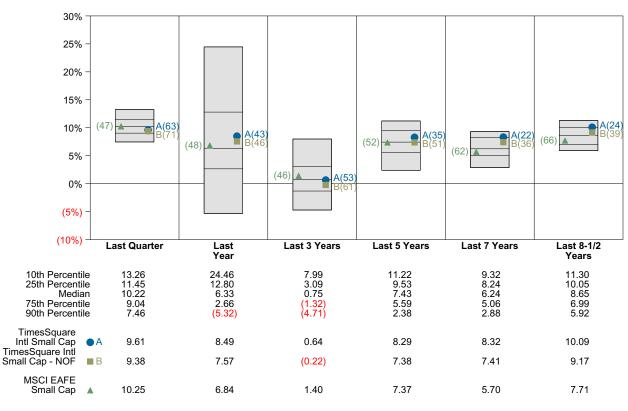
#### **Investment Philosophy**

TimesSquare Capital Management believes in fundamental equity growth research with a particular emphasis on the assessment of management quality, an in-depth understanding of superior business models, and valuation discrepancies. The first full quarter of performance began 3Q19. Prior performance is that of the manager's composite.

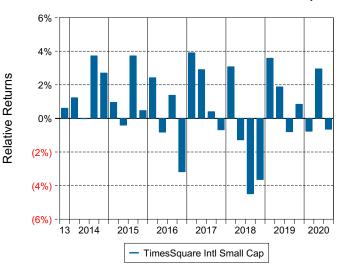
#### **Quarterly Summary and Highlights**

- TimesSquare Intl Small Cap's portfolio posted a 9.61% return for the quarter placing it in the 63 percentile of the Callan International Small Cap group for the quarter and in the 43 percentile for the last year.
- TimesSquare Intl Small Cap's portfolio underperformed the MSCI EAFE Small Cap by 0.65% for the quarter and outperformed the MSCI EAFE Small Cap for the year by 1.65%.

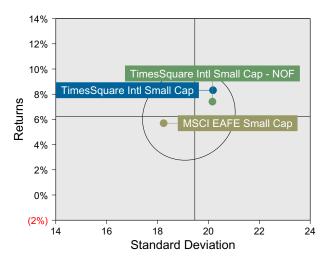
#### Performance vs Callan International Small Cap (Gross)



#### Relative Return vs MSCI EAFE Small Cap



## Callan International Small Cap (Gross) Annualized Seven Year Risk vs Return



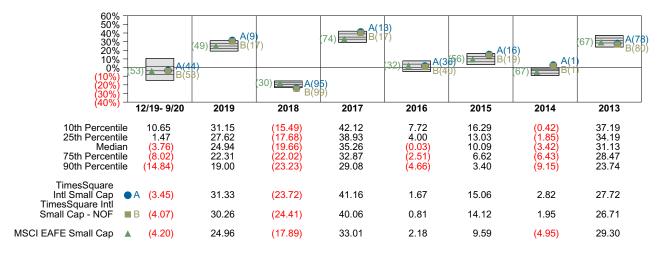


#### TimesSquare Intl Small Cap Return Analysis Summary

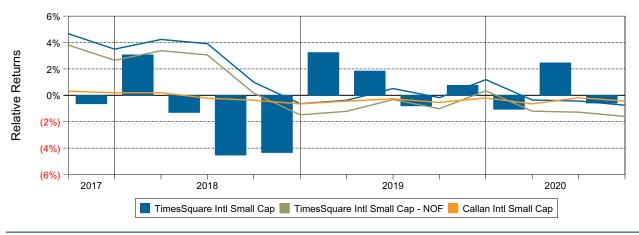
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

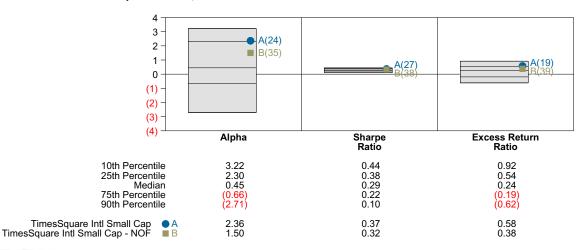
#### Performance vs Callan International Small Cap (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs MSCI EAFE Small Cap



Risk Adjusted Return Measures vs MSCI EAFE Small Cap Rankings Against Callan International Small Cap (Gross) Seven Years Ended September 30, 2020



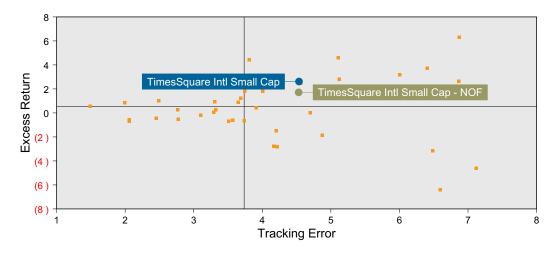


# TimesSquare Intl Small Cap Risk Analysis Summary

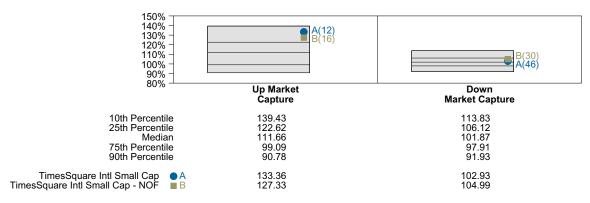
#### **Risk Analysis**

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

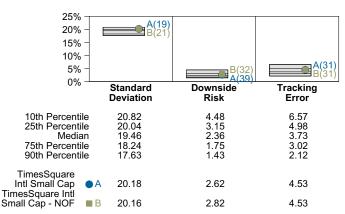
#### Risk Analysis vs Callan International Small Cap (Gross) Seven Years Ended September 30, 2020

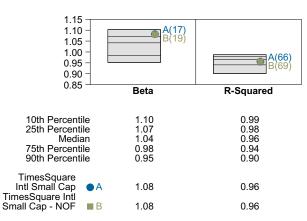


Market Capture vs MSCI EAFE Small Cap Rankings Against Callan International Small Cap (Gross) Seven Years Ended September 30, 2020



Risk Statistics Rankings vs MSCI EAFE Small Cap Rankings Against Callan International Small Cap (Gross) Seven Years Ended September 30, 2020





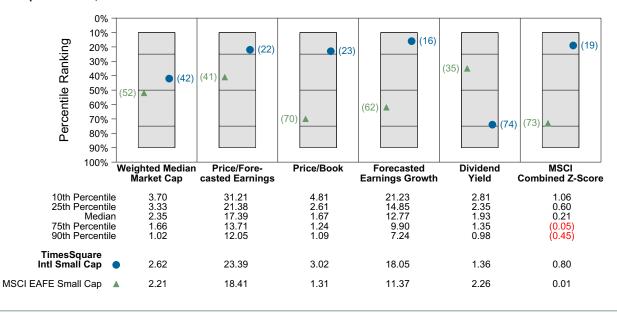


# TimesSquare Intl Small Cap Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

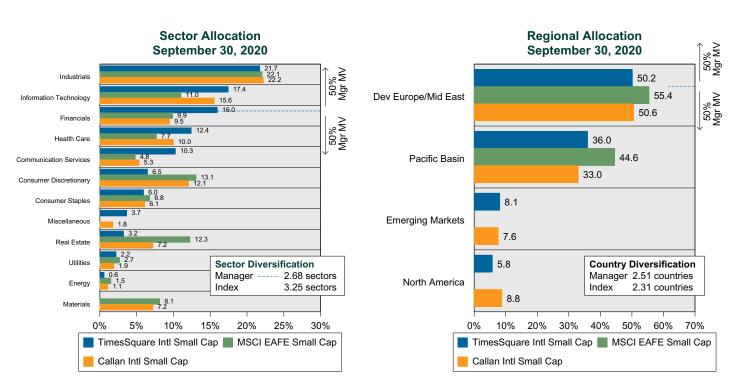
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### Portfolio Characteristics Percentile Rankings Rankings Against Callan International Small Cap as of September 30, 2020



#### **Sector Weights**

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. The regional allocation chart compares the manager's geographical region weights with those of the benchmark as well as the median region weights of the peer group.

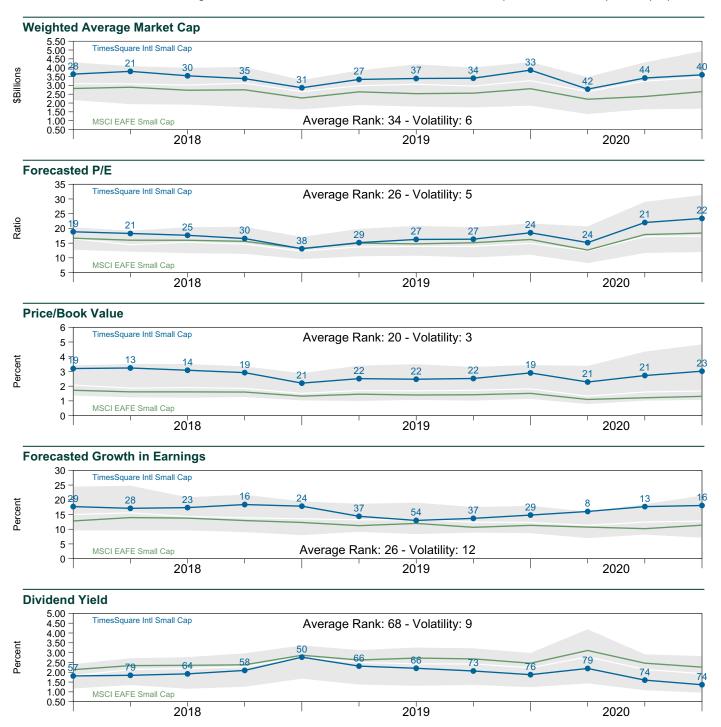




#### **Portfolio Characteristics Analysis**

#### Callan Intl Small Cap

The charts below illustrate the behavior of the product over different portfolio characteristics through time. As a backdrop the range (from 10th to 90th percentile) is shown for the Callan Intl Small Cap Universe. The ranking of the product in this group is shown above each quarter end dot. The average ranking of the product and, if there are at least 12 data points, the standard deviation of that ranking is also shown on the chart. The MSCI EAFE Small Cap is shown for comparison purposes.



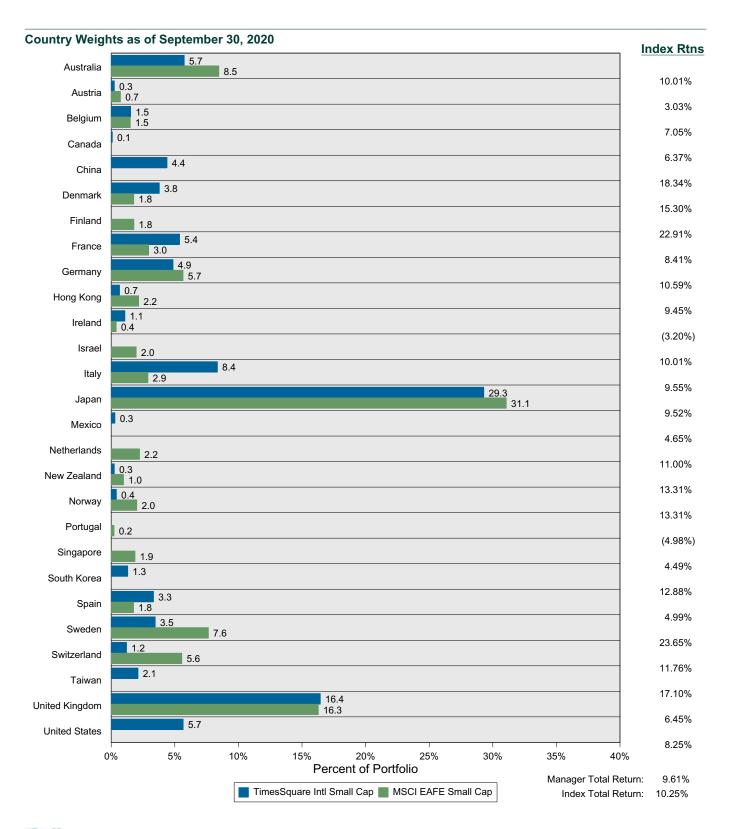
Any particular portfolio characteristic observation(s) may be missing due to a failure to pass a minimum "coverage hurdle" intended to ensure quality. This can occur when the portfolio has a significant weight in stocks for which the data vendor(s) cannot supply the particular relevant financial metric.



# Country Allocation TimesSquare Intl Small Cap VS MSCI EAFE Small Cap

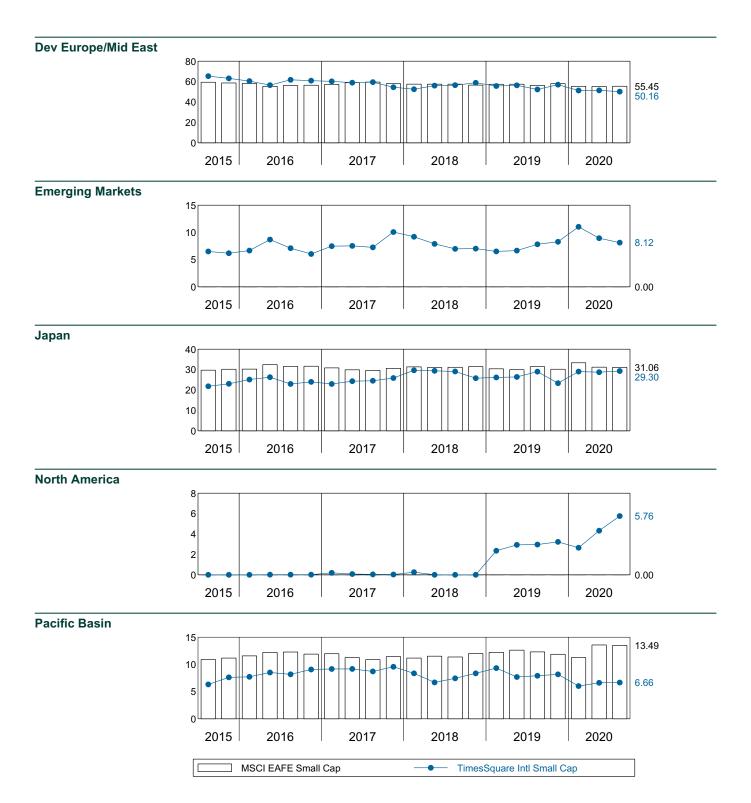
#### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of September 30, 2020. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.





#### Marin County Employees' Retirement Association **History of Ending Regional Weights** Period Ended September 30, 2020

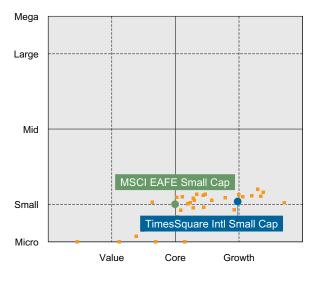




#### **Current Holdings Based Style Analysis** TimesSquare Intl Small Cap As of September 30, 2020

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

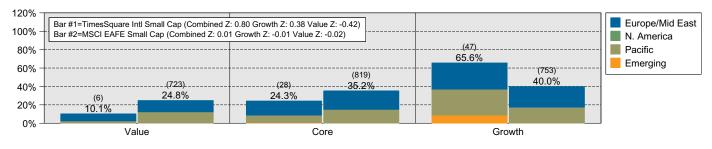
#### Style Map vs Callan Intl Small Cap Holdings as of September 30, 2020



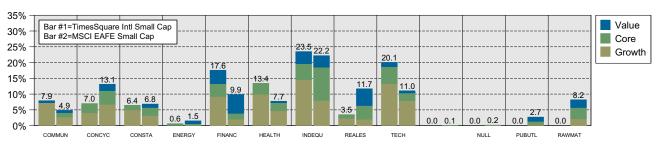
#### **Style Exposure Matrix** Holdings as of September 30, 2020

	24.8% (723)	35.2% (819)	40.0% (753)	100.0% (2295)
Total				
	10.1% (6)	24.3% (28)	65.6% (47)	100.0% (81)
	0.0% (0)	0.0% (1)	0.0% (0)	0.0% (1)
Emerging				
	0.0% (0)	0.5% (1)	8.8% (9)	9.3% (10)
	12.3% (430)	14.9% (447)	17.5% (422)	44.7% (1299)
Pacific		(3)		( ),
	2.4% (2)	8.4% (8)	28.1% (18)	38.8% (28)
	0.0% (1)	0.0% (0)	0.0% (0)	0.0% (1)
N. America				
	0.0% (0)	0.0% (0)	0.1% (1)	0.1% (1)
Europe/ Mid East	12.5% (292)	20.3% (371)	22.5% (331)	55.2% (994)
F	7.7% (4)	15.4% (19)	28.7% (19)	51.8% (42)

#### **Combined Z-Score Style Distribution** Holdings as of September 30, 2020



#### **Sector Weights Distribution** Holdings as of September 30, 2020



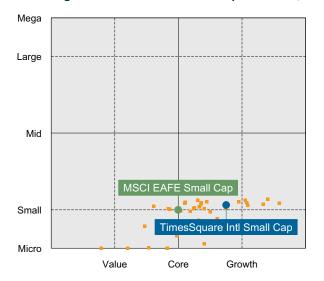


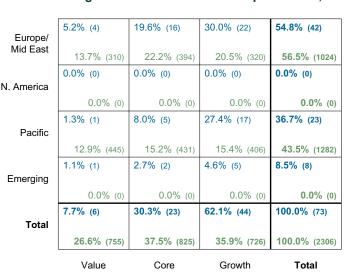
#### **Historical Holdings Based Style Analysis** TimesSquare Intl Small Cap For Three Years Ended September 30, 2020

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various region and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The next two style exposure charts illustrate the actual quarterly region/style and style only segment exposures of the portfolio through history.

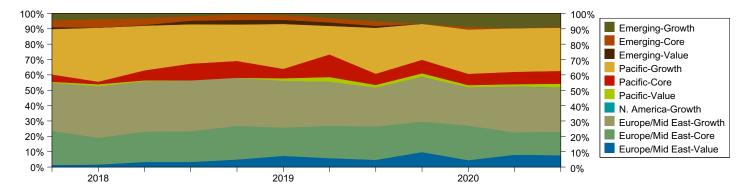
#### Average Style Map vs Callan Intl Small Cap Holdings for Three Years Ended September 30, 2020

#### **Average Style Exposure Matrix** Holdings for Three Years Ended September 30, 2020

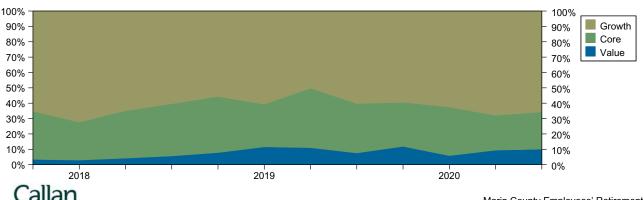




#### TimesSquare Intl Small Cap Historical Region/Style Exposures



#### TimesSquare Intl Small Cap Historical Style Only Exposures



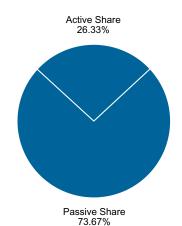
#### TimesSquare Intl Small Cap Active Share Analysis as of September 30, 2020 vs. MSCI EAFE Small Cap

Active Share analysis compares the holdings of a portfolio to an index to measure how aggressively it differs from the index. Active share is measured at the individual stock level ("holdings-level active share") and using sector weights ("sector exposure active share"). Holdings-level active share comes from: 1) Index Active Share - over/under weighting of stocks in the index, and 2) Non-Index Active Share - positions in stocks not in the index. This analysis displays active share by sector and compares the portfolio to a relevant peer group.

#### **Holdings-Level Active Share**

# Index Active Share 76.66% Passive Share 3 91% Non-Index Active Share 19.43%

#### **Sector Exposure Active Share**

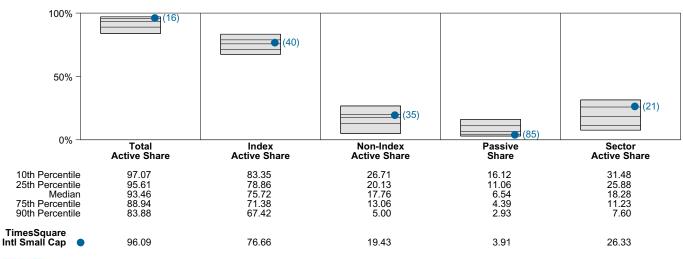


Total Active Share: 96.09%

Communication Services Consumer Discretionary **Consumer Staples** Energy Financials Health Care Industrials Information Technology Materials Miscellaneous Real Estate Utilities Total

Index Active Share Within Sector	Non-Index Active Share Within Sector	Total Active Share Within Sector	Index Weight	Manager Weight	Contribution to Total Portfolio Active Share
59.14%	38.81%	97.95%	4.82%	10.28%	7.45%
79.79%	18.00%	97.79%	13.08%	6.49%	9.67%
65.06%	31.74%	96.79%	6.79%	5.95%	6.15%
93.99%	0.00%	93.99%	1.51%	0.59%	0.96%
77.11%	18.83%	95.94%	9.90%	15.98%	12.68%
74.70%	16.74%	91.44%	7.71%	12.42%	9.40%
86.00%	8.25%	94.24%	22.06%	21.74%	20.62%
75.64%	17.64%	93.28%	11.02%	17.45%	14.01%
100.00%	0.00%	100.00%	8.14%	-	4.07%
0.00%	100.00%	100.00%	-	3.66%	0.95%
97.29%	1.47%	98.75%	12.26%	3.24%	7.58%
50.00%	50.00%	100.00%	2.70%	2.22%	2.46%
76.66%	19.43%	96.09%	100.00%	100.00%	96.00%

#### Active Share vs. Callan Intl Small Cap





#### **Parametric Emerging** Period Ended September 30, 2020

#### **Investment Philosophy**

This strategy is managed by Parametric Portfolio Associates, which is majority owned by Eaton Vance. Parametric uses a structured and disciplined investment approach of investing in emerging markets countries to capture their long-term growth potential, while seeking to avoid undue risk through country timing or concentrated stock selection strategies. The first full quarter for MCERA's mutual fund investment began 12/31/2010. An additional investment was made into a collective investment trust in October 2013. The Eaton Vance Emerging composite combines the two investments and is shown gross of fees. In November 2016 the Mutual fund investment was rolled into the CIT fund and closed.

#### **Quarterly Summary and Highlights**

- Parametric Emerging's portfolio posted a 4.82% return for the quarter placing it in the 88 percentile of the Emerging Markets Equity DB group for the quarter and in the 87 percentile for the last year.
- Parametric Emerging's portfolio underperformed the MSCI Emerging Markets Index by 4.74% for the quarter and underperformed the MSCI Emerging Markets Index for the year by 16.65%.

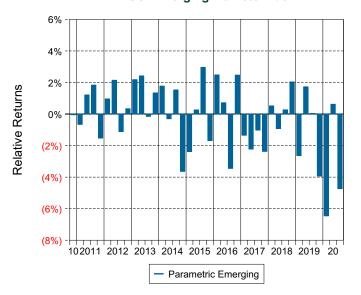
#### **Quarterly Asset Growth**

Beginning Market Value	\$89,414,557
Net New Investment	\$0
Investment Gains/(Losses)	\$4,125,907
Ending Market Value	\$93,540,463

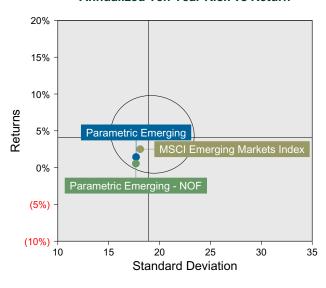
#### Performance vs Emerging Markets Equity DB (Gross)



#### Relative Returns vs **MSCI Emerging Markets Index**



#### **Emerging Markets Equity DB (Gross)** Annualized Ten Year Risk vs Return



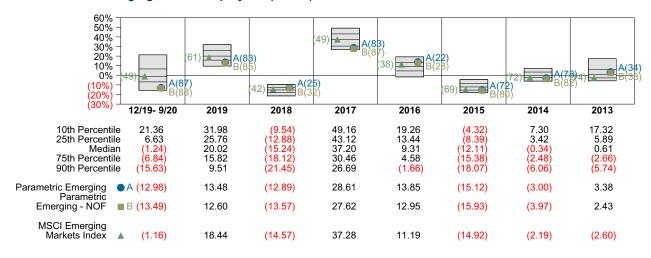


#### **Parametric Emerging Return Analysis Summary**

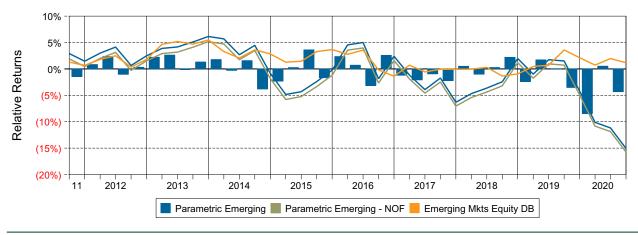
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 4 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

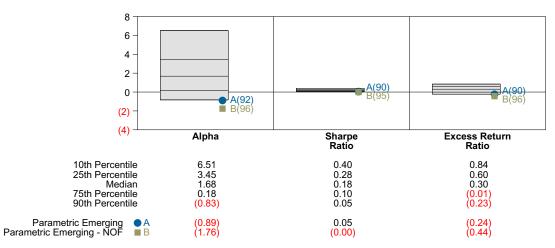
#### Performance vs Emerging Markets Equity DB (Gross)



Rolling 4 Quarter and Quarterly Relative Return vs MSCI Emerging Markets Index



Risk Adjusted Return Measures vs MSCI Emerging Markets Index Rankings Against Emerging Markets Equity DB (Gross) Ten Years Ended September 30, 2020



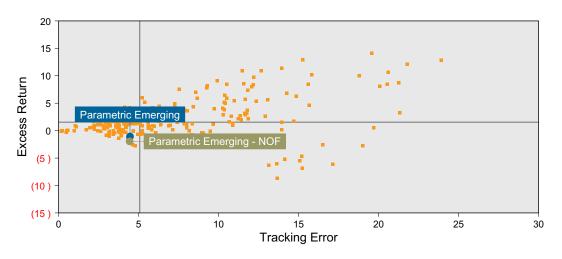


#### **Parametric Emerging Risk Analysis Summary**

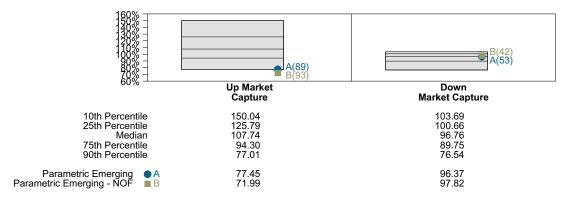
#### Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

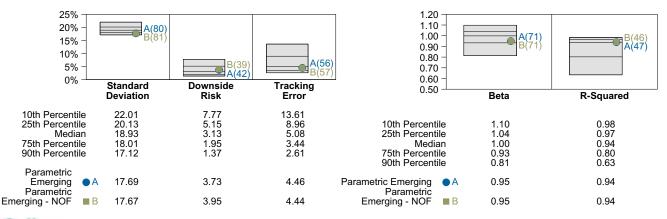
#### Risk Analysis vs Emerging Markets Equity DB (Gross) Ten Years Ended September 30, 2020



Market Capture vs MSCI Emerging Markets Index Rankings Against Emerging Markets Equity DB (Gross) Ten Years Ended September 30, 2020



Risk Statistics Rankings vs MSCI Emerging Markets Index Rankings Against Emerging Markets Equity DB (Gross) Ten Years Ended September 30, 2020



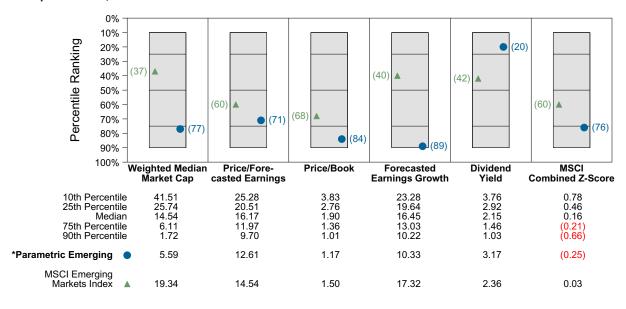


#### **Parametric Emerging Equity Characteristics Analysis Summary**

#### **Portfolio Characteristics**

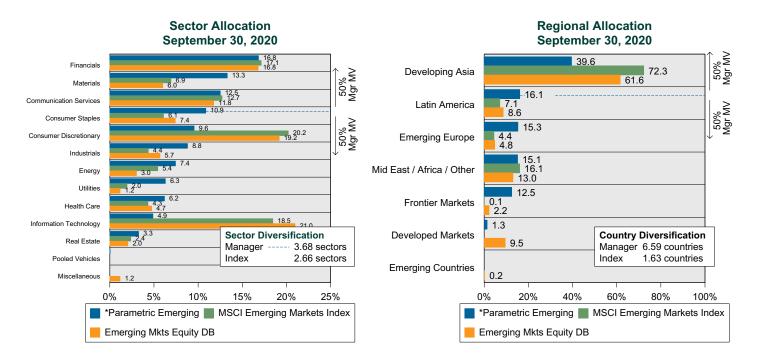
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### **Portfolio Characteristics Percentile Rankings** Rankings Against Emerging Markets Equity DB as of September 30, 2020



#### **Sector Weights**

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. The regional allocation chart compares the manager's geographical region weights with those of the benchmark as well as the median region weights of the peer group.



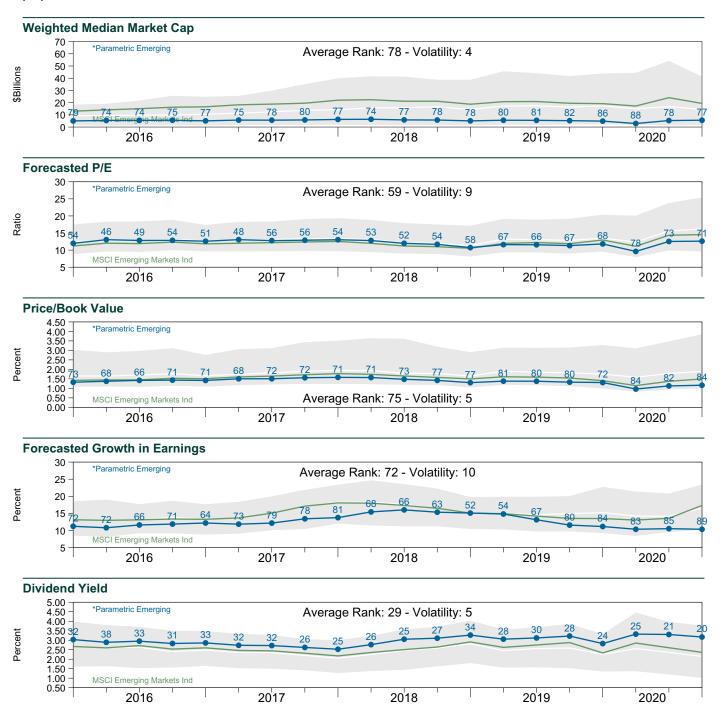
<sup>\*9/30/20</sup> portfolio characteristics generated using most recently available holdings (6/30/20) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



#### **Portfolio Characteristics Analysis**

#### **Emerging Mkts Equity DB**

The charts below illustrate the behavior of the product over different portfolio characteristics through time. As a backdrop the range (from 10th to 90th percentile) is shown for the Emerging Mkts Equity DB Universe. The ranking of the product in this group is shown above each quarter end dot. The average ranking of the product and, if there are at least 12 data points, the standard deviation of that ranking is also shown on the chart. The MSCI Emerging Markets Ind is shown for comparison purposes.



Any particular portfolio characteristic observation(s) may be missing due to a failure to pass a minimum "coverage hurdle" intended to ensure quality. This can occur when the portfolio has a significant weight in stocks for which the data vendor(s) cannot supply the particular relevant financial metric.

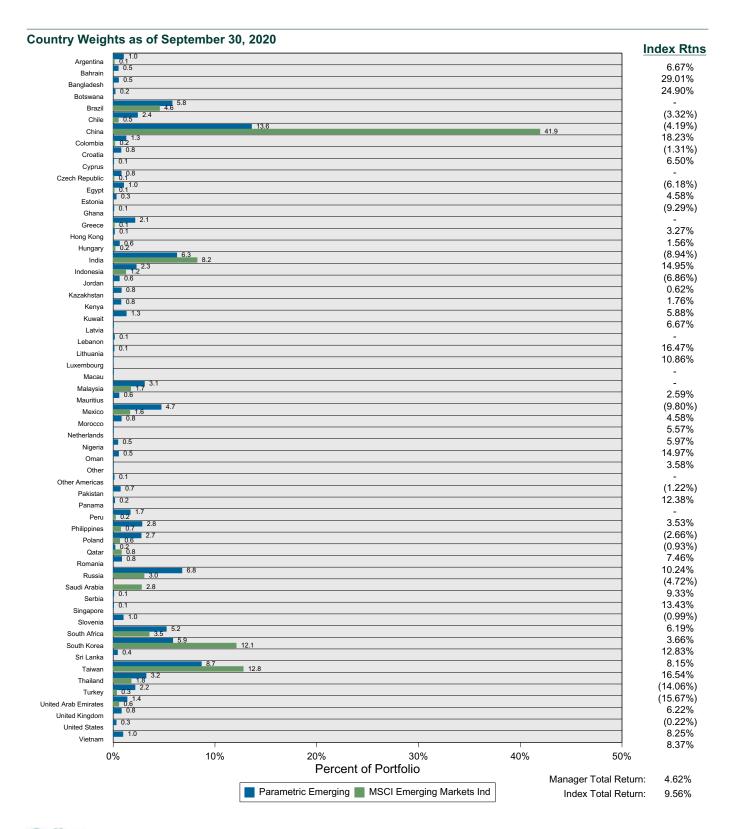


<sup>\*9/30/20</sup> portfolio characteristics generated using most recently available holdings (6/30/20) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

#### **Country Allocation** Parametric Emerging VS MSCI Emerging Markets Index

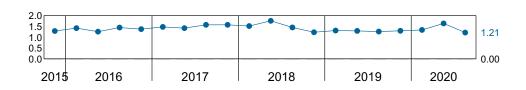
#### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of September 30, 2020. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent guarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.

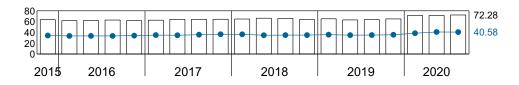




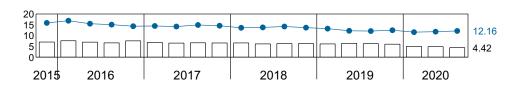




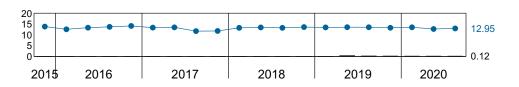
#### **Developing Asia**



#### **Emerging Europe**



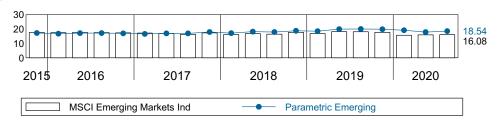
#### **Frontier Markets**



#### Latin America



#### Mid East / Africa / Other



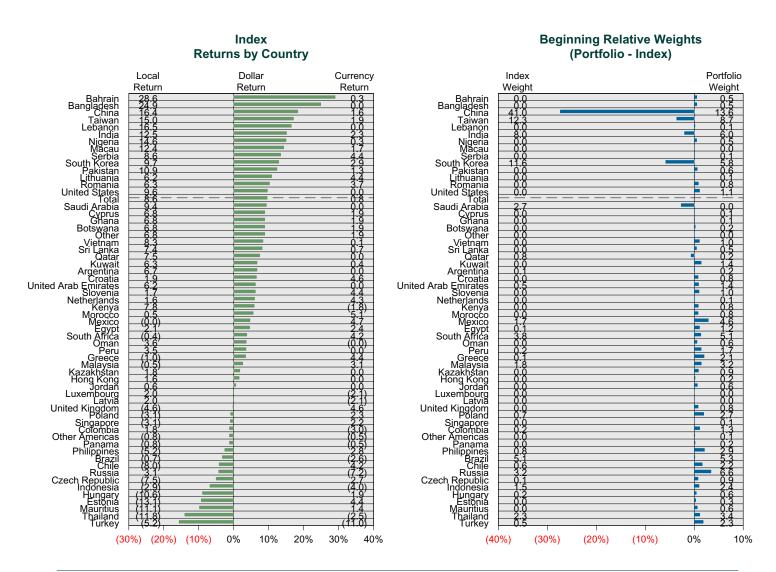


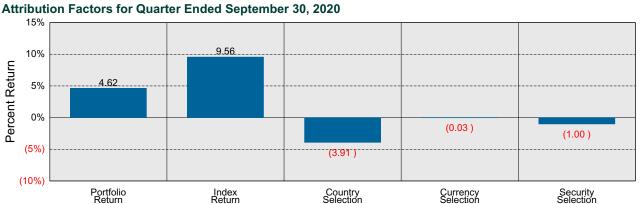
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## Parametric Emerging vs MSCI Emerging Markets Index Attribution for Quarter Ended September 30, 2020

#### **International Attribution**

The first chart below illustrates the return for each country in the index sorted from high to low. The total return for the index is highlighted with a dotted line. The second chart (countries presented in the same order) illustrates the manager's country allocation decisions relative to the index. To the extent that the manager over-weighted a country that had a higher return than the total return for the index (above the dotted line) it contributes positively to the manager's country (or currency) selection effect. The last chart details the manager return, the index return, and the attribution factors for the quarter.







#### **Current Holdings Based Style Analysis Parametric Emerging** As of September 30, 2020

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

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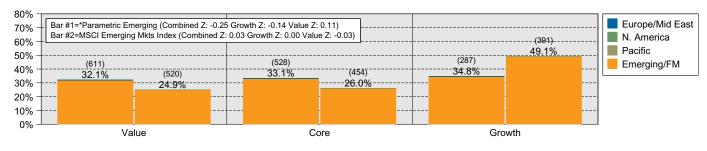
#### Style Map vs Emerging Mkts Equity DB Holdings as of September 30, 2020



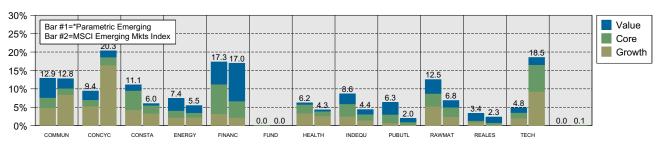
#### **Style Exposure Matrix** Holdings as of September 30, 2020

	Value	Core	Growth	Total
	24.9% (520)	26.0% (454)	49.1% (391)	100.0% (1365)
Total				
	32.1% (611)	33.1% (528)	34.8% (287)	100.0% (1426)
Emerging/ FM	24.9% (519)	25.9% (452)	49.1% (390)	99.9% (1361)
	31.7% (605)	33.1% (524)	34.5% (285)	99.3% (1414)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Pacific				
	0.2% (3)	0.0% (1)	0.0% (1)	0.2% (5)
	0.0% (1)	0.1% (2)	0.0% (1)	0.1% (4)
N. America			, ,	. ,
	0.0% (2)	0.0% (0)	0.0% (0)	0.0% (2)
Mid East	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Europe/	0.1% (1)	0.0% (3)	0.3% (1)	0.5% (5)

#### **Combined Z-Score Style Distribution** Holdings as of September 30, 2020



#### **Sector Weights Distribution** Holdings as of September 30, 2020



<sup>\*9/30/20</sup> portfolio characteristics generated using most recently available holdings (6/30/20) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

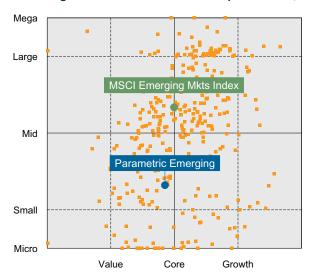


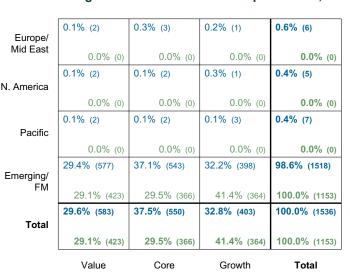
#### **Historical Holdings Based Style Analysis Parametric Emerging** For Three Years Ended September 30, 2020

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various region and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The next two style exposure charts illustrate the actual quarterly region/style and style only segment exposures of the portfolio through history.

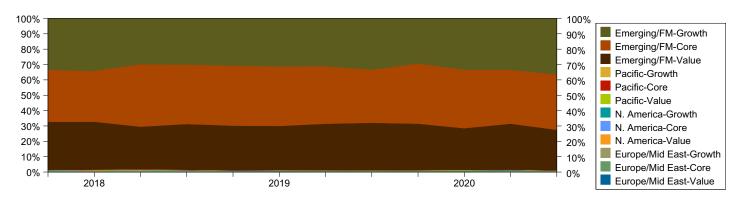
#### Average Style Map vs Emerging Mkts Equity DB Holdings for Three Years Ended September 30, 2020

#### **Average Style Exposure Matrix** Holdings for Three Years Ended September 30, 2020

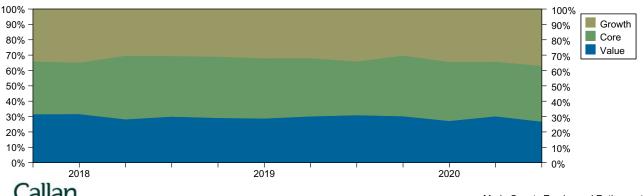




#### Parametric Emerging Historical Region/Style Exposures



#### **Parametric Emerging Historical Style Only Exposures**



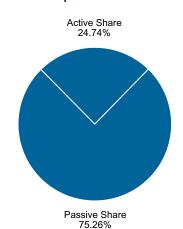
#### **Parametric Emerging** Active Share Analysis as of September 30, 2020 vs. MSCI Emerging Markets Index

Active Share analysis compares the holdings of a portfolio to an index to measure how aggressively it differs from the index. Active share is measured at the individual stock level ("holdings-level active share") and using sector weights ("sector exposure active share"). Holdings-level active share comes from: 1) Index Active Share - over/under weighting of stocks in the index, and 2) Non-Index Active Share - positions in stocks not in the index. This analysis displays active share by sector and compares the portfolio to a relevant peer group.

#### **Holdings-Level Active Share**

# Index Active Share 46.06% Non-Index Active Share 17.87% Passive Share 36.07%

#### **Sector Exposure Active Share**

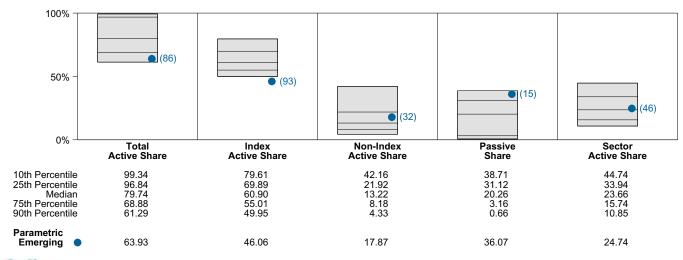


Total Active Share: 63.93%

Communication Services Consumer Discretionary **Consumer Staples** Energy Financials Health Care Industrials Information Technology Materials **Pooled Vehicles** Real Estate Utilities Total

Index Active Share Within Sector	Non-Index Active Share Within Sector	Total Active Share Within Sector	Index Weight	Manager Weight	Contribution to Total Portfolio Active Share
53.55%	10.80%	64.35%	12.71%	12.51%	8.11%
54.42%	21.36%	75.78%	20.21%	9.55%	11.24%
29.49%	13.93%	43.42%	6.09%	10.88%	4.42%
37.49%	10.95%	48.45%	5.44%	7.44%	3.32%
37.67%	22.08%	59.75%	17.15%	16.84%	10.13%
42.68%	16.53%	59.21%	4.32%	6.19%	3.38%
37.35%	25.86%	63.21%	4.36%	8.80%	4.49%
35.48%	16.73%	52.21%	18.46%	4.88%	8.66%
37.90%	18.04%	55.94%	6.93%	13.30%	6.06%
0.00%	100.00%	100.00%	-	0.04%	0.02%
27.27%	17.04%	44.31%	2.38%	3.27%	1.30%
30.80%	21.26%	52.06%	1.95%	6.30%	2.74%
46.06%	17.87%	63.93%	100.00%	100.00%	63.87%

#### Active Share vs. Emerging Mkts Equity DB

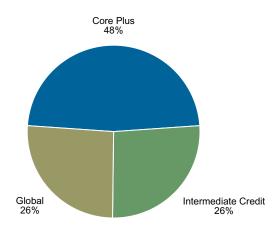




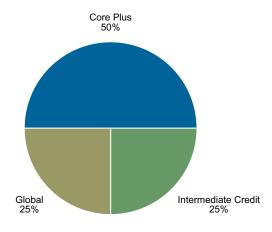
#### **Actual vs Target Style Allocation** As of September 30, 2020

The first chart below shows the Fund's style allocation as of September 30, 2020. The second chart shows the Fund's target style allocation as outlined in the investment policy statement.





#### **Target Style Allocation**



Asset Class	\$Millions Actual	Weight Actual	Target	Percent Difference	\$Millions Difference
Core Plus	270	47.8%	50.0%	(2.2%)	(13)
Intermediate Credit	149	26.3%	25.0%	1.3%	` 8′
Global	146	25.9%	25.0%	0.9%	5
Total	565	100.0%	100.0%		

<sup>\*</sup> Current Quarter Target = 50.0% Blmbg Aggregate, 25.0% FTSE WGBI and 25.0% Blmbg Intmdt Credit.



## Fixed Income Composite Period Ended September 30, 2020

#### **Investment Philosophy**

Fixed Income Benchmark is comprised of 100% Blmbg Aggregate until 03/31/2014 and 50% Blmbg Aggregate, 25% Blmbg Intermediate Credit, and 25% FTSE WGBI thereafter.

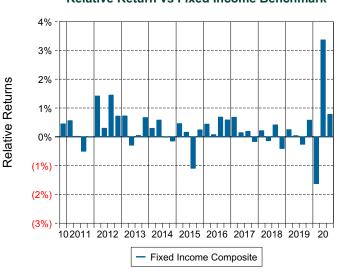
#### **Quarterly Summary and Highlights**

- Fixed Income Composite's portfolio posted a 2.14% return for the quarter placing it in the 12 percentile of the Public Fund Domestic Fixed group for the quarter and in the 1 percentile for the last year.
- Fixed Income Composite's portfolio outperformed the Fixed Income Benchmark by 0.78% for the quarter and outperformed the Fixed Income Benchmark for the year by 3.17%.

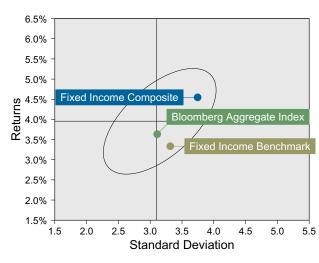
#### Performance vs Public Fund - Domestic Fixed (Gross)



#### Relative Return vs Fixed Income Benchmark



## Public Fund - Domestic Fixed (Gross) Annualized Ten Year Risk vs Return



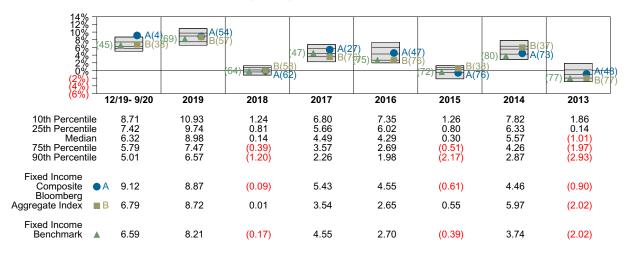


#### **Fixed Income Composite Return Analysis Summary**

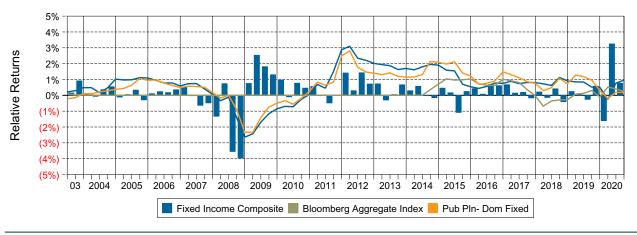
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

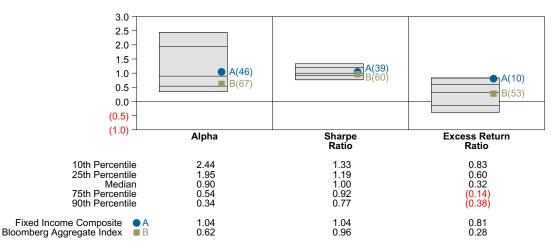
#### Performance vs Public Fund - Domestic Fixed (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs Fixed Income Benchmark



Risk Adjusted Return Measures vs Fixed Income Benchmark Rankings Against Public Fund - Domestic Fixed (Gross) Ten Years Ended September 30, 2020



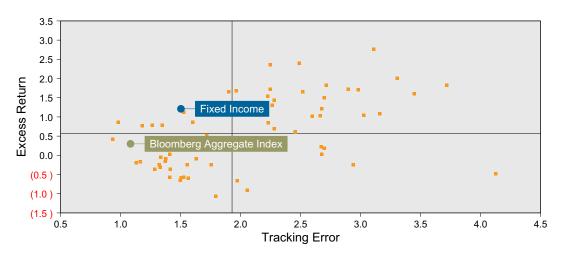


#### **Fixed Income Risk Analysis Summary**

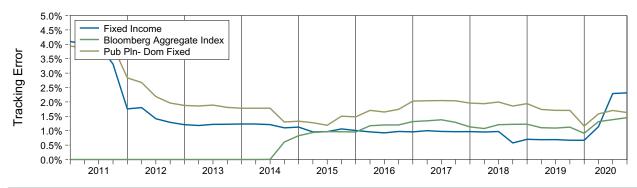
#### Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

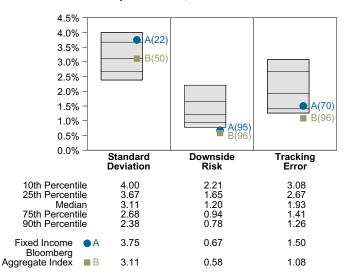
#### Risk Analysis vs Public Fund - Domestic Fixed (Gross) Ten Years Ended September 30, 2020

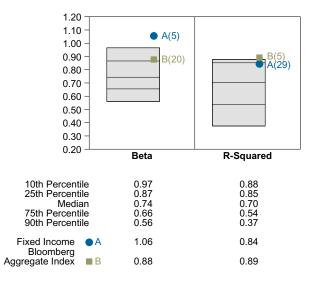


Rolling 12 Quarter Tracking Error vs Fixed Income Benchmark



Risk Statistics Rankings vs Fixed Income Benchmark Rankings Against Public Fund - Domestic Fixed (Gross) Ten Years Ended September 30, 2020





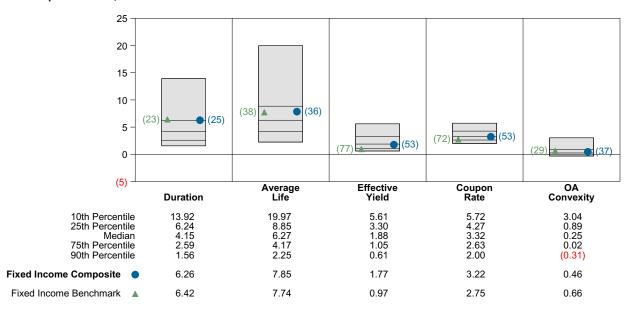


#### **Fixed Income Composite Bond Characteristics Analysis Summary**

#### **Portfolio Characteristics**

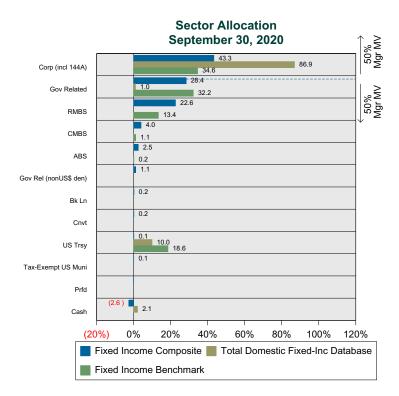
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

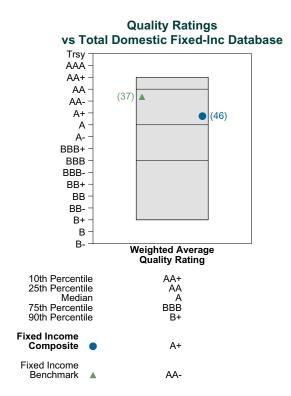
#### **Fixed Income Portfolio Characteristics** Rankings Against Total Domestic Fixed-Inc Database as of September 30, 2020



#### Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.







#### Wellington Core Plus Period Ended September 30, 2020

#### **Investment Philosophy**

Wellington's fixed income process focuses on fundamental research, diversification and risk control. The firm's orientation is toward intensive, bottom-up research. Marin switched Wellington's mandate from Core to Core Plus in first quarter 2012. Returns prior to that are linked to Wellington's Core Plus composite (portfolio A). The Wellington Management return stream (portfolio B) is Marin's historical core bond returns linked to the core plus returns. Wellington's hire date was in third quarter 2002.

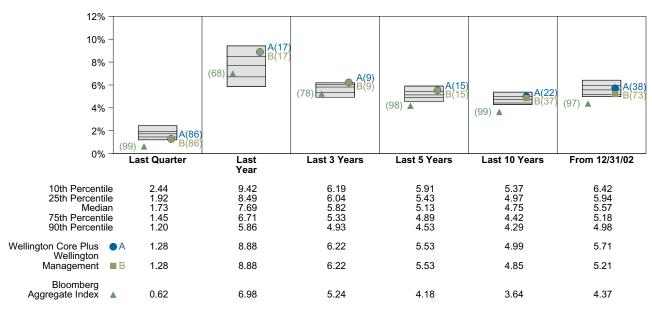
#### **Quarterly Summary and Highlights**

- Wellington Core Plus's portfolio posted a 1.28% return for the quarter placing it in the 86 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 17 percentile for the last year.
- Wellington Core Plus's portfolio outperformed the Bloomberg Aggregate Index by 0.66% for the quarter and outperformed the Bloomberg Aggregate Index for the year by 1.89%.

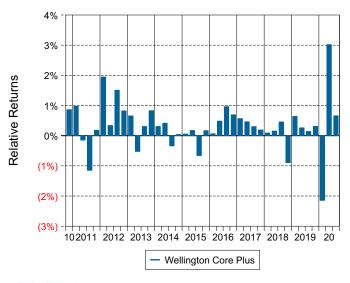
#### **Quarterly Asset Growth**

Beginning Market Value	\$268,188,777
Net New Investment	\$-1,724,139
Investment Gains/(Losses)	\$3,431,135
Ending Market Value	\$269.895.773

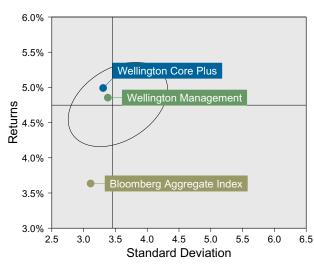
#### Performance vs Callan Core Plus Fixed Income (Gross)



#### Relative Returns vs Bloomberg Aggregate Index



## Callan Core Plus Fixed Income (Gross) Annualized Ten Year Risk vs Return





#### Wellington Management Period Ended September 30, 2020

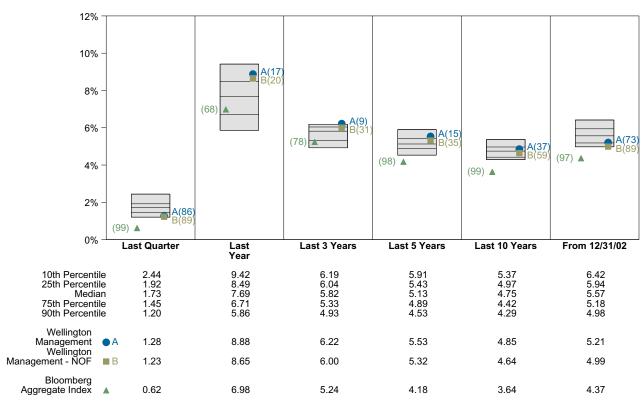
#### **Investment Philosophy**

Wellington's fixed income process focuses on fundamental research, diversification and risk control. The firm's orientation is toward intensive, bottom-up research. Marin switched Wellington's mandate from Core to Core Plus in first quarter 2012. Wellington's hire date was in third quarter 2002.

#### **Quarterly Summary and Highlights**

- Wellington Management's portfolio posted a 1.28% return for the quarter placing it in the 86 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 17 percentile for the last year.
- Wellington Management's portfolio outperformed the Bloomberg Aggregate Index by 0.66% for the quarter and outperformed the Bloomberg Aggregate Index for the year by 1.89%.

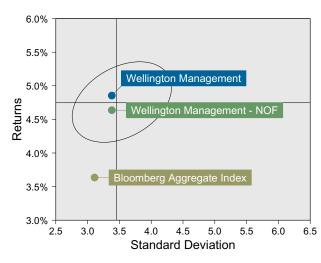
#### Performance vs Callan Core Plus Fixed Income (Gross)



#### Relative Returns vs Bloomberg Aggregate Index



## Callan Core Plus Fixed Income (Gross) Annualized Ten Year Risk vs Return



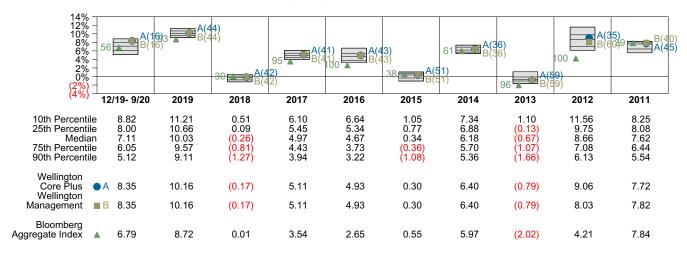


#### **Wellington Core Plus Return Analysis Summary**

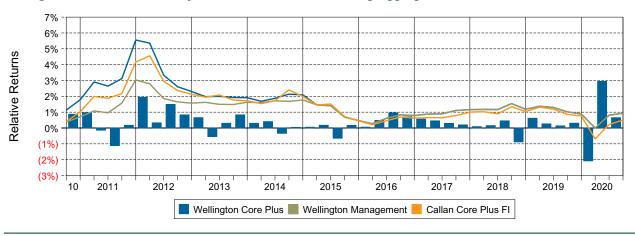
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

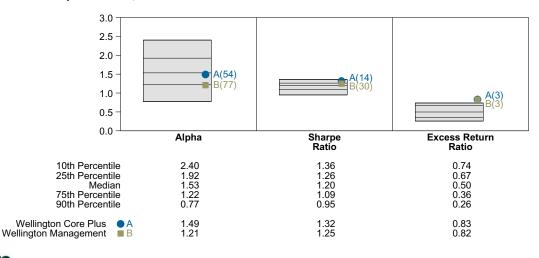
#### Performance vs Callan Core Plus Fixed Income (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs Bloomberg Aggregate Index



Risk Adjusted Return Measures vs Bloomberg Aggregate Index Rankings Against Callan Core Plus Fixed Income (Gross) Ten Years Ended September 30, 2020



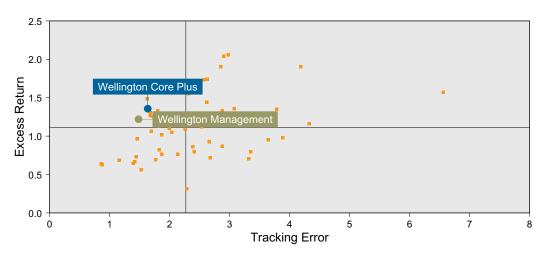


#### **Wellington Core Plus Risk Analysis Summary**

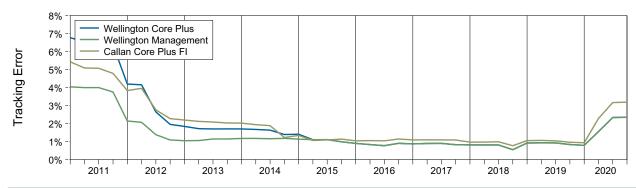
#### Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

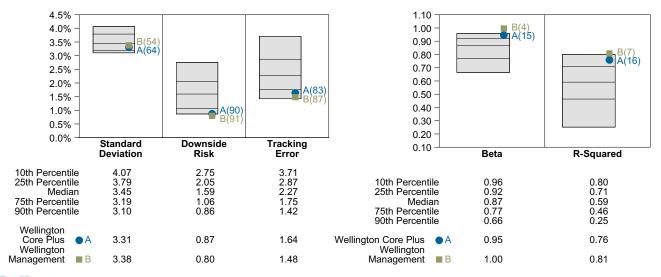
#### Risk Analysis vs Callan Core Plus Fixed Income (Gross) Ten Years Ended September 30, 2020



Rolling 12 Quarter Tracking Error vs Bloomberg Aggregate Index



Risk Statistics Rankings vs Bloomberg Aggregate Index Rankings Against Callan Core Plus Fixed Income (Gross) Ten Years Ended September 30, 2020



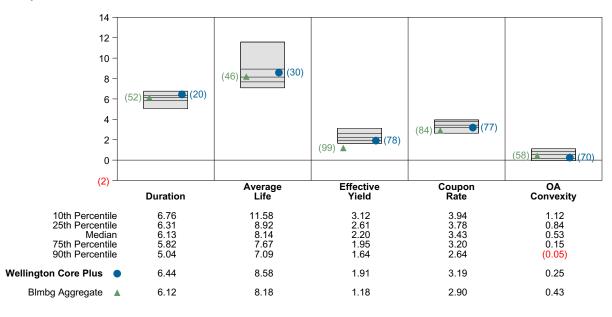


#### **Wellington Core Plus Bond Characteristics Analysis Summary**

#### **Portfolio Characteristics**

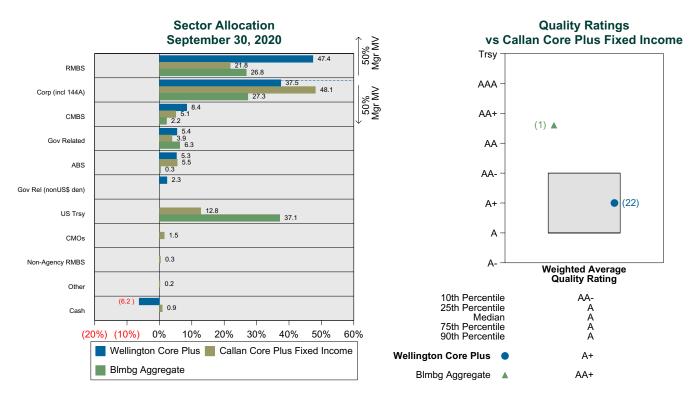
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

#### **Fixed Income Portfolio Characteristics** Rankings Against Callan Core Plus Fixed Income as of September 30, 2020



#### Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.

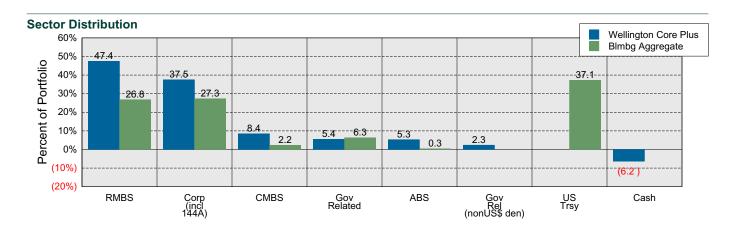


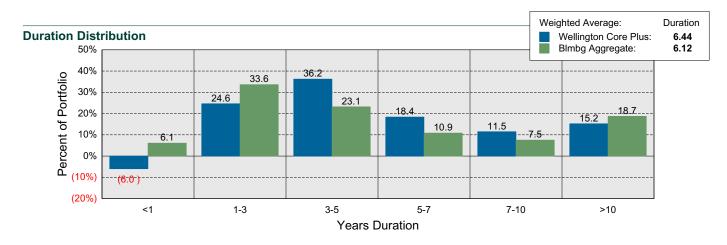


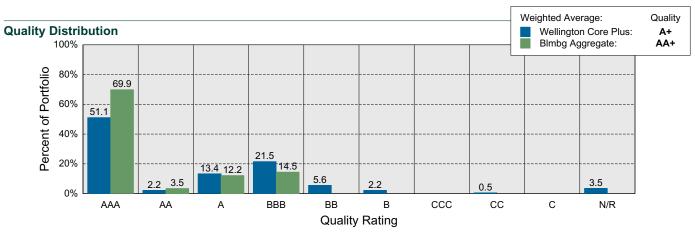
#### **Wellington Core Plus Portfolio Characteristics Summary** As of September 30, 2020

#### **Portfolio Structure Comparison**

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.





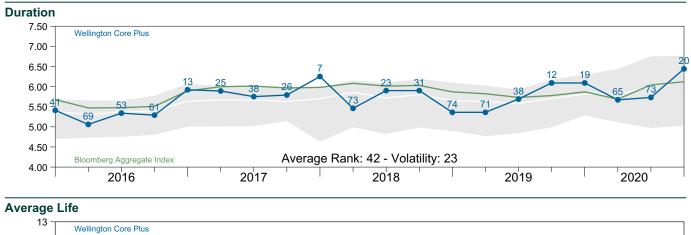


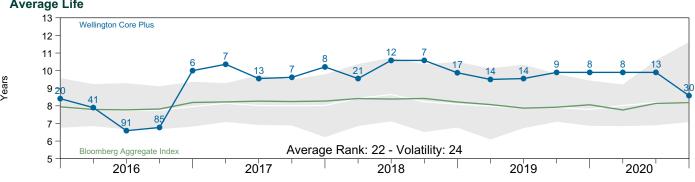


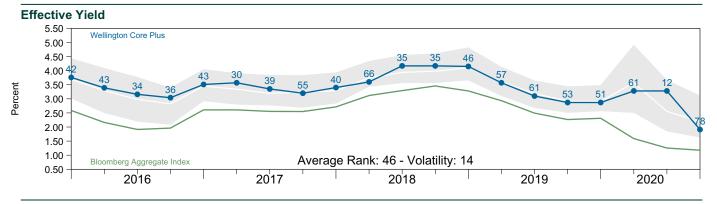
#### **Portfolio Characteristics Analysis**

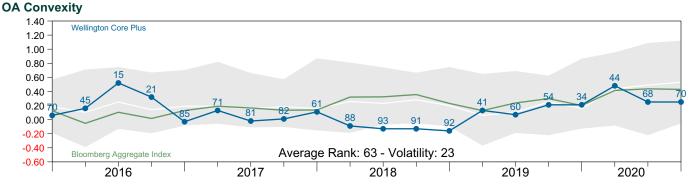
#### Callan Core Plus FI

The charts below illustrate the behavior of the product over different portfolio characteristics through time. As a backdrop the range (from 10th to 90th percentile) is shown for the Callan Core Plus FI Universe. The ranking of the product in this group is shown above each quarter end dot. The average ranking of the product and, if there are at least 12 data points, the standard deviation of that ranking is also shown on the chart. The Bloomberg Aggregate Index is shown for comparison purposes.









Any particular portfolio characteristic observation(s) may be missing due to a failure to pass a minimum "coverage hurdle" intended to ensure quality. This can occur when the portfolio has a significant weight in stocks for which the data vendor(s) cannot supply the particular relevant financial metric.



#### Western Intermediate Credit Period Ended September 30, 2020

#### **Investment Philosophy**

Western Asset's philosophy in managing investment-grade credit portfolios involves the integration of fundamental credit research with relative value analysis to drive long-term performance in corporate portfolios. The firm's Global Credit Team applies a tightly controlled, value-oriented approach with the firm's top-down macroeconomic view that is integrated with extensive bottom-up credit research and relative value analysis. There are three differentiating features of this investment philosophy: the first is a consistent emphasis on long-term value investing; the second is a style of top-down macroeconomic and industry views integrated with extensive bottom-up fundamental research and relative value analysis; and the third is the long-term commitment the firm has to credit research. Marin switched Western's mandate from Core Plus to Intermediate Credit in first quarter 2014. Returns prior to that are linked to Western's Intermediate Credit composite.

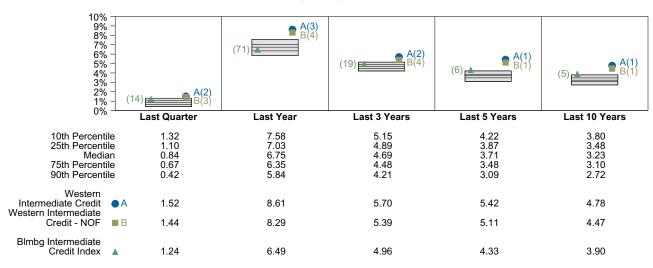
#### **Quarterly Summary and Highlights**

- Western Intermediate Credit's portfolio posted a 1.52% return for the quarter placing it in the 2 percentile of the Callan Intermediate Fixed Income group for the quarter and in the 3 percentile for the last year.
- Western Intermediate Credit's portfolio outperformed the Blmbg Intermediate Credit Index by 0.28% for the quarter and outperformed the Blmbg Intermediate Credit Index for the year by 2.13%.

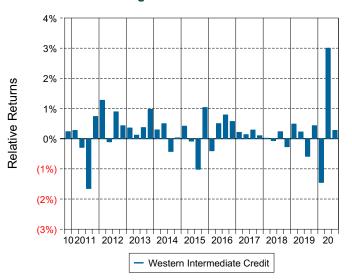
#### **Quarterly Asset Growth**

Beginning Market Value	\$147,766,558
Net New Investment	\$-1,151,600
Investment Gains/(Losses)	\$2,238,151
Ending Market Value	\$148,853,109

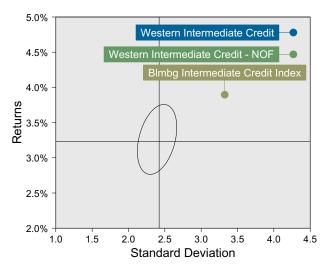
#### Performance vs Callan Intermediate Fixed Income (Gross)



# Relative Returns vs Blmbg Intermediate Credit Index



# Callan Intermediate Fixed Income (Gross) Annualized Ten Year Risk vs Return



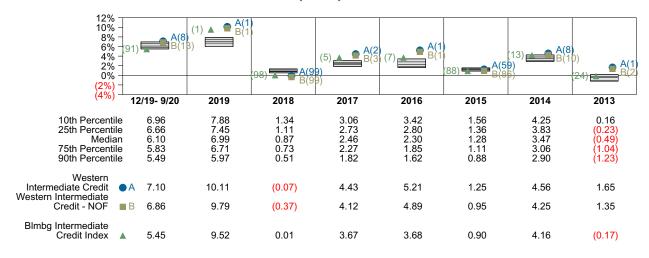


#### Western Intermediate Credit Return Analysis Summary

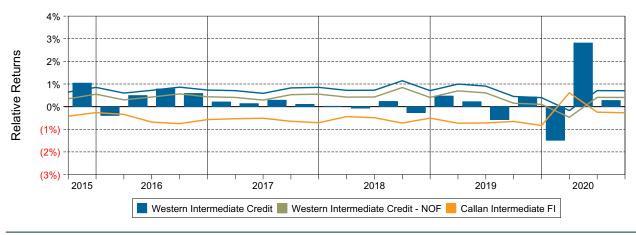
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

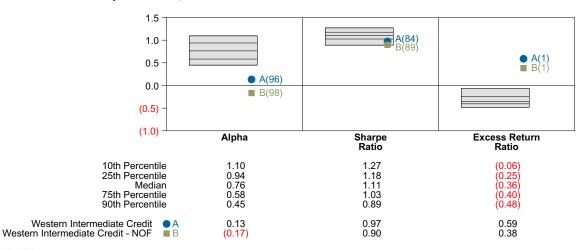
#### Performance vs Callan Intermediate Fixed Income (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs Blmbg Intermediate Credit Index



Risk Adjusted Return Measures vs Blmbg Intermediate Credit Index Rankings Against Callan Intermediate Fixed Income (Gross) Ten Years Ended September 30, 2020



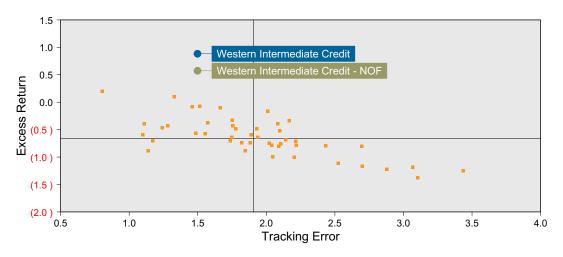


#### **Western Intermediate Credit Risk Analysis Summary**

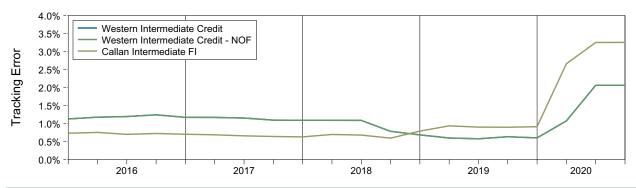
#### Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

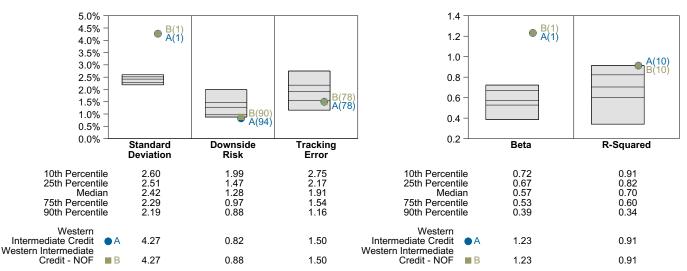
#### Risk Analysis vs Callan Intermediate Fixed Income (Gross) Ten Years Ended September 30, 2020



#### Rolling 12 Quarter Tracking Error vs Blmbg Intmdt Credit



#### Risk Statistics Rankings vs Blmbg Intmdt Credit Rankings Against Callan Intermediate Fixed Income (Gross) Ten Years Ended September 30, 2020



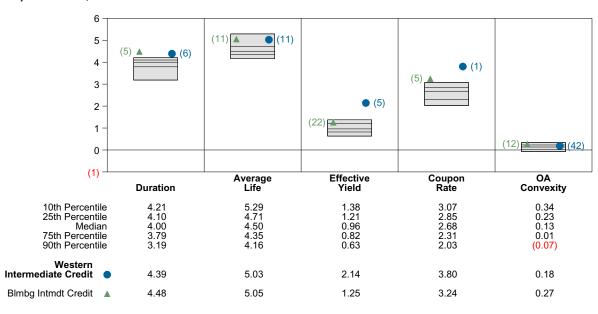


#### **Western Intermediate Credit Bond Characteristics Analysis Summary**

#### **Portfolio Characteristics**

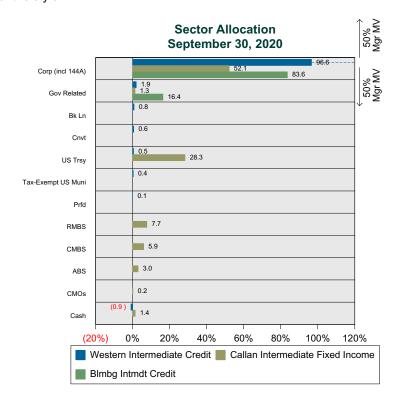
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

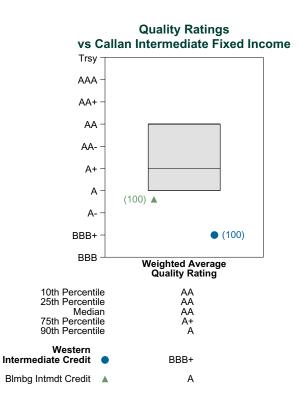
#### **Fixed Income Portfolio Characteristics** Rankings Against Callan Intermediate Fixed Income as of September 30, 2020



#### Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.



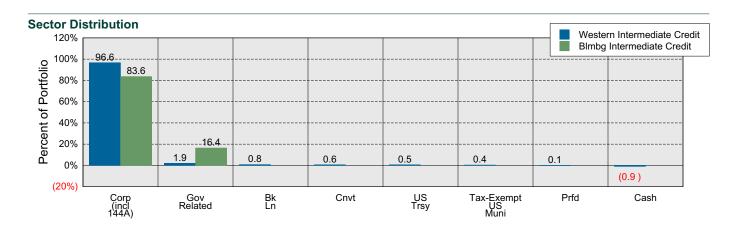


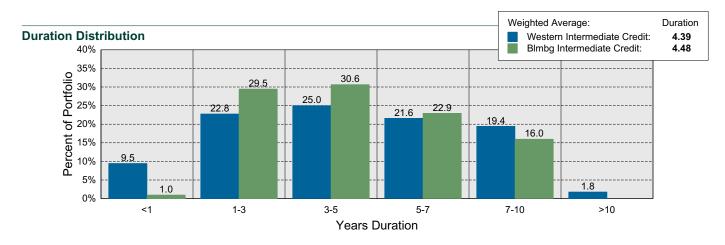


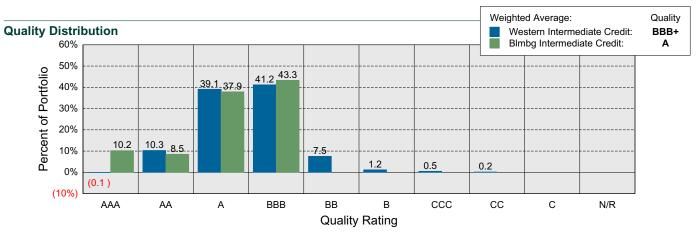
#### **Western Intermediate Credit Portfolio Characteristics Summary** As of September 30, 2020

#### **Portfolio Structure Comparison**

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.





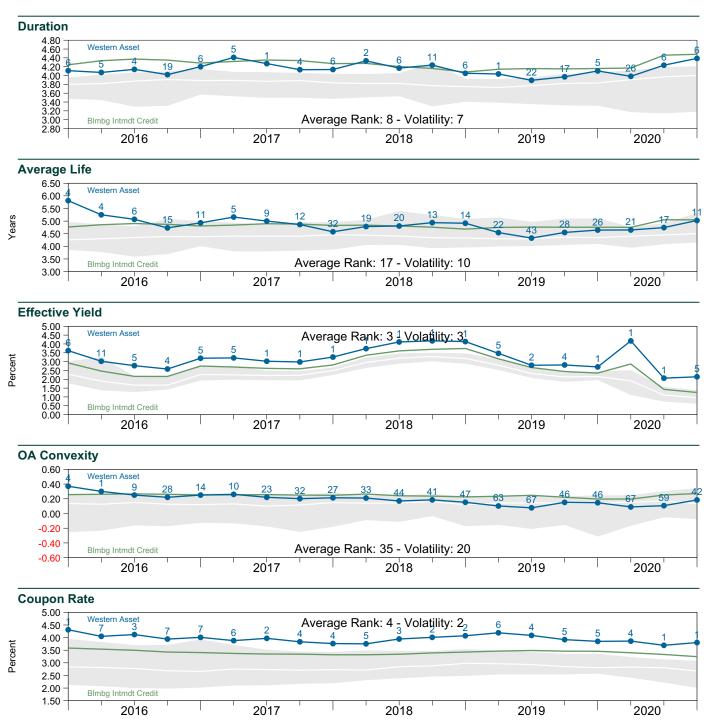




#### **Portfolio Characteristics Analysis**

#### Callan Intermediate FI

The charts below illustrate the behavior of the product over different portfolio characteristics through time. As a backdrop the range (from 10th to 90th percentile) is shown for the Callan Intermediate FI Universe. The ranking of the product in this group is shown above each quarter end dot. The average ranking of the product and, if there are at least 12 data points, the standard deviation of that ranking is also shown on the chart. The Blmbg Intmdt Credit is shown for comparison purposes.



Any particular portfolio characteristic observation(s) may be missing due to a failure to pass a minimum "coverage hurdle" intended to ensure quality. This can occur when the portfolio has a significant weight in stocks for which the data vendor(s) cannot supply the particular relevant financial metric.



#### Colchester Global Period Ended September 30, 2020

#### **Investment Philosophy**

Colchester is a value-oriented manager. They believe that investments should be valued in terms of the income they will generate in real terms. The investment approach is therefore based on the analysis of inflation, real interest rates and real exchange rates, supplemented by an assessment of sovereign financial balances - fiscal, external and monetary. Portfolios are constructed to benefit from those opportunities with the greatest relative investment potential for a given level of risk. The investment opportunity set currently includes the domestic sovereign debt of the non-classic countries such as Brazil, Poland and Mexico among others. Colchester uses sovereign only portfolios. The first full quarter of performance began 2Q14. Prior performance is that or the manager's composite.

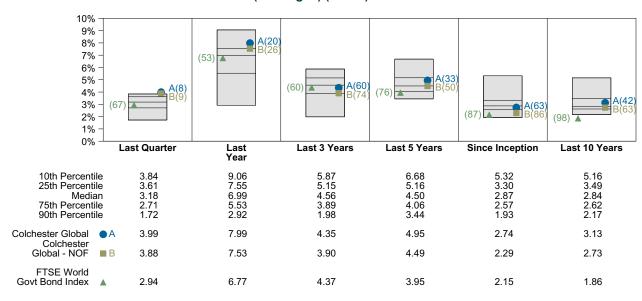
#### **Quarterly Summary and Highlights**

- Colchester Global's portfolio posted a 3.99% return for the quarter placing it in the 8 percentile of the Callan Global Fixed Income (Unhedged) group for the quarter and in the 20 percentile for the last year.
- Colchester Global's portfolio outperformed the FTSE World Govt Bond Index by 1.05% for the quarter and outperformed the FTSE World Govt Bond Index for the year by 1.22%.

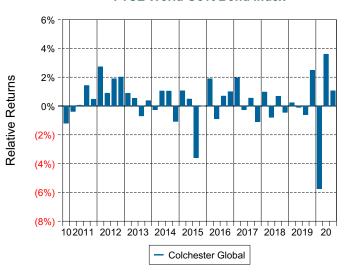
#### **Quarterly Asset Growth**

Beginning Market Value	\$140,991,205
Net New Investment	\$-154,535
Investment Gains/(Losses)	\$5,630,969
Ending Market Value	\$146,467,639

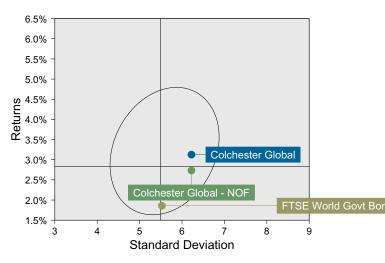
#### Performance vs Callan Global Fixed Income (Unhedged) (Gross)



#### Relative Returns vs FTSE World Govt Bond Index



# Callan Global Fixed Income (Unhedged) (Gross) Annualized Ten Year Risk vs Return



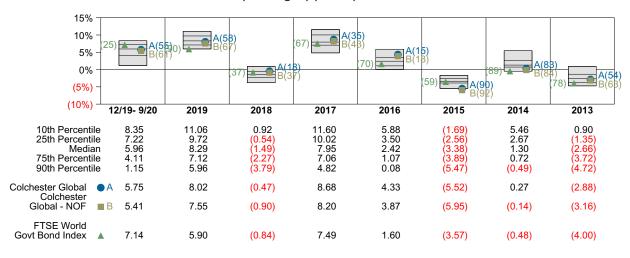


#### **Colchester Global Return Analysis Summary**

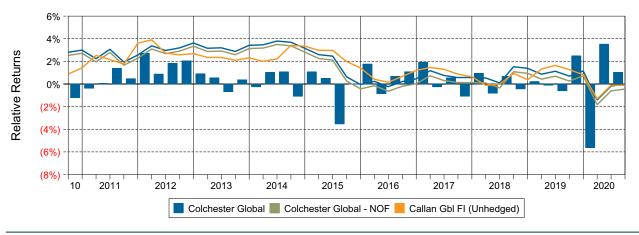
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

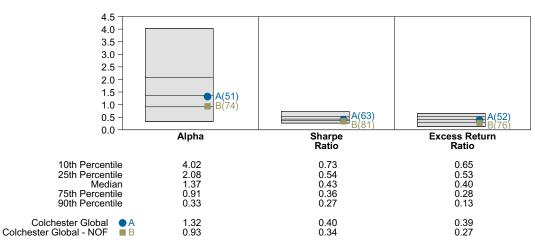
#### Performance vs Callan Global Fixed Income (Unhedged) (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs FTSE World Govt Bond Index



Risk Adjusted Return Measures vs FTSE World Govt Bond Index Rankings Against Callan Global Fixed Income (Unhedged) (Gross) Ten Years Ended September 30, 2020



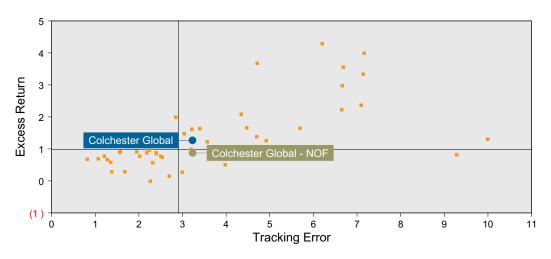


#### **Colchester Global Risk Analysis Summary**

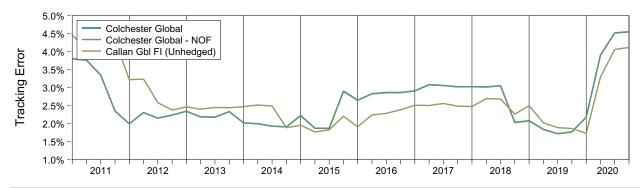
#### Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

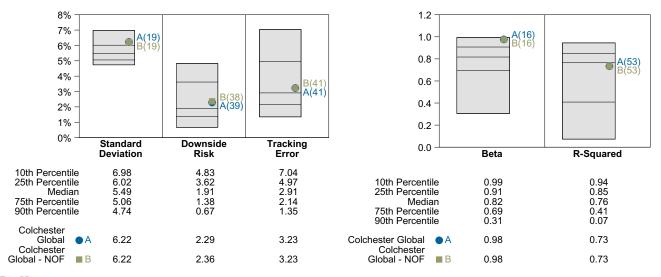
#### Risk Analysis vs Callan Global Fixed Income (Unhedged) (Gross) Ten Years Ended September 30, 2020



Rolling 12 Quarter Tracking Error vs FTSE World Govt Bond Idx



Risk Statistics Rankings vs FTSE World Govt Bond Idx Rankings Against Callan Global Fixed Income (Unhedged) (Gross) Ten Years Ended September 30, 2020



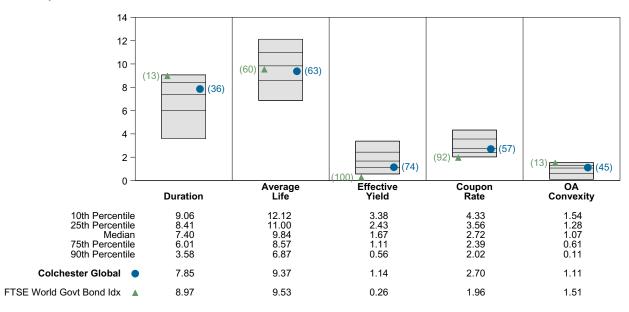


#### **Colchester Global Bond Characteristics Analysis Summary**

#### **Portfolio Characteristics**

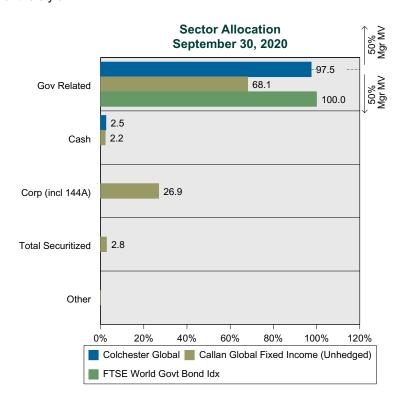
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

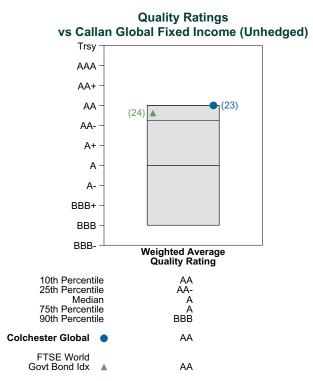
#### **Fixed Income Portfolio Characteristics** Rankings Against Callan Global Fixed Income (Unhedged) as of September 30, 2020



#### Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.



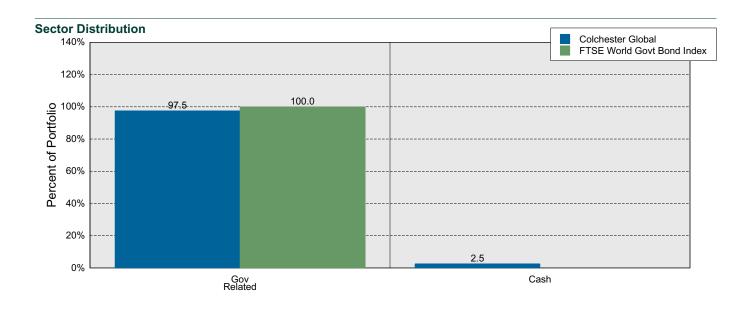


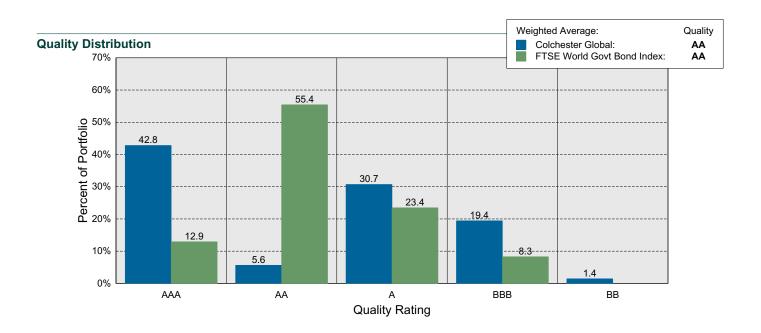


#### **Colchester Global Portfolio Characteristics Summary** As of September 30, 2020

#### **Portfolio Structure Comparison**

The charts below compare the structure of the portfolio to that of the index from two perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The last chart compares the distribution across quality ratings.



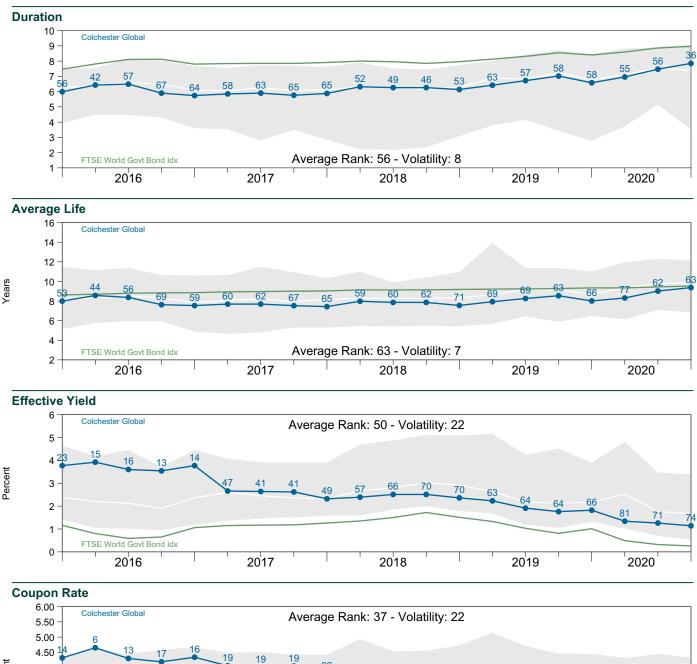


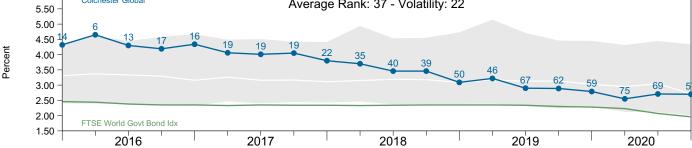


#### **Portfolio Characteristics Analysis**

#### Callan Gbl FI (Unhedged)

The charts below illustrate the behavior of the product over different portfolio characteristics through time. As a backdrop the range (from 10th to 90th percentile) is shown for the Callan Gbl FI (Unhedged) Universe. The ranking of the product in this group is shown above each quarter end dot. The average ranking of the product and, if there are at least 12 data points, the standard deviation of that ranking is also shown on the chart. The FTSE World Govt Bond Idx is shown for comparison purposes.





Any particular portfolio characteristic observation(s) may be missing due to a failure to pass a minimum "coverage hurdle" intended to ensure quality. This can occur when the portfolio has a significant weight in stocks for which the data vendor(s) cannot supply the particular relevant financial metric.

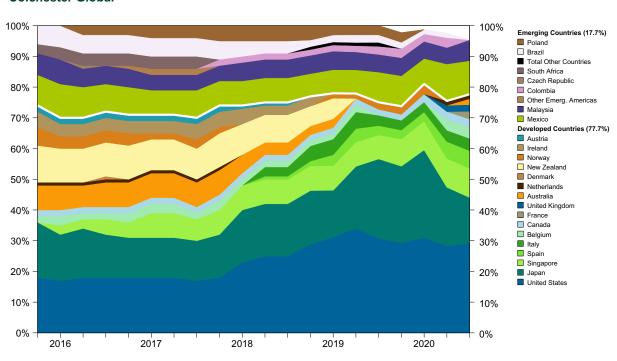


#### Marin County Employees' Retirement Association **Historical Distribution of Countries Percent of Ending Weights in Country**

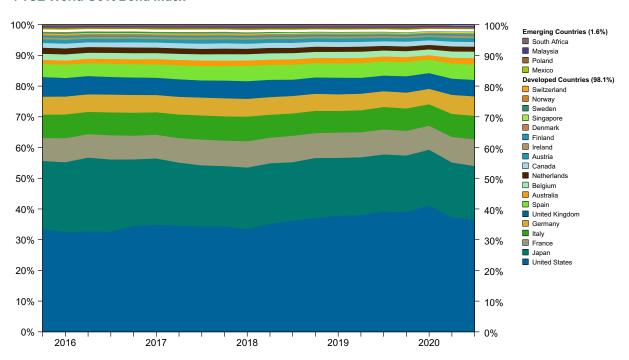
#### **Country Distribution**

The Historical Distribution of Countries chart illustrates the split between developed and emerging market countries over time. The white line delineates developed and emerging market countries as defined by MSCI.

#### **Colchester Global**



#### **FTSE World Govt Bond Index**



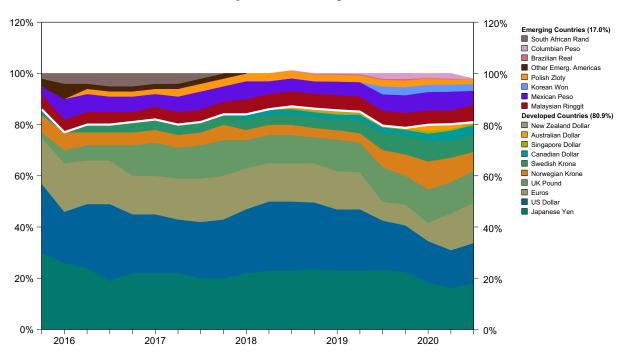


# Marin County Employees' Retirement Association

#### **Long/Short Country Distribution**

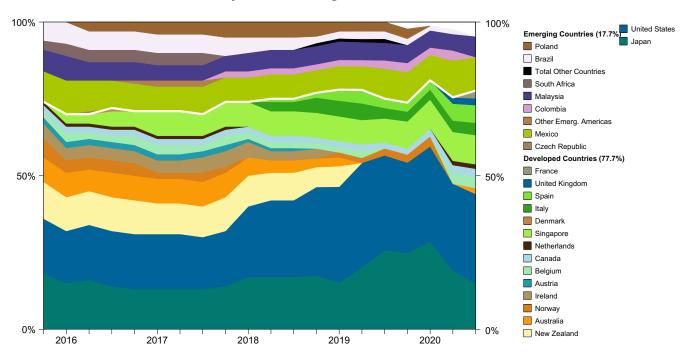
The Long/Short Historical Distribution of Countries chart illustrates the split between developed and emerging market countries over time. The white line delineates developed and emerging market countries as defined by MSCI. The top chart represents the portfolio's long exposures and the bottom chart represents the portfolio's short exposures.

#### Colchester Global - Historical Currency Allocation, Long Positions





#### Colchester Global - Historical Country Allocation, Long Positions





# Real Estate Composite Period Ended September 30, 2020

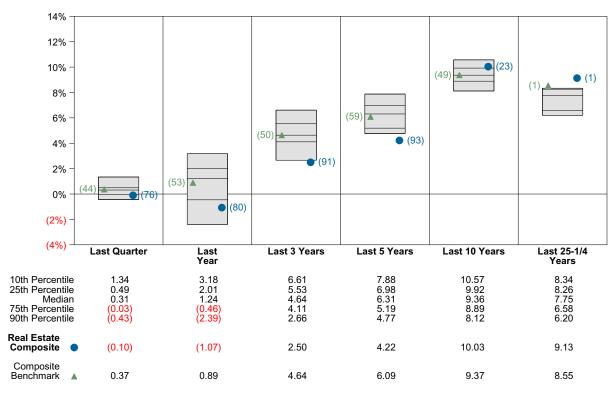
#### **Investment Philosophy**

The Total Real Estate Funds Database consists of both open and closed-end commingled funds as well as separate accounts managed by real estate firms. The returns represent the overall performance of institutional capital invested in real estate properties. The composite benchmark is comprised of the NCREIF Classic Index through 12/31/2004, NCREIF Total Property Index through 12/31/2014, and the NFI-ODCE Equal Weight Net thereafter.

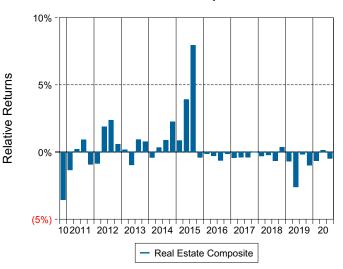
#### **Quarterly Summary and Highlights**

- Real Estate Composite's portfolio posted a (0.10)% return for the quarter placing it in the 76 percentile of the Callan Real Estate ODCE group for the quarter and in the 80 percentile for the last year.
- Real Estate Composite's portfolio underperformed the Composite Benchmark by 0.48% for the quarter and underperformed the Composite Benchmark for the year by 1.96%.

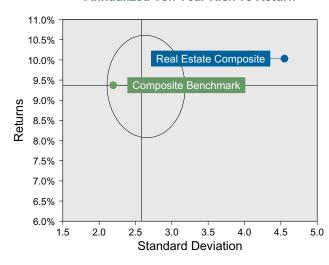
#### Performance vs Callan Real Estate ODCE (Net)



#### Relative Return vs Composite Benchmark



Callan Real Estate ODCE (Net)
Annualized Ten Year Risk vs Return

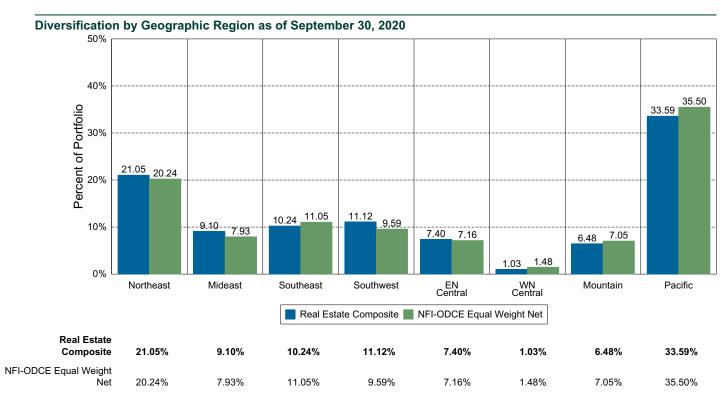


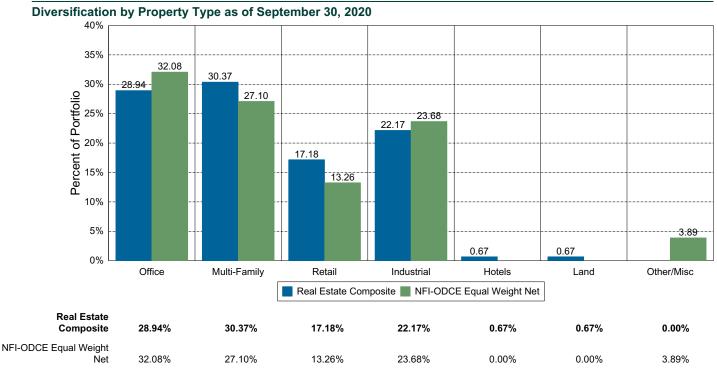


#### **Real Estate Composite** Diversification Analysis as of September 30, 2020

#### **Diversification Analysis**

The following charts provide information on the diversification of the portfolio with regards to both Geographic Region and Property Type. Similar information is provided on the relevant market index for comparison.







#### UBS Trumbull Property Fund Period Ended September 30, 2020

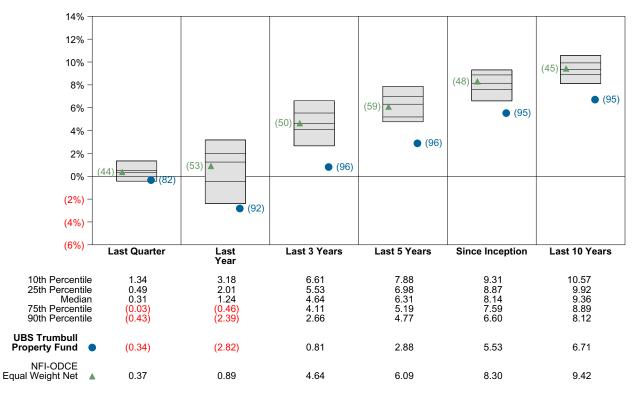
#### **Investment Philosophy**

The Total Real Estate Funds Database consists of both open and closed-end commingled funds as well as separate accounts managed by real estate firms. The returns represent the overall performance of institutional capital invested in real estate properties. UBS Trumbull Property Fund was funded 04/01/2013. Prior performance is that of the manager's composite.

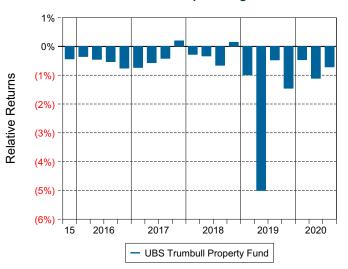
#### **Quarterly Summary and Highlights**

- UBS Trumbull Property Fund's portfolio posted a (0.34)% return for the quarter placing it in the 82 percentile of the Callan Real Estate ODCE group for the quarter and in the 92 percentile for the last year.
- UBS Trumbull Property Fund's portfolio underperformed the NFI-ODCE Equal Weight Net by 0.71% for the quarter and underperformed the NFI-ODCE Equal Weight Net for the year by 3.72%.

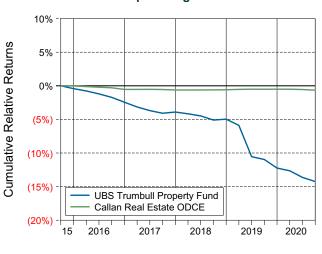
#### Performance vs Callan Real Estate ODCE (Net)



#### Relative Returns vs NFI-ODCE Equal Weight Net



#### Cumulative Returns vs NFI-ODCE Equal Weight Net





#### UBS Trumbull Property Fund Period Ended September 30, 2020

#### **Investment Philosophy**

UBS Trumbull Property Fund was funded 04/01/2013. Prior history represents the returns of the composite.

#### **Fund Summary**

Inception Date: January, 1978

Vehicle Type: Limited Partnership

Key Professionals: Mario Maturo - PM

Peter Shaplin - PM Pamela Thompson - PM

Target Return: to outperform the NFI-ODCE index over

a full market cycle.

Target Income Return: N/A Min Acct Size (\$mm): 1

Gross/Net Asset Value (\$mm): 18,723 / 14,935

Fund Cash (\$mm): 286 Current Leverage: 18.80%

Joint Venture Level (gross) (\$mm): 8,938

Occupancy: 91.00% Implied Cap Rate: 4.20% Number of Investments: 184 Entry/Exit Queue (\$mm): 0 / 8,116

#### **Fee Information**

Management Fee: First \$10 1.00

Next \$10 0.99 Next \$10 0.95 Next \$15 0.89 Next \$15 0.82 Next \$25 0.81 Next \$50 0.79 Next \$150 0.67 Next \$150 0.60 0.56 Balance

Performance Fee: The "Variable Fee %" is set at a fulcrum point of 0.15%, and ranges from a min of 0% to a max of

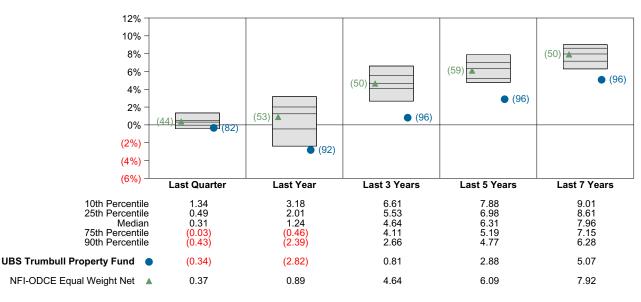
0.25%. (Currently Suspended)

#### **Client Summary**

Client Inception Date: March, 2013 Client Commitment: \$93,000,000 Client Market Value: \$118,312,747 **Dividend Re-Investment:** Yes **Advisory Board Seat:** No

#### **Time-Weighted Returns**

#### Performance vs Callan Real Estate ODCE



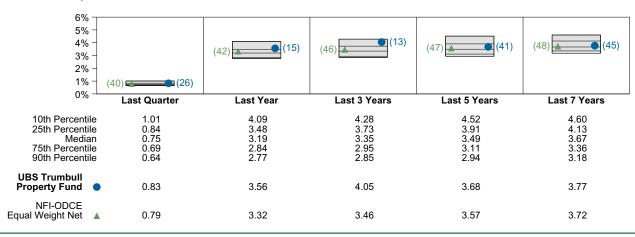


#### **UBS Trumbull Property Fund Return Analysis**

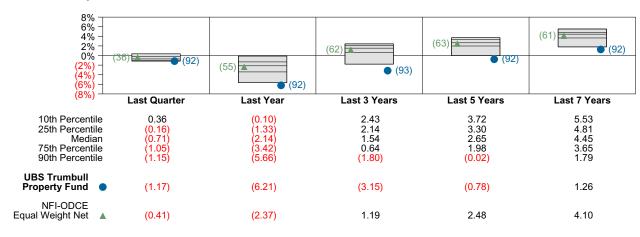
#### **Return Analysis**

The graphs below give a detailed analysis of the portfolio's return by decomposing it into component subreturns. The first chart shows the portfolio's income return ranked against the income returns of the appropriate peer group. The second chart performs the same comparison using appreciation returns. The bottom graph illustrates the historical composition of total return on an income versus appreciation basis.

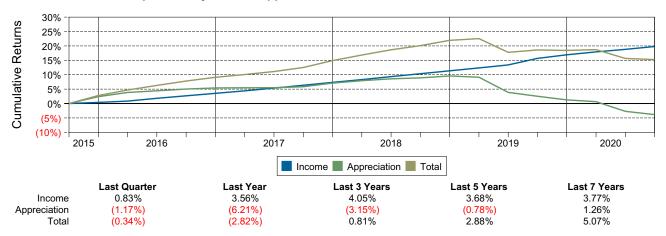
#### Income Rankings vs Callan Real Estate ODCE Periods ended September 30, 2020



#### **Appreciation Rankings vs Callan Real Estate ODCE** Periods ended September 30, 2020



#### **Cumulative Return Composition by Income/Appreciation**

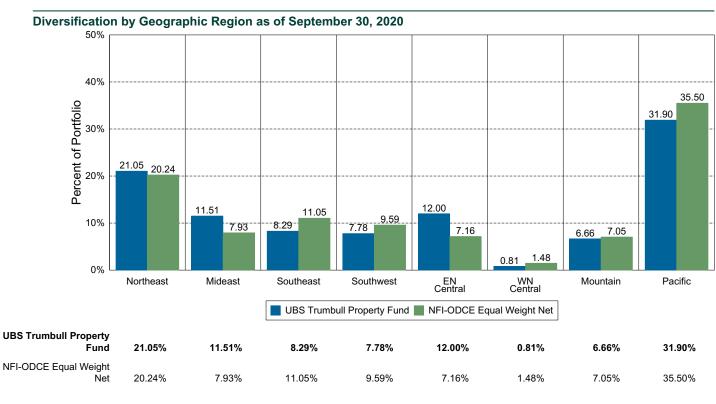


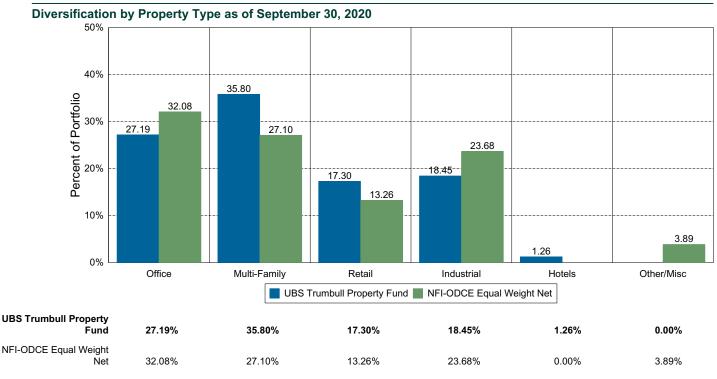


#### **UBS Trumbull Property Fund** Diversification Analysis as of September 30, 2020

#### **Diversification Analysis**

The following charts provide information on the diversification of the portfolio with regards to both Geographic Region and Property Type. Similar information is provided on the relevant market index for comparison.







## **UBS Trumbull Property Fund Real Estate Portfolio Quarterly Changes in Market Value**

	Beg. of	Capital					End of
	Period	+ Contri-	+ Accountii	ng - Mgmt.	+ Appre-	- Distri-	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	<u>butions</u>	<u>Market</u>
06/2013	0	15,000,000	191,2	43 0	312,502	0	15,503,745
09/2013	15,503,745	0	200,1	25 44,173	223,167	109,779	15,773,085
12/2013	15,773,085	0	189,6	04 45,487	166,738	108,465	15,975,475
03/2014	15,975,475	107,834	199,2	63 46,118	204,848	107,834	16,333,468
06/2014	16,333,468	114,341	211,1	77 46,005	188,736	114,341	16,687,375
09/2014	16,687,375	50,114,010	207,0	22 47,469	324,384	114,010	67,171,312
12/2014	67,171,312	113,458	850,8	51 49,136	1,176,014	113,458	69,149,041
03/2015	69,149,041	456,518	847,1	91 185,133	1,216,204	456,518	71,027,303
06/2015	71,027,303	531,819	887,4	99 185,877	1,184,273	531,819	72,913,198
09/2015	72,913,198	530,305	873,4	85 192,820	1,621,083	530,305	75,214,947
12/2015	75,214,947	8,528,003	992,2	78 200,434	1,511,669	528,003	85,518,460
03/2016	85,518,460	20,584,418	1,267,4	47 227,418	917,650	584,418	107,476,139
06/2016	107,476,139	830,134	1,314,7	27 279,897	598,402	830,134	109,109,371
09/2016	109,109,371	834,803	1,210,5	94 283,891	637,533	834,803	110,673,607
12/2016	110,673,607	836,654	1,212,1	39 290,688	403,783	836,654	111,998,892
03/2017	111,998,892	841,974	1,227,2	98 293,978	58,803	841,974	112,991,015
06/2017	112,991,015	909,645	1,291,8	80 266,150	35,108	909,645	114,051,853
09/2017	114,051,853	941,431	1,309,5	76 243,930	374,159	941,431	115,491,658
12/2017	115,491,658	943,648	1,339,7	46 251,600	1,373,436	943,648	117,953,240
03/2018	117,953,240	968,020	1,294,3	20 237,096	925,404	968,020	119,935,868
06/2018	119,935,868	977,928	1,411,8	78 258,687	710,211	977,928	121,799,272
09/2018	121,799,272	1,008,523	1,352,1	22 238,279	370,697	1,008,523	123,283,812
12/2018	123,283,812	1,013,556	1,372,0	21 243,677	757,746	1,013,556	125,169,903
03/2019	125,169,903	1,021,100	1,366,6	57 246,576	(508,136)	1,021,100	125,781,848
06/2019	125,781,848	1,079,490	1,413,1	05 243,089	(6,053,774)	1,079,490	120,898,089
09/2019	120,898,089	1,092,620	1,451,0	86 241,430	(357,727)	1,092,620	121,750,018
12/2019	121,750,018	1,104,717	1,549,2	19 241,524	(1,492,215)	1,104,717	121,565,497
03/2020	121,565,497	1,116,663	1,292,2	65 241,930	(755,458)	1,116,663	121,860,373
06/2020	121,860,373	1,090,091	1,097,6	188,941	(4,052,003)	1,090,091	118,717,063
09/2020	118,717,063	731,744	1,170,7	98 186,788	(1,388,325)	731,744	118,312,747
	0	113,423,445	30,594,3	00 5,748,222	684,913	20,641,690	118,312,747

Returns Net Portfolio Cumulative IRR = 4.20%

Ratios

Capital Account = \$118,312,747

Total Value = \$138,954,437 Committed Capital = \$93,000,000

Paid In Capital = \$113,423,445

Remaining Commitment = \$(20,423,445)

PIC Multiple (Paid In Capital/Committed Capital) = 121.96%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$97,889,302

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.23x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.18x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 1.04x



#### AEW Core Property Trust Period Ended September 30, 2020

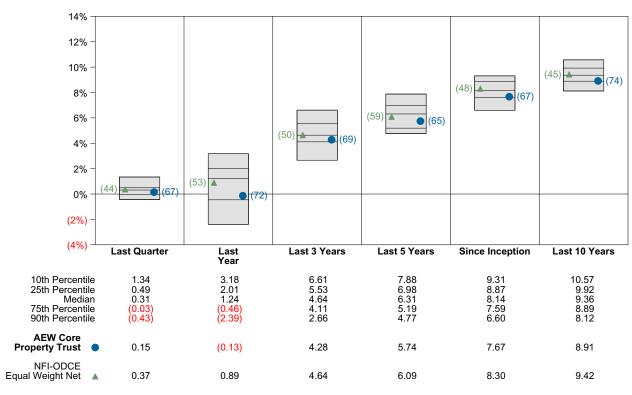
#### **Investment Philosophy**

The Total Real Estate Funds Database consists of both open and closed-end commingled funds as well as separate accounts managed by real estate firms. The returns represent the overall performance of institutional capital invested in real estate properties. AEW Core Property Trust was funded 04/01/2013. Prior performance is that of the manager's composite.

#### **Quarterly Summary and Highlights**

- AEW Core Property Trust's portfolio posted a 0.15% return for the quarter placing it in the 67 percentile of the Callan Real Estate ODCE group for the quarter and in the 72 percentile for the last year.
- AEW Core Property Trust's portfolio underperformed the NFI-ODCE Equal Weight Net by 0.23% for the quarter and underperformed the NFI-ODCE Equal Weight Net for the year by 1.03%.

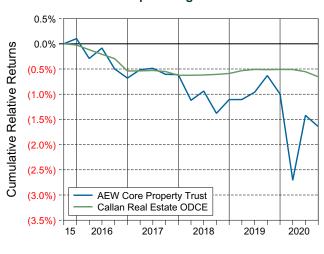
#### Performance vs Callan Real Estate ODCE (Net)



#### Relative Returns vs NFI-ODCE Equal Weight Net



#### Cumulative Returns vs NFI-ODCE Equal Weight Net





#### **AEW Core Property Trust** Period Ended September 30, 2020

#### **Investment Philosophy**

AEW Core Property Trust was funded 04/01/2013. Prior history represents the returns of the composite.

#### **Fund Summary**

Inception Date: July, 2007 Vehicle Type: Private REIT

Key Professionals: Daniel Bradley - PM

Michael Byrne - PM Pamela Herbst - Research

Sara Cassidy - PM Lily Kao - PM

Target Return: Outperform NFI-ODCE on a total

net-of-fee basis

Target Income Return: None Stated

Min Acct Size (\$mm): 5

Gross/Net Asset Value (\$mm): 9,526 / 7,446

Fund Cash (\$mm): 470 **Current Leverage: 25.51%** 

Joint Venture Level (gross) (\$mm): 3,713

**Occupancy:** 94.90% Implied Cap Rate: 4.47% Number of Investments: 85 Entry/Exit Queue (\$mm): 64 / 544

#### **Fee Information**

Management Fee: First \$10 1.10

1.00 Next \$15 Next \$25 0.85 Next \$50 0.80 Next \$50 0.75 Next \$150 0.65 Balance 0.50

Performance Fee: None.

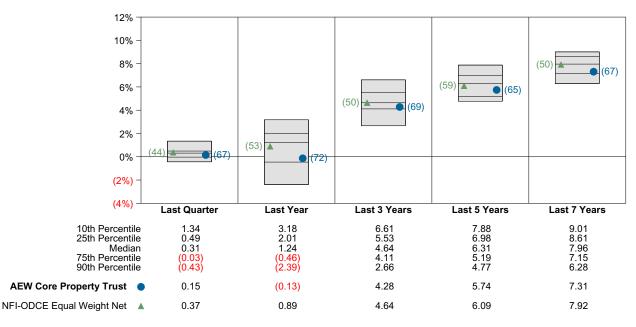
#### **Client Summary**

Client Inception Date: March, 2013 **Client Commitment:** \$65,000,000 Client Market Value: \$104,121,221

Dividend Re-Investment: Yes Advisory Board Seat: Yes

#### **Time-Weighted Returns**

#### Performance vs Callan Real Estate ODCE



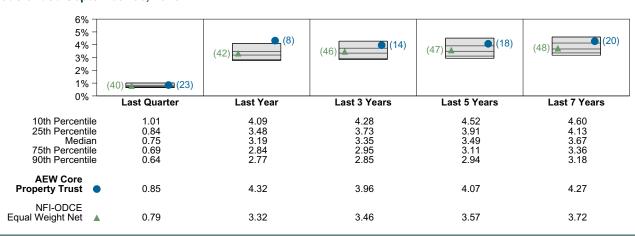


#### **AEW Core Property Trust Return Analysis**

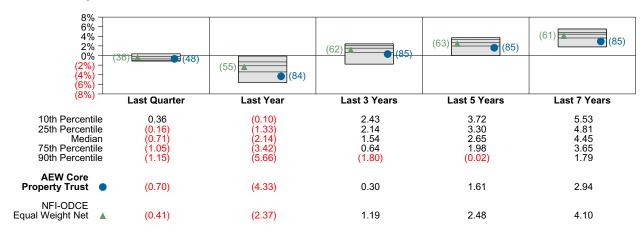
#### **Return Analysis**

The graphs below give a detailed analysis of the portfolio's return by decomposing it into component subreturns. The first chart shows the portfolio's income return ranked against the income returns of the appropriate peer group. The second chart performs the same comparison using appreciation returns. The bottom graph illustrates the historical composition of total return on an income versus appreciation basis.

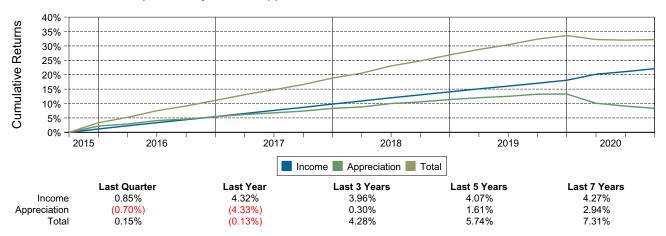
#### Income Rankings vs Callan Real Estate ODCE Periods ended September 30, 2020



#### **Appreciation Rankings vs Callan Real Estate ODCE** Periods ended September 30, 2020



#### **Cumulative Return Composition by Income/Appreciation**

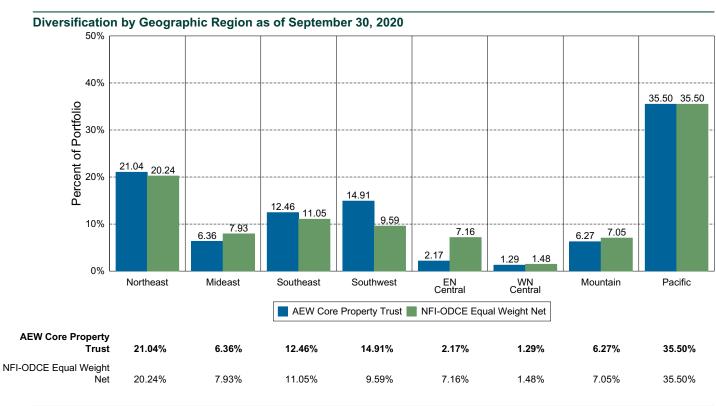


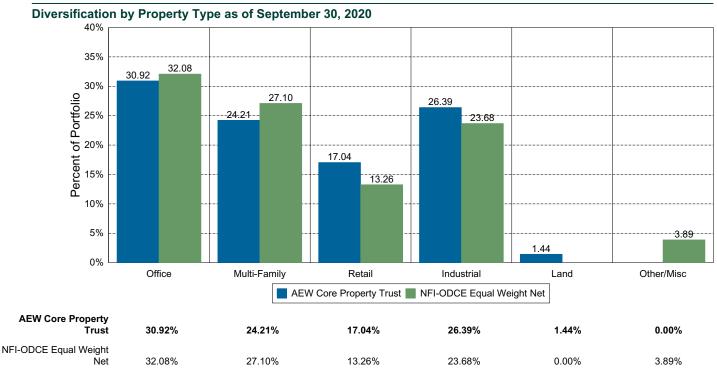


#### **AEW Core Property Trust** Diversification Analysis as of September 30, 2020

#### **Diversification Analysis**

The following charts provide information on the diversification of the portfolio with regards to both Geographic Region and Property Type. Similar information is provided on the relevant market index for comparison.







#### **AEW Core Property Trust Real Estate Portfolio Quarterly Changes in Market Value**

	Beg. of	Capital									End of
	Period	+ Contri-	+	Accounting	- Mgmt.	+	Appre-	-	Distri-	=	Period
	<u>Market</u>	<u>butions</u>		Income	Fees		<u>ciation</u>		<u>butions</u>		<u>Market</u>
06/2013	0	15,000,000		192,549	41,231		268,915		150,824		15,269,410
09/2013	15,269,410	150,824		226,706	42,517		306,680		183,696		15,727,407
12/2013	15,727,407	183,696		303,012	37,398		206,218		264,988		16,117,946
03/2014	16,117,946	33,222,276		623,003	114,914		522,479		507,204		49,863,586
06/2014	49,863,586	17,549,916		905,459	156,899		670,175		747,422		68,084,815
09/2014	68,084,815	747,422		944,637	161,067		1,139,287		783,065		69,972,030
12/2014	69,972,030	783,065		972,401	155,837		1,251,272		816,196		72,006,735
03/2015	72,006,735	816,196		972,694	168,586		638,759		802,613		73,463,185
06/2015	73,463,185	802,613		988,196	175,043		2,143,959		812,347		76,410,562
09/2015	76,410,562	812,347		993,811	179,848		1,412,205		813,198		78,635,878
12/2015	78,635,878	813,198		1,102,620	185,579		1,714,754		916,324		81,164,548
03/2016	81,164,548	916,324		1,093,744	188,677		587,895		904,050		82,669,785
06/2016	82,669,785	904,050		1,056,494	192,513		960,689		863,229		84,535,275
09/2016	84,535,275	863,229		1,067,747	195,238		442,537		872,662		85,840,887
12/2016	85,840,887	872,662		1,061,970	198,421		669,007		1,883,889		86,362,215
03/2017	86,362,215	1,883,889		1,121,855	201,427		659,254		918,903		88,906,884
06/2017	88,906,884	918,903		1,108,522	204,264		473,117		903,013		90,300,149
09/2017	90,300,149	903,013		1,102,049	207,192		526,719		894,277		91,730,462
12/2017	91,730,462	894,277		1,183,353	210,963		818,534		971,684		93,443,979
03/2018	93,443,979	971,684		1,136,185	213,730		434,496		921,771		94,850,842
06/2018	94,850,842	921,771		1,168,295	217,903		1,040,248		950,028		96,813,226
09/2018	96,813,226	950,028		1,118,223	220,758		493,999		897,095		98,257,623
12/2018	98,257,623	897,095		1,133,631	224,184		742,068		908,760		99,897,474
03/2019	99,897,474	908,760		1,150,344	227,250		570,092		922,837		101,376,583
06/2019	101,376,583	922,837		1,075,108	229,901		450,896		843,976		102,751,546
09/2019	102,751,546	843,976		1,119,293	233,149		682,271		885,396		104,278,542
12/2019	104,278,542	885,396		1,172,671	235,080		39,159		937,079		105,203,610
03/2020	105,203,610	937,079		1,178,343	232,381		(2,059,881)		945,134		104,081,635
06/2020	104,081,635	945,134		1,010,789	231,759		(955,162)		694,811		104,155,826
09/2020	104,155,826	694,811		1,120,909	231,937		(729,887)		888,501		104,121,221
	0	88,916,472		29,404,613	5,515,644		16,120,754		24,804,973		104,121,221

Returns Net Portfolio Cumulative IRR = 7.24%

Ratios

Capital Account = \$104,121,221

Total Value = \$128,926,194

Committed Capital = \$65,000,000

Paid In Capital = \$88,916,472

Remaining Commitment = \$(23,916,472)

PIC Multiple (Paid In Capital/Committed Capital) = 136.79%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$80,204,749

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.45x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.28x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 1.17x



# **AEW Partners V Fund (Liquidating)** Real Estate Portfolio Quarterly Changes in Market Value

	Beg. of	•		Dist. of	Return	End of		
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	- Income &	- of	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>	<u>Market</u>
03/2006	0	0	(10,691)	62,496	(375)	0	0	(73,562)
06/2006	(73,562)	1,020,258	(6,842)	15,624	1,494	0	0	925,724
09/2006	925,724	291,502	(9,963)	15,624	148,054	0	0	1,339,693
12/2006	1,339,693	510,130	(18,629)	15,624	50,129	0	0	1,865,699
03/2007	1,865,699	400,815	(3,631)	15,624	246,300	0	0	2,493,559
06/2007	2,493,559	473,692	59	15,624	20,060	394,252	266,875	2,310,619
09/2007	2,310,619	218,627	(8,353)	15,624	64,064	60,803	73,107	2,435,423
12/2007	2,435,423	364,377	(41,023)	15,624	119,263	130,203	233,493	2,498,720
03/2008	2,498,720	0	(16,992)	15,624	(2,829)	0	0	2,463,275
06/2008	2,463,275	218,627	(10,892)	15,624	1,864	0	0	2,657,250
09/2008	2,657,250	255,065	(18,094)	15,624	(81,085)	71,057	0	2,726,455
12/2008	2,726,455	0	(48,501)	15,624	(475,775)	0	0	2,186,555
03/2009	2,186,555	0	(31,084)	15,624	(226,975)	0	0	1,912,872
06/2009	1,912,872	72,876	(12,072)	15,624	(399,859)	0	0	1,558,193
09/2009	1,558,193	145,751	(3,089)	15,624	(116,486)	0	0	1,568,745
12/2009	1,568,745	255,065	(18,922)	15,624	(121,104)	0	0	1,668,160
03/2010	1,668,160	54,657	5,561	15,624	(2,035)	0	0	1,710,719
06/2010	1,710,719	36,438	19,498	8,787	(8,825)	0	0	1,749,043
09/2010	1,749,043	0	18,526	8,900	8,102	0	0	1,766,771
12/2010	1,766,771	0	3,293	8,652	140,005	0	23,822	1,877,595
03/2011	1,877,595	0	9,503	8,335	27,763	0	0	1,906,526
06/2011	1,906,526	36,438	33,690	8,353	15,832	164,029	101,225	1,718,879
09/2011	1,718,879	94,738	28,188	7,928	38,997	0	170,893	1,701,981
12/2011	1,701,981	0	14,509	7,681	114,184	0	254,718	1,568,275
03/2012	1,568,275	36,438	10,990	7,362	119,211	0	0	1,727,552
06/2012	1,727,552	0	32,599	7,354	7,609	0	0	1,760,406
09/2012	1,760,406	0	26,358	6,983	36,202	108,985	108,985	1,598,013
12/2012	1,598,013	0	7,601	7,025	58,792	0	0	1,657,381
03/2013	1,657,381	0	5,395	6,412	58,128	0	228,726	1,485,766
06/2013	1,485,766	0	27,435	6,108	72,403	28,949	0	1,550,547
09/2013	1,550,547	0	21,228	6,120	91,248	0	0	1,656,903
12/2013	1,656,903	0	6,847	5,041	58,200	0	509,333	1,207,576
03/2014	1,207,576	0	16,028	4,468	62,521	21,722	0	1,259,935
06/2014	1,259,935	0	21,482	4,504	74,475	0	11	1,351,377
09/2014	1,351,377	0	12,932	4,255	146,252	261,949	0	1,244,357
12/2014	1,244,357	0	11,785	3,811	158,974	0	79,920	1,331,385
03/2015	1,331,385	0	9,666	3,671	70,587	0	134,705	1,273,262
06/2015	1,273,262	0	24,291	3,452	64,435	0	597,371	761,165
09/2015	761,165	0	6,913	2,216	53,138	62,673	534,757	221,570
12/2015	221,570	0	(2,783)	899	40,448	76,779	36,124	145,433
03/2016	145,433	0	1,225	509	186	29,111	0	117,224
06/2016	117,224	0	1,798	458	1,460	43,696	0	76,328
09/2016	76,328	0	(1,254)	0	3,940	0	29,137	49,877
12/2016	49,877	0	(1,681)	0	12,581	11,660	17,490	31,627
03/2017	31,627	0	201	0	0	0	0	31,828
06/2017	31,828	0	(206)	0	199	0	0	31,821
09/2017	31,821	0	(457)	0	463	0	12,389	19,438



## **AEW Partners V Fund (Liquidating) Real Estate Portfolio Quarterly Changes in Market Value**

	Beg. of	Capital						Dist. of	Return		End of
	Period	+ Contri-	+	Accounting	- Mgmt.	+	Appre-	Income &	- of	=	Period
	<u>Market</u>	butions	į	Income	Fees		<u>ciation</u>	Real. Gains	<u>Capital</u>		Market
12/2017	19,438	C	1	(643)	0		27,792	0	29,150		17,437
03/2018	17,437	C	1	(363)	0		1,863	0	0		18,937
06/2018	18,937	C	1	0	0		(1,522)	0	0		17,415
09/2018	17,415	C	1	(93)	0		2,525	0	7,288		12,559
12/2018	12,559	C	1	(116)	0		(703)	0	0		11,740
03/2019	11,740	C	1	1,378	0		(974)	0	0		12,144
06/2019	12,144	C	1	(340)	0		21	0	0		11,825
09/2019	11,825	C	1	(129)	0		(88)	0	0		11,608
12/2019	11,608	C	1	(235)	0		672	0	0		12,045
03/2020	12,045	C	1	(209)	0		(1,667)	0	0		10,169
06/2020	10,169	C	1	(94)	0		368	0	0		10,443
09/2020	10,443	C	١	(206)	0		651	0	0		10,888
	0	4,485,494		111,392	451,764		781,153	1,465,868	3,449,519		10,888

Returns Net Portfolio Cumulative IRR = 1.96%

Ratios

Capital Account = \$10,888

Total Value = \$4,926,275

Committed Capital = \$5,000,000

Paid In Capital = \$4,485,494

Remaining Commitment = \$514,506

PIC Multiple (Paid In Capital/Committed Capital) = 89.71%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$525,394

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.10x

DPI Realization Multiple (Distributions/Paid In Capital) = 1.10x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.00x



#### **Public Real Assets** Period Ended September 30, 2020

#### **Quarterly Summary and Highlights**

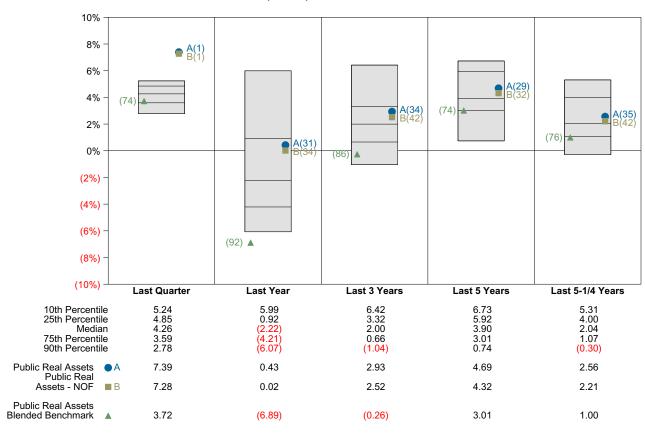
- Public Real Assets's portfolio posted a 7.39% return for the quarter placing it in the 1 percentile of the Callan Real Assets Database group for the quarter and in the 31 percentile for the last year.
- Public Real Assets's portfolio outperformed the Public Real Assets Blended Benchmark by 3.67% for the quarter and outperformed the Public Real Assets Blended Benchmark for the year by 7.32%.

#### **Quarterly Asset Growth**

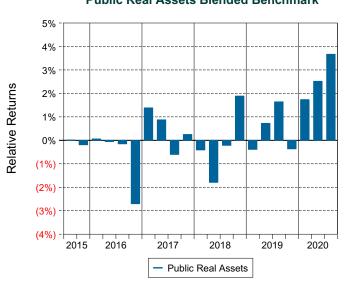
Beginning Market Value \$157,716,379 Net New Investment \$-72,870 Investment Gains/(Losses) \$11,660,395 **Ending Market Value** 

#### \$169,303,903

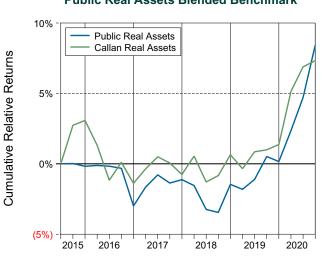
#### Performance vs Callan Real Assets Database (Gross)



#### Relative Returns vs **Public Real Assets Blended Benchmark**



#### **Cumulative Returns vs Public Real Assets Blended Benchmark**





#### BlackRock TIPS Index Fund Period Ended September 30, 2020

#### **Investment Philosophy**

BlackRock TIPS Index Fund was funded in 2Q15. The first full quarter of performance is 3Q15. Prior performance is that of the manager's composite.

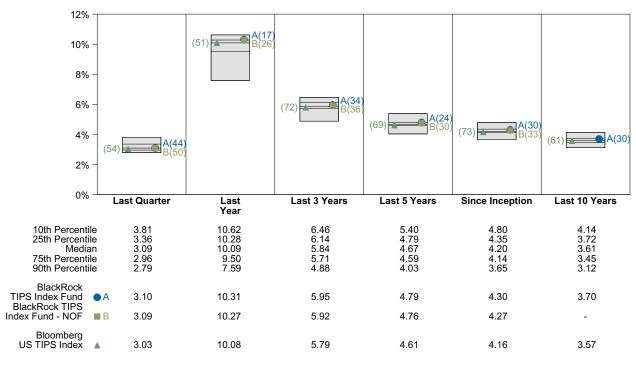
#### **Quarterly Summary and Highlights**

- BlackRock TIPS Index Fund's portfolio posted a 3.10% return for the quarter placing it in the 44 percentile of the Real Returns Database group for the quarter and in the 17 percentile for the last year.
- BlackRock TIPS Index Fund's portfolio outperformed the Bloomberg US TIPS Index by 0.06% for the quarter and outperformed the Bloomberg US TIPS Index for the year by 0.22%.

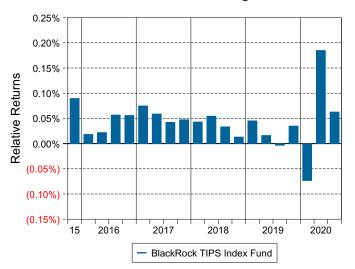
Quarterly	Asset	Growth
-----------	-------	--------

Beginning Market Value	\$40,903,273
Net New Investment	\$0
Investment Gains/(Losses)	\$1,266,665
Ending Market Value	\$42,169,938

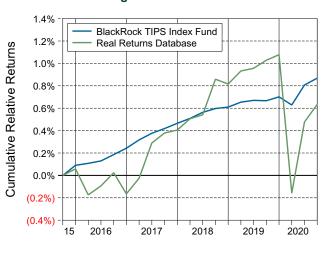
#### Performance vs Real Returns Database (Gross)



#### Relative Return vs Bloomberg US TIPS Index



#### Cumulative Returns vs Bloomberg US TIPS Index



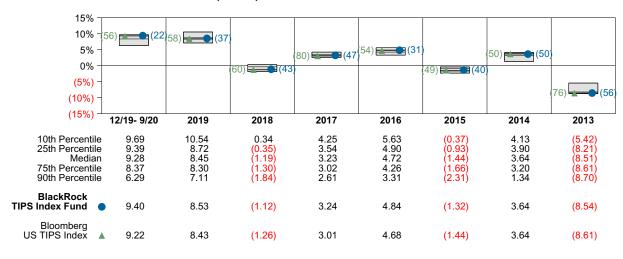


#### BlackRock TIPS Index Fund **Return Analysis Summary**

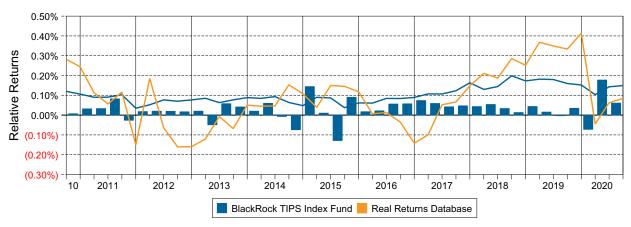
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

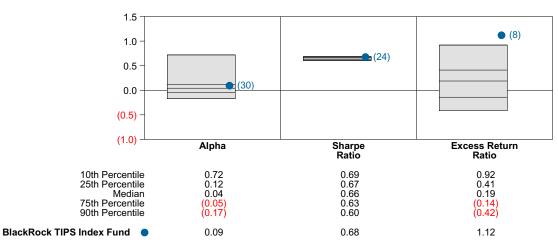
#### Performance vs Real Returns Database (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs Bloomberg US TIPS Index



Risk Adjusted Return Measures vs Bloomberg US TIPS Index Rankings Against Real Returns Database (Gross) Ten Years Ended September 30, 2020





#### BlackRock REIT Index Fund Period Ended September 30, 2020

#### **Investment Philosophy**

BlackRock REIT Index Fund was funded in 3Q17. The first full quarter of performance is 4Q17. Prior performance is that of the manager's composite.

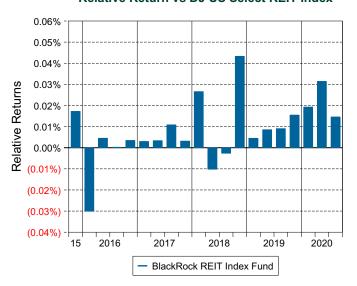
#### **Quarterly Summary and Highlights**

- BlackRock REIT Index Fund's portfolio posted a 0.84% return for the quarter placing it in the 87 percentile of the Callan Real Estate Mutual Funds group for the quarter and in the 97 percentile for the last year.
- BlackRock REIT Index Fund's portfolio outperformed the DJ US Select REIT Index by 0.01% for the quarter and outperformed the DJ US Select REIT Index for the year by 0.07%.

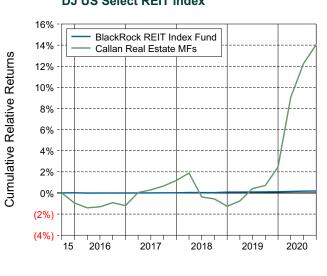
#### Performance vs Callan Real Estate Mutual Funds (Gross)



#### Relative Return vs DJ US Select REIT Index



#### Cumulative Returns vs DJ US Select REIT Index



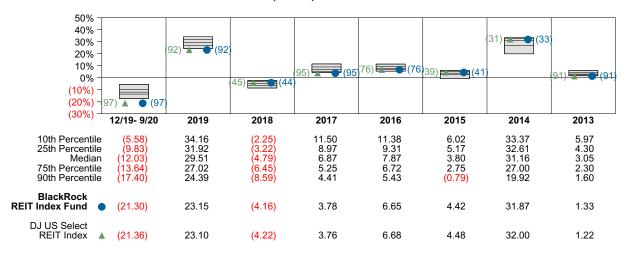


#### BlackRock REIT Index Fund **Return Analysis Summary**

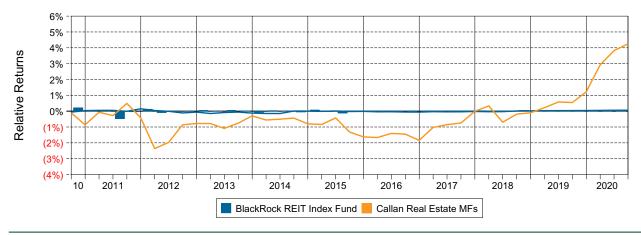
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 12 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

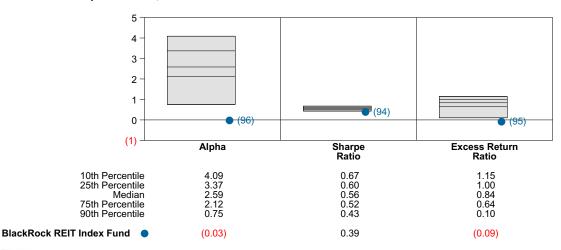
#### Performance vs Callan Real Estate Mutual Funds (Gross)



Rolling 12 Quarter and Quarterly Relative Return vs DJ US Select REIT Index



Risk Adjusted Return Measures vs DJ US Select REIT Index Rankings Against Callan Real Estate Mutual Funds (Gross) Ten Years Ended September 30, 2020





#### **Invesco Commodity Fund** Period Ended September 30, 2020

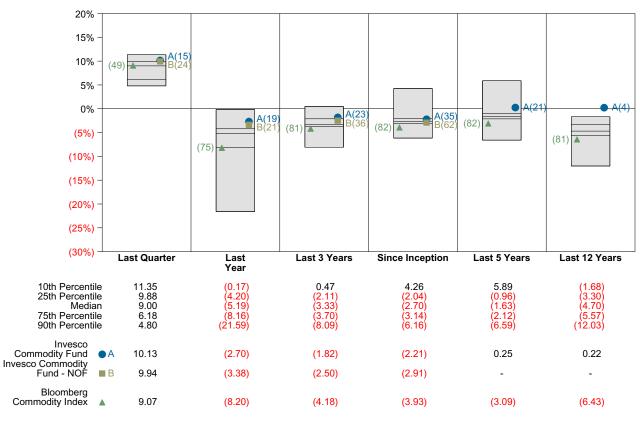
#### **Investment Philosophy**

INVESCO Commodities Index Fund was funded in 2Q16. The first full guarter of performance is 3Q16. Prior performance is that of the manager's composite.

#### **Quarterly Summary and Highlights**

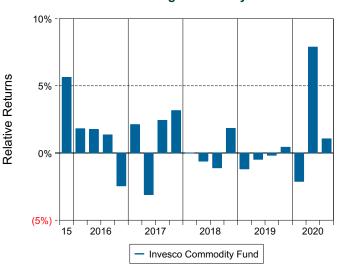
- Invesco Commodity Fund's portfolio posted a 10.13% return for the quarter placing it in the 15 percentile of the Callan Commodities group for the quarter and in the 19 percentile for the last year.
- Invesco Commodity Fund's portfolio outperformed the Bloomberg Commodity Index by 1.06% for the quarter and outperformed the Bloomberg Commodity Index for the year by 5.50%.

#### Performance vs Callan Commodities (Gross)

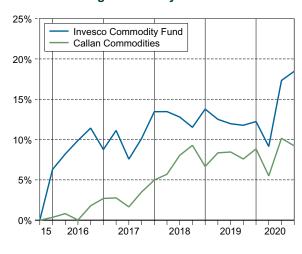


**Cumulative Relative Returns** 

#### Relative Returns vs **Bloomberg Commodity Index**



#### **Cumulative Returns vs Bloomberg Commodity Index**



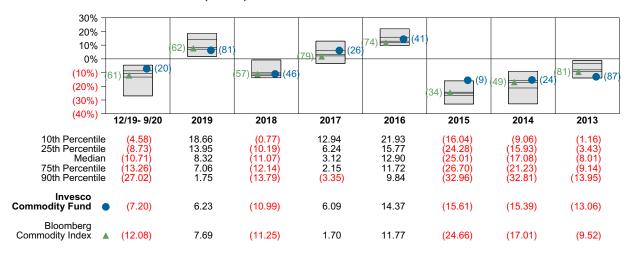


#### **Invesco Commodity Fund Return Analysis Summary**

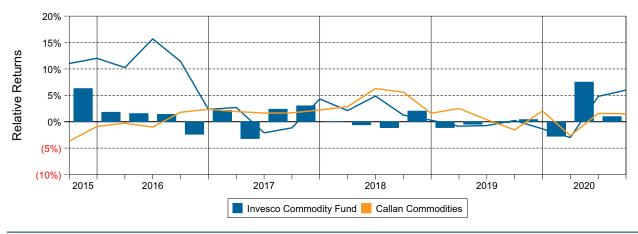
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 4 quarter rolling manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

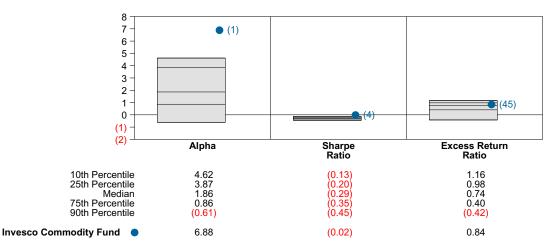
#### Performance vs Callan Commodities (Gross)



Rolling 4 Quarter and Quarterly Relative Return vs Bloomberg Commodity Index



Risk Adjusted Return Measures vs Bloomberg Commodity Index **Rankings Against Callan Commodities (Gross)** Twelve Years Ended September 30, 2020



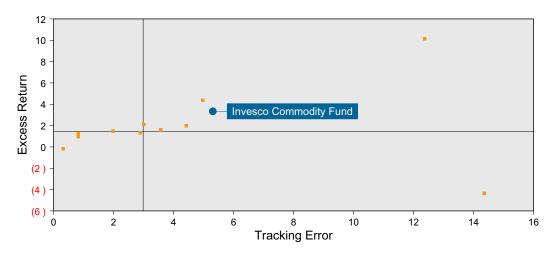


#### **Invesco Commodity Fund Risk Analysis Summary**

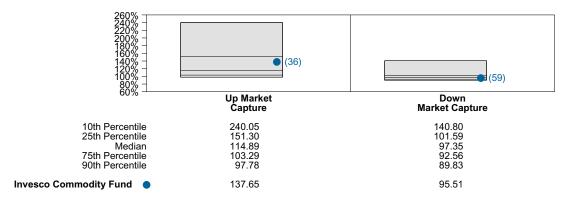
#### Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

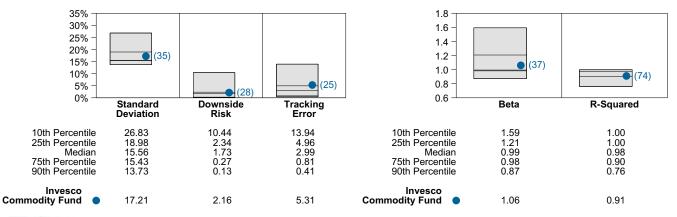
#### Risk Analysis vs Callan Commodities (Gross) Five Years Ended September 30, 2020



#### Market Capture vs Bloomberg Commodity Index Rankings Against Callan Commodities (Gross) Five Years Ended September 30, 2020



#### Risk Statistics Rankings vs Bloomberg Commodity Index Rankings Against Callan Commodities (Gross) Five Years Ended September 30, 2020





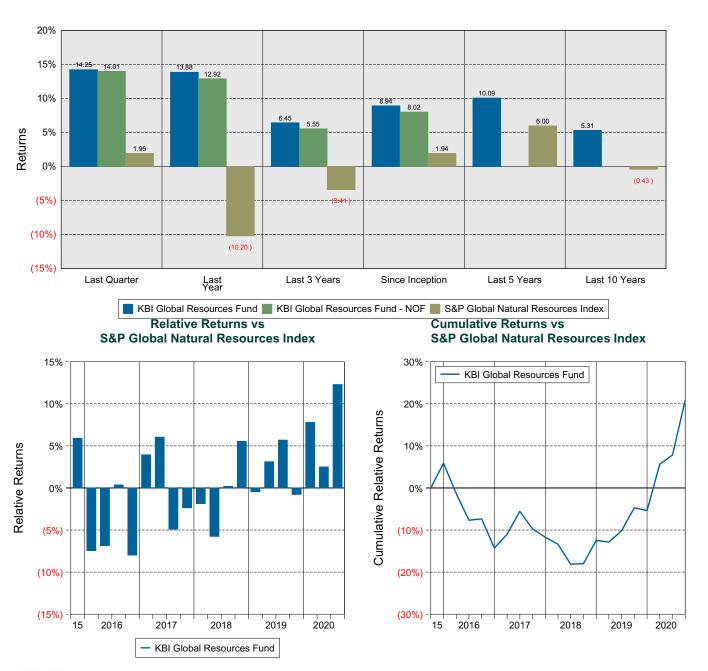
#### **KBI Global Resources Fund** Period Ended September 30, 2020

#### **Investment Philosophy**

Kleinwort Benson Investors' environmental strategies provide investors with the opportunity to achieve strong long-term returns and potential portfolio diversification from investing in companies providing solutions to their greatest global resource challenges. There are compelling investment opportunities in companies providing solutions to resource scarcity across water, food and energy driven by five long term trends: inadequate supply of water, cleaner energy and arable land for farming; increasing demand for resources driven by population growth, industrialisation and urbanisation; increasing regulation and government support; increasing investment in Infrastructure to facilitate provision and management of resources; and increasing investment in technology to create solutions and facilitate the more efficient use of resources. KBI Global Resources Fund was funded in 3Q16. The first full quarter of performance is 4Q16. Prior performance is that of the manager's composite.

#### **Quarterly Summary and Highlights**

 KBI Global Resources Fund's portfolio outperformed the S&P Global Natural Resources Index by 12.30% for the quarter and outperformed the S&P Global Natural Resources Index for the year by 24.08%.

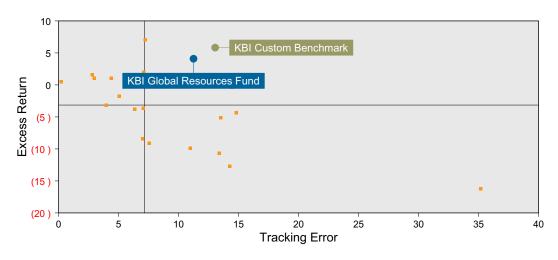


#### **KBI Global Resources Fund Risk Analysis Summary**

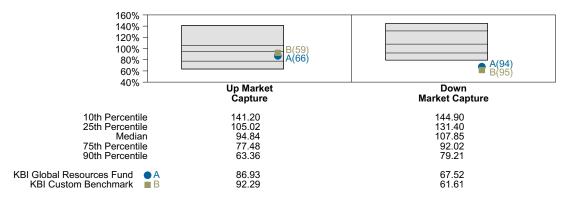
#### Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

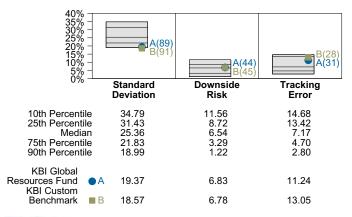
#### Risk Analysis vs Callan Global Natural Rsrcs Mut Funds (Gross) Five Years Ended September 30, 2020

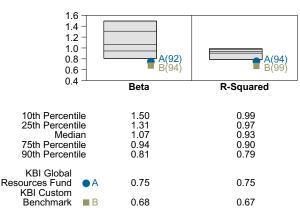


Market Capture vs S&P Global Natural Resources Index Rankings Against Callan Global Natural Rsrcs Mut Funds (Gross) Five Years Ended September 30, 2020



Risk Statistics Rankings vs S&P Global Natural Resources Index Rankings Against Callan Global Natural Rsrcs Mut Funds (Gross) Five Years Ended September 30, 2020





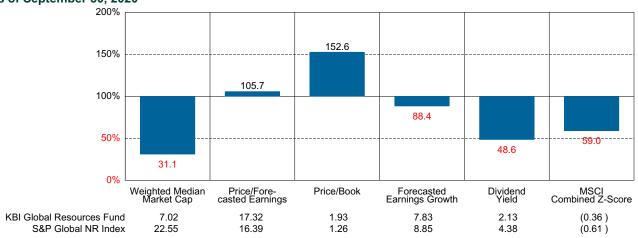


#### **KBI Global Resources Fund Equity Characteristics Analysis Summary**

#### **Portfolio Characteristics**

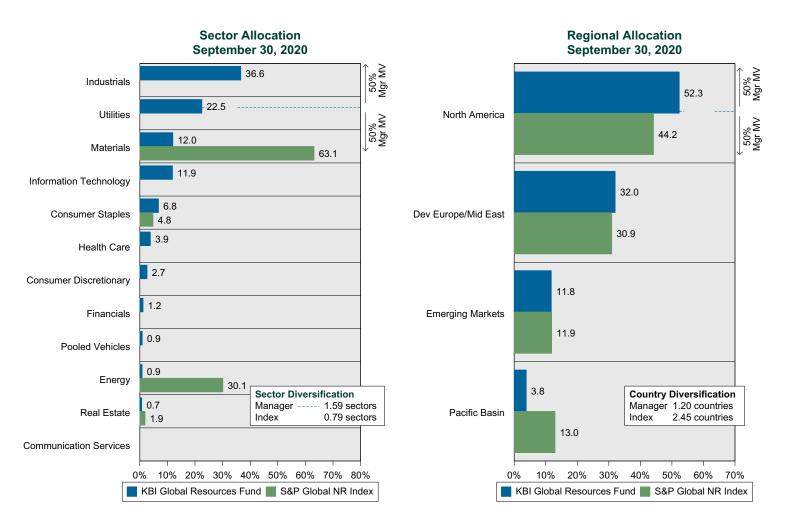
This graph compares the manager's portfolio characteristics relative to the benchmark's portfolio characteristics.

#### Portfolio Characteristics Relative to S&P Global NR Index as of September 30, 2020



#### **Sector Weights**

The graph below contrasts the manager's sector weights for the most recent quarter with those of the benchmark. The regional allocation chart also compares the manager's geographical region weights with those of the benchmark.

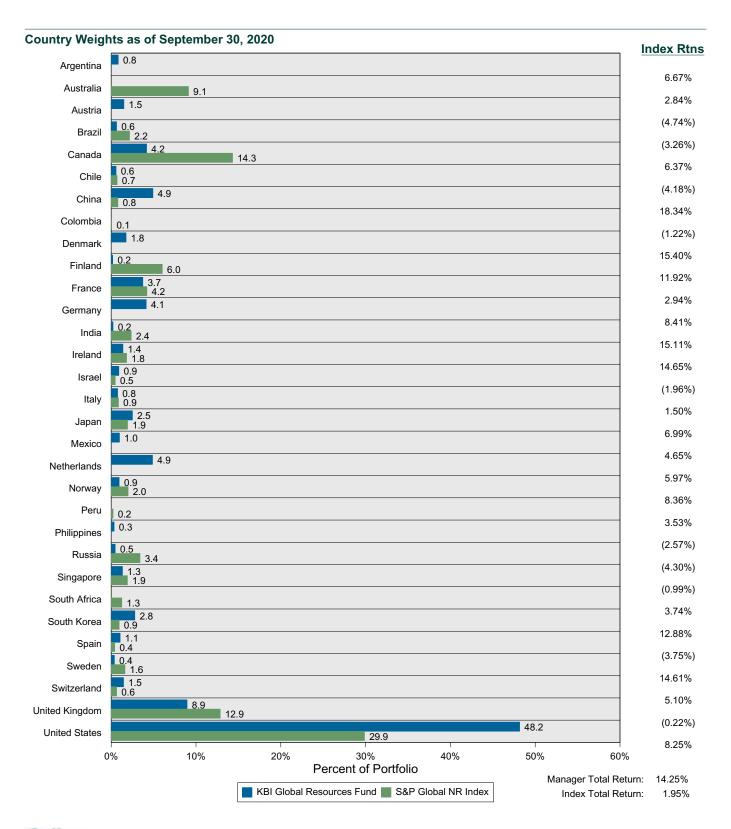




#### **Country Allocation** KBI Global Resources Fund VS S&P Global NR Index

#### **Country Allocation**

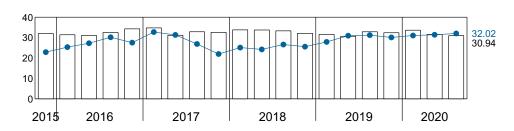
The chart below contrasts the portfolio's country allocation with that of the index as of September 30, 2020. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent guarter. To the extent that the portfolio allocation is similar to the index, the portfolio should experience more "index-like" performance. In order to illustrate the performance effect on the portfolio and index of these country allocations, the individual index country returns are also shown.



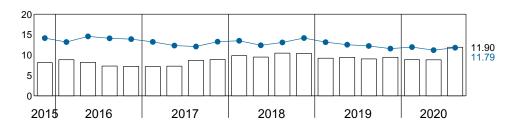


### Marin County Employees' Retirement Association History of Ending Regional Weights Period Ended September 30, 2020

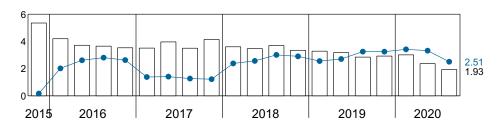




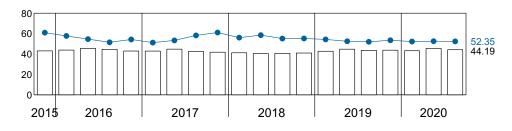
#### **Emerging Markets**



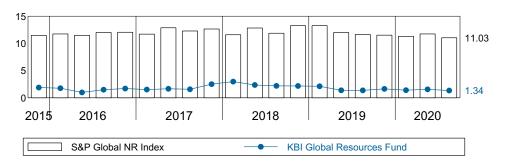
#### Japan



#### **North America**



#### **Pacific Basin**

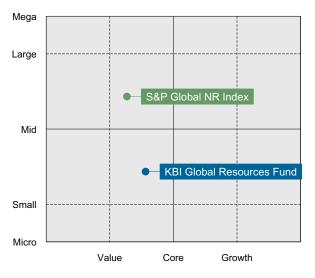




#### **Current Holdings Based Style Analysis KBI Global Resources Fund** As of September 30, 2020

This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the current market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the current portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The middle chart illustrates the total exposures and stock counts in the three style segments, with a legend showing the total growth, value, and "combined Z" (growth - value) scores. The bottom chart exhibits the sector weights as well as the style weights within each sector.

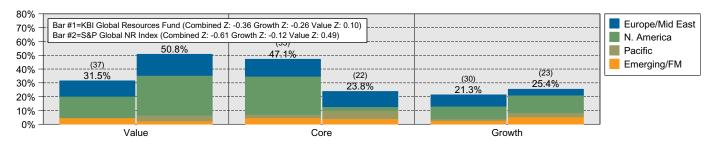
#### Style Map vs Callan Gbl Nat Res MF Holdings as of September 30, 2020



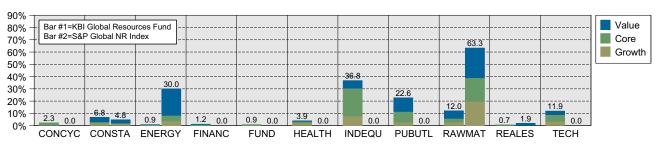
#### **Style Exposure Matrix** Holdings as of September 30, 2020

	Value	Core	Growth	Total
	50.8% (44)	23.8% (22)	25.4% (23)	100.0% (89)
Total				
	31.5% (37)	47.1% (53)	21.3% (30)	100.0% (120)
Emerging/ FM	2.4% (5)	4.0% (6)	5.3% (8)	11.7% (19)
	4.5% (7)	4.6% (5)	2.7% (3)	11.8% (15)
	4.1% (4)	5.9% (4)	3.0% (2)	13.0% (10)
Pacific	0.270 (1)	2.070 (2)	1.270 (1)	0.0 % (4)
	0.2% (1)	2.5% (2)	1.2% (1)	3.9% (4)
N. America	28.8% (26)	2.7% (4)	12.7% (8)	44.3% (38)
N. America	15.5% (16)	27.6% (30)	9.1% (14)	52.2% (60)
Europe/ Mid East	15.4% (9)	11.2% (8)	4.4% (5)	31.0% (22)
- ,	11.3% (13)	12.4% (16)	8.4% (12)	32.1% (41)

#### **Combined Z-Score Style Distribution** Holdings as of September 30, 2020



#### **Sector Weights Distribution** Holdings as of September 30, 2020



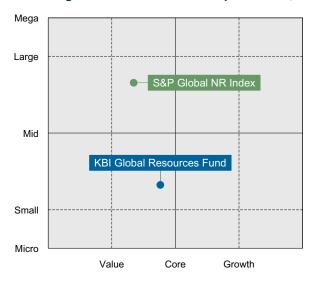


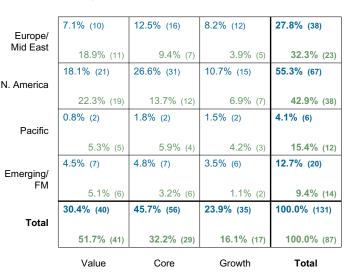
#### **Historical Holdings Based Style Analysis KBI Global Resources Fund** For Five Years Ended September 30, 2020

This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various region and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are determined using the "Combined Z Score", based on the eight fundamental factors used in the MSCI stock style scoring system. The upper-left style map illustrates the average historical market capitalization and style score of the portfolio relative to indices and/or peers. The upper-right style exposure matrix displays the average historical portfolio and index weights and stock counts (in parentheses) in each region/style segment of the market. The next two style exposure charts illustrate the actual quarterly region/style and style only segment exposures of the portfolio through history.

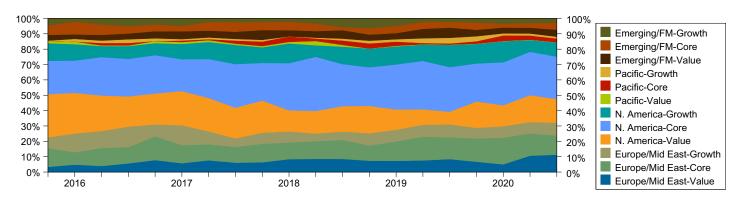
#### Average Style Map vs Callan Gbl Nat Res MF Holdings for Five Years Ended September 30, 2020

#### **Average Style Exposure Matrix** Holdings for Five Years Ended September 30, 2020

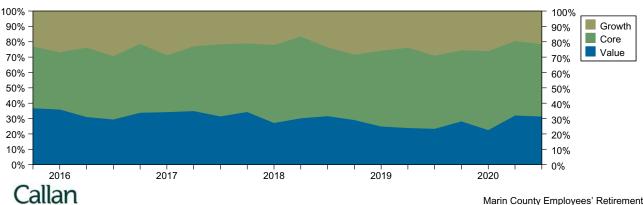




#### KBI Global Resources Fund Historical Region/Style Exposures



#### KBI Global Resources Fund Historical Style Only Exposures



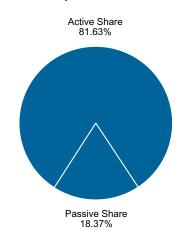
#### **KBI Global Resources Fund** Active Share Analysis as of September 30, 2020 vs. S&P Global Natural Resources Index

Active Share analysis compares the holdings of a portfolio to an index to measure how aggressively it differs from the index. Active share is measured at the individual stock level ("holdings-level active share") and using sector weights ("sector exposure active share"). Holdings-level active share comes from: 1) Index Active Share - over/under weighting of stocks in the index, and 2) Non-Index Active Share - positions in stocks not in the index. This analysis displays active share by sector and compares the portfolio to a relevant peer group.

#### **Holdings-Level Active Share**

## Index Active Share 46.72% Passive Share 9.44% Non-Index Active Share 43.84%

#### **Sector Exposure Active Share**

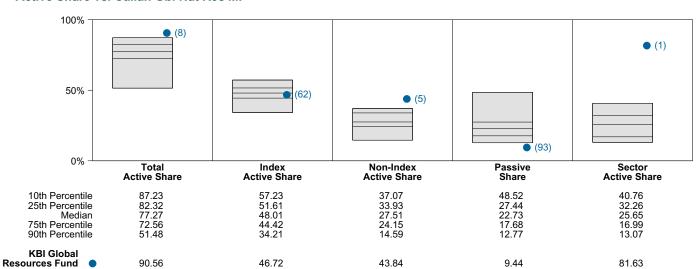


Total Active Share: 90.56%

Consumer Discretionary Consumer Staples Energy Financials Health Care Industrials Information Technology Materials **Pooled Vehicles** Real Estate Utilities Total

Index Active Share Within Sector	Non-Index Active Share Within Sector	Total Active Share Within Sector	Index Weight	Manager Weight	Contribution to Total Portfolio Active Share
0.00%	100.00%	100.00%	-	2.65%	1.33%
25.99%	17.84%	43.84%	4.81%	6.80%	2.33%
50.00%	50.00%	100.00%	30.12%	0.86%	15.49%
0.00%	100.00%	100.00%	-	1.21%	0.60%
0.00%	100.00%	100.00%	-	3.87%	1.93%
0.00%	100.00%	100.00%	-	36.61%	18.31%
0.00%	100.00%	100.00%	-	11.87%	5.94%
68.98%	16.90%	85.87%	63.14%	12.00%	31.60%
0.00%	100.00%	100.00%	-	0.91%	0.45%
50.00%	50.00%	100.00%	1.93%	0.70%	1.32%
0.00%	100.00%	100.00%	-	22.52%	11.26%
46.72%	43.84%	90.56%	100.00%	100.00%	90.56%

#### Active Share vs. Callan Gbl Nat Res MF





#### Total Private Equity Period Ended June 30, 2020

#### **Private Equity Allocation Overview**

The MCERA private equity portfolio was initiated in 2008 and currently utilizes two gatekeepers, Abbott Capital ("Abbott") and Pathway Capital Management ("Pathway"), to help the plan reach its desired private equity allocation of 8%. MCERA is invested in fund-of-funds vehicles.

	June 30, 2020	Quarter Change	March 31, 2020
Summary			
Vintage Years	13 in 2008-2020		13 in 2008-2020
# Total Partnerships	360	2	358
# Active Partnerships	357	2	355
# Liquidated Partnerships	3	-	3
Changes in Value			
Capital Commitments	\$400,000,000	-	\$400,000,000
Paid-In Capital	\$347,617,138	\$6,096,856	\$341,520,282
Uncalled Capital	\$52,442,211	\$(6,096,856)	\$58,539,067
% Paid-In	86.90%	1.52%	85.38%
Distributed Capital	\$248,503,236	\$6,998,628	\$241,504,608
Net Asset Value	\$301,423,511	\$35,480,206	\$265,943,305
Total Realized and Unrealized Value	\$549,926,747	\$42,478,834	\$507,447,913
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.71x	0.01x	0.71x
Residual Value to Paid-In Capital (RVPI)	0.87x	0.09x	0.78x
Total Value to Paid-In Capital (TVPI)	1.58x	0.10x	1.49x
Quartile Ranking	2nd		2nd
Net IRR	12.70%	1.28%	11.42%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		2.63%	
Unrealized Gain/(Loss), Dollars		\$36,381,977	
Unrealized Gain/(Loss), %		13.68%	

Quartile rankings against the All Private Equity, All Regions Refinitiv/Cambridge Database. Uncalled capital above does not reflect currency fluctuations for Pathway's investments in foreign partnerships.



# Total Private Equity Private Equity Investment Portfolio Quarterly Changes in Market Value

	Beg. of	Capital				Dist. of	Return	Dist. of	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre	Income &	- of	- Recallable	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>	<u>Capital</u>	Market
03/2009	0	5,623,729	(301,039)	558,424	(649,009)	0	0	0	4,115,257
06/2009	4,115,257	225,000	10,022	331,250	(68,925)	0	0	0	3,950,104
09/2009	3,950,104	1,378,170	(15,473)	384,375	(17,463)	0	0	0	4,910,963
12/2009	4,910,963	2,035,317	(45,633)	384,375	310,671	0	0	0	6,826,943
03/2010	6,826,943	1,405,159	(55,406)	384,375	(106,094)	0	0	0	7,686,227
06/2010	7,686,227	1,225,000	(19,095)	384,375	(194,748)	0	0	0	8,313,009
09/2010	8,313,009	2,838,797	(50,285)	437,500	411,669	0	0	0	11,075,690
12/2010	11,075,690	3,963,461	(110,914)	437,500	702,011	0	0	0	15,192,748
03/2011	15,192,748	2,841,483	(127,842)	437,500	678,042	0	0	0	18,146,931
06/2011	18,146,931	3,960,774	(184,803)	437,500	996,942	133,755	69,654	0	22,278,935
09/2011	22,278,935	8,609,888	(265,645)	437,500	(195,435)	0	0	0	29,990,243
12/2011	29,990,243	5,617,948	(175,287)	437,500	529,487	0	0	0	35,524,891
03/2012	35,524,891	6,281,785	(173,125)	437,500	2,079,434	0	0	0	43,275,485
06/2012	43,275,485	7,874,800	(113,404)	437,500	692,927	331,545	120,080	0	50,840,683
09/2012	50,840,683	4,558,302	(303,027)	437,500	1,105,721	260,954	215,388	0	55,287,837
12/2012	55,287,837	11,334,284	(41,281)	437,500	2,708,758	288,586	275,607	0	68,287,905
03/2013	68,287,905	5,239,926	(120,123)	437,500	1,886,426	78,940	352,195	0	74,425,498
06/2013	74,425,498	5,359,974	(147,222)	562,625	2,651,531	514,376	515,820	0	80,696,960
09/2013	80,696,960	7,768,201	(226,298)	516,250	5,890,689	1,165,176	355,990	0	92,092,136
12/2013	92,092,136	12,666,640	(54,150)	516,250	6,253,270	2,563,309	3,688,605	0	104,189,733
03/2014	104,189,733	10,332,824	(204,331)	516,250	4,125,365	6,302,488	654,422	0	110,970,431
06/2014	110,970,431	10,513,534	75,076	516,250	7,884,217	746,471	2,533,431	0	125,647,106
09/2014	125,647,106	17,570,746	10,500	516,250	1,245,992	1,615,602	2,925,053	0	139,417,439
12/2014	139,417,439	10,833,803	(61,667)	558,750	3,052,494	1,112,031	4,049,723	0	147,521,565
03/2015	147,521,565	8,258,958	22,076	558,750	3,915,369	1,080,998	4,004,433	0	154,073,787
06/2015	154,073,787	12,520,450	(252,087)	558,750	7,392,432	2,171,067	5,209,351	0	165,795,414
09/2015	165,795,414	12,661,165	8,918	537,500	2,632,199	1,814,825	5,406,163	0	173,339,208
12/2015	173,339,208	10,950,390	(73,852)	636,937	3,903,312	5,200,032	3,213,356	0	179,068,733
03/2016	179,068,733	4,401,061	(299,677)	558,750	2,098,534	2,134,279	907,141	0	181,668,481
06/2016	181,668,481	10,147,317	56,802	609,194	7,769,013	384,668	1,481,019	0	197,166,732
09/2016	197,166,732	6,046,669	152,647	590,069	7,907,843	2,838,197	1,439,821	0	206,405,805
12/2016	206,405,805	9,423,568	(337,203)	609,852	7,772,643	2,210,046	6,703,806	0	213,741,108
03/2017	213,741,108	6,022,843	(48,597)	624,466	11,538,200	2,611,810	5,480,599	0	222,536,678
06/2017	222,536,678	5,942,110	39,415	654,116	13,245,307	4,835,151	9,091,365	59,349	227,123,528
09/2017	227,123,528	16,537,410	(30,778)	637,141	9,591,347	5,248,683	7,736,243	0	239,599,440
12/2017	239,599,440	13,884,994	21,740	635,673	11,666,611	4,382,265	16,309,746	0	243,845,101
03/2018	243,845,101	7,150,727	(163,332)	643,100	10,972,723	7,403,967	3,491,705	0	250,266,447
06/2018	250,266,447	11,444,547	(144,165)	672,751	14,602,061	4,351,051	7,785,725	0	263,359,363
09/2018	263,359,363	7,431,280	(238,296)	657,497	12,294,502	4,011,337	8,778,135	0	269,399,880
12/2018	269,399,880	14,191,664	3,385,950	656,029	(1,352,804)	9,915,706	9,598,228	0	265,454,727
03/2019	265,454,727	5,829,912	(283,332)	656,246	12,966,290	5,633,889	3,667,549	0	274,009,912
06/2019	274,009,912	7,676,263	82,950	663,197	15,115,571	5,061,949	6,031,822	0	285,127,728
09/2019	285,127,728	5,716,776	(98,346)	649,492	4,630,383	3,987,114	9,749,615	0	280,990,321
12/2019	280,990,321	9,453,814	(64,183)	648,025	15,541,711	4,095,571	8,559,460	0	292,618,608
03/2020	292,618,608	5,768,820	(253,673)	631,679	(25,000,599)	1,860,850	4,697,321	0	265,943,305
06/2020	265,943,305	6,096,856	(398,584)	638,630	37,419,192	4,788,106	2,210,521	0	301,423,511



## Total Private Equity Private Equity Investment Portfolio Quarterly Changes in Market Value

Beg. of Period <u>Market</u>	Capital + Contri- butions	+ Accounting <u>Income</u>	- Mgmt. <u>Fees</u>	+ Appre-	Dist. of - Income & Real. Gains	Return - of <u>Capital</u>	Dist. of - Recallable <u>Capital</u>	End of Period Market
0	347,617,138	(1,616,059)	24,670,143	228,595,811	101,134,794	147,309,092	59,349	301,423,511

Returns

Net Portfolio Cumulative IRR = 12.70%

Ratios

Capital Account = \$301,423,511

Total Value = \$549,926,747

Committed Capital = \$400,000,000

Paid In Capital = \$347,617,138 Remaining Commitment = \$52,442,211

PIC Multiple (Paid In Capital/Committed Capital) = 86.90%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$353,865,722

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.58x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.71x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.87x

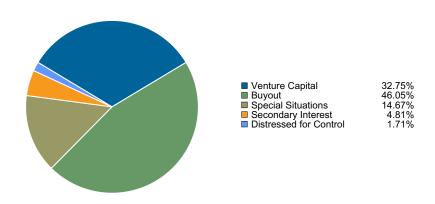
Uncalled capital above does not reflect currency fluctuations for Pathway's investments in foreign partnerships.



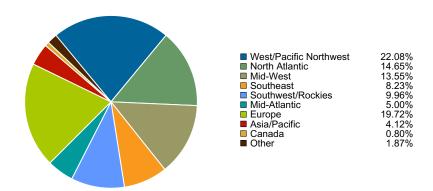
#### Portfolio Exposure Mix Total Private Equity Period Ended June 30, 2020

The follow charts provide information on the portfolio mix with regards to Strategy, Geographic Region, and Industry.

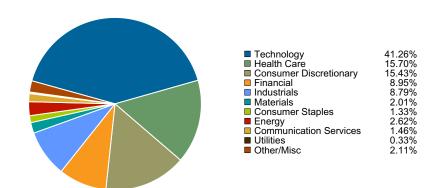
#### Strategy Mix by Net Asset Value



#### **Geographic Mix by Net Asset Value**



#### **Industry Mix by Net Asset Value**





#### Abbott Fund VI, L.P. Period Ended June 30, 2020

#### **Organization History**

Abbott is an independent registered investment adviser founded in 1986 to provide investors with private equity portfolio management. Abbott's investment philosophy focuses on three aspects of the business: 1) access to top-performing partnerships; 2) a rigorous selection process; and 3) a commitment to diversification.

#### **Private Equity Allocation Overview**

Abbott has managed fund-of-funds private equity investments for MCERA since 2008, which is when MCERA committed \$100 million to ACE VI. Abbott's model portfolios typically have the following allocation targets: Buyouts 50-80%; Venture Capital 10-30%; and, Special Situations 5-25%.

	June 30, 2020	Quarter Change	March 31, 2020
Summary			
Vintage Years	7 in 2008-2014		7 in 2008-2014
# Total Partnerships	56	-	56
# Active Partnerships	54	-	54
# Liquidated Partnerships	2	-	2
Changes in Value			
Capital Commitments	\$100,000,000	-	\$100,000,000
Paid-In Capital	\$99,047,700	-	\$99,047,700
Uncalled Capital	\$952,300	-	\$952,300
% Paid-In	99.05%	-	99.05%
Distributed Capital	\$108,893,939	-	\$108,893,939
Net Asset Value	\$60,051,301	\$7,552,930	\$52,498,371
Total Realized and Unrealized Value	\$168,945,240	\$7,552,930	\$161,392,310
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	1.10x	-	1.10x
Residual Value to Paid-In Capital (RVPI)	0.61x	0.08x	0.53x
Total Value to Paid-In Capital (TVPI)	1.71x	0.08x	1.63x
Quartile Ranking	2nd		2nd
Net IRR	12.22%	0.69%	11.52%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		0.00%	
Unrealized Gain/(Loss), Dollars		\$7,552,930	
Unrealized Gain/(Loss), %		14.39%	

Quartile rankings against the All Private Equity, All Regions Refinitiv/Cambridge Database.



### Abbott Fund VI, L.P. Private Equity Investment Portfolio Quarterly Changes in Market Value

	Beg. of	Capital				Dist. of	Return	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	- Income &	- of	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	ciation	Real. Gains	<u>Capital</u>	<u>Market</u>
03/2009	0	4,547,700	(112,820)	318,750	(604,525)	0	0	3,511,605
06/2009	3,511,605	0	(2,729)	106,250	(94,275)	0	0	3,308,351
09/2009	3,308,351	0	3,445	159,375	(28,545)	0	0	3,123,876
12/2009	3,123,876	1,000,000	(1,221)	159,375	162,943	0	0	4,126,223
03/2010	4,126,223	1,000,000	(2,357)	159,375	(100,250)	0	0	4,864,241
06/2010	4,864,241	1,000,000	2,059	159,375	(220,726)	0	0	5,486,199
09/2010	5,486,199	1,000,000	14,193	212,500	226,639	0	0	6,514,531
12/2010	6,514,531	2,000,000	65	212,500	282,565	0	0	8,584,661
03/2011	8,584,661	2,000,000	2,326	212,500	383,955	0	0	10,758,442
06/2011	10,758,442	1,000,000	11,142	212,500	636,894	0	0	12,193,978
09/2011	12,193,978	3,000,000	3,939	212,500	(189,135)	0	0	14,796,282
12/2011	14,796,282	3,000,000	12,355	212,500	280,998	0	0	17,877,135
03/2012	17,877,135	3,000,000	5,850	212,500	1,090,959	0	0	21,761,444
06/2012	21,761,444	2,000,000	67,498	212,500	(67,270)	0	0	23,549,172
09/2012	23,549,172	3,000,000	752	212,500	206,348	0	0	26,543,772
12/2012	26,543,772	5,500,000	128,410	212,500	1,082,849	0	0	33,042,531
03/2013	33,042,531	1,500,000	98,277	212,500	464,582	0	0	34,892,890
06/2013	34,892,890	1,500,000	86,882	212,500	1,325,269	0	0	37,592,541
09/2013	37,592,541	2,500,000	29,707	212,500	1,762,681	1,000,000	0	40,672,429
12/2013	40,672,429	7,500,000	92,437	212,500	2,262,463	0	3,000,000	47,314,829
03/2014	47,314,829	7,000,000	85,886	212,500	1,924,080	4,000,000	0	52,112,295
06/2014	52,112,295	4,500,000	179,299	212,500	2,457,448	0	2,000,000	57,036,542
09/2014	57,036,542	8,500,000	106,723	212,500	1,674,877	0	2,000,000	65,105,642
12/2014	65,105,642	3,000,000	116,605	212,500	2,000,581	0	2,500,000	67,510,328
03/2015	67,510,328	4,000,000	213,714	212,500	1,898,768	0	3,500,000	69,910,310
06/2015	69,910,310	5,500,000	88,289	212,500	3,353,716	0	3,500,000	75,139,815
09/2015	75,139,815	4,000,000	(2,949)	191,250	2,194,512	0	4,000,000	77,140,128
12/2015	77,140,128	3,500,000	121,976	191,250	2,631,973	3,278,722	2,221,278	77,702,827
03/2016	77,702,827	0 500 000	91,920	191,250	782,805	500,000	1 000 000	77,886,302
06/2016 09/2016	77,886,302	2,500,000	310,111	191,250	3,654,142	500,000	1,000,000 0	83,159,305
12/2016	83,159,305 86,301,467	1,500,000	101,709 170,302	172,125 172,125	3,712,578 2,223,778	500,000 0	5,000,000	86,301,467
03/2017	85,023,422	1,000,000	224,358	172,125	3,409,422	0	3,000,000	85,023,422 86,485,077
06/2017	86,485,077	500,000	286,985	172,125	4,125,279	0	6,000,000	85,225,216
09/2017	85,225,216	2,500,000	183,667	154,913	3,897,913	0	5,500,000	86,151,883
12/2017	86,151,883	2,000,000	195,453	154,913	3,947,600	0	11,500,000	80,640,023
03/2018	80,640,023	1,000,000	108,656	154,912	2,980,673	4,500,000	0	80,074,440
06/2018	80,074,440	500,000	196,285	154,913	4,537,413	4,000,000	4,500,000	80,653,225
09/2018	80,653,225	500,000	0	139,422	2,823,196	0	7,500,000	76,336,999
12/2018	76,336,999	500,000	0	139,422	1,828,076	3,082,577	2,917,423	72,525,653
03/2019	72,525,653	0	(123)	139,421	2,694,551	2,157,386	2,342,614	70,580,660
06/2019	70,580,660	0	268,212	139,421	3,902,713	0	4,000,000	70,612,164
09/2019	70,612,164	250,000	91,196	125,479	(24,429)	0	6,000,000	64,803,452
12/2019	64,803,452	250,000	106,538	125,479	2,400,439	0	4,393,939	63,041,011
03/2020	63,041,011	0	18,624	125,479	(6,935,785)	0	3,500,000	52,498,371
06/2020	52,498,371	0	(4,380)	125,479	7,682,789	0	0	60,051,301
	• *			,				



#### Abbott Fund VI, L.P. **Private Equity Investment Portfolio Quarterly Changes in Market Value**

Beg. of Period <u>Market</u>	+	Capital Contri- butions	+	Accounting <u>Income</u>	-	Mgmt. <u>Fees</u>	+	Appre- ciation	-	Dist. of Income & Real. Gains	-	Return of <u>Capital</u>	=	End of Period <u>Market</u>
0	(	99,047,700		3,699,266	8	3,445,253	7	4,643,527		19,018,684	89	9,875,255		60,051,301

Returns

Net Portfolio Cumulative IRR = 12.22%

Ratios

Capital Account = \$60,051,301 Total Value = \$168,945,240

Committed Capital = \$100,000,000

Paid In Capital = \$99,047,700 Remaining Commitment = \$952,300

PIC Multiple (Paid In Capital/Committed Capital) = 99.05%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$61,003,601

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.71x

DPI Realization Multiple (Distributions/Paid In Capital) = 1.10x

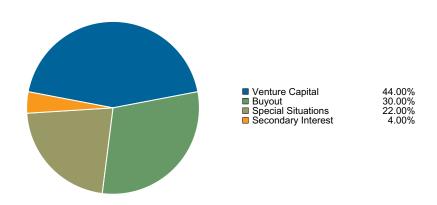
RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.61x



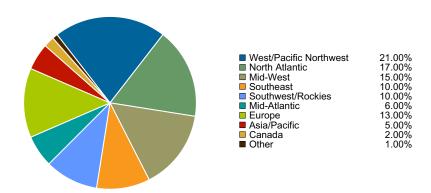
#### Portfolio Exposure Mix Abbott Fund VI, L.P. Period Ended June 30, 2020

The follow charts provide information on the portfolio mix with regards to Strategy, Geographic Region, and Industry.

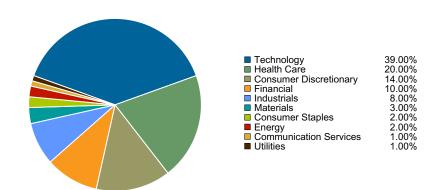
#### Strategy Mix by Net Asset Value



#### **Geographic Mix by Net Asset Value**



#### **Industry Mix by Net Asset Value**





#### Abbott Fund VII, L.P. Period Ended June 30, 2020

#### **Organization History**

Abbott is an independent registered investment adviser founded in 1986 to provide investors with private equity portfolio management. Abbott's investment philosophy focuses on three aspects of the business: 1) access to top-performing partnerships; 2) a rigorous selection process; and 3) a commitment to diversification.

#### **Private Equity Allocation Overview**

Abbott has managed fund-of-funds private equity investments for MCERA since 2008. MCERA committed \$35 million to ACE VII in 2013. Abbott's model portfolio typically has the following allocation: Buyouts 25-40%; Venture Capital 25-40%; and, Special Situations 25-40%.

	June 30, 2020	Quarter Change	March 31, 2020
Summary			
Vintage Years	4 in 2014-2017		4 in 2014-2017
# Total Partnerships	40	-	40
# Active Partnerships	39	-	39
# Liquidated Partnerships	1	-	1
Changes in Value			
Capital Commitments	\$35,000,000	-	\$35,000,000
Paid-In Capital	\$34,300,000	\$350,000	\$33,950,000
Uncalled Capital	\$700,000	\$(350,000)	\$1,050,000
% Paid-In	98.00%	1.00%	97.00%
Distributed Capital	\$13,300,000	\$1,050,000	\$12,250,000
Net Asset Value	\$40,137,873	\$3,477,555	\$36,660,318
Total Realized and Unrealized Value	\$53,437,873	\$4,527,555	\$48,910,318
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.39x	0.03x	0.36x
Residual Value to Paid-In Capital (RVPI)	1.17x	0.09x	1.08x
Total Value to Paid-In Capital (TVPI)	1.56x	0.12x	1.44x
Quartile Ranking	2nd		2nd
Net IRR	16.27%	2.03%	14.24%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		2.86%	
Unrealized Gain/(Loss), Dollars		\$4,177,555	
Unrealized Gain/(Loss), %		11.40%	

Quartile rankings against the All Private Equity, All Regions Refinitiv/Cambridge Database.



#### Abbott Fund VII, L.P. **Private Equity Investment Portfolio Quarterly Changes in Market Value**

	Beg. of	Capital				Dist. of	Return	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	- Income &	- of	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>	<u>Market</u>
03/2014	0	87,500	(2,298)	0	(9,232)	0	0	75,970
06/2014	75,970	0	(7,146)	0	42,004	0	0	110,828
09/2014	110,828	1,400,000	(751)	0	(48,585)	0	0	1,461,492
12/2014	1,461,492	612,500	(85,245)	42,500	(38,230)	0	0	1,908,017
03/2015	1,908,017	700,000	203	42,500	(40,496)	0	0	2,525,224
06/2015	2,525,224	1,400,000	(2,952)	42,500	107,255	0	0	3,987,027
09/2015	3,987,027	2,450,000	339	42,500	9,889	175,000	0	6,229,755
12/2015	6,229,755	2,625,000	(5,533)	63,750	180,105	350,000	0	8,615,577
03/2016	8,615,577	1,400,000	(507)	63,750	65,888	0	0	10,017,208
06/2016	10,017,208	2,275,000	42,684	63,750	405,171	0	175,000	12,501,313
09/2016	12,501,313	1,225,000	(2,341)	63,750	335,684	350,000	0	13,645,906
12/2016	13,645,906	2,100,000	70,040	85,000	663,483	175,000	0	16,219,429
03/2017	16,219,429	1,400,000	2,343	85,000	604,250	0	1,050,000	17,091,022
06/2017	17,091,022	1,575,000	61,065	85,000	1,041,816	0	0	19,683,903
09/2017	19,683,903	3,150,000	43,842	85,000	740,792	0	525,000	23,008,537
12/2017	23,008,537	3,500,000	52,201	85,000	1,922,267	0	2,275,000	26,123,005
03/2018	26,123,005	1,225,000	33,563	85,000	1,338,683	0	700,000	27,935,251
06/2018	27,935,251	1,925,000	37,722	85,000	1,251,411	0	1,050,000	30,014,384
09/2018	30,014,384	0	0	85,000	1,933,848	0	0	31,863,232
12/2018	31,863,232	2,625,000	0	85,000	1,505,652	1,076,117	848,883	33,983,884
03/2019	33,983,884	0	1,752	85,000	1,561,518	0	0	35,462,154
06/2019	35,462,154	0	15,268	85,000	2,740,932	0	0	38,133,354
09/2019	38,133,354	700,000	6,632	85,000	1,202,542	0	1,400,000	38,557,528
12/2019	38,557,528	1,575,000	103,916	85,000	2,128,505	0	2,100,000	40,179,949
03/2020	40,179,949	0	11,999	85,000	(3,446,630)	0	0	36,660,318
06/2020	36,660,318	350,000	(3,276)	85,000	4,265,831	0	1,050,000	40,137,873
	0	34,300,000	373,520	1,700,000	20,464,353	2,126,117	11,173,883	40,137,873

Returns Net Portfolio Cumulative IRR = 16.27%

Ratios

Capital Account = \$40,137,873 Total Value = \$53,437,873

Committed Capital = \$35,000,000

Paid In Capital = \$34,300,000

Remaining Commitment = \$700,000

PIC Multiple (Paid In Capital/Committed Capital) = 98.00%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$40,837,873

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.56x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.39x

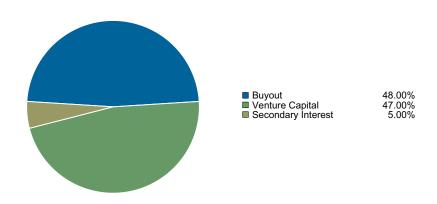
RVPI Residual Multiple (Capital Account/Paid In Capital) = 1.17x



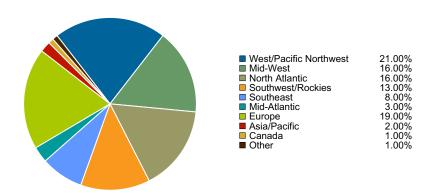
#### **Portfolio Exposure Mix** Abbott Fund VII, L.P. Period Ended June 30, 2020

The follow charts provide information on the portfolio mix with regards to Strategy, Geographic Region, and Industry.

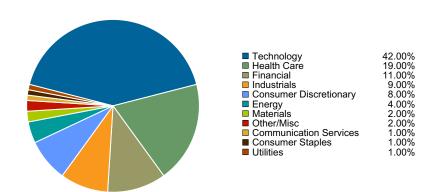
#### Strategy Mix by Net Asset Value



#### **Geographic Mix by Net Asset Value**



#### **Industry Mix by Net Asset Value**





## Abbott Fund 2016, L.P. Period Ended June 30, 2020

#### **Organization History**

Abbott is an independent registered investment adviser founded in 1986 to provide investors with private equity portfolio management. Abbott's investment philosophy focuses on three aspects of the business: 1) access to top-performing partnerships; 2) a rigorous selection process; and 3) a commitment to diversification.

#### **Private Equity Allocation Overview**

Abbott has managed fund-of-funds private equity investments for MCERA since 2008. Abbott offers a recommended "core" portfolio, but allows clients to create their own customized portfolio by allocating capital across the following three strategy buckets: North America Private Equity; Ex-North America Private Equity; and, Venture Capital & Growth Equity. The AP 2016 model portfolio has the following recommended allocation: 45% to North America Private Equity (primarily buyout and control-oriented strategies); 25% to Ex-North America Private Equity (primarily buyout and control-oriented strategies); and, 30% to Venture and Growth Equity.

	June 30, 2020	Quarter Change	March 31, 2020
Summary			
Vintage Years	4 in 2016-2019		4 in 2016-2019
# Total Partnerships	55	-	55
# Active Partnerships	55	-	55
# Liquidated Partnerships	0	-	0
Changes in Value			
Capital Commitments	\$50,000,000	-	\$50,000,000
Paid-In Capital	\$33,897,502	\$2,091,250	\$31,806,252
Uncalled Capital	\$16,102,498	\$(2,091,250)	\$18,193,748
% Paid-In	67.80%	4.18%	63.61%
Distributed Capital	\$2,800,000	-	\$2,800,000
Net Asset Value	\$37,017,893	\$4,972,841	\$32,045,052
Total Realized and Unrealized Value	\$39,817,893	\$4,972,841	\$34,845,052
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.08x	(0.01)x	0.09x
Residual Value to Paid-In Capital (RVPI)	1.09x	0.08x	1.01x
Total Value to Paid-In Capital (TVPI)	1.17x	0.08x	1.10x
Quartile Ranking	2nd		2nd
Net IRR	10.40%	3.96%	6.43%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		0.00%	
Unrealized Gain/(Loss), Dollars		\$2,881,591	
Unrealized Gain/(Loss), %		8.99%	

Quartile rankings against the All Private Equity, All Regions Refinitiv/Cambridge Database.



#### Abbott Fund 2016, L.P. **Private Equity Investment Portfolio Quarterly Changes in Market Value**

	Beg. of	Capital				Dist. of	Return		End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	- Income &	- of	=	Period
	<u>Market</u>	<u>butions</u>	Income	Fees	ciation	Real. Gains	<u>Capital</u>		Market
03/2016	0	37,500	(4,687)	0	0	0	0		32,813
06/2016	32,813	1,950,000	(786)	0	41,420	0	0		2,023,447
09/2016	2,023,447	250,000	(1,897)	0	(531,113)	0	0		1,740,437
12/2016	1,740,437	662,500	(152,726)	0	63,410	0	0		2,313,621
03/2017	2,313,621	483,125	(1,727)	33,125	88,203	0	0		2,850,097
06/2017	2,850,097	745,625	(6,482)	33,125	125,662	0	0		3,681,777
09/2017	3,681,777	2,258,125	(5,592)	33,125	(15,656)	0	0		5,885,529
12/2017	5,885,529	1,433,125	(13,935)	33,125	238,162	0	0		7,509,756
03/2018	7,509,756	1,299,688	(4,724)	49,688	75,644	0	750,000		8,080,676
06/2018	8,080,676	2,818,438	(147)	49,688	311,710	0	0		11,160,989
09/2018	11,160,989	2,412,188	0	49,688	889,340	0	0		14,412,829
12/2018	14,412,829	4,024,688	0	49,688	572,005	312,606	162,394		18,484,834
03/2019	18,484,834	1,191,250	17,120	66,250	678,792	0	0		20,305,746
06/2019	20,305,746	4,116,250	(3,606)	66,250	612,321	950,000	0		24,014,461
09/2019	24,014,461	2,128,750	5,381	66,250	435,544	0	625,000		25,892,886
12/2019	25,892,886	3,753,750	46,958	66,250	1,748,045	0	0		31,375,389
03/2020	31,375,389	2,241,250	(3,030)	66,250	(1,502,307)	0	0		32,045,052
06/2020	32,045,052	2,091,250	(5,621)	66,250	2,953,462	0	0		37,017,893
	0	33,897,502	(135,501)	728,752	6,784,644	1,262,606	1,537,394		37,017,893

Returns

Net Portfolio Cumulative IRR = 10.40%

Ratios

Capital Account = \$37,017,893

Total Value = \$39,817,893

Committed Capital = \$50,000,000

Paid In Capital = \$33,897,502

Remaining Commitment = \$16,102,498

PIC Multiple (Paid In Capital/Committed Capital) = 67.80%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$53,120,392

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.17x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.08x

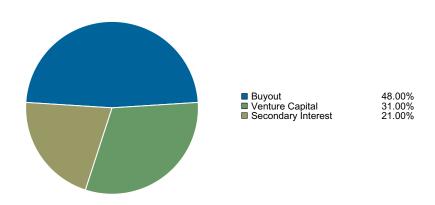
RVPI Residual Multiple (Capital Account/Paid In Capital) = 1.09x



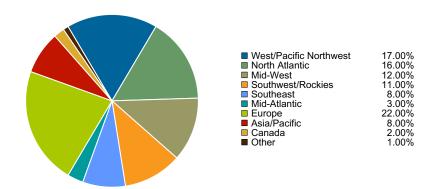
#### **Portfolio Exposure Mix** Abbott Fund 2016, L.P. Period Ended June 30, 2020

The follow charts provide information on the portfolio mix with regards to Strategy, Geographic Region, and Industry.

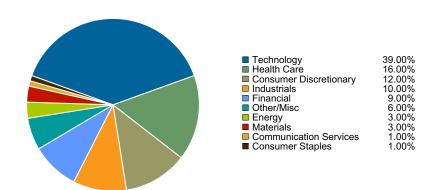
#### Strategy Mix by Net Asset Value



#### **Geographic Mix by Net Asset Value**



#### **Industry Mix by Net Asset Value**





## Abbott Fund 2017, L.P. Period Ended June 30, 2020

#### **Organization History**

Abbott is an independent registered investment adviser founded in 1986 to provide investors with private equity portfolio management. Abbott's investment philosophy focuses on three aspects of the business: 1) access to top-performing partnerships; 2) a rigorous selection process; and 3) a commitment to diversification.

#### **Private Equity Allocation Overview**

Abbott has managed fund-of-funds private equity investments for MCERA since 2008. Abbott offers a recommended "core" portfolio, but allows clients to create their own customized portfolio by allocating capital across the following three strategy buckets: North America Private Equity; Ex-North America Private Equity; and, Venture Capital & Growth Equity. The AP 2016 model portfolio has the following recommended allocation: 45% to North America Private Equity (primarily buyout and control-oriented strategies); 25% to Ex-North America Private Equity (primarily buyout and control-oriented strategies); and, 30% to Venture and Growth Equity.

	June 30, 2020	Quarter Change	March 31, 2020
Summary			
Vintage Years	4 in 2017-2020		4 in 2017-2020
# Total Partnerships	64	2	62
# Active Partnerships	64	2	62
# Liquidated Partnerships	0	-	0
Changes in Value			
Capital Commitments	\$15,000,000	-	\$15,000,000
Paid-In Capital	\$6,648,752	\$393,750	\$6,255,002
Uncalled Capital	\$8,351,248	\$(393,750)	\$8,744,998
% Paid-In	44.33%	2.62%	41.70%
Distributed Capital	\$0	-	\$0
Net Asset Value	\$7,751,017	\$1,112,066	\$6,638,951
Total Realized and Unrealized Value	\$7,751,017	\$1,112,066	\$6,638,951
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.00x	-	0.00x
Residual Value to Paid-In Capital (RVPI)	1.17x	0.10x	1.06x
Total Value to Paid-In Capital (TVPI)	1.17x	0.10x	1.06x
Quartile Ranking	2nd		2nd
Net IRR	11.96%	6.69%	5.27%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		0.00%	
Unrealized Gain/(Loss), Dollars		\$718,316	
Unrealized Gain/(Loss), %		10.82%	

Quartile rankings against the All Private Equity, All Regions Refinitiv/Cambridge Database.



#### Abbott Fund 2017, L.P. **Private Equity Investment Portfolio Quarterly Changes in Market Value**

	Beg. of Period <u>Market</u>	Capital + Contri- <u>butions</u>	+ Accounting Income	- Mgmt. <u>Fees</u>	+ Appre-	- Distri- <u>butions</u>	=	End of Period <u>Market</u>
06/2017	0	60,000	0	0	0	0		60,000
09/2017	60,000	375,000	(5,136)	0	(1,293)	0	4	28,571
12/2017	428,571	108,750	(9,946)	(9,946) 0		0	5	05,271
03/2018	505,271	0	(585)	9,375	(11,886)	0	4	83,425
06/2018	483,425	723,750	558	9,375	3,600	0	1,2	01,958
09/2018	1,201,958	718,125	8,956	9,375	38,774	0	1,9	58,438
12/2018	1,958,438	845,625	0	9,375	25,493	0	2,8	20,181
03/2019	2,820,181	576,563	135	14,063	105,110	0	3,4	87,926
06/2019	3,487,926	1,034,063	(1,624)	14,063	106,013	0	4,6	12,315
09/2019	4,612,315	359,063	2,677	14,063	186,408	0	5,1	46,400
12/2019	5,146,400	989,063	(849)	14,063	275,643	0	6,3	96,194
03/2020	6,396,194	465,000	4,430	18,750	(207,923)	0	6,6	38,951
06/2020	6,638,951	393,750	(1,318)	18,750	738,384	0	7,7	51,017
	0	6,648,752	(2,702)	131,252	1,236,219	0	7,7	751,017

Returns Net Portfolio Cumulative IRR = 11.96%

Ratios

Capital Account = \$7,751,017 Total Value = \$7,751,017

Committed Capital = \$15,000,000

Paid In Capital = \$6,648,752

Remaining Commitment = \$8,351,248

PIC Multiple (Paid In Capital/Committed Capital) = 44.33%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$16,102,265

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.17x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.00x

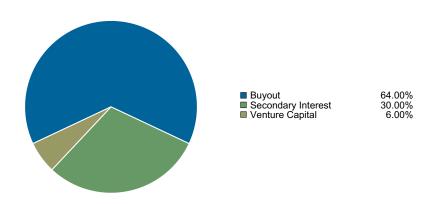
RVPI Residual Multiple (Capital Account/Paid In Capital) = 1.17x



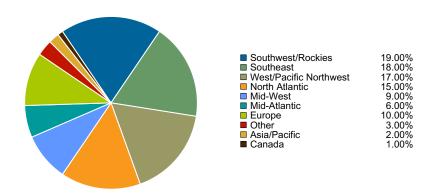
#### **Portfolio Exposure Mix** Abbott Fund 2017, L.P. Period Ended June 30, 2020

The follow charts provide information on the portfolio mix with regards to Strategy, Geographic Region, and Industry.

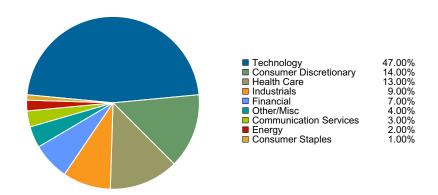
#### Strategy Mix by Net Asset Value



#### **Geographic Mix by Net Asset Value**



#### **Industry Mix by Net Asset Value**





#### Pathway Fund 2008, L.P. Period Ended June 30, 2020

#### **Organization History**

Pathway Capital Management is an independent registered investment advisor wholly owned by senior professionals. Pathway was formed in 1991 to provide institutional investors with specialized investment and advisory services.

#### **Private Equity Allocation Overview**

Pathway has managed fund-of-funds private equity investments for MCERA since 2008. MCERA committed \$100 million to PPEF 2008. The PPEF 2008 model portfolio has the following allocation targets: Buyouts 50-80%; Venture Capital 10-30%; and, Special Situations 5-25%.

	June 30, 2020	Quarter Change	March 31, 2020
	0011C 00, 2020	Onlange	March 51, 2020
Summary	7 ' 0000 0044		7: 0000 0044
Vintage Years	7 in 2008-2014		7 in 2008-2014
# Total Partnerships	34	-	34
# Active Partnerships	34	-	34
# Liquidated Partnerships	0	-	0
Changes in Value			
Capital Commitments	\$100,000,000	-	\$100,000,000
Paid-In Capital	\$97,618,947	\$201,695	\$97,417,252
Uncalled Capital	\$2,381,053	\$(201,695)	\$2,582,748
% Paid-In	97.62%	0.20%	97.42%
Distributed Capital	\$103,484,116	\$3,491,062	\$99,993,054
Net Asset Value	\$63,392,502	\$6,876,122	\$56,516,380
Total Realized and Unrealized Value	\$166,876,618	\$10,367,184	\$156,509,434
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	1.06x	0.03x	1.03x
Residual Value to Paid-In Capital (RVPI)	0.65x	0.07x	0.58x
Total Value to Paid-In Capital (TVPI)	1.71x	0.10x	1.61x
Quartile Ranking	2nd		2nd
Net IRR	12.00%	1.01%	11.00%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		6.18%	
Unrealized Gain/(Loss), Dollars		\$10,165,488	
Unrealized Gain/(Loss), %		17.99%	

Quartile rankings against the All Private Equity, All Regions Refinitiv/Cambridge Database. Uncalled capital above does not reflect currency fluctuations for Pathway's investments in foreign partnerships.



# Pathway Fund 2008, L.P. Private Equity Investment Portfolio Quarterly Changes in Market Value

	Beg. of	Capital				Dist. of	Return	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	- Income &	- of	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>	<u>Market</u>
03/2009	0	1,076,029	(188,219)	239,674	(44,484)	0	0	603,652
06/2009	603,652	225,000	12,751	225,000	25,350	0	0	641,753
09/2009	641,753	1,378,170	(18,918)	225,000	11,082	0	0	1,787,087
12/2009	1,787,087	1,035,317	(44,412)	225,000	147,728	0	0	2,700,720
03/2010	2,700,720	405,159	(53,049)	225,000	(5,844)	0	0	2,821,986
06/2010	2,821,986	225,000	(21,154)	225,000	25,978	0	0	2,826,810
09/2010	2,826,810	1,838,797	(64,478)	225,000	185,030	0	0	4,561,159
12/2010	4,561,159	1,963,461	(110,979)	225,000	419,446	0	0	6,608,087
03/2011	6,608,087	841,483	(130,168)	225,000	294,087	0	0	7,388,489
06/2011	7,388,489	2,960,774	(195,945)	225,000	360,048	133,755	69,654	10,084,957
09/2011	10,084,957	5,609,888	(269,584)	225,000	(6,300)	0	0	15,193,961
12/2011	15,193,961	2,617,948	(187,642)	225,000	248,489	0	0	17,647,756
03/2012	17,647,756	3,281,785	(178,975)	225,000	988,475	0	0	21,514,041
06/2012	21,514,041	5,874,800	(180,902)	225,000	760,197	331,545	120,080	27,291,511
09/2012	27,291,511	1,558,302	(303,779)	225,000	899,373	260,954	215,388	28,744,065
12/2012	28,744,065	5,834,284	(169,691)	225,000	1,625,909	288,586	275,607	35,245,374
03/2013	35,245,374	3,739,926	(218,400)	225,000	1,421,844	78,940	352,195	39,532,608
06/2013	39,532,608	3,677,593	(215,653)	225,000	1,326,781	514,376	515,820	43,066,134
09/2013	43,066,134	4,300,914	(239,202)	225,000	3,962,432	165,176	355,990	50,344,112
12/2013	50,344,112	4,737,239	(111,111)	225,000	3,973,657	2,563,309	688,605	55,466,984
03/2014	55,466,984	2,991,940	(234,369)	225,000	2,184,033	2,184,287	603,888	57,395,414
06/2014	57,395,414	4,830,737	(40,595)	225,000	5,287,891	700,955	519,113	66,028,379
09/2014	66,028,379	6,362,845	(15,978)	225,000	(442,225)	1,615,602	925,053	69,167,366
12/2014	69,167,366	5,447,108	(15,809)	225,000	1,051,444	1,087,941	1,539,165	72,798,003
03/2015	72,798,003	2,649,114	(104,192)	225,000	1,842,372	1,042,655	493,044	75,424,598
06/2015	75,424,598	3,272,435	(221,462)	225,000	3,550,835	2,111,084	1,683,841	78,006,481
09/2015	78,006,481	4,176,250	120,879	225,000	343,727	1,544,796	1,341,251	79,536,290
12/2015	79,536,290	225,000	23,239	225,000	842,955	1,527,405	916,072	77,959,007
03/2016	77,959,007	935,586	(201,156)	225,000	1,039,791	1,597,545	891,664	77,019,019
06/2016	77,019,019	1,815,241	(105,542)	225,000	3,048,748	286,511	254,131	81,011,824
09/2016	81,011,824	225,000	310,669	225,000	3,247,256	1,794,669	1,352,657	81,422,423
12/2016	81,422,423	846,854	(184,084)	223,533	3,704,271	1,787,524	1,582,132	82,196,274
03/2017	82,196,274	848,340	(71,649)	202,500	6,172,475	2,361,427	1,367,307	85,214,206
06/2017	85,214,206	716,740	(113,776)	202,500	6,346,721	4,585,804	2,811,765	84,563,821
09/2017	84,563,821	2,727,321	(22,582)	202,500	3,260,373	4,951,070	1,552,892	83,822,471
12/2017	83,822,471	1,136,014	84,882	201,033	3,051,688	3,786,144	2,243,087	81,864,791
03/2018	81,864,791	1,816,033	(63,700)	180,000	3,379,050	2,621,848	1,840,872	82,353,454
06/2018	82,353,454	362,321	(90,180)	180,000	5,463,118	3,219,478	1,876,485	82,812,750
09/2018	82,812,750	180,000	(36,719)	180,000	2,722,252	3,034,294	710,967	81,753,022
12/2018	81,753,022	760,714	2,454,418	178,533	(4,976,858)	4,073,203	4,979,613	70,759,948
03/2019	70,759,948	313,798	(53,055)	157,500	3,169,127	2,287,579	883,462	70,861,276
06/2019	70,861,276	248,505	88,136	157,500	3,567,505	3,106,930	1,823,611	69,677,380
09/2019	69,677,380	830,811	26,806	157,500	(427,650)	2,593,393	1,157,712	66,198,742
12/2019	66,198,742	313,110	(57,898)	156,033	3,159,596	2,433,043	1,492,567	65,531,908
03/2020	65,531,908	203,565	(82,745)	135,000	(7,115,813)	1,176,837	708,699	56,516,380
06/2020	56,516,380	201,695	(109,966)	135,000	10,410,455	2,832,129	658,933	63,392,502



#### Pathway Fund 2008, L.P. **Private Equity Investment Portfolio Quarterly Changes in Market Value**

Beg. of Period <u>Market</u>	+	Capital Contri- butions	+	Accounting Income	-	Mgmt. <u>Fees</u>	+	Appre- ciation	-	Dist. of Income & Real. Gains	-	Return of <u>Capital</u>	=	End Perio <u>Mark</u>	od
0	,	97,618,947		(1,605,938)	ç	9,638,805	8	30,502,414		64,680,795	38	3,803,321		63,392,5	02

Returns

Net Portfolio Cumulative IRR = 12.00%

Ratios

Capital Account = \$63,392,502 Total Value = \$166,876,618

Committed Capital = \$100,000,000 Paid In Capital = \$97,618,947

Remaining Commitment = \$2,381,053

PIC Multiple (Paid In Capital/Committed Capital) = 97.62%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$65,773,555

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.71x

DPI Realization Multiple (Distributions/Paid In Capital) = 1.06x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.65x

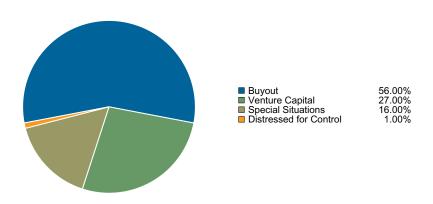
Uncalled capital above does not reflect currency flucations for Pathway's investments in foreign partnerships.



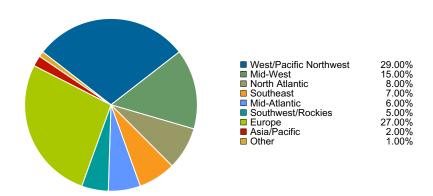
#### **Portfolio Exposure Mix** Pathway Fund 2008, L.P. Period Ended June 30, 2020

The follow charts provide information on the portfolio mix with regards to Strategy, Geographic Region, and Industry.

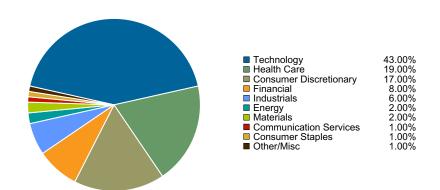
#### Strategy Mix by Net Asset Value



#### **Geographic Mix by Net Asset Value**



#### **Industry Mix by Net Asset Value**





#### Pathway Fund VII, L.P. Period Ended June 30, 2020

#### **Organization History**

Pathway Capital Management is an independent registered investment advisor wholly owned by senior professionals. Pathway was formed in 1991 to provide institutional investors with specialized investment and advisory services.

#### **Private Equity Allocation Overview**

Pathway has managed fund-of-funds private equity investments for MCERA since 2008. MCERA committed \$35 million to PPEF I-7 in 2013. The PPEF I-7 model portfolio has the following allocation targets: Buyouts 45-75%; Venture Capital 10-25%; and, Special Situations 10-40%.

	June 30, 2020	Quarter Change	March 31, 2020
Summary			
Vintage Years	5 in 2012-2016		5 in 2012-2016
# Total Partnerships	35	-	35
# Active Partnerships	35	-	35
# Liquidated Partnerships	0	-	0
Changes in Value			
Capital Commitments	\$35,000,000	-	\$35,000,000
Paid-In Capital	\$33,475,409	\$783,538	\$32,691,871
Uncalled Capital	\$1,524,591	\$(783,538)	\$2,308,129
% Paid-In	95.64%	2.24%	93.41%
Distributed Capital	\$15,652,130	\$2,115,354	\$13,536,776
Net Asset Value	\$38,609,371	\$3,008,225	\$35,601,146
Total Realized and Unrealized Value	\$54,261,501	\$5,123,579	\$49,137,922
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.47x	0.05x	0.41x
Residual Value to Paid-In Capital (RVPI)	1.15x	0.06x	1.09x
Total Value to Paid-In Capital (TVPI)	1.62x	0.12x	1.50x
Quartile Ranking	2nd		2nd
Net IRR	14.77%	1.84%	12.93%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		5.94%	
Unrealized Gain/(Loss), Dollars		\$4,340,041	
Unrealized Gain/(Loss), %		12.19%	

Quartile rankings against the All Private Equity, All Regions Refinitiv/Cambridge Database. Uncalled capital above does not reflect currency fluctuations for Pathway's investments in foreign partnerships.



### Pathway Fund VII, L.P. **Private Equity Investment Portfolio Quarterly Changes in Market Value**

	Beg. of	Capital				Dist. of	Return	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	- Income &	- of	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>	<u>Market</u>
06/2013	0	182,380	(18,451)	125,125	(519)	0	0	38,285
09/2013	38,285	967,287	(16,803)	78,750	165,576	0	0	1,075,595
12/2013	1,075,595	429,401	(35,476)	78,750	17,150	0	0	1,407,920
03/2014	1,407,920	253,384	(53,550)	78,750	26,483	118,201	50,535	1,386,752
06/2014	1,386,752	1,182,797	(56,482)	78,750	96,874	45,516	14,318	2,471,357
09/2014	2,471,357	1,307,901	(79,494)	78,750	61,925	0	0	3,682,939
12/2014	3,682,939	1,774,195	(77,218)	78,750	38,699	24,090	10,558	5,305,217
03/2015	5,305,217	909,844	(87,649)	78,750	214,725	38,343	11,389	6,213,655
06/2015	6,213,655	2,348,015	(115,962)	78,750	380,626	59,983	25,510	8,662,091
09/2015	8,662,091	2,034,915	(109,351)	78,750	84,071	95,029	64,912	10,433,035
12/2015	10,433,035	1,909,065	(101,792)	78,750	246,958	43,905	76,006	12,288,605
03/2016	12,288,605	1,887,927	(110,775)	78,750	191,514	34,968	15,477	14,128,076
06/2016	14,128,076	150,044	(130,967)	78,750	554,488	98,157	51,888	14,472,846
09/2016	14,472,846	2,029,228	(84,224)	78,750	821,245	174,979	66,907	16,918,459
12/2016	16,918,459	1,807,454	(81,851)	78,750	828,814	142,641	113,096	19,138,389
03/2017	19,138,389	2,081,269	(93,961)	78,750	785,709	192,947	51,419	21,588,290
06/2017	21,588,290	124,242	(52,649)	78,750	1,040,561	249,347	129,638	22,242,709
09/2017	22,242,709	2,258,850	(85,415)	78,750	1,120,174	193,750	118,323	25,145,495
12/2017	25,145,495	3,036,491	(71,045)	78,750	1,650,270	454,549	272,344	28,955,568
03/2018	28,955,568	78,750	(55,810)	78,750	1,653,540	264,138	166,666	30,122,494
06/2018	30,122,494	1,357,146	(98,731)	78,750	1,749,616	692,146	352,027	32,007,602
09/2018	32,007,602	906,367	(41,319)	78,750	1,521,755	768,198	324,453	33,223,004
12/2018	33,223,004	1,314,768	477,323	78,750	(185,106)	865,317	497,493	33,388,429
03/2019	33,388,429	924,905	(91,599)	78,750	2,427,342	1,147,344	163,679	35,259,304
06/2019	35,259,304	715,641	(55,755)	78,750	2,445,674	575,314	192,795	37,518,005
09/2019	37,518,005	78,750	13,831	78,750	1,646,938	1,184,635	524,017	37,470,122
12/2019	37,470,122	78,750	(30,705)	78,750	3,032,128	1,214,003	516,437	38,741,105
03/2020	38,741,105	562,105	(47,390)	78,750	(2,526,536)	580,275	469,113	35,601,146
06/2020	35,601,146	783,538	(81,152)	78,750	4,499,943	1,636,283	479,071	38,609,371
	0	33,475,409	(1,474,422)	2,330,125	24,590,639	10,894,058	4,758,072	38,609,371

Returns

Net Portfolio Cumulative IRR = 14.77%

Ratios

Capital Account = \$38,609,371

Total Value = \$54,261,501

Committed Capital = \$35,000,000

Paid In Capital = \$33,475,409

Remaining Commitment = \$1,524,591

PIC Multiple (Paid In Capital/Committed Capital) = 95.64%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$40,133,962

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.62x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.47x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 1.15x

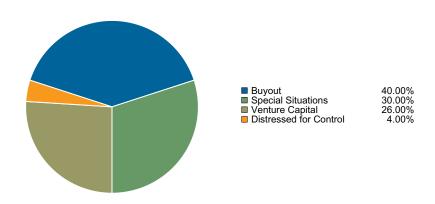
Uncalled capital above does not reflect currency flucations for Pathway's investments in foreign partnerships.



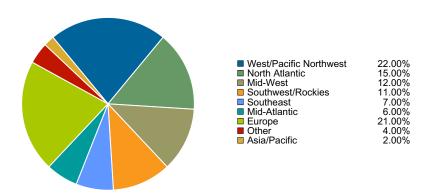
#### Portfolio Exposure Mix Pathway Fund VII, L.P. Period Ended June 30, 2020

The follow charts provide information on the portfolio mix with regards to Strategy, Geographic Region, and Industry.

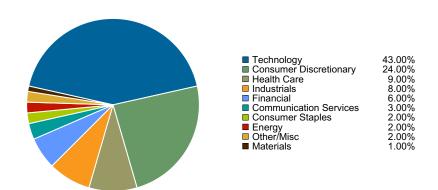
#### Strategy Mix by Net Asset Value



#### **Geographic Mix by Net Asset Value**



#### **Industry Mix by Net Asset Value**





#### Pathway Fund VIII, L.P. Period Ended June 30, 2020

#### **Organization History**

Pathway Capital Management is an independent registered investment advisor wholly owned by senior professionals. Pathway was formed in 1991 to provide institutional investors with specialized investment and advisory services.

#### **Private Equity Allocation Overview**

Pathway has managed fund-of-funds private equity investments for MCERA since 2008. MCERA committed \$50 million to PPEF I-8 in 2016. The PPEF I-8 model portfolio has the following allocation targets: Buyouts 45-75%; Venture Capital 10-25%; and, Special Situations 10-40%.

	June 30, 2020	Quarter Change	March 31, 2020
Summary	,		•
Vintage Years	6 in 2015-2020		6 in 2015-2020
# Total Partnerships	38	-	38
# Active Partnerships	38	-	38
# Liquidated Partnerships	0	-	0
Changes in Value			
Capital Commitments	\$50,000,000	-	\$50,000,000
Paid-In Capital	\$35,057,031	\$1,225,887	\$33,831,144
Uncalled Capital	\$15,002,318	\$(1,225,887)	\$16,228,205
% Paid-In	70.11%	2.45%	67.66%
Distributed Capital	\$3,379,288	-	\$3,379,288
Net Asset Value	\$47,207,672	\$6,941,472	\$40,266,200
Total Realized and Unrealized Value	\$50,586,960	\$6,941,472	\$43,645,488
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.10x	(0.00)x	0.10x
Residual Value to Paid-In Capital (RVPI)	1.35x	0.16x	1.19x
Total Value to Paid-In Capital (TVPI)	1.44x	0.15x	1.29x
Quartile Ranking	1st		2nd
Net IRR	16.41%	4.25%	12.17%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		0.00%	
Unrealized Gain/(Loss), Dollars		\$5,715,585	
Unrealized Gain/(Loss), %		14.19%	

Quartile rankings against the All Private Equity, All Regions Refinitiv/Cambridge Database. Uncalled capital above does not reflect currency fluctuations for Pathway's investments in foreign partnerships.



### Pathway Fund VIII, L.P. **Private Equity Investment Portfolio Quarterly Changes in Market Value**

	Beg. of	Capital				Dist. of	Return	Dist. of	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	- Income &	- of	- Recallable	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	ciation	Real. Gains	<u>Capital</u>	Capital	<u>Market</u>
12/2015	0	2,691,326	(111,742)	78,187	1,320	0	0	0	2,502,717
03/2016	2,502,717	140,048	(74,472)	0	18,536	1,766	0	0	2,585,063
06/2016	2,585,063	1,457,032	(58,698)	50,444	65,044	0	0	0	3,997,997
09/2016	3,997,997	2,317,441	(171,269)	50,444	322,194	18,549	20,257	0	6,377,113
12/2016	6,377,113	2,506,760	(158,884)	50,444	288,886	104,881	8,577	0	8,849,973
03/2017	8,849,973	210,109	(107,961)	52,966	478,140	57,436	11,873	0	9,307,986
06/2017	9,307,986	2,182,022	(127,175)	75,665	565,668	0	149,962	59,349	11,643,525
09/2017	11,643,525	2,419,889	(126,250)	75,665	587,214	103,863	40,028	0	14,304,822
12/2017	14,304,822	2,663,426	(179,281)	75,665	799,463	141,572	19,315	0	17,351,879
03/2018	17,351,879	1,682,946	(161,358)	78,187	1,508,468	17,981	34,167	0	20,251,600
06/2018	20,251,600	3,466,887	(161,726)	100,887	1,194,338	439,427	7,214	0	24,203,571
09/2018	24,203,571	1,930,887	(138,731)	100,887	2,317,537	0	0	0	28,212,377
12/2018	28,212,377	3,384,252	495,781	100,887	(53,373)	480,611	182,979	0	31,274,560
03/2019	31,274,560	1,776,537	(116,691)	100,887	2,151,073	35,770	267,962	0	34,680,860
06/2019	34,680,860	1,174,172	(159,949)	100,887	1,608,524	410,151	11,308	0	36,781,261
09/2019	36,781,261	1,098,012	(191,021)	100,887	1,608,257	209,086	42,886	0	38,943,651
12/2019	38,943,651	747,512	(167,514)	100,887	2,449,869	339,876	39,196	0	41,493,559
03/2020	41,493,559	1,981,887	(108,426)	100,887	(2,876,685)	103,738	19,510	0	40,266,200
06/2020	40,266,200	1,225,887	(135,041)	100,887	5,951,513	0	0	0	47,207,672
	0	35,057,031	(1,960,408)	1,495,650	18,985,987	2,464,707	855,232	59,349	47,207,672

Returns Net Portfolio Cumulative IRR = 16.41%

Ratios

Capital Account = \$47,207,672

Total Value = \$50,586,960

Committed Capital = \$50,000,000

Paid In Capital = \$35,057,031

Remaining Commitment = \$15,002,318

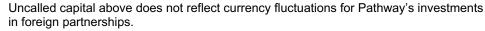
PIC Multiple (Paid In Capital/Committed Capital) = 70.11%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$62,209,990

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.44x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.10x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 1.35x

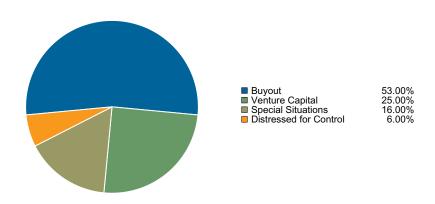




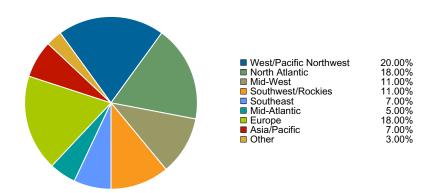
#### **Portfolio Exposure Mix** Pathway Fund VIII, L.P. Period Ended June 30, 2020

The follow charts provide information on the portfolio mix with regards to Strategy, Geographic Region, and Industry.

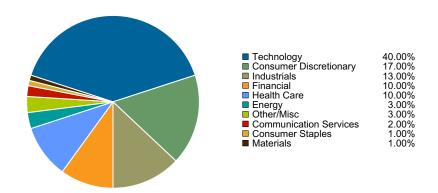
#### Strategy Mix by Net Asset Value



#### **Geographic Mix by Net Asset Value**



#### **Industry Mix by Net Asset Value**





#### Pathway Fund IX, L.P. Period Ended June 30, 2020

#### **Organization History**

Pathway Capital Management is an independent registered investment advisor wholly owned by senior professionals. Pathway was formed in 1991 to provide institutional investors with specialized investment and advisory services.

#### **Private Equity Allocation Overview**

Pathway has managed fund-of-funds private equity investments for MCERA since 2008. MCERA committed \$15 million to PPEF I-9 in 2017.

	June 30, 2020	Quarter Change	March 31, 2020
Summary			
Vintage Years	4 in 2017-2020		4 in 2017-2020
# Total Partnerships	38	-	38
# Active Partnerships	38	-	38
# Liquidated Partnerships	0	-	0
Changes in Value			
Capital Commitments	\$15,000,000	-	\$15,000,000
Paid-In Capital	\$7,571,797	\$1,050,736	\$6,521,061
Uncalled Capital	\$7,428,203	\$(1,050,736)	\$8,478,939
% Paid-In	50.48%	7.00%	43.47%
Distributed Capital	\$993,763	\$342,212	\$651,551
Net Asset Value	\$7,255,882	\$1,538,995	\$5,716,887
Total Realized and Unrealized Value	\$8,249,645	\$1,881,207	\$6,368,438
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.13x	0.03x	0.10x
Residual Value to Paid-In Capital (RVPI)	0.96x	0.08x	0.88x
Total Value to Paid-In Capital (TVPI)	1.09x	0.11x	0.98x
Quartile Ranking	2nd		3rd
Net IRR	8.12%	10.46%	(2.34%)
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		5.99%	
Unrealized Gain/(Loss), Dollars		\$830,471	
Unrealized Gain/(Loss), %		14.53%	

Quartile rankings against the All Private Equity, All Regions Refinitiv/Cambridge Database. Uncalled capital above does not reflect currency fluctuations for Pathway's investments in foreign partnerships.



### Pathway Fund IX, L.P. **Private Equity Investment Portfolio Quarterly Changes in Market Value**

	Beg. of	Capital				Dist. of	Return		End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	- Income &	- of	=	Period
	<u>Market</u>	butions	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>		<u>Market</u>
06/2017	0	38,481	(8,553)	6,951	(400)	0	0		22,577
09/2017	22,577	848,224	(13,312)	7,188	1,831	0	0		852,132
12/2017	852,132	7,187	(36,589)	7,187	79,265	0	0		894,808
03/2018	894,808	48,310	(19,374)	7,188	48,551	0	0		965,107
06/2018	965,107	291,005	(27,946)	14,138	90,856	0	0		1,304,884
09/2018	1,304,884	783,713	(30,483)	14,375	47,800	208,845	242,714		1,639,979
12/2018	1,639,979	736,618	(41,572)	14,375	(68,694)	25,275	9,443		2,217,238
03/2019	2,217,238	1,046,860	(40,871)	14,375	178,776	5,810	9,832		3,371,986
06/2019	3,371,986	387,632	(67,732)	21,326	131,890	19,554	4,108		3,778,788
09/2019	3,778,788	271,390	(53,848)	21,563	2,773	0	0		3,977,540
12/2019	3,977,540	1,746,630	(64,629)	21,563	347,485	108,649	17,321		5,859,493
03/2020	5,859,493	315,012	(47,135)	21,563	(388,920)	0	0		5,716,887
06/2020	5,716,887	1,050,736	(57,830)	28,514	916,815	319,694	22,518		7,255,882
	0	7,571,797	(509,874)	200,306	1,388,028	687,827	305,936	<u> </u>	7,255,882

Returns Net Portfolio Cumulative IRR = 8.12%

Ratios

Capital Account = \$7,255,882

Total Value = \$8,249,645

Committed Capital = \$15,000,000

Paid In Capital = \$7,571,797

Remaining Commitment = \$7,428,203

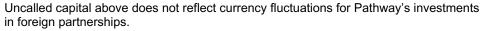
PIC Multiple (Paid In Capital/Committed Capital) = 50.48%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$14,684,085

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.09x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.13x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.96x

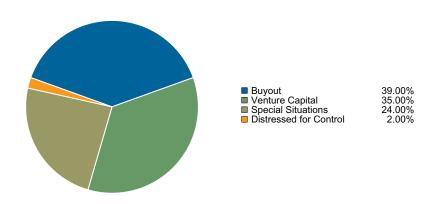




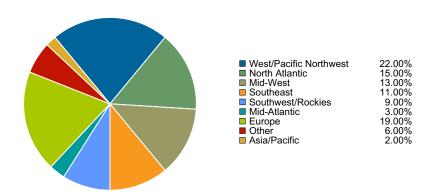
#### Portfolio Exposure Mix Pathway Fund IX, L.P. Period Ended June 30, 2020

The follow charts provide information on the portfolio mix with regards to Strategy, Geographic Region, and Industry.

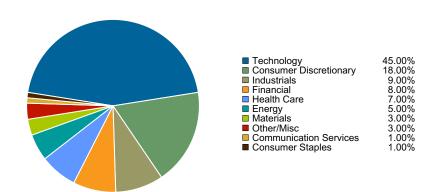
#### Strategy Mix by Net Asset Value



#### **Geographic Mix by Net Asset Value**



#### **Industry Mix by Net Asset Value**





### Portfolio Breakdown Period Ended June 30, 2020

The table below summarizes mangers' breakdown by Strategy, Domestic & Global Geography and Industry.

	Abbott Fund VI, L.P.	Abbott Fund VII, L.P.	Abbott Fund 2016, L.P.	Abbott Fund 2017, L.P.	Pathway Fund 2008, L.P.	Pathway Fund VII, L.P.	Pathway Fund VIII, L.P.	Pathway Fund IX, L.P.	Total Private Equity
Strategy									
Venture Capital	44%	47%	31%	6%	27%	26%	25%	35%	33%
Buyout	30%	48%	48%	64%	56%	40%	53%	39%	46%
Special Situations	22%	-	-	-	16%	30%	16%	24%	15%
Secondary Interest	4%	5%	21%	30%	-	-	-	-	5%
Distressed for Control	-	-	-	-	1%	4%	6%	2%	2%
Domestic & Global Geo	ography								
West/Pacific Northwest	21%	21%	17%	17%	29%	22%	20%	22%	22%
North Atlantic	17%	16%	16%	15%	8%	15%	18%	15%	15%
Mid-West	15%	16%	12%	9%	15%	12%	11%	13%	14%
Southeast	10%	8%	8%	18%	7%	7%	7%	11%	8%
Southwest/Rockies	10%	13%	11%	19%	5%	11%	11%	9%	10%
Mid-Atlantic	6%	3%	3%	6%	6%	6%	5%	3%	5%
Europe	13%	19%	22%	10%	27%	21%	18%	19%	20%
Asia/Pacific	5%	2%	8%	2%	2%	2%	7%	2%	4%
Canada	2%	1%	2%	1%	-	-	-	-	1%
Other	1%	1%	1%	3%	1%	4%	3%	6%	2%
Industry									
Technology	39%	42%	39%	47%	43%	43%	40%	45%	41%
Health Care	20%	19%	16%	13%	19%	9%	10%	7%	16%
Consumer Discretionary	14%	8%	12%	14%	17%	24%	17%	18%	15%
Financial	10%	11%	9%	7%	8%	6%	10%	8%	9%
Industrials	8%	9%	10%	9%	6%	8%	13%	9%	9%
Materials	3%	2%	3%	-	2%	1%	1%	3%	2%
Consumer Staples	2%	1%	1%	1%	1%	2%	1%	1%	1%
Energy	2%	4%	3%	2%	2%	2%	3%	5%	3%
Communication Services		1%	1%	3%	1%	3%	2%	1%	1%
Utilities	1%	1%	-	-	-	-	-	-	0%
Other/Misc	-	2%	6%	4%	1%	2%	3%	3%	2%



Marin County Employees' Retirement Association Investment Management Fees As of September 30, 2020

Manager	Market Value	BPS per Tier	Tier Breaks	Actual Amount	Yearly	Quarterly	Annual BPS
SSGA	\$589,402,166	5.00	On the first \$50,000,000	Per Tier \$50,000,000	\$25,000	\$6,250	5.00
		4.00	\$50,000,000 to \$100,000,000	\$50,000,000	\$20,000	\$5,000	4.00
		2.00	On balance over \$100,000,000	\$489,402,166	\$97,880	\$24,470	2.00
				Total:	\$142,880	\$35,720	2.42
Dimensional	\$216,076,142	33.00	On all assets	\$216,076,142	\$713,051	\$178,263	33.00
	ψ210,010,112	00.00		Total:	\$713,051	\$178,263	33.00
Morgan Stanley	\$174,195,468	75.00	On the first \$25,000,000	\$25,000,000	\$187,500	\$46,875	75.00
	ψ. τ. τ, του, του	65.00	\$25,000,000 to \$75,000,000	\$50,000,000	\$325,000	\$81,250	68.33
		60.00	\$75,000,000 to \$100,000,000	\$25,000,000	\$150,000	\$37,500	66.25
		45.00	On balance over \$100,000,000	\$74,195,468	\$333,880	\$83,470	57.20
				Total:	\$996,380	\$249,095	57.20
Artisan	\$194,234,277	80.00	On all assets	\$194,234,277	\$1,553,874	\$388,469	80.00
				Total:	\$1,553,874	\$388,469	80.00
TimesSquare	\$109,578,571	85.00	On all assets	\$109,578,571	\$931,418	\$232,854	85.00
4	,,.			Total:	\$931,418	\$232,854	85.00
Parametric EM (CIT)	\$93,540,463	78.00	On all assets	\$93,540,463	\$729,616	\$182,404	78.00
Tarametric Em (OTT)	ψου,υ-το,-του	70.00	011 dii d00010	Total:	\$729,616	\$182,404	78.00
Wellington	\$269,895,773	30.00	On the first \$25,000,000	\$25,000,000	\$75,000	\$18,750	30.00
ington	Ψ203,033,773	25.00	\$25,000,000 to \$50,000,000	\$25,000,000	\$62,500	\$15,625	27.50
		22.00	\$50,000,000 to \$100,000,000	\$50,000,000	\$110,000	\$27,500	24.75
		15.00	On balance over \$100,000,000	\$169,895,773	\$254,844	\$63,711	18.61
				Total:	\$502,344	\$125,586	18.61
Western Asset	\$148,853,109	30.00	On the first \$100,000,000	\$100,000,000	\$300,000	\$75,000	30.00
		15.00	On balance over \$100,000,000	\$48,853,109	\$73,280 <b>\$373,280</b>	\$18,320	25.08
				Total:	\$373,280	\$93,320	25.08
Colchester	\$146,467,639	60.00	On the first \$25,000,000	\$25,000,000	\$150,000	\$37,500	60.00
		50.00	\$25,000,000 to \$50,000,000	\$25,000,000	\$125,000	\$31,250	55.00
		35.00	\$50,000,000 to \$150,000,000 On balance over \$150,000,000	\$96,467,639 \$0	\$337,637 \$0	\$84,409 \$0	41.83 0.00
		30.00	On balance over \$150,000,000	Total:	\$612,637	\$153,159	41.83
Invesse Commodision	£42.245.270	70.00	On all assets	\$42,215,278	\$20E E07	f72.077	70.00
Invesco Commodities	\$42,215,278	70.00	Off all assets	Total:	\$295,507 <b>\$295,507</b>	\$73,877 <b>\$73,877</b>	70.00 <b>70.00</b>
D	<b>*</b> 40 400 000	0.00	On all accepts	A40.400.000	010.051	00.400	0.00
BlackRock TIPS	\$42,169,938	3.00	On all assets	\$42,169,938 <b>Total</b> :	\$12,651 <b>\$12,651</b>	\$3,163 <b>\$3,163</b>	3.00 <b>3.00</b>
				Total.	ψ12,031	ψ3,103	3.00
KBI Global Resources	\$49,777,416	85.00	On all assets	\$49,777,416	\$423,108	\$105,777	85.00
				Total:	\$423,108	\$105,777	85.00
BlackRock REITS	\$35,141,271	6.00	On all assets	\$35,141,271	\$21,085	\$5,271	6.00
				Total:	\$21,085	\$5,271	6.00
Woodmont <sup>A</sup>	\$18,821,592	0.00	On all assets	\$18,821,592	\$0	\$0	0.00
	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Plus property management, leasing	, ,,,	• -	•	
			advisory, and property disposition fees (not included)	Total:	\$0	\$0	0.00
UBS Trumbull Property Fund <sup>B</sup>	\$118,312,747	95.50	On the first \$10,000,000	\$10,000,000	\$95,500	\$23,875	95.50
l		82.50 80.50	\$10,000,000 to \$25,000,000 \$25,000,000 to \$50,000,000	\$15,000,000 \$25,000,000	\$123,750 \$201,250	\$30,938 \$50,313	87.70 84.10
1		79.00	\$50,000,000 to \$100,000,000	\$50,000,000	\$395,000	\$98,750	81.55
		67.00	\$100,000,000 to \$250,000,000	\$18,312,747	\$122,695	\$30,674	79.30
		60.00	\$250,000,000 to \$400,000,000	\$0	\$0	\$0	0.00
		56.00	\$400,000,000 to \$600,000,000	\$0	\$0	\$0	0.00
	1	52.00	On balance over \$ 600,000,000	\$0	\$0	\$0	0.00
			nd suspended for 2 years starting 2Q18) for 4 years (effective 1/1/20 - 12/31/23)	Total:	\$938,195 \$734,320	\$234,549 \$183,580	79.30 62.07
AEW Core Property Trust	\$104,117,349	110.00	On the first \$10,000,000	\$10,000,000	\$110,000	\$27,500	110.00
		100.00	\$10,000,000 to \$25,000,000 \$25,000,000 to \$50,000,000	\$15,000,000	\$150,000	\$37,500	104.00
		85.00 80.00	\$25,000,000 to \$50,000,000 \$50,000,000 to \$100,000,000	\$25,000,000 \$50,000,000	\$212,500 \$400,000	\$53,125 \$100,000	94.50 87.25
		75.00	On balance over \$100,000,000	\$4,117,349	\$30,880	\$7,720	86.77
			+,,	Total:	\$903,380	\$225,845	86.77
AEW Partners V <sup>C</sup>	\$10,888	125.00	On net asset value	\$10,888	\$136	\$34	125.00
ALTY FAILINGS V	ψ10,000	.25.00		Total:	\$136	\$34	125.00

			D. 1				
Manager	Market Value	BPS per Tier	Tier Breaks	Actual Amount Per Tier	Yearly	Quarterly	Annual BPS
Abbott ACE VID	\$56,938,370		Called Capital	I CI IICI			
			Fees On Committed Capital				
	\$100,000,000	100.00	On the first \$25,000,000	\$25,000,000	\$250,000	\$62,500	100.00
		90.00	\$25,000,000 to \$50,000,000	\$25,000,000	\$225,000	\$56,250	95.00
		75.00	On balance over \$50,000,000	\$50,000,000	\$375,000	\$93,750	85.00
				Total:	\$850,000	\$212,500	85.00
Abbott ACE VII <sup>E</sup>	\$39,702,873		Called Capital				
ADDOLL AGE VIII	<del></del>		Fees On Committed Capital				
	\$35,000,000	100.00	On the first \$25,000,000	\$25,000,000	\$62,500	\$15,625	25.00
		90.00	\$25,000,000 to \$50,000,000	\$10,000,000	\$22,500	\$5,625	24.29
		75.00	On balance over \$50,000,000	\$0	\$0	\$0	0.00
				Total:	\$85,000	\$21,250	24.29
Abbott AP 2016 <sup>E</sup>	\$37,842,893		Called Capital				
ADDOLL AF 2016	\$37,042,033		Fees On Committed Capital				
			Assets stacked for tiered fees				
	\$50,000,000	60.00	On the first \$15,000,000	\$15,000,000	\$90,000	\$22,500	60.00
	φοσ,σοσ,σοσ	50.00	On the next \$350,000,000	\$35,000,000	\$175,000	\$43,750	53.00
		00.00	on the next quotifue of	Total:	\$265,000	\$66,250	53.00
-			Oallari Oanital				
Abbott AP 2017 <sup>E</sup>	\$8,448,517		Called Capital				
			Fees On Committed Capital				
			Fee rate takes into account prior commitments in last 10 years				
	¢45,000,000	F0 00		£45,000,000	¢75,000	£40.750	FO 00
	\$15,000,000	50.00	On the first \$15,000,000	\$15,000,000 <b>Total</b> :	\$75,000 <b>\$75,000</b>	\$18,750 <b>\$18,750</b>	50.00 <b>50.00</b>
					<b>4.</b> 0,000	<b>\$10,100</b>	00.00
Pathway PPEF 2008 <sup>F</sup>	\$62,869,865		Called Capital				
	\$100,000,000	90.00	Fees On Committed Capital	\$100,000,000	\$900,000	\$225,000	90.00
				Total:	\$900,000	\$225,000	90.00
Pathway PPEF I-7 <sup>F</sup>	\$38,451,249		Called Capital				
Faulway FFLF I-1	\$35,000,000	90.00	Fees On Committed Capital	\$35,000,000	\$315,000	\$78,750	90.00
	ψου,ουο,ουο	50.00	1 000 011 001111111100 0apital	Total:	\$315,000	\$78,750	90.00
Pathway PPEF I-8 <sup>F</sup>	\$48,776,277 \$50,000,000	90.00	Called Capital Fees On Committed Capital	\$50,000,000	£450.000	\$112,500	00.00
	\$50,000,000	90.00	Fees On Committee Capital	\$50,000,000 Total:	\$450,000 <b>\$450,000</b>	\$112,500 \$112,500	90.00 <b>90.00</b>
				Total:	<b>\$400,000</b>	ψ11 <u>2,</u> 000	50.00
Pathway PPEF I-9 <sup>G</sup>	\$7,597,626		Called Capital				
			Fees On Committed Capital				
			Fee rate takes into account portion			_	
	\$15,000,000	80.00	of prior commitments	\$15,000,000 <b>Total</b> :	\$120,000 <b>\$120,000</b>	\$30,000 <b>\$30,000</b>	80.00 <b>80.00</b>
				i otal:	\$120,000	\$30,000	60.00
Parametric Overlay	\$18,000		Annual Retainer	\$18,000	\$18,000	\$4,500	
	\$62,404,654	20.00	On the first \$25,000,000	\$25,000,000	\$50,000	\$12,500	20.00
		10.00	On balance over \$25,000,000	\$37,404,654	\$37,405	\$9,351	16.89
				Total:	\$105,405	\$26,351	16.89
Total Fund:	\$2,715,842,411				\$12,111,071	\$3,027,768	0.45%

The effective annual fee is an approximation based on the recent quarter market values and the managers' yearly fee schedules.

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A Woodmont's fees were revised and they no longer charge for advisory and asset management services. The property management fees are 2% of monthly collected rent receipts for single tenant buildings and 4% for multi-tenant buildings. Leasing advisory fees are 1% of lease rent for single-tentant buildings and 1% for multi-tenant buildings if no commission is paid by MCERA to an outside broker. Additionally, property disposition services have been added and vary by property.

an outside broker. Additionally, property disposition services have been added and vary by property.

BUBS receives a performance incentive that could increase fees by as much as 25 bps. This fee has been suspended for two years beginning 2Q18.

<sup>&</sup>lt;sup>C</sup>AEW's fee is now calculated based on the net asset value (no longer total committed capital of \$5mm).

DAbbott's fee is calculated based on the total committed capital (\$100mm for ACE VI), not the paid in amount. Fees are scaled in: 50% in year 1, 75% in year 2, and 100% in year 3. Fees decline by 10% after year 7, and each year thereafter.

EAbbott's fee is calculated based on the total committed capital (\$35mm for ACE VII, \$50mm for AP 2016, \$15mm for AP 2017), not the paid in amount. Fees are scaled in: 25% in year 1, 50% in year 2, 75% in year 3, and 100% in year 4. Fees decline by 10% after year 8, and each year thereafter. To the extent the term of the Fund is extended beyond the 12th anniversary, the fee will decline by 25% per year. No fees charged after 15 years. Fees for AP 2016 are tiered. MCERA's assets are stacked to determine the starting tier. Fee rate for AP 2017 is based on prior commitments over the last 10 years. The AP 2017 commitment is charged in the 50 bp, \$150-\$500 mm bracket. Management fees are waived in 2017 for AP 2017 (early closer discount).

F Pathway's fee is calculated based on the total committed capital (\$100mm for PPEF 2008, \$35mm for PPEF I-7, and \$50mm for PPEF I-8). Fees decline 10% per year after year 8.

<sup>&</sup>lt;sup>G</sup> Pathway's fee is calculated based on the total committed capital (\$15mm for PPEF I-9). Management fee rate takes into account a portion of prior commitments by the investor to prior PCM funds. The PPEF I-9 commitment is charged in the 80 bp, \$25-\$50 mm bracket. Fees are scaled in: 25% in year 1, 50% in year 2, 75% in year 3, and 100% in year 4. Fees decline 10% per year starting in year 9-15. After year 15, fee will remain 20% of full fee (\$25.5k) for as long as a capital account exists.

## Marin County Employees' Retirement Association **Target History**

30-Sep-2017 - 30-9	Sep-2020		30-Sep-2014 - 31-	Dec-2014	
Domestic Equity	Russell 3000 Index	32.00%	Domestic Equity	Russell 3000 Index	36.50%
Intl Equity	MSCI ACWI xUS IMI Index	22.00%	Intl Equity	MSCI ACWI xUS IMI Index	22.00%
Fixed Income	Barclay's Aggregate Index	11.50%	Fixed Income	Barclay's Aggregate Index	11.50%
Fixed Income	Citi World Govt Bond (Unhedged)	5.75%	Fixed Income	Citi World Govt Bond (Unhedged)	5.75%
Fixed Income Private Equity	Barclay's Intermediate Credit Index Russell 3000 Index	5.75% 6.40%	Fixed Income Private Equity	Barclay's Intermediate Credit Index Russell 3000 Index	5.75% 6.40%
Private Equity	MSCI ACWI xUS IMI Index	1.60%	Private Equity	MSCI ACWI xUS IMI Index	1.60%
Real Assets	S&P Global Natural Resources (Net Div)	1.75%	Real Assets	NCREIF Property Index	10.50%
Real Assets	Bloomberg Commodity Index - Total Return	1.75%			100.00%
Real Assets Real Assets	S&P Dow Jones US Select REIT Blmbg US TIPS Index	1.75% 1.75%			
Real Assets	NFI-ODCE Equal Weight Net	8.00%	31-Mar-2014 - 30-	<u> </u>	
- 10017100010	02 02 2 4 a a	100.00%	Domestic Equity	Russell 3000 Index	39.50%
		100.0070	Intl Equity Fixed Income	MSCI ACWI xUS IMI Index Barclay's Aggregate Index	22.00% 11.50%
30-Sep-2016 - 30-5	Sep-2017		Fixed Income	Citi World Govt Bond (Unhedged)	5.75%
Domestic Equity	Russell 3000 Index	32.00%	Fixed Income	Barclay's Intermediate Credit Index	5.75%
Intl Equity '	MSCI ACWI xUS IMI Index	22.00%	Private Equity	Russell 3000 Index	4.00%
Fixed Income	Barclay's Aggregate Index	11.50%	Private Equity	MSCI ACWI xUS IMI Index	1.00%
Fixed Income Fixed Income	Citi World Govt Bond (Unhedged) Barclay's Intermediate Credit Index	5.75%	Real Assets	NCREIF Property Index	10.50%
Private Equity	Russell 3000 Index	5.75% 6.40%			100.00%
Private Equity	MSCI ACWI xUS IMI Index	1.60%	20 hr 2012 24 l	Mar. 2014	
Real Assets	S&P Global Natural Resources (Net Div)	1.75%	30-Jun-2013 - 31-I		00 =00
Real Assets	Bloomberg Commodity Index - Total Return	1.75%	Domestic Equity Intl Equity	Russell 3000 Index	39.50% 22.00%
Real Assets	Blmbg US TIPS Index	1.75%	Fixed Income	MSCI ACWI xUS IMI Index Barclay's Aggregate Index	22.00% 23.00%
Real Assets Real Assets	MSCI US REIT Index NFI-ODCE Equal Weight Net	1.75% 8.00%	Private Equity	Russell 3000 Index	4.00%
Real Assets	NFI-ODCE Equal Weight Net		Private Equity	MSCI ACWI xUS IMI Index	1.00%
		100.00%	Real Assets	NCREIF Property Index	10.50%
31-Dec-2015 - 30-9	Sep-2016				100.00%
Domestic Equity	Russell 3000 Index	32.00%	30-Sep-2012 - 30-	lun 2012	
Intl Equity	MSCI ACWI xUS IMI Index	22.00%			20.000/
Fixed Income	Barclay's Aggregate Index	11.50%	Domestic Equity Intl Equity	Russell 3000 Index MSCI ACWI xUS IMI Index	38.00% 21.50%
Fixed Income Fixed Income	Barclay's Intermediate Credit Index Citi World Govt Bond (Unhedged)	5.75% 5.75%	Fixed Income	Barclay's Aggregate Index	26.00%
Private Equity	Russell 3000 Index	6.40%	Private Equity	Russell 3000 Index	3.20%
Private Equity	MSCI ACWI xUS IMI Index	1.60%	Private Equity	MSCI ACWI xUS IMI Index	0.80%
Real Assets	MSCI US REIT Index	1.75%	Real Assets	NCREIF Property Index	10.50%
Real Assets	Blmbg US TIPS Index	1.75%			100.00%
Real Assets Real Assets	S&P Global Commodity and Resources Inde Bloomberg Commodity Index - Total Return	2X 1.75% 1.75%	00.0 0044 . 00	00040	
Real Assets	NFI-ODCE Equal Weight Net	8.00%	30-Sep-2011 - 30-	<u> </u>	40.000/
710017100010	oz oz zyaa. mo.gmo.	100.00%	Domestic Equity Intl Equity	Russell 3000 Index MSCI ACWI xUS IMI Index	40.00% 21.50%
		100.0070	Fixed Income	Barclay's Aggregate Index	26.00%
30-Jun-2015 - 31-E	Dec-2015		Private Equity	Russell 3000 Index	1.20%
Domestic Equity	Russell 3000 Index	32.00%	Private Equity	MSCI ACWI xUS IMI Index	0.80%
Intl Equity	MSCI ACWI xUS IMI Index	22.00%	Real Assets	NCREIF Property Index	10.50%
Fixed Income	Barclay's Aggregate Index	11.50%			100.00%
Fixed Income	Barclay's Intermediate Credit Index	5.75%	00 1 0010 00	2 0044	
Fixed Income Private Equity	Citi World Govt Bond (Unhedged) Russell 3000 Index	5.75% 6.40%	30-Jun-2010 - 30-9		
Private Equity	MSCI ACWI xUS IMI Index	1.60%	Domestic Equity	Russell 3000 Index	41.50%
Real Assets	MSCI US REIT Index	1.75%	Intl Equity Fixed Income	MSCI ACWI xUS IMI Index Barclay's Aggregate Index	21.50% 26.00%
Real Assets	Bloomberg Commodity Index - Total Return	1.75%	Private Equity	Russell 3000 Index	0.30%
Real Assets	Blmbg US TIPS Index	1.75%	Private Equity	MSCI ACWI xUS IMI Index	0.20%
Real Assets Real Assets	S&P Global Commodity and Resources Inde NFI-ODCE Equal Weight Net	8.00%	Real Assets	NCREIF Property Index	10.50%
Treal Assets	NI I-ODOL Equal Weight Net	100.00%			100.00%
		100.00%	24 Day 2000 20	I 2040	
31-Dec-2014 - 30-	Jun-2015		31-Dec-2008 - 30-		25 50%
Domestic Equity	Russell 3000 Index	36.50%	Domestic Equity Domestic Equity	S&P 500 Index Russell 2000 Index	35.50% 9.00%
Intl Equity	MSCI ACWI xUS IMI Index	22.00%	Intl Equity	MSCI EAFE Index (USD Net Div)	20.00%
Fixed Income	Barclay's Aggregate Index	11.50%	Fixed Income	Barclay's Aggregate Index	23.00%
Fixed Income Fixed Income	Citi World Govt Bond (Unhedged) Barclay's Intermediate Credit Index	5.75% 5.75%	Private Equity	Russell 3000 Index	0.50%
Private Equity	Russell 3000 Index	6.40%	Real Assets	NCREIF Property Index	12.00%
Private Equity	MSCI ACWI xUS IMI Index	1.60%			100.00%
Real Assets	NFI-ODCE Equal Weight Net	10.50%	31 Doc 2004 - 21	Doc 2008	
		100.00%	31-Dec-2004 - 31-		26 000/
			Domestic Equity Domestic Equity	S&P 500 Index Russell 2000 Index	36.00% 9.00%
			Intl Equity	MSCI EAFE Index (USD Net Div)	20.00%
			Fixed Income	Barclay's Aggregate Index	23.00%
			Real Assets	NCREIF Property Index	12.00%
					100.00%



100.00%

## Marin County Employees' Retirement Association Target History

30-Jun-2001 - 31-Dec-2004						
Domestic Equity	S&P 500 Index	36.00%				
Domestic Equity	Russell 2000 Index	9.00%				
Intl Equity	MSCI EAFE Index (USD Net Div)	20.00%				
Fixed Income	Barclay's Aggregate Index	23.00%				
Real Assets	NCREIF Classic Index	12.00%				
		100.00%				

31-Dec-1999 - 30-Jun-2001						
Domestic Equity	S&P 500 Index	36.00%				
Domestic Equity	Russell 2000 Index	9.00%				
Real Estate	NCREIF Classic Index	12.00%				
Intl Equity	MSCI EAFE Index (USD Net Div)	20.00%				
Fixed Income	Barclay's Aggregate Index	19.00%				
Fixed Income	WGBI Hedged Benchmark	4.00%				
		100.00%				

30-Jun-1998 - 31-Dec-1999				
Domestic Equity	S&P 500 Value	23.00%		
Domestic Equity	S&P 500 Index	10.00%		
Domestic Equity	Russell 2000 Index	7.00%		
Domestic Equity	S&P 500 Growth	5.00%		
Fixed Income	Barclay's Aggregate Index	23.00%		
Real Estate	NCREIF Classic Index	12.00%		
Intl Equity	MSCI EAFE Index (USD Net Div)	15.00%		
Fixed Income	WGBI Hedged Benchmark	5.00%		
		100.00%		

30-Jun-1995 - 30-Jun-1998					
Domestic Equity	S&P 500 Value	23.00%			
Domestic Equity	S&P 500 Index	10.00%			
Domestic Equity	Russell 2000 Index	7.00%			
Domestic Equity	S&P 500 Growth	5.00%			
Fixed Income	Barclay's Aggregate Index	23.00%			
Real Estate	NCREIF Classic Index	12.00%			
Intl Equity	MSCI EAFE Index (USD Net Div)	15.00%			
Fixed Income	Citi World Govt Bond (Unhedged)	5.00%			
		100.00%			

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# Marin County Employees' Retirement Association Manager History

Manager	Asset Class	Start Date	End Date
SSGA	Domestic Equity (Large Cap Core - Passive)	11/30/2010	
BlackRock (BGI)	Domestic Equity (Large Cap Core - Passive)	03/31/1999	10/31/2006
BlackRock (BGI)	Domestic Equity (Large Cap Core - Alpha Tilt)	08/31/1996	09/30/2006
Dodge & Cox	Domestic Equity (Large Cap Value)	04/30/1996	12/31/2012
RCM	Domestic Equity (Large Cap Growth)	08/31/2001	12/31/2012
BlackRock (BGI)	Domestic Equity (Large Cap Growth - Passive)	02/29/1996	08/31/2001
BlackRock (BGI)	Domestic Equity (Large Cap 130/30)	09/30/2006	11/30/2010
DFA	Domestic Equity (Small Cap Value)	10/31/1999	11/30/2018
DFA	Domestic Equity (Small Cap Core)	11/30/2018	
Columbus Circle	Domestic Equity (Small Cap Growth)	11/30/2009	11/30/2018
Mazama Capital	Domestic Equity (Small Cap Growth)	04/30/2001	11/30/2009
BlackRock (BGI)	Domestic Equity (Small Cap Growth - Passive)	01/31/2000	05/31/2001
Analytic Investors	Domestic Equity (US Market Neutral)	03/31/2004	04/30/2011
FIAM (Pyramis)	Domestic Equity (US Market Neutral)	12/31/2003	04/30/2011
Numeric Investors	Domestic Equity (US Market Neutral)	09/30/2003	04/30/2011
	Domestic Equity (GS Market Neutral)  Domestic Equity (European Market Neutral)		
FirstQuadrant		07/31/2006	06/30/2010
Analytic Investors	Domestic Equity (Japan Market Neutral)	07/31/2006	06/30/2010
Morgan Stanley	International Equity (Value)	07/31/2001	
Artisan Partners	Interntional Equity (Growth)	12/31/2002	
Montgomery Asset	International Equity (Growth)	01/31/2001	12/31/2002
Putnam Investments	International Equity	12/31/2002	07/31/2005
Zurich Scudder	International Equity	10/31/1996	07/31/2001
TimesSquare Capital Management	International Equity (Small Cap)	05/01/2019	
Fidelity Institutional Asset Management	International Equity (Small Cap)	09/30/2006	04/30/2019
AXA Rosenburg	International Equity (Small Cap Value)	09/30/2006	04/30/2010
Parametric	International Equity (Emerging Markets - Commingled Fund)	10/31/2013	
Parametric	International Equity (Emerging Markets - Mutual Fund)	08/31/2010	11/30/2016
Wellington Management	Fixed Income (Core Plus)	03/31/2012	
Wellington Management	Fixed Income (Core)	09/30/2002	03/31/2012
Western Asset	Fixed Income (Intermediate Credit)	03/31/2014	
Western Asset	Fixed Income (Core Plus)	08/31/2001	03/31/2014
Seneca	Fixed Income (Core)	06/30/1995	09/30/2002
Colchester	Fixed Income (Global Unhedged)	02/28/2014	
BlackRock (BGI)	Fixed Income (Global Hedged)	06/30/1998	05/31/2001
INVESCO	Real Assets (Commodities)	05/31/2016	
BlackRock	Real Assets (Commodities - Passive)	06/30/2015	05/31/2016
KBI Global Investors	Real Assets (Global Natural Resource Equity)	09/30/2016	
SSGA	Real Assets (Global Natural Resource Equity - Passive)	06/30/2015	09/30/2016
BlackRock	Real Assets (REITS - Passive)	09/30/2017	
Vanguard	Real Assets (REITS - Passive)	06/30/2015	09/30/2017
BlackRock	Real Assets (TIPS - Passive)	06/30/2015	
AEW Core Property Trust	Real Estate (Core)	06/30/2013	
UBS Trumbull Property Fund	Real Estate (Core)	06/30/2013	
Cornerstone Patriot Fund	Real Estate (Core)	09/30/2012	06/30/2013
ING Clarion	Real Estate (Core)	04/30/2006	06/30/2012
Woodmont	Real Estate (Discretionary Separate Account)	06/30/1995	09/30/2015
AEW Partners V Fund	Real Estate (Unicretionary Separate Account)  Real Estate (Value Added)	03/31/2006	05/30/2013
			12/21/2017
RREEF America REIT III	Real Estate (Value Added)	06/30/2006	12/31/2017
Abbott Fund VI, L.P.	Private Equity	03/31/2009	
Abbott Fund VII, L.P.	Private Equity	03/31/2014	
Abbott Fund 2016	Private Equity	03/31/2016	
Abbott Fund 2017	Private Equity	03/31/2017	
Pathway Private Equity 2008	Private Equity	03/31/2009	
Pathway PE I-7	Private Equity	06/30/2013	
Pathway PE I-8	Private Equity	09/30/2015	
Pathway PE I-9	Private Equity	03/31/2017	
Parametric (Clifton) - Overlay	Policy Implementation Overlay	08/31/2001	
Parametric (Clifton) - Overlay	Alpha Transport - Bondized	11/30/2006	08/31/2010
Parametric (Clifton) - Overlay	Alpha Transport - Equitized	11/30/2006	04/30/2011



#### **Equity Market Indicators**

The market indicators included in this report are regarded as measures of equity or fixed income performance results. The returns shown reflect both income and capital appreciation.

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

Russell 1000 Value measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

Russell 2000 Growth contains those Russell 2000 securities with a greater than average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-earning ratios, lower dividend yields and higher forecasted growth values than the Value universe.

Russell 2000 Index is composed of the 2000 smallest stocks in the Russell 3000 Index, representing approximately 11% of the U.S. equity market capitalization.

Russell 2000 Value contains those Russell 2000 securities with a less than average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-earning ratios, higher dividend yields and lower forecasted growth values than the Growth universe.

**Standard & Poor's 500 Index** is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries. The index is capitalization-weighted, with each stock weighted by its proportion of the total market value of all 500 issues. Thus, larger companies have a greater effect on the index.

**Standard & Poor's/Citi Growth Index** is a composite of the firms in the S&P 500 Index which, based on three growth and four value factors, exhibit stronger growth characteristics. The index is designed so that it represents roughly fifty percent of the market capitalization of the S&P 500 Index. Generally, companies in the Growth Index have higher growth rates of earnings, sales and return on equity than those in the Value Index. Like the full S&P 500 Index, the Growth Index is capitalization-weighted.

**Standard & Poor's/Citi Value Index** is a composite of the firms in the S&P 500 Index which, based on three growth and four value factors, exhibit stronger value characteristics. The index is designed so that it represents roughly fifty percent of the market capitalization of the S&P 500 Index. Generally, companies in the Value Index have higher dividend yields and book value, cash flow, and sales to price ratios than those in the Growth Index. Like the full S&P 500 Index, the Value Index is capitalization-weighted.



#### **Fixed Income Market Indicators**

The market indicators included in this report are regarded as measures of equity or fixed income performance results. The returns shown reflect both income and capital appreciation.

**90-Day U.S. Treasury Bills** provide a measure of riskless return. The rate of return is the average interest rate available on the beginning of each month for a Treasury Bill maturing in ninety days.

**Bloomberg Barclays 1-3 Year Government Index** is composed of agency and Treasury securities with maturities of one to three years.

**Bloomberg Barclays Aggregate Bond Index** is a combination of the Mortgage Backed Securities Index and the intermediate and long-term components of the Government/Credit Bond Index.

Bloomberg Barclays Capital Govt/Credit Bond Index is a composite of all publicly issued, fixed rate, non-convertible, domestic bonds. The issues are rated at least BBB, have a minimum outstanding principal of \$100 million for U.S. Government issues or \$50 million for other bonds, and have a maturity of at least one year. The index is capitalization-weighted.

**Bloomberg Barclays Govt/Credit Intermediate Index** is one of the components of the Government/Credit Index which includes only bonds with maturities between one to ten years.

**Citigroup Broad Investment-Grade Bond Index** is a composite of all institutionally traded U.S. Treasury, agency, mortgage, and corporate securities. The issues are rated BBB- or better, have remaining maturities of one year or longer and at least \$25 million outstanding. The index is capitalization-weighted.

**Citigroup Government Bond Index** is a composite that covers investments in all types of U.S. Government Debt outstanding. The index offers total returns on a broad base of government fixed-income securities with maturities of at least one year.

**Citigroup Long Term High-Grade Bond Index** is a composite of approximately 800 industrial, financial, and utility bonds. The issues are rated AA or AAA and have a maturity of at least 12 years. The index is weighted by the outstanding principal amount of each issue.



#### **Fixed Income Market Indicators**

**Bloomberg Barclays US TIPS Index** The Bloomberg Barclays US Government Inflation-Linked Bond Index measures the performance of the US Treasury Inflation Protected Securities ("TIPS") market. The index includes TIPS with one or more years remaining maturity with total outstanding issue size of \$500m or more.



#### **International Equity Market Indicators**

The market indicators included in this report are regarded as measures of equity or fixed income performance results. The returns shown reflect both income and capital appreciation.

**FT-Actuaries World Index** is composed of at least 70% of the aggregate market value of every country's domestic exchange-listed companies' shares of stock, approximately 2400 common stocks. The index includes only markets, companies and securities where direct holdings of capital by foreign nationals is permissible. The index is capitalization-weighted; includes currency changes and is expressed in terms of U.S. dollars.

MSCI ACWI (All Country World Index) Index The MSCI ACWI (All Country World Index) Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. As of May 27, 2010 the MSCI ACWI consisted of 45 country indices comprising 24 developed and 21 emerging market country indices. The developed market country indices included are: Australia, 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 emerging market country indices included are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

MSCI ACWI ex US Index The MSCI ACWI ex US(All Country World Index) Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets, excluding the US. As of May 27, 2010 the MSCI ACWI consisted of 45 country indices comprising 24 developed and 21 emerging market country indices. The developed market country indices included are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. The emerging market country indices included are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

**Morgan Stanley Capital International (MSCI) EAFE Index** is composed of approximately 1000 equity securities representing the stock exchanges of Europe, Australia, New Zealand and the Far East. The index is capitalization-weighted and is expressed in terms of U.S. dollars.

**Morgan Stanley Capital International (MSCI) Europe Index** is composed of approximately 600 equity securities representing the stock exchanges of 14 European countries. The index is capitalization-weighted and is expressed in terms of U.S. dollars.

**Morgan Stanley Capital International (MSCI) Japan Index** is composed of approximately 270 equity securities representing the stock exchanges of Japan. The index is capitalization-weighted and is expressed in terms of U.S. dollars.

**Morgan Stanley Capital International (MSCI) Pacific Index** is composed of approximately 350 equity securities representing the stock exchanges of Japan, Hong Kong, Singapore, Malaysia, plus approximately 70 Australian and New Zealand securities. The index is capitalization-weighted and is expressed in terms of U.S. dollars.

Morgan Stanley Capital International (MSCI) United Kingdom Index is composed of approximately 140 equity securities representing the stock exchanges of the United Kingdom. The index is capitalization-weighted and is expressed in terms of U.S. dollars.

Morgan Stanley Capital International (MSCI) World Index is composed of approximately 1500 equity securities representing the stock exchanges of the USA, Europe, Canada, Australia, New Zealand and the Far East. The index is capitalization-weighted; includes currency changes and is expressed in terms of U.S. dollars.



#### **International Equity Market Indicators**

**Morgan Stanley Capital Intl (MSCI) Emerging Markets Free Index** is composed of about 549 equity securities representing the stock exchanges of 13 countries in Central Asia and the Far East, Latin America, Europe, and the Middle East. Only 20% of Korea's market capitalization is included in this index. The index is market capitalization-weighted and is expressed in terms of U.S. dollars.



In order to provide comparative investment results for use in evaluating a fund's performance, Callan gathers rate of return data from investment managers. These data are then grouped by type of assets managed and by the type of investment manager. Except for mutual funds, the results are for tax-exempt fund assets. The databases, excluding mutual funds, represent investment managers who handle over 80% of all tax-exempt fund assets.

#### **Real Estate Funds**

Real estate funds consist of open or closed-end commingled funds. The returns are net of fees and represent the overall performance of commingled institutional capital invested in real estate properties.

**CAI Total Real Estate Funds** - The Total Real Estate Funds Database consists of both open and closed-end commingled funds managed by real estate firms.

#### **Other Funds**

**Public - Total** - consists of return and asset allocation information for public pension funds at the city, county and state level. The database is made up of Callan clients and non-clients.



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#### **Equity Funds**

Equity funds concentrate their investments in common stocks and convertible securities. The funds included maintain well-diversified portfolios.

**Core Equity** - Managers whose portfolio holdings and characteristics are similar to that of the broader market as represented by the Standard & Poor's 500 Index, with the objective of adding value over and above the index, typically from sector or issue selection. The core portfolio exhibits similar risk characteristics to the broad market as measured by low residual risk with Beta and R-Squared values close to 1.00 and combined growth and value z-score values close to 0.00.

Large Cap Growth - Managers who invest mainly in large companies that are expected to have above average prospects for long-term growth in earnings and profitability. Future growth prospects take precedence over valuation levels in the stock selection process. Invests in companies with P/E ratios, Price-to-Book values, Return-on-Assets values, Growth-in-Earnings values above the broader market. The companies typically have zero dividends or dividend yields below the broader market. Invests in securities which exhibit greater volatility than the broader market as measured by the securities' Beta and Standard Deviation. Portfolios have high growth z-scores and low value z-scores.

Large Cap Value - Managers who invest primarily in large companies believed to be currently undervalued in the general market and whose shares are priced below the market compared to their peers. Valuation issues take precedence over near term earnings prospects in the stock selection process. The Large Cap Value Style invests in companies with P/E ratios, Return-on-Equity values, and Price-to-Book values below the broader market and the middle capitalization segment. This style invests in securities with risk/reward profiles in the lower risk range of the medium capitalization market. Portfolios have low growth z-scores and high value z-scores.

**Small Capitalization (Growth)** - Managers who invest mainly in small companies that are expected to have above average prospects for long-term growth in earnings and profitability. Future growth prospects take precedence over valuation levels in the stock selection process. The Small Cap Growth Style invests in companies with P/E ratios, Price-to Book values, and Growth-in Earnings values above the broader market, in addition to the small capitalization market segment. The companies typically have zero dividends or dividend yields below the broader market. The securities exhibit greater volatility than the broader market as well as the small capitalization market segment as measured by the risk statistics values Beta and Standard Deviation. Portfolios have high growth z-scores and low value z-scores.

**Small Capitalization (Value)** - Managers who invest in small capitalization companies that are believed to be currently undervalued in the general market. Valuation issues take precedence over near-term earnings prospects in the stock selection process. The companies are expected to have a near-term earnings rebound and eventual realization of expected value. The Small Cap Value Style invests in companies with P/E ratios, Return-on-Equity values, and Price-to-Book values below the broader market in addition to the small capitalization market segment. This style invests in securities with dividend yields in the high range for the small capitalization market. The Small Cap Value Style invests in securities with risk/reward profiles in the lower risk range of the small capitalization market. Portfolios have low growth z-scores and high value z-scores.



In order to provide comparative investment results for use in evaluating a fund's performance, Callan gathers rate of return data from investment managers. These data are then grouped by type of assets managed and by the type of investment manager. Except for mutual funds, the results are for tax-exempt fund assets. The databases, excluding mutual funds, represent investment managers who handle over 80% of all tax-exempt fund assets.

#### **Equity Funds**

Equity funds concentrate their investments in common stocks and convertible securities. The funds included maintain well-diversified portfolios.

Core International Equity Style Managers whose portfolio holdings and characteristics are similar to that of the broader developed market as represented by the MSCI EAFE Index, with the objective of adding value over and above the index, typically from country, sector, or issue selection. The Core portfolio is broadly diversified and exhibits similar risk characteristics to the developed market as measured by low residual risk with Beta and R-Squared values close to 1.00 and combined growth and value z-score values close to 0. Exposure to emerging markets and smaller capitalization stocks is limited.

**Non-U.S. Equity** A broad array of active managers who employ various strategies to invest assets in a well-diversified portfolio of non-U.S. equity securities. This group consists of all Core, Core Plus, Growth, and Value international products, as well as products using various mixtures of these strategies. Region-specific, index, emerging market, or small cap products are excluded.

#### **Balanced Funds**

Balanced funds diversify their investments among common stocks, bonds, preferred stocks and money market securities. The funds included maintain well-diversified equity and fixed income portfolios.

**International Growth Style Group** International Growth Equity Style managers invest predominantly in companies that are expected to have above average prospects for long-term growth in earnings and profitability. Future growth prospects take precedence over valuation levels in stock selection. The International Growth Equity Style group consists of broad developed market mandates with incidental exposure to the emerging markets.

**International Value Style Group** International Value Equity Style managers invest predominantly in companies believed to be currently undervalued in the general market. The companies are expected to have a near-term earnings rebound and eventual realization of expected value. The International Value Equity Style group consists of broad developed market mandates with incidental exposure to the emerging markets.



In order to provide comparative investment results for use in evaluating a fund's performance, Callan gathers rate of return data from investment managers. These data are then grouped by type of assets managed and by the type of investment manager. Except for mutual funds, the results are for tax-exempt fund assets. The databases, excluding mutual funds, represent investment managers who handle over 80% of all tax-exempt fund assets.

#### **Fixed Income Funds**

Fixed Income funds concentrate their investments in bonds, preferred stocks, and money market securities. The funds included maintain well-diversified portfolios.

**Core Bond** - Managers who construct portfolios to approximate the investment results of the Bloomberg Barclays Capital Government/Credit Bond Index or the Bloomberg Barclays Capital Aggregate Bond Index with a modest amount of variability in duration around the index. The objective is to achieve value added from sector and/or issue selection.

**Core Plus Bond** - Active managers whose objective is to add value by tactically allocating significant portions of their portfolios among non-benchmark sectors (e.g. high yield corporate, non-US\$ bonds, etc.) while maintaining majority exposure similar to the broad market.

**Defensive** - Managers whose objective is to minimize interest rate risk by investing predominantly in short to intermediate term securities. The average portfolio duration is similar to the duration of the Merrill Lynch 1-3 Year Bond Index.

**Extended Maturity** - Managers whose average portfolio duration is greater than that of the Bloomberg Barclays Capital Government/Credit Bond Index. These portfolios exhibit risk/return characteristics similar to the long-bond portion of the Bloomberg Barclays Capital Government/Credit Index, called the Bloomberg Barclays Capital Government/Credit Long Bond Index. Variations in bond portfolio characteristics are made to enhance performance results. This results in an aggressive risk/return profile that embraces interest rate risk in search of both high yields as well as capital gains.

Intermediate - Managers whose objective is to lower interest rate risk while retaining reasonable yield levels by investing primarily in intermediate term securities. The average portfolio duration is similar to that of the duration of the Bloomberg Barclays Capital Intermediate Government/Credit Bond Index.



#### **Risk/Reward Statistics**

The risk statistics used in this report examine performance characteristics of a manager or a portfolio relative to a benchmark (market indicator) which assumes to represent overall movements in the asset class being considered. The main unit of analysis is the excess return, which is the portfolio return minus the return on a risk free asset (3 month T-Bill).

Alpha measures a portfolio's return in excess of the market return adjusted for risk. It is a measure of the manager's contribution to performance with reference to security selection. A positive alpha indicates that a portfolio was positively rewarded for the residual risk which was taken for that level of market exposure.

**Beta** measures the sensitivity of rates of portfolio returns to movements in the market index. A portfolio's beta measures the expected change in return per 1% change in the return on the market. If a beta of a portfolio is 1.5, a 1 percent increase in the return on the market will result, on average, in a 1.5 percent increase in the return on the portfolio. The converse would also be true.

**Downside Risk** stems from the desire to differentiate between "good risk" (upside volatility) and "bad risk" (downside volatility). Whereas standard deviation punishes both upside and downside volatility, downside risk measures only the standard deviation of returns below the target. Returns above the target are assigned a deviation of zero. Both the frequency and magnitude of underperformance affect the amount of downside risk.

**Excess Return Ratio** is a measure of risk adjusted relative return. This ratio captures the amount of active management performance (value added relative to an index) per unit of active management risk (tracking error against the index.) It is calculated by dividing the manager's annualized cumulative excess return relative to the index by the standard deviation of the individual quarterly excess returns. The Excess Return Ratio can be interpreted as the manager's active risk/reward tradeoff for diverging from the index when the index is mandated to be the "riskless" market position.

**Information Ratio** measures the manager's market risk-adjusted excess return per unit of residual risk relative to a benchmark. It is computed by dividing alpha by the residual risk over a given time period. Assuming all other factors being equal, managers with lower residual risk achieve higher values in the information ratio. Managers with higher information ratios will add value relative to the benchmark more reliably and consistently.

**R-Squared** indicates the extent to which the variability of the portfolio returns are explained by market action. It can also be thought of as measuring the diversification relative to the appropriate benchmark. An r-squared value of .75 indicates that 75% of the fluctuation in a portfolio return is explained by market action. An r-squared of 1.0 indicates that a portfolio's returns are entirely related to the market and it is not influenced by other factors. An r-squared of zero indicates that no relationship exists between the portfolio's return and the market.

Relative Standard Deviation is a simple measure of a manager's risk (volatility) relative to a benchmark. It is calculated by dividing the manager's standard deviation of returns by the benchmark's standard deviation of returns. A relative standard deviation of 1.20, for example, means the manager has exhibited 20% more risk than the benchmark over that time period. A ratio of .80 would imply 20% less risk. This ratio is especially useful when analyzing the risk of investment grade fixed-income products where actual historical durations are not available. By using this relative risk measure over rolling time periods one can illustrate the "implied" historical duration patterns of the portfolio versus the benchmark.

Residual Portfolio Risk is the unsystematic risk of a fund, the portion of the total risk unique to the fund (manager) itself and not related to the overall market. This reflects the "bets" which the manager places in that particular asset market. These bets may reflect emphasis in particular sectors, maturities (for bonds), or other issue specific factors which the manager considers a good investment opportunity. Diversification of the portfolio will reduce or eliminate the residual risk of that portfolio.



#### **Risk/Reward Statistics**

**Rising Declining Periods** refer to the sub-asset class cycles vis-a-vis the broader asset class. This is determined by evaluating the cumulative relative sub-asset class index performance to that of the broader asset class index. For example, to determine the Growth Style cycle, the S&P 500 Growth Index (sub-asset class) performance is compared to that of the S&P 500 Index (broader asset class).

**Sharpe Ratio** is a commonly used measure of risk-adjusted return. It is calculated by subtracting the "risk-free" return (usually 3 Month Treasury Bill) from the portfolio return and dividing the resulting "excess return" by the portfolio's risk level (standard deviation). The result is a measure of return gained per unit of risk taken.

**Sortino Ratio** is a downside risk-adjusted measure of value-added. It measures excess return over a benchmark divided by downside risk. The natural appeal is that it identifies value-added per unit of truly bad risk. The danger of interpretation, however, lies in these two areas: (1) the statistical significance of the denominator, and (2) its reliance on the persistence of skewness in return distributions.

**Standard Deviation** is a statistical measure of portfolio risk. It reflects the average deviation of the observations from their sample mean. Standard deviation is used as an estimate of risk since it measures how wide the range of returns typically is. The wider the typical range of returns, the higher the standard deviation of returns, and the higher the portfolio risk. If returns are normally distributed (ie. has a bell shaped curve distribution) then approximately 2/3 of the returns would occur within plus or minus one standard deviation from the sample mean.

**Total Portfolio Risk** is a measure of the volatility of the quarterly excess returns of an asset. Total risk is composed of two measures of risk: market (non-diversifiable or systematic) risk and residual (diversifiable or unsystematic) risk. The purpose of portfolio diversification is to reduce the residual risk of the portfolio.

**Tracking Error** is a statistical measure of a portfolio's risk relative to an index. It reflects the standard deviation of a portfolio's individual quarterly or monthly returns from the index's returns. Typically, the lower the Tracking Error, the more "index-like" the portfolio.

**Treynor Ratio** represents the portfolio's average excess return over a specified period divided by the beta relative to its benchmark over that same period. This measure reflects the reward over the risk-free rate relative to the systematic risk assumed.

Note: Alpha, Total Risk, and Residual Risk are annualized.



#### **Common Stock Portfolio Characteristics**

All Portfolio Characteristics are derived by first calculating the characteristics for each security, and then calculating the weighted average of these values for the portfolio.

**Diversification Ratio** - The ratio of the number of securities comprising the most concentrated half of the portfolio market value (see Issue Concentration) divided by the total number of portfolio securities (see Number of Securities). This value expresses to what extent a portfolio is equally weighted versus concentrated, given the number of names in the portfolio. This value can range from a high of 50% (equal weighted) to a low of 1% (half of the portfolio in 1% of the names).

**Dividend Yield** - The total amount of dividends paid out for a stock over the preceding twelve months divided by the closing price of a share of the common stock.

**Forecasted Long-Term Earnings Growth** - This growth rate is a measure of a company's expected long-term success in generating future year-over-year earnings growth. This growth rate is a market value weighted average of the consensus (mean) analysts' long-term earnings growth rate forecast for each company in the portfolio. The definition of long-term varies by analyst but is limited to a 3-8 year range. This value is expressed as the expected average annual growth of earnings in percent.

Forecasted Price/Earnings Ratio - This ratio is a forward-looking valuation measure of a company's common stock. It encapsulates the amount of earnings estimated for next year per dollar of current share price. This value is calculated by dividing the present stock price of each company in the portfolio by the consensus (mean) analysts' earnings forecasts for the next year. These earnings estimates are for recurring, non-extraordinary earnings per primary common share.

**Issue Diversification** - A measure of portfolio concentration in individual issues (securities). This number represents how many different securities (names) comprise the most concentrated half of the portfolio assets (half of the assets are in how many names?). This measure is useful in evaluating the concentration/diversification of portfolios made up of many issues but concentrated in a small subset of those issues (e.g. 100 stocks with 50% of assets in 10 stocks, Issue Diversification = 10).

Market Capitalization (weighted median) - The weighted median market cap is the point at which half of the market value of the portfolio is invested in stocks with a greater market cap, and consequently the other half is invested in stocks with a lower market cap.

**Number of Securities** - This is a simple portfolio diversification measure representing the number of unique non-cash securities (names) currently held in the portfolio. This measure does not address potential concentration of assets within these securities (see Issue Concentration).

**Price/Book Value** - The Price to Book Value is a measure of value for a company. It is equal to the market value of all the shares of common stock divided by the book value of the company. The book value is the sum of capital surplus, common stock, and retained earnings.

Relative Sector Variance - A measure illustrating how significantly a portfolio currently differs from the sector weights of the index. This measure is the sum of the differences (absolute value) between the portfolio and index sector weights across all sectors. The higher the number the more aggressive the deviation from the index sector weights, and vice versa. This relative risk measure can help explain the magnitude of past tracking error and potential future tracking error versus the index.



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#### **Common Stock Portfolio Characteristics**

**Sector Concentration** - A measure of current portfolio diversification by economic sector (equity) or market sector (fixed income) to illustrate potential risk from concentrated sector exposures. The measure itself represents how few sectors contain half of the portfolio market value. A low number means the assets are concentrated in a few sectors and potentially highly exposed to the risks of those sectors.



#### **Fixed Income Portfolio Characteristics**

All Portfolio Characteristics are derived by first calculating the characteristics for each security, and then calculating the market value weighted average of these values for the portfolio.

**Allocation by Sector** - Sector allocation is one of the tools which managers often use to add value without impacting the duration of the portfolio. The sector weights exhibit can be used to contrast a portfolio's weights with those of the index to identify any significant sector bets.

**Average Coupon** - The average coupon is the market value weighted average coupon of all securities in the portfolio. The total portfolio coupon payments per year are divided by the total portfolio par value.

**Average Moody's Rating for Total Portfolio** - A measure of the credit quality as determined by the individual security ratings. The ratings for each security, from Moody's Investor Service, are compiled into a composite rating for the whole portfolio. Quality symbols range from Aaa+ (highest investment quality - lowest credit risk) to C (lowest investment quality - highest credit risk).

Average Option Adjusted (Effective) Convexity - Convexity is a measure of the portfolio's exposure to interest rate risk. It is a measure of how much the duration of the portfolio will change given a change in interest rates. Generally, securities with negative convexities are considered to be risky in that changes in interest rates will result in disadvantageous changes in duration. When a security's duration changes it indicates that the stream of expected future cash-flows has changed, generally having a significant impact on the value of the security. The option adjusted convexity for each security in the portfolio is calculated using models developed by Lehman Brothers and Salomon Brothers which determine the expected stream of cash-flows for the security based on various interest rate scenarios. Expected cash-flows take into account any put or call options embedded in the security, any expected sinking-fund paydowns or any expected mortgage principal prepayments.

**Average Option Adjusted (Effective) Duration** - Duration is one measure of the portfolio's exposure to interest rate risk. Generally, the higher a portfolio's duration, the more that its value will change in response to interest rate changes. The option adjusted duration for each security in the portfolio is calculated using models developed by Lehman Brothers and Salomon Brothers which determine the expected stream of cash-flows for the security based on various interest rate scenarios. Expected cash-flows take into account any put or call options embedded in the security, any expected sinking-fund paydowns or any expected mortgage principal prepayments.

**Average Price** - The average price is equal to the portfolio market value divided by the number of securities in the portfolio. Portfolios with an average price above par will tend to generate more current income than those with an average price below par.

**Average Years to Expected Maturity** - This is a measure of the market-value-weighted average of the years to expected maturity across all of the securities in the portfolio. Expected years to maturity takes into account any put or call options embedded in the security, any expected sinking-fund paydowns or any expected mortgage principal prepayments.

**Average Years to Stated Maturity** - The average years to stated maturity is the market value weighted average time to stated maturity for all securities in the portfolio. This measure does not take into account imbedded options, sinking fund paydowns, or prepayments.

**Current Yield** - The current yield is the current annual income generated by the total portfolio market value. It is equal to the total portfolio coupon payments per year divided by the current total portfolio market value.



#### **Fixed Income Portfolio Characteristics**

**Duration Dispersion** - Duration dispersion is the market-value weighted standard deviation of the portfolio's individual security durations around the total portfolio duration. The higher the dispersion, the more variable the security durations relative to the total portfolio duration ("barbellness"), and the smaller the dispersion, the more concentrated the holdings' durations around the overall portfolio's ("bulletness"). The purpose of this statistic is to gauge the "bulletness" or "barbellness" of a portfolio relative to its total duration and to that of its benchmark index.

**Effective Yield** - The effective yield is the actual total annualized return that would be realized if all securities in the portfolio were held to their expected maturities. Effective yield is calculated as the internal rate of return, using the current market value and all expected future interest and principal cash flows. This measure incorporates sinking fund paydowns, expected mortgage principal prepayments, and the exercise of any "in-the-money" imbedded put or call options.

**Weighted Average Life** - The weighted average life of a security is the weighted average time to payment of all remaining principal. It is calculated by multiplying each expected future principal payment amount by the time left to the payment. This amount is then divided by the total amount of principal remaining. Weighted average life is commonly used as a measure of the investment life for pass-through security types for comparison to non-pass-through securities.



#### **Private Equity Terms and Glossary**

#### **General Terms**

**Private Equity:** Refers to equity and equity-related investments in companies that are not quoted on the stock exchange. Investments are typically illiquid in nature. Ownership is typically accessed through limited partnership interests.

Vintage Year: The year in which a private equity partnership makes its first investment.

**J Curve Effect:** A common phenomenon associated with a developing private equity program where the return during the first several years can be moderately negative prior to larger positive returns developing (hence the "J" representation). The actual curve is depicted by plotting the return generated by a private equity fund against time (from inception to termination). In the early years of a developing program the payment of management fees out of drawn down capital does not produce an equivalent book value. Consequently, a private equity fund will initially show a negative return. For more detailed information on the "J-Curve Effect" ask to see Callan's Whitepaper on the topic.

#### **Cash Flow and Valuation Definitions**

Commitment: The amount of a limited partner's obligation to a private equity fund.

**Capital Contribution:** The amount of the commitment that has been called by the general partner for company investments and also fees and expenses. Capital contributed is also referred to as paid-in capital.

Recycling/Reinvestment and Recallable Cash Flows: Private equity vehicles are usually characterized by the prohibition (unless stipulated by agreement) to reinvest proceeds or allow redemptions. This means that unless otherwise agreed to, private equity funds must distribute proceeds from investments to limited partners and cannot reinvest that capital. In some cases, distributions are "recallable", that is, after the fund distributes proceeds to its investors, it can draw down the same capital again, which makes it possible for the fund to draw capital in excess of its total committed capital.

Distributions include both recallable and non-recallable distributions. This means that a recallable distribution must be treated as an actual distribution and, if and when that distribution is called again, it must be treated as additional paid-in capital but must not reduce unfunded commitments or change cumulative committed capital.

It should be noted that recallable distributions have an impact on the metric calculations. For example, this recallable feature means that cumulative paid-in capital can be higher than cumulative committed capital. It also means that, all other things being equal, the DPI, RVPI, and TVPI multiples will be lower for funds with recallable distributions as the denominator will be increased. It also means that the PIC multiple (paid-in capital to cumulative committed capital) will be higher for funds with recallable distributions, all other things being equal. (Source: GIPS Guidance Statement on Private Equity, January 2011)

Distribution: The returns of cash or securities that an investor in a private equity fund receives.

Market Value or Net Asset Value (NAV): The carrying value of the investments as determined by the general partner of a partnership in accordance with a limited partnership's valuation policy.

#### **Major Components**

#### **Venture Capital**

Seed Capital – An initial investment funding a start-up company's initial activities, such as business plan
development, initial management and employee hiring, prototype development, and product beta testing

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#### **Private Equity Terms and Glossary**

- Series A first round of institutional investment capital
- Series B second round of institutional investment capital
- Series C third round of institutional investment capital (Source: VCExperts)
- Early Stage Funding a company typically subsequent to its seed stage that has a founding or core senior management team, has proven its concept or completed its beta test, has minimal revenues, and no positive earnings or cash flows. (Source: VCExperts)
- Later Stage Financing for the expansion of a company that is producing, shipping its product, and increasing its sales volume. Later stage funds often provide the financing to help a company achieve critical mass in order to position its shareholders for an exit event (e.g., an IPO or strategic sale of the company). (Source: VCExperts)

#### **Buyouts / Corporate Finance**

- Leveraged Buyout The acquisition of a company using a combination of equity and borrowed funds. Generally the target company's assets act as the collateral for the loans taken out by the acquiring group. The acquiring group then repays the loan from the cash flow of the acquired company. For example, a group of investors may borrow funds, using the assets of the company as collateral, in order to take ownership of a company. (Source: VCExperts)
- Management Buyout A private equity firm will often provide financing to enable current operating
  management to acquire a significant stake in the business they manage, along with the private equity firm
  providing significant equity and arranging other financing. (Source: VCExperts)
- Categorizations of Buyout Funds by Fund Size:

Small Buyout (\$0 to \$1 billion)

Medium Buyout (\$1 billion to \$3 billion) Large Buyout (\$3 billion to \$7 billion)

Mega Buyout (\$7 billion +)

**Mezzanine (Subordinated Debt):** An investment strategy that involves providing capital or financing that is below the senior debt and above the equity in terms of liquidation priority. Mezzanine is analogous to private high yield debt and typically includes preferred stock and warrants. The majority of return is provided through coupon payments and equity rights typically increase the return. Mezzanine debt is commonly structured as part of a Buyout transaction.

**Distressed Debt:** Investing in corporate bonds of companies that have either filed for bankruptcy or appear likely to do so in the near future. The strategy of distressed debt involves first becoming a major creditor of the target company by buying up a company's bonds at a deep discount to par. Securing a position as a key creditor allows for influence regarding the plan for reorganization of the company. In the event of liquidation distressed debt investors have a senior position to the equity holders for priority of repayment and normally recover the full par value of debt securities. Usually a reorganization allows the company to avoid or emerge from bankruptcy protection. In some instances distressed debt firms convert the debt obligations to equity in the company, and gain majority control of the newly capitalized business. (*Source: VCExperts*)

**Secondary Investing:** There is a private equity secondary market where investors in private equity funds can privately negotiate the sale of their interest(s) to a new buyer. Secondary funds are vehicles which buy (invest in)



## **Private Equity Terms and Glossary**

secondary partnership interests purchased from pre-existing investors. Usually secondary purchases are made at a discount to the partnerships' stated valuation.

**Fund-of-Funds:** A vehicle established to invest in a diversified portfolio of private equity partnerships over a period of several vintage years. The underlying partnerships in turn invest the capital in companies. Investing in fund-of-funds can help spread the risk of investing in private equity because they invest the capital in a variety of funds and provide diversification by general partner, industry, geography, time and strategy. Fund-of-funds are specialist private equity investors and have existing relationships with general partner firms. Fund-of-funds may be able to provide investors with a route to investing in partnerships that would otherwise not be available to them. (*Source: VCExperts*)

### **Performance Metrics**

**DPI** = Distributions as a ratio of (divided by) paid-in capital (notionally a DPI ratio of 0.60 means that 60 cents has been distributed back to investors for every dollar contributed).

**RVPI** = Residual Value (NAV) as a ratio of (divided by) paid-in capital (notionally a RVPI ratio of 0.70 means that the remaining investment(s) is currently valued at 70 cents for every dollar contributed.

**TVPI** = Total Value (Distributions + Net Asset Value) as a ratio of (divided by) paid-in capital. Notionally a TVPI ratio of 1.30 means that the investment has created a total gain of 30 cent for every dollar contributed. TVPI is composed of both returned capital and residual value (e.g., DPI of 0.60 + RVPI of 0.70 = TVPI of 1.30).

**Public Market Equivalent (PME) TVPI:** A TVPI calculated by applying the called capital and distributed capital of the private equity investment as an equivalent purchase and sale of the chosen benchmark. The calculated net asset value (NAV) is then used to calculate the benchmark's RVPI, which is subsequently added to the investors actual DPI to get a benchmark TVPI. The figure is intended to evaluate the investor's total value if they had moved money in and out of the chose benchmark instead of the partnership.

Internal Rate of Return (IRR): The CFA Institute GIPS approved methodology to calculate return performance of private equity investments. The IRR calculates the rate of return since inception (implied interest rate earned) of an investment based on the amount and timing of capital contributions (money invested), distributions (money returned from investments), and the current unrealized value of investments. The IRR is a capital- or dollar-weighted calculation and accounts for the timing and size of flows. IRR differs from the time-weighted return (TWR) calculation employed with equity and fixed income investments, where a series of interim period (e.g., quarterly) returns are linked together in an equal-weighted manner to derive a percentage return unaffected by cash flows.

**Public Market Equivalent (PME) IRR:** An internal rate of return (IRR) calculated by applying the called capital and distributed capital of the private equity investment as an equivalent purchase and sale of the chosen benchmark. The calculated net asset value (NAV) is then used to calculate the benchmark's IRR. The figure is intended to evaluate the investor's return if they had moved money in and out of the chose benchmark instead of the partnership.

**Cash Yield:** Quarter's Distributed capital change divided by the quarter's beginning Net Asset Value. It values the percentage of realized appreciation/depreciation embedded in the NAV. For example, a cash yield of 5% means every dollar of residual value (NAV) has paid 5 cents to the investor this quarter.



### **Private Equity Terms and Glossary**

- **\$ Unrealized Appreciation/ Depreciation** = Quarter's Total Value change minus the quarter's Distribution capital change minus the quarter's Paid-In capital change. The dollar amount values the unrealized appreciation/depreciation embedded in the Net Asset Value.
- **% Unrealized Appreciation/ Depreciation** = Unrealized Appreciation/ Depreciation in dollars divided by the quarter's starting Net Asset Value. It values the percentage of unrealized appreciation/depreciation embedded in the NAV. For example, unrealized appreciation of 2% means every dollar of residual value (NAV) has a gain of 2 cents that has yet to be paid to investors.
- **\$ Total Valuation Change** = Quarter's Distributed capital change minus the quarter's Paid-In capital during the quarter plus the quarter's change in Net Asset Value. It values the total dollar amount of both realized and unrealized gains/ losses that the investor received over the quarter.
- **% Total Valuation Change** = Total Valuation Change in dollars divided by the quarter's starting Net Asset Value. It values the percentage of both realized and unrealized gains/ losses that the investor received over the quarter. For example, total valuation change of 4% means every dollar of residual value (NAV) has a gain of 4 cents of which a portion has and a portion has not been paid to investors.

### **Database Metrics**

**Pooled IRR:** An IRR calculation that treats a database of multiple private equity partnerships (such as Thomson Reuters/Cambridge) as a single portfolio. The initial flow in the calculation represents the total market value of the database (if any). The subsequent cash inflows and outflows are incorporated, and the final cash flow is the ending valuation of the database holdings.

**TVPI Quartile:** Drawn from a database of multiple private equity partnerships, the quartile is a breakpoint return that separates the partnerships' TVPIs in a selected sample into 25% increments ranked from highest to lowest, e.g. 1<sup>st</sup> quartile is the highest 25% performing funds. Members may be separated into by specific vintage years and strategies.

**IRR Quartile:** Drawn from a database of multiple private equity partnerships, the quartile is a breakpoint return that separates the partnerships' IRRs in a selected sample into 25% increments ranked from highest to lowest, e.g. 1<sup>st</sup> quartile is the highest 25% performing funds. Members may be separated into by specific vintage years and strategies.



## Callan Associates Inc. Public Fund Database

Alaska Permanent Fund

Alaska State - Judicial Pension **Alaska State - Military Pension** 

Alaska State - Public Employees Ret.

Alaska State - Teachers Ret. Plan

Anchorage Police & Fire

Arkansas Judicial Arkansas PERS

Aurora General Emp. Ret.

Charlotte Firefighters' Retirement System

**Chicago Teachers** City of Atlanta **City of Fort Pierce** 

City of Milwaukee ERS

City of Norwalk City of Tulsa City of Valdez City of Wyoming

**City Sanitation District of Orange County** 

**Cook County Dekalb County Denver Water** 

El Paso City Employees' Pension Fund Firemen's Annuity & Benefit Fd of Chicago

Georgia Firefighter's Pension Fund

Georgia Interlocal

**Georgia Municipal EBS** 

**Georgia Workers' Compensation** Idaho State Treasurer's Office

Illinois Municipal Retirement Fund

**Lexington-Fayette Urban County Gov** 

Marin County Employees' Ret. Association

**MARTA OPEB Trust** 

Massachusetts Pension Re Inv Mgmt Board

**Medical University Retirement** 

Mendocino County Employees' Retirement

Minnesota State Board of Investment

Mississippi Public Employees' Retirement

**Nevada Judicial Nevada Legislators** 

Nevada Public Employees' Ret. System

North Dakota Public Employee Ret North Dakota State Investment Board

**North Dakota Teachers Fund Ret** 

NYC Employees Retirement System

Ohio STRS

Public Emp Ret System of Idaho

Santa Clara VTA/ATU Pension Fund

South Dakota Investment State of Oregon - PERS

State of Wisconsin Investment Board

Town of Fairfield

**US Army NAF Employee Retirement** 

**University Health System Pension Trust** 

**University of Colorado Boulder** 

**University of Puerto Rico Retirement System** 

**Utah State Retirement System** Wichita Employees' Retirement

338 Other Public Funds\*

1

<sup>\*</sup> Callan's Public Fund Database is represented by both Callan and non-Callan clients. Certain information in the database is received from other database sources.



### Education

3rd Quarter 2020

# **Research and Educational Programs**

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives." For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

## **New Research from Callan's Experts**

**2020 ESG Survey** | Callan's eighth annual survey assessing the status of environmental, social, and governance (ESG) investing in the U.S. institutional investment market.

Coping with COVID-19: How Work Is Evolving for Investment Managers—2nd Edition | Following up on our June publication, Callan again surveyed investment managers regarding how their firms were responding to the COVID-19 pandemic, focusing on office closures and reopenings, work-from-home approaches, business travel, and meetings. Respondents reflected a variety of firms by location, employee size, ownership structure, and assets under management.

Private Equity Fees and Terms Study | To help institutional investors better evaluate private equity funds, Callan conducted an extensive analysis of the fees and terms for private equity partnerships. Using that data, we created this study to help investors evaluate a partnership's terms compared to its peers.

Real Estate Indicators: Too Hot to Touch or Cool Enough to Handle? | Callan's Real Assets Consulting group identifies seven indicators that, combined with an understanding of prevailing market dynamics, have helped signal when the institutional real estate market is overheated or cooled.

### **Blog Highlights**

### How Investors Can Address Climate Risk in Real Estate |

Climate risk, which refers to the hazards associated with climate change, can significantly threaten real estate portfolios. Institutional investors and real estate investment managers must evaluate the increasing significance of climate risk given the material financial impact that climate change can have on real estate portfolios.

<u>Fine-Tuning Implementation of the CARES Act</u> | Drafting the CARES Act was expedited, which means there is a limited congressional record to clarify provisions. The IRS has issued two notices and a FAQ to clarify how defined contribution (DC) plan sponsors should implement the provisions, touching on required notices, tax reporting, and recordkeeping.

<u>DOL Proposes Tightened Proxy Voting Guidelines</u> | The department's new proposal dovetails with SEC guidance finalized in 2020 and would create a refined set of circumstances in which plan fiduciaries may engage in proxy voting.

### **Quarterly Periodicals**

<u>Private Equity Trends, 2Q20</u> | A high-level summary of private equity activity in the quarter through all the investment stages

<u>Active vs. Passive Charts, 2Q20</u> | A comparison of active managers alongside relevant benchmarks over the long term

Market Pulse Flipbook, 2Q20 | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

<u>Capital Market Review, 2Q20</u> | Analysis and a broad overview of the economy and public and private market activity each quarter across a wide range of asset classes

Hedge Fund Quarterly, 2Q20 | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

Real Assets Reporter, 2Q20 | In this quarter's edition, Barbara Bernard and Sally Haskins discuss how new risk-retention rules affect the CMBS market. In addition, it includes analysis of the performance of real estate and other real assets in 2Q20.

### D.1

### **Events**

Miss out on a Callan conference or workshop? Event summaries and speakers' presentations are available on our website: www.callan.com/library/

Please mark your calendar and look forward to upcoming invitations:

### **2021 National Conference**

June 21-23, 2021

San Francisco | Palace Hotel

For more information about events, please contact Barb Gerraty: 415-274-3093 / gerraty@callan.com

### **Education: By the Numbers**

50+

Unique pieces of research the Institute generates each year

**525** 

Attendees (on average) of the Institute's annual National Conference

3,700

Total attendees of the "Callan College" since 1994

### Education

Founded in 1994, the "Callan College" offers educational sessions for industry professionals involved in the investment decision-making process.

### Introduction to Investments—Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. It is held over three days with virtual modules of 2.5-3 hours. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Tuition is \$950 per person and includes instruction and digital materials.

### Please look for our updated schedule for 2021 in November

Additional information including registration can be found at: www.callan.com/cc-introduction-virtual/

#### Introduction to Investments—In Person

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. It lasts one-and-a-half days and is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Tuition is \$2,350 per person and includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Additional information including dates and registration can be found at: www.callan.com/callan-college-intro-2/



"Research is the foundation of all we do at Callan, and sharing our best thinking with the investment community is our way of helping to foster dialogue to raise the bar across the industry."

Greg Allen, CEO and Chief Research Officer







Quarterly List as of September 30, 2020

## **List of Callan's Investment Manager Clients**

Confidential - For Callan Client Use Only

Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry, and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor, and disclose potential conflicts on an ongoing basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database, or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g., attending an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group, and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance department.

Manager Name
Aberdeen Standard Investments
Acadian Asset Management LLC
AEGON USA Investment Management Inc.
AllianceBernstein
Allianz
American Century Investments
Amundi Pioneer Asset Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC
Atlanta Capital Management Co., LLC
Aviva Investors Americas
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC

Manager Name
BlackRock
BMO Global Asset Management
BNP Paribas Asset Management
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
BrightSphere Investment Group
Brown Brothers Harriman & Company
Cambiar Investors, LLC
CapFinancial Partners, LLC
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management LLC
Chartwell Investment Partners
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.



**Manager Name** Columbia Management Investments Columbus Circle Investors Credit Suisse Asset Management D.E. Shaw Investment Management, L.L.C. DePrince, Race & Zollo, Inc. Dimensional Fund Advisors LP Doubleline Duff & Phelps Investment Management Co. **DWS** EARNEST Partners, LLC Eaton Vance Management Epoch Investment Partners, Inc. Fayez Sarofim & Company Federated Hermes, Inc. Fidelity Institutional Asset Management Fiera Capital Corporation First Hawaiian Bank Wealth Management Division First State Investments Fisher Investments Franklin Templeton Fred Alger Management, Inc. GAM (USA) Inc. GCM Grosvenor Glenmeade Investment Management, LP GlobeFlex Capital, L.P. Goldman Sachs Green Square Capital Advisors, LLC Guggenheim Investments **GW&K Investment Management** Harbor Capital Group Trust Hartford Investment Management Co. Heitman LLC Hotchkis & Wiley Capital Management, LLC Income Research + Management, Inc. Insight Investment Management Limited Intech Investment Management, LLC Intercontinental Real Estate Corporation Investec Asset Management North America, Inc.

**Manager Name** J.P. Morgan Janus Jennison Associates LLC Jobs Peak Advisors KeyCorp Lazard Asset Management Legal & General Investment Management America Lincoln National Corporation Longview Partners Loomis, Sayles & Company, L.P. Lord Abbett & Company

Los Angeles Capital Management LSV Asset Management

MacKay Shields LLC

Macquarie Investment Management (MIM)

Manulife Investment Management

Marathon Asset Management, L.P.

McKinley Capital Management, LLC

MetLife Investment Management

MFS Investment Management

MidFirst Bank

Mondrian Investment Partners Limited

Montag & Caldwell, LLC

Morgan Stanley Investment Management

Mountain Pacific Advisors, LLC

MUFG Union Bank, N.A.

Natixis Investment Managers

Neuberger Berman

**Newton Investment Management** 

Nikko Asset Management Co., Ltd.

Nile Capital Group LLC

Northern Trust Asset Management

Nuveen

P/E Investments

Pacific Investment Management Company

Parametric Portfolio Associates LLC

Pathway Capital Management

Peregrine Capital Management, LLC

Perkins Investment Management



Ivy Investments

### **Manager Name**

PFM Asset Management LLC

**PGIM Fixed Income** 

PineBridge Investments

PNC Capital Advisors, LLC

Polen Capital Management

Principal Global Investors

Putnam Investments, LLC

QMA LLC

**RBC Global Asset Management** 

Regions Financial Corporation

Robeco Institutional Asset Management, US Inc.

Rothschild & Co. Asset Management US

S&P Dow Jones Indices

Schroder Investment Management North America Inc.

**SLC Management** 

Smith Graham & Co. Investment Advisors, L.P.

State Street Global Advisors

Stone Harbor Investment Partners L.P.

Strategic Global Advisors

T. Rowe Price Associates, Inc.

### **Manager Name**

The TCW Group, Inc.

Thompson, Siegel & Walmsley LLC

Thornburg Investment Management, Inc.

Tri-Star Trust Bank

**UBS Asset Management** 

**USAA Real Estate** 

VanEck

Versus Capital Group

Victory Capital Management Inc.

Virtus Investment Partners, Inc.

Vontobel Asset Management, Inc.

Voya

WCM Investment Management

WEDGE Capital Management

Wellington Management Company LLP

Wells Fargo Asset Management

Western Asset Management Company LLC

Westfield Capital Management Company, LP

William Blair & Company LLC



# Callan



Third Quarter 2020 Summary Investment Presentation

Jim Callahan, CFA
President

**Anne Heaphy**Senior Vice President

# Callan

**Economic and Capital Markets Review** 

# **Stunning Recovery in Global Equity Markets in 3Q20**

V-shaped equity rebound, ahead of the global economy

# Global equity continued the rally in 3Q after March market bottom

- S&P -33.5% from peak (02/19/20) to low on 3/23/20
- Rebound since March puts S&P 500 even with February peak, suggesting broadbased recovery, but YTD results are concentrated in a few stocks.
- Fed cut rates to zero, commenced QE, instituted multiple facilities to backstop money markets, credit markets, and economy.
  - Fed expects to get paid back.
  - Further fiscal stimulus expected
- Congress passed fiscal stimulus (CARES) to carry the economy through the crisis.
- Economic recovery will be uncertain as COVID-19 infections surge anew; reopenings may be reversed.

### Returns for Periods ended 9/30/20

	1 Quarter	1 Year	5 Years	10 Years	25 Years
U.S. Equity					
Russell 3000	9.21	15.00	13.69	13.48	9.29
S&P 500	8.93	15.15	14.15	13.74	9.31
Russell 2000	4.93	0.39	8.00	9.85	7.96
Global ex-U.S. Equity					
MSCI World ex USA	4.92	0.16	5.32	4.37	4.71
MSCI Emerging Markets	9.56	10.54	8.97	2.51	
MSCI ACWI ex USA Small Cap	10.50	6.97	6.80	5.31	5.82
Fixed Income					
Bloomberg Barclays Aggregate	0.62	6.98	4.18	3.64	5.30
90-day T-Bill	0.04	1.10	1.20	0.64	2.32
Bloomberg Barclays Long Gov/Credit	1.22	12.92	8.78	7.36	7.66
Bloomberg Barclays Global Agg ex-US	4.14	5.48	3.60	1.35	3.90
Real Estate					
NCREIF Property	0.74	2.00	6.28	9.37	9.09
FTSE Nareit Equity	1.44	-18.16	3.95	7.90	9.34
Alternatives					
CS Hedge Fund	3.44	2.41	2.76	3.64	7.25
Cambridge Private Equity*	9.89	7.67	11.36	13.38	14.86
Bloomberg Commodity	9.07	-8.20	-3.09	-6.03	0.91
Gold Spot Price	5.28	28.69	11.19	3.77	6.57
Inflation - CPI-U	0.96	1.37	1.81	1.77	2.14

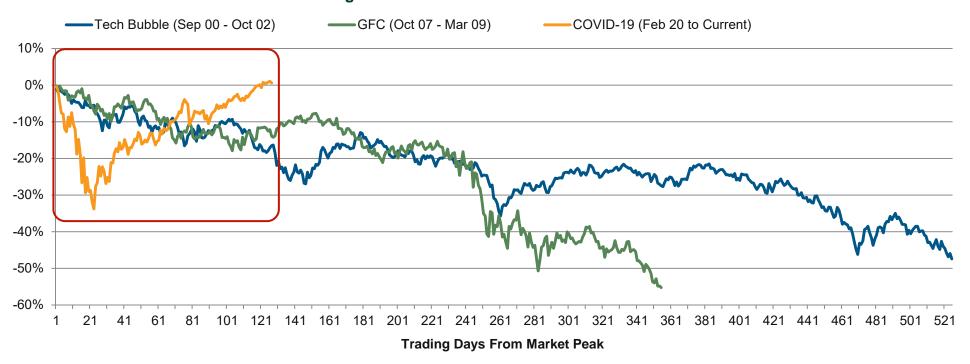
<sup>\*</sup>Cambridge PE data through 06/30/20 Sources: Bloomberg, Bloomberg Barclays, Callan, Cambridge, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices



# **Unprecedented Shock to Global Capital Markets—Is It Over Already?**

V-shaped recovery in equity—back in black by mid-August!

S&P 500 Index Cumulative Returns
Market Peak-to-Trough for Recent Corrections vs.
Current Path of COVID-19 Correction Through 8/19/20



- The sharpest and fastest equity market decline ever: 16 trading days to reach bear market; -33% after just 23 days
- Incredible rebound in U.S. equity market in 2Q and 3Q
  - The S&P 500 recovered all of its COVID-19 related losses by Aug. 10, only 97 days from the bottom.
  - Positive return year-to-date (+5.6% through 9/30/20)

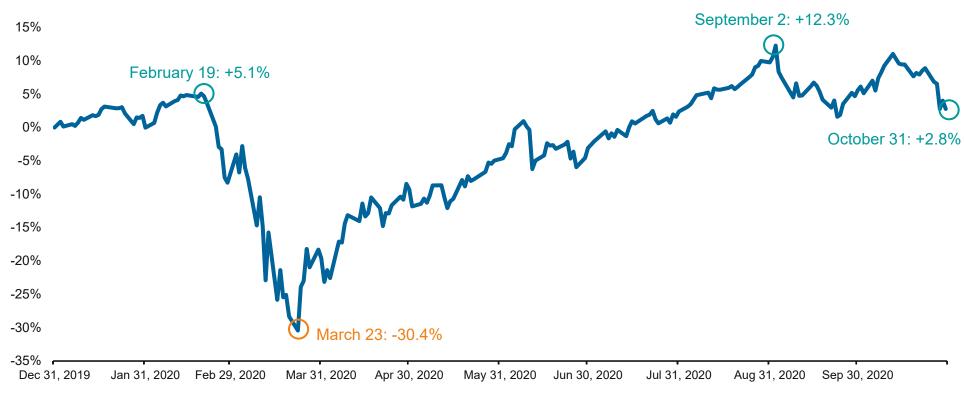


Sources: Callan, S&P Dow Jones Indices

# **U.S. Equity Markets Rebound Over 60%**

# Data as of 10/31/20

### **Cumulative YTD Total Return of S&P 500**



- -The S&P 500 Total Return Index climbed over 61% from its nadir on March 23 to its peak on July 14.
- -At the end of 3Q20, the index was up 5.6% YTD.



# **U.S. Equity Continues to Shine Amid Pandemic**

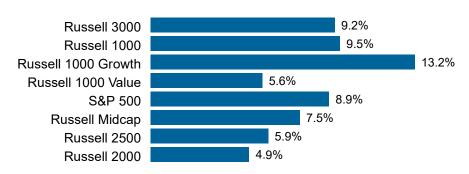
### **Gains YTD**

- S&P +8.9% for the quarter, bringing YTD to +5.6%
  - Consumer Discretionary (+15%) and Industrials (+13%)
     dominated, with Tech (+12%) a close third in risk-on market.
  - -S&P 500 YTD would be negative if not for Facebook, Microsoft, Amazon, Alphabet, and Apple, representing 33% of the return.
- YTD, pandemic punishing some sectors while rewarding others
  - -Tech +29% YTD; Cons. Disc. +23% (online retailers +60%)
  - -Energy -48% amid declining crude and natural gas prices
    - Demand from hotels/cruise lines/airlines down as industries have dropped 40%+.

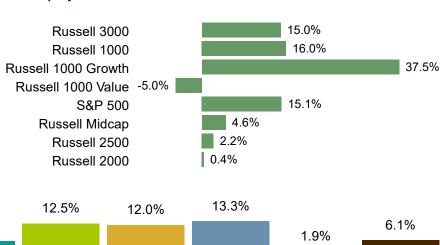
## Small cap reverses to trail large cap

- Following a stellar 2Q20 recovery, small cap trailed large.
  - Remains behind large cap by a wide margin over last 12 months.
- Growth continues to outpace value across market caps.
- Growth, value dispersion near all-time high driven by Tech.
  - -YTD RUS1G +25% vs. RUS1V -12%
- Growth stock P/E near 2x historical average across market caps.

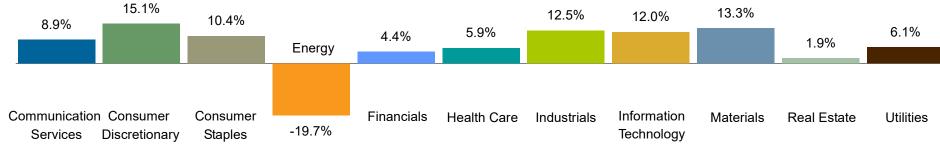
### **U.S. Equity: Quarterly Returns**



### **U.S. Equity: One-Year Returns**



## Industry Sector Quarterly Performance (S&P 500)



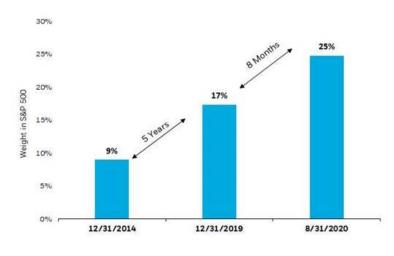
Sources: FTSE Russell. S&P Dow Jones Indices



# **S&P 500 Index Concentration**

- A handful of securities continues to drive both large cap core and growth indices higher.
- Today's index concentration surpasses levels seen in the late 90's Dot-Com boom.
- Index concentration of the top five names is at 5 standard deviations above the 30-year average level of approximately 13%.

## **FAANGM Weight Changes in the S&P 500**



### Year-to-Date Total Returns as of 9/30/20



Sources: Dana Investment Advisors, Factset Research Systems, Morningstar

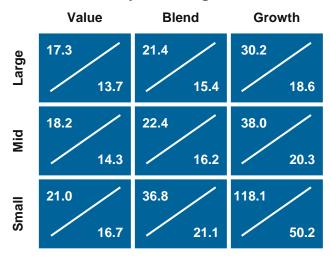


# Value vs. Growth

- Large and small value indices continue to underperform large and small growth in 3Q20 and YTD.
- While many market participants feel the large growth market is overvalued, some investors feel it might be undervalued based on current interest rate levels.
- Higher interest rates, a steeper yield curve, economic growth, and improving consumer confidence are among the catalysts that could result in value outperforming.
- S&P 500 Index currently delivers a dividend yield well above the 10-year Treasury, which can help support current valuation levels.

#### Quarter Year-to-Date Value **Blend** Growth Value **Blend** Growth Large Large -11.1% 6.1% 8.5% 12.3% 5.1% 23.3% Mid Mid -11.3% 14.4% 8.3% 8.8% 9.9% -1.1% Small Small 5.9% 7.1% 8.3% -19.0% -6.8% 5.0%

## Current P/E vs. 20-year average P/E



Sources: JP Morgan; returns represent cumulative results



# Global ex-U.S. Equity Performance

## **Continued recovery into 3Q20**

- Returns broadly positive across developed and emerging markets but muted YTD.
- Recent support from ultra-low interest rates and upward earnings revisions.
- EM recovery driven by global risk-on environment; key countries within EM (China and South Korea) have better managed the pandemic.
- Small cap continued to outperform large as lockdowns eased and business confidence improved.

## Rebound for cyclicals

- Materials, Industrials, and Consumer Discretionary outperformed as consumption and production resumed.
- Factor performance led by momentum (rebound) and volatility (risk-on market mentality).

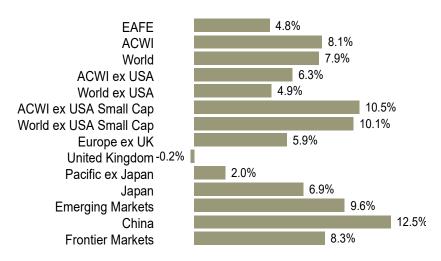
### U.S. dollar vs. other currencies

 U.S. dollar lost ground versus every developed market currency on expectation of lower-for-longer U.S. rates due to Fed's shift in approach toward inflation and employment.

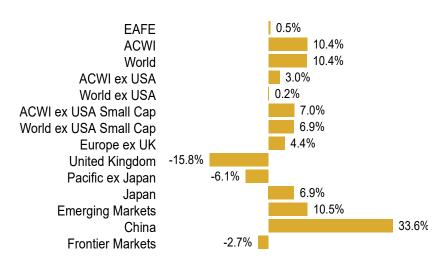
### Growth vs. value

- Growth continued to outperform value.
- Extremely narrow market with performance dominated by Tech.

### **Global Equity: Quarterly Returns**



## **Global Equity: Annual Returns**



Source: MSCI



# What May Narrow Dispersion Between Growth and Value?

# Outperformance of growth relative to value exacerbated by COVID-19

- Growth outpaced value by 34% year-to-date as of Sept. 30.
- Growth benefited from strong performance by Information Technology (27%), while Energy (-46%) and Financials (-22%) weighed on value.
- YTD performance gap between growth and value has not been seen over the past 45 years, including the Dot-Com Bubble of 1999.

## What may stoke value rotation?

- Higher bond yields may be needed to drive value rebound.
- -Bond yields correlated to value/growth since the GFC.

### MSCI World Growth vs. Value Annual Performance



### MSCI World Value vs. Growth



### European Value vs. Growth and U.S. 10-year Bond Yield





# Where's the U.S. Dollar Going?

## Key drivers: global recovery, U.S. elections

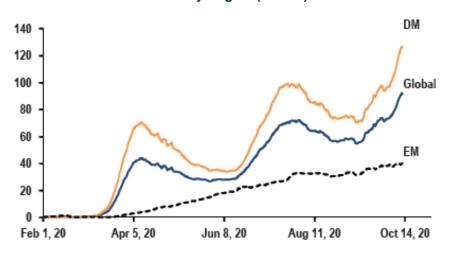
- Management of COVID-19 a key variable to recovery
  - Advanced economies have struggled to contain the pandemic relative to emerging markets.
  - Asian currencies have maintained resiliency relative to the U.S. dollar due to better COVID-19 management and economic outlook.
  - Greater probability of Democratic sweep is expected to pressure USD to the downside on a medium-term basis.
    - Potentially easier fiscal policy and a larger budget deficit in the aftermath of a "Blue Wave" may yield lower dollar.
    - More cohesive foreign policy under Biden presidency may support EM currencies.

## **Regional Currency Performance vs. USD**

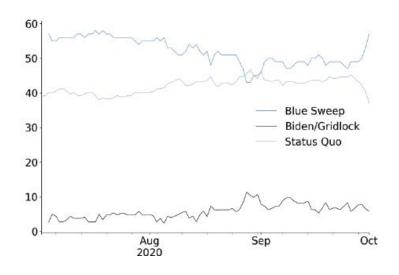


Sources: J.P. Morgan, Our World in Data

### Global New COVID-19 Cases by Region (million)



#### **Election Outcome Probabilities**





# **U.S. Fixed Income Performance: 3Q20**

## Treasury yields largely unchanged

- 10-year UST yield at 0.69% in 3Q20, up 3 bps from 2Q20 but off sharply from year-end level of 1.92%.
- TIPS did well as inflation expectations rose from 1.34% to 1.63%.
- No rate hikes expected until at least 2023.

## **Bloomberg Barclays Aggregate roughly flat**

- Corporate and CMBS the strongest investment grade sectors as investors hunted for yield.
- Corporate supply (\$1 trillion YTD) at a record as companies rushed to take advantage of ultra-low interest rates.

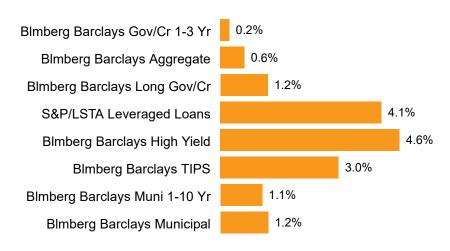
## Risk-on sentiment helped high yield and loans

- Non-investment grade sectors rallied, but remain roughly flat YTD.
- The high yield bond market also experienced high levels of net new issuance (over \$120 billion YTD).

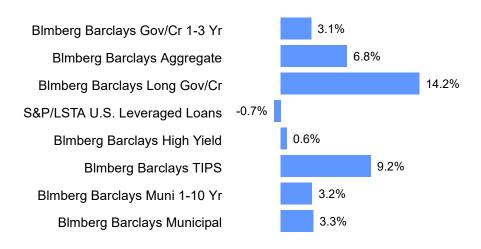
## Munis boosted by favorable supply/demand dynamics

- Robust demand and muted supply of tax-exempt municipals.
- Issuance in taxable municipals sharply higher.
- Tax revenues better than expected, but challenges remain and stimulus uncertain (but needed).

### **U.S. Fixed Income: Quarterly Returns**



### **U.S. Fixed Income: Nine Month Returns**





# **Global Fixed Income Performance: 3Q20**

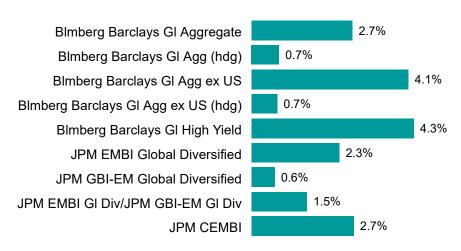
### Global fixed income rose amid rate cuts

- Central banks continued to act aggressively to provide support via rate cuts, asset purchase programs, and other forms of stimulus.
- Broad-based U.S. dollar weakness dampened hedged returns as the USD lost 4% versus the euro and the British pound, and 2% versus the yen.
- Over 70% of global sovereign debt has negative real yields, a record high, according to JPMorgan.

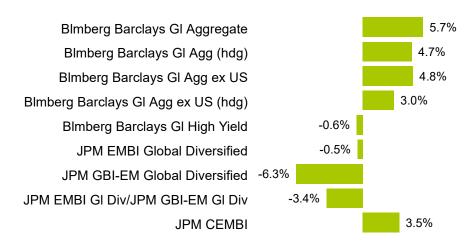
## **Emerging market debt made up ground**

- Emerging market debt indices gained in 3Q20 but remain down from year-end.
- U.S. dollar-denominated index (EMBI Global Diversified) outperformed local currency as U.S. rates fell; returns were mixed across the 70+ constituents, but most were positive.
- Local currency index (GBI-EM Global Diversified) was up slightly but returns varied widely among constituents: Russia:
   -8%; Brazil: -3%; Mexico and S. Africa: +6%
- Staggered inclusion of China bonds continued with the weight rising to 7% in the JPM GBI-EM Global Diversified Index.

### **Global Fixed Income: Quarterly Returns**



#### Global Fixed Income: Nine Month Returns



Sources: Bloomberg Barclays, JPMorgan Chase



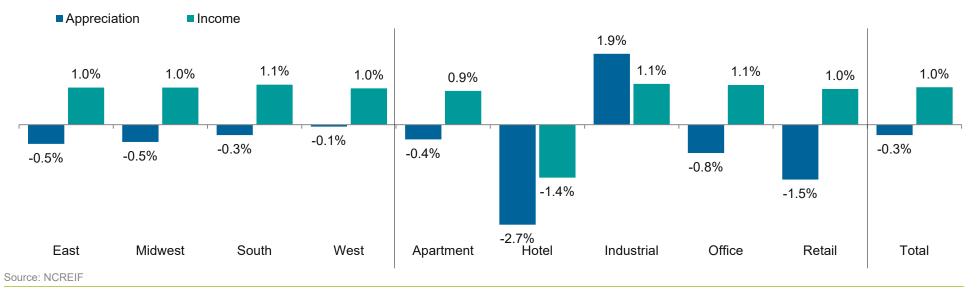
# **U.S. Private Real Estate Market Trends**

## **Results**

- Pandemic's impact reflected in 3Q20 results.
- Income remains positive except in Hotel sector.
- All sectors experienced negative appreciation;
   Industrial remains the best performer.
- Dispersion of returns by manager within the ODCE Index due to both composition of underlying portfolios and valuation methodologies/approach.
- Negative appreciation returns expected for 4Q and beyond.

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
NCREIF ODCE	0.5%	1.4%	5.2%	6.6%	10.3%
Appreciation	-0.5%	-2.5%	1.0%	2.3%	5.3%
Income	1.0%	4.0%	4.1%	4.3%	4.8%
NCREIF Property Index	0.7%	2.0%	5.1%	6.3%	9.4%
Appreciation	-0.3%	-2.2%	0.6%	1.6%	4.1%
Income	1.0%	4.3%	4.5%	4.6%	5.2%

# NCREIF Property Index Returns by Region and Property Type



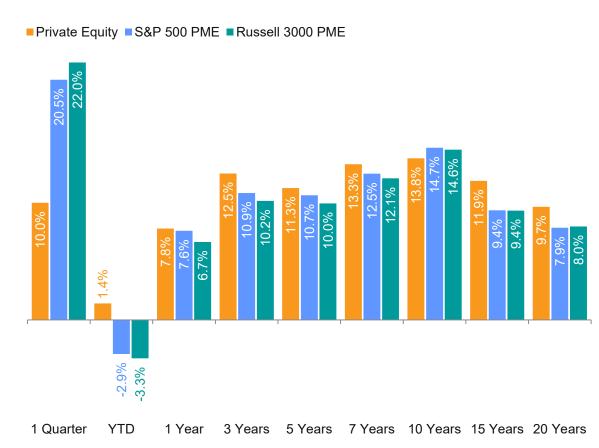


# **Private Equity Performance**

# Gains YTD

- 2Q20 rebound in private equity performance similar to public market rebound (private equity did not decline as severely in 1Q).
- Private equity performance positive YTD, significantly outperforming public equity.
- Private equity outperforms public equity across all time horizons, except over the last 10 years.

### Net IRRs as of 6/30/20



Source: Refinitiv/Cambridge

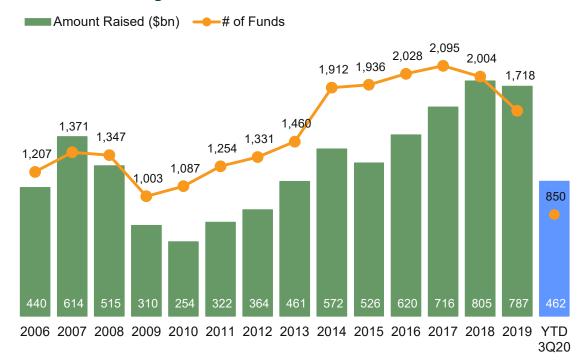


# **Private Equity Global Fundraising**

# Slowdown during pandemic

- Fundraising to date for 2020 at 85% of YTD 3Q19 levels.
- Many upcoming fundraises pushed out to 2021 due to inability of funds to deploy capital during the onset of the pandemic.
- Slow fundraising expected for the rest of the year.

## **Annual Fundraising**

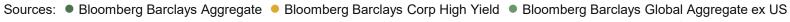






# **Callan Periodic Table of Investment Returns**

Annual	Returns	Monthly Returns										
2018	2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	YTD 2020
U.S. Fixed Income	Large Cap Equity	U.S. Fixed Income	U.S. Fixed Income	U.S. Fixed Income	Small Cap Equity	Small Cap Equity	Emerging Market Equity	Emerging Market Equity	Large Cap Equity	U.S. Fixed Income	Small Cap Equity	U.S. Fixed Income
0.01%	31.49%	1.92%	1.80%	-0.59%	13.74%	6.51%	7.35%	8.94%	7.19%	-0.05%	2.09%	6.32%
High Yield	Small Cap Equity	Real Estate	Global ex-U.S. Fixed Income	Global ex-U.S. Fixed Income	Large Cap Equity	Large Cap Equity	Small Cap Equity	Large Cap Equity	Small Cap Equity	Global ex-U.S. Fixed Income	Emerging Market Equity	Global ex-U.S. Fixed Income
-2.08%	25.52%	0.84%	-0.20%	-3.22%	12.82%	4.76%	3.53%	5.64%	5.63%	-0.58%	2.06%	5.26%
Global ex-U.S. Fixed Income	Dev ex-U.S. Equity	Global ex-U.S. Fixed Income	High Yield	High Yield	Emerging Market Equity	High Yield	Dev ex-U.S. Equity	High Yield	Dev ex-U.S. Equity	High Yield	High Yield	Large Cap Equity
-2.15%	22.49%	0.76%	-1.41%	-11.46%	9.16%	4.41%	3.42%	4.69%	5.16%	-1.03%	0.51%	2.77%
Large Cap Equity	Real Estate	High Yield	Emerging Market Equity	Large Cap Equity	Real Estate	Dev ex-U.S. Equity	Real Estate	Global ex-U.S. Fixed Income	Real Estate	Emerging Market Equity	Global ex-U.S. Fixed Income	High Yield
-4.38%	21.91%	0.03%	-5.27%	-12.35%	7.06%	4.25%	2.57%	4.44%	2.52%	-1.60%	0.46%	1.13%
Real Estate	Emerging Market Equity	Large Cap Equity	Large Cap Equity	Dev ex-U.S. Equity	Dev ex-U.S. Equity	Emerging Market Equity	Large Cap Equity	Real Estate	Emerging Market Equity	Dev ex-U.S. Equity	U.S. Fixed Income	Emerging Market Equity
-5.63%	18.44%	-0.04%	-8.23%	-14.12%	6.97%	0.77%	1.99%	2.78%	2.21%	-2.82%	-0.45%	0.87%
Small Cap Equity	High Yield	Dev ex-U.S. Equity	Real Estate	Emerging Market Equity	High Yield	U.S. Fixed Income	Global ex-U.S. Fixed Income	Small Cap Equity	High Yield	Real Estate	Large Cap Equity	Small Cap Equity
-11.01%	14.32%	-1.94%	-8.24%	-15.40%	4.51%	0.47%	1.01%	2.77%	0.95%	-3.11%	-2.66%	-6.77%
Dev ex-U.S. Equity	U.S. Fixed Income	Small Cap Equity	Small Cap Equity	Small Cap Equity	Global ex-U.S. Fixed Income	Global ex-U.S. Fixed Income	High Yield	Dev ex-U.S. Equity	Global ex-U.S. Fixed Income	Small Cap Equity	Real Estate	Dev ex-U.S. Equity
-14.09%	8.72%	-3.21%	-8.42%	-21.73%	2.04%	0.30%	0.98%	2.66%	0.29%	-3.34%	-3.33%	-10.78%
Emerging Market Equity	Global ex-U.S. Fixed Income	Emerging Market Equity	Dev ex-U.S. Equity	Real Estate	U.S. Fixed Income	Real Estate	U.S. Fixed Income	U.S. Fixed Income	U.S. Fixed Income	Large Cap Equity	Dev ex-U.S. Equity	Real Estate
-14.57%	5.09%	-4.66%	-8.88%	-22.76%	1.78%	0.23%	0.63%	1.49%	-0.81%	-3.80%	-3.93%	-22.36%



<sup>●</sup> FTSE EPRA Nareit Developed ● MSCI World ex USA ● MSCI Emerging Markets ● Russell 2000 ● S&P 500



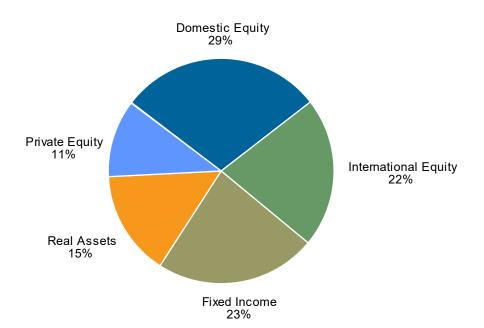
# Callan

**MCERA Total Fund Review** 

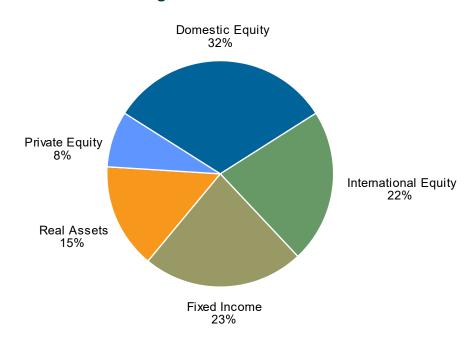
# **Total Fund Asset Allocation**

As of September 30, 2020

## **Actual Asset Allocation**



# **Target Asset Allocation**



	\$Millions	Weight	Min		Max	Percent	\$Millions
Asset Class	Actual	Actual	Target	Target	Target	Difference	e Difference
Domestic Equity	792	29.1%	28.0%	32.0%	36.0%	(2.9%)	(77)
International Equity	584	21.5%	19.0%	22.0%	25.0%	(0.5%)	(77) (13)
Fixed Income ' '	629	23.1%	20.0%	23.0%	26.0%	`0.1%	` 4
Real Assets	411	15.1%	12.0%	15.0%	18.0%	0.1%	3
Private Equity	301	11.1%	0.0%	8.0%	12.0%	3.1%	83
Total	2.716	100.0%		100.0%			

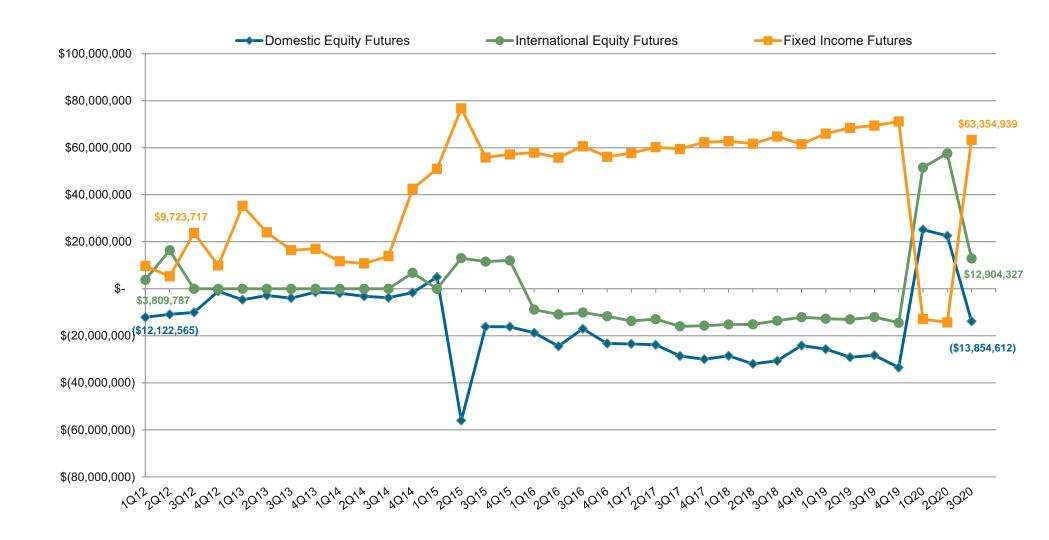


# **Total Fund Asset Distribution**

	September 3	80, 2020			June 30, 2020		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight	
Domestic Equity	\$791,623,696	29.15%	\$(41,948,101)	\$58,349,146	\$775,222,651	29.67%	
SSGA S&P 500 Index Fund	589,402,166	21.70%	(2,492,033)	48,482,998	543,411,201	20.79%	
DFA Small Cap Core	216,076,142	7.96%	(734,837)	7,530,932	209,280,047	8.01%	
Parametric Domestic Equity Futures	-13,854,612	(0.51%)	(38,721,230)	2,335,216	22,531,402	0.86%	
International Equity	\$584,453,106	21.52%	\$(49,694,162)	\$38,218,048	\$595,929,220	22.80%	
Morgan Stanley Value	174,195,468	6.41%	0	6,463,554	167,731,914	6.42%	
Artisan Partners Growth	194,234,277	7.15%	0	13,378,381	180,855,895	6.92%	
TimesSquare Intl Small Cap	109,578,571	4.03%	(225,671)	9,409,626	100,394,617	3.84%	
Parametric Emerging Markets	93,540,463	3.44%	0	4,125,907	89,414,557	3.42%	
Parametric International Equity Futures	12,904,327	0.48%	(49,468,491)	4,840,580	57,532,238	2.20%	
Fixed Income	\$628,571,460	23.14%	\$74,476,622	\$11,436,022	\$542,658,816	20.77%	
Wellington Core Plus	269,895,773	9.94%	(1,724,139)	3,431,135	268,188,777	10.26%	
Western Intermediate Credit	148,853,109	5.48%	(1,151,600)	2,238,151	147,766,558	5.65%	
Colchester Global	146,467,639	5.39%	(154,535)	5,630,969	140,991,205	5.40%	
Parametric Fixed Income Futures	63,354,939	2.33%	77,506,896	135,767	-14,287,724	(0.55%)	
Real Estate	\$241,262,577	8.88%	\$814,111	\$170,056	\$240,278,410	9.19%	
Woodmont	18,821,592	0.69%	1,426,515	(1)	17,395,078	0.67%	
UBS Trumbull Property Fund	118,312,747	4.36%	(186,788)	(217,528)	118,717,063	4.54%	
AEW Core Property Trust	104,117,349	3.83%	(425,617)	387,140	104,155,826	3.99%	
AEW Partners V, LP **	10,888	0.00%	0	445	10,443	0.00%	
Public Real Assets	\$169,303,903	6.23%	\$(72,870)	\$11,660,395	\$157,716,379	6.04%	
INVESCO Commodities Fund	42,215,278	1.55%	(72,870)	3,891,165	38,396,983	1.47%	
BlackRock TIPS Index Fund	42,169,938	1.55%	0	1,266,665	40,903,273	1.57%	
KBI Global Resources Fund	49,777,416	1.83%	0	6,208,872	43,568,544	1.67%	
Blackrock REIT Index Fund	35,141,271	1.29%	0	293,692	34,847,579	1.33%	
Priv ate Equity*	\$300,627,670	11.07%	\$(795,841)	\$0	\$301,423,511	11.53%	
Abbott ACE VI*	56,938,370	2.10%	(3,112,931)	0	60,051,301	2.30%	
Abbott ACE VII*	39,702,873	1.46%	(435,000)	0	40,137,873	1.54%	
Abbott 2016*	37,842,893	1.39%	825,000	0	37,017,893	1.42%	
Abbott 2017*	8,448,517	0.31%	697,500	0	7,751,017	0.30%	
Pathway PPEF 2008*	62,869,865	2.31%	(522,637)	(0)	63,392,502	2.43%	
Pathway PE I-7*	38,451,249	1.42%	(158,122)	(0)	38,609,371	1.48%	
Pathway PE I-8*	48,776,277	1.80%	1,568,605	Ó	47,207,672	1.81%	
Pathway PE I-9*	7,597,626	0.28%	341,744	(0)	7,255,882	0.28%	
Total Fund	\$2,715,842,412	100.0%	\$(17,220,241)	\$119,833,667	\$2,613,228,986	100.0%	



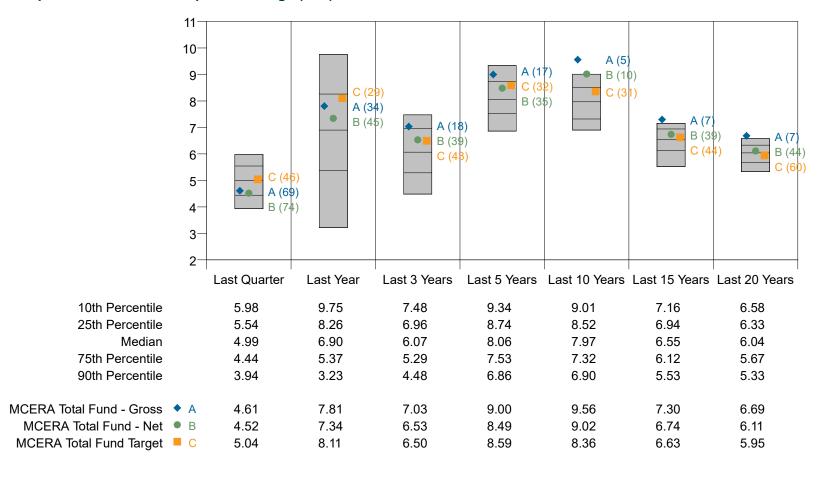
# **Parametric Overlay Positions – Changes Over Time**





# **Total Fund Performance - Annualized**

Returns for Periods Ended September 30, 2020 Group: Callan Public Fund Sponsor - Large (>1B)

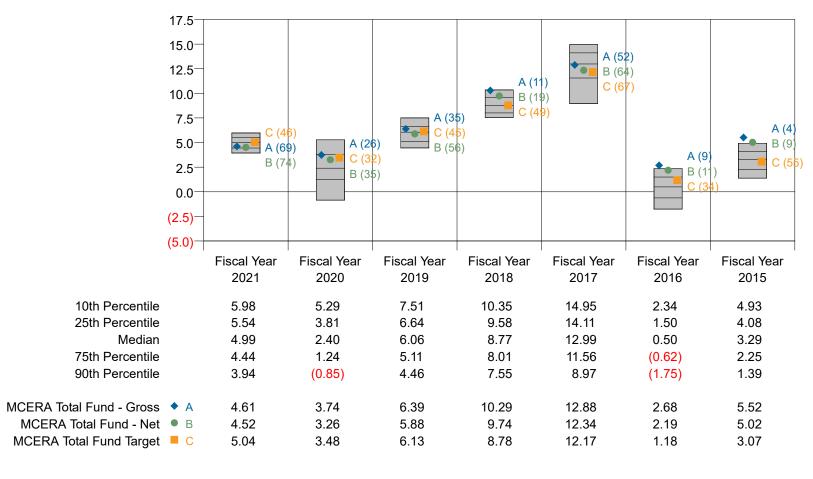


Current Quarter Target = 32.0% Russell 3000 Index, 22.0% MSCI ACWI ex US IMI Index, 11.5% Bloomberg Aggregate Index, 5.8% Bloomberg Intermediate Credit Index, 5.8% FTSE World Government Bond Index, 8.0% NCREIF NFI-ODCE Equal Weight Net, 1.8% Bloomberg Commodity Price Index, 1.8% S&P Global Natural Resources Index, 1.8% S&P DJ US Select REIT Index, 1.8% Bloomberg US TIPS Index, 6.4% Russell 3000 Index (Lagged)and 1.6% MSCI ACWI ex US IMI Index (Lagged).



# **Total Fund Performance – Fiscal Year**

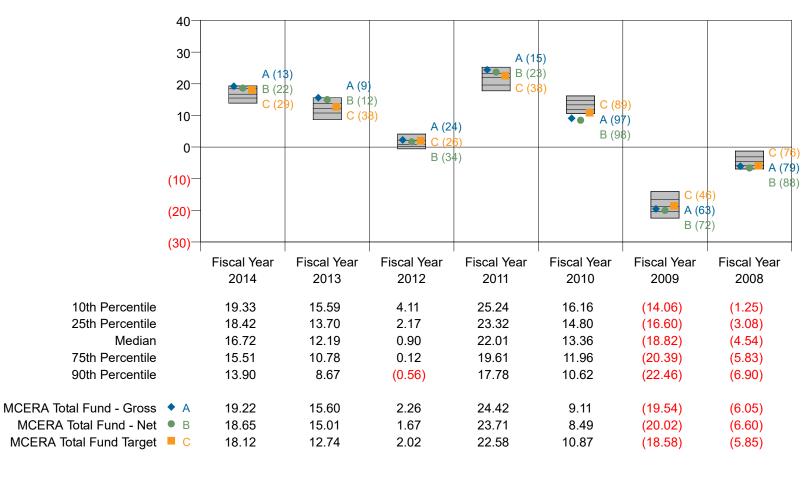
Fiscal Year Returns
Group: Callan Public Fund Sponsor - Large (>1B)





# **Total Fund Performance – Fiscal Year**

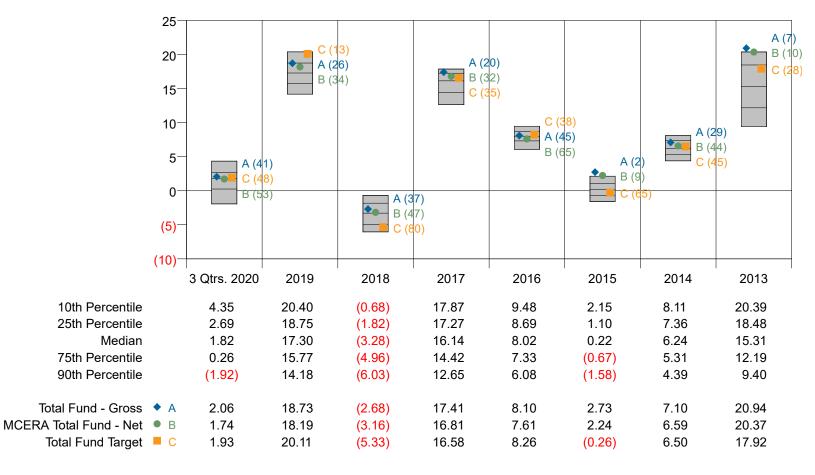
Fiscal Year Returns
Group: Callan Public Fund Sponsor - Large (>1B)





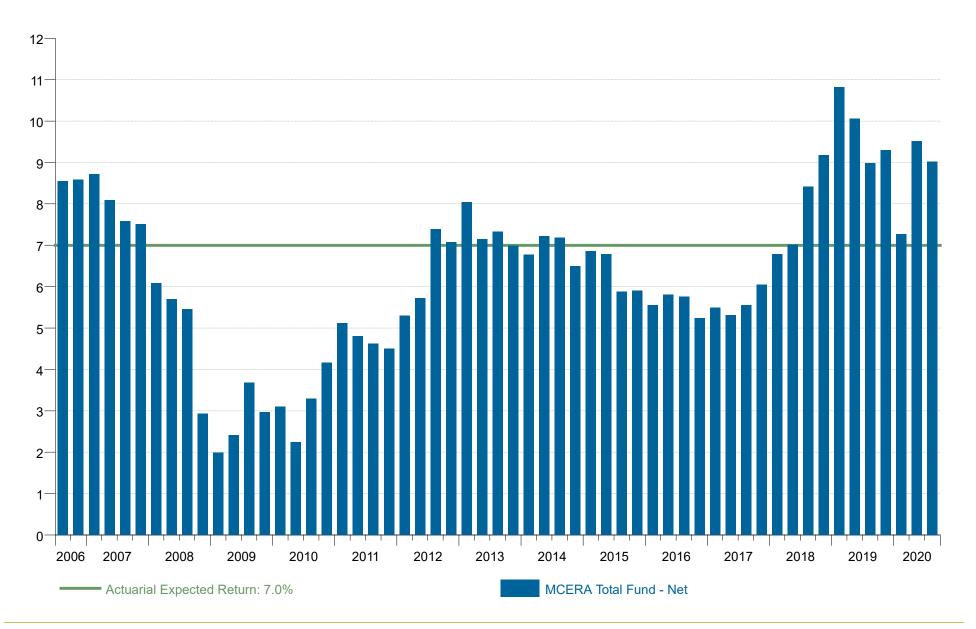
# **Total Fund Performance – Calendar Years**

Returns for Periods Ended September 30, 2020 Group: Callan Public Fund Sponsor - Large (>1B)





# **Annualized 10 Year Total Fund Net Returns (Quarterly Roll)**

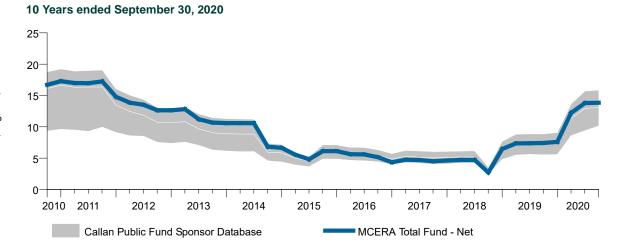




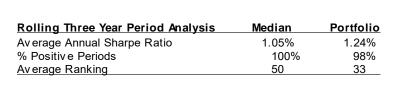
**Rolling 3 Year Standard Deviation** 

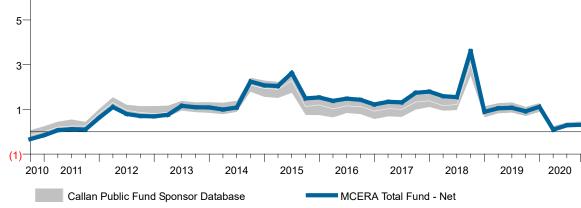
### **Total Fund - Volatility & Risk Adjusted Returns Comparison**

Rolling Three Year Period AnalysisMedianPortfolioAv erage Annual Standard Deviation8.56%9.19%% Positive Periods100%100%Av erage Ranking5040



Rolling 3 Year Sharpe Ratio 10 Years ended September 30, 2020

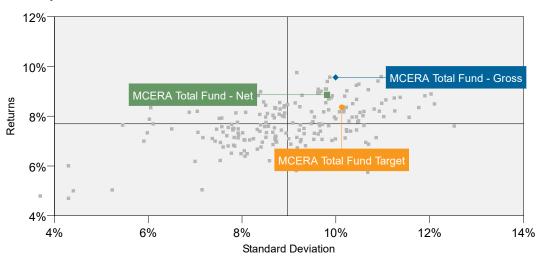




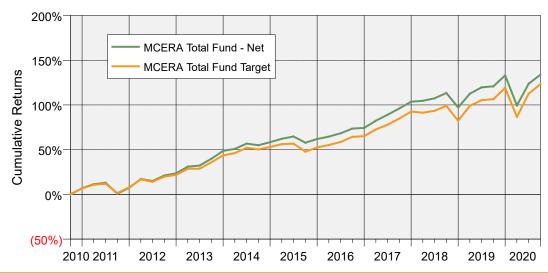


## **Total Fund – Cumulative Returns Relative to Target**

Ten Year Annualized Risk vs. Return As of September 30, 2020



# Total Fund Cumulative Returns vs. Target 10 Years Ended September 30, 2020





### **Watchlist**

# Investment Manager Monitoring Summary Report Active Managers as of September 30, 2020

		3 Year	3 Year	5 Year	5 Year		
Increase of Manager	•	Performance	Performance	Performance	Performance	Qualify for	Data Addad
Investment Manager	Team	vs Benchmark	vs Peers	vs Benchmark	vs Peers	Watchlist?	Date Added
DFA Small Cap Core Equity							
Russell 2000 Index		N/A	N/A	N/A	N/A		
Morgan Stanley International Value Equity	~					Yes	
MSCI EAFE Index						(team)	4Q17
Artisan International Growth Equity							
MSCI EAFE Index						Yes	4Q17
TimesSquare International Small Cap Equity	~						
MSCI EAFE Small Cap Index		N/A	N/A	N/A	N/A		
Parametric Emerging Markets Equity	-					V	4045
MSCI Emerging Markets Index						Yes	1Q15
Wellington Core Plus Fixed Income	~					No	
Bloomberg Barclays Aggregate Index						NO	
Western Asset Intermediate Credit Fixed Income						No	
Bloomberg Barclays Intermediate Credit Index						NO	
Colchester Global Fixed Income						No	3Q19
FTSE World Government Bond Index						NO	30(19
Invesco Balanced Risk Commodity Fund				N/A	N/A	No	
Bloomberg Commodity Index				IN/A	INA	NO	
KBI Global Natural Resources Fund	~		N/A	N/A	N/A	No	
S&P Global Natural Resource Index			IWA	IWA	IWA	NO	
UBS Trumbull Property Fund*		N/A	N/A	N/A	N/A	Under	4Q19
NFI-ODCE Index		IN/A	IWA	IN/A	INA	Review	4019

<sup>\*</sup>UBS Trumbull Property Fund placed on watch for organizational concerns. Quantitative criteria for private market portfolios under review by Governance Committee.

#### **Quantitative Criteria**

If a manager trails its relevant benchmark by more than 100 basis points (net of fees) and ranks in the bottom quartile of its peer universe (gross of fees ranking) for the trailing three years, or if a manager trails its relevant benchmark (net of fees) or ranks below median of its peer universe (gross of fees ranking) for the trailing five years, then the manager may be placed on the Watchlist.

#### **Color Code**



meets watch list criteria, no concerns, no actions recommended concerns exist, no actions recommended

violates watch list criteria, concerns exist, action to be determined



## Watchlist

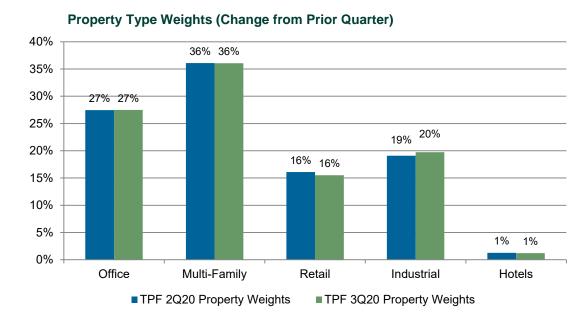
Investment Manager	3 Year Net Return Trails Benchmark by more than 100 bps (relative return shown in bps)	AND	3 Year Gross Return Ranks 75th - 100th%	<u>OR</u>	5 Year Net Return Trails Benchmark (relative return shown in bps)	<u>OR</u>	5 Year Gross Return Ranks 50th - 100th%	Qualify for Watchlist (Quantitative)	
DFA Small Cap Core Equity	N/A		NI/A		NI/A		N/A	Na	
Russell 2000 Index	N/A		N/A		N/A		N/A	No	
Morgan Stanley International Value Equity	151		1ct		23		1st	No	
MSCI EAFE Index	151		1st		23		151	No	
Artisan International Growth Equity	550		45th		260		71st	Yes	
MSCI EAFE Index	330		4501		200		7 151	1 62	
TimesSquare International Small Cap Equity	N/A		N/A		N/A		N/A	No	
MSCI EAFE Small Cap Index	IN/A	14/7			IN/A		IN/A	140	
Parametric Emerging Markets Equity	-649		88th		-529		89th	Yes	
MSCI Emerging Markets Index	-049		ooui		-020		0901	165	
Wellington Core Plus Fixed Income	98		9th		135		15th	No	
Bloomberg Barclays Aggregate Index	90	9th			135		1301	NO	
Western Asset Intermediate Credit Fixed Income	43		2nd		78		1st	No	
Bloomberg Barclays Intermediate Credit Index	43		ZHU		76		151	INO	
Colchester Global Fixed Income	-47		60th		54		33rd	No	
FTSE World Government Bond Index	-47		ootii		54		331u	INO	
Invesco Balanced Risk Commodity Fund	168		23rd		N/A		N/A	No	
Bloomberg Commodity Index	100		231U		IN/A		IN/A	INO	
KBI Global Natural Resources Fund	906		N/A		NI/A		N/A	No	
S&P Global Natural Resource Index	896		IN/A		N/A		IN/A	No	
UBS Trumbull Property Fund	Quantitative crit	eria fo	r private markets	portf	folios under revie	w by	Governance	Under	
NCREIF NFI-ODCE Index	Со	mmitte	e. On watch due	to or	ganizational char	nges.		Review	



### **UBS Trumbull Property Fund Snapshot**

#### As of September 30, 2020

¢40.7 D
\$18.7 B
\$14.9 B
18.8%
184
445
\$8.2 billion
\$25.1 million
\$0 million



- The Fund has a current redemption pool of \$8.2 billion. Following a 3Q 2020 redemption payment of \$25 million, the Fund has now paid out \$450 million in 2020, below its initial forecast of \$1.5 billion. The Fund anticipates a higher level of liquidity for redemption payments in 2021 as sales activity increases.
  - -MCERA submitted a partial redemption request for \$20 million in January 2020 and received \$301,570.38 on 9/30/20.
  - Redemption requests must be submitted at least 60 days prior to the end of the quarter and may be withdrawn no later than 14 days prior to the end of the quarter.
- In September 2019, the fund announced investors would have a choice between two fee incentives: loyalty incentive (discounted fees of 15% over 3 years or 25% over 4 years) and top-up incentive (\$0 base fee on additional dollars deposited). These are available for election until January 2021.
  - -The amount of client assets in the Loyalty Fee Program is \$4.4 billion.
  - -MCERA elected for the 4 year/25% discount loyalty incentive on approximately \$100 million NAV.



### **NFI-ODCE Funds - Net of Fee Returns**

As of September 30, 2020

Fund	Last Quarter	Last Year	Last 3 Years	Last 5 Years
AEW	0.17%	-0.07%	4.35%	5.82%
AFL-CIO	0.19%	1.12%	3.89%	4.88%
ARA	-0.38%	0.62%	4.56%	5.61%
ASB	-0.12%	1.65%	4.08%	4.88%
Barings	-1.48%	1.01%	4.62%	6.24%
BGO	1.47%	0.67%	4.41%	5.87%
Blackrock	0.53%	3.13%	5.66%	7.24%
CBRE	1.45%	3.54%	6.87%	8.49%
Clarion	0.47%	1.40%	5.50%	6.82%
DWS	-0.03%	1.75%	5.32%	6.41%
Everwest	0.42%	1.27%	4.31%	6.03%
GSAM	1.64%	-0.53%	4.71%	6.41%
Heitman	1.09%	-3.60%	2.39%	4.84%
Intercontinental	0.70%	3.25%	6.79%	8.22%
Invesco	-0.47%	-1.67%	4.11%	5.69%
JP Morgan	-0.28%	0.76%	3.50%	5.10%
LaSalle	0.71%	0.01%	4.63%	6.18%
MetLife	-0.45%	-0.81%	5.75%	7.02%
MSIM	1.06%	1.31%	5.29%	6.95%
NYLIM	0.96%	2.03%	5.74%	7.15%
PGIM	0.29%	1.50%	5.08%	6.23%
Principal	-0.01%	0.02%	4.70%	6.33%
Stockbridge	1.15%	2.69%	5.76%	7.12%
TA Realty	0.84%	3.71%		
UBS	-0.37%	-2.86%	0.81%	2.89%

#### **Rent Collections**

**AEW 3Q:** 

Multifamily: 97% Industrial: 98%

Office: 96% Retail: 88%

#### **UBS 3Q:**

Multifamily: 96% Industrial 98%

Office: 97% Retail: 75%



### **NFI-ODCE Funds - Gross of Fee All Sector Returns**

As of September 30, 2020

E I	D. (. 'I oo ooo	A	La Lastria LOC 0000	0(" 00 0000
Fund	Retail 3Q 2020	Apartment 3Q 2020	Industrial 3Q 2020	Office 3Q 2020
AEW	-1.07%	-0.14%	2.30%	0.41%
AFL-CIO	-0.48%	-0.76%	3.90%	0.83%
ARA	-1.19%	0.74%	2.47%	-0.84%
ASB	-1.74%	-0.21%	3.01%	0.29%
Barings	-0.87%	-1.14%	1.87%	-1.74%
BGO	1.05%	0.91%	4.47%	0.49%
Blackrock	0.49%	-0.59%	4.49%	-0.76%
CBRE	0.59%	1.39%	2.46%	0.83%
Clarion	-1.72%	-0.27%	3.01%	0.89%
DWS	-1.13%	1.27%	2.86%	-1.36%
Everwest	-0.26%	0.37%	4.04%	-0.40%
GSAM	0.90%	1.51%	3.61%	1.38%
Heitman	-0.08%	0.60%	3.47%	0.78%
Intercontinental	0.13%	1.40%	1.92%	0.80%
Invesco	-0.70%	-0.18%	1.84%	-0.26%
JP Morgan	-0.76%	0.14%	2.54%	0.33%
LaSalle	-2.42%	0.87%	2.94%	1.46%
MetLife	-0.86%	-0.06%	1.40%	0.18%
MSIM	0.18%	1.42%	2.94%	0.34%
NYLIM	1.17%	0.70%	3.38%	-0.43%
PGIM	-1.76%	0.69%	4.31%	-0.64%
Principal	-0.82%	-0.47%	1.83%	0.84%
Stockbridge	0.66%	0.89%	2.50%	0.35%
TA Realty	0.69%	0.53%	1.99%	0.80%
UBS	-3.30%	0.93%	2.70%	-0.55%



# NFI-ODCE Funds - Gross of Fee Retail Returns (trailing 4 quarters)

As of September 30, 2020

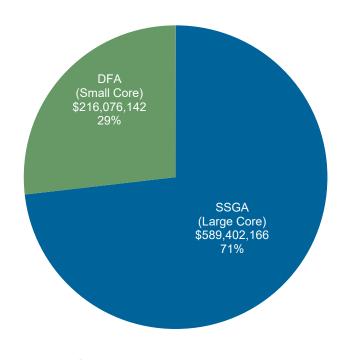
	Fund				
Fund	Allocation Weight	Retail 3Q 2020	Retail 2Q 2020	Retail 1Q 2020	Retail 4Q 2019
AEW	17.04%	-1.07%	-0.06%	-8.01%	-1.55%
AFL-CIO	14.85%	-0.48%	-4.26%	-0.08%	0.90%
ARA	17.18%	-1.19%	-2.60%	-0.09%	0.85%
ASB	14.28%	-1.74%	-1.77%	-2.72%	-0.05%
Barings	15.82%	-0.87%	-0.76%	0.56%	0.21%
BGO	9.67%	1.05%	-1.57%	0.63%	1.18%
Blackrock	16.57%	0.49%	-0.64%	1.03%	1.12%
CBRE	14.86%	0.59%	-6.22%	-2.30%	0.20%
Clarion	11.75%	-1.72%	-6.01%	-1.04%	-0.69%
DWS	17.58%	-1.13%	-3.72%	-0.85%	0.13%
Everwest	20.24%	-0.26%	-5.13%	-0.05%	-0.22%
GSAM	11.22%	0.90%	-4.03%	-0.33%	1.53%
Heitman	17.24%	-0.08%	-8.29%	-14.08%	-12.18%
Intercontinental	2.20%	0.13%	-3.48%	2.00%	0.57%
Invesco	13.70%	-0.70%	-6.40%	-0.22%	-0.53%
JP Morgan	22.99%	-0.76%	-10.42%	-0.63%	0.67%
LaSalle	14.32%	-2.42%	-3.38%	-1.10%	0.45%
MetLife	11.94%	-0.86%	-5.63%	-1.96%	0.99%
MSIM	12.10%	0.18%	-9.23%	-5.21%	-1.08%
NYLIM	3.38%	1.17%	-1.20%	-0.98%	0.44%
PGIM	12.99%	-1.76%	-3.34%	0.21%	0.07%
Principal	13.83%	-0.82%	-2.33%	-1.62%	-0.15%
Stockbridge	17.66%	0.66%	-4.87%	0.86%	-0.02%
TA Realty	7.00%	0.69%	-3.85%	0.98%	1.49%
UBS	15.51%	-3.30%	-5.34%	-2.90%	-5.29%



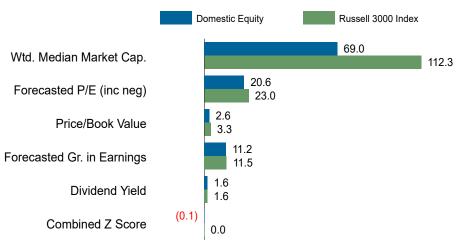
# Callan

**MCERA Asset Class Review** 

### **Domestic Equity Composite**



# Portfolio Characteristics as of September 30, 2020

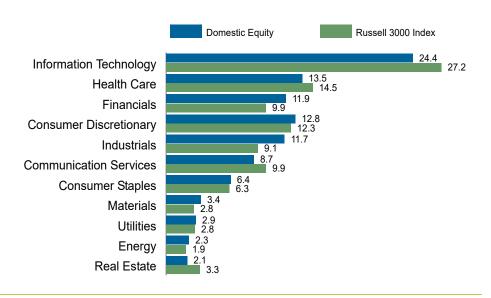


#### Style Exposure Matrix Holdings as of September 30, 2020

-- Domestic Equity

0.2% (346)	1.0% (209) 0.3% (396) 29.3% (755) 27.0% (1168)	0.4% (80) 0.1% (152) 44.1% (583) 47.1% (903)	2.6% (610) 0.6% (894) 100.0% (2094) 100.0% (2977)
0.2% (346)	0.3% (396)	0.1% (152)	0.6% (894)
, ,	, ,	, ,	, ,
.2% (321)	1.0% (209)	0.4% (80)	2.6% (610)
			0.004 (0.40)
1.4% (299)	2.3% (505)	1.9% (386)	5.6% (1190)
.0% (222)	7.9% (351)	7.5% (284)	20.4% (857)
4.3% (162)	4.2% (178)	6.6% (256)	15.1% (596)
.2% (115)	2.9% (107)	5.1% (131)	11.2% (353)
20.0% (99)	20.2% (89)	38.5% (109)	78.6% (297)
7.2% (98)	17.5% (88)	31.2% (88)	65.8% (274)
			- Russell 3000 Illdex
	2% (115) 4.3% (162) .0% (222) 1.4% (299)	20.0% (99) 20.2% (89) 2% (115) 2.9% (107) 4.3% (162) 4.2% (178) 7.9% (351) 1.4% (299) 2.3% (505)	7.2% (98) 17.5% (88) 31.2% (88) 20.0% (99) 20.2% (89) 38.5% (109) 2.9% (115) 5.1% (131) 5.1% (131) 6.6% (256) 7.9% (351) 7.5% (284) 1.4% (299) 2.3% (505) 1.9% (386)

#### Sector Allocation as of September 30, 2020





### **Domestic Equity Composite**

#### Returns and Rankings for Periods Ended September 30, 2020

#### **Returns and Rankings for Calendar Years**

	Last		Last 3	Last 5	Last 10		3 Qtrs.					
	Quarter	Last Year	Years	Years	Years		2020	2019	2018	2017	2016	2015
Domestic Equity - Net	7.48	9.24	9.01	11.97	12.38	Domestic Equity - Net	0.23	28.76	(5.34)	20.61	13.26	(1.69)
Domestic Equity Target	9.21	15.00	11.65	13.69	13.48	Domestic Equity Target	5.41	31.02	(5.24)	21.13	12.74	0.48
Large Cap Equity - Net	9.14	15.46	12.31	14.20	13.56	Large Cap Equity - Net	5.79	31.63	(4.59)	21.86	12.01	1.43
SSGA - Net	8.92	15.08	12.24	14.13		SSGA - Net	5.51	31.43	(4.39)	21.82	12.00	1.41
S&P 500 Index	8.93	15.15	12.28	14.15	13.74	S&P 500 Index	5.57	31.49	(4.38)	21.83	11.96	1.38
Ranking vs. Large Cap Equity	53	49	48	46		Ranking vs. Large Cap Equity	50	43	46	51	35	50
Small Cap Equity - Net	3.61	(4.86)	0.60	6.07	9.06	Small Cap Equity - Net	(12.39)	21.86	(8.79)	17.50	15.99	(6.82)
DFA Small Core - Net	3.51	(6.77)				DFA Small Core - Net	(14.09)	21.80				
Russell 2000 Index	4.93	0.39	1.77	8.00	9.85	Russell 2000 Index	(8.69)	25.52	(11.01)	14.65	21.31	(4.41)
Ranking vs. Small Cap Equity	57	67				Ranking vs. Small Cap Equity	68	69				

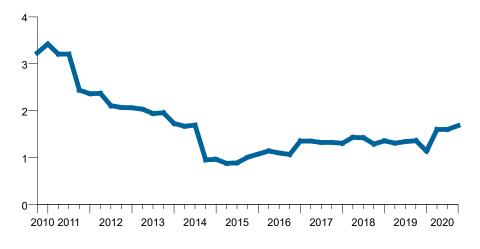
• The domestic equity composite underperformed the index in the third quarter. DFA lagged the Russell 2000 benchmark for the quarter and year. The majority of relative underperformance came from the fund's holdings in Financials and Industrials as well as the exclusion of stocks with the lowest profitability and highest relative price.

The Domestic Equity Target is comprised of 51.1% S&P/BARRA Value, 22.2% S&P 500, 15.6% Russell 2000 and 11.1% S&P/BARRA Growth through 12/31/1999, 80% S&P 500 and 20% Russell 2000 from 12/31/1999 to 06/30/2010, and 100% Russell 3000 from 06/30/2010 to present.

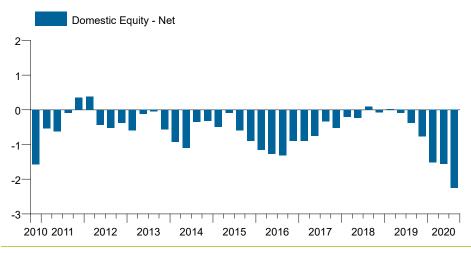


## **Domestic Equity Composite**

Rolling 3 Year Tracking Error vs. Domestic Equity Target 10 Years ended September 30, 2020



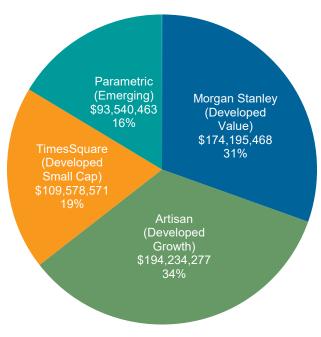
Rolling 3 Year Relative Returns vs. Domestic Equity Target 10 Years ended September 30, 2020



# Rolling 3 Year Relative Standard Deviation vs. Domestic Equity Target 10 Years ended September 30, 2020







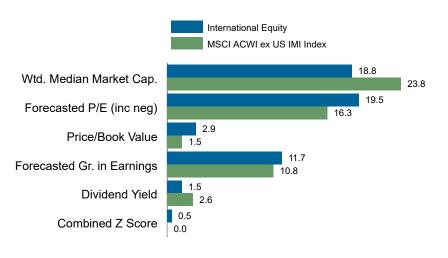
#### Region & Style Exposure Matrix Holdings as of September 30, 2020



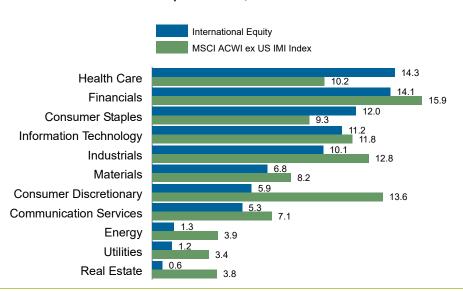




#### Portfolio Characteristics as of September 30, 2020



#### Sector Allocation as of September 30, 2020





#### Returns and Rankings for Periods Ended September 30, 2020

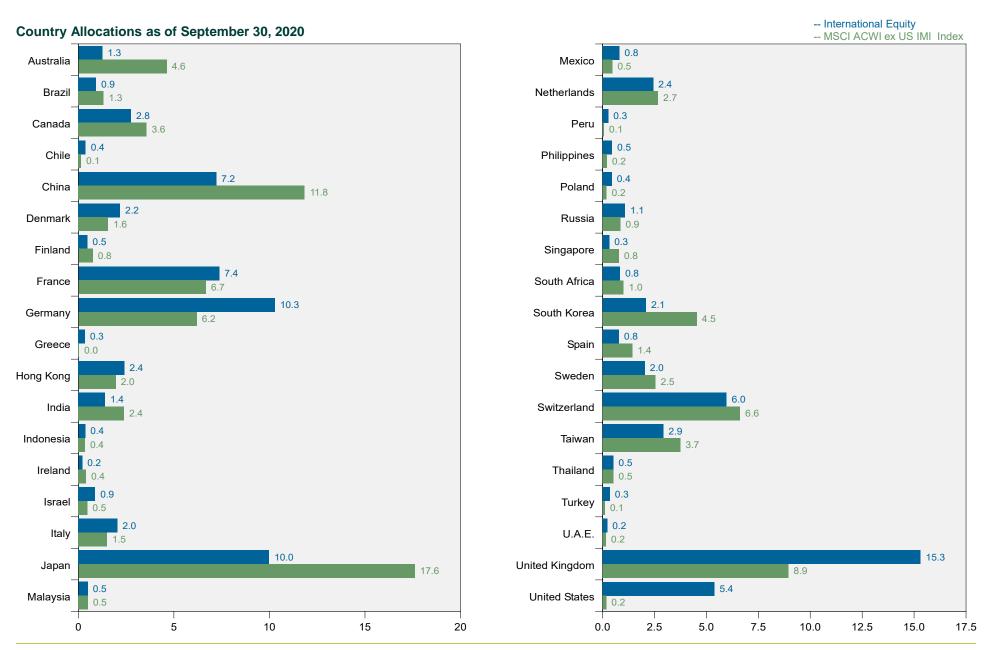
Returns and Rankings	stor	Periods	Ended	September	30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years		3 Qtrs. 2020	2019	2018	2017	2016
International Equity - Net	6.31	5.19	2.64	6.63	6.16	International Equity - Net	(3.13)	23.52	(13.51)	28.92	(0.61)
International Equity Target	6.80	3.52	1.13	6.31	4.17	International Equity Target	(5.20)	21.63	(14.76)	27.81	4.41
Morgan Stanley - Net	3.70	5.35	2.13	5.49	5.56	Morgan Stanley - Net	(1.97)	20.92	(13.46)	25.42	(1.45)
MSCI EAFE Index	4.80	0.49	0.62	5.26	4.62	MSCI EAFE Index	(7.09)	22.01	(13.79)	25.03	1.00
Ranking vs. Non-US Developed Value Equity	34	1	1	1	10	Ranking vs. Non-US Developed Value Equity	1	34	14	41	95
Artisan - Net	7.40	6.97	6.11	7.86	7.38	Artisan - Net	(0.90)	29.61	(10.56)	31.24	(9.41)
MSCI EAFE Index	4.80	0.49	0.62	5.26	4.62	MSCI EAFE Index	(7.09)	22.01	(13.79)	25.03	1.00
Ranking vs. Non-US Developed Growth Equity	83	85	45	71	40	Ranking vs. Non-US Developed Growth Equity	81	26	13	25	99
TimesSquare - Net	9.38	7.57				TimesSquare - Net	(4.07)				
MSCI EAFE Small Cap	10.25	6.84	1.40	7.37	7.33	MSCI EAFE Small Cap	(4.20)	24.96	(17.89)	33.01	2.18
TimesSquare - Gross (unlinked)	63	43				TimesSquare - Gross (unlinked)	44				
Parametric EM - Net	4.61	(6.85)	(4.07)	3.68	0.55	Parametric EM - Net	(13.50)	12.61	(13.57)	27.62	12.95
MSCI Emerging Markets Index	9.56	10.54	2.42	8.97	2.51	MSCI Emerging Markets Index	(1.16)	18.44	(14.57)	37.28	11.19
Ranking vs. Emerging Markets Equity	88	87	88	89	90	Ranking vs. Emerging Markets Equity	87	83	25	83	22

- The International Equity composite slightly underperformed on a relative basis.
  - Morgan Stanley: poor stock selection within health care was a significant detractor along with the fund's selections within consumer staples and industrials. A relative underweight in Japan was also a headwind in the third quarter.
  - Artisan: holdings within Emerging Markets and the Americas were the major driving factors in the fund's outperformance.
  - TimesSquare: Underperformance was mainly from stock selection in Asia Pacific ex Japan and Europe. Japan offset some of these losses, but the funds relative headwinds proved to be too large to overcome.
  - -Parametric: An underweight to China (13.4% vs. 41.9% for the benchmark) and Taiwan negatively impacted relative returns.

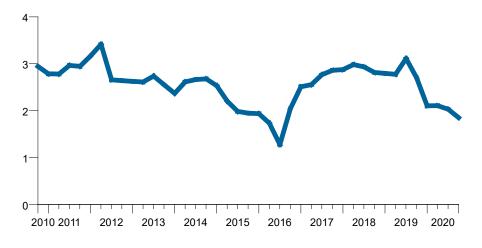


The International Equity Target is comprised of 100% MSCI EAFE Index through 06/30/2010, and 100% MSCI ACWI ex-US IMI Index thereafter.

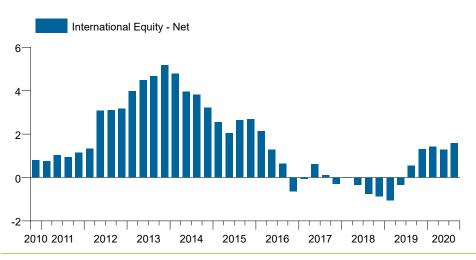




Rolling 3 Year Tracking Error vs. Int'l Equity Target 10 Years Ended September 30, 2020



Rolling 3 Year Relative Returns vs. Int'l Equity Target 10 Years ended September 30, 2020

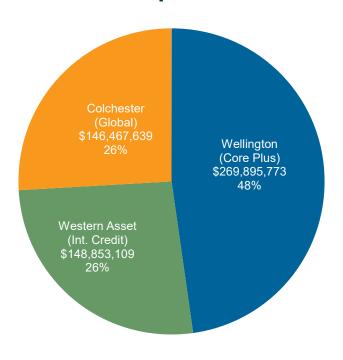


# Rolling 3 Year Relative Standard Deviation vs. Int'l Equity Target 10 Years ended September 30, 2020

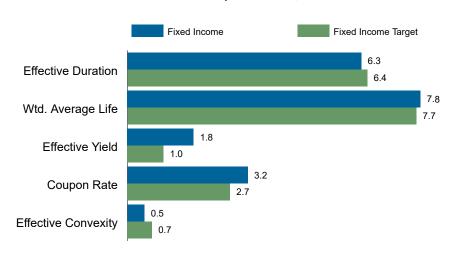




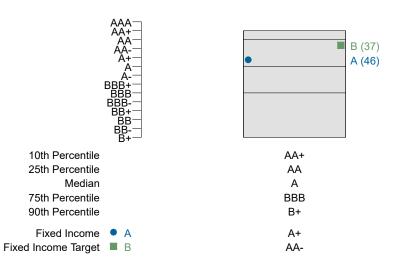
### **Fixed Income Composite**



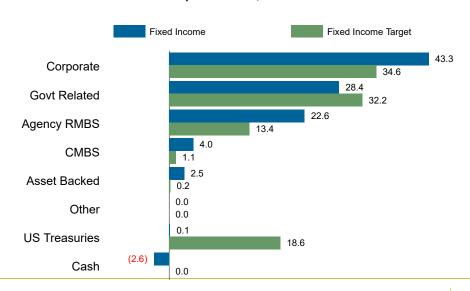
#### Portfolio Characteristics as of September 30, 2020



#### Quality Rating as of September 30, 2020 Total Domestic Fixed Income Database



#### Sector Allocation as of September 30, 2020





### **Fixed Income Composite**

#### Returns and Rankings for Periods Ended September 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Fixed Income - Net	2.08	9.56	5.67	5.12	4.27
Fixed Income Target	1.35	6.85	4.98	4.19	3.34
Wellington - Net	1.23	8.66	6.00	5.32	4.64
Bloomberg Aggregate Index	0.62	6.98	5.24	4.18	3.64
Ranking vs. Core Plus Fixed Income	86	17	9	15	37
Western Asset - Net	1.44	8.30	5.38	5.11	4.50
Bloomberg Intermediate Credit Index	1.24	6.49	4.96	4.33	3.90
Ranking vs. Intermediate Fixed Income	2	3	2	1	1
Colchester - Net	3.88	7.53	3.90	4.50	
FTSE World Government Bond Index	2.94	6.77	4.37	3.95	1.86
Ranking vs. Global Fixed Income (Uhedged)	8	20	60	33	

#### **Returns and Rankings for Calendar Years**

	3 Qtrs.					
	2020	2019	2018	2017	2016	2015
Fixed Income - Net	8.72	8.65	(0.35)	5.14	4.26	(0.89)
Fixed Income Target	6.59	8.21	(0.17)	4.55	2.70	(0.39)
Wellington - Net	8.18	9.94	(0.37)	4.90	4.72	0.09
Bloomberg Aggregate Index	6.79	8.72	0.01	3.54	2.65	0.55
Ranking vs. Core Plus Fixed Income	16	44	42	41	43	51
Western Asset - Net	6.86	9.78	(0.37)	4.12	4.89	0.95
Bloomberg Intermediate Credit Index	5.45	9.52	0.01	3.67	3.68	0.90
Ranking vs. Intermediate Fixed Income	8	1	99	2	1	59
Colchester - Net	5.41	7.56	(0.90)	8.20	3.87	(5.95)
FTSE World Government Bond Index	7.14	5.90	(0.84)	7.49	1.60	(3.57)
Ranking vs. Global Fixed Income (Uhedged)	55	58	18	35	15	90

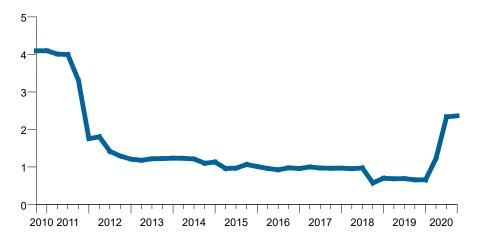
- The Fixed Income composite outperformed its target in the third quarter.
  - Wellington: allocations within investment grade credit (overweight industrials and communications) contributed to relative outperformance as did allocations to high yield and bank loans.
  - Western Asset: issue selection within financials and transportation added to the fund's outperformance. An overweight to lower quality issues proved to be a major tailwind over the quarter as well.
  - Colchester: currency exposure continues to be a large contributor particularly the Mexican Peso and Norwegian Krone. A relative
    overweight to US TIPS as well as an overweight to Colombian bonds also boosted returns.

Fixed Income Target is comprised of 100% Bloomberg Aggregate Index until 03/31/2014 and 50% Bloomberg Aggregate Index, 25% Bloomberg Intermediate Credit Index, and 25% FTSE World Government Bond Index thereafter.

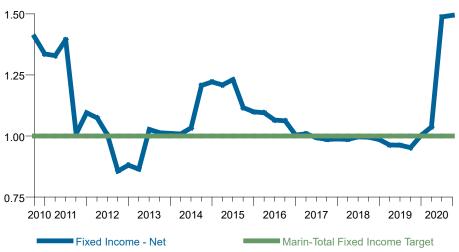


### **Fixed Income Composite**

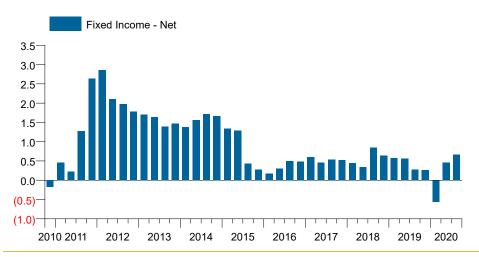
Rolling 3 Year Tracking Error vs. Fixed Income Target 10 Years Ended September 30, 2020



Rolling 3 Year Relative Standard Deviation vs. Fixed Income Target 10 Years ended September 30, 2020

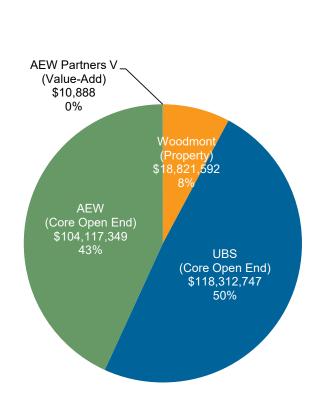


Rolling 3 Year Relative Returns vs. Fixed Income Target 10 Years ended September 30, 2020

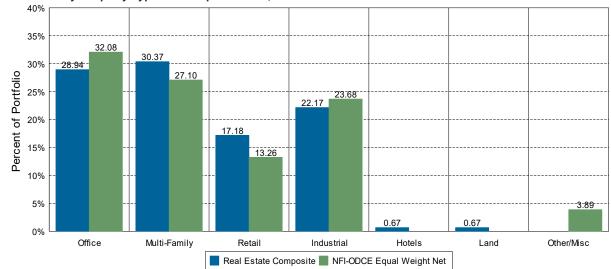




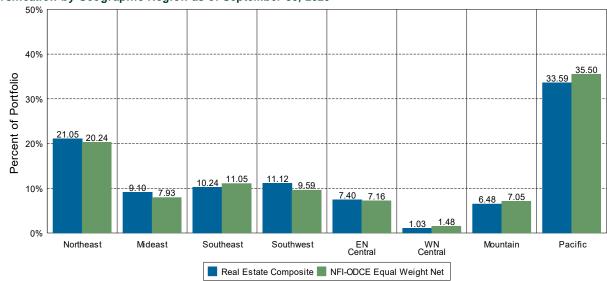
## **Real Estate Composite**



#### Diversification by Property Type as of September 30, 2020



#### Diversification by Geographic Region as of September 30, 2020





### **Real Estate Composite**

#### Returns and Rankings for Periods Ended September 30, 2020

	Last	Last Vasa	Last 3	Last 5	Last 10
	Quarter	Last Year	Years	Years	Years
Real Estate - Net	(0.10)	(1.07)	2.50	4.22	10.03
Real Estate Target	0.37	0.89	4.64	6.09	9.37
AEW Core Property Trust - Net	0.15	(0.13)	4.28	5.74	
NFI-ODCE Equal Wt Net Index	0.37	0.89	4.64	6.09	9.42
Ranking vs. Core Open End Funds	67	71	69	65	
UBS Trumbull Property Fund - Net	(0.34)	(2.82)	0.81	2.88	
NFI-ODCE Equal Wt Net Index	0.37	0.89	4.64	6.09	9.42
Ranking vs. Core Open End Funds	82	92	96	96	

#### **Returns and Rankings for Calendar Years**

	3 Qtrs.					
	2020	2019	2018	2017	2016	2015
Real Estate - Net	(1.39)	0.64	6.46	5.66	7.14	28.12
Real Estate Target	(0.40)	5.18	7.30	6.92	8.36	14.18
AEW Core Property Trust - Net	(1.05)	5.29	6.77	6.99	7.51	12.71
NFI-ODCE Equal Wt Net Index	(0.40)	5.18	7.30	6.92	8.36	14.18
Ranking vs. Core Open End Funds	62	71	75	46	82	78
UBS Trumbull Property Fund - Net	(2.68)	(2.88)	6.12	5.32	6.16	11.79
NFI-ODCE Equal Wt Net Index	(0.40)	5.18	7.30	6.92	8.36	14.18
Ranking vs. Core Open End Funds	72	97	86	88	90	83

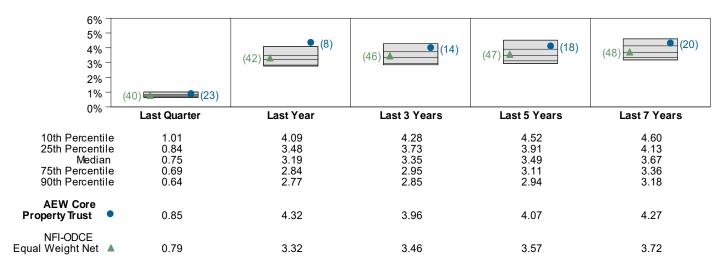
- The AEW Core Property Trust's current leverage is 25.5% (NFI-ODCE leverage: 22%) and has an occupancy rate of 95%.
- The industrial sector continues to lead performance for AEW while the retail, office, and multifamily sectors posted a negative appreciation return in the third quarter.
- The UBS Trumbull Property Fund's current leverage is 18.8% and has an occupancy rate of 90.1%.
  - -UBS' performance this quarter was mainly impacted by negative appreciation for hotel, retail, and office assets.

The Real Estate Target is comprised of the NCREIF Classic Index through 12/31/2004, NCREIF Total Property Index through 12/31/2014, and the NFI-ODCE Equal Weight Net thereafter.

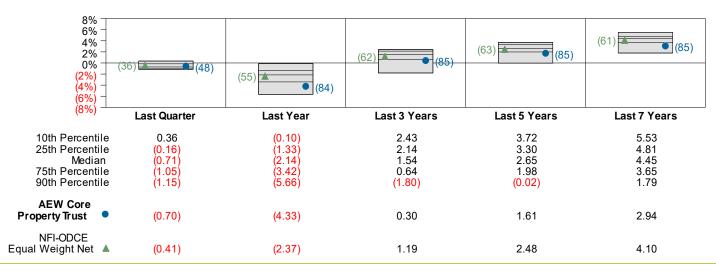


### **AEW Income and Appreciation Returns**

# Income Rankings vs Callan Real Estate ODCE Periods ended September 30, 2020



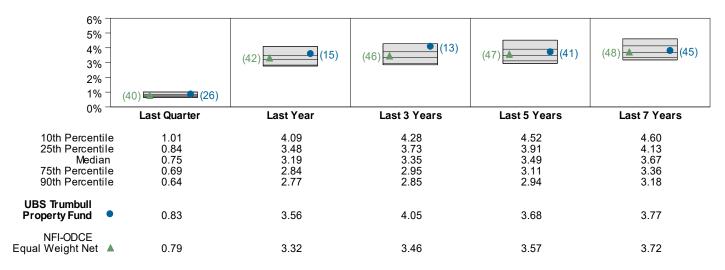
# Appreciation Rankings vs Callan Real Estate ODCE Periods ended September 30, 2020



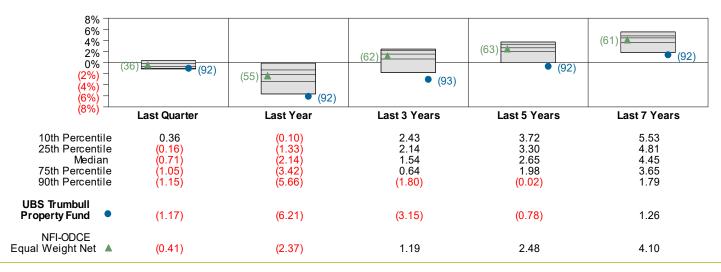


### **UBS Income and Appreciation Returns**

# Income Rankings vs Callan Real Estate ODCE Periods ended September 30, 2020

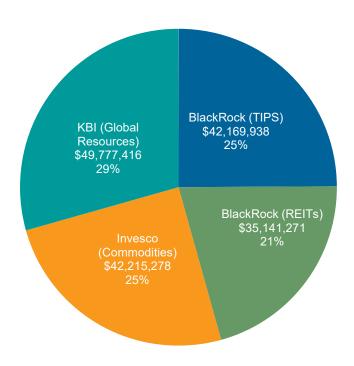


# Appreciation Rankings vs Callan Real Estate ODCE Periods ended September 30, 2020





### **Real Assets Composite**



- The BlackRock TIPS and REITs Funds are passive.
- The Invesco Balanced Risk Commodities Fund underperformed primarily due to its overweight in energy.
- All three strategies within the KBI Global Resources Solutions Fund (energy solutions, water, and agribusiness) outperformed the S&P Global Natural Resources Index with the energy efficiency and renewable energy sub-segments continued to contribute greatly to returns.

#### Returns and Rankings for Periods Ended September 30, 2020

	Last Quarter	Last Year	Last 3 Years	Last 4 Years
Real Assets - Net	7.28	0.02	2.52	2.69
Real Assets Target	3.72	(6.89)	(0.26)	0.96
BlackRock TIPS Index Fund - Net	3.09	10.27	5.92	4.27
Bloomberg US TIPS Index	3.03	10.08	5.79	4.12
Ranking vs. Real Returns Database	48	3	8	3
BlackRock REITs Index Fund - Net	0.83	(22.31)	(1.85)	(1.17)
S&P Dow Jones US Select REIT	0.83	(22.33)	(1.85)	(1.59)
MSCI US REIT Index	1.63	(17.76)	0.31	0.37
Ranking vs. Real Estate Mutual Funds	76	97	92	92
Invesco Commodities Fund - Net	9.94	(3.38)	(2.50)	(2.41)
Bloomberg Commodity Index	9.07	(8.20)	(4.18)	(3.22)
Ranking vs. Commodities Funds	2	1	30	35
KBI Global Resources - Net	14.01	12.92	5.55	8.02
S&P Global Natural Resources Index	1.95	(10.20)	(3.41)	1.94
KBI Custom Benchmark	19.87	25.20	9.66	11.06

#### **Returns and Rankings Calendar Years**

	3 Qtrs. 2020	2019	2018	2017
Real Assets - Net	(2.47)	15.95	(7.59)	10.03
Real Assets Target	(9.90)	14.08	(7.27)	7.95
BlackRock TIPS Index Fund - Net	9.40	8.53	(1.12)	3.24
Bloomberg US TIPS Index	9.22	8.43	(1.26)	3.01
Ranking vs. Real Returns Database	22	37	43	47
BlackRock REITS Index Fund - Net	(21.30)	23.15	(4.16)	6.10
S&P Dow Jones US Select REIT Index	(21.36)	23.10	(4.22)	3.76
MSCI US REIT Index	(17.12)	25.84	(4.57)	5.07
Ranking vs. Real Estate Mutual Funds	97	89	23	42
Invesco Commodities Fund - Net	(7.20)	6.23	(10.99)	5.91
Bloomberg Commodity Index	(12.08)	7.69	(11.25)	1.70
Ranking vs. Commodities Funds	20	81	46	28
KBI Global Resources - Net	4.86	25.87	(13.86)	25.66
S&P Global Natural Resources Index	(17.90)	16.41	(13.08)	21.98
KBI Custom Benchmark	13.00	28.74	(13.77)	21.96

The Real Assets Target is comprised of 25% Bloomberg US TIPS Index, 25% Bloomberg Commodity Index, 25% S&P Dow Jones US Select REIT Index, and 25% S&P Global Natural Resources Index. The KBI Custom Benchmark consists of 1/3 each: S-Network Global Water Index, Wilderhill New Energy Global Innovation Index, and Dax Global Agribusiness Index.



## **Private Equity Portfolio**

- 87% Paid-In through 6/30/20.
- When ranked against the Thomson-Cambridge Private Equity Database, MCERA is ranked in the second quartile for Total Value to Paid-In (TVPI) basis.
- The total portfolio is well diversified by vintage year and investment type.

	June 30, 2020	Quarter Change	March 31, 2020
Summary			
Vintage Years	13 in 2008-2020		13 in 2008-2020
# Total Partnerships	360	2	358
# Active Partnerships	357	2	355
# Liquidated Partnerships	3	-	3
Changes in Value			
Capital Commitments	\$400,000,000	-	\$400,000,000
Paid-In Capital	\$347,617,138	\$6,096,856	\$341,520,282
Uncalled Capital	<b>\$</b> 52, <b>44</b> 2,211	\$(6,096,856)	\$58,539,067
% Paid-In	86.90%	1.52%	85.38%
Distributed Capital	\$248,503,236	\$6,998,628	\$241,504,608
Net Asset Value	\$301,423,511	\$35,480,206	\$265,943,305
Total Realized and Unrealized Value	\$549,926,747	<b>\$42,478,834</b>	<b>\$5</b> 07,447,913
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.71x	0.01x	0.71x
Residual Value to Paid-In Capital (RVPI)	0.87x	0.09x	0.78x
Total Value to Paid-In Capital (TVPI)	1.58x	0.10x	1.49x
Quartile Ranking	2nd		2nd
Net IRR	12.70%	1.28%	11.42%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		2.63%	
Unrealized Gain/(Loss), Dollars		\$36,381,977	
Unrealized Gain/(Loss), %		13.68%	

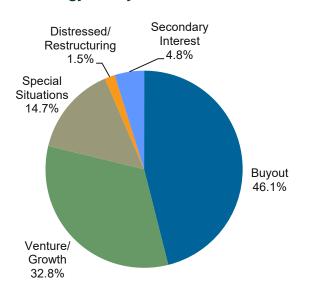
Quartile Rankings against the All Private Equity, All Regions Refinitiv/Cambridge Database.

Uncalled capital above does not reflect currency fluctuations for Pathway's investments in foreign partnerships.

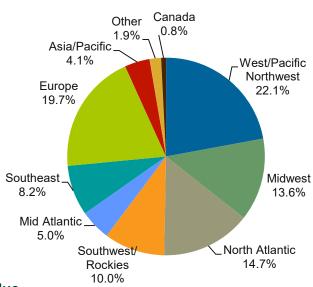


## **Private Equity Portfolio Exposure**

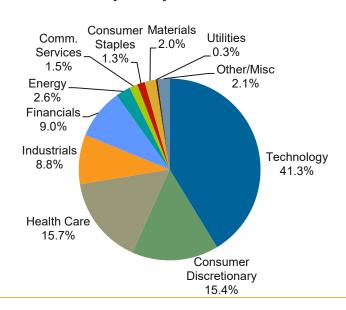
#### **Strategy Mix by Net Asset Value**



#### **Geographic Mix by Net Asset Value**

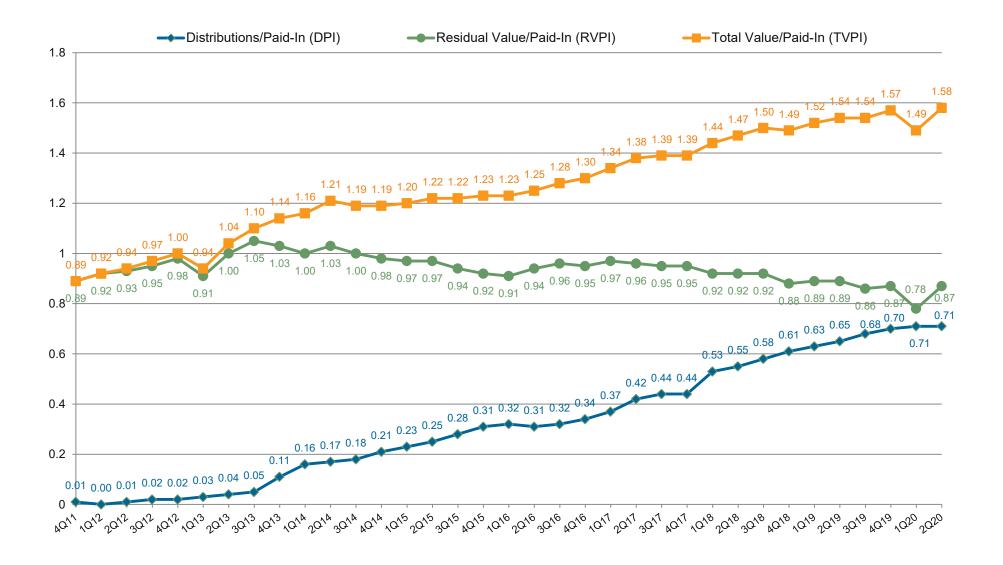


**Industry Mix by Net Asset Value** 





### **Private Equity Ratios – Changes Over Time**





# Callan

**Appendix** 

#### SSGA S&P 500 Index Portfolio

Inception Date: 12/31/2010

Strategy AUM: \$551.4B

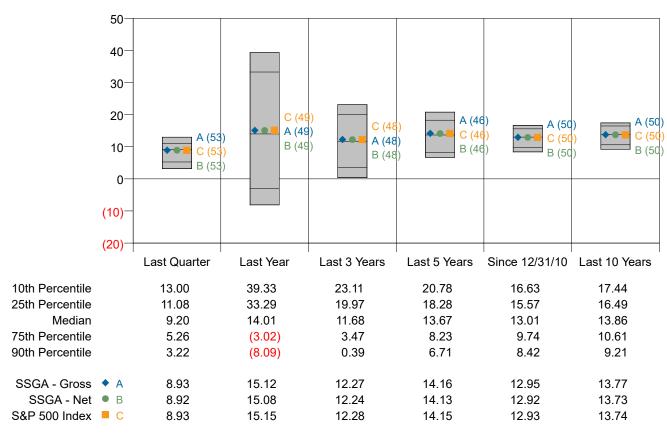
Vehicle AUM: \$56.0B

Fee Schedule:

0.03% on all assets

Returns for Periods Ended September 30, 2020

**Group: Callan Large Capitalization** 





### **DFA Small Cap Core Equity**

Inception Date: 12/31/2018

Strategy AUM: \$19.9B

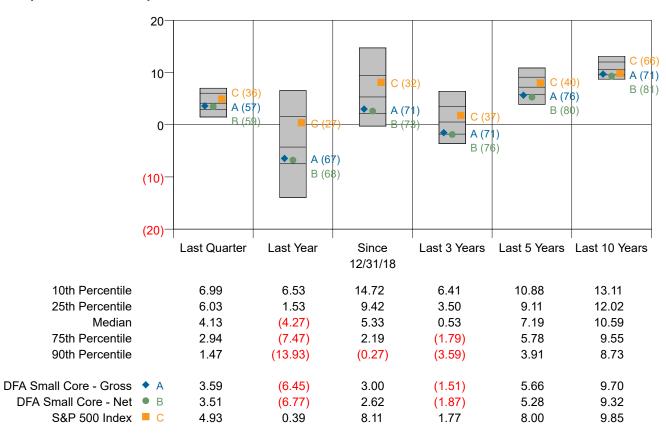
Vehicle AUM: \$1.7B

Fee Schedule:

0.33% on all assets

Returns for Periods Ended September 30, 2020

**Group: Callan Small Cap Core** 





### **Morgan Stanley International Value Equity**

Inception Date: 9/30/2001 Strategy AUM: \$10.3B

Vehicle AUM: \$2.0B

Fee Schedule:

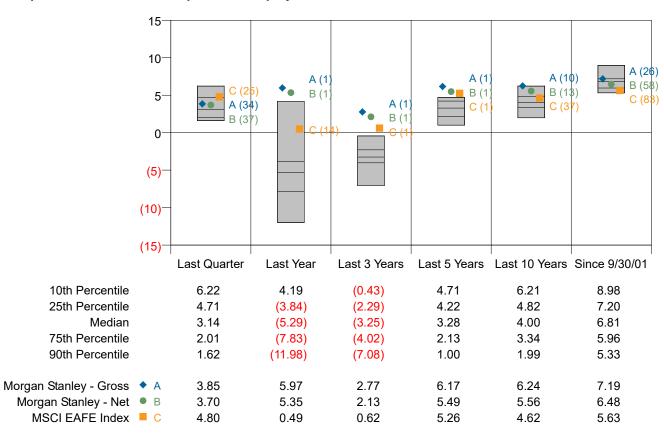
0.75% on the first \$25 million

0.65% on the next \$50 million

0.60% on the next \$25 million

0.45% on the balance

Returns for Periods Ended September 30, 2020 Group: Callan Non-US Developed Value Equity





## **Artisan International Growth Equity**

Inception Date: 12/31/2002

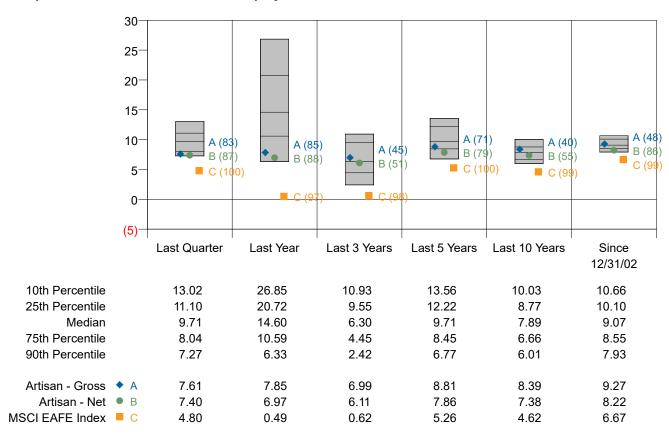
Strategy AUM: \$20.5B

Vehicle AUM: \$1.4B

Fee Schedule:

0.80% on all assets

Returns for Periods Ended September 30, 2020 Group: Callan Non-US Broad Growth Equity





## **TimesSquare International Small Cap Equity**

Inception Date: 3/31/2019

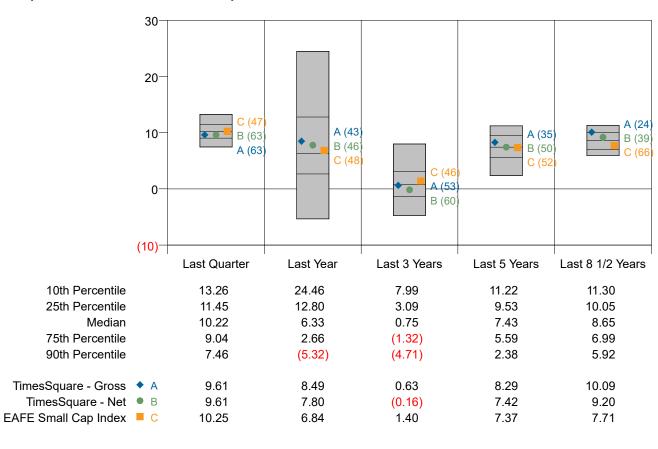
Strategy AUM: \$3.0B Vehicle AUM: \$185M

Fee Schedule:

0.85% on all assets

Returns for Periods Ended September 30, 2020

**Group: Callan International Small Cap** 





## **Parametric Emerging Markets Equity**

Inception Date: 9/30/2010

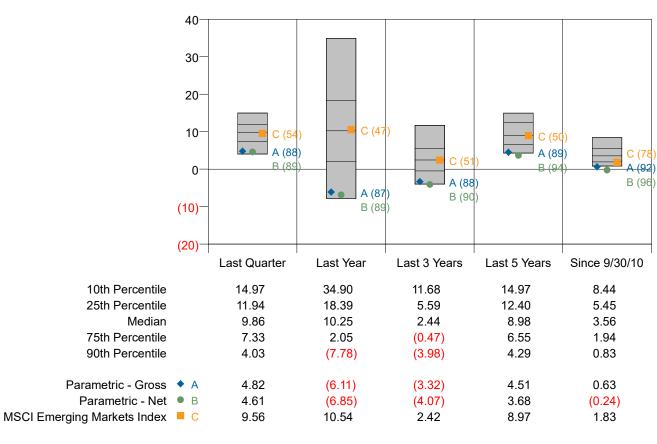
Strategy AUM: \$3.0B Vehicle AUM: \$844M

Fee Schedule:

0.78% on all assets

Returns for Periods Ended September 30, 2020

**Group: Emerging Markets Equity DB** 





## **Wellington Core Plus Fixed Income**

Inception Date: 9/30/2002 (Core)

Inception Date: 3/31/2012 (Core Plus)

Strategy AUM: \$12.0B

Vehicle AUM: \$9.9B Fee Schedule:

0.30% on the first \$25 million

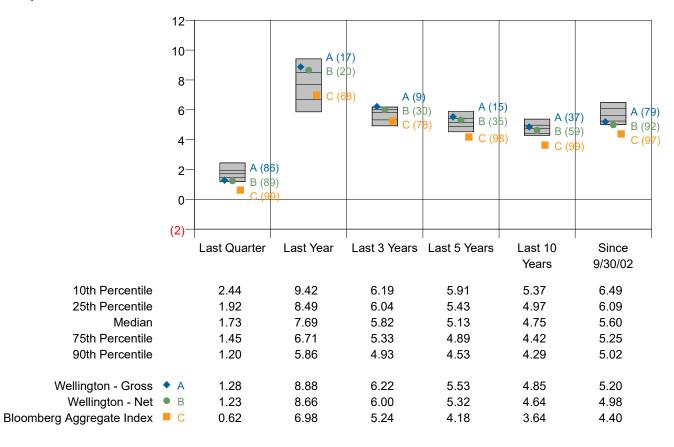
0.25% on the next \$25 million

0.22% on the next \$50 million

0.15% on the balance

Returns for Periods Ended September 30, 2020

**Group: Callan Core Plus Fixed Income** 





#### Western Asset Intermediate Credit Fixed Income

Inception Date: 9/30/2001 (Core Plus)

Inception Date: 3/31/2014 (Int. Credit)

Strategy AUM: \$23.2B

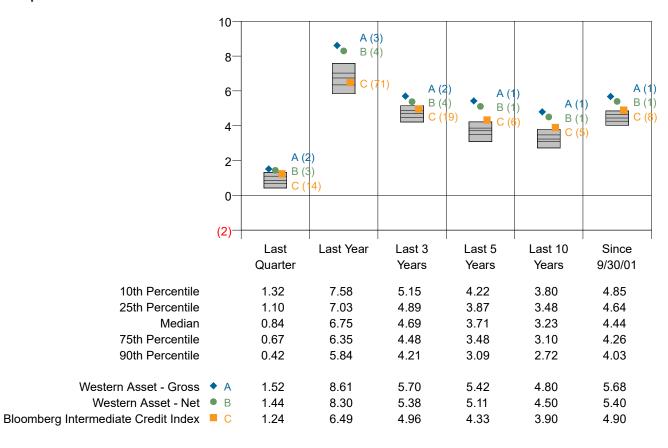
Vehicle AUM: \$20.5B

Fee Schedule:

0.30% on the first \$100 million

0.15% on the balance

Returns for Periods Ended September 30, 2020 Group: Callan Intermediate Fixed Income





#### **Colchester Global Fixed Income**

Inception Date: 3/31/2014 Strategy AUM: \$21.4B

Vehicle AUM: \$4.0B

Fee Schedule:

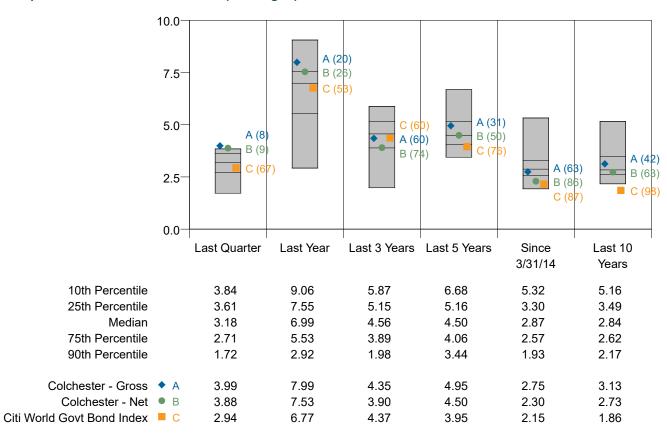
0.60% on the first \$25 million

0.50% on the next \$25 million

0.35% on the next \$100 million

0.30% on the balance

Returns for Periods Ended September 30, 2020 Group: Callan Global Fixed Income (Unhedged)





### **UBS Trumbull Property Fund**

Inception Date: 3/31/2013

Fund NAV: \$14.9B

Fee Schedule:

0.955% on the first \$10 million

0.825% on the next \$15 million

0.805% on the next \$25 million

0.79% on the next \$50 million

0.67% on the next \$150 million

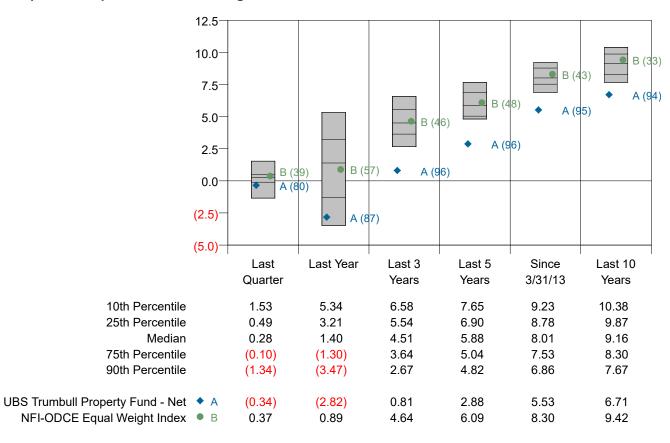
0.60% on the next \$150 million

0.56% on the next \$200 million

0.52% on the balance

25% Loyalty Incentive Fee for 4 years Effective 1/1/20

Returns for Periods Ended September 30, 2020 Group: Callan Open End Core Cmmingled Real Est





### **AEW Core Property Trust**

Inception Date: 3/31/2013

Fund NAV: \$7.1B

Fee Schedule:

1.10% on the first \$10 million

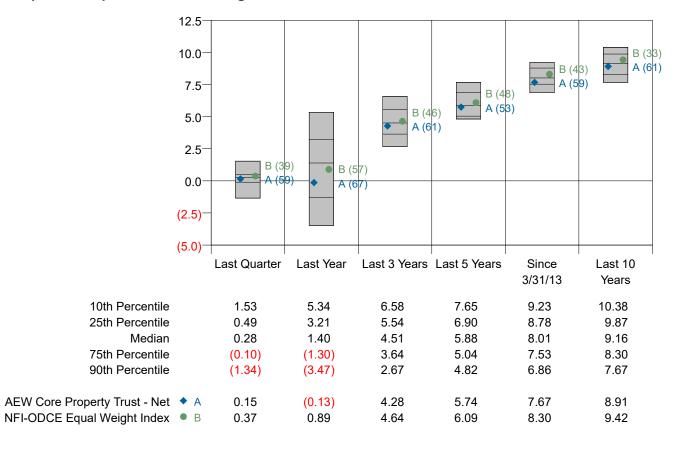
1.00% on the next \$15 million

0.85% on the next \$25 million

0.80% on the next \$50 million

0.75% on the balance

Returns for Periods Ended September 30, 2020 Group: Callan Open End Core Cmmingled Real Est





#### **BlackRock TIPS Index Fund**

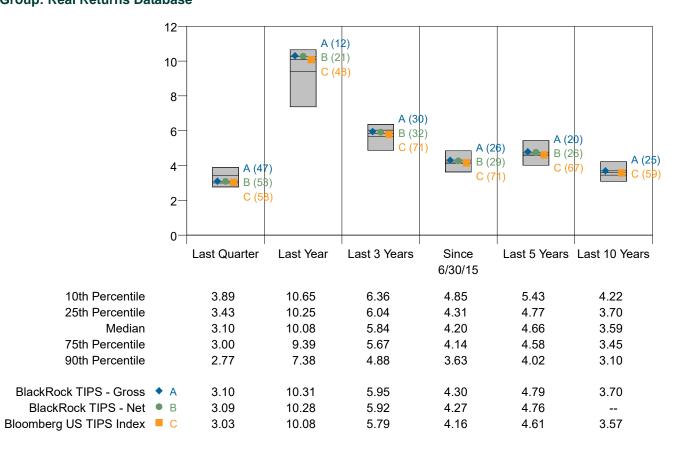
Inception Date: 6/30/2015

Strategy AUM: \$44.8B Vehicle AUM: \$12.8B

Fee Schedule:

0.03% on all assets

Returns for Periods Ended September 30, 2020 Group: Real Returns Database





#### BlackRock REITs Index Fund

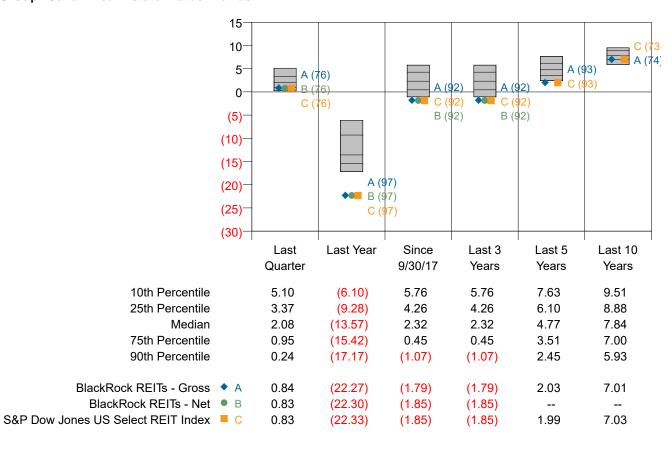
Inception Date: 9/30/2017

Strategy AUM: \$1.3M Vehicle AUM: \$1.3M

Fee Schedule:

0.06% on all assets

Returns for Periods Ended September 30, 2020 Group: Callan Real Estate Mutual Funds





#### **Invesco Balanced Risk Commodities Fund**

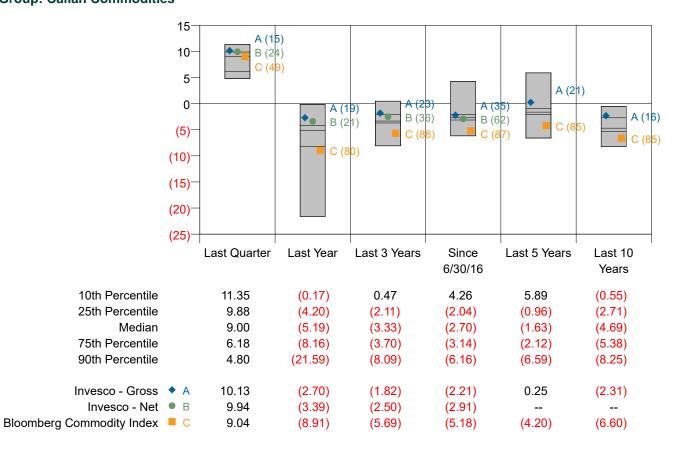
Inception Date: 6/30/2016

Strategy AUM: \$1.5B Vehicle AUM: \$0.5B

Fee Schedule:

0.70% on all assets

Returns for Periods Ended September 30, 2020 Group: Callan Commodities





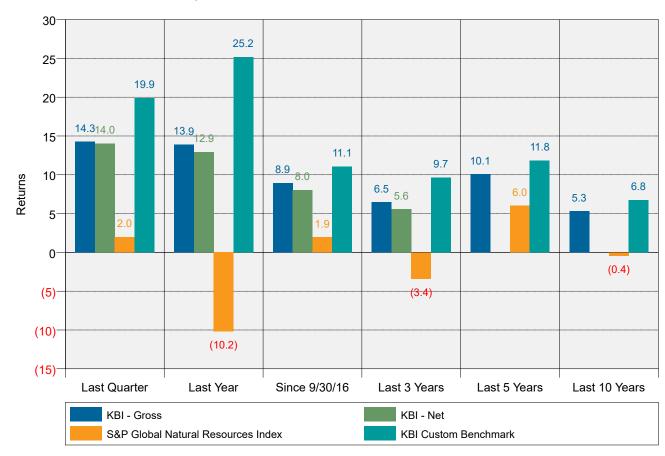
### **KBI Global Resources Fund**

Inception Date: 9/30/2016 Strategy AUM: \$260.9M Vehicle AUM: \$65.3M

Fee Schedule:

0.85% on all assets

#### **Returns for Periods Ended September 30, 2020**







## Marin County Employees' Retirement Association Defined Benefit Plan

Managers	November Market Value	Fiscal Year To Date 7/1/20 - 11/30/20	Calendar Year To Date 1/1/20 -11/30/20
Domestic Equity Russell 3000 Index	\$882,683,423	<b>19.5%</b> 19.9%	<b>10.9%</b> 15.7%
Large Cap Equity SSgA S&P 500 Index Fund S&P 500 Index	\$599,979,746 \$635,147,371	17.6% 17.6% 17.6%	14.0% 14.0% 14.0%
Parametric S&P 500 Futures	-\$35,167,625		
Small Cap Equity Dimensional Fund Advisors Russell 2000 Index	\$282,703,677 \$259,228,051	<b>24.3% 24.3%</b> 26.9%	3.2% 3.2% 10.4%
Parametric Russell 2000 Futures	\$23,475,626		
International Equity  MSCI ACWI ex-US IMI Index	\$630,207,617	<b>14.4%</b> 18.5%	<b>3.4%</b> 5.2%
Morgan Stanley Artisan Partners MSCI EAFE Index	\$187,777,234 \$203,011,627	<b>11.7%</b> <b>12.3%</b> <i>16.2%</i>	<b>5.6%</b> <b>3.6%</b> 3.0%
TimesSquare  MSCI EAFE Small Cap Index	\$120,622,880	<b>20.6%</b> 21.0%	<b>6.1%</b> 5.2%
Parametric Emerging Markets  MSCI Emerging Markets Index	\$104,481,100	<b>16.9%</b> 22.2%	<b>-3.4%</b> 10.2%
Parametric International Futures	\$14,314,777		
Fixed Income  Blended Benchmark	\$642,587,434	<b>4.0</b> % 2.2%	<b>9.2%</b> 7.5%
Wellington Bloomberg Barclays US Aggregate Index	\$272,064,064	<b>2.5%</b> 1.2%	<b>9.6%</b> 7.4%
Western Asset Bloomberg Barclays US Intermediate Credit Index	\$151,125,308	<b>3.6%</b> 2.3%	<b>9.2%</b> 6.6%
Colchester FTSE World Government Bond Index	\$151,034,609	<b>7.2%</b> 4.4%	<b>8.7%</b> 8.6%
Parametric Fixed Income Futures	\$68,363,453		

All market values and returns shown are preliminary and subject to revision.

## Callan

Preliminary Performance Summary (Net of Fees)

# Marin County Employees' Retirement Association Defined Benefit Plan

Managers	November Market Value	Fiscal Year To Date 7/1/20 - 11/30/20	Calendar Year To Date 1/1/20 - 11/30/20
Public Real Assets Blended Benchmark	\$184,225,661	<b>16.7%</b> 11.0%	<b>4.2%</b> -4.7%
BlackRock TIPS Index Fund Barclays US TIPS Index	\$42,377,593	<b>3.6%</b> 3.6%	<b>9.9%</b> 9.7%
BlackRock REIT Index Fund DJ S&P US Select REIT Index	\$38,426,954	<b>10.3%</b> 10.3%	<b>-14.0%</b> -14.0%
Invesco Balanced Risk Commodities Fund Bloomberg Commodities Index	\$45,625,382	<b>18.8%</b> 1 <i>4</i> .5%	<b>-0.2%</b> -7.7%
KBI Global Resources Fund S&P Global Natural Resources Index	\$57,795,731	<b>32.3%</b> 15.8%	<b>21.8%</b> -6.7%
Real Estate(1)  NFI-ODCE Equal Weight Net(1)	\$241,262,576	<b>0.1%</b> 0.4%	<b>-0.8%</b> -0.4%
Woodmont UBS Trumbull Property Fund AEW Core Property Trust AEW Partners V, LP	\$18,821,592 \$118,312,747 \$104,117,349 \$10,888		-
Private Equity(2) Abbott ACE VI Abbott ACE VII ACE Fund 2016 Abbott Fund 2017 Pathway PPEF 2008 Pathway PPEF I-7 Pathway PPEF I-8 Pathway PPEF I-9	\$300,627,670 \$56,938,370 \$39,702,873 \$37,842,893 \$8,448,517 \$62,869,865 \$38,451,249 \$48,776,277 \$7,597,626	0.0% - - - - - - -	4.1% - - - - - -
Total Fund	\$2,881,594,381	11.1%	6.7%

<sup>(1)</sup>Market values as of September 30, 2020. YTD and FYTD returns use MCERA's pro-rata performance of prior quarter. (2)Market values as of September 30, 2020. YTD and FYTD returns use MCERA's pro-rata performance of prior quarter. All market values and returns shown are preliminary and subject to revision.