



Save Today. Grow Your Tomorrow

**Oregon Savings Growth Plan  
Advisory Committee  
4th Quarter 2019**

---

**November 20, 2019  
9:30 a.m.**

---

**Keizer Community Center  
930 Chemawa Rd. N.E.  
Keizer, OR 97303**

---

# Oregon Savings Growth Plan Advisory Committee

November 20, 2019  
930 Chemawa Rd. N.E., Keizer, OR 97303

## Committee Members

Colin Benson, Chair \* Mike Marostica, Vice-Chair

Celeste Van Cleave \* Mary Jo Evers \* Richard Bailey \* Christine Valentine \* Gene Bentley

## Q4 Meeting Agenda

Start Time	Topic	
8:30 a.m.	Meet and Greet	
9:30 a.m.	I. Introduction	Benson
9:45 a.m.	II. Approval of Minutes	Benson
	A. Meeting Minutes from August 21, 2019	
	III. Old Business	Benson
	A. Set term limits for Chair and Vice-Chair positions.	
	IV. New Business	Benson
	A. No new business	
	V. Informational Items	
	A. Q3 2019 Voya Service Review	Merrick
	B. Q3 2019 Performance Report	Heaphy, Tseng
	C. Q3 2019 Treasury Update	Hiles, Peet
	D. Q3 2019 OSGP Update	Smith
	E. Q3 2019 Communications Update	Moran
	F. Q3 2019 Outreach Team	Salquero
11:00 a.m.	VI. Round table and items of interest	Benson
11:20 a.m.	VII. Public Comment	Benson
11:30 a.m.	VIII. Adjournment	Benson

2020 Meeting Dates: February 19 \* May 20 \* August 19 \* November 18

If you have a disability that requires any special material, services, or assistance, please call 1.888.320.7377 at least 48 hours in advance of the meeting.

**ADVISORY COMMITTEE MEETING MINUTES**  
**August 21, 2019**  
**Keizer Community Center**  
**KEIZER, OREGON**

Committee Members Present
Mary Jo Evers, Committee Member Celeste VanCleave, Committee Member Colin Benson, Committee Member Mike Marostica, Committee Member Gene Bentley, Committee Member
OSGP Staff Members Present
Roger Smith, OSGP Manager Kathy Gannon, OSGP Program Coordinator Jack Schafroth, OSGP Employer Outreach Coordinator
PERS Pension Staff
Kevin Olineck, PERS Director Yvette Elledge-Rhodes, PERS Deputy Director Elizabeth Rossman, PERS Communication Strategic and Ops Planning Manager Dean Carson, PERS Member Engagement and Communication Director
Committee Presenters
Wil Hiles, OST Ann Heaphy, Callan Uvan Tseng, Callan Brian Merrick, Voya Jennifer Moran, Voya Gladys Salquero, Voya
Guests
Jennifer Peet, OST Jon DuFrene, Former PERS Executive Wes Handley, Voya
Absent
Christine Valentine, Committee Member Richard Bailey, Committee Member

## **I. Introduction**

The meeting was called to order at 9:30 a.m. by interim Committee Chair, Celeste VanCleave. VanCleave requested introductions from all those in attendance.

## **II. Approval of Minutes**

Meeting minutes approved for 05/22/2019.

## **III. Old Business**

None

## **IV. New Business**

### **a. Election of Advisory Committee Chair**

Interim Committee Chair, Celeste VanCleave, opened the election discussion by informing the committee members that Colin Benson, Mike Marostica, and Gene Bentley have all expressed an interest in serving as Chair or Vice Chair on the OSGP Advisory Committee.

VanCleave asked each of the interested members to speak for a few minutes on their background and interest in serving as an officer. VanCleave also expressed interest in serving, as this is her last year of service on the committee.

VanCleave then opened the floor for Chair nominations. Mike Marostica nominated Colin Benson, seconded by Gene Bentley.

### **b. Election of Advisory Committee Vice-Chair**

VanCleave then opened the floor for Vice-Chair nominations.

Colin Benson nominated Mike Marostica, seconded by Gene Bentley.

Roger Smith stated, the committee will discuss term-parameters for chair and vice-chair.

## **V. Administrative Reports**

### **A. Q2 2019 Service Review**

Brian Merrick provided the Committee with an overview and some statistics, produced by the Investment Advice Services offered to OSGP participants.

Merrick also provided information on the Rollover Summary page, stating the financial institutions listed by company name are the top institutions rolling funds out of OSGP. All other institutions rolling funds out of OSGP are combined under the listing of All Others.

Merrick explained to committee members that the Net Cash Flow and Earnings by Quarter statistical page is a long standing report for OSGP and reported that plan assets are up from the previous quarters report at \$2.3 billion as of June 30, 2019. Net cash flow is a positive \$5.1 million for the quarter.

Merrick then expressed Voya's focus on using new digital technologies and provided an overview of the new Retirement Metrics that Matter slides. Merrick stated, OSGP is the first Voya client to receive statistical information in this format.

### **B. Q2 2019 Performance Report**

Anne Heaphy and Uvan Tseng from Callan presented the Q2 OSGP performance review:

Anne Heaphy reported, U.S. rates have been substantially higher than developed markets globally for an extended period. Rates held constant through Q2; however, rate cuts are now expected in Q3 and Q4 2019.

Heaphy reported, the U.S. economy remains strong, with employment limits reaching capacity. The GDP was reported at a moderate 2.1 percent. The GDP will soften with the slowing of global economy and trade uncertainty. Slower growth is inevitable after the impact of 2018 fiscal stimulus fades.

Anne Heaphy provided an overview of the U.S. equity and non-U.S. equity performances, and U.S. fixed income performance.

Uvan Tseng provided a review of the OSGP investment performance in Q2 2019.

Uvan Tseng review the OSGP investment performance in Q2 2019, and provided a more specific overview on the OSGP Small Company Stock Option Structures stating, Callan and OST Investment Staff regularly monitor the performance of the underlying strategies to determine if:

- Underperformance is structural, driven by market conditions, or other reasons
- There are better and/or more complementary strategies
- The underlying strategies should be active, passive, or both

Callan recommends:

- Continue to monitor the active portfolios
- Replace the BlackRock Russell 2000 Index Fund with the BlackRock S&P 600 Index Fund
- Performance of the S&P 600 Index has outpaced the Russell 2000 index over intermediate and long-term time periods
- The fee impact would be neutral
- Would further align OSGP with OPERF

Tseng closed his review with an overview of the Q2 2019 defined contribution trends:

- Another State Offers Retirement Saving Option to Fill Gap
- The Impact of Vendor Consolidation: Wells Fargo and Principal
- Settlement Covers use of 403(b) Participant Data
- A Break in the Partisan Storm Clouds: The SECURE Act Passes the House

### **C. Treasury Update**

Wil Hiles provided an overview of OST and Callan recommendations, as they relate to the current OSGP Real Return Option Benchmark.

The team recommends converting the Real Return Option's primary benchmark to the SSgA Real Assets Custom Blended Index, as a more appropriate reflection of the Real Return Option's underlying investments and secondly, recommend utilizing CPI + 4% as a secondary benchmark for the Real Return Option.

Hiles reported that after the close of business on November 15, 2019, BlackRock will conduct an exchange of units of the respective BlackRock LifePath Index 2020 Funds for units of the corresponding BlackRock LifePath Index Retirement Funds. Hiles explained that the transition is

automated and that OSGP will take the lead on developing a participant communicate plan.

Hiles informed the committee that Callan performed an evaluation of the Plan's Small Company Stock Option and recommends adding the BlackRock S&P 600 Index Funds, as a replacement for the BlackRock Russell 2000 Index Fund. Staff expects this change will improve the Small Company Stock Option's risk/return profile while maintaining an identical expense ratio.

#### **D. OSGP Update**

Roger Smith provided the committee with findings from the recent PERS internal audit. He explained, that in the initial phase of an audit, a risk assessment is completed by in-house auditors.

Smith reported that only 23 items were identified during the risk assessment, as having potential risk elements; however, none of the items required a formal audit. Smith also informed the committee that this is the first internal audit performed on OSGP in 12 years.

In closing, Smith thanked Dean Carson for taking the lead position on the Expo Planning Team.

#### **E. Communications Update**

Jennifer Moran provided the committee with visuals of Expo materials and shared 1, of a series of 4 new OSGP videos. Moran encouraged the committee to watch the videos that are set to launch on October 14, 2019.

Dean Carson informed the committee of the overwhelming response to registration they have received for this year's Expo. Carson reported they were full the second day of open registration. Carson reported attendance at 2,800 and that registration would close on August 23, 2019.

Elizabeth Rossman reported that the Oregon Governor's Office has plans to get involved in the promotion of the Expo.

Moran continued with a visual of the redesigned growyourtomorrow.com website home page and educational workshop promotional materials.

#### **F. Outreach Update**

Gladys Salquero provided an overview of outreach efforts.

**VI. Public Comments**

Public comment was given by Jon DuFrene, who expressed his appreciation for Voya's work and the functionality of the myOrangeMoney feature.

**VII. Adjournment**

There being no further business, the meeting was adjourned. The next meeting is scheduled for November 20, 2019.

Respectfully submitted,  
Dee Monday  
Oregon Savings Growth Plan



# Oregon Savings Growth Plan

Third Quarter 2019 Service Review

November 20, 2019  
Keizer Civic Center  
Keizer, OR



# Table of contents

1. Executive Summary
2. Outreach Team
3. Communications
4. Q3 2019 Report

For Plan Sponsor use only

PLAN | INVEST | PROTECT

# Executive Summary

# Executive Summary

- Assets and Cash Flow

- Total plan assets = \$2.4 billion as of September 30, 2019
- Net cash flow was a positive \$20 million
- Rollover in contributions were \$19 million
  - Participants with Roth elections 4,922
  - Roth contributions were \$3 million for the quarter

- Investment Composition

- The LifePath Options hold 32% of plan assets
- The Stable Value Option is second with 12.38% of plan assets, average balance of \$33,708
- The Large Company Growth Stock Option is third with 12% of plan assets, average balance of \$22,552
- The SCHWAB Brokerage account had 275 participants with a balance, average balance of \$77,238

- Participant Activity

- Web visitors averaged 1,885 web-based transactions each month
- PSR transactions averaged 462 per month
- Mobile transactions averaged 123 per month

# Rollover Summary

Q3 2019

## OSGP Rollovers Out

Institution	# of Rollovers	% of Total	\$ Rolled
PERS Purchase of Service	41	24%	\$332,007
Edward Jones	19	11%	\$2,761,836
Fidelity	12	7%	\$1,088,349
Voya	10	6%	\$651,563
TDAmeritrade	9	5%	\$954,926
All Others	80	47%	\$7,857,879

## OSGP Rollovers In

Institution	# of Rollovers	% of Total	\$ Rolled
IAP	194	69%	\$17,188,973
All Others	86	31%	\$2,709,882

## IAP Rollovers Out

Institution	# of Rollovers	% of Total	\$ Rolled
OSGP	194	9%	\$17,188,973
All Others	1,932	91%	\$129,281,751

# Participant Status Summary

As June 30, 2019

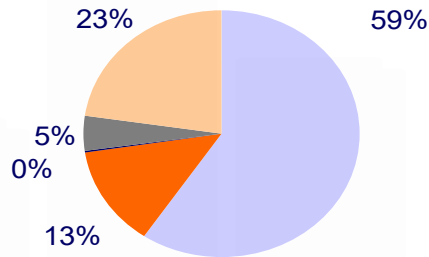
As of September 30, 2019

Active, Contributing

Active, Not Contributing

Suspended

Terminated, Receiving Installments

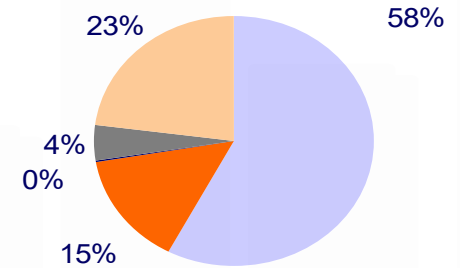


Active, Contributing

Active, Not Contributing

Suspended

Terminated, Receiving Installments



Participant Status	Number of Participants
Active, Contributing	18,743
Active, Not Contributing	4,365
Suspended	80
Terminated, Receiving Installments	1,474
Terminated with a Balance	7,180
<b>Total:</b>	<b>31,842</b>

Participant Status	Number of Participants
Active, Contributing	18,584
Active, Not Contributing	4,690
Suspended	60
Terminated, Receiving Installments	1,467
Terminated with a Balance	7,390
<b>Total:</b>	<b>32,191</b>

# Advice Activity

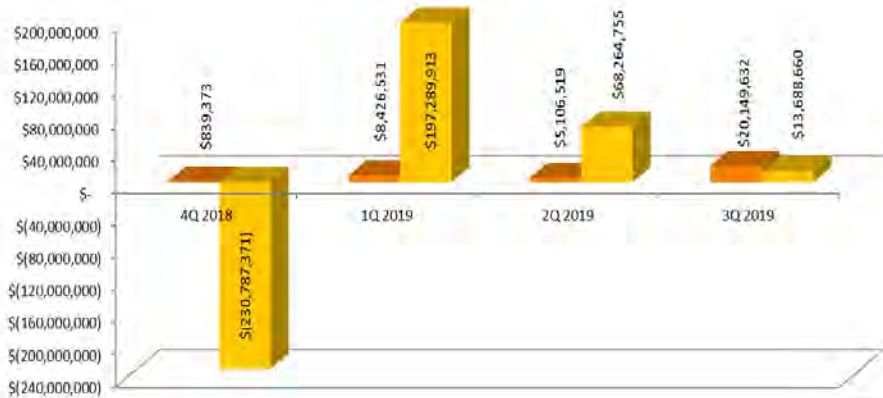
## Advice Rollout June 29, 2018

<b>Total participants eligible for Advice</b>	<b>32,138</b>
<b>Advisor Service Activity Since Rollout</b>	
• # Participants with a balance that have used the VRA Services	3,518
• % Participants with a balance that have used the VRA Services	10.95%
• VRA Advisor calls	1,118
• Online Advice Adopters	1,114
• Professional Management Members	1,286
<b>Monthly VRA Investment Advisor Activity</b>	
• Calls	112
• Received a Retirement Plan	90
• That processed a transaction	58
<b>Monthly Online Activity</b>	
• New Adopters this month	57
• Received forecast	48
• Received Advice Online	46
<b>Professional Management Activity</b>	
• Net PM activity for month	145
• Total Members	1,286
• Total Member Assets	\$105,449,605
• Average Member Balance	\$81,998

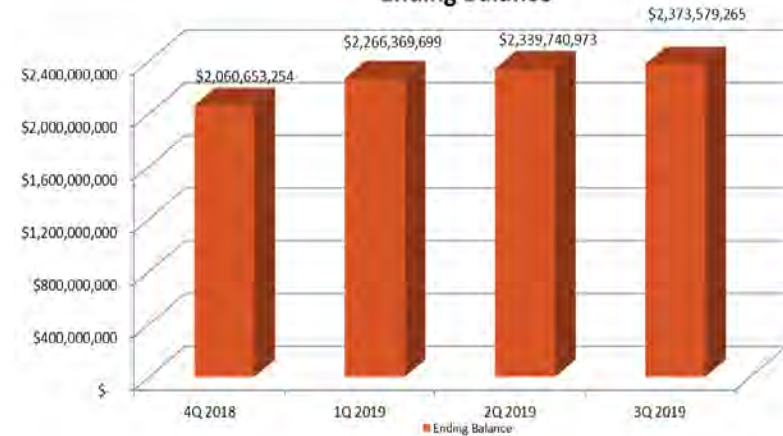
For Plan Sponsor use only

# Net Cash Flow and Earnings by Quarter

Net Cash Flow and Earnings



Ending Balance



	4Q 2018	1Q 2019	2Q 2019	3Q 2019	Last 12 months
<b>Beginning Balance</b>	\$ 2,290,601,252	\$ 2,060,653,254	\$ 2,266,369,699	\$ 2,339,740,973	\$ 2,290,601,252
<b>Net Cash Flow</b>	\$ 839,373	\$ 8,426,531	\$ 5,106,519	\$ 20,149,632	\$ 34,522,056
<b>Investment Earnings</b>	\$ (230,787,371)	\$ 197,289,913	\$ 68,264,755	\$ 13,688,660	\$ 48,455,957
<b>Ending Balance</b>	\$ 2,060,653,254	\$ 2,266,369,699	\$ 2,339,740,973	\$ 2,373,579,265	\$ 2,373,579,265

For Plan Sponsor use only

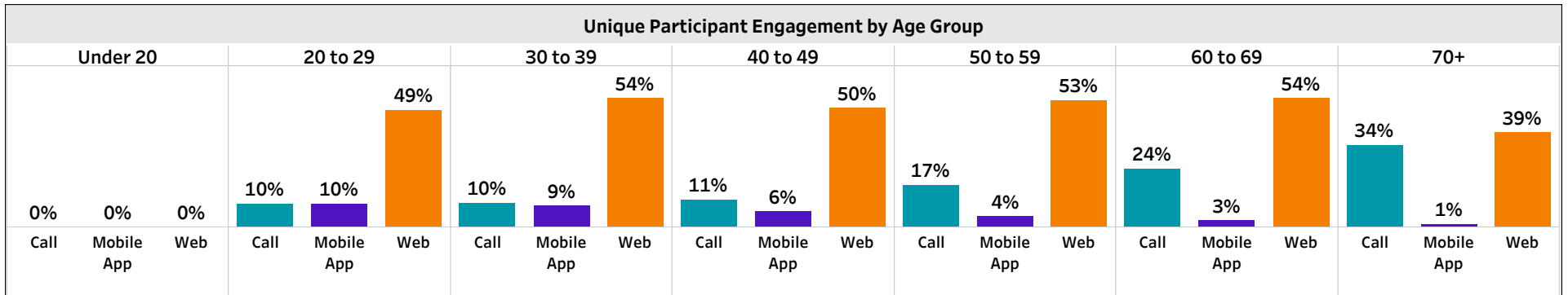
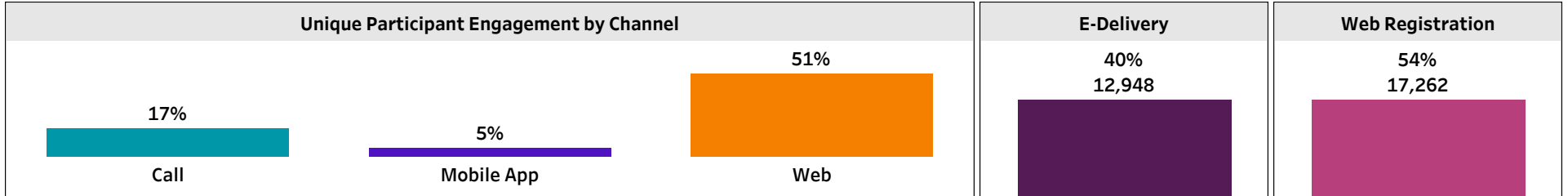


# OSGP - Retirement Metrics that Matter

Data as of 9/30/2019

## Engagement

57% of plan participants have engaged (used web, mobile, or called) over the past 12 months  
 51% of plan participants have digitally engaged over the past 12 months



Published by: Digital Solutions  
 Data includes retirement plan sponsored business. RPS and IRA customers are not included, along with plans without a balance.  
 Call data includes CSA and VRU calls. Call data is reflective of those participants who enter their SSN into phone system to authenticate. Callers who did not enter their SSN or whom no longer have a balance as of report refresh are not included in the 12-month look back analysis.

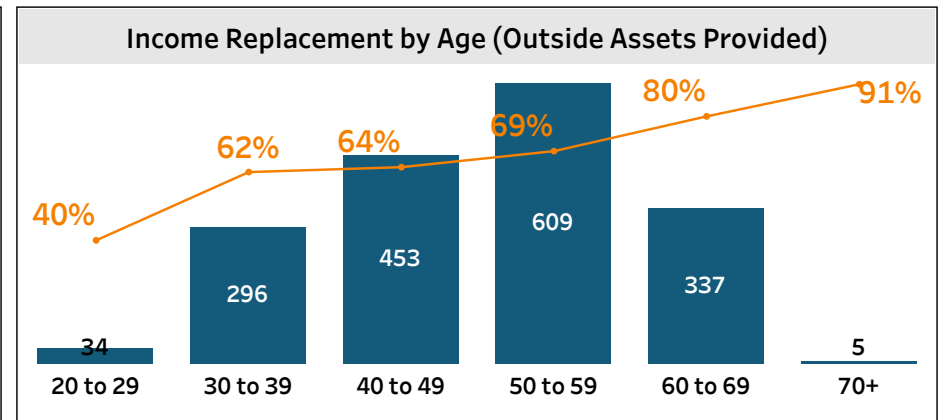
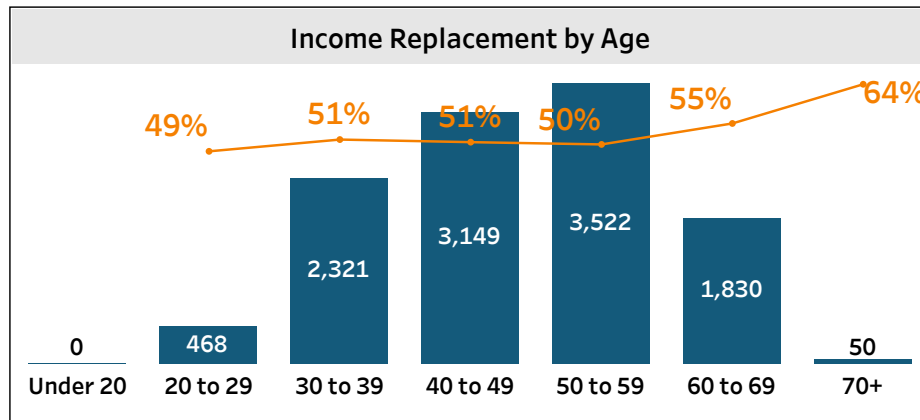
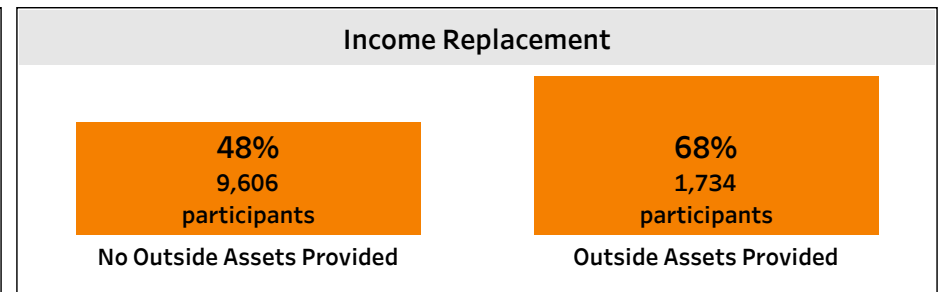
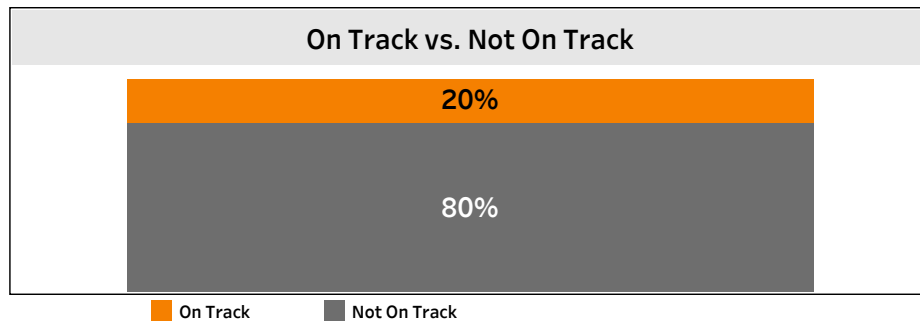
Account Status  
 All

# OSGP - Retirement Metrics that Matter

Data as of 9/30/2019

## Income Replacement

On average participants are on track to replace approximately 51% of their income in retirement  
 20% of participants are on track to generate at least 70% of income in retirement

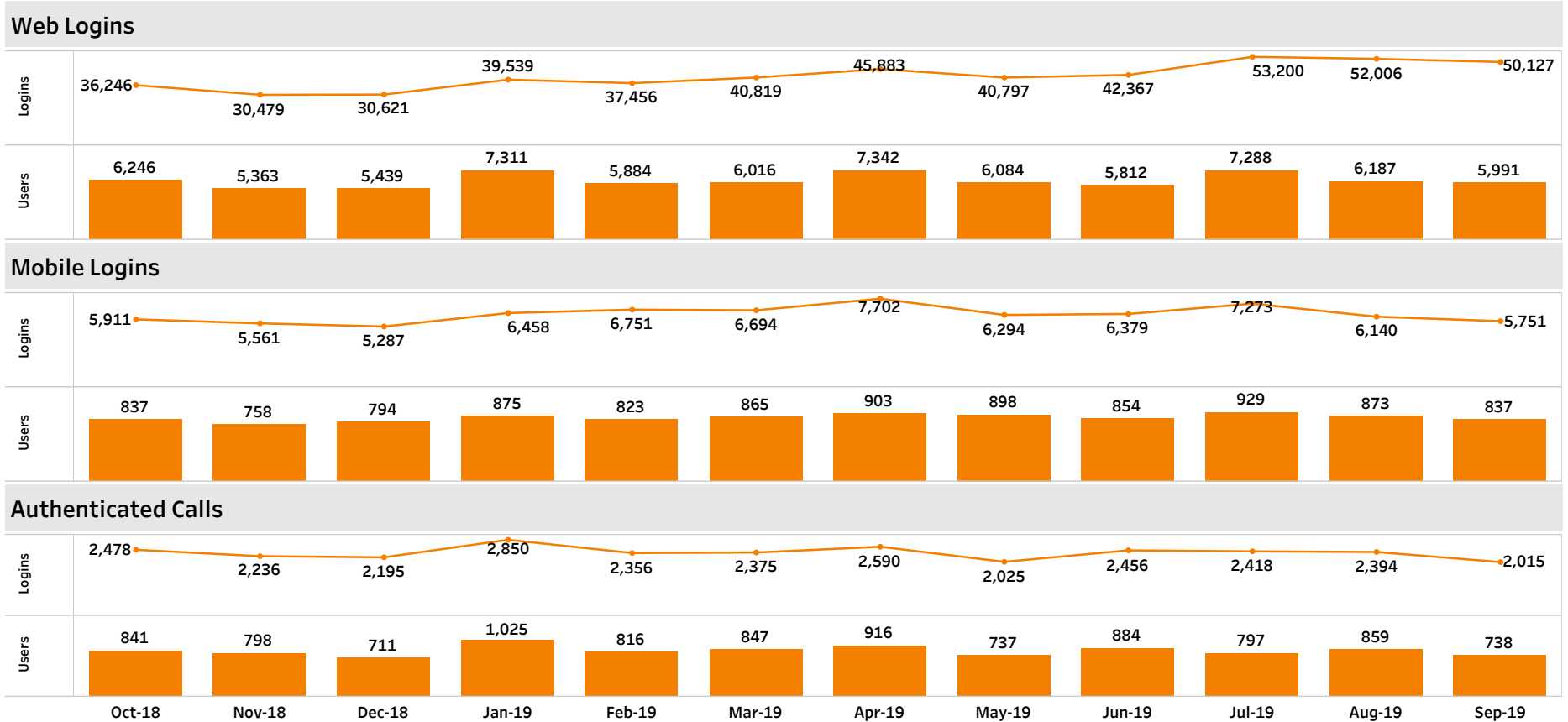


Published by: Digital Solutions  
 Data includes retirement plan sponsored business. RPS and IRA customers are not included.

# OSGP - Retirement Metrics that Matter

Data as of 9/30/2019

## Engagement Trends



Published by: Digital Solutions  
 Data includes retirement plan sponsored business. RPS and IRA customers are not included, along with plans without a balance.  
 Call data includes CSA and VRU calls. Call data is reflective of those participants who enter their SSN into phone system to authenticate. Callers who did not enter their SSN or whom no longer have a balance as of report refresh are not included in the 12-month look back analysis.

Month  
 10/1/2018 12:00:00 AM to 11/30/20..

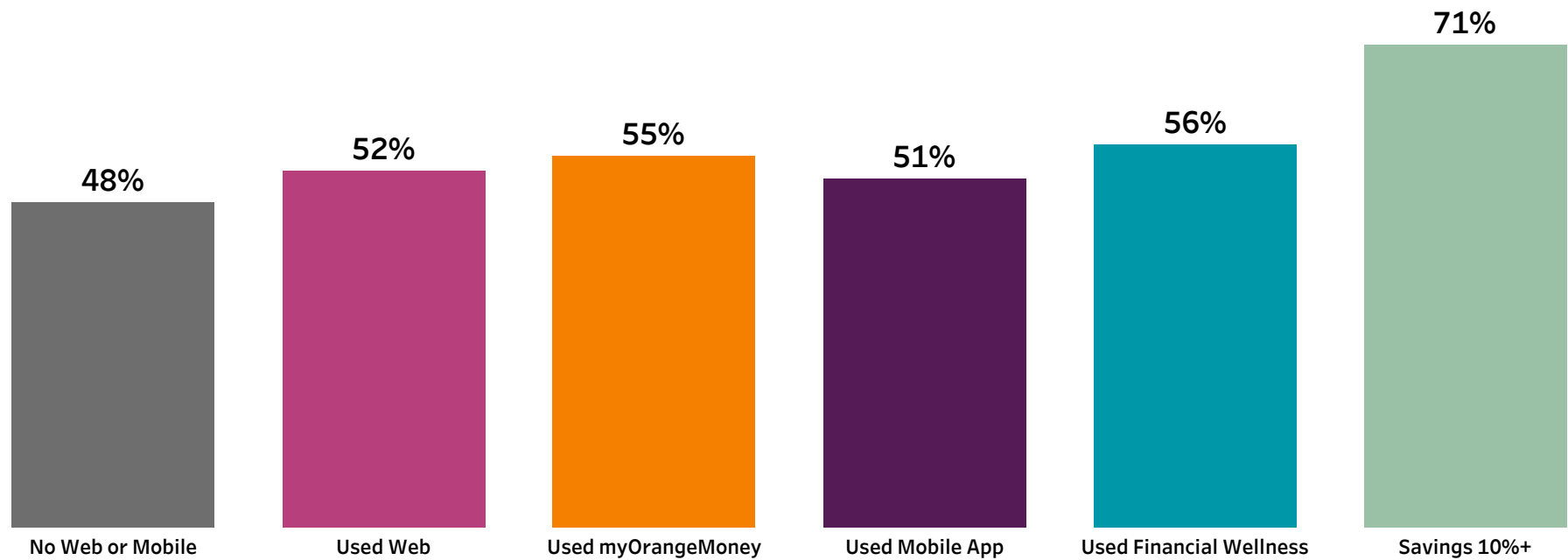
# OSGP - Retirement Metrics that Matter

Data as of 9/30/2019

## Engagement Outcomes - Income Replacement

On average participants are on track to replace approximately 51% of their income in retirement  
20% of participants are on track to generate at least 70% of income in retirement

### Income Replacement (%)



Published by: Digital Solutions  
Data includes retirement plan sponsored business. RPS and IRA customers are not included.

Outside Assets  
All

## Digital Engagement Summary

11,618 participants logged in to the website

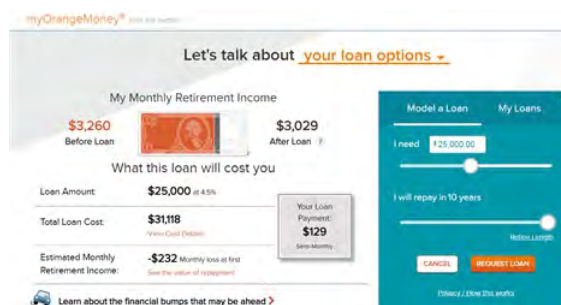
### myOrangeMoney



25% engaged

10% took action

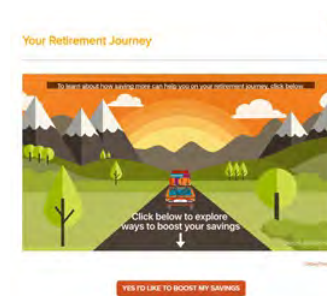
### Loan Calculator



103 used loan guidance

45% did not take a loan

### Personalized Video



234 viewed a video

36% clicked the call to action

Data from 7/1/2019 to 9/30/2019

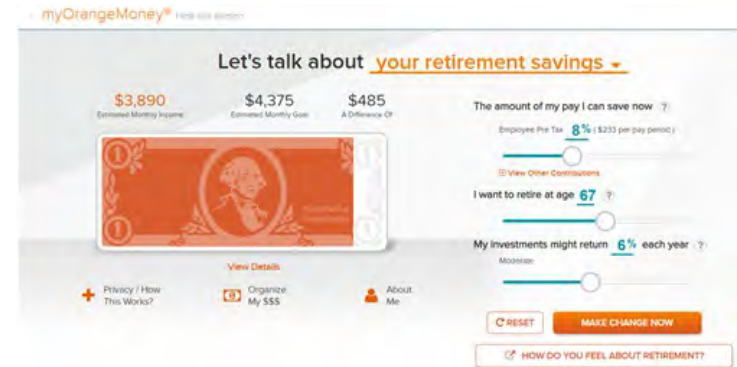
Published by: Digital Solutions  
For plan sponsor use only  
Data above is based on participant activity for the time period specified in above title  
Products and services offered through the Voya(R) family of companies. CN843411\_0521

# OREGON SAVINGS GROWTH PLAN - Digital Engagement Report

Data from 7/1/2019 to 9/30/2019

## myOrangeMoney Engagement

Unique Participant Activity	Participants	
Logged in with access to myOrangeMoney	11,618	
Viewed myOrangeMoney	11,283	97%
Engaged and interacted with myOrangeMoney	2,816	25%
Took action after using myOrangeMoney	272	10%



### 10% of participants took action after using myOrangeMoney

190 participants are saving an average of \$158 more per pay period (from \$421 to \$579)

99 participants changed a fund allocation

28 participants enrolled in a managed account

Published by: Digital Solutions  
 For plan sponsor use only  
 Data above is based on participant activity for the time period specified in above title  
 Products and services offered through the Voya(R) family of companies. CN843411\_0521



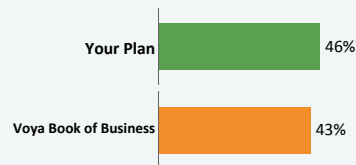
## Financial Wellness

As of: 09/30/2019

### Your Plan's Financial Wellness Summary Metric



46% of participants' pillar scores are green



### How do your employees feel about their current financial situation?

Your employees have an average financial confidence of **6.8**  
(Voya Book of Business: 6.3)



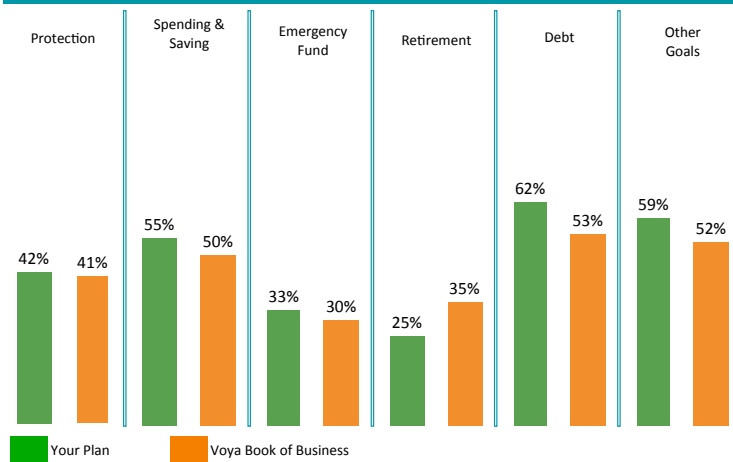
1=not at all confident 10=extremely confident

63% have a financial confidence of 7 or more  
(Voya Book of Business: 53%)

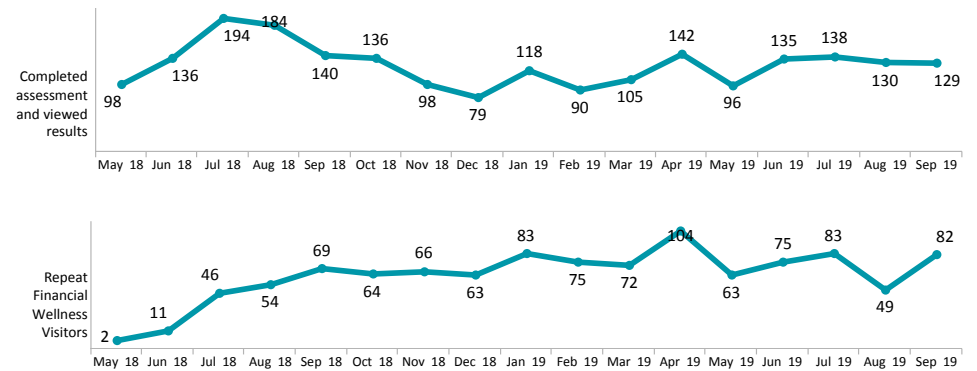
### Engagement

	# of ppts	% of ppts	Voya Book of Business
Started Financial Wellness Assessment	1,748	--	--
Completed assessment and viewed results	1,613	92%	89%
Viewed Dashboard after completing assessment	1,399	87%	83%

### Percent of Employees On Track by Pillar



### Trending



\*For Summary Wellness metric and Percent On Track by Pillar, gray scores for Other Goals pillar are counted as green and gray scores for Retirement pillar counted as red.

Prepared by: Digital Solutions

# Outreach Team Update



# Q3 Outreach Activities

Employer Contact Visits	Presentations	Presentation Attendance	Group Meetings	Group Meeting Attendance	Benefits Fairs	1-on-1s	Phone Meetings
176	143	1203	36	139	25	483	171

Workshop	# of presentations	# of attendees
Introduction to OSGP	63	755
Calculate your savings goal	40	213
Retirement Strategies with OSGP	40	190

Top Locations	# of attendees
DHS	335
Local Governments	328
Oregon Trail School District	250



# Q3 Outreach Team Survey Results

- Survey response rate 27%
- Agree/Strongly agree to value of workshop 96%
- Agree/Strongly agree to value of presenter 98%
- Attendees who took action after workshop 59%

# Communications Update

# PERS Expo 2019 – event was October 9



- ~ 2,600 people attended the PERS Expo 2019
- 74% of survey respondents rated educational workshops as “Excellent” or “Very Good”
- 79% said they were “Confident” or “Very Confident” in planning for retirement after attending the Expo
- 87% rated the Expo “Excellent” or “Very Good”

# Educational videos – launched October 14



**PART 1: GETTING STARTED WITH OSGP**



**PART 2: WHY SAVE WITH OSGP**



**PART 3: INVEST WITH OSGP**



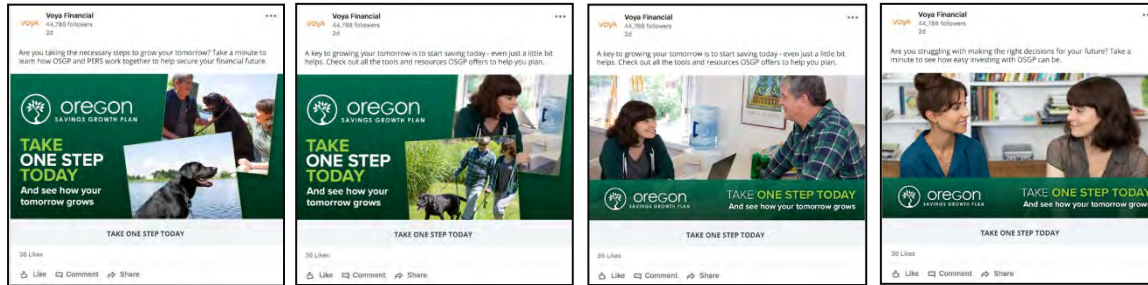
**PART 4: IT'S NOT TOO LATE TO SAVE WITH OSGP**

Video views on website and LinkedIn landing page	11/1/2019 GYT	11/1/2019 LI	Total views
Getting Started with OSGP	184	303	487
Why Save with OSGP	130	268	398
Invest with OSGP	118	221	339
It's Not Too Late to Save with OSGP	90	211	301

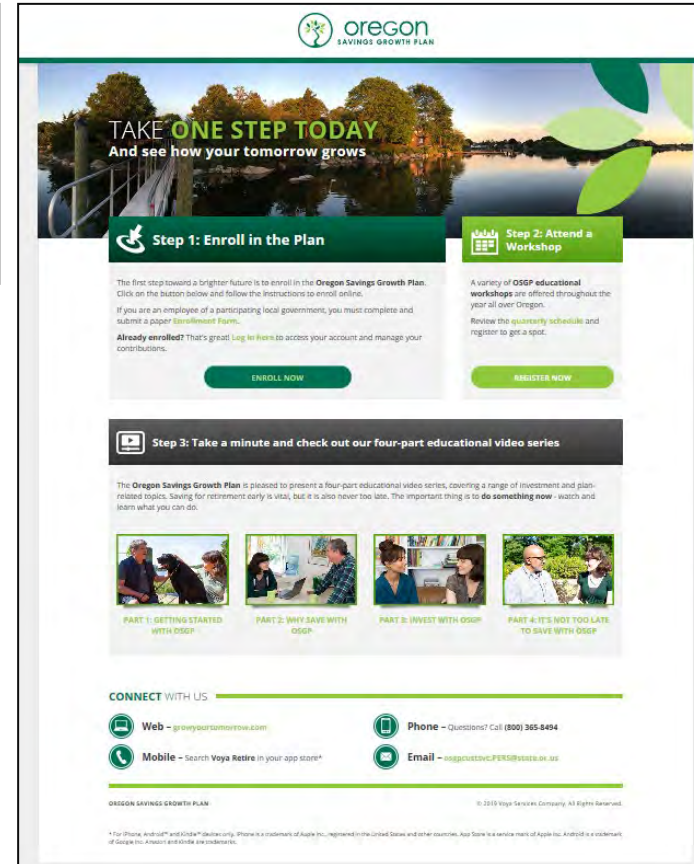
*GYT – growyourtomorrow.com  
LI – LinkedIn campaign*

# LinkedIn Campaign – began October 14

## 8 LinkedIn Ads Total



## Landing Page



### Key Campaign Stats:

- Date started: October 15, 2019 – January 2020
- Target OSGP/PERS Audience: 80K+

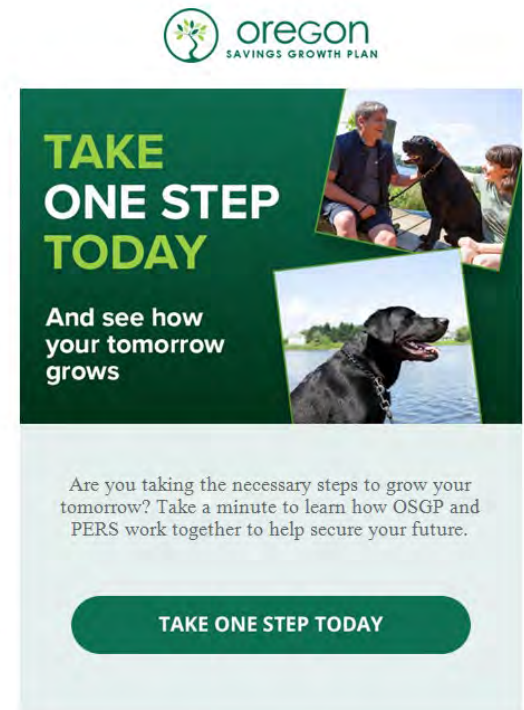
LinkedIn Campaign	11/1/2019
Landing Page Views	51
Enroll Now	3
Register Now (workshops)	2
Video Views	3

# Take One Step Email – began October 15

## State and Local Government Email:

- October 15, 2019 ~40,000 emails went out to state employees
- On October 22, 2019 ~8,600 emails went out to local employees
- Action: take one step today
- Driven to LinkedIn landing page

Activity from Take One Step email	11/1/2019
Users clicked on Enroll Now (for online enrollment)	505
Users clicked on Enroll Now (for paper enrollment)	152
Users clicked on Register Now (for workshop)	206



This email is being sent on behalf of the Oregon Savings Growth Plan, the State of Oregon's 457(b) deferred compensation plan, which provides public employees with a convenient way to save for retirement.

# Educational Workshop Promotion – Q4 2019

Workshop Schedule	11/1/2019 GYT	11/1/2019 LI	11/1/19 Do One Thing Email	Total views
Users clicked on workshop schedule	201	-	296	497
Users clicked to register now for workshops	68	2	206	276

GYT – [growyourtomorrow.com](http://growyourtomorrow.com)  
LI – LinkedIn campaign

**SAVE TODAY.  
GROW YOUR TOMORROW.**

**Oregon Savings Growth Plan Workshop Schedule  
July, August, September 2019**

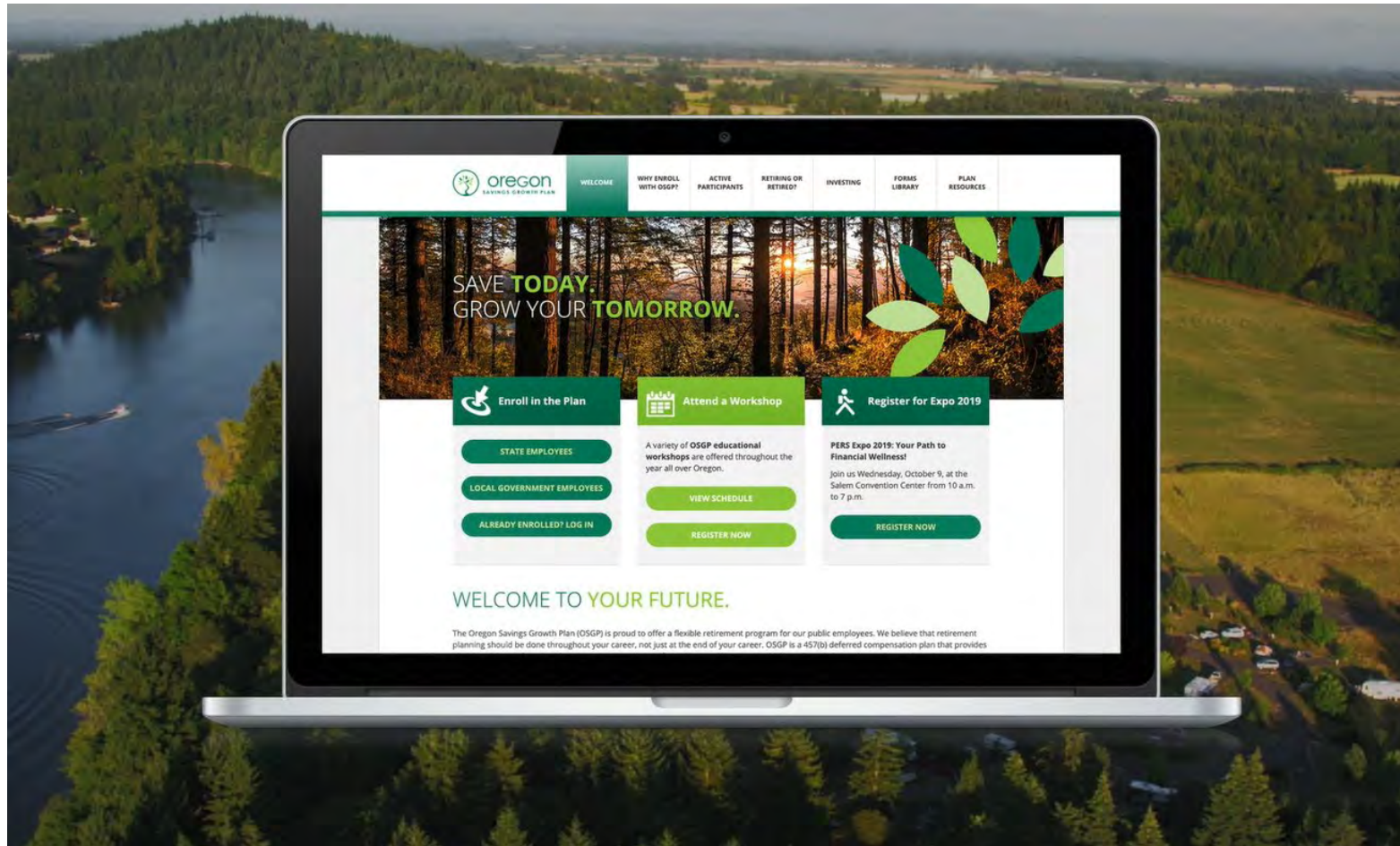
Learn more about **investing for your future** at one of our local workshops.

DATE	CITY	ADDRESS
July 10, 2019	Bend	Deschutes County Services Center, 1300 NW 86th St., Bend, OR 97709
July 15, 2019	Portland West	State Office Building, Conference Room 3A, 300 NE Oregon St., Portland, OR 97232
July 16, 2019	Gresham	Gresham City Hall, Oregon Trail Conf Room, 1223 NW Eastman Pkwy., Gresham, OR 97030
July 17, 2019	Clatskanie	Department of Fish and Wildlife, 798 NE Vandenberg Dr., Adult Village, OR 97120
July 17, 2019	Salem	Archives Building, Upstairs Conference Room, 900 Summer St. NE, Salem, OR 97310
July 18, 2019	Lincoln City	Worksource Oregon, Suite 250, 497 NW Hwy 101, Lincoln City, OR 97130
August 6, 2019	Portland (West)	Market Center Building, Market Room 2B, 1600 SW 4th Ave., Portland, OR 97201
August 16, 2019	Oregon City	DHS Office, 375 S. Beaverbrook Road, Oregon City, OR 97146
August 16, 2019	McMinnville	DHS Office, 343 NE Nelson Lane, McMinnville, OR 97128
August 21, 2019	Tillamook	DHS Office, Wilson River Building, 4670 3rd Street, Tillamook, OR 97141
August 22, 2019	Salem	Archives Building, Upstairs Conference Room, 900 Summer St. NE, Salem, OR 97310
August 23, 2019	Hillsboro	Washington Street Court, Conference Room 102, 102 SW Washington Street, Hillsboro, OR 97123
August 28, 2019	La Grange	COOT, East Conference Room, 3010 Island Ave., La Grange, OR 97120
August 28, 2019	Hemlock	DHS Office, Hemlock Conference Room, 990 SE Columbia Dr., Suite A, Hemlock, OR 97138
September 10, 2019	Eugene	DHS Office, 2685 Child Dr., Eugene, OR 97408
September 10, 2019	Happy Valley	Happy Valley City Hall, 8000 SE Milby Dr., Happy Valley, OR 97106
September 19, 2019	Woodburg	Umpqua Community College, Community & Workforce Training Bldg., Box 16, 140 Umpqua College





# growyourtomorrow.com



# Advice 2019 Communications Overview

## Awareness

### Awareness postcard (7/24)

- Sent to all participants with balance of \$5K+



### Awareness email (7/25)

- Sent to all participants with email address and balance of \$5K+



## Evaluation

### Retirement Evaluation packet (7/31)

- Sent to all participants with balance of \$5K+
- Sent to Active participants without email address and balance <\$5K



### Retirement Evaluation email (8/8)

- Sent to all Active participants with email address (regardless of balance)
- Sent to Inactives with \$5K+ balance and email address on file



Weeks 2 to 3

## Action

### Action letter (8/14)

- Sent to all participants with balance of \$5K+



### Action postcard (8/21)

- Sent to all participants with balance of \$5K+



### Action email (8/28)

- Sent to all participants with email address and balance of \$5K+



Weeks 4 to 6

## Extension Action

### Extension Action email (9/4)

- Sent to all participants with email address and balance of \$5K+



Week 7

Deadline: September 6, 2019



All communications drive to Web experience

For illustrative purposes only. Note: Recommended email deployment dates may shift slightly dependent upon sponsor approval timing and Financial Engines' capacity.

# Final Results: 7/22/19 – 9/13/19<sup>1</sup>

**Total Eligible Participants: 22,484**

**Unique Participants Reached<sup>2</sup>: 22,374**

- **Total Online Advice Logins = 552** (includes new and returning users; count captures sessions vs. unique individuals)
  - New Online Advice Adopters<sup>3</sup>: 106 (0.47%)
  - Online Advice Transactors: 2
  - Total Transacting Adopters = 0.36%
- **Professional Management enrollment: 425**
- **New Assets Under Management: \$33,403,151.43 (2.7%)**
  - Enrollment by channel:
    - » *Online: 322 (76%)*
    - » *Paper: 42 (10%)*
    - » *Phone: 61 (14%)*

Source: Financial Engines Data Warehouse, as of September 13, 2019 and Voya Retirement Advisors data. Analysis provided for evaluative and informational purposes only and represents a point-in-time estimate of campaign metrics. Quarterly Reach & Impact Reports represent the official record of advisory services engagement and utilization.

<sup>1</sup> Program end date 9/6/2019. Data captured through 9/13/2019 to account for receipt of form-based enrollments by mail.

<sup>2</sup> Count includes unique participants who were sent a print touchpoint or an email touchpoint or viewed or clicked an alert on the recordkeeper participant website during the campaign window.

<sup>3</sup> New Online Advice Adopters refers to participants who affirmatively accepted the Investor Services Agreement during the defined period.

T18535

# Email deployment stats

## Awareness Email

<b>Delivery rate = 98.2%</b>	<b>Open rate = 44.8%</b>
15,533 attempted, 15,256 delivered	Total: 11,571, Unique: 6,836

## Evaluation Email

<b>Delivery rate = 99.1%</b>	<b>Open rate = 39.0%</b>
15,369 attempted, 15,223 delivered	Total: 10,295, Unique: 5,940

## Action Email

<b>Delivery rate = 99.4%</b>	<b>Open rate = 37.5%</b>
15,264 attempted, 15,178 delivered	Total: 8,932, Unique: 5,688

## Extension Action Email

<b>Delivery rate = 99.7%</b>	<b>Open rate = 34.4%</b>
15,128 attempted, 15,078 delivered	Total: 8,390, Unique: 5,184

Source: Financial Engines E-Communications team.

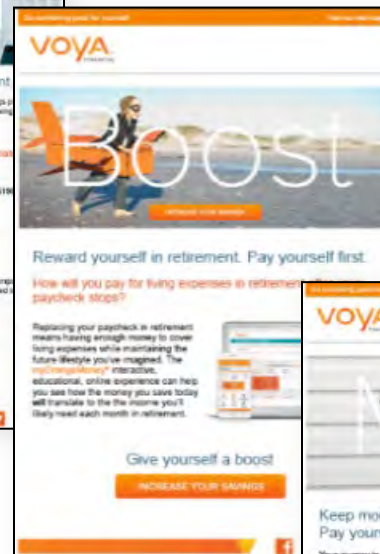
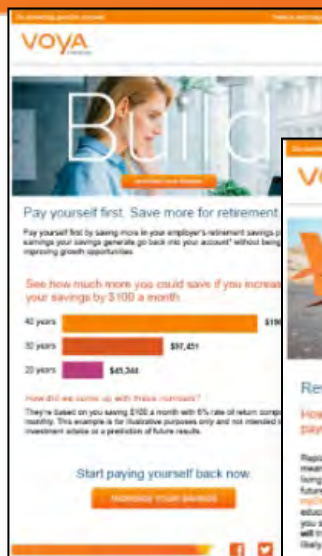
# Always On – Save More Journey

## Participant Criteria for Inclusion:

- Signed up for eDelivery
- Plan allows for online contribution change
- Participant has a balance
- Participant is currently contributing
- Participant has not made a contribution change in 6 months
- Participant has not taken a hardship in 6 months
- Participant is has no term/death date

## Campaign Success:

- Participant changes their contribution



# Save More Results - OSGP

- 6% of participants targeted took action after receiving the Save More Journey.
- Of the 121 participants that took action, those participants are saving an average of \$57 more per pay period.
- The below results are from when the campaign began in August 2018 through October 25, 2019.

Unique Participant Activity	10/25/2019
Participants reached (Delivered)	3,637
Participants interested (Opens)	1,917 (53%)
Participants engaged (Email clicks)	130(7%)
Participants took action after opening	121(6%)

*Taking an action refers to making a contribution change*

# Always On – Stopped Savers

## Participant Criteria for Inclusion:

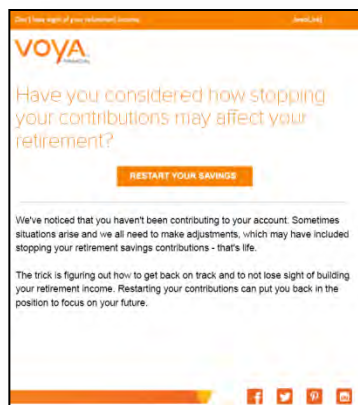
- Signed up for eDelivery
- Plan allows for online contribution change
- Participant has a balance
- Participant is currently contributing \$0 or 0%
- Participant does not have a term/death date
- Participant stopped saving >60 days

## Campaign Success:

- Participant restarts contributions

1

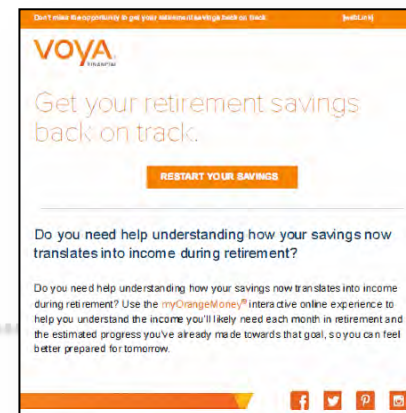
## Initial Email and Reminder Email



Mark is identified as newly eligible for this journey. Email #1 is sent with a 'restart saving' reminder.

2

## Second Reminder and Final Email



If Mark does not take an action, he will receive another touch-point reminding him of the importance of saving 14 days after Email #1.

He has 15 days to take action before we measure if he's taken action as a result of the email.

# Restart Savings Results - OSGP

- 5% of participants targeted took action after receiving the Restart Savings journey.
- Results are after just 6 months.

Unique Participant Activity	10/25/2019
Participants reached (Delivered)	36
Participants interested (Opens)	21 (58%)
Participants engaged (Email clicks)	2 (11%)
Participants took action after opening	1 (5%)

*Taking an action refers to making a contribution change*



# Financial Wellness Quarterly Email

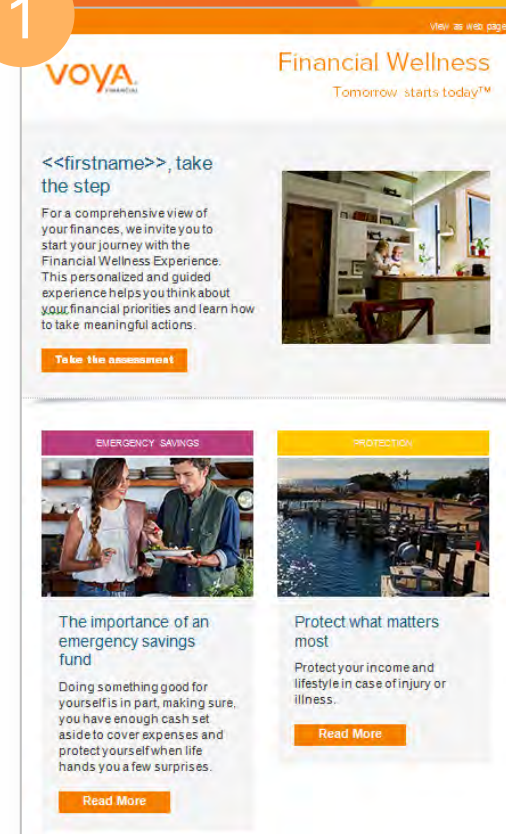
1

## Participant Criteria for Inclusion:

- All participants with e-delivery

## Campaign Success:

- Participant takes FW assessment
- Participant engages with educational material



Beth has signed up for e-delivery. She receives a quarterly email with education on topics to help with her overall financial wellness.

# Financial Wellness Report - OSGP

- 2% of participants took the financial wellness assessment after opening a Financial Wellness email.

Unique Participant Activity	10/25/2019
Participants reached (Delivered)	215
Participants interested (Opens)	114 (53%)
Participants engaged (Email clicks)	16 (14%)
Participants took action after opening	2 (2%)

*Taking an action refers to making a contribution change*

# Third Quarter 2019

# Cash Flow Summary

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN

### Cash In

Employee Before-tax Contributions	23,800,382.67
Employee After-tax Contributions	0.00
Roth 457 Contributions	2,864,676.97
Roth 457 Conversion	12,376.28
Roth Qual Plan Conversion	0.00
Rollover Contributions	19,911,375.32
Employer Contributions	0.00
Loan Repayments	1,640,620.25
Conversions In	0.00
Transfers In	87,723,003.34
Other	2,223,792.94

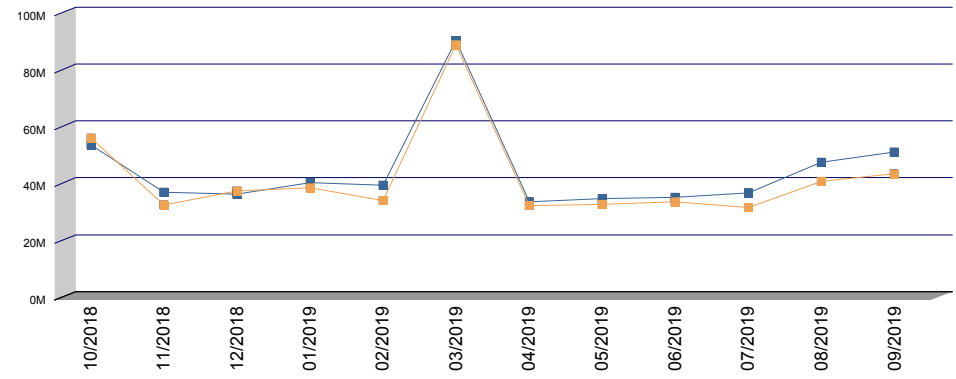
**Total Cash In \$138,176,227.77**

### Cash Out

Withdrawals	1,569,924.35
Installment Payments	6,221,374.24
Terminations	19,127,100.62
Loans Issued	2,224,060.74
Conversions Out	0.00
Fees	113,491.74
Transfers Out	86,996,800.58
Other	2,223,792.94

**Total Cash Out (\$118,476,545.21)**

**Net Cash Flow \$19,699,682.56**



	Cash In	Cash Out	Net Cash
Oct 2018	\$54,597,135.62	\$56,919,308.06	<b>-\$2,322,172.44</b>
Nov 2018	\$37,814,132.59	\$33,402,704.25	\$4,411,428.34
Dec 2018	\$37,243,498.46	\$38,256,025.92	<b>-\$1,012,527.46</b>
Jan 2019	\$41,385,819.72	\$39,570,083.56	\$1,815,736.16
Feb 2019	\$40,371,097.04	\$34,935,256.06	\$5,435,840.98
Mar 2019	\$91,274,031.69	\$89,873,977.70	\$1,400,053.99
Apr 2019	\$34,531,578.98	\$33,287,209.23	\$1,244,369.75
May 2019	\$35,664,309.68	\$33,565,441.17	\$2,098,868.51
Jun 2019	\$36,036,416.52	\$34,640,128.77	\$1,396,287.75
Jul 2019	\$37,757,407.44	\$32,504,468.48	\$5,252,938.96
Aug 2019	\$48,425,009.23	\$41,637,024.67	\$6,787,984.56
Sep 2019	\$51,993,811.10	\$44,335,052.06	\$7,658,759.04
	<b>\$547,094,248.07</b>	<b>\$512,926,679.93</b>	<b>\$34,167,568.14</b>

# Investment Balances by Quarter

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN

Investment Name	Q4 2018	Q1 2019	Q2 2019	Q3 2019
CLOSED FUND 10	\$54,500,385.37	\$0.00	\$0.00	\$0.00
STABLE VALUE OPTION	\$226,204,120.11	\$287,202,750.92	\$286,760,387.79	\$292,016,788.96
LIFEPATH RETIREMENT FUND	\$178,185,927.53	\$185,693,332.77	\$189,986,188.61	\$193,894,928.46
LIFEPATH 2020 FUND	\$130,248,475.39	\$137,894,390.65	\$140,818,720.12	\$142,572,262.75
LIFEPATH 2025 FUND	\$103,108,840.34	\$114,568,504.75	\$120,508,966.78	\$125,026,791.68
LIFEPATH 2030 FUND	\$75,775,370.50	\$84,958,762.59	\$89,997,210.60	\$91,595,118.77
LIFEPATH 2035 FUND	\$56,285,805.21	\$64,027,930.53	\$67,744,357.55	\$69,576,299.67
LIFEPATH 2040 FUND	\$37,991,513.96	\$44,275,624.17	\$46,895,412.68	\$47,839,073.93
LIFEPATH 2045 FUND	\$25,367,711.63	\$29,705,861.47	\$31,840,621.41	\$32,316,054.49
LIFEPATH 2050 FUND	\$21,214,581.46	\$24,471,187.42	\$25,292,739.43	\$24,777,697.52
LIFEPATH 2055 FUND	\$7,845,424.74	\$8,853,133.11	\$9,537,377.75	\$9,975,471.33
LIFE PATH 2060	\$4,822,920.85	\$5,824,151.92	\$6,499,609.78	\$6,936,590.05
ACTIVE FIXED INCOME OPTION	\$125,815,304.68	\$138,791,472.79	\$149,943,814.46	\$168,594,508.23
REAL RETURN OPTION	\$3,868,269.14	\$3,999,860.62	\$4,264,677.74	\$4,266,600.65
SOCIALLY RESPONSIBLE INV OPT	\$13,422,541.98	\$16,029,727.29	\$17,924,150.52	\$18,961,490.47
LARGE COMP VALUE STOCK OPTION	\$176,972,081.78	\$195,564,509.65	\$200,498,121.80	\$202,282,539.32
STOCK INDEX OPTION	\$232,010,759.95	\$261,754,425.54	\$271,151,785.46	\$272,723,745.97
LARGE COMP GROWTH STOCK OPTION	\$232,271,232.27	\$268,000,757.73	\$279,295,370.14	\$280,941,595.47
INTERNATIONAL STK OPTION	\$106,379,553.34	\$117,065,158.16	\$121,174,044.67	\$122,213,377.85

	Q4 2018	Q1 2019	Q2 2019	Q3 2019
SMALL COMPANY STOCK OPTION	\$219,911,139.26	\$244,741,074.80	\$245,333,170.17	\$231,537,091.23
SCHWAB PCRA	\$15,218,080.37	\$19,776,124.41	\$20,572,166.01	\$21,240,534.94

# Contributions by Fund

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN

Investment Name	Q4 2018	Q1 2019	Q2 2019	Q3 2019
ACTIVE FIXED INCOME OPTION	\$2,178,421.51	\$2,307,175.27	\$2,087,861.14	\$2,797,643.89
CLOSED FUND 10	\$1,058,910.31	\$0.00	\$0.00	\$0.00
INTERNATIONAL STK OPTION	\$1,891,637.65	\$2,065,747.51	\$2,089,912.73	\$2,352,825.53
LARGE COMP GROWTH STOCK OPTION	\$4,051,084.89	\$4,249,091.76	\$4,021,338.53	\$4,590,016.04
LARGE COMP VALUE STOCK OPTION	\$2,644,340.33	\$2,692,126.53	\$2,725,779.23	\$2,944,086.71
LIFE PATH 2060	\$473,200.87	\$348,263.76	\$672,299.34	\$631,469.89
LIFEPATH 2020 FUND	\$2,488,258.17	\$3,567,262.50	\$2,466,383.20	\$3,478,512.38
LIFEPATH 2025 FUND	\$3,432,792.31	\$3,716,609.27	\$3,666,540.85	\$4,199,478.27
LIFEPATH 2030 FUND	\$2,304,588.98	\$2,595,797.82	\$2,561,047.20	\$2,997,383.74
LIFEPATH 2035 FUND	\$2,366,262.98	\$2,154,890.26	\$2,137,893.96	\$2,543,111.16
LIFEPATH 2040 FUND	\$1,726,834.46	\$2,347,967.19	\$1,867,688.79	\$1,879,382.00
LIFEPATH 2045 FUND	\$1,510,753.05	\$1,489,065.30	\$1,667,796.74	\$1,442,084.29
LIFEPATH 2050 FUND	\$923,442.94	\$963,599.69	\$1,005,615.50	\$1,298,388.61
LIFEPATH 2055 FUND	\$428,631.91	\$466,421.49	\$559,626.74	\$624,826.92
LIFEPATH RETIREMENT FUND	\$1,345,682.61	\$2,729,527.23	\$1,837,091.11	\$2,179,295.41
REAL RETURN OPTION	\$107,266.80	\$109,902.01	\$177,306.44	\$119,829.75
SMALL COMPANY STOCK OPTION	\$2,907,259.56	\$3,113,148.43	\$2,972,988.09	\$2,949,617.26
SOCIALLY RESPONSIBLE INV OPT	\$503,215.02	\$673,680.90	\$517,532.11	\$614,126.92
STABLE VALUE OPTION	\$1,819,547.01	\$4,618,423.62	\$5,132,914.79	\$5,088,506.83



	Q4 2018	Q1 2019	Q2 2019	Q3 2019
STOCK INDEX OPTION	\$3,280,130.33	\$3,483,786.47	\$3,668,644.00	\$3,858,225.64
<b>Total</b>	<b>37,442,261.69</b>	<b>43,692,487.01</b>	<b>41,836,260.49</b>	<b>46,588,811.24</b>



# Contributions by Source

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN

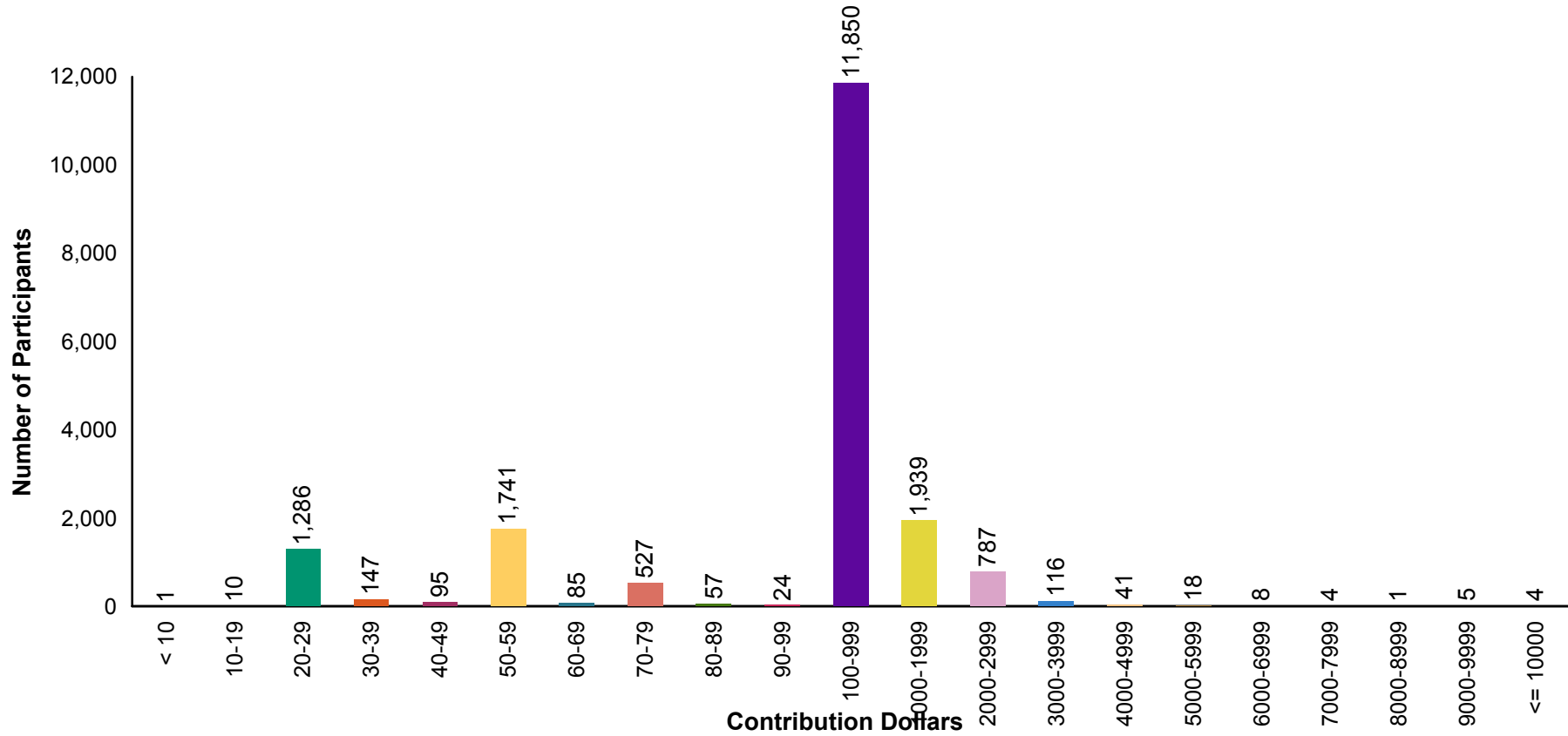
Source Name	July 2019	August 2019	September 2019	Total
Employee Before-tax Contributions	\$8,535,364.69	\$7,538,824.49	\$7,722,303.64	\$23,796,492.82
Rollover Contributions	\$4,617,845.49	\$7,316,437.27	\$7,977,092.56	\$19,911,375.32
Roth 457 Contributions	\$977,619.47	\$933,473.12	\$953,584.38	\$2,864,676.97
Roth 457 Conversion	\$9,966.40	\$0.00	\$2,409.88	\$12,376.28
<b>Total</b>	<b>\$14,143,495.07</b>	<b>\$15,788,734.88</b>	<b>\$16,656,581.29</b>	<b>\$46,588,811.24</b>

Source Name	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Total
Employee Before-tax Contributions	\$23,667,662.46	\$41,959,331.31	\$24,752,640.05	\$23,796,492.82	\$30,257,464.02
Rollover Contributions	\$10,985,677.11	\$6,365,376.04	\$13,945,525.93	\$19,911,375.32	\$38,477,202.32
Roth 457 Contributions	\$2,566,526.50	\$2,015,506.03	\$2,901,502.66	\$2,864,676.97	\$10,348,212.16
Roth 457 Conversion	\$106,183.47	\$62,379.86	\$220,983.20	\$12,376.28	\$401,922.81
Roth Qual Plan Conversion	\$80,000.00	\$66,000.00	\$0.00	\$0.00	\$146,000.00
<b>Total</b>	<b>\$37,442,261.69</b>	<b>\$46,128,876.58</b>	<b>\$41,836,260.49</b>	<b>\$46,588,811.24</b>	<b>\$79,738,456.84</b>

# Before-Tax Contribution Amount Summary

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN

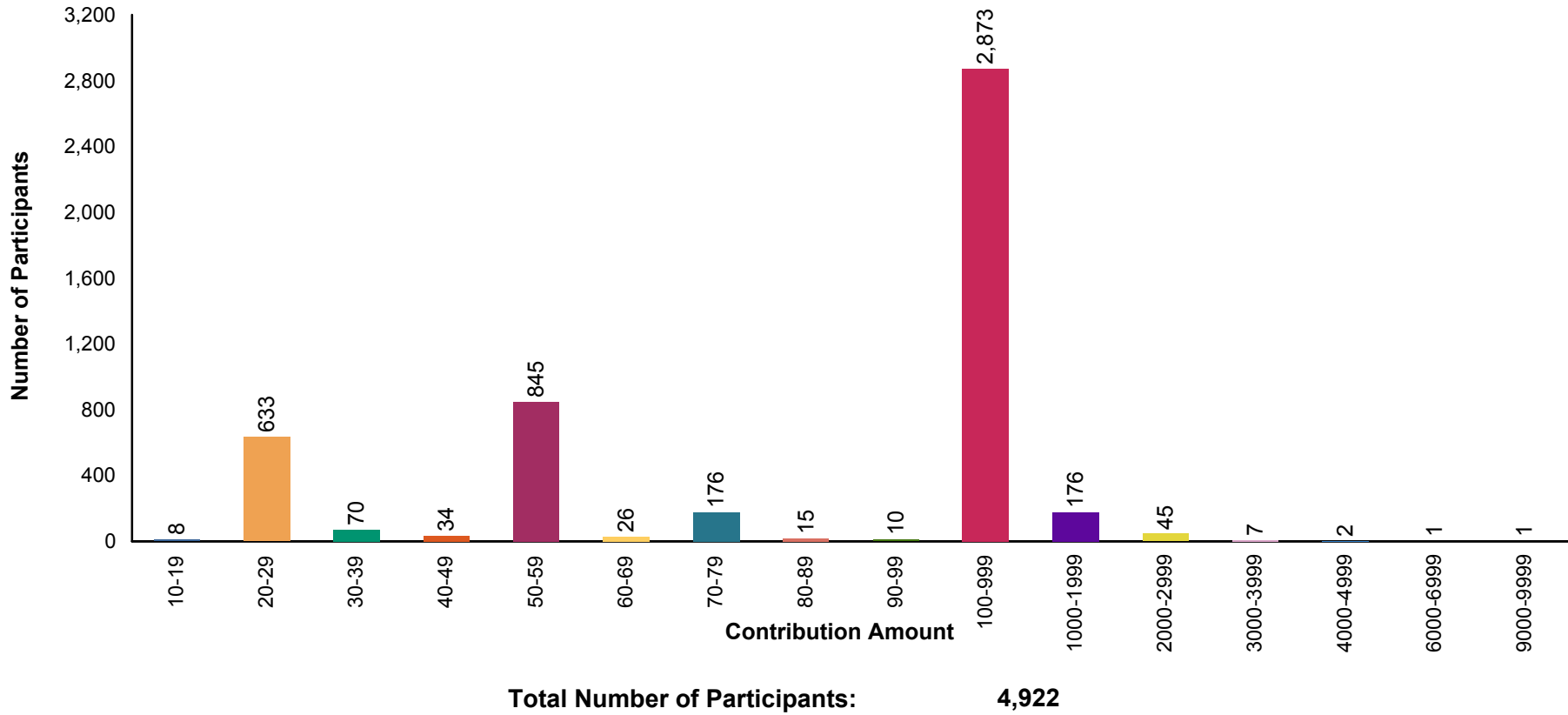


Total Number of Participants: 18,746

# Roth Contribution Amount Summary

As of September 30, 2019

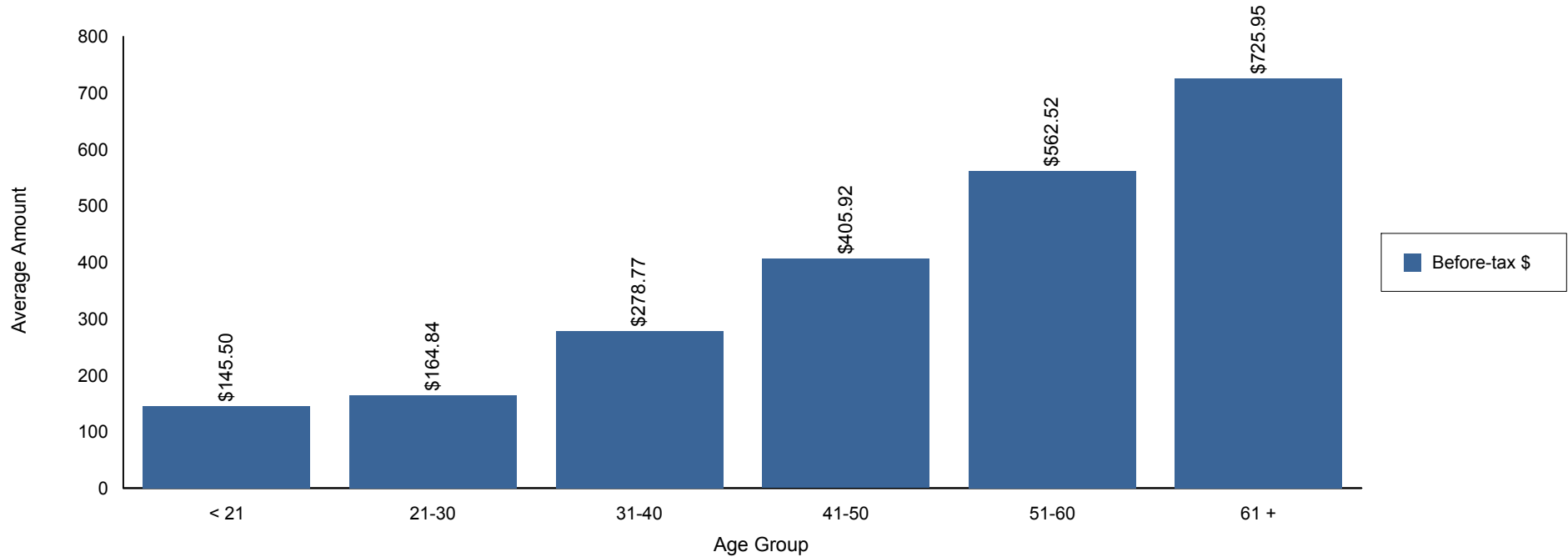
## OREGON SAVINGS GROWTH PLAN



# Average Contribution Amount

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN

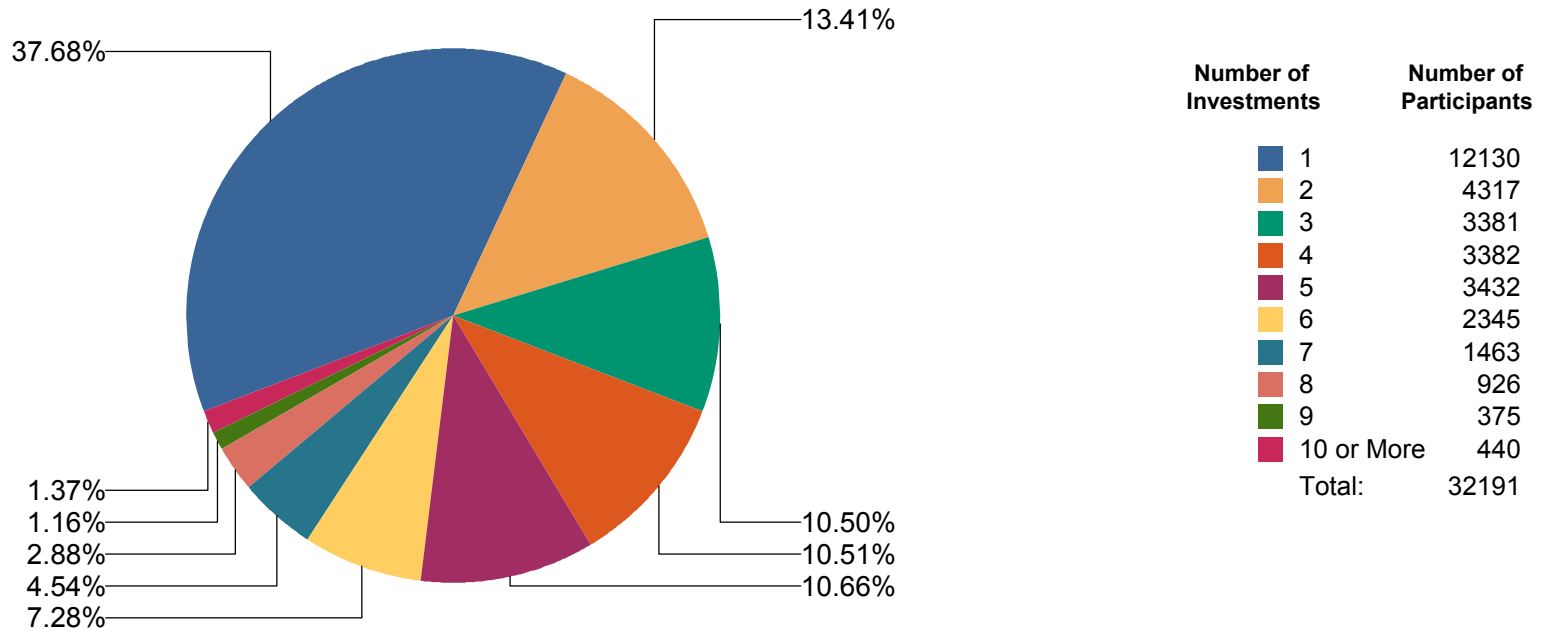


< 21	\$145.50
21-30	\$164.84
31-40	\$278.77
41-50	\$405.92
51-60	\$562.52
61 +	\$725.95
<b>Average</b>	<b>\$459.40</b>

# Participants with Balances by Number of Investments

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN

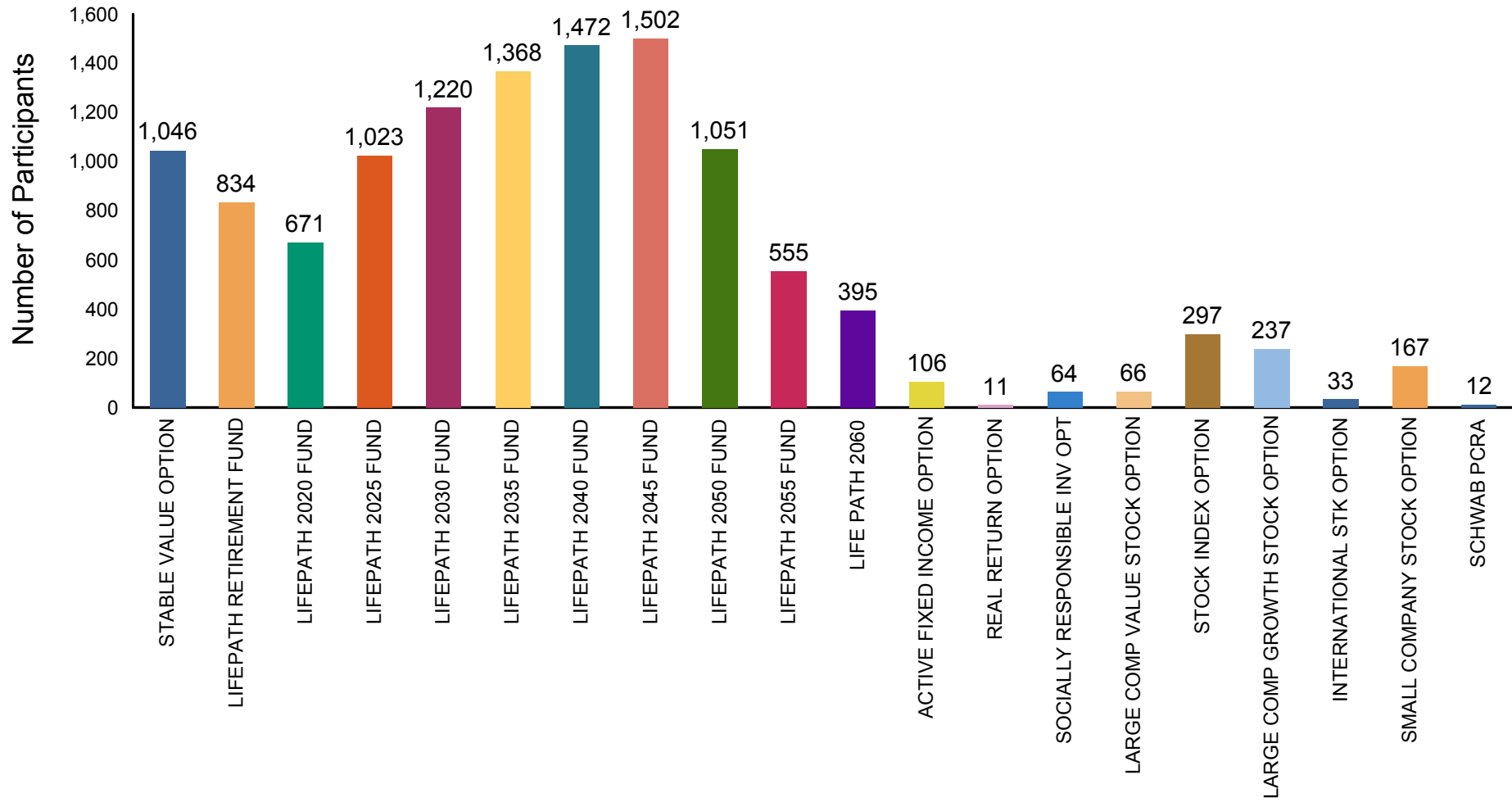


**Average Number of Funds: 3**

# Participants with a Balance in a Single Investment

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN



# Loan Summary

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN

Total Participants with Loans:	1,756
Total Number of Outstanding Loans:	1,756
Number of General Loans:	1,663
Number of Residential Loans:	93
Total Outstanding Loan Balance:	\$13,587,604.35
General Loan Balance:	\$12,122,385.32
Residential Loan Balance:	\$1,465,219.03
Number of Re-amortized Loans during the period:	1
Number of Loan Defaults during the period:	37

# Balances by Investment

As of September 30, 2019

## OREGON SAVINGS GROWTH PLAN

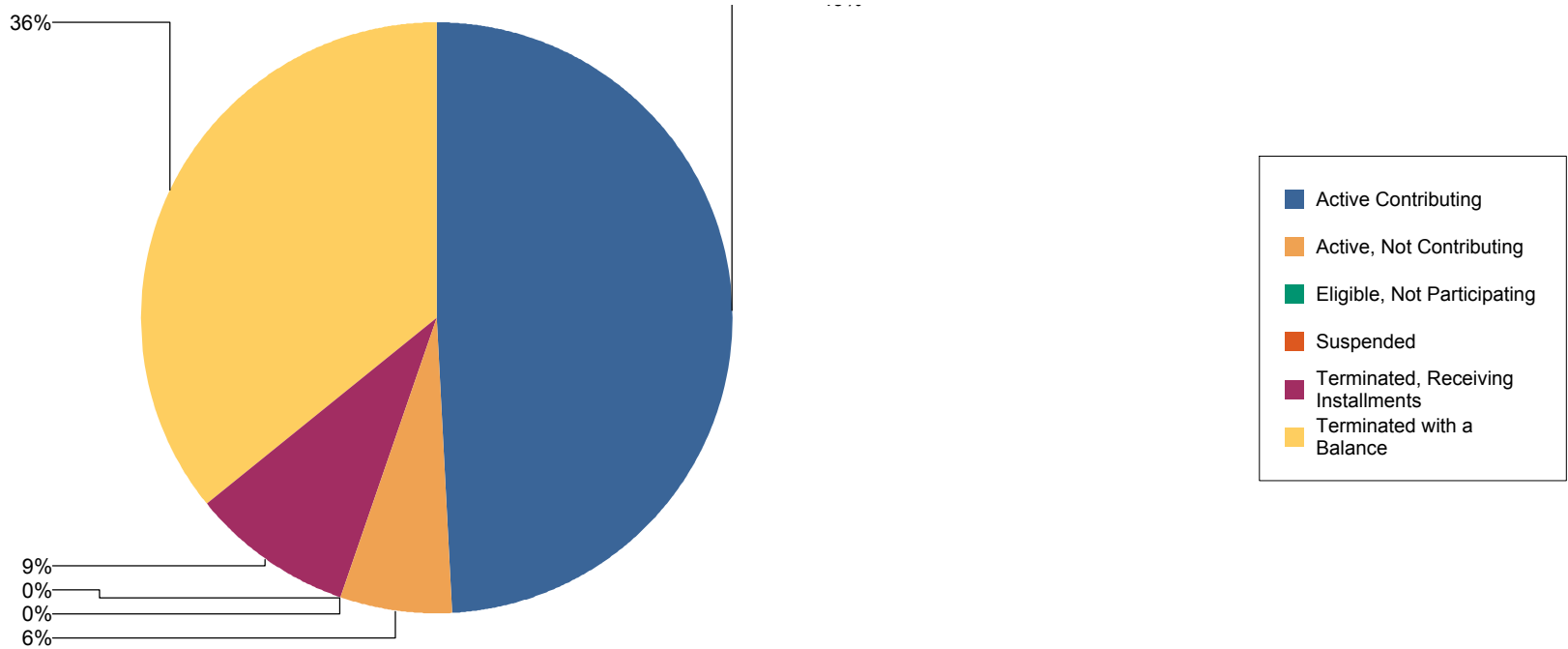
Investment	Investment Balance	Number of Participants	Average Participant	Percentage of Plan Assets
STABLE VALUE OPTION	\$292,016,788.96	8,663	\$33,708.51	12.38%
LIFEPATH RETIREMENT FUND	\$193,894,928.46	3,566	\$54,373.23	8.22%
LIFEPATH 2020 FUND	\$142,572,262.75	2,973	\$47,955.69	6.04%
LIFEPATH 2025 FUND	\$125,026,791.68	3,507	\$35,650.64	5.30%
LIFEPATH 2030 FUND	\$91,595,118.77	3,565	\$25,692.88	3.88%
LIFEPATH 2035 FUND	\$69,576,299.67	3,541	\$19,648.77	2.95%
LIFEPATH 2040 FUND	\$47,839,073.93	3,346	\$14,297.39	2.03%
LIFEPATH 2045 FUND	\$32,316,054.49	2,956	\$10,932.36	1.37%
LIFEPATH 2050 FUND	\$24,777,697.52	2,301	\$10,768.23	1.05%
LIFEPATH 2055 FUND	\$9,975,471.33	1,254	\$7,954.92	0.42%
LIFE PATH 2060	\$6,936,590.05	863	\$8,037.76	0.29%
ACTIVE FIXED INCOME OPTION	\$168,594,508.23	7,530	\$22,389.71	7.15%
REAL RETURN OPTION	\$4,266,600.65	781	\$5,463.00	0.18%
SOCIALLY RESPONSIBLE INV OPT	\$18,961,490.47	1,841	\$10,299.56	0.80%
LARGE COMP VALUE STOCK OPTION	\$202,282,539.32	10,825	\$18,686.61	8.57%
STOCK INDEX OPTION	\$272,723,745.97	10,409	\$26,200.76	11.56%
LARGE COMP GROWTH STOCK OPTION	\$280,941,595.47	12,457	\$22,552.91	11.91%
INTERNATIONAL STK OPTION	\$122,213,377.85	10,145	\$12,046.66	5.18%
SMALL COMPANY STOCK OPTION	\$231,537,091.23	11,022	\$21,006.81	9.81%
SCHWAB PCRA	\$21,240,534.94	275	\$77,238.31	0.90%
<b>Total Investment Balance:</b>	<b>\$2,359,288,561.74</b>			
<b>Total Loan Fund:</b>	<b>\$13,678,349.21</b>			



# Balance by Participant Status

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN



Participant Status	Participant Balance
Active Contributing	\$1,165,709,781.47
Active, Not Contributing	146,558,834.70
Suspended	\$1,760,831.82
Terminated, Receiving Installments	\$210,967,580.88
Terminated with a Balance	\$847,198,662.10
<b>Total:</b>	<b>\$2,372,195,690.97</b>

# Transfer Activity by Investment

Period Ending September 30, 2019

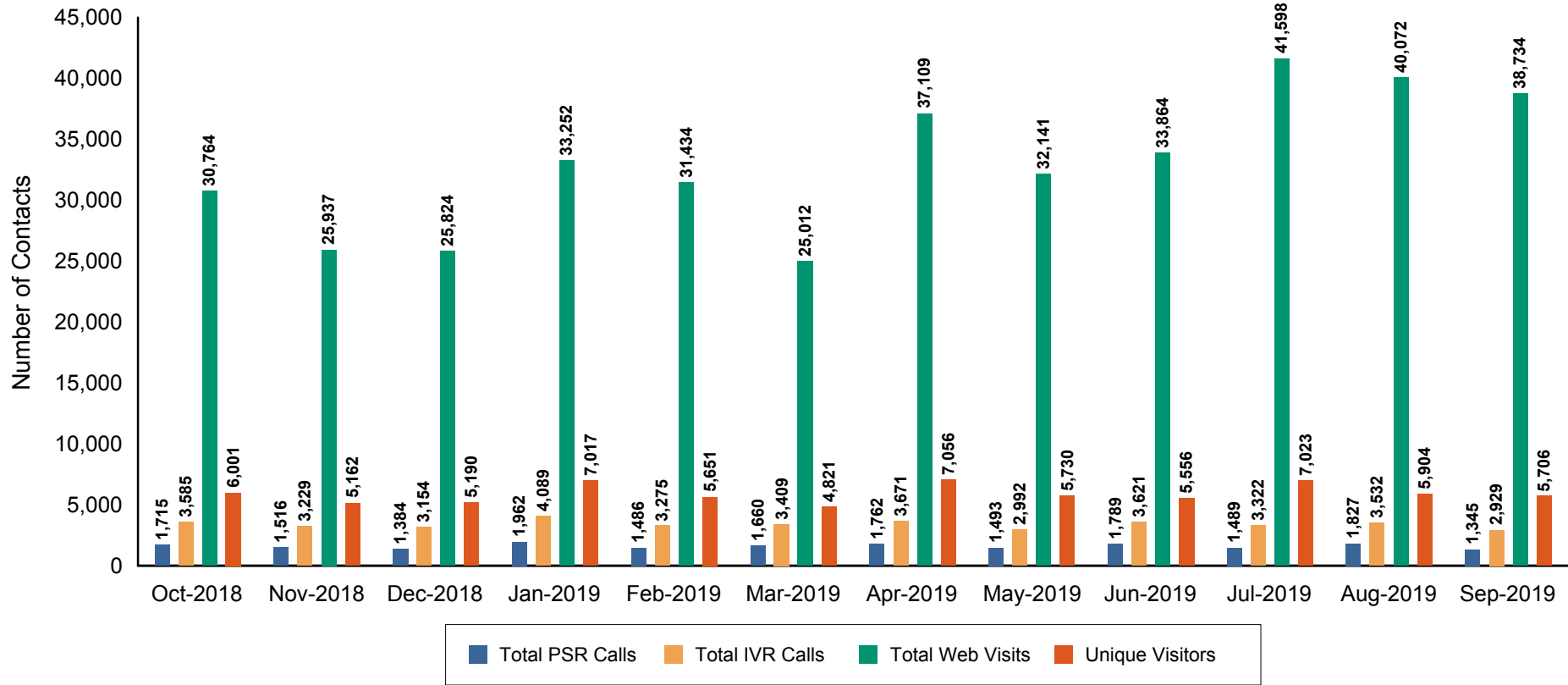
## OREGON SAVINGS GROWTH PLAN

Investment Name	Transfers In	Transfers Out	Net
STABLE VALUE OPTION	\$18,276,229.48	-\$12,563,905.81	\$5,712,323.67
LIFEPATH RETIREMENT FUND	\$4,998,009.65	-\$3,859,906.55	\$1,138,103.10
LIFEPATH 2020 FUND	\$4,314,296.63	-\$5,752,169.26	-\$1,437,872.63
LIFEPATH 2025 FUND	\$5,071,316.75	-\$5,135,046.87	-\$63,730.12
LIFEPATH 2030 FUND	\$1,405,687.24	-\$3,047,180.12	-\$1,641,492.88
LIFEPATH 2035 FUND	\$1,397,566.07	-\$2,250,426.21	-\$852,860.14
LIFEPATH 2040 FUND	\$409,351.88	-\$1,560,487.51	-\$1,151,135.63
LIFEPATH 2045 FUND	\$129,393.52	-\$1,036,093.11	-\$906,699.59
LIFEPATH 2050 FUND	\$172,474.25	-\$1,935,398.67	-\$1,762,924.42
LIFEPATH 2055 FUND	\$284,716.22	-\$275,605.74	\$9,110.48
LIFE PATH 2060	\$232,952.78	-\$341,826.47	-\$108,873.69
ACTIVE FIXED INCOME OPTION	\$20,206,607.94	-\$4,587,596.00	\$15,619,011.94
REAL RETURN OPTION	\$451,535.40	-\$489,460.59	-\$37,925.19
SOCIALLY RESPONSIBLE INV OPT	\$1,298,666.82	-\$1,041,621.01	\$257,045.81
LARGE COMP VALUE STOCK OPTION	\$4,547,904.86	-\$6,686,239.84	-\$2,138,334.98
STOCK INDEX OPTION	\$5,494,235.23	-\$8,180,618.80	-\$2,686,383.57
LARGE COMP GROWTH STOCK OPTION	\$8,375,566.72	-\$12,299,653.67	-\$3,924,086.95
INTERNATIONAL STK OPTION	\$6,083,176.78	-\$3,543,375.14	\$2,539,801.64
SMALL COMPANY STOCK OPTION	\$2,695,687.98	-\$11,468,375.94	-\$8,772,687.96
SCHWAB PCRA	\$1,877,627.14	-\$941,813.27	\$935,813.87

# Participant Contact Summary

Period Ending September 30, 2019

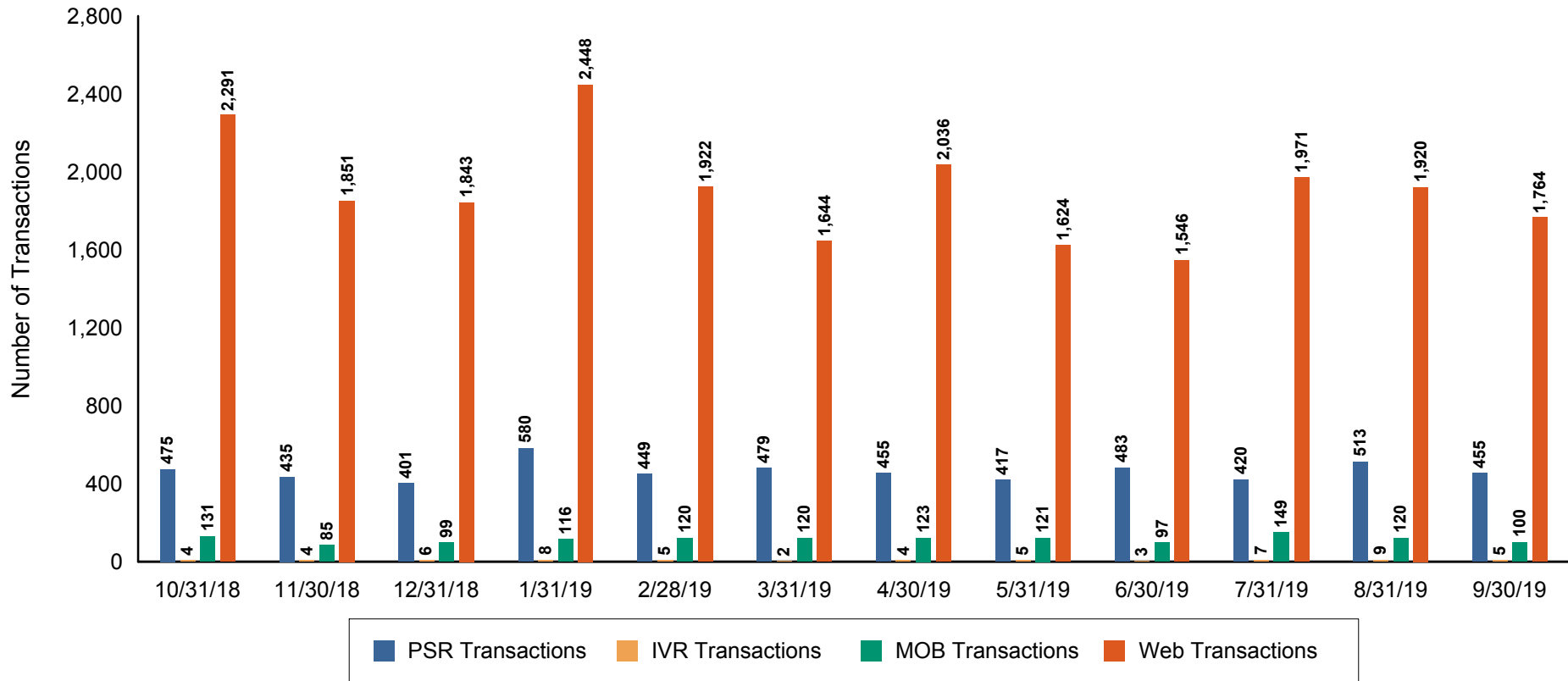
## OREGON SAVINGS



# Paperless Transaction Summary

Period Ending September 30, 2019

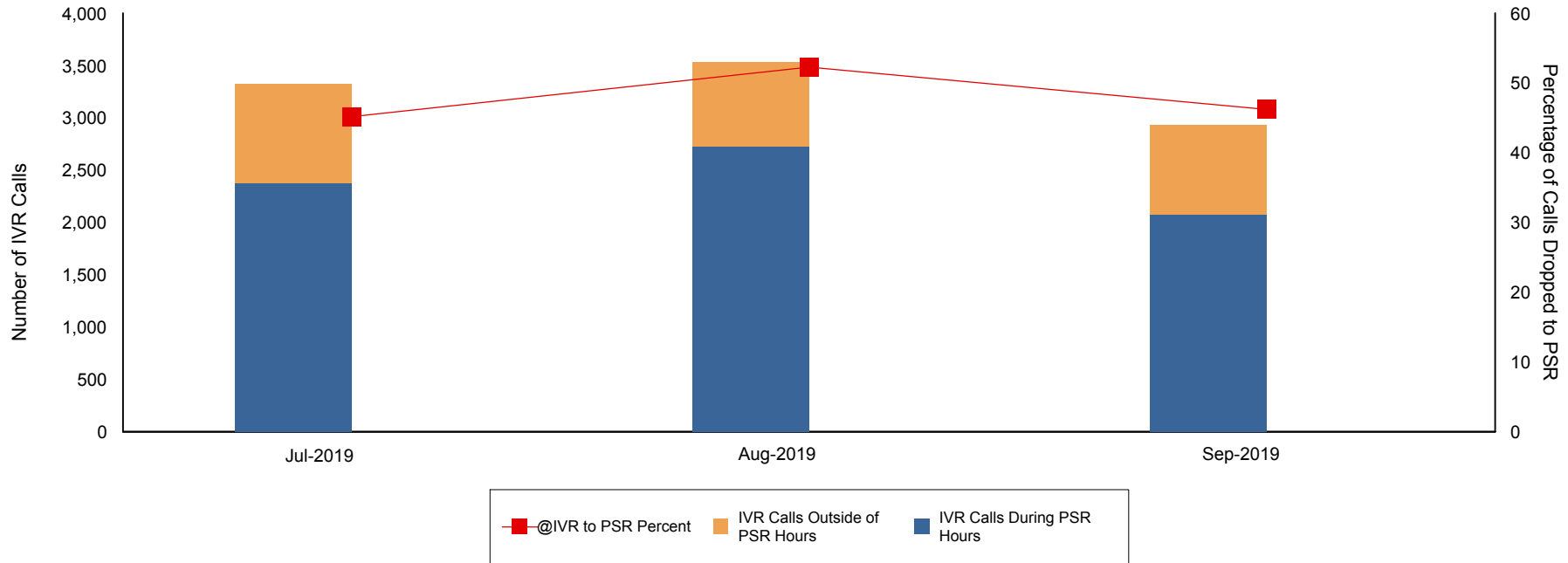
## OREGON SAVINGS



# IVR Activity

July 01, 2019 to September 30, 2019

## OREGON SAVINGS



Date	Total IVR Calls	IVR Calls During PSR Hours	IVR Calls Outside of PSR Hours	IVR Calls Transferred to PSR	Percent of IVR Calls Transferred to PSR
Jul-2019	3,322	2,373	949	1,500	45.15%
Aug-2019	3,532	2,724	808	1,845	52.24%
Sep-2019	2,929	2,078	851	1,353	46.19%

# PSR Activity

Period Ending September 30, 2019

## OREGON SAVINGS

<b>Reporting Period</b>	<b>PSR Call Volume</b>	<b>Average Speed of Answer (Seconds)</b>	<b>Average Call Length (Minutes)</b>
Oct-2018	1,715	18	6.18
Nov-2018	1,516	18	6.43
Dec-2018	1,384	9	6.20
Jan-2019	1,962	21	6.17
Feb-2019	1,486	23	6.30
Mar-2019	1,660	9	6.38
Apr-2019	1,762	8	7.12
May-2019	1,493	2	6.60
Jun-2019	1,789	6	6.52
Jul-2019	1,489	9	7.02
Aug-2019	1,827	11	6.47
Sep-2019	1,345	15	6.60

# PSR Activity

Period Ending September 30, 2019

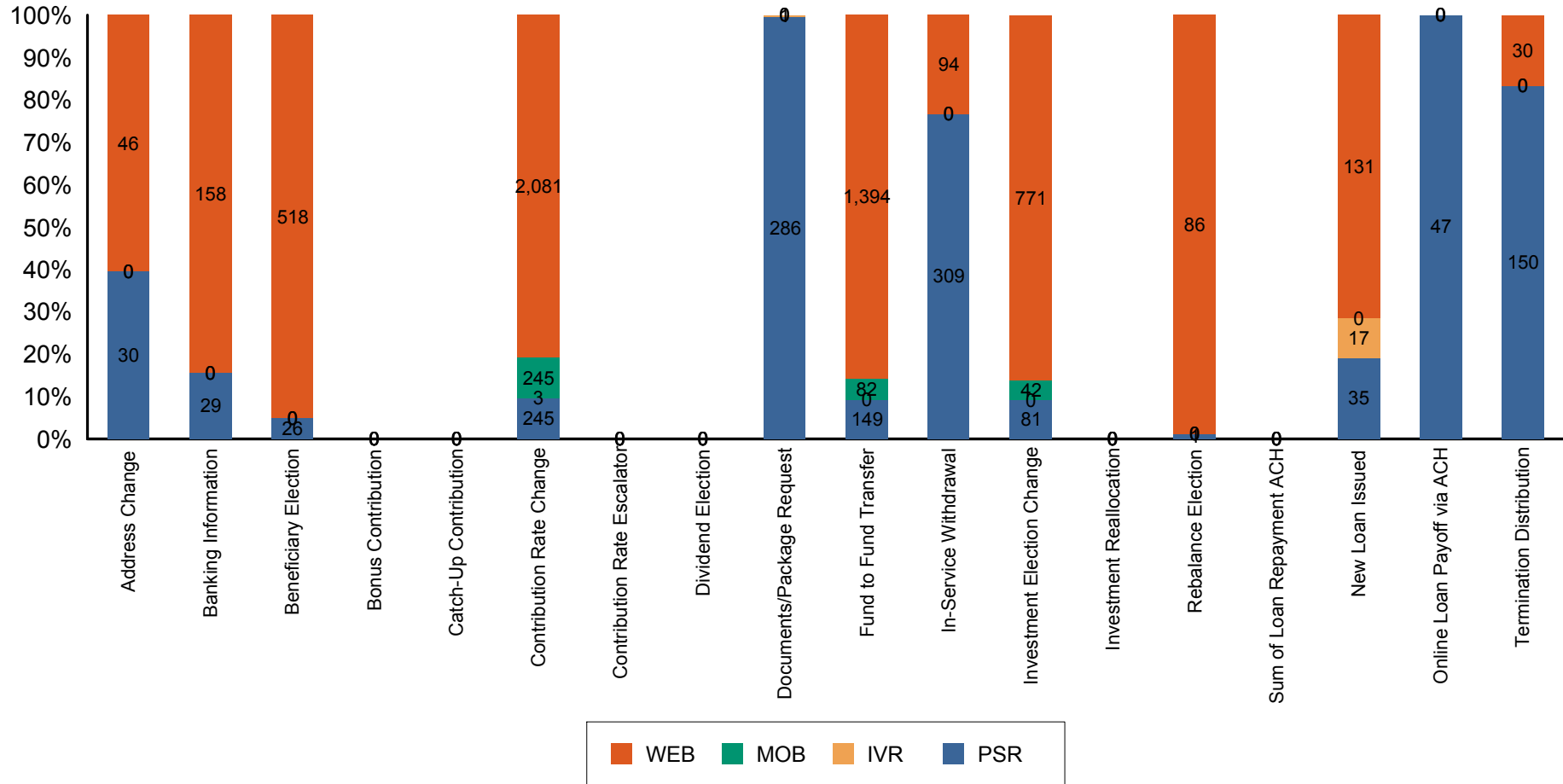
## OREGON SAVINGS

<b>Reporting Period</b>	<b>PSR Call Volumes</b>	<b>Number of Abandoned Calls</b>	<b>Percent of Abandoned Calls</b>
<b>Oct-2018</b>	1,715	19	0.01%
<b>Nov-2018</b>	1,516	14	0.00%
<b>Dec-2018</b>	1,384	8	0.00%
<b>Jan-2019</b>	1,962	12	0.00%
<b>Feb-2019</b>	1,486	19	0.01%
<b>Mar-2019</b>	1,660	7	0.00%
<b>Apr-2019</b>	1,762	7	0.00%
<b>May-2019</b>	1,493	1	0.00%
<b>Jun-2019</b>	1,789	2	0.00%
<b>Jul-2019</b>	1,489	10	0.00%
<b>Aug-2019</b>	1,827	16	0.00%
<b>Sep-2019</b>	1,345	5	0.00%

# Paperless Transactions by Channel

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN





# Paperless Transactions by Channel (IVR/PSR/WEB/MOB Combined)

Period Ending September 30, 2019

## OREGON SAVINGS GROWTH PLAN

<b>Paperless Transaction Description</b>	<b>Transaction Volume</b>
Address Change	76
Banking Information	187
Beneficiary Election	544
Bonus Contribution	0
Catch-up Contribution	0
Contribution Rate Change	2,574
Contribution Rate Escalator	0
Dividend Election	0
Document/Package Request	287
Fund to Fund Transfer	1,625
In-service Withdrawal	403
Investment Election Change	894
Investment Reallocation	0
Rebalance Election	87
Loan Repayment ACH Election	0
New Loans Issued	183
Loan Payoff	47
Termination Distribution	180

November 20, 2019



## Third Quarter 2019 Performance Review

---

**Anne Heaphy**  
Plan Sponsor Consulting

**Ben Taylor, CFA**  
Defined Contribution Consulting

**Uvan Tseng, CFA**  
Plan Sponsor Consulting

Callan

---

**Capital Markets Update**  
Third Quarter 2019

---

# Global Economic Update 2019

## The Big Picture

### Central bank policy front and center

- The Fed was alone on a path to normalize interest rates, with nine rate hikes in two years; euro zone sat out. U.S. rates have been substantially higher than developed markets globally for an extended period.
- Fed reversed course and adopted dovish tone in January. Rates held constant through Q2; cut rates twice in Q3, and most recently in October. Bond market believes rates will come down another 100 bps.

### Rest of the global economy is slowing, but U.S. remains strong, labor market very tight, reaching the limits of full employment

- Solid Q1 GDP growth (3.2%) moderated in Q2 (2.0%), but held up surprisingly well in Q3 (1.9%), despite slowing global growth and trade uncertainty.
- Switch to dovish Fed policy boosted consumer and business confidence, and juiced stock market; drop in borrowing costs expected to sustain consumption growth and soften slowdown.
- Policy reversal simultaneously stoked fears of coming slowdown and fed a rally in bonds, which are having an “outlier” year.

### Slowdown in Europe and China weighing on global growth

- Euro zone unemployment has dropped, but economic growth stalled (GDP below 1.5%).
- China suffering dramatic slowdown in growth: industrial output, retail sales, implied GDP.
- Resolution of trade uncertainty crucial to resumption of growth—far more important to China than the U.S.

### Inflation remains stuck below 2% in U.S., weaker overseas

- Wage pressures in U.S. have yet to translate into headline inflation; low inflation gives Fed cover to cut rates.

# U.S. Equity Performance

## Defensive sectors prevailed

- Ongoing trade tension, earnings and interest rate uncertainty, and the global political landscape continued to drive investor unease.
- Utilities, Real Estate, and Consumer Staples were top performers in response to continued flight to quality.

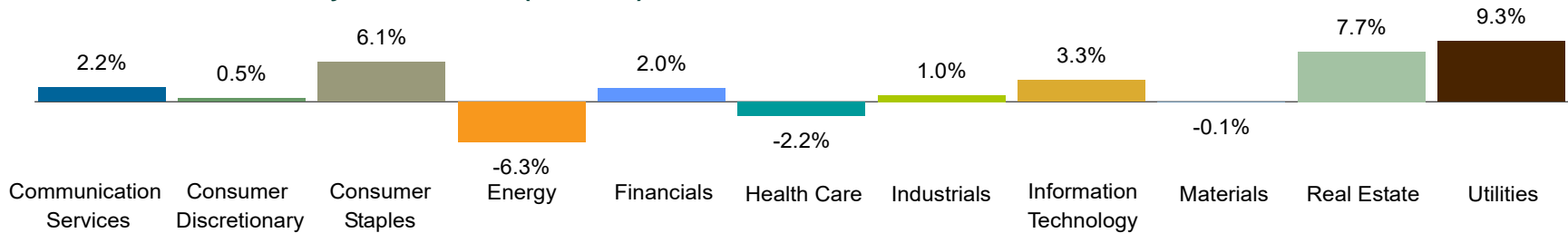
## Large caps posted modest gains

- Leading up to September, low-vol and momentum stocks had outperformed as investors shunned the cheapest quintile, more volatile stocks.
- Trend sharply reversed in early September as the 10-year Treasury yield rose from 1.46% to 1.73%; defensive stocks can be dependent upon yields falling.

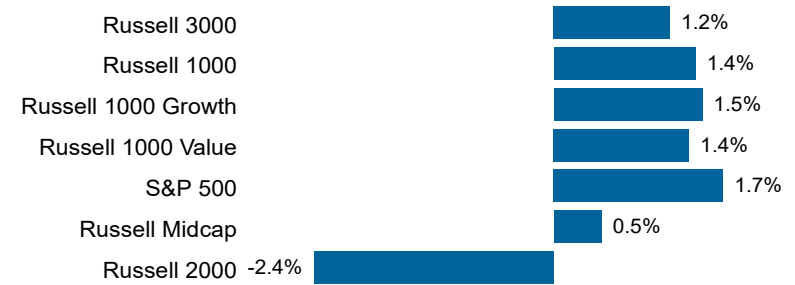
## Value and Growth mixed across capitalizations

- While value continues to trail growth year-to-date, it gained ground during September's factor reversal, finishing the quarter essentially in line with growth within large cap stocks.

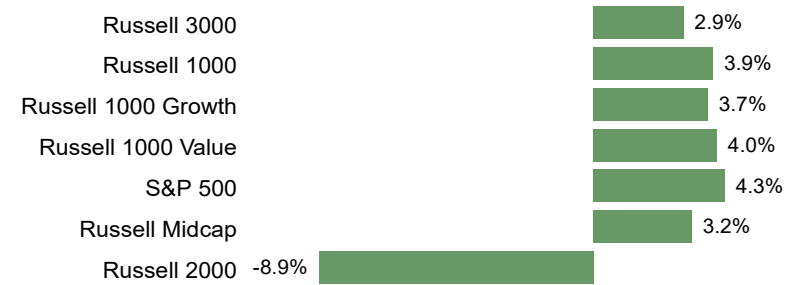
## Economic Sector Quarterly Performance (S&P 500)



## U.S. Equity: Quarterly Returns



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



Sources: FTSE Russell, Standard & Poor's

# Non-U.S. Equity Performance

## Trade war and no-deal Brexit fears turned non-U.S. markets negative

- U.K. declined on attempted suspension of Parliament and no-deal Brexit proclamations.
- Germany’s recession fears drove country to biggest annual decline in nine years.
- Hong Kong fell 11.9% as protests continued; Japan was bright spot as low rates remained unchanged and resolution to Japan/South Korea trade war looked more promising.

## Defensive sectors prevailed

- Cyclical sectors trailed as investors were positioned defensively; Energy (-6.5%) was biggest laggard on oil price decline.
- Factor performance favored quality and low vol, reflecting cautious investor behavior.

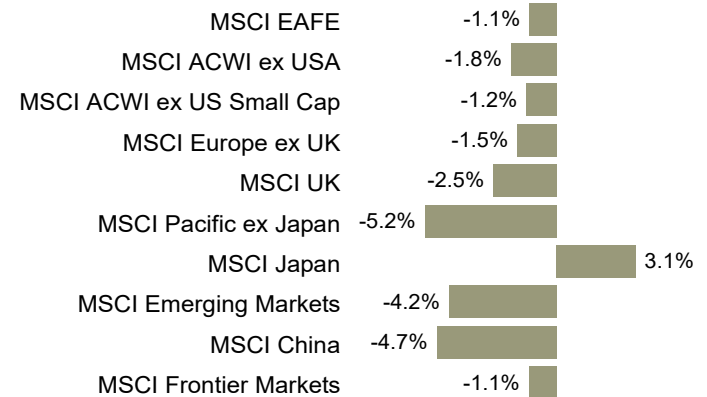
## Currencies declined vs. U.S. dollar

- Major developed market currencies declined vs. the dollar despite lowering of Fed funds rate; U.S. remains dominant provider of safe assets.

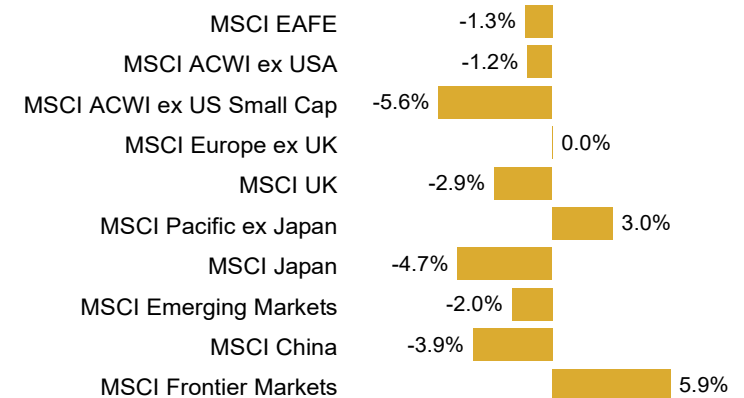
## EM worst-performing region

- Global uncertainty weighed heavily on EM countries.
- EM currencies suffered from strong dollar.
- EM growth (-2.04%) outpaced EM value (-6.48%) given Tech sector spike (+5.63%).

## Global Equity: Quarterly Returns



## Global Equity: One-Year Returns



Source: MSCI

# U.S. Fixed Income Performance

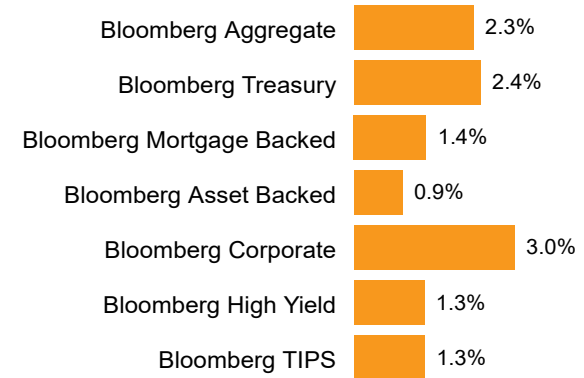
## Rates rallied on trade tensions and geopolitical uncertainty

- Treasuries returned 2.4% as rates fell across the yield curve.
- While 2- and 10-year key rates remained positive, spread between the 90-day and 10-year key rates remained inverted.
- Long Treasuries soared (+7.9%) as 30-year yields fell roughly 40 bps.
- Nominal Treasuries outperformed TIPS as inflation expectations continued to fall; 10-year breakeven spreads were 1.53% as of quarter-end, down from 1.69% as of June 30.

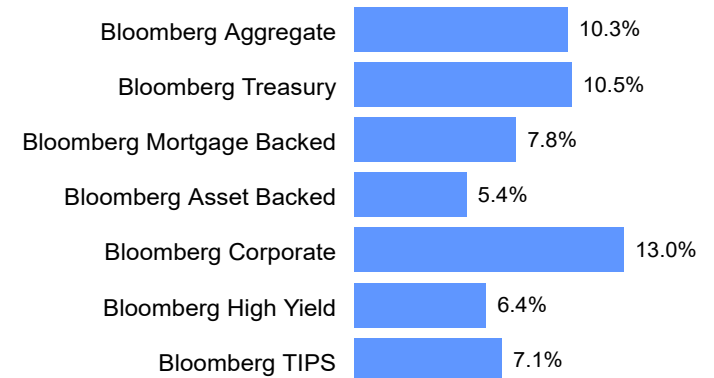
## Investment Grade Corporate was quiet, but High Yield told two stories

- Investment grade corporate credit spreads were range-bound, but their yield advantage was enough to generate positive excess returns versus like-duration Treasuries.
- BB-rated corporates (+2.0%) outperformed CCC-rated corporates (-1.8%).
- BB and B-rated spreads narrowed slightly, but the rally in rates helped drive outperformance as a result of higher-quality bonds' greater sensitivity to interest rate movements.
- CCC-rated bond spreads widened significantly, representing some concern about deteriorating quality at the lower-end of the spectrum.

## U.S. Fixed Income: Quarterly Returns



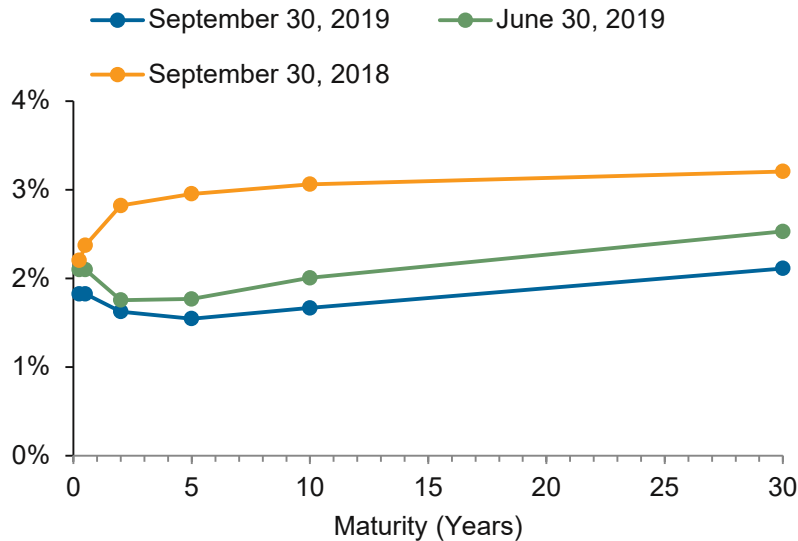
## U.S. Fixed Income: One-Year Returns



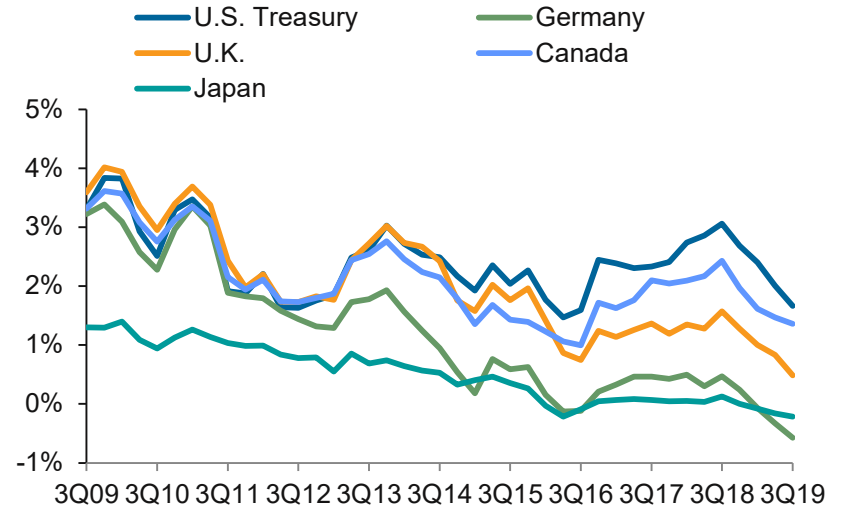
Sources: Bloomberg Barclays, Credit Suisse

# Yield Curve Flattens While Global Rates Diverge

## U.S. Treasury Yield Curves



## 10-Year Global Government Bond Yields



Treasury yield curve has inverted from 90-day T-bill through the 10-year T-note

- Yields have fallen more than 100 bps on the long end from one year ago.
- Inverted yield curve has presaged most recessions in past 70 years.
- Yield curve inverted from 2- to 10-year notes in August, but has wavered through the end of September.

U.S. yields diverged further in 2017 as monetary policies fell out of sync

- U.S. tightened for two years while euro zone waited.
- U.S. has now paused and has reversed course with three rate cuts so far in 2019, one each in Q2, Q3, and now Q4.
- Euro zone will skip tightening entirely in this cycle; U.S. spread remains very wide.

Source: Bloomberg



# Diversification Remains Key Risk Control

## Periodic Table of Investment Returns 2005 - 2019

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	3 Qtrs. 2019
Emerging Market Equity	Real Estate	Emerging Market Equity	U.S. Fixed Income	Emerging Market Equity	Small Cap Equity	U.S. Fixed Income	Real Estate	Small Cap Equity	Real Estate	Large Cap Equity	Small Cap Equity	Emerging Market Equity	Cash Equivalent	Large Cap Equity
34.00%	42.12%	39.38%	5.24%	78.51%	26.85%	7.84%	27.73%	38.82%	15.02%	1.38%	21.31%	37.28%	1.87%	20.55%
Real Estate	Emerging Market Equity	Non-U.S. Equity	Non-U.S. Fixed Income	High Yield	Real Estate	High Yield	Emerging Market Equity	Large Cap Equity	Large Cap Equity	U.S. Fixed Income	High Yield	Non-U.S. Equity	U.S. Fixed Income	Real Estate
15.35%	32.17%	12.44%	4.39%	58.21%	19.63%	4.98%	18.23%	32.39%	13.69%	0.55%	17.13%	24.21%	0.01%	19.82%
Non-U.S. Equity	Non-U.S. Equity	Non-U.S. Fixed Income	Cash Equivalent	Real Estate	Emerging Market Equity	Non-U.S. Fixed Income	Non-U.S. Equity	Non-U.S. Equity	U.S. Fixed Income	Cash Equivalent	Large Cap Equity	Large Cap Equity	High Yield	Small Cap Equity
14.47%	25.71%	11.03%	2.06%	37.13%	18.88%	4.36%	16.41%	21.02%	5.97%	0.05%	11.96%	21.83%	-2.08%	14.18%
Large Cap Equity	Small Cap Equity	U.S. Fixed Income	High Yield	Non-U.S. Equity	High Yield	Large Cap Equity	Small Cap Equity	High Yield	Small Cap Equity	Real Estate	Emerging Market Equity	Small Cap Equity	Non-U.S. Fixed Income	Non-U.S. Equity
4.91%	18.37%	6.97%	-26.16%	33.67%	15.12%	2.11%	16.35%	7.44%	4.89%	-0.79%	11.19%	14.65%	-2.15%	13.57%
Small Cap Equity	Large Cap Equity	Large Cap Equity	Small Cap Equity	Small Cap Equity	Large Cap Equity	Cash Equivalent	Large Cap Equity	Real Estate	High Yield	Non-U.S. Equity	Real Estate	Non-U.S. Fixed Income	Large Cap Equity	High Yield
4.55%	15.79%	5.49%	-33.79%	27.17%	15.06%	0.10%	16.00%	3.67%	2.45%	-3.04%	4.06%	10.51%	-4.38%	11.41%
Cash Equivalent	High Yield	Cash Equivalent	Large Cap Equity	Large Cap Equity	Non-U.S. Equity	Small Cap Equity	High Yield	Cash Equivalent	Cash Equivalent	Small Cap Equity	Non-U.S. Equity	Real Estate	Real Estate	U.S. Fixed Income
3.07%	11.85%	5.00%	-37.00%	26.47%	8.95%	-4.18%	15.81%	0.07%	0.03%	-4.41%	2.75%	10.36%	-5.63%	8.52%
High Yield	Non-U.S. Fixed Income	High Yield	Non-U.S. Equity	Non-U.S. Fixed Income	U.S. Fixed Income	Real Estate	U.S. Fixed Income	U.S. Fixed Income	Emerging Market Equity	High Yield	U.S. Fixed Income	High Yield	Small Cap Equity	Emerging Market Equity
2.74%	8.16%	1.87%	-43.56%	7.53%	6.54%	-6.46%	4.21%	-2.02%	-2.19%	-4.47%	2.65%	7.50%	-11.01%	5.90%
U.S. Fixed Income	Cash Equivalent	Small Cap Equity	Real Estate	U.S. Fixed Income	Non-U.S. Fixed Income	Non-U.S. Equity	Non-U.S. Fixed Income	Emerging Market Equity	Non-U.S. Fixed Income	Non-U.S. Fixed Income	Non-U.S. Fixed Income	U.S. Fixed Income	Non-U.S. Equity	Non-U.S. Fixed Income
2.43%	4.85%	-1.57%	-48.21%	5.93%	4.95%	-12.21%	4.09%	-2.60%	-3.09%	-6.02%	1.49%	3.54%	-14.09%	4.38%
Non-U.S. Fixed Income	U.S. Fixed Income	Real Estate	Emerging Market Equity	Cash Equivalent	Cash Equivalent	Emerging Market Equity	Cash Equivalent	Non-U.S. Fixed Income	Non-U.S. Equity	Emerging Market Equity	Cash Equivalent	Cash Equivalent	Emerging Market Equity	Cash Equivalent
-8.65%	4.33%	-7.39%	-53.33%	0.21%	0.13%	-18.42%	0.11%	-3.08%	-4.32%	-14.92%	0.33%	0.86%	-14.57%	1.81%

- S&P 500 Index
- Russell 2000 Index
- MSCI World ex USA
- MSCI Emerging Markets
- Bloomberg Barclays US Aggregate Bond
- Bloomberg Barclays High Yield Bond Index
- Bloomberg Barclays Global Aggregate ex US Bond Index
- FTSE EPRA/NAREIT Developed REIT Index
- 3-month Treasury Bill


Source: Callan LLC, Bloomberg Barclays, FTSE Russell, MSCI, Standard & Poor's

Callan

---

**OSGP Review**  
Third Quarter 2019

# OSGP Investment Structure

OSGP Investment Structure			
Risk Spectrum	Tier I. Asset Allocation Options	Tier II. Core Options	Tier III. Specialty Options
Conservative  Aggressive	<u>Target Date Funds</u> LifePath Portfolios	<u>Capital Preservation</u> Stable Value Option	
		<u>Fixed Income</u> Active Fixed Income Option	
		<u>Broad U.S. Equity</u> Stock Index Option - Russell 3000	<u>Specialty Equity</u> Socially Responsible Investment Option
		<u>Large Cap U.S. Equity</u> Large Company Value Stock Option Large Company Growth Stock Option	
		<u>Small Cap U.S. Equity</u> Small Company Stock Option	
		<u>International Equity</u> International Stock Option	<u>Inflation Sensitive</u> Real Return Option
			<u>Brokerage Window</u> Schwab PCRA

# Asset Distribution

	September 30, 2019			June 30, 2019		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
<b>Tier I - Asset Allocation Options</b>						
<b>Target Date Funds</b>	<b>\$743,986,823</b>	<b>31.53%</b>	<b>\$7,739,328</b>	<b>\$7,718,297</b>	<b>\$728,529,198</b>	<b>31.32%</b>
LifePath Index Retirement Fund L	193,875,746	8.22%	1,272,768	2,684,999	189,917,979	8.17%
LifePath Index 2020 Fund L	143,024,238	6.06%	(115,308)	2,246,187	140,893,358	6.06%
LifePath Index 2025 Fund L	124,608,859	5.28%	3,167,541	1,031,453	120,409,865	5.18%
LifePath Index 2030 Fund L	91,496,918	3.88%	773,143	811,439	89,912,336	3.87%
LifePath Index 2035 Fund L	69,046,613	2.93%	1,351,200	254,065	67,441,347	2.90%
LifePath Index 2040 Fund L	47,867,145	2.03%	700,608	356,521	46,810,016	2.01%
LifePath Index 2045 Fund L	32,334,216	1.37%	358,971	120,064	31,855,181	1.37%
LifePath Index 2050 Fund L	24,821,318	1.05%	(598,742)	157,991	25,262,069	1.09%
LifePath Index 2055 Fund L	9,977,306	0.42%	411,592	32,287	9,533,426	0.41%
LifePath Index 2060 Fund L	6,934,466	0.29%	417,555	23,289	6,493,622	0.28%
<b>Tier II - Core Investment Options</b>						
<b>Stable Value Option</b>						
Galliard	291,918,952	12.37%	3,555,496	1,529,519	286,833,937	12.33%
<b>Active Fixed Income Option</b>						
BlackRock / DoubleLine / Wellington	168,433,727	7.14%	15,411,139	3,220,618	149,801,970	6.44%
<b>Stock Index Option</b>						
BlackRock	273,033,566	11.57%	(1,481,044)	3,251,244	271,263,366	11.66%
<b>Large Company Value Stock Option</b>						
BlackRock	202,521,131	8.58%	(909,432)	2,809,340	200,621,223	8.63%
<b>Large Company Growth Stock Option</b>						
BlackRock	281,559,081	11.93%	(2,362,274)	4,463,806	279,457,549	12.02%
<b>Small Company Stock Option</b>						
BlackRock / Callan / DFA	231,586,672	9.81%	(7,808,812)	(5,964,025)	245,359,509	10.55%
<b>International Stock Option</b>						
AQR / Arrowstreet / DFA* / Lazard	122,175,480	5.18%	3,880,458	(2,815,171)	121,110,193	5.21%
<b>Tier III - Specialty Options</b>						
<b>Socially Responsible Investment Option</b>						
TIAA-CREF	18,883,751	0.80%	674,345	341,284	17,868,122	0.77%
<b>Real Return Option</b>						
State Street	4,265,424	0.18%	34,343	(112,977)	4,344,058	0.19%
Brokerage Window	21,307,228	0.90%	935,814	(298,121)	20,669,536	0.89%
<b>Total Fund</b>	<b>\$2,359,682,725</b>	<b>100.0%</b>	<b>\$19,669,362</b>	<b>\$14,143,874</b>	<b>\$2,325,869,489</b>	<b>100.0%</b>

# Summary Returns

Periods Ended September 30, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Tier I - Asset Allocation Options</b>					
<b>LifePath Index Retirement Fund L</b>	1.40	6.39	5.59	4.75	5.97
LifePath Index Retirement Benchmark	1.40	6.43	5.58	4.75	5.99
<b>LifePath Index 2020 Fund L</b>	1.34	5.97	6.15	5.13	6.78
LifePath Index 2020 Benchmark	1.35	6.02	6.14	5.10	6.78
<b>LifePath Index 2025 Fund L</b>	1.12	5.33	6.95	5.63	7.35
LifePath Index 2025 Benchmark	1.12	5.32	6.90	5.58	7.33
<b>LifePath Index 2030 Fund L</b>	0.91	4.71	7.65	6.06	7.85
LifePath Index 2030 Benchmark	0.90	4.68	7.56	5.98	7.80
<b>LifePath Index 2035 Fund L</b>	0.71	4.13	8.31	6.47	8.29
LifePath Index 2035 Benchmark	0.70	4.05	8.19	6.36	8.23
<b>LifePath Index 2040 Fund L</b>	0.53	3.54	8.87	6.80	8.66
LifePath Index 2040 Benchmark	0.54	3.50	8.73	6.67	8.60
<b>LifePath Index 2045 Fund L</b>	0.40	3.10	9.18	6.99	8.97
LifePath Index 2045 Benchmark	0.39	2.99	9.00	6.84	8.88
<b>LifePath Index 2050 Fund L</b>	0.34	2.94	9.28	7.06	9.18
LifePath Index 2050 Benchmark	0.34	2.80	9.10	6.90	9.10
<b>LifePath Index 2055 Fund L</b>	0.33	2.92	9.28	7.06	--
LifePath Index 2055 Benchmark	0.34	2.81	9.10	6.91	--
<b>LifePath Index 2060 Fund L</b>	0.33	2.91	9.25	6.61	--
LifePath Index 2060 Benchmark	0.34	2.81	9.10	--	--

# Summary Returns

Periods Ended September 30, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
<b>Tier II - Core Investment Options</b>						
<b>Stable Value Option</b>	0.66	2.52	2.17	1.97	1.89	2.67
3-month Treasury Bill	0.56	2.39	1.54	0.98	0.54	1.39
<b>Active Fixed Income Option</b>	2.14	9.50	3.57	3.80	4.52	4.68
Bloomberg Aggregate Index	2.27	10.30	2.92	3.38	3.75	4.21
<b>Stock Index Option</b>	1.17	2.99	12.91	10.53	13.16	9.15
Russell 3000 Index	1.16	2.92	12.83	10.44	13.08	9.10
<b>Large Company Value Stock Option</b>	1.37	4.11	9.54	7.76	11.58	7.99
Russell 1000 Value Index	1.36	4.00	9.43	7.79	11.46	7.82
<b>Large Company Growth Stock Option</b>	1.47	3.72	16.86	13.29	14.77	9.95
Russell 1000 Growth Index	1.49	3.71	16.89	13.39	14.94	10.40
<b>Small Company Stock Option</b>	(2.41)	(9.54)	8.12	7.60	11.26	8.74
Russell 2000 Index	(2.40)	(8.89)	8.23	8.19	11.19	8.19
<b>International Stock Option</b>	(2.29)	(2.84)	5.22	3.17	4.78	5.41
MSCI ACWI ex US Index	(1.80)	(1.23)	6.33	2.90	4.46	5.66
<b>Tier III - Specialty Options</b>						
<b>Socially Responsible Investment Option</b>	2.00	3.90	12.62	--	--	--
Russell 3000 Index	1.16	2.92	12.83	10.44	13.08	9.10
<b>Real Return Option</b>	(0.70)	0.88	2.31	--	--	--
Real Return Blended Benchmark	(0.69)	1.85	3.59	0.97	3.24	--
Consumer Price Index + 3%	0.94	4.50	5.05	4.34	4.71	5.02

# Investment Options Fee Summary

Asset Class and Strategy	Total Annual Operating Expense Ratio*	Institutional Peer Group Median
<b>Asset Allocation Options</b>		
LifePath Index Retirement, 2020 – 2060 Funds; L	0.090%	0.12% - 0.13%
<b>Capital Preservation</b>		
Stable Value Option	0.351%	0.36%
<b>Fixed Income</b>		
Active Fixed Income Option	0.165%	0.27%
<b>U.S. Large Cap Equity</b>		
Stock Index Option	0.036%	0.04%
Large Company Value Stock Option	0.026%	0.04%
Large Company Growth Stock Option	0.026%	0.04%
<b>U.S. Small Cap Equity</b>		
Small Company Stock Option	0.398%	0.73%
<b>International Equity</b>		
International Stock Option	0.546%	0.62%
<b>Specialty Options</b>		
Socially Responsible Investment Option	0.170%	0.55%
Real Return Option	0.220%	1.10%

\*Fee data provided by OST.

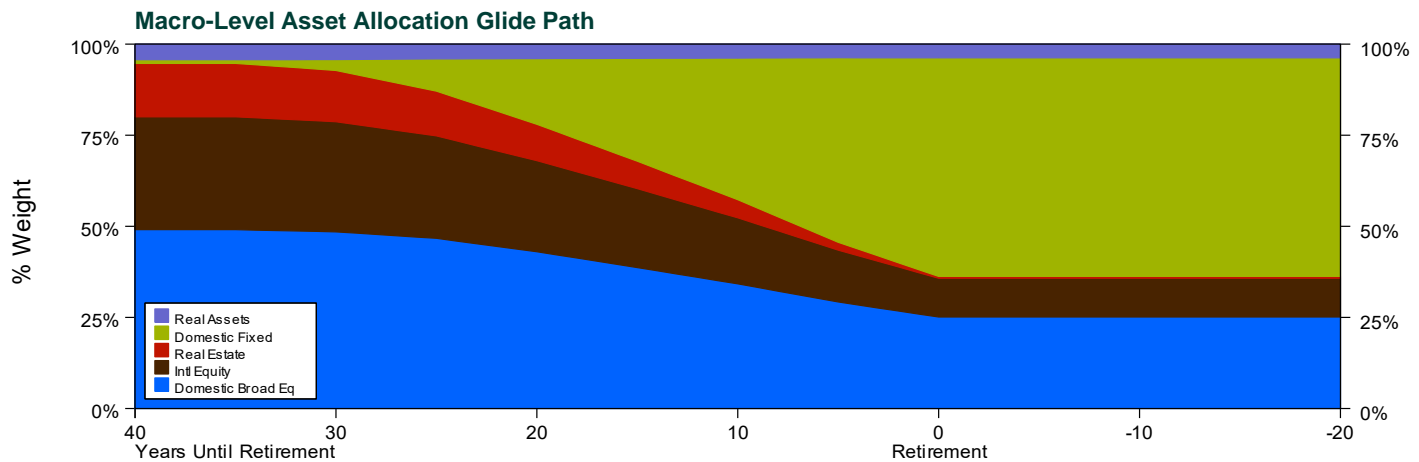
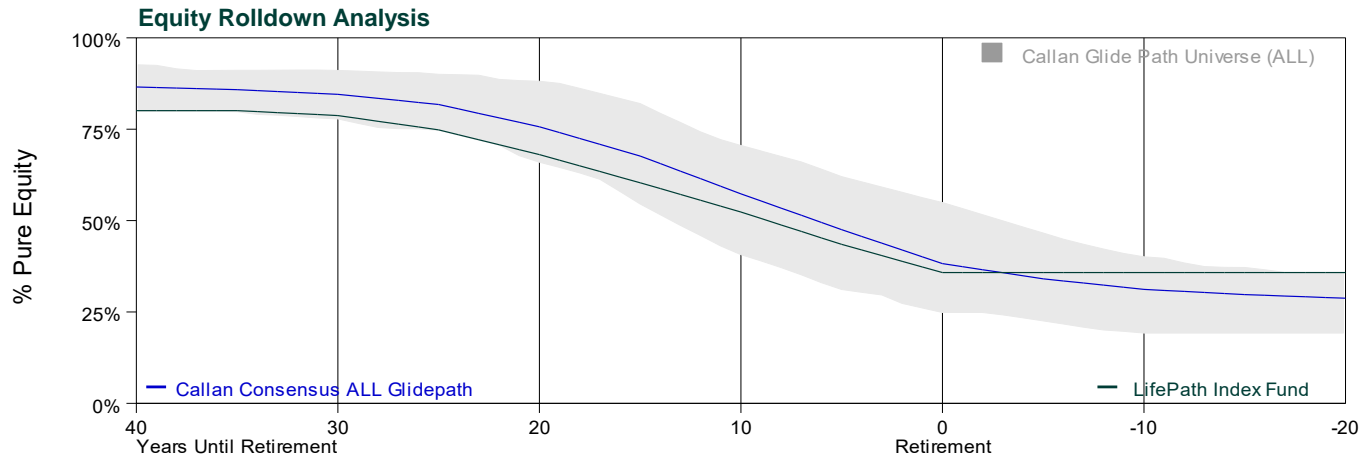
---

## **OSGP Investment Option Performance** Third Quarter 2019



# BlackRock LifePath Index Target Date Funds

## Glide Path Analysis



# LifePath Index Retirement Fund

Periods Ended September 30, 2019

Performance vs Callan Target Date Retirement Income (Institutional Net)



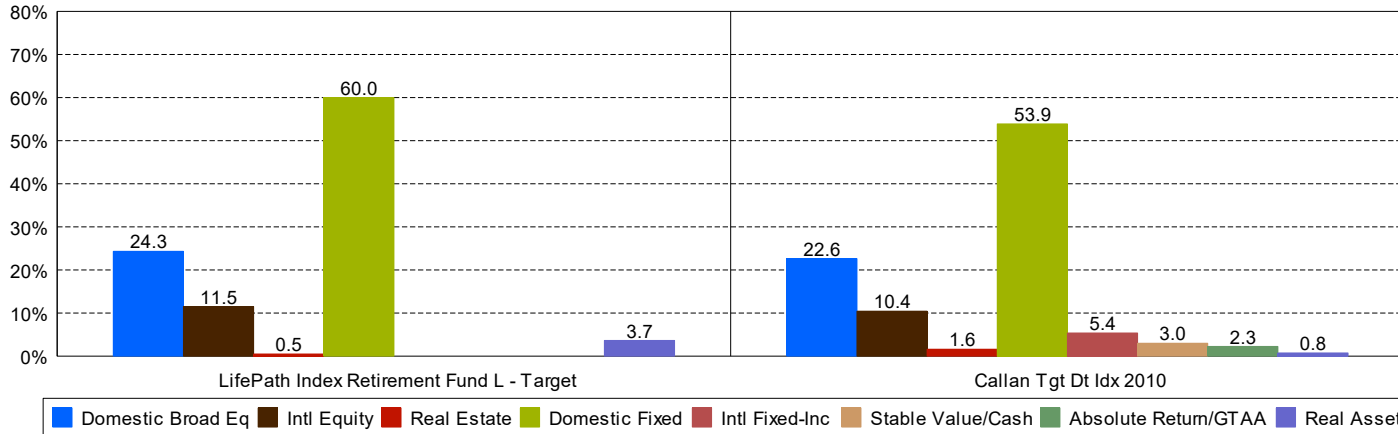
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years	Last 14 1/4 Years
10th Percentile	1.68	7.28	5.90	5.02	5.60	6.56	5.38
25th Percentile	1.52	6.75	5.42	4.76	5.10	5.87	5.04
Median	1.32	6.07	5.10	4.35	4.35	5.37	4.59
75th Percentile	1.12	5.33	4.51	3.84	4.03	4.79	4.16
90th Percentile	0.93	4.75	4.02	3.21	3.46	4.20	3.59

<b>LifePath Index Retirement Fund L</b>	•	1.40	6.39	5.59	4.75	5.00	5.97	5.27
LifePath Index Retirement Benchmark	■	1.40	6.43	5.58	4.75	4.99	5.99	5.36

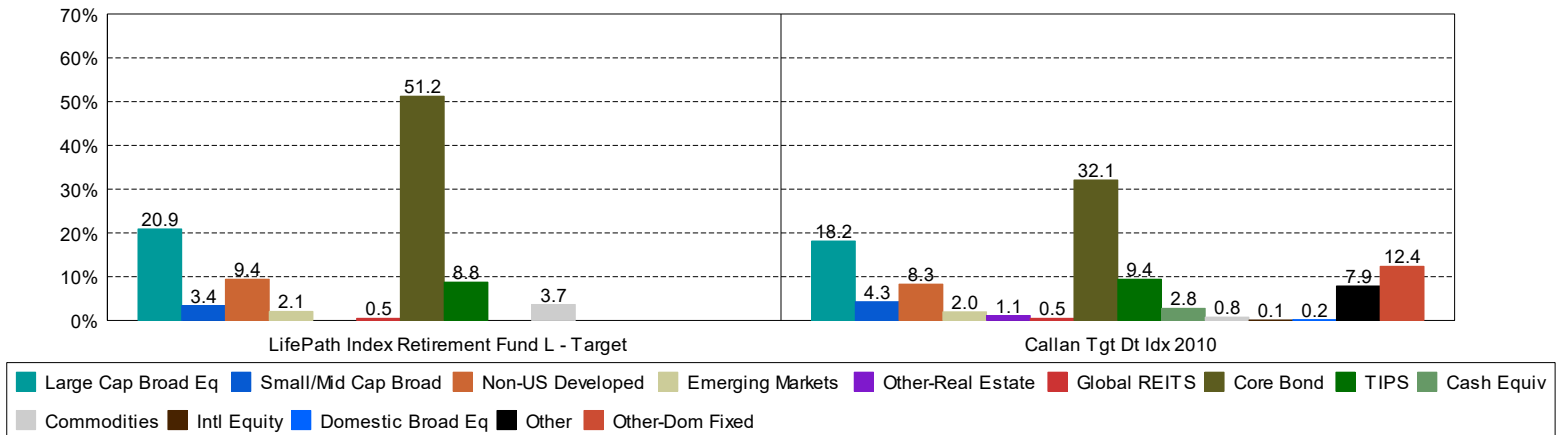
# LifePath Index Retirement Fund

## Target Asset Allocation

### Macro-Level Asset Allocation



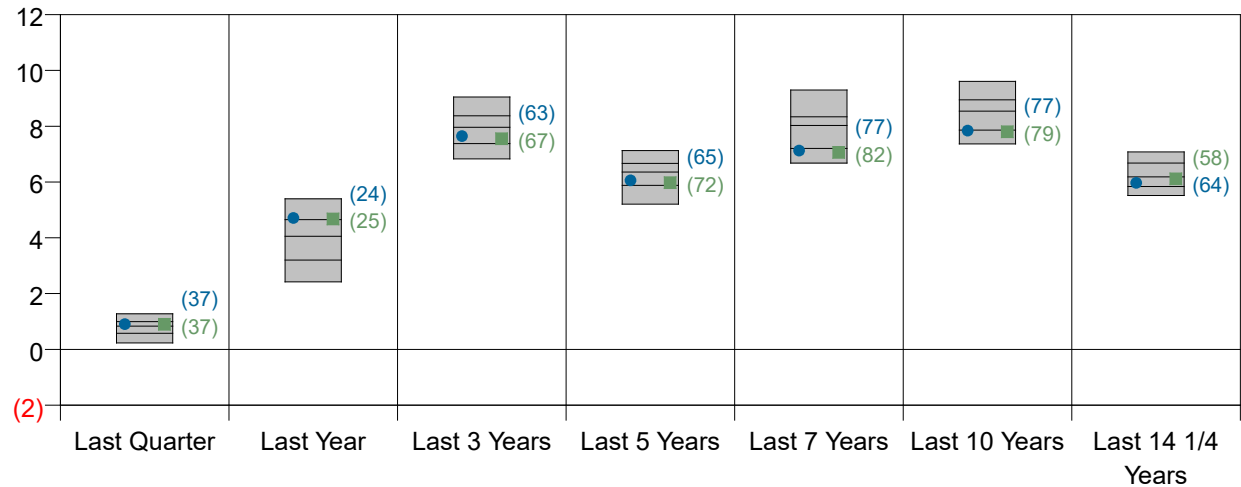
### Micro-Level Asset Allocation



# LifePath Index 2030 Fund

Periods Ended September 30, 2019

Performance vs Callan Target Date 2030 (Institutional Net)

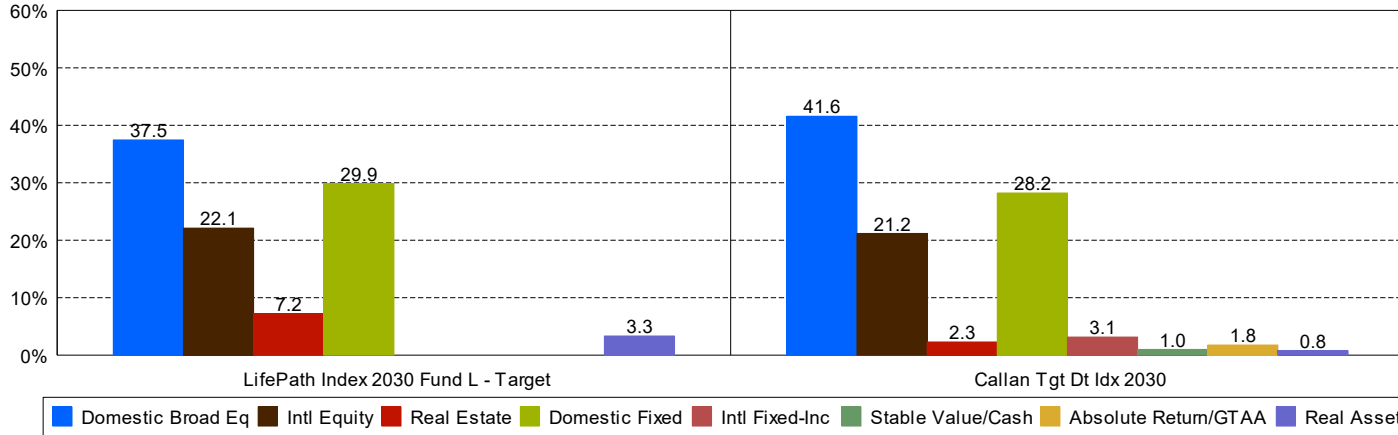


10th Percentile	1.28	5.40	9.05	7.13	9.30	9.61	7.08
25th Percentile	1.00	4.65	8.38	6.67	8.34	8.95	6.68
Median	0.84	4.06	7.96	6.36	8.03	8.54	6.19
75th Percentile	0.58	3.21	7.38	5.88	7.21	7.86	5.84
90th Percentile	0.23	2.42	6.83	5.21	6.68	7.37	5.52
<b>LifePath Index 2030 Fund L</b>	•	0.91	4.71	7.65	6.06	7.13	5.97
LifePath Index 2030 Benchmark	■	0.90	4.68	7.56	5.98	7.06	6.12

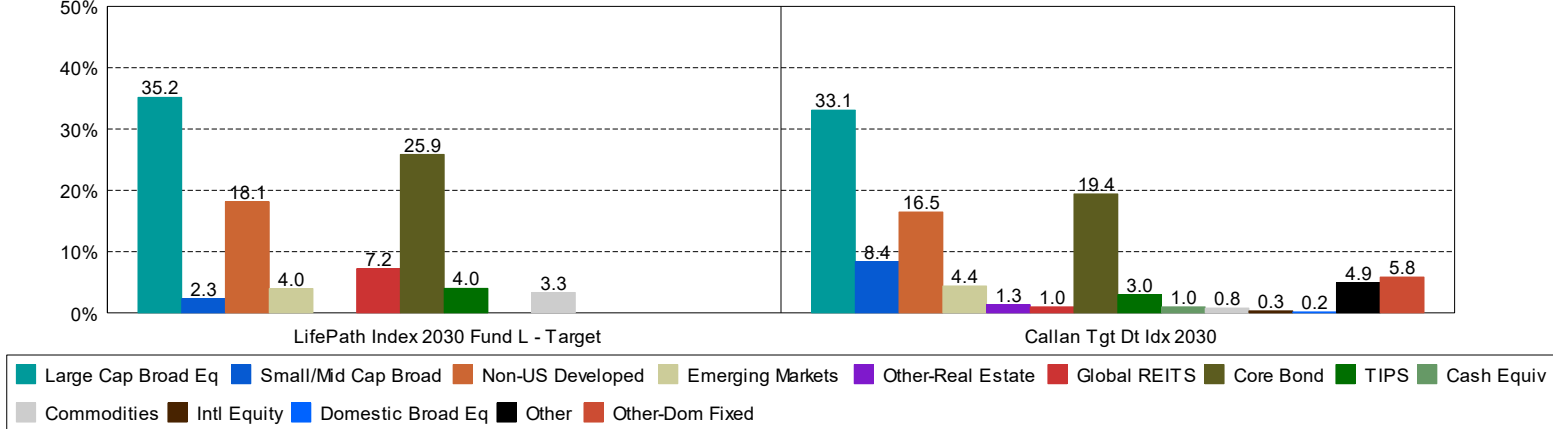
# LifePath Index 2030 Fund

## Target Asset Allocation

### Macro-Level Asset Allocation



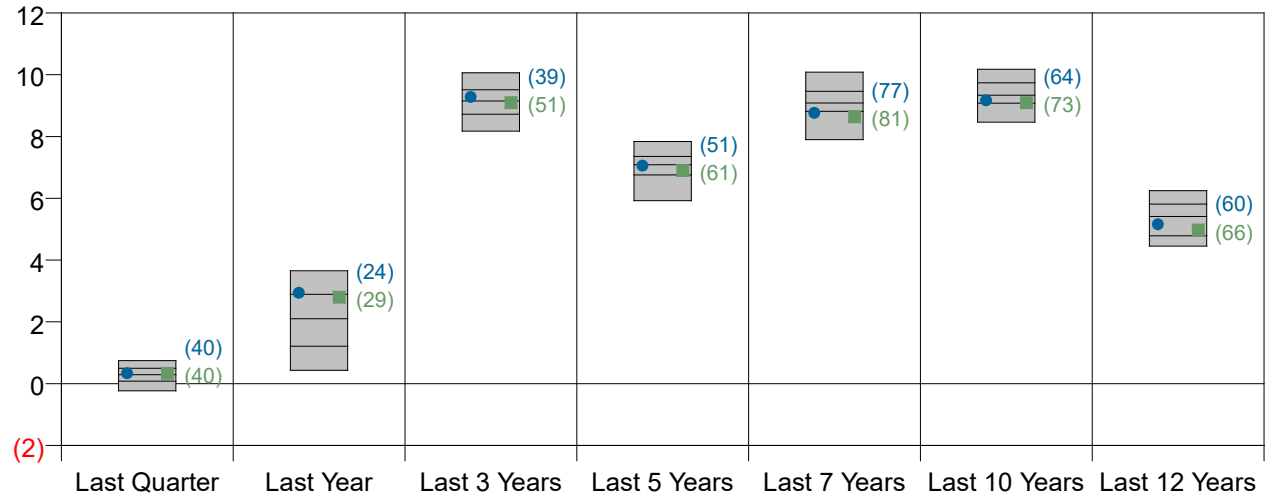
### Micro-Level Asset Allocation



# LifePath Index 2050 Fund

Periods Ended September 30, 2019

## Performance vs Callan Target Date 2050 (Institutional Net)



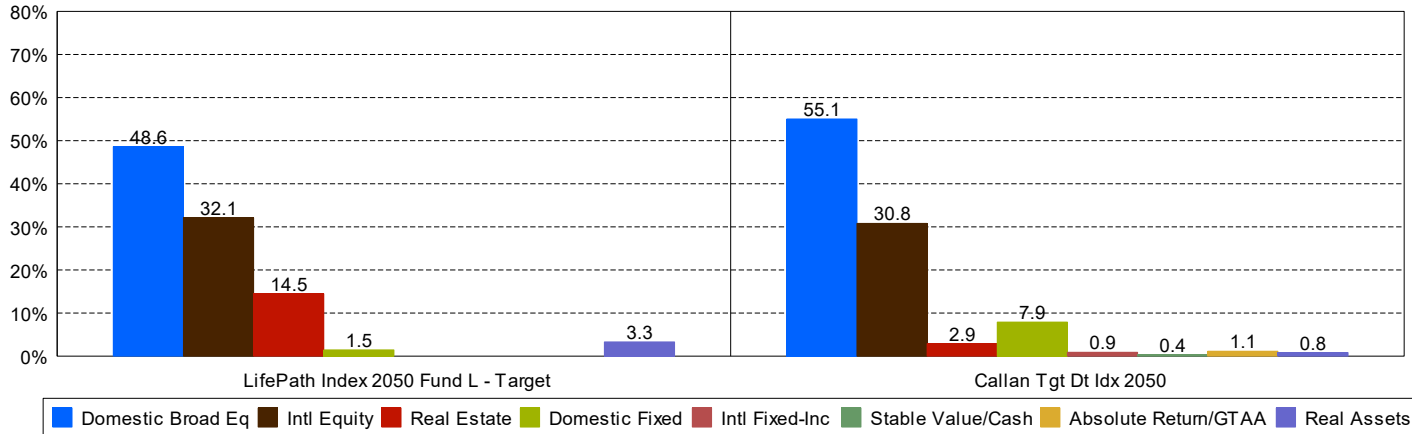
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years	Last 12 Years
10th Percentile	0.75	3.66	10.07	7.84	10.09	10.18	6.25
25th Percentile	0.50	2.90	9.52	7.36	9.46	9.74	5.82
Median	0.29	2.10	9.16	7.09	9.09	9.34	5.41
75th Percentile	0.08	1.21	8.73	6.76	8.82	9.08	4.79
90th Percentile	(0.23)	0.44	8.18	5.92	7.90	8.47	4.45

<b>LifePath Index 2050 Fund L</b>	●	0.34	2.94	9.28	7.06	8.77	9.18	5.16
LifePath Index 2050 Benchmark	■	0.34	2.80	9.10	6.90	8.64	9.10	4.97

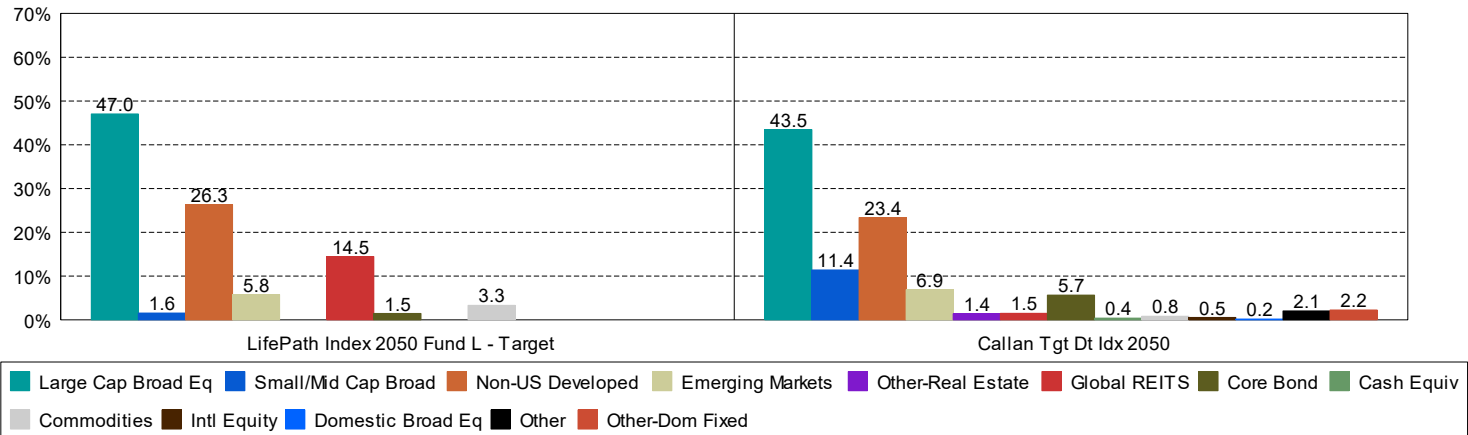
# LifePath Index 2050 Fund

## Target Asset Allocation

### Macro-Level Asset Allocation



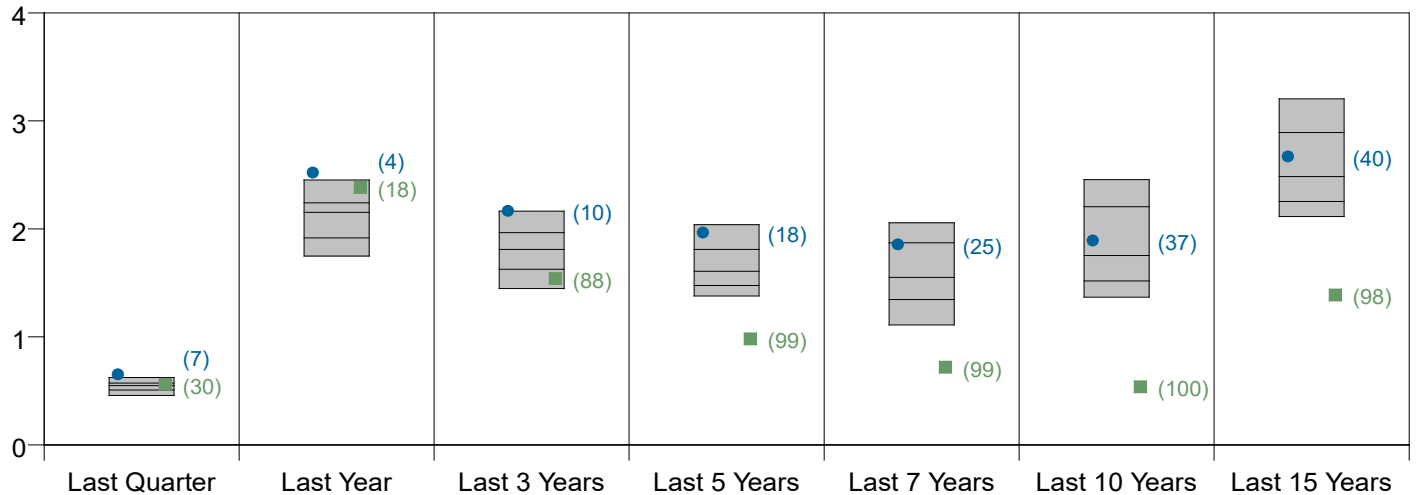
### Micro-Level Asset Allocation



# Stable Value Option

Periods Ended September 30, 2019

Performance vs Callan Stable Value CT (Institutional Net)



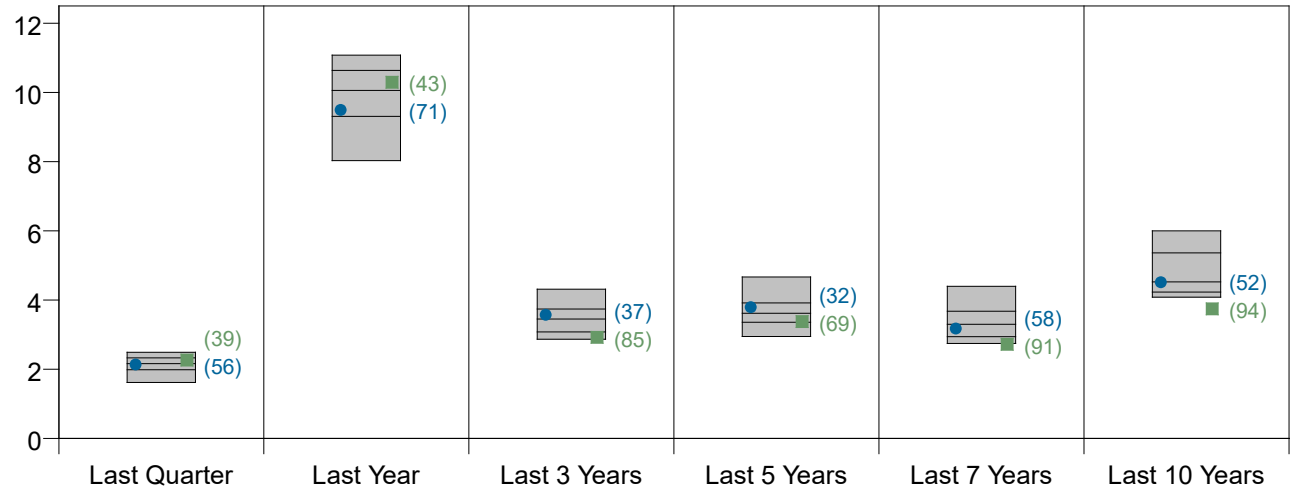
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years	Last 15 Years
10th Percentile	0.62	2.45	2.17	2.04	2.06	2.46	3.21
25th Percentile	0.57	2.24	1.97	1.81	1.87	2.21	2.89
Median	0.55	2.15	1.81	1.61	1.55	1.75	2.49
75th Percentile	0.51	1.92	1.63	1.48	1.35	1.52	2.25
90th Percentile	0.46	1.75	1.45	1.38	1.11	1.37	2.12
<b>Stable Value Option</b> ●	0.66	2.52	2.17	1.97	1.86	1.89	2.67
3-month Treasury Bill ■	0.56	2.39	1.54	0.98	0.72	0.54	1.39



# Active Fixed Income Option

Periods Ended September 30, 2019

Performance vs Callan Core Plus Mutual Funds (Institutional Net)



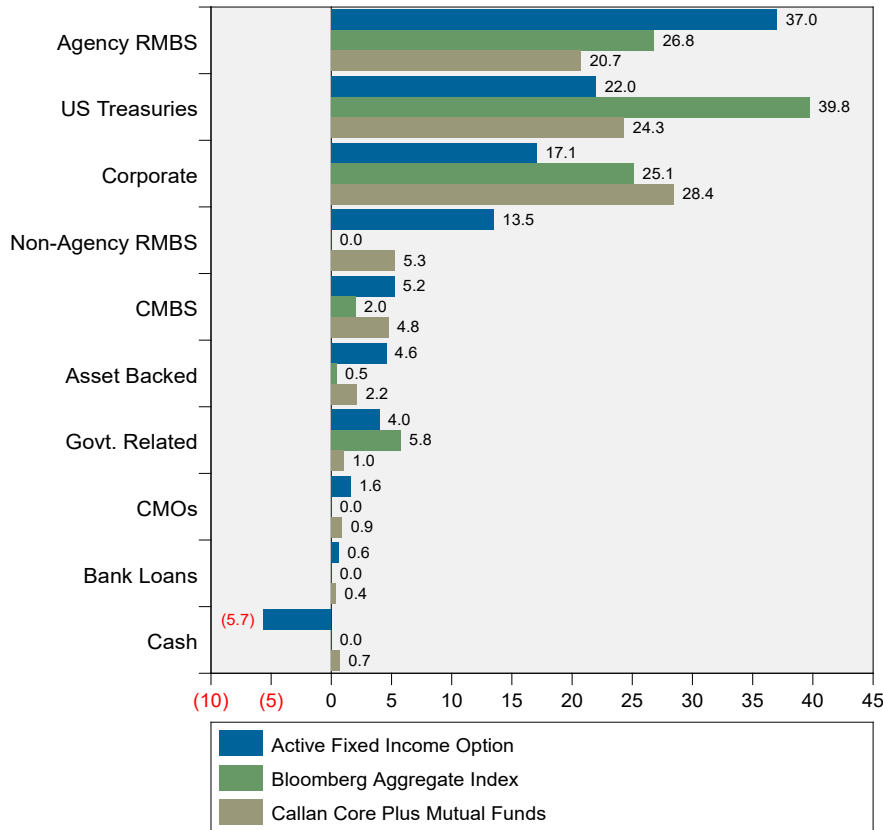
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	2.49	11.08	4.31	4.67	4.40	6.00
25th Percentile	2.33	10.64	3.74	3.92	3.68	5.36
Median	2.17	10.06	3.45	3.62	3.30	4.53
75th Percentile	1.99	9.31	3.08	3.36	2.94	4.24
90th Percentile	1.62	8.03	2.87	2.95	2.75	4.09

<b>Active Fixed Income Option</b>	•	2.14	9.50	3.57	3.80	3.18	4.52
Bloomberg Aggregate Index	■	2.27	10.30	2.92	3.38	2.72	3.75

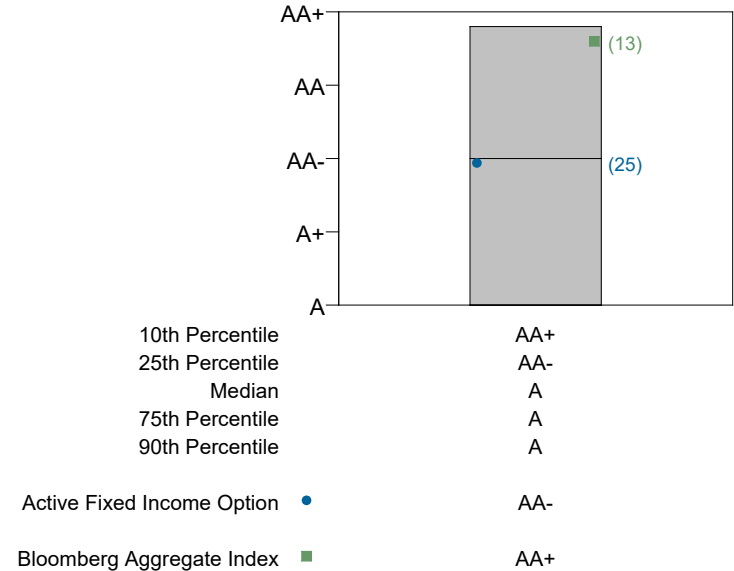
# Active Fixed Income Option

Portfolio Characteristics as of September 30, 2019

**Sector Allocation  
September 30, 2019**



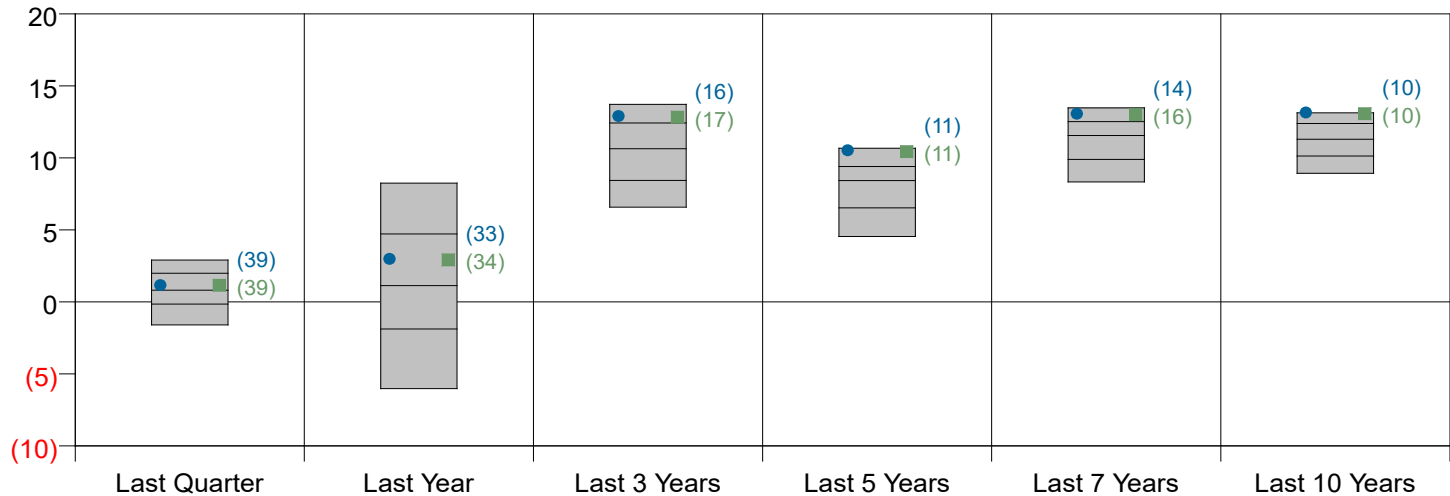
**Quality Ratings  
vs Callan Core Plus Mutual Funds**



# Stock Index Option

Periods Ended September 30, 2019

Performance vs Callan All Cap Core Mutual Funds (Institutional Net)

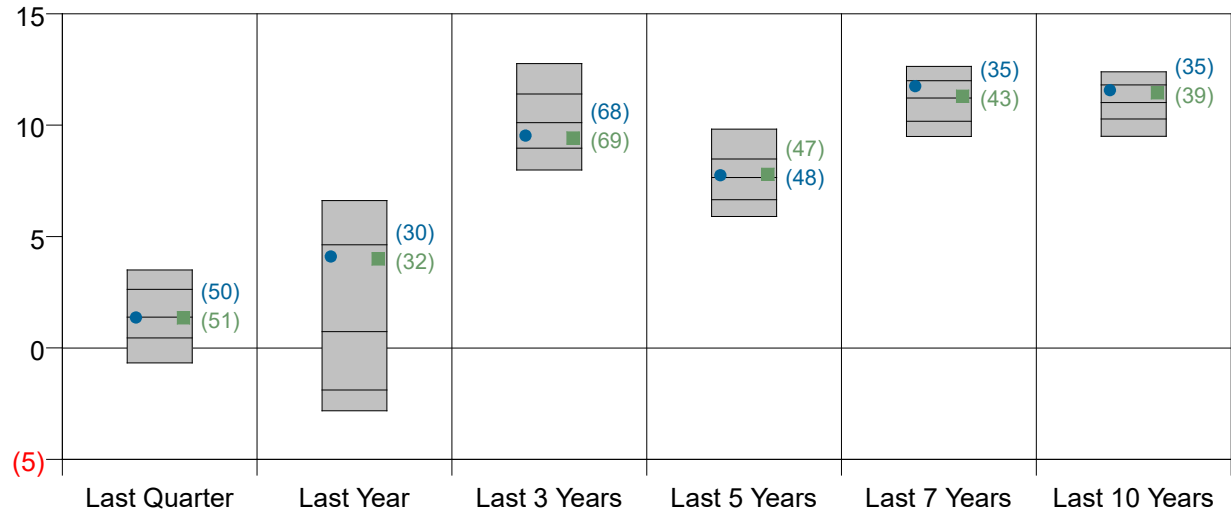


10th Percentile	2.91	8.25	13.72	10.68	13.47	13.13
25th Percentile	2.00	4.72	12.43	9.40	12.52	12.39
Median	0.81	1.14	10.65	8.43	11.56	11.30
75th Percentile	(0.15)	(1.87)	8.44	6.54	9.90	10.14
90th Percentile	(1.59)	(6.02)	6.58	4.55	8.33	8.94
<b>Stock Index Option</b> •	1.17	2.99	12.91	10.53	13.07	13.16
Russell 3000 Index ■	1.16	2.92	12.83	10.44	13.00	13.08

# Large Company Value Stock Option

Periods Ended September 30, 2019

Performance vs Callan Large Cap Value Mutual Funds (Institutional Net)



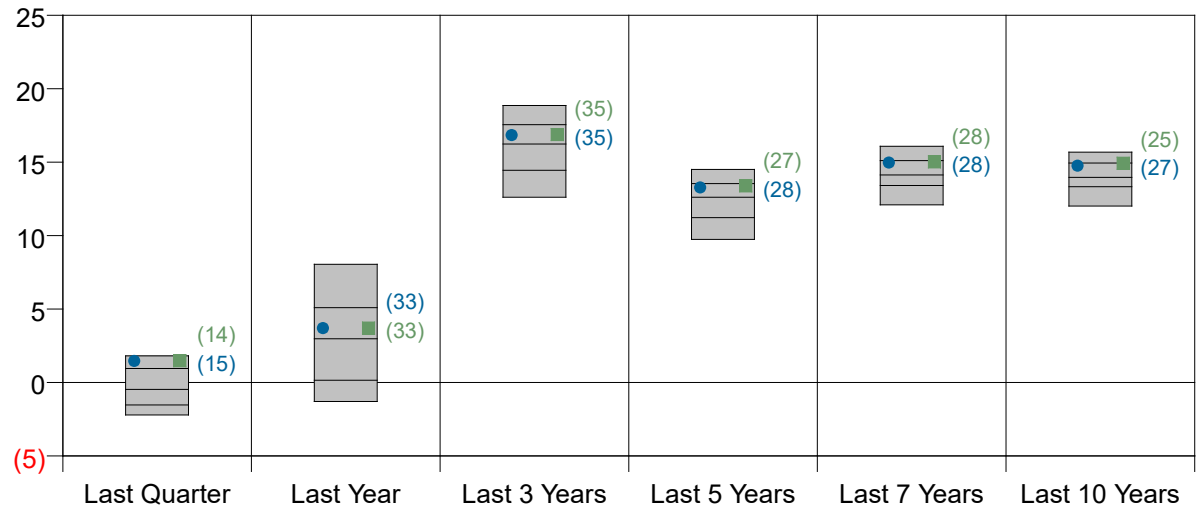
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	3.51	6.62	12.77	9.83	12.64	12.40
25th Percentile	2.64	4.64	11.40	8.49	12.00	11.81
Median	1.39	0.74	10.12	7.66	11.22	11.02
75th Percentile	0.46	(1.89)	8.97	6.66	10.18	10.28
90th Percentile	(0.66)	(2.82)	7.99	5.90	9.50	9.51

<b>Large Company Value Stock Option</b>	•	1.37	4.11	9.54	7.76	11.76	11.58
Russell 1000 Value Index	■	1.36	4.00	9.43	7.79	11.30	11.46

# Large Company Growth Stock Option

Periods Ended September 30, 2019

Performance vs Callan Large Cap Growth Mutual Funds (Institutional Net)



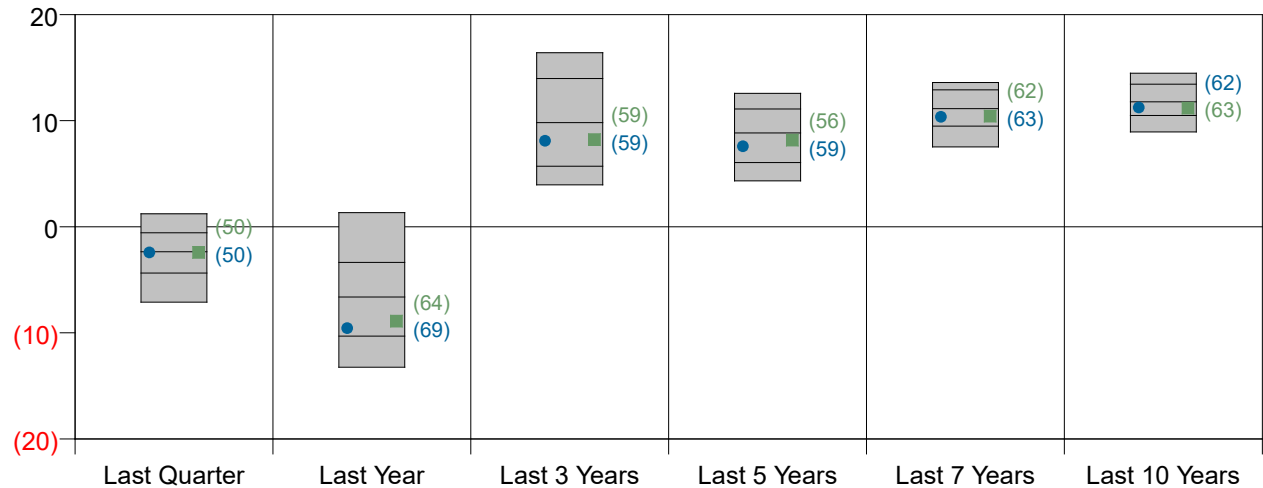
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	1.82	8.06	18.86	14.51	16.09	15.69
25th Percentile	0.96	5.11	17.55	13.55	15.11	14.95
Median	(0.46)	2.98	16.24	12.62	14.14	13.98
75th Percentile	(1.52)	0.16	14.45	11.23	13.42	13.33
90th Percentile	(2.20)	(1.29)	12.62	9.75	12.11	12.02

<b>Large Company Growth Stock Option</b>	●	1.47	3.72	16.86	13.29	14.99	14.77
Russell 1000 Growth Index	■	1.49	3.71	16.89	13.39	15.02	14.94

# Small Company Stock Option

Periods Ended September 30, 2019

Performance vs Callan Small Cap Mutual Funds (Institutional Net)

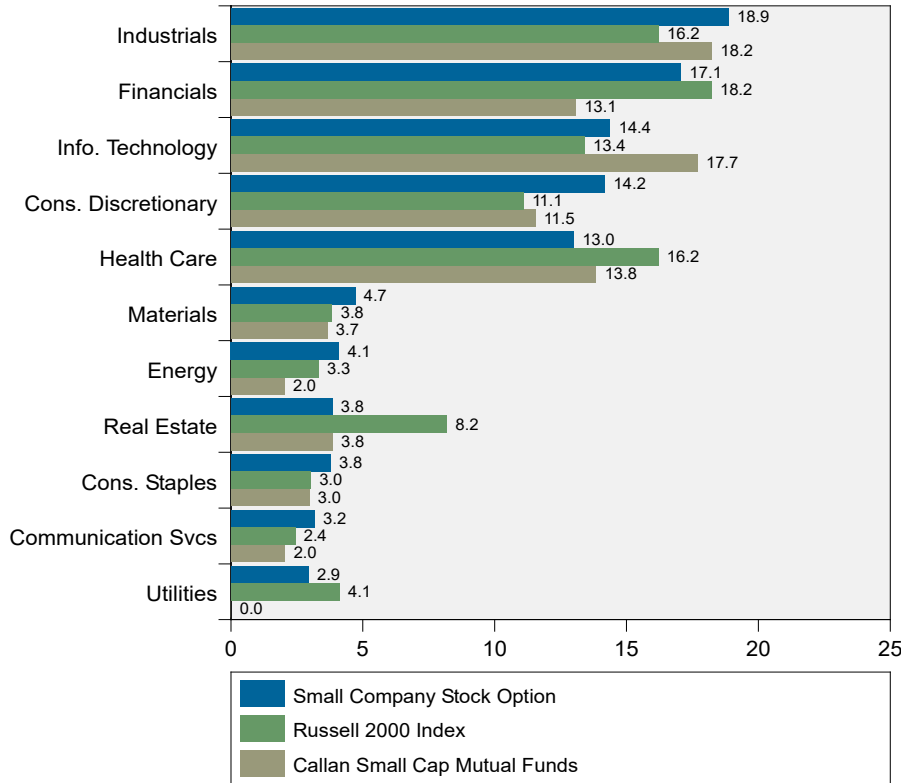


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	1.24	1.34	16.42	12.59	13.60	14.49
25th Percentile	(0.56)	(3.35)	13.98	11.12	12.91	13.46
Median	(2.35)	(6.62)	9.83	8.85	11.15	11.78
75th Percentile	(4.36)	(10.30)	5.72	6.06	9.51	10.50
90th Percentile	(7.10)	(13.23)	3.96	4.34	7.54	8.94
<b>Small Company Stock Option</b> ●	(2.41)	(9.54)	8.12	7.60	10.37	11.26
Russell 2000 Index ■	(2.40)	(8.89)	8.23	8.19	10.43	11.19

# Small Company Stock Option

Portfolio Characteristics as of September 30, 2019

**Sector Allocation**  
September 30, 2019



**Style Exposure Matrix**  
Holdings as of September 30, 2019

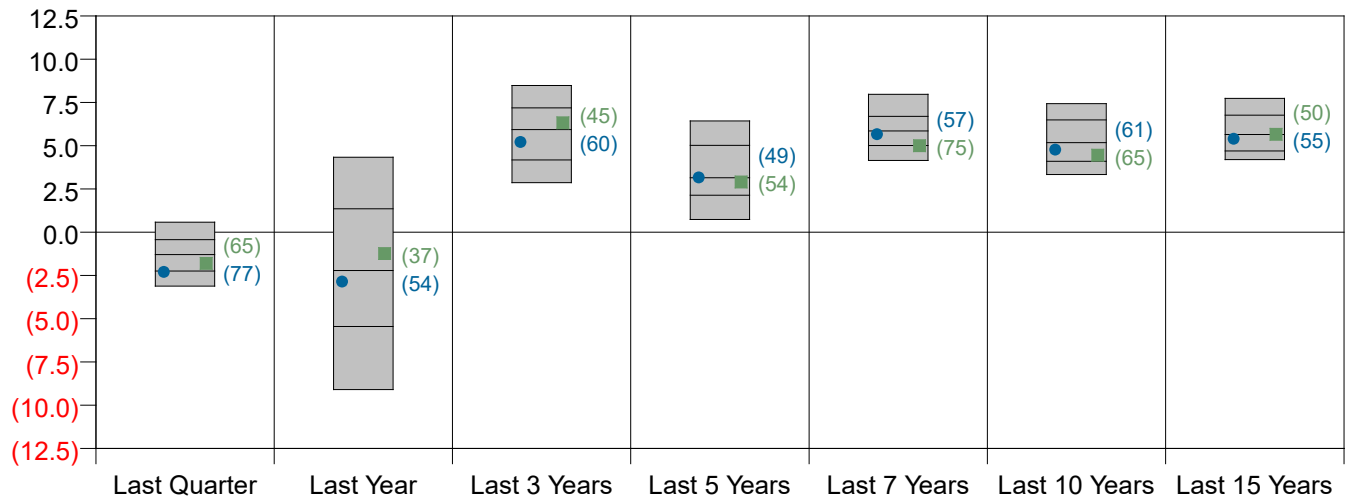
	Value	Core	Growth	Total
<b>Large</b>	0.1% (1)	0.2% (2)	0.3% (4)	0.5% (7)
	--	--	--	--
<b>Mid</b>	2.7% (53)	5.8% (90)	9.3% (107)	17.8% (250)
	1.7% (8)	4.2% (19)	5.0% (21)	11.0% (48)
<b>Small</b>	17.7% (327)	28.1% (489)	22.6% (384)	68.4% (1200)
	19.1% (268)	31.0% (435)	28.0% (356)	78.1% (1059)
<b>Micro</b>	4.9% (462)	4.9% (580)	3.5% (258)	13.3% (1300)
	3.8% (295)	4.3% (390)	2.8% (217)	10.9% (902)
<b>Total</b>	25.4% (843)	39.0% (1161)	35.7% (753)	100.0% (2757)
	24.6% (571)	39.5% (844)	35.8% (594)	100.0% (2009)

-- Small Company Stock Option  
-- Russell 2000 Index

# International Stock Option

Periods Ended September 30, 2019

Performance vs Callan Non US Equity Mutual Funds (Institutional Net)



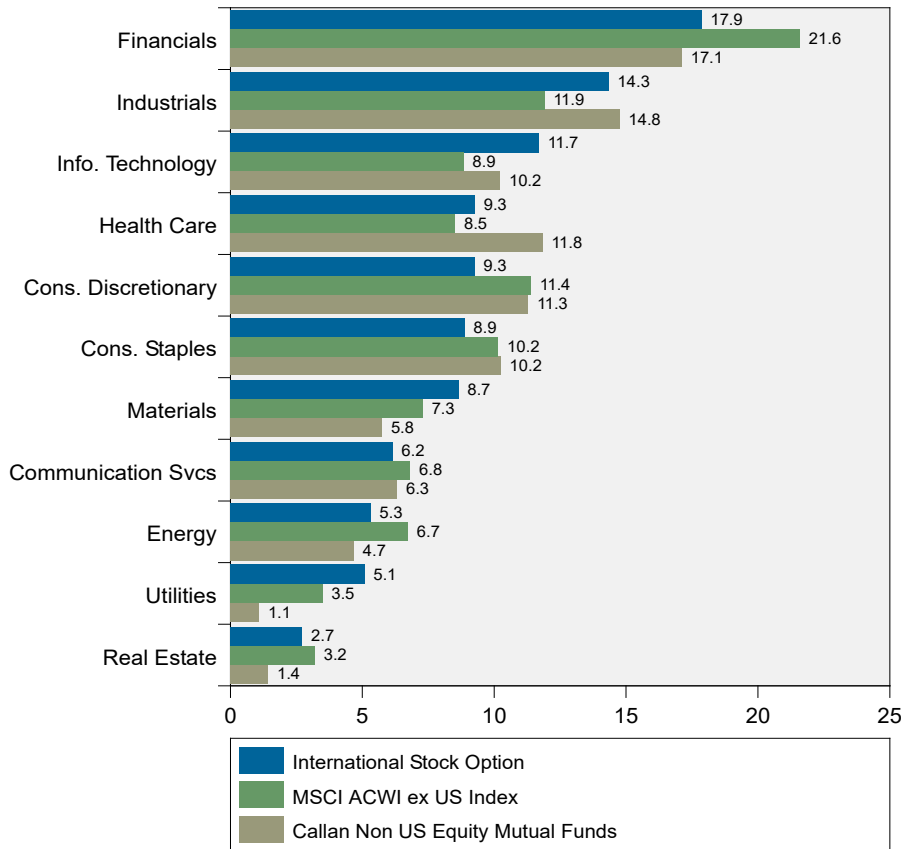
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years	Last 15 Years
10th Percentile	0.58	4.34	8.48	6.44	7.98	7.44	7.74
25th Percentile	(0.43)	1.35	7.19	5.03	6.70	6.50	6.77
Median	(1.29)	(2.22)	5.94	3.16	5.85	5.18	5.65
75th Percentile	(2.24)	(5.44)	4.18	2.15	5.01	4.10	4.70
90th Percentile	(3.11)	(9.09)	2.87	0.74	4.15	3.34	4.20
<b>International Stock Option</b> ●	(2.29)	(2.84)	5.22	3.17	5.67	4.78	5.41
MSCI ACWI ex US Index ■	(1.80)	(1.23)	6.33	2.90	5.01	4.46	5.66



# International Stock Option

Portfolio Characteristics as of September 30, 2019

**Sector Allocations  
September 30, 2019**



**Regional Exposure Matrix  
Holdings as of September 30, 2019**

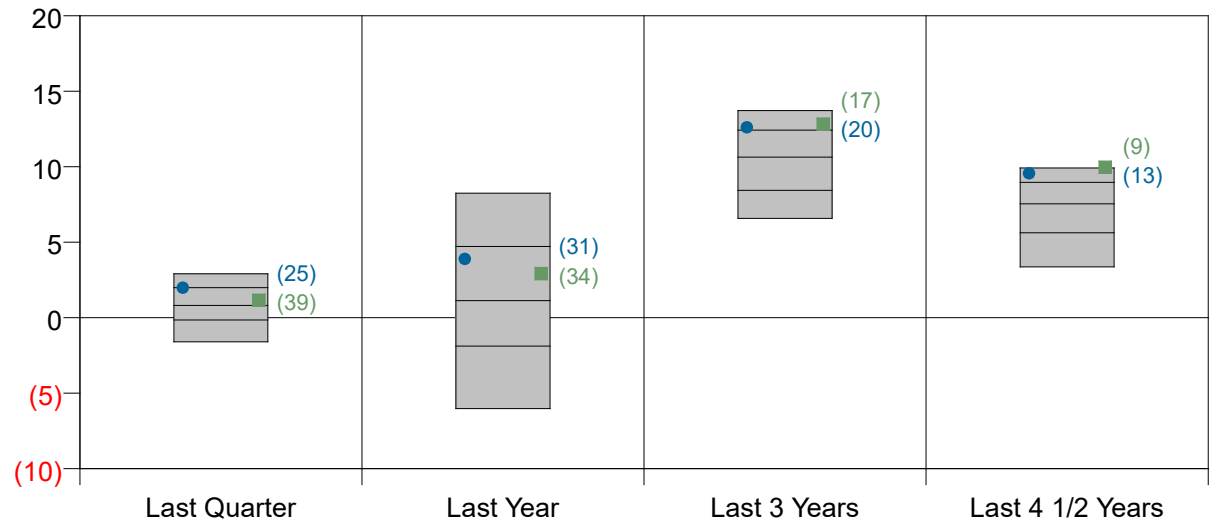
<b>Europe</b>	13.0% (634)	13.6% (674)	20.0% (587)	46.5% (1895)
	12.7% (144)	9.8% (120)	19.0% (184)	41.5% (448)
<b>N. America</b>	1.3% (147)	3.0% (156)	2.8% (92)	7.1% (395)
	2.1% (29)	2.8% (27)	2.2% (34)	7.1% (90)
<b>Pacific</b>	6.3% (1206)	8.3% (951)	6.9% (823)	21.5% (2980)
	8.2% (145)	8.5% (157)	9.0% (168)	25.6% (470)
<b>Emerging</b>	8.6% (1847)	8.8% (1623)	7.5% (1164)	24.9% (4634)
	7.9% (446)	7.4% (358)	10.4% (371)	25.8% (1175)
<b>Total</b>	29.2% (3834)	33.6% (3404)	37.2% (2666)	100.0% (9904)
	30.9% (764)	28.6% (662)	40.6% (757)	100.0% (2183)
	<b>Value</b>	<b>Core</b>	<b>Growth</b>	<b>Total</b>

-- International Stock Option  
-- MSCI ACWI exUS Index

# Socially Responsible Investment Option

Periods Ended September 30, 2019

Performance vs Callan All Cap Core Mutual Funds (Institutional Net)



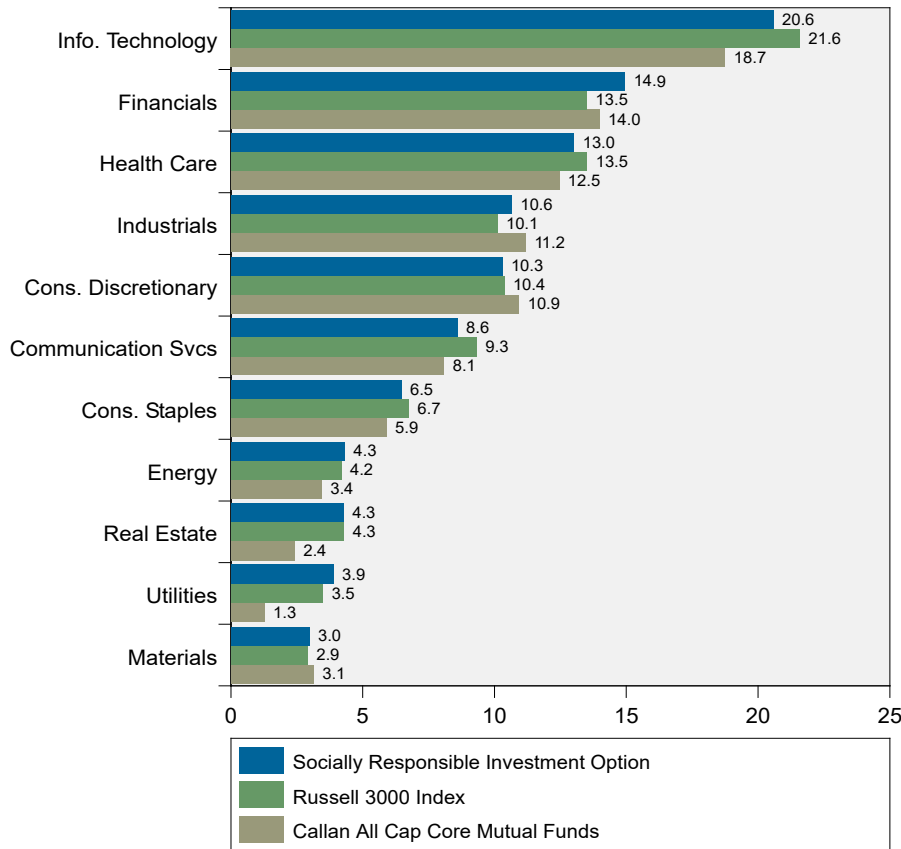
	Last Quarter	Last Year	Last 3 Years	Last 4 1/2 Years
10th Percentile	2.91	8.25	13.72	9.92
25th Percentile	2.00	4.72	12.43	8.97
Median	0.81	1.14	10.65	7.55
75th Percentile	(0.15)	(1.87)	8.44	5.62
90th Percentile	(1.59)	(6.02)	6.58	3.37

<b>Socially Responsible Investment Option</b> ●	2.00	3.90	12.62	9.58
Russell 3000 Index ■	1.16	2.92	12.83	9.97

# Socially Responsible Investment Option

Portfolio Characteristics as of September 30, 2019

**Sector Allocations  
September 30, 2019**



**Style Exposure Matrix  
Holdings as of September 30, 2019**

	Value	Core	Growth	Total
<b>Large</b>	23.4% (54)	25.7% (60)	29.6% (46)	78.7% (160)
	25.8% (106)	21.4% (103)	29.4% (91)	76.6% (300)
<b>Mid</b>	4.2% (70)	5.5% (82)	6.6% (67)	16.2% (219)
	4.5% (168)	6.2% (224)	5.8% (209)	16.4% (601)
<b>Small</b>	0.9% (83)	1.9% (111)	1.5% (82)	4.4% (276)
	1.8% (333)	2.4% (486)	2.1% (384)	6.3% (1203)
<b>Micro</b>	0.2% (23)	0.3% (39)	0.2% (27)	0.7% (89)
	0.2% (295)	0.3% (390)	0.2% (217)	0.7% (902)
<b>Total</b>	28.6% (230)	33.4% (292)	38.0% (222)	100.0% (744)
	32.3% (902)	30.3% (1203)	37.4% (901)	100.0% (3006)

-- Socially Responsible Investment Option  
-- Russell 3000 Index

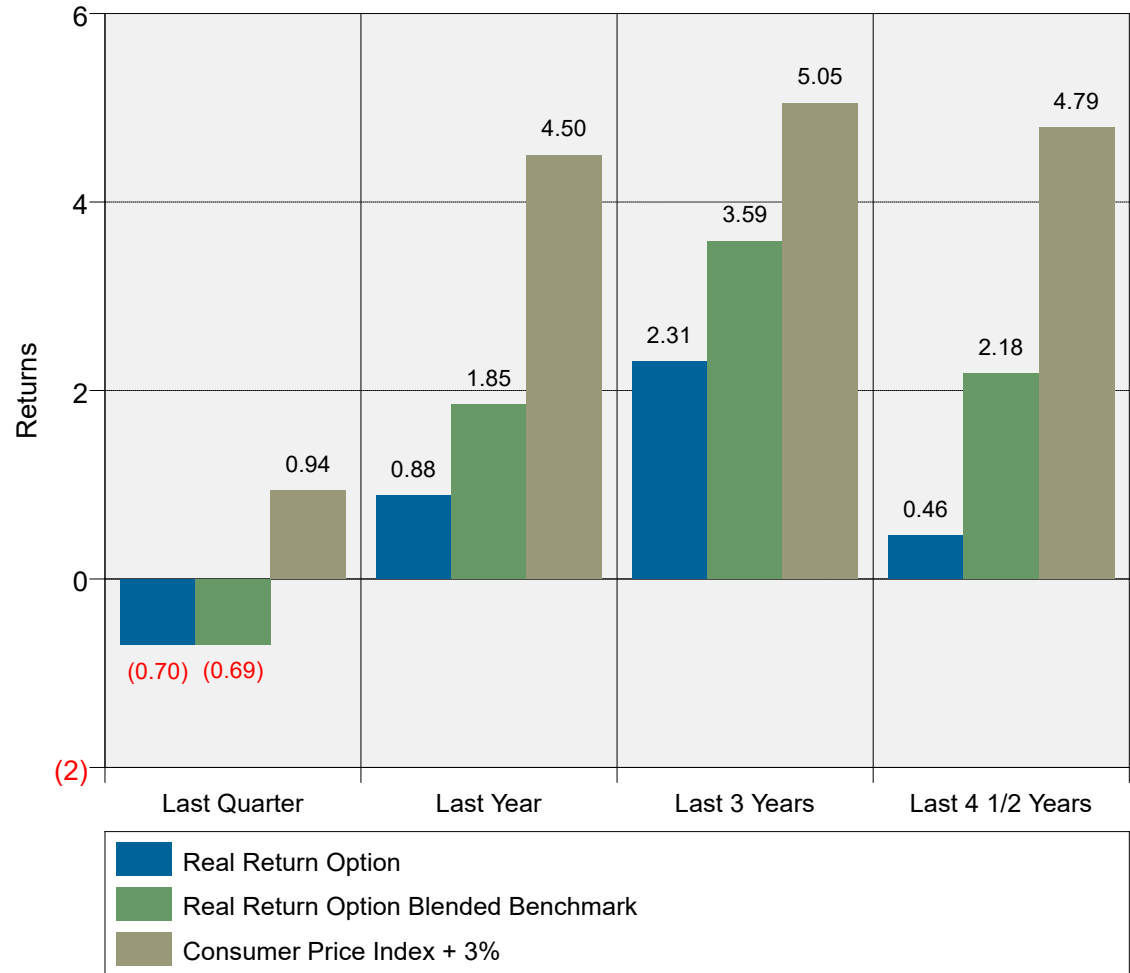
# Real Return Option

Periods Ended September 30, 2019

The Real Return Option was reconstituted during the first quarter of this year.

The current structure is passively managed with the following target allocations (as represented by the Blended Benchmark):

- 15% REITS
- 25% Commodities
- 25% Global Natural Resources
- 25% Treasury Inflation Protected Securities (TIPS)
- 10% Global Infrastructure



---

## **Defined Contribution Trends** Third Quarter 2019

---

## 3Q 2019 DC Trends

### IRS Provides Further Tailwinds to Open MEPs

On July 3, the Internal Revenue Service (IRS) set forth proposed regulations that would relax the existing “bad apple rule,” which has been one of several impediments to open multi-employer plans (MEPs), i.e., DC plans shared by more than one employer.

The bad apple rule as it currently exists stipulates that the tax-qualified status of all the plans within a MEP could be revoked if one plan in the MEP falls out of compliance. Although the rule has seldom been enforced, it represents an impediment to more widespread adoption of MEPs. Under the proposal, the rule would still exist though there would be exemptions. To qualify for the exemptions, MEPs would need to demonstrate there are procedures in place to promote compliance, and employers not in compliance have the opportunity to remedy non-compliance. If an employer remains out of compliance or is unresponsive, the MEP would spin off their assets and remove them from the plan.

Although the rule is seldom enforced, the IRS’ openness to relaxing it represents another step along with other proposals (such as the SECURE Act) that would potentially increase utilization of open MEPs.

---

## 3Q 2019 DC Trends

### U.S. Department of Labor Adopts Final MEP Rule

On July 29, the U.S. Department of Labor (DOL) finalized a rule that intends to expand the scope of multi-employer plans (MEPs).

The rule that becomes effective September 30 narrowly expands the circumstances where businesses can band together to offer a single defined contribution (DC) plan. With the rule, the DOL intends to expand access to DC plans by clarifying the circumstances under which an employer group, association, or professional employer organization (PEO) may sponsor a MEP. For reference, PEOs are human resources companies that take on certain employment responsibilities for their clients, such as tax withholding and reporting.

The rule essentially clarifies what constitutes an “employer” and, as such, a sponsor of a DC plan. Among the rule’s stipulations:

- Workers whose companies are members of the same associations (such as a local chamber of commerce) are able to participate in the same retirement plan.
- Sponsors of a MEP have at least one substantial business purpose unrelated to offering employee benefits to its employee members.
- The rule establishes a safe harbor for PEOs offering MEPs, requiring the PEO to perform substantial employment functions (e.g., recruiting, hiring, paying wages, and reporting).

Interestingly, the DOL also released a request for information that seeks more information on open MEPs, which would allow unrelated companies to participate in common DC plans.

While the rule stops short of authorizing “open” MEPs (a key distinction from the more restrictive MEPs the DOL addressed), which would allow unrelated companies to participate in common DC plans, it does build on recent momentum for MEPs and open MEPs. This includes the Internal Revenue Service’s proposed relaxation of the “bad apple rule” and the SECURE Act’s support for open MEPs.

---

## 3Q 2019 DC Trends

### Uncashed Checks: The Income Conundrum

In a settlement of the class action filed over mismanagement of its 403(b) plan, Vanderbilt University agreed to pay \$14.5 million and provide other non-monetary relief, including contractual protections addressing the use of participant data.

Continuing on the Department of Labor (DOL) theme of managing missing participants and uncashed checks, the Internal Revenue Service (IRS) issued a new revenue ruling clarifying the tax treatment of those uncashed checks.

When a check is cut from a retirement plan, the service provider (on behalf of the plan administrator) will withhold taxes from the payment. If the participant does not cash the check for any reason—which is seen frequently with minimum required distributions or a payout of a trailing balance—the assets typically revert to the trust. This can create issues for a number of reasons:

- Minimum required distributions are required and are considered a plan failure if not taken. They should not be credited back to the participant's account.
- Trailing balances of a de minimus amount (i.e., <\$10) could result in a participant's account remaining active, requiring maintenance (e.g., statements, required notices), and generating fees.

Depending on the plan document, uncashed checks may revert to the trust or could be escheated to the state. However, since the taxes have been withheld and potentially remitted, the question of how to handle the tax implications was unclear. For example, if the withholding has been taken from the payment, who is responsible for uncashed checks that revert to the trust?

This revenue ruling provides an answer for this question: A participant cannot change the timing of taxation merely by refusing to cash a check. The plan should issue a 1099-R, and the participant is required to include the amount from the uncashed check as gross income in the year the distribution is made.

Although the clarification is important and continues the focus on missing participants, there are still a number of questions that plague plan sponsors and should be considered through the lens of a plan fiduciary with responsibility for plan assets. The IRS notes in this ruling that it is analyzing other issues involving uncashed checks from eligible retirement plans, including situations involving missing participants.



# Callan

---

**Callan Research**  
Third Quarter 2019

# Callan Institute Events

Upcoming Conferences, Workshops, and Webinars

## Save the Date! Callan's 40th National Conference

January 27–29, 2020 | The Palace Hotel, San Francisco

This year's lineup of speakers will include:



**Frank W. Abagnale**

- Renowned cybersecurity and fraud prevention expert
- Best-selling author and subject of *Catch Me If You Can*



**Dr. Joseph F. Coughlin**

- Director of the Massachusetts Institute of Technology AgeLab
- Professor of MIT's Department of Urban Studies & Planning and the Sloan School's Advanced Management Program



**Dr. Doris Kearns Goodwin**

- World-renowned presidential historian and public speaker
- Pulitzer Prize-winning and New York Times #1 best-selling author



**Dr. Dambisa Mayo**

- Global economist and investor in the future
- Author of four New York Times best-selling books

## On-Demand Webinars

Visit our website for On-Demand webinar options at <https://www.callan.com/ondemandwebinar/>

## “Callan College” Introduction to

San Francisco, April 21-22, 2020

Chicago, July 21-22, 2020

# Published Research Highlights from 3Q19

## Callan's 2019 ESG Survey



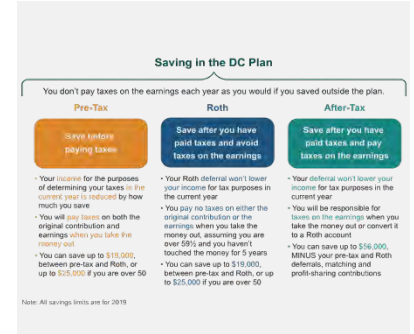
## The Callan DC Index™ in Detail



## The Keys to Unlocking Private Equity Portfolio Assessment



## DC Plan Hacks: Tips for an Efficient Design



## Recent Blog Posts

**For Corporate DB Plans, We Have Good News and Bad News**

William Emmett

**What Fixed Income Managers Are Thinking Now**

David Zee

**Tips for Emerging and Diverse Managers**

Anne Maloney

## Additional Reading

*Private Equity Trends* quarterly newsletter

Active vs. Passive quarterly charts

*Capital Market Review* quarterly newsletter

Monthly Updates to the Periodic Table

*Market Pulse Flipbook* quarterly markets update

September 30, 2019



## Oregon Savings Growth Plan Defined Contribution Plan

Investment Measurement Service  
Quarterly Review

---

Information contained herein includes confidential, trade secret and proprietary information. Neither this Report nor any specific information contained herein is to be used other than by the intended recipient for its intended purpose or disseminated to any other person without Callan's permission. Certain information herein has been compiled by Callan and is based on information provided by a variety of sources believed to be reliable for which Callan has not necessarily verified the accuracy or completeness of or updated. This content may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact. This content 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. Past performance is no guarantee of future results. For further information, please see Appendix for Important Information and Disclosures.

---

## Table of Contents

### September 30, 2019

---

<b>Capital Markets Review</b>	1
<hr/>	
<b>Asset Allocation and Performance</b>	
Allocation Across Fund and Changes in Fund Values	11
Asset Distribution Across Investment Managers	12
Performance Across Investment Managers	13
Manager Performance Monitoring Summary	15
Manager Performance Monitoring Summary	17
Investment Option Fee Summary	18
<hr/>	
<b>Target Date Funds</b>	
LifePath Index Retirement Fund L	24
LifePath Index 2020 Fund L	26
LifePath Index 2025 Fund L	28
LifePath Index 2030 Fund L	30
LifePath Index 2035 Fund L	32
LifePath Index 2040 Fund L	34
LifePath Index 2045 Fund L	36
LifePath Index 2050 Fund L	38
LifePath Index 2055 Fund L	40
LifePath Index 2060 Fund L	42
<hr/>	
<b>Stable Value Option</b>	
Stable Value Option	44
<hr/>	
<b>Active Fixed Income Option</b>	
Active Fixed Income Option	49
BlackRock US Debt Index Fund	53
DoubleLine Total Return Bond Fund	57
Wellington Trust Core Bond Plus Fund	61
<hr/>	
<b>Stock Index Option</b>	
Stock Index Option	66
<hr/>	
<b>Large Company Value Stock Option</b>	
Large Company Value Stock Option	73
<hr/>	
<b>Large Company Growth Stock Option</b>	
Large Company Growth Stock Option	80

---

## Table of Contents

### September 30, 2019

---

#### Small Company Stock Option

Small Company Stock Option	87
BlackRock Russell 2000 Index Fund	93
Callan Small Equity Fund	99
DFA US Small Cap Portfolio	105

---

#### International Stock Option

International Stock Option	112
Lazard International Equity Fund	119
DFA International Core Equity	127
DFA Emerging Markets Core Equity Fund	135
AQR ACWI ex-US Fund	143
Arrowstreet International Equity	151

---

#### Socially Responsible Option

Socially Responsible Option	156
TIAA-CREF Social Choice Equity Fund	159

---

#### Real Return Option

Real Return Option	166
State Street Real Asset Strategy	167

---

Definitions	170
-------------	-----

---

Callan Research/Education	175
---------------------------	-----

---

Disclosures	178
-------------	-----

---

**U.S. EQUITY**

U.S. equity markets posted mixed results amid a market that saw 30-year Treasury yields hit historic lows and the most meaningful, albeit short-lived, factor rotation among equities since the Global Financial Crisis (GFC). Large cap (+1.4%) and mid cap stocks (+0.5%) posted modest gains for the quarter while small caps declined (Russell 2000: -2.4%). Ongoing U.S.-China trade tension, earnings and interest rate uncertainty, and the global political landscape continued to drive investor uncertainty.

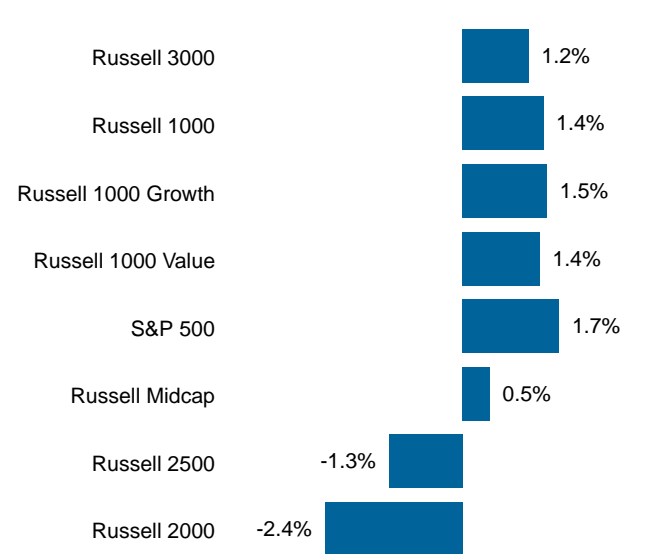
**Large Cap U.S. Equity** (S&P 500: +1.7%; Russell 1000: +1.4%)

- Top sectors were in defensive areas including Utilities (+9.3%), Real Estate (+7.7%), and Consumer Staples (+6.1%) in response to investors' continued flight to quality.
- Energy, hurt by falling oil prices, fell 6.3%; Health Care lagged (-2.2%) amid discussions around price transparency and pricing reform by U.S. presidential candidates.
- Cyclical sector exposure has been volatile given uncertainty around the trade deal (and continued sideways movement of markets) along with slowed global growth.
- Up to September, momentum stocks (which have shifted to include many of the market's least volatile stocks) outperformed as investors shunned the cheapest quintile of value (and more volatile) stocks. This trend sharply reversed in early September as the 10-year Treasury yield rose from 1.46% to 1.73% and momentum stocks fell precipitously while value stocks traded up over the course of two days. The magnitude of the reversal gave a boost to value stocks across market capitalizations for the quarter.

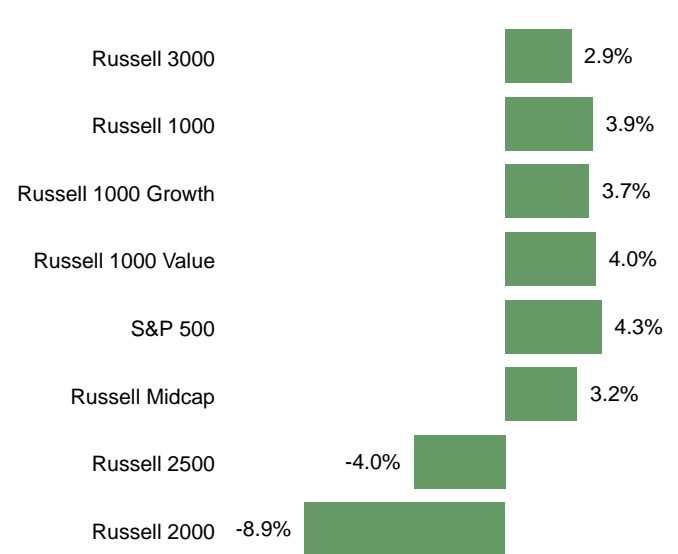
**Growth vs. Value** (Russell 1000 Value: +1.4%, Russell 1000 Growth: +1.5%; Russell 2000 Value: -0.6%, Russell 2000 Growth: -4.2%)

- While value continues to trail growth year-to-date, it gained ground during September's factor reversal, finishing the quarter essentially in line with growth within large caps.
- Within small cap, value benefited as investors favored the cheapest 20% of small caps while the most expensive quintile within the Russell 2000 declined double digits.

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

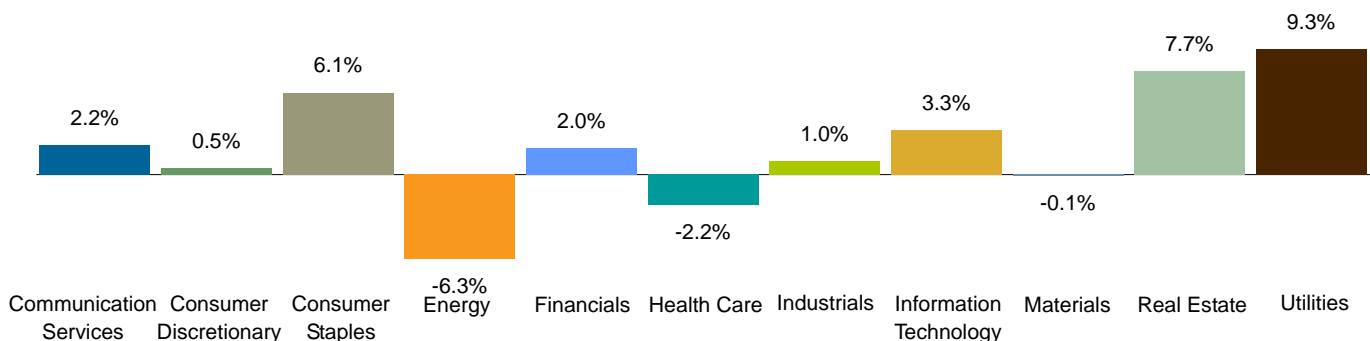


**U.S. Equity: One-Year Returns**



Sources: FTSE Russell, Standard & Poor's

**S&P Sector Returns, Quarter Ended September 30, 2019**



Source: Standard & Poor's

**NON-U.S./GLOBAL EQUITY**

Global equity markets turned negative in the third quarter. After more modest positive results in the second quarter, fears over continued trade war impacts, a no-deal Brexit, and a potential global slowdown impacted investor behavior. Given this backdrop, more defensive areas of the market outperformed.

**Global/Non-U.S. Developed** (MSCI EAFE: -1.1%; MSCI World ex USA: -0.9%; MSCI ACWI ex USA: -1.8%; MSCI Hong Kong: -11.9%; MSCI Japan: +3.1%)

- Boris Johnson's attempted suspension of Parliament and no-deal Brexit proclamations weighed on U.K. stocks (-2.5%).
- Germany (-4.0%) experienced recession fears; industrial production dropped 1.5% in June from the prior month, while the estimate was -0.5%.
- Hong Kong protests proved to be a headwind as the market fell -11.9% over the three-month period.
- Japan was one of the few bright spots within developed markets as low short-term interest rates remain unchanged and a resolution to the Japan/South Korea trade war looked more promising.
- Cyclical sectors trailed as investors were positioned defensively; Energy (-6.5%) had the worst performance.
- For the quarter, factor performance reflected cautious investor behavior as quality and low volatility did well. However, the month of September saw a brief recovery in value across all markets as trade talks improved and central banks eased.

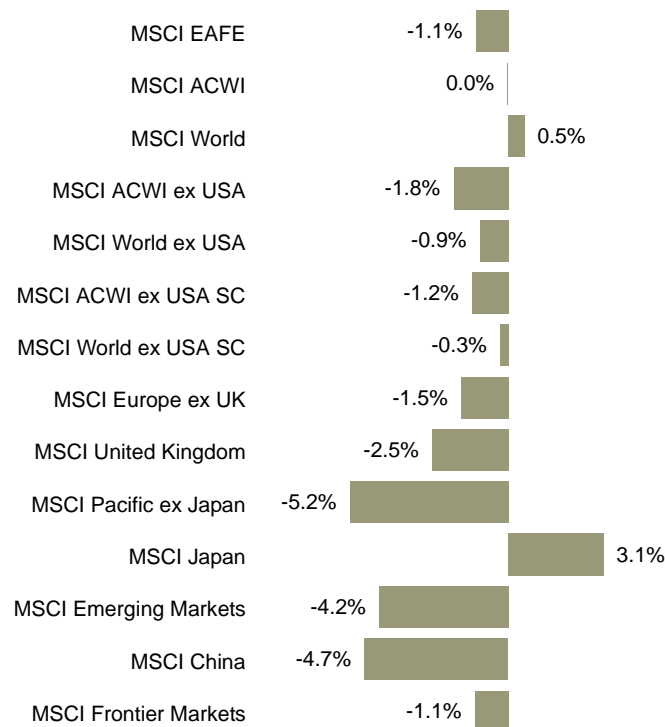
**Emerging Markets** (MSCI Emerging Markets Index: -4.2%)

- Emerging markets fared worst among global markets; uncertainty weighed heavily on these volatile countries.
- Though most emerging market countries fell during the quarter, Turkey (+11.7%) had strong results as its central bank cut rates two times in less than two months.
- Factor performance in emerging markets favored quality and price momentum as investors moved toward safe assets.

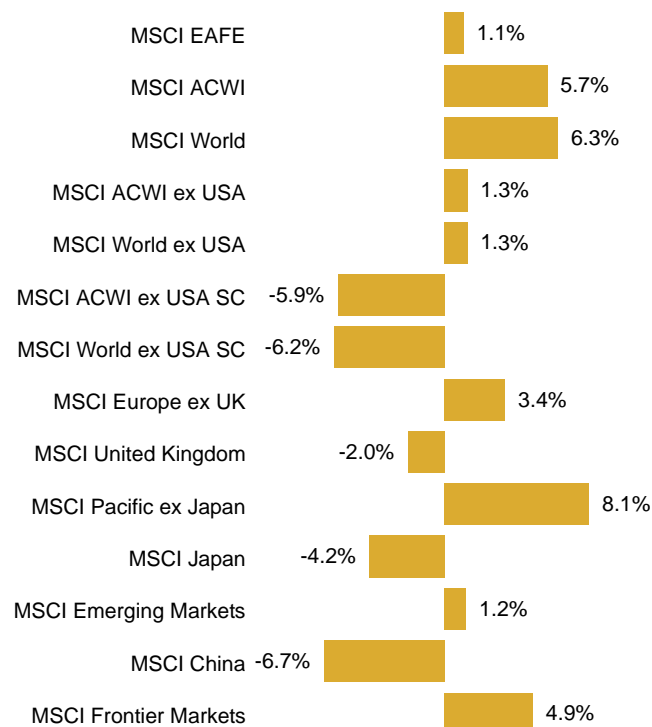
**Non-U.S. Small Cap** (MSCI World ex USA Small Cap: -0.3%; MSCI EM Small Cap: -4.6%; MSCI ACWI ex USA Small Cap: -1.2%)

- Small cap marginally outperformed large cap, both in developed and all country ex-U.S. markets; despite overall defensive posturing, idiosyncratic businesses pushed past global market issues.
- Japan (+4.0%) helped drive developed returns as small cap companies also benefited from low rates and resolved trade tensions; Hong Kong (-7.6%) detracted as local businesses were hurt by the protests.

**Global Equity: Quarterly Returns**



**Global Equity: One-Year Returns**



Source: MSCI



**FIXED INCOME**

The Federal Open Market Committee (FOMC) cut short-term interest rates by 25 basis points twice in the third quarter amid an economic backdrop that has been supported by strong consumer spending and a solid labor market, but challenged by weakening manufacturing data and business investment. The Fed chair stated that the FOMC would act as “appropriate to sustain the expansion,” and the European Central Bank and other central banks around the world also moved in the direction of easing monetary policy. Yields fell in the U.S. and abroad given global growth headwinds fueled by mounting trade tensions as well as geopolitical uncertainty.

**U.S. Fixed Income** (Bloomberg Barclays US Aggregate Bond Index: +2.3%)

- Treasuries returned 2.4% as rates fell across the yield curve.
- While the widely monitored 2- and 10-year key rates remained positive, the spread between the 3-month and 10-year key rates remained inverted.
- Long Treasuries soared (+7.9%) as 30-year yields fell roughly 40 bps.
- Nominal Treasuries outperformed TIPS as inflation expectations continued to fall; 10-year breakeven spreads were 1.53% as of quarter-end, down from 1.69% as of June 30. The 10-year real yield dipped briefly into negative territory in early September.

**Investment Grade Corporates** (Bloomberg Barclays Corporate: +3.1%)

- Investment grade corporate credit spreads were range-bound, but their yield advantage was enough to generate positive excess returns versus like-duration Treasuries.
- Issuance in the corporate bond market was \$320 billion in the quarter, \$50 billion higher than a year ago; demand remained solid. BBB-rated corporates (+3.1%) modestly outperformed A-rated or higher corporates (+3.0%).

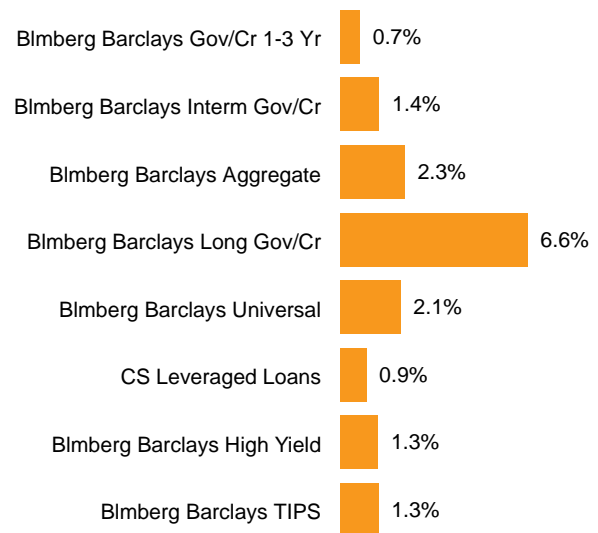
**High Yield** (Bloomberg Barclays Corporate High Yield: +1.3%)

- BB-rated corporates (+2.0%) outperformed CCC-rated corporates (-1.8%). BB- and B-rated spreads narrowed slightly, but the rally in rates helped drive outperformance as a result of higher quality bonds’ greater sensitivity to interest rate movements.
- CCC-rated bond spreads widened significantly, representing some concern about deteriorating quality at the lower-end of the spectrum.

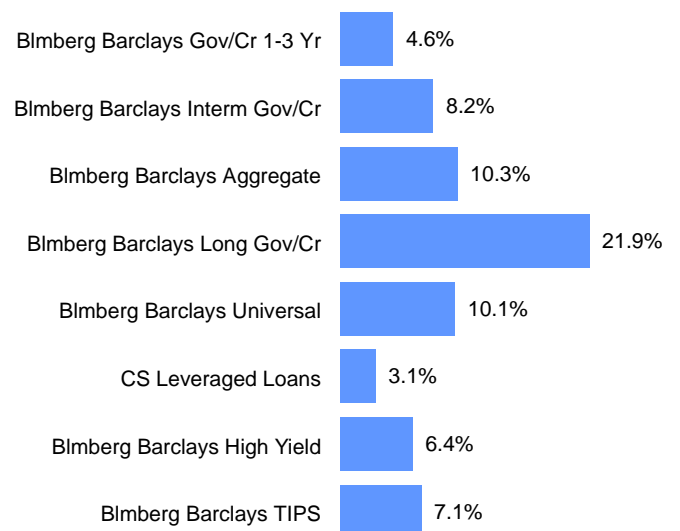
**Leveraged Loans** (CS Leveraged Loans: +0.9%)

- Bank loans, which have floating rate coupons, underperformed high yield bonds as rates rallied and investors worried about deteriorating credit quality.
- CLO issuance continued to exceed expectations, providing positive technical support to the leveraged loan market.

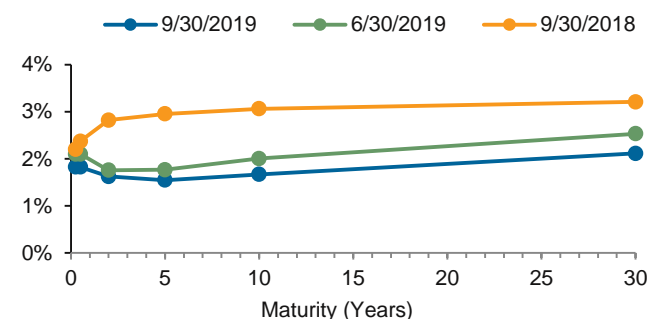
**U.S. Fixed Income: Quarterly Returns**



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



**U.S. Treasury Yield Curves**



Sources: Bloomberg, Bloomberg Barclays, Credit Suisse

**NON-U.S. FIXED INCOME**

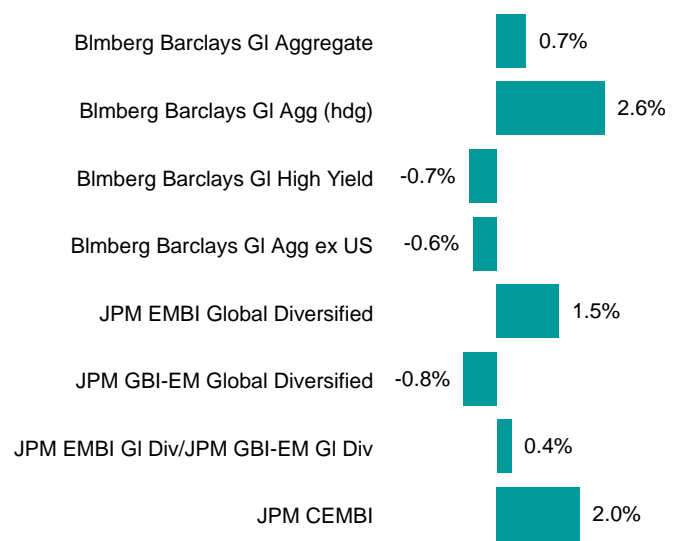
**Global Fixed Income** (Bloomberg Barclays Global Aggregate (unhedged): +0.7%; (hedged): +2.6%)

- Developed market sovereign bond yields rallied, pushing European sovereigns further into negative territory as the ECB reduced its deposit rate and announced a new bond purchasing stimulus program.
- Negative yielding debt totals nearly \$17 trillion, a record high.
- The U.S. dollar was up 3.4% versus a basket of trade partner currencies and up 4.3% vs the beleaguered euro.

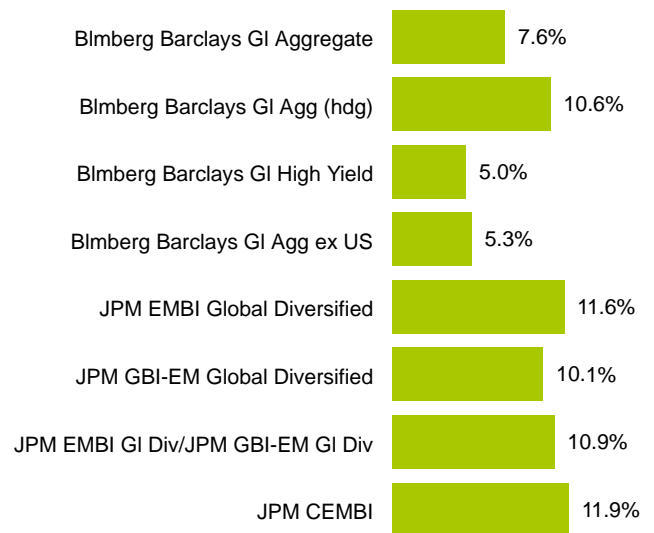
**US\$ EMD** (JPM EMBI Global Diversified: +1.5%), **Local Currency EMD** (JPM GBI-EM Global Diversified: -0.8%)

- Broadly, emerging market currencies depreciated versus the U.S. dollar, hampering local currency returns.
- Within the dollar-denominated benchmark, Argentina (-42%) and Venezuela (-51%) were among the few to post negative returns. Conversely, returns in the local debt benchmark were more mixed with Turkey (+19%) and Argentina (-60%) being outliers.

**Global Fixed Income: Quarterly Returns**

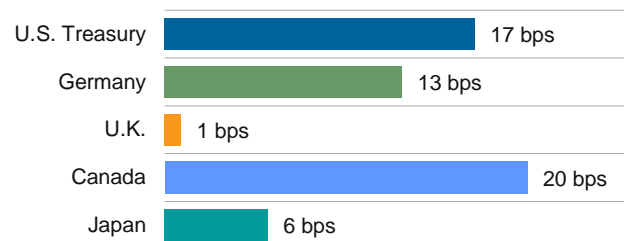


**Global Fixed Income: One-Year Returns**



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

**2Q19 to 3Q19**



Sources: Bloomberg, Bloomberg Barclays, JP Morgan

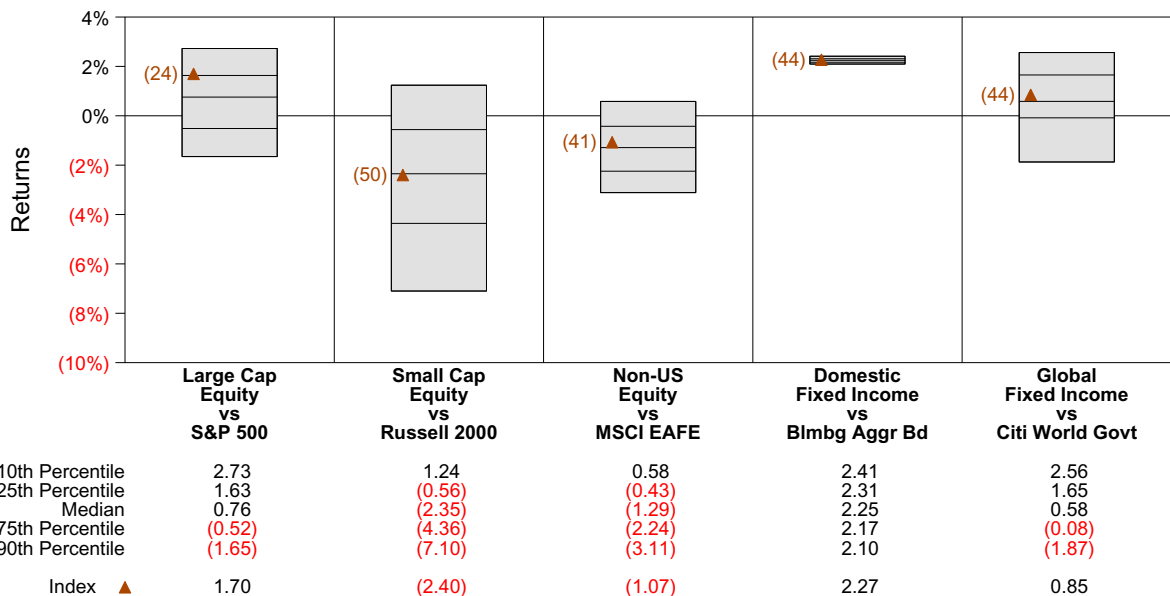
## Market Overview

### Active Management vs Index Returns

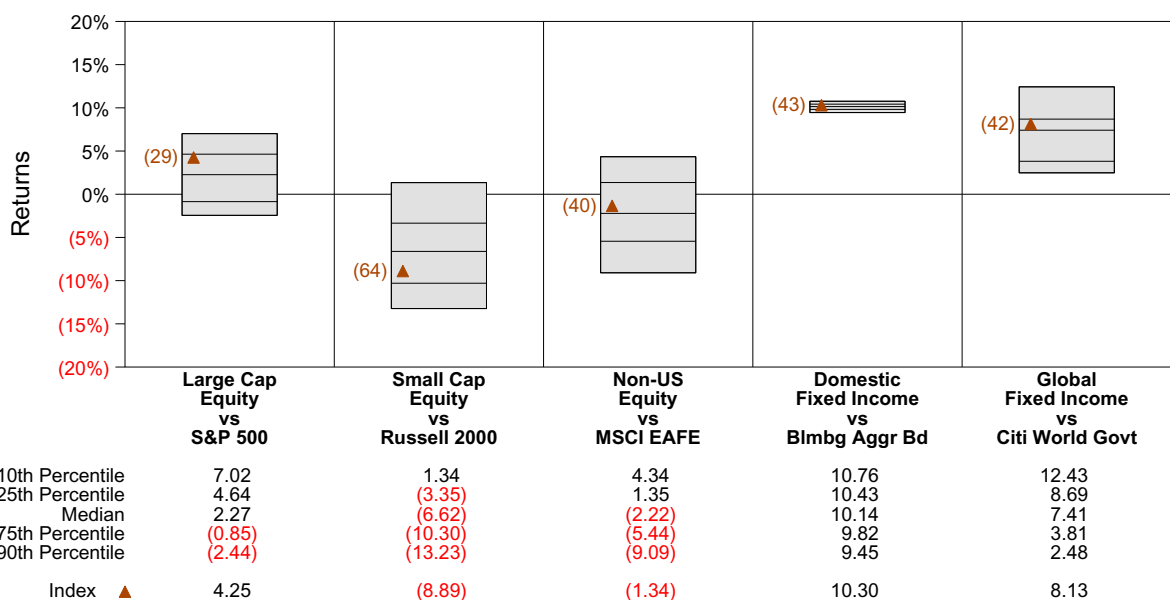
#### Market Overview

The charts below illustrate the range of returns across managers in Callan's Mutual Fund 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 Mutual Fund Returns by Asset Class One Quarter Ended September 30, 2019



#### Range of Mutual Fund Returns by Asset Class One Year Ended September 30, 2019

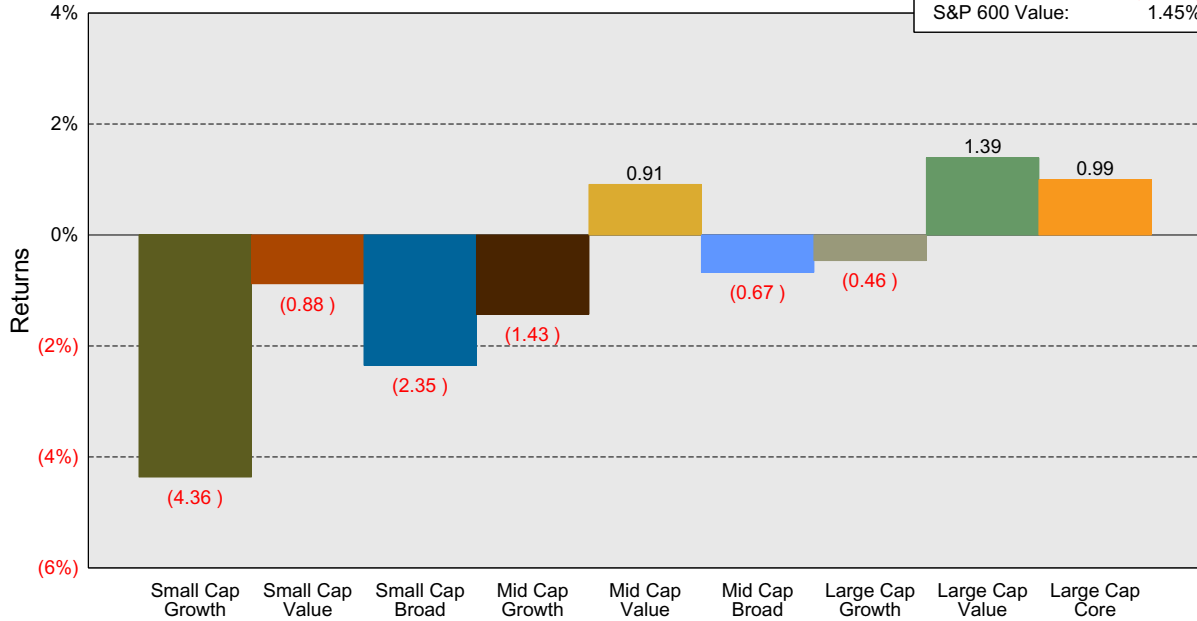


## Domestic Equity Active Management Overview

The S&P 500 Index returned 1.7% in the third quarter, bringing its y-t-d result to an impressive 20.6%. Third quarter returns were mixed across sectors. The winners were Real Estate (+7.7%) and Utilities (+9.3%), both benefiting from lower interest rates. Returns for both sectors are approaching 30% on a YTD basis. Energy, hurt by falling oil prices, lost 6.3% and is up only 6.0% for the year. Health Care was another poor performer, down 2.2% and up 5.6% YTD. From a style perspective, value mounted a comeback late in the quarter, but over the full quarter returns across styles were similar (R1000: 1.4%; R1000G: 1.5%; R1000V: 1.4%). Small caps underperformed (R2000: -2.4% vs R1000: +1.4%) and, notably, small cap value outperformed small cap growth by a significant margin (R2000V: -0.6% vs R2000G: -4.2%).

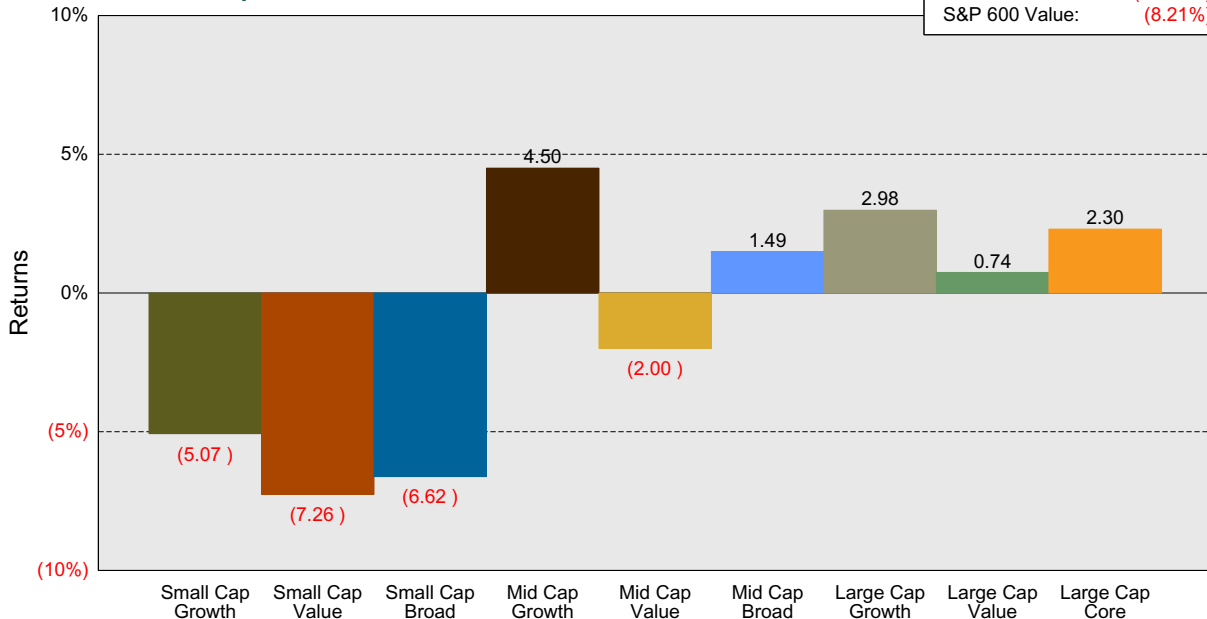
S&P 500:	1.70%
S&P 500 Growth:	0.72%
S&P 500 Value:	2.83%
S&P Mid Cap:	(0.09%)
S&P 600:	(0.20%)
S&P 600 Growth:	(1.86%)
S&P 600 Value:	1.45%

### Mutual Fund Style Group Median Returns for Quarter Ended September 30, 2019



S&P 500:	4.25%
S&P 500 Growth:	3.25%
S&P 500 Value:	5.56%
S&P Mid Cap:	(2.49%)
S&P 600:	(9.34%)
S&P 600 Growth:	(10.40%)
S&P 600 Value:	(8.21%)

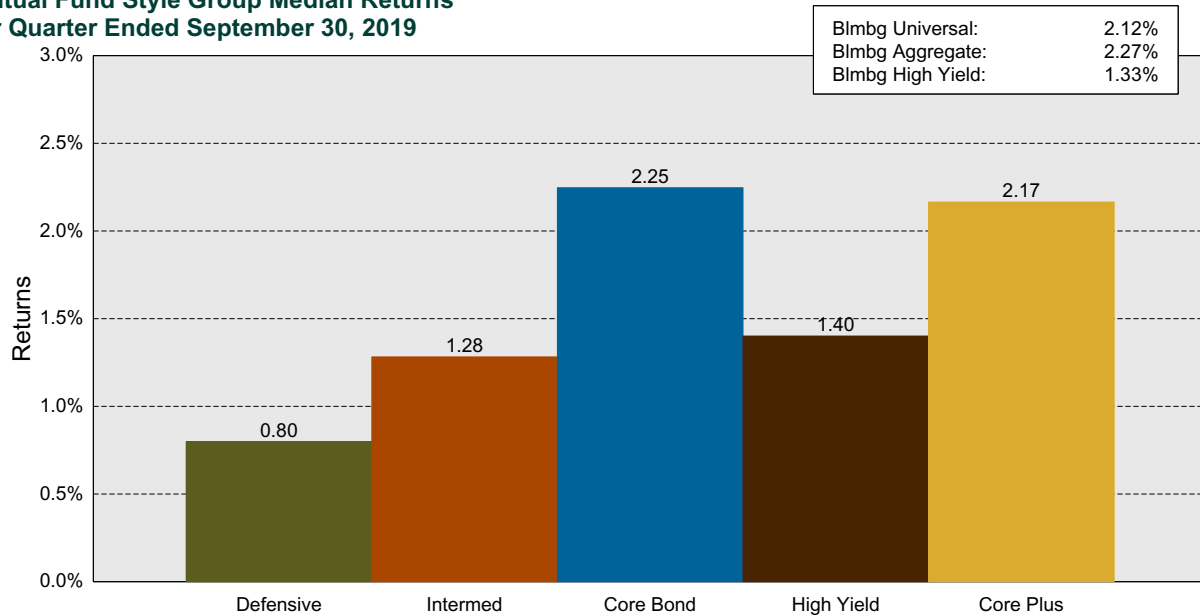
### Mutual Fund Style Group Median Returns for One Year Ended September 30, 2019



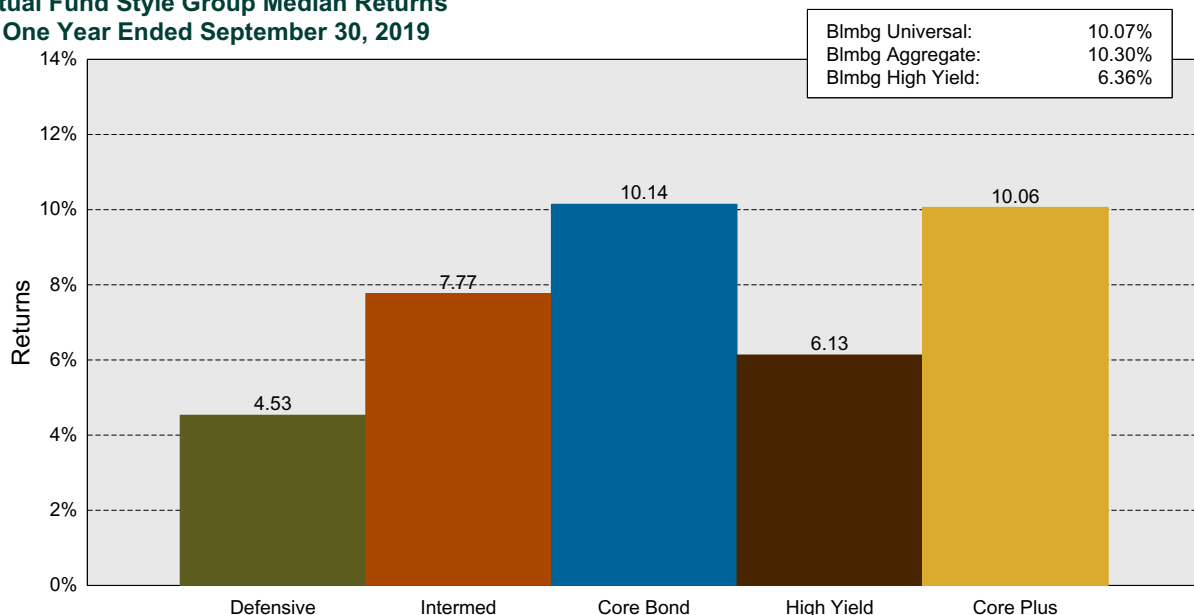
## Domestic Fixed Income Active Management Overview

Ten-year U.S. Treasury yields were volatile in the third quarter, especially in September, hitting a 2019 low of 1.40% on Sept. 4, soaring to 1.90% mid-month and closing the quarter at 1.68%, down 32 bps from June 30. U.S. Treasuries thus posted strong results (Bloomberg Barclays US Treasury Index: +2.4%). Long U.S. Treasuries soared (Bloomberg Barclays Long US Treasury Index: +7.9%; +19.8% YTD) in the falling rate environment. The Bloomberg Barclays Aggregate rose 2.3%, bringing its YTD result to an impressive +8.5%. High yield was up just over 1% (+11.4% YTD) but, notably, lower quality significantly underperformed (CCC: -1.8% vs BB: +2.0%, and +5.6% vs +12.8% YTD) representing some concern about deteriorating quality at the lower end of the spectrum. TIPS (Bloomberg Barclays TIPS: +1.3%) underperformed as inflation expectations waned; 10-year breakeven spreads were 1.53% as of quarter-end, down from 1.69% as of 6/30/19. The 10-year real yield dipped briefly into negative territory in early September.

### Mutual Fund Style Group Median Returns for Quarter Ended September 30, 2019



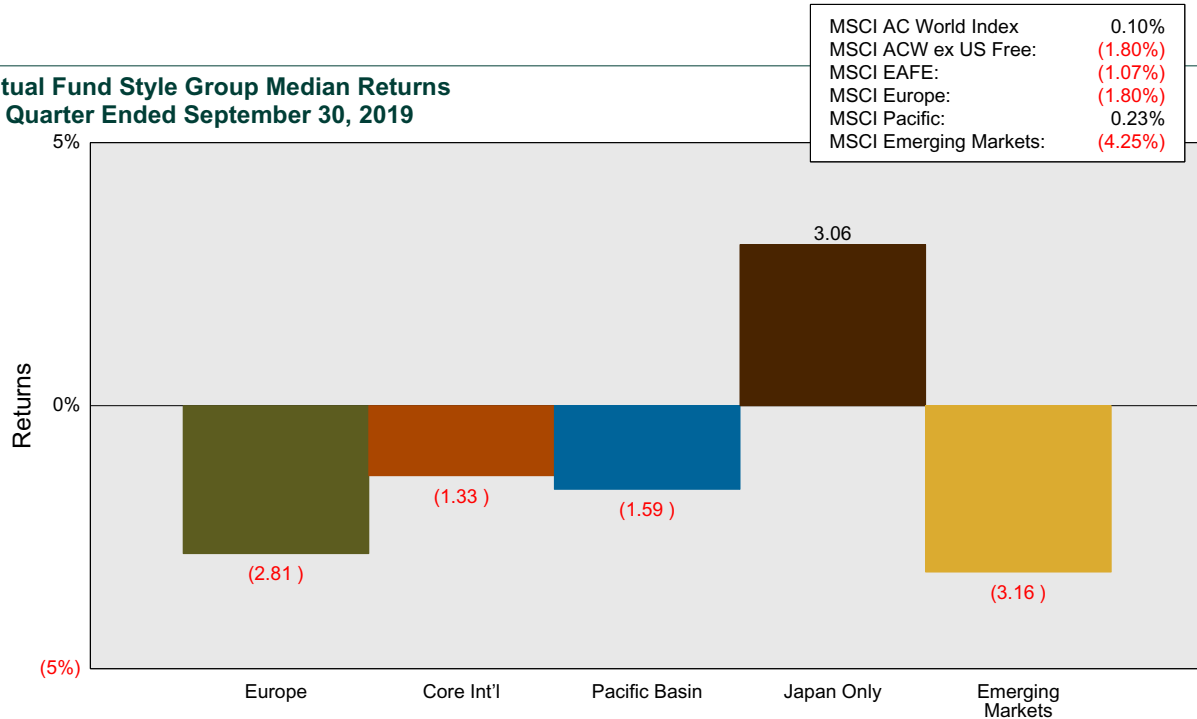
### Mutual Fund Style Group Median Returns for One Year Ended September 30, 2019



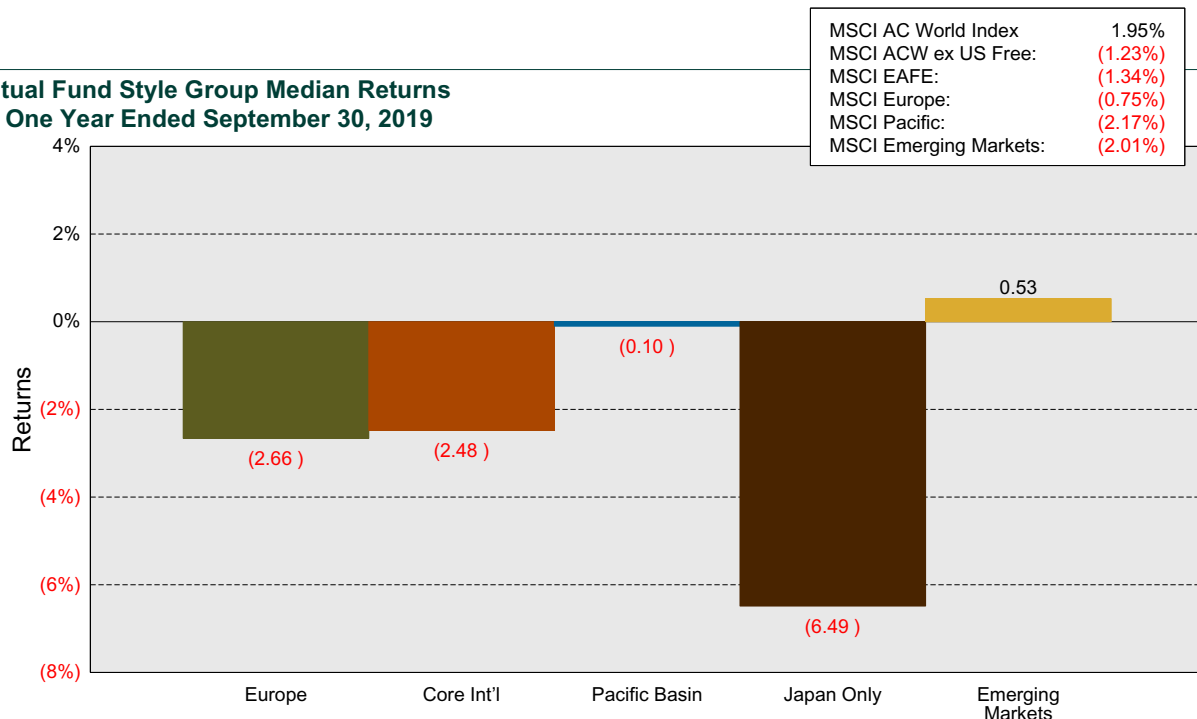
## International Equity Active Management Overview

International markets lagged the U.S. on the back of broad-based strength in the U.S. dollar. The MSCI ACWI ex USA Index fell 1.8%, with emerging markets (MSCI EM: -4.2%) underperforming developed (MSCI EAFE: -1.1%). The U.K. sank 2.5% due solely to performance of its currency, which lost just over 3% versus the U.S. dollar on Brexit-related woes. Japan (+3.1%) was one of the few countries to post a positive return, and the yen was also essentially flat vs the U.S. dollar. Brazil, India, and China were off roughly 5%, and Russia posted a more modest 1.4% loss. Political uncertainty in Argentina caused its market to lose half its value in August (-47%); that said, Argentina just entered the EM Index in May 2019 and accounts for a very small slice (less than 1%). Value underperformed growth in both developed and emerging markets and remains far behind on a YTD basis. From a sector standpoint, Technology (MSCI ACWI ex USA Technology: +2.2%) was up the most while Materials (-6.5%) and Energy (-4.6%) performed the worst.

### Mutual Fund Style Group Median Returns for Quarter Ended September 30, 2019



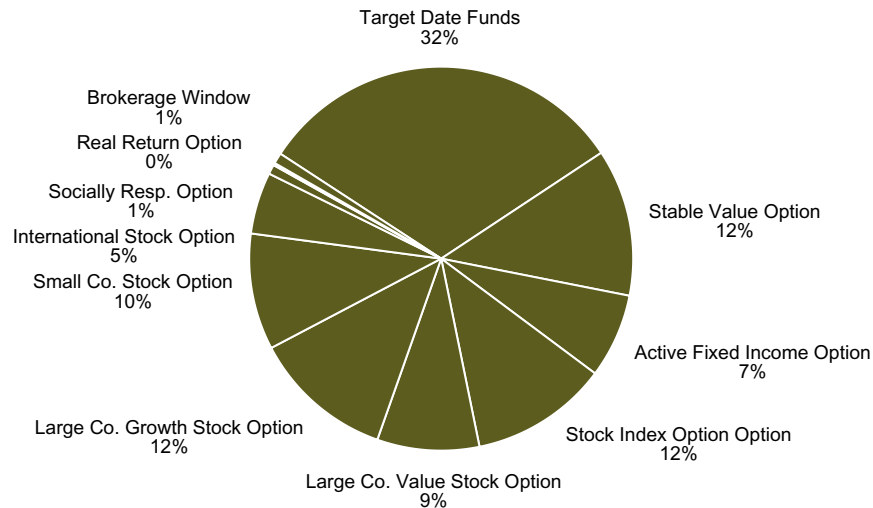
### Mutual Fund Style Group Median Returns for One Year Ended September 30, 2019



## Changes in Investment Fund Balances Period Ended September 30, 2019

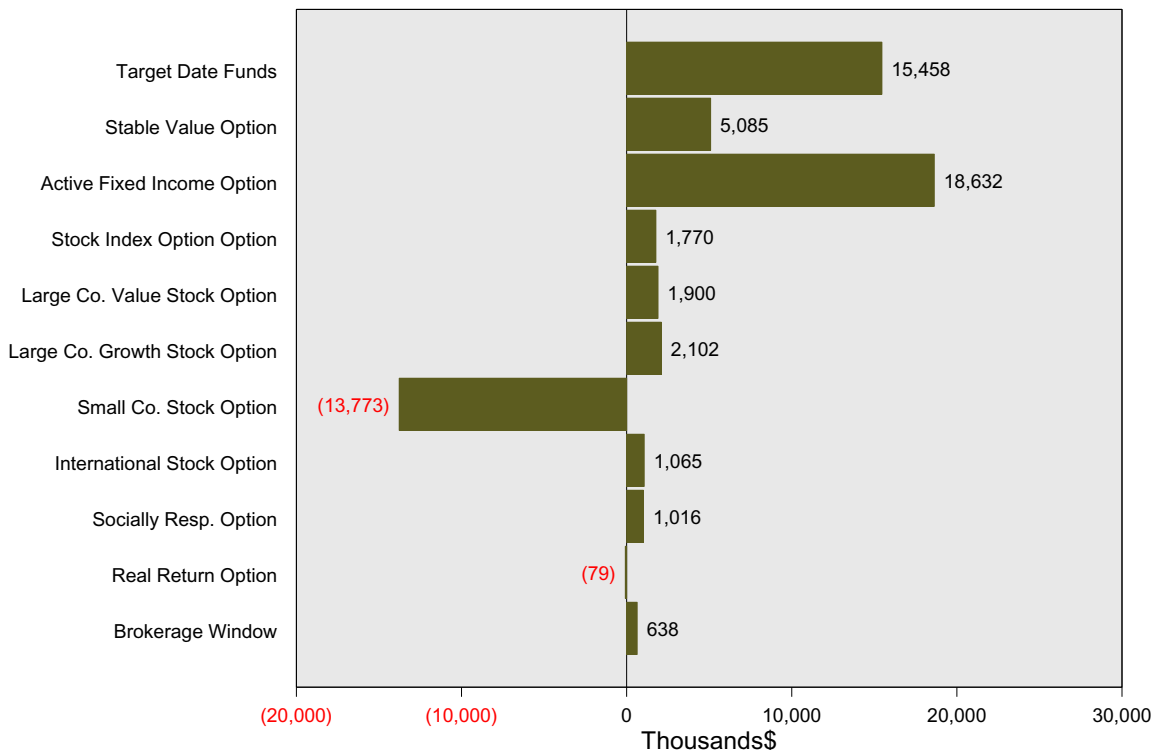
### Allocation Across Investment Options

The chart below illustrates the allocation of the aggregate fund assets across the various investment options as of September 30, 2019.



### Changes in Fund Values

The chart below shows the net change in fund values across the various investment options for the quarter ended September 30, 2019. The change in value for each fund is the result of a combination of 3 factors: 1) market movements; 2) contributions or disbursements into or out of the funds by the participants (and any matching done by the company); and 3) transfers between funds by the participants.



## Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2019, with the distribution as of June 30, 2019. 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 30, 2019			June 30, 2019		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
<b>Tier I - Asset Allocation Options</b>						
<b>Target Date Funds</b>	<b>\$743,986,823</b>	<b>31.53%</b>	<b>\$7,739,328</b>	<b>\$7,718,297</b>	<b>\$728,529,198</b>	<b>31.32%</b>
LifePath Index Retirement Fund L	193,875,746	8.22%	1,272,768	2,684,999	189,917,979	8.17%
LifePath Index 2020 Fund L	143,024,238	6.06%	(115,308)	2,246,187	140,893,358	6.06%
LifePath Index 2025 Fund L	124,608,859	5.28%	3,167,541	1,031,453	120,409,865	5.18%
LifePath Index 2030 Fund L	91,496,918	3.88%	773,143	811,439	89,912,336	3.87%
LifePath Index 2035 Fund L	69,046,613	2.93%	1,351,200	254,065	67,441,347	2.90%
LifePath Index 2040 Fund L	47,867,145	2.03%	700,608	356,521	46,810,016	2.01%
LifePath Index 2045 Fund L	32,334,216	1.37%	358,971	120,064	31,855,181	1.37%
LifePath Index 2050 Fund L	24,821,318	1.05%	(598,742)	157,991	25,262,069	1.09%
LifePath Index 2055 Fund L	9,977,306	0.42%	411,592	32,287	9,533,426	0.41%
LifePath Index 2060 Fund L	6,934,466	0.29%	417,555	23,289	6,493,622	0.28%
<b>Tier II - Core Investment Options</b>						
<b>Stable Value Option</b>						
Galliard	291,918,952	12.37%	3,555,496	1,529,519	286,833,937	12.33%
<b>Active Fixed Income Option</b>						
BlackRock / DoubleLine / Wellington	168,433,727	7.14%	15,411,139	3,220,618	149,801,970	6.44%
<b>Stock Index Option</b>						
BlackRock	273,033,566	11.57%	(1,481,044)	3,251,244	271,263,366	11.66%
<b>Large Company Value Stock Option</b>						
BlackRock	202,521,131	8.58%	(909,432)	2,809,340	200,621,223	8.63%
<b>Large Company Growth Stock Option</b>						
BlackRock	281,559,081	11.93%	(2,362,274)	4,463,806	279,457,549	12.02%
<b>Small Company Stock Option</b>						
BlackRock / Callan / DFA	231,586,672	9.81%	(7,808,812)	(5,964,025)	245,359,509	10.55%
<b>International Stock Option</b>						
AQR / Arrowstreet / DFA* / Lazard	122,175,480	5.18%	3,880,458	(2,815,171)	121,110,193	5.21%
<b>Tier III - Specialty Options</b>						
<b>Socially Responsible Investment Option</b>						
TIAA-CREF	18,883,751	0.80%	674,345	341,284	17,868,122	0.77%
<b>Real Return Option</b>						
State Street	4,265,424	0.18%	34,343	(112,977)	4,344,058	0.19%
Brokerage Window	21,307,228	0.90%	935,814	(298,121)	20,669,536	0.89%
<b>Total Fund</b>	<b>\$2,359,682,725</b>	<b>100.0%</b>	<b>\$19,669,362</b>	<b>\$14,143,874</b>	<b>\$2,325,869,489</b>	<b>100.0%</b>

\* DFA exposure consists of two differing strategies



## Investment Fund Returns

The table below details the rates of return for the plan's investment managers over various cumulative time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

### Returns for Periods Ended September 30, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
<b>Tier I - Asset Allocation Options</b>					
<b>LifePath Index Retirement Fund L</b>	<b>1.40%</b>	<b>6.39%</b>	<b>5.59%</b>	<b>4.75%</b>	<b>5.97%</b>
LifePath Index Retirement Benchmark	1.40%	6.43%	5.58%	4.75%	5.99%
<b>LifePath Index 2020 Fund L</b>	<b>1.34%</b>	<b>5.97%</b>	<b>6.15%</b>	<b>5.13%</b>	<b>6.78%</b>
LifePath Index 2020 Benchmark	1.35%	6.02%	6.14%	5.10%	6.78%
<b>LifePath Index 2025 Fund L</b>	<b>1.12%</b>	<b>5.33%</b>	<b>6.95%</b>	<b>5.63%</b>	<b>7.35%</b>
LifePath Index 2025 Benchmark	1.12%	5.32%	6.90%	5.58%	7.33%
<b>LifePath Index 2030 Fund L</b>	<b>0.91%</b>	<b>4.71%</b>	<b>7.65%</b>	<b>6.06%</b>	<b>7.85%</b>
LifePath Index 2030 Benchmark	0.90%	4.68%	7.56%	5.98%	7.80%
<b>LifePath Index 2035 Fund L</b>	<b>0.71%</b>	<b>4.13%</b>	<b>8.31%</b>	<b>6.47%</b>	<b>8.29%</b>
LifePath Index 2035 Benchmark	0.70%	4.05%	8.19%	6.36%	8.23%
<b>LifePath Index 2040 Fund L</b>	<b>0.53%</b>	<b>3.54%</b>	<b>8.87%</b>	<b>6.80%</b>	<b>8.66%</b>
LifePath Index 2040 Benchmark	0.54%	3.50%	8.73%	6.67%	8.60%
<b>LifePath Index 2045 Fund L</b>	<b>0.40%</b>	<b>3.10%</b>	<b>9.18%</b>	<b>6.99%</b>	<b>8.97%</b>
LifePath Index 2045 Benchmark	0.39%	2.99%	9.00%	6.84%	8.88%
<b>LifePath Index 2050 Fund L</b>	<b>0.34%</b>	<b>2.94%</b>	<b>9.28%</b>	<b>7.06%</b>	<b>9.18%</b>
LifePath Index 2050 Benchmark	0.34%	2.80%	9.10%	6.90%	9.10%
<b>LifePath Index 2055 Fund L</b>	<b>0.33%</b>	<b>2.92%</b>	<b>9.27%</b>	<b>7.06%</b>	-
LifePath Index 2055 Benchmark	0.34%	2.81%	9.10%	6.91%	-
<b>LifePath Index 2060 Fund L</b>	<b>0.33%</b>	<b>2.91%</b>	<b>9.25%</b>	<b>6.61%</b>	-
LifePath Index 2060 Benchmark	0.34%	2.81%	9.10%	-	-
<b>Tier II - Core Investment Options</b>					
<b>Stable Value Option</b>	<b>0.66%</b>	<b>2.52%</b>	<b>2.17%</b>	<b>1.97%</b>	<b>1.89%</b>
3-month Treasury Bill	0.56%	2.39%	1.54%	0.98%	0.54%
<b>Active Fixed Income Option</b>	<b>2.14%</b>	<b>9.50%</b>	<b>3.57%</b>	<b>3.80%</b>	<b>4.52%</b>
Bloomberg Aggregate Index	2.27%	10.30%	2.92%	3.38%	3.75%
<b>Stock Index Option</b>	<b>1.17%</b>	<b>2.99%</b>	<b>12.91%</b>	<b>10.53%</b>	<b>13.16%</b>
Russell 3000 Index	1.16%	2.92%	12.83%	10.44%	13.08%
<b>Large Company Value Stock Option</b>	<b>1.37%</b>	<b>4.11%</b>	<b>9.54%</b>	<b>7.76%</b>	<b>11.58%</b>
Russell 1000 Value Index	1.36%	4.00%	9.43%	7.79%	11.46%
<b>Large Company Growth Stock Option</b>	<b>1.47%</b>	<b>3.72%</b>	<b>16.86%</b>	<b>13.29%</b>	<b>14.77%</b>
Russell 1000 Growth Index	1.49%	3.71%	16.89%	13.39%	14.94%
<b>Small Company Stock Option</b>	<b>(2.41%)</b>	<b>(9.54%)</b>	<b>8.12%</b>	<b>7.60%</b>	<b>11.26%</b>
Russell 2000 Index	(2.40%)	(8.89%)	8.23%	8.19%	11.19%
<b>International Stock Option</b>	<b>(2.29%)</b>	<b>(2.84%)</b>	<b>5.22%</b>	<b>3.17%</b>	<b>4.78%</b>
MSCI ACWI ex US Index	(1.80%)	(1.23%)	6.33%	2.90%	4.46%
<b>Tier III - Specialty Options</b>					
<b>Socially Responsible Option</b>	<b>2.00%</b>	<b>3.90%</b>	<b>12.62%</b>	-	-
Russell 3000 Index	1.16%	2.92%	12.83%	10.44%	13.08%
<b>Real Return Option</b>	<b>(0.70%)</b>	<b>0.88%</b>	<b>2.31%</b>	-	-
Real Return Option Blended Benchmark	(0.69%)	1.85%	3.59%	0.97%	3.24%
Consumer Price Index + 3%	0.94%	4.50%	5.05%	4.34%	4.71%

## Investment Fund Returns

The table below details the rates of return for the plan's investment managers over various cumulative time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

	12/2018- 9/2019	2018	2017	2016	2015
<b>Tier I - Asset Allocation Options</b>					
<b>LifePath Index Retirement Fund L</b>	<b>11.64%</b>	<b>(3.48%)</b>	<b>10.16%</b>	<b>6.07%</b>	<b>(1.16%)</b>
LifePath Index Retirement Benchmark	11.64%	(3.48%)	10.10%	6.01%	(1.07%)
<b>LifePath Index 2020 Fund L</b>	<b>11.98%</b>	<b>(3.89%)</b>	<b>11.75%</b>	<b>6.61%</b>	<b>(1.29%)</b>
LifePath Index 2020 Benchmark	11.96%	(3.88%)	11.67%	6.51%	(1.28%)
<b>LifePath Index 2025 Fund L</b>	<b>13.12%</b>	<b>(4.89%)</b>	<b>13.88%</b>	<b>7.26%</b>	<b>(1.44%)</b>
LifePath Index 2025 Benchmark	13.09%	(4.90%)	13.75%	7.10%	(1.45%)
<b>LifePath Index 2030 Fund L</b>	<b>14.05%</b>	<b>(5.72%)</b>	<b>15.81%</b>	<b>7.84%</b>	<b>(1.63%)</b>
LifePath Index 2030 Benchmark	14.00%	(5.76%)	15.64%	7.61%	(1.66%)
<b>LifePath Index 2035 Fund L</b>	<b>14.94%</b>	<b>(6.51%)</b>	<b>17.67%</b>	<b>8.40%</b>	<b>(1.82%)</b>
LifePath Index 2035 Benchmark	14.84%	(6.58%)	17.48%	8.08%	(1.86%)
<b>LifePath Index 2040 Fund L</b>	<b>15.70%</b>	<b>(7.25%)</b>	<b>19.36%</b>	<b>8.84%</b>	<b>(2.02%)</b>
LifePath Index 2040 Benchmark	15.63%	(7.33%)	19.09%	8.51%	(2.08%)
<b>LifePath Index 2045 Fund L</b>	<b>16.26%</b>	<b>(7.85%)</b>	<b>20.43%</b>	<b>9.15%</b>	<b>(2.17%)</b>
LifePath Index 2045 Benchmark	16.17%	(7.99%)	20.15%	8.77%	(2.22%)
<b>LifePath Index 2050 Fund L</b>	<b>16.52%</b>	<b>(8.12%)</b>	<b>20.81%</b>	<b>9.22%</b>	<b>(2.21%)</b>
LifePath Index 2050 Benchmark	16.41%	(8.26%)	20.55%	8.82%	(2.26%)
<b>LifePath Index 2055 Fund L</b>	<b>16.53%</b>	<b>(8.14%)</b>	<b>20.80%</b>	<b>9.18%</b>	<b>(2.19%)</b>
LifePath Index 2055 Benchmark	16.45%	(8.28%)	20.55%	8.82%	(2.26%)
<b>LifePath Index 2060 Fund L</b>	<b>16.52%</b>	<b>(8.15%)</b>	<b>20.74%</b>	<b>9.19%</b>	<b>(2.17%)</b>
LifePath Index 2060 Benchmark	16.45%	(8.28%)	20.55%	8.82%	(2.16%)
<b>Tier II - Core Investment Options</b>					
<b>Stable Value Option</b>	<b>1.91%</b>	<b>2.24%</b>	<b>1.89%</b>	<b>1.77%</b>	<b>1.65%</b>
3-month Treasury Bill	1.81%	1.87%	0.86%	0.33%	0.05%
<b>Active Fixed Income Option</b>	<b>8.17%</b>	<b>0.50%</b>	<b>4.47%</b>	<b>3.48%</b>	<b>0.82%</b>
Bloomberg Aggregate Index	8.52%	0.01%	3.54%	2.65%	0.55%
<b>Stock Index Option</b>	<b>20.16%</b>	<b>(5.21%)</b>	<b>21.23%</b>	<b>12.83%</b>	<b>0.61%</b>
Russell 3000 Index	20.09%	(5.24%)	21.13%	12.74%	0.48%
<b>Large Company Value Stock Option</b>	<b>17.89%</b>	<b>(8.13%)</b>	<b>13.81%</b>	<b>17.21%</b>	<b>(3.77%)</b>
Russell 1000 Value Index	17.81%	(8.27%)	13.66%	17.34%	(3.83%)
<b>Large Company Growth Stock Option</b>	<b>23.32%</b>	<b>(1.65%)</b>	<b>30.21%</b>	<b>7.11%</b>	<b>5.25%</b>
Russell 1000 Growth Index	23.30%	(1.51%)	30.21%	7.08%	5.67%
<b>Small Company Stock Option</b>	<b>14.12%</b>	<b>(11.77%)</b>	<b>14.74%</b>	<b>21.43%</b>	<b>(4.17%)</b>
Russell 2000 Index	14.18%	(11.01%)	14.65%	21.31%	(4.41%)
<b>International Stock Option</b>	<b>10.70%</b>	<b>(15.57%)</b>	<b>27.70%</b>	<b>3.46%</b>	<b>(2.59%)</b>
MSCI ACWI ex US Index	11.56%	(14.20%)	27.19%	4.50%	(5.66%)
<b>Tier III - Specialty Options</b>					
<b>Socially Responsible Option</b>	<b>20.52%</b>	<b>(5.61%)</b>	<b>20.71%</b>	<b>13.39%</b>	<b>-</b>
Russell 3000 Index	20.09%	(5.24%)	21.13%	12.74%	0.48%
<b>Real Return Option</b>	<b>6.44%</b>	<b>(6.11%)</b>	<b>7.49%</b>	<b>5.34%</b>	<b>-</b>
Real Return Option Blended Benchmark	9.69%	(7.11%)	8.61%	14.28%	(14.05%)
Consumer Price Index + 3%	4.46%	4.77%	5.18%	4.99%	3.39%

**Oregon Savings Growth Plan  
Investment Manager Performance Monitoring Summary Report  
September 30, 2019**

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	10 Year Return
<b>Tier I - Asset Allocation Options</b>						
<b>LifePath Index Retirement Fund L</b> Callan Target Date Retirement Inc LifePath Index Retirement Benchmark	1.4 38	6.4 39	5.6 18	4.7 26	5.0 27	6.0 22
	1.4 39	6.4 37	5.6 18	4.8 26	5.0 27	6.0 21
<b>LifePath Index 2020 Fund L</b> Callan Target Date 2020 LifePath Index 2020 Benchmark	1.3 23	6.0 21	6.2 66	5.1 66	5.8 72	6.8 71
	1.3 22	6.0 20	6.1 67	5.1 68	5.8 72	6.8 71
<b>LifePath Index 2025 Fund L</b> Callan Target Date 2025 LifePath Index 2025 Benchmark	1.1 35	5.3 24	7.0 66	5.6 67	6.5 77	7.4 80
	1.1 35	5.3 25	6.9 67	5.6 68	6.5 77	7.3 81
<b>LifePath Index 2030 Fund L</b> Callan Target Date 2030 LifePath Index 2030 Benchmark	0.9 37	4.7 24	7.6 63	6.1 65	7.1 77	7.8 77
	0.9 37	4.7 25	7.6 67	6.0 72	7.1 82	7.8 79
<b>LifePath Index 2035 Fund L</b> Callan Target Date 2035 LifePath Index 2035 Benchmark	0.7 39	4.1 17	8.3 57	6.5 60	7.7 81	8.3 81
	0.7 40	4.1 18	8.2 62	6.4 71	7.6 90	8.2 83
<b>LifePath Index 2040 Fund L</b> Callan Target Date 2040 LifePath Index 2040 Benchmark	0.5 40	3.5 18	8.9 46	6.8 53	8.2 81	8.7 72
	0.5 39	3.5 19	8.7 55	6.7 59	8.1 84	8.6 74
<b>LifePath Index 2045 Fund L</b> Callan Target Date 2045 LifePath Index 2045 Benchmark	0.4 39	3.1 20	9.2 47	7.0 51	8.5 82	9.0 76
	0.4 40	3.0 23	9.0 51	6.8 64	8.4 83	8.9 79
<b>LifePath Index 2050 Fund L</b> Callan Target Date 2050 LifePath Index 2050 Benchmark	0.3 40	2.9 24	9.3 39	7.1 51	8.8 77	9.2 64
	0.3 40	2.8 29	9.1 51	6.9 61	8.6 81	9.1 73
<b>LifePath Index 2055 Fund L</b> Callan Target Date 2055 LifePath Index 2055 Benchmark	0.3 38	2.9 21	9.3 46	7.1 57	8.9 68	
	0.3 38	2.8 27	9.1 58	6.9 64	8.8 75	
<b>LifePath Index 2060 Fund L</b> Callan Target Date 2060 LifePath Index 2060 Benchmark	0.3 40	2.9 23	9.3 52	6.6 82		
	0.3 39	2.8 28	9.1 62			

Returns:  
■ above median  
■ third quartile  
■ fourth quartile

**Oregon Savings Growth Plan  
Investment Manager Performance Monitoring Summary Report  
September 30, 2019**

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	10 Year Return
<b>Tier II - Core Investment Options</b>						
<b>Stable Value Option</b> Callan Stable Value CT 3-month Treasury Bill	0.7 7	2.5 4	2.2 10	2.0 18	1.9 25	1.9 37
	0.6 30	2.4 18	1.5 88	1.0 99	0.7 99	0.5 100
<b>Active Fixed Income Option</b> Callan Core Plus MFs Bloomberg Aggregate Index	2.1 56	9.5 71	3.6 37	3.8 32	3.2 58	4.5 52
	2.3 39	10.3 43	2.9 85	3.4 69	2.7 91	3.7 94
<b>Stock Index Option (i)</b> Callan All Cap Core MFs Russell 3000 Index	1.2 39	3.0 33	12.9 16	10.5 11	13.1 14	13.2 10
	1.2 39	2.9 34	12.8 17	10.4 11	13.0 16	13.1 10
<b>Large Company Value Stock Option (i)</b> Callan Large Cap Value MFs Russell 1000 Value Index	1.4 50	4.1 30	9.5 68	7.8 48	11.8 35	11.6 35
	1.4 51	4.0 32	9.4 69	7.8 47	11.3 43	11.5 39
<b>Large Company Growth Stock Option (i)</b> Callan Large Cap Growth MFs Russell 1000 Growth Index	1.5 15	3.7 33	16.9 35	13.3 28	15.0 28	14.8 27
	1.5 14	3.7 33	16.9 35	13.4 27	15.0 28	14.9 25
<b>Small Company Stock Option</b> Callan Small Cap MFs Russell 2000 Index	-2.4 50	-9.5 69	8.1 59	7.6 59	10.4 63	11.3 62
	-2.4 50	-8.9 64	8.2 59	8.2 56	10.4 62	11.2 63
<b>International Stock Option</b> Callan Non US Equity MFs MSCI ACWI ex US Index	-2.3 77	-2.8 54	5.2 60	3.2 50	5.7 57	4.8 61
	-1.8 65	-1.2 37	6.3 45	2.9 54	5.0 75	4.5 65

Returns:  
■ above median  
■ third quartile  
■ fourth quartile

(i) - Indexed scoring method used. Green: manager & index ranking differ by <= +/- 10%tile. Yellow: manager & index ranking differ by <= +/- 20%tile. Red: manager & index ranking differ by > +/- 20%tile.

**Oregon Savings Growth Plan**  
**Investment Manager Performance Monitoring Summary Report**  
**September 30, 2019**

Investment Manager	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	10 Year Return
<b>Tier III - Specialty Options</b>						
<b>Socially Responsible Option</b>	<b>2.0</b> 25	<b>3.9</b> 31	<b>12.6</b> 20			
Callan All Cap Core MFs						
Russell 3000 Index	1.2 39	2.9 34	12.8 17	10.4 11	13.0 16	13.1 10
<b>Real Return Option</b>	<b>-0.7</b>	<b>0.9</b>	<b>2.3</b>			
Consumer Price Index + 3%	0.9	4.5	5.0	4.3	4.3	4.7

Returns:  
■ above median  
■ third quartile  
■ fourth quartile

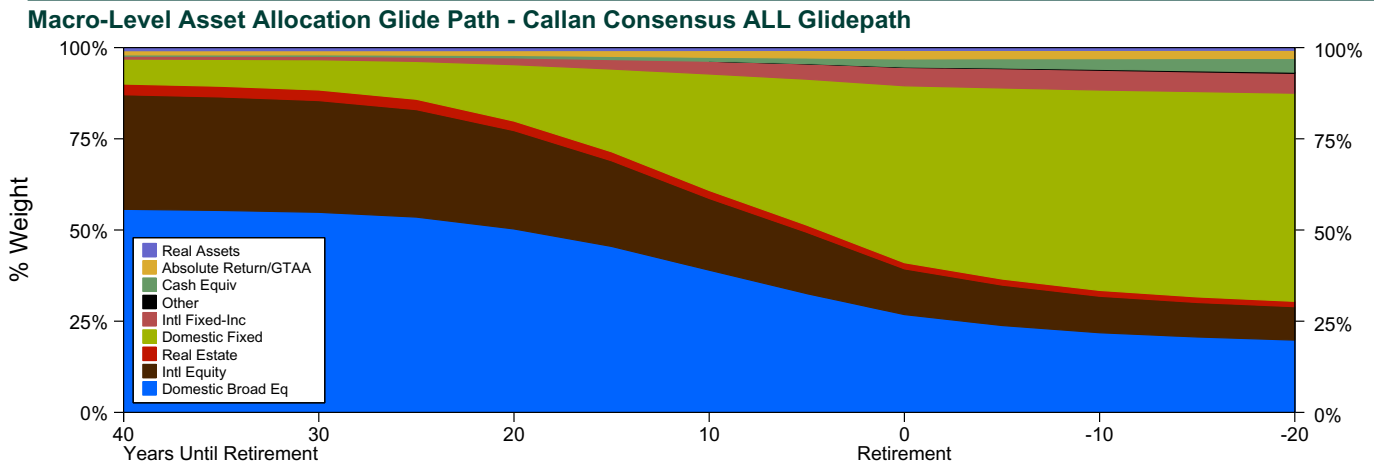
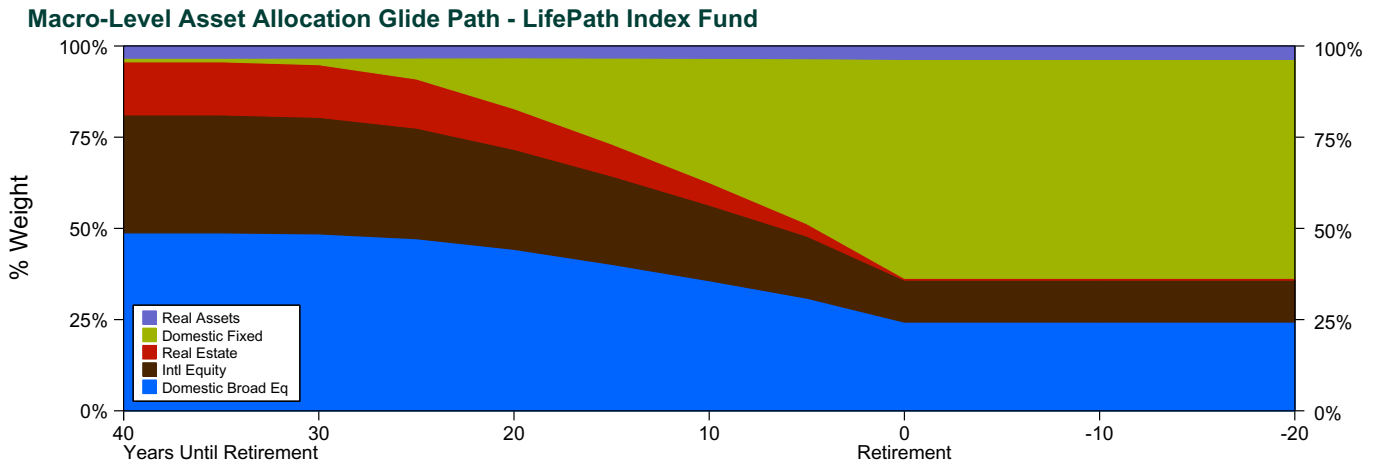
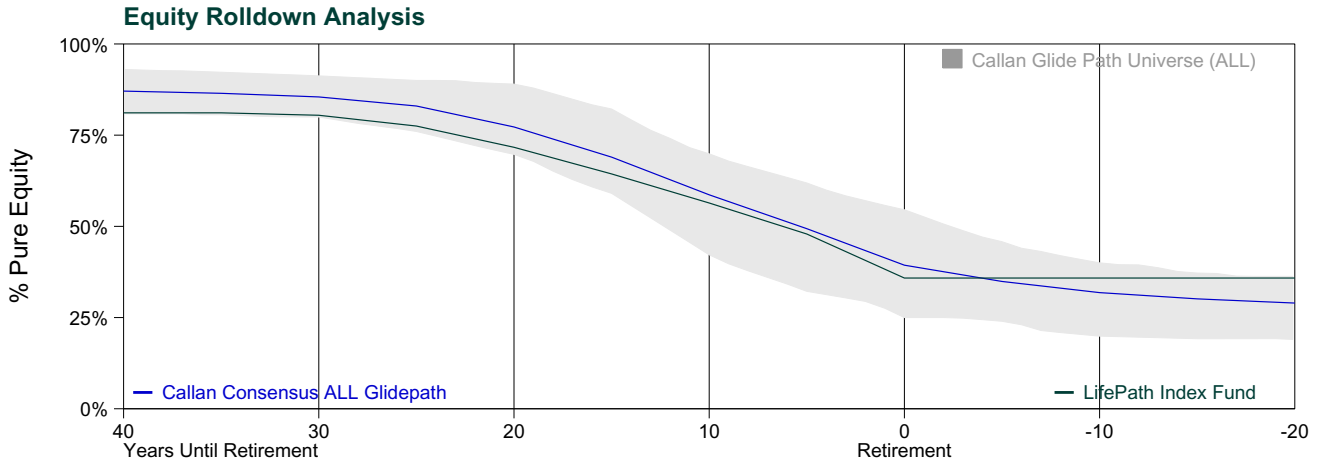
**Oregon Savings Growth Plan  
Investment Options Fee Summary  
September 30, 2019**

<b>Asset Class and Strategy</b>	<b>Total Annual Operating Expense Ratio*</b>	<b>Institutional Peer Group Median</b>
<b>Asset Allocation Options</b>		
LifePath Index Retirement, 2020 – 2060 Funds; L	0.090%	0.12% - 0.13%
<b>Capital Preservation</b>		
Stable Value Option	0.351%	0.36%
<b>Fixed Income</b>		
Active Fixed Income Option	0.165%	0.27%
<b>U.S. Large Cap Equity</b>		
Stock Index Option	0.036%	0.04%
Large Company Value Stock Option	0.026%	0.04%
Large Company Growth Stock Option	0.026%	0.04%
<b>U.S. Small Cap Equity</b>		
Small Company Stock Option	0.398%	0.73%
<b>International Equity</b>		
International Stock Option	0.546%	0.62%
<b>Specialty Options</b>		
Socially Responsible Investment Option	0.170%	0.55%
Real Return Option	0.220%	1.10%

\*Investment option fee data provided by OST

# LifePath Index Fund Target Date Glide Path Analysis as of September 30, 2019

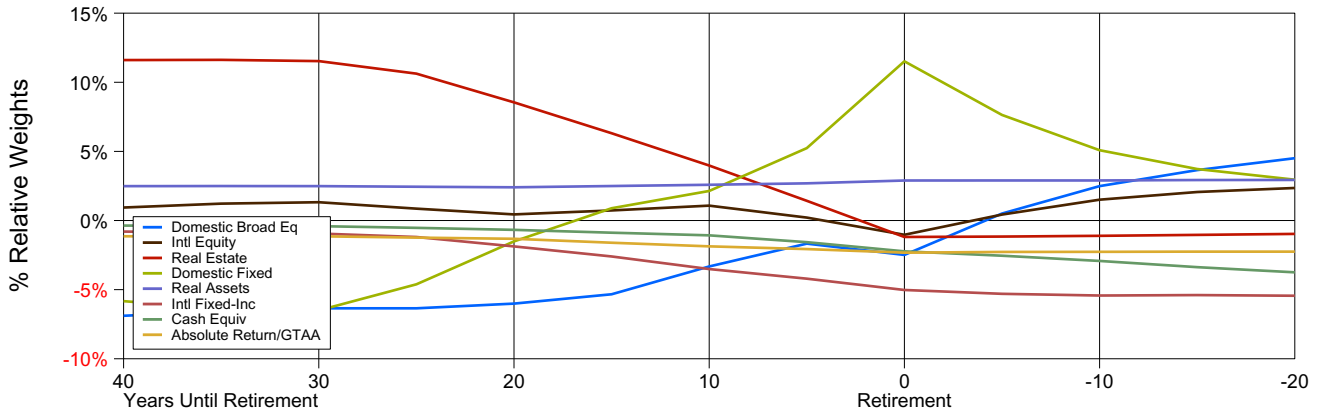
The following charts illustrate the asset allocation "glide path" underlying the relevant suite of target date funds. This analysis covers forty years of investor wealth accumulation up to retirement, as well as twenty years of wealth decumulation following retirement. The top chart shows the "pure" equity exposure (public equities excluding REITs) versus the peer group and index. The subsequent charts show more asset allocation detail at the high "macro" level.



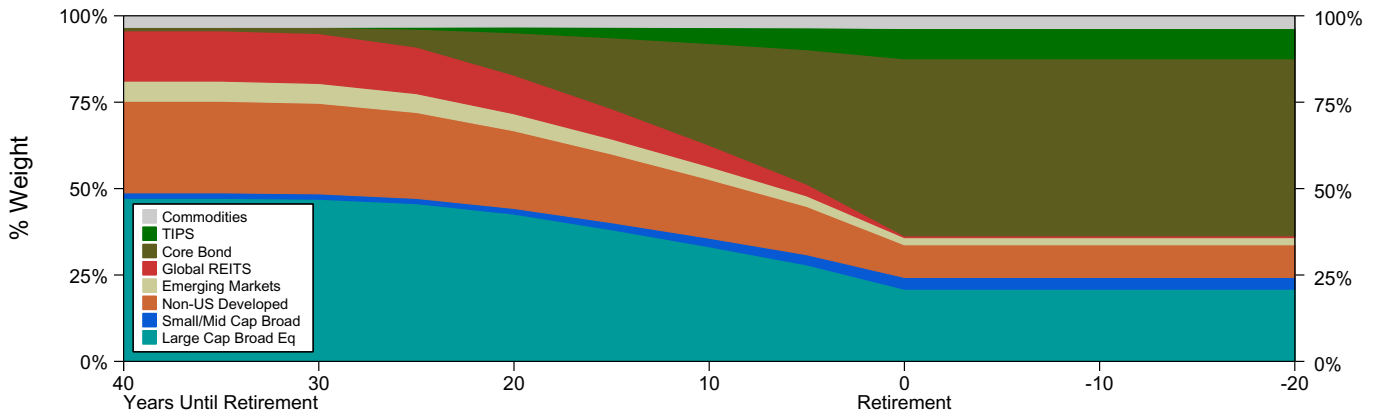
## LifePath Index Fund Target Date Glide Path Analysis as of September 30, 2019

The following charts illustrate the asset allocation "glide path" underlying the relevant suite of target date funds. This analysis covers forty years of investor wealth accumulation up to retirement, as well as twenty years of wealth decumulation following retirement. The top chart highlights any significant "macro-level" differences between the manager's asset allocation glide path and that of the glide path index. The bottom two charts illustrate the asset allocation glide paths of both the manager and index at the more detailed "micro" level.

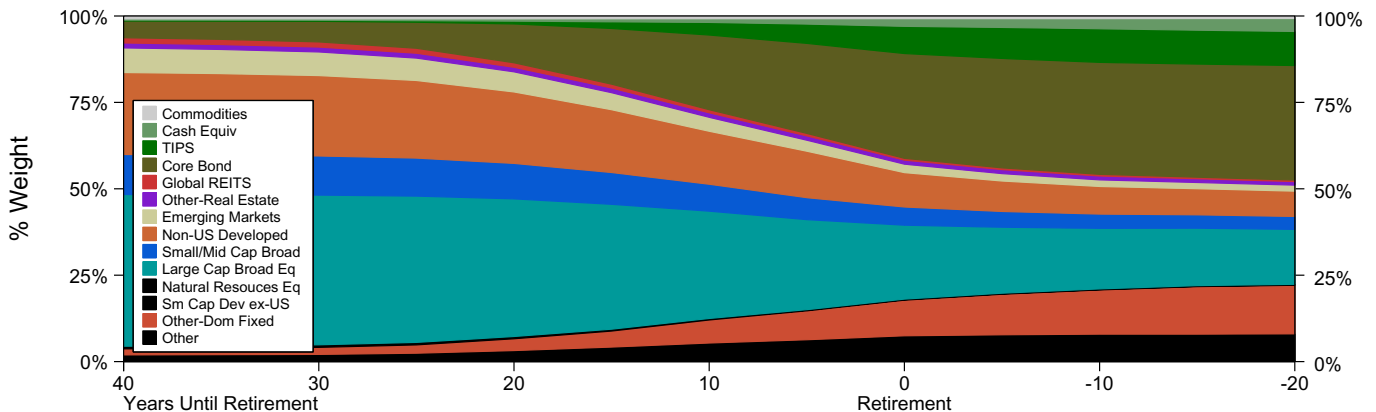
### Relative Macro Asset Allocation - LifePath Index Fund vs. Callan Consensus ALL Glidepath



### Micro-Level Asset Allocation Glide Path - LifePath Index Fund



### Micro-Level Asset Allocation Glide Path - Callan Consensus ALL Glidepath

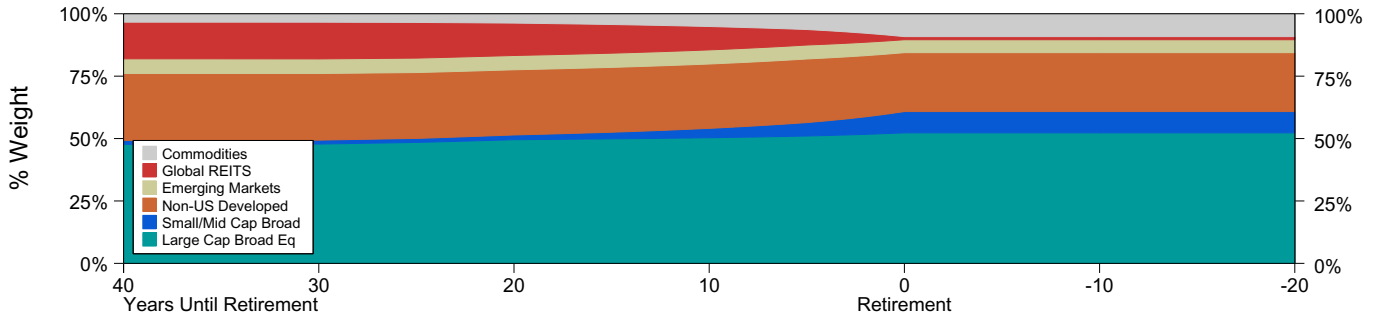




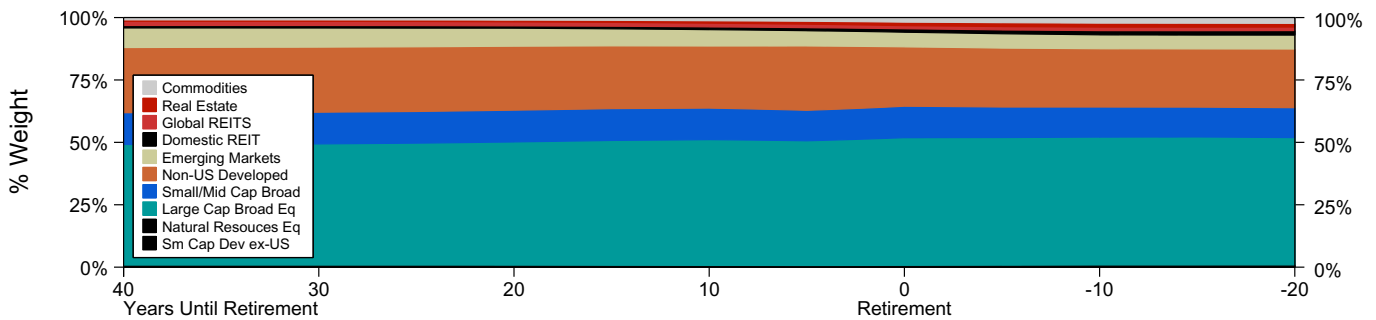
## LifePath Index Fund Target Date Glide Path Analysis as of September 30, 2019

The first two charts below illustrate the detailed composition over time of the "risky", or "growth" portion of the glide paths for both the manager and index, defined to be all public equity and real estate asset classes. These charts highlight both the levels of diversification and aggressiveness within the wealth creation portion of the glide paths. The last two charts serve a similar purpose but focus on the composition over time of the remaining wealth preservation portion (non-equity) of the manager and index glide paths.

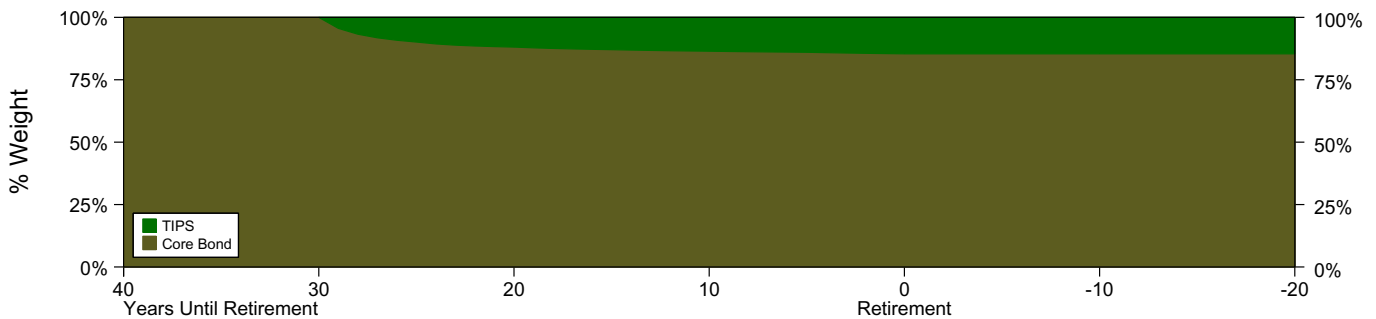
### Micro-Level Equity Allocation Glide Path - LifePath Index Fund



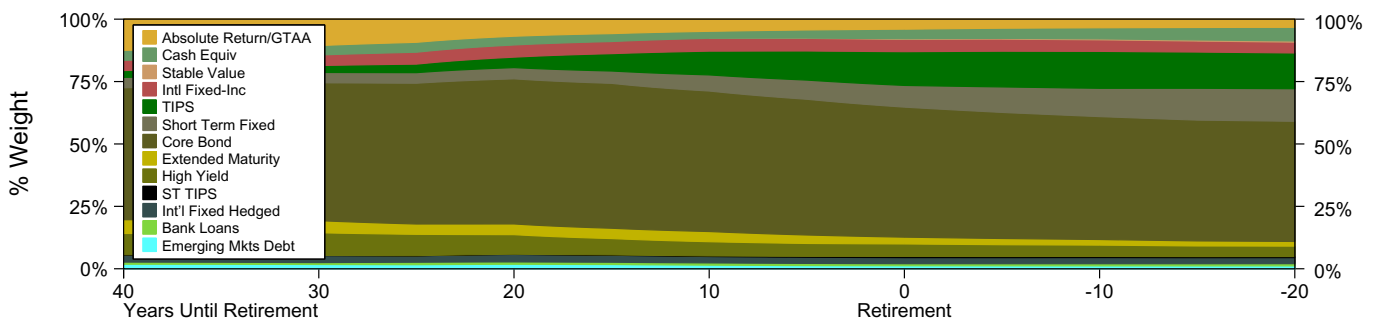
### Micro-Level Equity Asset Allocation Glide Path - Callan Consensus ALL Glidepath



### Micro-Level Non-Equity Allocation Glide Path - LifePath Index Fund



### Micro-Level Non-Equity Asset Allocation Glide Path - Callan Consensus ALL Glidep

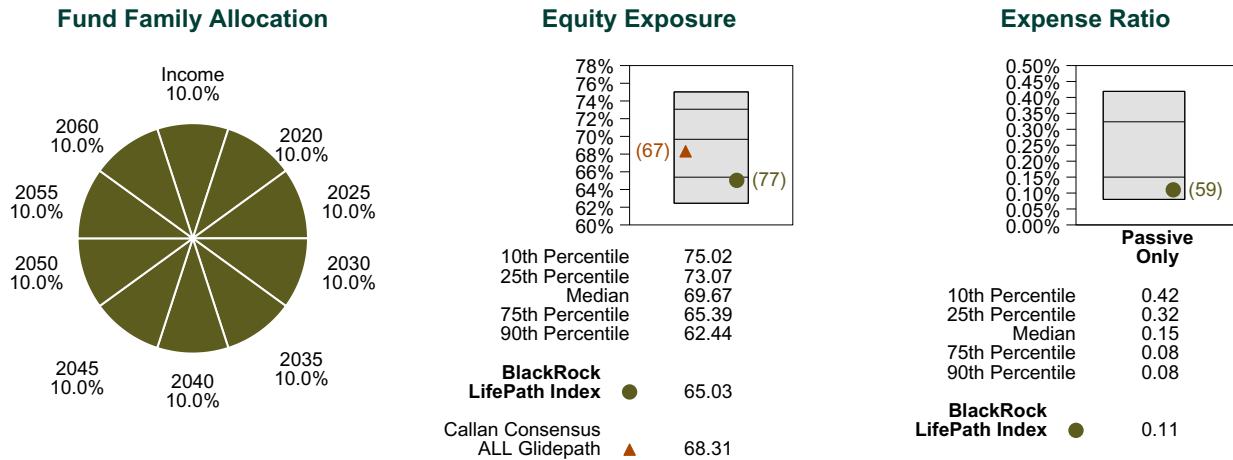


# Equal-Weighted - BlackRock LifePath Index Target Date Fund Family Analysis as of September 30, 2019

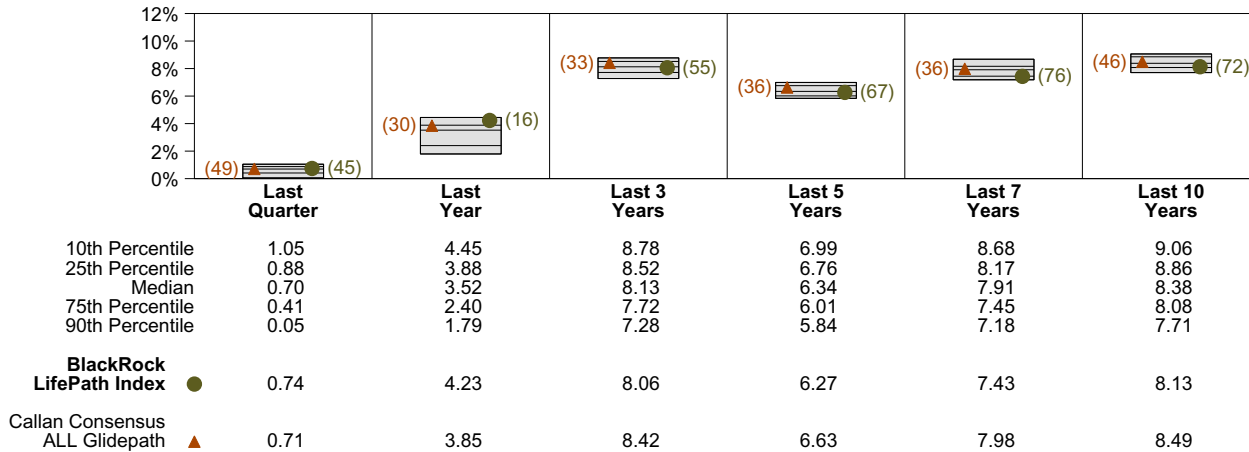
The following is an analysis of the suite of target date funds as an aggregated portfolio using equal-weighting by target date. The upper-left pie chart shows equal-weighting across target dates. The rest of the charts compare different attributes of the aggregated target date portfolio to a peer group of target date fund families, as well as target date indices, by mimicking the equal-weighted target date suites using these alternatives. The first two charts evaluate the aggregate equity exposure and expense ratio via target date funds. The last two charts analyze aggregate target date performance on both an actual return basis as well as a "glide path return" basis (simulated returns using each funds' asset allocation "glide path" weights and index returns).

**Glidepath Peer Group: ALL**

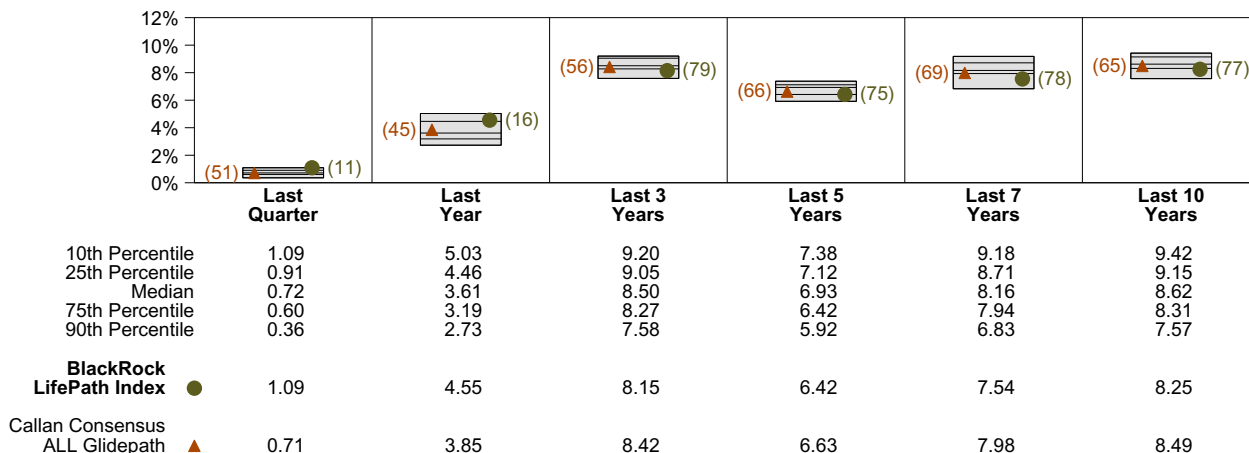
**Fee/Return Type: Institutional Net**



## Target Date Family Performance vs Peer Families



## Target Date Family Glide Path Returns vs Peer Families



# LifePath Index Retirement Fund L Period Ended September 30, 2019

## Investment Philosophy

LifePath Index Retirement Portfolio seeks to maximize return consistent with the quantitatively measured risk that investors planning to retire (or begin to withdraw substantial portions of their investment) now or in the near future may be willing to accept. BlackRock LifePath Funds changed from Q class to L class on 10/26/17.

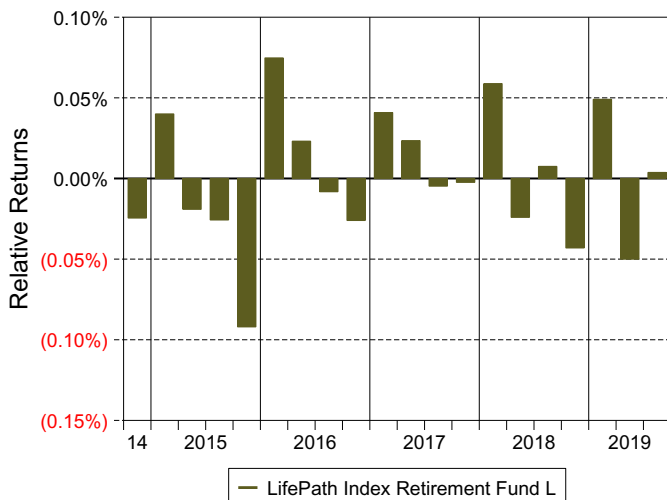
## Quarterly Summary and Highlights

- LifePath Index Retirement Fund L's portfolio posted a 1.40% return for the quarter placing it in the 38 percentile of the Callan Target Date Retirement Income group for the quarter and in the 39 percentile for the last year.
- LifePath Index Retirement Fund L's portfolio outperformed the LifePath Idx Retirement CB by 0.00% for the quarter and underperformed the LifePath Idx Retirement CB for the year by 0.05%.

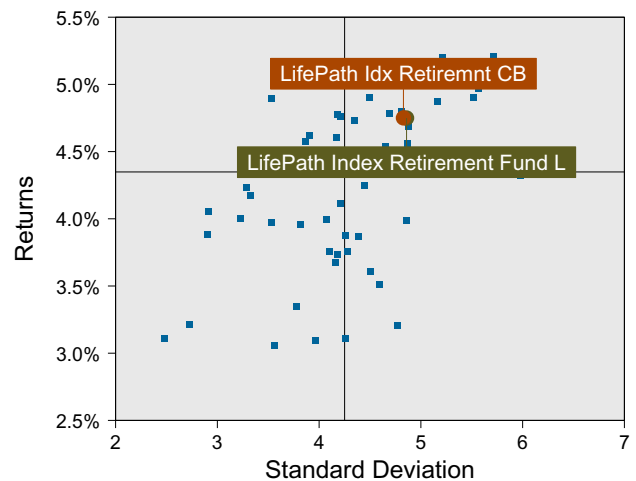
## Performance vs Callan Target Date Retirement Income (Institutional Net)



### Relative Return vs LifePath Idx Retirement CB



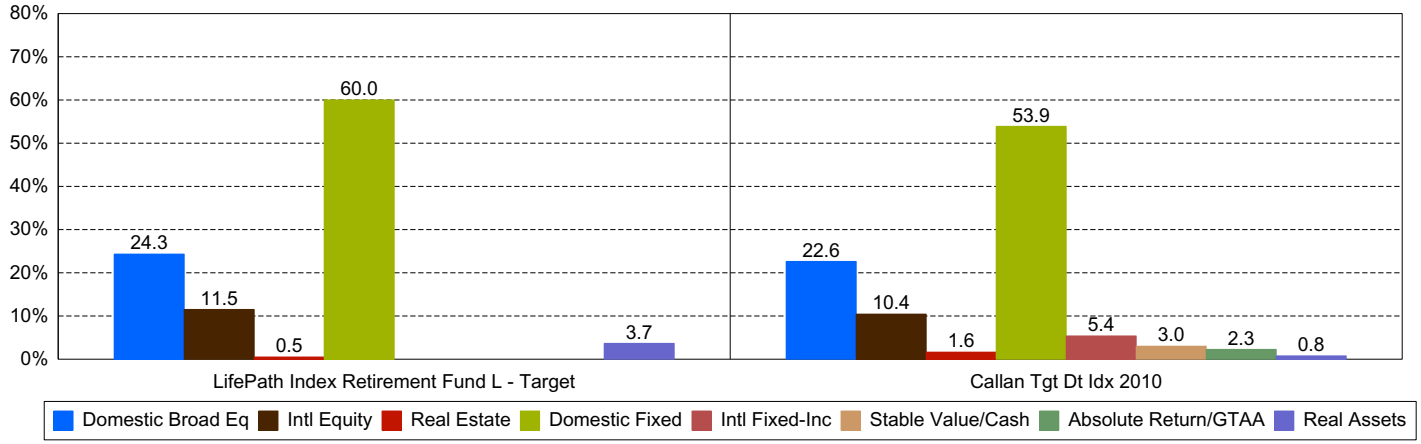
### Callan Target Date Retirement Income (Institutional Net) Annualized Five Year Risk vs Return



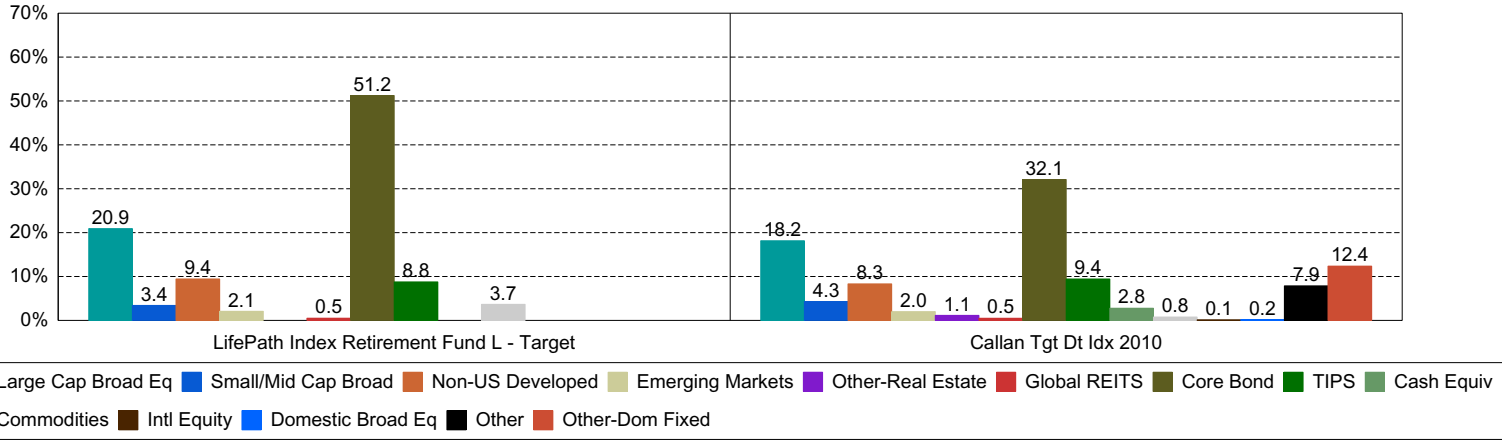
# LifePath Index Retirement Fund L Target Date Fund Asset Allocation as of September 30, 2019

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

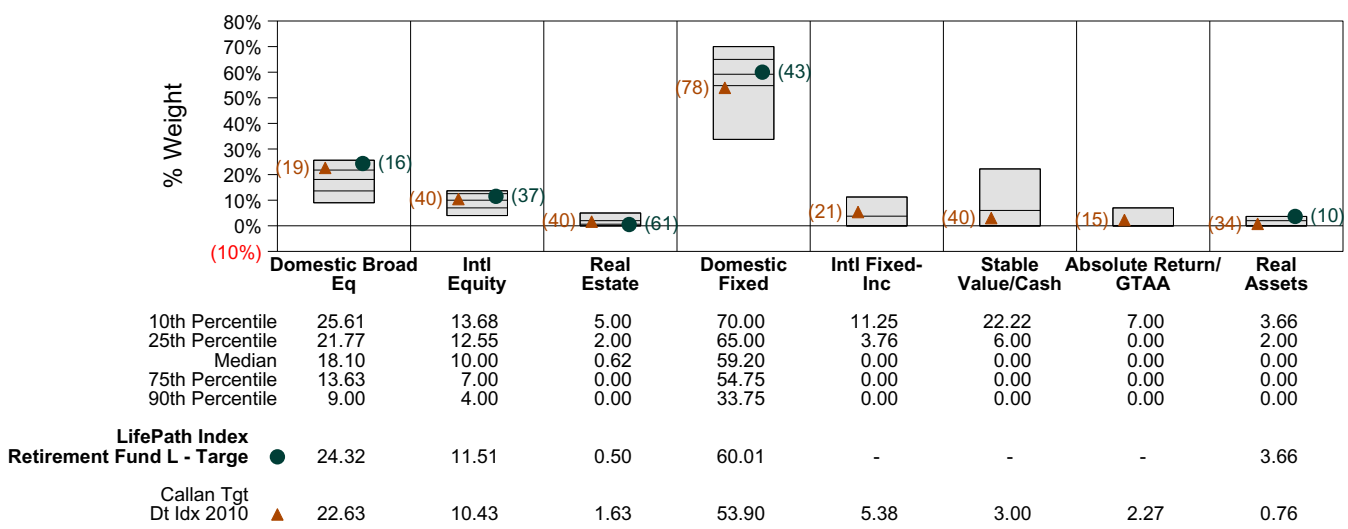
## Macro-Level Asset Allocation



## Micro-Level Asset Allocation



## Macro Asset Allocation Rankings vs. Callan Target Date Retirement Income



# LifePath Index 2020 Fund L Period Ended September 30, 2019

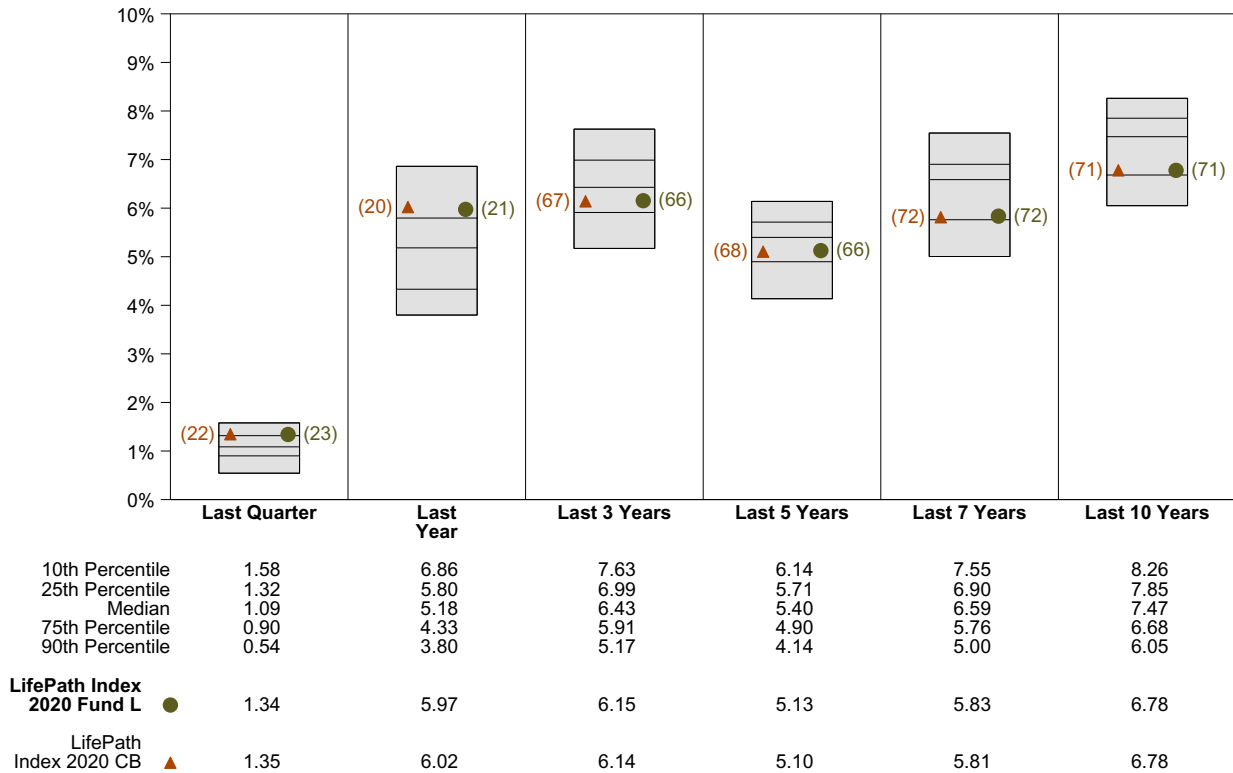
## Investment Philosophy

LifePath Index 2020 Portfolio seeks to maximize return consistent with the quantitatively measured risk that investors planning to retire (or begin to withdraw substantial portions of their investment) approximately in the year 2020 may be willing to accept. BlackRock LifePath Funds changed from Q class to L class on 10/26/17.

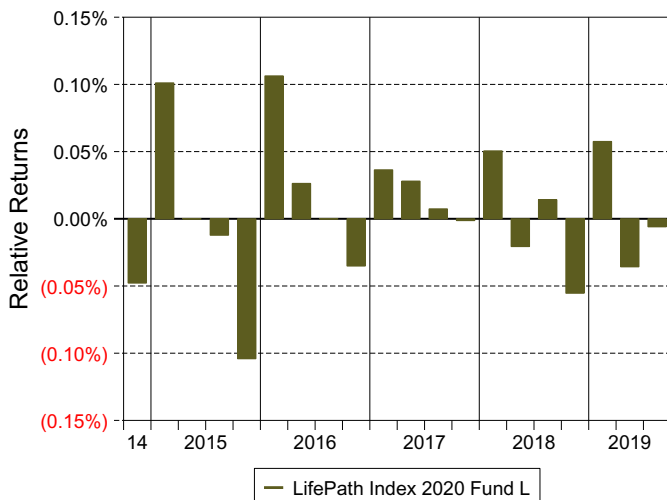
## Quarterly Summary and Highlights

- LifePath Index 2020 Fund L's portfolio posted a 1.34% return for the quarter placing it in the 23 percentile of the Callan Target Date 2020 group for the quarter and in the 21 percentile for the last year.
- LifePath Index 2020 Fund L's portfolio underperformed the LifePath Index 2020 CB by 0.01% for the quarter and underperformed the LifePath Index 2020 CB for the year by 0.05%.

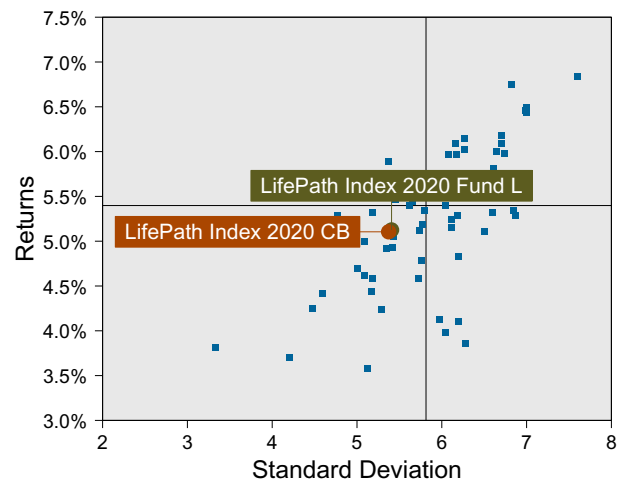
## Performance vs Callan Target Date 2020 (Institutional Net)



### Relative Return vs LifePath Index 2020 CB



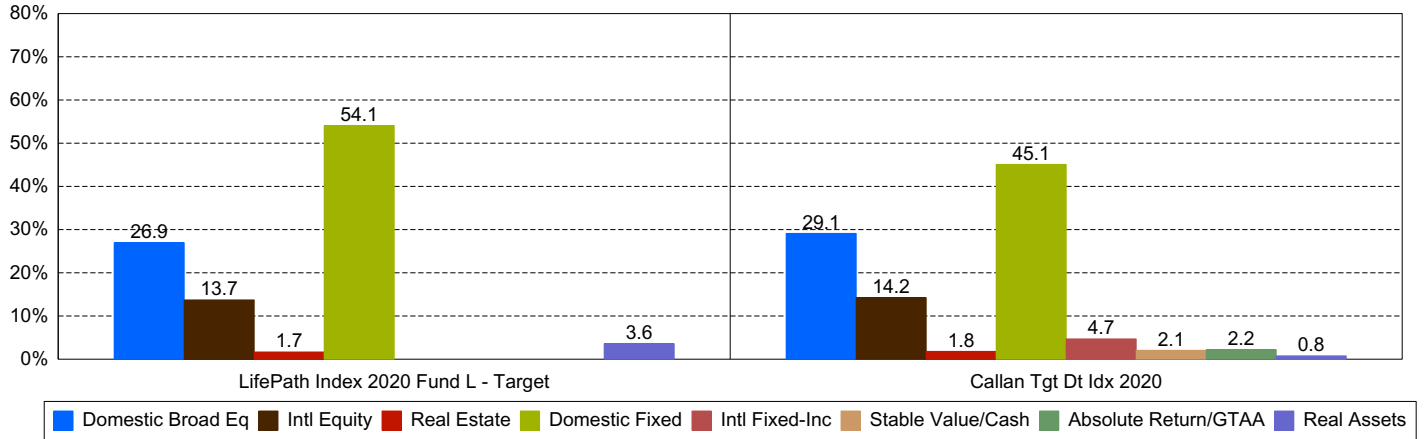
### Callan Target Date 2020 (Institutional Net) Annualized Five Year Risk vs Return



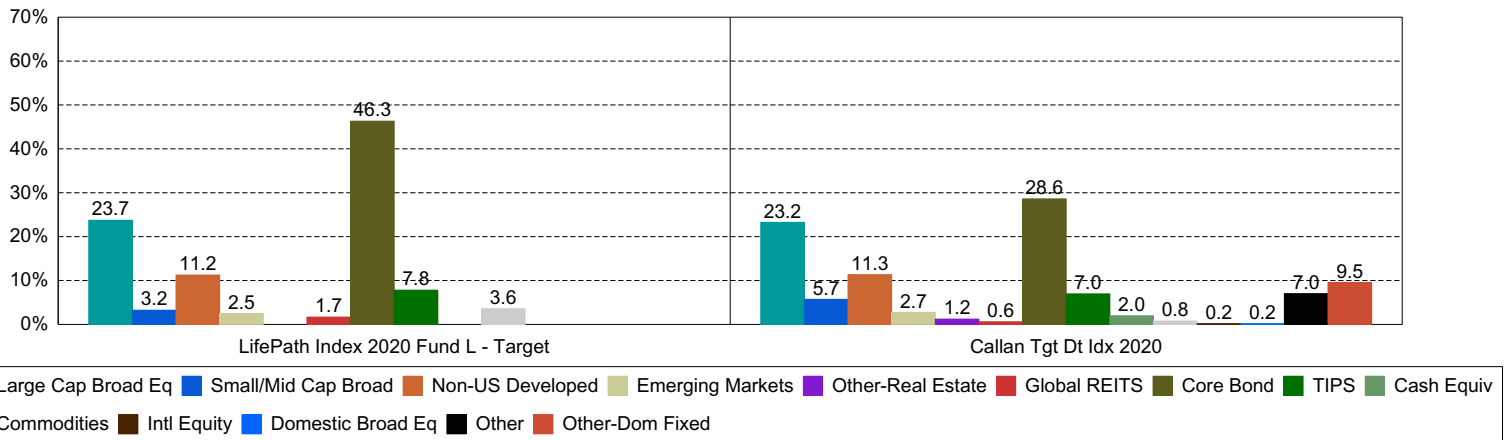
# LifePath Index 2020 Fund L Target Date Fund Asset Allocation as of September 30, 2019

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

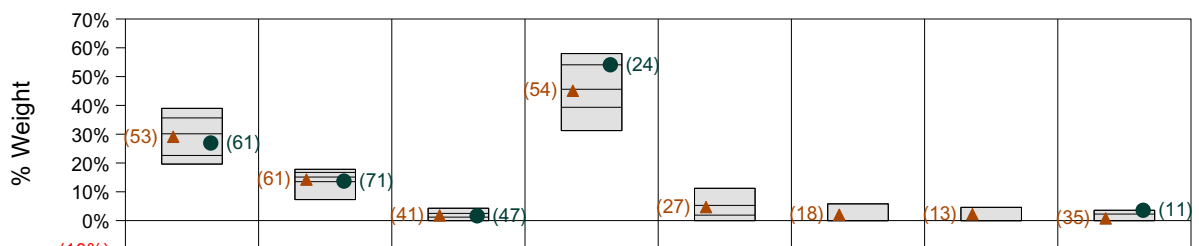
## Macro-Level Asset Allocation



## Micro-Level Asset Allocation



## Macro Asset Allocation Rankings vs. Callan Target Date 2020



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	38.97	17.81	4.28	58.00	11.21	5.82	4.60	3.58
25th Percentile	35.66	16.73	2.50	54.10	5.27	0.00	0.00	2.27
Median	30.14	15.12	1.20	45.60	1.90	0.00	0.00	0.00
75th Percentile	22.62	13.52	0.00	39.35	0.00	0.00	0.00	0.00
90th Percentile	19.62	7.29	0.00	31.25	0.00	0.00	0.00	0.00
<b>LifePath Index 2020 Fund L - Target</b>	● 26.95	13.71	1.66	54.10	-	-	-	3.58
<b>Callan Tgt Dt Idx 2020</b>	▲ 29.11	14.25	1.80	45.09	4.70	2.06	2.22	0.77

# LifePath Index 2025 Fund L Period Ended September 30, 2019

## Investment Philosophy

LifePath Index 2025 Portfolio seeks to maximize return consistent with the quantitatively measured risk that investors planning to retire (or begin to withdraw substantial portions of their investment) approximately in the year 2025 may be willing to accept. BlackRock LifePath Funds changed from Q class to L class on 10/26/17.

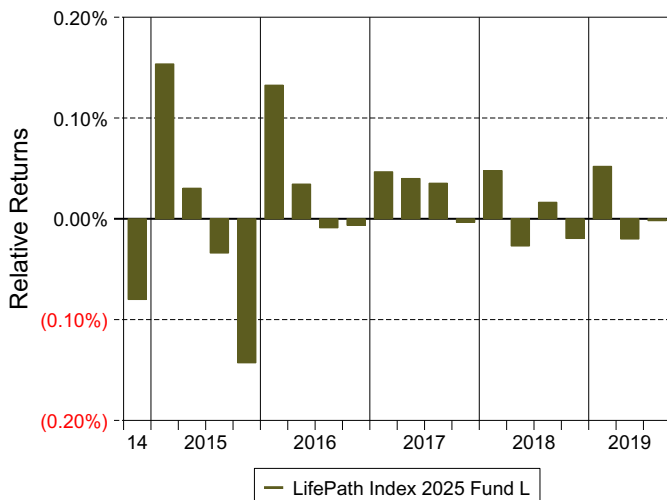
## Quarterly Summary and Highlights

- LifePath Index 2025 Fund L's portfolio posted a 1.12% return for the quarter placing it in the 35 percentile of the Callan Target Date 2025 group for the quarter and in the 24 percentile for the last year.
- LifePath Index 2025 Fund L's portfolio underperformed the LifePath Index 2025 CB by 0.00% for the quarter and outperformed the LifePath Index 2025 CB for the year by 0.01%.

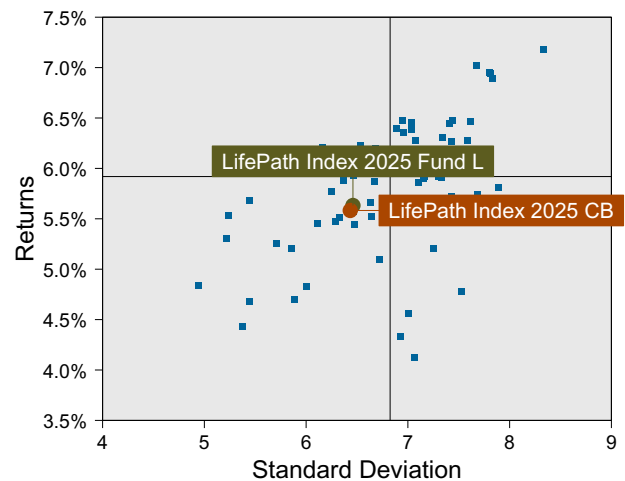
## Performance vs Callan Target Date 2025 (Institutional Net)



### Relative Return vs LifePath Index 2025 CB



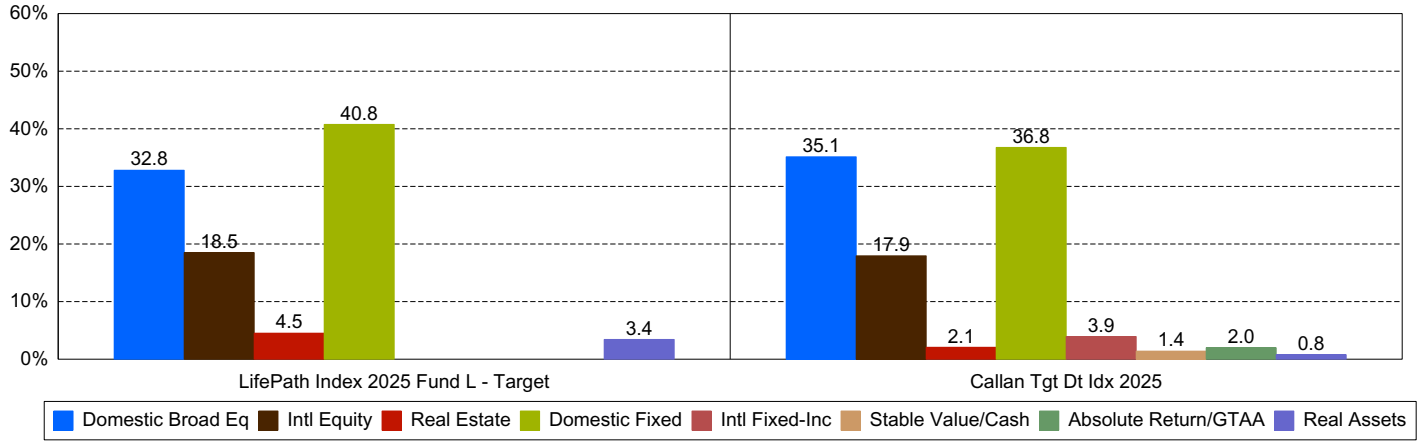
### Callan Target Date 2025 (Institutional Net) Annualized Five Year Risk vs Return



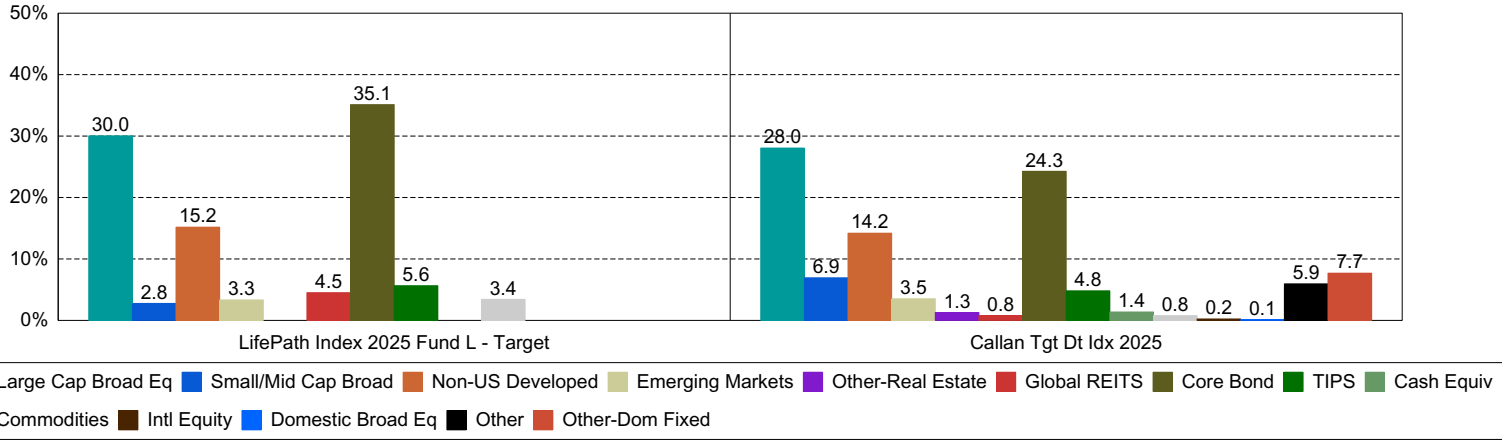
# LifePath Index 2025 Fund L Target Date Fund Asset Allocation as of September 30, 2019

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

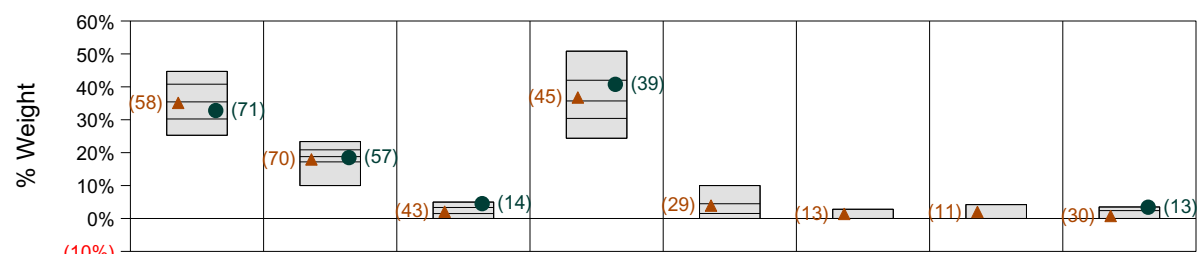
## Macro-Level Asset Allocation



## Micro-Level Asset Allocation



## Macro Asset Allocation Rankings vs. Callan Target Date 2025



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	44.69	23.37	4.98	50.83	10.00	2.80	4.22	3.50
25th Percentile	40.80	20.86	3.35	42.00	4.48	0.00	0.00	2.39
Median	35.43	18.79	1.50	35.71	1.52	0.00	0.00	0.00
75th Percentile	30.23	17.20	0.00	30.40	0.00	0.00	0.00	0.00
90th Percentile	25.28	10.00	0.00	24.37	0.00	0.00	0.00	0.00
<b>LifePath Index 2025 Fund L - Target</b>	<b>32.80</b>	<b>18.50</b>	<b>4.51</b>	<b>40.76</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.42</b>
<b>Callan Tgt Dt Idx 2025</b>	<b>35.13</b>	<b>17.95</b>	<b>2.07</b>	<b>36.76</b>	<b>3.93</b>	<b>1.40</b>	<b>1.99</b>	<b>0.78</b>



# LifePath Index 2030 Fund L Period Ended September 30, 2019

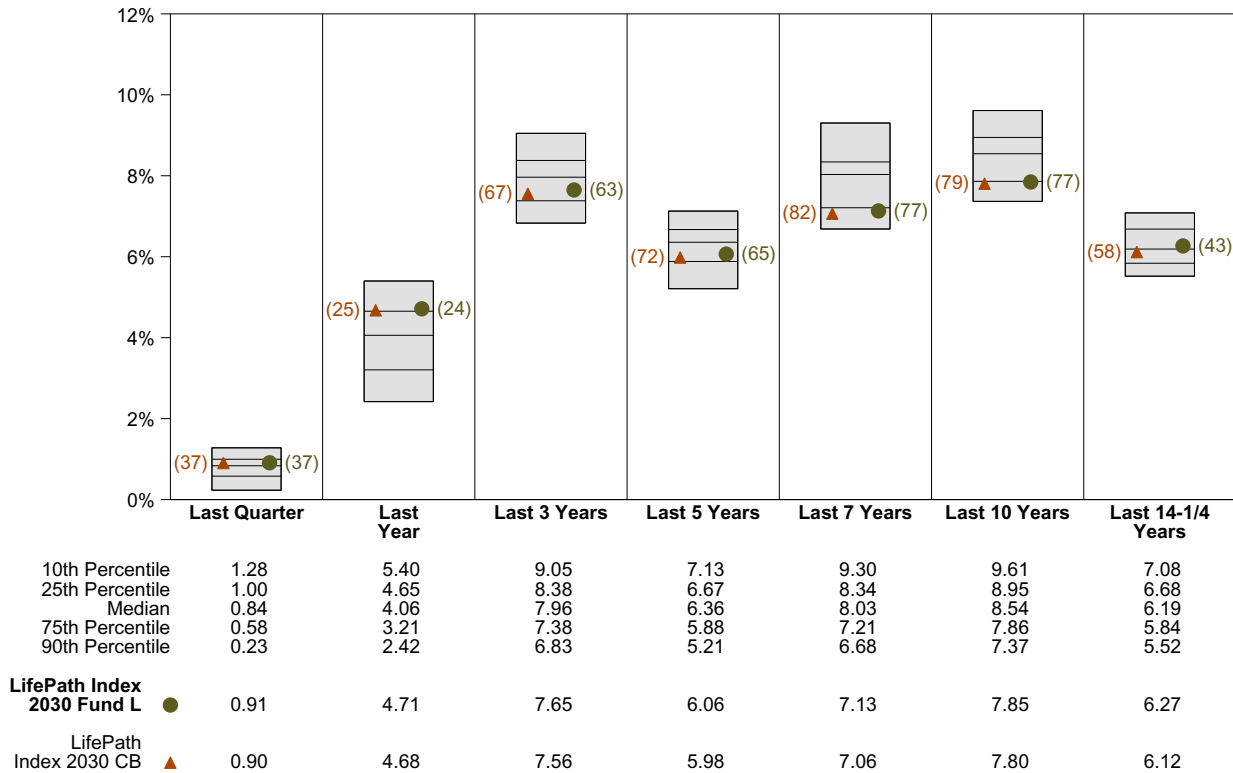
## Investment Philosophy

LifePath Index 2030 Portfolio seeks to maximize return consistent with the quantitatively measured risk that investors planning to retire (or begin to withdraw substantial portions of their investment) approximately in the year 2030 may be willing to accept. BlackRock LifePath Funds changed from Q class to L class on 10/26/17.

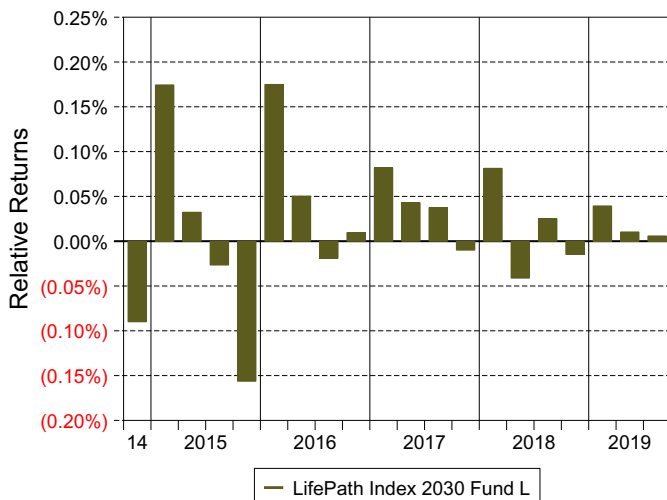
## Quarterly Summary and Highlights

- LifePath Index 2030 Fund L's portfolio posted a 0.91% return for the quarter placing it in the 37 percentile of the Callan Target Date 2030 group for the quarter and in the 24 percentile for the last year.
- LifePath Index 2030 Fund L's portfolio outperformed the LifePath Index 2030 CB by 0.01% for the quarter and outperformed the LifePath Index 2030 CB for the year by 0.04%.

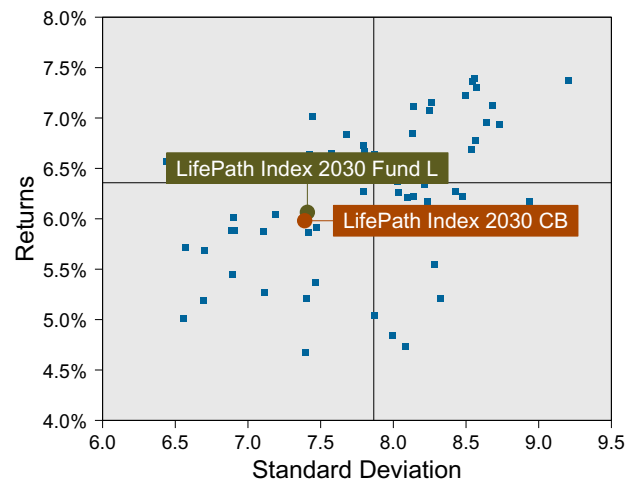
## Performance vs Callan Target Date 2030 (Institutional Net)



## Relative Return vs LifePath Index 2030 CB



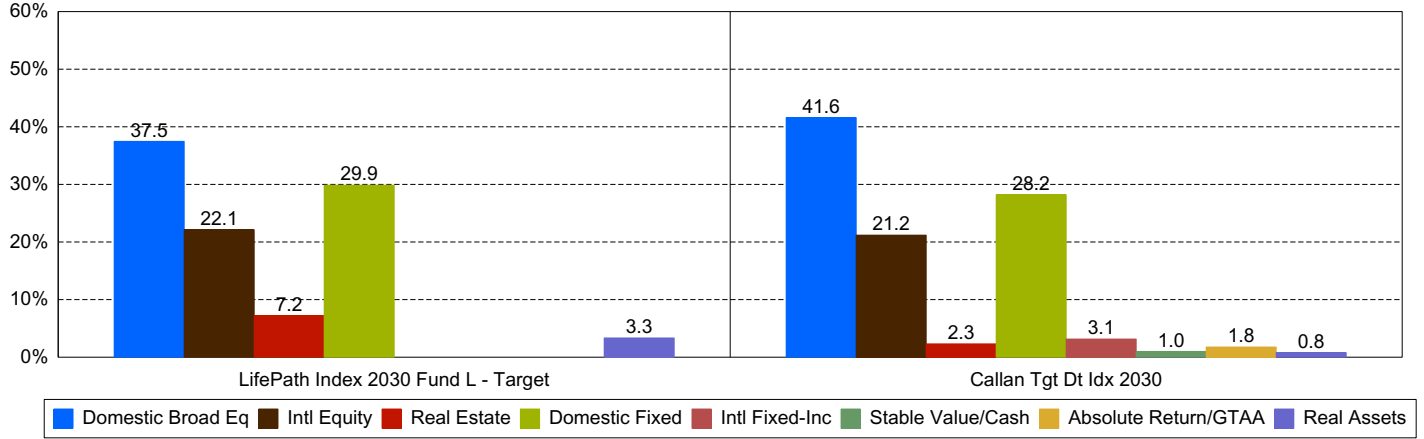
## Callan Target Date 2030 (Institutional Net) Annualized Five Year Risk vs Return



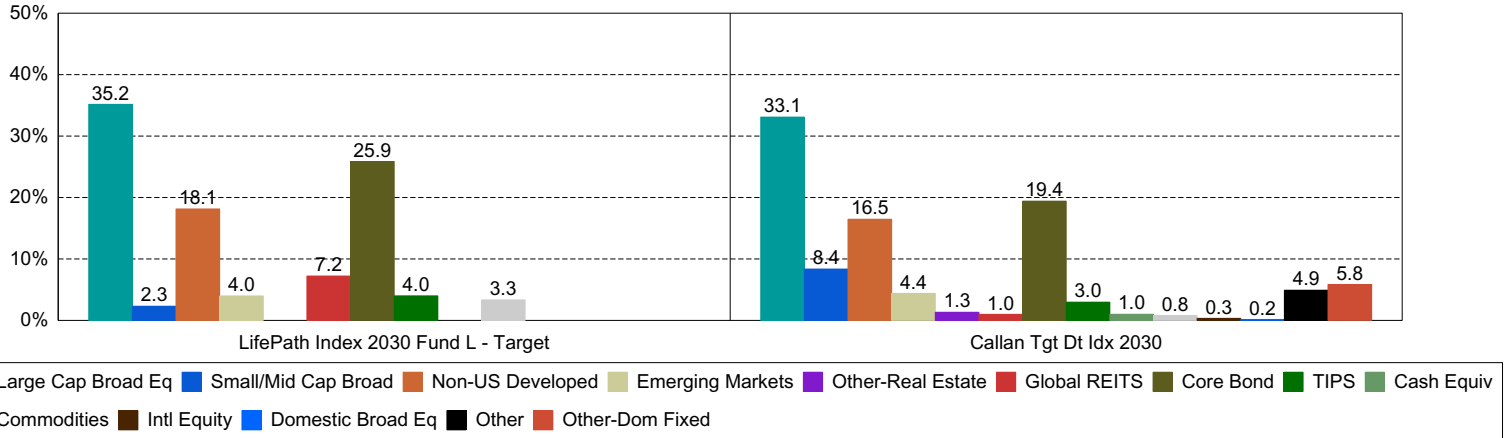
# LifePath Index 2030 Fund L Target Date Fund Asset Allocation as of September 30, 2019

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

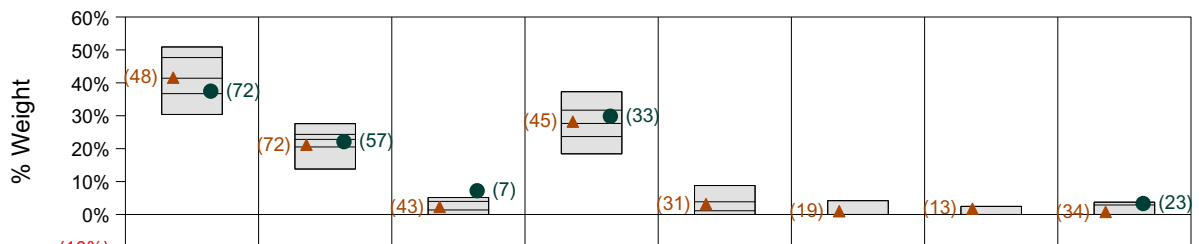
## Macro-Level Asset Allocation



## Micro-Level Asset Allocation



## Macro Asset Allocation Rankings vs. Callan Target Date 2030



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	50.90	27.60	5.15	37.30	8.80	4.20	2.46	3.74
25th Percentile	47.68	24.34	3.98	31.69	3.85	0.00	0.00	2.89
Median	41.40	22.82	1.38	27.66	1.13	0.00	0.00	0.00
75th Percentile	36.71	20.52	0.00	23.67	0.00	0.00	0.00	0.00
90th Percentile	30.39	13.80	0.00	18.43	0.00	0.00	0.00	0.00

<b>LifePath Index 2030 Fund L - Target</b>	●	37.47	22.12	7.22	29.85	-	-	-	3.34
Callan Tgt Dt Idx 2030	▲	41.59	21.18	2.31	28.22	3.15	1.00	1.76	0.79

# LifePath Index 2035 Fund L Period Ended September 30, 2019

## Investment Philosophy

LifePath Index 2035 Portfolio seeks to maximize return consistent with the quantitatively measured risk that investors planning to retire (or begin to withdraw substantial portions of their investment) approximately in the year 2035 may be willing to accept. BlackRock LifePath Funds changed from Q class to L class on 10/26/17.

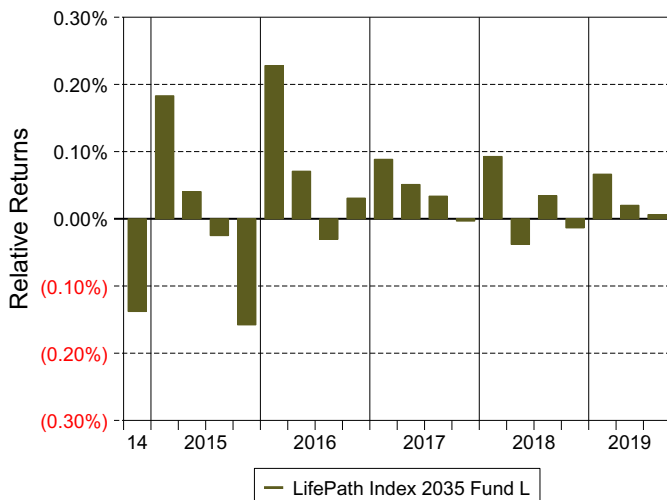
## Quarterly Summary and Highlights

- LifePath Index 2035 Fund L's portfolio posted a 0.71% return for the quarter placing it in the 39 percentile of the Callan Target Date 2035 group for the quarter and in the 17 percentile for the last year.
- LifePath Index 2035 Fund L's portfolio outperformed the LifePath Index 2035 CB by 0.01% for the quarter and outperformed the LifePath Index 2035 CB for the year by 0.07%.

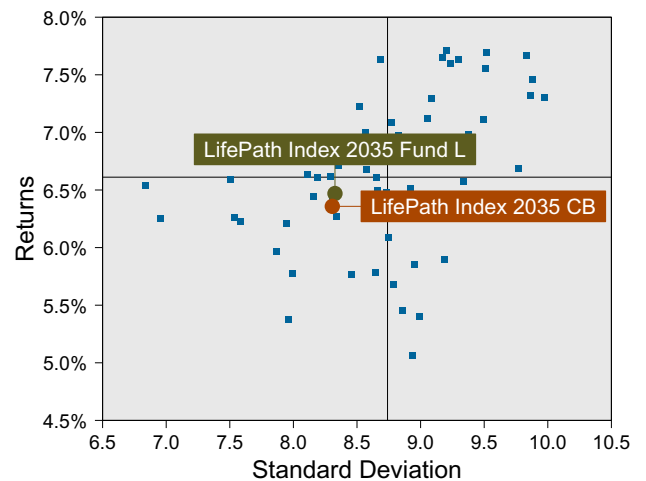
## Performance vs Callan Target Date 2035 (Institutional Net)



## Relative Return vs LifePath Index 2035 CB



## Callan Target Date 2035 (Institutional Net) Annualized Five Year Risk vs Return

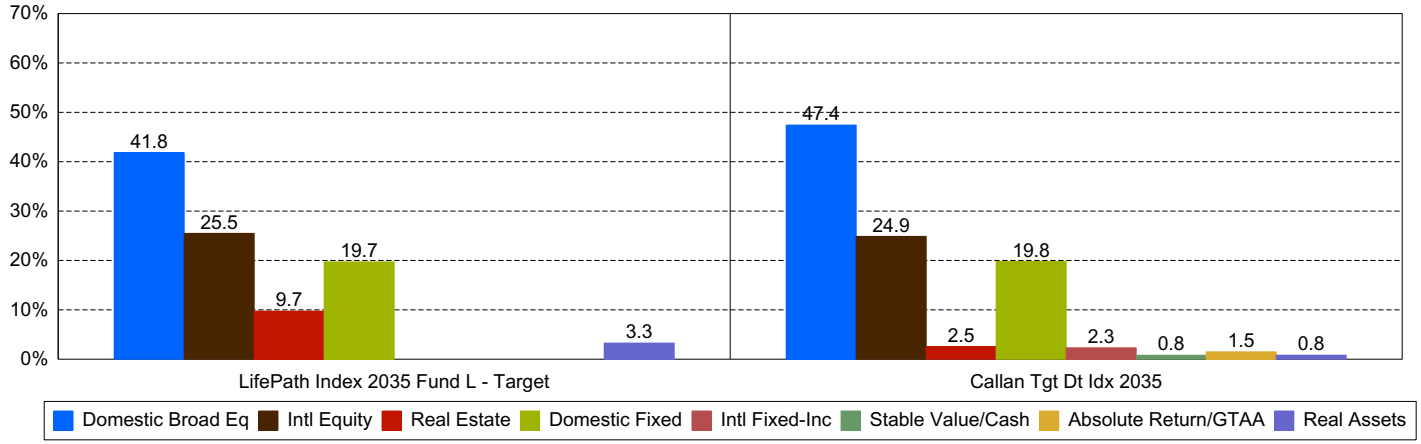


# LifePath Index 2035 Fund L

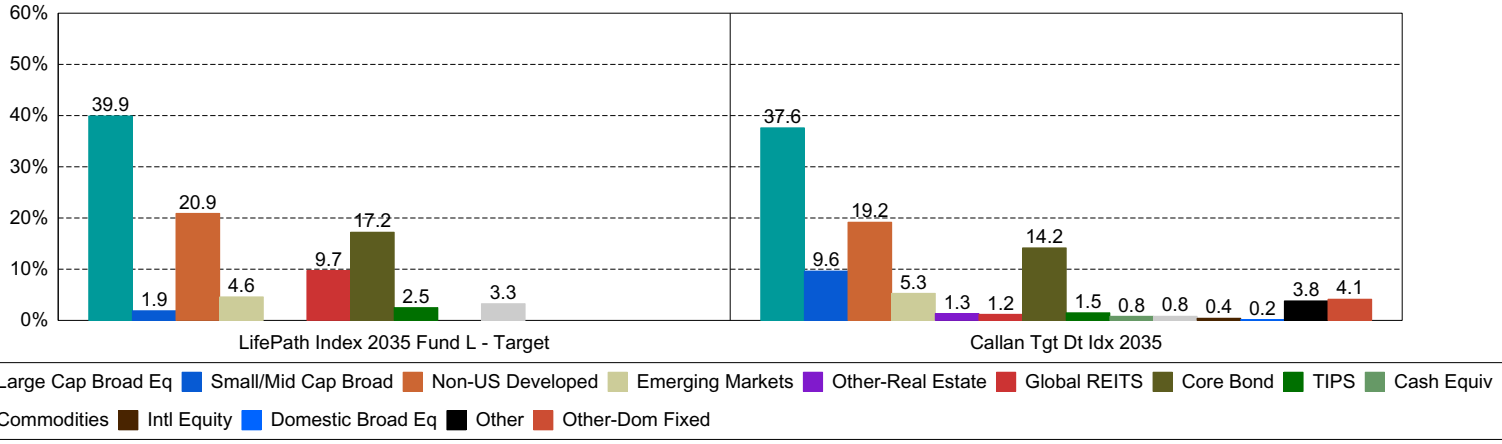
## Target Date Fund Asset Allocation as of September 30, 2019

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

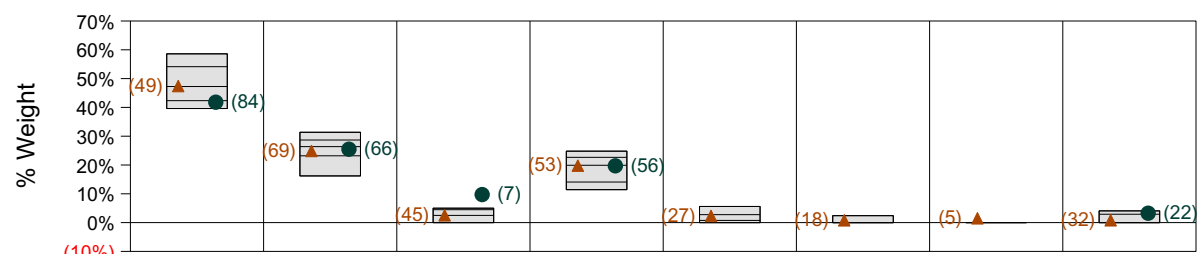
### Macro-Level Asset Allocation



### Micro-Level Asset Allocation



### Macro Asset Allocation Rankings vs. Callan Target Date 2035



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	58.60	31.36	5.00	24.80	5.60	2.41	0.00	4.07
25th Percentile	54.14	28.68	4.48	22.66	2.76	0.00	0.00	2.91
Median	47.25	26.38	2.50	19.90	0.76	0.00	0.00	0.00
75th Percentile	42.34	23.20	0.00	14.08	0.00	0.00	0.00	0.00
90th Percentile	39.61	16.20	0.00	11.44	0.00	0.00	0.00	0.00
<b>LifePath Index 2035 Fund L - Target</b>	● 41.81	25.48	9.74	19.71	-	-	-	3.26
<b>Callan Tgt Dt Idx 2035</b>	▲ 47.41	24.87	2.53	19.78	2.31	0.80	1.49	0.80

# LifePath Index 2040 Fund L Period Ended September 30, 2019

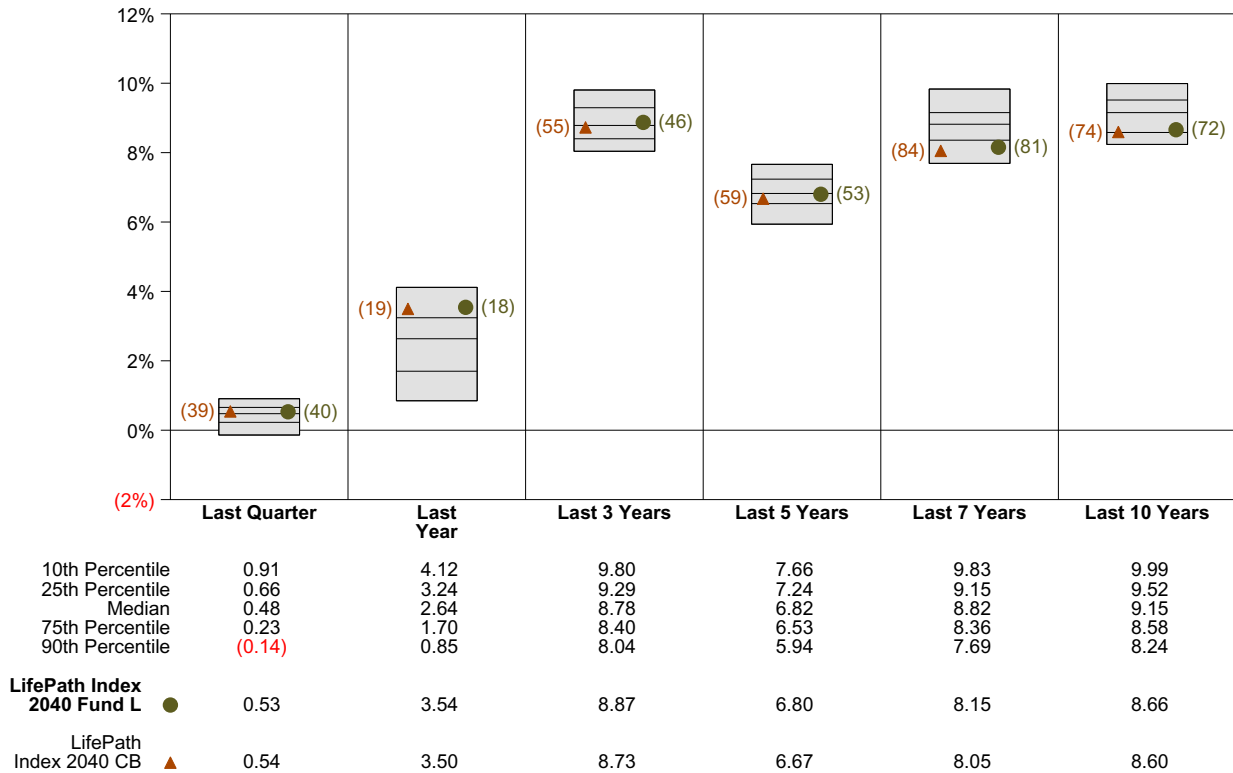
## Investment Philosophy

LifePath Index 2040 Portfolio seeks to maximize return consistent with the quantitatively measured risk that investors planning to retire (or begin to withdraw substantial portions of their investment) approximately in the year 2040 may be willing to accept. BlackRock LifePath Funds changed from Q class to L class on 10/26/17.

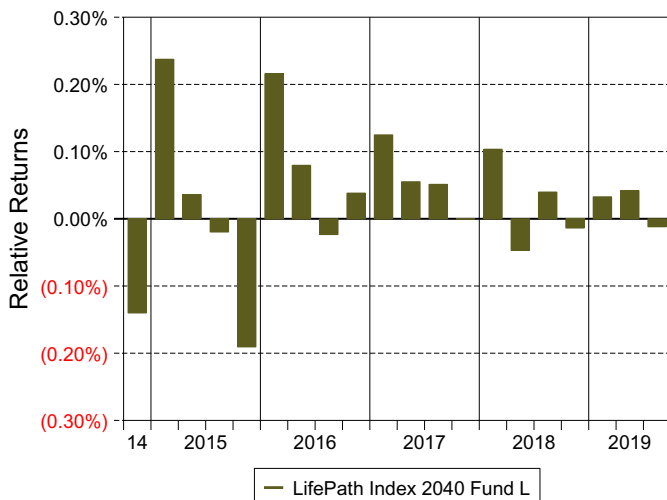
## Quarterly Summary and Highlights

- LifePath Index 2040 Fund L's portfolio posted a 0.53% return for the quarter placing it in the 40 percentile of the Callan Target Date 2040 group for the quarter and in the 18 percentile for the last year.
- LifePath Index 2040 Fund L's portfolio underperformed the LifePath Index 2040 CB by 0.01% for the quarter and outperformed the LifePath Index 2040 CB for the year by 0.04%.

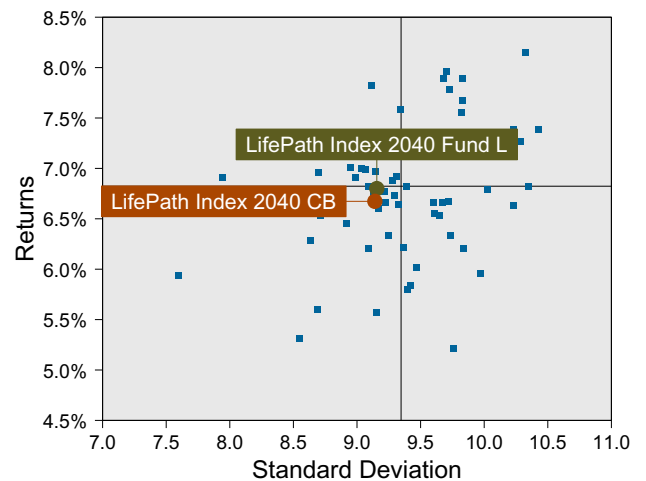
## Performance vs Callan Target Date 2040 (Institutional Net)



## Relative Return vs LifePath Index 2040 CB



## Callan Target Date 2040 (Institutional Net) Annualized Five Year Risk vs Return

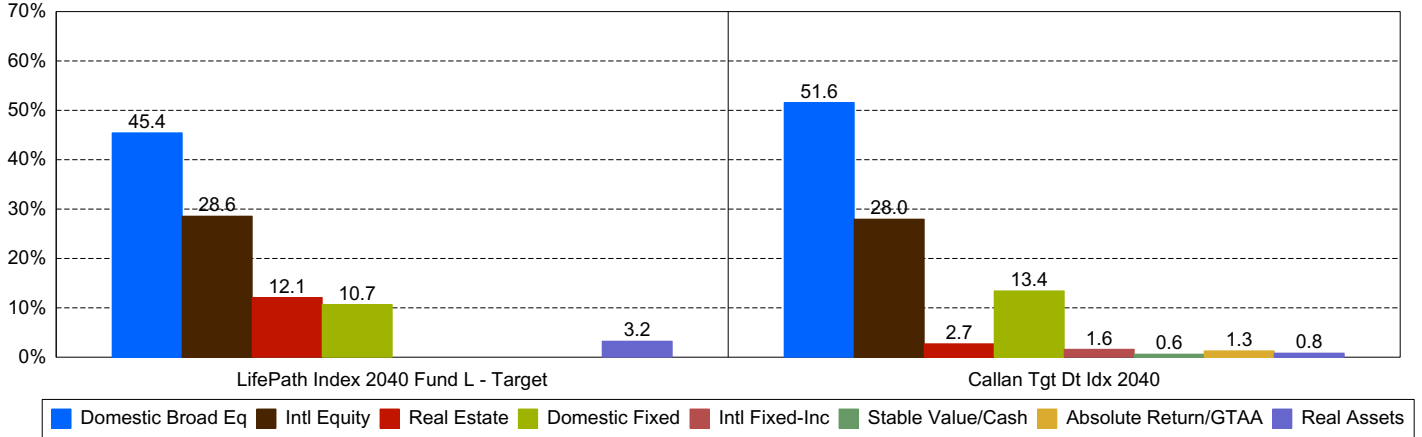


# LifePath Index 2040 Fund L

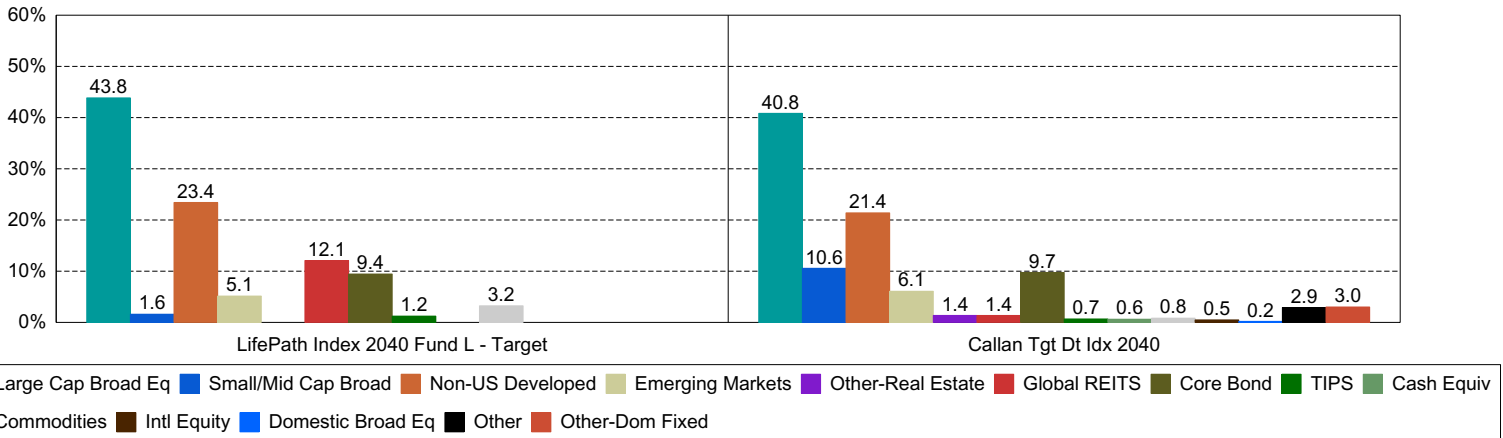
## Target Date Fund Asset Allocation as of September 30, 2019

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

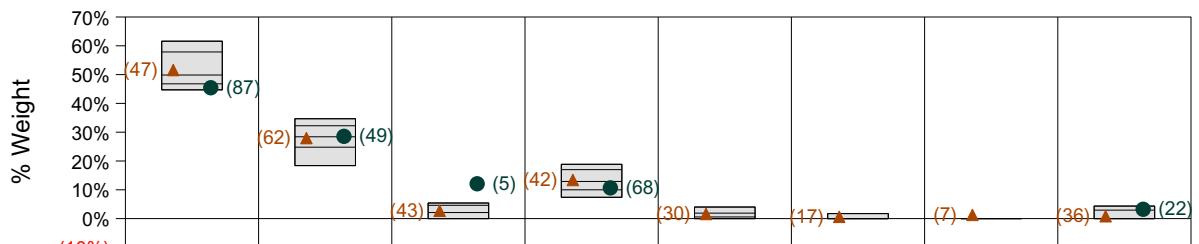
### Macro-Level Asset Allocation



### Micro-Level Asset Allocation



### Macro Asset Allocation Rankings vs. Callan Target Date 2040



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	61.60	34.67	5.42	18.85	4.02	1.74	0.00	4.35
25th Percentile	57.86	32.24	4.62	17.00	1.89	0.00	0.00	2.93
Median	49.85	28.40	2.10	12.89	0.57	0.00	0.00	0.00
75th Percentile	46.80	24.80	0.00	10.00	0.00	0.00	0.00	0.00
90th Percentile	44.70	18.40	0.00	7.40	0.00	0.00	0.00	0.00
<b>LifePath Index 2040 Fund L - Target</b>	● 45.44	28.56	12.09	10.67	-	-	-	3.24
Callan Tgt Dt Idx 2040	▲ 51.59	27.95	2.71	13.42	1.60	0.62	1.29	0.82

# LifePath Index 2045 Fund L Period Ended September 30, 2019

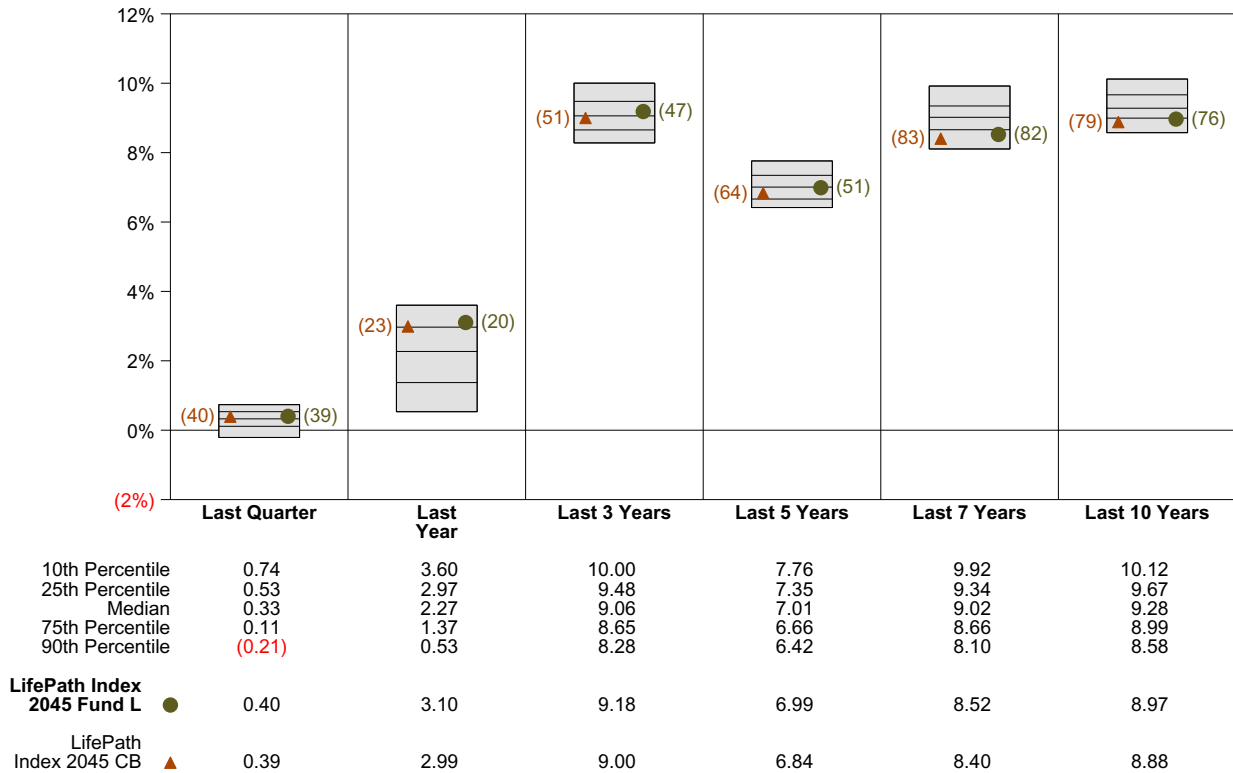
## Investment Philosophy

LifePath Index 2045 Portfolio seeks to maximize return consistent with the quantitatively measured risk that investors planning to retire (or begin to withdraw substantial portions of their investment) approximately in the year 2045 may be willing to accept. BlackRock LifePath Funds changed from Q class to L class on 10/26/17.

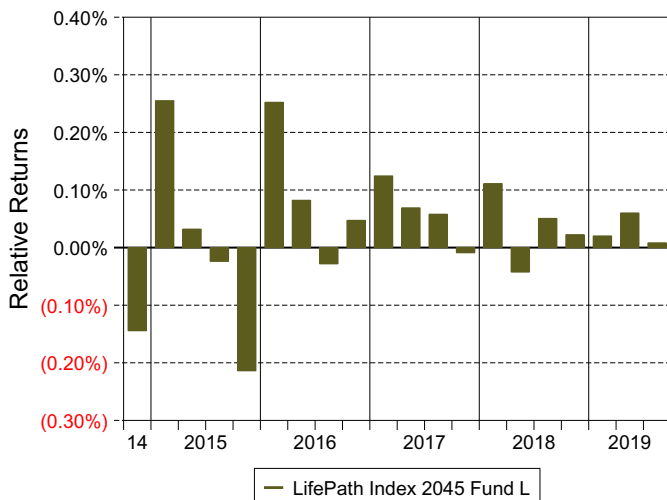
## Quarterly Summary and Highlights

- LifePath Index 2045 Fund L's portfolio posted a 0.40% return for the quarter placing it in the 39 percentile of the Callan Target Date 2045 group for the quarter and in the 20 percentile for the last year.
- LifePath Index 2045 Fund L's portfolio outperformed the LifePath Index 2045 CB by 0.01% for the quarter and outperformed the LifePath Index 2045 CB for the year by 0.11%.

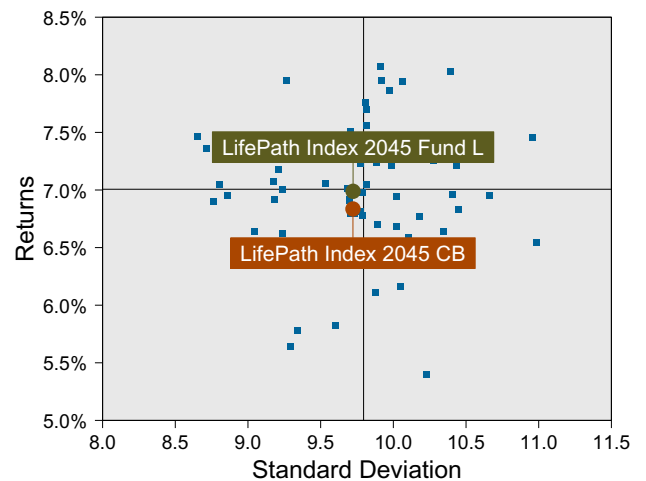
## Performance vs Callan Target Date 2045 (Institutional Net)



## Relative Return vs LifePath Index 2045 CB



## Callan Target Date 2045 (Institutional Net) Annualized Five Year Risk vs Return

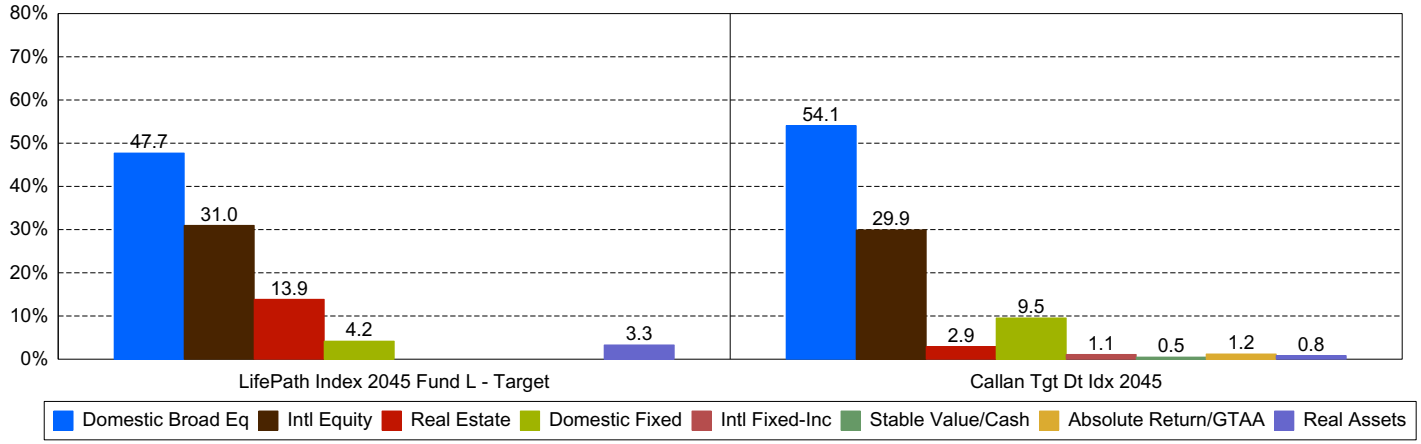


# LifePath Index 2045 Fund L

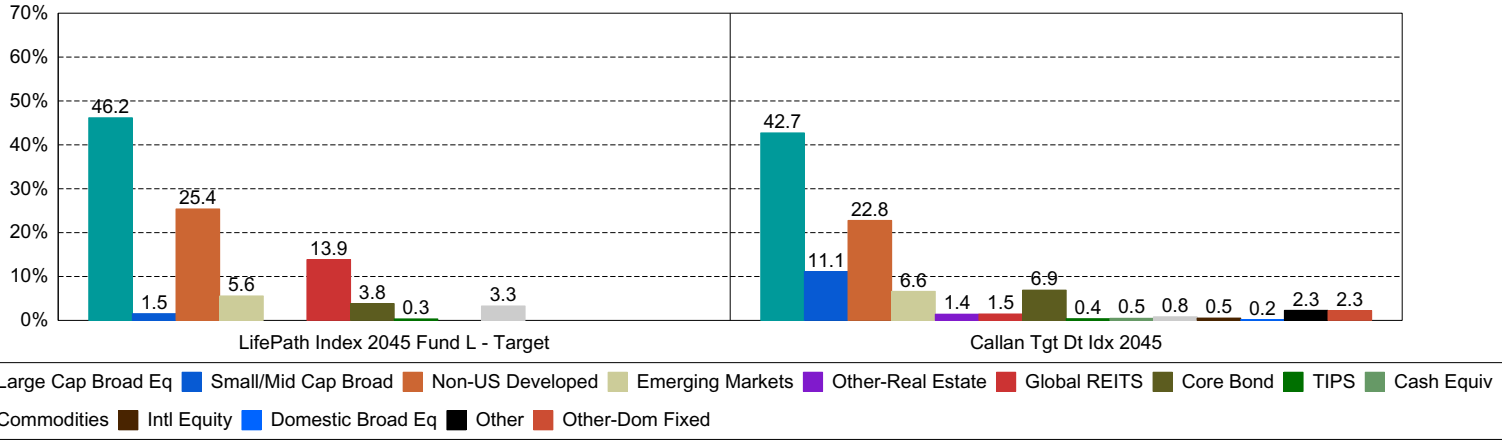
## Target Date Fund Asset Allocation as of September 30, 2019

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

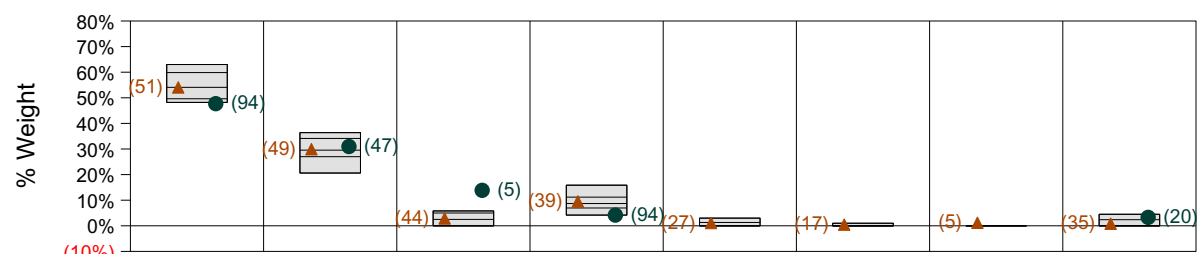
### Macro-Level Asset Allocation



### Micro-Level Asset Allocation



### Macro Asset Allocation Rankings vs. Callan Target Date 2045



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	63.00	36.40	5.81	15.87	3.00	1.00	0.00	4.50
25th Percentile	59.85	34.12	5.00	11.20	1.30	0.00	0.00	2.38
Median	54.08	29.55	2.50	8.70	0.00	0.00	0.00	0.00
75th Percentile	49.62	27.00	0.00	6.96	0.00	0.00	0.00	0.00
90th Percentile	48.20	20.60	0.00	4.17	0.00	0.00	0.00	0.00
<b>LifePath Index 2045 Fund L - Target</b>	● 47.71	30.97	13.86	4.17	-	-	-	3.29
<b>Callan Tgt Dt Idx 2045</b>	▲ 54.06	29.92	2.87	9.54	1.09	0.48	1.20	0.83



# LifePath Index 2050 Fund L Period Ended September 30, 2019

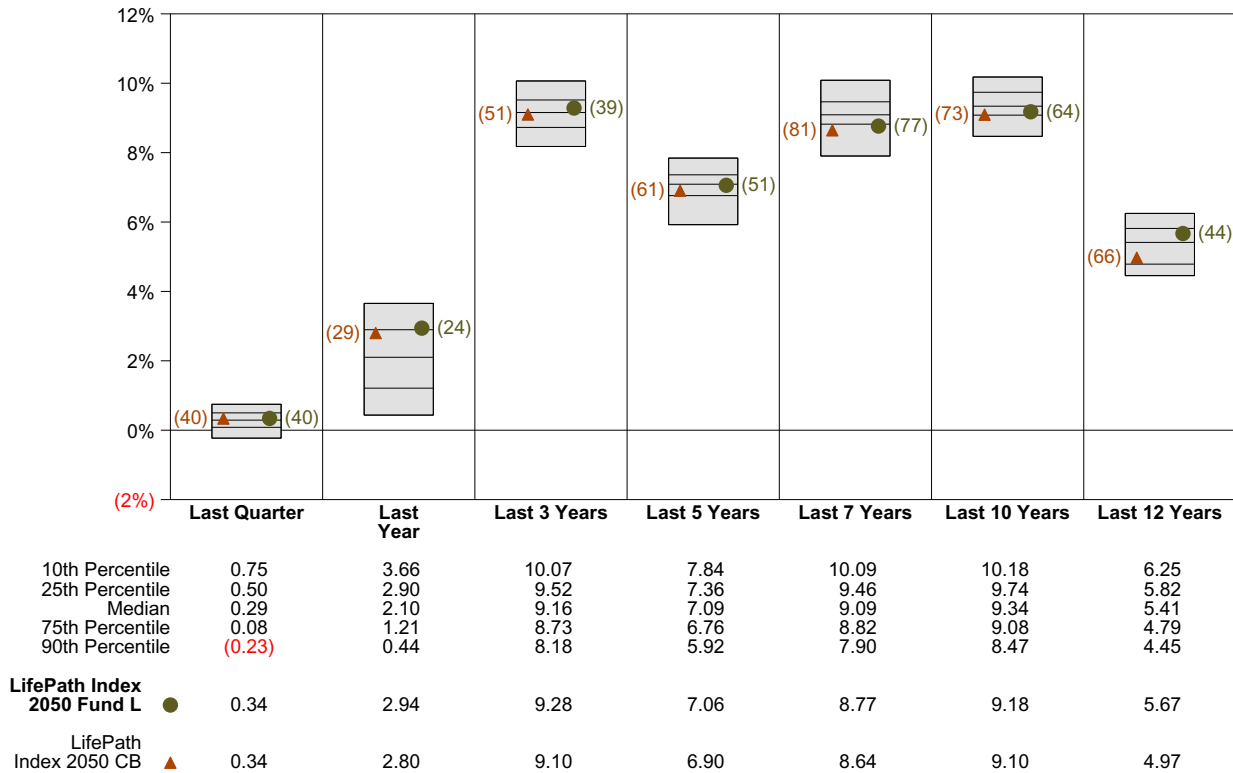
## Investment Philosophy

LifePath Index 2050 Portfolio seeks to maximize return consistent with the quantitatively measured risk that investors planning to retire (or begin to withdraw substantial portions of their investment) approximately in the year 2050 may be willing to accept. BlackRock LifePath Funds changed from Q class to L class on 10/26/17.

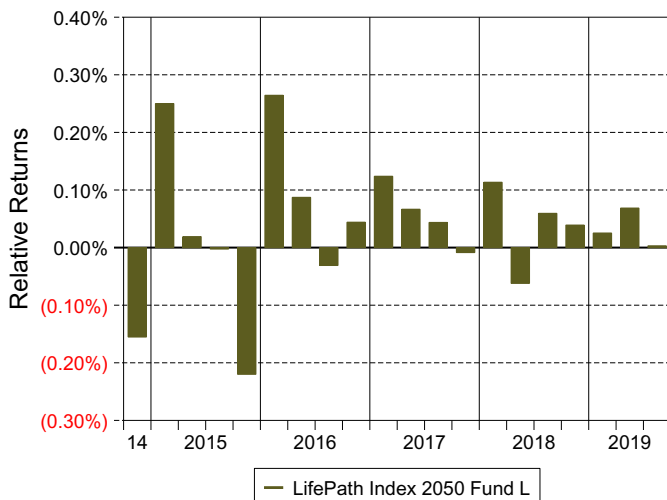
## Quarterly Summary and Highlights

- LifePath Index 2050 Fund L's portfolio posted a 0.34% return for the quarter placing it in the 40 percentile of the Callan Target Date 2050 group for the quarter and in the 24 percentile for the last year.
- LifePath Index 2050 Fund L's portfolio outperformed the LifePath Index 2050 CB by 0.00% for the quarter and outperformed the LifePath Index 2050 CB for the year by 0.14%.

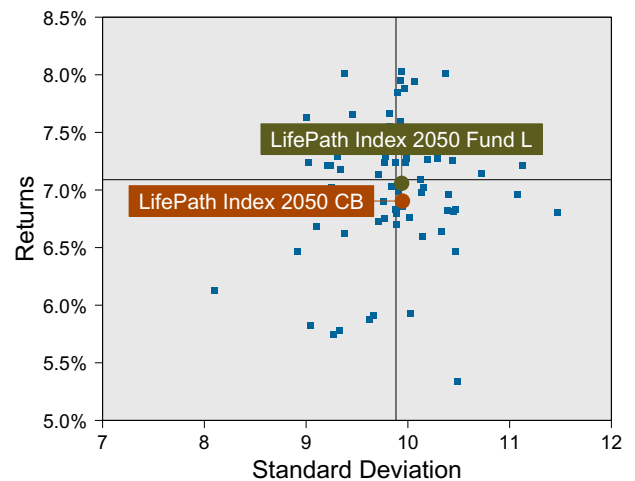
## Performance vs Callan Target Date 2050 (Institutional Net)



## Relative Return vs LifePath Index 2050 CB



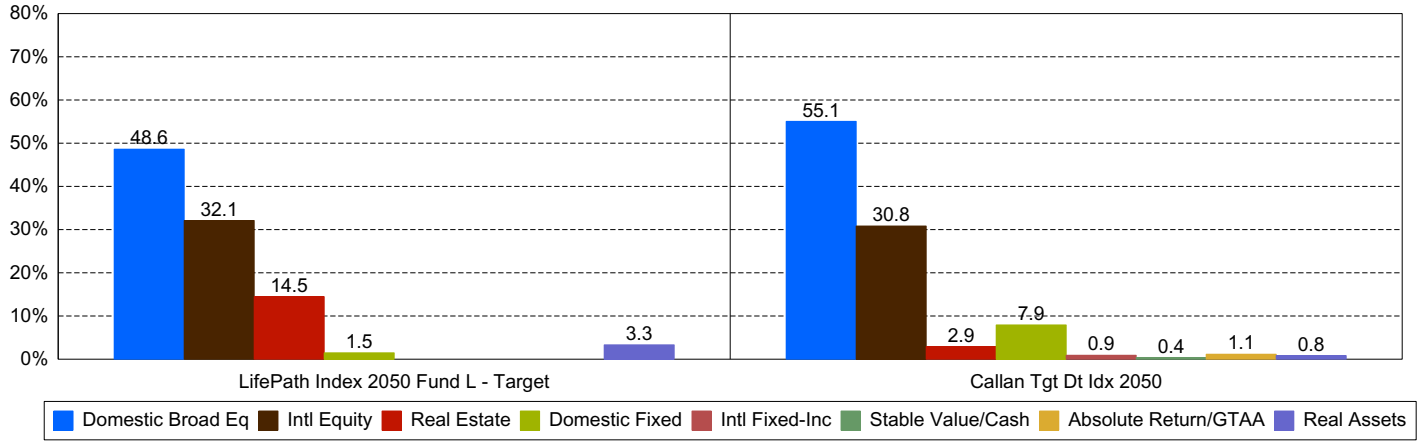
## Callan Target Date 2050 (Institutional Net) Annualized Five Year Risk vs Return



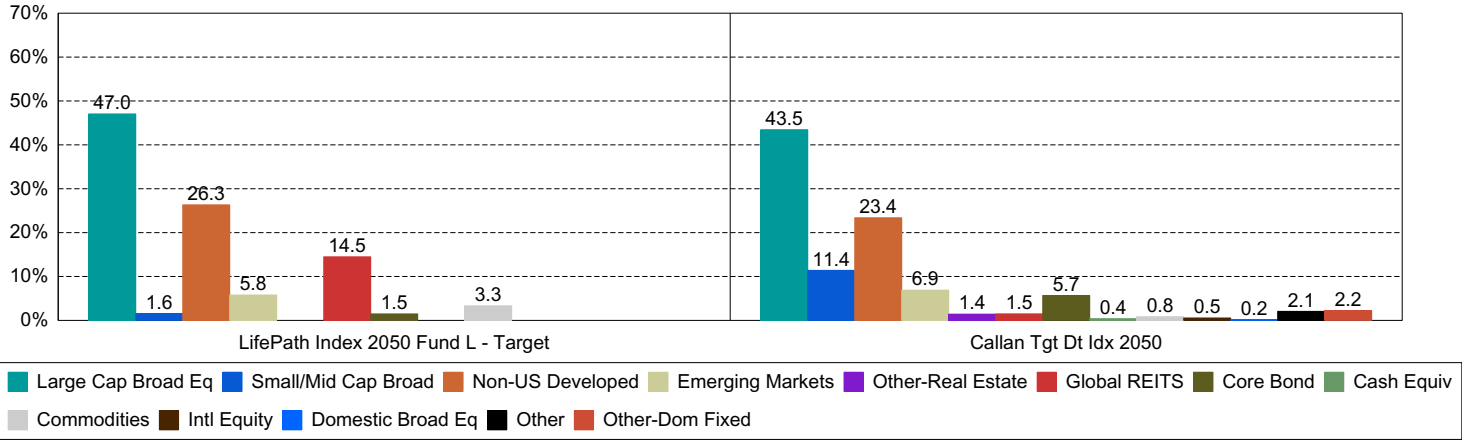
# LifePath Index 2050 Fund L Target Date Fund Asset Allocation as of September 30, 2019

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

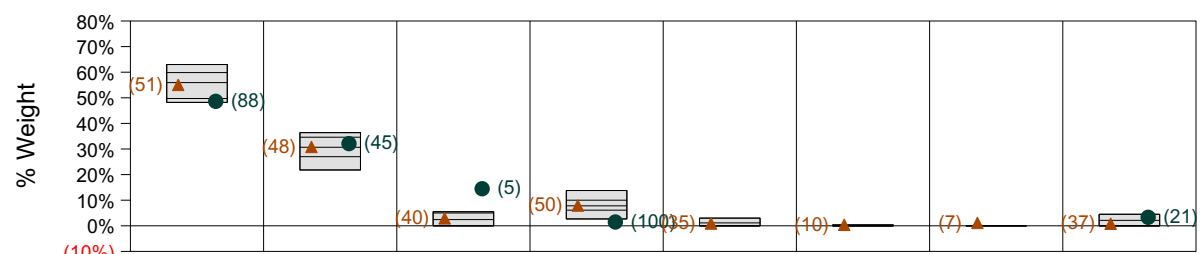
## Macro-Level Asset Allocation



## Micro-Level Asset Allocation



## Macro Asset Allocation Rankings vs. Callan Target Date 2050



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	63.00	36.40	5.49	13.78	3.00	0.36	0.00	4.50
25th Percentile	59.85	34.60	5.00	10.00	1.14	0.00	0.00	2.12
Median	55.93	30.68	2.43	7.80	0.00	0.00	0.00	0.00
75th Percentile	49.72	27.00	0.00	6.10	0.00	0.00	0.00	0.00
90th Percentile	48.20	21.80	0.00	2.68	0.00	0.00	0.00	0.00
<b>LifePath Index 2050 Fund L - Target</b>	<b>48.61</b>	<b>32.11</b>	<b>14.48</b>	<b>1.47</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.32</b>
<b>Callan Tgt Dt Idx 2050</b>	<b>55.05</b>	<b>30.82</b>	<b>2.92</b>	<b>7.92</b>	<b>0.91</b>	<b>0.40</b>	<b>1.15</b>	<b>0.83</b>

# LifePath Index 2055 Fund L Period Ended September 30, 2019

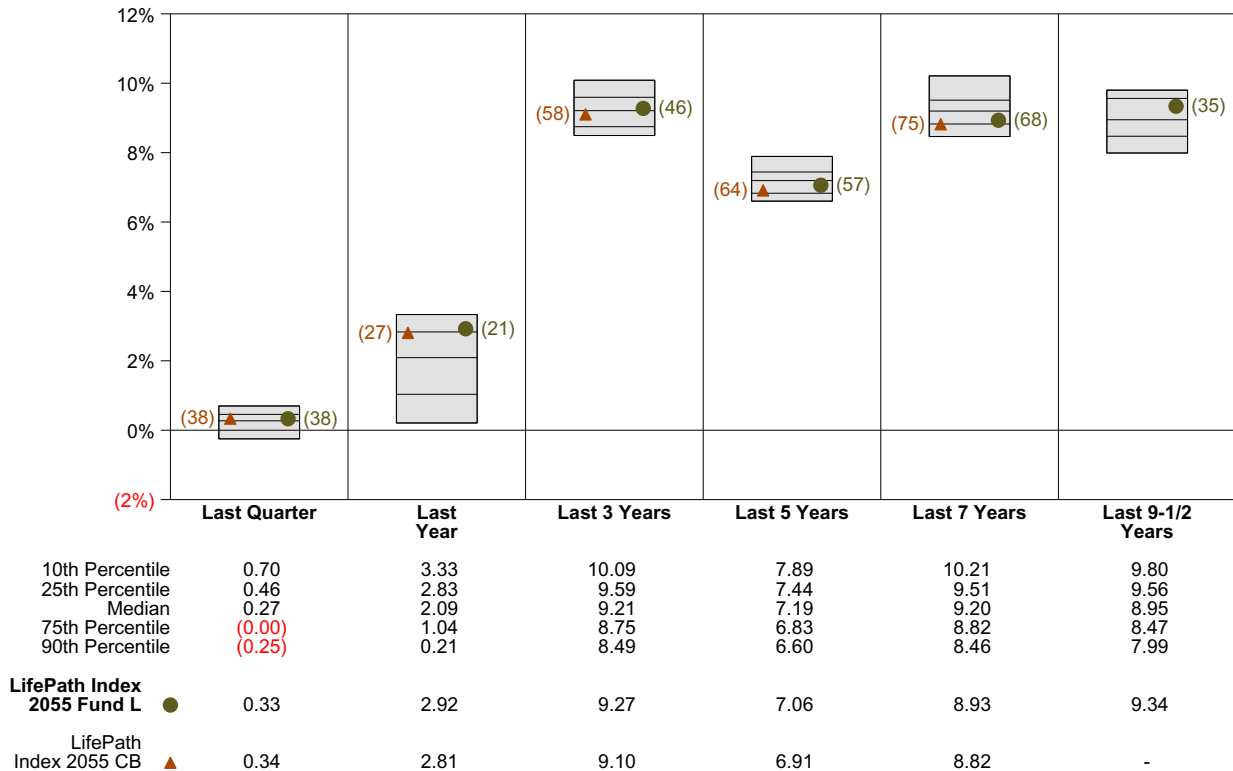
## Investment Philosophy

LifePath Index 2055 Portfolio seeks to maximize return consistent with the quantitatively measured risk that investors planning to retire (or begin to withdraw substantial portions of their investment) approximately in the year 2055 may be willing to accept. BlackRock LifePath Funds changed from Q class to L class on 10/26/17.

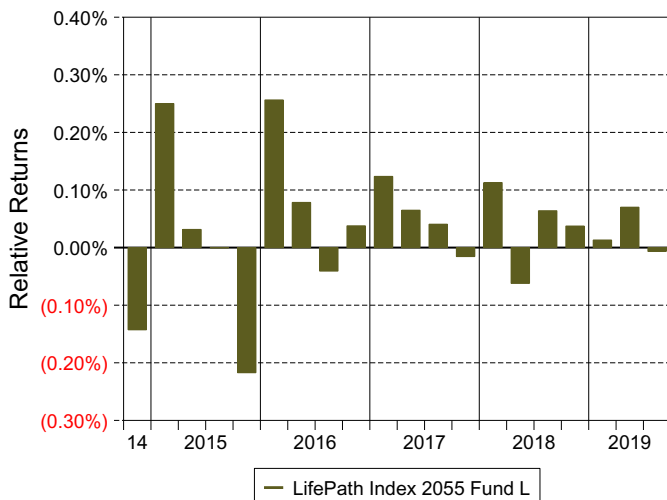
## Quarterly Summary and Highlights

- LifePath Index 2055 Fund L's portfolio posted a 0.33% return for the quarter placing it in the 38 percentile of the Callan Target Date 2055 group for the quarter and in the 21 percentile for the last year.
- LifePath Index 2055 Fund L's portfolio underperformed the LifePath Index 2055 CB by 0.01% for the quarter and outperformed the LifePath Index 2055 CB for the year by 0.12%.

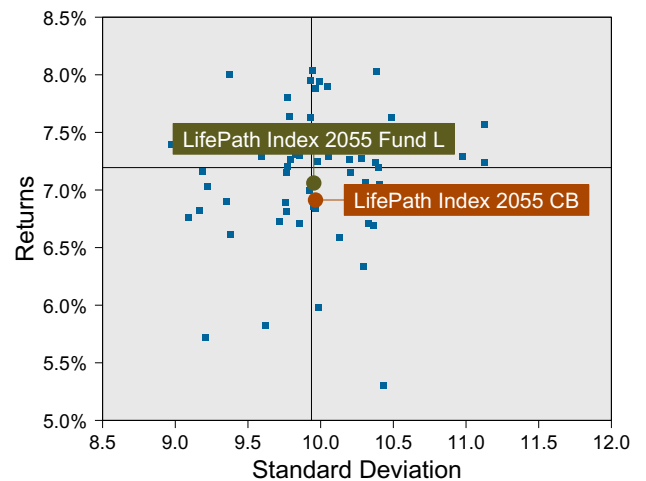
## Performance vs Callan Target Date 2055 (Institutional Net)



## Relative Return vs LifePath Index 2055 CB



## Callan Target Date 2055 (Institutional Net) Annualized Five Year Risk vs Return

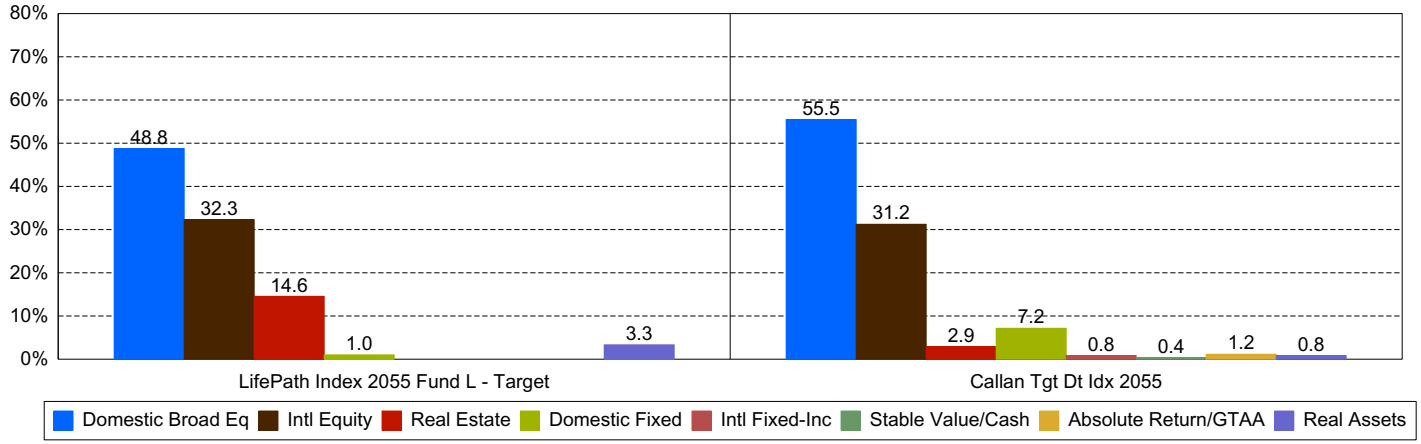


# LifePath Index 2055 Fund L

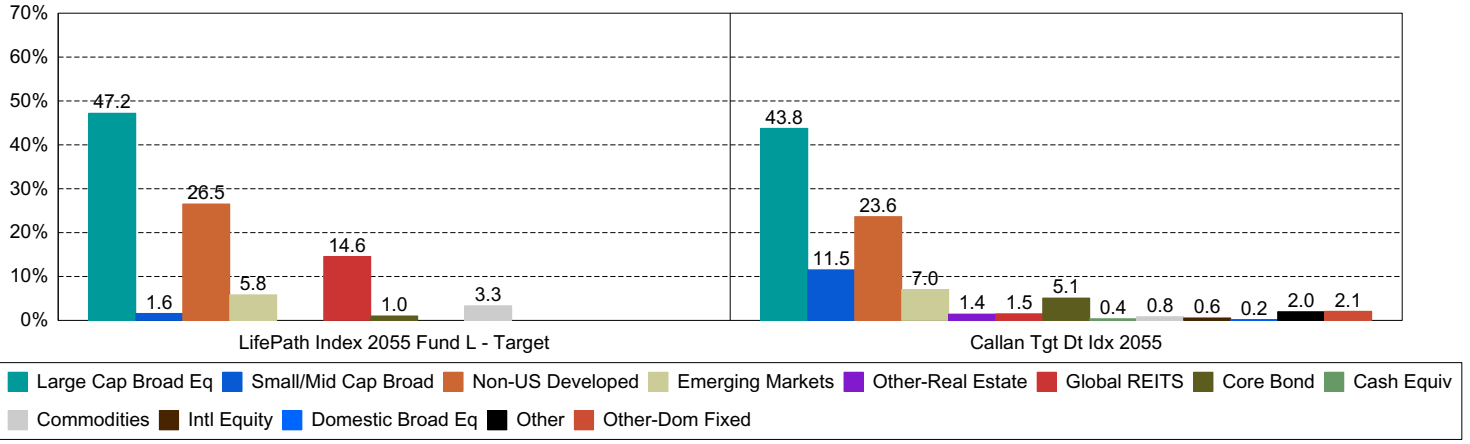
## Target Date Fund Asset Allocation as of September 30, 2019

The charts below illustrate the current target asset allocation of the relevant target date fund based on its underlying glide path and compares it to an index. The top charts compare target asset allocation at a high "macro" asset class level, while the middle charts show a more detailed "micro" level view. The bottom chart compares the current "macro" level target asset allocation, and index, to a relevant peer group of target date funds by ranking the various target asset class weights versus those peer target date funds.

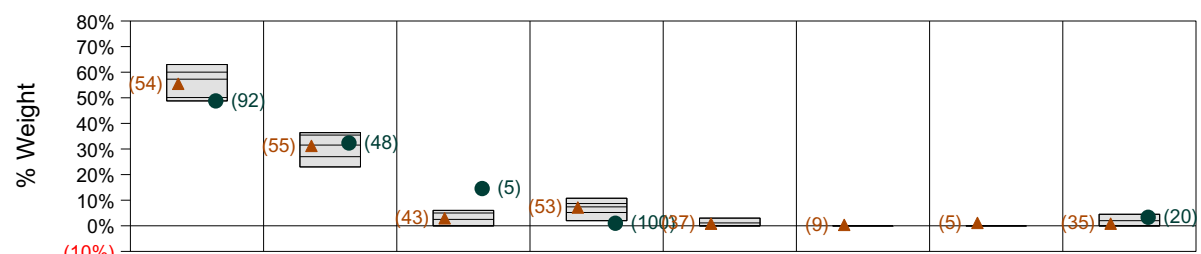
### Macro-Level Asset Allocation



### Micro-Level Asset Allocation



### Macro Asset Allocation Rankings vs. Callan Target Date 2055



	Domestic Broad Eq	Intl Equity	Real Estate	Domestic Fixed	Intl Fixed-Inc	Stable Value/Cash	Absolute Return/GTAA	Real Assets
10th Percentile	63.00	36.40	6.02	10.76	3.00	0.00	0.00	4.50
25th Percentile	60.02	35.43	5.00	8.70	1.13	0.00	0.00	2.00
Median	57.27	31.53	2.50	7.40	0.00	0.00	0.00	0.00
75th Percentile	50.10	27.00	0.00	5.20	0.00	0.00	0.00	0.00
90th Percentile	48.78	23.00	0.00	2.00	0.00	0.00	0.00	0.00
<b>LifePath Index 2055 Fund L - Target</b>	● 48.78	32.34	14.55	1.00	-	-	-	3.33
Callan Tgt Dt Idx 2055	▲ 55.48	31.23	2.93	7.16	0.83	0.37	1.15	0.84

# LifePath Index 2060 Fund L Period Ended September 30, 2019

## Investment Philosophy

LifePath Index 2060 Portfolio seeks to maximize return consistent with the quantitatively measured risk that investors planning to retire (or begin to withdraw substantial portions of their investment) approximately in the year 2060 may be willing to accept. BlackRock LifePath Funds changed from Q class to L class on 10/26/17.

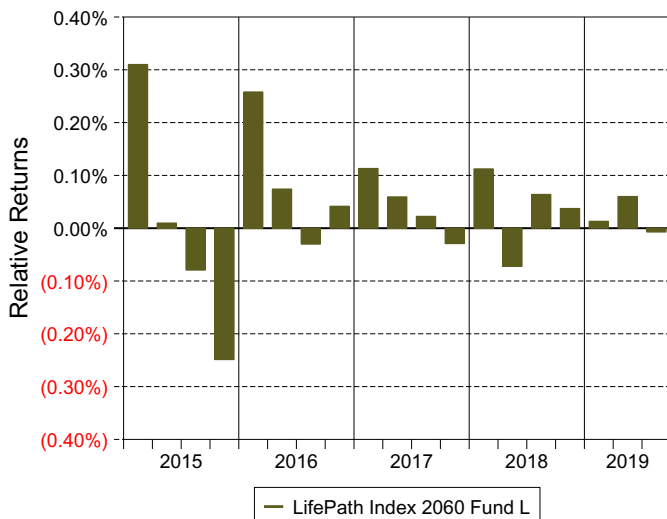
## Quarterly Summary and Highlights

- LifePath Index 2060 Fund L's portfolio posted a 0.33% return for the quarter placing it in the 40 percentile of the Callan Target Date 2060 group for the quarter and in the 23 percentile for the last year.
- LifePath Index 2060 Fund L's portfolio underperformed the LifePath Index 2060 CB by 0.01% for the quarter and outperformed the LifePath Index 2060 CB for the year by 0.11%.

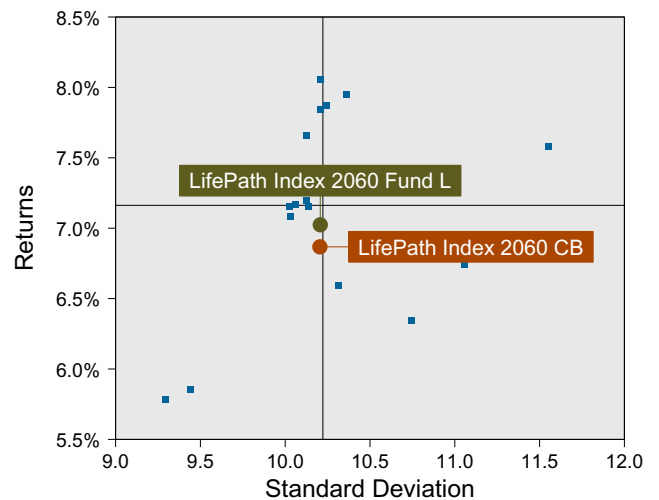
## Performance vs Callan Target Date 2060 (Institutional Net)



## Relative Return vs LifePath Index 2060 CB



## Callan Target Date 2060 (Institutional Net) Annualized Four and Three-Quarter Year Risk vs Return

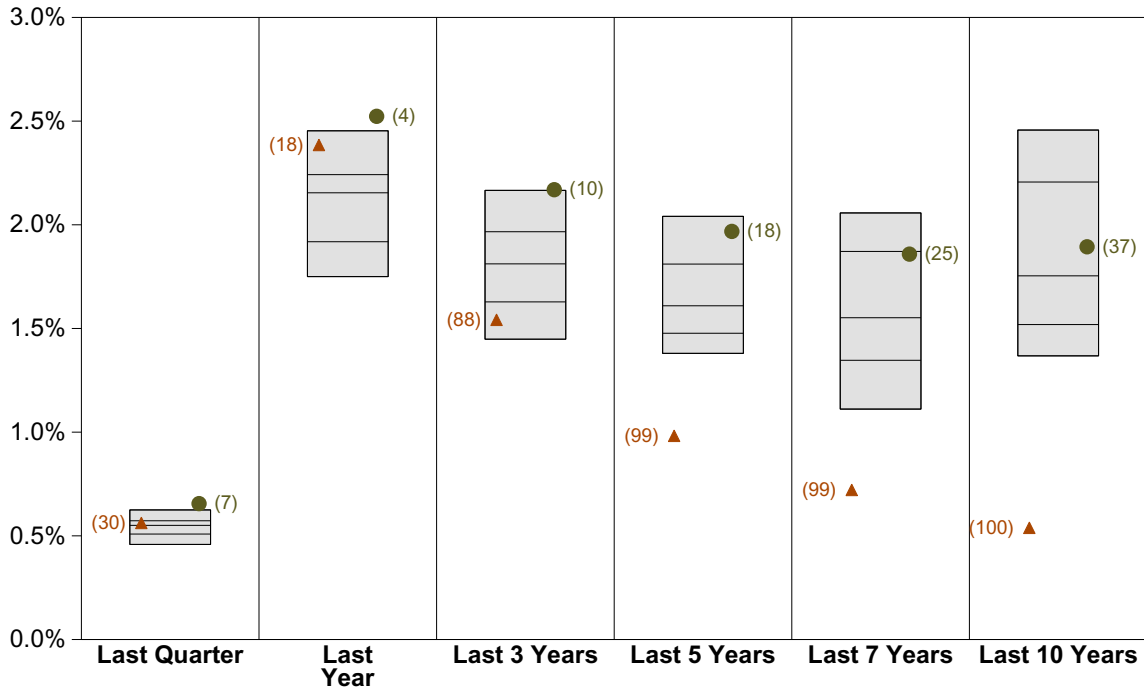


# Stable Value Option Period Ended September 30, 2019

## Quarterly Summary and Highlights

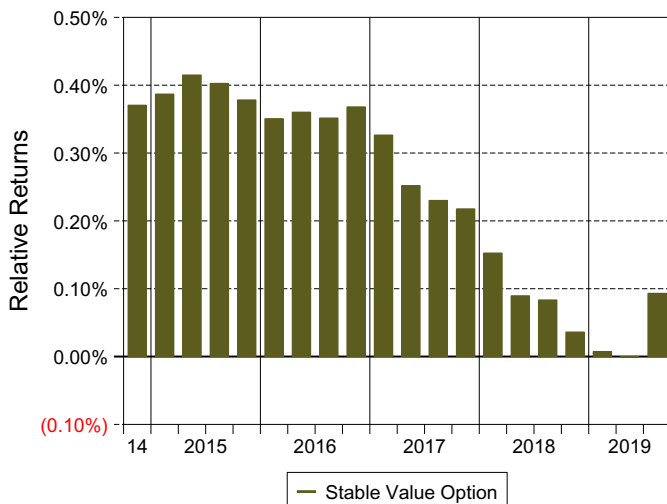
- Stable Value Option's portfolio posted a 0.66% return for the quarter placing it in the 7 percentile of the Callan Stable Value CT group for the quarter and in the 4 percentile for the last year.
- Stable Value Option's portfolio outperformed the 3-month Treasury Bill by 0.09% for the quarter and outperformed the 3-month Treasury Bill for the year by 0.14%.

## Performance vs Callan Stable Value CT (Institutional Net)

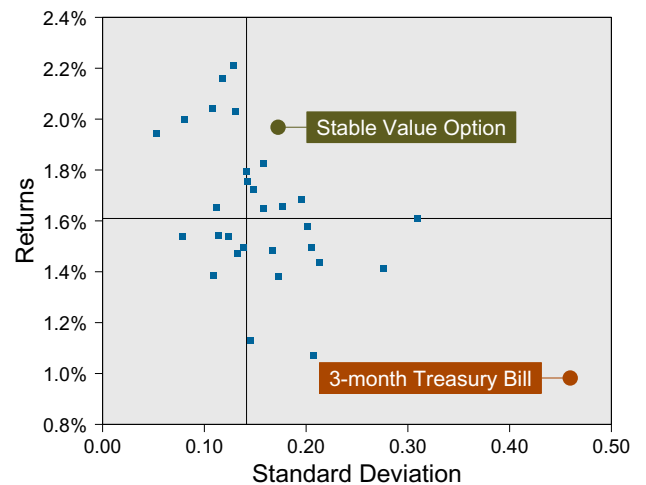


10th Percentile	0.62	2.45	2.17	2.04	2.06	2.46
25th Percentile	0.57	2.24	1.97	1.81	1.87	2.21
Median	0.55	2.15	1.81	1.61	1.55	1.75
75th Percentile	0.51	1.92	1.63	1.48	1.35	1.52
90th Percentile	0.46	1.75	1.45	1.38	1.11	1.37
<b>Stable Value Option</b> ●	0.66	2.52	2.17	1.97	1.86	1.89
3-month Treasury Bill ▲	0.56	2.39	1.54	0.98	0.72	0.54

## Relative Return vs 3-month Treasury Bill



## Callan Stable Value CT (Institutional Net) Annualized Five Year Risk vs Return



# Stable Value Option Return Analysis Summary

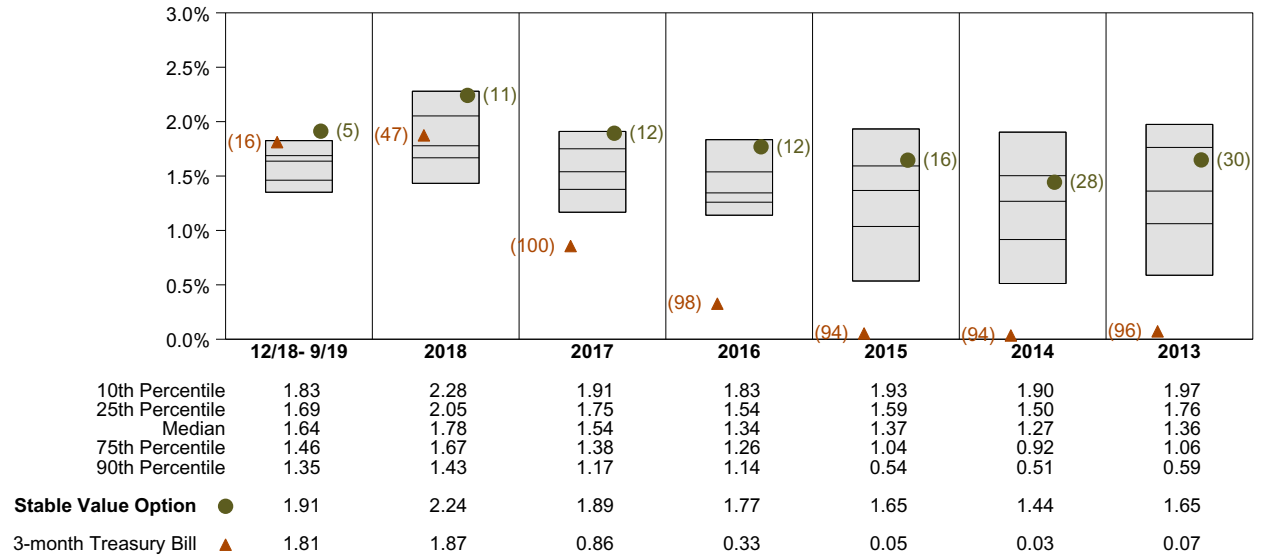
## Return Analysis

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 cumulative manager returns versus the appropriate market benchmark.

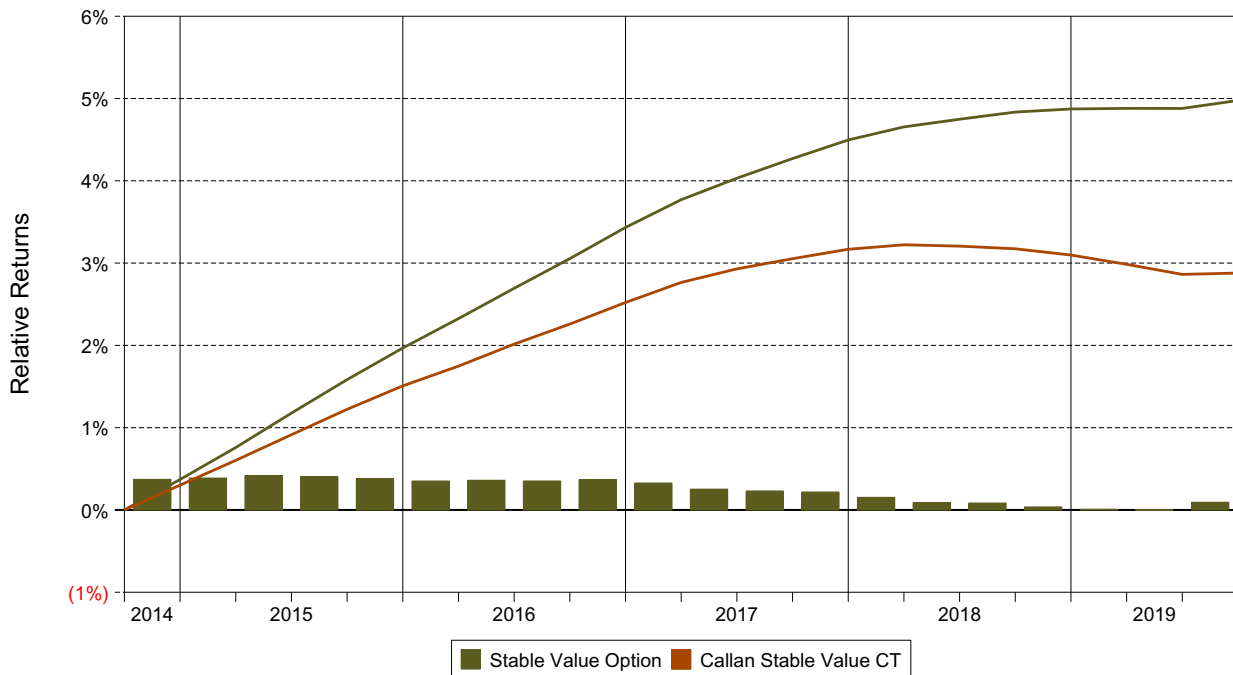
## Risk Adjusted Return Measures vs 3-month Treasury Bill Five Years Ended September 30, 2019

	Alpha	Beta	Tracking Error	Standard Deviation	Sharpe Ratio	Excess Return	Downside Risk
Stable Value Option	0.98%	0.00	0.29	0.17%	5.72	0.99	0.00%

## Performance vs Callan Stable Value CT (Institutional Net)



## Cumulative and Quarterly Relative Return vs 3-month Treasury Bill

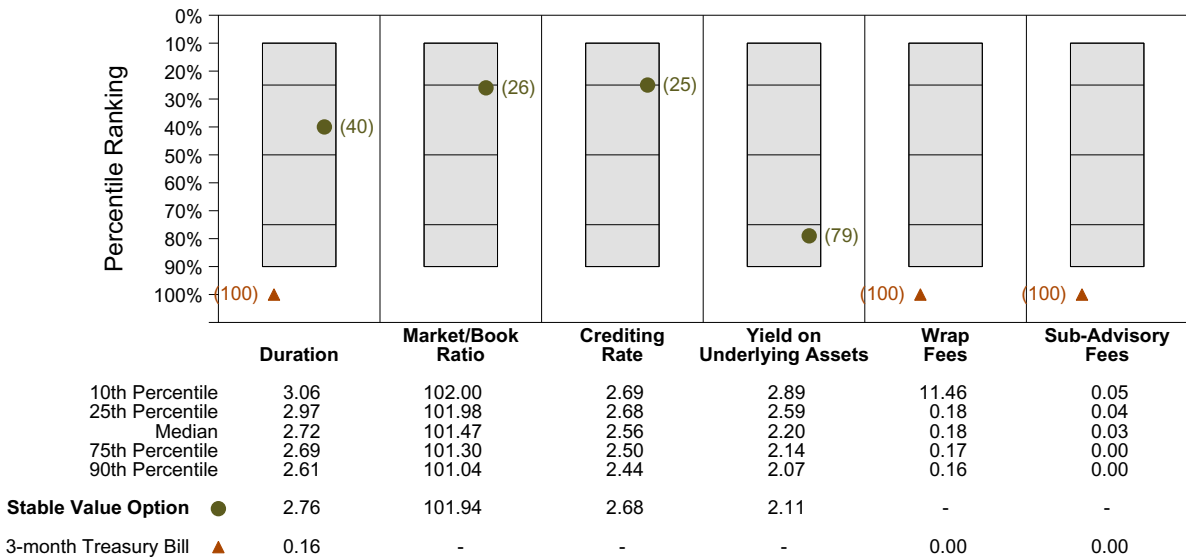


## Stable Value Option Stable Value Characteristics Analysis Summary

### Portfolio Characteristics

This graph compares the stable value fund's portfolio characteristics with the range of characteristics for the portfolios which make up the fund's style group. This analysis illustrates whether the fund's current structure is consistent with other funds employing the same style.

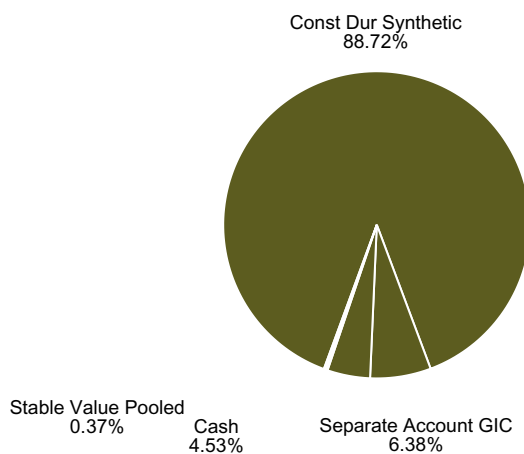
### Portfolio Characteristics Percentile Rankings Rankings Against Callan Stable Value CT as of September 30, 2019



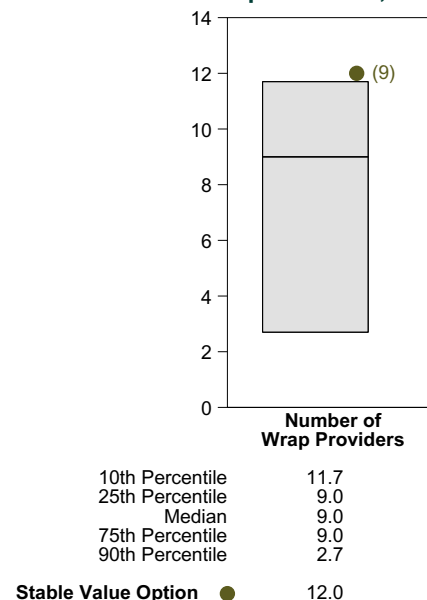
### Wrap Structure and Diversification

The graph below represents the stable value fund's wrap contract structure as of the most recent reporting period. The fund's overall wrap structure may include exposure to constant duration or maturing synthetic GIC contracts, traditional GIC contracts, cash, or other exposures. These contracts allow stable value portfolios to maintain book value accounting practices and a stable net asset value.

#### Portfolio Wrap Exposure September 30, 2019



#### Wrap Contract Diversification September 30, 2019



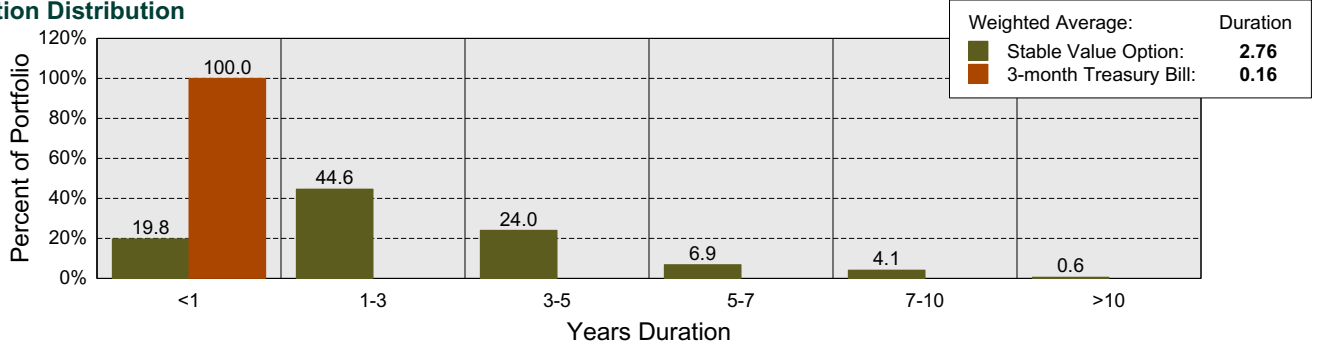


# Stable Value Option Stable Value Portfolio Characteristics Summary As of September 30, 2019

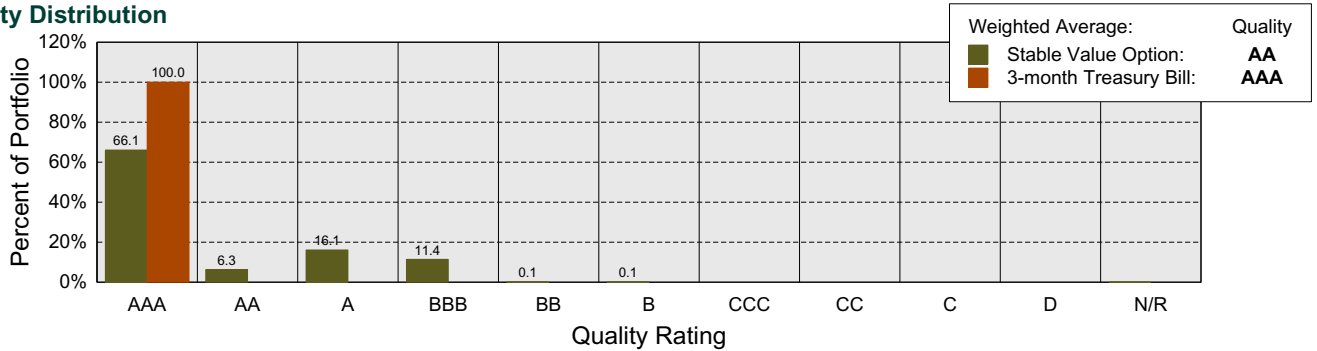
## Portfolio Structure Comparison

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 portfolio's duration distribution versus the benchmark, and the second chart compares the distributions across quality ratings.

### Duration Distribution



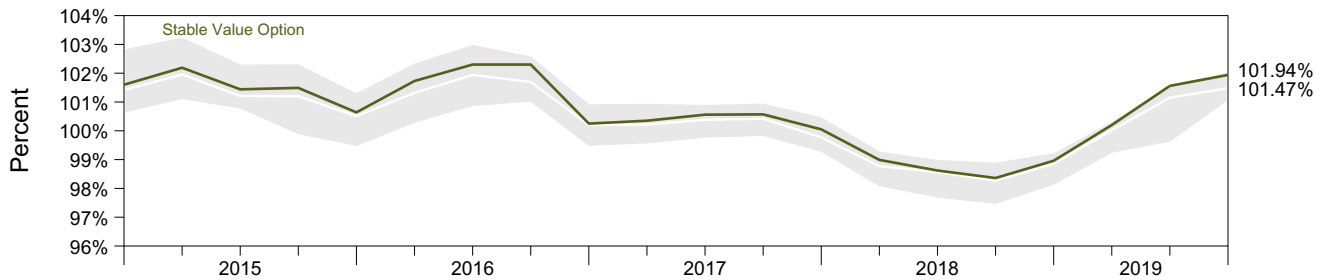
### Quality Distribution



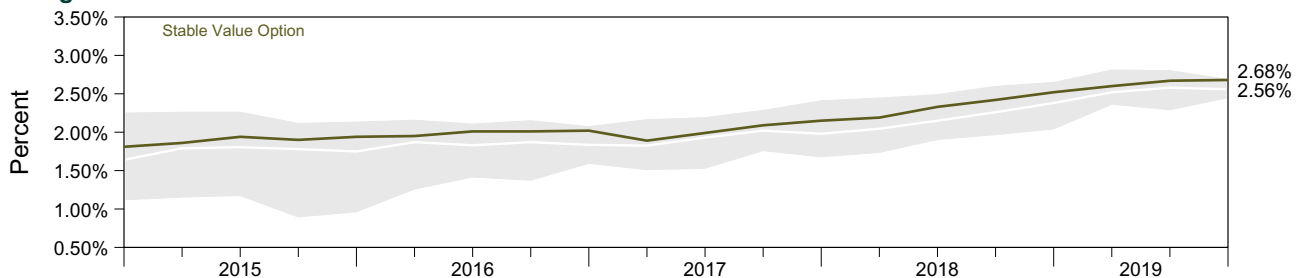
## Market-to-Book Ratio and Crediting Rates Over Time

The market-to-book ratio chart below depicts the historical movement of the stable value portfolio's market-to-book ratio over time. This statistic measures the overall health of the underlying portfolio. Portfolios with market-to-book ratios closer to 100% will be better positioned to absorb flows and should offer greater return stability over time. The crediting rate chart below depicts the historical movement of the stable value portfolio's crediting rate over time. As a backdrop the range (from 10th to 90th percentile) is shown along with a white median line for the Callan Stable Value CT Universe.

### Market-to-Book Ratio



### Crediting Rate

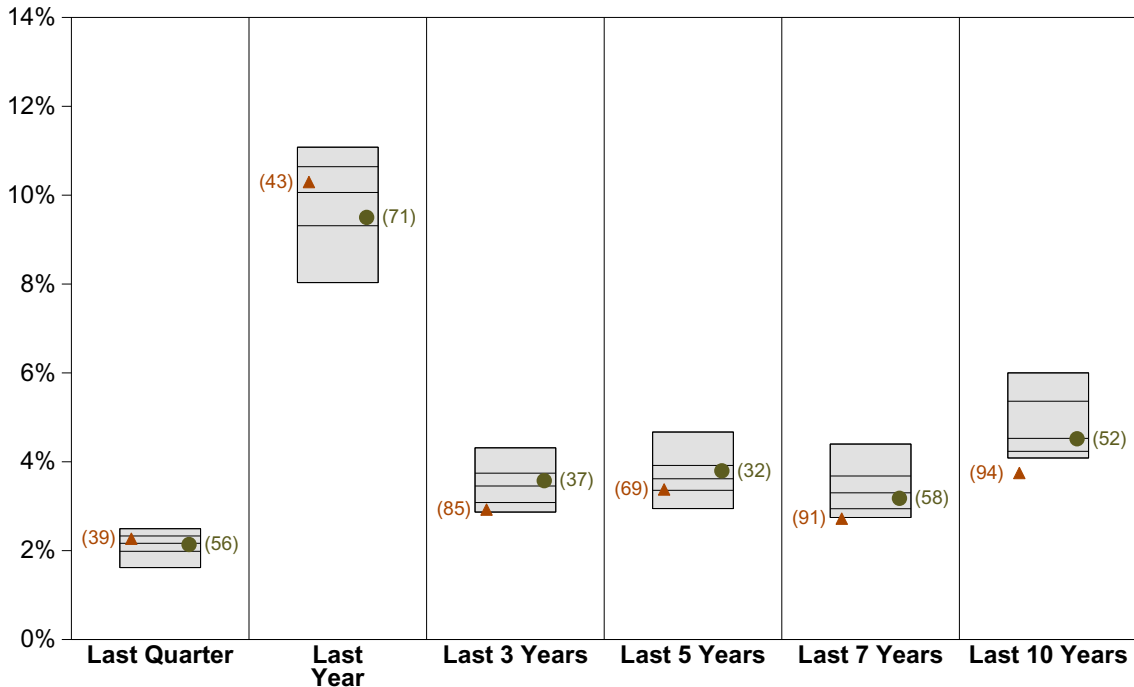


# Active Fixed Income Option Period Ended September 30, 2019

## Quarterly Summary and Highlights

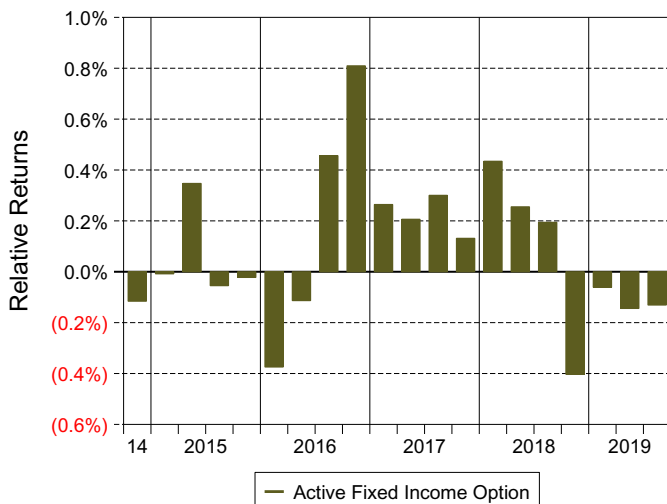
- Active Fixed Income Option's portfolio posted a 2.14% return for the quarter placing it in the 56 percentile of the Callan Core Plus Mutual Funds group for the quarter and in the 71 percentile for the last year.
- Active Fixed Income Option's portfolio underperformed the Bloomberg Aggregate Index by 0.13% for the quarter and underperformed the Bloomberg Aggregate Index for the year by 0.80%.

## Performance vs Callan Core Plus Mutual Funds (Institutional Net)

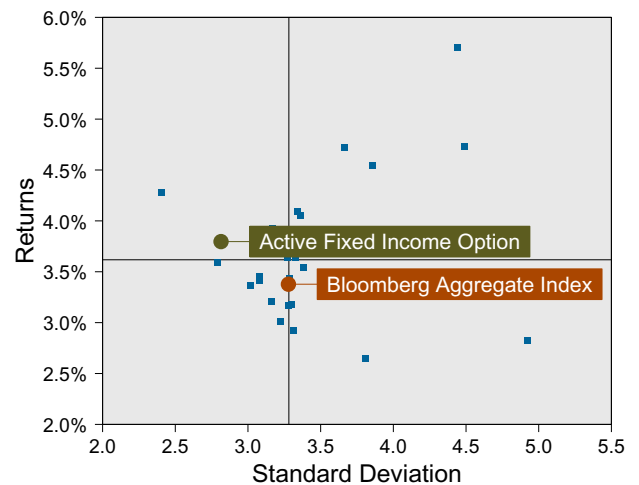


10th Percentile	2.49	11.08	4.31	4.67	4.40	6.00
25th Percentile	2.33	10.64	3.74	3.92	3.68	5.36
Median	2.17	10.06	3.45	3.62	3.30	4.53
75th Percentile	1.99	9.31	3.08	3.36	2.94	4.24
90th Percentile	1.62	8.03	2.87	2.95	2.75	4.09
<b>Active Fixed Income Option</b>	● 2.14	9.50	3.57	3.80	3.18	4.52
<b>Bloomberg Aggregate Index</b>	▲ 2.27	10.30	2.92	3.38	2.72	3.75

## Relative Returns vs Bloomberg Aggregate Index



## Callan Core Plus Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

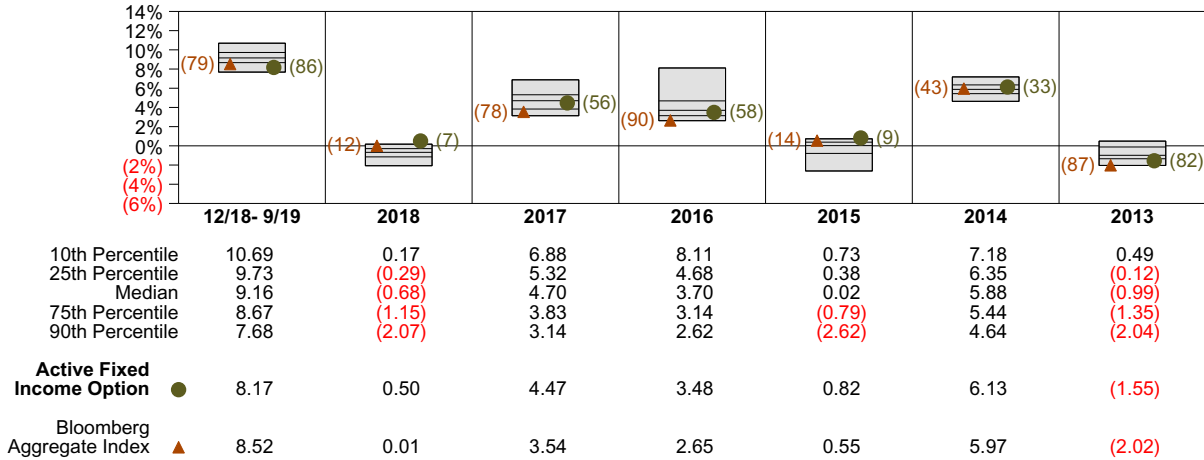


# Active Fixed Income Option Return Analysis Summary

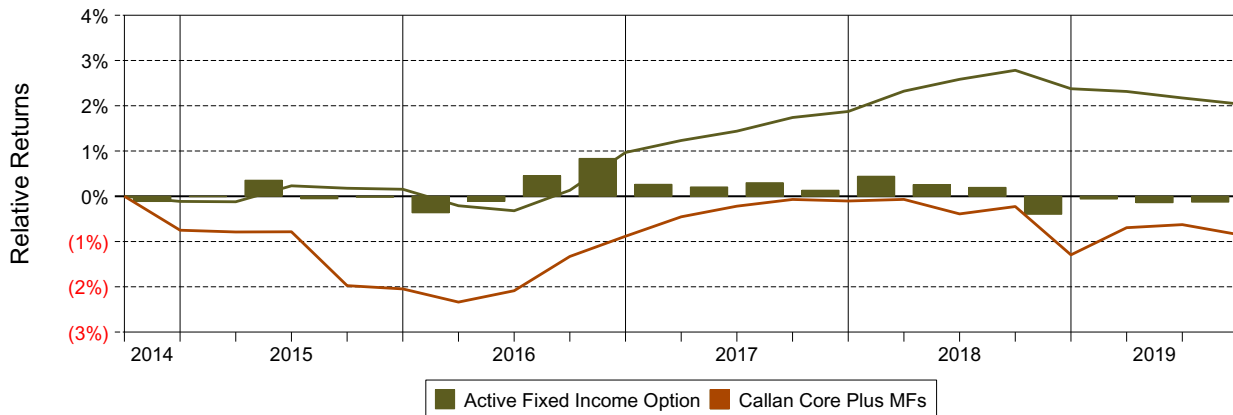
## Return Analysis

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 cumulative 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.

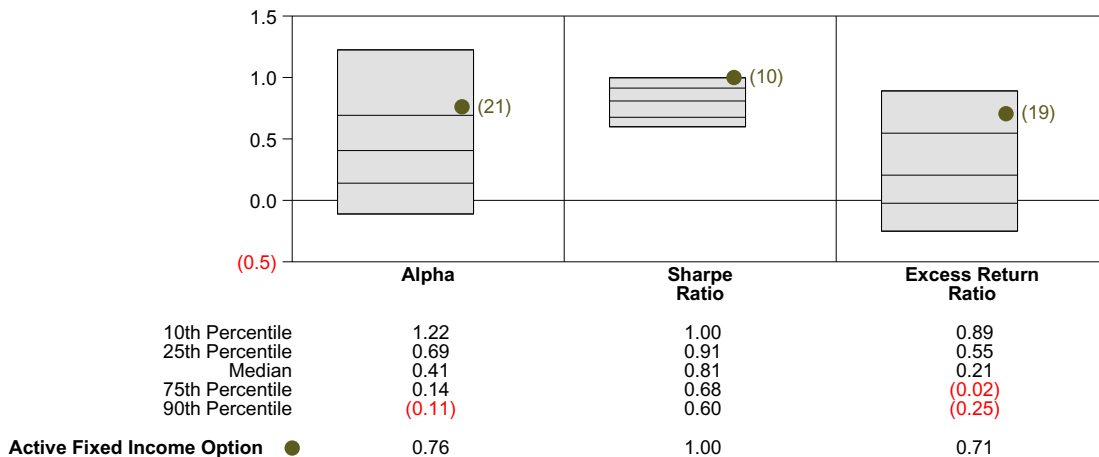
### Performance vs Callan Core Plus Mutual Funds (Institutional Net)



### Cumulative and Quarterly Relative Return vs Bloomberg Aggregate Index



### Risk Adjusted Return Measures vs Bloomberg Aggregate Index Rankings Against Callan Core Plus Mutual Funds (Institutional Net) Five Years Ended September 30, 2019

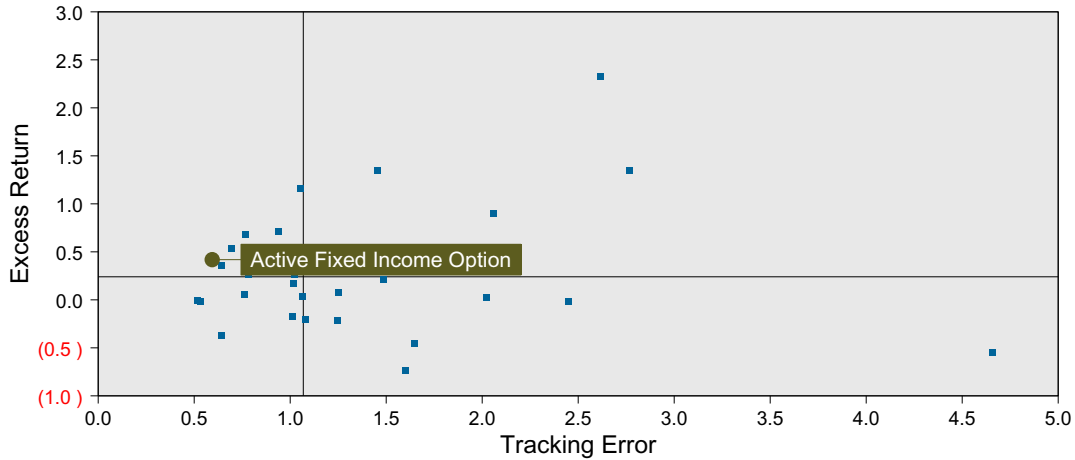


# Active Fixed Income Option Risk Analysis Summary

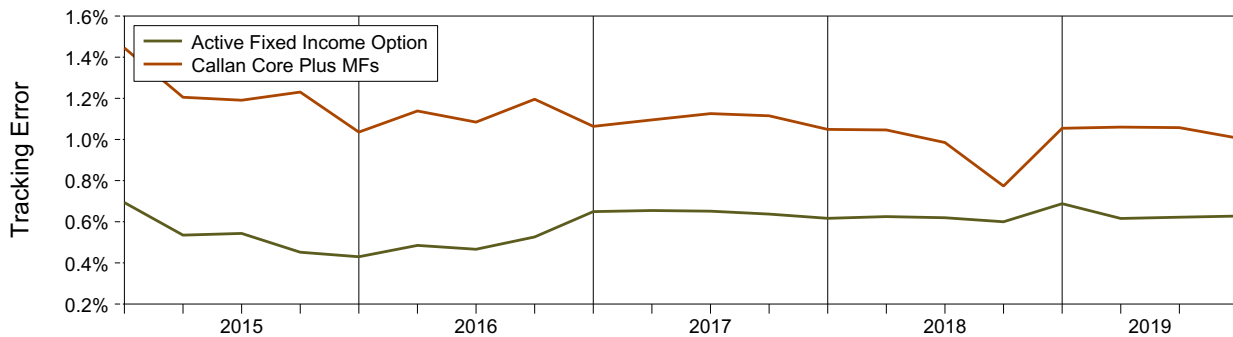
## Risk Analysis

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.

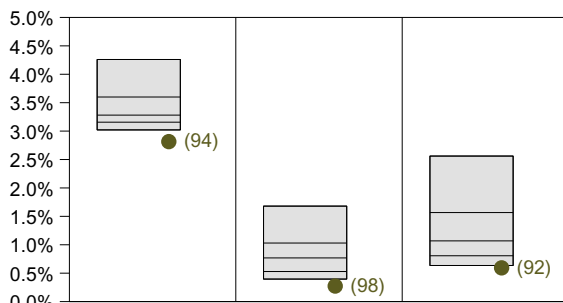
### Risk Analysis vs Callan Core Plus Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



### Rolling 12 Quarter Tracking Error vs Bloomberg Aggregate Index

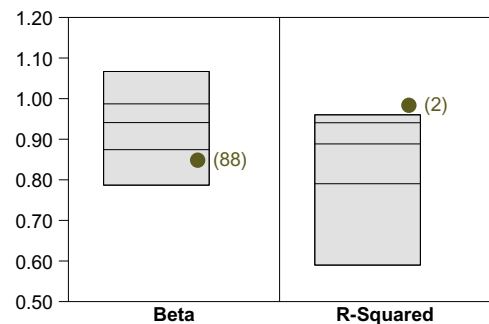


### Risk Statistics Rankings vs Bloomberg Aggregate Index Rankings Against Callan Core Plus Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	4.26	1.68	2.56
25th Percentile	3.60	1.03	1.57
Median	3.28	0.77	1.07
75th Percentile	3.16	0.53	0.81
90th Percentile	3.02	0.40	0.64

**Active Fixed Income Option** ● 2.81 0.27 0.59



	Beta	R-Squared
10th Percentile	1.07	0.96
25th Percentile	0.99	0.94
Median	0.94	0.89
75th Percentile	0.87	0.79
90th Percentile	0.79	0.59

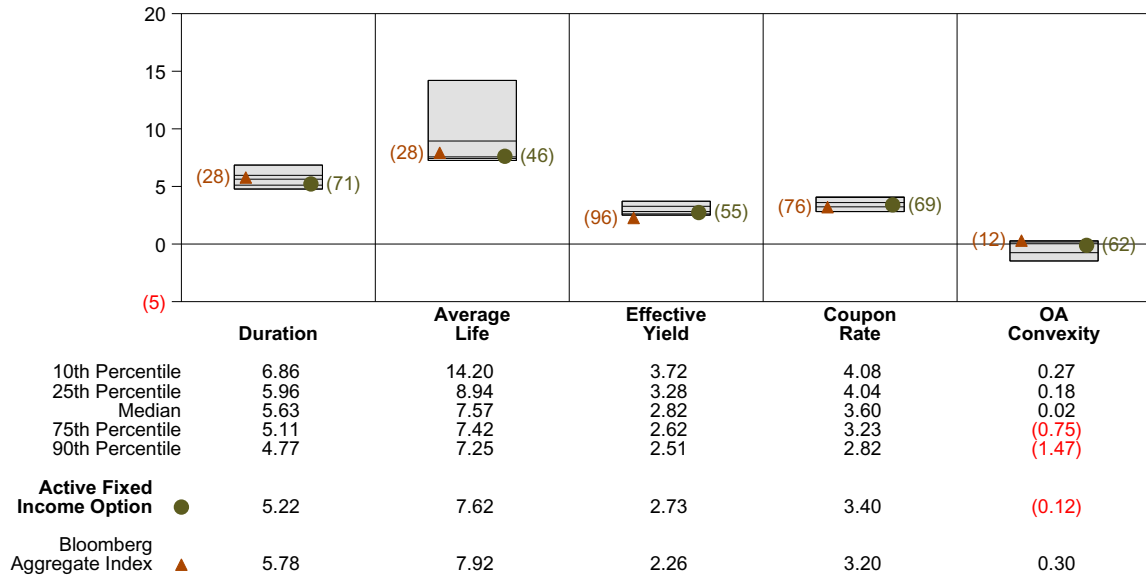
**Active Fixed Income Option** ● 0.85 0.98

# Active Fixed Income Option Bond Characteristics Analysis Summary

## Portfolio Characteristics

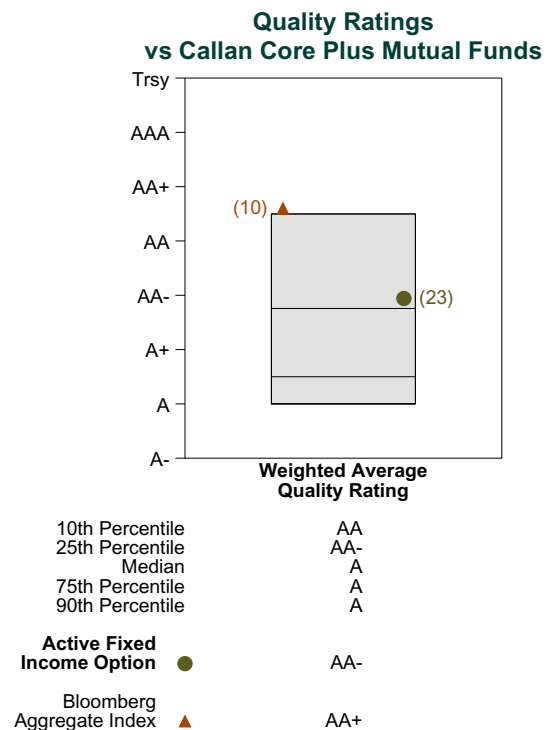
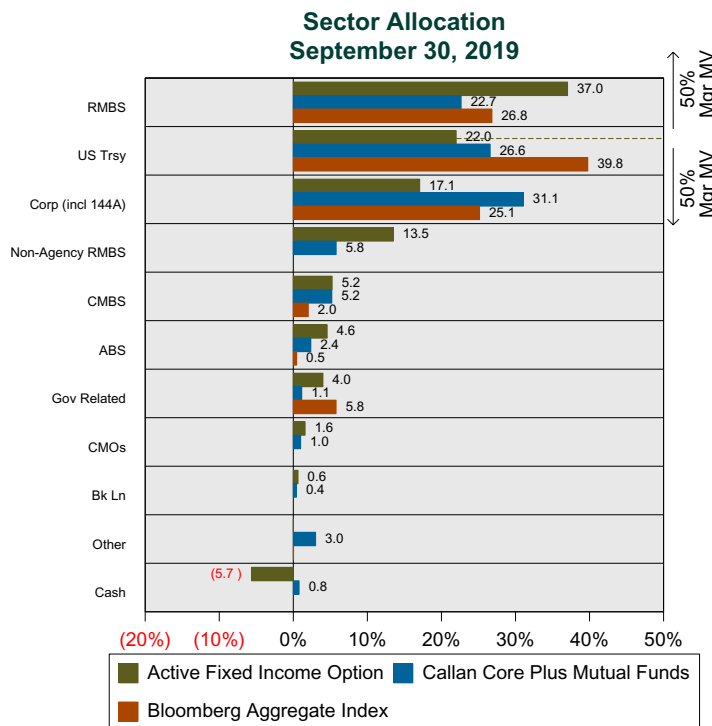
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Fixed Income Portfolio Characteristics Rankings Against Callan Core Plus Mutual Funds as of September 30, 2019



## 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.



# BlackRock US Debt Index Fund Period Ended September 30, 2019

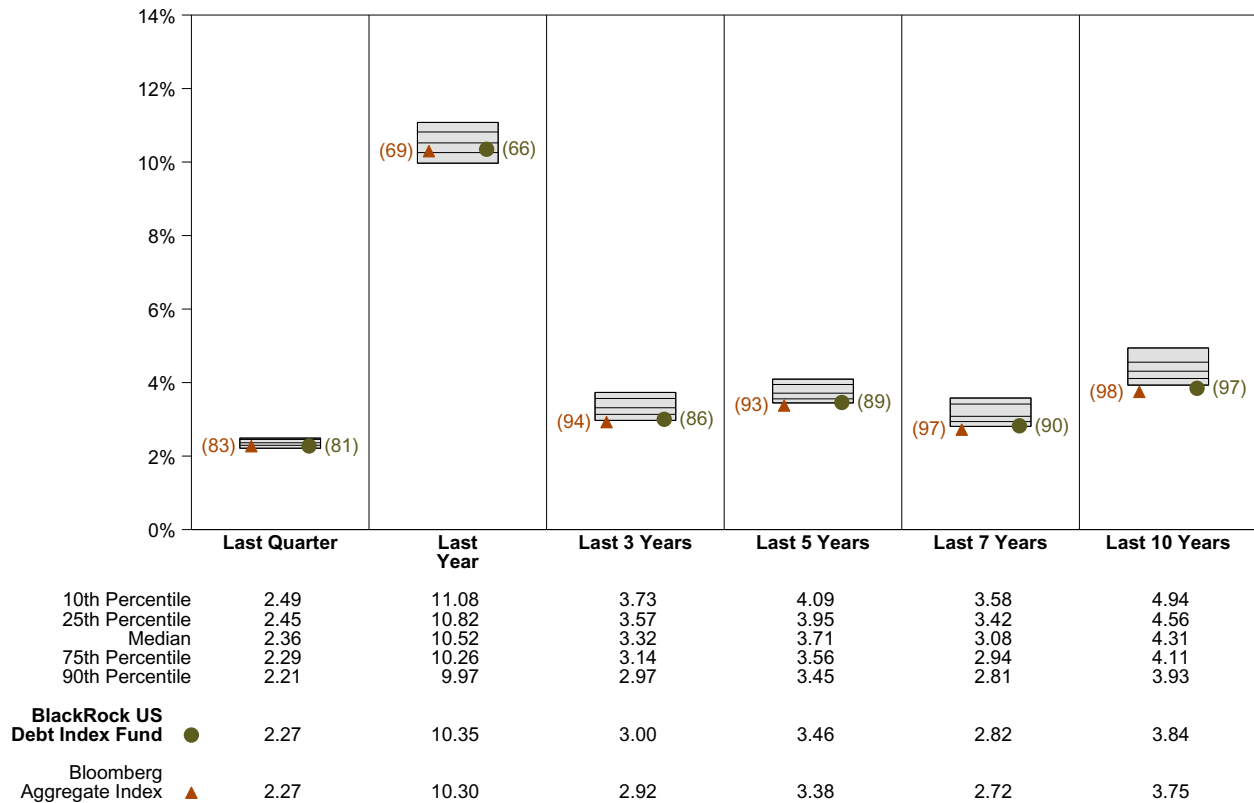
## Investment Philosophy

The U.S. Debt Index Fund is constructed to ensure that the risk and return profile of the Bloomberg Barclays Aggregate Bond index is replicated and tracking error is minimized.

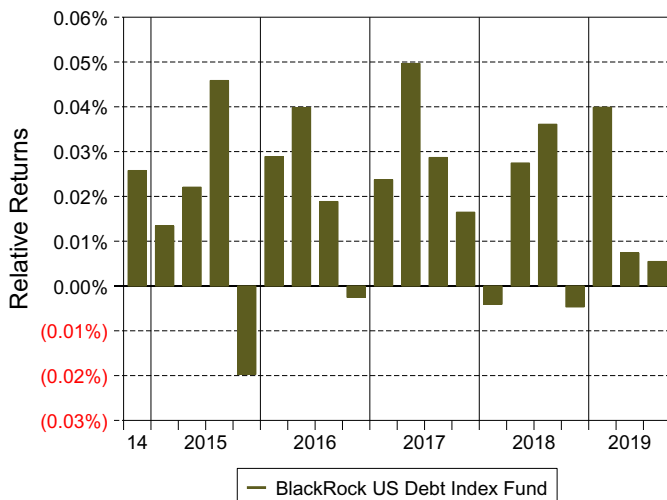
## Quarterly Summary and Highlights

- BlackRock US Debt Index Fund's portfolio posted a 2.27% return for the quarter placing it in the 81 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 66 percentile for the last year.
- BlackRock US Debt Index Fund's portfolio outperformed the Bloomberg Aggregate Index by 0.01% for the quarter and outperformed the Bloomberg Aggregate Index for the year by 0.05%.

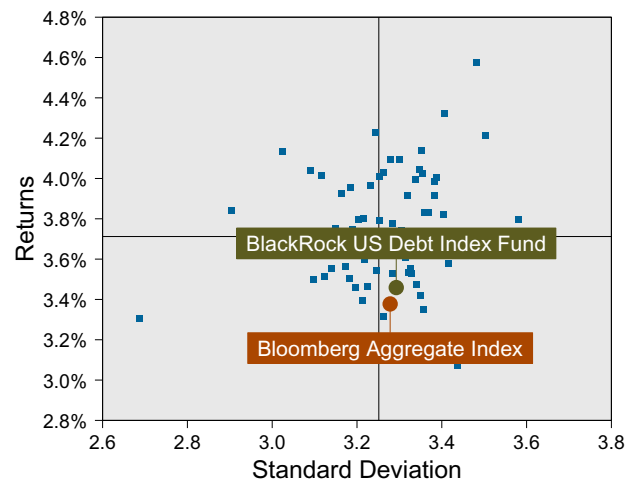
## Performance vs Callan Core Bond Fixed Income (Gross)



## Relative Returns vs Bloomberg Aggregate Index



## Callan Core Bond Fixed Income (Gross) Annualized Five Year Risk vs Return

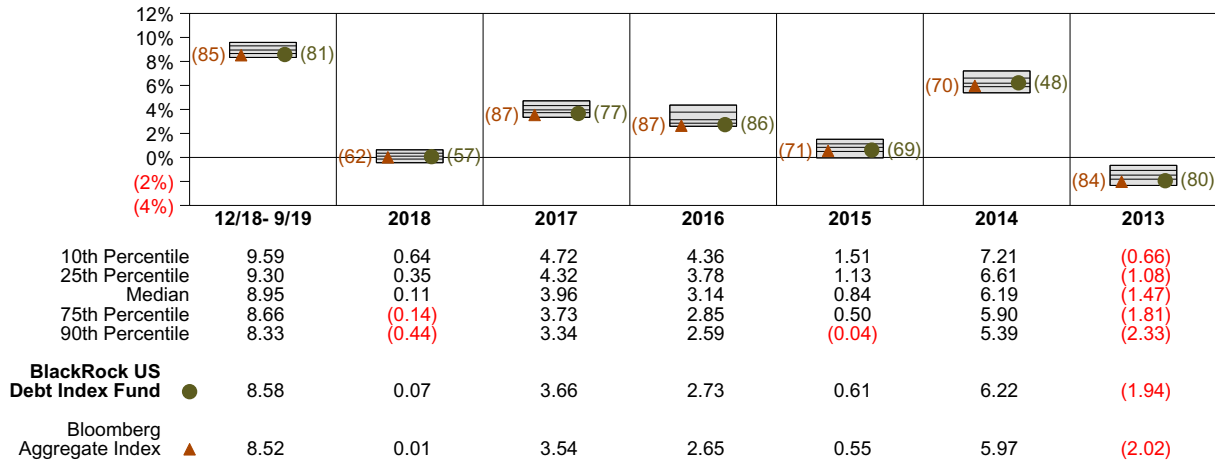


# BlackRock US Debt Index Fund Return Analysis Summary

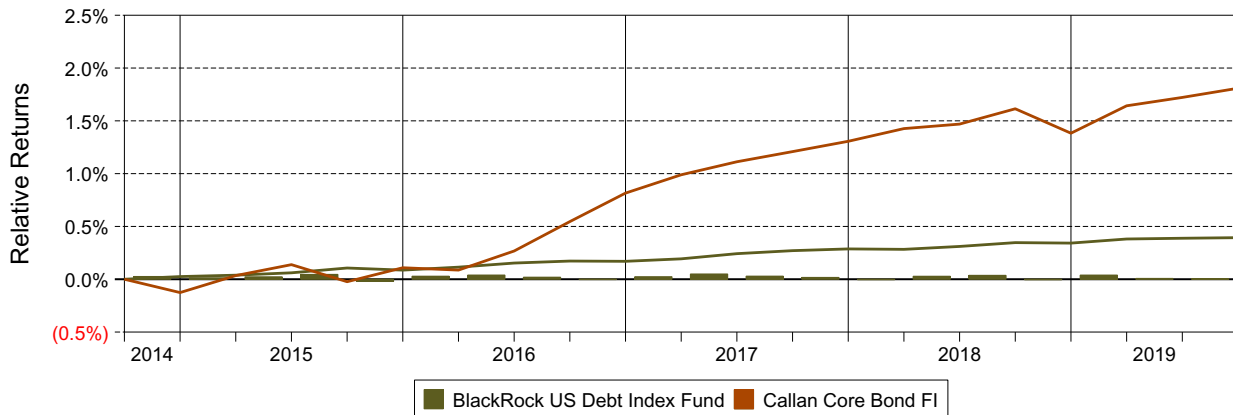
## Return Analysis

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 cumulative 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.

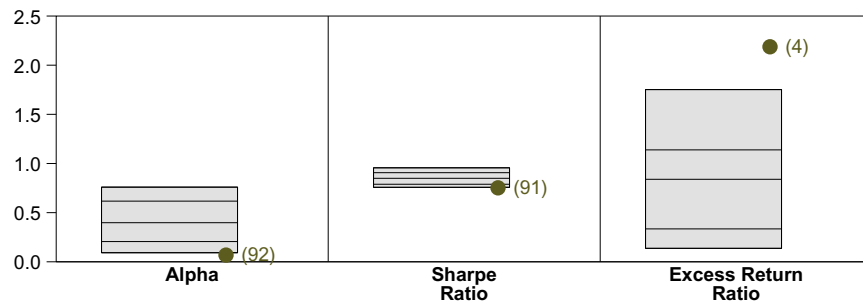
### Performance vs Callan Core Bond Fixed Income (Gross)



### Cumulative and Quarterly Relative Return vs Bloomberg Aggregate Index



### Risk Adjusted Return Measures vs Bloomberg Aggregate Index Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended September 30, 2019



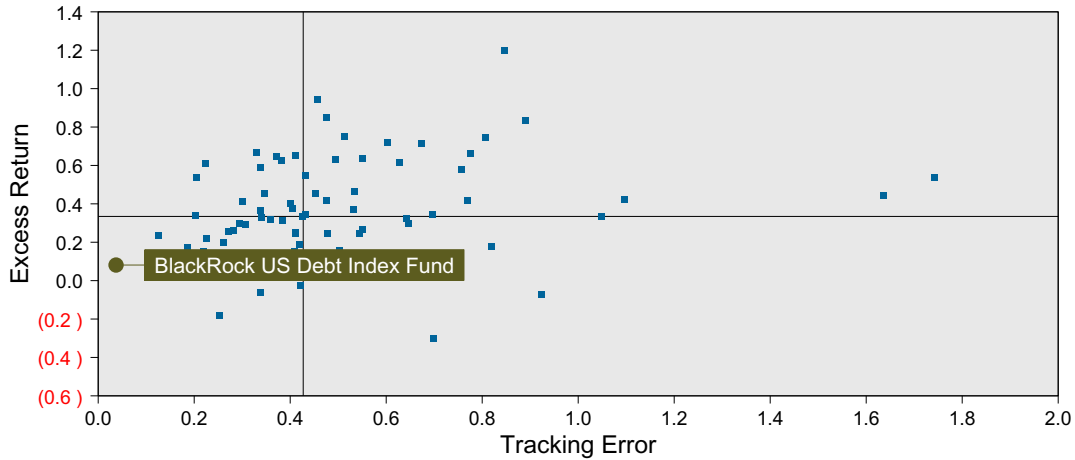
10th Percentile	0.76	0.96	1.75
25th Percentile	0.62	0.91	1.14
Median	0.40	0.85	0.84
75th Percentile	0.21	0.79	0.33
90th Percentile	0.09	0.76	0.14
<b>BlackRock US Debt Index Fund</b>	0.07	0.75	2.19

# BlackRock US Debt Index Fund Risk Analysis Summary

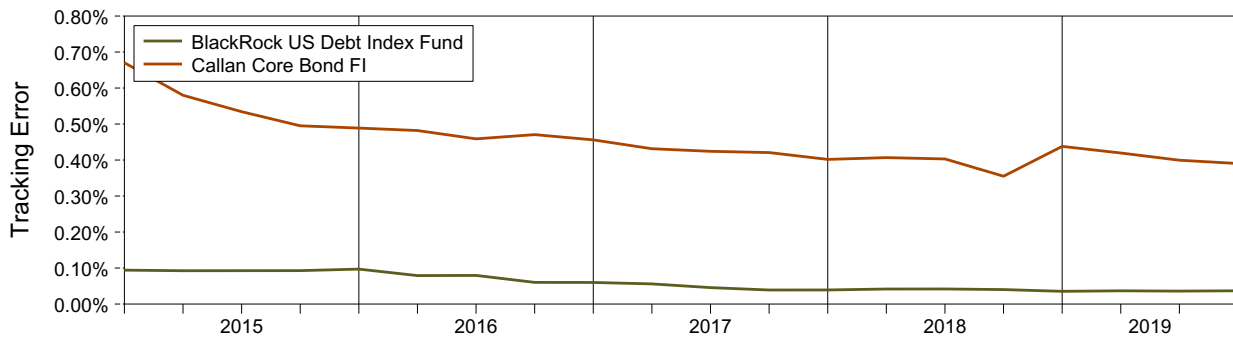
## Risk Analysis

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 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.

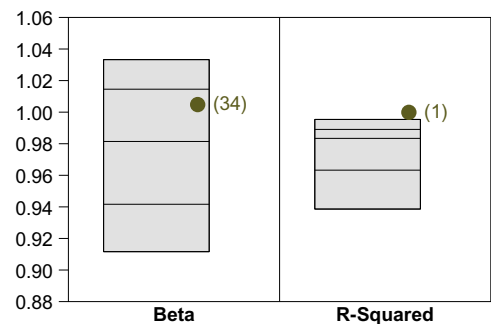
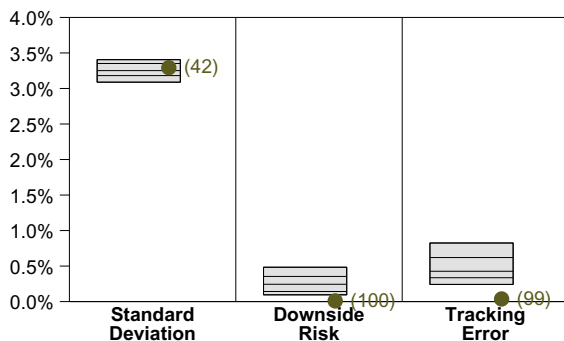
### Risk Analysis vs Callan Core Bond Fixed Income (Gross) Five Years Ended September 30, 2019



### Rolling 12 Quarter Tracking Error vs Bloomberg Aggregate Index



### Risk Statistics Rankings vs Bloomberg Aggregate Index Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended September 30, 2019



10th Percentile  
25th Percentile  
Median  
75th Percentile  
90th Percentile

3.41  
3.35  
3.25  
3.18  
3.09

0.48  
0.35  
0.24  
0.14  
0.10

0.83  
0.62  
0.43  
0.34  
0.24

10th Percentile  
25th Percentile  
Median  
75th Percentile  
90th Percentile

1.03  
1.01  
0.98  
0.94  
0.91

1.00  
0.99  
0.98  
0.96  
0.94

**BlackRock US Debt Index Fund** ●

3.29

0.01

0.04

**BlackRock US Debt Index Fund** ●

1.00

1.00

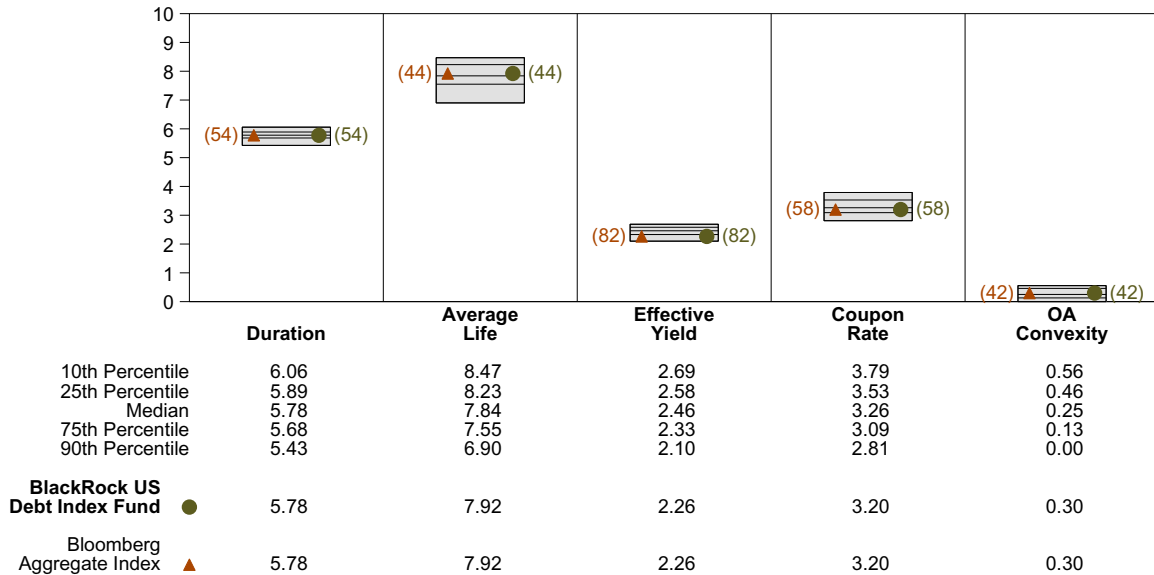


# BlackRock US Debt Index Fund Bond Characteristics Analysis Summary

## Portfolio Characteristics

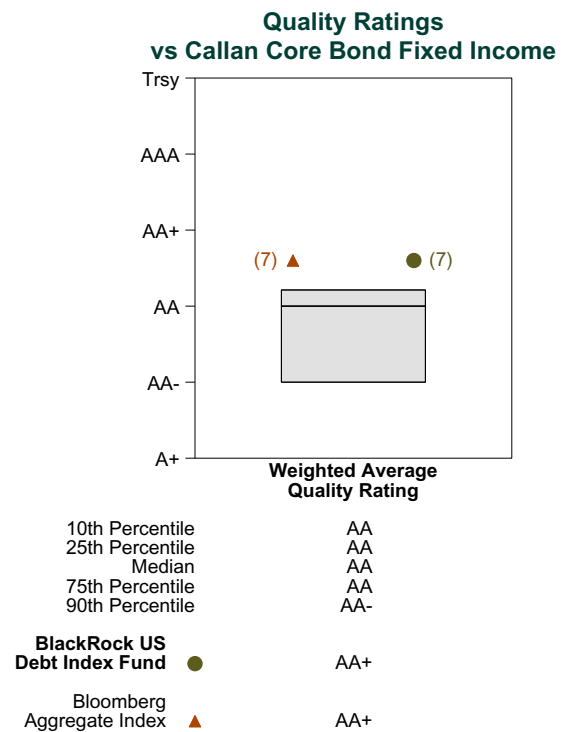
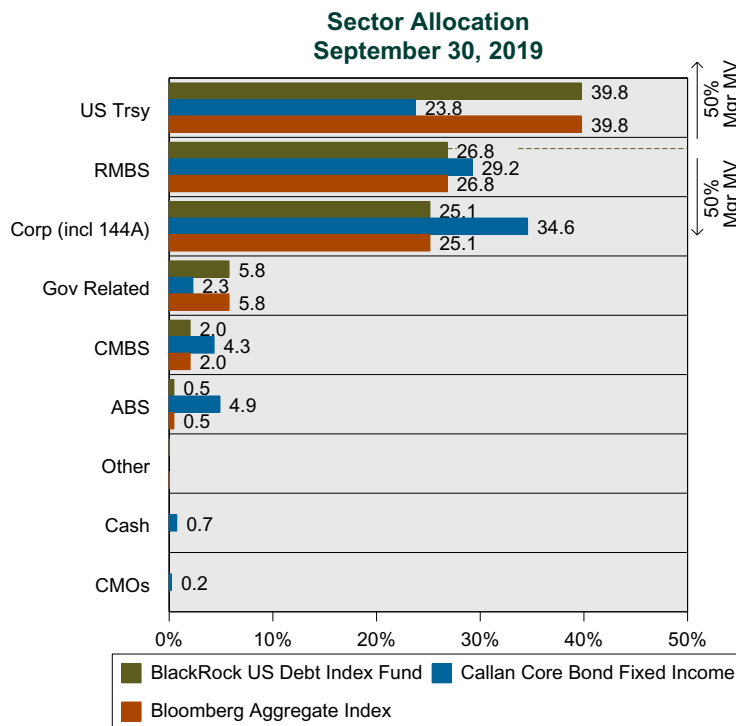
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of September 30, 2019



## 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.



# DoubleLine Total Return Bond Fund Period Ended September 30, 2019

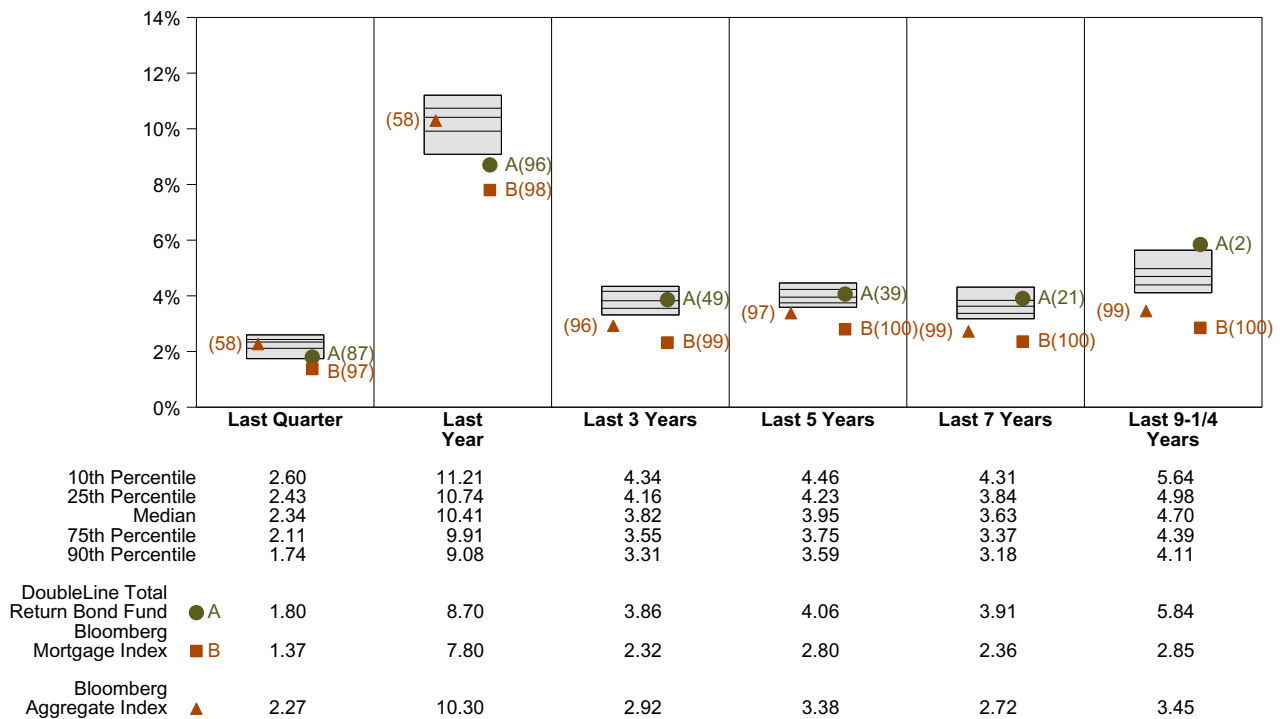
## Investment Philosophy

DoubleLine believes that the most reliable way to enhance returns is to exploit inefficiencies within the subsectors of the MBS market, while maintaining active risk management constraints. DoubleLine's objective is to invest in securities that will outperform through the interest rate cycle, i.e., not only in today's environment but also when rates are higher and lower. DoubleLine does not believe that an investor can meaningfully outperform the market through interest rate predictions, but rather, through security selection.

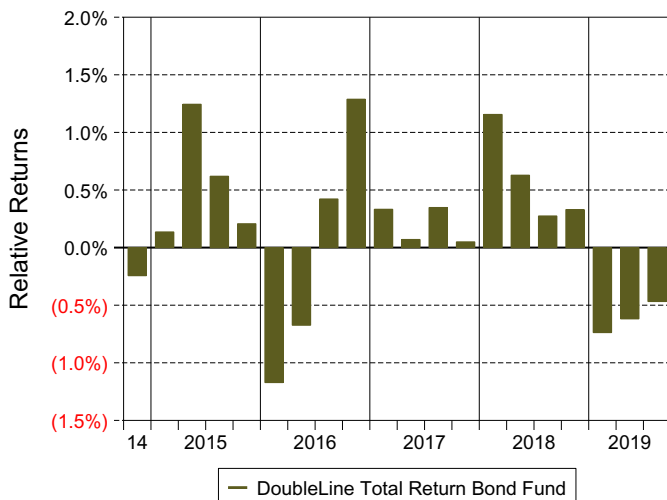
## Quarterly Summary and Highlights

- DoubleLine Total Return Bond Fund's portfolio posted a 1.80% return for the quarter placing it in the 87 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 96 percentile for the last year.
- DoubleLine Total Return Bond Fund's portfolio underperformed the Bloomberg Aggregate Index by 0.47% for the quarter and underperformed the Bloomberg Aggregate Index for the year by 1.59%.

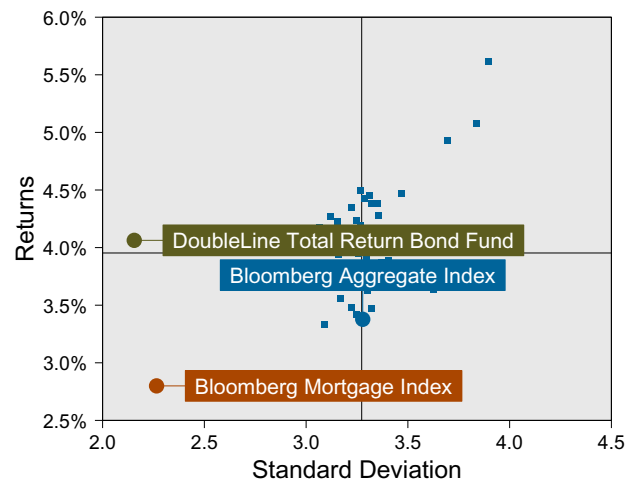
## Performance vs Callan Core Plus Fixed Income (Gross)



## Relative Returns vs Bloomberg Aggregate Index



## Callan Core Plus Fixed Income (Gross) Annualized Five Year Risk vs Return

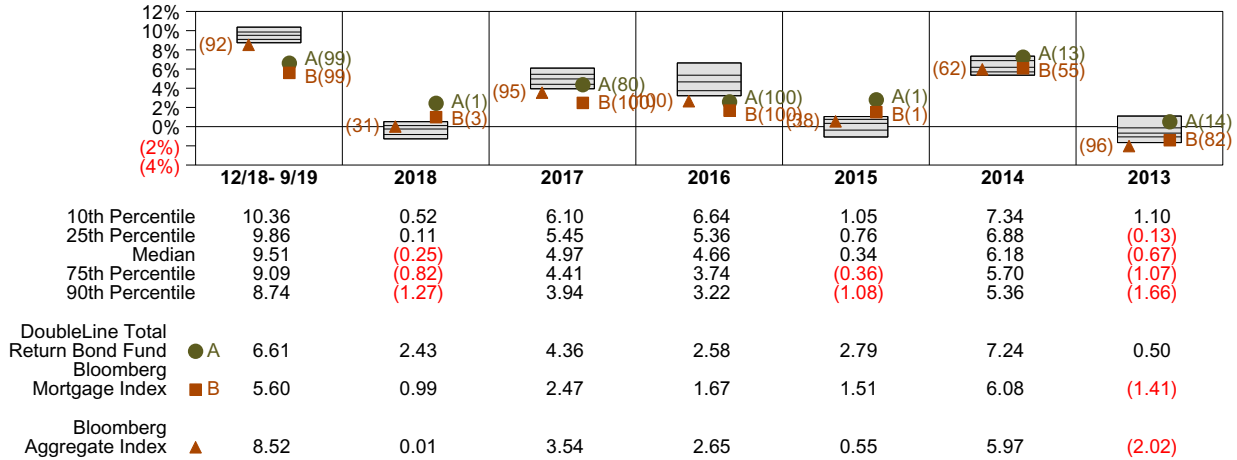


# DoubleLine Total Return Bond Fund Return Analysis Summary

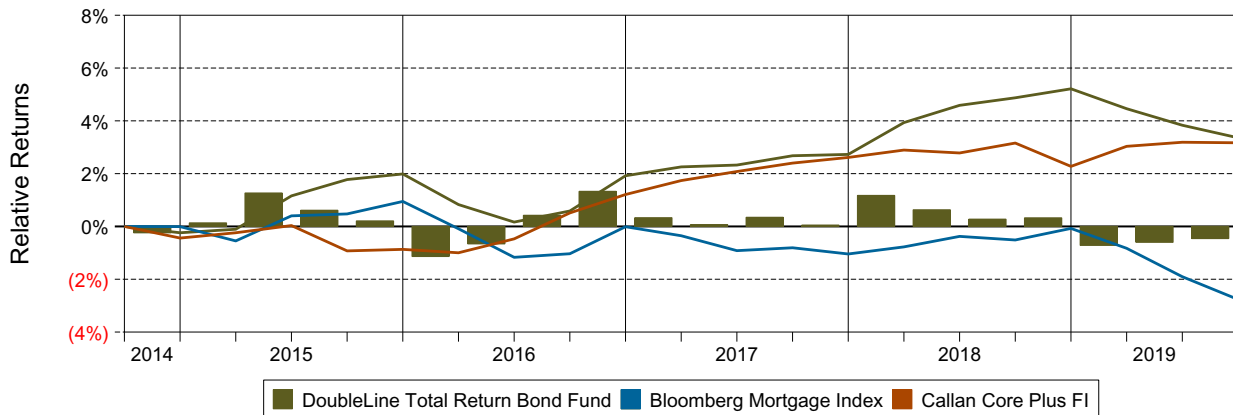
## Return Analysis

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 cumulative 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.

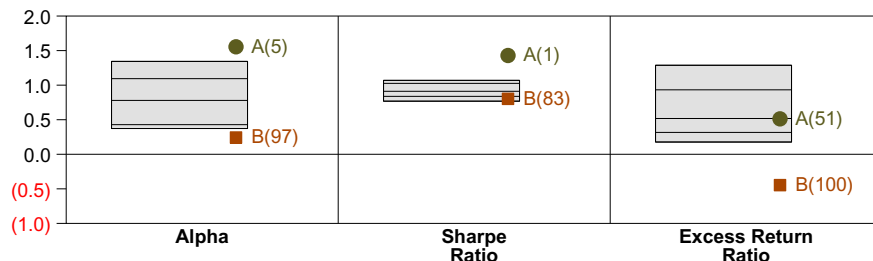
### Performance vs Callan Core Plus Fixed Income (Gross)



### Cumulative and Quarterly Relative Return vs Bloomberg Aggregate Index



### Risk Adjusted Return Measures vs Bloomberg Aggregate Index Rankings Against Callan Core Plus Fixed Income (Gross) Five Years Ended September 30, 2019



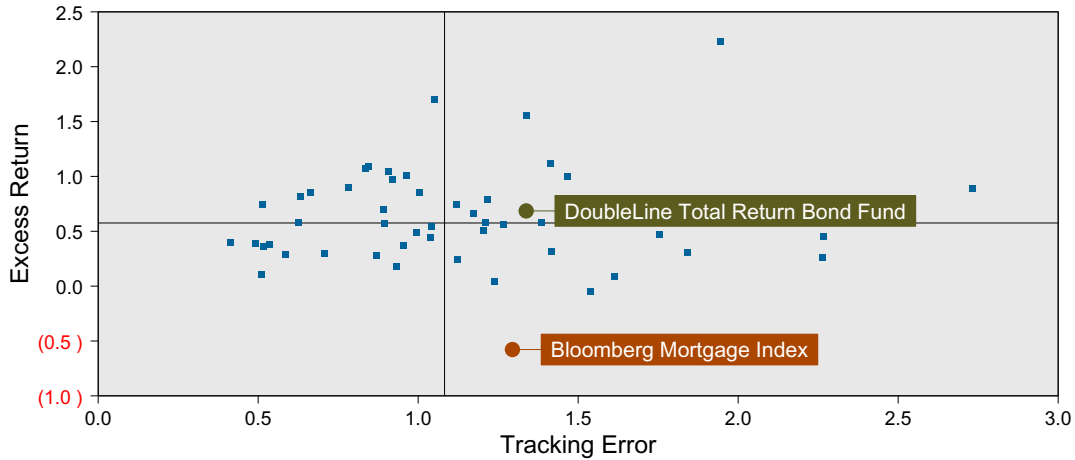
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	1.34	1.07	1.29
25th Percentile	1.09	1.03	0.93
Median	0.78	0.91	0.52
75th Percentile	0.43	0.84	0.32
90th Percentile	0.37	0.77	0.18
DoubleLine Total Return Bond Fund	● A 1.55	1.43	0.51
Bloomberg Mortgage Index	■ B 0.24	0.80	(0.45)

# DoubleLine Total Return Bond Fund Risk Analysis Summary

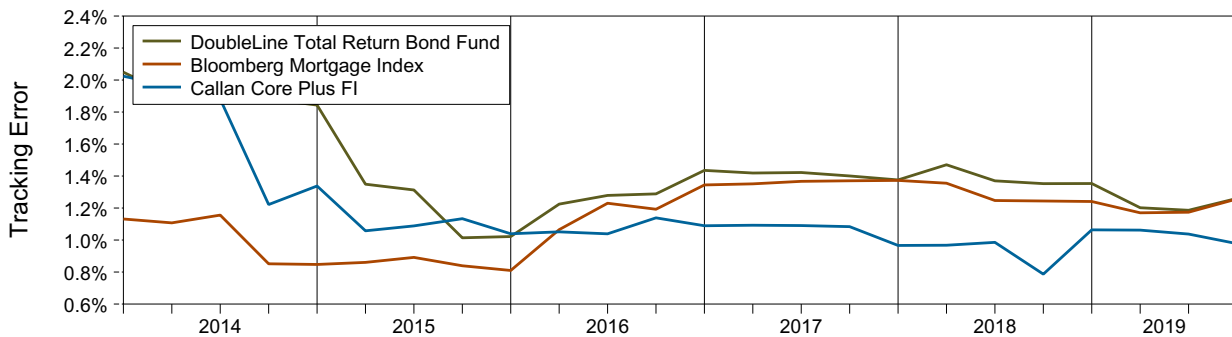
## Risk Analysis

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 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.

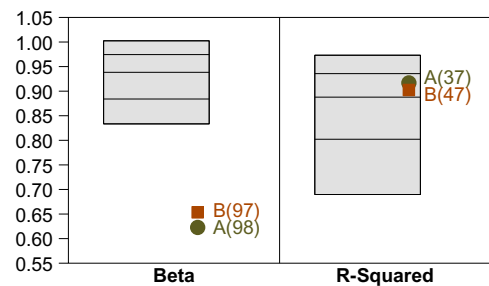
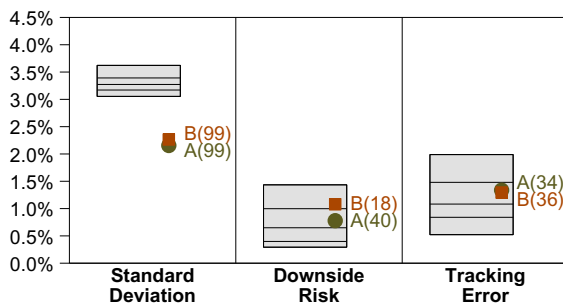
### Risk Analysis vs Callan Core Plus Fixed Income (Gross) Five Years Ended September 30, 2019



### Rolling 12 Quarter Tracking Error vs Bloomberg Aggregate Index



### Risk Statistics Rankings vs Bloomberg Aggregate Index Rankings Against Callan Core Plus Fixed Income (Gross) Five Years Ended September 30, 2019



10th Percentile	3.62	1.44	1.99
25th Percentile	3.39	1.00	1.48
Median	3.27	0.65	1.08
75th Percentile	3.17	0.40	0.84
90th Percentile	3.05	0.29	0.52

10th Percentile	1.00	0.97
25th Percentile	0.97	0.94
Median	0.94	0.89
75th Percentile	0.88	0.80
90th Percentile	0.83	0.69

DoubleLine Total Return Bond Fund	● A	2.16	0.78	1.34
Bloomberg Mortgage Index	■ B	2.27	1.08	1.29

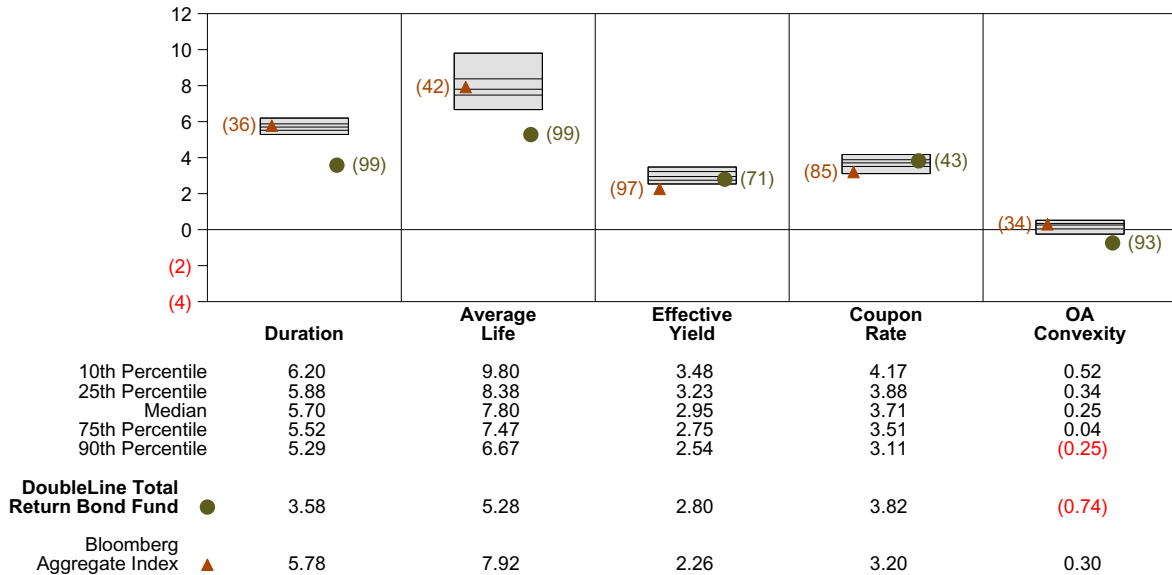
DoubleLine Total Return Bond Fund	● A	0.62	0.92
Bloomberg Mortgage Index	■ B	0.65	0.90

# DoubleLine Total Return Bond Fund Bond Characteristics Analysis Summary

## Portfolio Characteristics

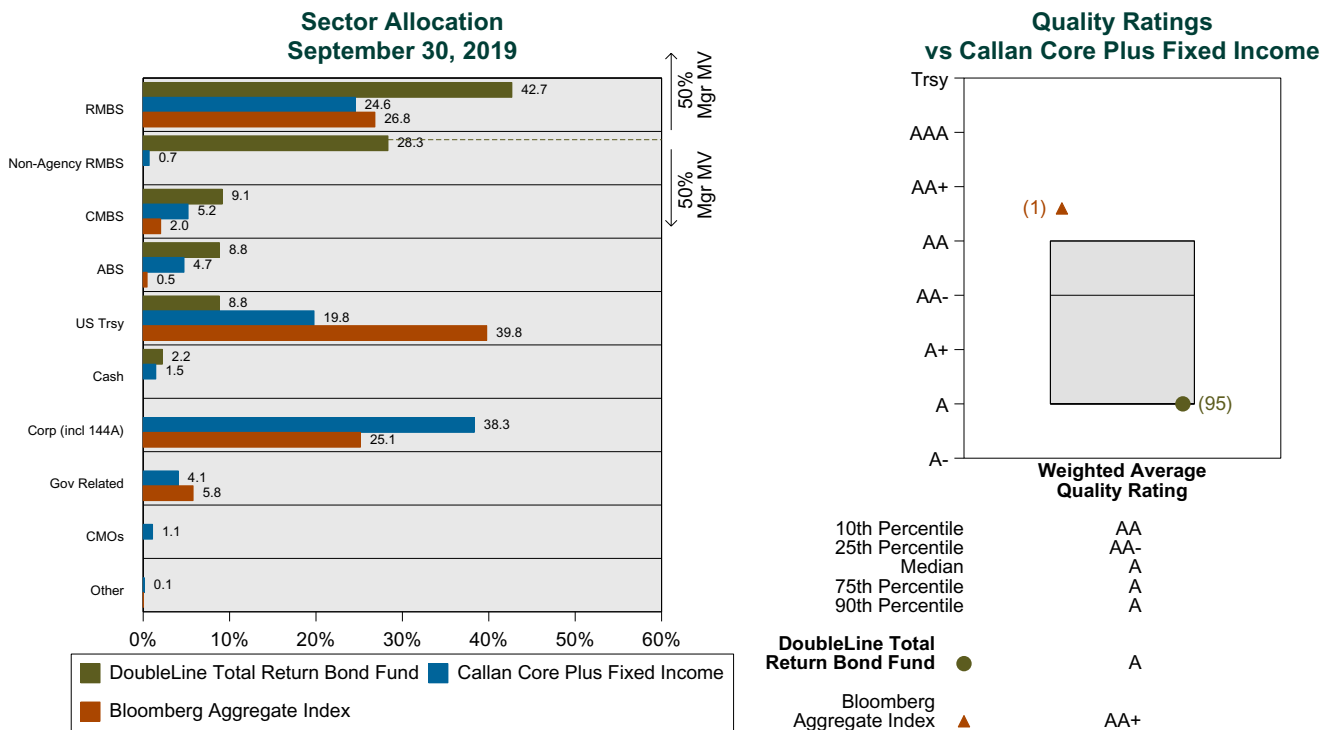
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Fixed Income Portfolio Characteristics Rankings Against Callan Core Plus Fixed Income as of September 30, 2019



## 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 Trust Core Bond Plus Fund Period Ended September 30, 2019

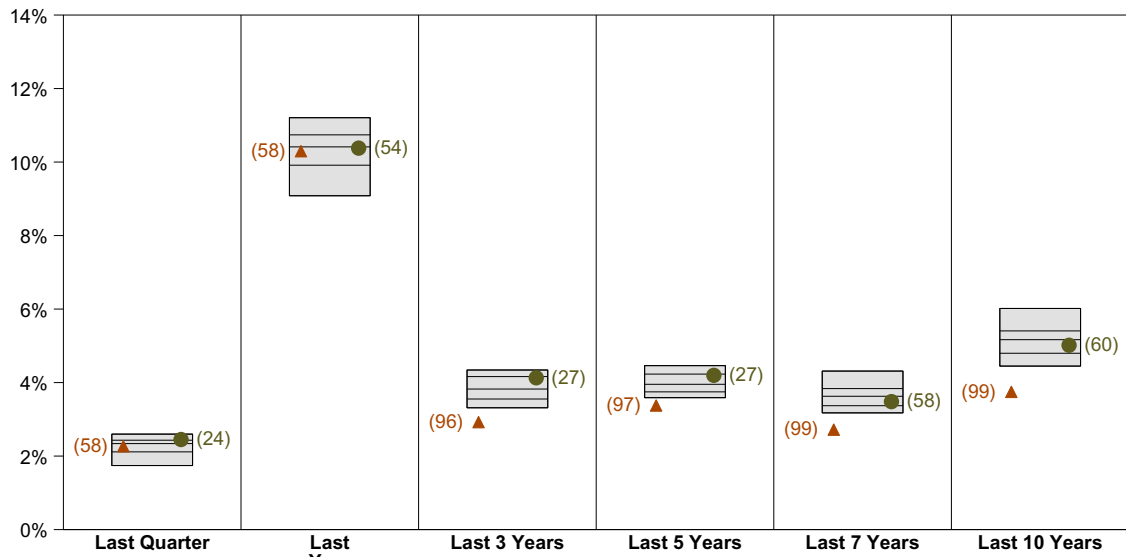
## Investment Philosophy

Wellington's fixed income process focuses on fundamental research, diversification and risk control. The firm's orientation is toward intensive, bottom-up research.

## Quarterly Summary and Highlights

- Wellington Trust Core Bond Plus Fund's portfolio posted a 2.45% return for the quarter placing it in the 24 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 54 percentile for the last year.
- Wellington Trust Core Bond Plus Fund's portfolio outperformed the Bloomberg Aggregate Index by 0.18% for the quarter and outperformed the Bloomberg Aggregate Index for the year by 0.08%.

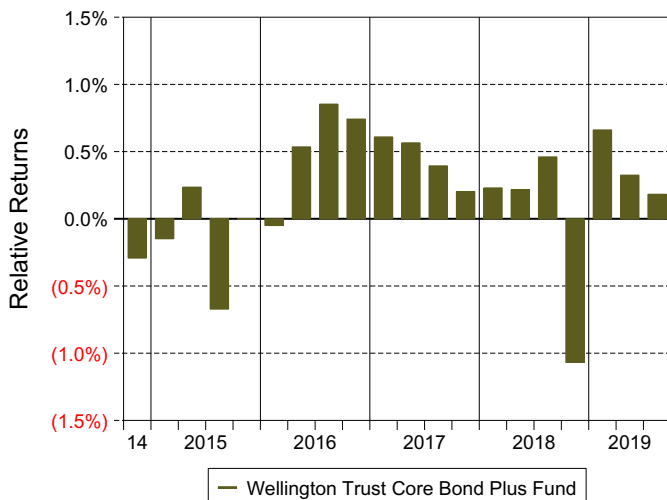
## Performance vs Callan Core Plus Fixed Income (Gross)



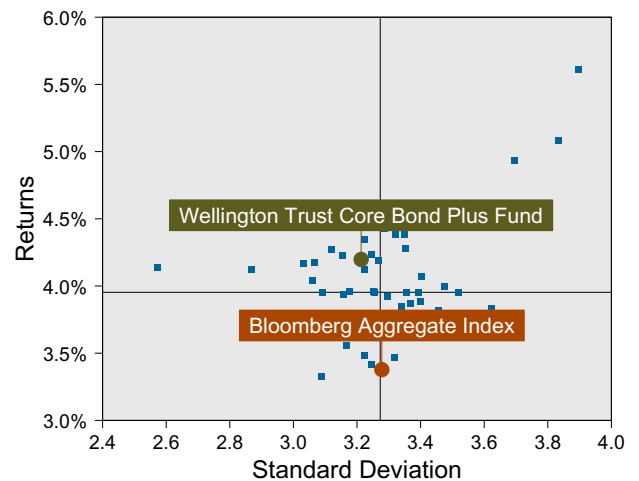
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	2.60	11.21	4.34	4.46	4.31	6.02
25th Percentile	2.43	10.74	4.16	4.23	3.84	5.41
Median	2.34	10.41	3.82	3.95	3.63	5.17
75th Percentile	2.11	9.91	3.55	3.75	3.37	4.80
90th Percentile	1.74	9.08	3.31	3.59	3.18	4.45

<b>Wellington Trust Core Bond Plus Fund</b> ●	2.45	10.38	4.13	4.20	3.48	5.02
Bloomberg Aggregate Index ▲	2.27	10.30	2.92	3.38	2.72	3.75

## Relative Returns vs Bloomberg Aggregate Index



## Callan Core Plus Fixed Income (Gross) Annualized Five Year Risk vs Return

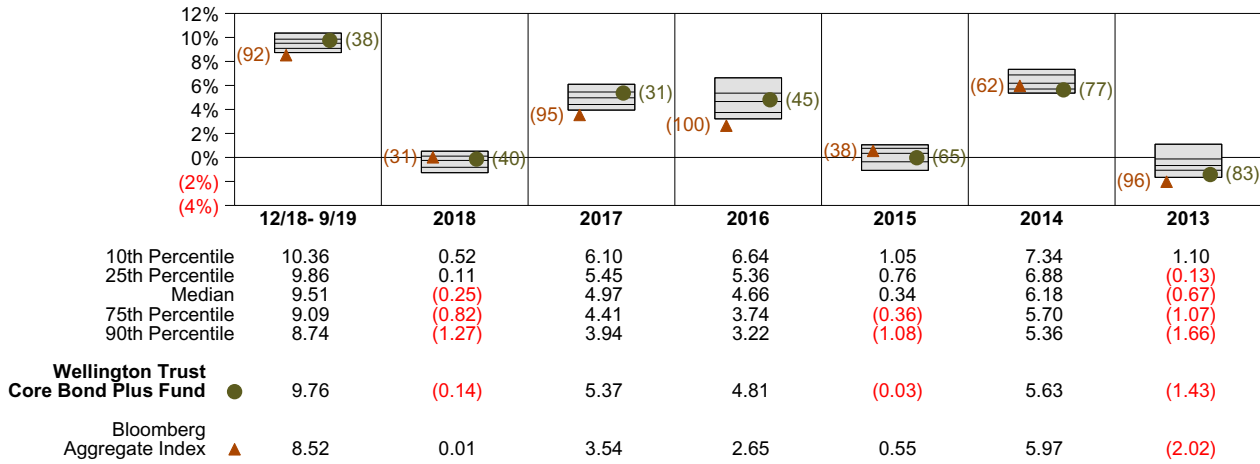


# Wellington Trust Core Bond Plus Fund Return Analysis Summary

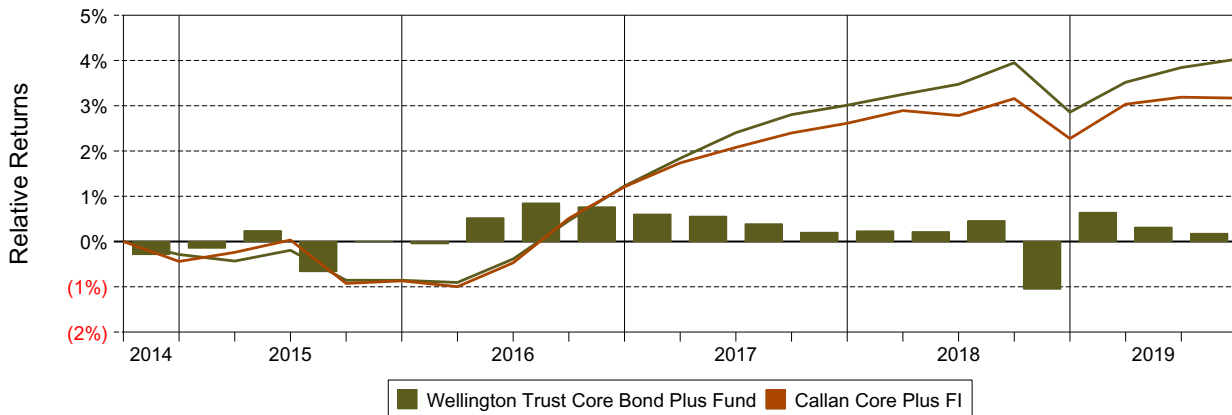
## Return Analysis

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 cumulative 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.

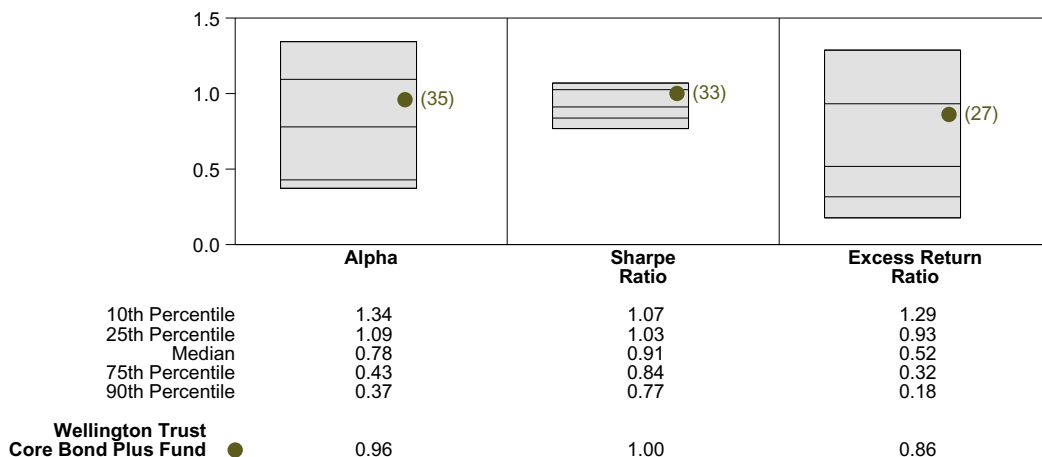
### Performance vs Callan Core Plus Fixed Income (Gross)



### Cumulative and Quarterly Relative Return vs Bloomberg Aggregate Index



### Risk Adjusted Return Measures vs Bloomberg Aggregate Index Rankings Against Callan Core Plus Fixed Income (Gross) Five Years Ended September 30, 2019

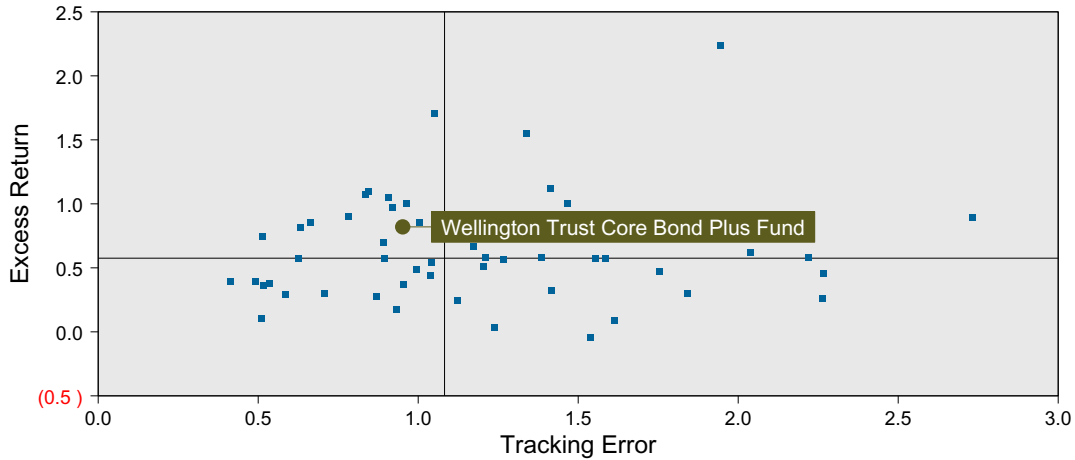


# Wellington Trust Core Bond Plus Fund Risk Analysis Summary

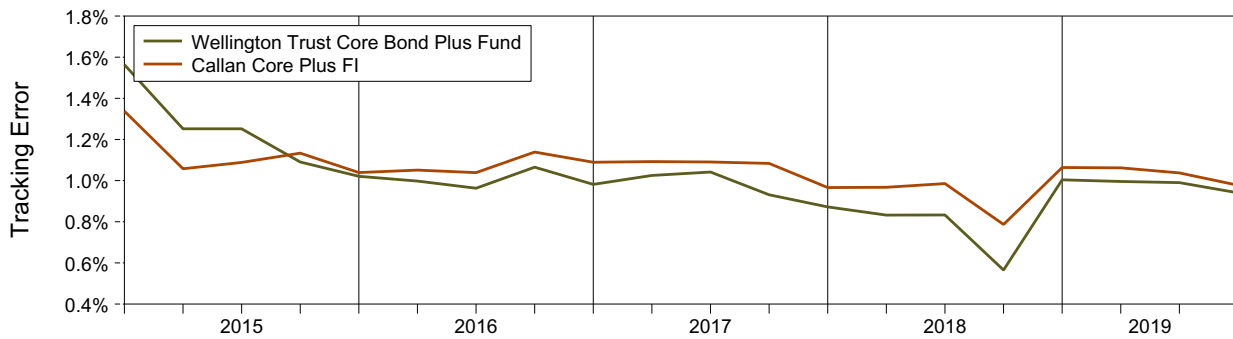
## Risk Analysis

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 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.

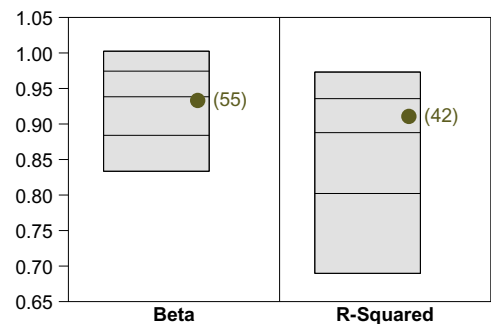
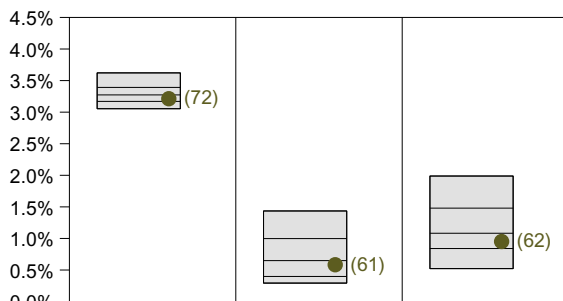
### Risk Analysis vs Callan Core Plus Fixed Income (Gross) Five Years Ended September 30, 2019



### Rolling 12 Quarter Tracking Error vs Bloomberg Aggregate Index



### Risk Statistics Rankings vs Bloomberg Aggregate Index Rankings Against Callan Core Plus Fixed Income (Gross) Five Years Ended September 30, 2019



	Standard Deviation	Downside Risk	Tracking Error
10th Percentile	3.62	1.44	1.99
25th Percentile	3.39	1.00	1.48
Median	3.27	0.65	1.08
75th Percentile	3.17	0.40	0.84
90th Percentile	3.05	0.29	0.52

	Beta	R-Squared
10th Percentile	1.00	0.97
25th Percentile	0.97	0.94
Median	0.94	0.89
75th Percentile	0.88	0.80
90th Percentile	0.83	0.69

**Wellington Trust Core Bond Plus Fund** ●

3.21      0.58      0.95

**Wellington Trust Core Bond Plus Fund** ●

0.93      0.91

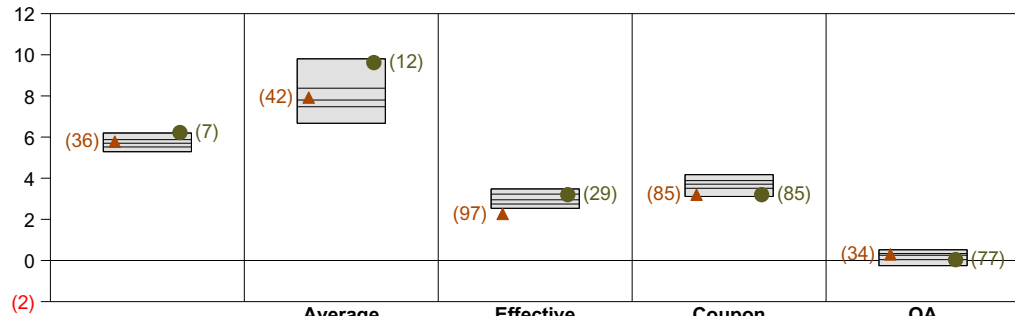


# Wellington Trust Core Bond Plus Fund Bond Characteristics Analysis Summary

## 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.

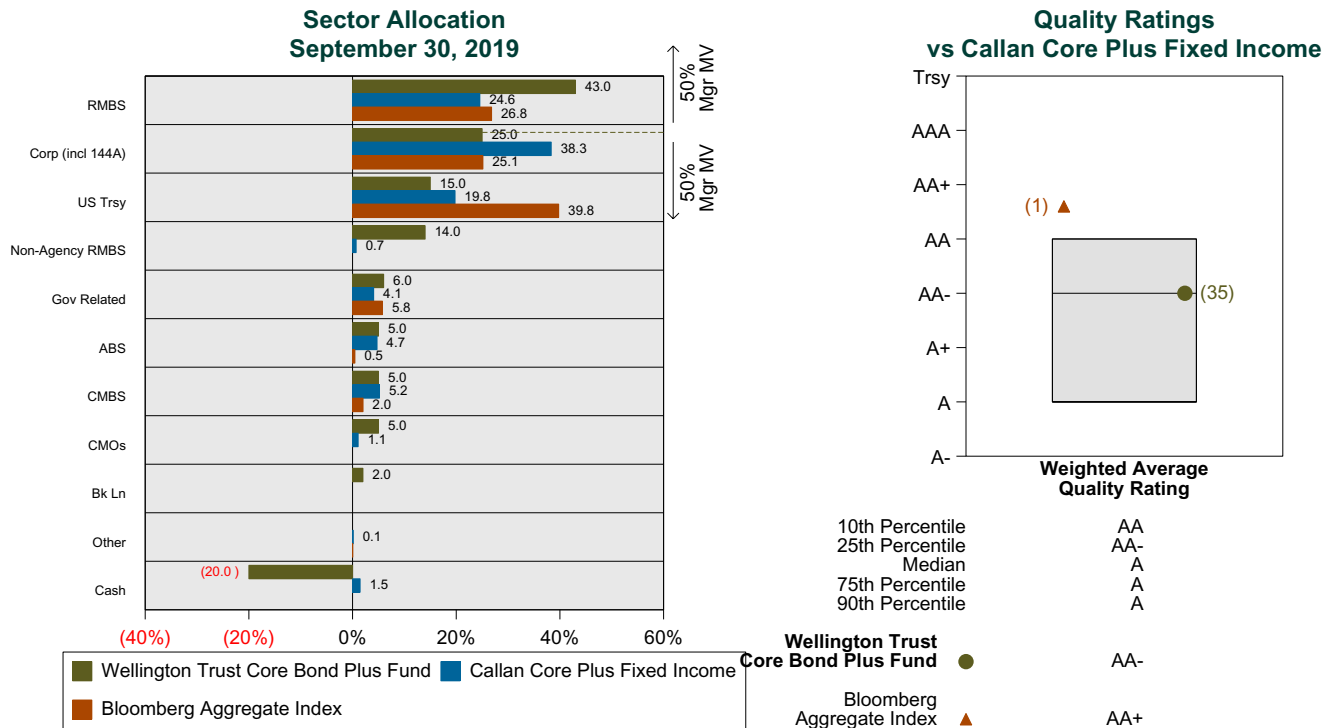
## Fixed Income Portfolio Characteristics Rankings Against Callan Core Plus Fixed Income as of September 30, 2019



	Duration	Average Life	Effective Yield	Coupon Rate	OA Convexity
10th Percentile	6.20	9.80	3.48	4.17	0.52
25th Percentile	5.88	8.38	3.23	3.88	0.34
Median	5.70	7.80	2.95	3.71	0.25
75th Percentile	5.52	7.47	2.75	3.51	0.04
90th Percentile	5.29	6.67	2.54	3.11	(0.25)
<b>Wellington Trust Core Bond Plus Fund</b>	6.22	9.62	3.20	3.20	0.04
Bloomberg Aggregate Index	5.78	7.92	2.26	3.20	0.30

## 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.

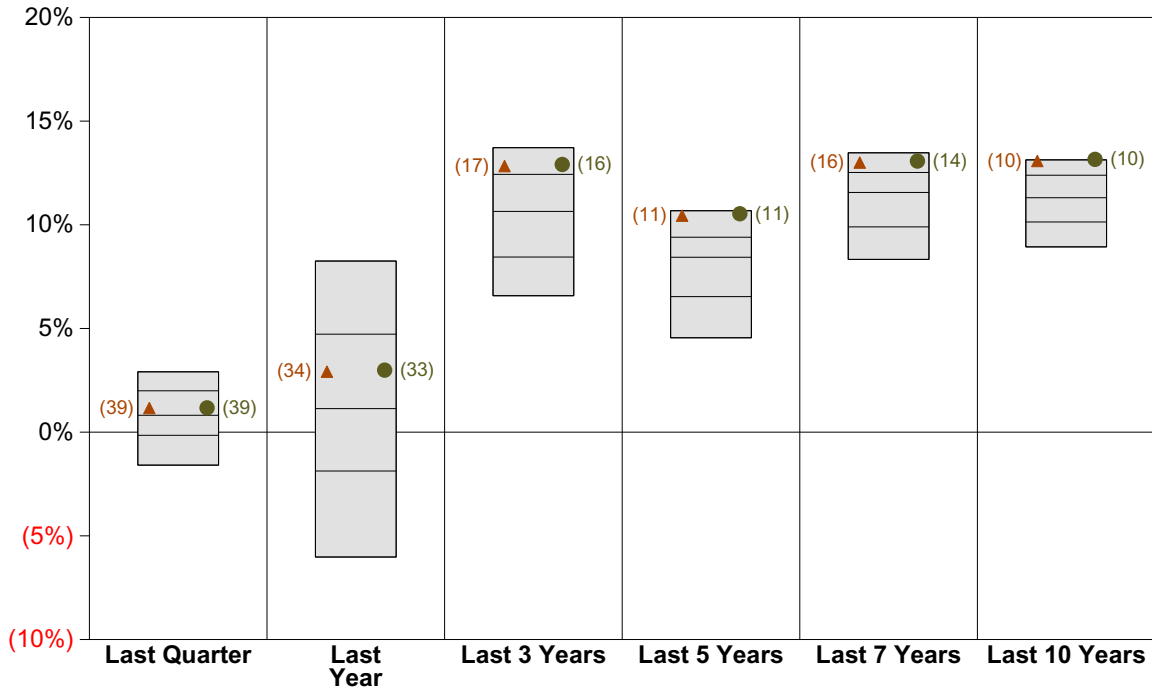


# Stock Index Option Period Ended September 30, 2019

## Quarterly Summary and Highlights

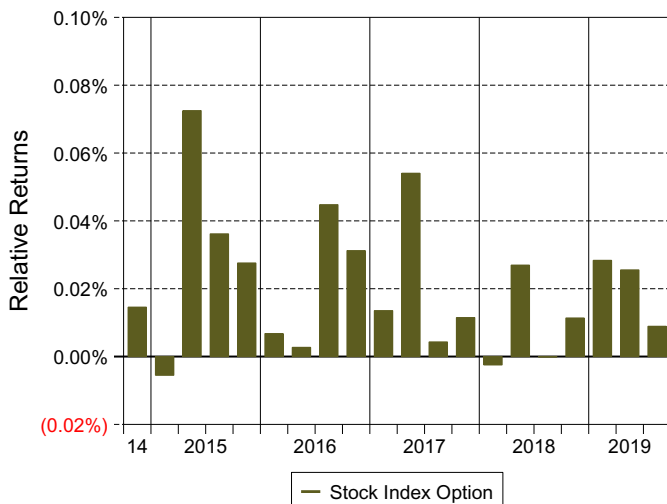
- Stock Index Option's portfolio posted a 1.17% return for the quarter placing it in the 39 percentile of the Callan All Cap Core Mutual Funds group for the quarter and in the 33 percentile for the last year.
- Stock Index Option's portfolio outperformed the Russell 3000 Index by 0.01% for the quarter and outperformed the Russell 3000 Index for the year by 0.07%.

## Performance vs Callan All Cap Core Mutual Funds (Institutional Net)

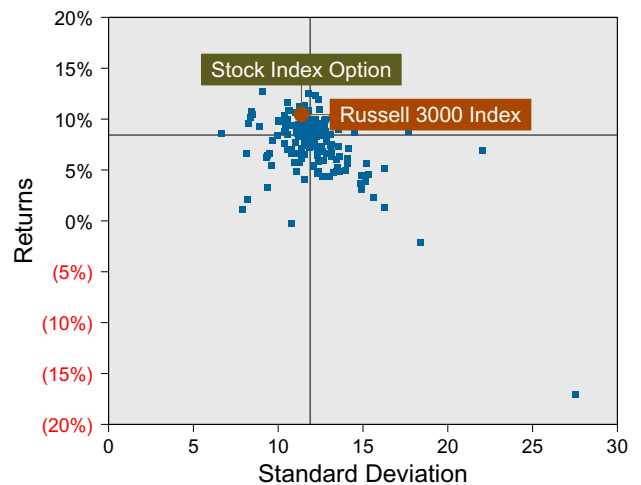


10th Percentile	2.91	8.25	13.72	10.68	13.47	13.13
25th Percentile	2.00	4.72	12.43	9.40	12.52	12.39
Median	0.81	1.14	10.65	8.43	11.56	11.30
75th Percentile	(0.15)	(1.87)	8.44	6.54	9.90	10.14
90th Percentile	(1.59)	(6.02)	6.58	4.55	8.33	8.94
<b>Stock Index Option</b> ●	1.17	2.99	12.91	10.53	13.07	13.16
Russell 3000 Index ▲	1.16	2.92	12.83	10.44	13.00	13.08

Relative Return vs Russell 3000 Index



Callan All Cap Core Mutual Funds (Institutional Net)  
Annualized Five Year Risk vs Return

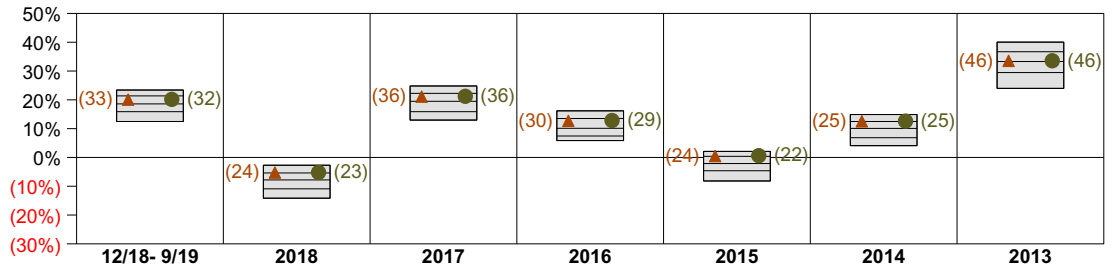


# Stock Index Option Return Analysis Summary

## Return Analysis

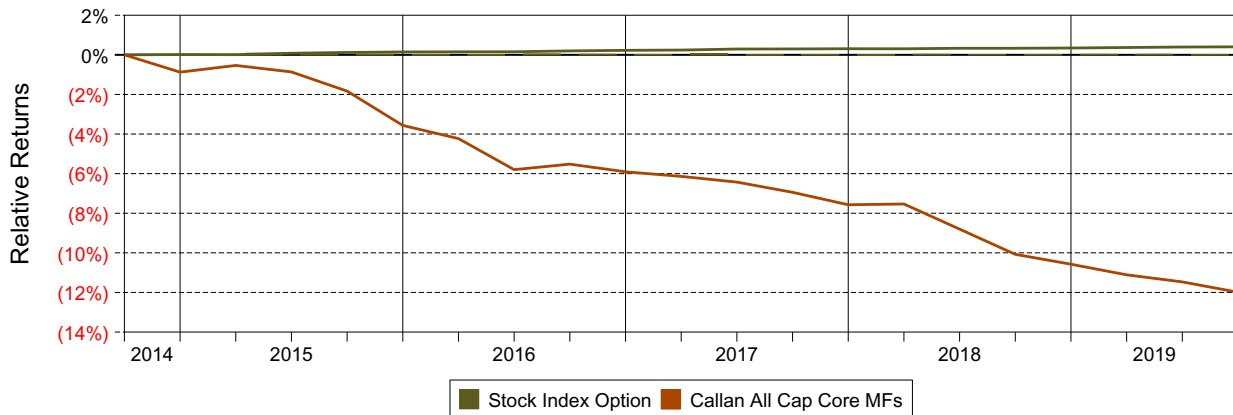
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate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

### Performance vs Callan All Cap Core Mutual Funds (Institutional Net)

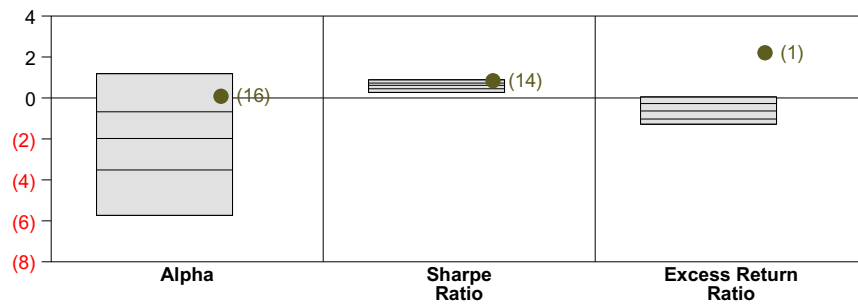


10th Percentile	23.41	(2.70)	24.82	16.18	2.10	14.90	40.03
25th Percentile	21.37	(5.39)	22.25	13.52	0.38	12.48	36.71
Median	18.59	(7.81)	19.49	10.12	(2.12)	10.09	33.31
75th Percentile	15.88	(10.90)	15.89	7.45	(4.62)	6.85	29.47
90th Percentile	12.48	(14.16)	12.97	5.86	(8.17)	4.09	23.98
<b>Stock Index Option</b>	● 20.16	(5.21)	21.23	12.83	0.61	12.61	33.58
<b>Russell 3000 Index</b>	▲ 20.09	(5.24)	21.13	12.74	0.48	12.56	33.55

### Cumulative and Quarterly Relative Return vs Russell 3000 Index



### Risk Adjusted Return Measures vs Russell 3000 Index Rankings Against Callan All Cap Core Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



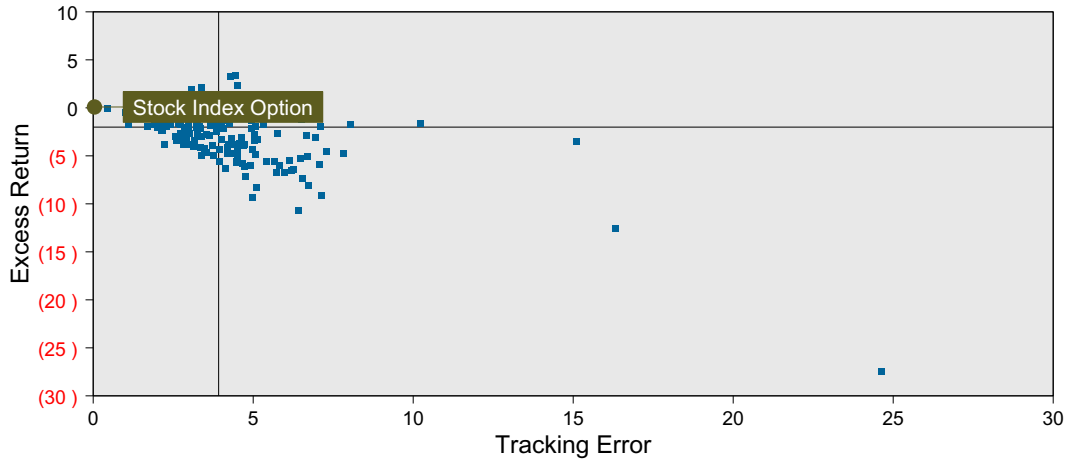
10th Percentile	1.19	0.89	0.05
25th Percentile	(0.68)	0.73	(0.27)
Median	(1.98)	0.62	(0.64)
75th Percentile	(3.52)	0.45	(1.03)
90th Percentile	(5.73)	0.27	(1.28)
<b>Stock Index Option</b>	● 0.08	0.84	2.21

# Stock Index Option Risk Analysis Summary

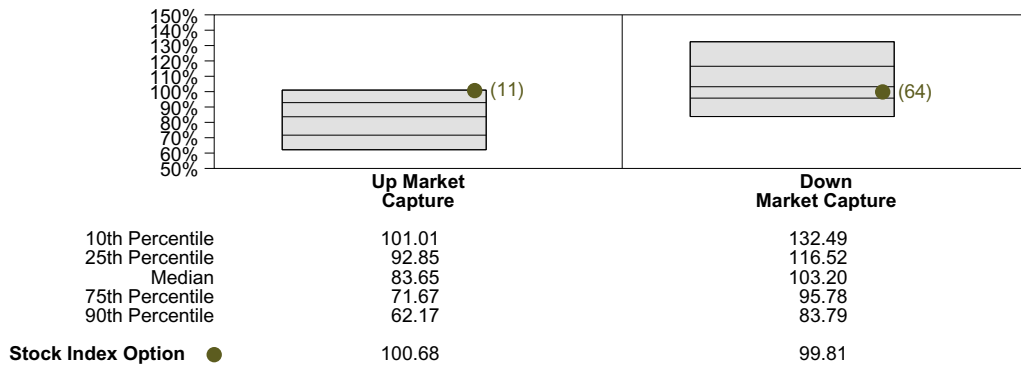
## Risk Analysis

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.

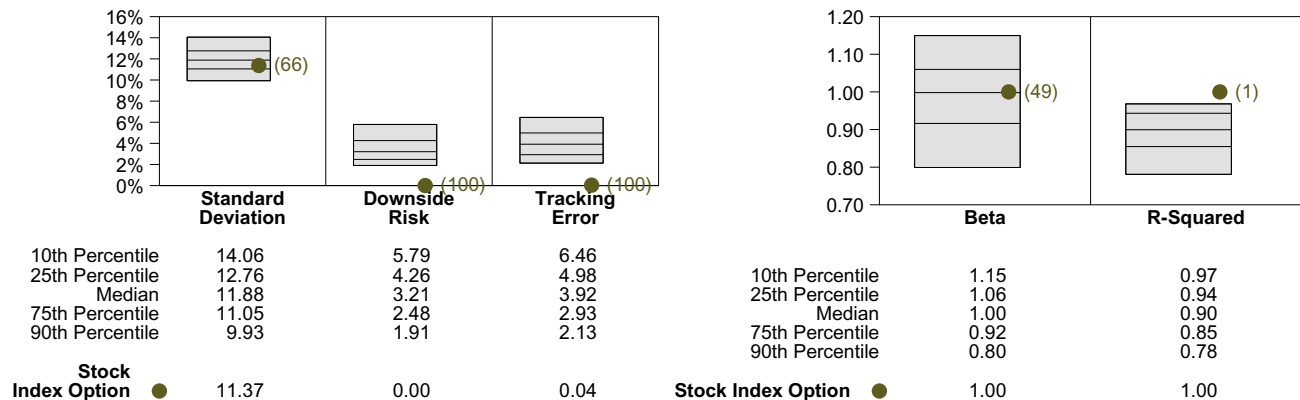
### Risk Analysis vs Callan All Cap Core Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



### Market Capture vs Russell 3000 Index Rankings Against Callan All Cap Core Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



### Risk Statistics Rankings vs Russell 3000 Index Rankings Against Callan All Cap Core Mutual Funds (Institutional Net) Five Years Ended September 30, 2019

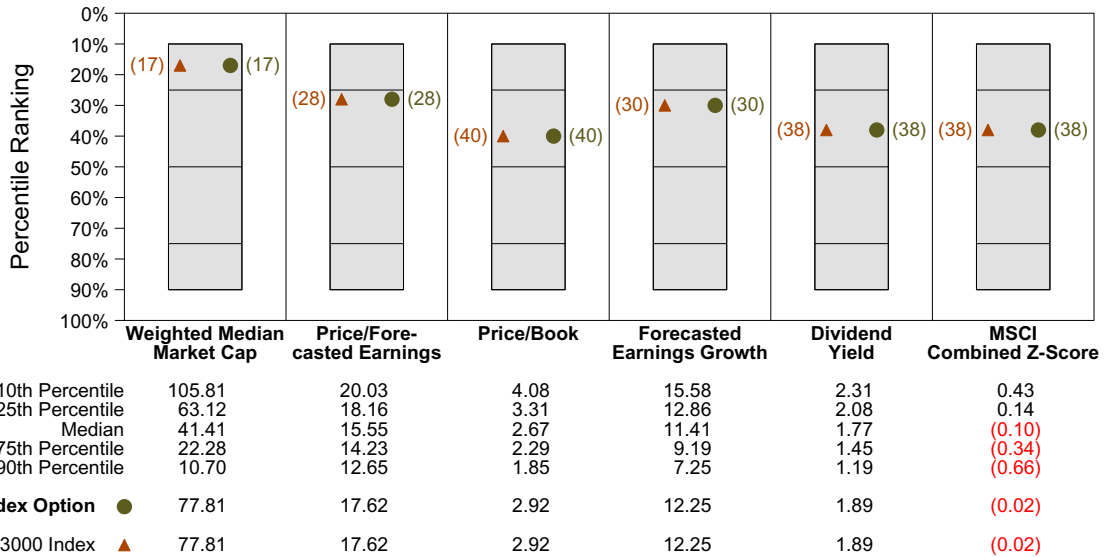


# Stock Index Option Equity Characteristics Analysis Summary

## Portfolio Characteristics

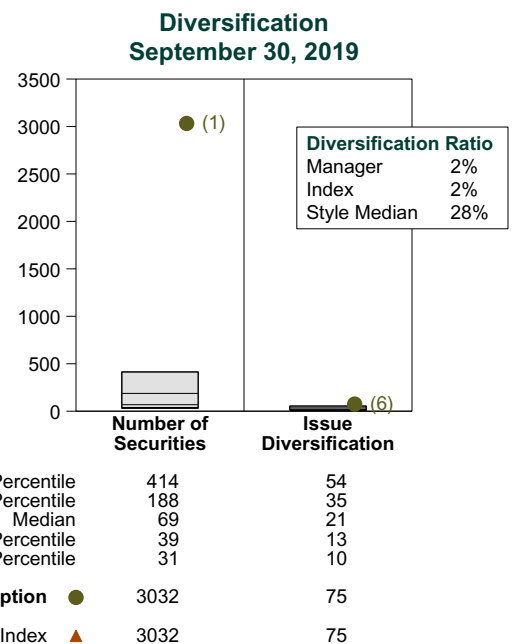
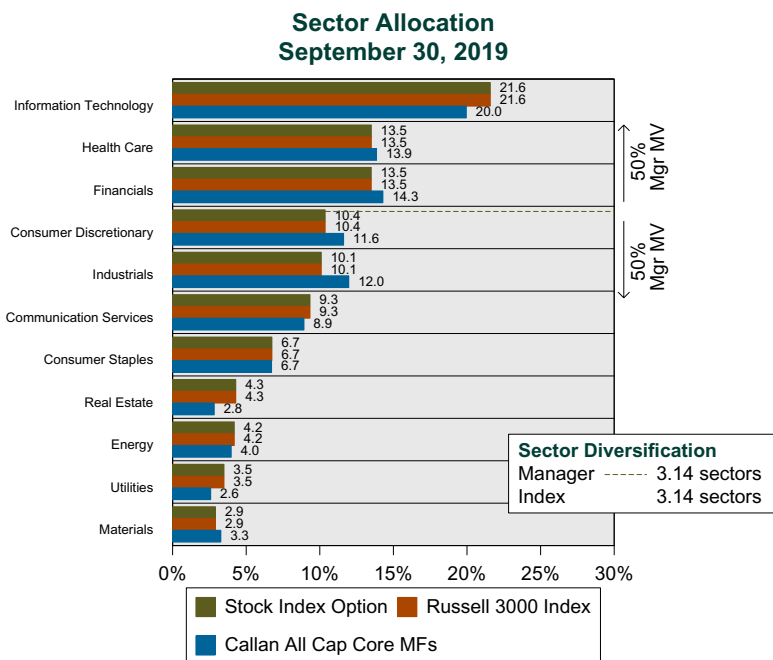
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan All Cap Core Mutual Funds as of September 30, 2019



## Sector Weights

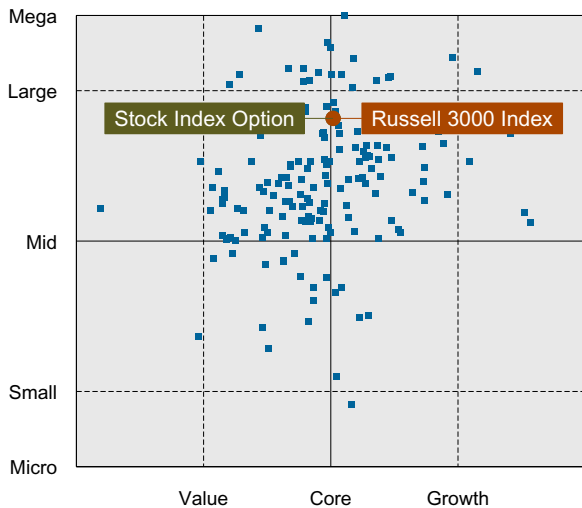
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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.



# Current Holdings Based Style Analysis Stock Index Option As of September 30, 2019

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.

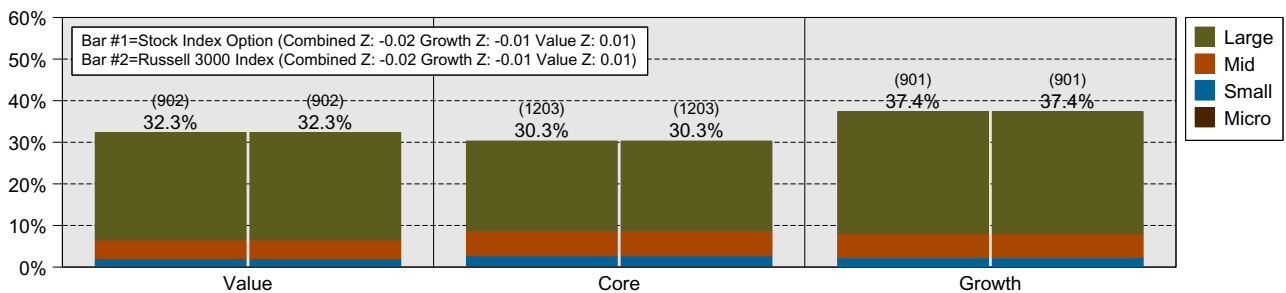
**Style Map vs Callan All Cap Core MFs Holdings as of September 30, 2019**



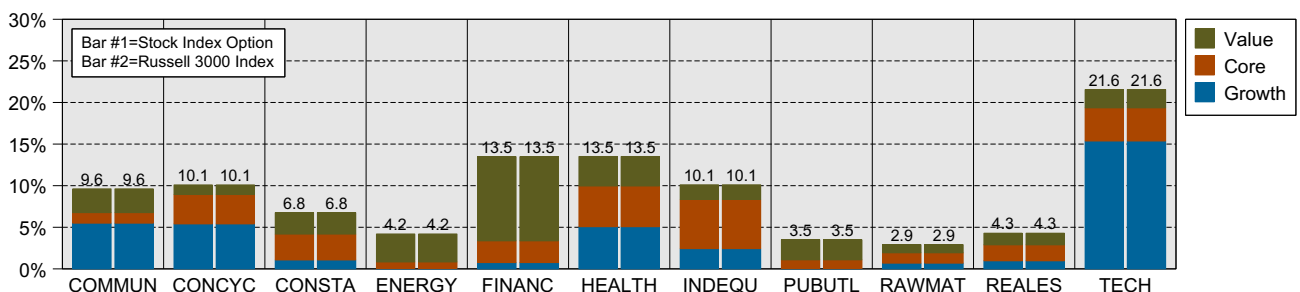
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Large	25.8% (106)	21.4% (103)	29.4% (91)	76.6% (300)
Mid	4.5% (168)	6.2% (224)	5.8% (209)	16.4% (601)
Small	1.8% (333)	2.4% (486)	2.1% (384)	6.3% (1203)
Micro	0.2% (295)	0.3% (390)	0.2% (217)	0.7% (902)
<b>Total</b>	<b>32.3% (902)</b>	<b>30.3% (1203)</b>	<b>37.4% (901)</b>	<b>100.0% (3006)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



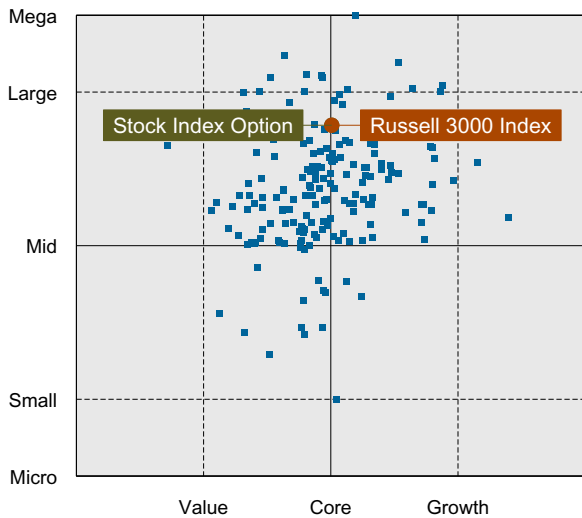
**Sector Weights Distribution Holdings as of September 30, 2019**



# Historical Holdings Based Style Analysis Stock Index Option For Three Years Ended September 30, 2019

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.

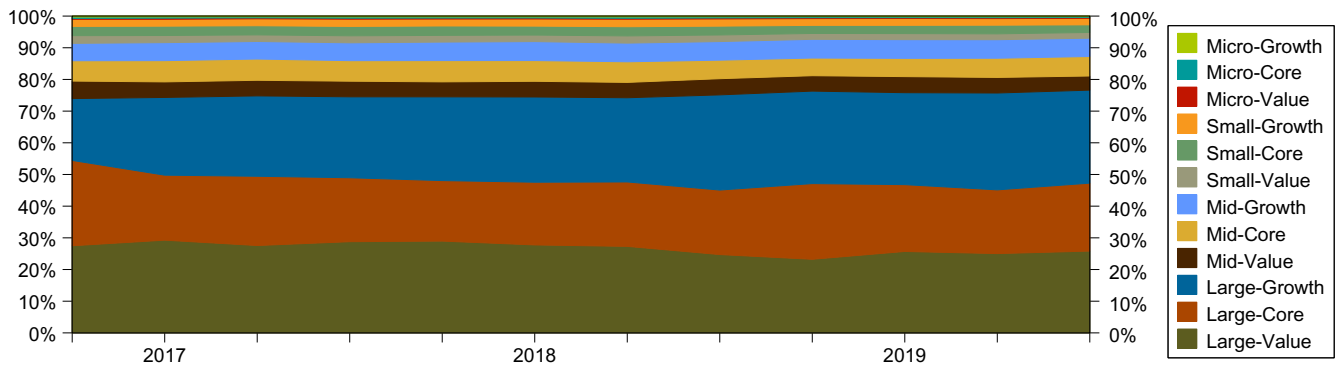
**Average Style Map vs Callan All Cap Core MFs Holdings for Three Years Ended September 30, 2019**



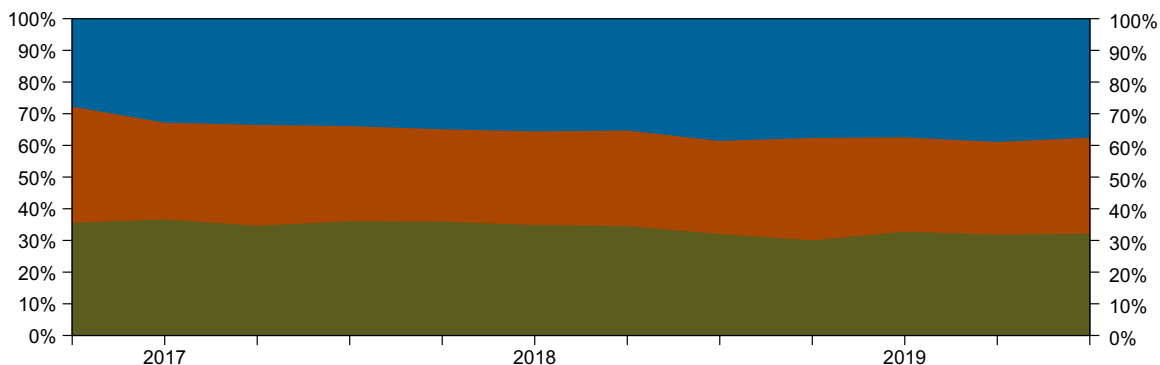
**Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2019**

Large	26.8% (106)	21.3% (95)	26.9% (96)	<b>75.0% (297)</b>
Mid	4.9% (174)	6.3% (218)	5.8% (203)	<b>17.0% (595)</b>
Small	2.1% (333)	2.8% (479)	2.2% (377)	<b>7.1% (1189)</b>
Micro	0.3% (285)	0.4% (378)	0.2% (220)	<b>0.9% (883)</b>
<b>Total</b>	<b>34.1% (898)</b>	<b>30.7% (1170)</b>	<b>35.1% (896)</b>	<b>100.0% (2964)</b>
	Value	Core	Growth	Total

## Stock Index Option Historical Cap/Style Exposures



## Stock Index Option Historical Style Only Exposures

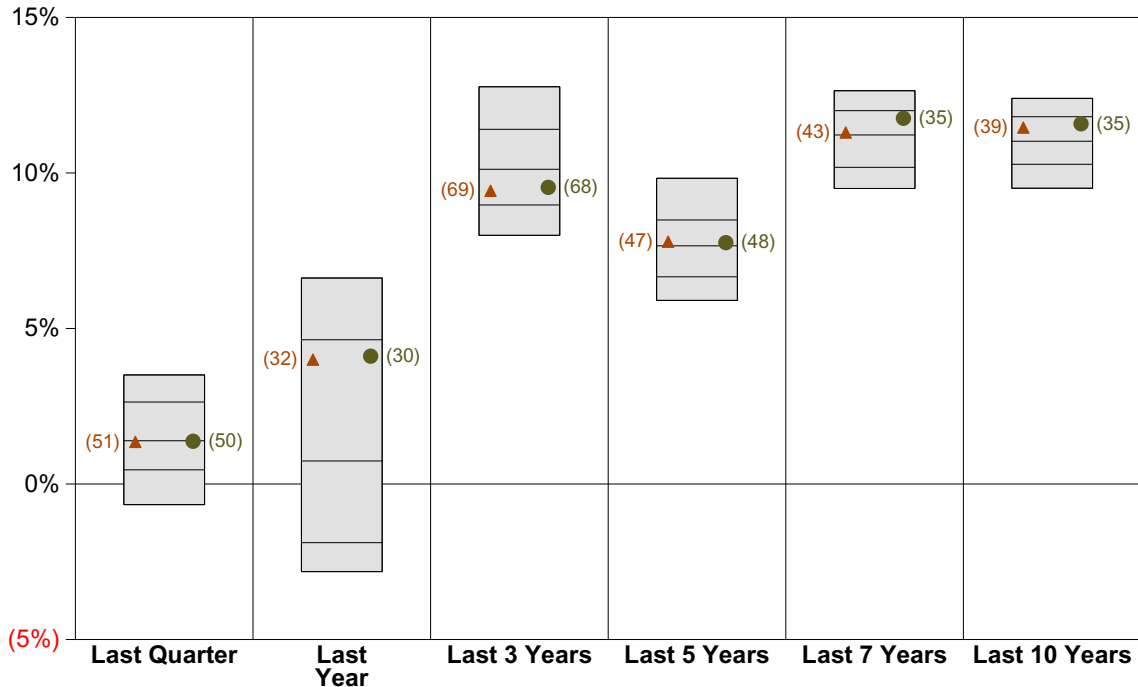


# Large Company Value Stock Option Period Ended September 30, 2019

## Quarterly Summary and Highlights

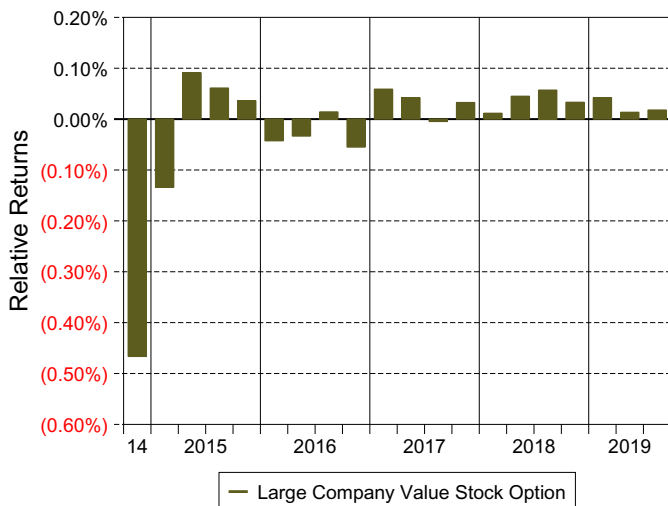
- Large Company Value Stock Option's portfolio posted a 1.37% return for the quarter placing it in the 50 percentile of the Callan Large Cap Value Mutual Funds group for the quarter and in the 30 percentile for the last year.
- Large Company Value Stock Option's portfolio outperformed the Russell 1000 Value Index by 0.02% for the quarter and outperformed the Russell 1000 Value Index for the year by 0.11%.

## Performance vs Callan Large Cap Value Mutual Funds (Institutional Net)

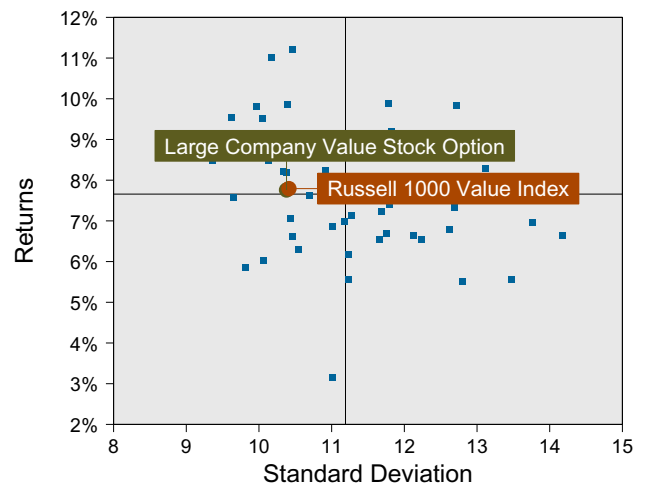


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	3.51	6.62	12.77	9.83	12.64	12.40
25th Percentile	2.64	4.64	11.40	8.49	12.00	11.81
Median	1.39	0.74	10.12	7.66	11.22	11.02
75th Percentile	0.46	(1.89)	8.97	6.66	10.18	10.28
90th Percentile	(0.66)	(2.82)	7.99	5.90	9.50	9.51
<b>Large Company Value Stock Option</b> ●	1.37	4.11	9.54	7.76	11.76	11.58
Russell 1000 Value Index ▲	1.36	4.00	9.43	7.79	11.30	11.46

Relative Return vs Russell 1000 Value Index



Callan Large Cap Value Mutual Funds (Institutional Net)  
Annualized Five Year Risk vs Return



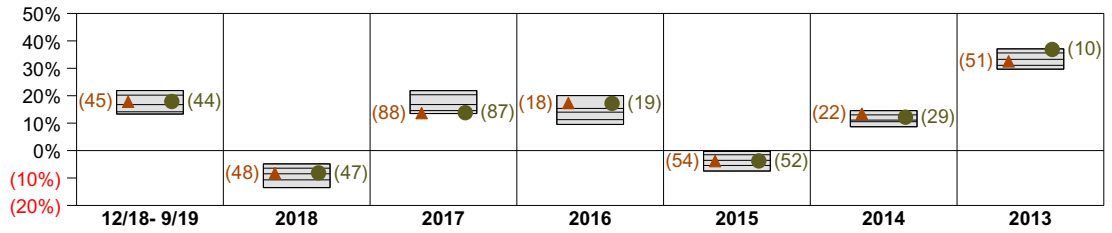


# Large Company Value Stock Option Return Analysis Summary

## Return Analysis

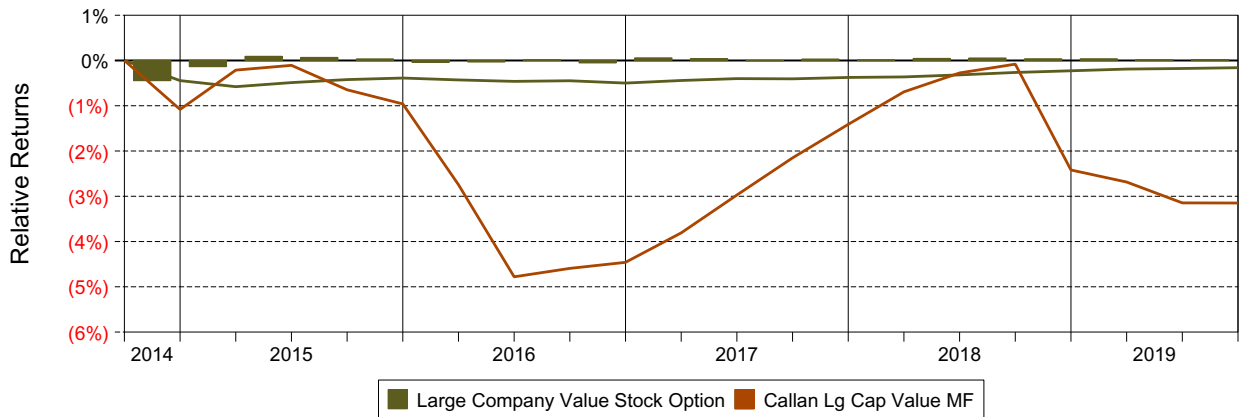
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate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

### Performance vs Callan Large Cap Value Mutual Funds (Institutional Net)

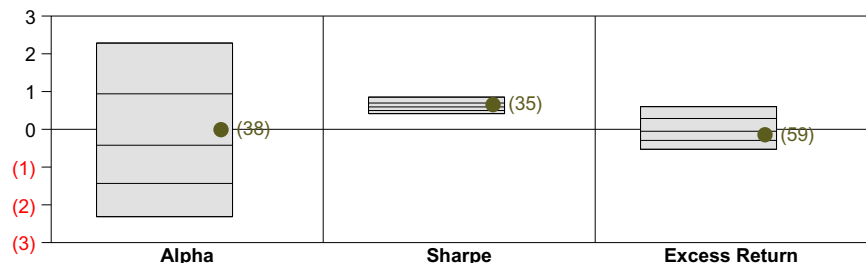


	12/18- 9/19	2018	2017	2016	2015	2014	2013
10th Percentile	21.89	(4.84)	21.85	20.06	(0.27)	14.56	37.09
25th Percentile	20.21	(6.42)	20.36	15.37	(1.52)	13.02	35.61
Median	16.76	(8.46)	16.78	14.01	(3.56)	11.11	33.27
75th Percentile	14.15	(10.68)	14.57	11.27	(5.43)	10.53	31.09
90th Percentile	13.32	(13.50)	13.50	9.54	(7.46)	8.69	29.68
<b>Large Company Value Stock Option</b>	<b>17.89</b>	<b>(8.13)</b>	<b>13.81</b>	<b>17.21</b>	<b>(3.77)</b>	<b>12.18</b>	<b>36.87</b>
Russell 1000 Value Index	17.81	(8.27)	13.66	17.34	(3.83)	13.45	32.53

### Cumulative and Quarterly Relative Return vs Russell 1000 Value Index



### Risk Adjusted Return Measures vs Russell 1000 Value Index Rankings Against Callan Large Cap Value Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



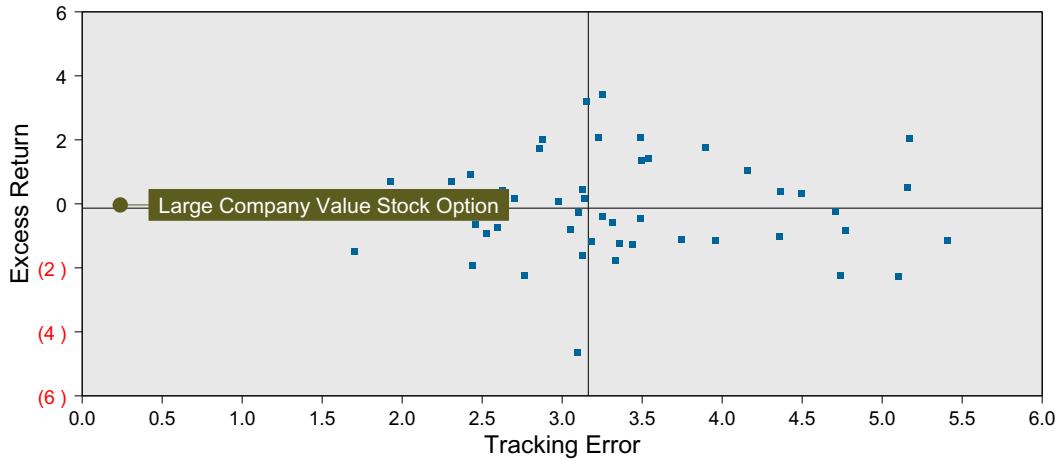
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	2.28	0.85	0.60
25th Percentile	0.94	0.70	0.29
Median	(0.42)	0.59	(0.05)
75th Percentile	(1.43)	0.50	(0.29)
90th Percentile	(2.31)	0.42	(0.53)
<b>Large Company Value Stock Option</b>	<b>(0.01)</b>	<b>0.65</b>	<b>(0.14)</b>

# Large Company Value Stock Option Risk Analysis Summary

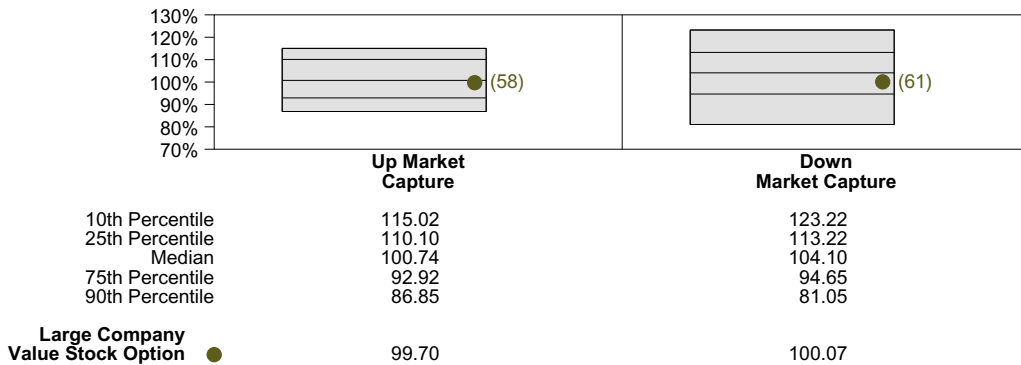
## Risk Analysis

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.

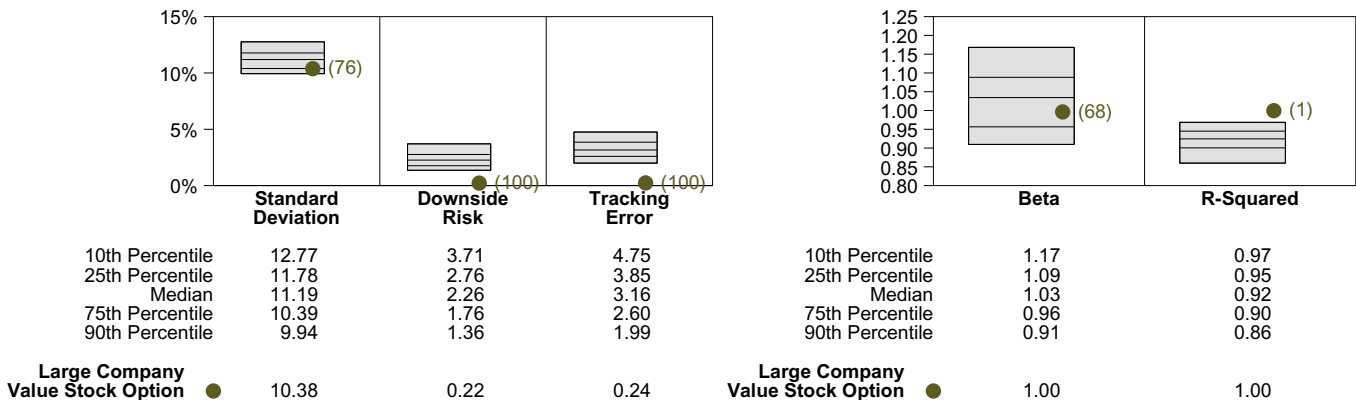
### Risk Analysis vs Callan Large Cap Value Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



### Market Capture vs Russell 1000 Value Index Rankings Against Callan Large Cap Value Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



### Risk Statistics Rankings vs Russell 1000 Value Index Rankings Against Callan Large Cap Value Mutual Funds (Institutional Net) Five Years Ended September 30, 2019

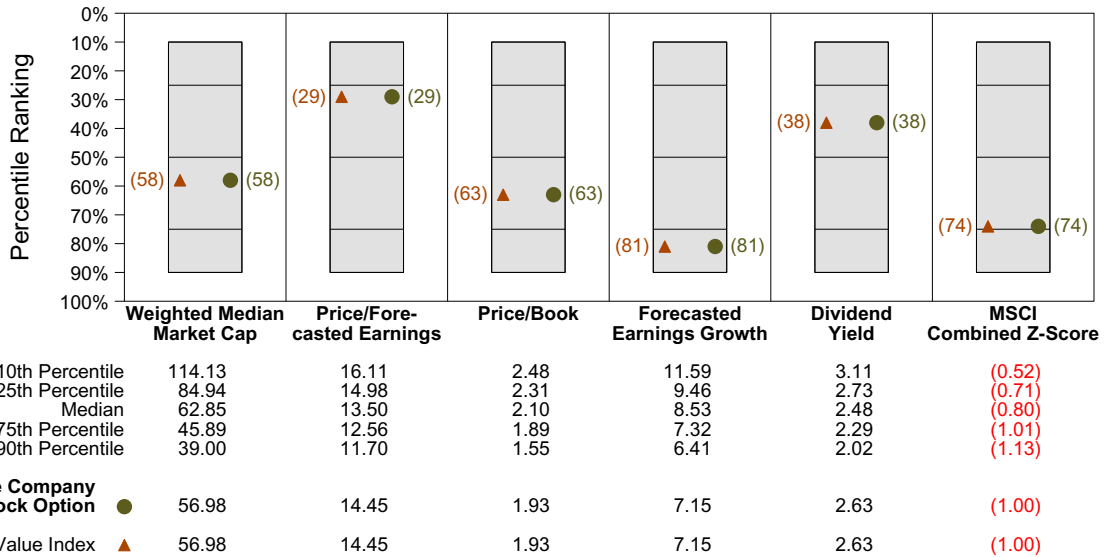


# Large Company Value Stock Option Equity Characteristics Analysis Summary

## 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.

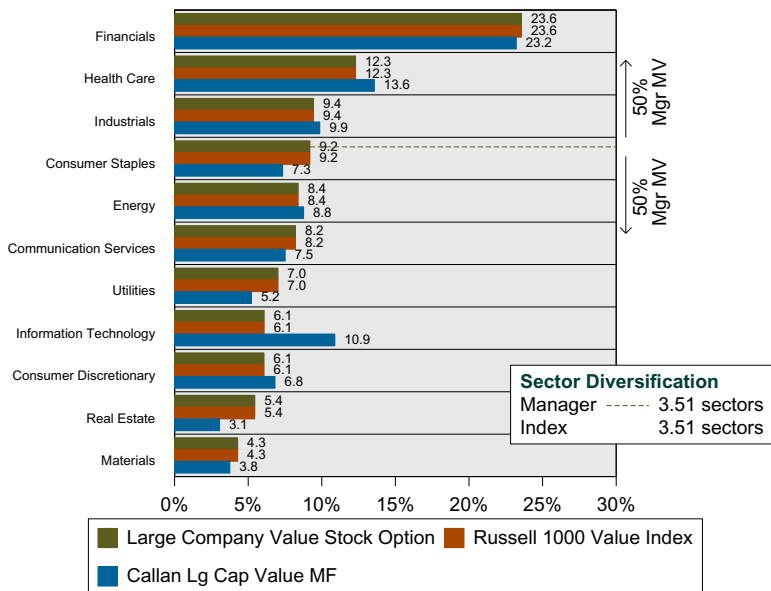
## Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Value Mutual Funds as of September 30, 2019



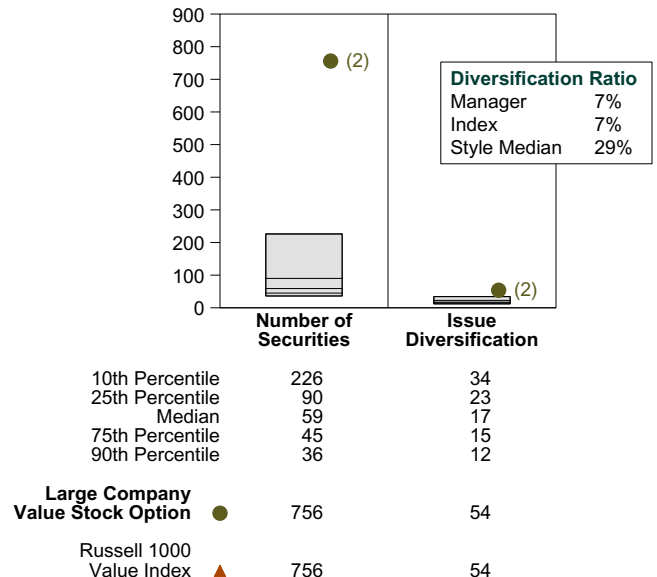
## Sector Weights

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.

### Sector Allocation September 30, 2019



### Diversification September 30, 2019



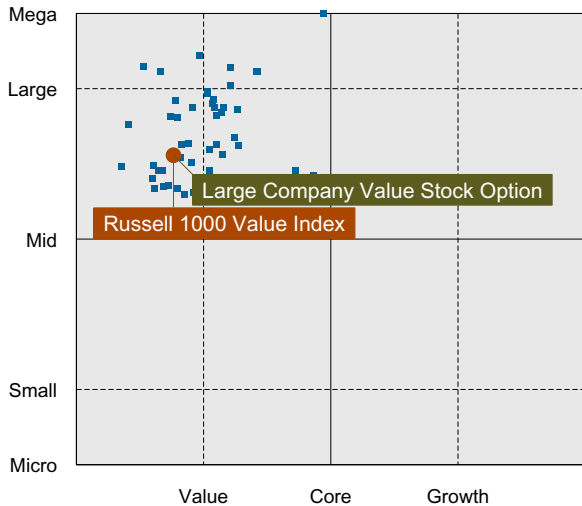
# Current Holdings Based Style Analysis

## Large Company Value Stock Option

### As of September 30, 2019

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.

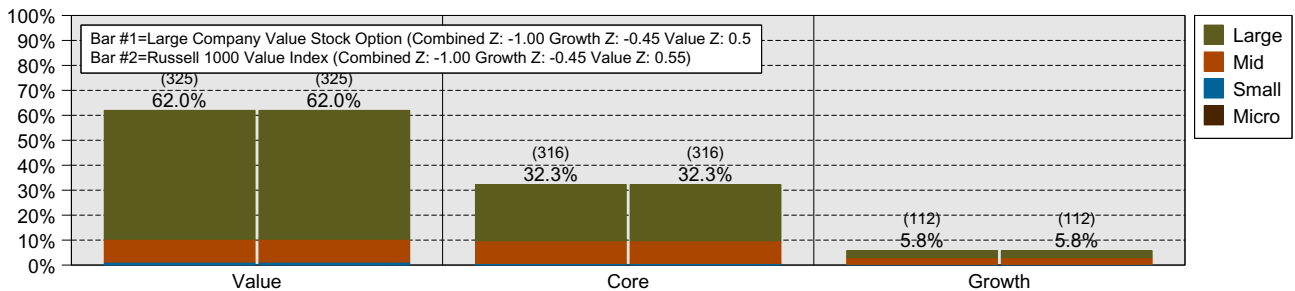
**Style Map vs Callan Lg Cap Value MF Holdings as of September 30, 2019**



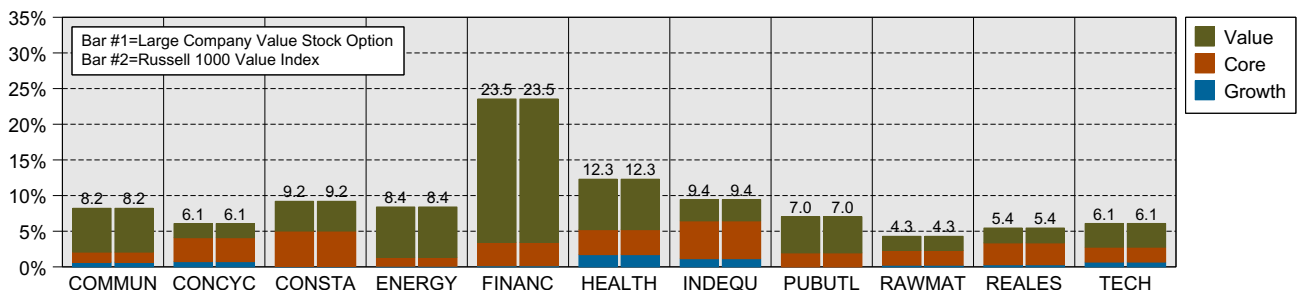
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Large	51.6% (105)	22.6% (84)	2.8% (18)	77.0% (207)
Mid	9.1% (157)	9.0% (186)	2.7% (78)	20.9% (421)
Small	1.2% (63)	0.7% (46)	0.2% (16)	2.1% (125)
Micro	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
<b>Total</b>	<b>62.0% (325)</b>	<b>32.3% (316)</b>	<b>5.8% (112)</b>	<b>100.0% (753)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



**Sector Weights Distribution Holdings as of September 30, 2019**



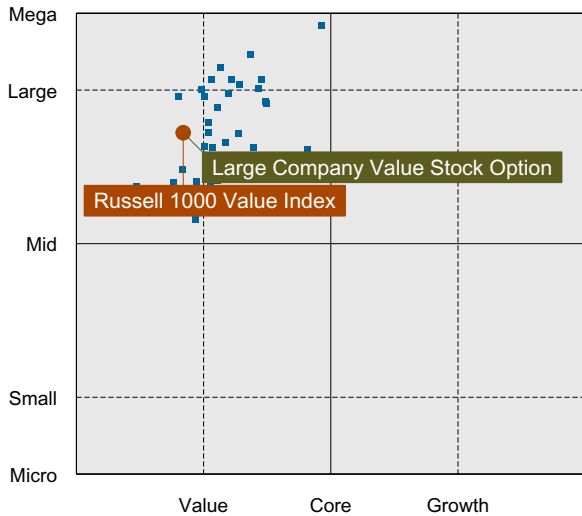
# Historical Holdings Based Style Analysis

## Large Company Value Stock Option

### For Three Years Ended September 30, 2019

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.

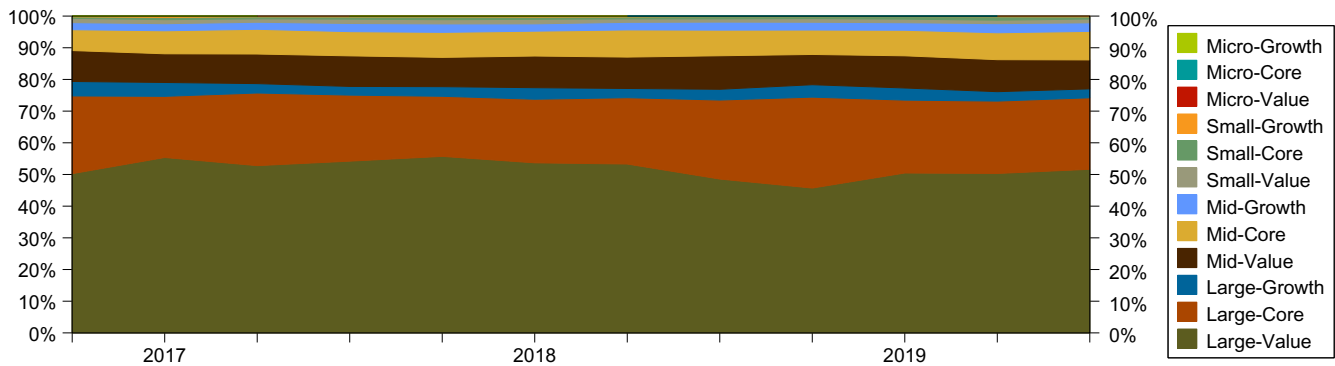
**Average Style Map vs Callan Lg Cap Value MF Holdings for Three Years Ended September 30, 2019**



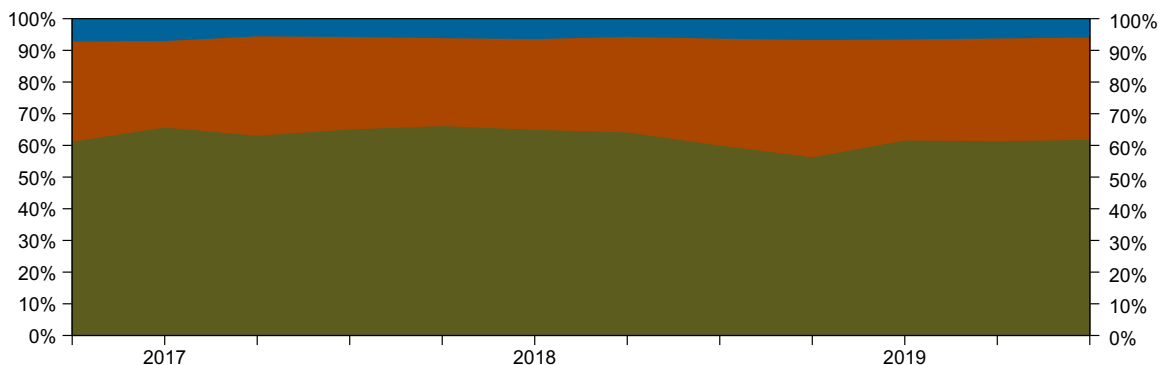
**Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2019**

Large	51.8% (104)	22.5% (73)	3.4% (25)	<b>77.7% (202)</b>
	51.8% (104)	22.5% (73)	3.4% (25)	<b>77.7% (202)</b>
Mid	9.7% (162)	7.9% (165)	2.5% (70)	<b>20.1% (397)</b>
	9.7% (162)	7.9% (165)	2.5% (70)	<b>20.1% (397)</b>
Small	1.2% (59)	0.7% (41)	0.2% (17)	<b>2.2% (117)</b>
	1.2% (59)	0.7% (41)	0.2% (17)	<b>2.2% (117)</b>
Micro	0.0% (0)	0.0% (1)	0.0% (0)	<b>0.0% (1)</b>
	0.0% (0)	0.0% (1)	0.0% (0)	<b>0.0% (1)</b>
<b>Total</b>	<b>62.8% (325)</b>	<b>31.1% (280)</b>	<b>6.1% (112)</b>	<b>100.0% (717)</b>
	<b>62.8% (325)</b>	<b>31.1% (280)</b>	<b>6.1% (112)</b>	<b>100.0% (717)</b>
	Value	Core	Growth	<b>Total</b>

### Large Company Value Stock Option Historical Cap/Style Exposures



### Large Company Value Stock Option Historical Style Only Exposures

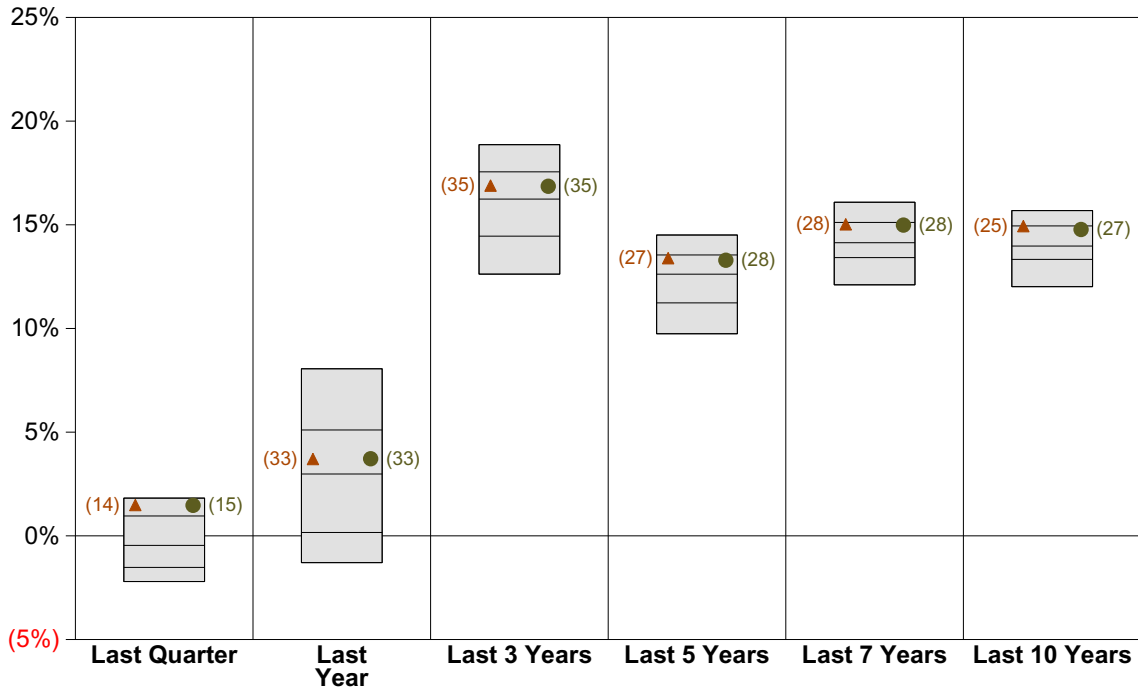


# Large Company Growth Stock Option Period Ended September 30, 2019

## Quarterly Summary and Highlights

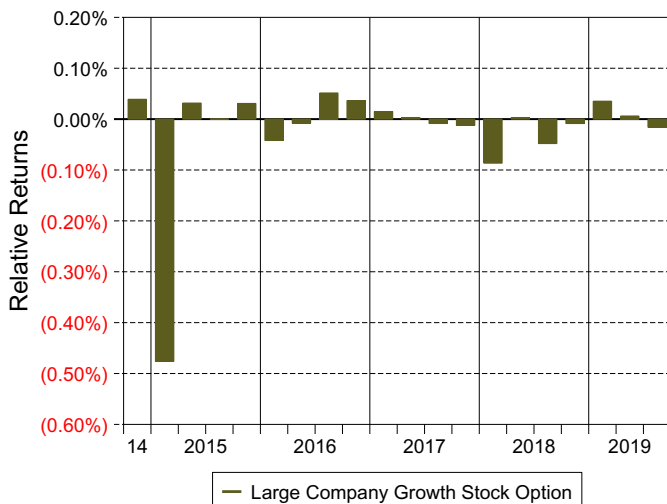
- Large Company Growth Stock Option's portfolio posted a 1.47% return for the quarter placing it in the 15 percentile of the Callan Large Cap Growth Mutual Funds group for the quarter and in the 33 percentile for the last year.
- Large Company Growth Stock Option's portfolio underperformed the Russell 1000 Growth Index by 0.02% for the quarter and outperformed the Russell 1000 Growth Index for the year by 0.01%.

## Performance vs Callan Large Cap Growth Mutual Funds (Institutional Net)

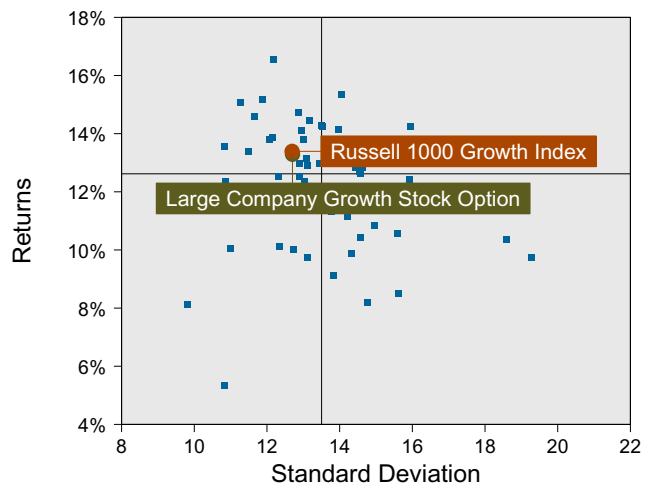


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	1.82	8.06	18.86	14.51	16.09	15.69
25th Percentile	0.96	5.11	17.55	13.55	15.11	14.95
Median	(0.46)	2.98	16.24	12.62	14.14	13.98
75th Percentile	(1.52)	0.16	14.45	11.23	13.42	13.33
90th Percentile	(2.20)	(1.29)	12.62	9.75	12.11	12.02
<b>Large Company Growth Stock Option</b> ●	1.47	3.72	16.86	13.29	14.99	14.77
Russell 1000 Growth Index ▲	1.49	3.71	16.89	13.39	15.02	14.94

## Relative Return vs Russell 1000 Growth Index



## Callan Large Cap Growth Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

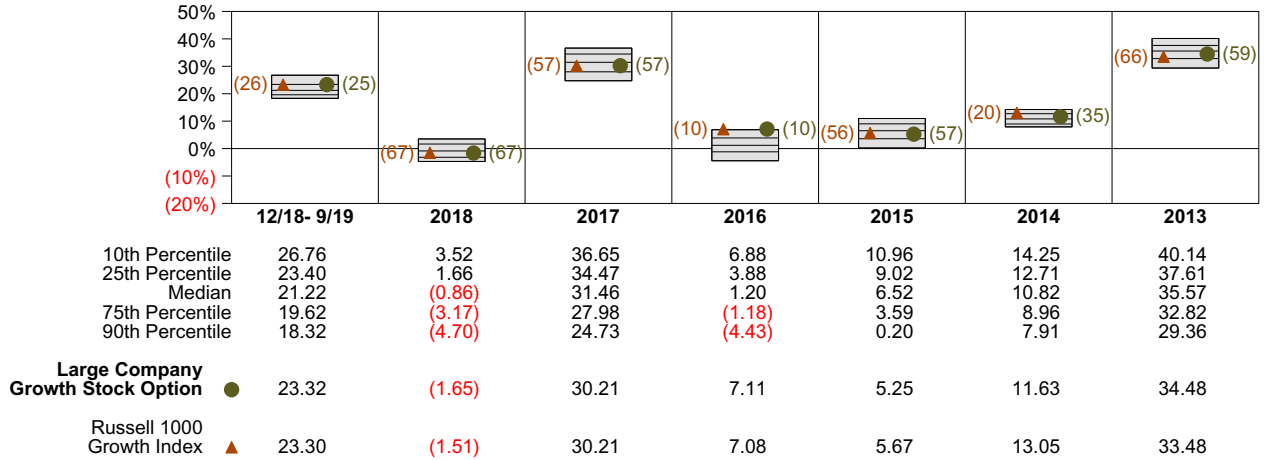


# Large Company Growth Stock Option Return Analysis Summary

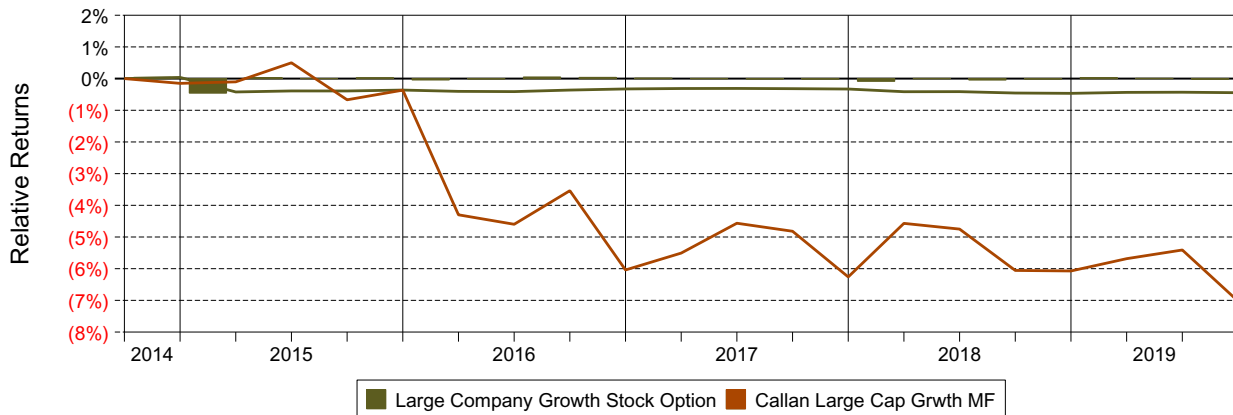
## Return Analysis

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 cumulative 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.

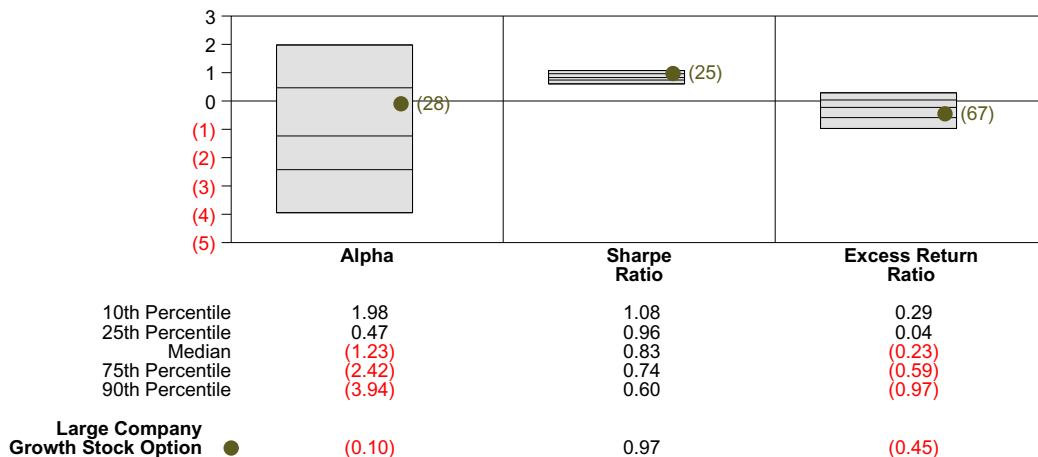
### Performance vs Callan Large Cap Growth Mutual Funds (Institutional Net)



### Cumulative and Quarterly Relative Return vs Russell 1000 Growth Index



### Risk Adjusted Return Measures vs Russell 1000 Growth Index Rankings Against Callan Large Cap Growth Mutual Funds (Institutional Net) Five Years Ended September 30, 2019

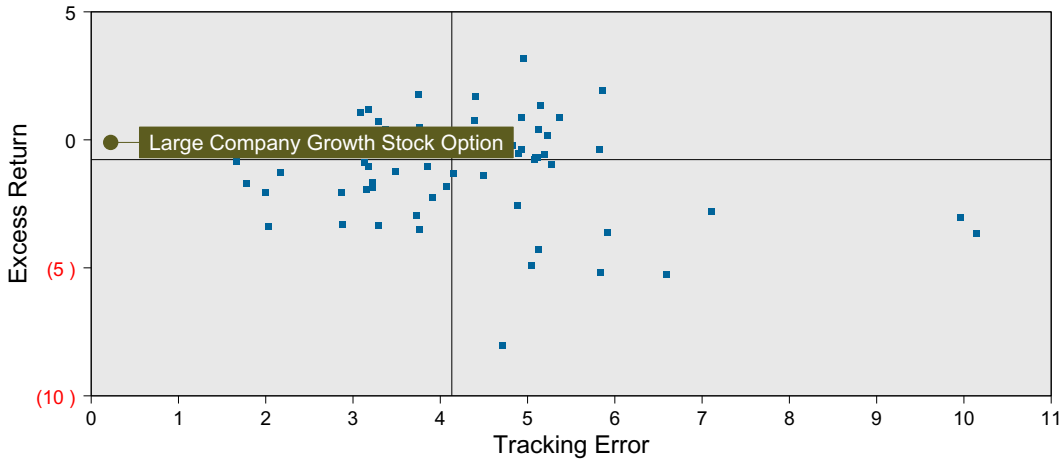


# Large Company Growth Stock Option Risk Analysis Summary

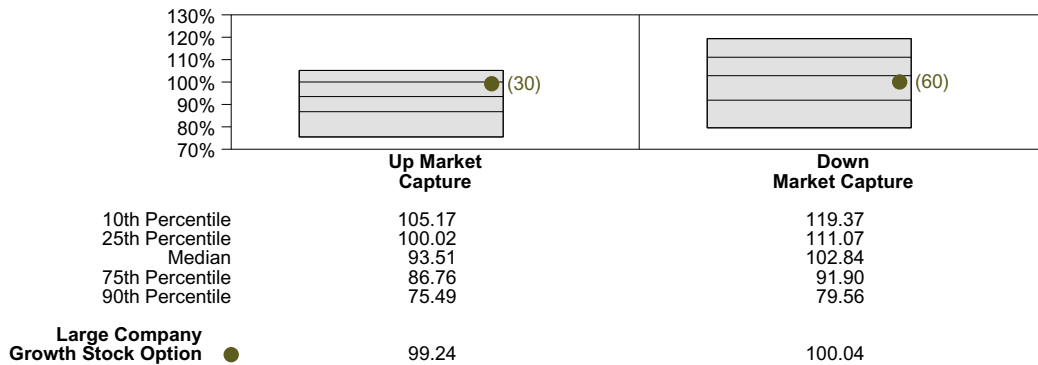
## Risk Analysis

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.

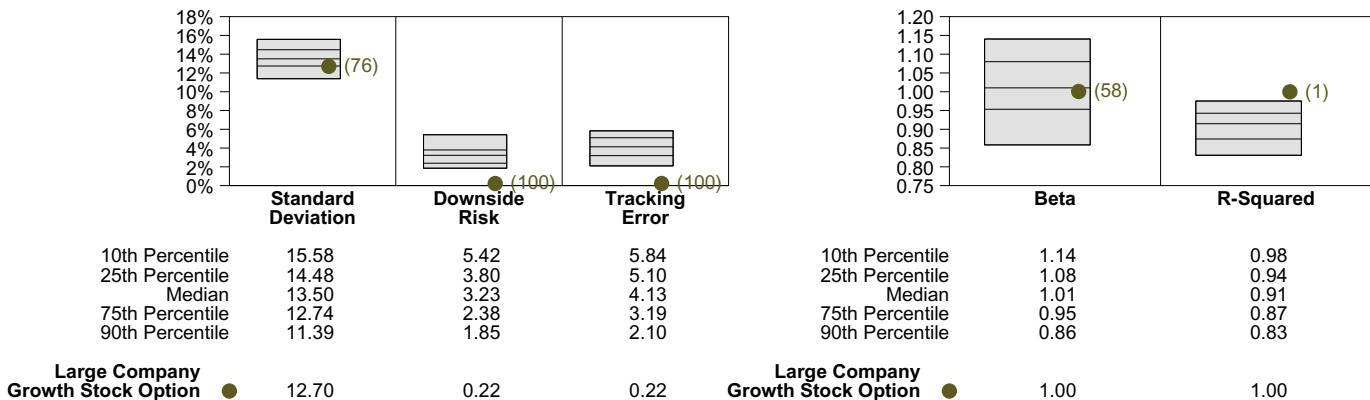
### Risk Analysis vs Callan Large Cap Growth Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



### Market Capture vs Russell 1000 Growth Index Rankings Against Callan Large Cap Growth Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



### Risk Statistics Rankings vs Russell 1000 Growth Index Rankings Against Callan Large Cap Growth Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



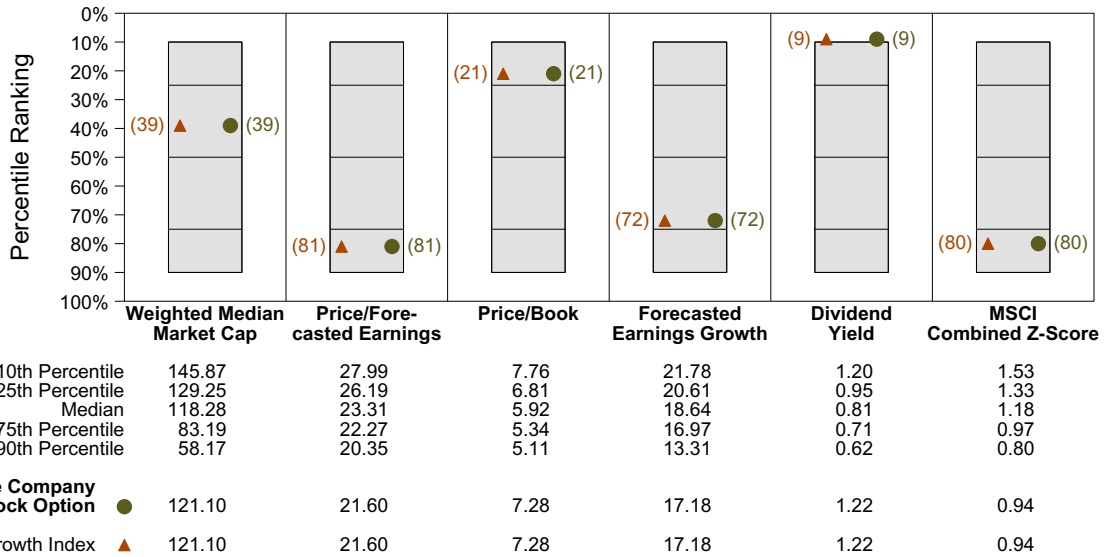


# Large Company Growth Stock Option Equity Characteristics Analysis Summary

## Portfolio Characteristics

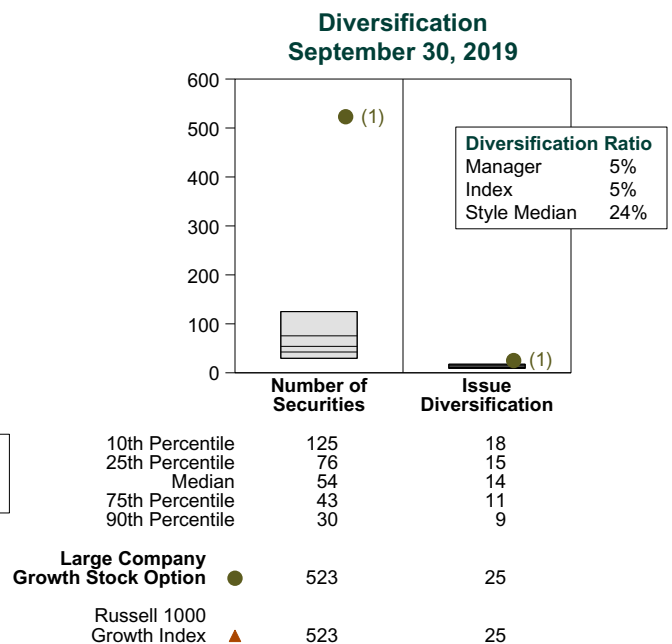
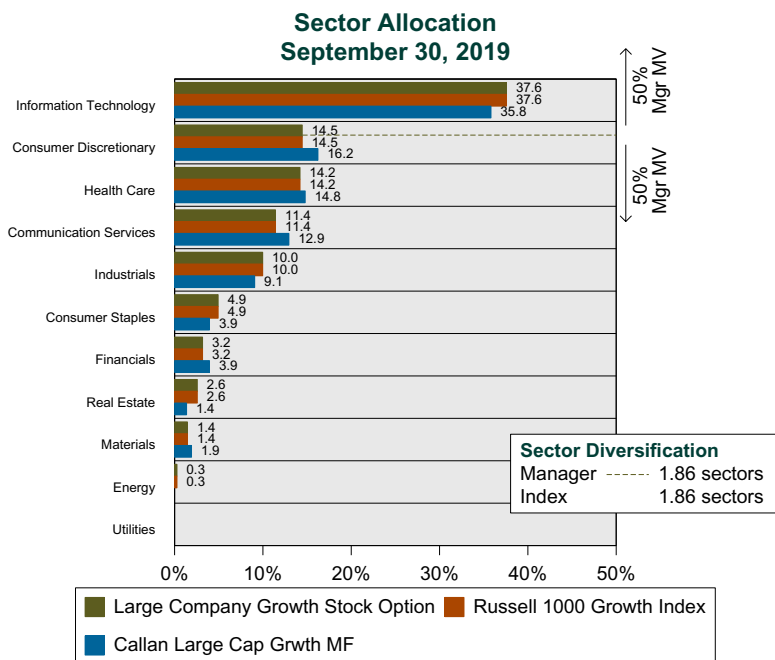
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Growth Mutual Funds as of September 30, 2019



## 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.



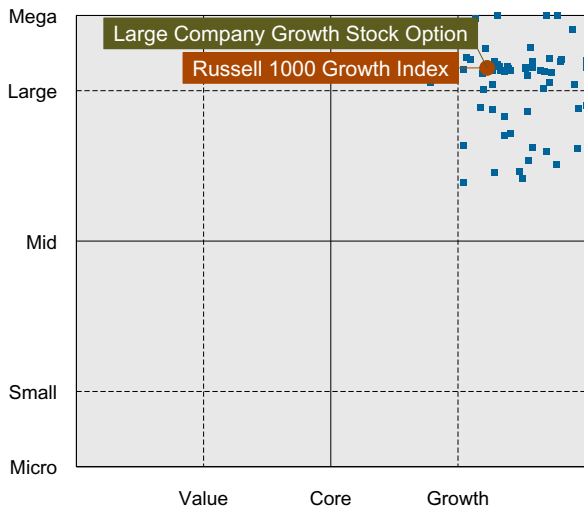
# Current Holdings Based Style Analysis

## Large Company Growth Stock Option

### As of September 30, 2019

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.

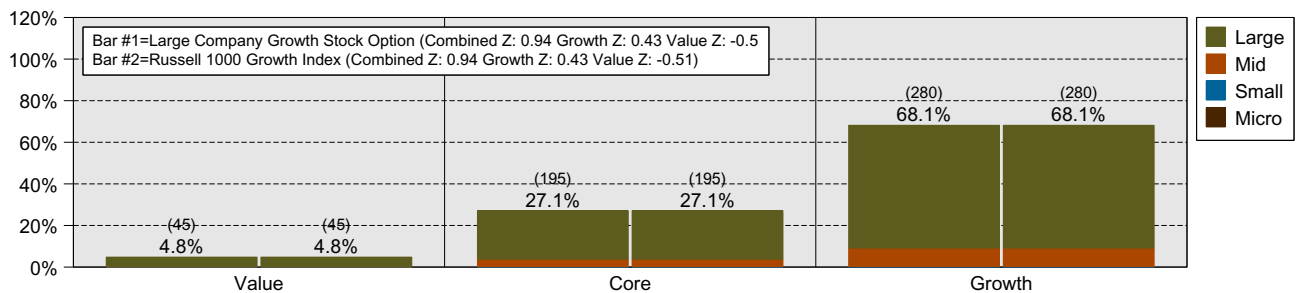
**Style Map vs Callan Large Cap Grwth MF Holdings as of September 30, 2019**



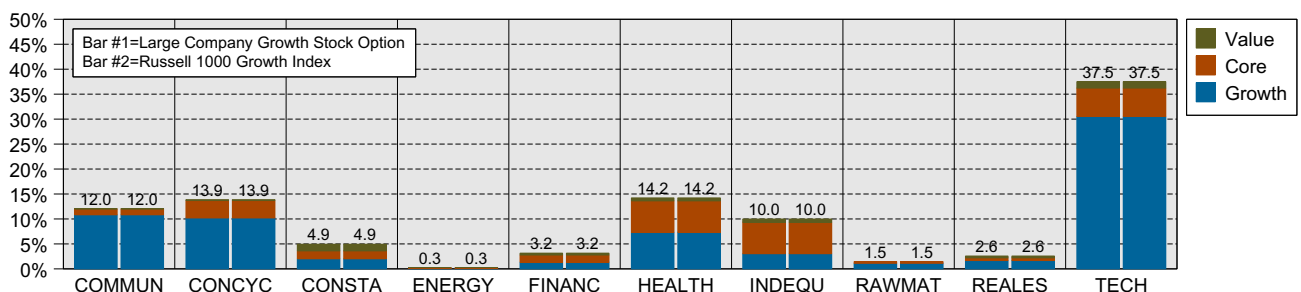
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Large	4.5% (22)	23.3% (72)	59.0% (90)	86.8% (184)
Mid	0.3% (19)	3.7% (111)	8.9% (169)	12.8% (299)
Small	0.0% (4)	0.2% (12)	0.3% (21)	0.4% (37)
Micro	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
<b>Total</b>	<b>4.8% (45)</b>	<b>27.1% (195)</b>	<b>68.1% (280)</b>	<b>100.0% (520)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



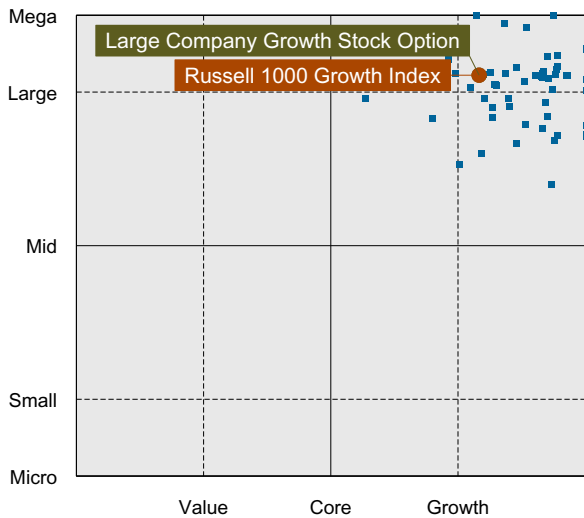
**Sector Weights Distribution Holdings as of September 30, 2019**



# Historical Holdings Based Style Analysis Large Company Growth Stock Option For Three Years Ended September 30, 2019

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.

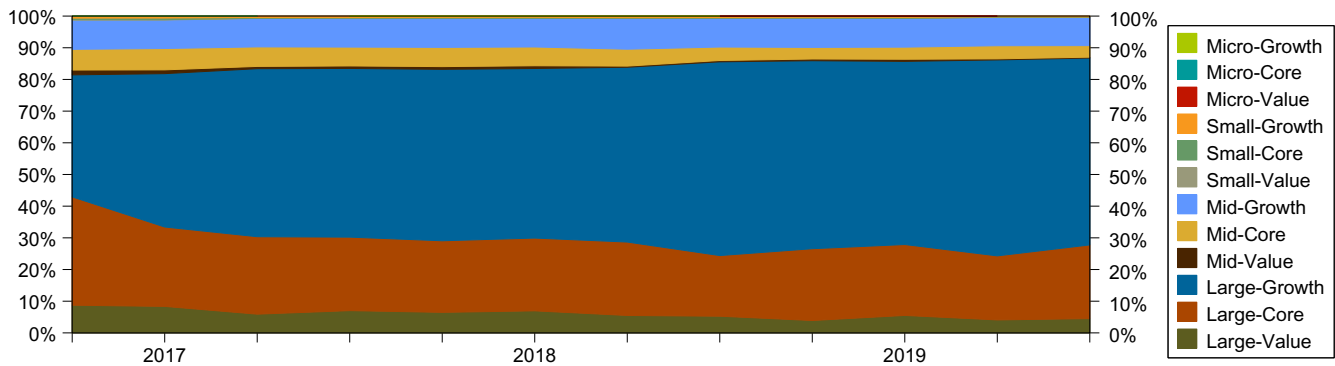
**Average Style Map vs Callan Large Cap Grwth MF Holdings for Three Years Ended September 30, 2019**



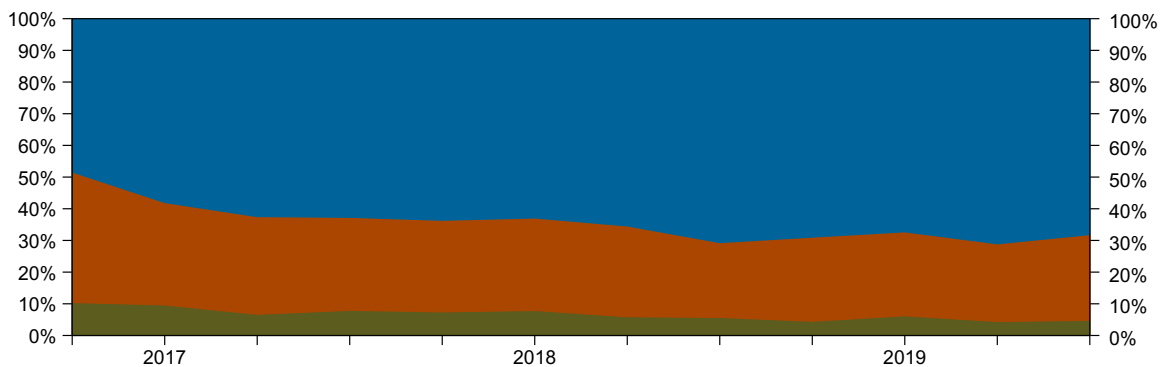
**Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2019**

	Value	Core	Growth	Total
Large	6.0% (25)	23.6% (69)	54.6% (92)	<b>84.2% (186)</b>
Mid	0.7% (27)	5.2% (119)	9.1% (158)	<b>15.0% (304)</b>
Small	0.1% (10)	0.3% (20)	0.4% (25)	<b>0.8% (55)</b>
Micro	0.0% (0)	0.0% (1)	0.0% (1)	<b>0.0% (2)</b>
<b>Total</b>	<b>6.8% (62)</b>	<b>29.1% (209)</b>	<b>64.1% (276)</b>	<b>100.0% (547)</b>

**Large Company Growth Stock Option Historical Cap/Style Exposures**



**Large Company Growth Stock Option Historical Style Only Exposures**

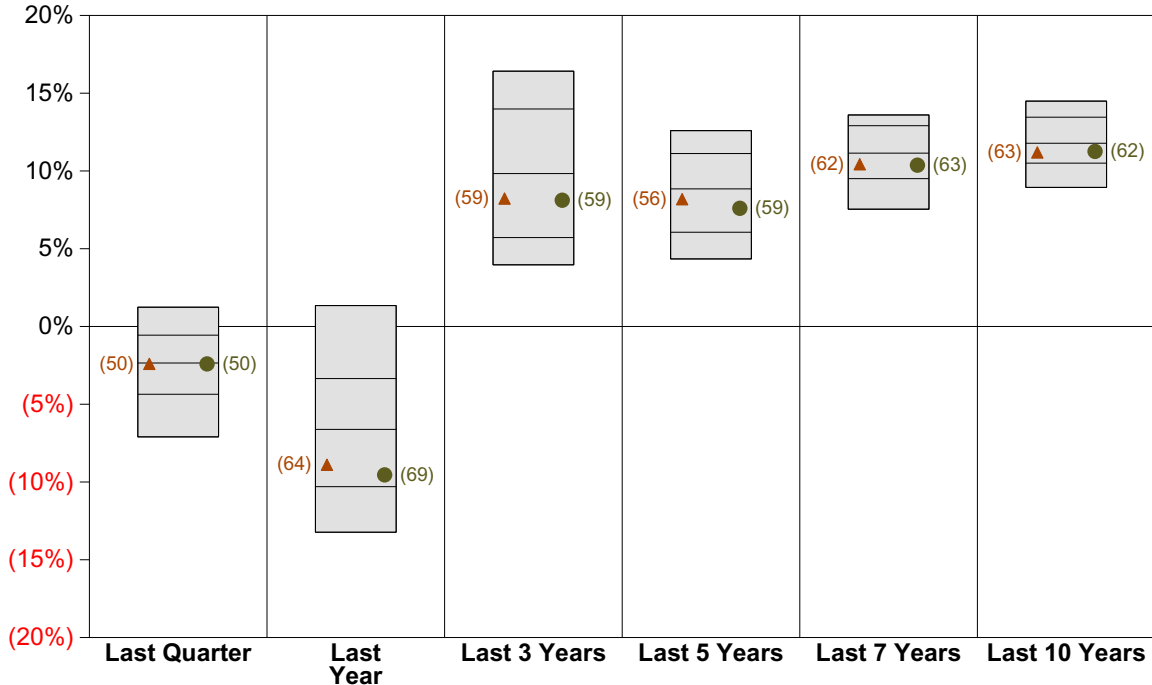


# Small Company Stock Option Period Ended September 30, 2019

## Quarterly Summary and Highlights

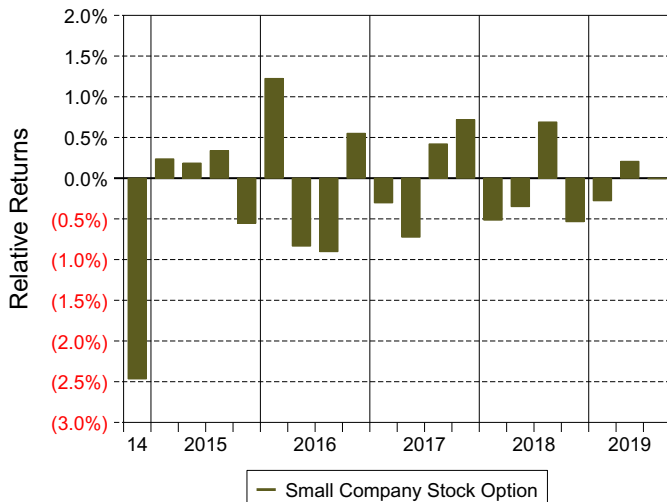
- Small Company Stock Option's portfolio posted a (2.41)% return for the quarter placing it in the 50 percentile of the Callan Small Cap Mutual Funds group for the quarter and in the 69 percentile for the last year.
- Small Company Stock Option's portfolio underperformed the Russell 2000 Index by 0.01% for the quarter and underperformed the Russell 2000 Index for the year by 0.65%.

## Performance vs Callan Small Cap Mutual Funds (Institutional Net)

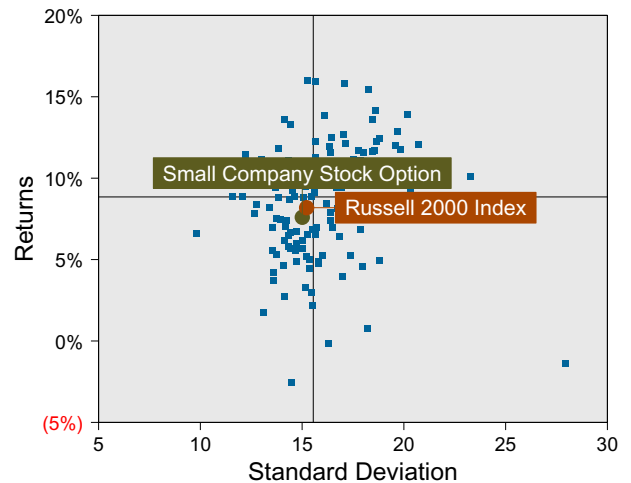


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	1.24	1.34	16.42	12.59	13.60	14.49
25th Percentile	(0.56)	(3.35)	13.98	11.12	12.91	13.46
Median	(2.35)	(6.62)	9.83	8.85	11.15	11.78
75th Percentile	(4.36)	(10.30)	5.72	6.06	9.51	10.50
90th Percentile	(7.10)	(13.23)	3.96	4.34	7.54	8.94
<b>Small Company Stock Option</b> ●	(2.41)	(9.54)	8.12	7.60	10.37	11.26
Russell 2000 Index ▲	(2.40)	(8.89)	8.23	8.19	10.43	11.19

Relative Return vs Russell 2000 Index



Callan Small Cap Mutual Funds (Institutional Net)  
Annualized Five Year Risk vs Return

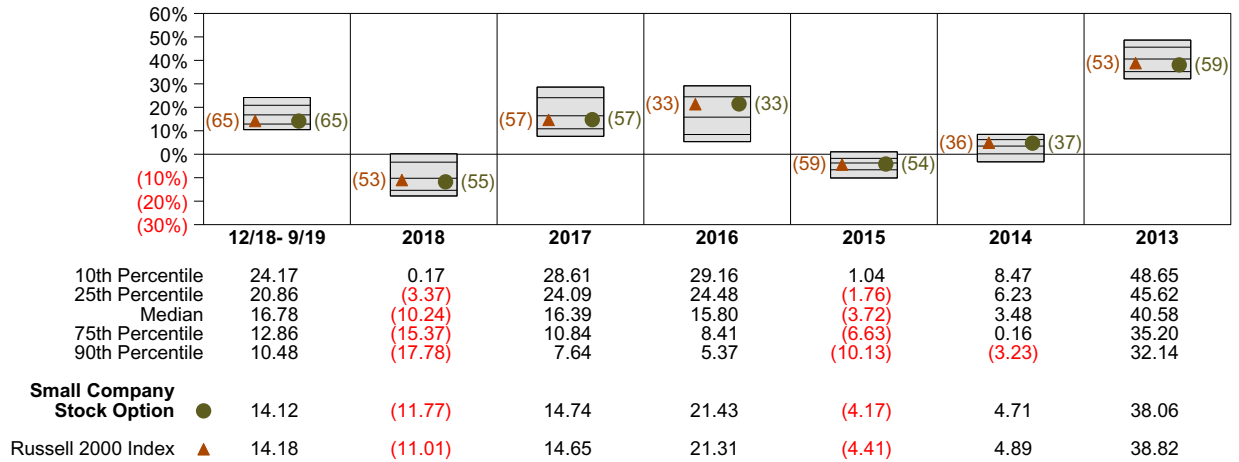


# Small Company Stock Option Return Analysis Summary

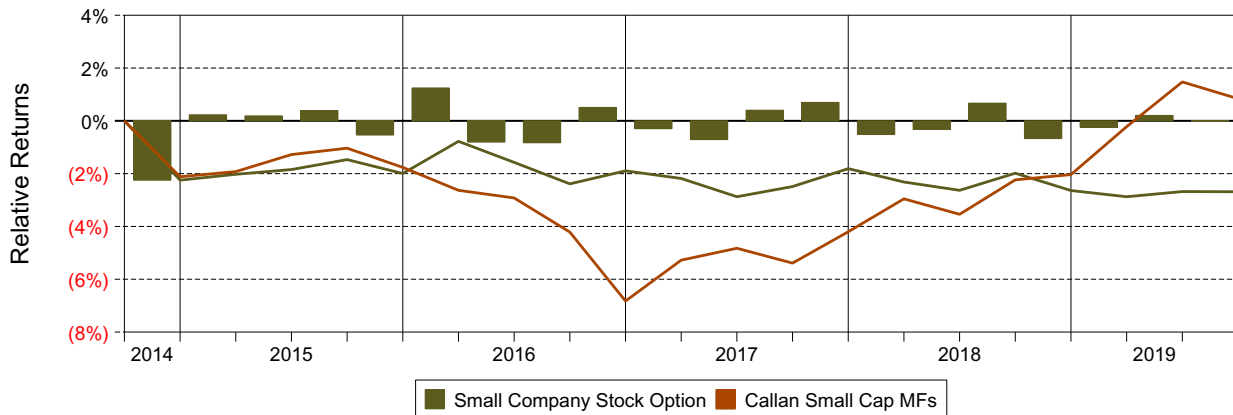
## Return Analysis

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 cumulative 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.

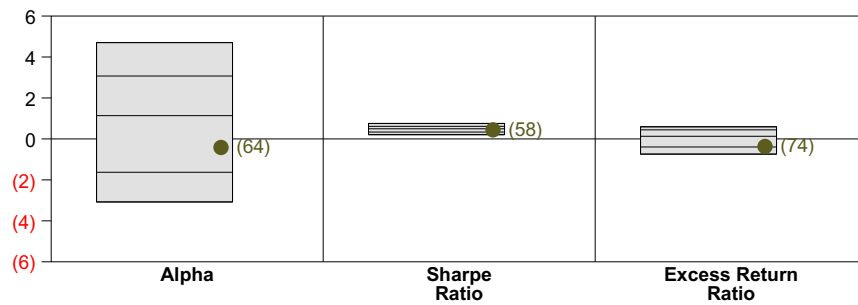
### Performance vs Callan Small Cap Mutual Funds (Institutional Net)



### Cumulative and Quarterly Relative Return vs Russell 2000 Index



### Risk Adjusted Return Measures vs Russell 2000 Index Rankings Against Callan Small Cap Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



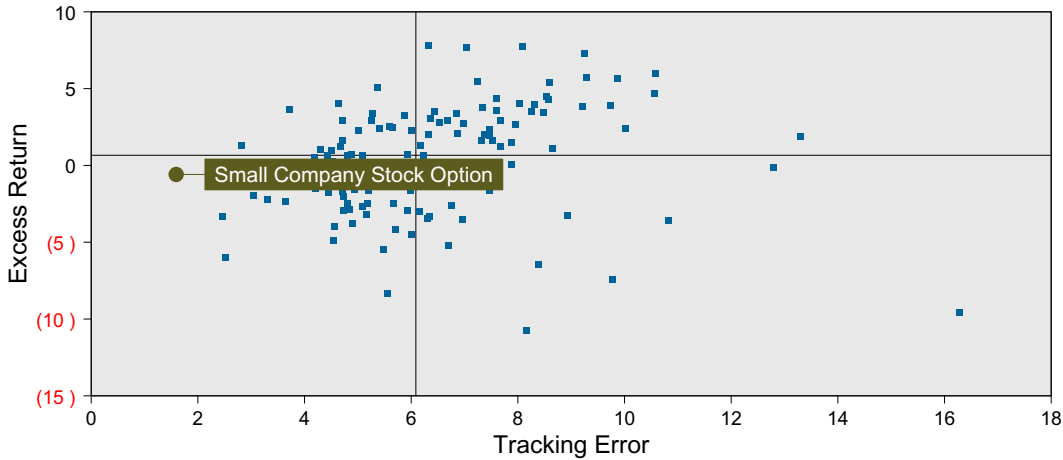
10th Percentile	4.70	0.76	0.59
25th Percentile	3.07	0.61	0.44
Median	1.14	0.49	0.13
75th Percentile	(1.63)	0.33	(0.39)
90th Percentile	(3.08)	0.21	(0.74)
<b>Small Company Stock Option</b>	● (0.42)	0.44	(0.37)

# Small Company Stock Option Risk Analysis Summary

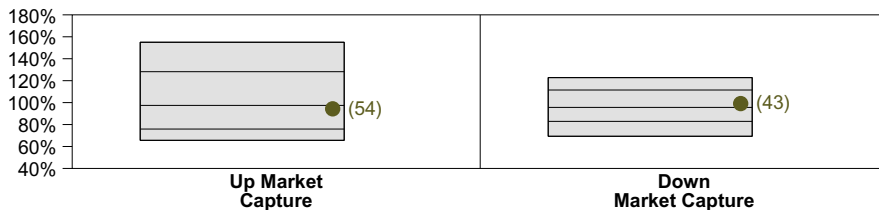
## Risk Analysis

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 Mutual Funds (Institutional Net) Five Years Ended September 30, 2019

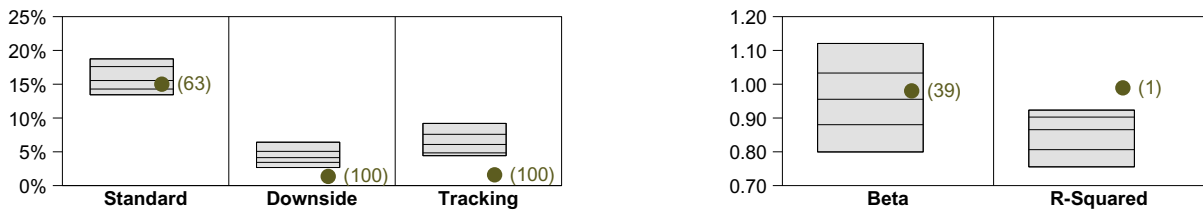


### Market Capture vs Russell 2000 Index Rankings Against Callan Small Cap Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



	Up Market Capture	Down Market Capture
10th Percentile	155.02	122.78
25th Percentile	128.19	111.48
Median	97.45	95.63
75th Percentile	75.90	82.90
90th Percentile	65.63	69.31
<b>Small Company Stock Option</b>	<b>94.31</b>	<b>99.12</b>

### Risk Statistics Rankings vs Russell 2000 Index Rankings Against Callan Small Cap Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



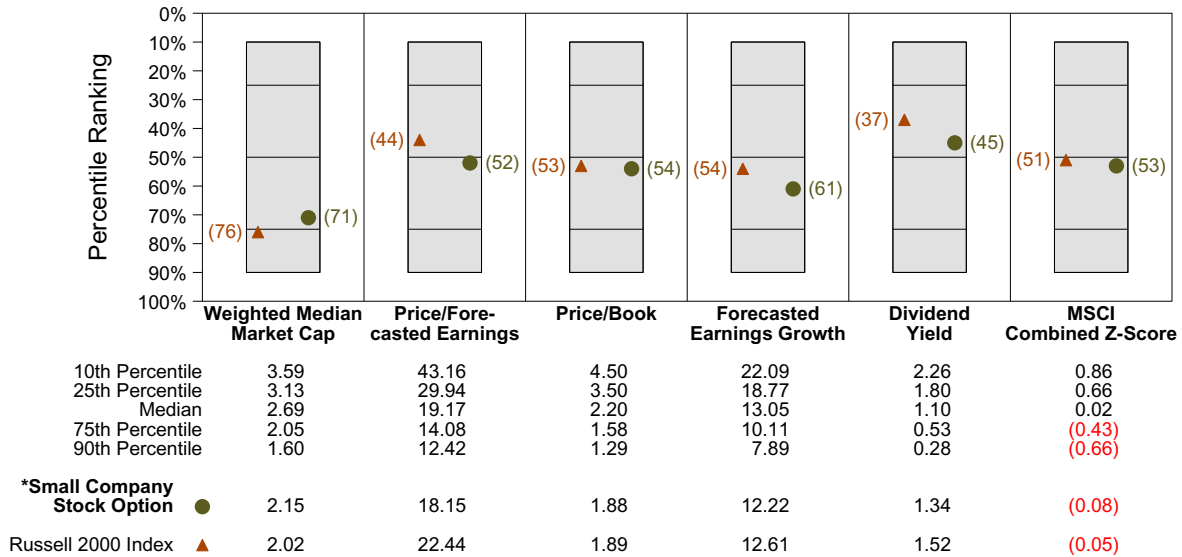
	Standard Deviation	Downside Risk	Tracking Error	Beta	R-Squared
10th Percentile	18.75	6.42	9.20	1.12	0.92
25th Percentile	17.61	5.07	7.59	1.03	0.90
Median	15.55	4.14	6.09	0.96	0.87
75th Percentile	14.29	3.44	4.84	0.88	0.81
90th Percentile	13.44	2.68	4.43	0.80	0.76
<b>Small Company Stock Option</b>	<b>15.01</b>	<b>1.36</b>	<b>1.59</b>	<b>0.98</b>	<b>0.99</b>

# Small Company Stock Option Equity Characteristics Analysis Summary

## Portfolio Characteristics

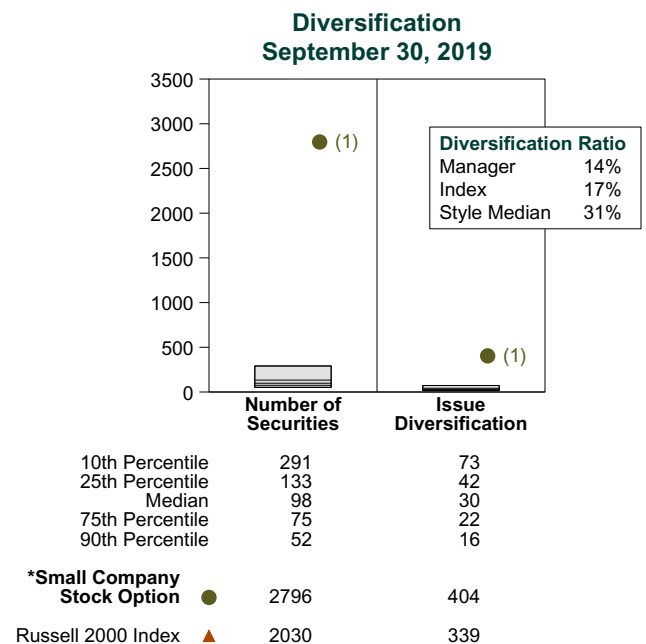
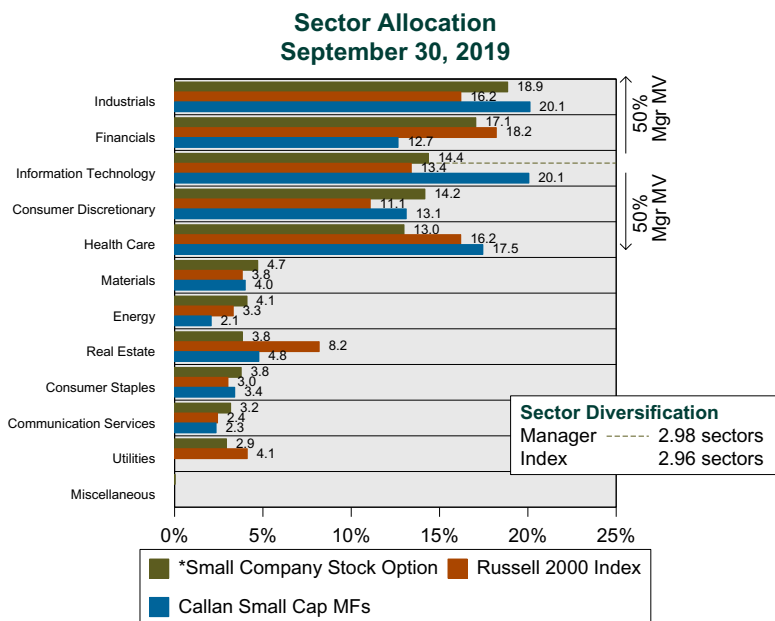
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Cap Mutual Funds as of September 30, 2019



## 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.

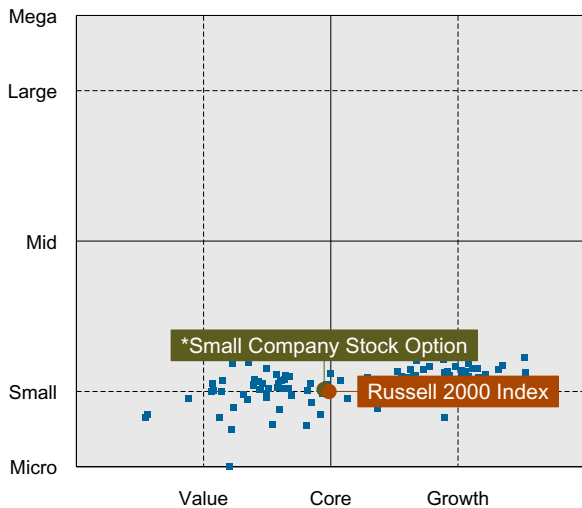


\*9/30/19 portfolio characteristics generated using most recently available holdings (8/31/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

# Current Holdings Based Style Analysis Small Company Stock Option As of September 30, 2019

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.

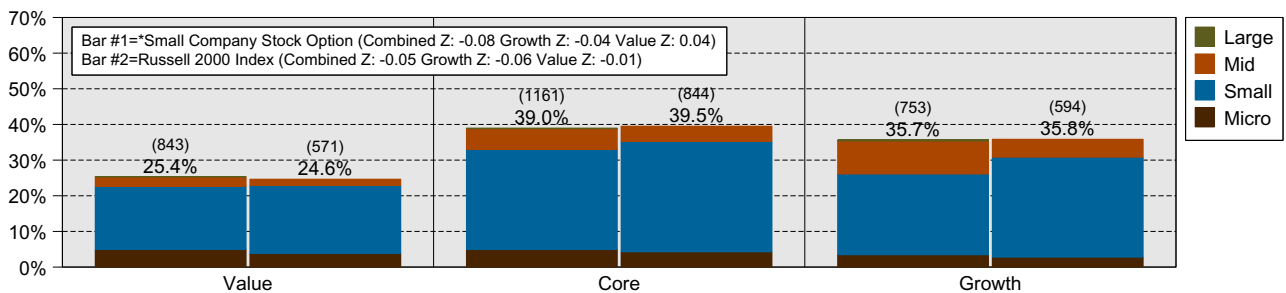
**Style Map vs Callan Small Cap MFs Holdings as of September 30, 2019**



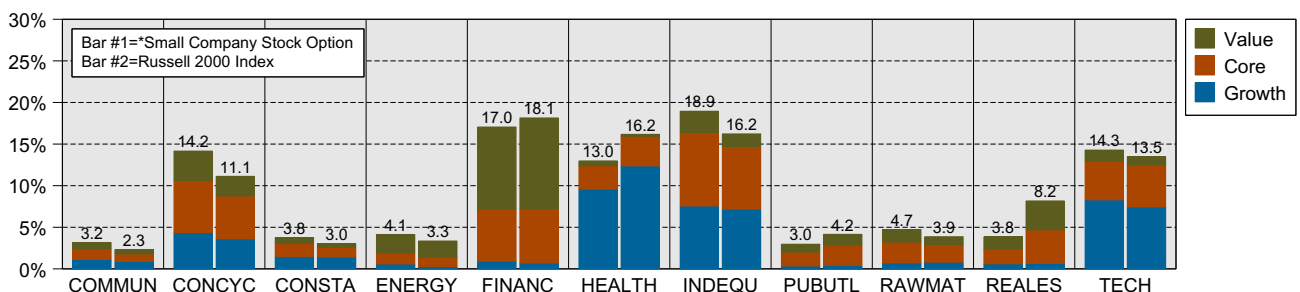
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Large	0.1% (1) 0.0% (0)	0.2% (2) 0.0% (0)	0.3% (4) 0.0% (0)	0.5% (7) 0.0% (0)
Mid	2.7% (53) 1.7% (8)	5.8% (90) 4.2% (19)	9.3% (107) 5.0% (21)	17.8% (250) 11.0% (48)
Small	17.7% (327) 19.1% (268)	28.1% (489) 31.0% (435)	22.6% (384) 28.0% (356)	68.4% (1200) 78.1% (1059)
Micro	4.9% (462) 3.8% (295)	4.9% (580) 4.3% (390)	3.5% (258) 2.8% (217)	13.3% (1300) 10.9% (902)
<b>Total</b>	<b>25.4% (843)</b> <b>24.6% (571)</b>	<b>39.0% (1161)</b> <b>39.5% (844)</b>	<b>35.7% (753)</b> <b>35.8% (594)</b>	<b>100.0% (2757)</b> <b>100.0% (2009)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



**Sector Weights Distribution Holdings as of September 30, 2019**



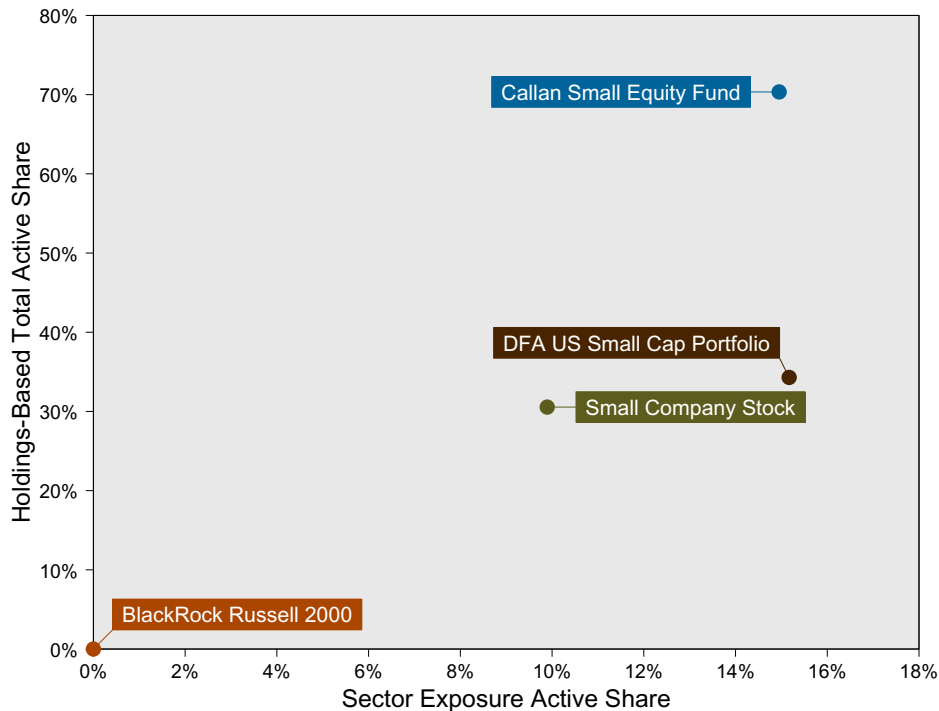
\* 9/30/19 portfolio characteristics generated using most recently available holdings (8/31/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.



## Active Share Structure Analysis For One Quarter Ended September 30, 2019

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, 2019



	Weight %	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities	Security Diverse
<b>*Small Company Stock</b>	<b>100.00%</b>	<b>Russell 2000</b>	<b>30.55%</b>	<b>9.46%</b>	<b>9.89%</b>	<b>2796</b>	<b>404.04</b>
BlackRock Russell 2000	28.79%	Russell 2000	0.00%	0.00%	0.00%	2030	339.10
Callan Small Equity Fund	35.27%	Russell 2000	70.34%	19.67%	14.95%	854	199.30
DFA US Small Cap Portfolio	35.94%	Russell 2000	34.30%	7.88%	15.17%	2081	298.06

\* 9/30/19 portfolio characteristics generated using most recently available holdings (8/31/19) 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.

# BlackRock Russell 2000 Index Fund Period Ended September 30, 2019

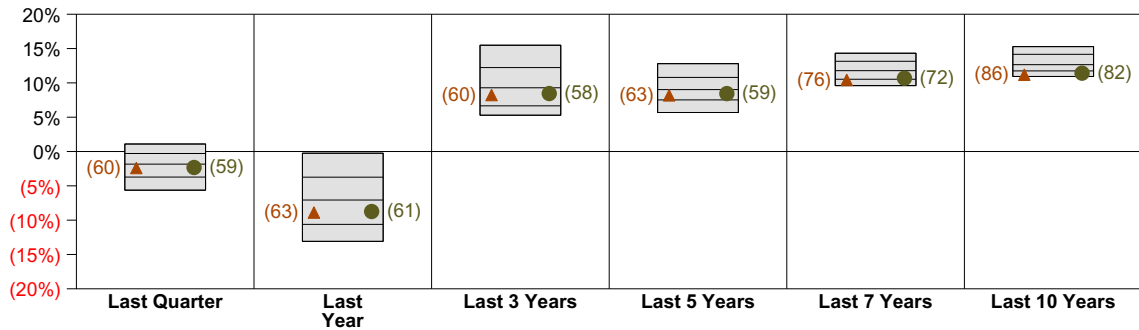
## Investment Philosophy

BlackRock, through predecessor firm Barclays Global Investors, pioneered index management in 1971 with the industry's first index fund (a NYSE-based index). BlackRock possesses a deep understanding of equity benchmarks and extensive expertise in innovating and managing equity indexed portfolios. BlackRock has followed the investment philosophy of Total Performance Management for equity index management since 1971. The firm believes that superior investment outcomes are best achieved through a disciplined, objective process in balancing return, risk and cost. While seeking to achieve the benchmark return or better, BlackRock's approach believe risks must be well understood and adequately compensated, and transaction costs must be explicitly considered in all investment decisions. This three-pronged philosophy is used across all BlackRock index strategies. The firm's internal index research teams systematically analyze benchmark composition, index changes and transaction costs and integrate those insights into the portfolio construction process. Ongoing investment in research ensures that BlackRock provides passive mandates to its clients with "performance as planned."

## Quarterly Summary and Highlights

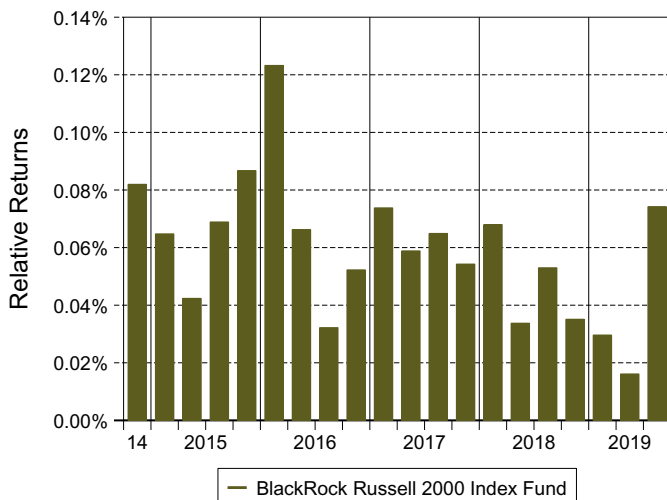
- BlackRock Russell 2000 Index Fund's portfolio posted a (2.33)% return for the quarter placing it in the 59 percentile of the Callan Small Capitalization group for the quarter and in the 61 percentile for the last year.
- BlackRock Russell 2000 Index Fund's portfolio outperformed the Russell 2000 Index by 0.07% for the quarter and outperformed the Russell 2000 Index for the year by 0.15%.

## Performance vs Callan Small Capitalization (Gross)

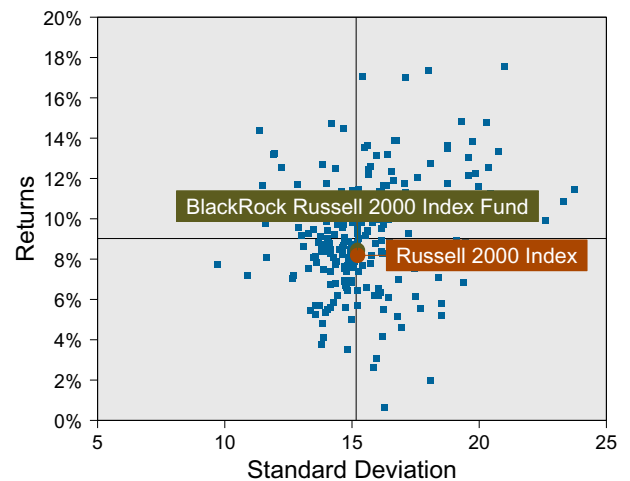


10th Percentile	1.10	(0.24)	15.48	12.80	14.32	15.28
25th Percentile	(0.29)	(3.74)	12.23	10.80	13.15	14.16
Median	(1.84)	(7.07)	9.29	9.02	11.78	12.65
75th Percentile	(3.72)	(10.61)	6.65	7.52	10.53	11.75
90th Percentile	(5.63)	(13.09)	5.29	5.68	9.60	10.93
<b>BlackRock Russell 2000 Index Fund</b>	● (2.33)	(8.74)	8.45	8.44	10.68	11.41
Russell 2000 Index	▲ (2.40)	(8.89)	8.23	8.19	10.43	11.19

## Relative Return vs Russell 2000 Index



## Callan Small Capitalization (Gross) Annualized Five Year Risk vs Return

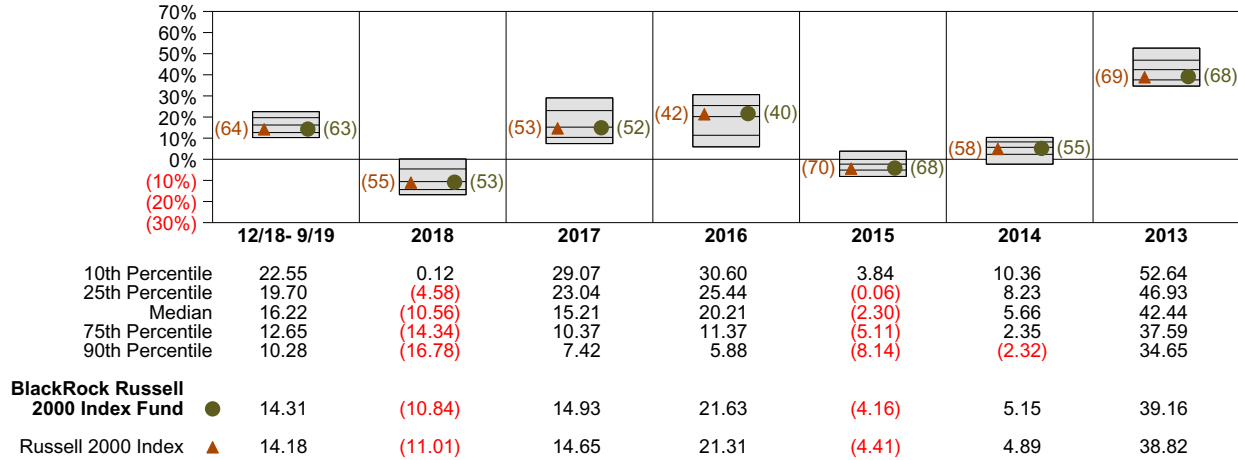


# BlackRock Russell 2000 Index Fund Return Analysis Summary

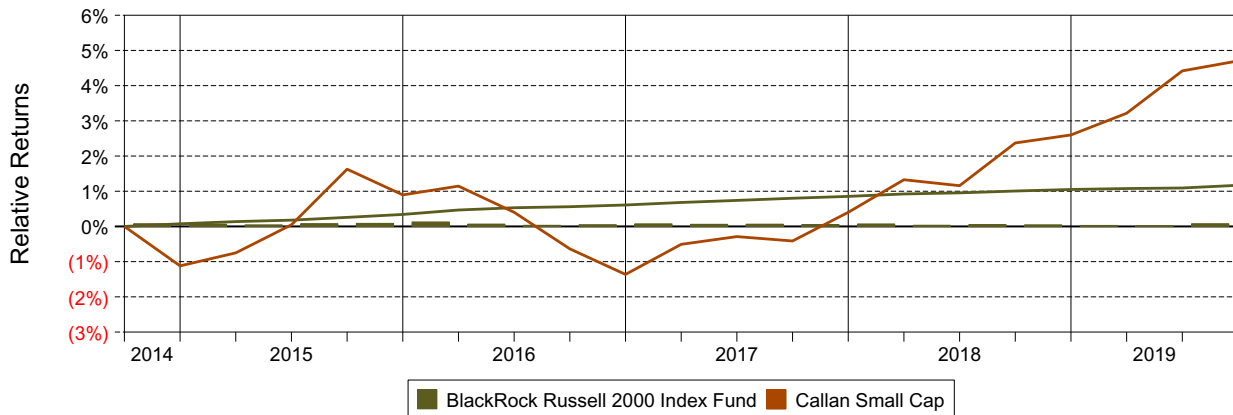
## Return Analysis

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 cumulative 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.

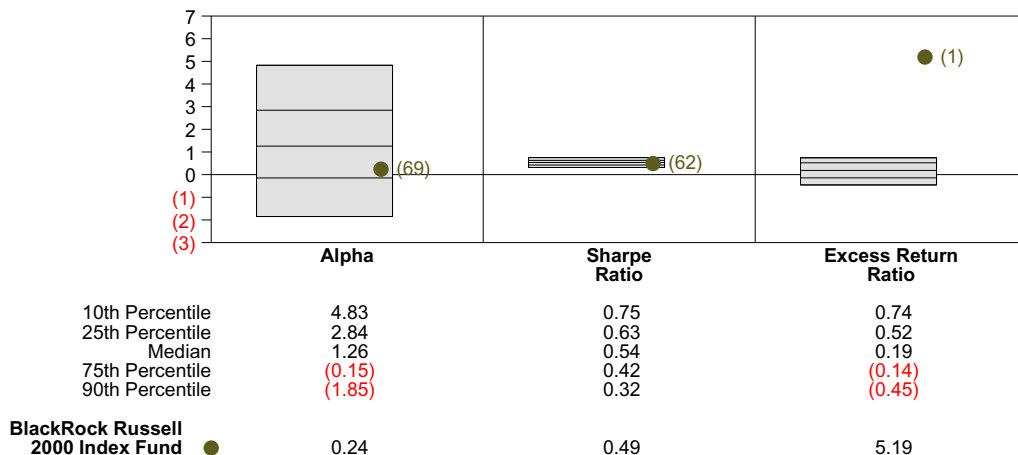
### Performance vs Callan Small Capitalization (Gross)



### Cumulative and Quarterly Relative Return vs Russell 2000 Index



### Risk Adjusted Return Measures vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Five Years Ended September 30, 2019

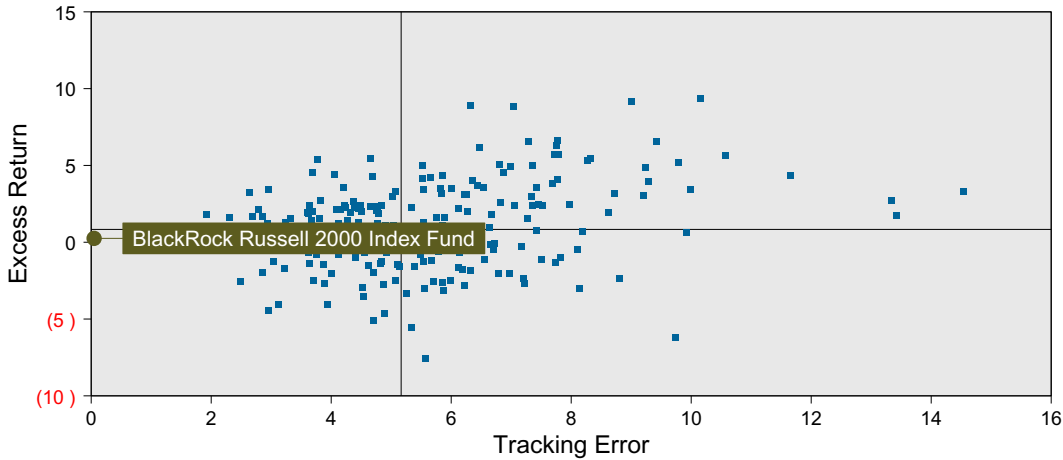


# BlackRock Russell 2000 Index Fund Risk Analysis Summary

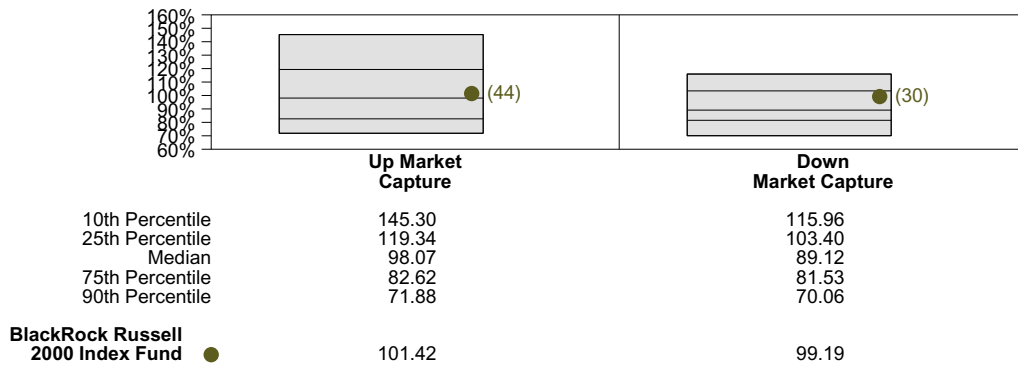
## Risk Analysis

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.

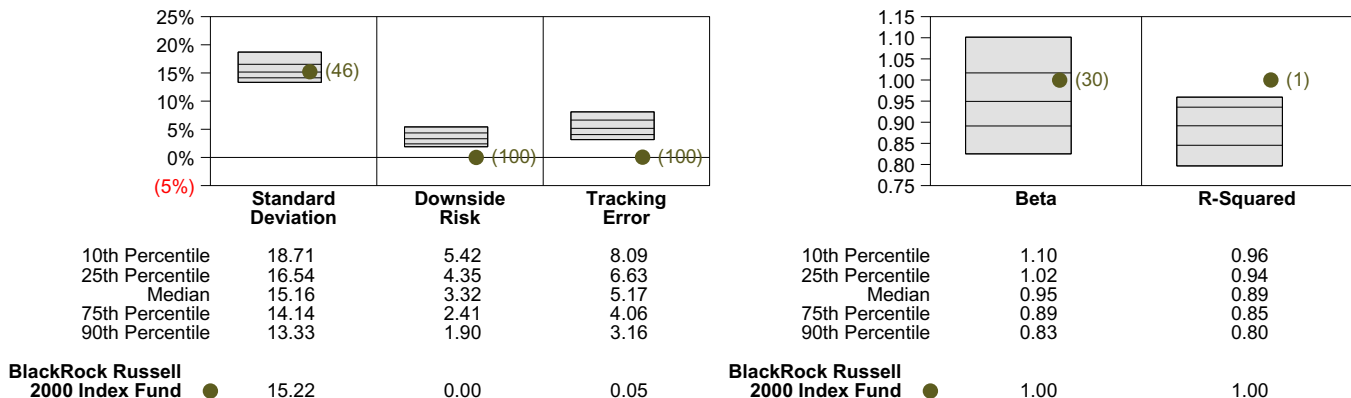
### Risk Analysis vs Callan Small Capitalization (Gross) Five Years Ended September 30, 2019



### Market Capture vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Five Years Ended September 30, 2019



### Risk Statistics Rankings vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Five Years Ended September 30, 2019

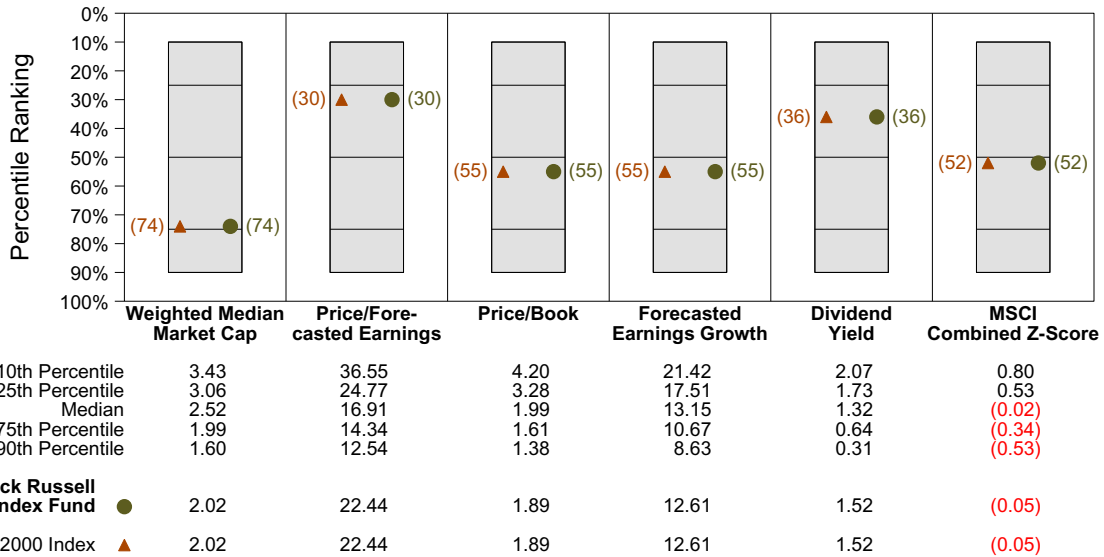


# BlackRock Russell 2000 Index Fund Equity Characteristics Analysis Summary

## Portfolio Characteristics

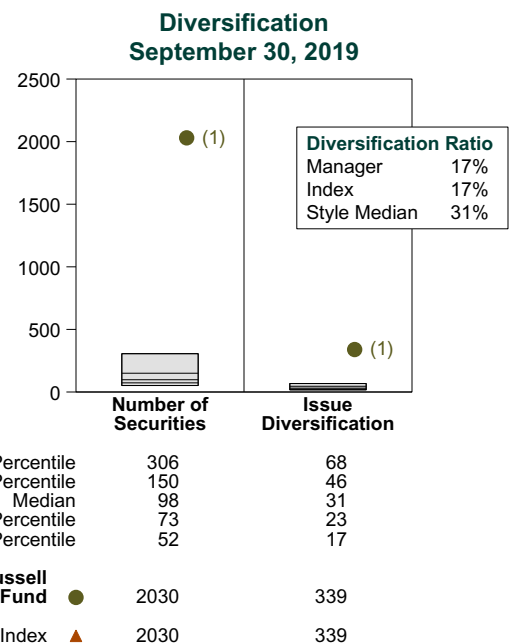
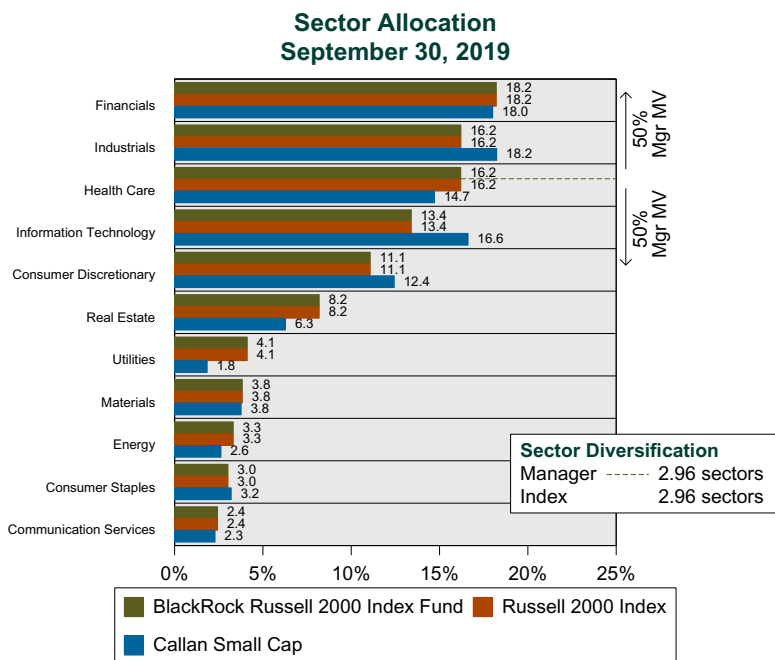
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Capitalization as of September 30, 2019



## Sector Weights

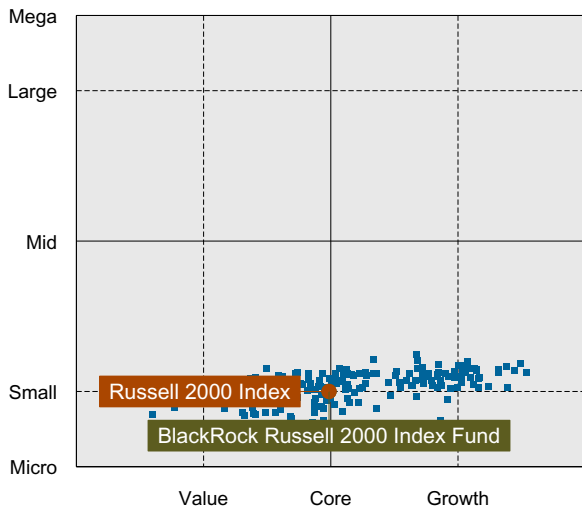
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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.



# Current Holdings Based Style Analysis BlackRock Russell 2000 Index Fund As of September 30, 2019

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.

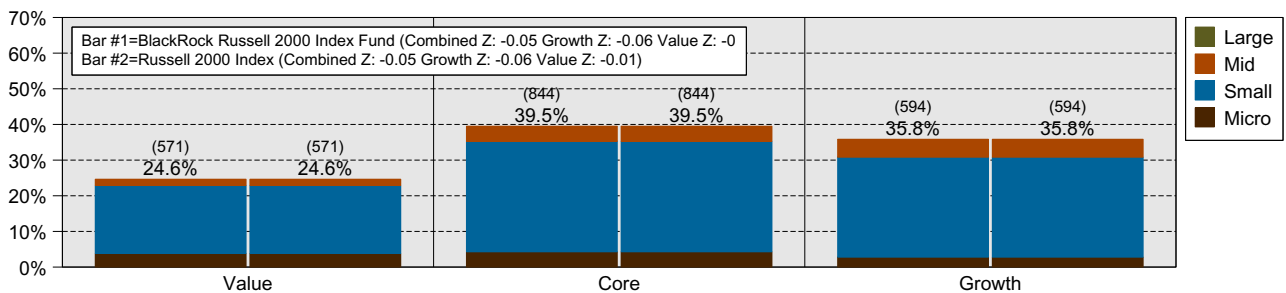
**Style Map vs Callan Small Cap Holdings as of September 30, 2019**



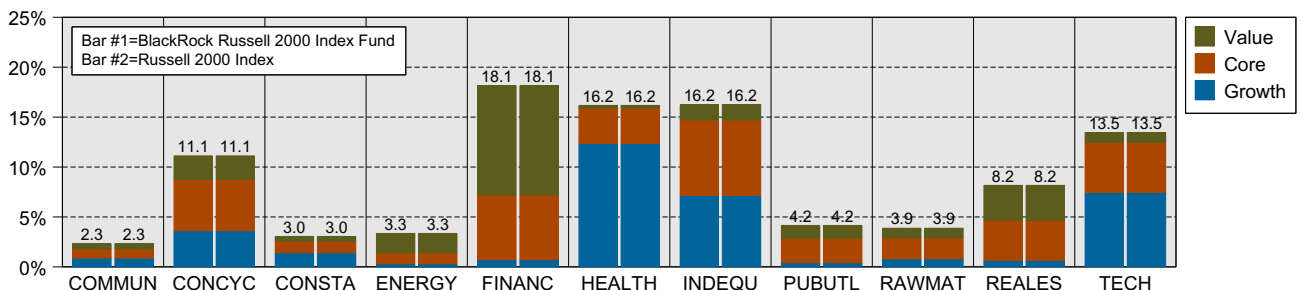
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Large	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Mid	1.7% (8)	4.2% (19)	5.0% (21)	11.0% (48)
Small	19.1% (268)	31.0% (435)	28.0% (356)	78.1% (1059)
Micro	3.8% (295)	4.3% (390)	2.8% (217)	10.9% (902)
<b>Total</b>	<b>24.6% (571)</b>	<b>39.5% (844)</b>	<b>35.8% (594)</b>	<b>100.0% (2009)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



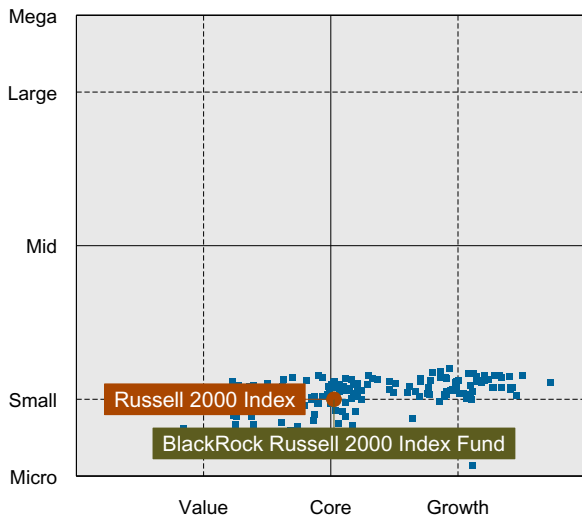
**Sector Weights Distribution Holdings as of September 30, 2019**



# Historical Holdings Based Style Analysis BlackRock Russell 2000 Index Fund For Three Years Ended September 30, 2019

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.

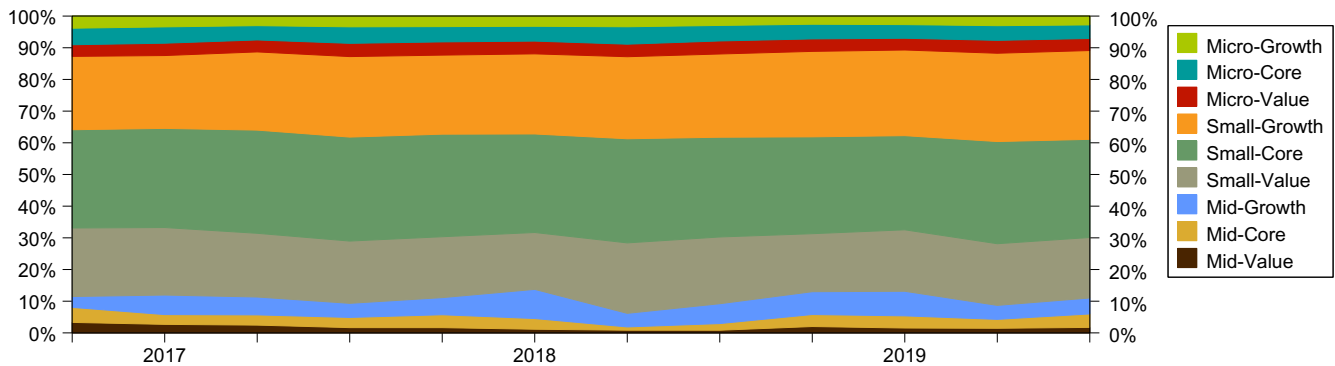
**Average Style Map vs Callan Small Cap Holdings for Three Years Ended September 30, 2019**



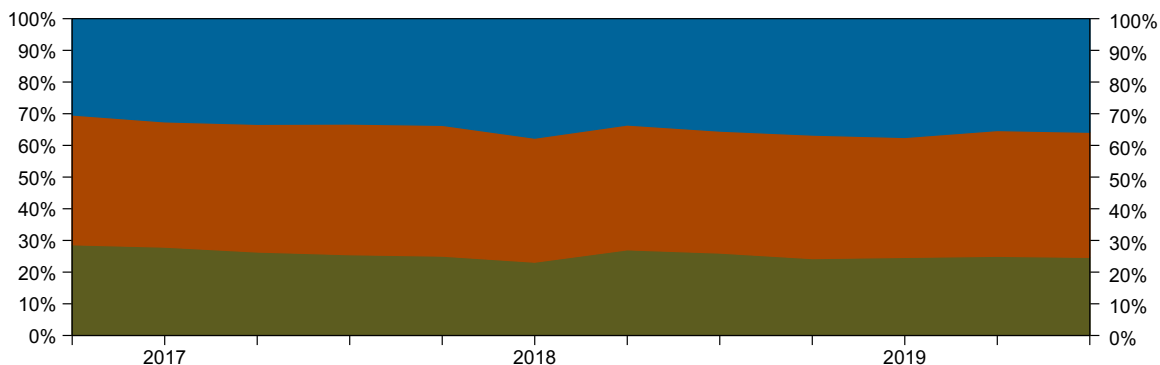
**Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2019**

	0.0% (0)	0.0% (0)	0.0% (0)	<b>0.0% (0)</b>
Large	0.0% (0)	0.0% (0)	0.0% (0)	<b>0.0% (0)</b>
Mid	1.8% (9)	3.3% (17)	5.8% (27)	<b>10.8% (53)</b>
Small	20.0% (272)	31.6% (431)	25.7% (345)	<b>77.3% (1048)</b>
Micro	3.9% (285)	4.8% (378)	3.1% (220)	<b>11.9% (883)</b>
<b>Total</b>	<b>25.7% (566)</b>	<b>39.7% (826)</b>	<b>34.6% (592)</b>	<b>100.0% (1984)</b>
	Value	Core	Growth	Total

## BlackRock Russell 2000 Index Fund Historical Cap/Style Exposures



## BlackRock Russell 2000 Index Fund Historical Style Only Exposures

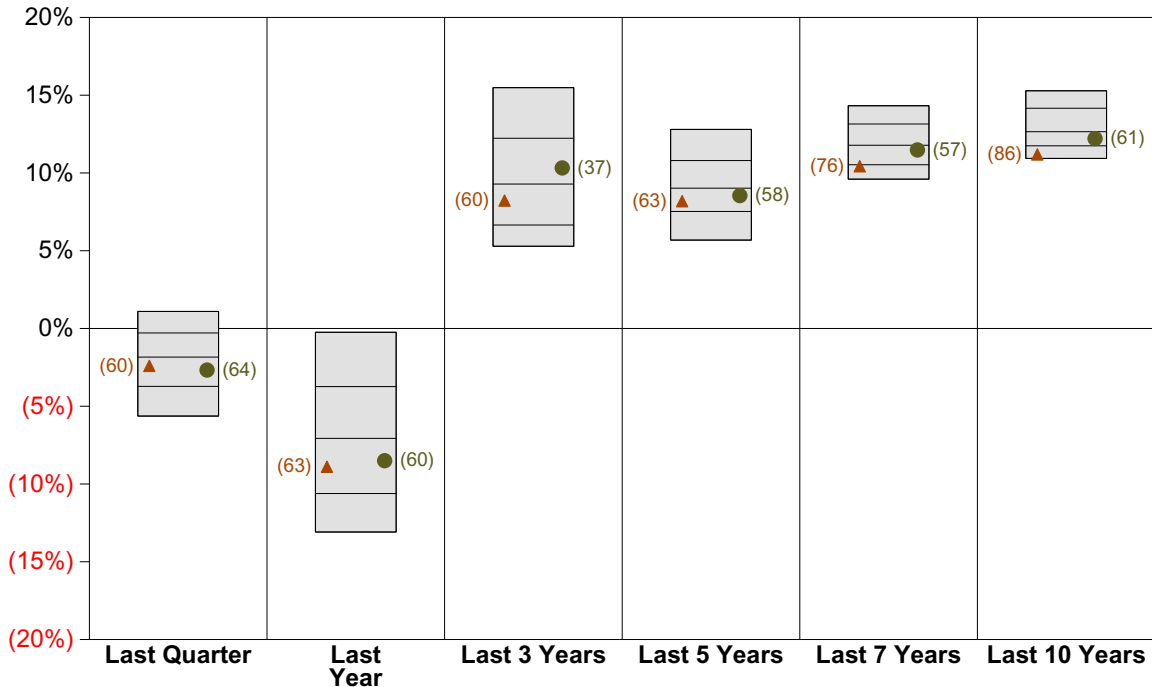


# Callan Small Equity Fund Period Ended September 30, 2019

## Quarterly Summary and Highlights

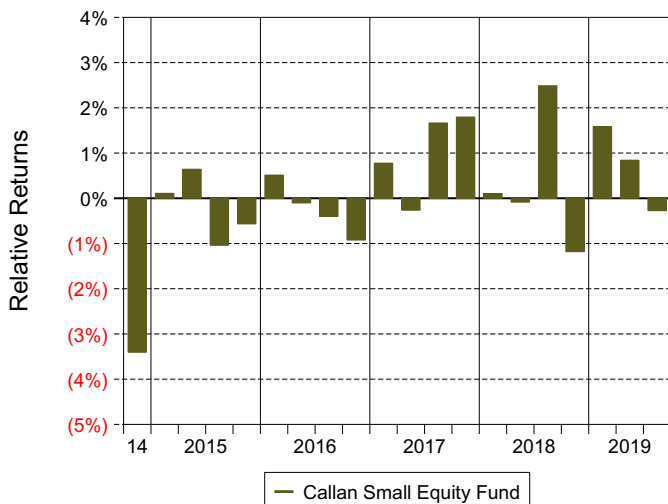
- Callan Small Equity Fund's portfolio posted a (2.67)% return for the quarter placing it in the 64 percentile of the Callan Small Capitalization group for the quarter and in the 60 percentile for the last year.
- Callan Small Equity Fund's portfolio underperformed the Russell 2000 Index by 0.27% for the quarter and outperformed the Russell 2000 Index for the year by 0.39%.

## Performance vs Callan Small Capitalization (Gross)

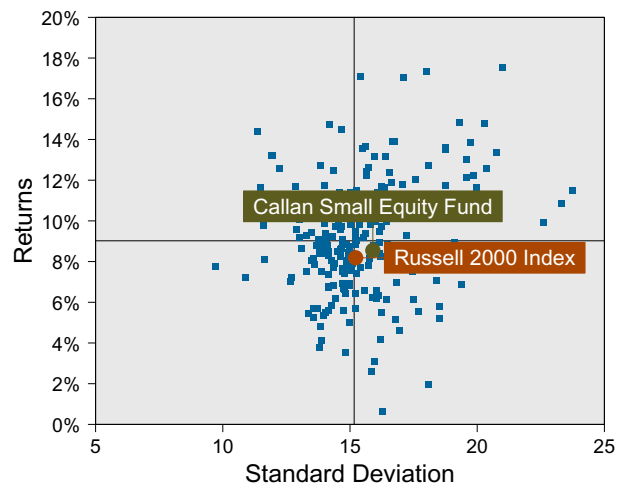


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	1.10	(0.24)	15.48	12.80	14.32	15.28
25th Percentile	(0.29)	(3.74)	12.23	10.80	13.15	14.16
Median	(1.84)	(7.07)	9.29	9.02	11.78	12.65
75th Percentile	(3.72)	(10.61)	6.65	7.52	10.53	11.75
90th Percentile	(5.63)	(13.09)	5.29	5.68	9.60	10.93
<b>Callan Small Equity Fund</b>	● (2.67)	(8.50)	10.32	8.55	11.48	12.21
<b>Russell 2000 Index</b>	▲ (2.40)	(8.89)	8.23	8.19	10.43	11.19

## Relative Return vs Russell 2000 Index



## Callan Small Capitalization (Gross) Annualized Five Year Risk vs Return



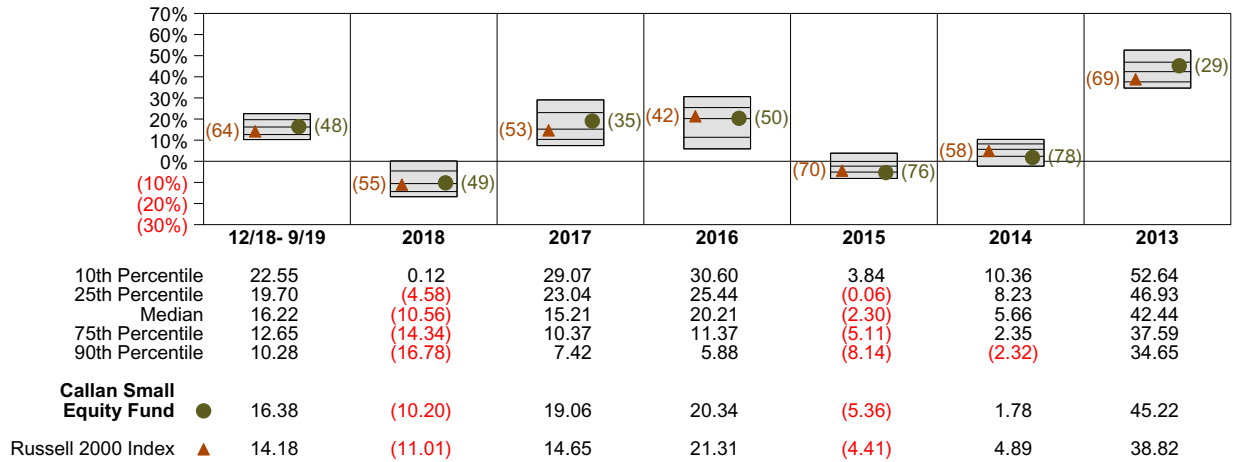


# Callan Small Equity Fund Return Analysis Summary

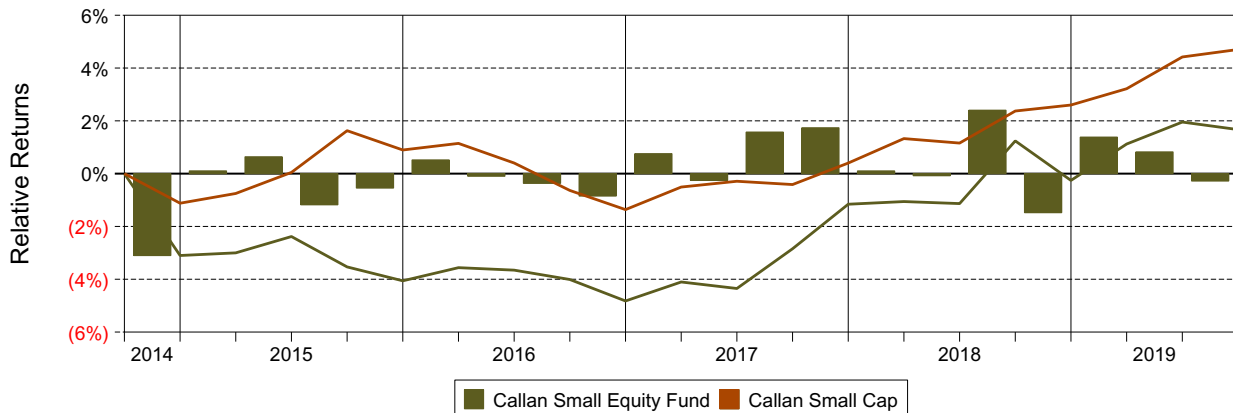
## Return Analysis

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 cumulative 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.

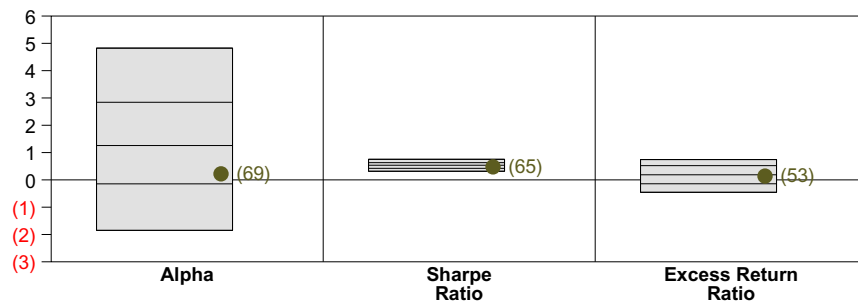
### Performance vs Callan Small Capitalization (Gross)



### Cumulative and Quarterly Relative Return vs Russell 2000 Index



### Risk Adjusted Return Measures vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Five Years Ended September 30, 2019



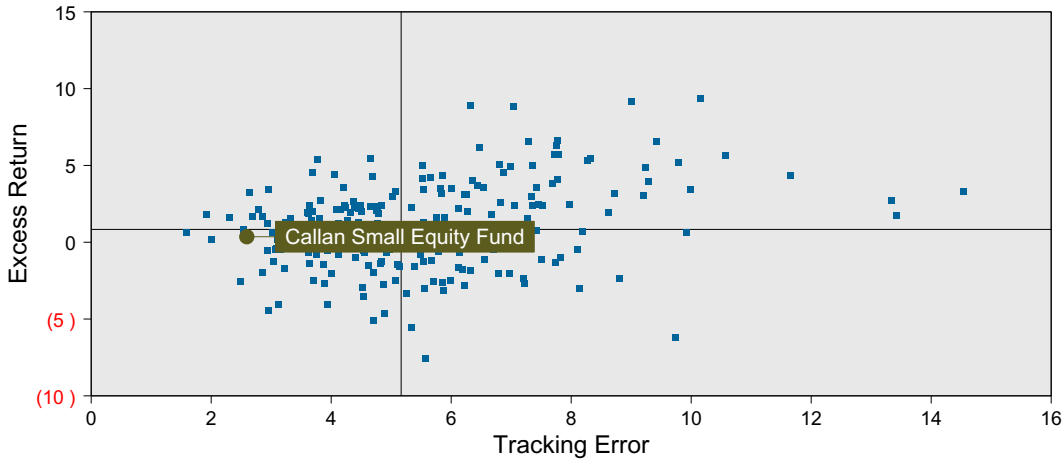
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	4.83	0.75	0.74
25th Percentile	2.84	0.63	0.52
Median	1.26	0.54	0.19
75th Percentile	(0.15)	0.42	(0.14)
90th Percentile	(1.85)	0.32	(0.45)
<b>Callan Small Equity Fund</b>	● 0.22	0.48	0.14

# Callan Small Equity Fund Risk Analysis Summary

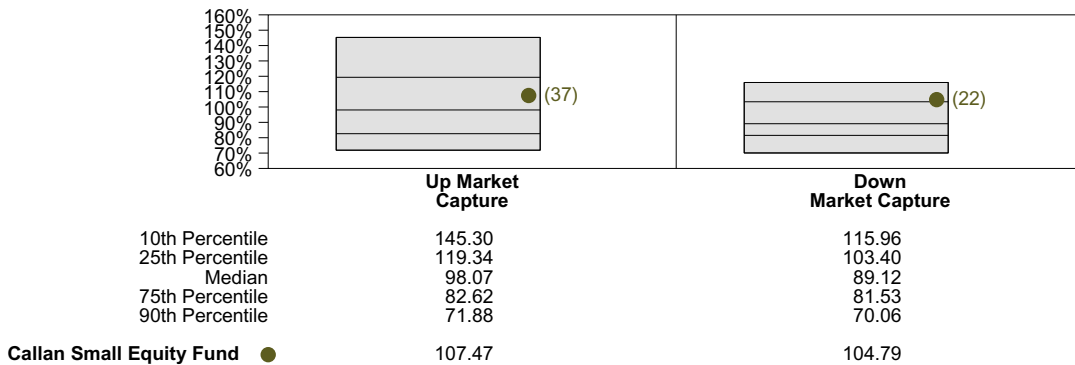
## Risk Analysis

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.

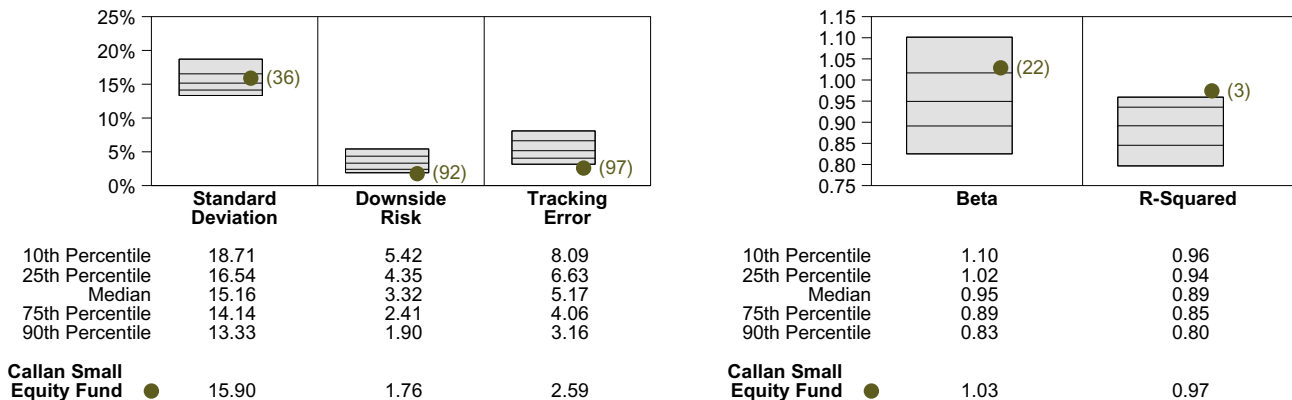
### Risk Analysis vs Callan Small Capitalization (Gross) Five Years Ended September 30, 2019



### Market Capture vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Five Years Ended September 30, 2019



### Risk Statistics Rankings vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Five Years Ended September 30, 2019

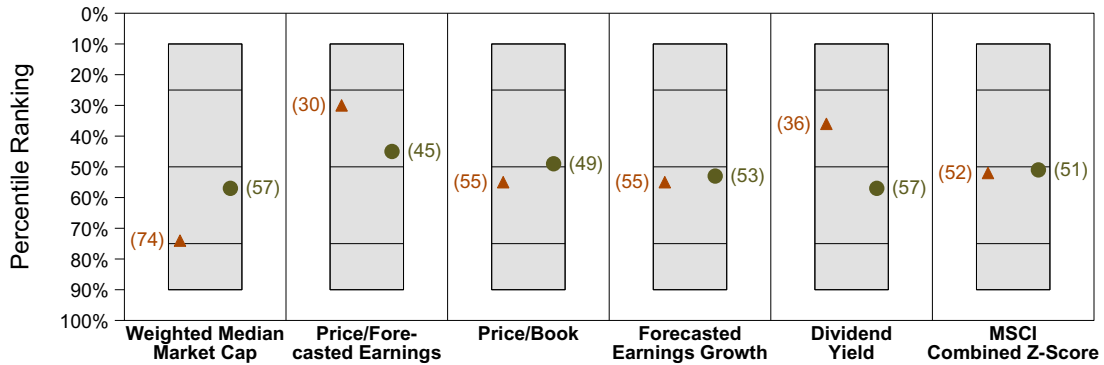


# Callan Small Equity Fund Equity Characteristics Analysis Summary

## 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 Capitalization as of September 30, 2019

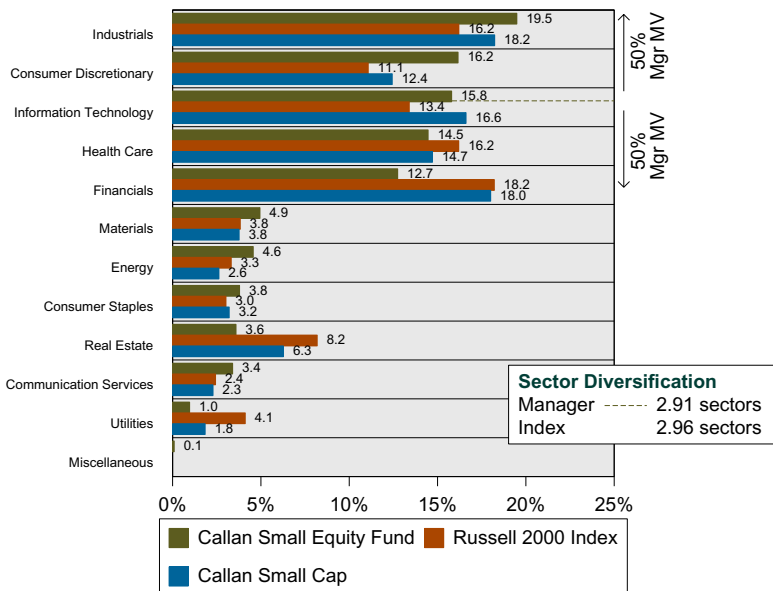


	Weighted Median Market Cap	Price/Forecasted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	3.43	36.55	4.20	21.42	2.07	0.80
25th Percentile	3.06	24.77	3.28	17.51	1.73	0.53
Median	2.52	16.91	1.99	13.15	1.32	(0.02)
75th Percentile	1.99	14.34	1.61	10.67	0.64	(0.34)
90th Percentile	1.60	12.54	1.38	8.63	0.31	(0.53)
<b>Callan Small Equity Fund</b>	2.31	17.89	2.02	12.75	1.17	(0.03)
Russell 2000 Index	2.02	22.44	1.89	12.61	1.52	(0.05)

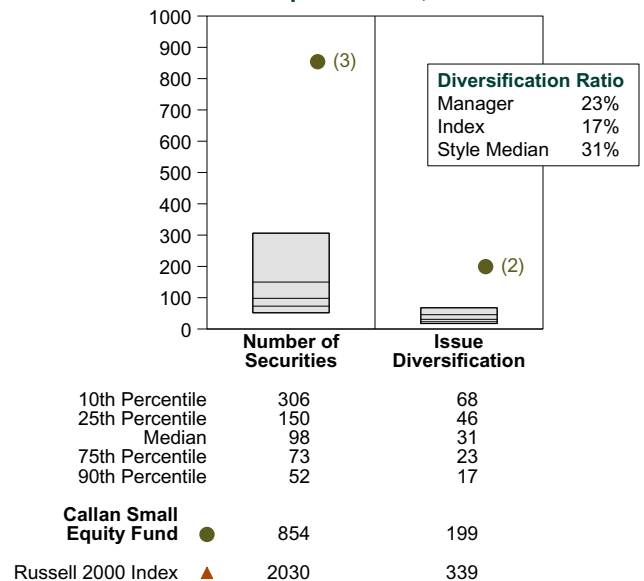
## Sector Weights

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.

### Sector Allocation September 30, 2019



### Diversification September 30, 2019



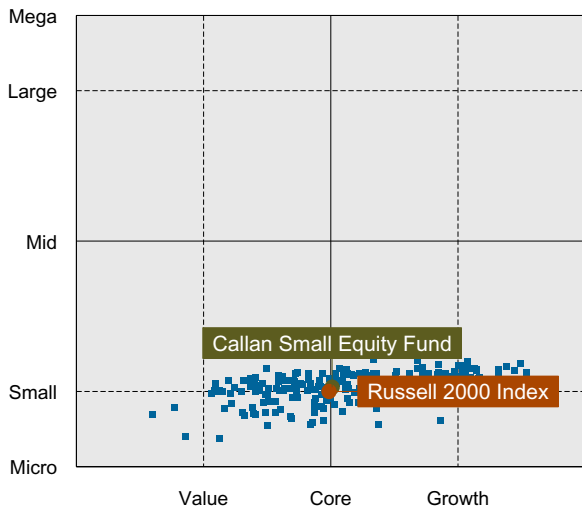
# Current Holdings Based Style Analysis

## Callan Small Equity Fund

### As of September 30, 2019

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.

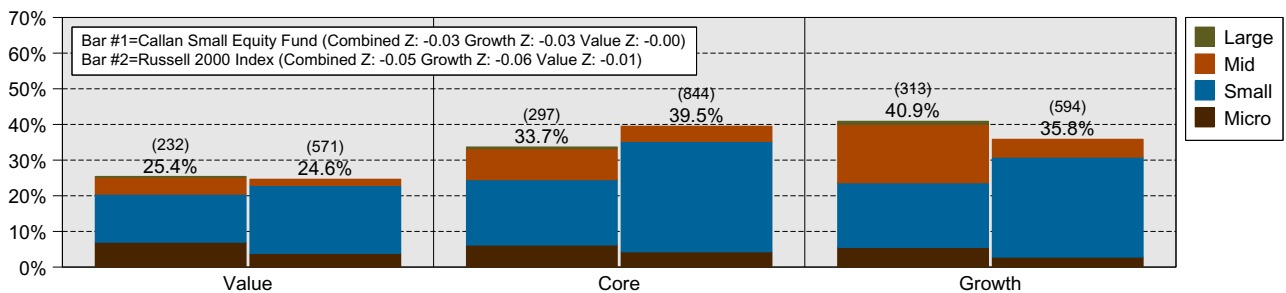
**Style Map vs Callan Small Cap Holdings as of September 30, 2019**



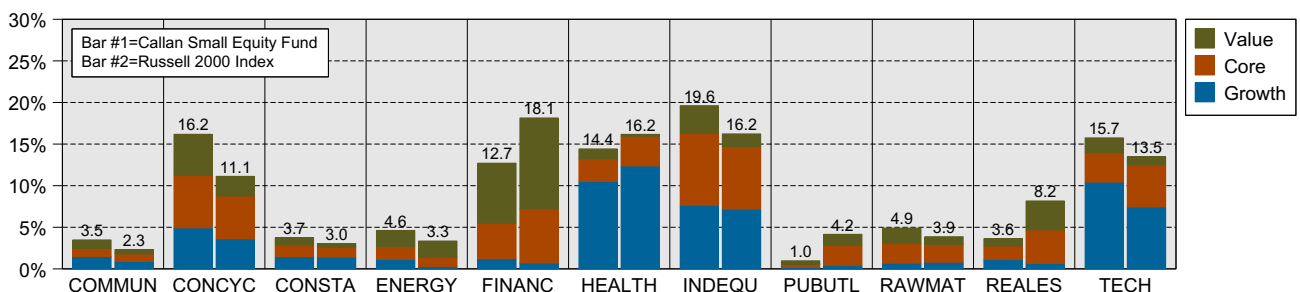
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Large	0.3% (1) 0.0% (0)	0.5% (2) 0.0% (0)	0.9% (4) 0.0% (0)	1.6% (7) 0.0% (0)
Mid	4.7% (30) 1.7% (8)	8.7% (58) 4.2% (19)	16.4% (97) 5.0% (21)	29.8% (185) 11.0% (48)
Small	13.5% (102) 19.1% (268)	18.3% (161) 31.0% (435)	18.1% (153) 28.0% (356)	49.9% (416) 78.1% (1059)
Micro	7.0% (99) 3.8% (295)	6.2% (76) 4.3% (390)	5.5% (59) 2.8% (217)	18.7% (234) 10.9% (902)
<b>Total</b>	<b>25.4% (232)</b> <b>24.6% (571)</b>	<b>33.7% (297)</b> <b>39.5% (844)</b>	<b>40.9% (313)</b> <b>35.8% (594)</b>	<b>100.0% (842)</b> <b>100.0% (2009)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



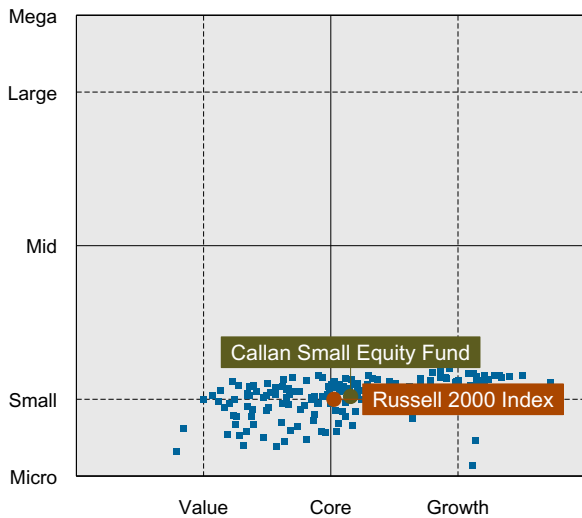
**Sector Weights Distribution Holdings as of September 30, 2019**



# Historical Holdings Based Style Analysis Callan Small Equity Fund For Three Years Ended September 30, 2019

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.

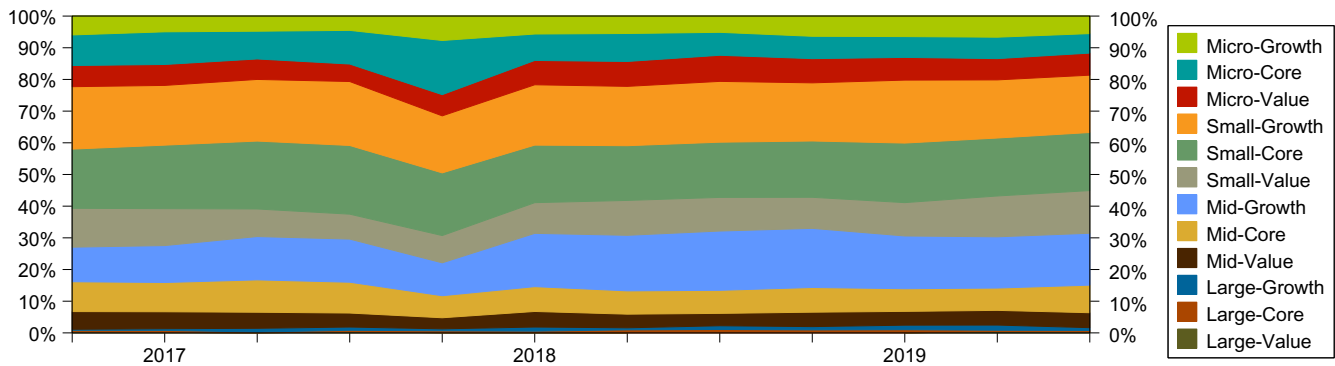
**Average Style Map vs Callan Small Cap Holdings for Three Years Ended September 30, 2019**



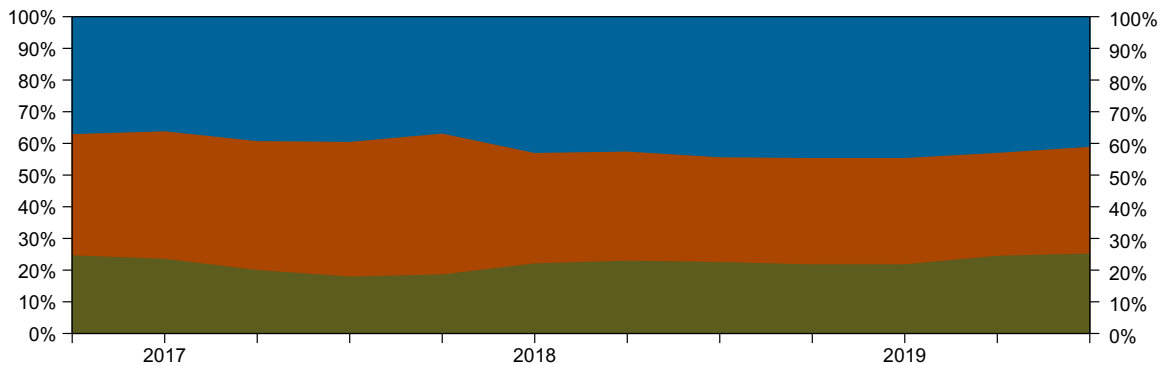
**Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2019**

	0.1% (1)	0.7% (3)	1.0% (5)	1.8% (9)
Large	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Mid	4.6% (36)	8.2% (61)	15.1% (97)	27.9% (194)
Small	10.6% (89)	19.0% (161)	19.0% (160)	48.6% (410)
Micro	7.0% (87)	9.0% (116)	5.8% (68)	21.7% (271)
<b>Total</b>	<b>22.4% (213)</b>	<b>36.8% (341)</b>	<b>40.8% (330)</b>	<b>100.0% (884)</b>
	<b>25.7% (566)</b>	<b>39.7% (826)</b>	<b>34.6% (592)</b>	<b>100.0% (1984)</b>
	Value	Core	Growth	Total

**Callan Small Equity Fund Historical Cap/Style Exposures**



**Callan Small Equity Fund Historical Style Only Exposures**



# DFA US Small Cap Portfolio

## Period Ended September 30, 2019

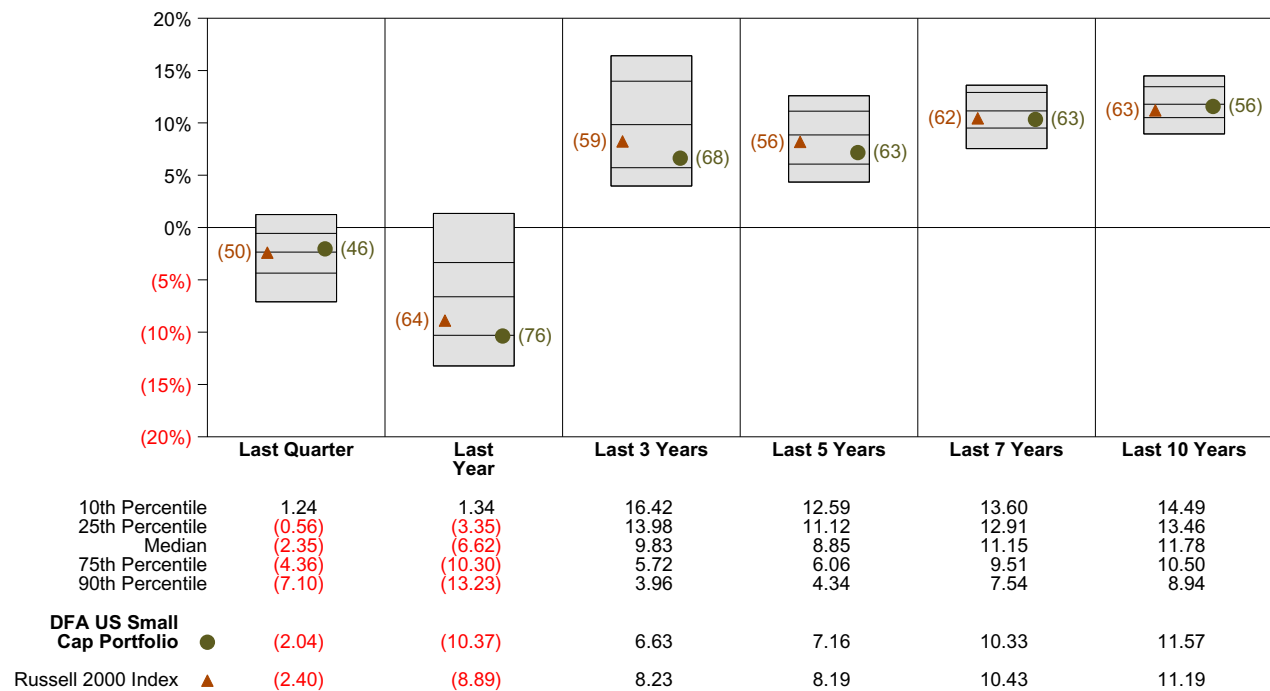
### Investment Philosophy

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).

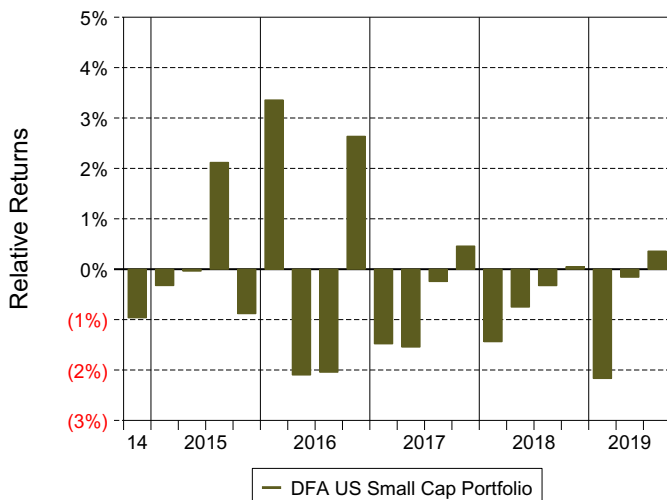
### Quarterly Summary and Highlights

- DFA US Small Cap Portfolio's portfolio posted a (2.04)% return for the quarter placing it in the 46 percentile of the Callan Small Cap Mutual Funds group for the quarter and in the 76 percentile for the last year.
- DFA US Small Cap Portfolio's portfolio outperformed the Russell 2000 Index by 0.36% for the quarter and underperformed the Russell 2000 Index for the year by 1.48%.

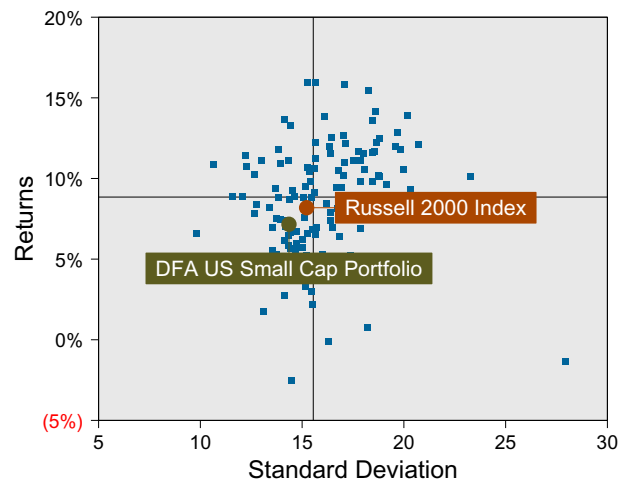
### Performance vs Callan Small Cap Mutual Funds (Institutional Net)



### Relative Return vs Russell 2000 Index



### Callan Small Cap Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

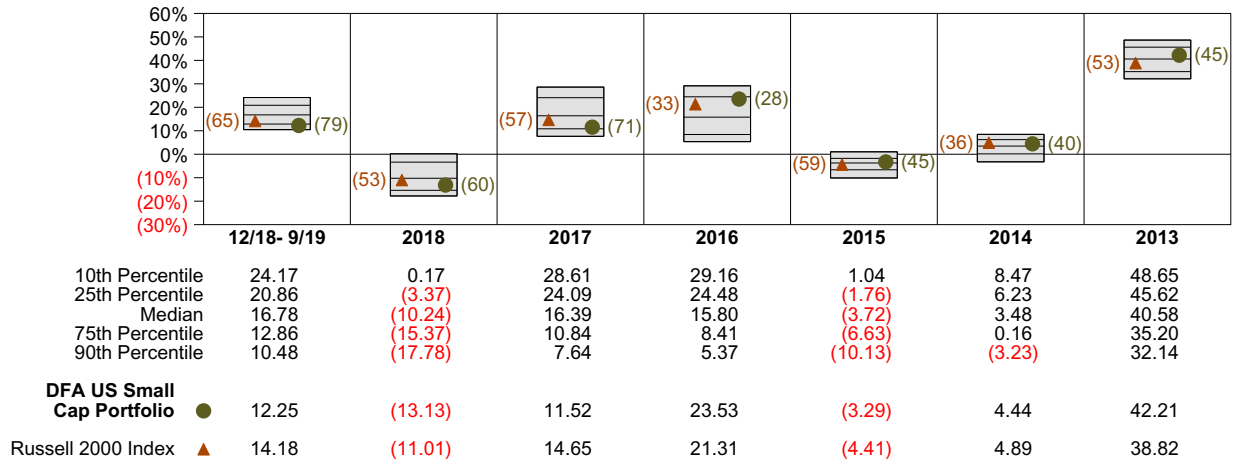


# DFA US Small Cap Portfolio Return Analysis Summary

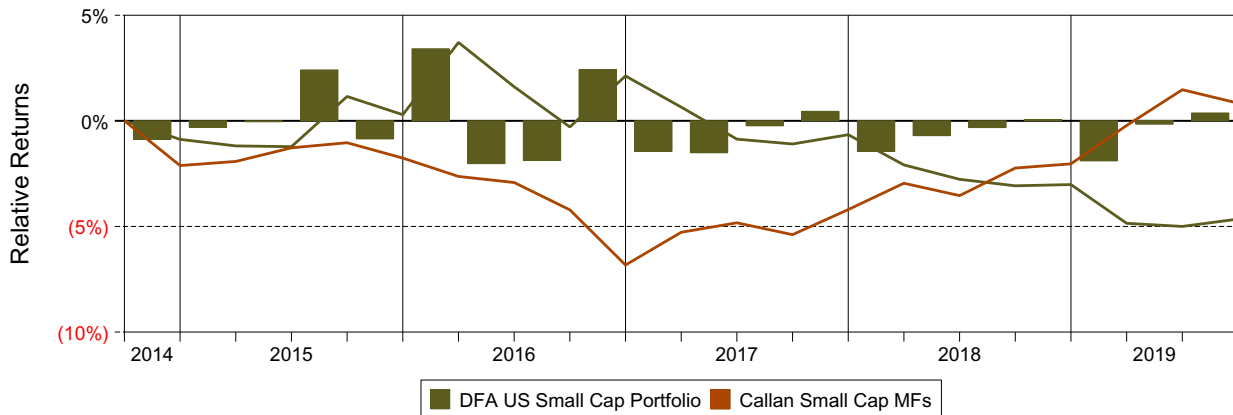
## Return Analysis

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 cumulative 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.

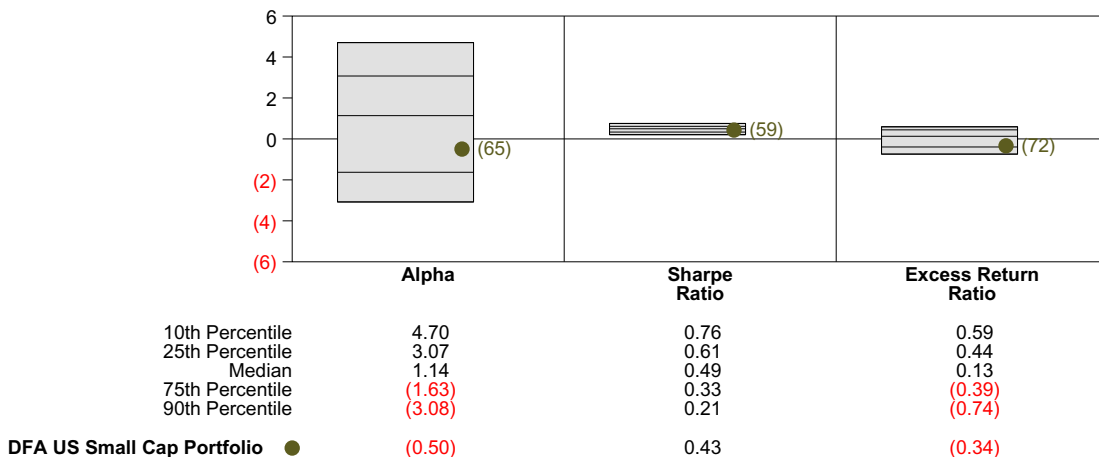
### Performance vs Callan Small Cap Mutual Funds (Institutional Net)



### Cumulative and Quarterly Relative Return vs Russell 2000 Index



### Risk Adjusted Return Measures vs Russell 2000 Index Rankings Against Callan Small Cap Mutual Funds (Institutional Net) Five Years Ended September 30, 2019

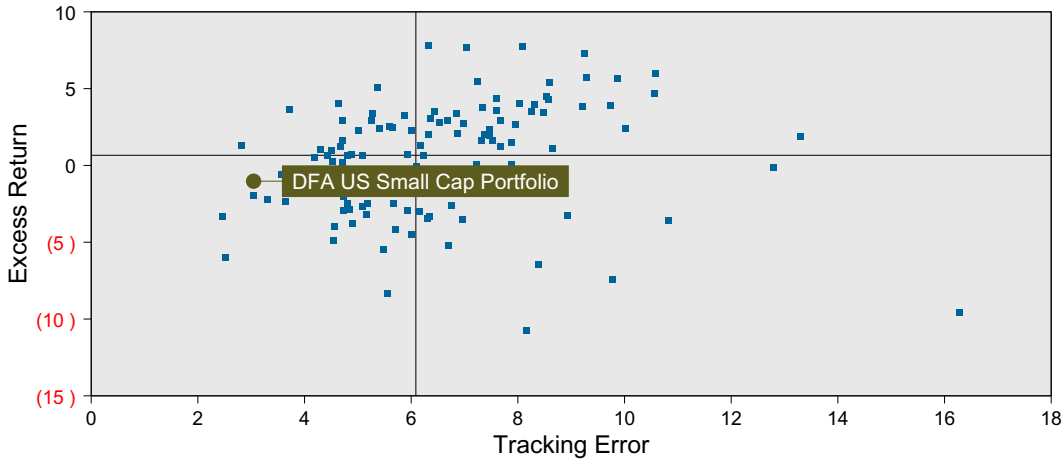


# DFA US Small Cap Portfolio Risk Analysis Summary

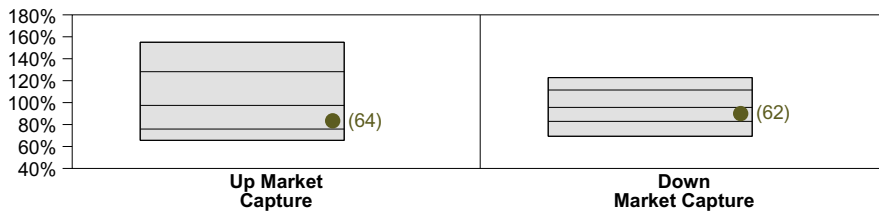
## Risk Analysis

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 Mutual Funds (Institutional Net) Five Years Ended September 30, 2019

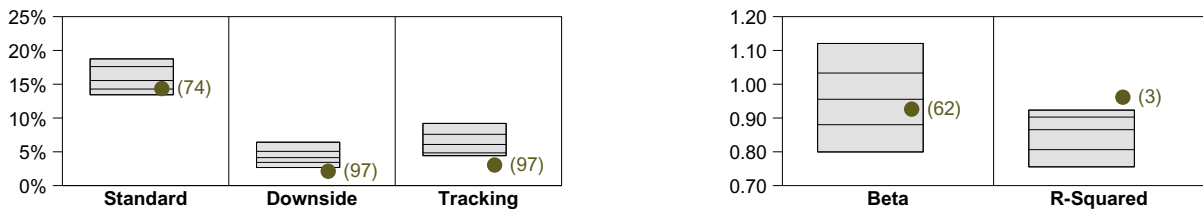


### Market Capture vs Russell 2000 Index Rankings Against Callan Small Cap Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



	Up Market Capture	Down Market Capture
10th Percentile	155.02	122.78
25th Percentile	128.19	111.48
Median	97.45	95.63
75th Percentile	75.90	82.90
90th Percentile	65.63	69.31
<b>DFA US Small Cap Portfolio</b>	<b>83.41</b>	<b>89.99</b>

### Risk Statistics Rankings vs Russell 2000 Index Rankings Against Callan Small Cap Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



	Standard Deviation	Downside Risk	Tracking Error	Beta	R-Squared
10th Percentile	18.75	6.42	9.20	1.12	0.92
25th Percentile	17.61	5.07	7.59	1.03	0.90
Median	15.55	4.14	6.09	0.96	0.87
75th Percentile	14.29	3.44	4.84	0.88	0.81
90th Percentile	13.44	2.68	4.43	0.80	0.76
<b>DFA US Small Cap Portfolio</b>	<b>14.35</b>	<b>2.12</b>	<b>3.04</b>	<b>0.93</b>	<b>0.96</b>

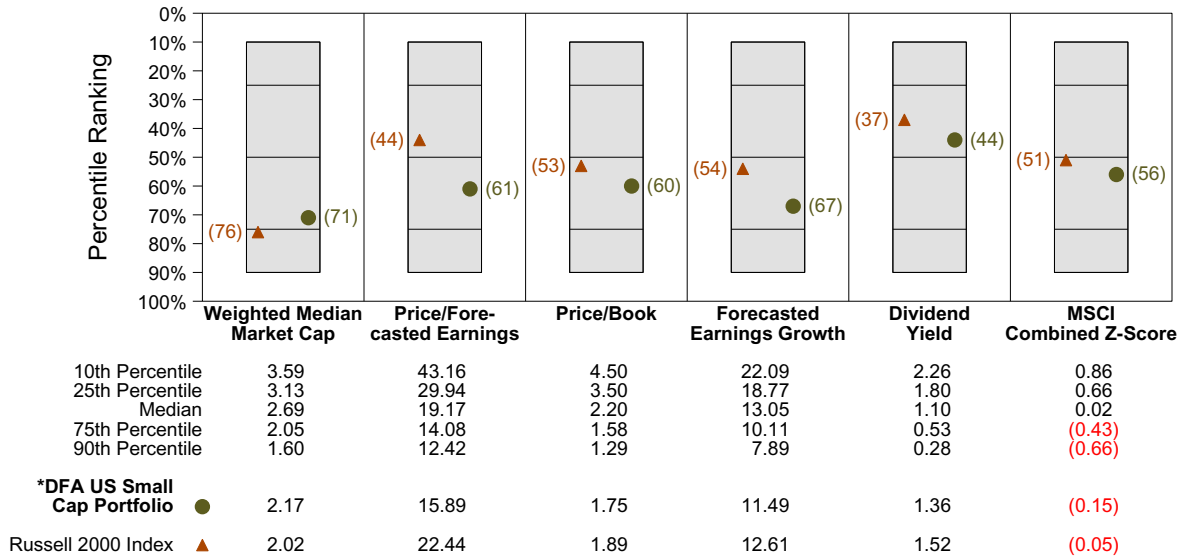


# DFA US Small Cap Portfolio Equity Characteristics Analysis Summary

## Portfolio Characteristics

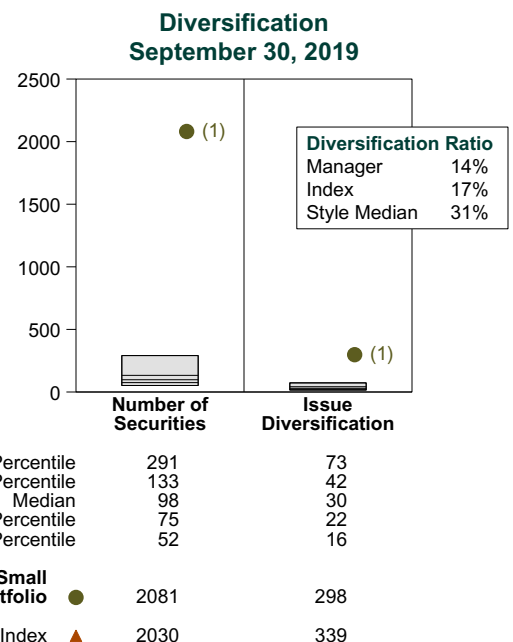
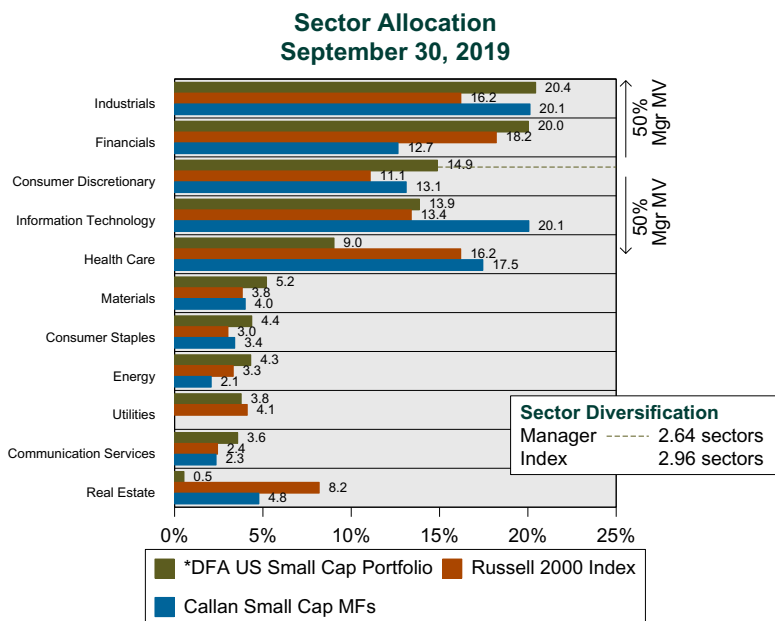
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Cap Mutual Funds as of September 30, 2019



## 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.



\*9/30/19 portfolio characteristics generated using most recently available holdings (8/31/19) 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.

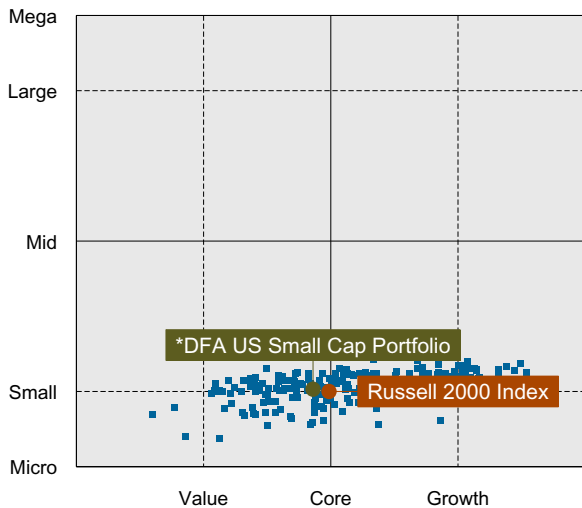
# Current Holdings Based Style Analysis

## DFA US Small Cap Portfolio

### As of September 30, 2019

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.

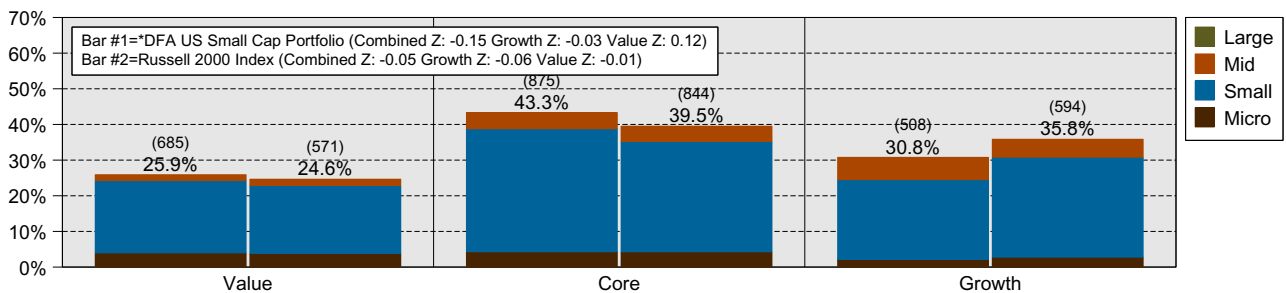
**Style Map vs Callan Small Cap Holdings as of September 30, 2019**



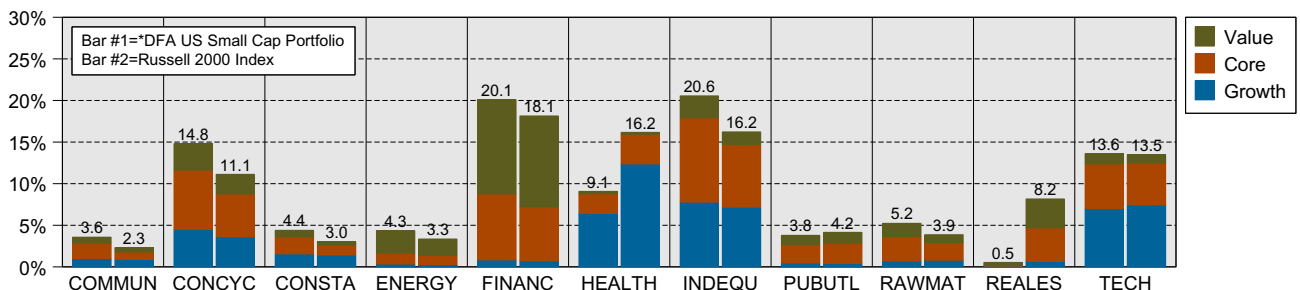
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Large	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Mid	1.6% (28)	4.5% (45)	6.2% (41)	12.3% (114)
Small	19.1% (268)	31.0% (435)	28.0% (356)	78.1% (1059)
Micro	4.0% (396)	4.3% (426)	2.2% (176)	10.4% (998)
<b>Total</b>	<b>25.9% (685)</b>	<b>43.3% (875)</b>	<b>30.8% (508)</b>	<b>100.0% (2068)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



**Sector Weights Distribution Holdings as of September 30, 2019**

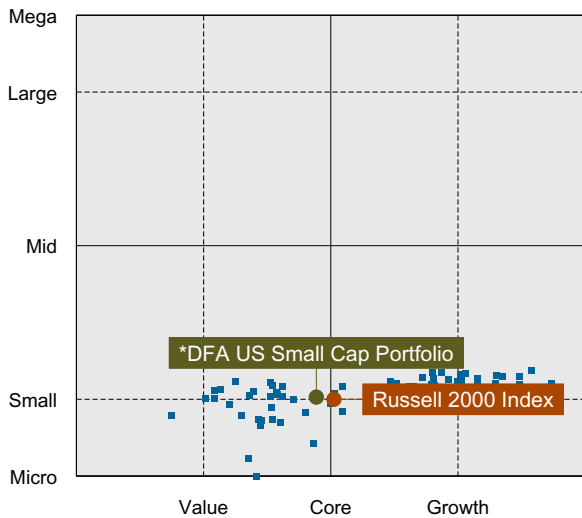


\* 9/30/19 portfolio characteristics generated using most recently available holdings (8/31/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

# Historical Holdings Based Style Analysis DFA US Small Cap Portfolio For Three Years Ended September 30, 2019

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.

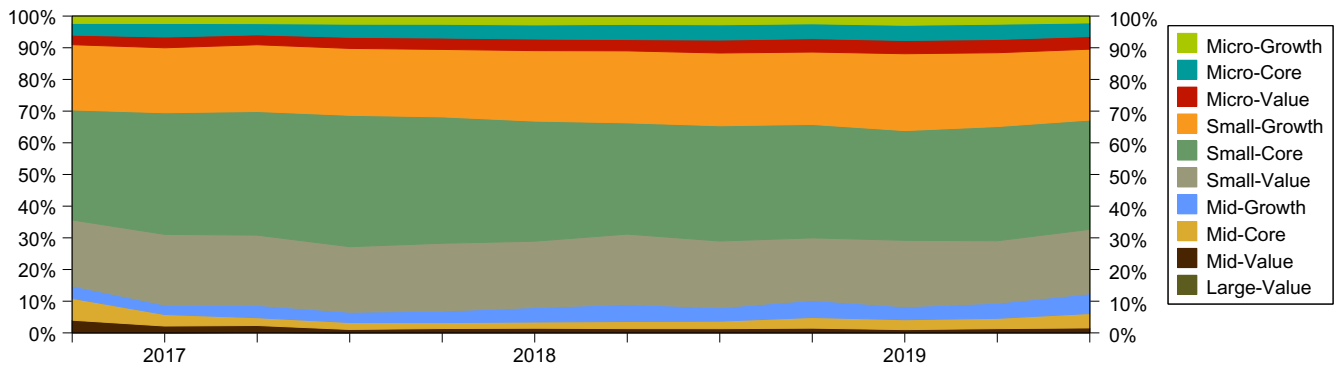
**Average Style Map vs Callan Small Cap MFs Holdings for Three Years Ended September 30, 2019**



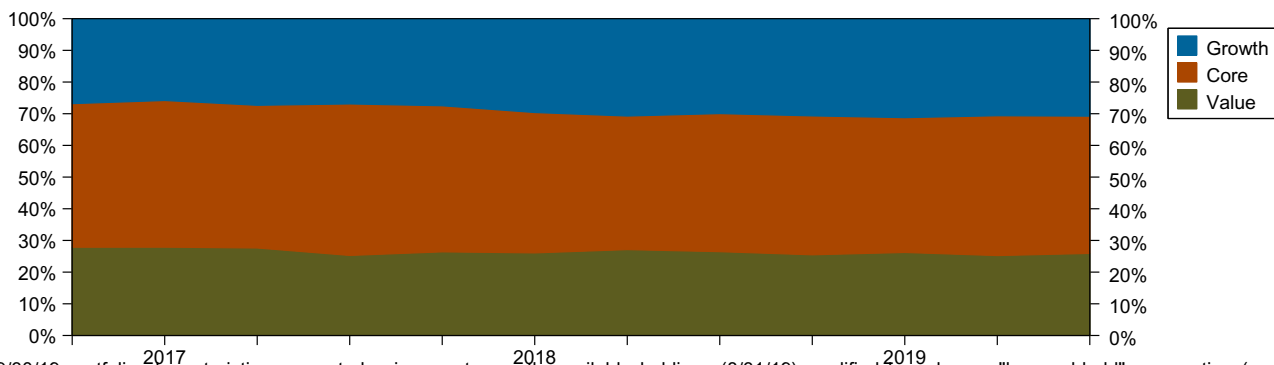
**Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2019**

	0.0% (0)	0.0% (0)	0.0% (0)	<b>0.0% (0)</b>
Large	0.0% (0)	0.0% (0)	0.0% (0)	<b>0.0% (0)</b>
Mid	1.7% (20)	3.2% (29)	4.4% (32)	<b>9.2% (81)</b>
Small	21.0% (251)	37.0% (409)	22.1% (268)	<b>80.1% (928)</b>
Micro	3.7% (376)	4.4% (416)	2.5% (181)	<b>10.6% (973)</b>
<b>Total</b>	<b>26.5% (647)</b>	<b>44.5% (854)</b>	<b>29.0% (481)</b>	<b>100.0% (1982)</b>
	Value	Core	Growth	<b>Total</b>

**\*DFA US Small Cap Portfolio Historical Cap/Style Exposures**



**\*DFA US Small Cap Portfolio Historical Style Only Exposures**



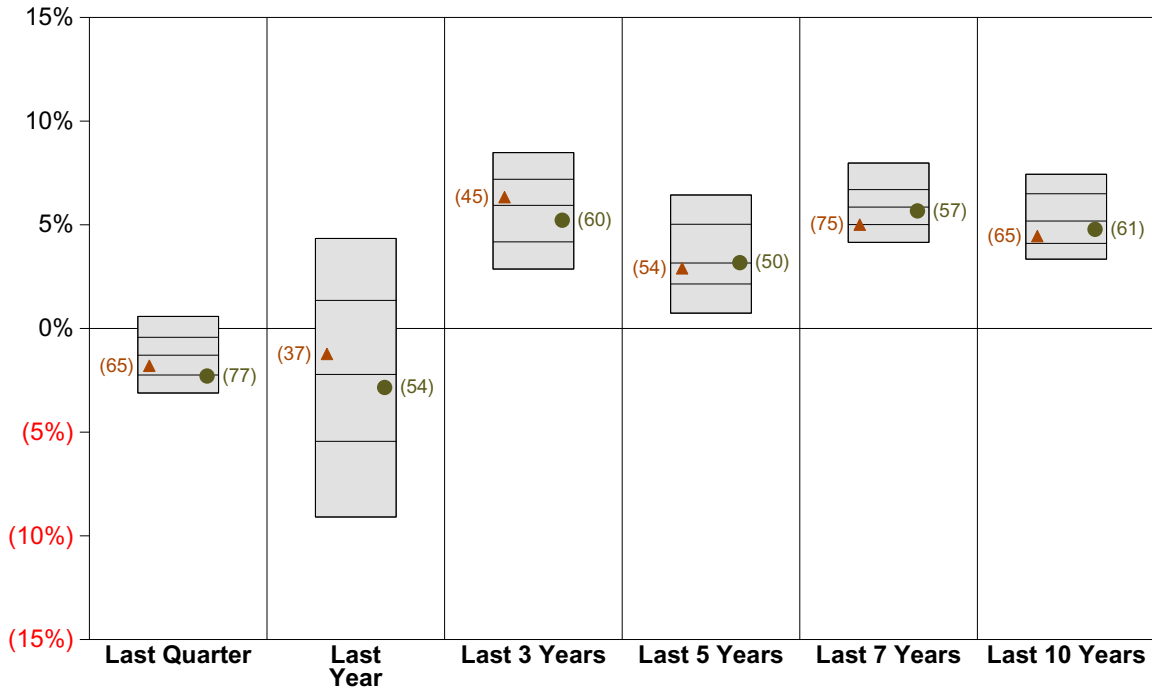
\* 9/30/19 portfolio characteristics generated using most recently available holdings (8/31/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

# International Stock Option Period Ended September 30, 2019

## Quarterly Summary and Highlights

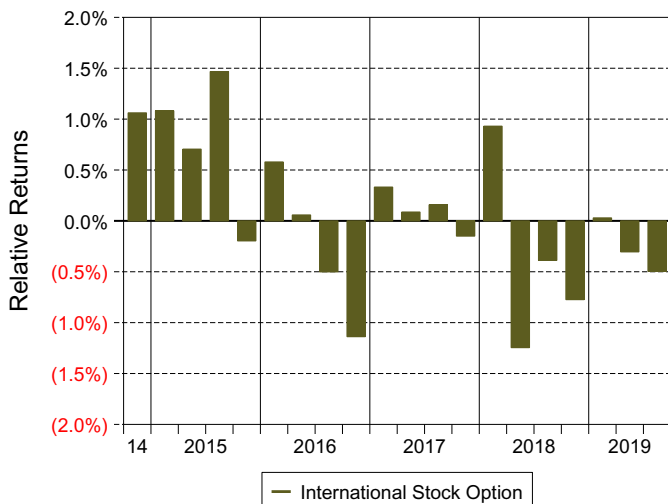
- International Stock Option's portfolio posted a (2.29)% return for the quarter placing it in the 77 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 54 percentile for the last year.
- International Stock Option's portfolio underperformed the MSCI ACWI ex US Index by 0.49% for the quarter and underperformed the MSCI ACWI ex US Index for the year by 1.62%.

## Performance vs Callan Non US Equity Mutual Funds (Institutional Net)

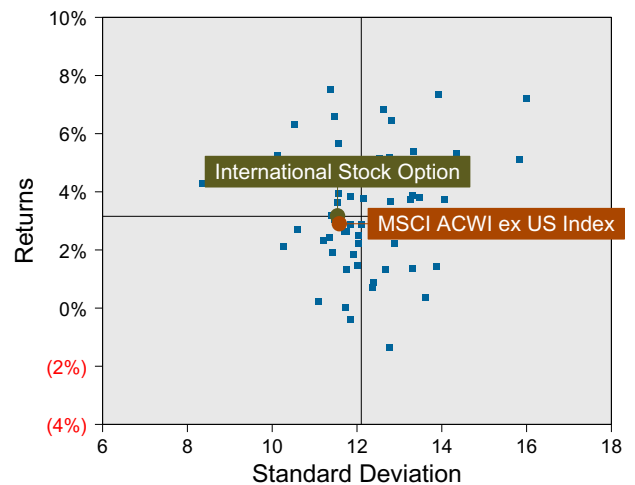


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	0.58	4.34	8.48	6.44	7.98	7.44
25th Percentile	(0.43)	1.35	7.19	5.03	6.70	6.50
Median	(1.29)	(2.22)	5.94	3.16	5.85	5.18
75th Percentile	(2.24)	(5.44)	4.18	2.15	5.01	4.10
90th Percentile	(3.11)	(9.09)	2.87	0.74	4.15	3.34
<b>International Stock Option</b> ●	(2.29)	(2.84)	5.22	3.17	5.67	4.78
<b>MSCI ACWI ex US Index</b> ▲	(1.80)	(1.23)	6.33	2.90	5.01	4.46

## Relative Return vs MSCI ACWI ex US Index



## Callan Non US Equity Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

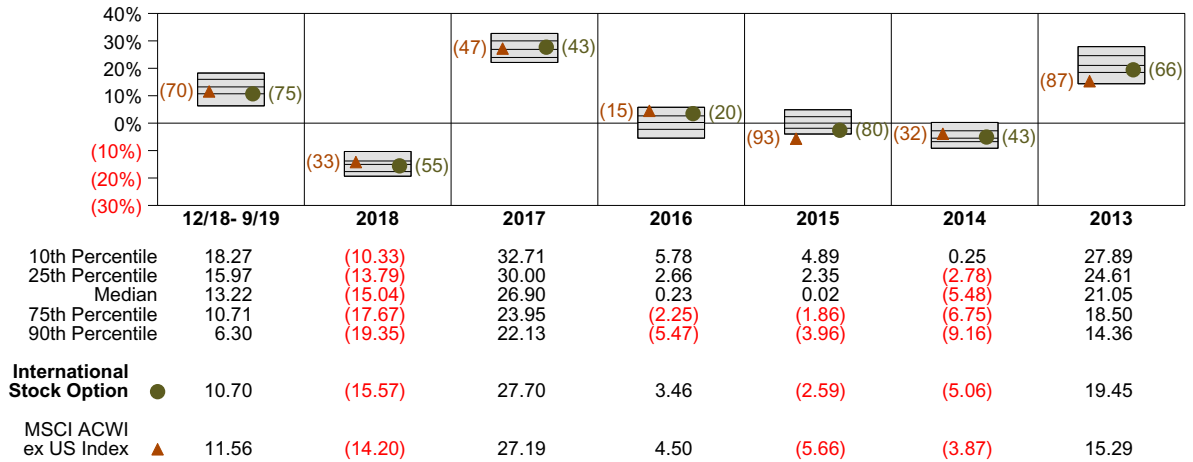


# International Stock Option Return Analysis Summary

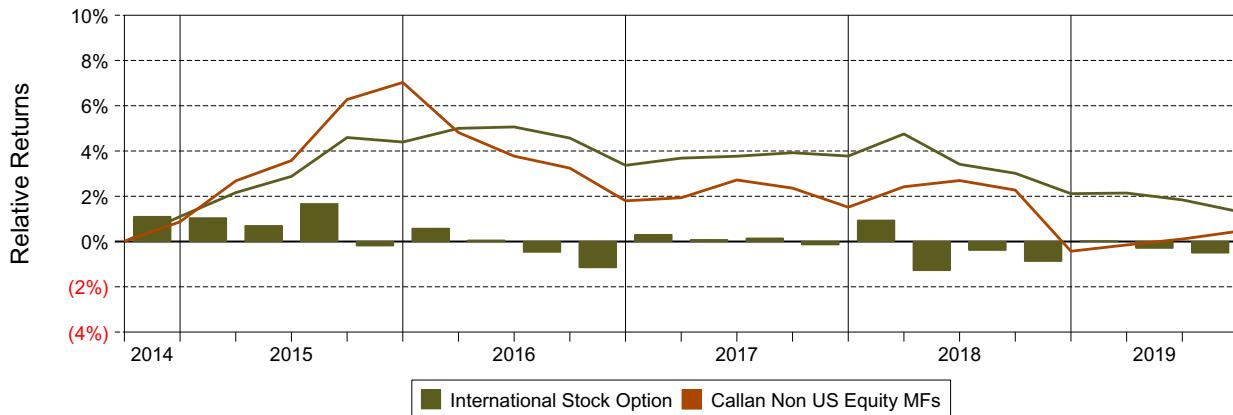
## Return Analysis

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 cumulative 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.

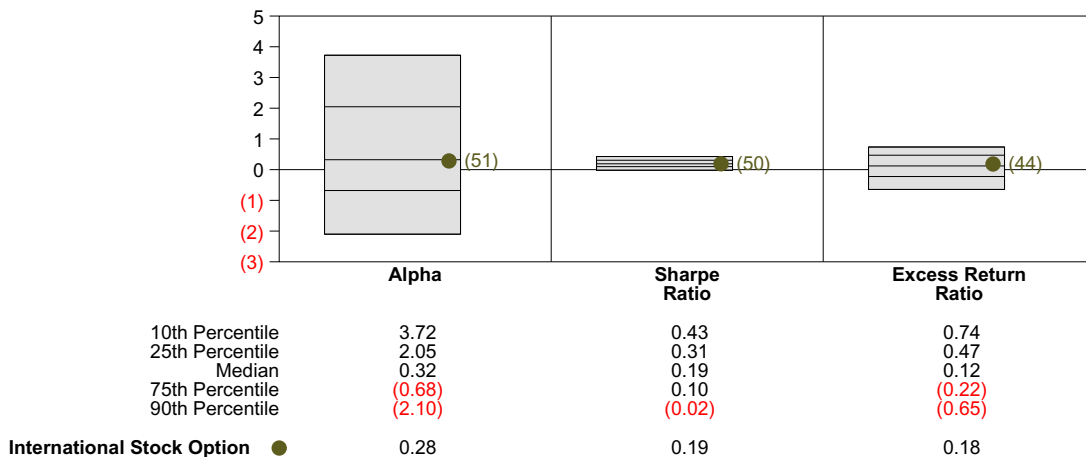
### Performance vs Callan Non US Equity Mutual Funds (Institutional Net)



### Cumulative and Quarterly Relative Return vs MSCI ACWI ex US Index



### Risk Adjusted Return Measures vs MSCI ACWI ex US Index Rankings Against Callan Non US Equity Mutual Funds (Institutional Net) Five Years Ended September 30, 2019

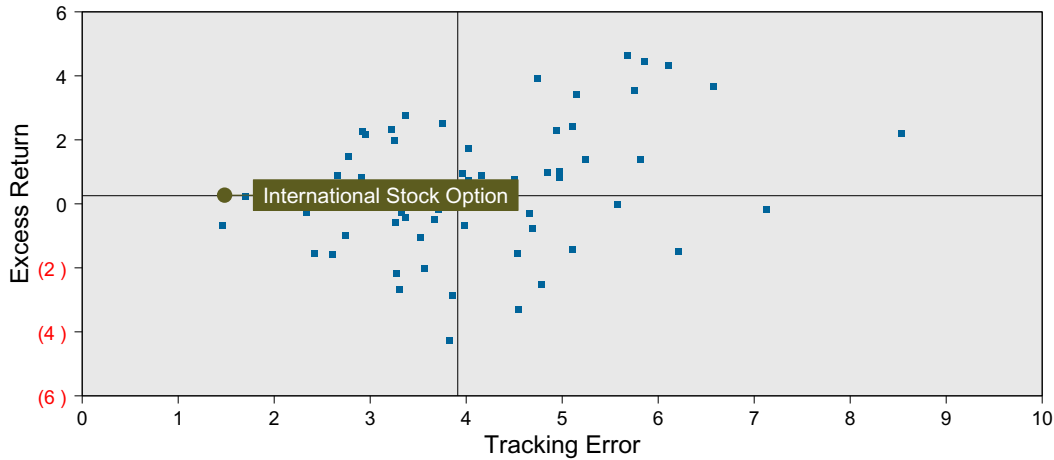


# International Stock Option Risk Analysis Summary

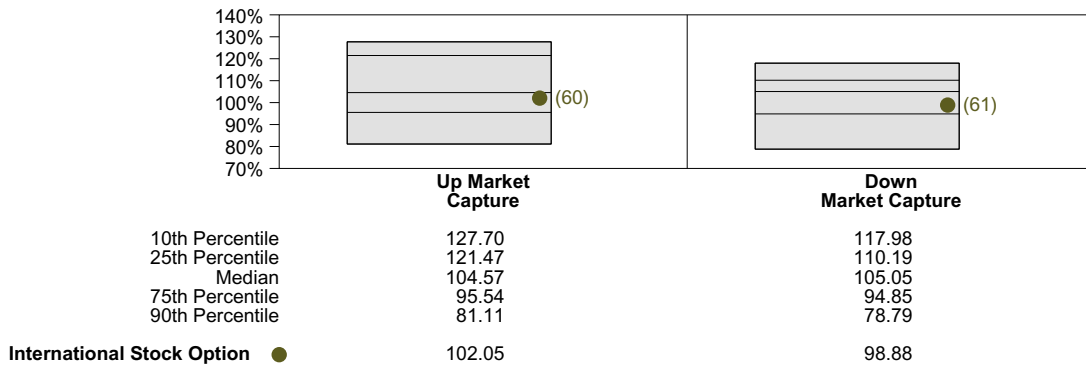
## Risk Analysis

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.

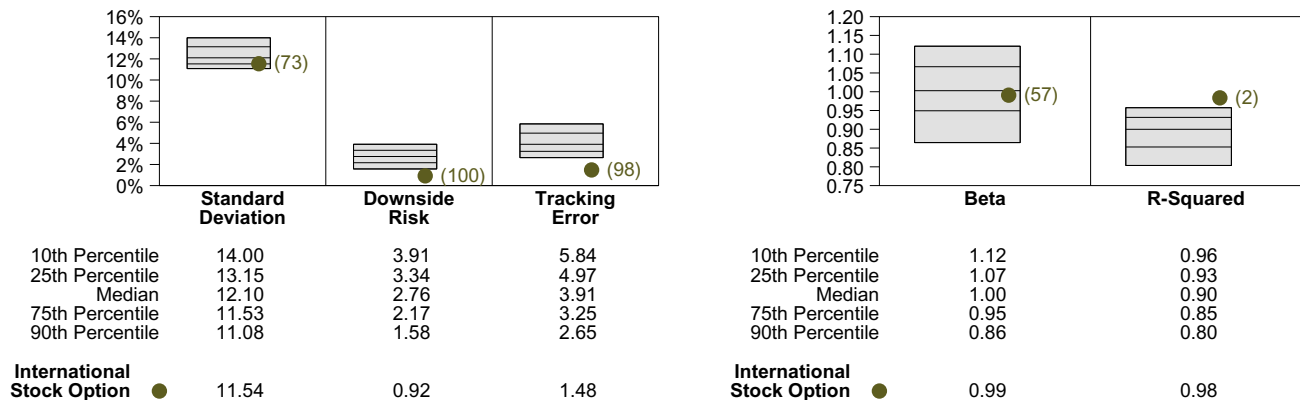
### Risk Analysis vs Callan Non US Equity Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



### Market Capture vs MSCI ACWI ex US Index Rankings Against Callan Non US Equity Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



### Risk Statistics Rankings vs MSCI ACWI ex US Index Rankings Against Callan Non US Equity Mutual Funds (Institutional Net) Five Years Ended September 30, 2019

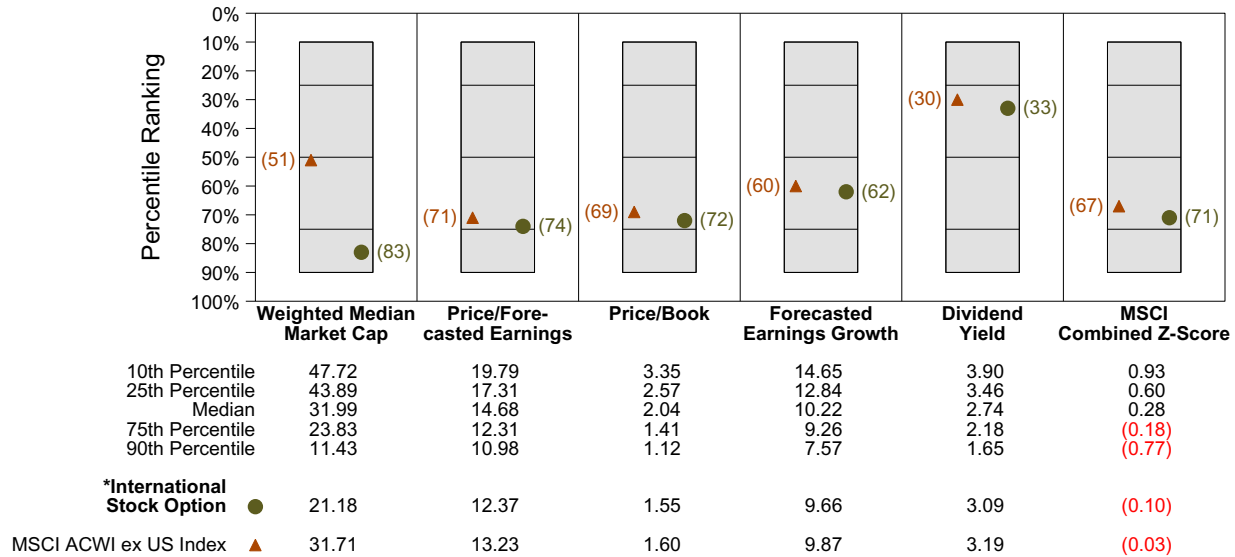


# International Stock Option Equity Characteristics Analysis Summary

## Portfolio Characteristics

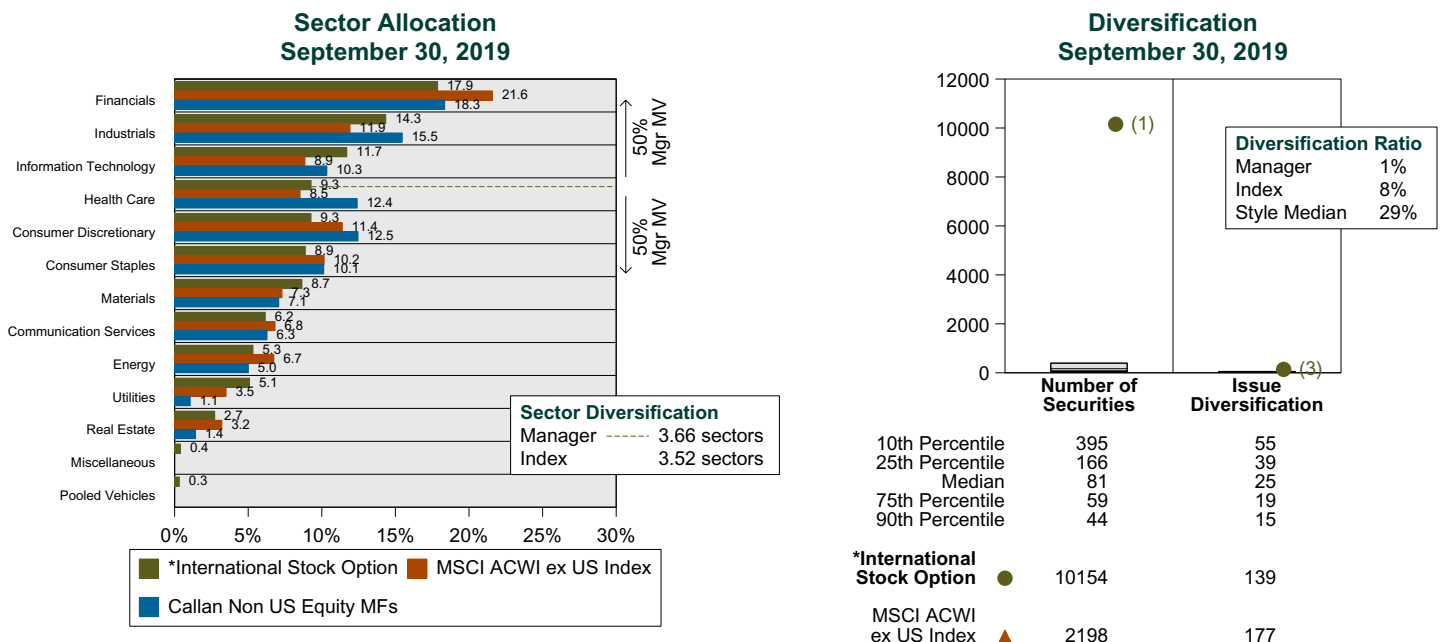
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of September 30, 2019



## 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.



\*9/30/19 portfolio characteristics generated using most recently available holdings (6/30/19) 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.

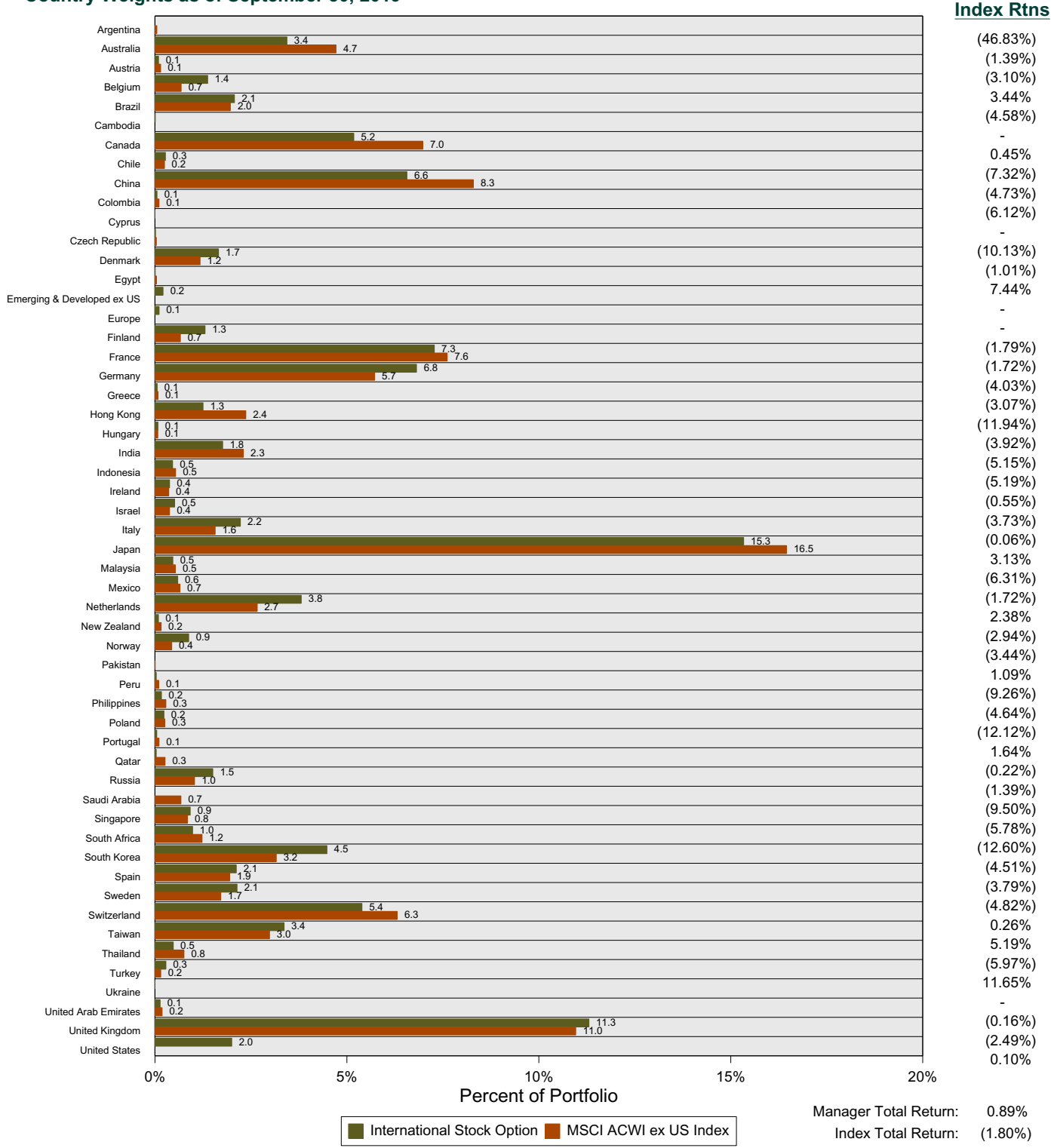
# Country Allocation

## International Stock Option VS MSCI ACWI ex US Index

### Country Allocation

The chart below contrasts the portfolio's country allocation with that of the index as of September 30, 2019. 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.

Country Weights as of September 30, 2019

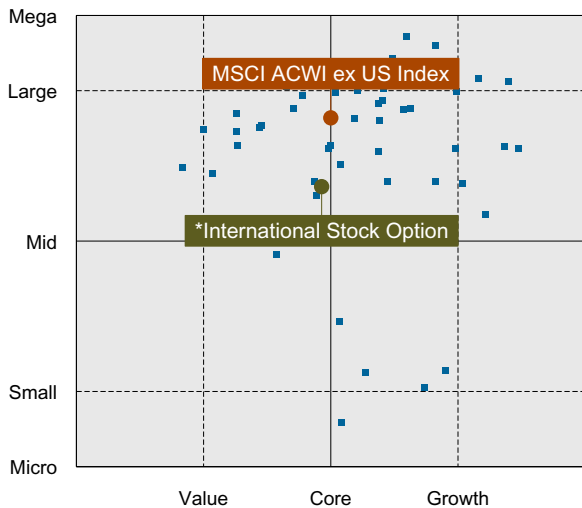




# Current Holdings Based Style Analysis International Stock Option As of September 30, 2019

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.

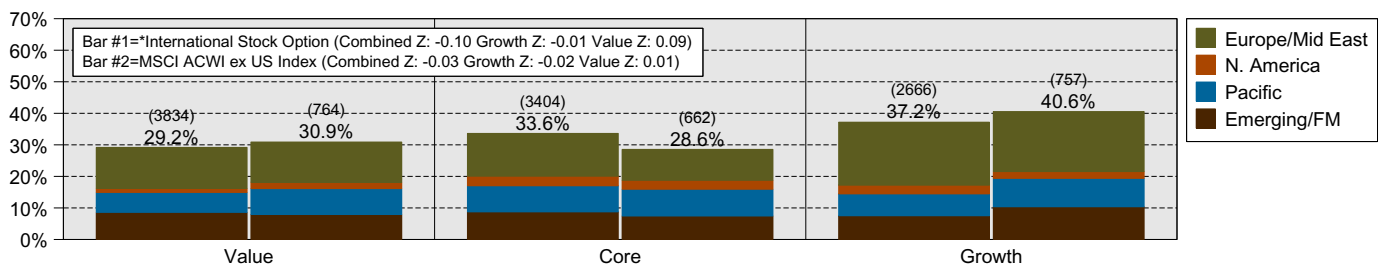
**Style Map vs Callan Non US Equity MFs Holdings as of September 30, 2019**



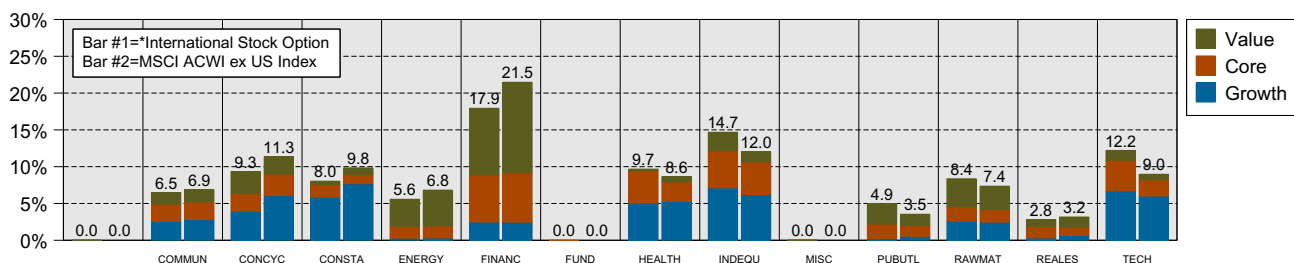
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Europe/ Mid East	13.0% (634)	13.6% (674)	20.0% (587)	46.5% (1895)
N. America	12.7% (144)	9.8% (120)	19.0% (184)	41.5% (448)
Pacific	6.3% (1206)	8.3% (951)	6.9% (823)	21.5% (2980)
Emerging/ FM	8.2% (145)	8.5% (157)	9.0% (168)	25.6% (470)
<b>Total</b>	<b>29.2% (3834)</b>	<b>33.6% (3404)</b>	<b>37.2% (2666)</b>	<b>100.0% (9904)</b>
	30.9% (764)	28.6% (662)	40.6% (757)	100.0% (2183)

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



**Sector Weights Distribution Holdings as of September 30, 2019**

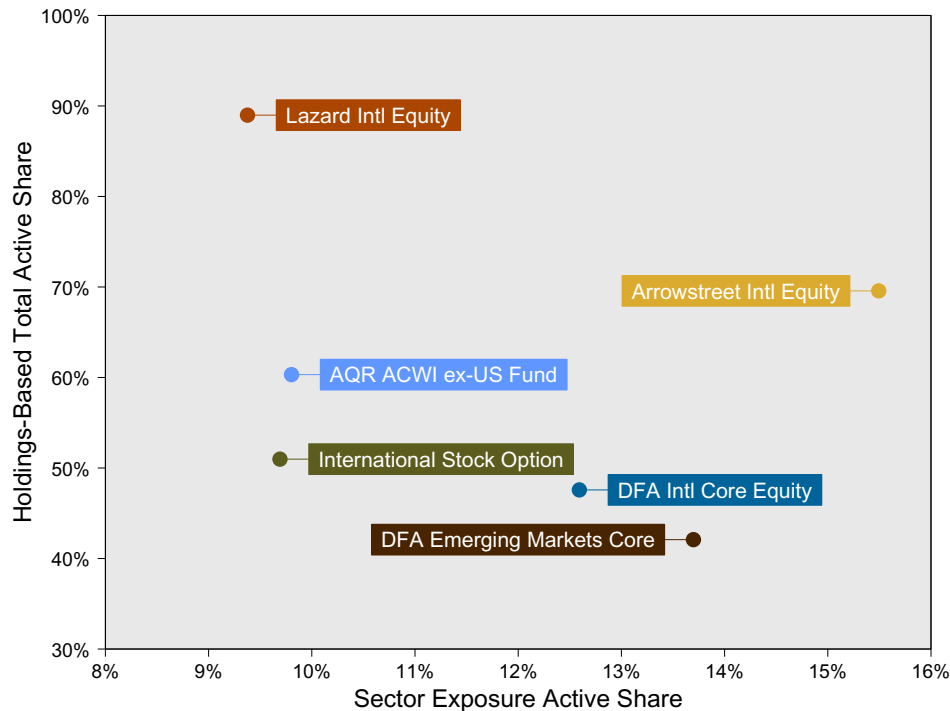


\* 9/30/19 portfolio characteristics generated using most recently available holdings (6/30/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

## Active Share Structure Analysis For One Quarter Ended September 30, 2019

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, 2019



	Weight %	Index	Total Act Share	Non-Idx Act Share	Sector Act Share	Number Securities	Security Diverse
<b>*International Stock Option</b>	<b>100.00%</b>	<b>MSCI ACWI ex US</b>	<b>50.98%</b>	<b>10.14%</b>	<b>9.69%</b>	<b>10154</b>	<b>138.83</b>
Lazard Intl Equity	24.26%	MSCI EAFE	88.99%	14.77%	9.38%	64	20.11
DFA Intl Core Equity	14.67%	MSCI World ex US	47.58%	18.17%	12.59%	5188	406.39
DFA Emerging Markets Core	9.71%	MSCI EM	42.09%	14.85%	13.70%	4774	220.86
Arrowstreet Intl Equity	27.02%	MSCI ACWI ex US	69.57%	11.08%	15.49%	644	82.04
AQR ACWI ex-US Fund	24.34%	MSCI ACWI ex US	60.31%	2.55%	9.80%	642	76.19

\* 9/30/19 portfolio characteristics generated using most recently available holdings (6/30/19) 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.

# Lazard International Equity Fund Period Ended September 30, 2019

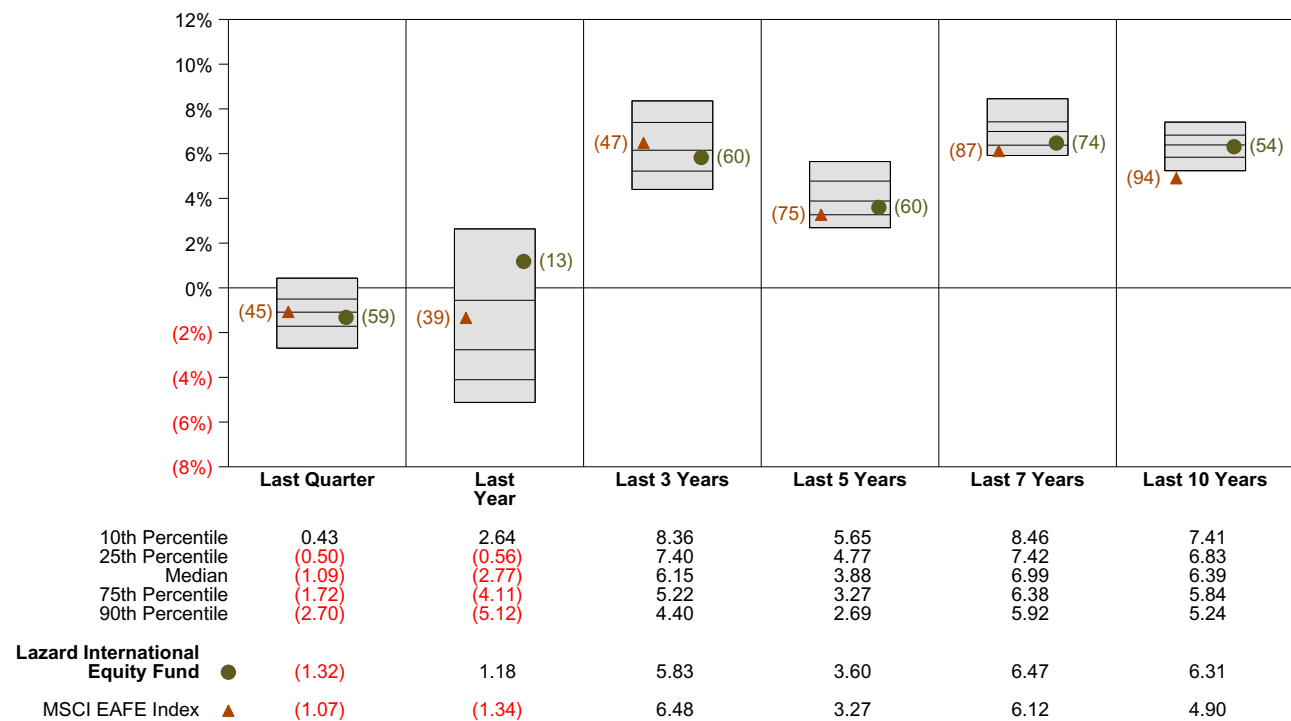
## Investment Philosophy

The Lazard International Equity strategy seeks to generate strong relative returns over a full market cycle by investing in companies with strong and/or improving financial productivity at attractive valuations. The strategy typically invests in non-US companies, including those from emerging markets, with a market capitalization generally of \$3 billion or greater. EAFE and ACWI ex-US benchmarked versions are available, resulting in different emerging markets exposure. A version that excludes emerging markets is also available.

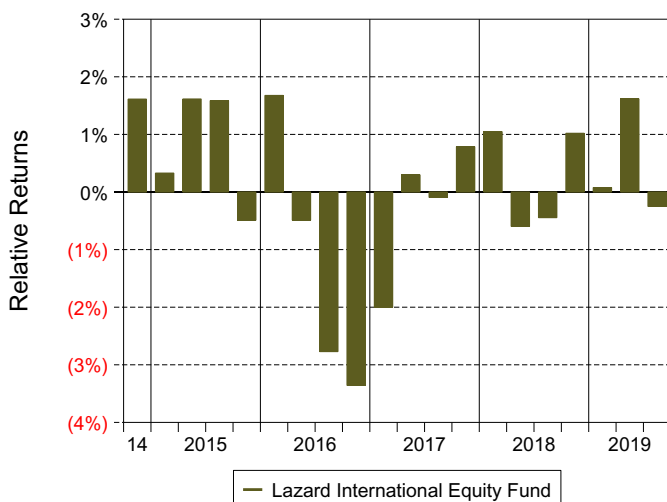
## Quarterly Summary and Highlights

- Lazard International Equity Fund's portfolio posted a (1.32)% return for the quarter placing it in the 59 percentile of the Callan Non-US Developed Core Equity group for the quarter and in the 13 percentile for the last year.
- Lazard International Equity Fund's portfolio underperformed the MSCI EAFE Index by 0.25% for the quarter and outperformed the MSCI EAFE Index for the year by 2.52%.

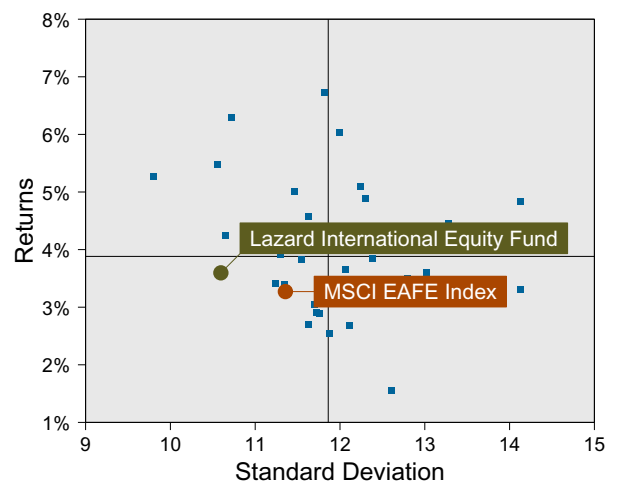
## Performance vs Callan Non-US Developed Core Equity (Gross)



## Relative Return vs MSCI EAFE Index



## Callan Non-US Developed Core Equity (Gross) Annualized Five Year Risk vs Return

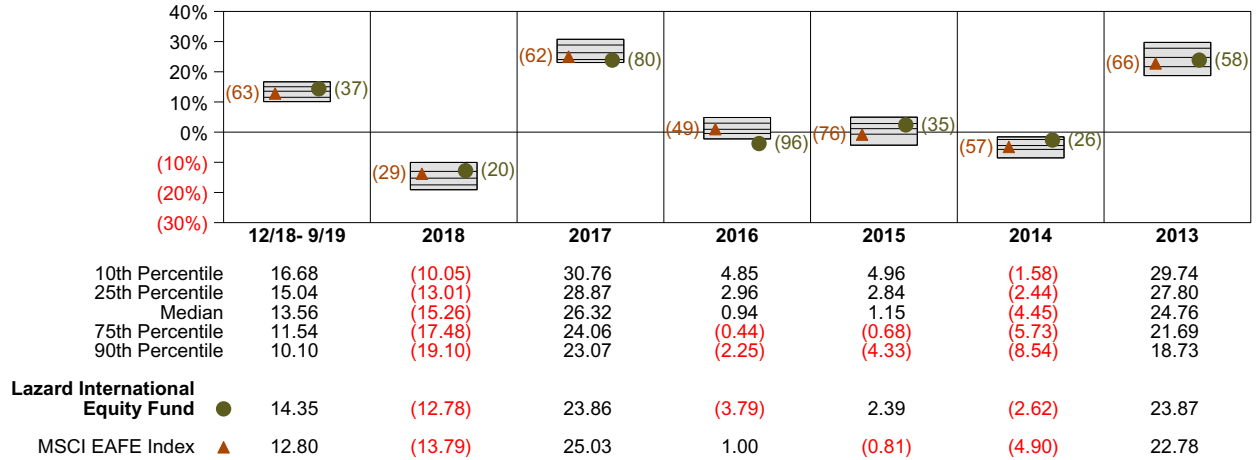


# Lazard International Equity Fund Return Analysis Summary

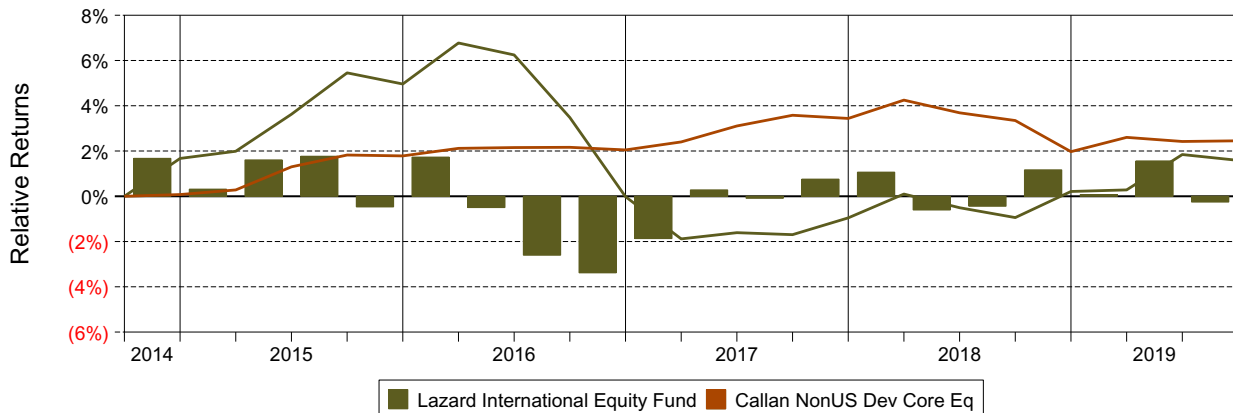
## Return Analysis

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 cumulative 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.

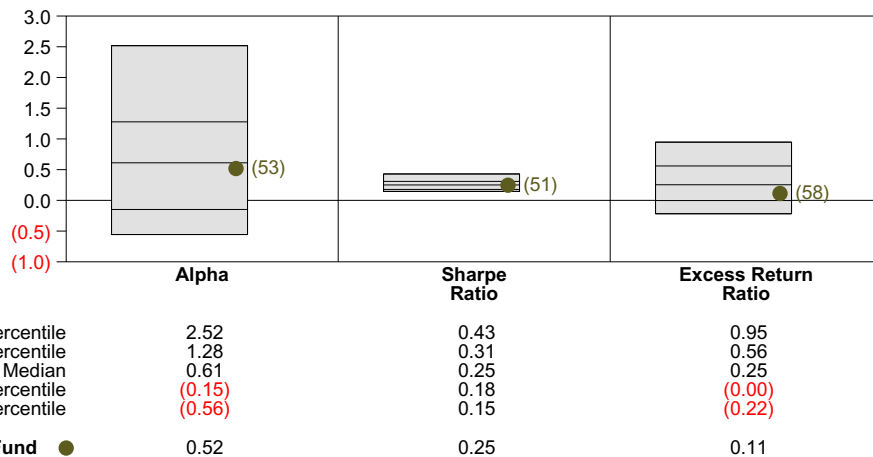
### Performance vs Callan Non-US Developed Core Equity (Gross)



### Cumulative and Quarterly Relative Return vs MSCI EAFE Index



### Risk Adjusted Return Measures vs MSCI EAFE Index Rankings Against Callan Non-US Developed Core Equity (Gross) Five Years Ended September 30, 2019

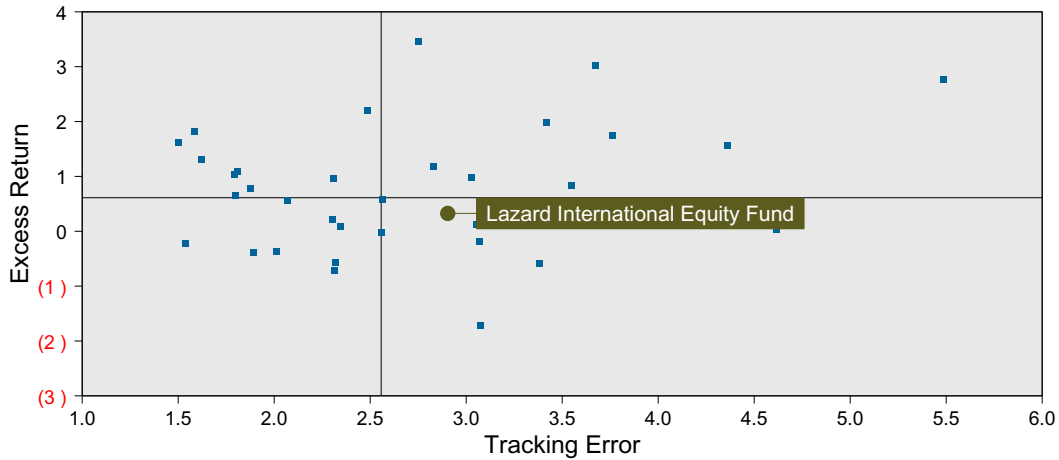


# Lazard International Equity Fund Risk Analysis Summary

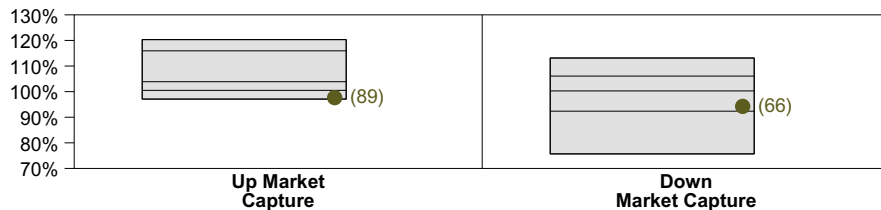
## Risk Analysis

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 Non-US Developed Core Equity (Gross) Five Years Ended September 30, 2019

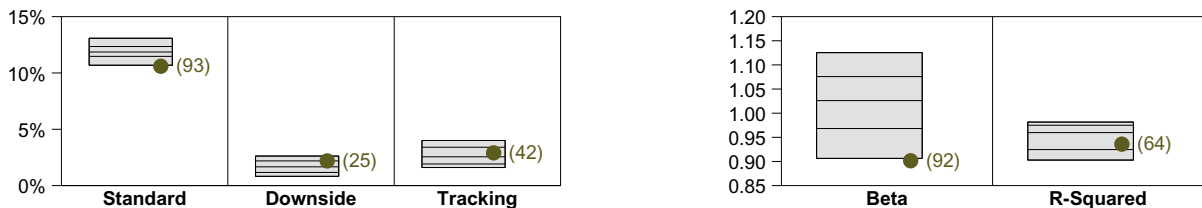


### Market Capture vs MSCI EAFE Index Rankings Against Callan Non-US Developed Core Equity (Gross) Five Years Ended September 30, 2019



	Up Market Capture	Down Market Capture
10th Percentile	120.33	113.13
25th Percentile	115.93	106.07
Median	103.87	100.28
75th Percentile	100.50	92.37
90th Percentile	97.08	75.68
<b>Lazard International Equity Fund</b>	<b>97.66</b>	<b>94.24</b>

### Risk Statistics Rankings vs MSCI EAFE Index Rankings Against Callan Non-US Developed Core Equity (Gross) Five Years Ended September 30, 2019



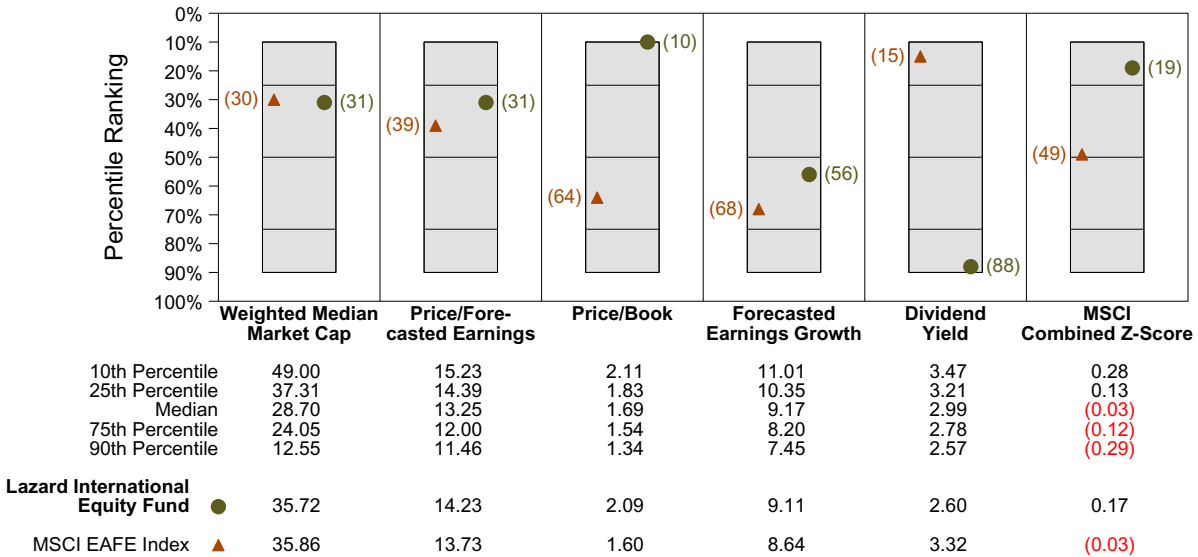
	Standard Deviation	Downside Risk	Tracking Error	Beta	R-Squared
10th Percentile	13.08	2.62	4.01	1.13	0.98
25th Percentile	12.35	2.19	3.41	1.08	0.98
Median	11.86	1.67	2.56	1.03	0.96
75th Percentile	11.47	1.17	1.92	0.97	0.92
90th Percentile	10.68	0.82	1.61	0.91	0.90
<b>Lazard International Equity Fund</b>	<b>10.60</b>	<b>2.19</b>	<b>2.90</b>	<b>0.90</b>	<b>0.94</b>

# Lazard International Equity Fund 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.

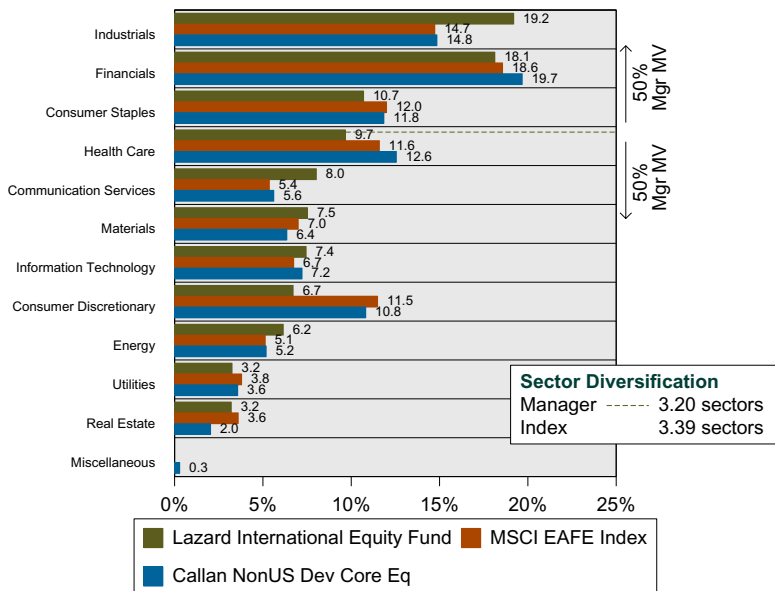
## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non-US Developed Core Equity as of September 30, 2019



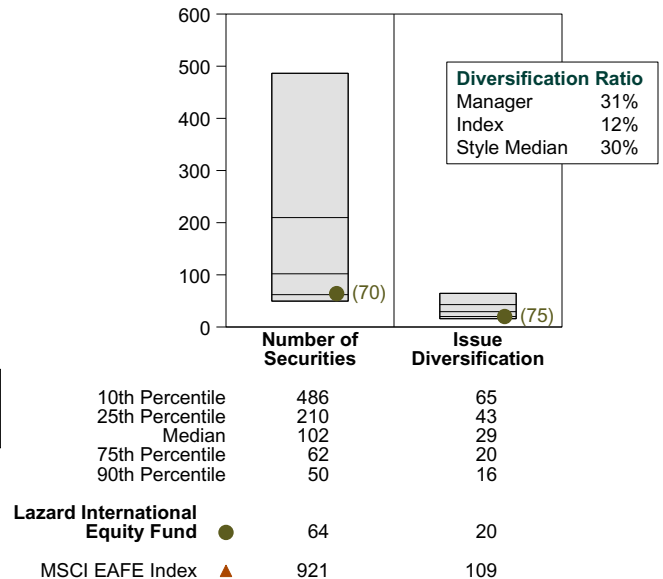
## Sector Weights

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.

### Sector Allocation September 30, 2019



### Diversification September 30, 2019

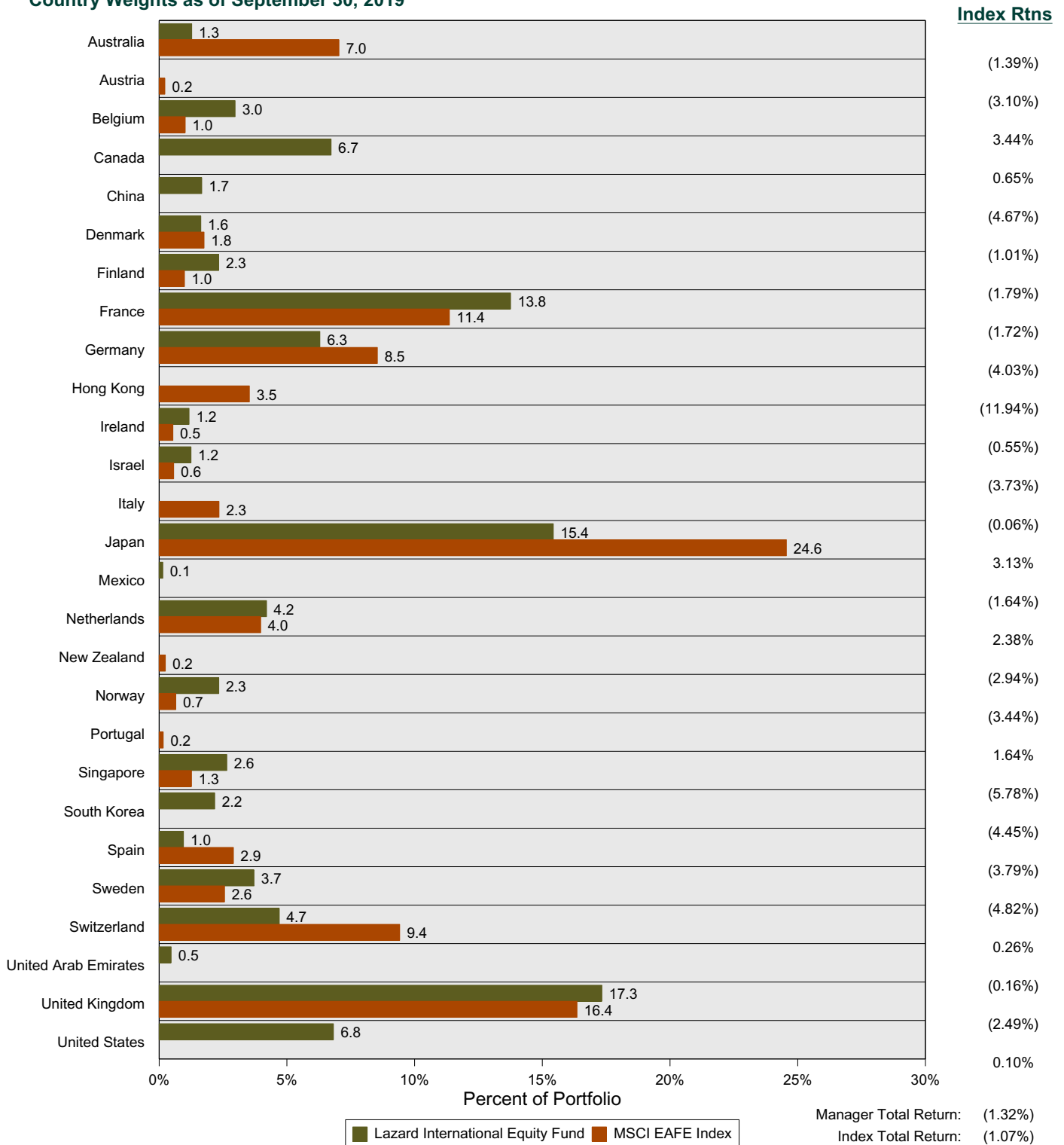


## Country Allocation Lazard International Equity Fund VS MSCI EAFE Index

### Country Allocation

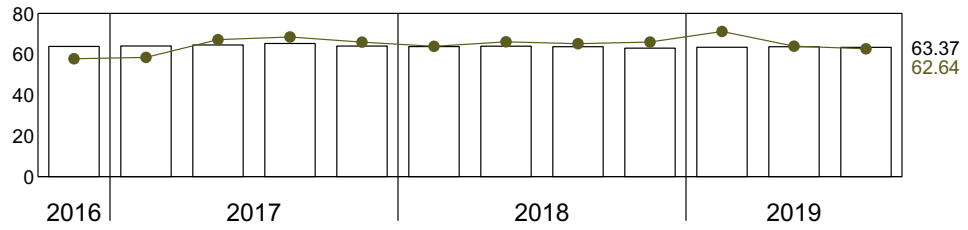
The chart below contrasts the portfolio's country allocation with that of the index as of September 30, 2019. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio 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.

### Country Weights as of September 30, 2019

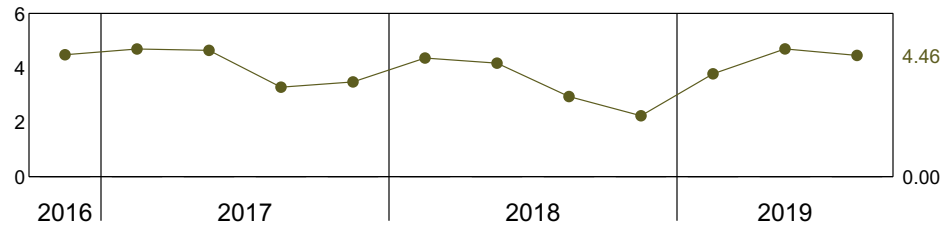


**Oregon Savings Growth Plan**  
**History of Ending Regional Weights**  
**Period Ended September 30, 2019**

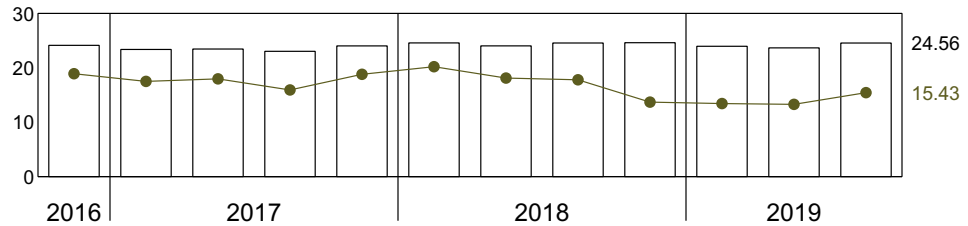
**Dev Europe/Mid East**



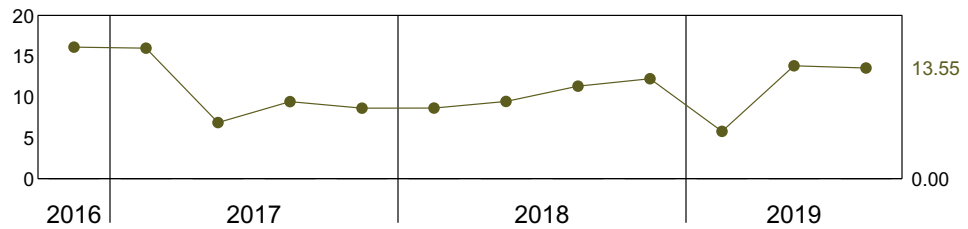
**Emerging Markets**



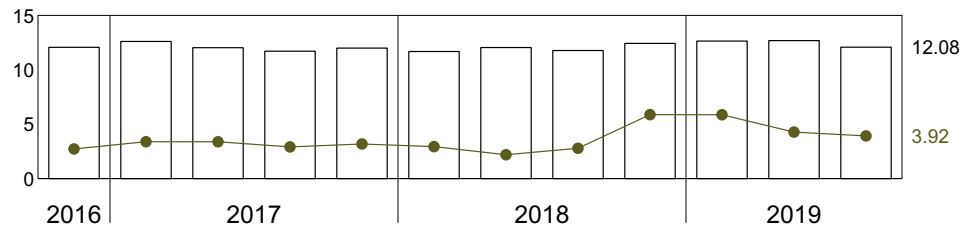
**Japan**



**North America**



**Pacific Basin**



MSCI EAFE Index
 
 Lazard International Equity Fund



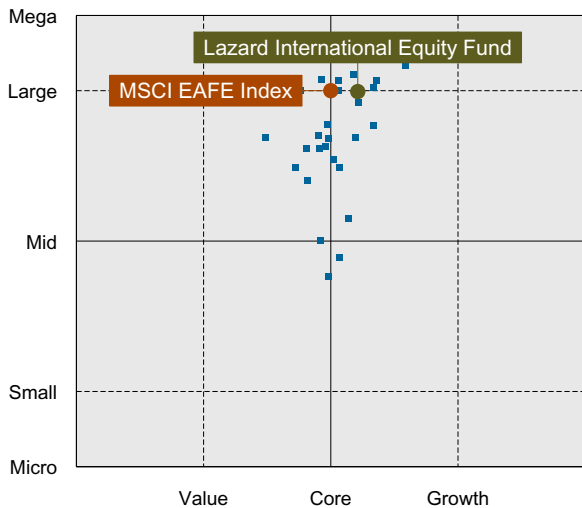
# Current Holdings Based Style Analysis

## Lazard International Equity Fund

### As of September 30, 2019

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 chart 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.

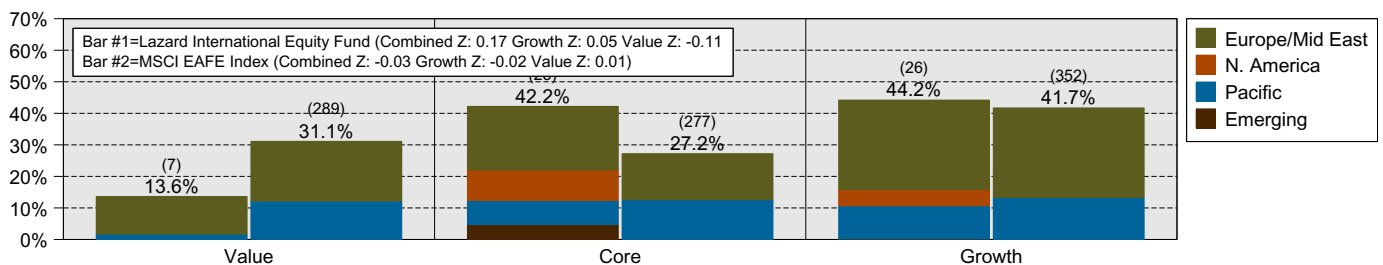
**Style Map vs Callan NonUS Dev Core Eq Holdings as of September 30, 2019**



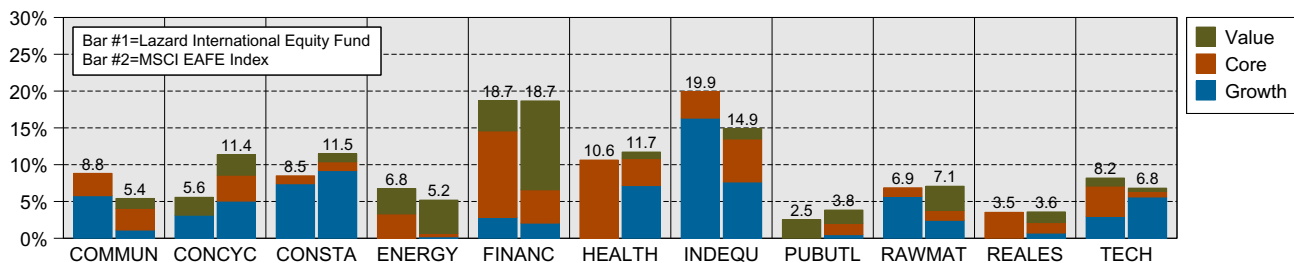
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Europe/Mid East	11.9% (6)	20.1% (13)	28.3% (14)	60.3% (33)
N. America	18.9% (144)	14.6% (120)	28.3% (184)	61.8% (448)
Pacific	0.0% (0)	9.7% (5)	5.2% (3)	14.9% (8)
Emerging	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
<b>Total</b>	<b>13.6% (7)</b>	<b>42.2% (25)</b>	<b>44.2% (26)</b>	<b>100.0% (58)</b>
	<b>31.1% (289)</b>	<b>27.2% (277)</b>	<b>41.7% (352)</b>	<b>100.0% (918)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



**Sector Weights Distribution Holdings as of September 30, 2019**



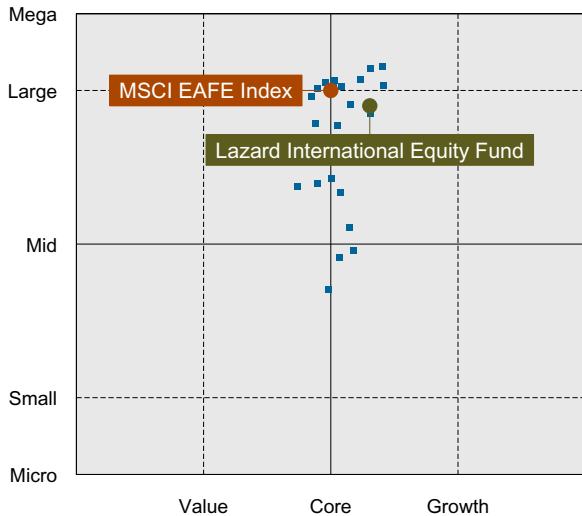
# Historical Holdings Based Style Analysis

## Lazard International Equity Fund

### For Three Years Ended September 30, 2019

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.

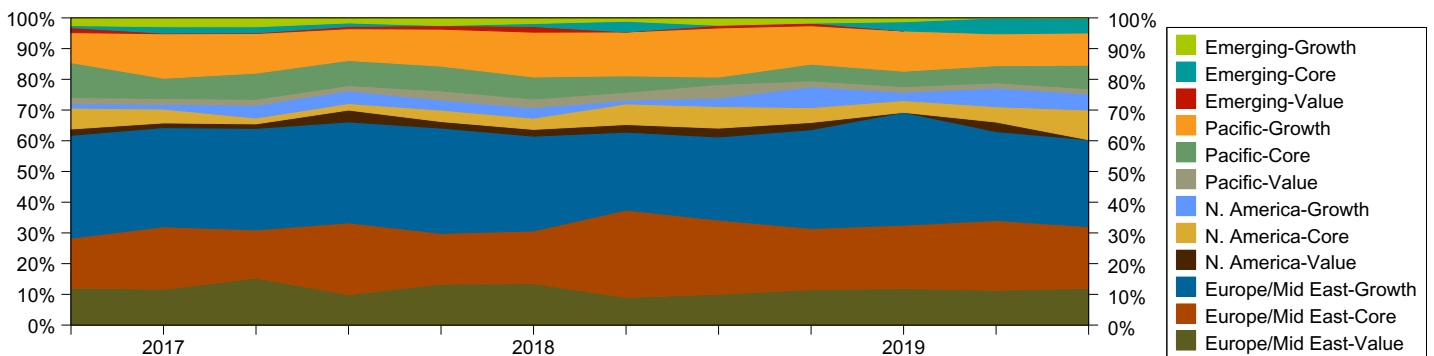
**Average Style Map vs Callan NonUS Dev Core Eq Holdings for Three Years Ended September 30, 2019**



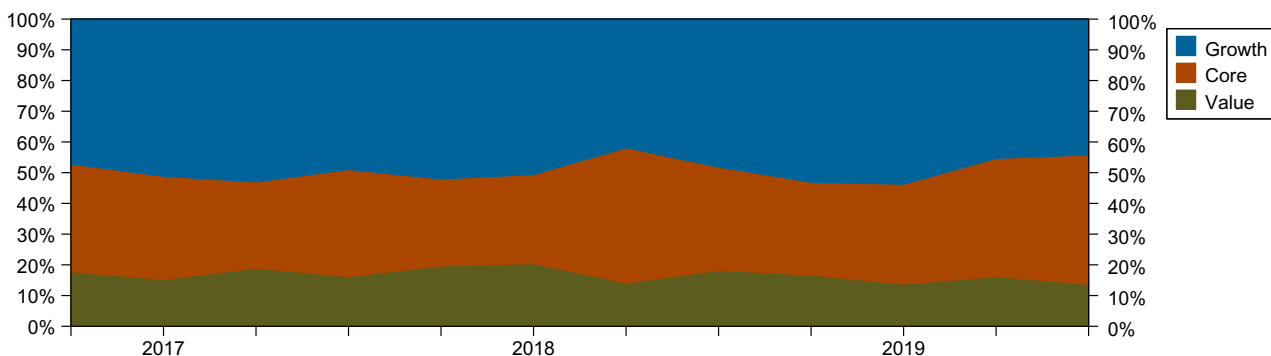
**Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2019**

	Value	Core	Growth	Total
Europe/ Mid East	11.8% (7)	20.4% (11)	31.3% (16)	63.5% (34)
	19.9% (134)	18.2% (130)	24.8% (189)	62.9% (453)
N. America	2.0% (1)	5.0% (3)	3.5% (2)	10.5% (6)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Pacific	2.3% (1)	6.8% (4)	12.6% (8)	21.7% (13)
	13.0% (145)	11.0% (150)	13.1% (175)	37.1% (470)
Emerging	0.6% (1)	1.9% (2)	1.7% (1)	4.3% (4)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
<b>Total</b>	<b>16.7% (10)</b>	<b>34.2% (20)</b>	<b>49.1% (27)</b>	<b>100.0% (57)</b>
	<b>33.0% (279)</b>	<b>29.1% (280)</b>	<b>37.9% (364)</b>	<b>100.0% (923)</b>

**Lazard International Equity Fund Historical Region/Style Exposures**



**Lazard International Equity Fund Historical Style Only Exposures**



# DFA International Core Equity Period Ended September 30, 2019

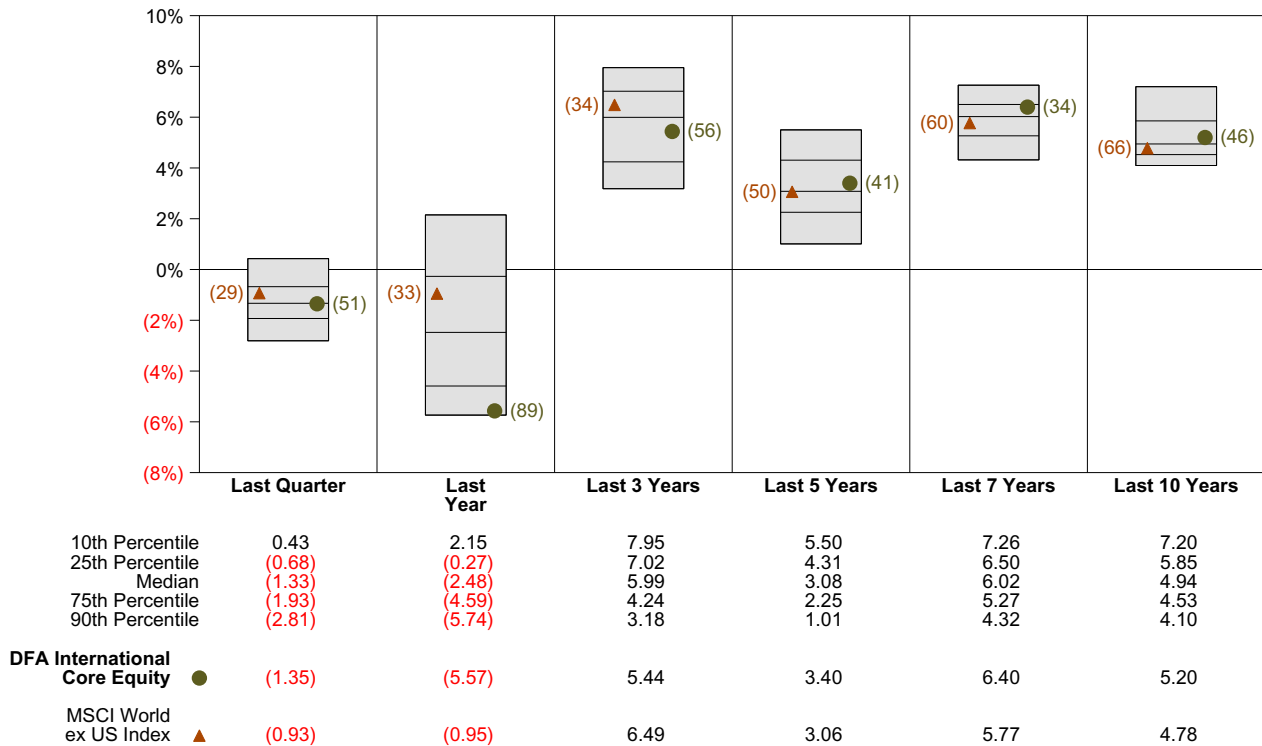
## Investment Philosophy

DFA takes a highly structured approach in all investment strategies, and relies on very careful, long-term focused portfolio engineering and trading expertise to achieve performance. They believe this systematic approach produces a more reliable and consistent investment rather than sector rotation, market forecasts and other speculative tools of traditional active managers.

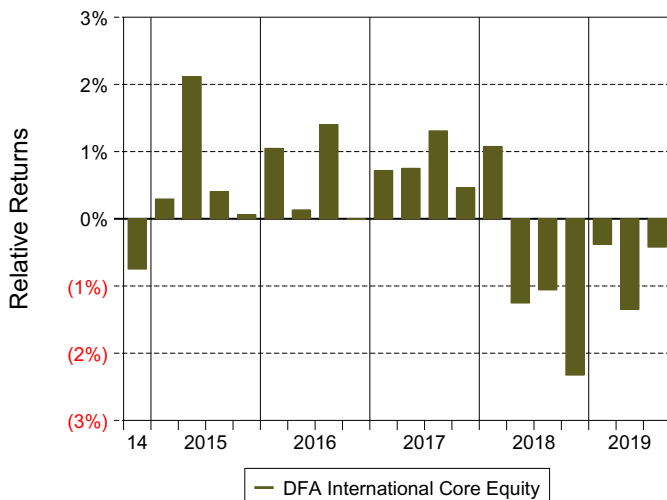
## Quarterly Summary and Highlights

- DFA International Core Equity's portfolio posted a (1.35)% return for the quarter placing it in the 51 percentile of the Callan Intl Eq Developed Mkts MFs group for the quarter and in the 89 percentile for the last year.
- DFA International Core Equity's portfolio underperformed the MSCI World ex US Index by 0.42% for the quarter and underperformed the MSCI World ex US Index for the year by 4.62%.

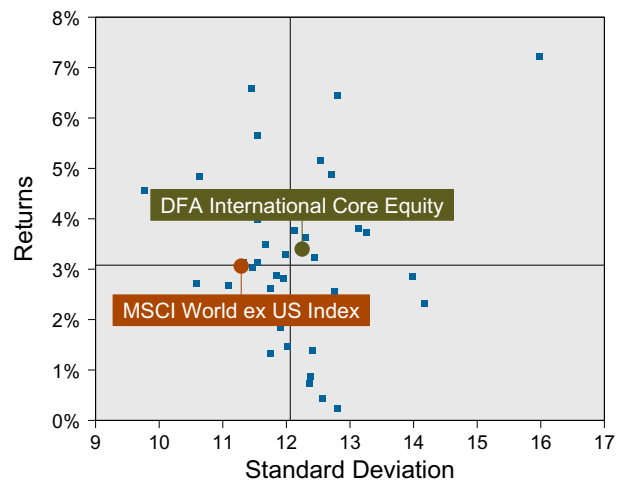
## Performance vs Callan Intl Eq Developed Mkts MFs (Institutional Net)



## Relative Return vs MSCI World ex US Index



## Callan Intl Eq Developed Mkts MFs (Institutional Net) Annualized Five Year Risk vs Return

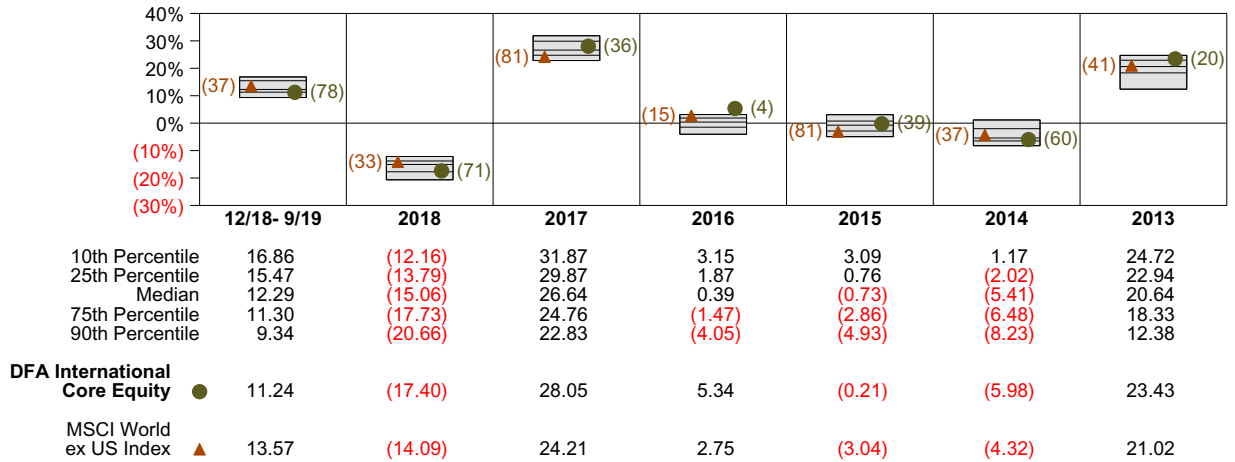


# DFA International Core Equity Return Analysis Summary

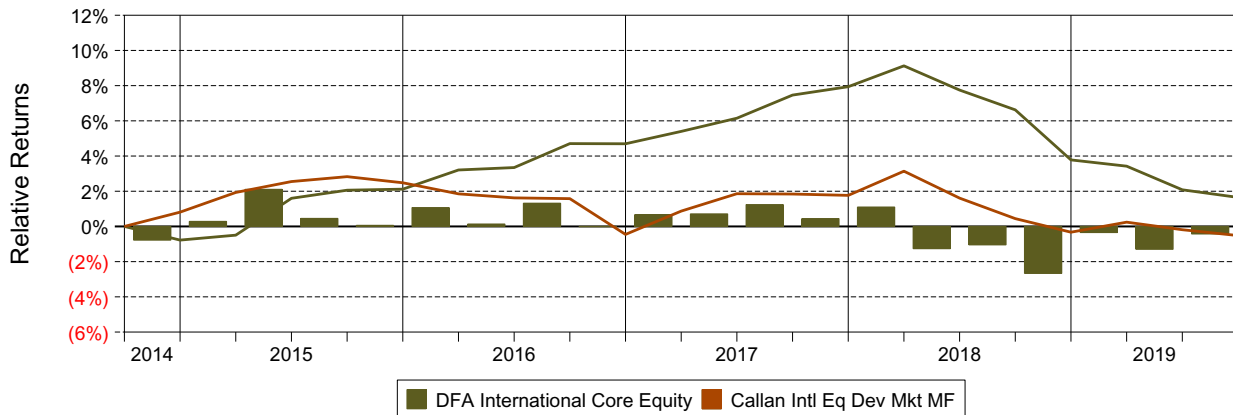
## Return Analysis

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 cumulative 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.

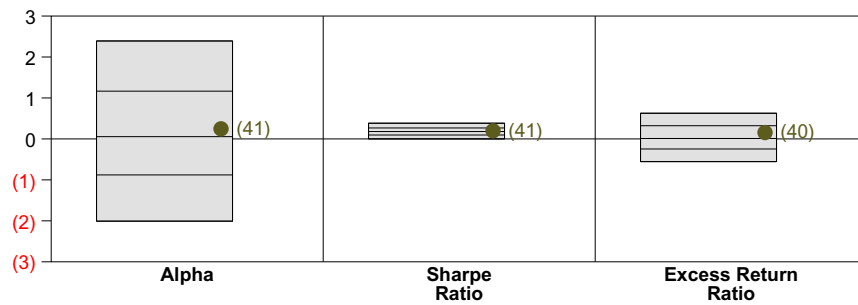
### Performance vs Callan Intl Eq Developed Mkts MFs (Institutional Net)



### Cumulative and Quarterly Relative Return vs MSCI World ex US Index



### Risk Adjusted Return Measures vs MSCI World ex US Index Rankings Against Callan Intl Eq Developed Mkts MFs (Institutional Net) Five Years Ended September 30, 2019



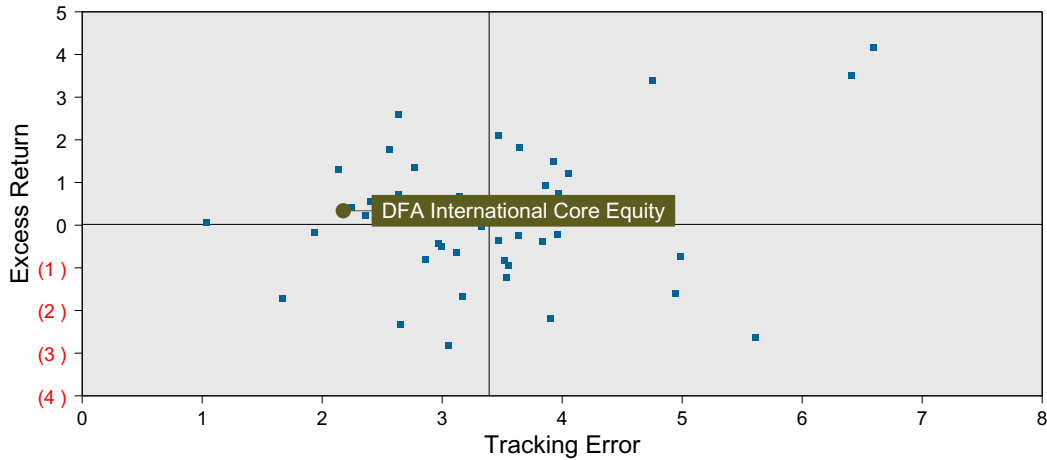
	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	2.39	0.38	0.63
25th Percentile	1.17	0.27	0.32
Median	0.06	0.18	0.01
75th Percentile	(0.88)	0.10	(0.25)
90th Percentile	(2.01)	0.00	(0.55)
<b>DFA International Core Equity</b>	● 0.25	0.20	0.16

# DFA International Core Equity Risk Analysis Summary

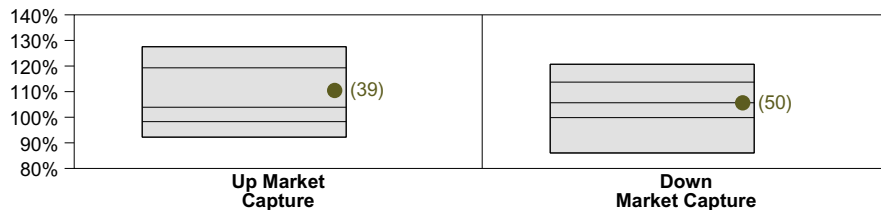
## Risk Analysis

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 Intl Eq Developed Mkts MFs (Institutional Net) Five Years Ended September 30, 2019



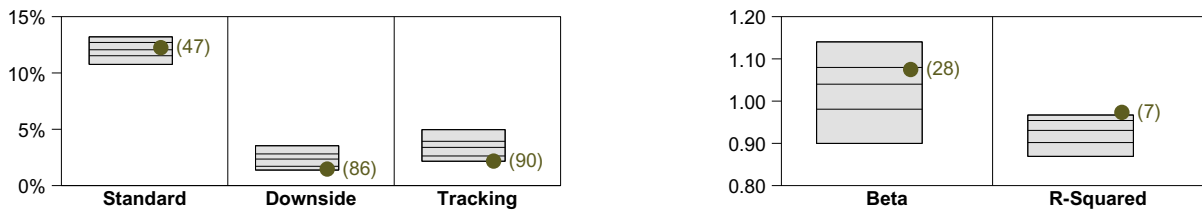
### Market Capture vs MSCI World ex US Index Rankings Against Callan Intl Eq Developed Mkts MFs (Institutional Net) Five Years Ended September 30, 2019



10th Percentile	127.54	120.69
25th Percentile	119.30	113.72
Median	103.90	105.65
75th Percentile	98.28	99.85
90th Percentile	92.22	86.04

DFA International Core Equity ● 110.46 105.63

### Risk Statistics Rankings vs MSCI World ex US Index Rankings Against Callan Intl Eq Developed Mkts MFs (Institutional Net) Five Years Ended September 30, 2019



10th Percentile	13.21	3.54	4.97	1.14	0.97
25th Percentile	12.71	2.81	3.93	1.08	0.95
Median	12.06	2.36	3.39	1.04	0.93
75th Percentile	11.53	1.71	2.63	0.98	0.90
90th Percentile	10.76	1.38	2.16	0.90	0.87

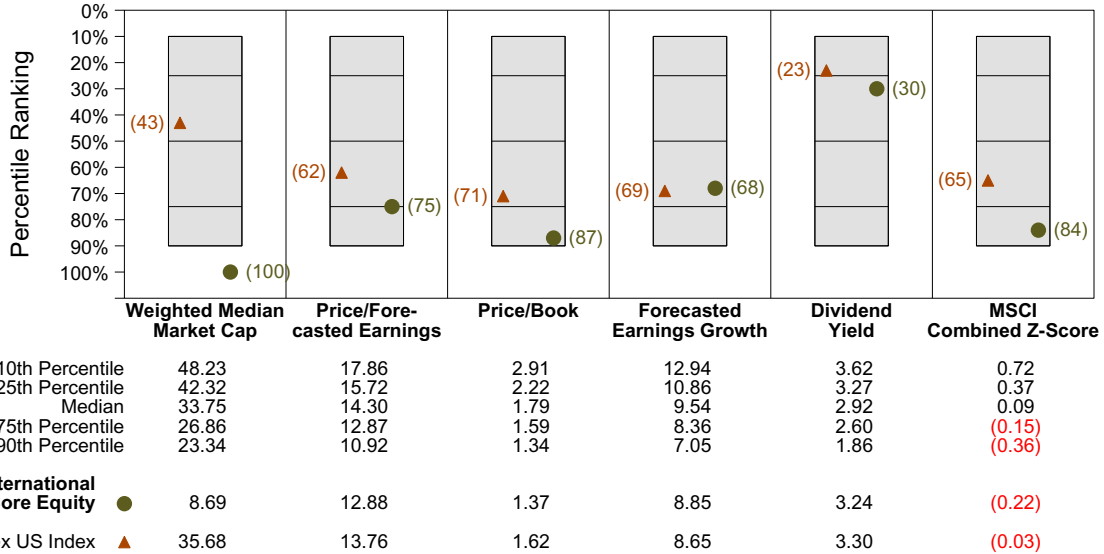
DFA International Core Equity ● 12.25 1.47 2.18 1.07 0.97

# DFA International Core Equity Equity Characteristics Analysis Summary

## Portfolio Characteristics

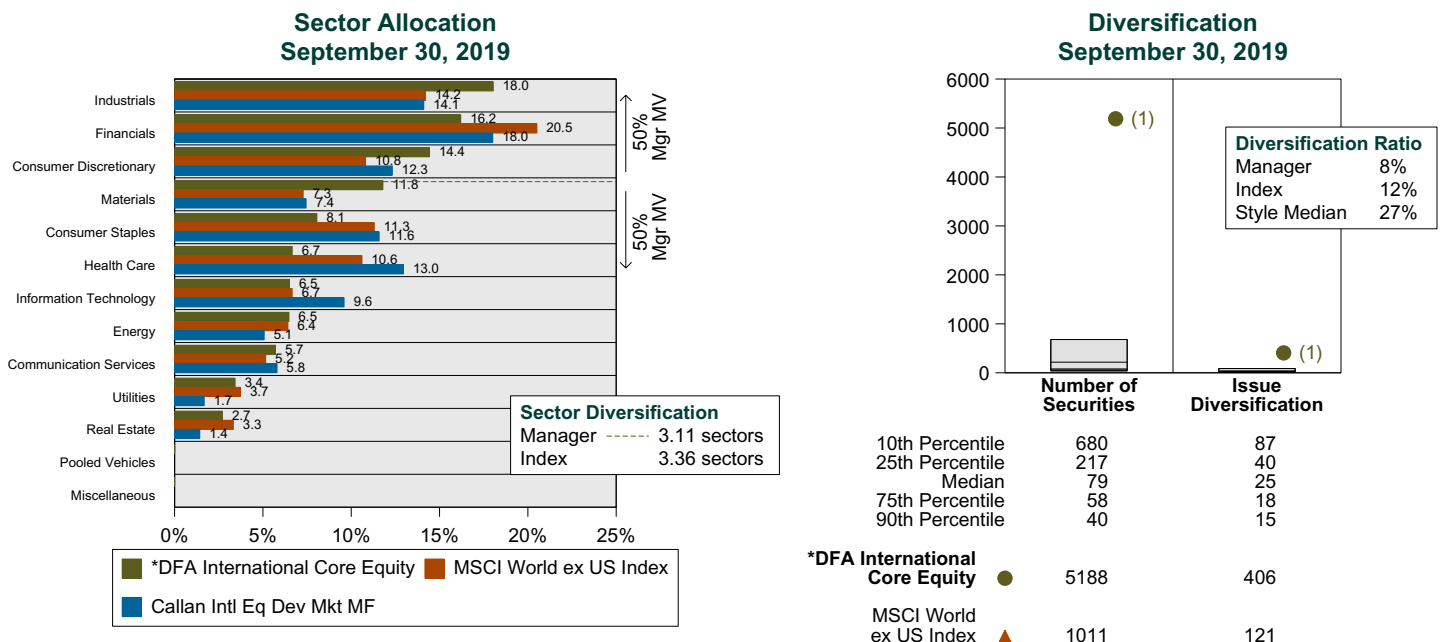
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Intl Eq Developed Mkts MFs as of September 30, 2019



## 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.



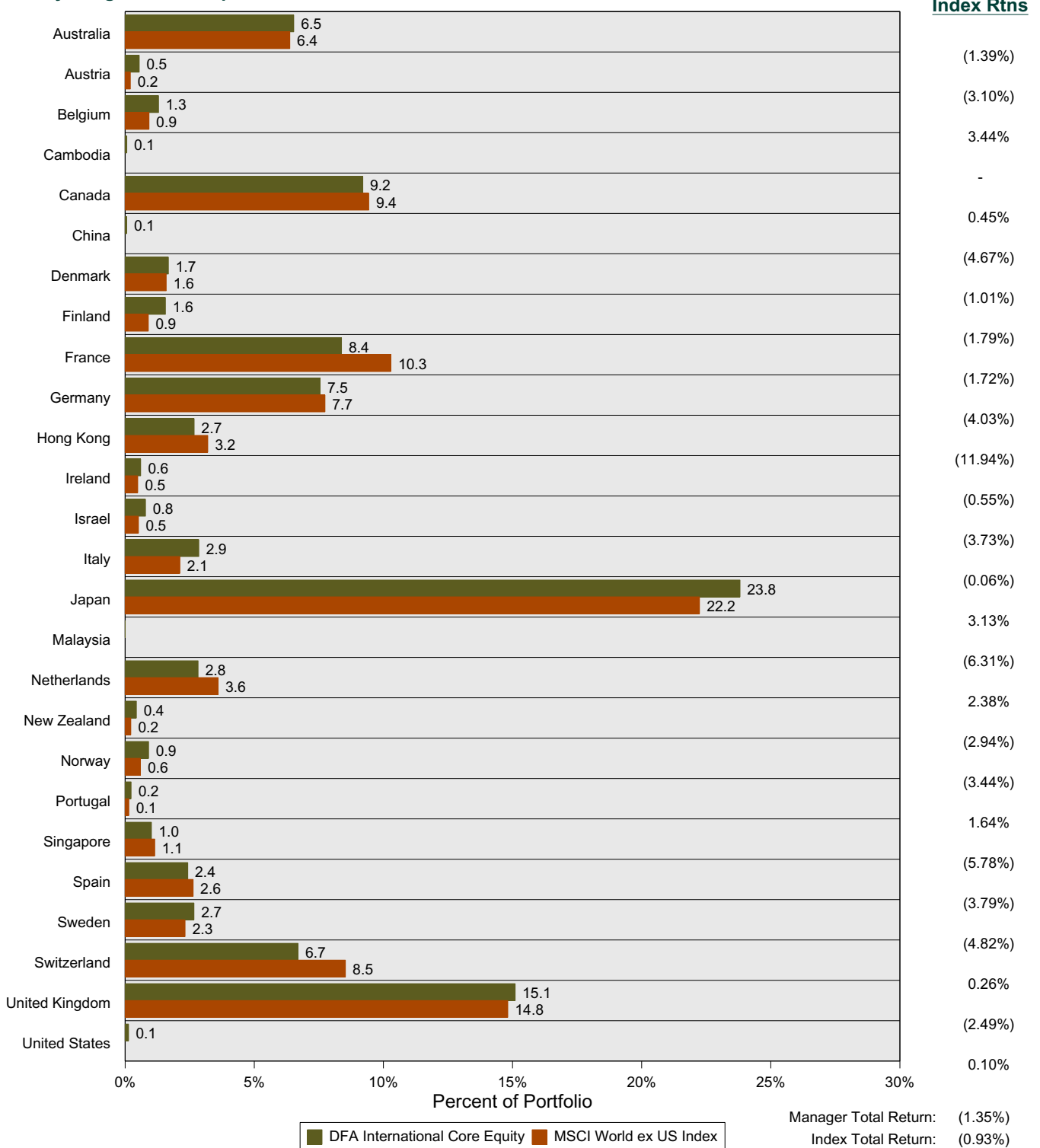
\*9/30/19 portfolio characteristics generated using most recently available holdings (8/31/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

## Country Allocation DFA International Core Equity VS MSCI World ex US Index

### Country Allocation

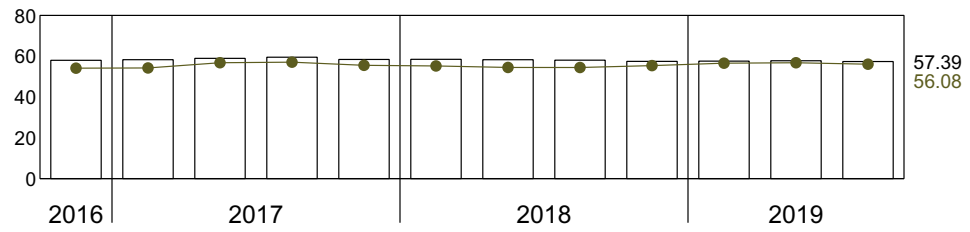
The chart below contrasts the portfolio's country allocation with that of the index as of September 30, 2019. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio 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.

### Country Weights as of September 30, 2019

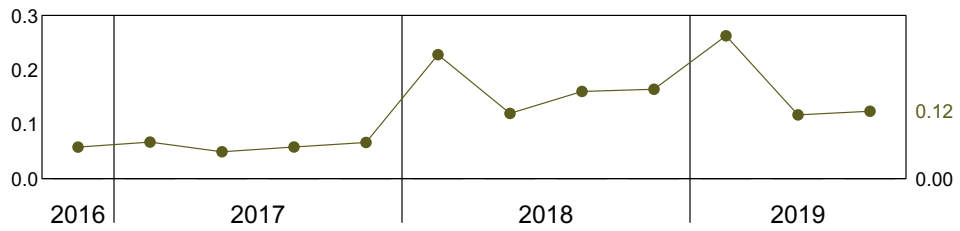


**Oregon Savings Growth Plan**  
**History of Ending Regional Weights**  
**Period Ended September 30, 2019**

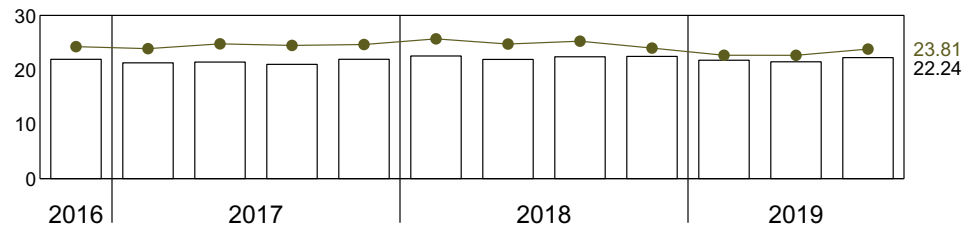
**Dev Europe/Mid East**



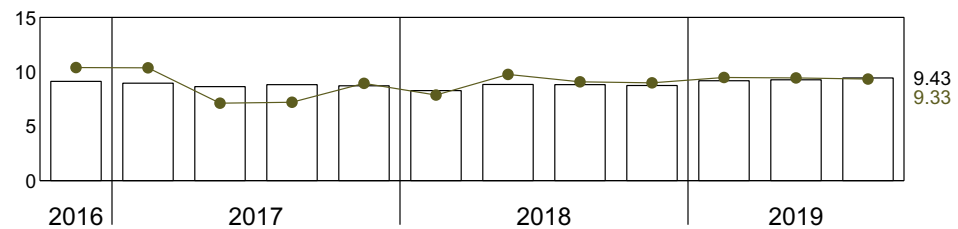
**Emerging Markets**



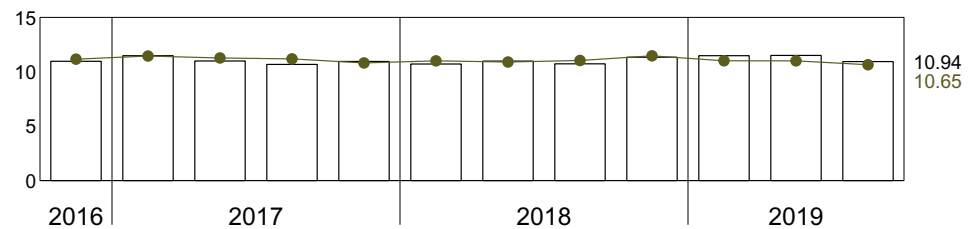
**Japan**



**North America**



**Pacific Basin**





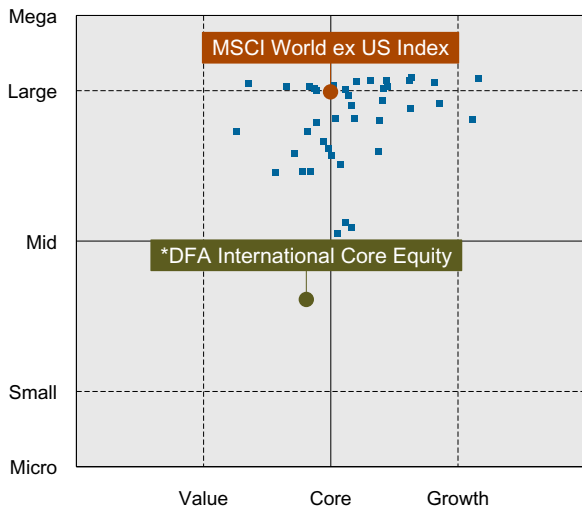
# Current Holdings Based Style Analysis

## DFA International Core Equity

### As of September 30, 2019

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.

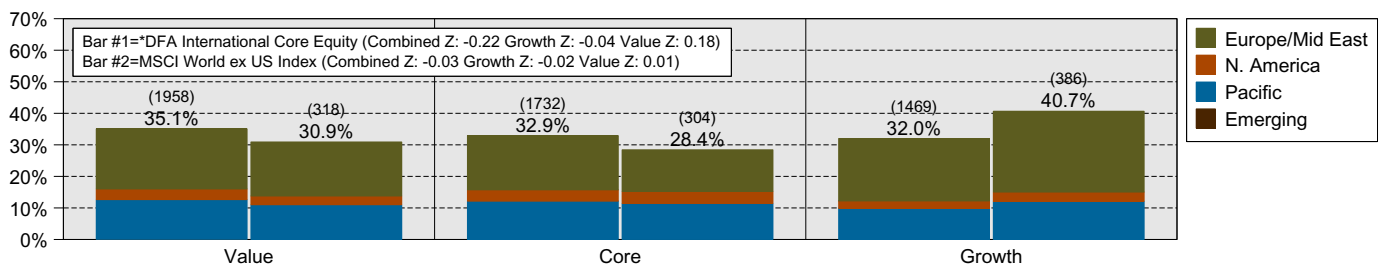
**Style Map vs Callan Intl Eq Dev Mkt MF Holdings as of September 30, 2019**



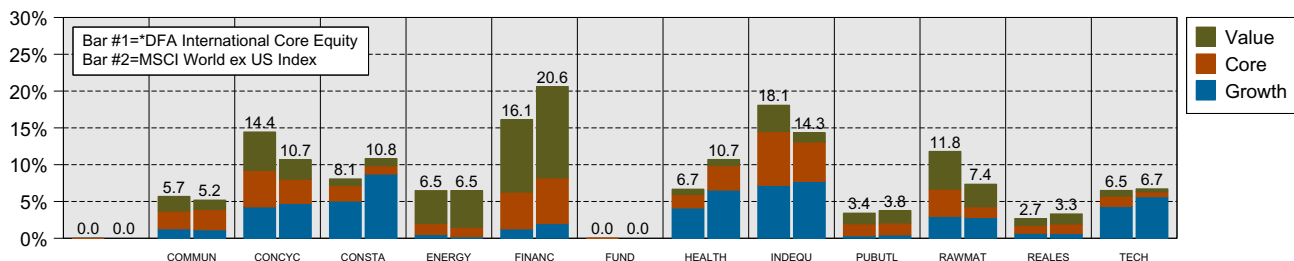
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Europe/Mid East	19.0% (625)	17.2% (662)	19.8% (573)	56.0% (1860)
N. America	3.4% (145)	3.6% (147)	2.4% (91)	9.3% (383)
Pacific	12.6% (1182)	12.1% (921)	9.8% (801)	34.5% (2904)
Emerging	0.0% (6)	0.1% (2)	0.0% (4)	0.1% (12)
<b>Total</b>	<b>35.1% (1958)</b>	<b>32.9% (1732)</b>	<b>32.0% (1469)</b>	<b>100.0% (5159)</b>
	<b>30.9% (318)</b>	<b>28.4% (304)</b>	<b>40.7% (386)</b>	<b>100.0% (1008)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



**Sector Weights Distribution Holdings as of September 30, 2019**



\* 9/30/19 portfolio characteristics generated using most recently available holdings (8/31/19) 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.

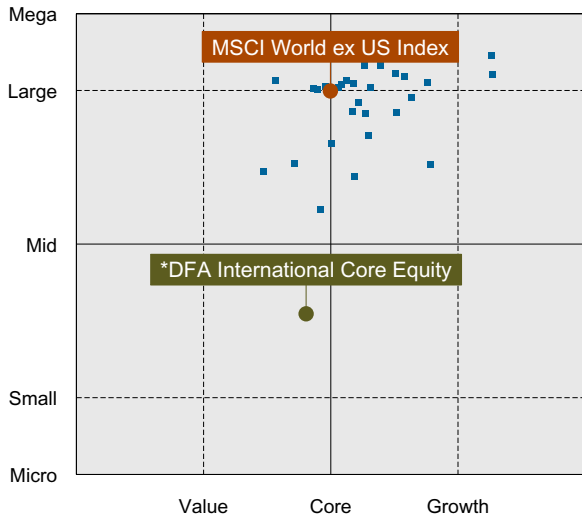
# Historical Holdings Based Style Analysis

## DFA International Core Equity

### For Three Years Ended September 30, 2019

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.

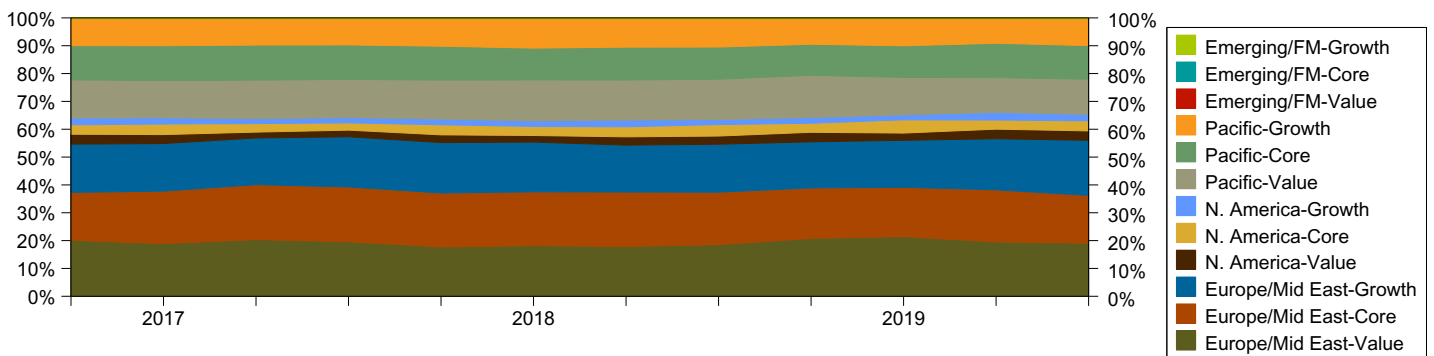
**Average Style Map vs Callan Intl Eq Dev Mkt Holdings for Three Years Ended September 30, 2019**



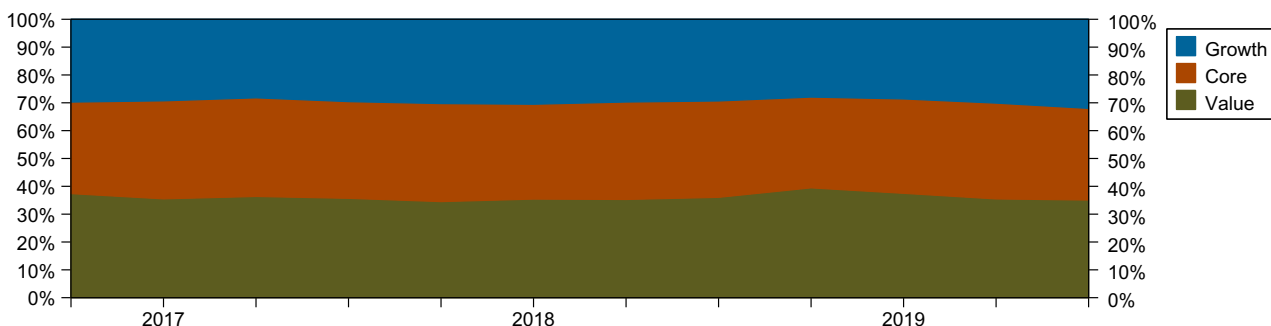
**Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2019**

	Value	Core	Growth	Total
Europe/Mid East	19.3% (605)	18.7% (656)	17.6% (568)	55.6% (1829)
	18.1% (134)	16.5% (130)	22.5% (189)	57.2% (453)
N. America	2.9% (131)	3.5% (155)	2.1% (100)	8.6% (386)
	2.8% (31)	3.9% (30)	2.5% (31)	9.1% (92)
Pacific	13.8% (1155)	12.0% (924)	9.9% (816)	35.7% (2895)
	11.8% (145)	10.0% (150)	11.9% (175)	33.7% (470)
Emerging/FM	0.0% (4)	0.0% (4)	0.0% (5)	0.1% (13)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
<b>Total</b>	<b>36.1% (1895)</b>	<b>34.2% (1739)</b>	<b>29.6% (1489)</b>	<b>100.0% (5123)</b>
	<b>32.7% (310)</b>	<b>30.3% (310)</b>	<b>36.9% (395)</b>	<b>100.0% (1015)</b>

**\*DFA International Core Equity Historical Region/Style Exposures**



**\*DFA International Core Equity Historical Style Only Exposures**



\*9/30/19 portfolio characteristics generated using most recently available holdings (8/31/19) 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.

# DFA Emerging Markets Core Equity Fund

## Period Ended September 30, 2019

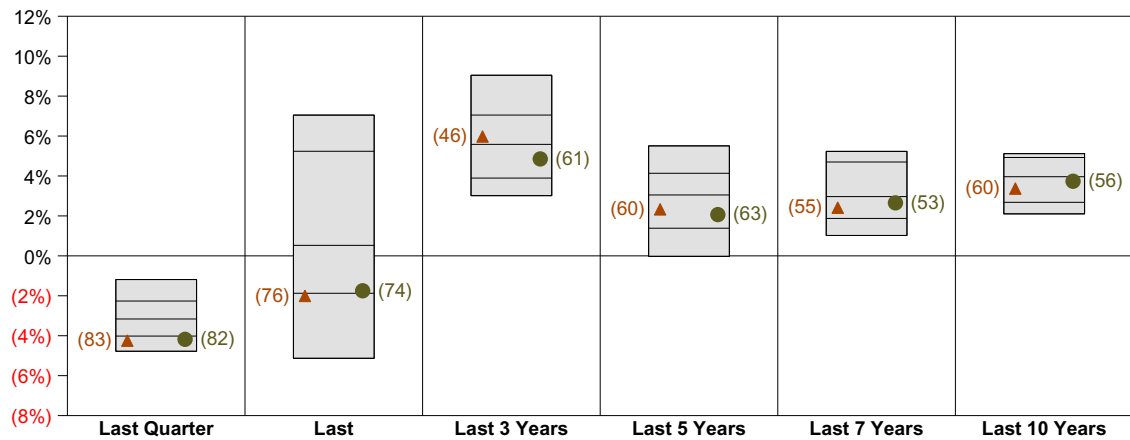
### Investment Philosophy

Dimensional's core philosophical principles are: 1) Public capital markets work: Prices in liquid and competitive markets reflect the aggregate expectations of all market participant; 2) Diversification is essential as it helps reduce uncertainty, manage risk, increase the reliability of outcomes, and provide flexibility in implementation; 3) Managing tradeoffs adds value by targeting market premiums efficiently and continuously, reducing the costs associated with turnover, and implementing a flexible trading strategy.

### Quarterly Summary and Highlights

- DFA Emerging Markets Core Equity Fund's portfolio posted a (4.18)% return for the quarter placing it in the 82 percentile of the Callan Emerging Markets Equity Mut Funds group for the quarter and in the 74 percentile for the last year.
- DFA Emerging Markets Core Equity Fund's portfolio outperformed the MSCI Emerging Markets Index by 0.06% for the quarter and outperformed the MSCI Emerging Markets Index for the year by 0.26%.

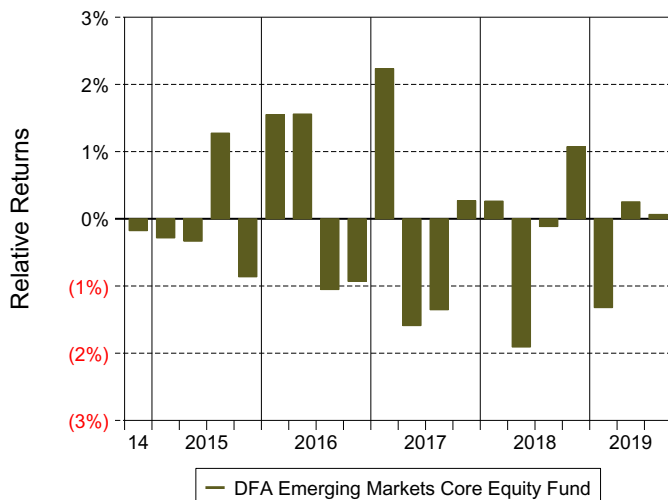
### Performance vs Callan Emerging Markets Equity Mut Funds (Institutional Net)



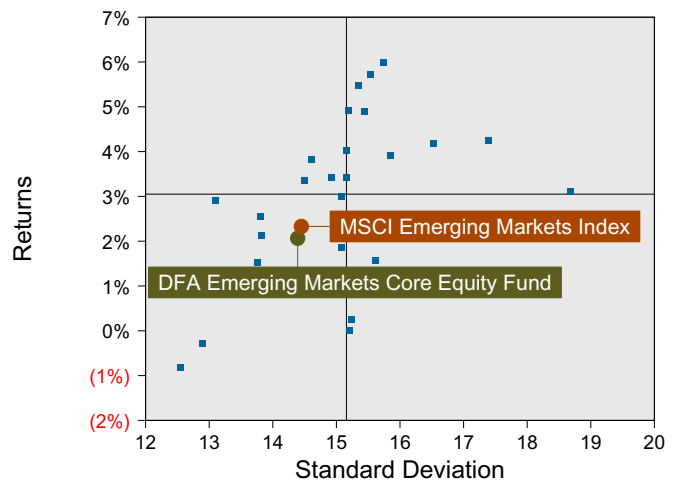
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	(1.19)	7.05	9.04	5.51	5.23	5.12
25th Percentile	(2.26)	5.24	7.05	4.14	4.70	4.93
Median	(3.16)	0.53	5.58	3.05	2.97	3.96
75th Percentile	(4.02)	(1.87)	3.90	1.38	1.87	2.68
90th Percentile	(4.78)	(5.13)	3.01	(0.03)	1.02	2.10

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
DFA Emerging Markets Core Equity Fund	(4.18)	(1.75)	4.85	2.07	2.65	3.74
MSCI Emerging Markets Index	(4.25)	(2.01)	5.98	2.33	2.41	3.37

### Relative Returns vs MSCI Emerging Markets Index



### Callan Emerging Markets Equity Mut Funds (Institutional Net) Annualized Five Year Risk vs Return

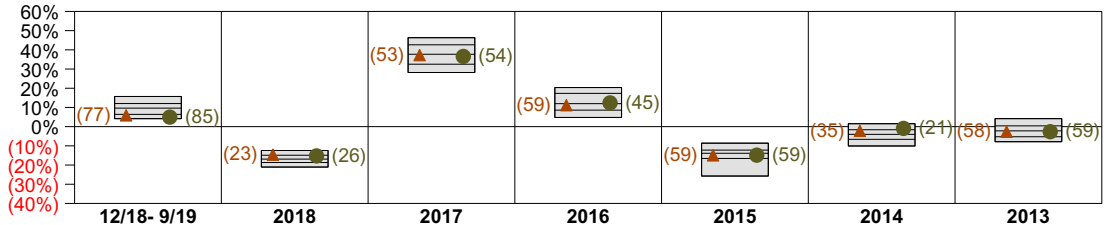


# DFA Emerging Markets Core Equity Fund Return Analysis Summary

## 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 cumulative 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.

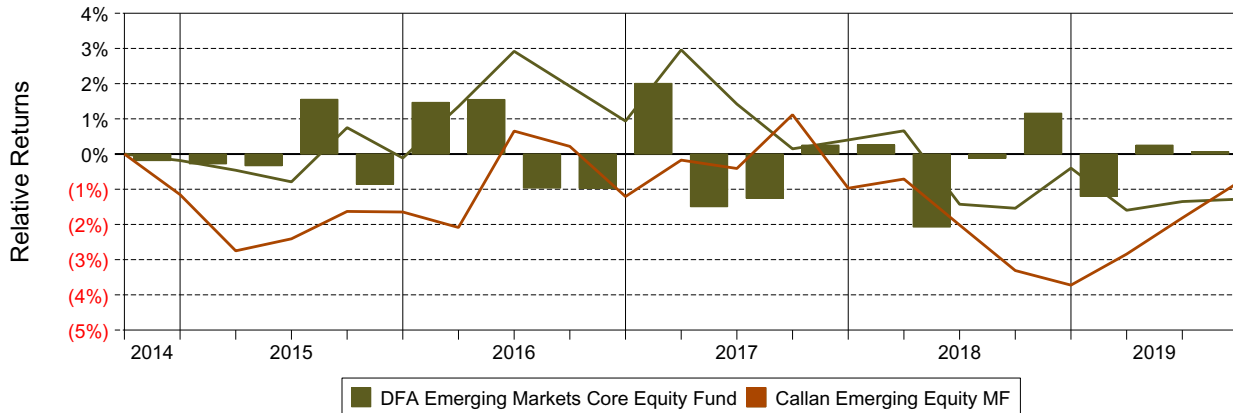
### Performance vs Callan Emerging Markets Equity Mut Funds (Institutional Net)



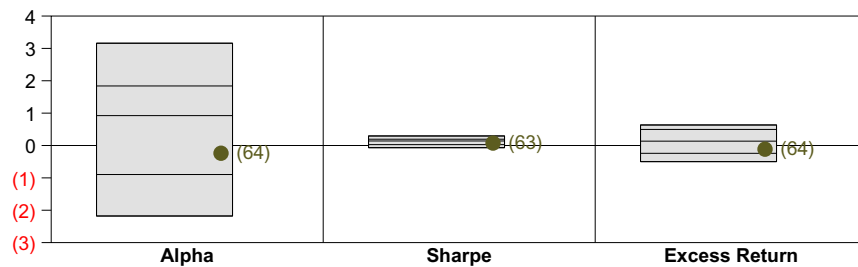
	12/18- 9/19	2018	2017	2016	2015	2014	2013
10th Percentile	15.70	(12.44)	46.33	20.35	(8.62)	1.53	4.16
25th Percentile	12.02	(14.89)	42.62	17.34	(12.22)	(1.61)	0.40
Median	9.64	(16.91)	37.69	11.97	(13.88)	(4.02)	(2.19)
75th Percentile	6.39	(18.68)	32.52	8.60	(16.57)	(6.61)	(5.26)
90th Percentile	4.15	(21.05)	28.19	4.78	(25.74)	(10.09)	(7.85)

<b>DFA Emerging Markets Core Equity Fund</b> ●	4.96	(15.25)	36.55	12.35	(14.86)	(0.91)	(2.64)
MSCI Emerging Markets Index ▲	5.90	(14.57)	37.28	11.19	(14.92)	(2.19)	(2.60)

### Cumulative and Quarterly Relative Return vs MSCI Emerging Markets Index



### Risk Adjusted Return Measures vs MSCI Emerging Markets Index Rankings Against Callan Emerging Markets Equity Mut Funds (Institutional Net) Five Years Ended September 30, 2019



	Alpha	Sharpe Ratio	Excess Return Ratio
10th Percentile	3.16	0.29	0.63
25th Percentile	1.84	0.19	0.50
Median	0.92	0.14	0.13
75th Percentile	(0.90)	0.03	(0.24)
90th Percentile	(2.18)	(0.07)	(0.50)
<b>DFA Emerging Markets Core Equity Fund</b> ●	(0.24)	0.08	(0.11)

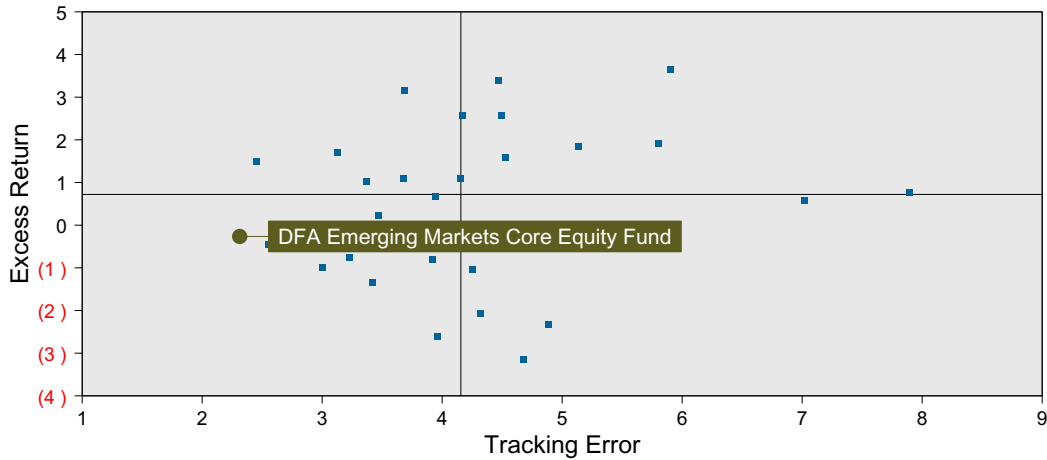
# DFA Emerging Markets Core Equity Fund

## Risk Analysis Summary

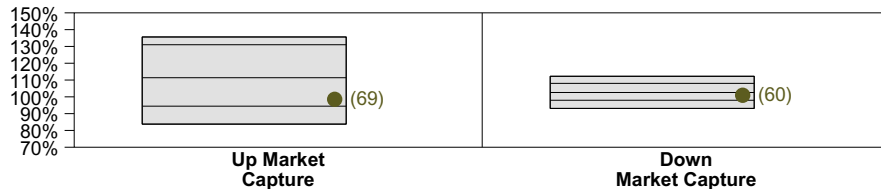
### Risk Analysis

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 Emerging Markets Equity Mut Funds (Institutional Net) Five Years Ended September 30, 2019



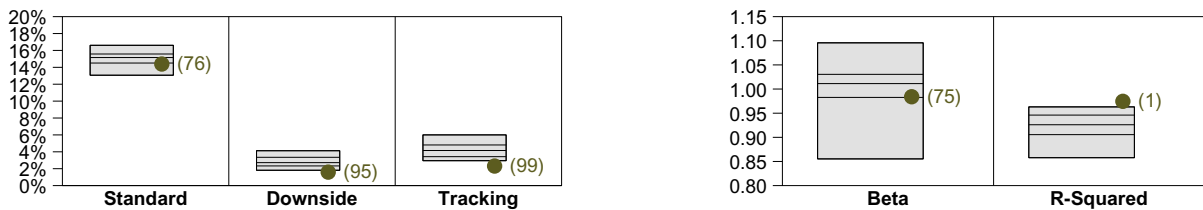
### Market Capture vs MSCI Emerging Markets Index Rankings Against Callan Emerging Markets Equity Mut Funds (Institutional Net) Five Years Ended September 30, 2019



	Up Market Capture	Down Market Capture
10th Percentile	135.64	112.24
25th Percentile	131.01	108.01
Median	111.38	102.59
75th Percentile	94.45	97.97
90th Percentile	83.76	93.12

<b>DFA Emerging Markets Core Equity Fund</b>	98.52	100.94
--	-------	--------

### Risk Statistics Rankings vs MSCI Emerging Markets Index Rankings Against Callan Emerging Markets Equity Mut Funds (Institutional Net) Five Years Ended September 30, 2019



	Standard Deviation	Downside Risk	Tracking Error	Beta	R-Squared
10th Percentile	16.61	4.13	6.00	1.10	0.96
25th Percentile	15.58	3.35	4.81	1.03	0.95
Median	15.16	2.72	4.16	1.01	0.93
75th Percentile	14.51	2.33	3.42	0.98	0.91
90th Percentile	13.06	1.82	2.95	0.86	0.86

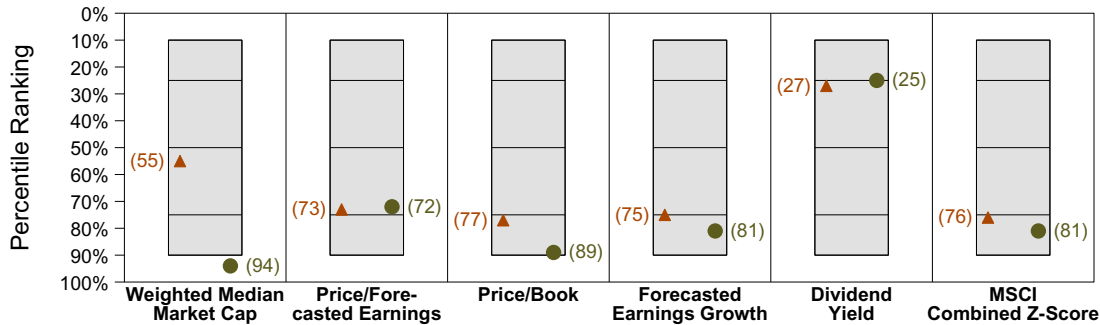
<b>DFA Emerging Markets Core Equity Fund</b>	14.39	1.59	2.31	0.98	0.97
--	-------	------	------	------	------

# DFA Emerging Markets Core Equity Fund 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 Emerging Markets Equity Mut Funds as of September 30, 2019

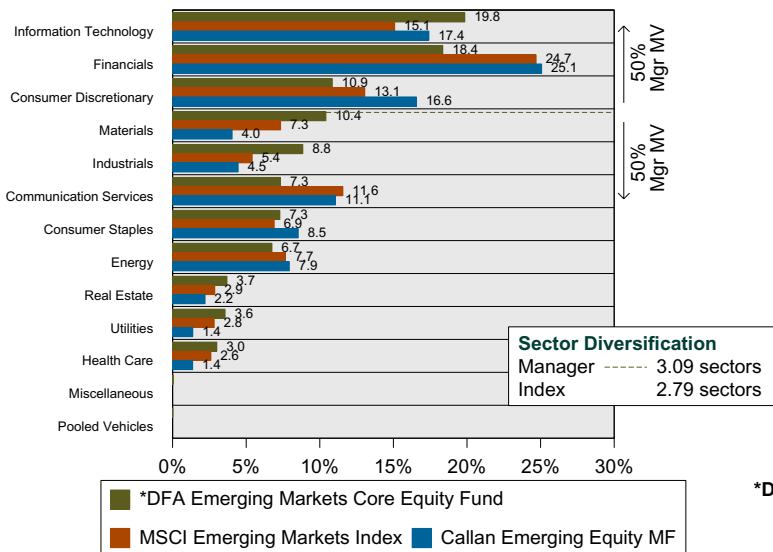


	Weighted Median Market Cap	Price/Forecasted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	48.87	18.45	3.34	18.62	4.11	0.84
25th Percentile	37.00	15.52	2.59	16.92	3.03	0.64
Median	20.15	13.58	1.92	15.28	2.44	0.32
75th Percentile	15.42	11.53	1.60	13.47	2.06	0.10
90th Percentile	8.35	9.56	1.31	10.96	1.84	(0.56)
<b>DFA Emerging Markets Core Equity Fund</b>	7.37	12.04	1.35	12.71	2.99	(0.21)
MSCI Emerging Markets Index	19.49	11.87	1.54	13.51	2.88	(0.02)

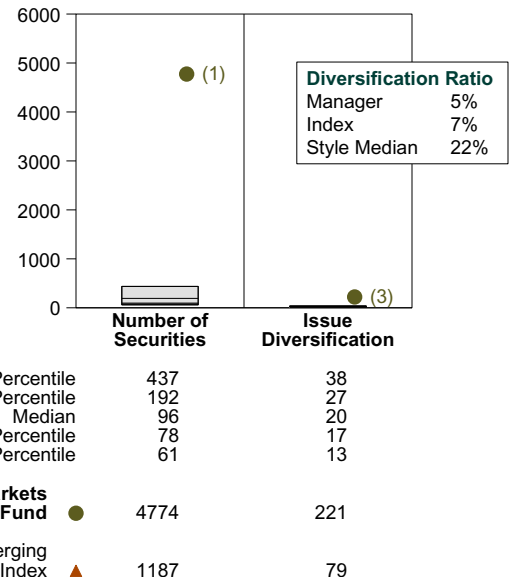
## Sector Weights

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.

### Sector Allocation September 30, 2019



### Diversification September 30, 2019



\*9/30/19 portfolio characteristics generated using most recently available holdings (8/31/19) 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.

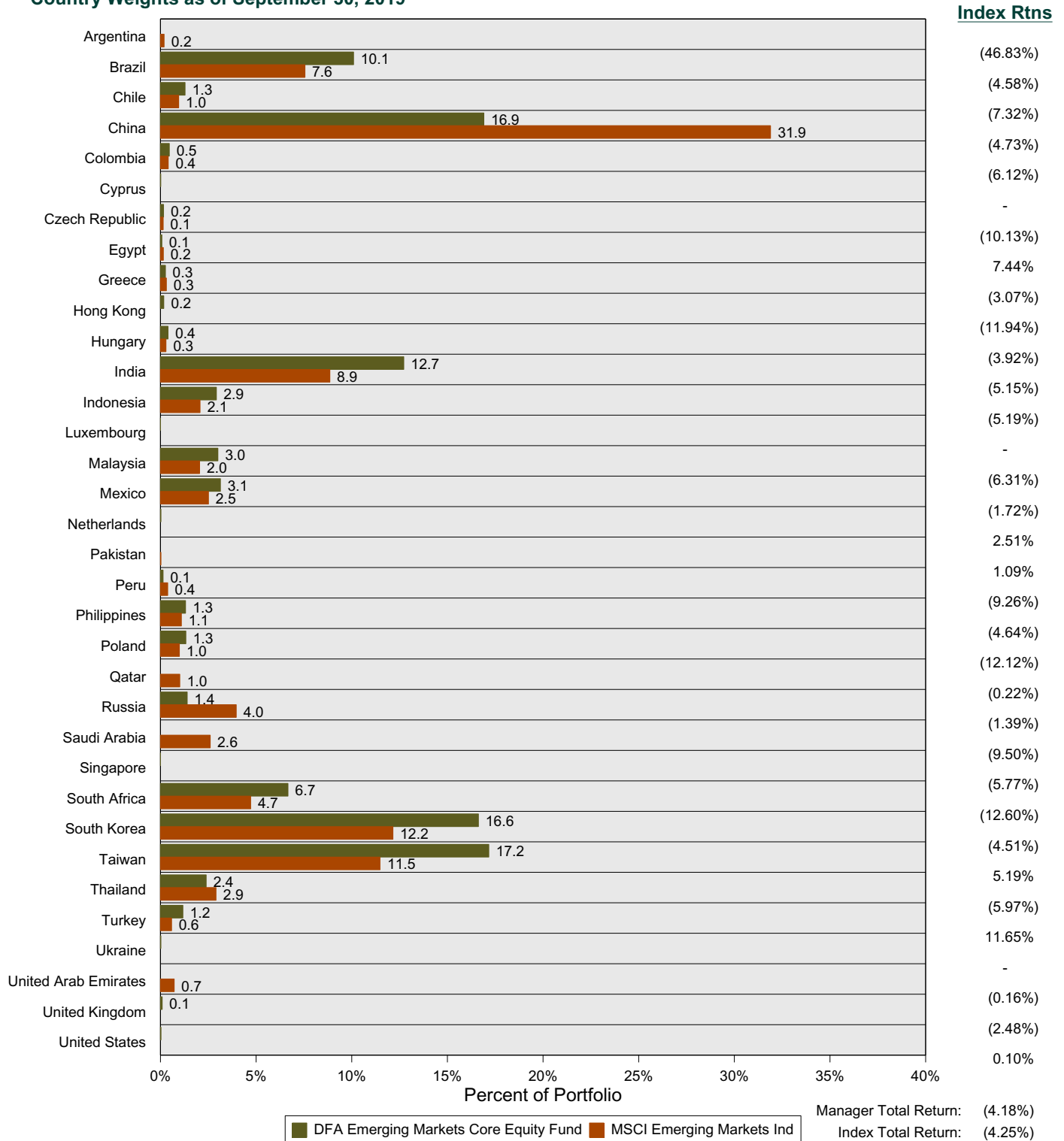
# Country Allocation

## DFA Emerging Markets Core Equity Fund VS MSCI Emerging Markets Index

### Country Allocation

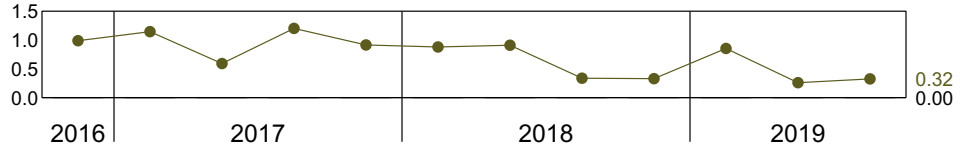
The chart below contrasts the portfolio's country allocation with that of the index as of September 30, 2019. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio 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.

Country Weights as of September 30, 2019

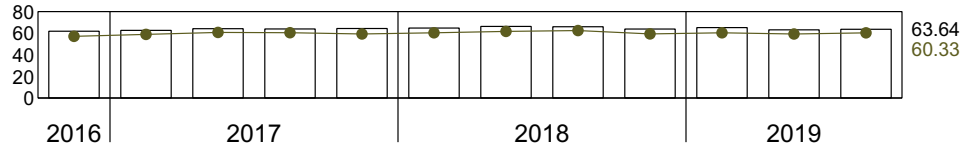


**Oregon Savings Growth Plan**  
**History of Ending Regional Weights**  
**Period Ended September 30, 2019**

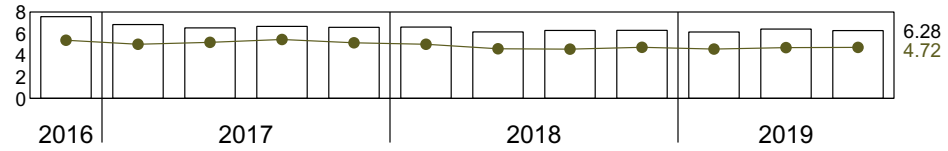
**Developed Markets**



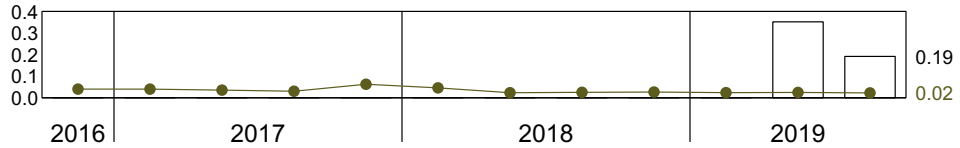
**Developing Asia**



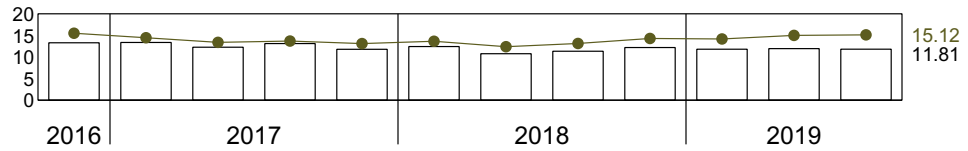
**Emerging Europe**



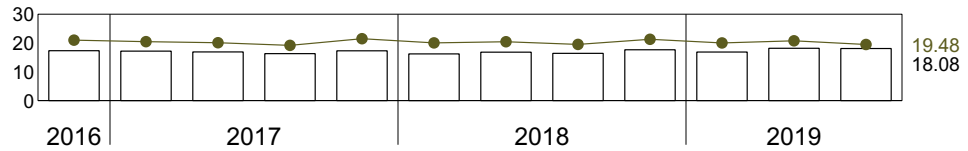
**Frontier Markets**



**Latin America**



**Mid East / Africa / Other**



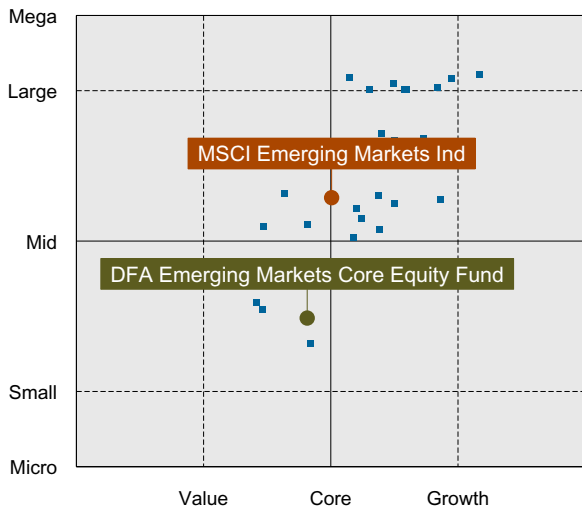
MSCI Emerging Markets Ind
 
 DFA Emerging Markets Core Equity Fund



# Current Holdings Based Style Analysis DFA Emerging Markets Core Equity Fund As of September 30, 2019

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.

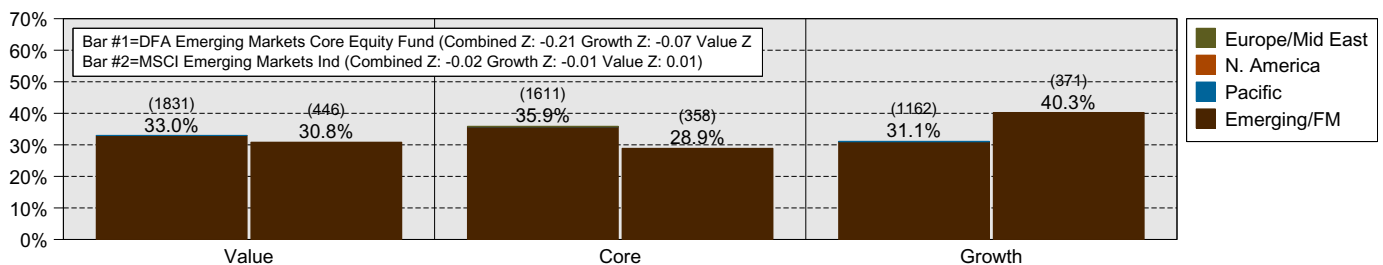
**Style Map vs Callan Emerging Equity MF Holdings as of September 30, 2019**



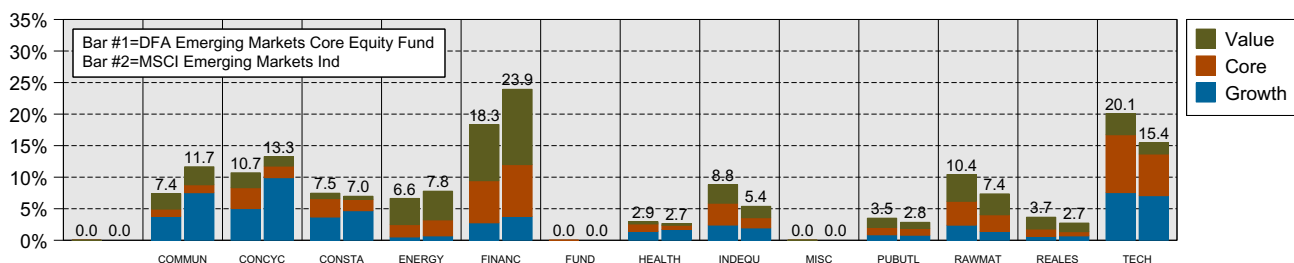
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Europe/ Mid East	0.0% (0) 0.0% (0)	0.1% (3) 0.0% (0)	0.0% (0) 0.0% (0)	0.1% (3) 0.0% (0)
N. America	0.0% (0) 0.0% (0)	0.0% (4) 0.0% (0)	0.0% (0) 0.0% (0)	0.0% (4) 0.0% (0)
Pacific	0.0% (17) 0.0% (0)	0.0% (18) 0.0% (0)	0.1% (19) 0.0% (0)	0.2% (54) 0.0% (0)
Emerging/ FM	33.0% (1814) 30.8% (446)	35.8% (1586) 28.9% (358)	31.0% (1143) 40.3% (371)	99.7% (4543) 100.0% (1175)
<b>Total</b>	<b>33.0% (1831)</b> <b>30.8% (446)</b>	<b>35.9% (1611)</b> <b>28.9% (358)</b>	<b>31.1% (1162)</b> <b>40.3% (371)</b>	<b>100.0% (4604)</b> <b>100.0% (1175)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



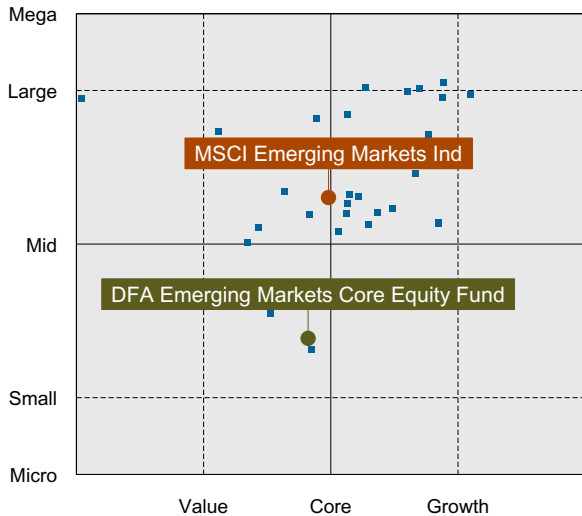
**Sector Weights Distribution Holdings as of September 30, 2019**



# Historical Holdings Based Style Analysis DFA Emerging Markets Core Equity Fund For Three Years Ended September 30, 2019

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.

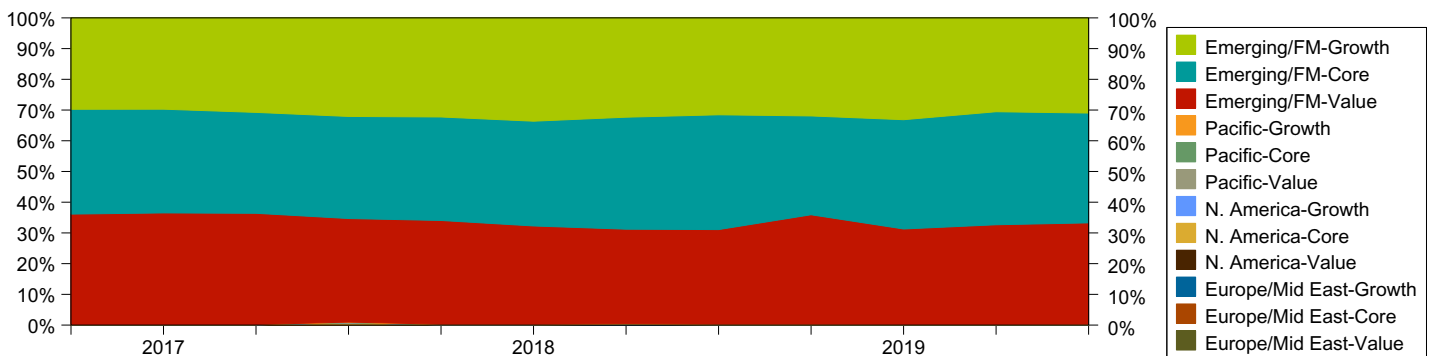
**Average Style Map vs Callan Emerging Equity MF Holdings for Three Years Ended September 30, 2019**



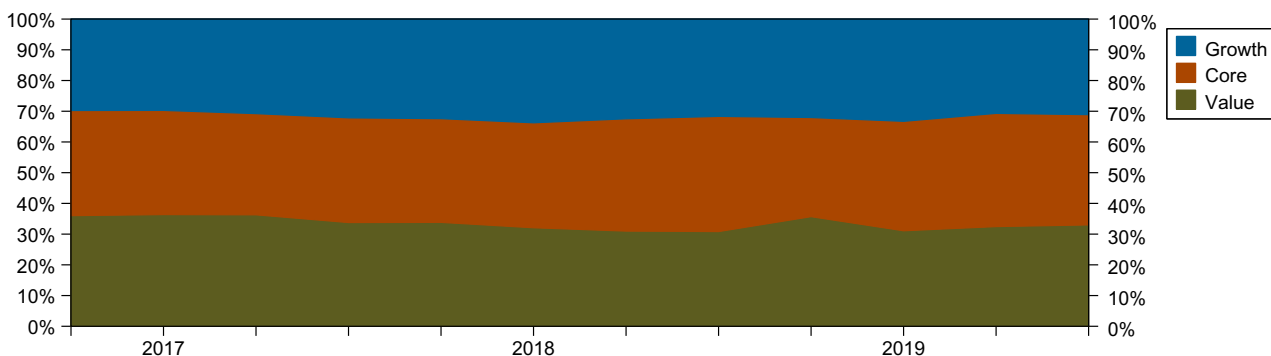
**Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2019**

Europe/ Mid East	0.0% (0)	0.0% (1)	0.0% (0)	0.0% (1)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
N. America	0.0% (2)	0.1% (6)	0.0% (0)	0.1% (8)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Pacific	0.0% (18)	0.0% (24)	0.1% (15)	0.2% (57)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Emerging/ FM	33.5% (1788)	34.7% (1532)	31.6% (1134)	99.7% (4454)
	31.6% (357)	30.2% (315)	38.2% (315)	100.0% (987)
<b>Total</b>	<b>33.5% (1808)</b>	<b>34.8% (1563)</b>	<b>31.7% (1149)</b>	<b>100.0% (4520)</b>
	<b>31.6% (357)</b>	<b>30.2% (315)</b>	<b>38.2% (315)</b>	<b>100.0% (987)</b>
	Value	Core	Growth	Total

**DFA Emerging Markets Core Equity Fund Historical Region/Style Exposures**



**DFA Emerging Markets Core Equity Fund Historical Style Only Exposures**



# AQR ACWI ex-US Fund Period Ended September 30, 2019

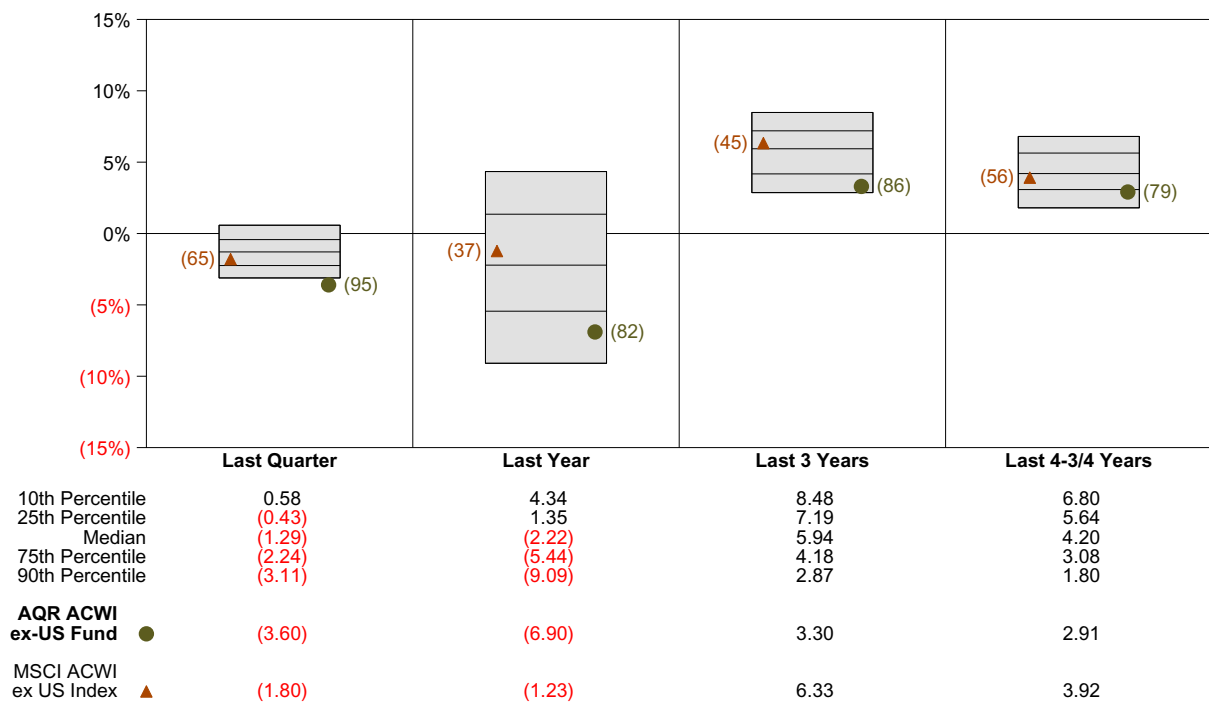
## Investment Philosophy

AQR Capital Management considers themselves fundamental investors who employ quantitative tools to maintain a diversified portfolio that is overweight cheap securities with good momentum and underweight expensive securities with poor momentum. They believe value and momentum make a powerful combination, as the two strategies are significantly negatively correlated and therefore produce an investment that may preserve the expected return of both strategies but with dramatically lower volatility.

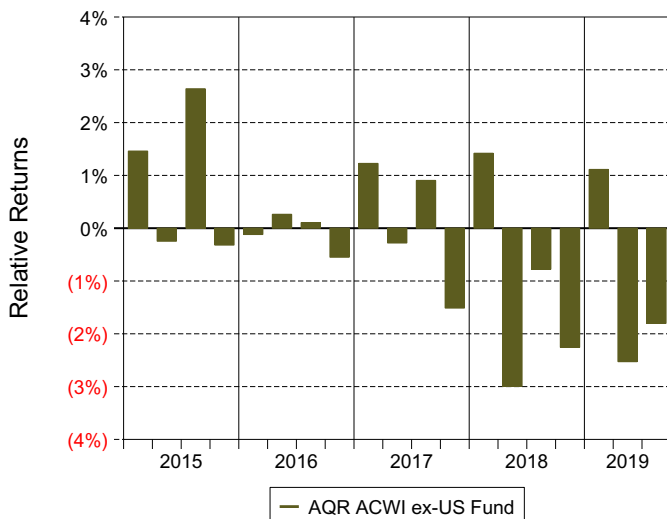
## Quarterly Summary and Highlights

- AQR ACWI ex-US Fund's portfolio posted a (3.60)% return for the quarter placing it in the 95 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 82 percentile for the last year.
- AQR ACWI ex-US Fund's portfolio underperformed the MSCI ACWI ex US Index by 1.80% for the quarter and underperformed the MSCI ACWI ex US Index for the year by 5.67%.

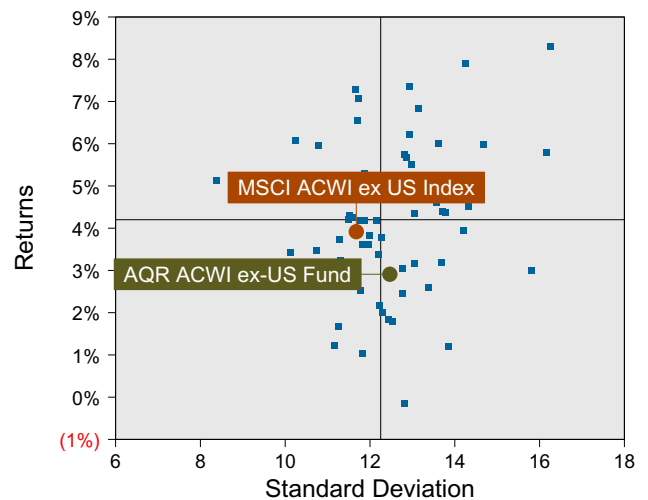
## Performance vs Callan Non US Equity Mutual Funds (Institutional Net)



## Relative Return vs MSCI ACWI ex US Index



## Callan Non US Equity Mutual Funds (Institutional Net) Annualized Four and Three-Quarter Year Risk vs Return

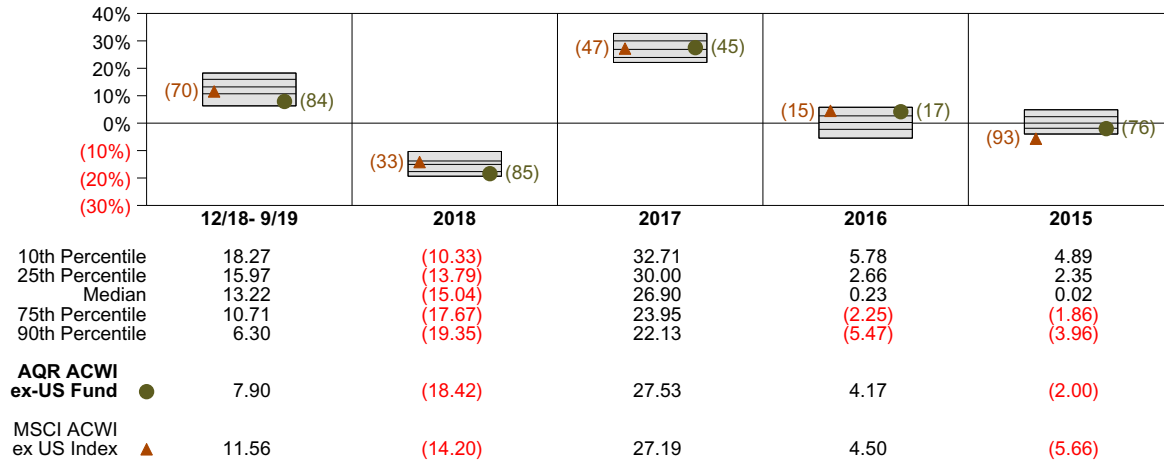


# AQR ACWI ex-US Fund Return Analysis Summary

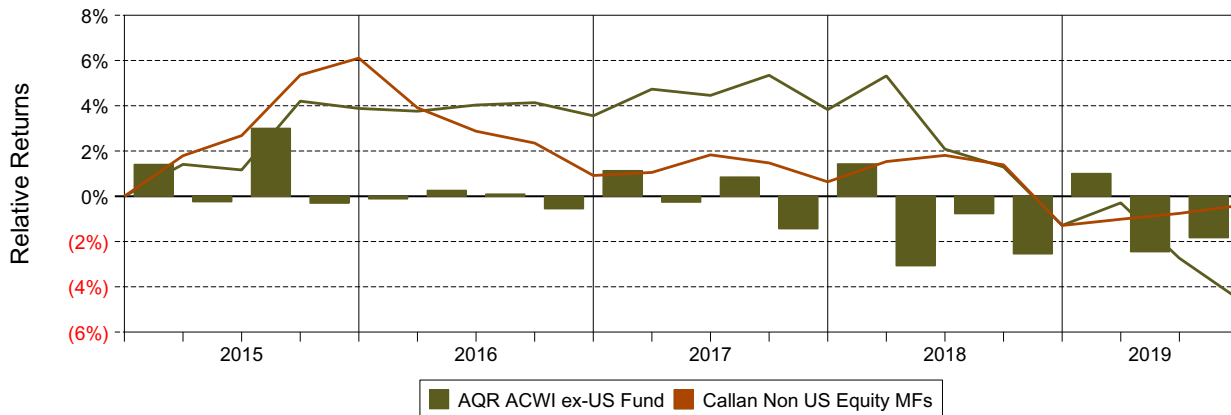
## Return Analysis

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 cumulative 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.

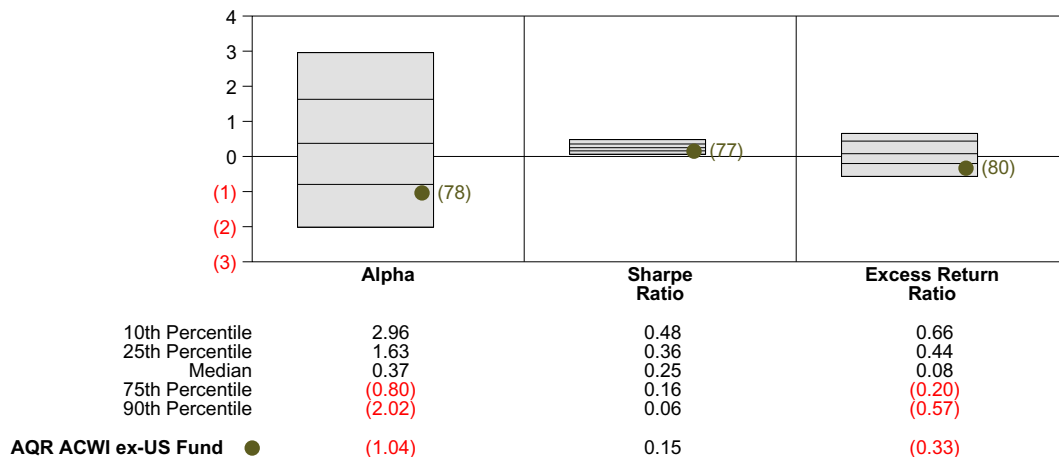
### Performance vs Callan Non US Equity Mutual Funds (Institutional Net)



### Cumulative and Quarterly Relative Return vs MSCI ACWI ex US Index



### Risk Adjusted Return Measures vs MSCI ACWI ex US Index Rankings Against Callan Non US Equity Mutual Funds (Institutional Net) Four and Three-Quarter Years Ended September 30, 2019

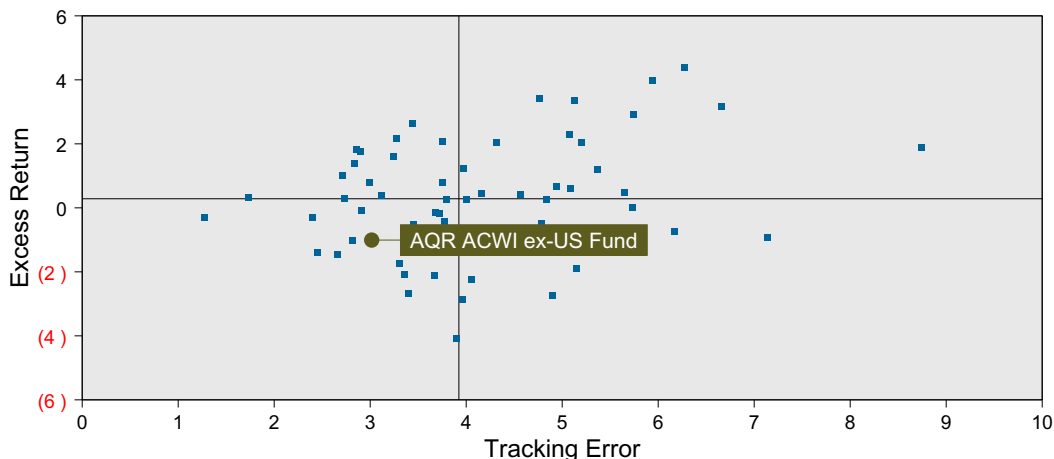


## AQR ACWI ex-US Fund Risk Analysis Summary

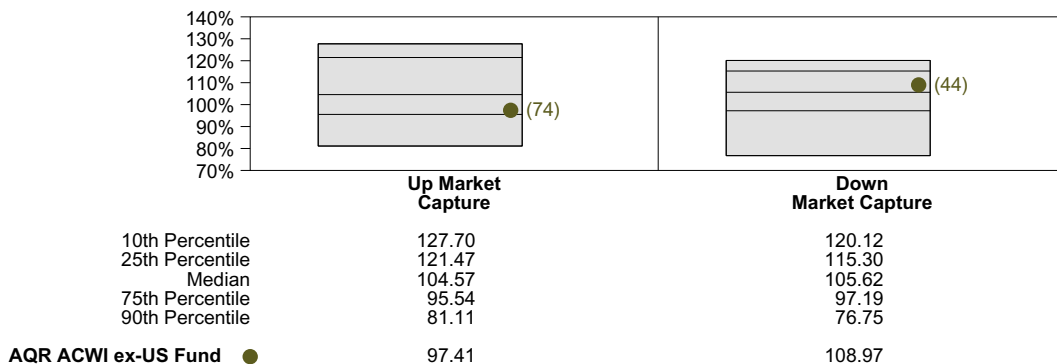
### Risk Analysis

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.

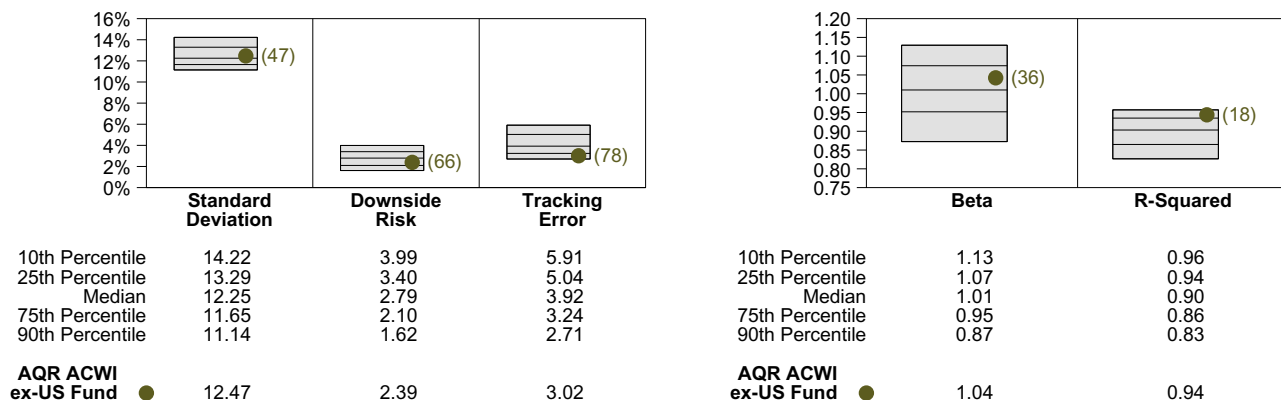
### Risk Analysis vs Callan Non US Equity Mutual Funds (Institutional Net) Four and Three-Quarter Years Ended September 30, 2019



### Market Capture vs MSCI ACWI ex US Index Rankings Against Callan Non US Equity Mutual Funds (Institutional Net) Four and Three-Quarter Years Ended September 30, 2019



### Risk Statistics Rankings vs MSCI ACWI ex US Index Rankings Against Callan Non US Equity Mutual Funds (Institutional Net) Four and Three-Quarter Years Ended September 30, 2019

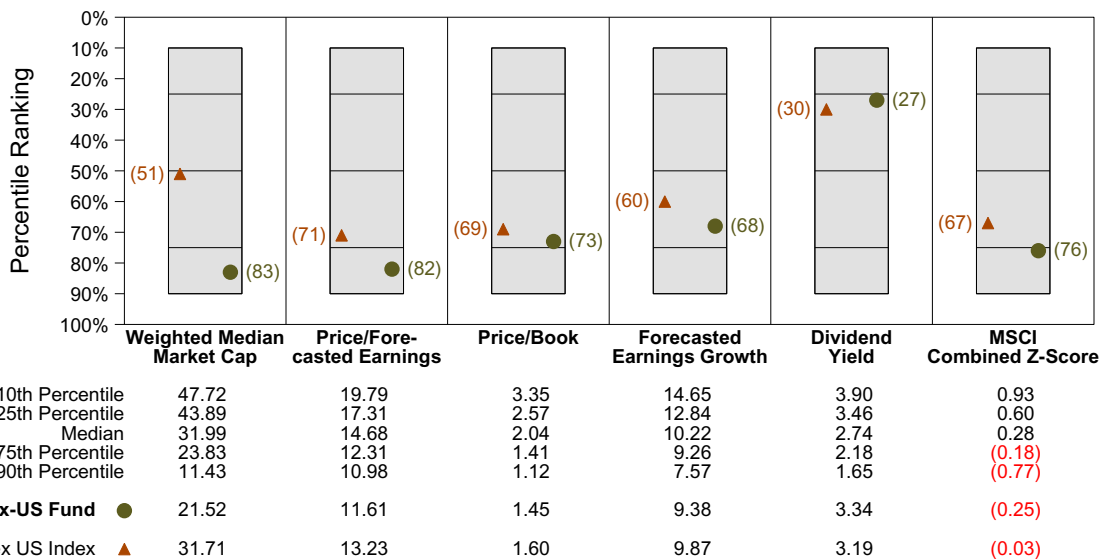


# AQR ACWI ex-US Fund Equity Characteristics Analysis Summary

## Portfolio Characteristics

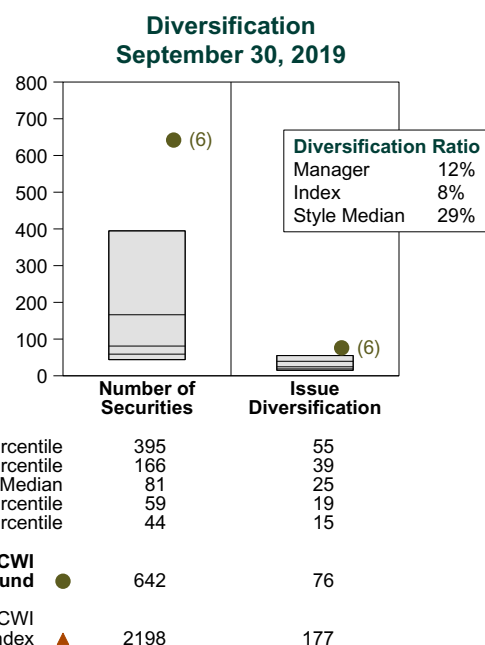
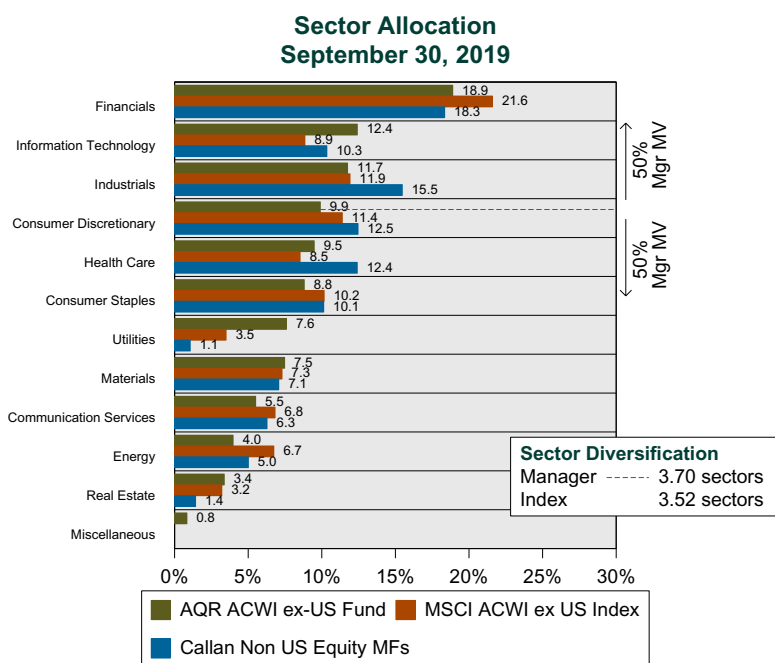
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of September 30, 2019



## 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.



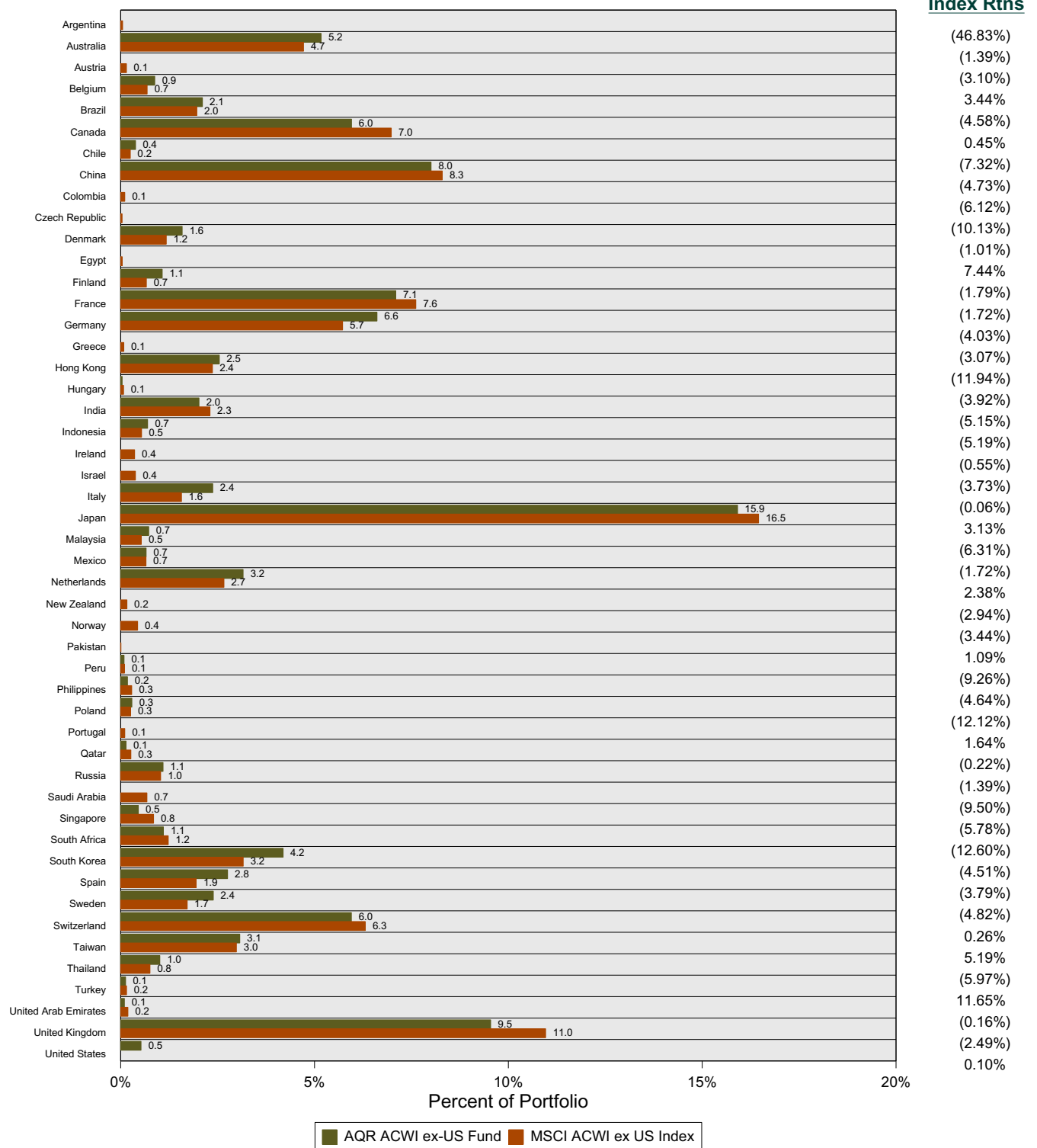
# Country Allocation

## AQR ACWI ex-US Fund VS MSCI ACWI ex US Index

### Country Allocation

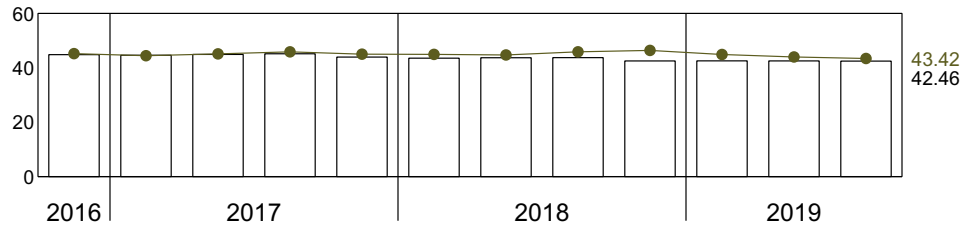
The chart below contrasts the portfolio's country allocation with that of the index as of September 30, 2019. This chart is useful because large deviations in country allocation relative to the index are often good predictors of tracking error in the subsequent quarter. To the extent that the portfolio 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.

Country Weights as of September 30, 2019

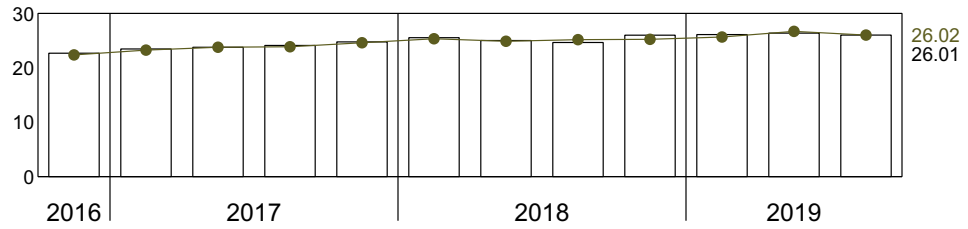


**Oregon Savings Growth Plan**  
**History of Ending Regional Weights**  
**Period Ended September 30, 2019**

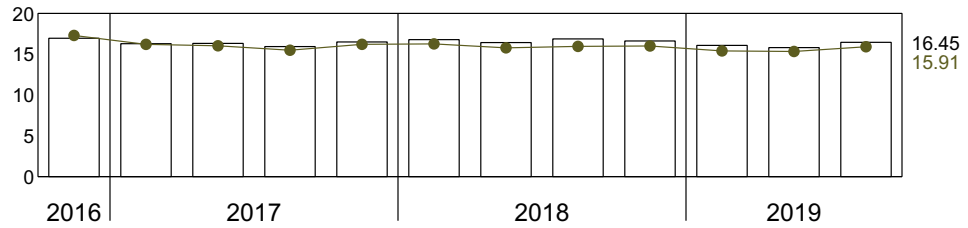
**Dev Europe/Mid East**



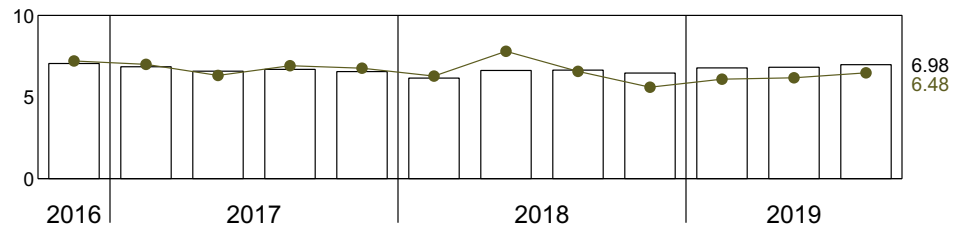
**Emerging Markets**



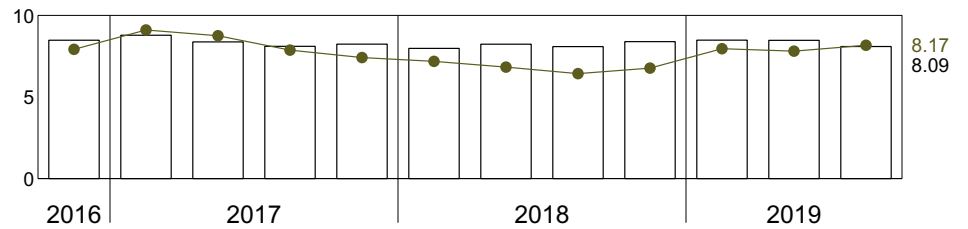
**Japan**



**North America**



**Pacific Basin**



MSCI ACWI ex US Index
 
—●— AQR ACWI ex-US Fund



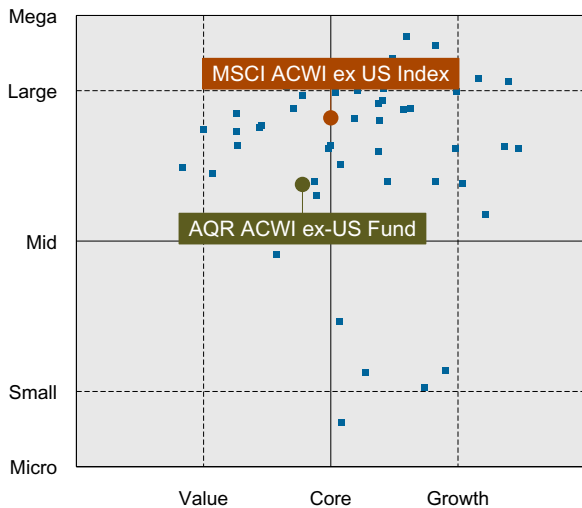
# Current Holdings Based Style Analysis

## AQR ACWI ex-US Fund

### As of September 30, 2019

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 chart 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.

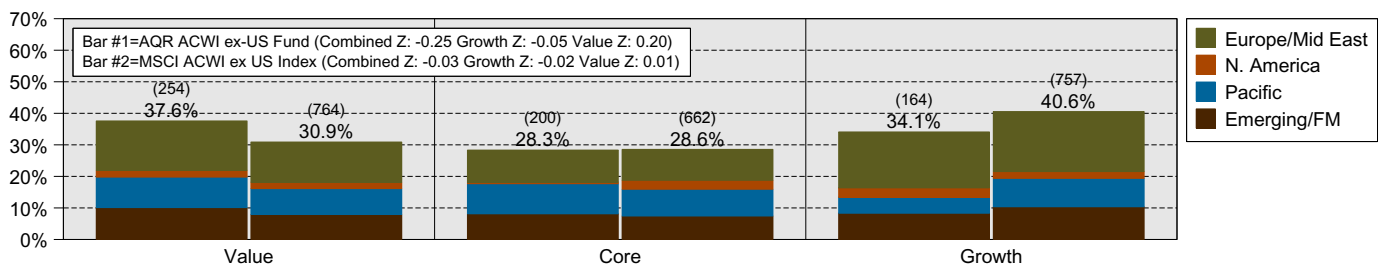
**Style Map vs Callan Non US Equity MFs Holdings as of September 30, 2019**



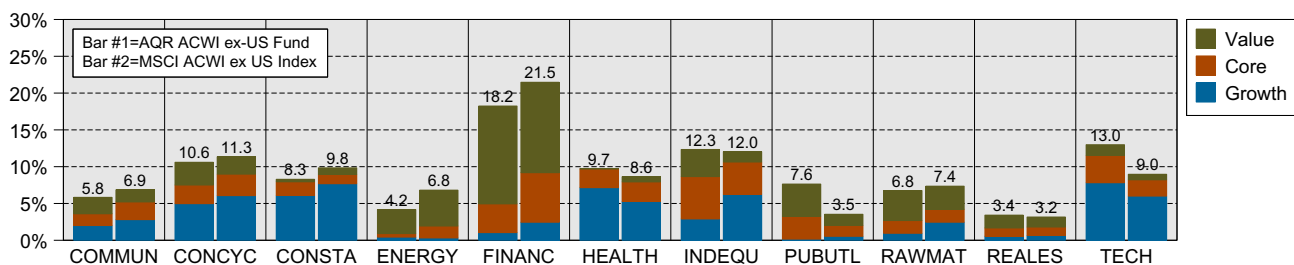
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Europe/ Mid East	15.6% (66)	10.2% (42)	17.7% (48)	43.5% (156)
N. America	12.7% (144)	9.8% (120)	19.0% (184)	41.5% (448)
Pacific	2.2% (11)	0.5% (6)	3.0% (15)	5.6% (32)
Emerging/ FM	2.1% (29)	2.8% (27)	2.2% (34)	7.1% (90)
<b>Total</b>	<b>37.6% (254)</b>	<b>28.3% (200)</b>	<b>34.1% (164)</b>	<b>100.0% (618)</b>
	<b>30.9% (764)</b>	<b>28.6% (662)</b>	<b>40.6% (757)</b>	<b>100.0% (2183)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



**Sector Weights Distribution Holdings as of September 30, 2019**



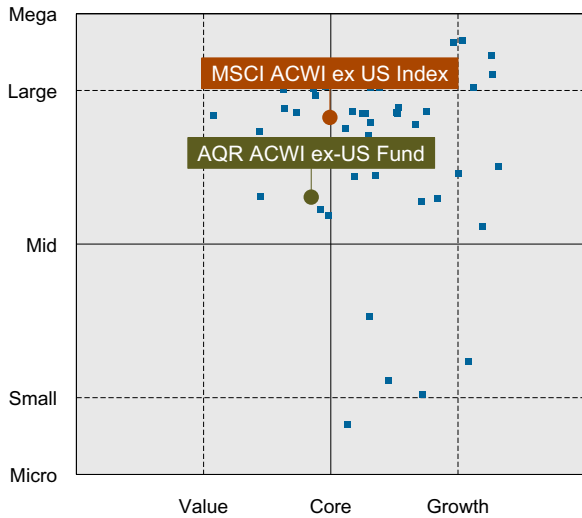
# Historical Holdings Based Style Analysis

## AQR ACWI ex-US Fund

### For Three Years Ended September 30, 2019

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.

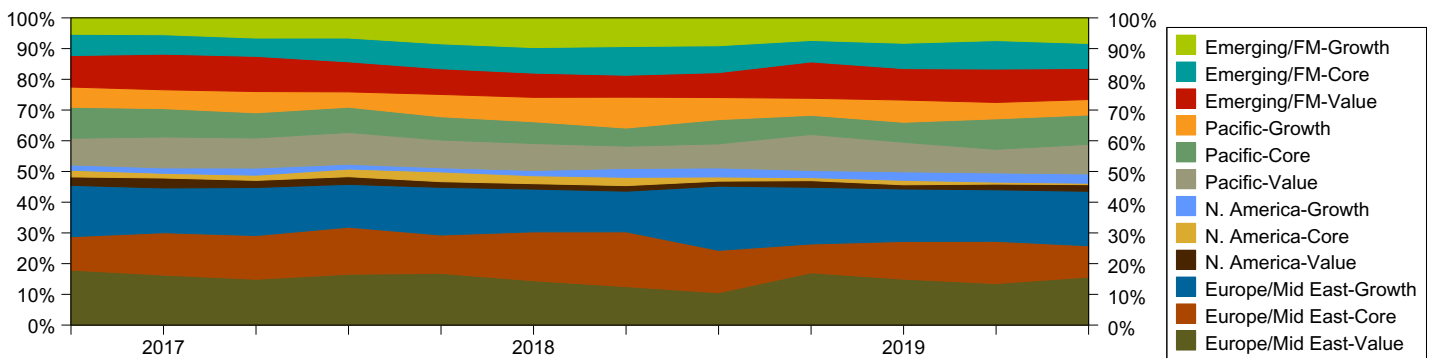
**Average Style Map vs Callan Non US Equity MFs Holdings for Three Years Ended September 30, 2019**



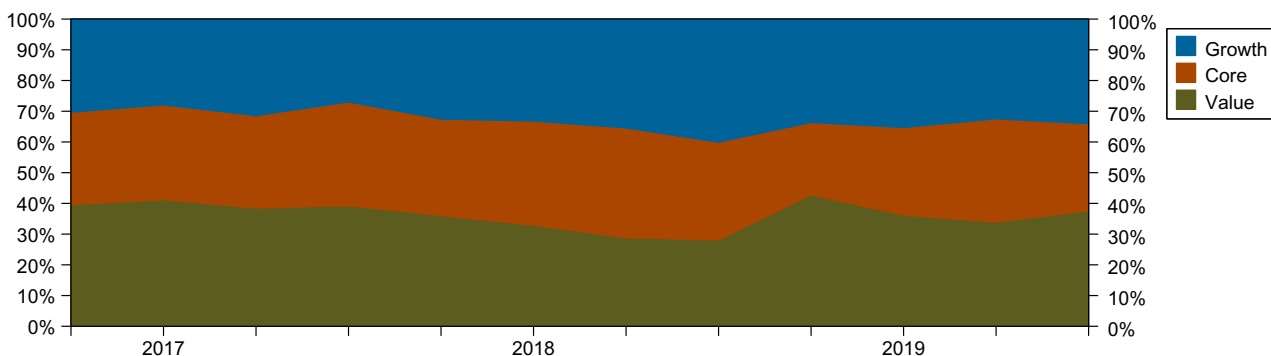
**Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2019**

Europe/ Mid East	15.1% (52)	13.3% (38)	16.2% (50)	44.6% (140)
	13.5% (134)	12.2% (130)	16.7% (189)	42.4% (453)
N. America	2.1% (13)	1.8% (10)	2.3% (12)	6.2% (35)
	2.1% (31)	2.9% (30)	1.8% (31)	6.8% (92)
Pacific	9.2% (53)	8.0% (52)	6.7% (44)	23.9% (149)
	8.7% (145)	7.4% (150)	8.8% (175)	24.9% (470)
Emerging/ FM	9.8% (110)	7.8% (85)	7.6% (69)	25.3% (264)
	8.1% (357)	7.8% (316)	9.9% (316)	25.9% (989)
<b>Total</b>	<b>36.2% (228)</b>	<b>31.0% (185)</b>	<b>32.8% (175)</b>	<b>100.0% (588)</b>
	<b>32.4% (667)</b>	<b>30.3% (626)</b>	<b>37.3% (711)</b>	<b>100.0% (2004)</b>
	Value	Core	Growth	Total

**AQR ACWI ex-US Fund Historical Region/Style Exposures**



**AQR ACWI ex-US Fund Historical Style Only Exposures**

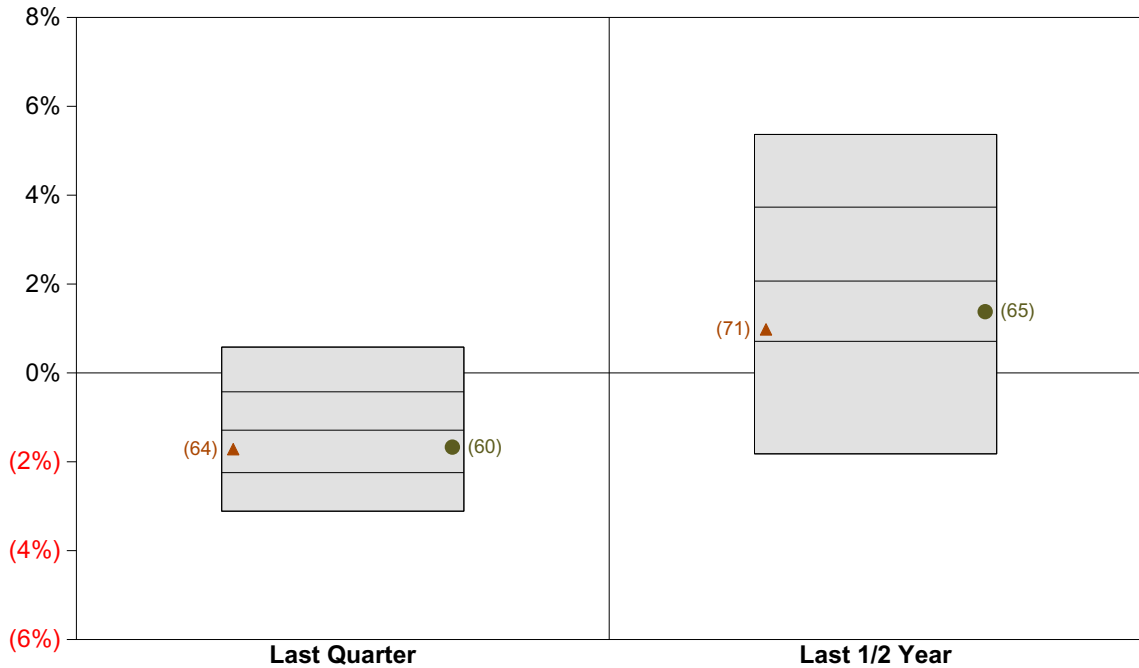


# Arrowstreet International Equity Period Ended September 30, 2019

## Quarterly Summary and Highlights

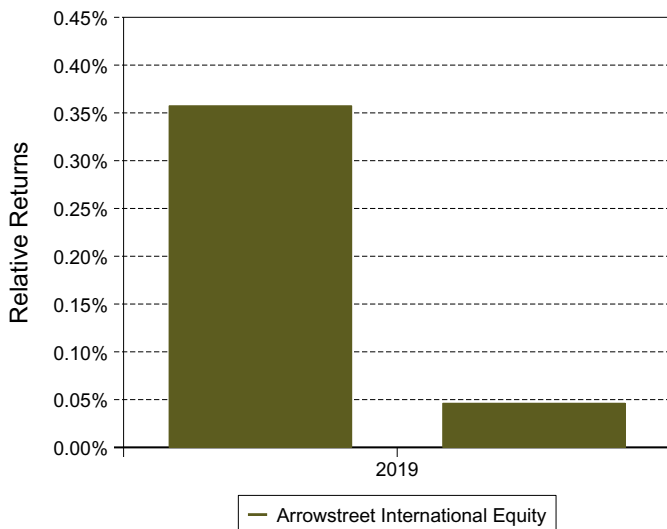
- Arrowstreet International Equity's portfolio posted a (1.67)% return for the quarter placing it in the 60 percentile of the Callan Non US Equity Mutual Funds group for the quarter and in the 65 percentile for the last one-half year.
- Arrowstreet International Equity's portfolio outperformed the MSCI ACWI ex US IMI by 0.05% for the quarter and outperformed the MSCI ACWI ex US IMI for the one-half year by 0.40%.

## Performance vs Callan Non US Equity Mutual Funds (Institutional Net)

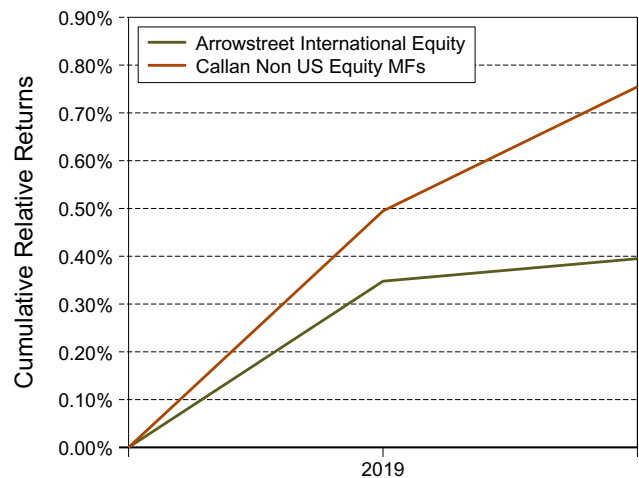


	Last Quarter	Last 1/2 Year
10th Percentile	0.58	5.37
25th Percentile	(0.43)	3.73
Median	(1.29)	2.07
75th Percentile	(2.24)	0.71
90th Percentile	(3.11)	(1.82)
<b>Arrowstreet International Equity</b> ●	(1.67)	1.38
<b>MSCI ACWI ex US IMI</b> ▲	(1.72)	0.98

## Relative Return vs MSCI ACWI ex US IMI



## Cumulative Returns vs MSCI ACWI ex US IMI

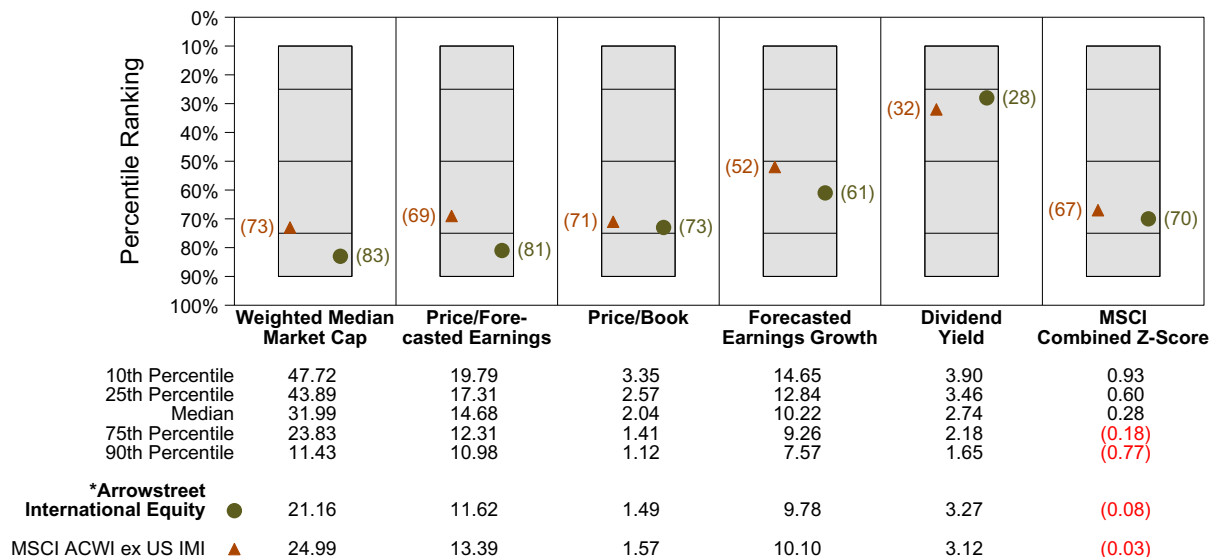


# Arrowstreet International Equity Equity Characteristics Analysis Summary

## Portfolio Characteristics

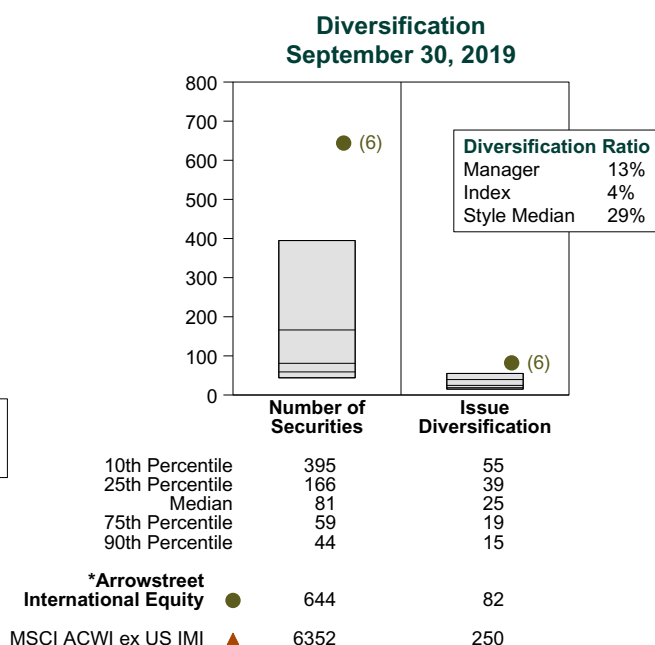
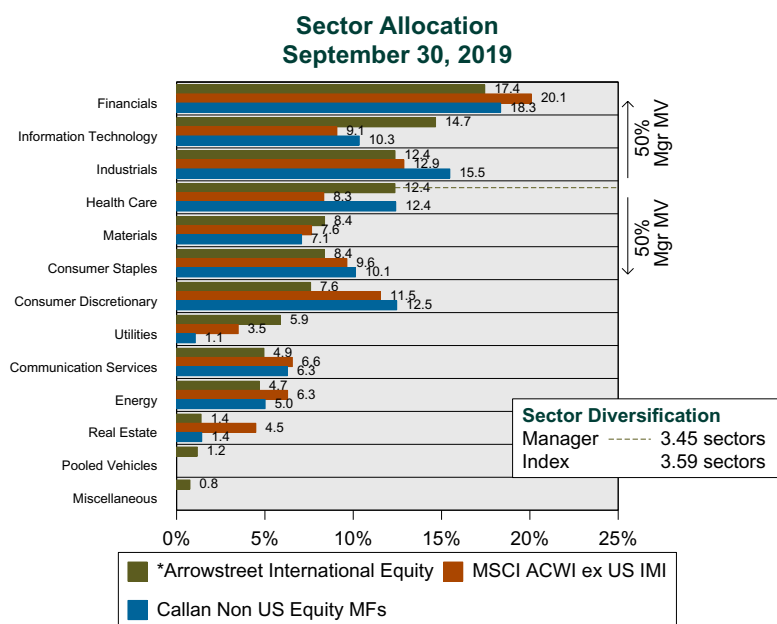
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non US Equity Mutual Funds as of September 30, 2019



## 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.



\*9/30/19 portfolio characteristics generated using most recently available holdings (6/30/19) 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.

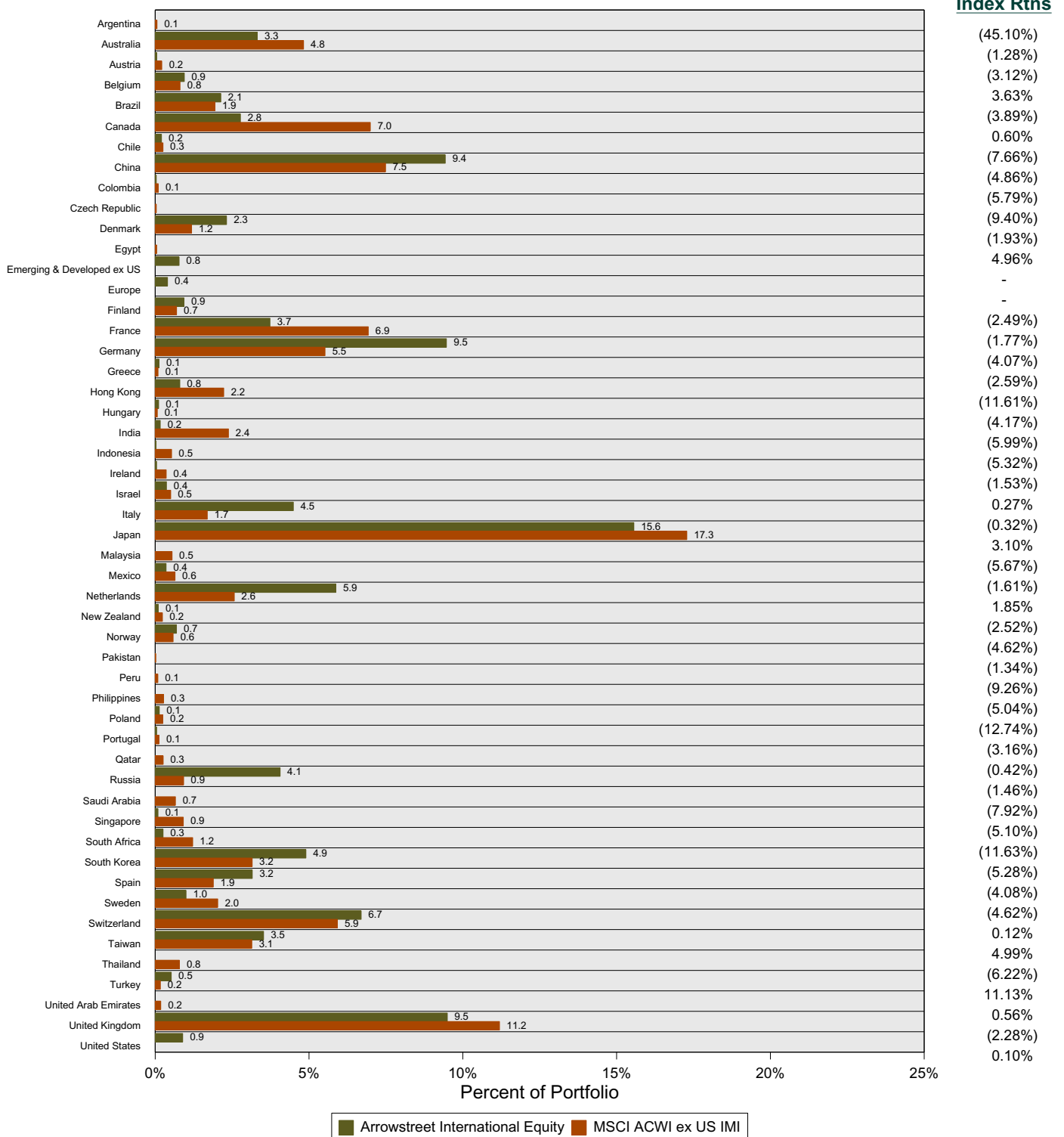
# Country Allocation

## Arrowstreet International Equity 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, 2019. 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.

Country Weights as of September 30, 2019



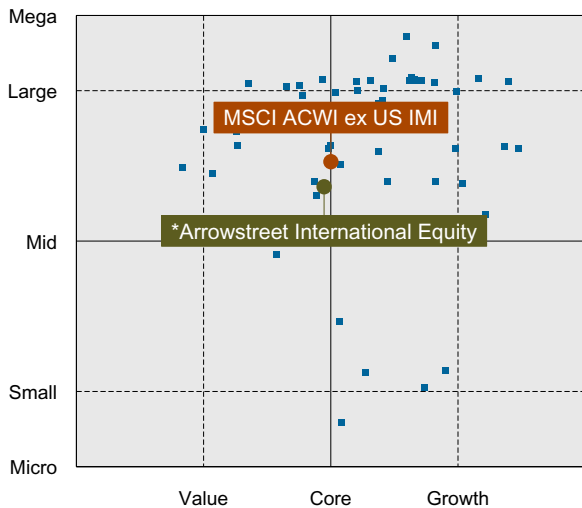
# Current Holdings Based Style Analysis

## Arrowstreet International Equity

### As of September 30, 2019

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 chart 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.

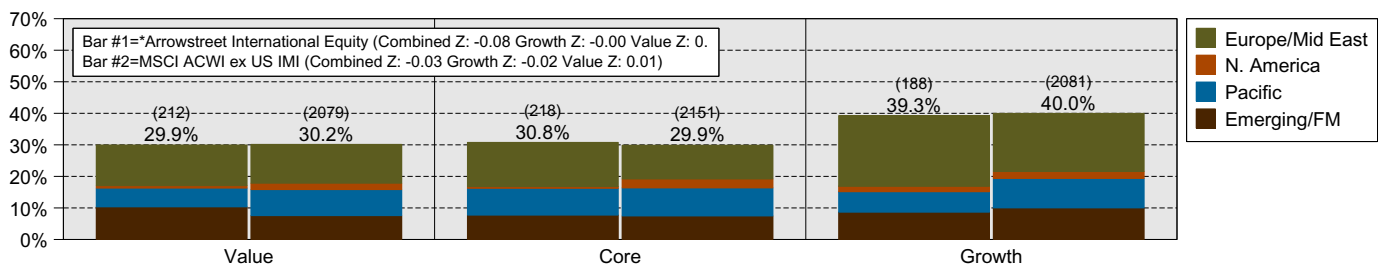
**Style Map vs Callan Non US Equity MFs Holdings as of September 30, 2019**



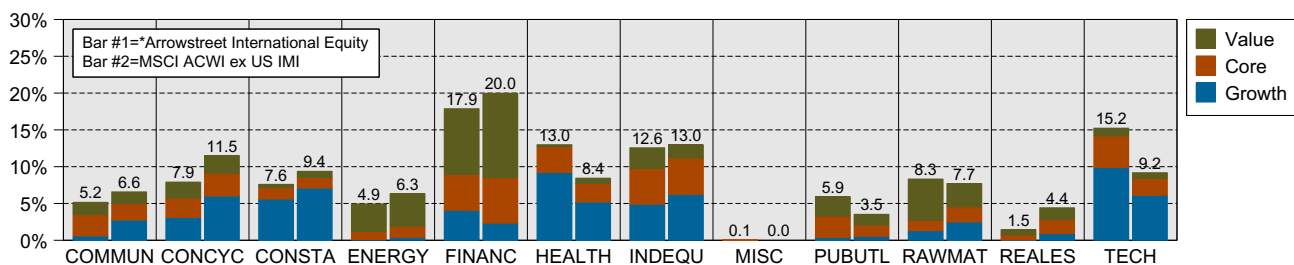
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Europe/ Mid East	12.9% (64)	14.0% (64)	22.4% (81)	49.3% (209)
N. America	12.3% (460)	10.7% (515)	18.4% (511)	41.4% (1486)
Pacific	0.8% (5)	0.6% (7)	1.7% (7)	3.1% (19)
Emerging/ FM	2.0% (103)	2.8% (104)	2.2% (93)	7.1% (300)
<b>Total</b>	<b>29.9% (212)</b>	<b>30.8% (218)</b>	<b>39.3% (188)</b>	<b>100.0% (618)</b>
	<b>30.2% (2079)</b>	<b>29.9% (2151)</b>	<b>40.0% (2081)</b>	<b>100.0% (6311)</b>

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



**Sector Weights Distribution Holdings as of September 30, 2019**



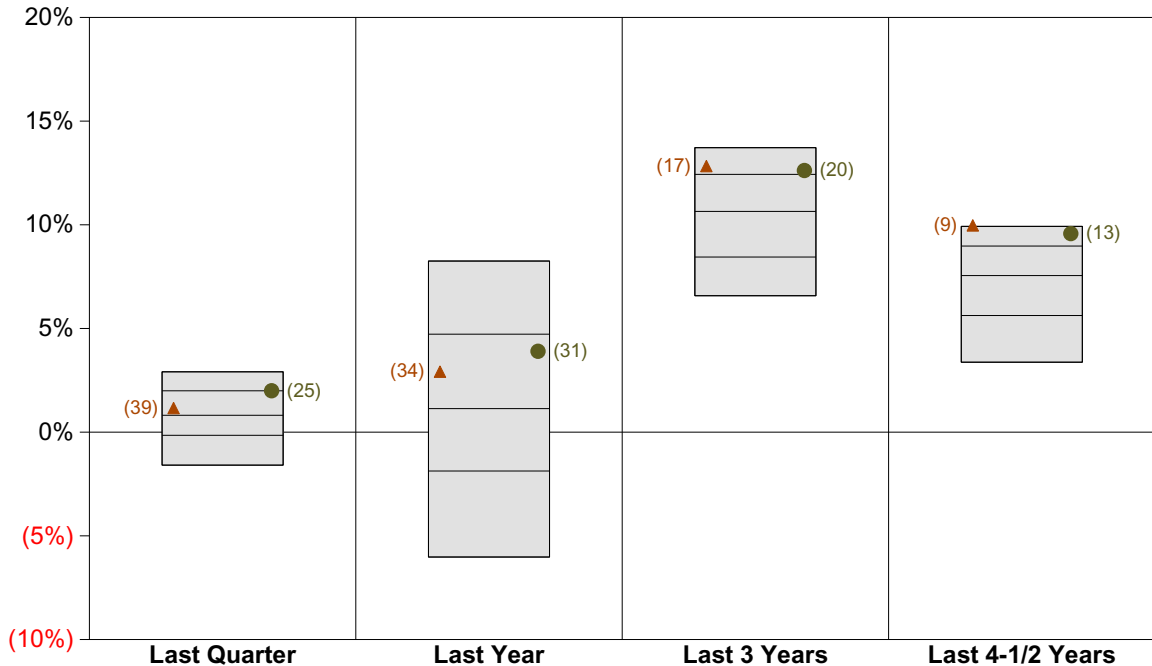
\* 9/30/19 portfolio characteristics generated using most recently available holdings (6/30/19) modified based on a "buy-and-hold" assumption (repriced and adjusted for corporate actions). Analysis is then done using current market and company financial data.

# Socially Responsible Option Period Ended September 30, 2019

## Quarterly Summary and Highlights

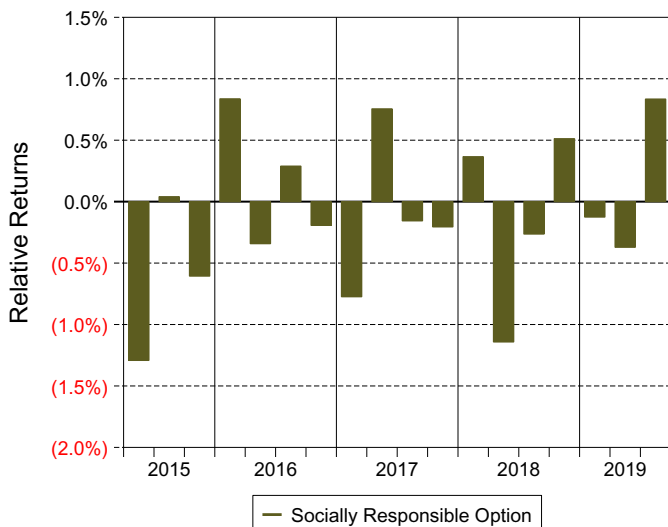
- Socially Responsible Option's portfolio posted a 2.00% return for the quarter placing it in the 25 percentile of the Callan All Cap Core Mutual Funds group for the quarter and in the 31 percentile for the last year.
- Socially Responsible Option's portfolio outperformed the Russell 3000 Index by 0.83% for the quarter and outperformed the Russell 3000 Index for the year by 0.98%.

## Performance vs Callan All Cap Core Mutual Funds (Institutional Net)

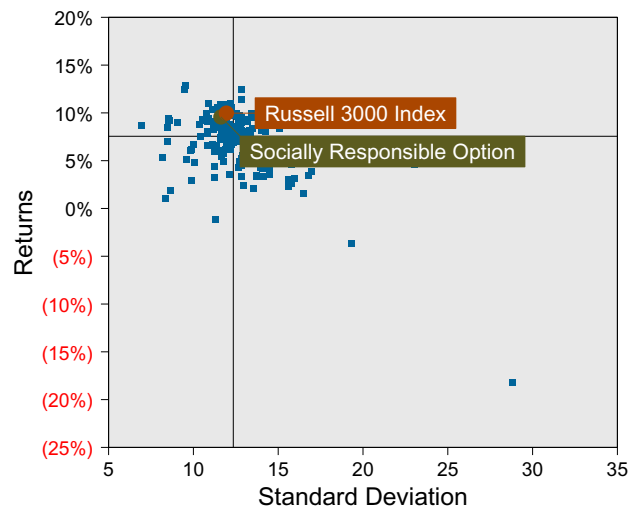


	Last Quarter	Last Year	Last 3 Years	Last 4-1/2 Years
10th Percentile	2.91	8.25	13.72	9.92
25th Percentile	2.00	4.72	12.43	8.97
Median	0.81	1.14	10.65	7.55
75th Percentile	(0.15)	(1.87)	8.44	5.62
90th Percentile	(1.59)	(6.02)	6.58	3.37
<b>Socially Responsible Option</b> ●	2.00	3.90	12.62	9.58
Russell 3000 Index ▲	1.16	2.92	12.83	9.97

## Relative Return vs Russell 3000 Index



## Callan All Cap Core Mutual Funds (Institutional Net) Annualized Four and One-Half Year Risk vs Return

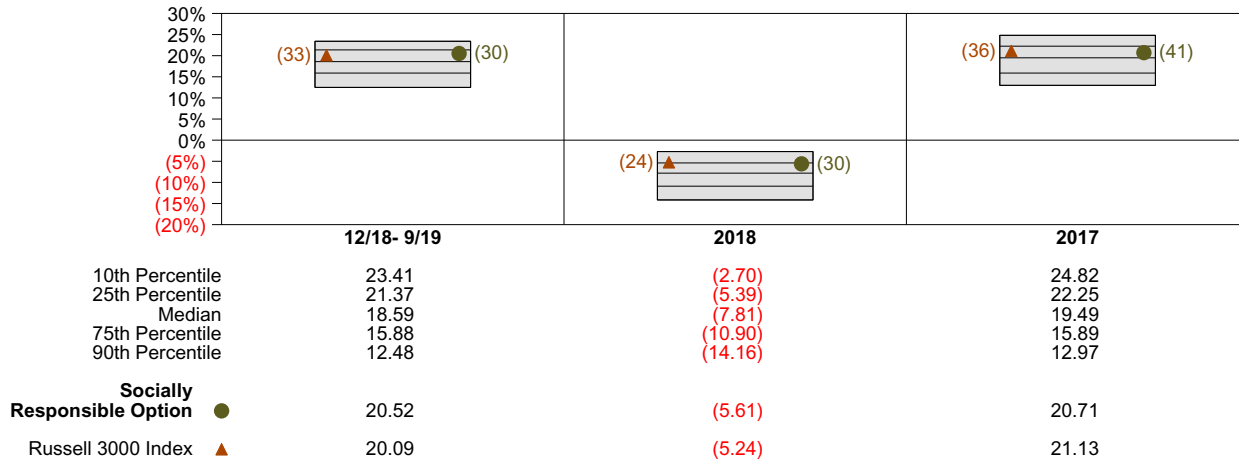


# Socially Responsible Option Return Analysis Summary

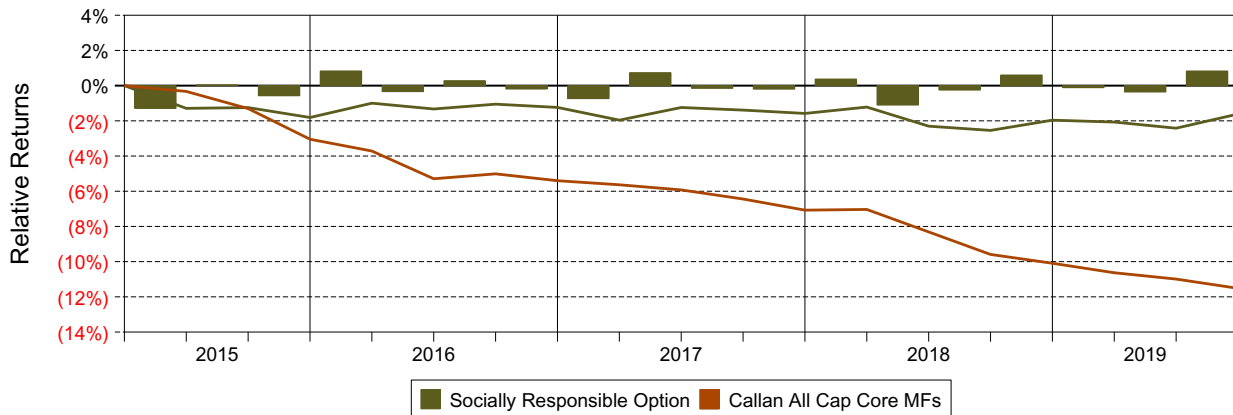
## Return Analysis

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 cumulative 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.

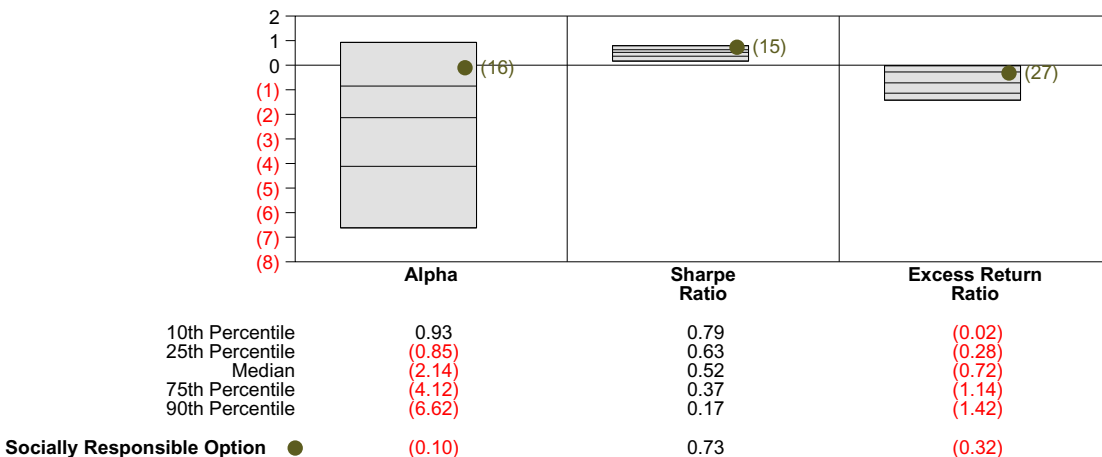
### Performance vs Callan All Cap Core Mutual Funds (Institutional Net)



### Cumulative and Quarterly Relative Return vs Russell 3000 Index



### Risk Adjusted Return Measures vs Russell 3000 Index Rankings Against Callan All Cap Core Mutual Funds (Institutional Net) Four and One-Half Years Ended September 30, 2019



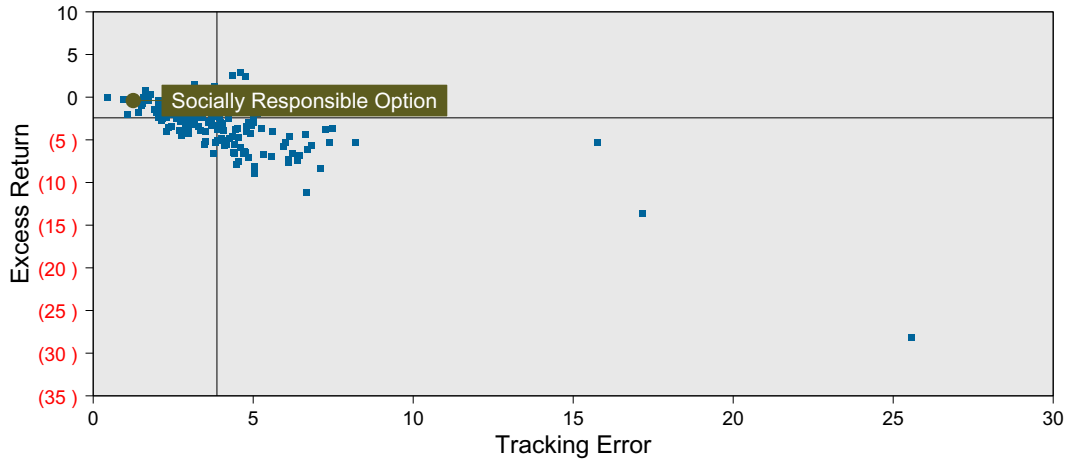


# Socially Responsible Option Risk Analysis Summary

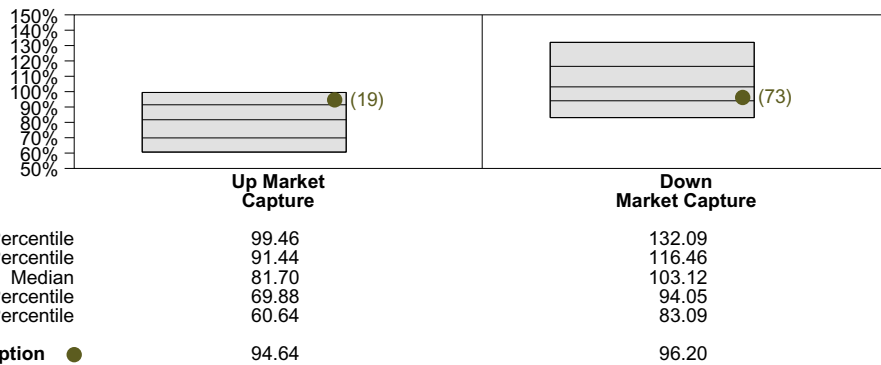
## Risk Analysis

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.

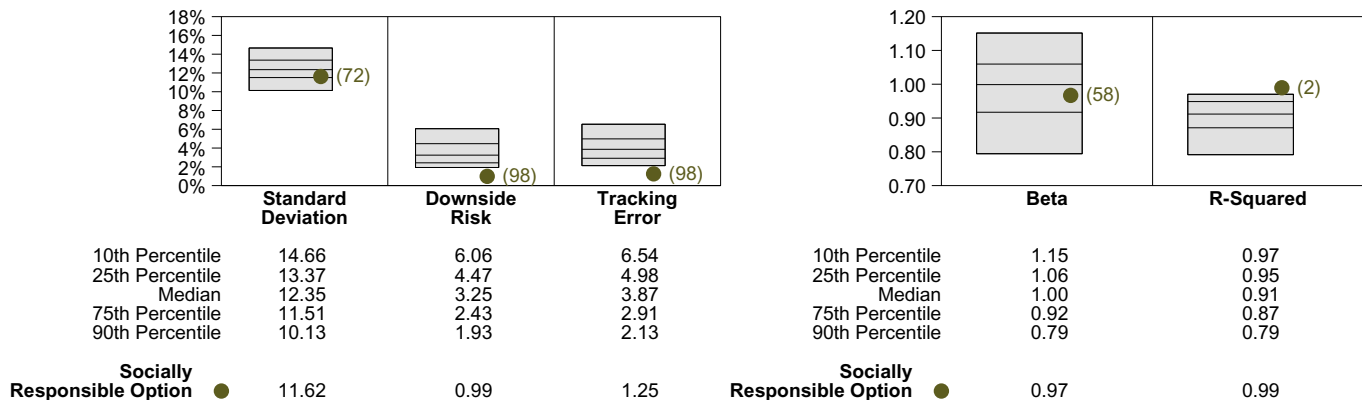
### Risk Analysis vs Callan All Cap Core Mutual Funds (Institutional Net) Four and One-Half Years Ended September 30, 2019



### Market Capture vs Russell 3000 Index Rankings Against Callan All Cap Core Mutual Funds (Institutional Net) Four and One-Half Years Ended September 30, 2019



### Risk Statistics Rankings vs Russell 3000 Index Rankings Against Callan All Cap Core Mutual Funds (Institutional Net) Four and One-Half Years Ended September 30, 2019



# TIAA-CREF Social Choice Equity Fund

## Period Ended September 30, 2019

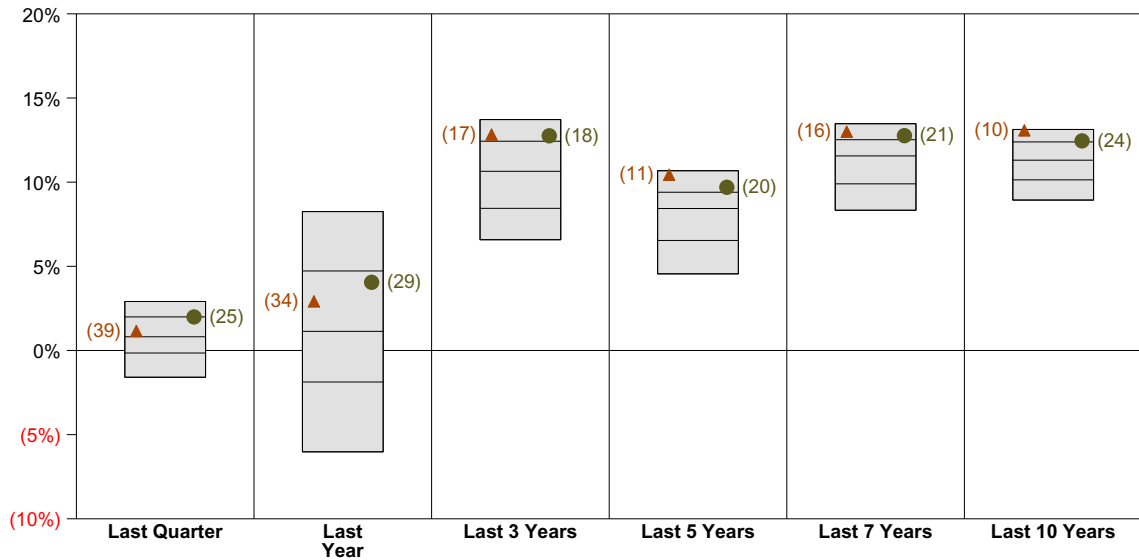
### Investment Philosophy

The Social Choice Equity fund uses the MSCI USA IMI ESG index as its starting universe, but rebalances stock weightings to match the risk factors of the Russell 3000. The goal is to neutralize, to the extent possible, the inherent biases introduced by using a screened universe of securities and minimize tracking error versus the Russell 3000.

### Quarterly Summary and Highlights

- TIAA-CREF Social Choice Equity Fund's portfolio posted a 1.99% return for the quarter placing it in the 25 percentile of the Callan All Cap Core Mutual Funds group for the quarter and in the 29 percentile for the last year.
- TIAA-CREF Social Choice Equity Fund's portfolio outperformed the Russell 3000 Index by 0.83% for the quarter and outperformed the Russell 3000 Index for the year by 1.13%.

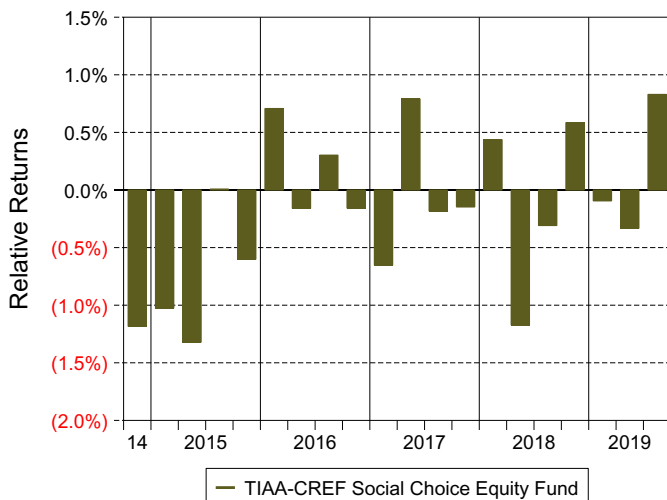
### Performance vs Callan All Cap Core Mutual Funds (Institutional Net)



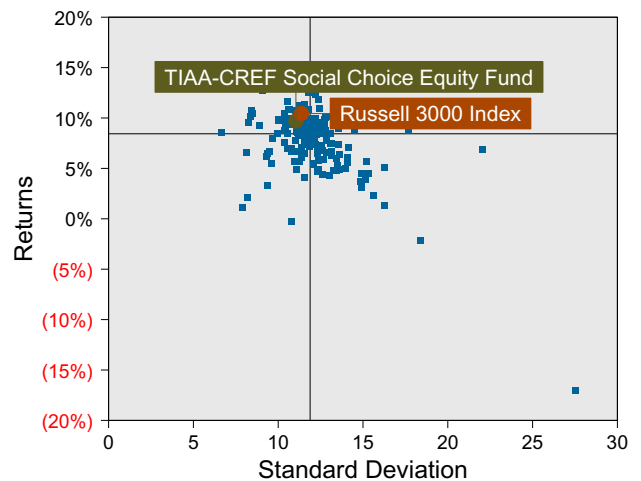
10th Percentile	2.91	8.25	13.72	10.68	13.47	13.13
25th Percentile	2.00	4.72	12.43	9.40	12.52	12.39
Median	0.81	1.14	10.65	8.43	11.56	11.30
75th Percentile	(0.15)	(1.87)	8.44	6.54	9.90	10.14
90th Percentile	(1.59)	(6.02)	6.58	4.55	8.33	8.94

<b>TIAA-CREF Social Choice Equity Fund</b>	●	1.99	4.05	12.75	9.69	12.76	12.45
Russell 3000 Index	▲	1.16	2.92	12.83	10.44	13.00	13.08

### Relative Return vs Russell 3000 Index



### Callan All Cap Core Mutual Funds (Institutional Net) Annualized Five Year Risk vs Return

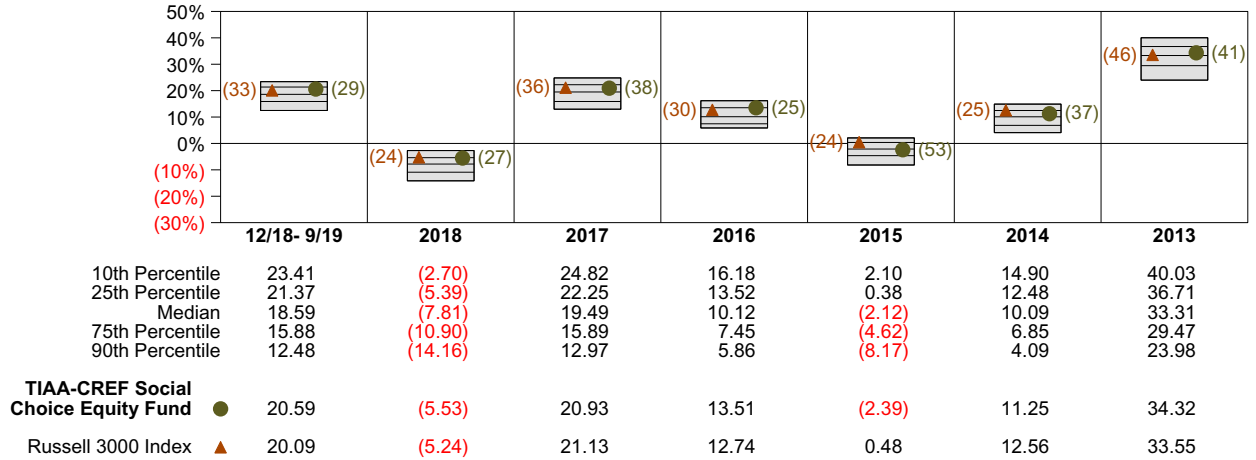


# TIAA-CREF Social Choice Equity Fund Return Analysis Summary

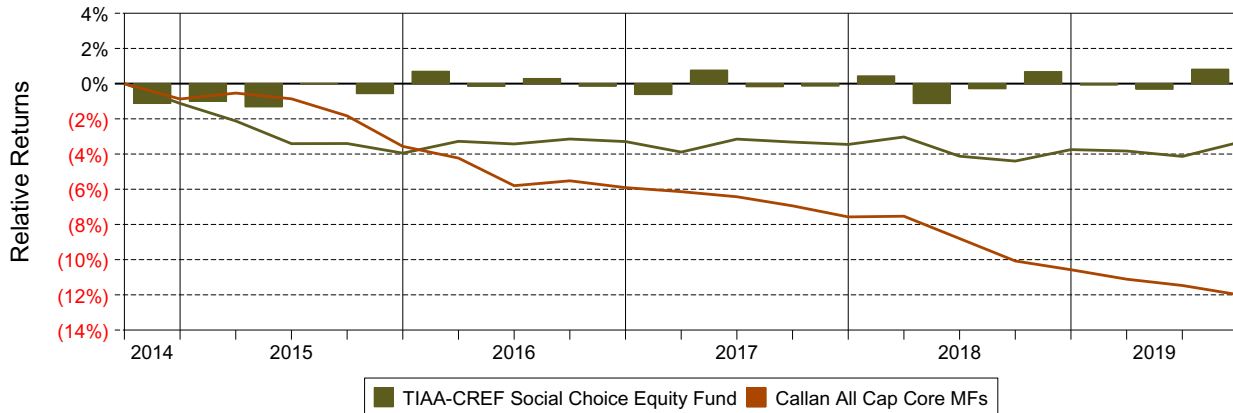
## Return Analysis

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 cumulative 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.

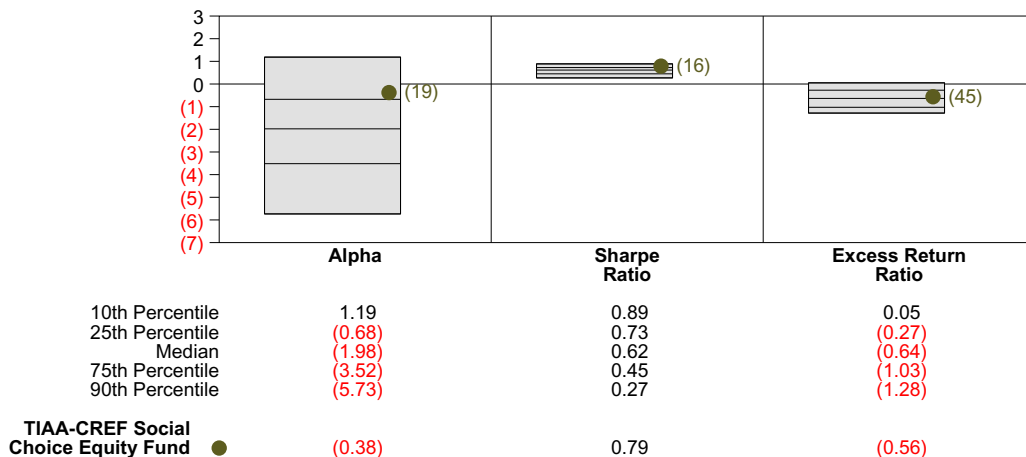
### Performance vs Callan All Cap Core Mutual Funds (Institutional Net)



### Cumulative and Quarterly Relative Return vs Russell 3000 Index



### Risk Adjusted Return Measures vs Russell 3000 Index Rankings Against Callan All Cap Core Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



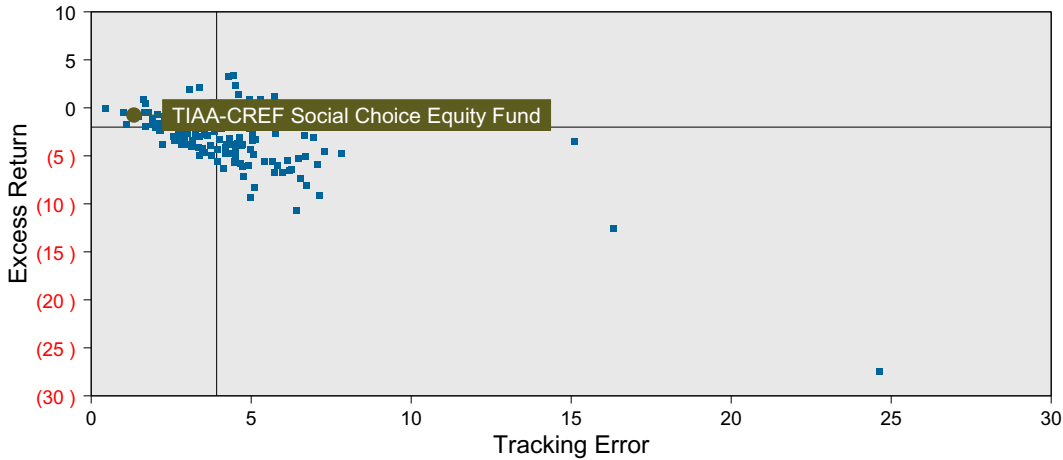
# TIAA-CREF Social Choice Equity Fund

## Risk Analysis Summary

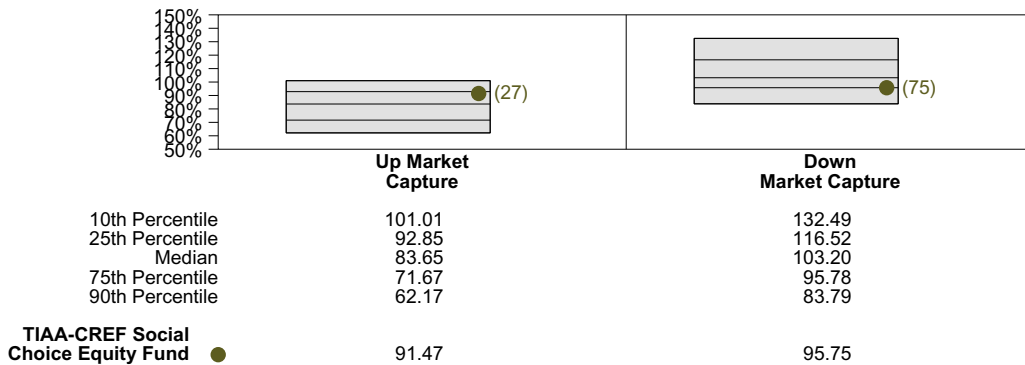
### Risk Analysis

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.

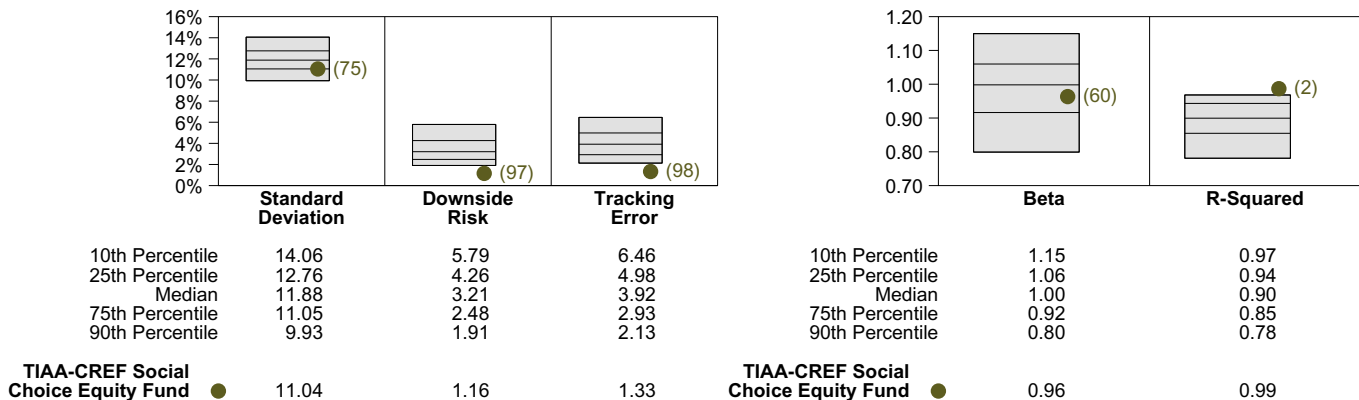
### Risk Analysis vs Callan All Cap Core Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



### Market Capture vs Russell 3000 Index Rankings Against Callan All Cap Core Mutual Funds (Institutional Net) Five Years Ended September 30, 2019



### Risk Statistics Rankings vs Russell 3000 Index Rankings Against Callan All Cap Core Mutual Funds (Institutional Net) Five Years Ended September 30, 2019

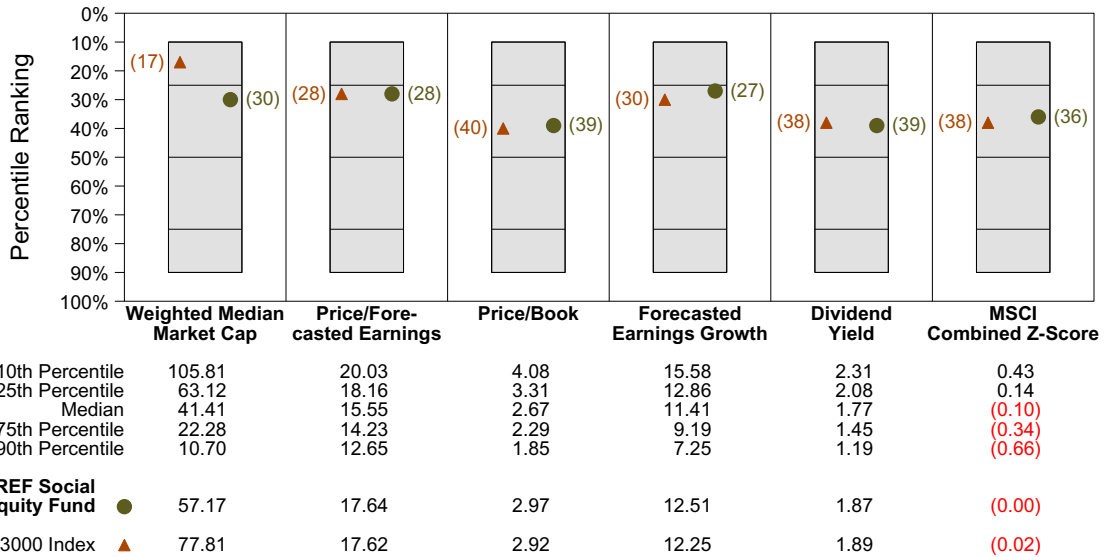


# TIAA-CREF Social Choice Equity Fund Equity Characteristics Analysis Summary

## 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.

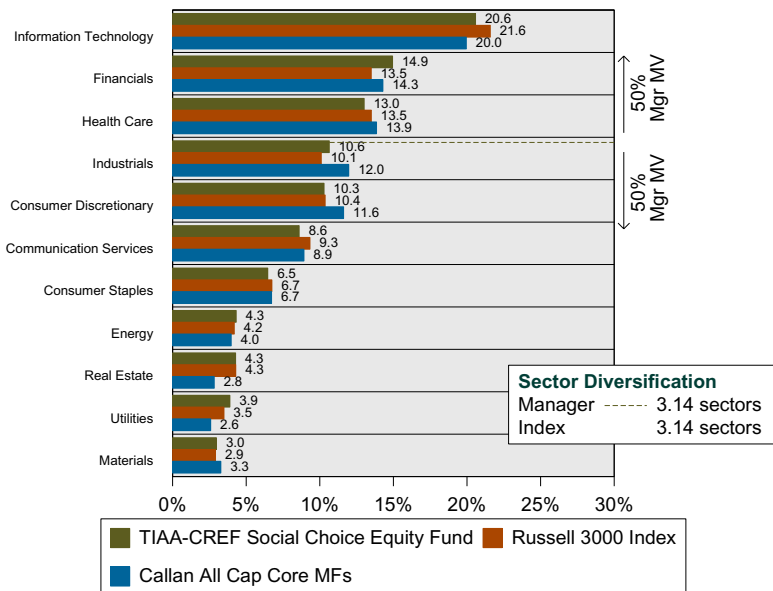
## Portfolio Characteristics Percentile Rankings Rankings Against Callan All Cap Core Mutual Funds as of September 30, 2019



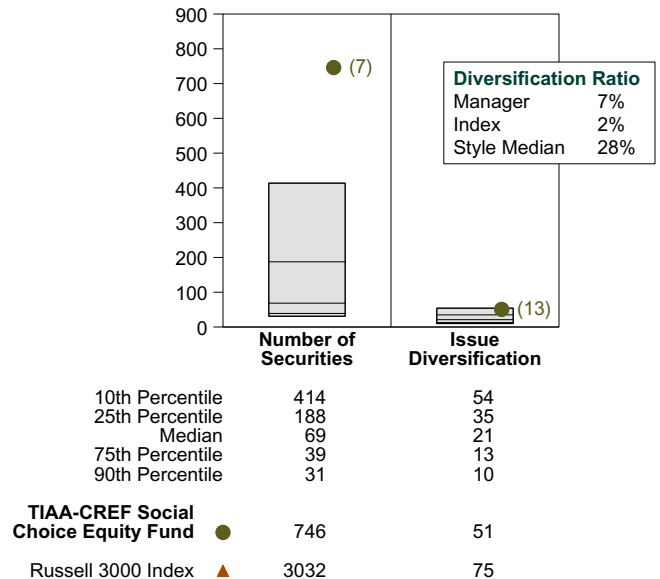
## Sector Weights

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.

### Sector Allocation September 30, 2019



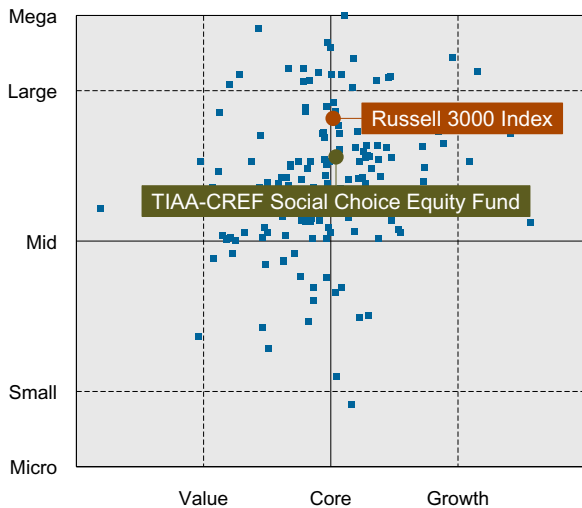
### Diversification September 30, 2019



# Current Holdings Based Style Analysis TIAA-CREF Social Choice Equity Fund As of September 30, 2019

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.

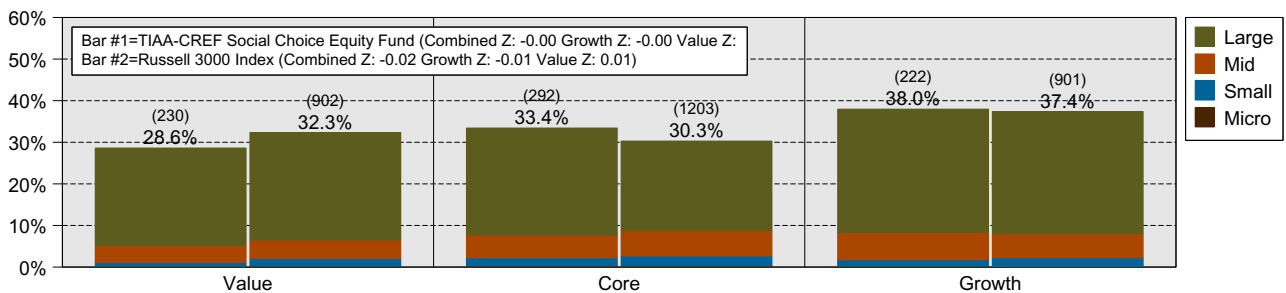
**Style Map vs Callan All Cap Core MFs Holdings as of September 30, 2019**



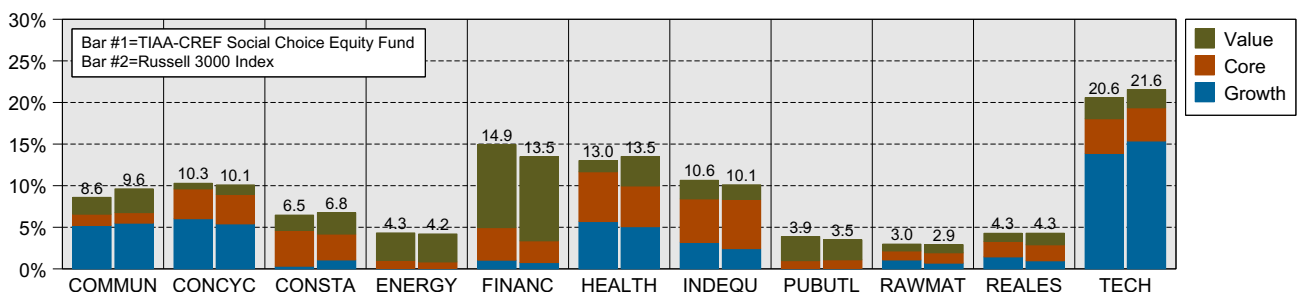
**Style Exposure Matrix Holdings as of September 30, 2019**

	Value	Core	Growth	Total
Large	23.4% (54)	25.7% (60)	29.6% (46)	78.7% (160)
	25.8% (106)	21.4% (103)	29.4% (91)	76.6% (300)
Mid	4.2% (70)	5.5% (82)	6.6% (67)	16.2% (219)
	4.5% (168)	6.2% (224)	5.8% (209)	16.4% (601)
Small	0.9% (83)	1.9% (111)	1.5% (82)	4.4% (276)
	1.8% (333)	2.4% (486)	2.1% (384)	6.3% (1203)
Micro	0.2% (23)	0.3% (39)	0.2% (27)	0.7% (89)
	0.2% (295)	0.3% (390)	0.2% (217)	0.7% (902)
Total	28.6% (230)	33.4% (292)	38.0% (222)	100.0% (744)
	32.3% (902)	30.3% (1203)	37.4% (901)	100.0% (3006)

**Combined Z-Score Style Distribution Holdings as of September 30, 2019**



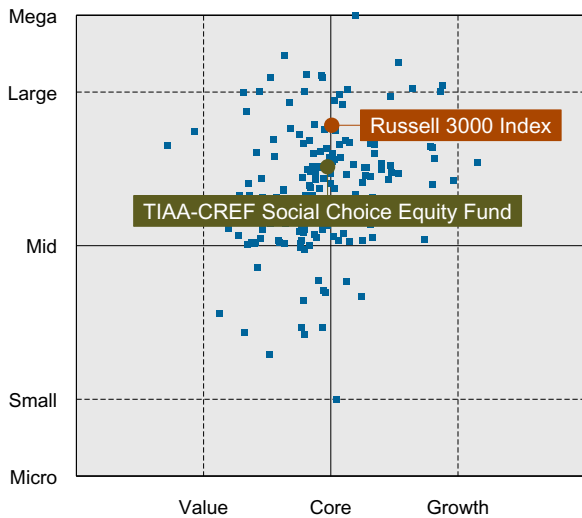
**Sector Weights Distribution Holdings as of September 30, 2019**



# Historical Holdings Based Style Analysis TIAA-CREF Social Choice Equity Fund For Three Years Ended September 30, 2019

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.

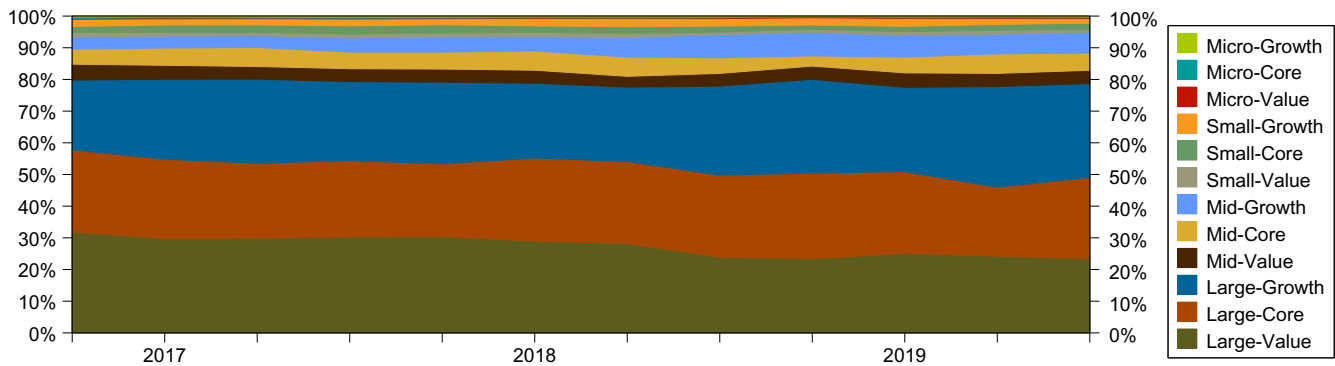
**Average Style Map vs Callan All Cap Core MFs Holdings for Three Years Ended September 30, 2019**



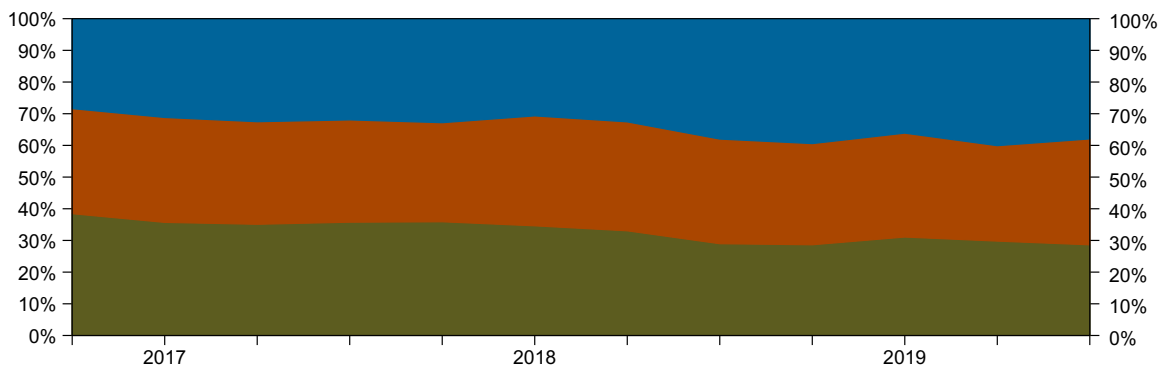
**Average Style Exposure Matrix Holdings for Three Years Ended September 30, 2019**

	27.4% (60)	25.0% (55)	26.4% (50)	<b>78.9% (165)</b>
Large	26.8% (106)	21.3% (95)	26.9% (96)	<b>75.0% (297)</b>
Mid	4.2% (61)	5.3% (82)	5.5% (67)	<b>15.0% (210)</b>
	4.9% (174)	6.3% (218)	5.8% (203)	<b>17.0% (595)</b>
Small	1.1% (87)	2.1% (112)	2.2% (84)	<b>5.4% (283)</b>
	2.1% (333)	2.8% (479)	2.2% (377)	<b>7.1% (1189)</b>
Micro	0.2% (27)	0.3% (39)	0.2% (26)	<b>0.8% (92)</b>
	0.3% (285)	0.4% (378)	0.2% (220)	<b>0.9% (883)</b>
<b>Total</b>	<b>33.0% (235)</b>	<b>32.7% (288)</b>	<b>34.3% (227)</b>	<b>100.0% (750)</b>
	<b>34.1% (898)</b>	<b>30.7% (1170)</b>	<b>35.1% (896)</b>	<b>100.0% (2964)</b>
	Value	Core	Growth	<b>Total</b>

**TIAA-CREF Social Choice Equity Fund Historical Cap/Style Exposures**



**TIAA-CREF Social Choice Equity Fund Historical Style Only Exposures**



# Real Return Option

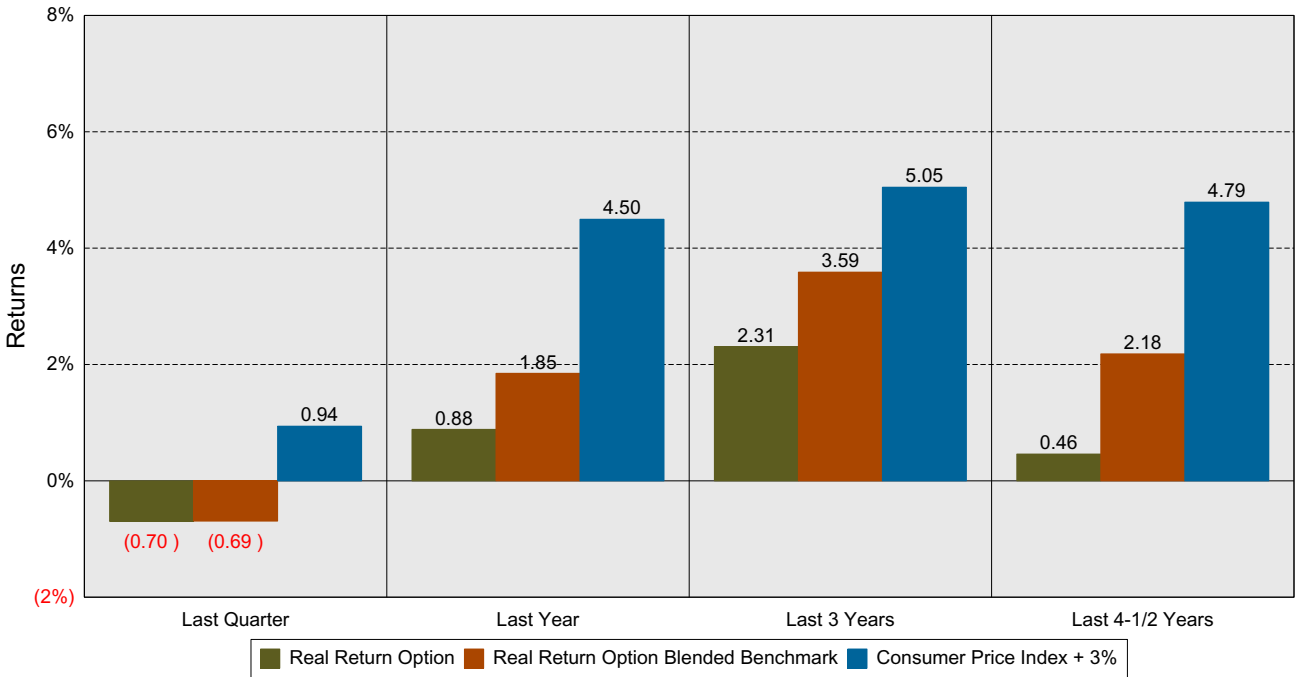
## Period Ended September 30, 2019

### Investment Philosophy

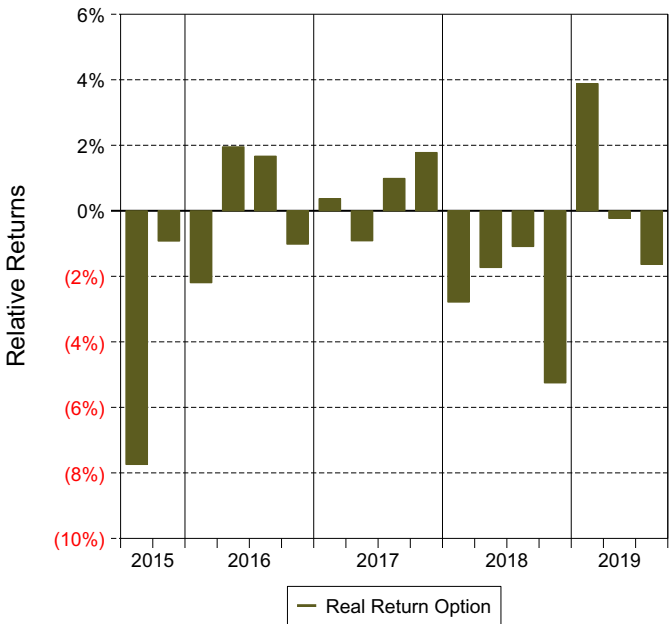
SSGA Custom Blended Benchmark comprised of: 15% Dow Jones US Select REIT Index, 25% Bloomberg Roll Select Commodity Index, 25% S&P Global LargeMidCap Commodity and Resources Index, 25% Bloomberg Barclays US Treasury Inflation Protected Securities Index, and 10% S&P Global Infrastructure Index.

### Quarterly Summary and Highlights

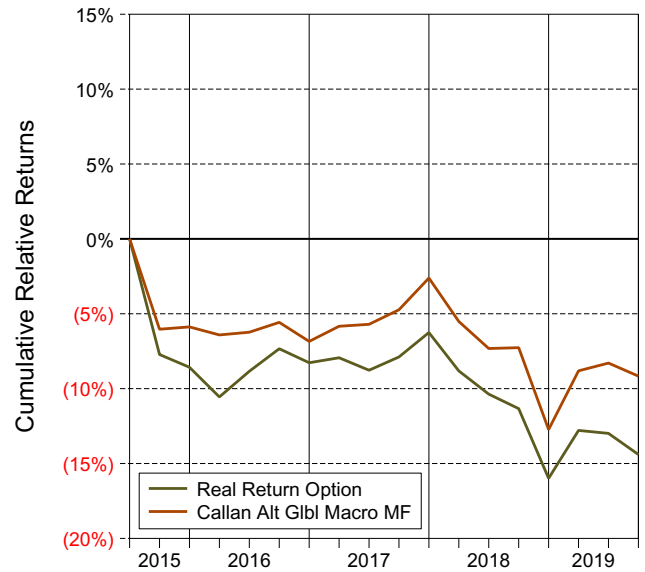
- Real Return Option's portfolio posted a (0.70)% return for the quarter placing it in the 65 percentile of the Callan Alt Global Macro Mutual Funds group for the quarter and in the 65 percentile for the last year.
- Real Return Option's portfolio underperformed the Consumer Price Index + 3% by 1.64% for the quarter and underperformed the Consumer Price Index + 3% for the year by 3.61%.



Relative Return vs Consumer Price Index + 3%



Cumulative Returns vs Consumer Price Index + 3%





# State Street Real Asset Strategy Period Ended September 30, 2019

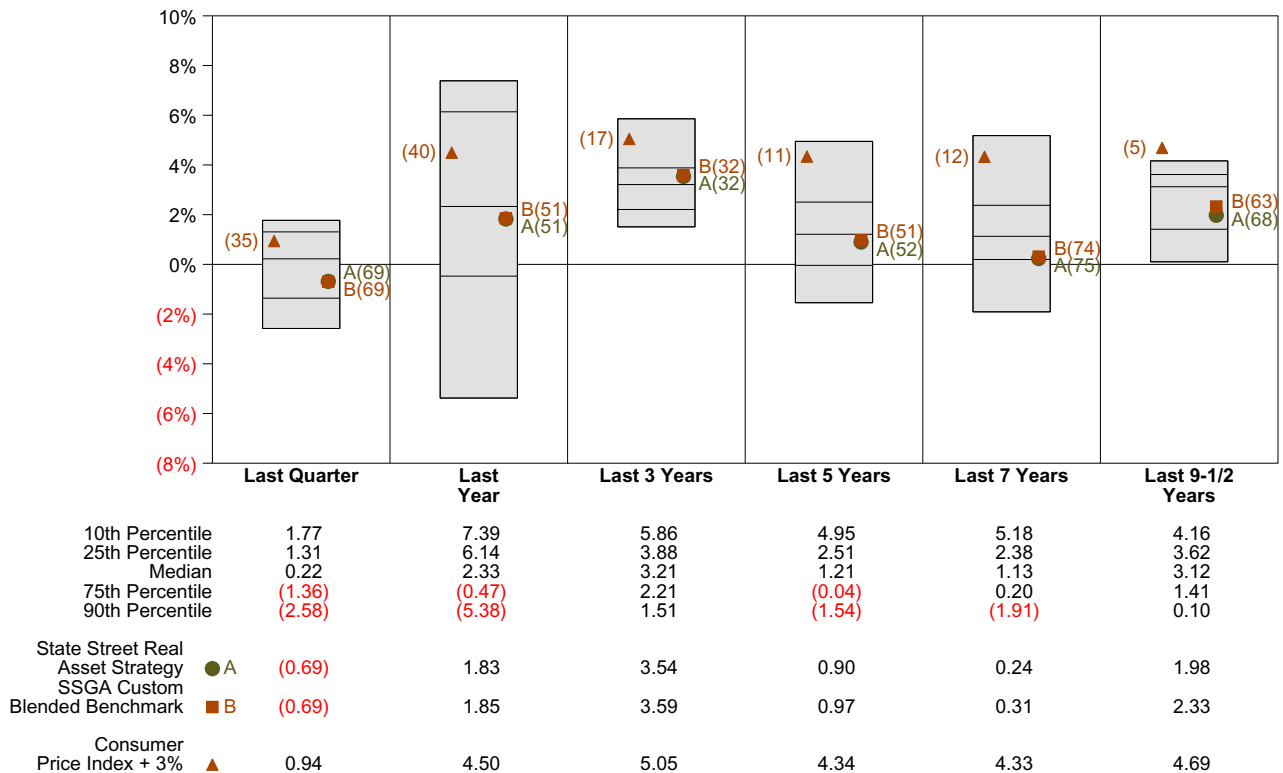
## Investment Philosophy

SSGA Custom Blended Benchmark comprised of: 15% Dow Jones US Select REIT Index, 25% Bloomberg Roll Select Commodity Index, 25% S&P Global LargeMidCap Commodity and Resources Index, 25% Bloomberg Barclays US Treasury Inflation Protected Securities Index, and 10% S&P Global Infrastructure Index.

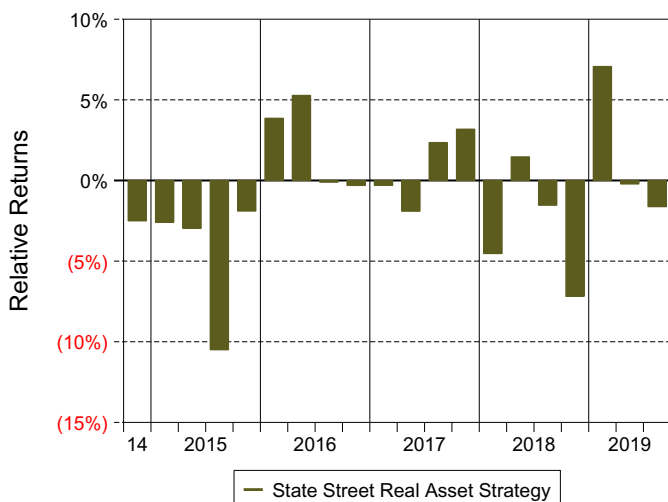
## Quarterly Summary and Highlights

- State Street Real Asset Strategy's portfolio posted a (0.69)% return for the quarter placing it in the 69 percentile of the Callan Real Assets Database group for the quarter and in the 51 percentile for the last year.
- State Street Real Asset Strategy's portfolio underperformed the Consumer Price Index + 3% by 1.62% for the quarter and underperformed the Consumer Price Index + 3% for the year by 2.67%.

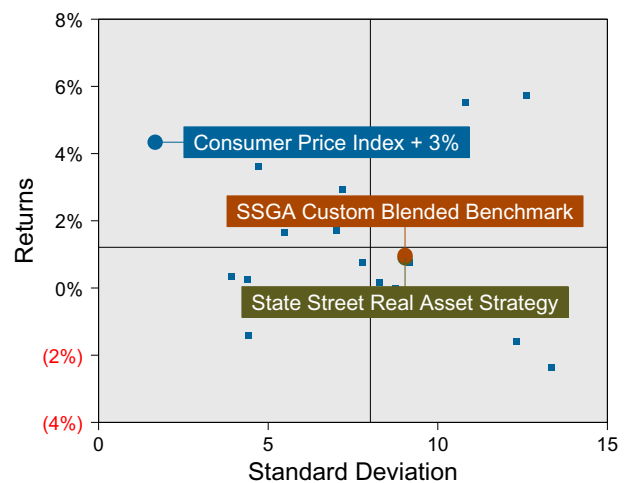
## Performance vs Callan Real Assets Database (Institutional Net)



## Relative Return vs Consumer Price Index + 3%



## Callan Real Assets Database (Institutional Net) Annualized Five Year Risk vs Return

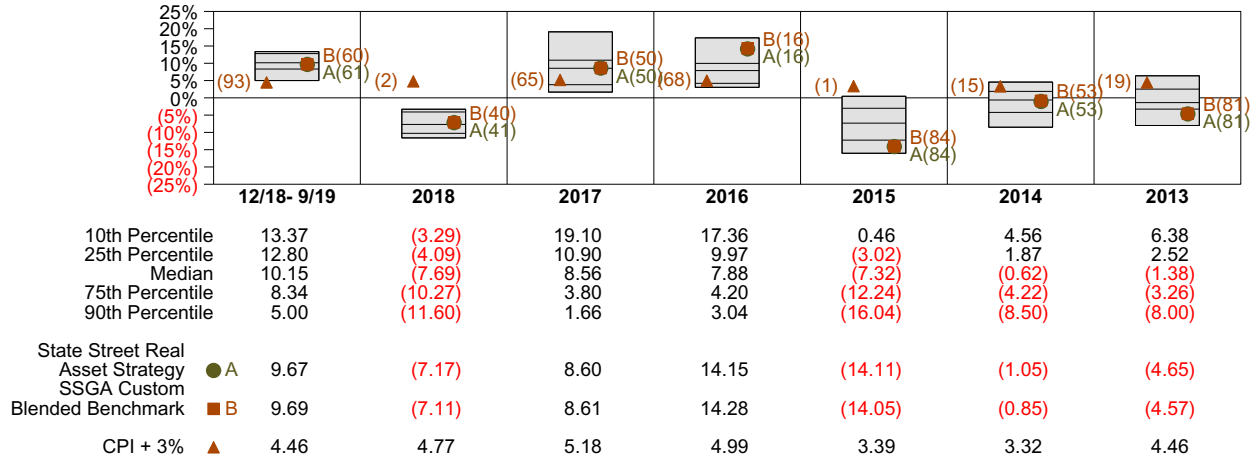


# State Street Real Asset Strategy Return Analysis Summary

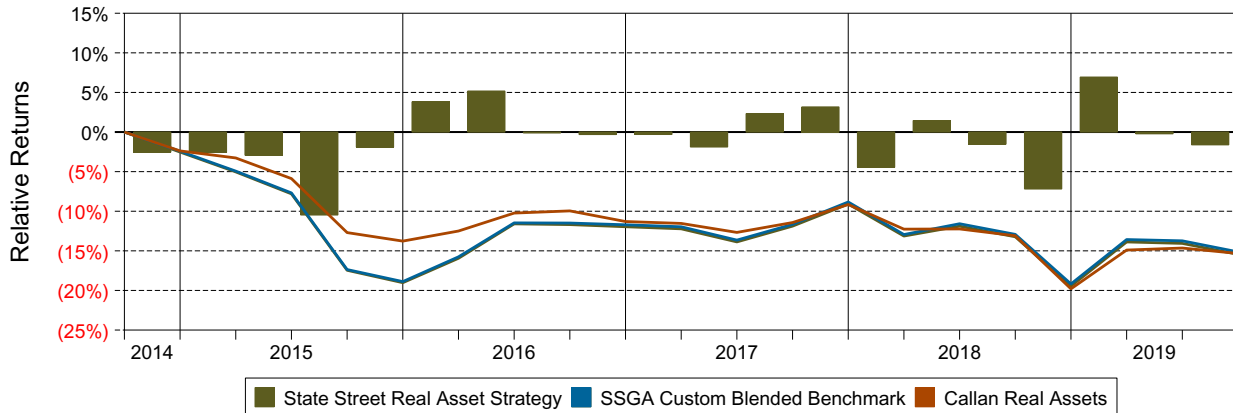
## Return Analysis

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 cumulative 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.

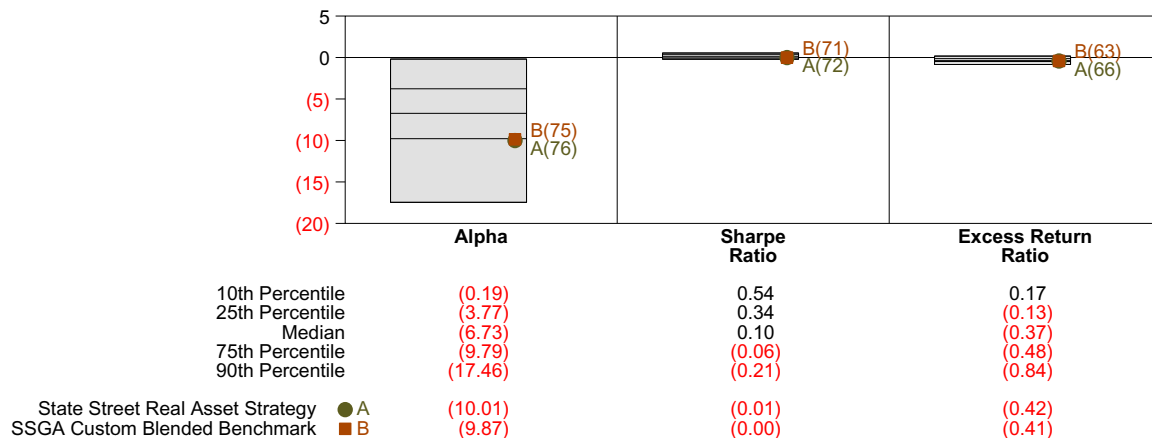
### Performance vs Callan Real Assets Database (Institutional Net)



### Cumulative and Quarterly Relative Return vs CPI + 3%



### Risk Adjusted Return Measures vs CPI + 3% Rankings Against Callan Real Assets Database (Institutional Net) Five Years Ended September 30, 2019

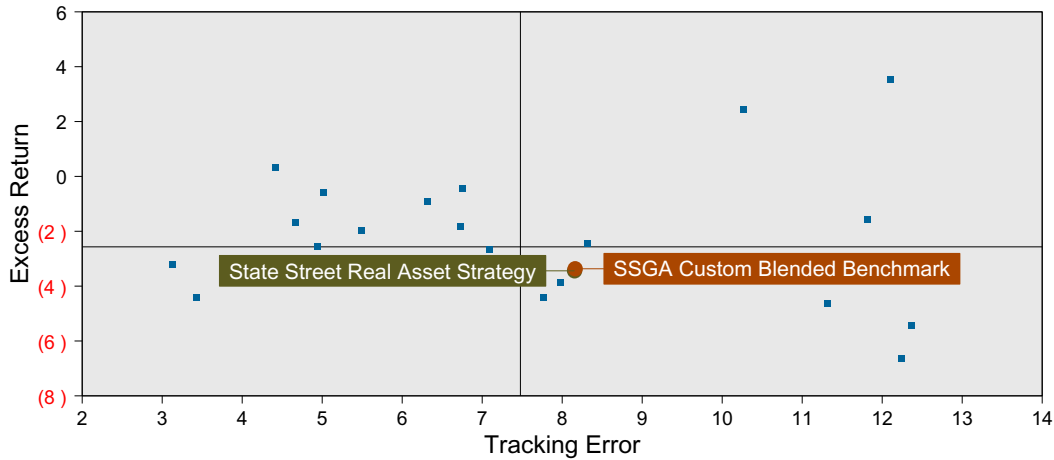


# State Street Real Asset Strategy Risk Analysis Summary

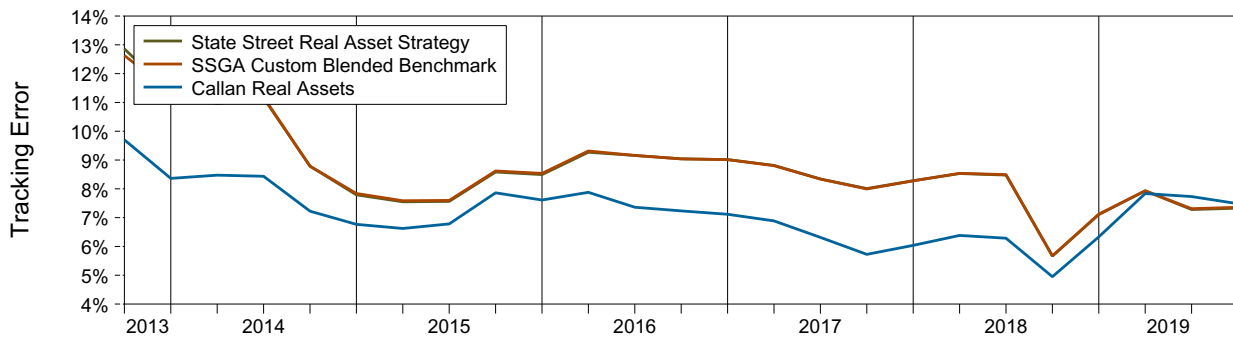
## Risk Analysis

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.

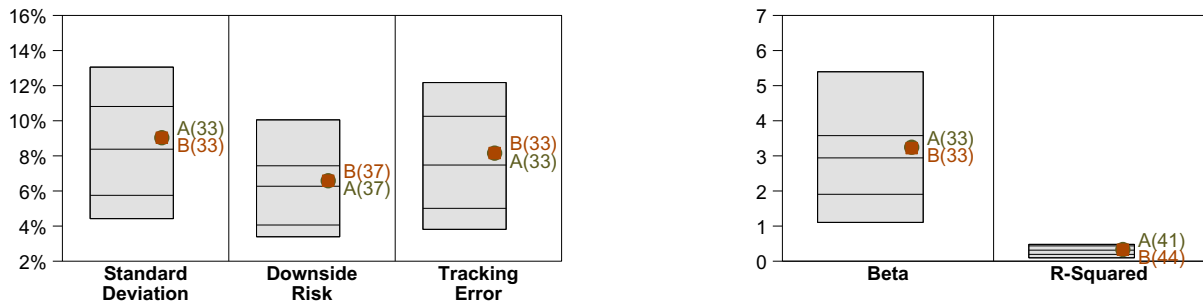
### Risk Analysis vs Callan Real Assets Database (Institutional Net) Five Years Ended September 30, 2019



### Rolling 12 Quarter Tracking Error vs CPI + 3%



### Risk Statistics Rankings vs CPI + 3% Rankings Against Callan Real Assets Database (Institutional Net) Five Years Ended September 30, 2019



10th Percentile	13.06
25th Percentile	10.81
Median	8.38
75th Percentile	5.75
90th Percentile	4.43

10th Percentile	10.05
25th Percentile	7.43
Median	6.27
75th Percentile	4.06
90th Percentile	3.39

10th Percentile	12.18
25th Percentile	10.25
Median	7.48
75th Percentile	5.01
90th Percentile	3.81

10th Percentile	5.40
25th Percentile	3.58
Median	2.94
75th Percentile	1.91
90th Percentile	1.10

10th Percentile	0.48
25th Percentile	0.44
Median	0.31
75th Percentile	0.19
90th Percentile	0.10

State Street Real Asset Strategy	● A	9.03	6.58	8.15
SSGA Custom Blended Benchmark	■ B	9.03	6.58	8.16

State Street Real Asset Strategy	● A	3.25	0.33
SSGA Custom Blended Benchmark	■ B	3.22	0.33

---

## 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 Index** is composed of the 2000 smallest stocks in the Russell 3000 Index, representing approximately 11% of the U.S. equity market capitalization.

**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.

## Fixed Income Market Indicators

**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 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.

## International Equity Market Indicators

**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.

---

## Definitions

**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 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.

**Core Plus Broad International Equity Style** This is a hybrid group incorporating the Core Plus, Growth Plus and Value Plus style groups. It incorporates managers that typically add value from increased tactical or strategic exposure to emerging markets and smaller capitalization stocks. Portfolios may undertake concentrated bets.

**Intermediate Fixed-Income Style Mutual Funds** - mutual funds whose objective is to lower interest rate risk by investing only in intermediate-term securities. The average portfolio maturity is typically five to seven years.

**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.

**Non-U.S. Equity Style Mutual Funds** - Mutual funds that invest their assets only in non-U.S. equity securities but exclude regional and index funds.

**Small Capitalization** - Mutual funds that invest in companies with relatively small capitalization. The average market capitalization is approximately \$1.4 billion. The companies typically have zero dividends or dividend yields below the broader market. The securities exhibit greater volatility than the broader market as measured by the risk statistics Beta and Standard Deviation. The Small Capitalization Style Group consists of the Small Capitalization (Growth) Style Group and the Small Capitalization (Value) Style Group.

**Small Capitalization** - Managers who invest in companies with relatively small capitalization. The average market capitalization is approximately \$1.4 billion. The companies typically have zero dividends or dividend yields below the broader market. The securities exhibit greater volatility than the broader market as measured by the risk statistics Beta and Standard Deviation. The Small Capitalization Style Group consists of the Small Capitalization (Growth) Style Group and the Small Capitalization (Value) Style Group.

---

## 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.

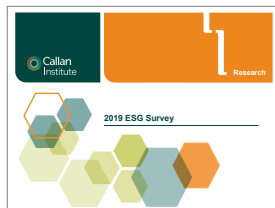
## Research and Educational Programs

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](http://www.callan.com/library) to see all of our publications, and [www.callan.com/blog](http://www.callan.com/blog) to view our blog "Perspectives." For more information contact Barb Gerraty at 415-274-3093 / [institute@callan.com](mailto:institute@callan.com).

## New Research from Callan's Experts

### DTS Offers Some Key Advantages for Evaluating Fixed Income Portfolios

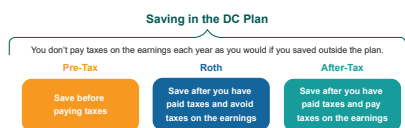
This paper describes duration times spread (DTS), which measures systematic credit-spread risk exposure. DTS estimates the return of any bond, by percentage, if its spread were to change from the current level, all else equal. DTS offers several advantages for monitoring risk in credit portfolios over other methods.



**2019 ESG Survey** | Callan's seventh annual survey assessing the status of environmental, social, and governance (ESG) investing in the U.S. institutional investment market.

**Callan's DC Index in Detail** | A video about the Callan DC Index™: why we started it, what it measures, and how it can benefit defined contribution plan sponsors.

### DC Plan Hacks: Tips for an Efficient Design



Defined contribution plan sponsors should regularly evaluate their plans to make sure they serve the organization's

benefits philosophy. When evaluating changes, the sponsor should consider its demographics, cost of benefits, vendor capabilities, impact on nondiscrimination testing, communication capabilities, and legal requirements.

**2019 June Workshop Summary: In the Age of Illiquidity** | For many nonprofits and defined benefit plans, the shift to higher-returning but less liquid asset classes has myriad implications. This summary discusses how consultants, institutional investors, and investment managers can work together to identify solutions tailored to each plan.

### The Keys to Unlocking Private Equity Portfolio Assessment

Private equity performance evaluation has some unique considerations, so return calculations and benchmarking methodologies differ from public securities. Closed-end private equity vehicles are assessed using ratio analyses and internal rate of return (IRR) measures. Using performance metrics, private equity portfolios can be evaluated at the partnership level, at the vintage year level, and then at the total portfolio level.

### Survivorship Bias and the Walking Dead

Survivorship bias, the predisposition to evaluate a data set by focusing on the "survivors" rather than also examining the record of non-survivors, is important to understand for hedge fund peer groups, which tend to have a relatively large number of constituents that disappear. Using a proprietary approach, Callan is able to adjust peer group comparisons for survivorship bias. This better-informed perspective enables a more honest assessment in considering performance relative to other opportunities.

## Quarterly Periodicals

**Private Equity Trends** | A newsletter on private equity activity, covering both the fundraising cycle and performance over time.

**Market Pulse Flipbook** | A market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data for U.S. and non-U.S. equities and fixed income, alternatives, and defined contribution plans.

**Active vs. Passive Charts** | This series of charts compares active managers alongside relevant benchmarks over the long term.

**Capital Market Review** | A newsletter providing analysis and a broad overview of the economy and public and private market activity each quarter across a wide range of asset classes.



## Events

Miss out on a Callan conference or workshop? Event summaries and speakers' presentations are available on our website: [www.callan.com/library/](http://www.callan.com/library/)

Please mark your calendar and look forward to upcoming invitations.

### 2020 National Conference

Celebrating the 40th anniversary of the Callan Institute  
*January 27-29, 2020 – San Francisco*

Please also keep your eye out for upcoming Webinars in 2019! We will be sending invitations to register for these events and will also have registration links on our website at [www.callan.com/webinarsupcoming](http://www.callan.com/webinarsupcoming).

**For more information about events, please contact Barb Gerraty: 415-274-3093 / [gerraty@callan.com](mailto:gerraty@callan.com)**

## The Center for Investment Training Educational Sessions

The Center for Investment Training, better known as the “Callan College,” provides a foundation of knowledge for industry professionals who are involved in the investment decision-making process. It was founded in 1994 to provide clients and non-clients alike with basic- to intermediate-level instruction.

### Introduction to Investments

*April 21-22, 2020*

*July 21-22, 2020*

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 who have less than two years of experience with asset-management oversight and/or support responsibilities. Tuition for the Introductory “Callan College” session is \$2,350 per person. Tuition includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

**Learn more at [www.callan.com/events/callan-college-intro](http://www.callan.com/events/callan-college-intro)**

## Education: By the Numbers

**525** Attendees (on average) of the Institute's annual National Conference

**50+** Unique pieces of research the Institute generates each year

**3,700** Total attendees of the “Callan College” since 1994

**1980** Year the Callan Institute was founded



“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

## 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 on-going 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.
Alcentra
AllianceBernstein
Allianz Global Investors
Allianz Life Insurance Company of North America
American Century Investments
Amundi Pioneer Asset Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Atlanta Capital Management Co., LLC
Aurelius Capital Management
Aviva Investors Americas
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
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
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management LLC
Chartwell Investment Partners

Manager Name
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Corbin Capital Partners, L.P.
Cooke & Bieler, L.P.
Credit Suisse Asset Management
DePrince, Race & Zollo, Inc.
Diamond Hill Capital Management, 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 Investors
Fidelity Institutional Asset Management
Fiera Capital Corporation
Financial Engines
First Hawaiian Bank Wealth Management Division
First State Investments
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.
GAM (USA) Inc.
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.

Manager Name
Heitman LLC
Hotchkis & Wiley Capital Management, LLC
HSBC Global Asset Management
Income Research + Management, Inc.
Insight Investment Management Limited
Intech Investment Management, LLC
Intercontinental Real Estate Corporation
Invesco
Investec Asset Management North America, Inc.
Ivy Investments
J.P. Morgan
Janus
Jarislowsky Fraser Global Investment Management
Jennison Associates LLC
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
Lincoln National Corporation
LMCG Investments, LLC
Logan Circle Partners, L.P.
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
Mellon
MFS Investment Management
MidFirst Bank
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mountain Lake Investment Management LLC
Mountain Pacific Advisors, LLC
MUFG Union Bank, N.A.
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Nikko Asset Management Co., Ltd.
Northern Trust Asset Management
Nuveen
OFI Global Asset Management

Manager Name
Osterweis Capital Management, LLC
P/E Investments
Pacific Investment Management Company
Pathway Capital Management
Peregrine Capital Management, LLC.
Perkins Investment Management
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.
Rockefeller Capital Management
Rothschild & Co. Asset Management US
Russell Investments
Schroder Investment Management North America Inc.
Smith Graham & Co. Investment Advisors, L.P.
South Texas Money Management, Ltd.
State Street Global Advisors
Strategic Global Advisors
Stone Harbor Investment Partners, L.P.
Sun Life Investment Management
T. Rowe Price Associates, Inc.
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
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

CLIENT: Oregon Savings Growth Plan		REPORT TYPE: IMS
ORGID: 12318	REPORT ID: 766	REPORT DATE: Sep 30, 2019

CONSULTANT	OFFICE	MAILING DUE DATE
Uvan Tseng	CA	Nov 6 2019

BINDING: GBC Binding		PRINT PAGE: DOUBLE	
TOTAL COPIES	CLIENT COPIES	CONSULT COPIES	
0	0	0	

DATE MAILED:

- TAB POS#: 1 PAGE NUMBER: 4
- TAB POS#: 2 PAGE NUMBER: 13
- TAB POS#: 3 PAGE NUMBER: 22
- TAB POS#: 4 PAGE NUMBER: 46
- TAB POS#: 5 PAGE NUMBER: 51
- TAB POS#: 1 PAGE NUMBER: 68
- TAB POS#: 2 PAGE NUMBER: 75
- TAB POS#: 3 PAGE NUMBER: 82
- TAB POS#: 4 PAGE NUMBER: 89
- TAB POS#: 5 PAGE NUMBER: 114
- TAB POS#: 1 PAGE NUMBER: 158
- TAB POS#: 2 PAGE NUMBER: 168
- TAB POS#: 3 PAGE NUMBER: 173
- TAB POS#: 4 PAGE NUMBER: 178
- TAB POS#: 5 PAGE NUMBER: 181
- END COPY INSERT PAGE NUMBER: 194



**OREGON  
STATE  
TREASURY**

**Tobias Read**  
State Treasurer

**Michael Kaplan**  
Deputy State Treasurer

Date: September 9, 2019

To: Oregon Investment Council

From: Wil Hiles, Investment Officer  
Michael Viteri, Senior Investment Officer  
Jennifer Peet, Corporate Governance Director

Re: *Deferred Compensation Program, 2nd Quarter 2019 Report*

### **Background**

The Oregon Savings Growth Plan (the “Plan” or “OSGP”) is the State of Oregon’s 457 Deferred Compensation plan. OSGP is a voluntary supplemental retirement plan that provides eligible state and local government employees the opportunity to defer a portion of their current salary on a pre-tax or after-tax (Roth) basis. These deferrals are invested in various investment options until participants draw funds at retirement. The Plan offers an array of equity and fixed income investment options, a suite of target-date retirement funds, which in aggregate constitute a single investment option, and a self-directed brokerage option. As of June 30, 2019, plan assets totaled \$2.33 billion from over 30,000 participants.

With support and assistance from the Oregon State Treasury (OST) Investment Division, the Oregon Investment Council (OIC) is responsible for oversight of the Plan’s investment program. Oversight of Plan administration is the responsibility of the Oregon Public Employees Retirement System Board (“PERS Board”), with support from OSGP staff. Additional oversight is provided by a seven-member Deferred Compensation Advisory Committee (the “Advisory Committee”) established under ORS 243.505.



Investment Division  
16290 SW Upper Boones Ferry Road  
Tigard, OR 97224  
503.431.7900

Main Office  
350 Winter Street, Suite 100  
Salem, OR 97301-3896  
503.378.4000

[oregon.gov/treasury](http://oregon.gov/treasury)  
[oregon.treasurer@state.or.us](mailto:oregon.treasurer@state.or.us)



**OSGP Performance**

Fund Option <i>Benchmarks</i>	Performance (%)					
	QTD	YTD	1 Year	3 Years	5 Years	10 Years
Stable Value Option	0.57	1.11	2.17	1.81	1.61	1.56
91 Day T-Bill	0.64	1.24	2.31	1.38	0.87	0.49
<i>Rolling Average 5 Year CMT*</i>	0.47	0.92	1.81	1.55	1.46	1.98
Active Fixed Income Option	2.89	5.81	7.23	2.97	3.21	4.69
<i>Barclays US Aggregate Bond Index</i>	3.08	6.11	7.87	2.31	2.95	3.90
Large Company Value Stock Option	3.81	16.21	8.47	10.12	7.27	13.05
<i>Russell 1000 Value Index</i>	3.84	16.24	8.46	10.19	7.46	13.19
Stock Index Option	4.06	18.67	8.89	13.91	10.08	14.53
<i>Russell 3000 Index</i>	4.10	18.71	8.98	14.02	10.19	14.67
Large Company Growth Stock Option	4.60	21.45	11.50	17.92	12.94	16.06
<i>Russell 1000 Growth Index</i>	4.64	21.49	11.56	18.07	13.39	16.28
International Stock Option	2.60	13.13	-0.60	7.91	2.20	6.81
<i>MSCI ACWI ex-US (net) Index</i>	2.98	13.60	1.29	9.39	2.23	6.89
Small Company Stock Option	2.24	16.85	-3.38	11.79	6.76	13.61
<i>Russell 2000 Index</i>	2.10	16.98	-3.31	12.30	7.20	14.19
Socially Responsible Stock Option	3.73	18.16	8.84	13.58	N/A	N/A
<i>Russell 3000 Index</i>	4.10	18.71	8.98	14.02	N/A	N/A
Real Return Option	1.27	7.18	1.31	3.31	N/A	N/A
<i>CPI + 3%</i>	1.70	3.67	4.90	5.17	N/A	N/A
BlackRock LifePath Retirement	3.13	10.04	6.42	5.66	4.05	6.56
BlackRock LifePath 2020	3.15	10.43	6.30	6.40	4.38	7.69
BlackRock LifePath 2025	3.17	11.81	6.37	7.44	4.88	8.41
BlackRock LifePath 2030	3.19	13.06	6.45	8.46	5.42	9.11
BlackRock LifePath 2035	3.20	14.06	6.35	9.23	5.73	9.59
BlackRock LifePath 2040	3.20	15.03	6.30	9.99	6.07	10.09
BlackRock LifePath 2045	3.18	15.74	6.18	10.43	6.26	10.49
BlackRock LifePath 2050	3.17	16.05	6.14	10.57	6.31	10.78
BlackRock LifePath 2055	3.17	16.09	6.15	10.56	6.27	N/A
BlackRock LifePath 2060	3.16	16.08	6.14	10.55	N/A	N/A

\* CMT is the Constant Maturity Treasury Yield.

Performance shown is a) net of fees and b) annualized for periods longer than one year.

OSGP has two types of fees, investment management and administrative fees.

Administrative fees are comprised of State of Oregon administration, recording keeping, custody, trust and communications fees.



**Additional OSGP Data**

<b>Fund Name</b>	<b>Market Value (\$)</b>	<b>% of Total</b>	<b>Plan Participants</b>	<b>IM Fees (bps)</b>	<b>Admin Fees (bps)</b>	<b>Total Fees (bps)</b>
Stable Value Option	286,760,388	12.7%	8,692	35.1	11.9	47.0
Active Fixed Income Option	149,943,814	6.2%	7,135	16.7	11.9	28.6
Large Company Value Stock Option	200,498,122	8.7%	10,605	2.6	11.9	14.5
Stock Index Option	271,151,785	11.6%	10,185	3.6	11.9	15.5
Large Company Growth Stock Option	279,295,370	11.9%	12,203	2.6	11.9	14.5
International Stock Option	121,174,045	5.2%	9,928	54.0	11.9	65.9
Small Company Stock Option	245,333,170	10.9%	11,155	39.4	11.9	51.3
Real Return Option	4,264,678	0.2%	732	22.0	11.9	33.9
Socially Responsible Investment Option	17,924,151	0.7%	1,758	17.0	11.9	28.9
BlackRock LifePath Retirement Fund	189,986,189	8.2%	3,607	9.0	11.9	20.9
BlackRock LifePath 2020 Fund	140,818,720	6.1%	3,050	9.0	11.9	20.9
BlackRock LifePath 2025 Fund	120,508,967	5.1%	3,537	9.0	11.9	20.9
BlackRock LifePath 2030 Fund	89,997,211	3.8%	3,598	9.0	11.9	20.9
BlackRock LifePath 2035 Fund	67,744,358	2.8%	3,567	9.0	11.9	20.9
BlackRock LifePath 2040 Fund	46,895,413	2.0%	3,322	9.0	11.9	20.9
BlackRock LifePath 2045 Fund	31,840,621	1.3%	2,912	9.0	11.9	20.9
BlackRock LifePath 2050 Fund	25,292,739	1.1%	2,268	9.0	11.9	20.9
BlackRock LifePath 2055 Fund	9,537,378	0.4%	1,222	9.0	11.9	20.9
BlackRock LifePath 2060 Fund	6,499,610	0.3%	835	9.0	11.9	20.9
Self-Directed Brokerage Option	20,572,166	0.9%	264	0.0	11.9	11.9
<b>Total</b>	<b>2,326,038,893</b>	<b>100%</b>				

Source: Market Value & Plan Participants data, OSGP record keeper, Voya Financial. Fee estimation, OST. OSGP has two types of fees, investment management (IM) and administrative (Admin) fees. Administrative fees are comprised of State of Oregon administration, recording keeping, custody, trust and communications fees.

The plan’s Self-Directed Brokerage Option, executed through Charles Schwab, finished the quarter with \$20.6 million in assets, or 0.9% of total OSGP assets.

**Real Return Option Benchmark**

On September 19, 2018, the Oregon Investment Council (OIC) approved staff’s recommendation to simplify the Real Return Option. As a result, the GMO Benchmark-Free Allocation Fund and the Wellington Real Return Fund were removed from the Real Return Option on March 22, 2019. The Real Return Option is now comprised of a single, underlying investment strategy, the SSgA Real Assets Fund. The SSgA Real Assets Fund seeks an investment return that approximates, as closely as practicable, before fees, the performance of a custom benchmark by diversifying across several inflation-sensitive asset classes such as commodities, REITs, TIPS, and global infrastructure.



Currently, the benchmark for the Real Return Option is the Consumer Price Index (CPI) + 3%, which was appropriate given the previous, multi-fund structure of the Real Return Option, prior to March 22, 2019. However, given that the SSgA Real Assets Fund is now the single, underlying investment strategy within the Real Return Option, and the SSgA Real Assets Fund is also passively implemented, staff and Callan recommend converting the Real Return Option's primary benchmark to the SSgA Real Assets Custom Blended Index, as a more appropriate reflection of the Real Return Option's underlying investments.

Additionally, the second objective of the SSgA Real Assets Fund is to seek a positive real return, targeting a long-term goal of CPI + 4% over a full market cycle. Therefore, staff and Callan also recommend utilizing CPI + 4% as a secondary benchmark for the Real Return Option.

### **BlackRock LifePath Index 2020 Fund**

After the close of business on November 15, 2019, BlackRock will conduct an exchange of units of the respective BlackRock LifePath Index 2020 Funds for units of the corresponding BlackRock LifePath Index Retirement Funds. As BlackRock's LifePath target date funds approach their target year, each fund shifts a portion of its investments out of equity and equity-like securities and into debt and debt-like securities, with the asset allocation gradually moving closer to that of the BlackRock LifePath Index Retirement Fund. During the 4th quarter of each year preceding the target year, the asset allocation becomes identical to the BlackRock LifePath Index Retirement Fund, thereby eliminating the need to have two separate funds in a plan lineup. This transition is an automated process and does not require any action on behalf of participants (unless, of course, a participant would prefer to transfer her/his current balance and/or future contributions to a different investment option). Voya and OSGP staff communicate this change to participants annually in advance of the aforementioned transition date.

Further, BlackRock also introduces a new LifePath target date fund every five years. Accordingly, the BlackRock LifePath Index 2065 Fund has been created and is expected to be added as an investment option prior to 2019 year-end.

### **Small Company Stock Option**

At staff's request, Callan, the Plan's retained investment consultant, performed an evaluation of the Plan's Small Company Stock Option which is currently comprised of the following three underlying funds: DFA US Small Cap Equity; Callan Small Cap Equity; and BlackRock Russell 2000 Index. In an attempt to more closely align the Plan's investment strategies with those in the Oregon Public Employees Retirement Fund (OPERF), staff recommends adding the BlackRock S&P 600 Index Fund, as a replacement for the BlackRock Russell 2000 Index Fund. Previously, OPERF was also utilizing a Russell 2000 Index strategy. Staff expects this change will improve the Small Company Stock Option's risk/return profile while maintaining an identical expense ratio.



September 18, 2019

# Oregon Savings Growth Plan Annual Review

**Michael Viteri**

*Senior Investment Officer*

**Wil Hiles**

*Investment Officer*



**OREGON  
STATE  
TREASURY**



# Agenda

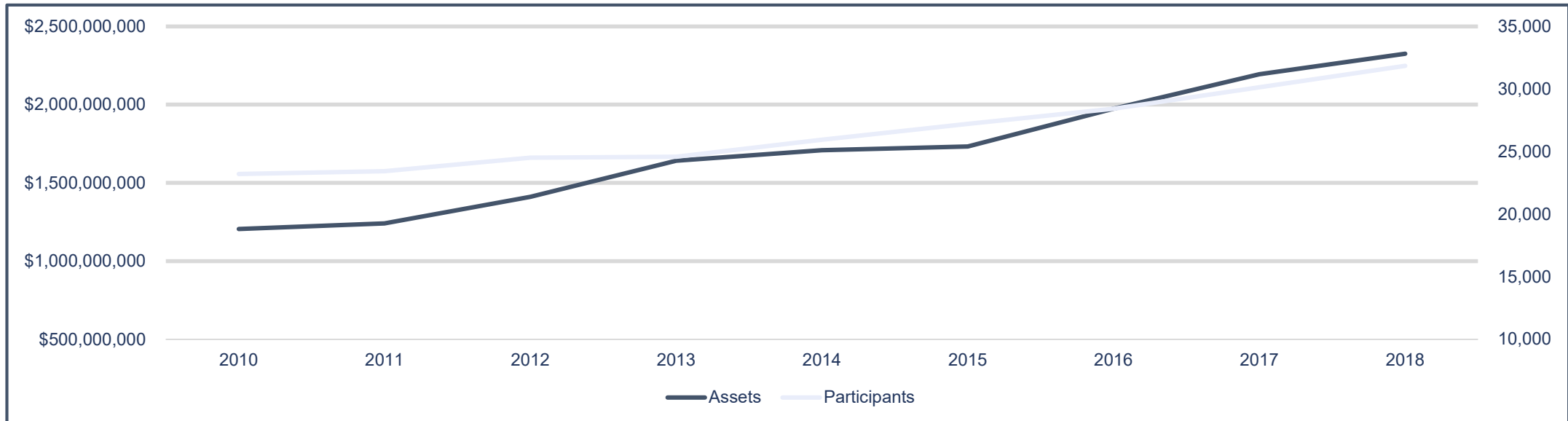
- BlackRock LifePath Research
- Target Date Fund Suitability Study
- Small Company Stock Option Structure Evaluation
- Plan Update
- Recommendations

# Plan Update

## Oregon Savings Growth Plan (OSGP)

Assets	\$2.33 billion
Participants	31,854

## Change in Total Plan Assets & Participants



# Plan Update

## Core Funds

Stable Value Option	Stock Index Option	Small Company Stock Option
Active Fixed Income Option	Large Company Growth Stock Option	Real Return Option
Large Company Value Stock Option	International Stock Option	Socially Responsible Investment Option

## Asset Allocation Funds

BlackRock LifePath Funds

## Self-Directed Brokerage Option

Schwab Personal Choice Retirement Account (PCRA)

# Plan Update

	Market Values			Participants
Stable Value Option	286,760,388	12.7%	8,692	
Active Fixed Income Option	149,943,814	6.2%	7,135	
Large Company Value Stock Option	200,498,122	8.7%	10,605	
Stock Index Option	271,151,785	11.6%	10,185	
Large Company Growth Stock Option	279,295,370	11.9%	12,203	
International Stock Option	121,174,045	5.2%	9,928	
Small Company Stock Option	245,333,170	10.9%	11,155	
Real Return Option	4,264,678	0.2%	732	
Socially Responsible Investment Option	17,924,151	0.7%	1,758	
BlackRock LifePath Funds	729,121,206	31.3%	27,918	
Self-Directed Brokerage Option	20,572,166	0.9%	264	
<b>Total</b>	<b>\$2,326,038,893</b>	<b>100%</b>		



# Plan Update

## Upcoming Changes:

- Collapse BlackRock LifePath 2020 Fund into BlackRock LifePath Retirement Fund
- Launch BlackRock LifePath 2065 Fund

# Recommendations

- Real Return Option Benchmark Change – Utilize SSgA Real Assets Custom Blended Index and Consumer Price Index + 4%
- Small Company Stock Option – Replace Russell 2000 Index Fund with S&P 600 Index Fund



# OREGON STATE TREASURY

Tobias Read  
Oregon State Treasurer

16290 SW Upper Boones Ferry Road  
Tigard, OR 97224

[oregon.gov/treasury](https://oregon.gov/treasury)



# BlackRock LifePath® Index 2020 Fund L

**Primary Benchmark**

Bloomberg Barclays U.S. Aggregate Bond Index

**Custom Benchmark**

BlackRock LifePath® Index 2020 Custom Benchmark

**Morningstar Category**

Target-Date 2020

**Overall Morningstar Rating™**

★★★  
See disclosure for details.

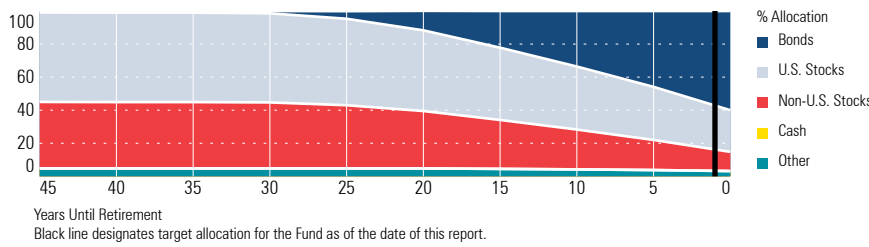
**Morningstar Return**

Average

**Morningstar Risk**

Below Average

**Allocation of Stocks and Bonds**



**Investment Objective and Strategy**

The Fund seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and draw down phase based on quantitatively measured risk that investors, on average, may be willing to accept.

The Fund is a collective investment trust maintained and managed by BlackRock Institutional Trust Company, N.A. ("BTC").

The Fund shall be invested and reinvested in securities and other assets with the objective of providing for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept.

In pursuit of that objective, the Fund will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time if the Fund has a year in its name. The Fund's investments may include: equity securities (including those issued by real estate companies); depositary receipts; debt securities and other fixed income obligations (including those issued or guaranteed by the U.S. government, its agencies or instrumentalities, and those issued by corporations or other entities); mortgage-backed securities; other asset-backed securities; commodities; and/or cash equivalents.

The Fund may invest in securities and other obligations of U.S. issuers or non-U.S. issuers, and those issuers may be of any market capitalization. The Fund's fixed income investments may be investment-grade or non-investment grade, and may include securities and other obligations of any maturity.

In addition to, or in lieu of, investing in the assets listed above, the Fund may engage in structured transactions in these asset classes, as well as over-the-counter forward contracts, swaps and options. When deemed appropriate by BTC, the Fund may invest in futures contracts, for the purpose of acting as a temporary substitute for investment in securities and/or to gain exposure to commodities.

The difference between the normal and current securities holdings for the Fund varies over time and is based on the factors analyzed by the asset allocation model used by BTC to manage the Fund. The normal asset allocations will gradually change over the investment horizon of the Fund to become more heavily oriented toward debt and debt-like securities. As time passes, the Fund is managed more conservatively – prior to retirement – in terms of its allocation to equity securities and markets, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches.

The trajectory along which asset allocations are adjusted over time to gradually become more conservative is called the "glidepath". The glidepath illustrates the target allocation among asset classes as the Fund approaches its target date. The target asset allocation of the Fund at its retirement date is expected to be 40% in underlying index funds that invest primarily in equity and equity-like securities and 60% in underlying index funds that invest primarily in fixed income and fixed income-like securities.

BTC employs a proprietary investment model that analyzes securities market data, including risk, correlation and expected return statistics, to recommend the portfolio allocation among the asset classes.

Rather than choosing specific securities within each asset class, BTC selects among indices representing segments of the global equity and debt markets and invests in securities that comprise the chosen index. The Fund generally invests in a chosen index through a series of collective investment trusts maintained and managed by BTC, each such fund representing one of the indices (each, an "Underlying Fund").

In the event of a conflict between this summary description of the Fund's investment objective and principal investment strategies and the Trust Document under which the Fund was established, the Trust Document will govern. For more information related to the Fund, please see the Fund's Trust Document, Profile and most recent audited financial statements.

**Portfolio Analysis**

**Top 10 Holdings** as of 09-30-19

	% Assets
U.S. Debt Index Fund E	54.08
Russell 1000 Index Fund	22.08
BlackRock MSCI ACWI ex-US IMI Index Fd E	11.71
U.S. TIPS Fund E	5.97
Russell 2000 Index Fund	3.23
Commodity Index Daily Fund E	1.58
Developed Real Estate Index Fund E	1.35

**Morningstar Super Sectors** as of 09-30-19

	% Fund
Cyclical	40.51
Sensitive	37.22
Defensive	22.27

**Morningstar F-I Sectors** as of 09-30-19

	% Fund	% Category
Government	47.64	37.40
Corporate	21.56	24.57
Securitized	22.14	18.77
Municipal	0.54	0.57
Cash	8.12	13.85
Other	0.00	4.85

**Investment Information**

**Operations and Management**

Product Inception Date	08-26-11
Strategy Inception Date	08-01-05
Total Fund Assets (\$mil)	1,375.13
Investment Manager	BlackRock Institutional Trust Company NA

Annual Turnover Ratio %	14.05
-------------------------	-------

**Fees and Expenses** as of 12-31-18

Total Annual Operating Expense %	0.09%
Total Annual Operating Expense per \$1000	\$0.90

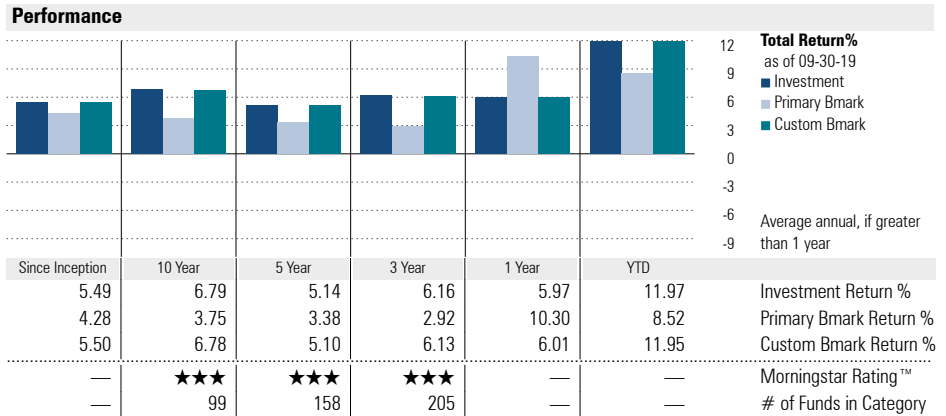
**Additional Information for Total Annual Operating Expense**

The Total Annual Operating Expense ratio noted above ("TAOE") reflects a management fee and administrative costs. The administrative costs are capped at one (1) basis point (0.01%) per year. The TAOE may also, if applicable, reflect certain third party acquired fund fees and expenses. There may be other fees and expenses not reflected in the TAOE that bear on the value of the investment. The Portfolio Turnover Rate is that of the collective investment fund in which the Fund invests exclusively, either directly or indirectly.

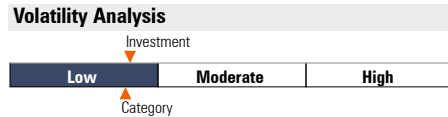
# BlackRock LifePath® Index 2020 Fund L

<b>Primary Benchmark</b> Bloomberg Barclays U.S. Aggregate Bond Index	<b>Custom Benchmark</b> BlackRock LifePath® Index 2020 Custom Benchmark	<b>Morningstar Category</b> Target-Date 2020	<b>Overall Morningstar Rating™</b> ★★★ See disclosure for details.	<b>Morningstar Return</b> Average	<b>Morningstar Risk</b> Below Average
--	--	---	--	--------------------------------------	--

**Benchmark Description**  
The BlackRock LifePath® Index 2020 Fund L's Custom Benchmark is a comparison benchmark for the performance of the Fund. The Custom Benchmark is calculated using blended returns of third party indices that proportionally reflect the respective weightings of the Fund's asset classes. The third party index proportions of the Custom Benchmark are adjusted quarterly to reflect the Fund's changing asset allocations over time. As the Fund's asset classes have been re-defined or added over time, the indices used to calculate the Custom Benchmark have changed accordingly. As of December 31, 2018, the indices used to calculate the Custom Benchmark are: Russell 1000® Index, Russell 2000® Index, MSCI ACWI ex-US IMI Net Dividend Return Index(sm), Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L), FTSE EPRA Nareit Developed Index, and the Bloomberg Commodity Index Total Return.



**Performance Disclosure: The Fund's returns are net of an investment management fee, currently at an annual rate of 0.08%. The Fund's performance reflects fund level administrative costs capped at 1 basis point (0.01%) per year. Since its inception the Fund has invested all of its assets in LifePath Index 2020 Fund F. Returns shown for periods prior to the Fund's inception are those of the LifePath Index 2020 Fund F net of the Fund's investment management fee.**



In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

<b>Best 3 Month Return</b> 20.37% (Mar '09 - May '09)	<b>Worst 3 Month Return</b> -23.09% (Sep '08 - Nov '08)
---	---

**Principal Risks**  
Any of the principal risks summarized below may adversely affect the Fund's net asset value, performance, and ability to meet its investment objective. An investment in the Fund is not a bank deposit, is not guaranteed by BlackRock, Inc. or any of its affiliates, and is not insured by the Federal Deposit Insurance Corporation or any other agency of the U.S. government.

**Equity Investment Risk:** The price of an equity security fluctuates based on changes in the issuer's financial condition and overall market and economic conditions. Equity securities are subject to changes in value that may be more volatile than other asset classes.

**Foreign Investment Risk 1:** The Fund may suffer losses due to political, legal, economic and geographic events affecting a non-U.S. issuer or market. The prices of non-U.S. securities may be more volatile than those of securities issued by U.S. corporations or other U.S. entities. Securities of non-U.S. issuers denominated in non-U.S. currencies will expose the Fund to fluctuations in foreign currency exchange prices.

**Target Date Risk 1:** A "target date" fund may incur losses close to or after the fund's target retirement date, and there is no guarantee that the Fund will provide adequate income for an investor's retirement.

**Asset Allocation Model Risk:** The asset allocation model may not effectively maximize returns or minimize risk, or be appropriate for every investor seeking a particular risk profile. The model developed by BTC could result in underperformance as compared to funds with similar investment objectives and strategies.

**Commodity-Related Investment Risk 2:** The value of commodity-linked derivative investments may be significantly affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, embargoes, tariffs and international economic, political and regulatory developments.

**Securities Lending Risk 1:** The Fund may engage in securities lending, which involves borrower credit risk, settlement risk, and cash collateral-related risks, such as the risk that the return on the cash collateral is insufficient to cover the fees the Fund is committed to pay and the risk that cash collateral may be invested in securities or other instruments that suffer losses or become illiquid.

**Derivatives Risk 1:** Investments in derivatives (such as futures contracts, forward contracts, swaps and options) may reduce the Fund's returns and/or increase volatility. Fluctuations in the values of derivatives may not correlate perfectly with the overall securities markets. The other party in the transaction may not fulfill its contractual obligation. The possible lack of a liquid secondary market for derivatives could expose the Fund to losses.

**Real Estate-Related Investment Risk 2:** Real estate values can be negatively affected by many factors including both the general and local economies, the amount of new construction in a particular area, the laws and regulations affecting real estate, the costs of owning, maintaining and improving real estate, availability of mortgages, and changes in interest rates.

**Underlying Fund Risk 2:** The investment objective and strategies of an Underlying Fund in which the Fund invests may differ from the Fund, and there is no assurance that an Underlying Fund will achieve its objective.

**Fixed Income Investment Risk 10:** An increase in interest rates may cause the value of fixed income securities held by the Fund to decline. The Fund's income may decline when interest rates fall. Debt issuers may not honor their obligations. Securities that are rated below investment grade may be more volatile and less liquid than higher-rated securities of similar maturity.

# BlackRock LifePath® Index 2025 Fund L

**Primary Benchmark**  
Russell 1000® Index

**Custom Benchmark**  
BlackRock LifePath® Index  
2025 Custom Benchmark

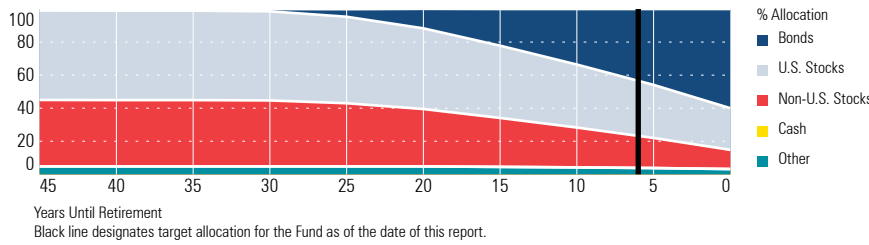
**Morningstar Category**  
Target-Date 2025

**Overall Morningstar Rating™**  
★★★  
See disclosure for details.

**Morningstar Return**  
Average

**Morningstar Risk**  
Below Average

## Allocation of Stocks and Bonds



## Investment Objective and Strategy

The Fund seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and draw down phase based on quantitatively measured risk that investors, on average, may be willing to accept.

The Fund is a collective investment trust maintained and managed by BlackRock Institutional Trust Company, N.A. ("BTC").

The Fund shall be invested and reinvested in securities and other assets with the objective of providing for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept.

In pursuit of that objective, the Fund will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time if the Fund has a year in its name. The Fund's investments may include: equity securities (including those issued by real estate companies); depositary receipts; debt securities and other fixed income obligations (including those issued or guaranteed by the U.S. government, its agencies or instrumentalities, and those issued by corporations or other entities); mortgage-backed securities; other asset-backed securities; commodities; and/or cash equivalents.

The Fund may invest in securities and other obligations of U.S. issuers or non-U.S. issuers, and those issuers may be of any market capitalization. The Fund's fixed income investments may be investment-grade or non-investment grade, and may include securities and other obligations of any maturity.

In addition to, or in lieu of, investing in the assets listed above, the Fund may engage in structured transactions in these asset classes, as well as over-the-counter forward contracts, swaps and options. When deemed appropriate by BTC, the Fund may invest in futures contracts, for the purpose of acting as a temporary substitute for investment in securities and/or to gain exposure to commodities.

The difference between the normal and current securities holdings for the Fund varies over time and is based on the factors analyzed by the asset allocation model used by BTC to manage the Fund. The normal asset allocations will gradually change over the investment horizon of the Fund to become more heavily oriented toward debt and debt-like securities. As time passes, the Fund is managed more conservatively – prior to retirement – in terms of its allocation to equity securities and markets, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches.

The trajectory along which asset allocations are adjusted over time to gradually become more conservative is called the "glidepath". The glidepath illustrates the target allocation among asset classes as the Fund approaches its target date. The target asset allocation of the Fund at its retirement date is expected to be 40% in underlying index funds that invest primarily in equity and equity-like securities and 60% in underlying index funds that invest primarily in fixed income and fixed income-like securities.

BTC employs a proprietary investment model that analyzes securities market data, including risk, correlation and expected return statistics, to recommend the portfolio allocation among the asset classes.

Rather than choosing specific securities within each asset class, BTC selects among indices representing segments of the global equity and debt markets and invests in securities that comprise the chosen index. The Fund generally invests in a chosen index through a series of collective investment trusts maintained and managed by BTC, each such fund representing one of the indices (each, an "Underlying Fund").

In the event of a conflict between this summary description of the Fund's investment objective and principal investment strategies and the Trust Document under which the Fund was established, the Trust Document will govern. For more information related to the Fund, please see the Fund's Trust Document, Profile and most recent audited financial statements.

## Portfolio Analysis

Top 10 Holdings as of 09-30-19	% Assets
U.S. Debt Index Fund E	40.03
Russell 1000 Index Fund	29.63
BlackRock MSCI ACWI ex-US IMI Index Fd E	18.45
U.S. TIPS Fund E	5.06
Russell 2000 Index Fund	2.87
Developed Real Estate Index Fund E	2.56
Commodity Index Daily Fund E	1.40

## Morningstar Super Sectors as of 09-30-19

Super Sector	% Fund
Cyclical	41.50
Sensitive	36.66
Defensive	21.84

## Morningstar F-I Sectors as of 09-30-19

F-I Sector	% Fund	% Category
Government	47.87	35.87
Corporate	21.05	24.52
Securitized	21.61	19.29
Municipal	0.53	0.67
Cash	8.95	13.90
Other	0.00	5.76

## Investment Information

### Operations and Management

Product Inception Date	08-26-11
Strategy Inception Date	07-05-06
Total Fund Assets (\$mil)	1,853.84
Investment Manager	BlackRock Institutional Trust Company NA

Annual Turnover Ratio %	16.18
-------------------------	-------

### Fees and Expenses as of 12-31-18

Total Annual Operating Expense %	0.09%
Total Annual Operating Expense per \$1000	\$0.90

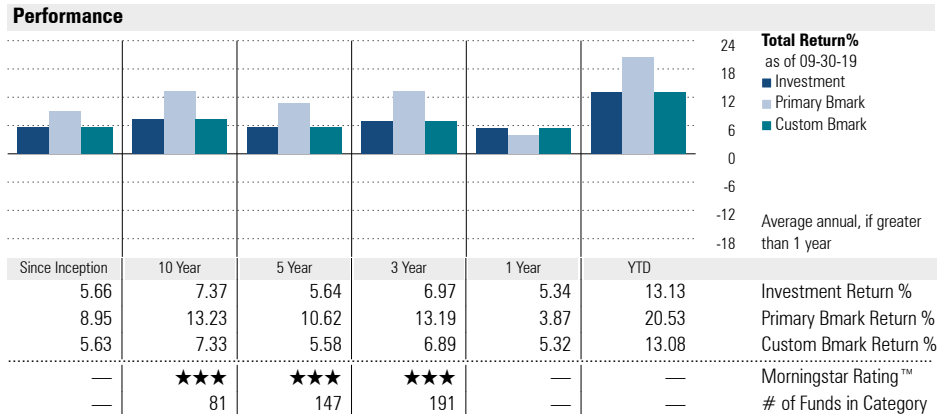
### Additional Information for Total Annual Operating Expense

The Total Annual Operating Expense ratio noted above ("TAOE") reflects a management fee and administrative costs. The administrative costs are capped at one (1) basis point (0.01%) per year. The TAOE may also, if applicable, reflect certain third party acquired fund fees and expenses. There may be other fees and expenses not reflected in the TAOE that bear on the value of the investment. The Portfolio Turnover Rate is that of the collective investment fund in which the Fund invests exclusively, either directly or indirectly.

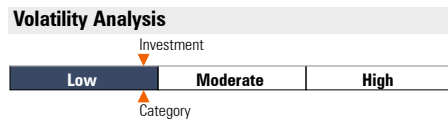
# BlackRock LifePath® Index 2025 Fund L

<b>Primary Benchmark</b> Russell 1000® Index	<b>Custom Benchmark</b> BlackRock LifePath® Index 2025 Custom Benchmark	<b>Morningstar Category</b> Target-Date 2025	<b>Overall Morningstar Rating™</b> ★★★ See disclosure for details.	<b>Morningstar Return</b> Average	<b>Morningstar Risk</b> Below Average
---	---	---	--	--------------------------------------	--

**Benchmark Description**  
The BlackRock LifePath® Index 2025 Fund L's Custom Benchmark is a comparison benchmark for the performance of the Fund. The Custom Benchmark is calculated using blended returns of third party indices that proportionally reflect the respective weightings of the Fund's asset classes. The third party index proportions of the Custom Benchmark are adjusted quarterly to reflect the Fund's changing asset allocations over time. As the Fund's asset classes have been re-defined or added over time, the indices used to calculate the Custom Benchmark have changed accordingly. As of December 31, 2018, the indices used to calculate the Custom Benchmark are: Russell 1000® Index, Russell 2000® Index, MSCI ACWI ex-US IMI Net Dividend Return Index(sm), Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L), FTSE EPRA Nareit Developed Index, and the Bloomberg Commodity Index Total Return.



**Performance Disclosure: The Fund's returns are net of an investment management fee, currently at an annual rate of 0.08%. The Fund's performance reflects fund level administrative costs capped at 1 basis point (0.01%) per year. Since its inception the Fund has invested all of its assets in LifePath Index 2025 Fund F. Returns shown for periods prior to the Fund's inception are those of the LifePath Index 2025 Fund F net of the Fund's investment management fee.**



In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

<b>Best 3 Month Return</b> 22.96% (Mar '09 - May '09)	<b>Worst 3 Month Return</b> -25.47% (Sep '08 - Nov '08)
---	---

**Principal Risks**  
Any of the principal risks summarized below may adversely affect the Fund's net asset value, performance, and ability to meet its investment objective. An investment in the Fund is not a bank deposit, is not guaranteed by BlackRock, Inc. or any of its affiliates, and is not insured by the Federal Deposit Insurance Corporation or any other agency of the U.S. government.

**Equity Investment Risk:** The price of an equity security fluctuates based on changes in the issuer's financial condition and overall market and economic conditions. Equity securities are subject to changes in value that may be more volatile than other asset classes.

**Foreign Investment Risk 1:** The Fund may suffer losses due to political, legal, economic and geographic events affecting a non-U.S. issuer or market. The prices of non-U.S. securities may be more volatile than those of securities issued by U.S. corporations or other U.S. entities. Securities of non-U.S. issuers denominated in non-U.S. currencies will expose the Fund to fluctuations in foreign currency exchange prices.

**Target Date Risk 1:** A "target date" fund may incur losses close to or after the fund's target retirement date, and there is no guarantee that the Fund will provide adequate income for an investor's retirement.

**Asset Allocation Model Risk:** The asset allocation model may not effectively maximize returns or minimize risk, or be appropriate for every investor seeking a particular risk profile. The model developed by BTC could result in underperformance as compared to funds with similar investment objectives and strategies.

**Commodity-Related Investment Risk 2:** The value of commodity-linked derivative investments may be significantly affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, embargoes, tariffs and international economic, political and regulatory developments.

**Securities Lending Risk 1:** The Fund may engage in securities lending, which involves borrower credit risk, settlement risk, and cash collateral-related risks, such as the risk that the return on the cash collateral is insufficient to cover the fees the Fund is committed to pay and the risk that cash collateral may be invested in securities or other instruments that suffer losses or become illiquid.

**Derivatives Risk 1:** Investments in derivatives (such as futures contracts, forward contracts, swaps and options) may reduce the Fund's returns and/or increase volatility. Fluctuations in the values of derivatives may not correlate perfectly with the overall securities markets. The other party in the transaction may not fulfill its contractual obligation. The possible lack of a liquid secondary market for derivatives could expose the Fund to losses.

**Real Estate-Related Investment Risk 2:** Real estate values can be negatively affected by many factors including both the general and local economies, the amount of new construction in a particular area, the laws and regulations affecting real estate, the costs of owning, maintaining and improving real estate, availability of mortgages, and changes in interest rates.

**Underlying Fund Risk 2:** The investment objective and strategies of an Underlying Fund in which the Fund invests may differ from the Fund, and there is no assurance that an Underlying Fund will achieve its objective.

**Fixed Income Investment Risk 10:** An increase in interest rates may cause the value of fixed income securities held by the Fund to decline. The Fund's income may decline when interest rates fall. Debt issuers may not honor their obligations. Securities that are rated below investment grade may be more volatile and less liquid than higher-rated securities of similar maturity.

# BlackRock LifePath® Index 2030 Fund L

**Primary Benchmark**  
Russell 1000® Index

**Custom Benchmark**  
BlackRock LifePath® Index  
2030 Custom Benchmark

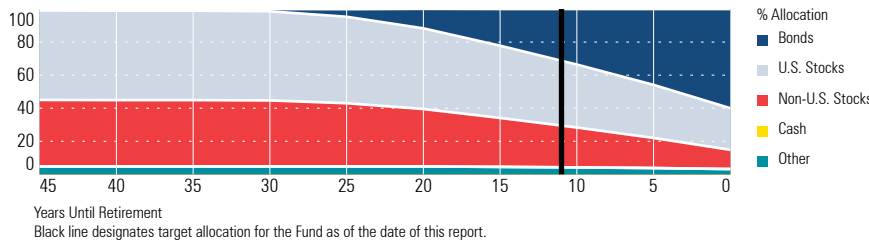
**Morningstar Category**  
Target-Date 2030

**Overall Morningstar Rating™**  
★★★  
See disclosure for details.

**Morningstar Return**  
Average

**Morningstar Risk**  
Below Average

## Allocation of Stocks and Bonds



## Investment Objective and Strategy

The Fund seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and draw down phase based on quantitatively measured risk that investors, on average, may be willing to accept.

The Fund is a collective investment trust maintained and managed by BlackRock Institutional Trust Company, N.A. ("BTC").

The Fund shall be invested and reinvested in securities and other assets with the objective of providing for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept.

In pursuit of that objective, the Fund will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time if the Fund has a year in its name. The Fund's investments may include: equity securities (including those issued by real estate companies); depositary receipts; debt securities and other fixed income obligations (including those issued or guaranteed by the U.S. government, its agencies or instrumentalities, and those issued by corporations or other entities); mortgage-backed securities; other asset-backed securities; commodities; and/or cash equivalents.

The Fund may invest in securities and other obligations of U.S. issuers or non-U.S. issuers, and those issuers may be of any market capitalization. The Fund's fixed income investments may be investment-grade or non-investment grade, and may include securities and other obligations of any maturity.

In addition to, or in lieu of, investing in the assets listed above, the Fund may engage in structured transactions in these asset classes, as well as over-the-counter forward contracts, swaps and options. When deemed appropriate by BTC, the Fund may invest in futures contracts, for the purpose of acting as a temporary substitute for investment in securities and/or to gain exposure to commodities.

The difference between the normal and current securities holdings for the Fund varies over time and is based on the factors analyzed by the asset allocation model used by BTC to manage the Fund. The normal asset allocations will gradually change over the investment horizon of the Fund to become more heavily oriented toward debt and debt-like securities. As time passes, the Fund is managed more conservatively – prior to retirement – in terms of its allocation to equity securities and markets, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches.

The trajectory along which asset allocations are adjusted over time to gradually become more conservative is called the "glidepath". The glidepath illustrates the target allocation among asset classes as the Fund approaches its target date. The target asset allocation of the Fund at its retirement date is expected to be 40% in underlying index funds that invest primarily in equity and equity-like securities and 60% in underlying index funds that invest primarily in fixed income and fixed income-like securities.

BTC employs a proprietary investment model that analyzes securities market data, including risk, correlation and expected return statistics, to recommend the portfolio allocation among the asset classes.

Rather than choosing specific securities within each asset class, BTC selects among indices representing segments of the global equity and debt markets and invests in securities that comprise the chosen index. The Fund generally invests in a chosen index through a series of collective investment trusts maintained and managed by BTC, each such fund representing one of the indices (each, an "Underlying Fund").

In the event of a conflict between this summary description of the Fund's investment objective and principal investment strategies and the Trust Document under which the Fund was established, the Trust Document will govern. For more information related to the Fund, please see the Fund's Trust Document, Profile and most recent audited financial statements.

## Portfolio Analysis

Top 10 Holdings as of 09-30-19	% Assets
Russell 1000 Index Fund	35.75
U.S. Debt Index Fund E	28.69
BlackRock MSCI ACWI ex-US IMI Index Fd E	24.30
U.S. TIPS Fund E	4.13
Developed Real Estate Index Fund E	3.26
Russell 2000 Index Fund	2.69
Commodity Index Daily Fund E	1.18

## Morningstar Super Sectors as of 09-30-19

	% Fund
Cyclical	41.73
Sensitive	36.52
Defensive	21.75

## Morningstar F-I Sectors as of 09-30-19

	% Fund	% Category
Government	47.99	38.55
Corporate	20.47	23.33
Securitized	21.02	16.97
Municipal	0.51	0.67
Cash	10.01	15.37
Other	0.00	5.12

## Investment Information

### Operations and Management

Product Inception Date	08-26-11
Strategy Inception Date	08-01-05
Total Fund Assets (\$mil)	2,090.13
Investment Manager	BlackRock Institutional Trust Company NA

Annual Turnover Ratio %	14.78
-------------------------	-------

### Fees and Expenses as of 12-31-18

Total Annual Operating Expense %	0.09%
Total Annual Operating Expense per \$1000	\$0.90

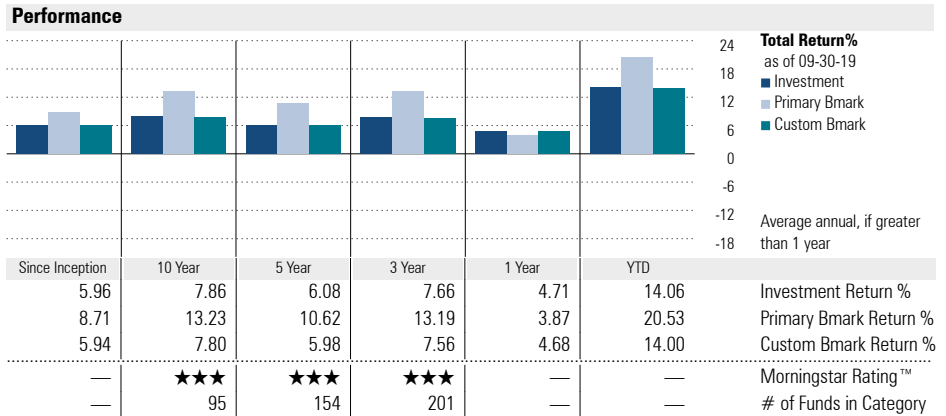
### Additional Information for Total Annual Operating Expense

The Total Annual Operating Expense ratio noted above ("TAOE") reflects a management fee and administrative costs. The administrative costs are capped at one (1) basis point (0.01%) per year. The TAOE may also, if applicable, reflect certain third party acquired fund fees and expenses. There may be other fees and expenses not reflected in the TAOE that bear on the value of the investment. The Portfolio Turnover Rate is that of the collective investment fund in which the Fund invests exclusively, either directly or indirectly.

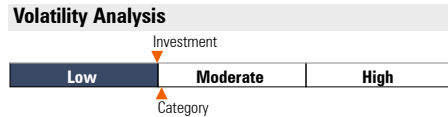
# BlackRock LifePath® Index 2030 Fund L

<b>Primary Benchmark</b> Russell 1000® Index	<b>Custom Benchmark</b> BlackRock LifePath® Index 2030 Custom Benchmark	<b>Morningstar Category</b> Target-Date 2030	<b>Overall Morningstar Rating™</b> ★★★ See disclosure for details.	<b>Morningstar Return</b> Average	<b>Morningstar Risk</b> Below Average
---	---	---	--	--------------------------------------	--

**Benchmark Description**  
The BlackRock LifePath® Index 2030 Fund L's Custom Benchmark is a comparison benchmark for the performance of the Fund. The Custom Benchmark is calculated using blended returns of third party indices that proportionally reflect the respective weightings of the Fund's asset classes. The third party index proportions of the Custom Benchmark are adjusted quarterly to reflect the Fund's changing asset allocations over time. As the Fund's asset classes have been re-defined or added over time, the indices used to calculate the Custom Benchmark have changed accordingly. As of December 31, 2018, the indices used to calculate the Custom Benchmark are: Russell 1000® Index, Russell 2000® Index, MSCI ACWI ex-US IMI Net Dividend Return Index(sm), Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L), FTSE EPRA Nareit Developed Index, and the Bloomberg Commodity Index Total Return.



**Performance Disclosure: The Fund's returns are net of an investment management fee, currently at an annual rate of 0.08%. The Fund's performance reflects fund level administrative costs capped at 1 basis point (0.01%) per year. Since its inception the Fund has invested all of its assets in LifePath Index 2030 Fund F. Returns shown for periods prior to the Fund's inception are those of the LifePath Index 2030 Fund F net of the Fund's investment management fee.**



In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

<b>Best 3 Month Return</b> 25.04% (Mar '09 - May '09)	<b>Worst 3 Month Return</b> -27.47% (Sep '08 - Nov '08)
---	---

**Principal Risks**

Any of the principal risks summarized below may adversely affect the Fund's net asset value, performance, and ability to meet its investment objective. An investment in the Fund is not a bank deposit, is not guaranteed by BlackRock, Inc. or any of its affiliates, and is not insured by the Federal Deposit Insurance Corporation or any other agency of the U.S. government.

**Equity Investment Risk:** The price of an equity security fluctuates based on changes in the issuer's financial condition and overall market and economic conditions. Equity securities are subject to changes in value that may be more volatile than other asset classes.

**Foreign Investment Risk 1:** The Fund may suffer losses due to political, legal, economic and geographic events affecting a non-U.S. issuer or market. The prices of non-U.S. securities may be more volatile than those of securities issued by U.S. corporations or other U.S. entities. Securities of non-U.S. issuers denominated in non-U.S. currencies will expose the Fund to fluctuations in foreign currency exchange prices.

**Target Date Risk 1:** A "target date" fund may incur losses close to or after the fund's target retirement date, and there is no guarantee that the Fund will provide adequate income for an investor's retirement.

**Asset Allocation Model Risk:** The asset allocation model may not effectively maximize returns or minimize risk, or be appropriate for every investor seeking a particular risk profile. The model developed by BTC could result in underperformance as compared to funds with similar investment objectives and strategies.

**Commodity-Related Investment Risk 2:** The value of commodity-linked derivative investments may be significantly affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, embargoes, tariffs and international economic, political and regulatory developments.

**Securities Lending Risk 1:** The Fund may engage in securities lending, which involves borrower credit risk, settlement risk, and cash collateral-related risks, such as the risk that the return on the cash collateral is insufficient to cover the fees the Fund is committed to pay and the risk that cash collateral may be invested in securities or other instruments that suffer losses or become illiquid.

**Derivatives Risk 1:** Investments in derivatives (such as futures contracts, forward contracts, swaps and options) may reduce the Fund's returns and/or increase volatility. Fluctuations in the values of derivatives may not correlate perfectly with the overall securities markets. The other party in the transaction may not fulfill its contractual obligation. The possible lack of a liquid secondary market for derivatives could expose the Fund to losses.

**Real Estate-Related Investment Risk 2:** Real estate values can be negatively affected by many factors including both the general and local economies, the amount of new construction in a particular area, the laws and regulations affecting real estate, the costs of owning, maintaining and improving real estate, availability of mortgages, and changes in interest rates.

**Underlying Fund Risk 2:** The investment objective and strategies of an Underlying Fund in which the Fund invests may differ from the Fund, and there is no assurance that an Underlying Fund will achieve its objective.

**Fixed Income Investment Risk 10:** An increase in interest rates may cause the value of fixed income securities held by the Fund to decline. The Fund's income may decline when interest rates fall. Debt issuers may not honor their obligations. Securities that are rated below investment grade may be more volatile and less liquid than higher-rated securities of similar maturity.

# BlackRock LifePath® Index 2035 Fund L

**Primary Benchmark**  
Russell 1000® Index

**Custom Benchmark**  
BlackRock LifePath® Index  
2035 Custom Benchmark

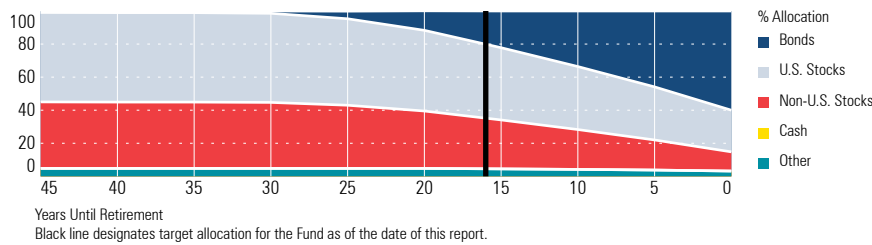
**Morningstar Category**  
Target-Date 2035

**Overall Morningstar Rating™**  
★★★  
See disclosure for details.

**Morningstar Return**  
Average

**Morningstar Risk**  
Below Average

## Allocation of Stocks and Bonds



## Investment Objective and Strategy

The Fund seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and draw down phase based on quantitatively measured risk that investors, on average, may be willing to accept.

The Fund is a collective investment trust maintained and managed by BlackRock Institutional Trust Company, N.A. ("BTC").

The Fund shall be invested and reinvested in securities and other assets with the objective of providing for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept.

In pursuit of that objective, the Fund will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time if the Fund has a year in its name. The Fund's investments may include: equity securities (including those issued by real estate companies); depositary receipts; debt securities and other fixed income obligations (including those issued or guaranteed by the U.S. government, its agencies or instrumentalities, and those issued by corporations or other entities); mortgage-backed securities; other asset-backed securities; commodities; and/or cash equivalents.

The Fund may invest in securities and other obligations of U.S. issuers or non-U.S. issuers, and those issuers may be of any market capitalization. The Fund's fixed income investments may be investment-grade or non-investment grade, and may include securities and other obligations of any maturity.

In addition to, or in lieu of, investing in the assets listed above, the Fund may engage in structured transactions in these asset classes, as well as over-the-counter forward contracts, swaps and options. When deemed appropriate by BTC, the Fund may invest in futures contracts, for the purpose of acting as a temporary substitute for investment in securities and/or to gain exposure to commodities.

The difference between the normal and current securities holdings for the Fund varies over time and is based on the factors analyzed by the asset allocation model used by BTC to manage the Fund. The normal asset allocations will gradually change over the investment horizon of the Fund to become more heavily oriented toward debt and debt-like securities. As time passes, the Fund is managed more conservatively – prior to retirement – in terms of its allocation to equity securities and markets, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches.

The trajectory along which asset allocations are adjusted over time to gradually become more conservative is called the "glidepath". The glidepath illustrates the target allocation among asset classes as the Fund approaches its target date. The target asset allocation of the Fund at its retirement date is expected to be 40% in underlying index funds that invest primarily in equity and equity-like securities and 60% in underlying index funds that invest primarily in fixed income and fixed income-like securities.

BTC employs a proprietary investment model that analyzes securities market data, including risk, correlation and expected return statistics, to recommend the portfolio allocation among the asset classes.

Rather than choosing specific securities within each asset class, BTC selects among indices representing segments of the global equity and debt markets and invests in securities that comprise the chosen index. The Fund generally invests in a chosen index through a series of collective investment trusts maintained and managed by BTC, each such fund representing one of the indices (each, an "Underlying Fund").

In the event of a conflict between this summary description of the Fund's investment objective and principal investment strategies and the Trust Document under which the Fund was established, the Trust Document will govern. For more information related to the Fund, please see the Fund's Trust Document, Profile and most recent audited financial statements.

## Portfolio Analysis

Top 10 Holdings as of 09-30-19	% Assets
Russell 1000 Index Fund	41.59
BlackRock MSCI ACWI ex-US IMI Index Fd E	29.74
U.S. Debt Index Fund E	18.37
Developed Real Estate Index Fund E	3.83
U.S. TIPS Fund E	3.06
Russell 2000 Index Fund	2.50
Commodity Index Daily Fund E	0.91

## Morningstar Super Sectors as of 09-30-19

	% Fund
Cyclical	41.81
Sensitive	36.49
Defensive	21.71

## Morningstar F-I Sectors as of 09-30-19

	% Fund	% Category
Government	47.88	32.30
Corporate	19.65	24.69
Securitized	20.18	17.32
Municipal	0.49	0.75
Cash	11.80	18.52
Other	0.00	6.42

## Investment Information

### Operations and Management

Product Inception Date	08-26-11
Strategy Inception Date	07-05-06
Total Fund Assets (\$mil)	1,701.37
Investment Manager	BlackRock Institutional Trust Company NA

Annual Turnover Ratio %	13.35
-------------------------	-------

### Fees and Expenses as of 12-31-18

Total Annual Operating Expense %	0.09%
Total Annual Operating Expense per \$1000	\$0.90

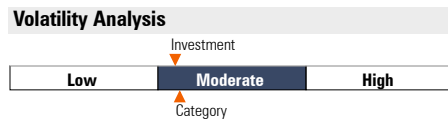
### Additional Information for Total Annual Operating Expense

The Total Annual Operating Expense ratio noted above ("TAOE") reflects a management fee and administrative costs. The administrative costs are capped at one (1) basis point (0.01%) per year. The TAOE may also, if applicable, reflect certain third party acquired fund fees and expenses. There may be other fees and expenses not reflected in the TAOE that bear on the value of the investment. The Portfolio Turnover Rate is that of the collective investment fund in which the Fund invests exclusively, either directly or indirectly.

# BlackRock LifePath® Index 2035 Fund L

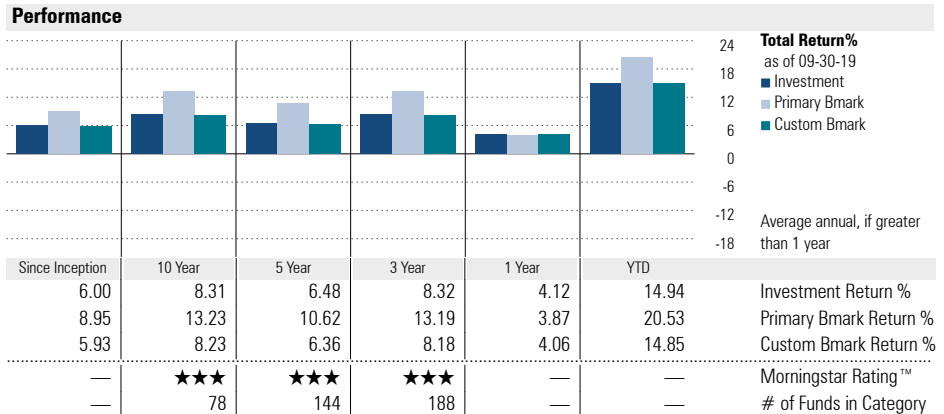
<b>Primary Benchmark</b> Russell 1000® Index	<b>Custom Benchmark</b> BlackRock LifePath® Index 2035 Custom Benchmark	<b>Morningstar Category</b> Target-Date 2035	<b>Overall Morningstar Rating™</b> ★★★ See disclosure for details.	<b>Morningstar Return</b> Average	<b>Morningstar Risk</b> Below Average
---	---	---	--	--------------------------------------	--

**Benchmark Description**  
The BlackRock LifePath® Index 2035 Fund L's Custom Benchmark is a comparison benchmark for the performance of the Fund. The Custom Benchmark is calculated using blended returns of third party indices that proportionally reflect the respective weightings of the Fund's asset classes. The third party index proportions of the Custom Benchmark are adjusted quarterly to reflect the Fund's changing asset allocations over time. As the Fund's asset classes have been re-defined or added over time, the indices used to calculate the Custom Benchmark have changed accordingly. As of December 31, 2018, the indices used to calculate the Custom Benchmark are: Russell 1000® Index, Russell 2000® Index, MSCI ACWI ex-US IMI Net Dividend Return Index(sm), Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L), FTSE EPRA Nareit Developed Index, and the Bloomberg Commodity Index Total Return.



In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

<b>Best 3 Month Return</b> 27.24% (Mar '09 - May '09)	<b>Worst 3 Month Return</b> -29.38% (Sep '08 - Nov '08)
---	---



**Performance Disclosure: The Fund's returns are net of an investment management fee, currently at an annual rate of 0.08%. The Fund's performance reflects fund level administrative costs capped at 1 basis point (0.01%) per year. Since its inception the Fund has invested all of its assets in LifePath Index 2035 Fund F. Returns shown for periods prior to the Fund's inception are those of the LifePath Index 2035 Fund F net of the Fund's investment management fee.**

**Principal Risks**

Any of the principal risks summarized below may adversely affect the Fund's net asset value, performance, and ability to meet its investment objective. An investment in the Fund is not a bank deposit, is not guaranteed by BlackRock, Inc. or any of its affiliates, and is not insured by the Federal Deposit Insurance Corporation or any other agency of the U.S. government.

**Equity Investment Risk:** The price of an equity security fluctuates based on changes in the issuer's financial condition and overall market and economic conditions. Equity securities are subject to changes in value that may be more volatile than other asset classes.

**Foreign Investment Risk 1:** The Fund may suffer losses due to political, legal, economic and geographic events affecting a non-U.S. issuer or market. The prices of non-U.S. securities may be more volatile than those of securities issued by U.S. corporations or other U.S. entities. Securities of non-U.S. issuers denominated in non-U.S. currencies will expose the Fund to fluctuations in foreign currency exchange prices.

**Target Date Risk 1:** A "target date" fund may incur losses close to or after the fund's target retirement date, and there is no guarantee that the Fund will provide adequate income for an investor's retirement.

**Asset Allocation Model Risk:** The asset allocation model may not effectively maximize returns or minimize risk, or be appropriate for every investor seeking a particular risk profile. The model developed by BTC could result in underperformance as compared to funds with similar investment objectives and strategies.

**Commodity-Related Investment Risk 2:** The value of commodity-linked derivative investments may be significantly affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, embargoes, tariffs and international economic, political and regulatory developments.

**Securities Lending Risk 1:** The Fund may engage in securities lending, which involves borrower credit risk, settlement risk, and cash collateral-related risks, such as the risk that the return on the cash collateral is insufficient to cover the fees the Fund is committed to pay and the risk that cash collateral may be invested in securities or other instruments that suffer losses or become illiquid.

**Derivatives Risk 1:** Investments in derivatives (such as futures contracts, forward contracts, swaps and options) may reduce the Fund's returns and/or increase volatility. Fluctuations in the values of derivatives may not correlate perfectly with the overall securities markets. The other party in the transaction may not fulfill its contractual obligation. The possible lack of a liquid secondary market for derivatives could expose the Fund to losses.

**Real Estate-Related Investment Risk 2:** Real estate values can be negatively affected by many factors including both the general and local economies, the amount of new construction in a particular area, the laws and regulations affecting real estate, the costs of owning, maintaining and improving real estate, availability of mortgages, and changes in interest rates.

**Underlying Fund Risk 2:** The investment objective and strategies of an Underlying Fund in which the Fund invests may differ from the Fund, and there is no assurance that an Underlying Fund will achieve its objective.

**Fixed Income Investment Risk 10:** An increase in interest rates may cause the value of fixed income securities held by the Fund to decline. The Fund's income may decline when interest rates fall. Debt issuers may not honor their obligations. Securities that are rated below investment grade may be more volatile and less liquid than higher-rated securities of similar maturity.



# BlackRock LifePath® Index 2040 Fund L

**Primary Benchmark**  
Russell 1000® Index

**Custom Benchmark**  
BlackRock LifePath® Index  
2040 Custom Benchmark

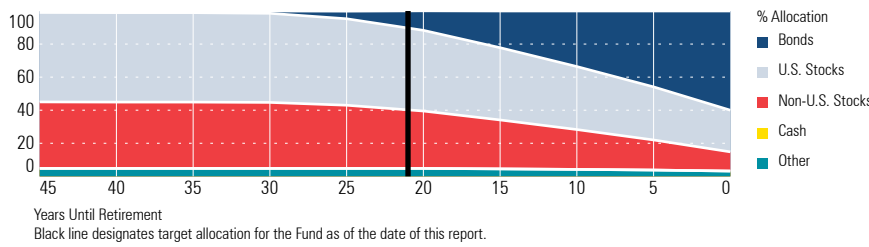
**Morningstar Category**  
Target-Date 2040

**Overall Morningstar Rating™**  
★★★  
See disclosure for details.

**Morningstar Return**  
Average

**Morningstar Risk**  
Average

## Allocation of Stocks and Bonds



## Portfolio Analysis

Top 10 Holdings as of 09-30-19	% Assets
Russell 1000 Index Fund	46.92
BlackRock MSCI ACWI ex-US IMI Index Fd E	34.74
U.S. Debt Index Fund E	9.27
Developed Real Estate Index Fund E	4.38
Russell 2000 Index Fund	2.24
U.S. TIPS Fund E	1.87
Commodity Index Daily Fund E	0.59

## Morningstar Super Sectors as of 09-30-19

Super Sector	% Fund
Cyclical	41.87
Sensitive	36.45
Defensive	21.67

## Morningstar F-I Sectors as of 09-30-19

F-I Sector	% Fund	% Category
Government	46.83	38.53
Corporate	18.18	21.32
Securitized	18.67	13.68
Municipal	0.46	0.68
Cash	15.86	21.56
Other	0.00	4.22

## Investment Information

### Operations and Management

Product Inception Date	08-26-11
Strategy Inception Date	08-01-05
Total Fund Assets (\$mil)	1,708.35
Investment Manager	BlackRock Institutional Trust Company NA

Annual Turnover Ratio %	12.24
-------------------------	-------

### Fees and Expenses as of 12-31-18

Total Annual Operating Expense %	0.09%
Total Annual Operating Expense per \$1000	\$0.90

### Additional Information for Total Annual Operating Expense

The Total Annual Operating Expense ratio noted above ("TAOE") reflects a management fee and administrative costs. The administrative costs are capped at one (1) basis point (0.01%) per year. The TAOE may also, if applicable, reflect certain third party acquired fund fees and expenses. There may be other fees and expenses not reflected in the TAOE that bear on the value of the investment. The Portfolio Turnover Rate is that of the collective investment fund in which the Fund invests exclusively, either directly or indirectly.

## Investment Objective and Strategy

The Fund seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and draw down phase based on quantitatively measured risk that investors, on average, may be willing to accept.

The Fund is a collective investment trust maintained and managed by BlackRock Institutional Trust Company, N.A. ("BTC").

The Fund shall be invested and reinvested in securities and other assets with the objective of providing for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept.

In pursuit of that objective, the Fund will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time if the Fund has a year in its name. The Fund's investments may include: equity securities (including those issued by real estate companies); depositary receipts; debt securities and other fixed income obligations (including those issued or guaranteed by the U.S. government, its agencies or instrumentalities, and those issued by corporations or other entities); mortgage-backed securities; other asset-backed securities; commodities; and/or cash equivalents.

The Fund may invest in securities and other obligations of U.S. issuers or non-U.S. issuers, and those issuers may be of any market capitalization. The Fund's fixed income investments may be investment-grade or non-investment grade, and may include securities and other obligations of any maturity.

In addition to, or in lieu of, investing in the assets listed above, the Fund may engage in structured transactions in these asset classes, as well as over-the-counter forward contracts, swaps and options. When deemed appropriate by BTC, the Fund may invest in futures contracts, for the purpose of acting as a temporary substitute for investment in securities and/or to gain exposure to commodities.

The difference between the normal and current securities holdings for the Fund varies over time and is based on the factors analyzed by the asset allocation model used by BTC to manage the Fund. The normal asset allocations will gradually change over the investment horizon of the Fund to become more heavily oriented toward debt and debt-like securities. As time passes, the Fund is managed more conservatively – prior to retirement – in terms of its allocation to equity securities and markets, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches.

The trajectory along which asset allocations are adjusted over time to gradually become more conservative is called the "glidepath". The glidepath illustrates the target allocation among asset classes as the Fund approaches its target date. The target asset allocation of the Fund at its retirement date is expected to be 40% in underlying index funds that invest primarily in equity and equity-like securities and 60% in underlying index funds that invest primarily in fixed income and fixed income-like securities.

BTC employs a proprietary investment model that analyzes securities market data, including risk, correlation and expected return statistics, to recommend the portfolio allocation among the asset classes.

Rather than choosing specific securities within each asset class, BTC selects among indices representing segments of the global equity and debt markets and invests in securities that comprise the chosen index. The Fund generally invests in a chosen index through a series of collective investment trusts maintained and managed by BTC, each such fund representing one of the indices (each, an "Underlying Fund").

In the event of a conflict between this summary description of the Fund's investment objective and principal investment strategies and the Trust Document under which the Fund was established, the Trust Document will govern. For more information related to the Fund, please see the Fund's Trust Document, Profile and most recent audited financial statements.

# BlackRock LifePath® Index 2040 Fund L

**Primary Benchmark**  
Russell 1000® Index

**Custom Benchmark**  
BlackRock LifePath® Index  
2040 Custom Benchmark

**Morningstar Category**  
Target-Date 2040

**Overall Morningstar Rating™**  
★★★  
See disclosure for details.

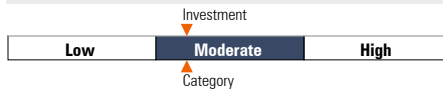
**Morningstar Return**  
Average

**Morningstar Risk**  
Average

## Benchmark Description

The BlackRock LifePath® Index 2040 Fund L's Custom Benchmark is a comparison benchmark for the performance of the Fund. The Custom Benchmark is calculated using blended returns of third party indices that proportionally reflect the respective weightings of the Fund's asset classes. The third party index proportions of the Custom Benchmark are adjusted quarterly to reflect the Fund's changing asset allocations over time. As the Fund's asset classes have been re-defined or added over time, the indices used to calculate the Custom Benchmark have changed accordingly. As of December 31, 2018, the indices used to calculate the Custom Benchmark are: Russell 1000® Index, Russell 2000® Index, MSCI ACWI ex-US IMI Net Dividend Return Index(sm), Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L), FTSE EPRA Nareit Developed Index, and the Bloomberg Commodity Index Total Return.

## Volatility Analysis

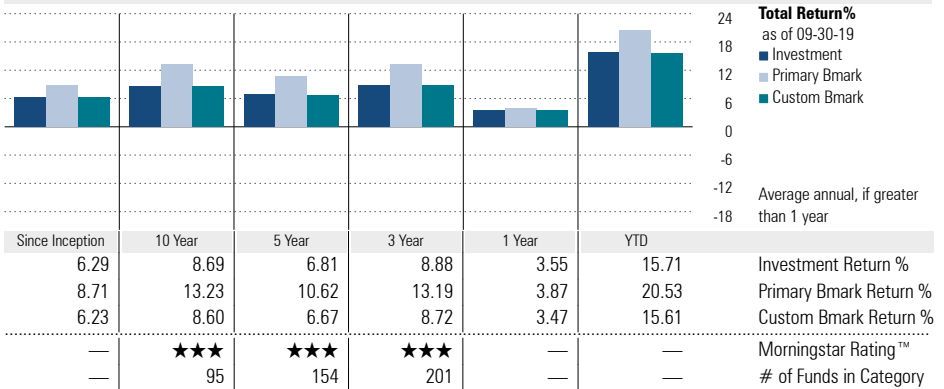


In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

**Best 3 Month Return**  
29.23%  
(Mar '09 - May '09)

**Worst 3 Month Return**  
-31.01%  
(Sep '08 - Nov '08)

## Performance



**Performance Disclosure: The Fund's returns are net of an investment management fee, currently at an annual rate of 0.08%. The Fund's performance reflects fund level administrative costs capped at 1 basis point (0.01%) per year. Since its inception the Fund has invested all of its assets in LifePath Index 2040 Fund F. Returns shown for periods prior to the Fund's inception are those of the LifePath Index 2040 Fund F net of the Fund's investment management fee.**

## Principal Risks

Any of the principal risks summarized below may adversely affect the Fund's net asset value, performance, and ability to meet its investment objective. An investment in the Fund is not a bank deposit, is not guaranteed by BlackRock, Inc. or any of its affiliates, and is not insured by the Federal Deposit Insurance Corporation or any other agency of the U.S. government.

**Equity Investment Risk:** The price of an equity security fluctuates based on changes in the issuer's financial condition and overall market and economic conditions. Equity securities are subject to changes in value that may be more volatile than other asset classes.

**Foreign Investment Risk 1:** The Fund may suffer losses due to political, legal, economic and geographic events affecting a non-U.S. issuer or market. The prices of non-U.S. securities may be more volatile than those of securities issued by U.S. corporations or other U.S. entities. Securities of non-U.S. issuers denominated in non-U.S. currencies will expose the Fund to fluctuations in foreign currency exchange prices.

**Target Date Risk 1:** A "target date" fund may incur losses close to or after the fund's target retirement date, and there is no guarantee that the Fund will provide adequate income for an investor's retirement.

**Asset Allocation Model Risk:** The asset allocation model may not effectively maximize returns or minimize risk, or be appropriate for every investor seeking a particular risk profile. The model developed by BTC could result in underperformance as compared to funds with similar investment objectives and strategies.

**Commodity-Related Investment Risk 2:** The value of commodity-linked derivative investments may be significantly affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, embargoes, tariffs and international economic, political and regulatory developments.

**Securities Lending Risk 1:** The Fund may engage in securities lending, which involves borrower credit risk, settlement risk, and cash collateral-related risks, such as the risk that the return on the cash collateral is insufficient to cover the fees the Fund is committed to pay and the risk that cash collateral may be invested in securities or other instruments that suffer losses or become illiquid.

**Derivatives Risk 1:** Investments in derivatives (such as futures contracts, forward contracts, swaps and options) may reduce the Fund's returns and/or increase volatility. Fluctuations in the values of derivatives may not correlate perfectly with the overall securities markets. The other party in the transaction may not fulfill its contractual obligation. The possible lack of a liquid secondary market for derivatives could expose the Fund to losses.

**Real Estate-Related Investment Risk 2:** Real estate values can be negatively affected by many factors including both the general and local economies, the amount of new construction in a particular area, the laws and regulations affecting real estate, the costs of owning, maintaining and improving real estate, availability of mortgages, and changes in interest rates.

**Underlying Fund Risk 2:** The investment objective and strategies of an Underlying Fund in which the Fund invests may differ from the Fund, and there is no assurance that an Underlying Fund will achieve its objective.

**Fixed Income Investment Risk 10:** An increase in interest rates may cause the value of fixed income securities held by the Fund to decline. The Fund's income may decline when interest rates fall. Debt issuers may not honor their obligations. Securities that are rated below investment grade may be more volatile and less liquid than higher-rated securities of similar maturity.

# BlackRock LifePath® Index 2045 Fund L

**Primary Benchmark**  
Russell 1000® Index

**Custom Benchmark**  
BlackRock LifePath® Index  
2045 Custom Benchmark

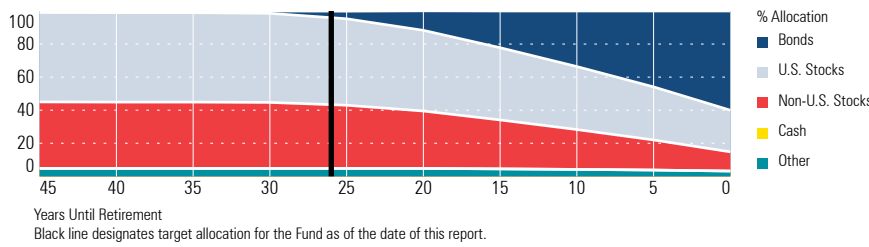
**Morningstar Category**  
Target-Date 2045

**Overall Morningstar Rating™**  
★★★  
See disclosure for details.

**Morningstar Return**  
Average

**Morningstar Risk**  
Average

## Allocation of Stocks and Bonds



## Investment Objective and Strategy

The Fund seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and draw down phase based on quantitatively measured risk that investors, on average, may be willing to accept.

The Fund is a collective investment trust maintained and managed by BlackRock Institutional Trust Company, N.A. ("BTC").

The Fund shall be invested and reinvested in securities and other assets with the objective of providing for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept.

In pursuit of that objective, the Fund will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time if the Fund has a year in its name. The Fund's investments may include: equity securities (including those issued by real estate companies); depositary receipts; debt securities and other fixed income obligations (including those issued or guaranteed by the U.S. government, its agencies or instrumentalities, and those issued by corporations or other entities); mortgage-backed securities; other asset-backed securities; commodities; and/or cash equivalents.

The Fund may invest in securities and other obligations of U.S. issuers or non-U.S. issuers, and those issuers may be of any market capitalization. The Fund's fixed income investments may be investment-grade or non-investment grade, and may include securities and other obligations of any maturity.

In addition to, or in lieu of, investing in the assets listed above, the Fund may engage in structured transactions in these asset classes, as well as over-the-counter forward contracts, swaps and options. When deemed appropriate by BTC, the Fund may invest in futures contracts, for the purpose of acting as a temporary substitute for investment in securities and/or to gain exposure to commodities.

The difference between the normal and current securities holdings for the Fund varies over time and is based on the factors analyzed by the asset allocation model used by BTC to manage the Fund. The normal asset allocations will gradually change over the investment horizon of the Fund to become more heavily oriented toward debt and debt-like securities. As time passes, the Fund is managed more conservatively – prior to retirement – in terms of its allocation to equity securities and markets, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches.

The trajectory along which asset allocations are adjusted over time to gradually become more conservative is called the "glidepath". The glidepath illustrates the target allocation among asset classes as the Fund approaches its target date. The target asset allocation of the Fund at its retirement date is expected to be 40% in underlying index funds that invest primarily in equity and equity-like securities and 60% in underlying index funds that invest primarily in fixed income and fixed income-like securities.

BTC employs a proprietary investment model that analyzes securities market data, including risk, correlation and expected return statistics, to recommend the portfolio allocation among the asset classes.

Rather than choosing specific securities within each asset class, BTC selects among indices representing segments of the global equity and debt markets and invests in securities that comprise the chosen index. The Fund generally invests in a chosen index through a series of collective investment trusts maintained and managed by BTC, each such fund representing one of the indices (each, an "Underlying Fund").

In the event of a conflict between this summary description of the Fund's investment objective and principal investment strategies and the Trust Document under which the Fund was established, the Trust Document will govern. For more information related to the Fund, please see the Fund's Trust Document, Profile and most recent audited financial statements.

## Portfolio Analysis

Top 10 Holdings as of 09-30-19	% Assets
Russell 1000 Index Fund	50.51
BlackRock MSCI ACWI ex-US IMI Index Fd E	38.17
Developed Real Estate Index Fund E	4.72
U.S. Debt Index Fund E	3.42
Russell 2000 Index Fund	2.07
U.S. TIPS Fund E	0.81
Commodity Index Daily Fund E	0.30

## Morningstar Super Sectors as of 09-30-19

Super Sector	% Fund
Cyclical	41.90
Sensitive	36.44
Defensive	21.65

## Morningstar F-I Sectors as of 09-30-19

F-I Sector	% Fund	% Category
Government	41.95	28.42
Corporate	15.44	21.84
Securitized	15.85	15.08
Municipal	0.39	0.77
Cash	26.38	28.02
Other	0.00	5.87

## Investment Information

### Operations and Management

Product Inception Date	08-26-11
Strategy Inception Date	07-05-06
Total Fund Assets (\$mil)	1,339.08
Investment Manager	BlackRock Institutional Trust Company NA

Annual Turnover Ratio %	11.58
-------------------------	-------

### Fees and Expenses as of 12-31-18

Total Annual Operating Expense %	0.09%
Total Annual Operating Expense per \$1000	\$0.90

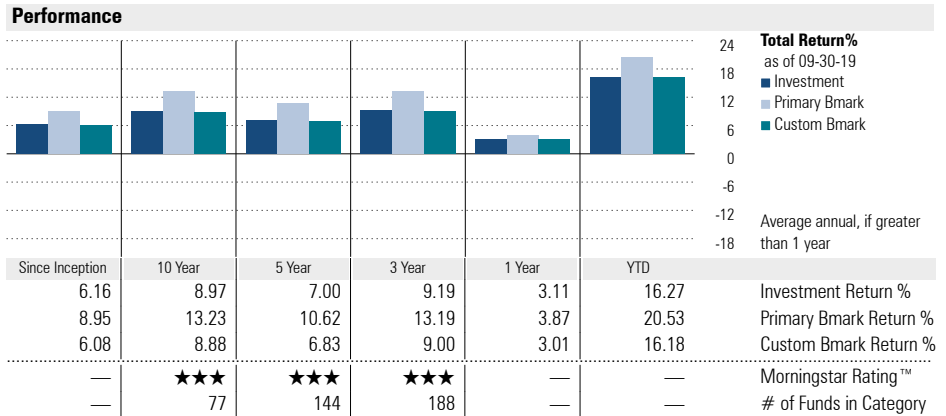
### Additional Information for Total Annual Operating Expense

The Total Annual Operating Expense ratio noted above ("TAOE") reflects a management fee and administrative costs. The administrative costs are capped at one (1) basis point (0.01%) per year. The TAOE may also, if applicable, reflect certain third party acquired fund fees and expenses. There may be other fees and expenses not reflected in the TAOE that bear on the value of the investment. The Portfolio Turnover Rate is that of the collective investment fund in which the Fund invests exclusively, either directly or indirectly.

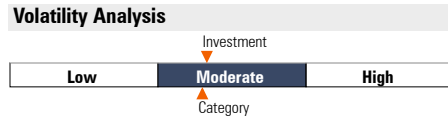
# BlackRock LifePath® Index 2045 Fund L

<b>Primary Benchmark</b> Russell 1000® Index	<b>Custom Benchmark</b> BlackRock LifePath® Index 2045 Custom Benchmark	<b>Morningstar Category</b> Target-Date 2045	<b>Overall Morningstar Rating™</b> ★★★ See disclosure for details.	<b>Morningstar Return</b> Average	<b>Morningstar Risk</b> Average
---	---	---	--	--------------------------------------	------------------------------------

**Benchmark Description**  
The BlackRock LifePath® Index 2045 Fund L's Custom Benchmark is a comparison benchmark for the performance of the Fund. The Custom Benchmark is calculated using blended returns of third party indices that proportionally reflect the respective weightings of the Fund's asset classes. The third party index proportions of the Custom Benchmark are adjusted quarterly to reflect the Fund's changing asset allocations over time. As the Fund's asset classes have been re-defined or added over time, the indices used to calculate the Custom Benchmark have changed accordingly. As of December 31, 2018, the indices used to calculate the Custom Benchmark are: Russell 1000® Index, Russell 2000® Index, MSCI ACWI ex-US IMI Net Dividend Return Index(sm), Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L), FTSE EPRA Nareit Developed Index, and the Bloomberg Commodity Index Total Return.



**Performance Disclosure: The Fund's returns are net of an investment management fee, currently at an annual rate of 0.08%. The Fund's performance reflects fund level administrative costs capped at 1 basis point (0.01%) per year. Since its inception the Fund has invested all of its assets in LifePath Index 2045 Fund F. Returns shown for periods prior to the Fund's inception are those of the LifePath Index 2045 Fund F net of the Fund's investment management fee.**



In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

<b>Best 3 Month Return</b> 31.01% (Mar '09 - May '09)	<b>Worst 3 Month Return</b> -32.50% (Sep '08 - Nov '08)
---	---

**Principal Risks**  
Any of the principal risks summarized below may adversely affect the Fund's net asset value, performance, and ability to meet its investment objective. An investment in the Fund is not a bank deposit, is not guaranteed by BlackRock, Inc. or any of its affiliates, and is not insured by the Federal Deposit Insurance Corporation or any other agency of the U.S. government.

**Equity Investment Risk:** The price of an equity security fluctuates based on changes in the issuer's financial condition and overall market and economic conditions. Equity securities are subject to changes in value that may be more volatile than other asset classes.

**Foreign Investment Risk 1:** The Fund may suffer losses due to political, legal, economic and geographic events affecting a non-U.S. issuer or market. The prices of non-U.S. securities may be more volatile than those of securities issued by U.S. corporations or other U.S. entities. Securities of non-U.S. issuers denominated in non-U.S. currencies will expose the Fund to fluctuations in foreign currency exchange prices.

**Target Date Risk 1:** A "target date" fund may incur losses close to or after the fund's target retirement date, and there is no guarantee that the Fund will provide adequate income for an investor's retirement.

**Asset Allocation Model Risk:** The asset allocation model may not effectively maximize returns or minimize risk, or be appropriate for every investor seeking a particular risk profile. The model developed by BTC could result in underperformance as compared to funds with similar investment objectives and strategies.

**Commodity-Related Investment Risk 2:** The value of commodity-linked derivative investments may be significantly affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, embargoes, tariffs and international economic, political and regulatory developments.

**Securities Lending Risk 1:** The Fund may engage in securities lending, which involves borrower credit risk, settlement risk, and cash collateral-related risks, such as the risk that the return on the cash collateral is insufficient to cover the fees the Fund is committed to pay and the risk that cash collateral may be invested in securities or other instruments that suffer losses or become illiquid.

**Derivatives Risk 1:** Investments in derivatives (such as futures contracts, forward contracts, swaps and options) may reduce the Fund's returns and/or increase volatility. Fluctuations in the values of derivatives may not correlate perfectly with the overall securities markets. The other party in the transaction may not fulfill its contractual obligation. The possible lack of a liquid secondary market for derivatives could expose the Fund to losses.

**Real Estate-Related Investment Risk 2:** Real estate values can be negatively affected by many factors including both the general and local economies, the amount of new construction in a particular area, the laws and regulations affecting real estate, the costs of owning, maintaining and improving real estate, availability of mortgages, and changes in interest rates.

**Underlying Fund Risk 2:** The investment objective and strategies of an Underlying Fund in which the Fund invests may differ from the Fund, and there is no assurance that an Underlying Fund will achieve its objective.

**Fixed Income Investment Risk 10:** An increase in interest rates may cause the value of fixed income securities held by the Fund to decline. The Fund's income may decline when interest rates fall. Debt issuers may not honor their obligations. Securities that are rated below investment grade may be more volatile and less liquid than higher-rated securities of similar maturity.

# BlackRock LifePath® Index 2050 Fund L

**Primary Benchmark**  
Russell 1000® Index

**Custom Benchmark**  
BlackRock LifePath® Index  
2050 Custom Benchmark

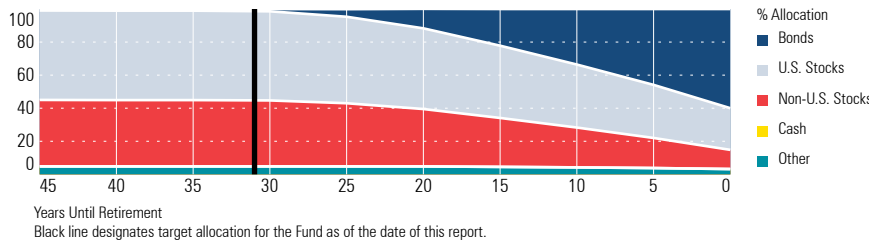
**Morningstar Category**  
Target-Date 2050

**Overall Morningstar Rating™**  
★★★  
See disclosure for details.

**Morningstar Return**  
Above Average

**Morningstar Risk**  
Average

## Allocation of Stocks and Bonds



## Investment Objective and Strategy

The Fund seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and draw down phase based on quantitatively measured risk that investors, on average, may be willing to accept.

The Fund is a collective investment trust maintained and managed by BlackRock Institutional Trust Company, N.A. ("BTC").

The Fund shall be invested and reinvested in securities and other assets with the objective of providing for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept.

In pursuit of that objective, the Fund will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time if the Fund has a year in its name. The Fund's investments may include: equity securities (including those issued by real estate companies); depositary receipts; debt securities and other fixed income obligations (including those issued or guaranteed by the U.S. government, its agencies or instrumentalities, and those issued by corporations or other entities); mortgage-backed securities; other asset-backed securities; commodities; and/or cash equivalents.

The Fund may invest in securities and other obligations of U.S. issuers or non-U.S. issuers, and those issuers may be of any market capitalization. The Fund's fixed income investments may be investment-grade or non-investment grade, and may include securities and other obligations of any maturity.

In addition to, or in lieu of, investing in the assets listed above, the Fund may engage in structured transactions in these asset classes, as well as over-the-counter forward contracts, swaps and options. When deemed appropriate by BTC, the Fund may invest in futures contracts, for the purpose of acting as a temporary substitute for investment in securities and/or to gain exposure to commodities.

The difference between the normal and current securities holdings for the Fund varies over time and is based on the factors analyzed by the asset allocation model used by BTC to manage the Fund. The normal asset allocations will gradually change over the investment horizon of the Fund to become more heavily oriented toward debt and debt-like securities. As time passes, the Fund is managed more conservatively – prior to retirement – in terms of its allocation to equity securities and markets, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches.

The trajectory along which asset allocations are adjusted over time to gradually become more conservative is called the "glidepath". The glidepath illustrates the target allocation among asset classes as the Fund approaches its target date. The target asset allocation of the Fund at its retirement date is expected to be 40% in underlying index funds that invest primarily in equity and equity-like securities and 60% in underlying index funds that invest primarily in fixed income and fixed income-like securities.

BTC employs a proprietary investment model that analyzes securities market data, including risk, correlation and expected return statistics, to recommend the portfolio allocation among the asset classes.

Rather than choosing specific securities within each asset class, BTC selects among indices representing segments of the global equity and debt markets and invests in securities that comprise the chosen index. The Fund generally invests in a chosen index through a series of collective investment trusts maintained and managed by BTC, each such fund representing one of the indices (each, an "Underlying Fund").

In the event of a conflict between this summary description of the Fund's investment objective and principal investment strategies and the Trust Document under which the Fund was established, the Trust Document will govern. For more information related to the Fund, please see the Fund's Trust Document, Profile and most recent audited financial statements.

## Portfolio Analysis

Top 10 Holdings as of 09-30-19	% Assets
Russell 1000 Index Fund	52.08
BlackRock MSCI ACWI ex-US IMI Index Fd E	39.70
Developed Real Estate Index Fund E	4.89
Russell 2000 Index Fund	1.99
U.S. Debt Index Fund E	1.01
U.S. TIPS Fund E	0.21
Commodity Index Daily Fund E	0.12

## Morningstar Super Sectors as of 09-30-19

Super Sector	% Fund
Cyclical	41.92
Sensitive	36.43
Defensive	21.65

## Morningstar F-I Sectors as of 09-30-19

F-I Sector	% Fund	% Category
Government	28.12	40.69
Corporate	10.77	17.64
Securitized	11.05	10.47
Municipal	0.27	0.60
Cash	49.79	26.32
Other	0.00	4.28

## Investment Information

### Operations and Management

Product Inception Date	08-26-11
Strategy Inception Date	09-30-07
Total Fund Assets (\$mil)	1,181.95
Investment Manager	BlackRock Institutional Trust Company NA

Annual Turnover Ratio %	10.75
-------------------------	-------

### Fees and Expenses as of 12-31-18

Total Annual Operating Expense %	0.09%
Total Annual Operating Expense per \$1000	\$0.90

### Additional Information for Total Annual Operating Expense

The Total Annual Operating Expense ratio noted above ("TAOE") reflects a management fee and administrative costs. The administrative costs are capped at one (1) basis point (0.01%) per year. The TAOE may also, if applicable, reflect certain third party acquired fund fees and expenses. There may be other fees and expenses not reflected in the TAOE that bear on the value of the investment. The Portfolio Turnover Rate is that of the collective investment fund in which the Fund invests exclusively, either directly or indirectly.

# BlackRock LifePath® Index 2055 Fund L

**Primary Benchmark**  
Russell 1000® Index

**Custom Benchmark**  
BlackRock LifePath® Index  
2055 Custom Benchmark

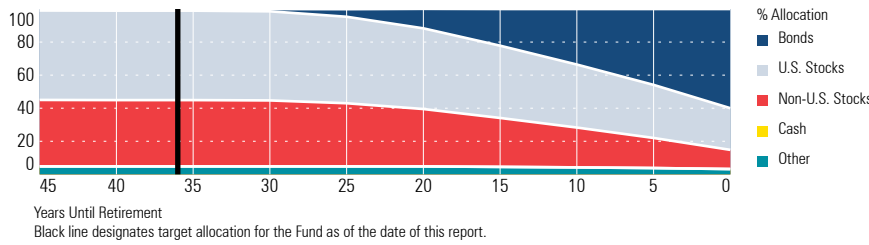
**Morningstar Category**  
Target-Date 2055

**Overall Morningstar Rating™**  
★★★  
See disclosure for details.

**Morningstar Return**  
Average

**Morningstar Risk**  
Average

## Allocation of Stocks and Bonds



## Investment Objective and Strategy

The Fund seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and draw down phase based on quantitatively measured risk that investors, on average, may be willing to accept.

The Fund is a collective investment trust maintained and managed by BlackRock Institutional Trust Company, N.A. ("BTC").

The Fund shall be invested and reinvested in securities and other assets with the objective of providing for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept.

In pursuit of that objective, the Fund will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time if the Fund has a year in its name. The Fund's investments may include: equity securities (including those issued by real estate companies); depositary receipts; debt securities and other fixed income obligations (including those issued or guaranteed by the U.S. government, its agencies or instrumentalities, and those issued by corporations or other entities); mortgage-backed securities; other asset-backed securities; commodities; and/or cash equivalents.

The Fund may invest in securities and other obligations of U.S. issuers or non-U.S. issuers, and those issuers may be of any market capitalization. The Fund's fixed income investments may be investment-grade or non-investment grade, and may include securities and other obligations of any maturity.

In addition to, or in lieu of, investing in the assets listed above, the Fund may engage in structured transactions in these asset classes, as well as over-the-counter forward contracts, swaps and options. When deemed appropriate by BTC, the Fund may invest in futures contracts, for the purpose of acting as a temporary substitute for investment in securities and/or to gain exposure to commodities.

The difference between the normal and current securities holdings for the Fund varies over time and is based on the factors analyzed by the asset allocation model used by BTC to manage the Fund. The normal asset allocations will gradually change over the investment horizon of the Fund to become more heavily oriented toward debt and debt-like securities. As time passes, the Fund is managed more conservatively – prior to retirement – in terms of its allocation to equity securities and markets, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches.

The trajectory along which asset allocations are adjusted over time to gradually become more conservative is called the "glidepath". The glidepath illustrates the target allocation among asset classes as the Fund approaches its target date. The target asset allocation of the Fund at its retirement date is expected to be 40% in underlying index funds that invest primarily in equity and equity-like securities and 60% in underlying index funds that invest primarily in fixed income and fixed income-like securities.

BTC employs a proprietary investment model that analyzes securities market data, including risk, correlation and expected return statistics, to recommend the portfolio allocation among the asset classes.

Rather than choosing specific securities within each asset class, BTC selects among indices representing segments of the global equity and debt markets and invests in securities that comprise the chosen index. The Fund generally invests in a chosen index through a series of collective investment trusts maintained and managed by BTC, each such fund representing one of the indices (each, an "Underlying Fund").

In the event of a conflict between this summary description of the Fund's investment objective and principal investment strategies and the Trust Document under which the Fund was established, the Trust Document will govern. For more information related to the Fund, please see the Fund's Trust Document, Profile and most recent audited financial statements.

## Portfolio Analysis

Top 10 Holdings as of 09-30-19	% Assets
Russell 1000 Index Fund	52.10
BlackRock MSCI ACWI ex-US IMI Index Fd E	39.89
Developed Real Estate Index Fund E	4.88
Russell 2000 Index Fund	2.04
U.S. Debt Index Fund E	0.89
U.S. TIPS Fund E	0.14
Commodity Index Daily Fund E	0.07

## Morningstar Super Sectors as of 09-30-19

	% Fund
Cyclical	41.91
Sensitive	36.43
Defensive	21.65

## Morningstar F-I Sectors as of 09-30-19

	% Fund	% Category
Government	25.48	27.33
Corporate	10.62	20.63
Securitized	10.90	12.91
Municipal	0.27	0.83
Cash	52.73	32.19
Other	0.00	6.11

## Investment Information

### Operations and Management

Product Inception Date	08-26-11
Strategy Inception Date	05-19-10
Total Fund Assets (\$mil)	800.15
Investment Manager	BlackRock Institutional Trust Company NA

Annual Turnover Ratio %	10.59
-------------------------	-------

### Fees and Expenses as of 12-31-18

Total Annual Operating Expense %	0.09%
Total Annual Operating Expense per \$1000	\$0.90

### Additional Information for Total Annual Operating Expense

The Total Annual Operating Expense ratio noted above ("TAOE") reflects a management fee and administrative costs. The administrative costs are capped at one (1) basis point (0.01%) per year. The TAOE may also, if applicable, reflect certain third party acquired fund fees and expenses. There may be other fees and expenses not reflected in the TAOE that bear on the value of the investment. The Portfolio Turnover Rate is that of the collective investment fund in which the Fund invests exclusively, either directly or indirectly.

# BlackRock LifePath® Index 2055 Fund L

**Primary Benchmark**  
Russell 1000® Index

**Custom Benchmark**  
BlackRock LifePath® Index  
2055 Custom Benchmark

**Morningstar Category**  
Target-Date 2055

**Overall Morningstar Rating™**  
★★★  
See disclosure for details.

**Morningstar Return**  
Average

**Morningstar Risk**  
Average

## Benchmark Description

The BlackRock LifePath® Index 2055 Fund L's Custom Benchmark is a comparison benchmark for the performance of the Fund. The Custom Benchmark is calculated using blended returns of third party indices that proportionally reflect the respective weightings of the Fund's asset classes. The third party index proportions of the Custom Benchmark are adjusted quarterly to reflect the Fund's changing asset allocations over time. As the Fund's asset classes have been re-defined or added over time, the indices used to calculate the Custom Benchmark have changed accordingly. As of December 31, 2018, the indices used to calculate the Custom Benchmark are: Russell 1000® Index, Russell 2000® Index, MSCI ACWI ex-US IMI Net Dividend Return Index(sm), Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L), FTSE EPRA Nareit Developed Index, and the Bloomberg Commodity Index Total Return.

## Volatility Analysis

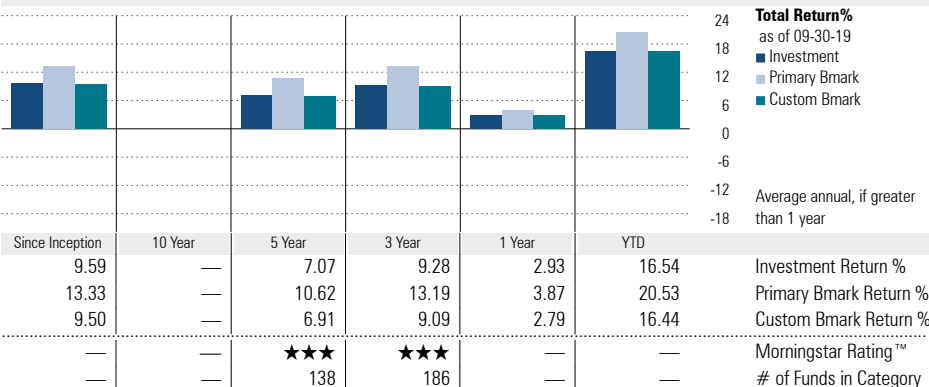


In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

**Best 3 Month Return**  
13.75%  
(Jul '10 - Sep '10)

**Worst 3 Month Return**  
-16.53%  
(Jul '11 - Sep '11)

## Performance



**Performance Disclosure: The Fund's returns are net of an investment management fee, currently at an annual rate of 0.08%. The Fund's performance reflects fund level administrative costs capped at 1 basis point (0.01%) per year. Since its inception the Fund has invested all of its assets in LifePath Index 2055 Fund F. Returns shown for periods prior to the Fund's inception are those of the LifePath Index 2055 Fund F net of the Fund's investment management fee.**

## Principal Risks

Any of the principal risks summarized below may adversely affect the Fund's net asset value, performance, and ability to meet its investment objective. An investment in the Fund is not a bank deposit, is not guaranteed by BlackRock, Inc. or any of its affiliates, and is not insured by the Federal Deposit Insurance Corporation or any other agency of the U.S. government.

**Equity Investment Risk:** The price of an equity security fluctuates based on changes in the issuer's financial condition and overall market and economic conditions. Equity securities are subject to changes in value that may be more volatile than other asset classes.

**Foreign Investment Risk 1:** The Fund may suffer losses due to political, legal, economic and geographic events affecting a non-U.S. issuer or market. The prices of non-U.S. securities may be more volatile than those of securities issued by U.S. corporations or other U.S. entities. Securities of non-U.S. issuers denominated in non-U.S. currencies will expose the Fund to fluctuations in foreign currency exchange prices.

**Target Date Risk 1:** A "target date" fund may incur losses close to or after the fund's target retirement date, and there is no guarantee that the Fund will provide adequate income for an investor's retirement.

**Asset Allocation Model Risk:** The asset allocation model may not effectively maximize returns or minimize risk, or be appropriate for every investor seeking a particular risk profile. The model developed by BTC could result in underperformance as compared to funds with similar investment objectives and strategies.

**Commodity-Related Investment Risk 2:** The value of commodity-linked derivative investments may be significantly affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, embargoes, tariffs and international economic, political and regulatory developments.

**Securities Lending Risk 1:** The Fund may engage in securities lending, which involves borrower credit risk, settlement risk, and cash collateral-related risks, such as the risk that the return on the cash collateral is insufficient to cover the fees the Fund is committed to pay and the risk that cash collateral may be invested in securities or other instruments that suffer losses or become illiquid.

**Derivatives Risk 1:** Investments in derivatives (such as futures contracts, forward contracts, swaps and options) may reduce the Fund's returns and/or increase volatility. Fluctuations in the values of derivatives may not correlate perfectly with the overall securities markets. The other party in the transaction may not fulfill its contractual obligation. The possible lack of a liquid secondary market for derivatives could expose the Fund to losses.

**Real Estate-Related Investment Risk 2:** Real estate values can be negatively affected by many factors including both the general and local economies, the amount of new construction in a particular area, the laws and regulations affecting real estate, the costs of owning, maintaining and improving real estate, availability of mortgages, and changes in interest rates.

**Underlying Fund Risk 2:** The investment objective and strategies of an Underlying Fund in which the Fund invests may differ from the Fund, and there is no assurance that an Underlying Fund will achieve its objective.

**Fixed Income Investment Risk 10:** An increase in interest rates may cause the value of fixed income securities held by the Fund to decline. The Fund's income may decline when interest rates fall. Debt issuers may not honor their obligations. Securities that are rated below investment grade may be more volatile and less liquid than higher-rated securities of similar maturity.

# BlackRock LifePath® Index 2060 Fund L

**Primary Benchmark**  
Russell 1000® Index

**Custom Benchmark**  
BlackRock LifePath® Index  
2060 Custom Benchmark

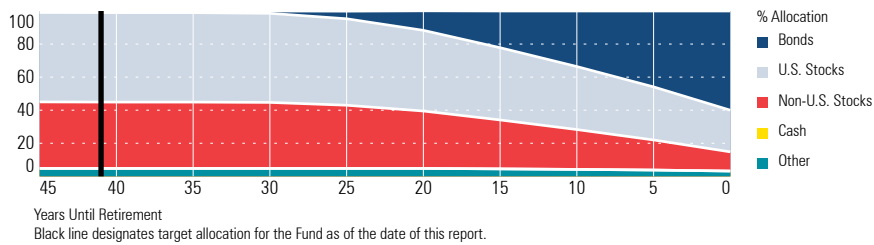
**Morningstar Category**  
Target-Date 2060 +

**Overall Morningstar Rating™**  
★★★  
See disclosure for details.

**Morningstar Return**  
Average

**Morningstar Risk**  
Average

## Allocation of Stocks and Bonds



## Investment Objective and Strategy

The Fund seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and draw down phase based on quantitatively measured risk that investors, on average, may be willing to accept.

The Fund is a collective investment trust maintained and managed by BlackRock Institutional Trust Company, N.A. ("BTC").

The Fund shall be invested and reinvested in securities and other assets with the objective of providing for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept.

In pursuit of that objective, the Fund will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time if the Fund has a year in its name. The Fund's investments may include: equity securities (including those issued by real estate companies); depository receipts; debt securities and other fixed income obligations (including those issued or guaranteed by the U.S. government, its agencies or instrumentalities, and those issued by corporations or other entities); mortgage-backed securities; other asset-backed securities; commodities; and/or cash equivalents.

The Fund may invest in securities and other obligations of U.S. issuers or non-U.S. issuers, and those issuers may be of any market capitalization. The Fund's fixed income investments may be investment-grade or non-investment grade, and may include securities and other obligations of any maturity.

In addition to, or in lieu of, investing in the assets listed above, the Fund may engage in structured transactions in these asset classes, as well as over-the-counter forward contracts, swaps and options. When deemed appropriate by BTC, the Fund may invest in futures contracts, for the purpose of acting as a temporary substitute for investment in securities and/or to gain exposure to commodities.

The difference between the normal and current securities holdings for the Fund varies over time and is based on the factors analyzed by the asset allocation model used by BTC to manage the Fund. The normal asset allocations will gradually change over the investment horizon of the Fund to become more heavily oriented toward debt and debt-like securities. As time passes, the Fund is managed more conservatively – prior to retirement – in terms of its allocation to equity securities and markets, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches.

The trajectory along which asset allocations are adjusted over time to gradually become more conservative is called the "glidepath". The glidepath illustrates the target allocation among asset classes as the Fund approaches its target date. The target asset allocation of the Fund at its retirement date is expected to be 40% in underlying index funds that invest primarily in equity and equity-like securities and 60% in underlying index funds that invest primarily in fixed income and fixed income-like securities.

BTC employs a proprietary investment model that analyzes securities market data, including risk, correlation and expected return statistics, to recommend the portfolio allocation among the asset classes.

Rather than choosing specific securities within each asset class, BTC selects among indices representing segments of the global equity and debt markets and invests in securities that comprise the chosen index. The Fund generally invests in a chosen index through a series of collective investment trusts maintained and managed by BTC, each such fund representing one of the indices (each, an "Underlying Fund").

In the event of a conflict between this summary description of the Fund's investment objective and principal investment strategies and the Trust Document under which the Fund was established, the Trust Document will govern. For more information related to the Fund, please see the Fund's Trust Document, Profile and most recent audited financial statements.

## Portfolio Analysis

Top 10 Holdings as of 09-30-19	% Assets
Russell 1000 Index Fund	52.09
BlackRock MSCI ACWI ex-US IMI Index Fd E	39.94
Developed Real Estate Index Fund E	4.88
Russell 2000 Index Fund	2.06
U.S. Debt Index Fund E	1.04

## Morningstar Super Sectors as of 09-30-19

Morningstar Super Sectors as of 09-30-19	% Fund
Cyclical	41.93
Sensitive	36.41
Defensive	21.65

## Morningstar F-I Sectors as of 09-30-19

Morningstar F-I Sectors as of 09-30-19	% Fund	% Category
Government	22.50	27.58
Corporate	12.75	20.99
Securitized	13.09	11.89
Municipal	0.32	1.31
Cash	51.33	32.96
Other	0.00	5.27

## Investment Information

### Operations and Management

Product Inception Date	01-05-15
Strategy Inception Date	11-17-14
Total Fund Assets (\$mil)	223.41
Investment Manager	BlackRock Institutional Trust Company NA

Annual Turnover Ratio %	11.58
-------------------------	-------

### Fees and Expenses as of 12-31-18

Total Annual Operating Expense %	0.09%
Total Annual Operating Expense per \$1000	\$0.90

### Additional Information for Total Annual Operating Expense

The Total Annual Operating Expense ratio noted above ("TAOE") reflects a management fee and administrative costs. The administrative costs are capped at one (1) basis point (0.01%) per year. The TAOE may also, if applicable, reflect certain third party acquired fund fees and expenses. There may be other fees and expenses not reflected in the TAOE that bear on the value of the investment. The Portfolio Turnover Rate is that of the collective investment fund in which the Fund invests exclusively, either directly or indirectly.



# BlackRock LifePath® Index 2060 Fund L

**Primary Benchmark**  
Russell 1000® Index

**Custom Benchmark**  
BlackRock LifePath® Index  
2060 Custom Benchmark

**Morningstar Category**  
Target-Date 2060+

**Overall Morningstar Rating™**  
★★★  
See disclosure for details.

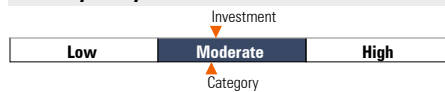
**Morningstar Return**  
Average

**Morningstar Risk**  
Average

## Benchmark Description

The BlackRock LifePath® Index 2060 Fund L's Custom Benchmark is a comparison benchmark for the performance of the Fund. The Custom Benchmark is calculated using blended returns of third party indices that proportionally reflect the respective weightings of the Fund's asset classes. The third party index proportions of the Custom Benchmark are adjusted quarterly to reflect the Fund's changing asset allocations over time. As the Fund's asset classes have been re-defined or added over time, the indices used to calculate the Custom Benchmark have changed accordingly. As of December 31, 2018, the indices used to calculate the Custom Benchmark are: Russell 1000® Index, Russell 2000® Index, MSCI ACWI ex-US IMI Net Dividend Return Index(sm), Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L), FTSE EPRA Nareit Developed Index, and the Bloomberg Commodity Index Total Return.

## Volatility Analysis

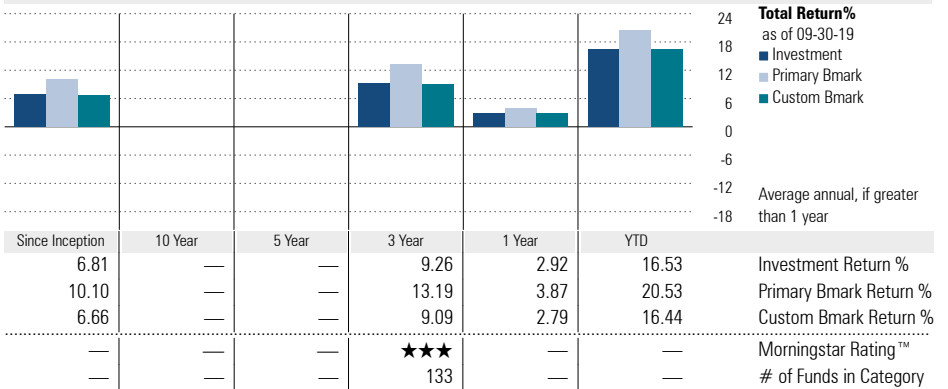


In the past, this investment has shown a relatively moderate range of price fluctuations relative to other investments. This investment may experience larger or smaller price declines or price increases depending on market conditions. Some of this risk may be offset by owning other investments with different portfolio makeups or investment strategies.

**Best 3 Month Return**  
12.55%  
(Jan '19 - Mar '19)

**Worst 3 Month Return**  
-11.68%  
(Oct '18 - Dec '18)

## Performance



**Performance Disclosure: The Fund's returns are net of an investment management fee, currently at an annual rate of 0.08%. The Fund's performance reflects fund level administrative costs capped at 1 basis point (0.01%) per year. Since its inception the Fund has invested all of its assets in LifePath Index 2060 Fund F. Returns shown for periods prior to the Fund's inception are those of the LifePath Index 2060 Fund F net of the Fund's investment management fee.**

## Principal Risks

Any of the principal risks summarized below may adversely affect the Fund's net asset value, performance, and ability to meet its investment objective. An investment in the Fund is not a bank deposit, is not guaranteed by BlackRock, Inc. or any of its affiliates, and is not insured by the Federal Deposit Insurance Corporation or any other agency of the U.S. government.

**Equity Investment Risk:** The price of an equity security fluctuates based on changes in the issuer's financial condition and overall market and economic conditions. Equity securities are subject to changes in value that may be more volatile than other asset classes.

**Foreign Investment Risk 1:** The Fund may suffer losses due to political, legal, economic and geographic events affecting a non-U.S. issuer or market. The prices of non-U.S. securities may be more volatile than those of securities issued by U.S. corporations or other U.S. entities. Securities of non-U.S. issuers denominated in non-U.S. currencies will expose the Fund to fluctuations in foreign currency exchange prices.

**Target Date Risk 1:** A "target date" fund may incur losses close to or after the fund's target retirement date, and there is no guarantee that the Fund will provide adequate income for an investor's retirement.

**Asset Allocation Model Risk:** The asset allocation model may not effectively maximize returns or minimize risk, or be appropriate for every investor seeking a particular risk profile. The model developed by BTC could result in underperformance as compared to funds with similar investment objectives and strategies.

**Commodity-Related Investment Risk 2:** The value of commodity-linked derivative investments may be significantly affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, embargoes, tariffs and international economic, political and regulatory developments.

**Securities Lending Risk 1:** The Fund may engage in securities lending, which involves borrower credit risk, settlement risk, and cash collateral-related risks, such as the risk that the return on the cash collateral is insufficient to cover the fees the Fund is committed to pay and the risk that cash collateral may be invested in securities or other instruments that suffer losses or become illiquid.

**Derivatives Risk 1:** Investments in derivatives (such as futures contracts, forward contracts, swaps and options) may reduce the Fund's returns and/or increase volatility. Fluctuations in the values of derivatives may not correlate perfectly with the overall securities markets. The other party in the transaction may not fulfill its contractual obligation. The possible lack of a liquid secondary market for derivatives could expose the Fund to losses.

**Real Estate-Related Investment Risk 2:** Real estate values can be negatively affected by many factors including both the general and local economies, the amount of new construction in a particular area, the laws and regulations affecting real estate, the costs of owning, maintaining and improving real estate, availability of mortgages, and changes in interest rates.

**Underlying Fund Risk 2:** The investment objective and strategies of an Underlying Fund in which the Fund invests may differ from the Fund, and there is no assurance that an Underlying Fund will achieve its objective.

**Fixed Income Investment Risk 10:** An increase in interest rates may cause the value of fixed income securities held by the Fund to decline. The Fund's income may decline when interest rates fall. Debt issuers may not honor their obligations. Securities that are rated below investment grade may be more volatile and less liquid than higher-rated securities of similar maturity.

# BlackRock LifePath® Index Retirement Fund L

**Primary Benchmark**

Bloomberg Barclays U.S. Aggregate Bond Index

**Custom Benchmark**

BlackRock LifePath® Index Retirement Custom Benchmark

**Morningstar Category**

Target-Date Retirement

**Overall Morningstar Rating™**

★★★★

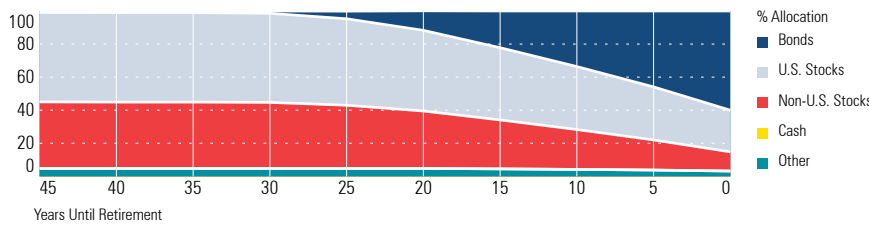
See disclosure for details.

**Morningstar Return**

Above Average

**Morningstar Risk**

Average

**Allocation of Stocks and Bonds**

**Investment Objective and Strategy**

The Fund seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and draw down phase based on quantitatively measured risk that investors, on average, may be willing to accept.

The Fund is a collective investment trust maintained and managed by BlackRock Institutional Trust Company, N.A. ("BTC").

The Fund shall be invested and reinvested in securities and other assets with the objective of providing for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept.

In pursuit of that objective, the Fund will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time if the Fund has a year in its name. The Fund's investments may include: equity securities (including those issued by real estate companies); depositary receipts; debt securities and other fixed income obligations (including those issued or guaranteed by the U.S. government, its agencies or instrumentalities, and those issued by corporations or other entities); mortgage-backed securities; other asset-backed securities; commodities; and/or cash equivalents.

The Fund may invest in securities and other obligations of U.S. issuers or non-U.S. issuers, and those issuers may be of any market capitalization. The Fund's fixed income investments may be investment-grade or non-investment grade, and may include securities and other obligations of any maturity.

In addition to, or in lieu of, investing in the assets listed above, the Fund may engage in structured transactions in these asset classes, as well as over-the-counter forward contracts, swaps and options. When deemed appropriate by BTC, the Fund may invest in futures contracts, for the purpose of acting as a temporary substitute for investment in securities and/or to gain exposure to commodities.

The difference between the normal and current securities holdings for the Fund varies over time and is based on the factors analyzed by the asset allocation model used by BTC to manage the Fund. The normal asset allocations will gradually change over the investment horizon of the Fund to become more heavily oriented toward debt and debt-like securities. As time passes, the Fund is managed more conservatively – prior to retirement – in terms of its allocation to equity securities and markets, on the premise that individuals investing for retirement desire to reduce investment risk in their retirement accounts as their retirement date approaches.

The trajectory along which asset allocations are adjusted over time to gradually become more conservative is called the "glidepath". The glidepath illustrates the target allocation among asset classes as the Fund approaches its target date. The target asset allocation of the Fund at its retirement date is expected to be 40% in underlying index funds that invest primarily in equity and equity-like securities and 60% in underlying index funds that invest primarily in fixed income and fixed income-like securities.

BTC employs a proprietary investment model that analyzes securities market data, including risk, correlation and expected return statistics, to recommend the portfolio allocation among the asset classes.

Rather than choosing specific securities within each asset class, BTC selects among indices representing segments of the global equity and debt markets and invests in securities that comprise the chosen index. The Fund generally invests in a chosen index through a series of collective investment trusts maintained and managed by BTC, each such fund representing one of the indices (each, an "Underlying Fund").

In the event of a conflict between this summary description of the Fund's investment objective and principal investment strategies and the Trust Document under which the Fund was established, the Trust Document will govern. For more information related to the Fund, please see the Fund's Trust Document, Profile and most recent audited financial statements.

**Portfolio Analysis**

Top 10 Holdings as of 09-30-19	% Assets
U.S. Debt Index Fund E	54.08
Russell 1000 Index Fund	22.08
BlackRock MSCI ACWI ex-US IMI Index Fd E	11.71
U.S. TIPS Fund E	5.90
Russell 2000 Index Fund	3.25
Commodity Index Daily Fund E	1.60
Developed Real Estate Index Fund E	1.37

**Morningstar Super Sectors as of 09-30-19**

	% Fund
Cyclical	40.54
Sensitive	37.20
Defensive	22.26

**Morningstar F-I Sectors as of 09-30-19**

	% Fund	% Category
Government	47.57	36.53
Corporate	21.58	25.16
Securitized	22.16	19.97
Municipal	0.54	0.44
Cash	8.16	13.73
Other	0.00	4.16

**Investment Information**
**Operations and Management**

Product Inception Date	08-26-11
Strategy Inception Date	08-01-05
Total Fund Assets (\$mil)	848.14
Investment Manager	BlackRock Institutional Trust Company NA

Annual Turnover Ratio %	13.31
-------------------------	-------

**Fees and Expenses as of 12-31-18**

Total Annual Operating Expense %	0.09%
Total Annual Operating Expense per \$1000	\$0.90

**Additional Information for Total Annual Operating Expense**

The Total Annual Operating Expense ratio noted above ("TAOE") reflects a management fee and administrative costs. The administrative costs are capped at one (1) basis point (0.01%) per year. The TAOE may also, if applicable, reflect certain third party acquired fund fees and expenses. There may be other fees and expenses not reflected in the TAOE that bear on the value of the investment. The Portfolio Turnover Rate is that of the collective investment fund in which the Fund invests exclusively, either directly or indirectly.

# BlackRock LifePath® Index Retirement Fund L

<b>Primary Benchmark</b> Bloomberg Barclays U.S. Aggregate Bond Index	<b>Custom Benchmark</b> BlackRock LifePath® Index Retirement Custom Benchmark	<b>Morningstar Category</b> Target-Date Retirement	<b>Overall Morningstar Rating™</b> ★★★★ See disclosure for details.	<b>Morningstar Return</b> Above Average	<b>Morningstar Risk</b> Average
--	--	---	---	--	------------------------------------

## Benchmark Description

The BlackRock LifePath® Index Retirement Fund L's Custom Benchmark is a comparison benchmark for the performance of the Fund. The Custom Benchmark is calculated using blended returns of third party indices that proportionally reflect the respective weightings of the Fund's asset classes. The third party index proportions of the Custom Benchmark are adjusted quarterly to reflect the Fund's changing asset allocations over time. As the Fund's asset classes have been re-defined or added over time, the indices used to calculate the Custom Benchmark have changed accordingly. As of December 31, 2018, the indices used to calculate the Custom Benchmark are: Russell 1000® Index, Russell 2000® Index, MSCI ACWI ex-US IMI Net Dividend Return Index[sm], Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L), FTSE EPRA Nareit Developed Index, and the Bloomberg Commodity Index Total Return.

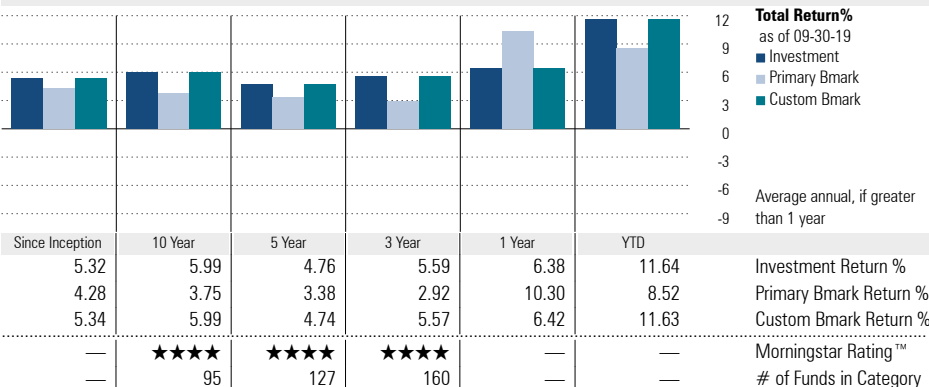
## Volatility Analysis



In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

<b>Best 3 Month Return</b> 13.46% (Mar '09 - May '09)	<b>Worst 3 Month Return</b> -15.26% (Sep '08 - Nov '08)
---	---

## Performance



**Performance Disclosure: The Fund's returns are net of an investment management fee, currently at an annual rate of 0.08%. The Fund's performance reflects fund level administrative costs capped at 1 basis point (0.01%) per year. Since its inception the Fund has invested all of its assets in LifePath Index Retirement Fund F. Returns shown for periods prior to the Fund's inception are those of the LifePath Index Retirement Fund F net of the Fund's investment management fee.**

## Principal Risks

Any of the principal risks summarized below may adversely affect the Fund's net asset value, performance, and ability to meet its investment objective. An investment in the Fund is not a bank deposit, is not guaranteed by BlackRock, Inc. or any of its affiliates, and is not insured by the Federal Deposit Insurance Corporation or any other agency of the U.S. government.

**Equity Investment Risk:** The price of an equity security fluctuates based on changes in the issuer's financial condition and overall market and economic conditions. Equity securities are subject to changes in value that may be more volatile than other asset classes.

**Foreign Investment Risk 1:** The Fund may suffer losses due to political, legal, economic and geographic events affecting a non-U.S. issuer or market. The prices of non-U.S. securities may be more volatile than those of securities issued by U.S. corporations or other U.S. entities. Securities of non-U.S. issuers denominated in non-U.S. currencies will expose the Fund to fluctuations in foreign currency exchange prices.

**Target Date Risk 1:** A "target date" fund may incur losses close to or after the fund's target retirement date, and there is no guarantee that the Fund will provide adequate income for an investor's retirement.

**Asset Allocation Model Risk:** The asset allocation model may not effectively maximize returns or minimize risk, or be appropriate for every investor seeking a particular risk profile. The model developed by BTC could result in underperformance as compared to funds with similar investment objectives and strategies.

**Commodity-Related Investment Risk 2:** The value of commodity-linked derivative investments may be significantly affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, embargoes, tariffs and international economic, political and regulatory developments.

**Securities Lending Risk 1:** The Fund may engage in securities lending, which involves borrower credit risk, settlement risk, and cash collateral-related risks, such as the risk that the return on the cash collateral is insufficient to cover the fees the Fund is committed to pay and the risk that cash collateral may be invested in securities or other instruments that suffer losses or become illiquid.

**Derivatives Risk 1:** Investments in derivatives (such as futures contracts, forward contracts, swaps and options) may reduce the Fund's returns and/or increase volatility. Fluctuations in the values of derivatives may not correlate perfectly with the overall securities markets. The other party in the transaction may not fulfill its contractual obligation. The possible lack of a liquid secondary market for derivatives could expose the Fund to losses.

**Real Estate-Related Investment Risk 2:** Real estate values can be negatively affected by many factors including both the general and local economies, the amount of new construction in a particular area, the laws and regulations affecting real estate, the costs of owning, maintaining and improving real estate, availability of mortgages, and changes in interest rates.

**Underlying Fund Risk 2:** The investment objective and strategies of an Underlying Fund in which the Fund invests may differ from the Fund, and there is no assurance that an Underlying Fund will achieve its objective.

**Fixed Income Investment Risk 10:** An increase in interest rates may cause the value of fixed income securities held by the Fund to decline. The Fund's income may decline when interest rates fall. Debt issuers may not honor their obligations. Securities that are rated below investment grade may be more volatile and less liquid than higher-rated securities of similar maturity.

# Disclosure

When used as supplemental sales literature, the Investment Profile must be preceded or accompanied by this disclosure statement. The performance data given represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's shares when redeemed may be worth more or less than the original investment. Fund portfolio statistics change over time. The fund is not insured by the Federal Deposit Insurance Corporation ("FDIC"), may lose value and is not guaranteed by a bank or other financial institution.

## Fund Structure

The fund described herein is a bank-maintained collective investment fund maintained and managed by BlackRock Institutional Trust Company, N.A. ("BTC"). BTC is a national banking association organized under the laws of the United States and operates as a limited purpose trust company.

In reliance upon an exemption from the registration requirements of the federal securities laws, investments in the fund are not registered with the Securities and Exchange Commission ("SEC") or any state securities commission. Likewise, in reliance upon an exclusion from the definition of an investment company in the Investment Company Act of 1940, as amended (the "Company Act"); the fund is not registered with the SEC as an investment company under the Company Act. The Office of the Comptroller of the Currency is responsible for ensuring that fiduciary powers are exercised in a manner consistent with the best interests of BTC's clients and sound fiduciary principles.

The fund is offered to defined contribution plans ("Plans") that are qualified under Section 401(a) of the Internal Revenue Code of 1986, as amended ("IRC"), and governmental Plans, such as state and municipal government Plans that are described in IRC Section 818(a)(6), such as governmental IRC Section 457(b) Plans. The fund is established and governed by a trust instrument, the Plan of BlackRock Institutional Trust Company, N.A. Investment Funds for Employee Benefit Trusts (the "Plan Document"), which sets forth BTC's powers, authority and responsibilities regarding the administration, investment and operation of the fund. Plans investing in the fund become subject to the terms and conditions of the Plan Document.

## Best and Worst 3 Month Performance

Morningstar calculates best and worst 3-month period (in percentage) in-house on a monthly basis.

**Best 3-month Period:** The highest total return the stock has posted in a consecutive three-month period over the trailing 15 years, or if a fund does not have 15 years of history, it will go back as far as the inception date.

**Worst 3-month Period:** The lowest total return the stock has posted in a consecutive three-month period over the trailing 15 years, or if a fund does not have 15 years of history, it will go back as far as the inception date.

## Morningstar Rating™

The Morningstar Rating™ for funds, or "star rating", is calculated for managed products (including mutual funds, variable annuity and variable life subaccounts, exchange-traded funds, closed-end funds, and separate accounts) with at least a three-year history. Exchange-traded funds and

open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The Morningstar Rating does not include any adjustment for sales loads. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. The weights are: 100% three-year rating for 36-59 months of total returns, 60% five-year rating/40% three-year rating for 60-119 months of total returns, and 50% 10-year rating/30% five-year rating/20% three-year rating for 120 or more months of total returns. While the 10-year overall star rating formula seems to give the most weight to the 10-year period, the most recent three-year period actually has the greatest impact because it is included in all three rating periods. For private funds, the Morningstar Rating presented is hypothetical, because Morningstar does not independently analyze private funds. Rather, the rating is assigned as a means to compare these funds with the universe of mutual funds that Morningstar rates. The evaluation of this investment does not affect the retail mutual fund data published by Morningstar.

## Morningstar Return

The Morningstar Return rates a fund's performance relative to other managed products in its Morningstar Category. It is an assessment of a product's excess return over a risk-free rate (the return of the 90-day Treasury Bill) in comparison with the products in its Morningstar category. In each Morningstar category, the top 10% of products earn a High Morningstar Return (High), the next 22.5% Above Average (+ Avg), the middle 35% Average (Avg), the next 22.5% Below Average (- Avg), and the bottom 10% Low (Low). Morningstar Return is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

## Morningstar Risk

Morningstar Risk evaluates a fund's downside volatility relative to that of other products in its Morningstar Category. It is an assessment of the variations in monthly returns, with an emphasis on downside variations, in comparison with the products in its Morningstar category. In each Morningstar category, the 10% of products with the lowest measured risk are described as Low Risk (Low), the next 22.5% Below Average (-Avg), the middle 35% Average (Avg), the next 22.5% Above Average (+Avg), and the top 10% High (High). Morningstar Risk is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

## Morningstar Style Box™

The Morningstar Style Box reveals a fund's investment strategy as of the date noted on this report.

For equity funds the vertical axis shows the market capitalization of the long stocks owned and the horizontal axis shows investment style (value, blend, or growth).

For fixed-income funds, the vertical axis shows the credit quality of the long bonds owned and the horizontal axis shows interest rate sensitivity as measured by a bond's effective duration.

For corporate and municipal bonds, Morningstar surveys credit rating information from fund companies on a periodic basis (e.g., quarterly). In compiling credit rating information, Morningstar instructs fund companies to only use ratings that have been assigned by a Nationally Recognized Statistical Rating Organization (NRSRO). If two NRSROs have rated a security, fund companies are to report the lowest rating to Morningstar. If a rating is unavailable or unpublished, then the security or issuer is categorized as Not Rated/Not Available. US Government Securities issued by the US Treasury or US Government Agencies are included in the US Government category. PLEASE NOTE: Morningstar, Inc. is not itself an NRSRO nor does it issue a credit rating on the fund. An NRSRO rating on a fixed-income security can change from time-to-time.

## Index Provider Information

**Funds with S&P® Benchmark:** "Standard & Poor's®", "S&P®", "S&P 500®", "Standard & Poor's 500®", "500", "Standard & Poor's MidCap 400®", "S&P MidCap", "Standard & Poor's 500® Growth Index", and "Standard & Poor's 500® Value Index" are trademarks of The McGraw-Hill Companies, Inc. These marks have been licensed for use by BlackRock Institutional Trust Company, N.A. The fund is not sponsored, endorsed, sold or promoted by Standard & Poor's, and Standard & Poor's makes no representation regarding the advisability of investing in the fund.

**Funds with Dow Jones Benchmark:** "Dow Jones", the "Dow Jones U.S. Total Stock Market Index SM" and "Dow Jones U.S. Completion Total Stock Market IndexSM" are service marks of Dow Jones & Company, Inc., and the "Dow Jones-UBS Commodity Index" is a service mark or trademark of Dow Jones & Company, Inc. and UBS AG, and have been licensed for use for certain purposes by BlackRock Institutional Trust Company, N.A. ("BTC"). BTC's Extended Equity Market Index Funds, US Equity Market Index Funds and BlackRock Dow Jones-UBS Commodity Index Funds, based on the Dow Jones U.S. Total Stock Market IndexSM, the Dow Jones U.S. Completion Total Stock Market IndexSM and the Dow Jones-UBS Commodity Index respectively, are not sponsored, endorsed, sold or promoted by Dow Jones and Dow Jones does not make any representation regarding the advisability of investing in such products.

**Funds with a Citigroup Benchmark:** "Citigroup 3 Month Treasury Bill Index, Citigroup 1 Month Treasury Bill Index ©2012 Citigroup Index LLC. All rights reserved."

**Funds with an MSCI Benchmark:** The MSCI World ex-U.S. Index Funds, MSCI ACWI ex-US Index Funds, Emerging Markets Index Funds, Active International Equity Index Funds, EAFE Equity Index Funds, and US Real Estate Index Funds described herein are indexed to an MSCI index. The MSCI Indexes are the exclusive property of Morgan Stanley Capital International Inc. ("MSCI"). MSCI, the MSCI Index Names

# Disclosure

and EAFE® are trade or service marks of MSCI or its affiliates and have been licensed for use for certain purposes by BlackRock Institutional Trust Company, N.A. Neither MSCI nor any other party involved in or related to compiling, computing or creating the MSCI data makes any express or implied warranties or representations with respect to such data (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such data.

Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in or related to compiling, computing or creating the data have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages. NO further distribution or dissemination of the MSCI data is permitted without MSCI's express written consent.

**Funds with a Russell Benchmark:** The Russell 1000 Index Funds, Russell 1000 Growth Funds, Russell 1000 Value Funds, Russell 2000 Index Funds, Russell 2000 Growth Funds, Russell 2000 Value Funds and Russell 3000 Index Funds are not promoted, sponsored or endorsed by, nor in any way affiliated with Frank Russell Company. Frank Russell Company is not responsible for and has not reviewed the Russell 1000 Index Funds, Russell 1000 Growth Funds, Russell 1000 Value Funds, Russell 2000 Index Funds, Russell 2000 Growth Funds, Russell 2000 Value Funds and Russell 3000 Index Funds nor any associated literature or publications and Frank Russell Company makes no representation or warranty, express or implied, as to their accuracy, or completeness, or otherwise. Frank Russell Company reserves the right, at any time and without notice, to alter, amend, terminate or in any way change the Russell Indexes. Frank Russell Company has no obligation to take the needs of any particular fund or its participants or any other product or person into consideration in determining, composing or calculating any of the Russell Indexes. Frank Russell Company's publication of the Russell Indexes in no way suggests or implies an opinion by Frank Russell Company as to the attractiveness or appropriateness of investment in any or all securities upon which the Russell Indexes are based. Russell Investment Group is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes, including the Russell 1000®, Russell 1000® Growth, Russell 1000® Value, Russell 2000®, Russell 2000® Growth, Russell 2000® Value, Russell 2500® and Russell 3000® Indexes Russell is a trademark of Russell Investment Group®.

**Funds with a FTSE EPRA/NAREIT Benchmark:** The fund is not in any way sponsored, endorsed, sold or promoted by FTSE International Limited (FTSE), by the London Stock Exchange Plc (the "Exchange"), Euronext N.V. (Euronext), The Financial Times Limited (FT), European Public Real Estate Association (EPRA) or the National Association of Real Estate Investment Trusts (NAREIT) (together the "Licensor Parties") and none of the Licensor Parties make any warranty or representation whatsoever, expressly or impliedly, either as to the results to be obtained from the use of the FTSE EPRA/NAREIT Developed Index, FTSE EPRA/NAREIT Developed ex U.S. Index or the FTSE EPRA/NAREIT United States Index (each, an "Index") and/or the figure at which the said Index stands at any particular time on any particular day or

otherwise. Each Index is compiled and calculated by FTSE. However, none of the Licensor Parties shall be liable (whether in negligence or otherwise) to any person for any error in each Index and none of the Licensor Parties shall be under any obligation to advise any person of any error therein.

FTSE® is a trademark of the Exchange and the FT, NAREIT® is a trademark of the National Association of Real Estate Investment Trusts and EPRA® is a trademark of EPRA and all are used by FTSE under license.

**Funds with a Barclays Benchmark:** The index is maintained by Barclays Inc. ("Barclays"). The fund is not sponsored, endorsed, sold or promoted by Barclays. Barclays makes no representation or warranty, express or implied, to the owners of the fund or any member of the public regarding the advisability of investing in securities generally or in the fund particularly or the ability of the Barclays index to track general bond market performance. Barclays is not responsible for and has not participated in the determination of the timing of, prices at, or quantities of the fund to be issued. Barclays has no obligation or liability in connection with the administration, marketing or trading of the fund. Barclays does not guarantee the accuracy and/or the completeness of the Barclays index or any data included therein. Barclays shall have no liability for any errors, omissions or interruptions therein. Barclays makes no warranty, express or implied, as to the results to be obtained by BTC and the fund or owners of the fund, or any other person or entity, from the use of the Barclays index or any data included therein. Barclays makes no express or implied warranties, and expressly disclaims all warranties of merchantability or fitness for a particular purpose or use with respect to the Barclays index or any data included therein. Without limiting any of the foregoing, in no event shall Barclays have any liability for any lost profits or special, punitive, direct, indirect, or consequential damages even if notified thereof.

## Additional Information

BlackRock is a premier provider of asset management, risk management, and advisory services to institutional, intermediary, and individual clients worldwide. The firm offers a wide range of investment strategies across asset classes in separate accounts, mutual funds, other pooled investment vehicles, and the industry-leading iShares® exchange-traded funds.

Through BlackRock Solutions®, the firm offers risk management and advisory services that combine capital markets expertise with proprietary-developed analytics, systems, and technology. BlackRock serves clients in North and South America, Europe, Asia, Australia, Africa, and the Middle East. Headquartered in New York, the firm maintains offices in 24 countries around the world. For more information on BlackRock, please visit [www.blackrock.com](http://www.blackrock.com).

The information provided in the Investment Profile and this disclosure statement should not be considered a recommendation to purchase or sell a particular security. The fund is a collective investment fund and is privately offered.

Prospectuses are not required and prices are not available in local publications. To obtain pricing information, please contact your service representative.

This Investment Profile includes investment option-related information prepared in accordance with the requirements of Department of Labor ("DOL") Rule 404a-5 under ERISA ("Rule

404a-5"), but please note that this Investment Profile may not meet all of the disclosure requirements for an ERISA "Section 404(c) plan", as described in the DOL regulations under Section 404(c). Please also note that there may be additional information required to be disclosed under Rule 404a-5 that is not included in this Investment Profile because BlackRock is not the appropriate source for that information (e.g., plan-related information or information related to fees and expenses that are charged to participant accounts rather than to the BlackRock investment option). In addition, please note that BlackRock investment option-related information received from sources other than BlackRock may not be consistent with the BlackRock investment option-related information prepared by BlackRock. The information provided herein does not constitute individual investment advice for a Plan participant or investor, is only informational in nature and should not be used by a Plan participant or investor as a primary basis for making an investment decision.

Please note that many collective investment funds maintained by BTC, including certain underlying funds in which such collective investment funds invest, engage in securities lending.

The American Banking Association's "Sample Glossary of Collective Investment Fund Terms for Disclosure to Retirement Plan Participants" is available upon request. Accordingly, the "Sample Glossary of Investment-Related Terms for Disclosures to Retirement Plan Participants" prepared by the Investment Company Institute and The SPARK Institute is also available upon request.

For additional defined terms that may assist participants and beneficiaries in understanding BlackRock Mutual Funds and BlackRock Exchange Traded Funds, please see the terms defined in the relevant Fund's Prospectus and Statement of Additional Information.



**GALLIARD**  
Capital Management, Inc.

## **STATE OF OREGON STABLE VALUE FUND**

THIRD QUARTER 2019 PORTFOLIO REVIEW

---

# STABLE VALUE PORTFOLIO REVIEW - STATE OF OREGON STABLE VALUE FUND

Third Quarter 2019

## TABLE OF CONTENTS

Stable Value Portfolio Review - State of Oregon Stable Value Fund.....	3
Investment Performance .....	4
Portfolio Characteristics.....	5
Holdings.....	10
Market Review .....	11
Appendix.....	15
Calendar Year Performance & Guideline Compliance .....	16
Total Annual Fund Operating Expenses .....	17

## GALLIARD CONTACTS

### Client Portfolio Management

Jeff Hay  
Associate Director  
612.667.7743  
Jeff.J.Hay@galliard.com

Mike Norman  
Partner  
612.667.3219  
michael.d.norman@galliard.com

### Galliard Client Service

612.667.3220  
galliardclientservice@galliard.com

### Stable Value Audit Support

Galliard Stable Value Audit Team  
SVAudit@galliard.com

*The information contained in this report is for informational purposes only. It is intended to provide a summary of portfolio performance and characteristics, and an accounting based view of transactions and holdings. This is a standardized report and is not intended to be used for compliance purposes. Individual portfolio compliance requirements may not be captured in this report.*

**STABLE VALUE PORTFOLIO REVIEW - STATE OF OREGON STABLE VALUE FUND**

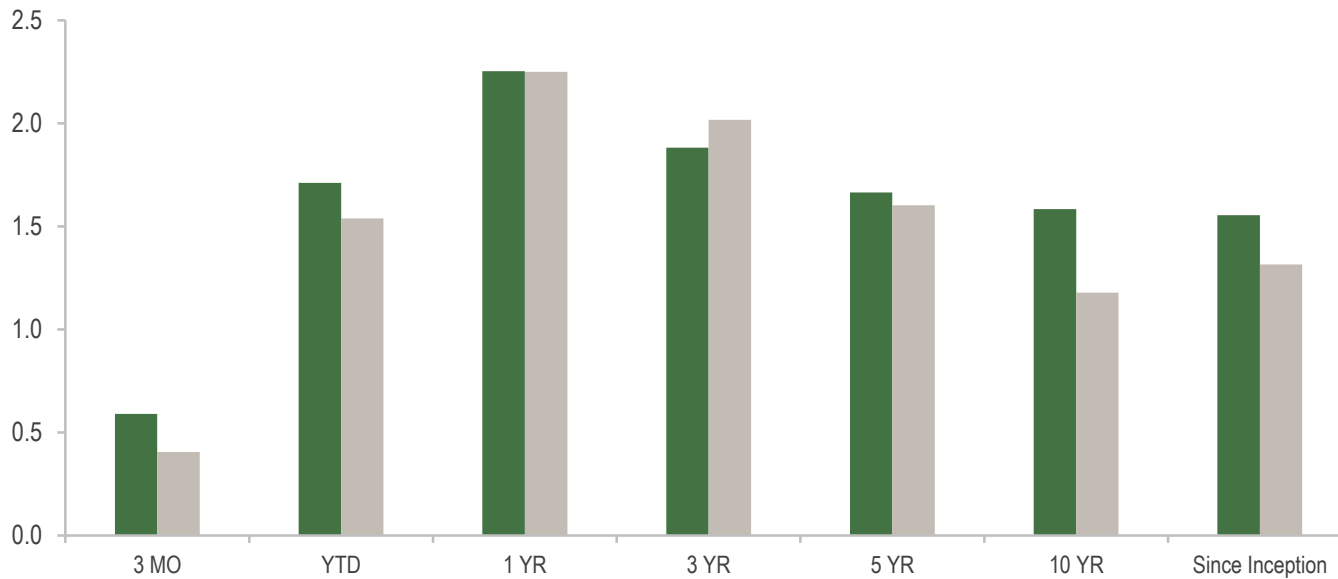
---



# STABLE VALUE PORTFOLIO REVIEW - STATE OF OREGON STABLE VALUE FUND

Third Quarter 2019

## ANNUALIZED INVESTMENT PERFORMANCE AS OF 9/30/19<sup>1</sup>



	3 Mo.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.	Since Inception <sup>5</sup>
Portfolio (net of inv. mgmt. fees) <sup>2,4</sup>	0.62	1.81	2.38	2.03	1.82	-	1.72
■ Portfolio (net of all fees - NAV level) <sup>3,4</sup>	0.59	1.71	2.25	1.88	1.66	1.58	1.55
■ 3 Year Constant Maturity Treasury	0.41	1.54	2.25	2.02	1.60	1.18	1.32
<b>Value Added (net of all fees - NAV level)<sup>6</sup></b>	<b>0.18</b>	<b>0.17</b>	<b>0.00</b>	<b>(0.14)</b>	<b>0.06</b>	<b>0.41</b>	<b>0.24</b>

1: Returns for periods of less than one year are not annualized.

2: Returns are net of book value contract, Galliard investment management fees, and, if applicable, external manager fees and Wells Fargo collective fund administrative fees.

3: Returns are net of all fees, including book value contract fees, Galliard investment management fees, and, if applicable, external manager fees, Wells Fargo collective fund administrative fees, and plan administrative reimbursement.

4: Galliard assumed management of this portfolio on September 1, 2012. Performance for periods referenced prior to this date include historical performance of another investment advisor.

5: Performance inception: September 1, 2012.

6: May not add due to rounding.

# STABLE VALUE PORTFOLIO REVIEW - STATE OF OREGON STABLE VALUE FUND

Third Quarter 2019

## STATE OF OREGON STABLE VALUE FUND

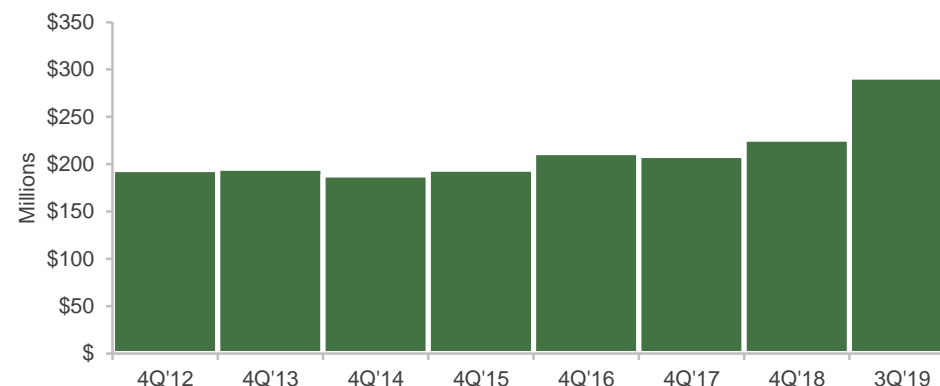
### ACCOUNT SUMMARY

<b>Benchmark</b>	3 Year Constant Maturity Treasury
<b>Galliard Inception Date</b>	September 4, 2012
<b>Net Asset Value</b>	\$292,057,953

### PORTFOLIO CHARACTERISTICS

	Portfolio 6/30/19	Portfolio 9/30/19
<b>Average Quality - Book Value<sup>1</sup></b>	AA-	AA-
<b>Average Quality - Market Value<sup>2</sup></b>	AA	AA
<b>Number of Contract Issuers</b>	5	5
<b>Blended Yield (after all fees)<sup>3</sup></b>	2.38%	2.37%
<b>Yield to Maturity</b>	2.33%	2.11%
<b>Effective Duration</b>	2.78 years	2.72 years
<b>Market/Book Value Ratio</b>	101.29%	101.64%

## HISTORICAL FUND ASSETS



### PORTFOLIO DISTRIBUTION

	% Portfolio 6/30/19	% Portfolio 9/30/19
<b>Liquidity Buffer: Cash &amp; Equivalents<sup>4</sup></b>	1.8	2.9
<b>Short Portfolio</b>	41.6	41.0
<b>Intermediate Portfolio</b>	56.5	56.1
<b>Total</b>	<b>100.0%<sup>5</sup></b>	<b>100.0%<sup>5</sup></b>

1: Average holdings quality of the contracts and other book value assets in the portfolio. The Weighted Average Quality of the portfolio has NOT been assessed by a nationally recognized statistical rating organization. The Weighted Average Quality shown represents an average quality of the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch.

2: Average holdings quality of the underlying assets of the portfolio. The Weighted Average Quality of the portfolio has NOT been assessed by a nationally recognized statistical rating organization. The Weighted Average Quality shown represents an average quality of the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch.

3: Blended Yield is net of all fees, including book value contract fees, Galliard investment management fees, and, if applicable, external manager fees, Wells Fargo collective fund administrative fees, and plan administrative reimbursement.

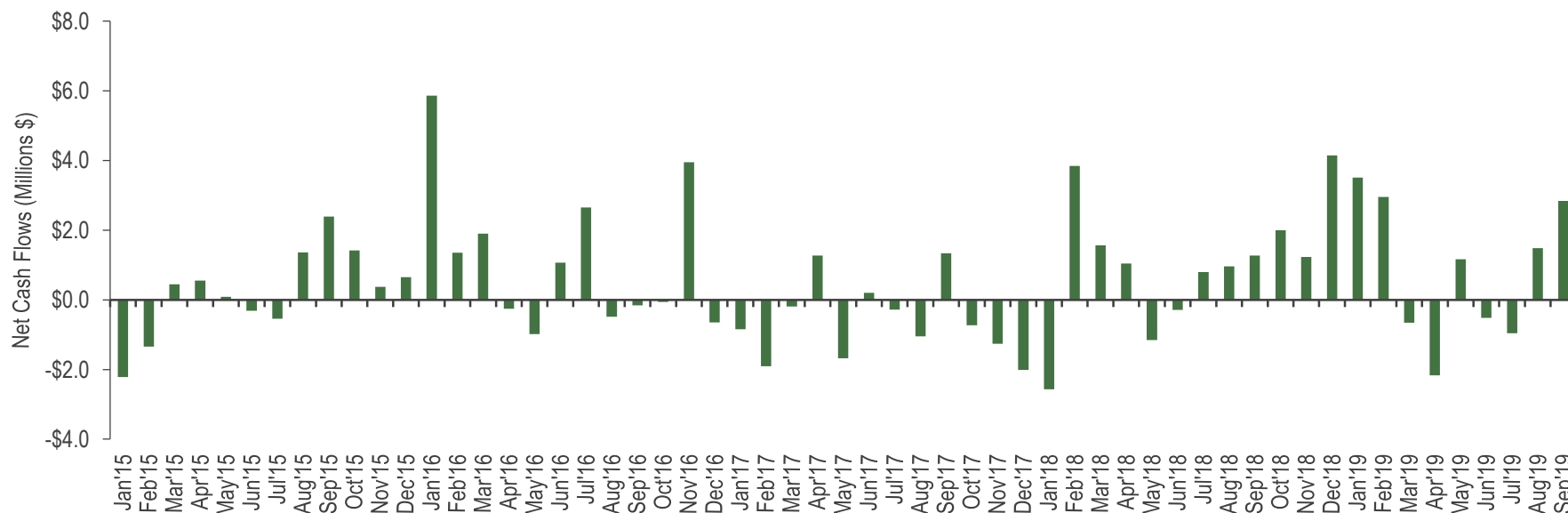
4: Includes Receivables and Payables.

5: Total % of portfolio may not add to 100% due to rounding.

# STABLE VALUE PORTFOLIO REVIEW - STATE OF OREGON STABLE VALUE FUND

Third Quarter 2019

## HISTORICAL CASHFLOWS



	2015	2016	2017	2018	1Q'19	2Q'19	3Q'19	2019 YTD
Beginning Assets	\$188.7	\$194.6	\$212.4	\$209.1	\$226.5	\$286.8	\$287.0	\$226.5
Net Cash Flow (\$) <sup>1</sup>	\$2.9	\$14.2	-\$7.1	\$12.9	\$5.8 <sup>3</sup>	-\$1.5	\$3.4	\$7.7
Net Cash Flow (%)	1.52%	7.29%	-3.35%	6.14%	2.56%	-0.67%	1.49%	3.38%
Estimated Investment Earnings	\$3.1	\$3.6	\$3.9	\$4.6	\$1.3	\$1.7	\$1.7	\$4.7
Ending Assets <sup>2</sup>	\$194.6	\$212.4	\$209.1	\$226.5	\$286.8	\$287.0	\$292.1	\$292.1

1: Contributions, Withdrawals and Investment Transfers

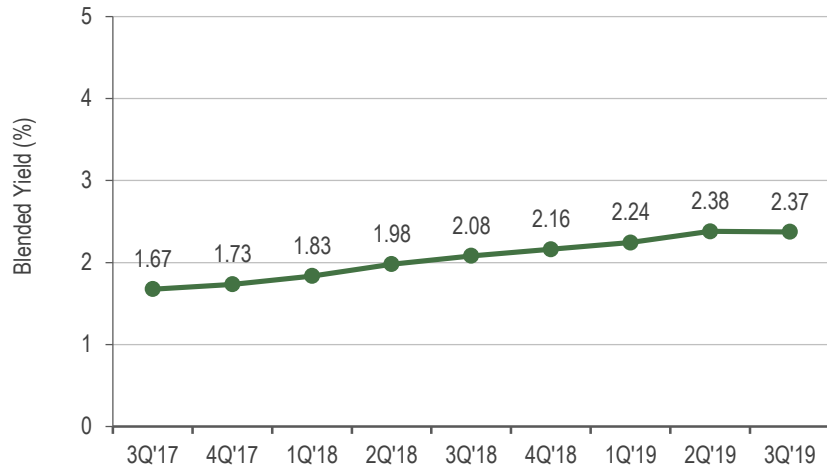
2: Cashflows may not net to final assets due to rounding.

3: Excludes \$53.2 million money market merger on 3/25/19.

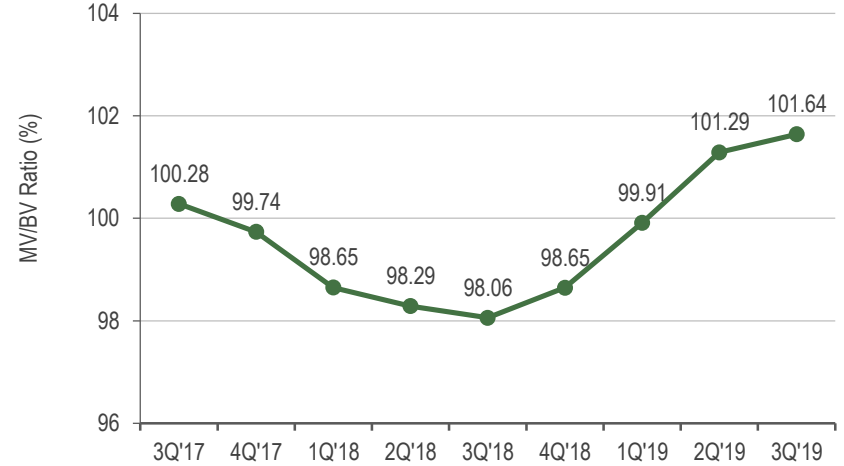
# STABLE VALUE PORTFOLIO REVIEW - STATE OF OREGON STABLE VALUE FUND

Third Quarter 2019

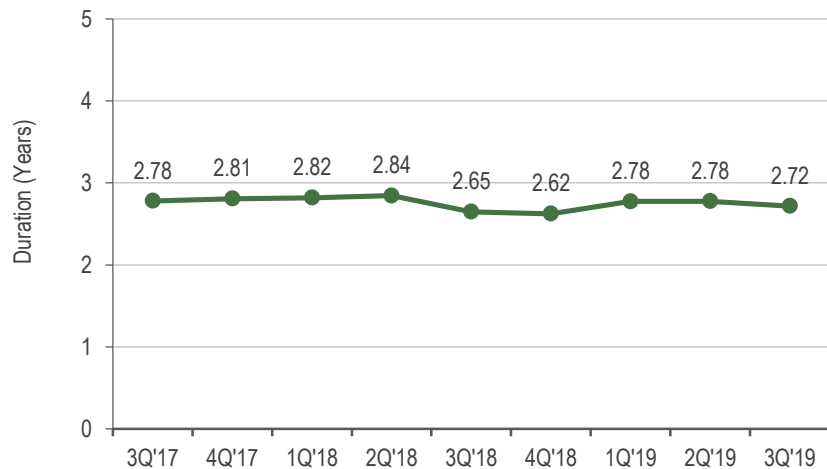
### HISTORICAL BLENDED YIELD<sup>1</sup>



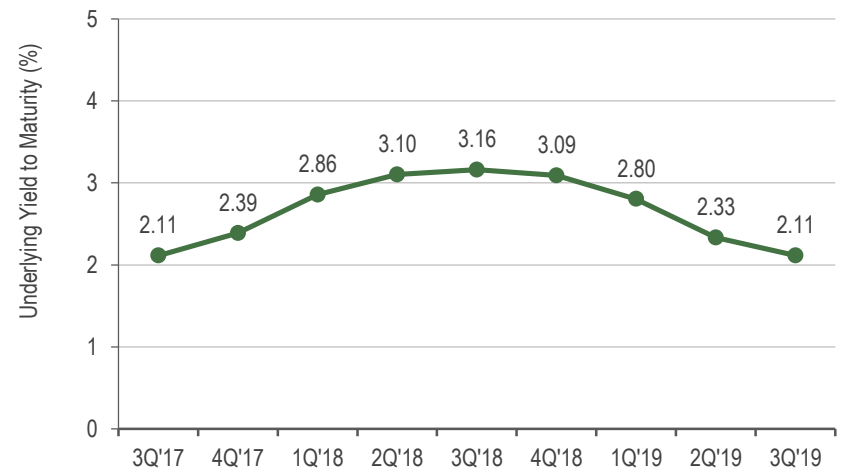
### HISTORICAL MARKET VALUE TO BOOK VALUE RATIO



### HISTORICAL DURATION



### HISTORICAL UNDERLYING YIELD TO MATURITY



<sup>1</sup>: Blended Yield is net of all fees, including book value contract fees, Galliard investment management fees, and, if applicable, external manager fees, Wells Fargo collective fund administrative fees, and plan administrative reimbursement.

# STABLE VALUE PORTFOLIO REVIEW - STATE OF OREGON STABLE VALUE FUND

Third Quarter 2019

## CONTRACT ISSUER DISTRIBUTION & RATING SUMMARY<sup>1</sup>

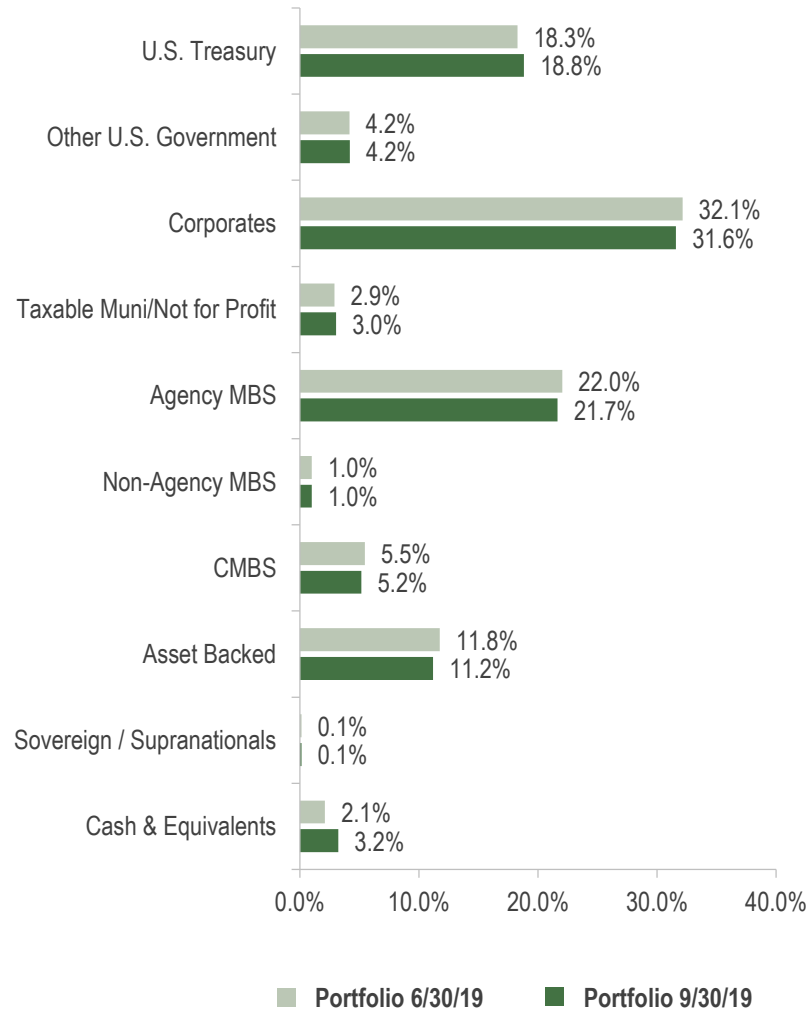
	% Portfolio 6/30/19	% Portfolio 9/30/19	Rating 6/30/19	Rating 9/30/19
Massachusetts Mutual Life Ins. Co.	16.4	16.2	AA+	AA+
Prudential Ins. Co. of America	19.4	19.2	AA-	AA-
Royal Bank of Canada	16.3	16.1	AA	AA
Transamerica Premier Life Ins. Co.	23.7	23.4	A+	A+
Voya Ret. Ins. and Annuity Co.	22.4	22.2	A	A

<sup>1</sup>: The quality rating shown represents the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch. Ratings shown as NR/NA are not rated or not available security ratings.

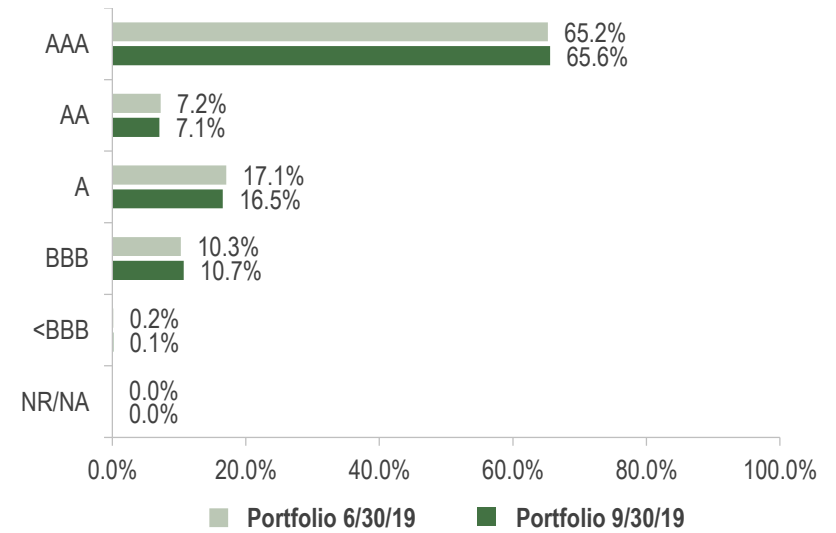
# STABLE VALUE PORTFOLIO REVIEW - STATE OF OREGON STABLE VALUE FUND

Third Quarter 2019

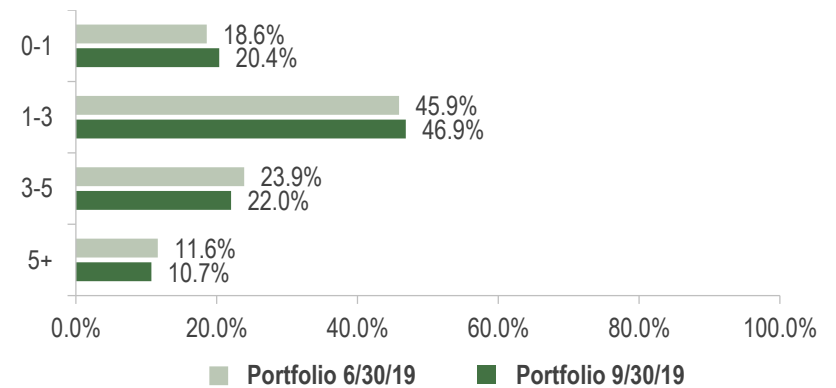
## UNDERLYING FIXED INCOME ASSET ALLOCATION<sup>1</sup>



## UNDERLYING QUALITY DISTRIBUTION<sup>1</sup>



## UNDERLYING DURATION DISTRIBUTION<sup>1</sup>



<sup>1</sup>: Market Value. Total % of portfolio may not add to 100% due to rounding. The external managers provide holdings and the securities are classified using Galliard's analytics methodology for maximum comparability across managers. The quality distribution shown represents the distribution of the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch. Ratings shown as NR/NA are not rated or not available security ratings. Distributions represent the portfolio positions for reporting purposes only. Investment guideline compliance is reported in the appendix or separately through your Galliard relationship manager.

# STATE OF OREGON STABLE VALUE FUND PORTFOLIO HOLDINGS

September 30, 2019

Asset ID	Security Description	Manager	Contract Value (\$)	Market Value (\$)	Market/Book Value Ratio (%)	% of Portfolio	Crediting Rate (%) <sup>1</sup>	UCA Yield (%)	Maturity <sup>2</sup>	Effective Duration (yrs)	Galliard Composite Rating	Wrap Fees (bps)
<b>LIQUIDITY BUFFER</b>												
	Cash Receivable / (Payable)		0	0	0.0	0.0	1.98	1.98		0.10	AAA	
3839909B6	State Street Government STIF 10		8,521,259	8,521,259	100.0	2.9	1.98	1.98		0.10	AAA	
<b>TOTAL LIQUIDITY BUFFER</b>			8,521,259	8,521,259	100.0	2.9	1.98	1.98		0.10	AAA	
<b>SHORT PORTFOLIO</b>												
575997HE4	Massachusetts Mutual Life Ins. Co.	Galliard	19,293,117	19,614,087	101.7	6.6	2.66	2.01	N.S.M.	1.85	AA+	18.0
744999SP9	Prudential Ins. Co. of America	Galliard	22,478,129	22,881,026	101.8	7.7	2.44	2.01	N.S.M.	1.85	AA-	18.0
780995RG3	Royal Bank of Canada	Galliard	19,167,782	19,513,545	101.8	6.6	2.73	2.01	11/1/23	1.85	AA	17.0
600996DU3	Transamerica Premier Life Ins. Co.	Galliard	30,170,364	30,654,172	101.6	10.3	2.71	2.01	N.S.M.	1.85	A+	17.0
75999UTZ1	Voya Ret. Ins. and Annuity Co.	Galliard	28,722,407	29,190,546	101.6	9.8	2.63	2.01	N.S.M.	1.85	A	18.0
<b>TOTAL SHORT PORTFOLIO</b>			119,831,801	121,853,376	101.7	41.0	2.64	2.01		1.85	AA-	
<b>INTERMEDIATE PORTFOLIO</b>												
575997HE4	Massachusetts Mutual Life Ins. Co.	Galliard	28,018,320	28,484,447	101.7	9.6	2.66	2.27	N.S.M.	3.41	AA+	18.0
744999SP9	Prudential Ins. Co. of America	Galliard	4,414,831	4,493,962	101.8	1.5	2.44	2.27	N.S.M.	3.41	AA-	18.0
744999SP9	Prudential Ins. Co. of America	Jennison Assoc.	29,201,636	29,725,044	101.8	10.0	2.44	1.86	N.S.M.	4.16	AA-	18.0
780995RG3	Royal Bank of Canada	Galliard	27,822,622	28,324,506	101.8	9.5	2.73	2.27	11/1/23	3.41	AA	17.0
600996DU3	Transamerica Premier Life Ins. Co.	Dodge & Cox	29,155,106	29,622,633	101.6	10.0	2.71	2.38	N.S.M.	3.12	A+	17.0
600996DU3	Transamerica Premier Life Ins. Co.	Galliard	9,064,977	9,210,342	101.6	3.1	2.71	2.27	N.S.M.	3.41	A+	17.0
75999UTZ1	Voya Ret. Ins. and Annuity Co.	Galliard	6,972,299	7,085,938	101.6	2.4	2.63	2.27	N.S.M.	3.41	A	18.0
75999UTZ1	Voya Ret. Ins. and Annuity Co.	Payden & Rygel	29,055,104	29,528,665	101.6	9.9	2.63	2.17	N.S.M.	3.39	A	18.0
<b>TOTAL INTERMEDIATE PORTFOLIO</b>			163,704,893	166,475,536	101.7	56.1	2.63	2.20		3.49	AA-	
<b>TOTAL PORTFOLIO</b>			292,057,953	296,850,171	101.6	100.0	2.61	2.11		2.72	AA-	

1: Crediting rates are net of wrap fees and any other fees being netted out of the rates.

2: N.S.M. = No Stated Maturity





# MARKET REVIEW

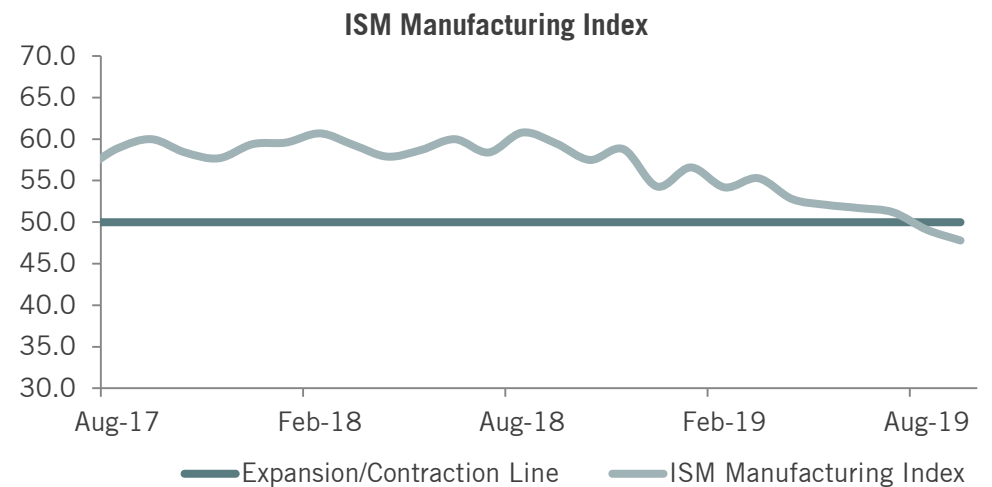
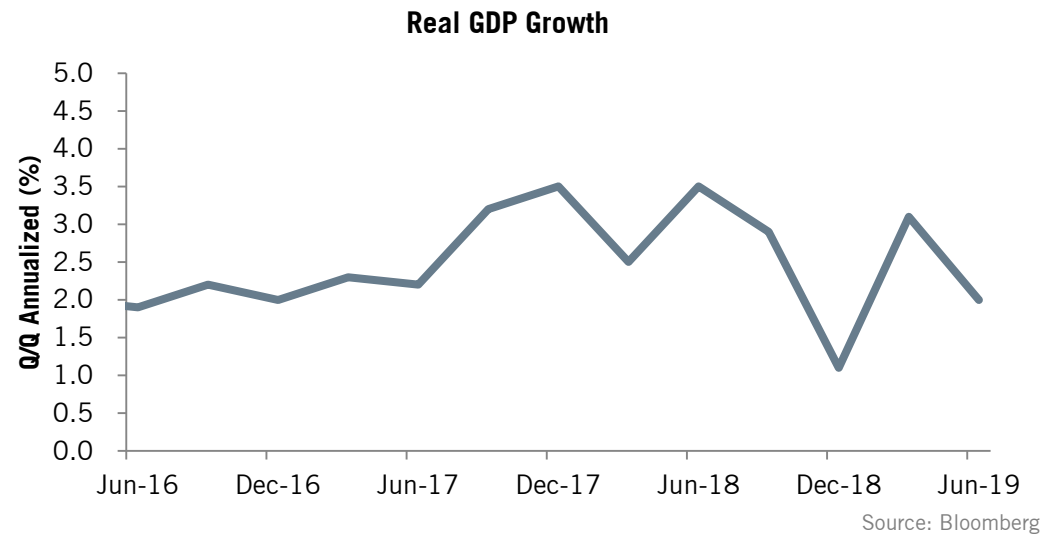
## THIRD QUARTER 2019

### GROWTH SLOWED IN 2Q...

- U.S. GDP growth slowed to 2.00% in second quarter. Personal consumption growth of 4.6%, the strongest in over a year, propped up the economy as broad measures of manufacturing and business output slipped into contractionary territory.
- Broadly speaking, data releases continue to highlight an economy that is a tale of two cities; business activity continues to slow while unemployment and consumer spending remain robust.

### ...AS BUSINESS SENTIMENT CONTINUES TO DECLINE

- The Institute for Supply Management (ISM) manufacturing index moved into contractionary territory, with the most recent reading of 47.8 marking a post-crisis low point. Similar trends have been emerging in measurements of business orders, construction spending, durable goods orders and business sentiment since mid-2018.
- Continued strength in retail sales confirms a healthy consumer, at least for the time being. Worryingly, consumer confidence measures have also started to slip, evidenced by the sharp drop in the University of Michigan Consumer Sentiment Index in August to the lowest level since 2016.
- Despite continued low unemployment, consistent wage gains and strong consumer spending, expectations for 3Q GDP growth are in the 1.8% to 2.1% range.
- Over the next several months the market will focus on consumer related data including non-farm payrolls, initial unemployment claims, average hours worked and consumer confidence for any sign of cracks in consumer spending.



The information contained herein reflects the views of Galliard Capital Management, Inc. & sources believed to be reliable by Galliard as of the date of publication. The views expressed here may change at any time subsequent to the date of publication. This publication is for informational purposes only. For institutional investor use only.

# MARKET REVIEW

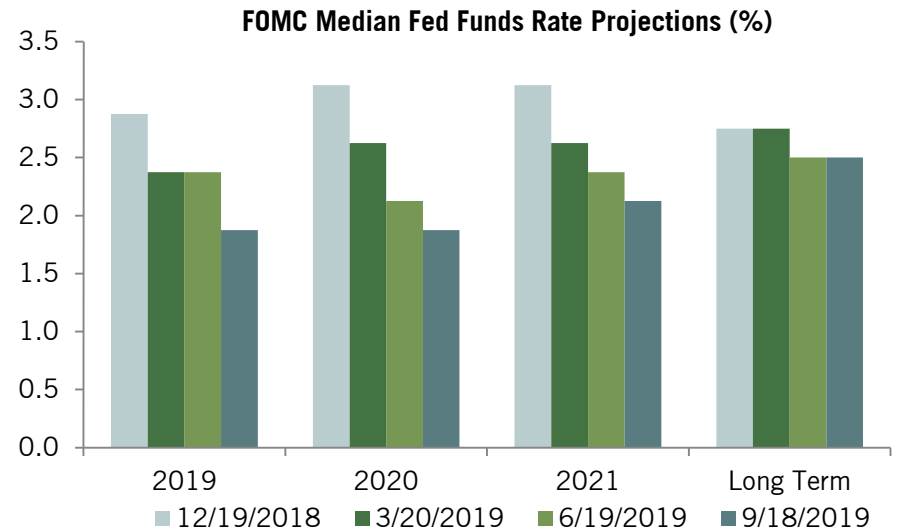
## THIRD QUARTER 2019

### FEDS PATH LOOKS UNCERTAIN...

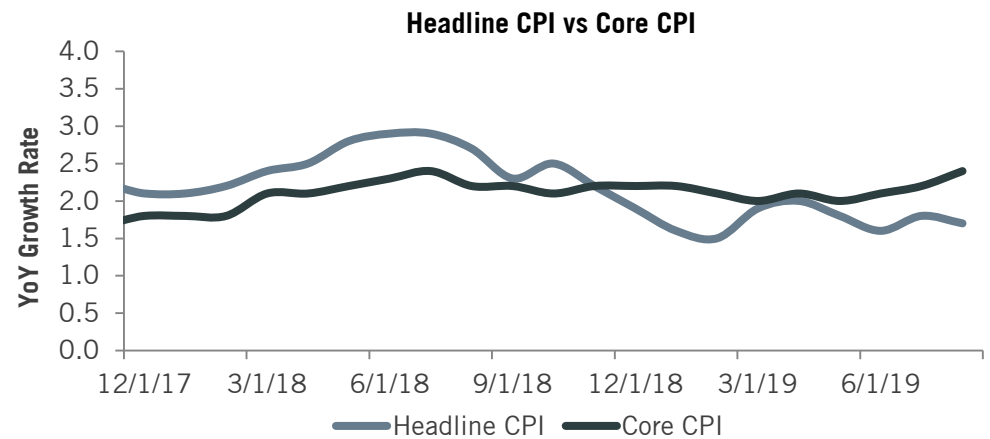
- The Fed started the quarter with a dovish tone, delivering a 25 basis point policy rate cut at the July meeting along with an announcement that quantitative tightening (balance sheet runoff) would end in August rather than September, as previously communicated.
- The Fed added a second 25 basis point rate cut at the September meeting, but the post-meeting message was slightly hawkish. Evidence from the meeting, including the non-unanimous vote and dot plot projections, indicated that the Fed is becoming more divided regarding the path of the economy and appropriate policy.
- Additionally, the fits and starts of the US/China trade war continues to muddy the Fed's signaling, making the process of detangling underlying economic forces from the effects of the trade war very difficult.

### ...AS UNEMPLOYMENT REMAINS LOW AND INFLATION SHOWS LIFE

- Even as the unemployment rate fell to 3.5% in September, its lowest level in 50 years, job creation moved along at a slower pace in 3Q. The three-month rolling average in non-farm payroll growth was 157k at the end of September; not unhealthy, but notably lower than anytime in 2018.
- While the Consumer Price Index (headline CPI) continues to underwhelm, core inflation is showing some signs of life as both Core CPI and Core PCE, the Fed's preferred inflation measure, trended upward.
- Hints of rising core inflation support the argument that multiple additional rate cuts by the Fed is not a foregone conclusion. However, it appears that the market believes inflation is tame and that easing monetary policy will likely continue in the near term. This disconnect has the potential to create volatility in the coming quarters.



Source: Federal Reserve, Bloomberg



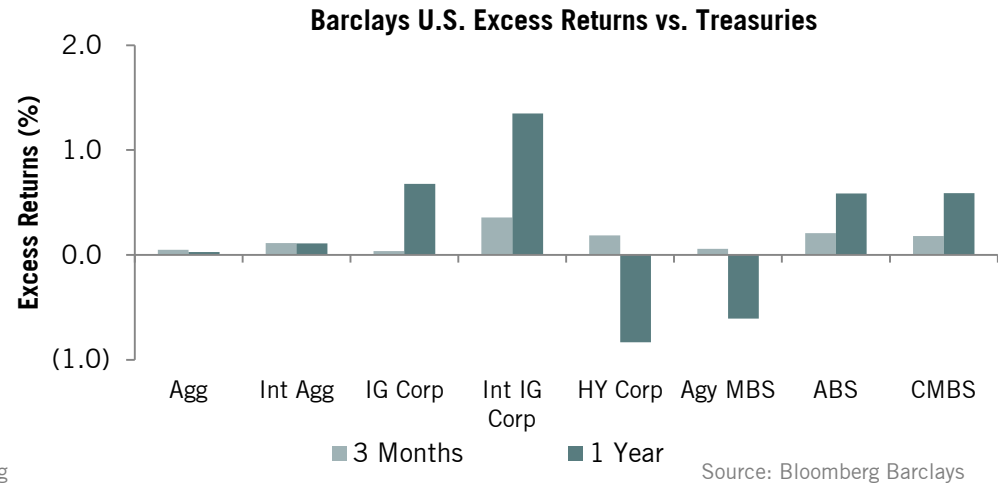
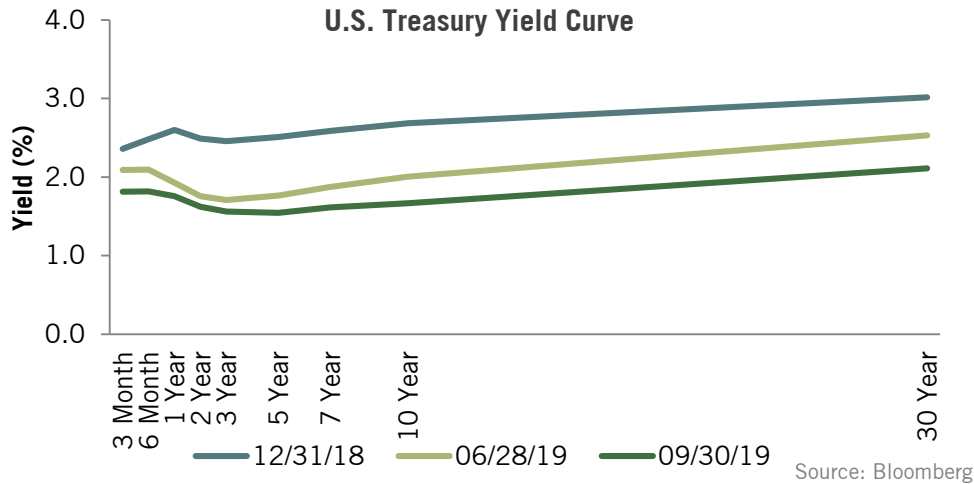
Source: Bloomberg

The information contained herein reflects the views of Galliard Capital Management, Inc. & sources believed to be reliable by Galliard as of the date of publication. The views expressed here may change at any time subsequent to the date of publication. This publication is for informational purposes only. For institutional investor use only.

# MARKET REVIEW

## THIRD QUARTER 2019

### INTEREST RATES FALL FURTHER AS MOST NON-TREASURY SECTORS OUTPERFORM DURING THE QUARTER



- The combination of deteriorating economic data, both at home and abroad, the dovish policy actions from the Federal Reserve, and the escalation of the trade war lead to a significant Treasury market rally in August. However, a series of positive economic data releases in September quickly calmed fears and resulted in a partial re-tracing of the August rally.
- Overall, interest rates declined across maturities during the quarter, with 10-year rates ending at roughly 1.7% and 30-year rates finishing just north of 2%. While the 2s/10s curve inverted briefly in August before finishing the quarter positive, the 3-month T-Bill versus 10-year Treasury curve has been inverted since late May.
- Spreads tightened modestly across most sectors, pushing excess returns positive for the quarter. Within credit, Long Corporates underperformed intermediate and shorter maturities, which was a drag on overall IG Corporate performance. BBB and crossover names continued to outperform AA/A rated bonds.
- Corporate valuations finished the quarter in the fair-to-full range as supply, which surprised to the upside in September, continues to lag the same time period in 2018.
- CMBS remains one of the best performing securitized sectors; while non-Agency CMBS sector performance continues to be highly correlated with intermediate IG Corporates, the defensive, secured nature of CMBS has resulted in lower excess return volatility throughout the year. New issuance continues to lag last year, down -14%, which has contributed to spread tightening year-to-date.
- ABS also performed well, aided by a continued rally in swap spreads and flat supply versus the first three quarters of 2018.
- Agency MBS, which saw excess returns oscillate between positive and negative over the quarter, posted slightly positive excess performance for the third quarter. Year-to-date excess returns remain negative on continued convexity concerns, as mortgage rates steadily march lower.

The information contained herein reflects the views of Galliard Capital Management, Inc. & sources believed to be reliable by Galliard as of the date of publication. The views expressed here may change at any time subsequent to the date of publication. This publication is for informational purposes only. For institutional investor use only.



## APPENDIX - STATE OF OREGON STABLE VALUE FUND

Third Quarter 2019

### CALENDAR YEAR INVESTMENT PERFORMANCE

	2014	2015	2016	2017	2018
Portfolio (net of inv. mgmt. fees) <sup>1</sup>	1.28	1.50	1.63	1.75	2.10
Portfolio (net of all fees - NAV level) <sup>2</sup>	1.10	1.33	1.46	1.58	1.98
3 Year Constant Maturity Treasury	0.90	1.03	1.01	1.58	2.63
<b>Value Added (net of all fees – NAV level)<sup>3</sup></b>	<b>0.21</b>	<b>0.30</b>	<b>0.45</b>	<b>0.00</b>	<b>(0.65)</b>

### MARKET INDICES

ICE BofAML U.S. 3 Month Treasury Bill	0.03	0.05	0.33	0.86	1.87
Consumer Price Index	0.76	0.73	2.07	2.11	1.67

### GUIDELINE COMPLIANCE

We have not become aware of any investment guideline compliance issues occurring in the portfolio during the quarter.

1: Returns are net of book value contract, Galliard investment management fees, and, if applicable, external manager fees and Wells Fargo collective fund administrative fees.

2: Returns are net of all fees, including book value contract fees, Galliard investment management fees, and, if applicable, external manager fees, and plan administrative reimbursement.

3: May not add due to rounding.

## APPENDIX - STATE OF OREGON STABLE VALUE FUND

Third Quarter 2019

### TOTAL ANNUAL FUND OPERATING EXPENSES

Total Annual Operating Expenses are deducted directly from the Fund's net asset value and reduce the investment option's rate of return.

Expense	Expense Ratio 9/30/19	Per \$1000
Investment Management Fees paid to Galliard	0.121%	\$1.21
Investment Management fees paid to Non-Affiliated Investment Advisors	None	None
Investment Contract Fees <sup>1</sup>	0.171%	\$1.71
Acquired Fund Fees <sup>2</sup>	0.057%	\$0.57
-Investment Contract Fees	None	None
-Other Acquired Fund Fees and Non-Affiliated Investment Management Fees paid to Non-Affiliated Investment Advisors <sup>3</sup>	0.057%	\$0.57
12b-1 Distribution Fee	None	None
Other Expenses	0.119%	\$1.19
<b>Total Annual Fund Operating Expenses<sup>4</sup></b>	<b>0.468%</b>	<b>\$4.68</b>

1: These are fees paid to create and maintain the investments used by a stable value fund.

2: These are fees borne indirectly by the Fund when it acquires an interest in another fund which pays its own separate fees.

3: Includes audit fees for the cost of producing a report by a qualified auditor.

4: Total Annual Fund Operating Expenses are reflected daily in the Fund's net asset value (NAV).

Excluding STIF or money market allocations, non-affiliated investment advisors include Dodge & Cox , Jennison Assoc., Payden & Rygel.

# STATE OF OREGON STABLE VALUE FUND

## THIRD QUARTER 2019

### FUND OVERVIEW AS OF 9/30/19

#### ANNUALIZED PERFORMANCE<sup>1</sup>

Periods Ending 9/30/19	Fund (%)	Benchmark (%)	ICE BofAML 3Mo. T-Bill (%)
<b>3Q'19</b>	0.59	0.41	0.56
<b>YTD</b>	1.71	1.54	1.81
<b>1 Year</b>	2.25	2.25	2.39
<b>3 Year</b>	1.88	2.02	1.54
<b>5 Year</b>	1.66	1.60	0.98
<b>10 Year</b>	1.58	1.18	0.54

#### FUND FACTS

<b>Fund Category</b>	Stable Value
<b>Fund Assets</b>	\$292,057,953
<b>Fund Advisor</b>	Galliard Capital Management
<b>Expense Ratio</b>	0.47%
<b>Participant Withdrawals/Transfers</b>	Daily

#### FUND CHARACTERISTICS

<b>Blended Yield (after fees)</b>	2.37%
<b>Effective Duration</b>	2.72 Yrs
<b>Annualized Turnover<sup>2</sup> (as of 12/31/18)</b>	53.47%

#### INVESTMENT CONTRACT ISSUERS

Issuer	Moody's Rating	S&P Rating
<b>Transamerica Premier Life Ins. Co.</b>	A1	AA-
<b>Voya Ret. Ins. and Annuity Co.</b>	A2	A+
<b>Prudential Ins. Co. of America</b>	Aa3	AA-
<b>Massachusetts Mutual Life Ins. Co.</b>	Aa3	AA+
<b>Royal Bank of Canada</b>	Aa2	AA-

#### FUND ALLOCATION

	Fund (%)
<b>Security Backed Investment Contracts</b>	97.1
<b>Cash/Equivalents</b>	2.9

#### SECTOR ALLOCATION OF THE UNDERLYING FIXED INCOME PORTFOLIO

	Fund (%)
<b>U.S. Treasury/Agency</b>	18.8
<b>Other U.S. Government</b>	4.2
<b>Corporate/Taxable Muni/Not for Profit</b>	34.6
<b>Mortgage Backed Securities (MBS)</b>	27.8
<b>Asset Backed Securities (ABS)</b>	11.2
<b>Sovereign/Supranationals</b>	0.1
<b>Cash/Equivalents</b>	3.2

#### INVESTMENT OBJECTIVE

The State of Oregon Stable Value Fund (the "Fund") is an investment option that seeks to provide safety of principal and a stable credited rate of interest, while generating competitive returns over time compared to other comparable investments.

#### INVESTMENT STRATEGY

The State of Oregon Stable Value Fund, managed by Galliard Capital Management, is primarily comprised of investment contracts issued by financial institutions and other eligible stable value investments. All contract issuers and securities utilized in the portfolio are rated investment grade by one of the Nationally Recognized Statistical Rating Organizations at time of purchase. The types of investment contracts in which the Fund invests include Security Backed Investment Contracts. These types of contracts seek to provide participants with safety of principal and accrued interest as well as a stable crediting rate.

SECURITY BACKED INVESTMENT CONTRACTS are comprised of two components: 1) investment contracts issued by a financial institution and 2) underlying portfolios of fixed income securities (i.e. bonds) whose market prices fluctuate. The investment contract is designed to allow participants to transact at book value (principal plus accrued interest) without reference to the price fluctuations of the underlying fixed income securities.

#### INVESTMENT RISK

Conservative	Moderate	Aggressive
Money Markets	Bond Funds	Stock Funds
<b>STABLE VALUE</b>		

The Fund's investment contracts are designed to allow for participant transactions at book value. A principal risk of the Fund is investment contract risk. This includes the risk that the issuer will default on its obligation under the contract or that another event of default may occur under the contract rendering it invalid; that the contract will lapse before a replacement contract with favorable terms can be secured; or that the occurrence of certain other events including employer-initiated events, could cause the contract to lose its book value withdrawal features. These risks may result in a loss to a contract holder. Other primary risks include default risk, which is the possibility that instruments the Fund holds will not meet scheduled interest and/or principal payments; interest rate risk, which includes the risk of reinvesting cash flows at lower interest rates; and liquidity risk, which includes the effect of very large unexpected withdrawals on the Fund's total value. The occurrence of any of these events could cause the Fund to lose value.

1: Returns for periods less than one year are not annualized. Performance is net of all fees and includes all income, realized and unrealized capital gains and losses and all annual fund operating expenses. Returns may have been impacted by the effect of compounding and have been rounded to the nearest basis point. Benchmark is the 3 Year Constant Maturity Treasury. While it is believed that the benchmark used here represents an appropriate point of comparison for the Fund referenced above, prospective investors should be aware that the volatility of the above referenced benchmark or index may be substantially different from that of the Fund; and holdings in the Fund may differ significantly from the benchmark or index if the investment guidelines and criteria are different than the Fund.

2: Please refer to the Fund's Disclosure Booklet for information regarding methodology of turnover calculation.

The Fund and the underlying collective funds are not insured by the FDIC, Federal Reserve Bank, nor guaranteed by Wells Fargo or any affiliate, including Galliard Capital Management. Past performance is not an indication of how the investment will perform in the future. For further information on the Fund, see your company representative.

**STATE OF OREGON STABLE VALUE FUND**  
**THIRD QUARTER 2019**

**FUND ADVISOR**

Galliard Capital Management is the Fund's Advisor. Galliard specializes in stable value management and currently manages \$92.1 billion in assets for institutional investors.

**FEES AND EXPENSES**

The following table shows Galliard's fees and expense information for this investment option. Total Annual Operating Expenses are expenses that reduce the rate of return of the investment option. The cumulative effect of fees and expenses will reduce the growth of your retirement savings. Visit the Department of Labor's website for an example showing the long-term effect of fees and expenses. Fees and expenses are only one of many factors to consider when you decide to invest in this Fund. You may also want to think about whether an investment in this Fund, along with your other investments, will help you achieve your financial goals.

**TOTAL ANNUAL FUND OPERATING EXPENSES**

Total Annual Fund Operating Expenses are deducted directly from the Fund's net asset value and reduce the investment option's rate of return.

Expenses	Expense Ratio (as of 9/30/19)	Per \$1,000
Investment Management Fees paid to Galliard	0.121%	\$1.21
Investment Management Fees paid to Non-Affiliated Investment Advisors	None	None
Investment Contract Fees <sup>1</sup>	0.171%	\$1.71
Acquired Fund Fees <sup>2</sup>	0.057%	\$0.57
Investment Contract Fees	None	None
Other Acquired Fund Fees and Non-Affiliated Investment Management Fees paid to Non-Affiliated Investment Advisors <sup>3</sup>	0.057%	\$0.57
12b-1 Distribution Fee	None	None
Other Expenses	0.119%	\$1.19
<b>Total Annual Fund Operating Expenses <sup>4</sup></b>	<b>0.468%</b>	<b>\$4.68</b>

Please contact your plan administrator for additional information about this investment option.

1: These are fees paid to create and maintain the investments used by a stable value fund.

2: These are fees borne indirectly by the Fund when it acquires an interest in another fund which pays its own separate fees.

3: Includes audit fees for the cost of producing a report by a qualified auditor.

4: Total Annual Fund Operating Expenses are reflected daily in the Fund's net asset value (NAV).





# OREGON SAVINGS GROWTH PLAN

## Schwab Personal Choice Retirement Account (PCRA) Quarterly Report

As of 9/30/2019

# The Schwab Personal Choice Retirement Account (PCRA) Quarterly Report

## OREGON SAVINGS GROWTH PLAN as of 9/30/2019

### Plan Profile Information

Plan Type	457B
Total PCRA Assets	\$21,207,229
Total Funded PCRA Accounts	288
Total Roth Assets	\$274,971
Total Funded Roth Accounts	20
Total Advisor Managed PCRA Assets	\$9,373,085
Total Advisor Managed Funded PCRA Accounts	86
PCRA Accounts Opened This Quarter	21
PCRA Assets In and Out This Quarter*	\$835,782
Average PCRA Account Balance	\$73,636

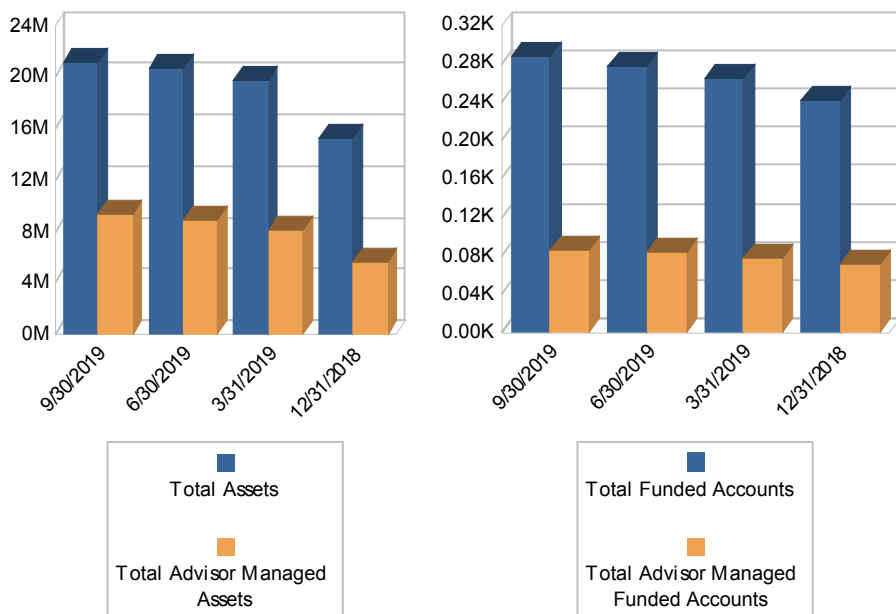
### PCRA Participant Profile Information

Average Participant Age	54
Percent Male Participants	74%
Percent Female Participants	26%

### Total Assets by Category

Cash Investments	\$1,637,759
Equities	\$3,394,360
ETFs	\$2,662,780
Fixed Income	\$372,065
Mutual Funds	\$13,140,264
Other	\$0

### Assets and Accounts (Trailing 4 Quarters)



### Average Positions Per Account

Cash Investments	1.0
Equities	1.7
ETFs	0.8
Fixed Income	0.1
Mutual Funds	1.8
Other	0.0
Total	5.3

### Average Trades Per Account

Equities	2.3
ETFs	0.7
Fixed Income	0.0
Mutual Funds	2.2
Other	0.0
Total	5.3

\* Assets In and Out includes contributions and distributions.

# The Schwab Personal Choice Retirement Account (PCRA) Quarterly Report

## OREGON SAVINGS GROWTH PLAN as of 9/30/2019

### Top 10 Mutual Fund Holdings\*\*

Name	Category	Symbol	OS*	\$MF Assets	%MF Assets
RISKPRO PFG BALANCED 20 TO 30 FD CL R	Hybrid Funds	PFDBX	Y	\$4,120,095	32.32%
RISKPRO PFG EQUITY 30 PLUS FD CL R	Large Capitalization Stock Funds	PFDEX	Y	\$1,709,931	13.41%
RISKPRO ALTERNATIVE 0 TO 15 FD CL R	Hybrid Funds	PFAOX	Y	\$784,499	6.15%
RISKPRO PFG AGGRESSIVE 30 PLUS FD CL R	International	PFSUX	Y	\$358,174	2.81%
RISKPRO DYNAMIC 0 TO 10 FD CL R	Taxable Bond Funds	PFDOX	Y	\$309,784	2.43%
RISKPRO DYNAMIC 15 TO 25 FD CL R	Hybrid Funds	PFPDX	Y	\$292,297	2.29%
RISKPRO DYNAMIC 20 TO 30 FD CL R	Hybrid Funds	PFJDX	Y	\$227,604	1.79%
RISKPRO PFG GLOBAL 30 PLUS FD CL R	International	PFDGX	Y	\$223,417	1.75%
COLUMBIA DIVIDEND INCOME FD CL A	Large Capitalization Stock Funds	LBSAX	Y	\$219,477	1.72%
RISKPRO PFG 0 TO 15 FD CL R	Hybrid Funds	PFADX	Y	\$216,398	1.70%

### Top 10 Fund Families

Name	\$MF Assets	%MF Assets
VANGUARD	\$1,012,394	7.94%
SCHWAB	\$384,180	3.01%
COLUMBIA	\$318,728	2.50%
FIDELITY	\$310,074	2.43%
T ROWE PRICE	\$302,801	2.38%
INFINITY	\$100,343	0.79%
OPPENHEIMER	\$66,227	0.52%
PRIMECAP	\$64,971	0.51%
PARNASSUS	\$64,444	0.51%
BLACKROCK	\$61,774	0.48%

\*\*Top 10 Mutual Funds does not include Money Market Funds.

\*OS = OneSource, no-load, no transaction fee.

# The Schwab Personal Choice Retirement Account (PCRA) Quarterly Report

## OREGON SAVINGS GROWTH PLAN as of 9/30/2019

### Top 10 Equity Holdings

Name	Category	Symbol	\$EQ Assets	%EQ Assets
MCDERMOTT INTL INC F	Energy	MDR	\$339,108	9.99%
AMAZON.COM INC	Consumer Discretionary	AMZN	\$239,556	7.06%
ALIBABA GROUP HOLDING FSPONSORED ADR	Consumer Discretionary	BABA	\$192,147	5.66%
BLACKBERRY LTD F	Information Technology	BB	\$145,819	4.30%
BANK OF AMERICA CORP	Financials	BAC	\$87,510	2.58%
SHOPIFY INC FCLASS A	Information Technology	SHOP	\$87,265	2.57%
UNITI GROUP INC	Real Estate	UNIT	\$77,650	2.29%
ALPHABET INC. CLASS C	Communication Services	GOOG	\$75,578	2.23%
CALAMOS CONVERTIBLE OPPO	Other	CHI	\$70,040	2.06%
MASTERCARD INC CLASS A	Information Technology	MA	\$61,193	1.80%

### Top 10 ETF Holdings

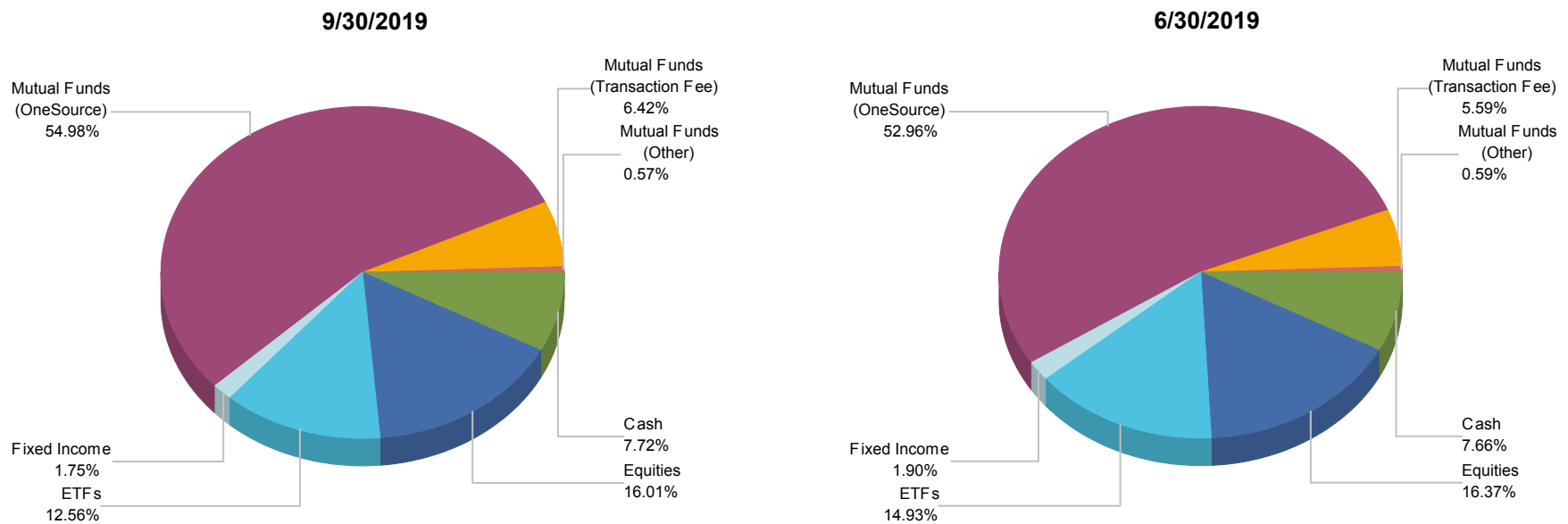
Name	Category	Symbol	OS*	\$ETF Assets	%ETF Assets
SPDR LONG TERM TREASURY ETF	US FI	SPTL	Y	\$152,139	5.71%
SCHWAB US DIVIDEND EQUITY ETF	US Equity	SCHD	Y	\$148,347	5.57%
VANGUARD FTSE EUROPE ETF	International Equity	VGK	N	\$140,137	5.26%
VANGUARD FTSE PACIFIC ETF	International Equity	VPL	N	\$118,321	4.44%
SCHWAB US LARGE CAP VALUE ETF	US Equity	SCHV	Y	\$89,566	3.36%
SCHWAB US BROAD MARKET ETF	US Equity	SCHB	Y	\$82,571	3.10%
SCHWAB US LARGE CAP ETF	US Equity	SCHX	Y	\$79,529	2.99%
SPDR GOLD SHARES ETF NV	Commodity	GLD	N	\$70,268	2.64%
SPDR MFS SYSTEMATIC VALUE EQUITY ETF	US Equity	SYV	Y	\$69,727	2.62%
SPDR S&P 500 ETF	US Equity	SPY	N	\$69,437	2.61%

\*OS = OneSource, no transaction fee.

# The Schwab Personal Choice Retirement Account (PCRA) Quarterly Report

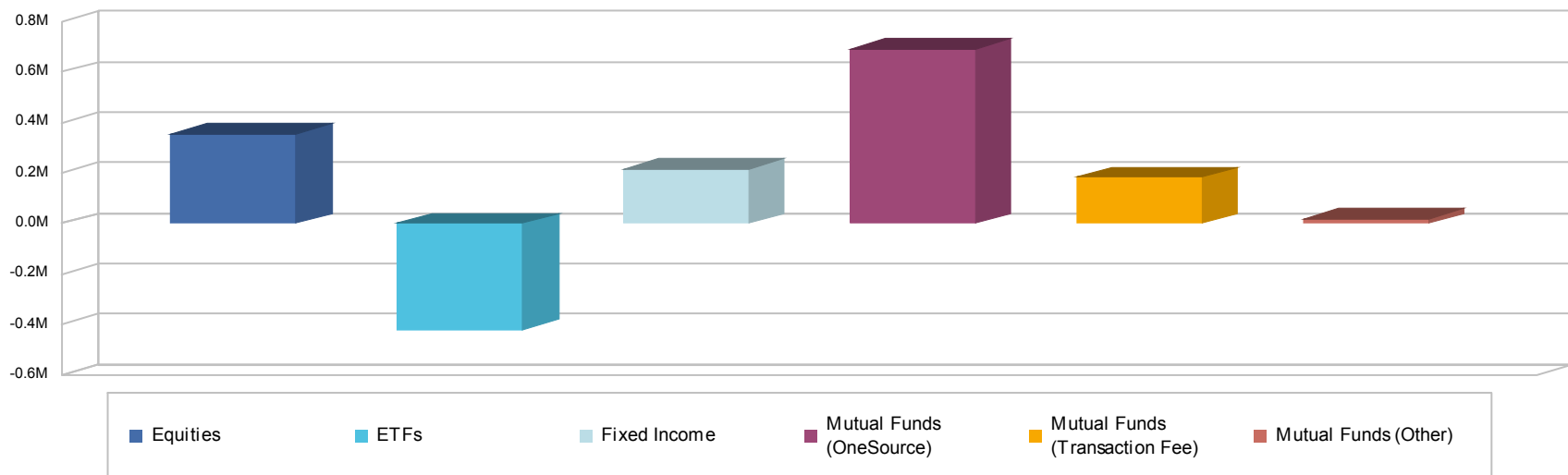
## OREGON SAVINGS GROWTH PLAN as of 9/30/2019

### Market Value Allocation - All Assets (Quarter over Quarter)



The above charts illustrate the percent of PCRA participant assets in each noted asset class as percentage of total PCRA assets. Percentages are calculated as of quarter-end. Money Market Funds are classified under Mutual Funds.

### Net Flow - All Non-Cash Assets (3-Month Period Ending 9/30/2019)

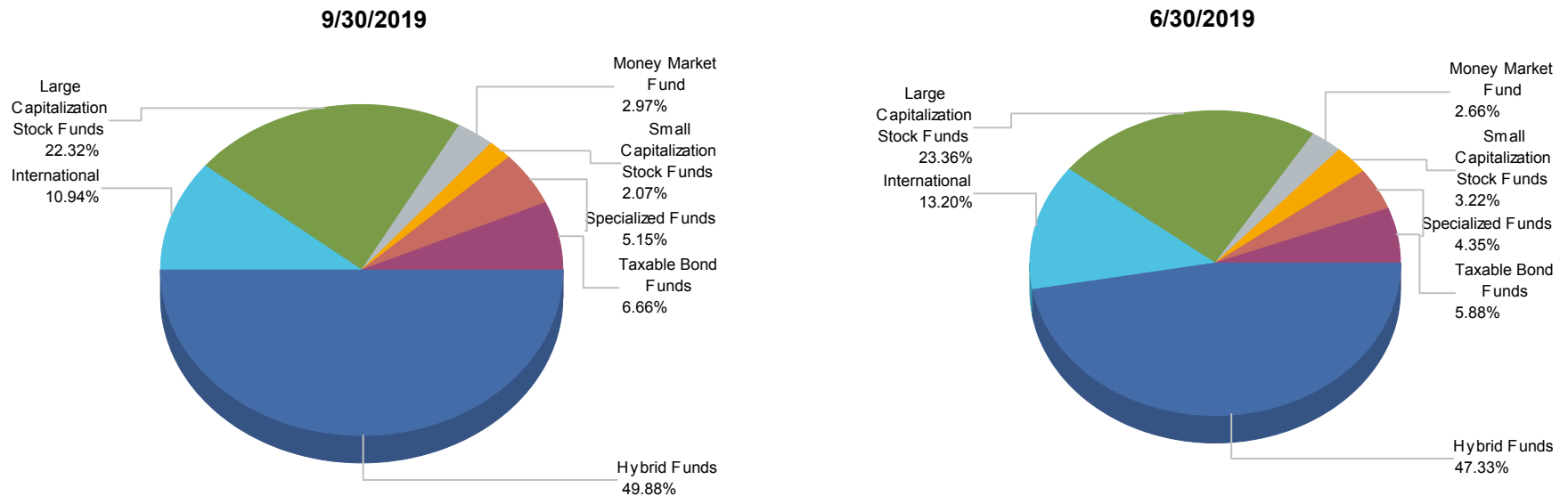


Net Flow is the net of all cash inflows and outflows in and out of financial assets; the performance of an asset or fund is not taken into account, only share redemptions, or outflows, and share purchases, or inflows.

# The Schwab Personal Choice Retirement Account (PCRA) Quarterly Report

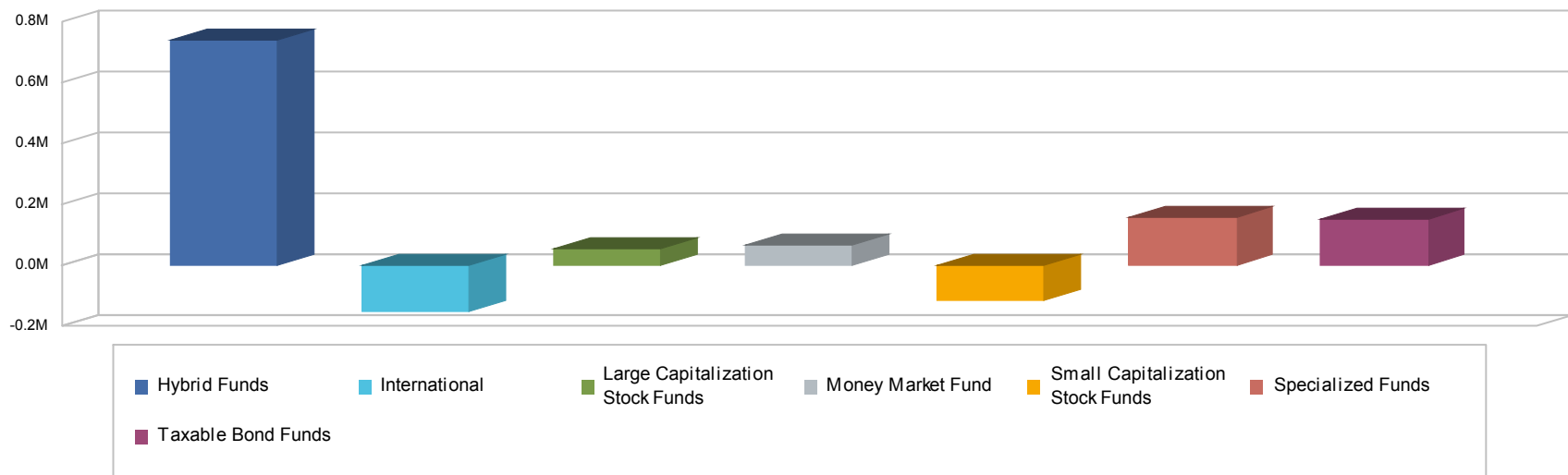
## OREGON SAVINGS GROWTH PLAN as of 9/30/2019

### Market Value Allocation - Mutual Funds (Quarter over Quarter)



The above charts illustrate the percent of PCRA participant assets in each noted asset class as percentage of total PCRA assets. Percentages are calculated as of quarter-end. Money Market Funds are classified under Mutual Funds.

### Net Flow by Sector - Mutual Funds (3-Month Period Ending 9/30/2019)

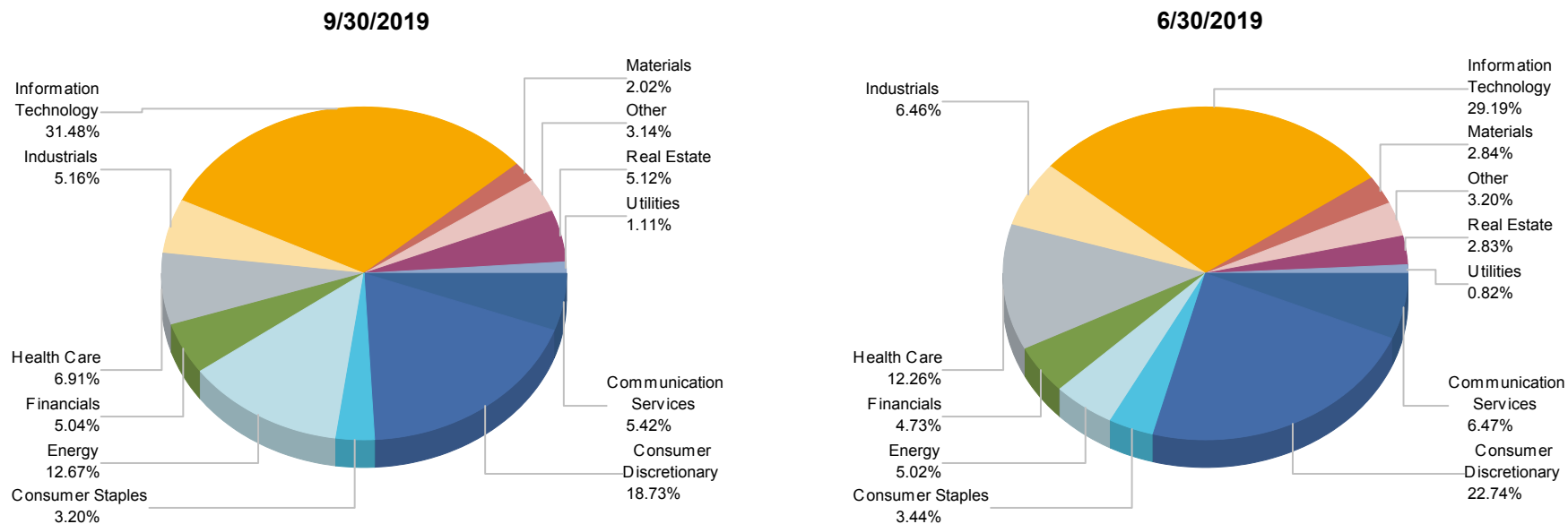


Net Flow is the net of all cash inflows and outflows in and out of financial assets; the performance of an asset or fund is not taken into account, only share redemptions, or outflows, and share purchases, or inflows.

# The Schwab Personal Choice Retirement Account (PCRA) Quarterly Report

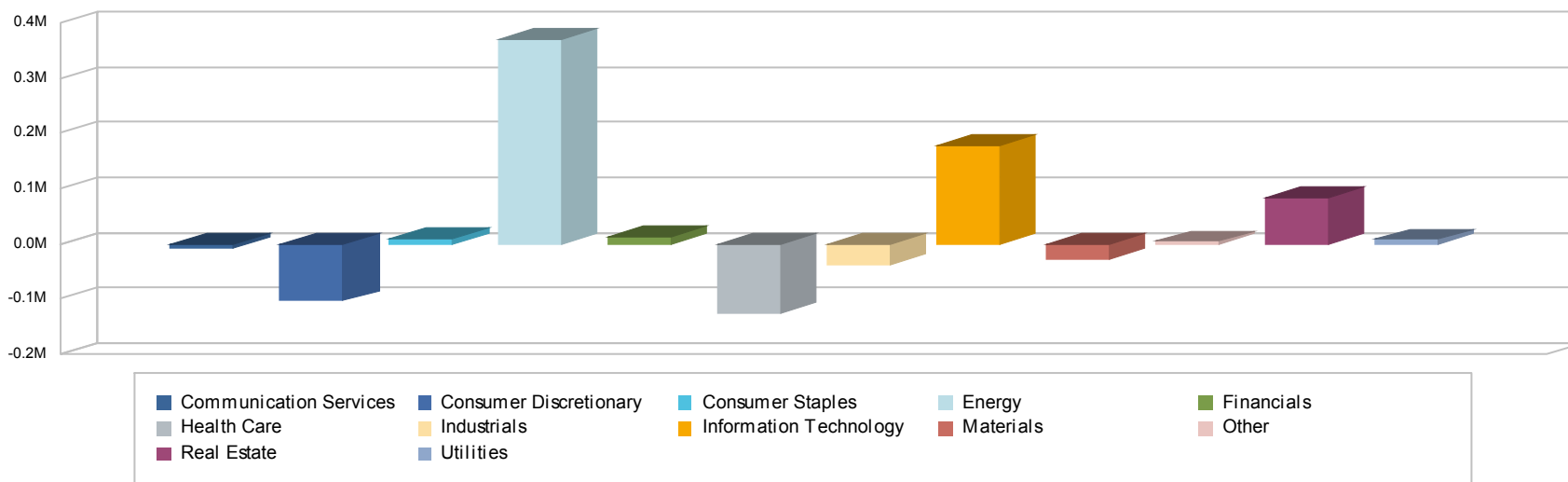
## OREGON SAVINGS GROWTH PLAN as of 9/30/2019

### Market Value Allocation - Equities (Quarter over Quarter)



The above charts illustrate the percent of PCRA participant assets in each noted asset class as percentage of total PCRA assets. Percentages are calculated as of quarter-end. Money Market Funds are classified under Mutual Funds.

### Net Flow by Sector - Equities (3-Month Period Ending 9/30/2019)

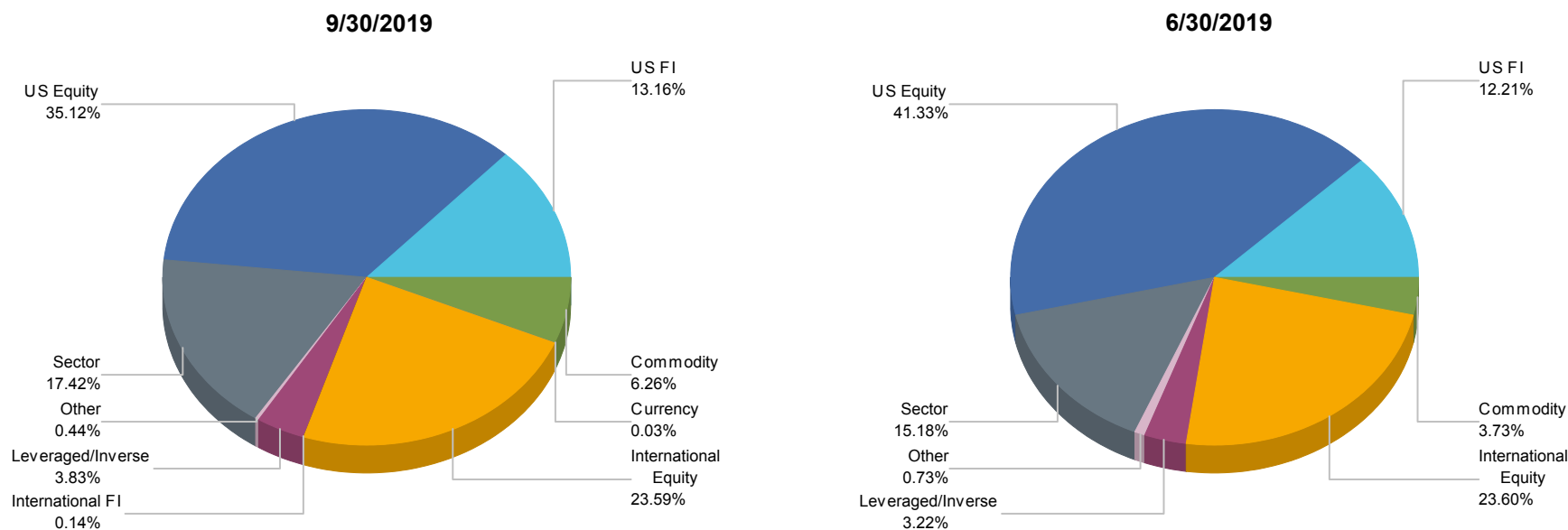


Net Flow is the net of all cash inflows and outflows in and out of financial assets; the performance of an asset or fund is not taken into account, only share redemptions, or outflows, and share purchases, or inflows.

# The Schwab Personal Choice Retirement Account (PCRA) Quarterly Report

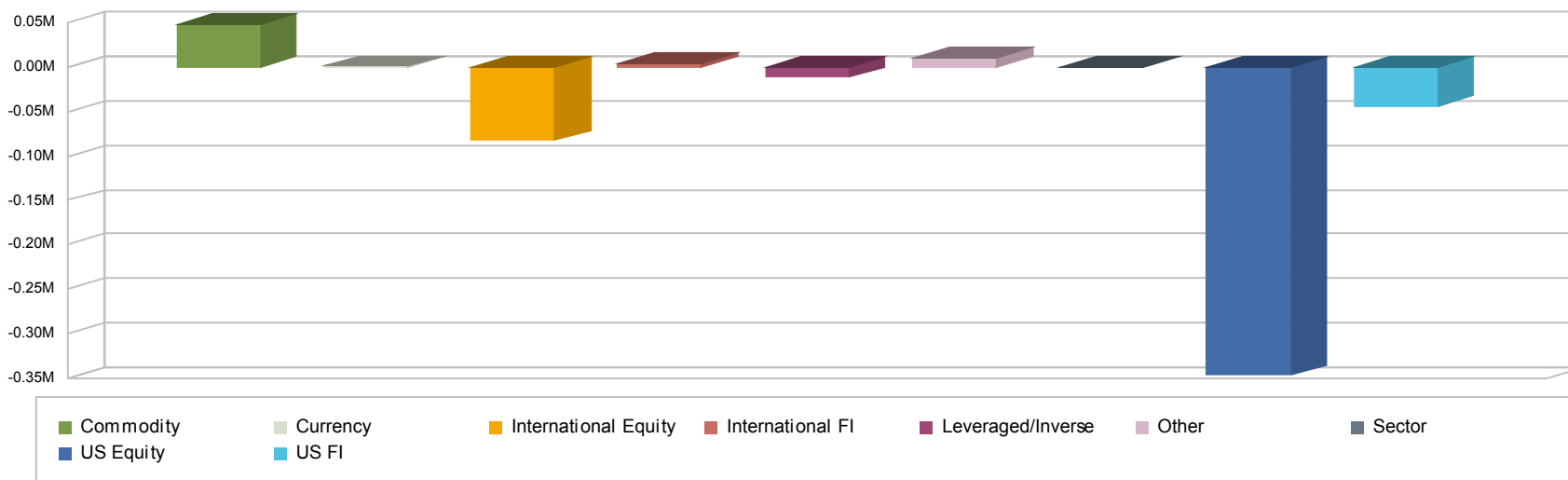
## OREGON SAVINGS GROWTH PLAN as of 9/30/2019

### Market Value Allocation - ETF (Quarter over Quarter)



The above charts illustrate the percent of PCRA participant assets in each noted asset class as percentage of total PCRA assets. Percentages are calculated as of quarter-end. Money Market Funds are classified under Mutual Funds.

### Net Flow by Sector - ETF (3-Month Period Ending 9/30/2019)



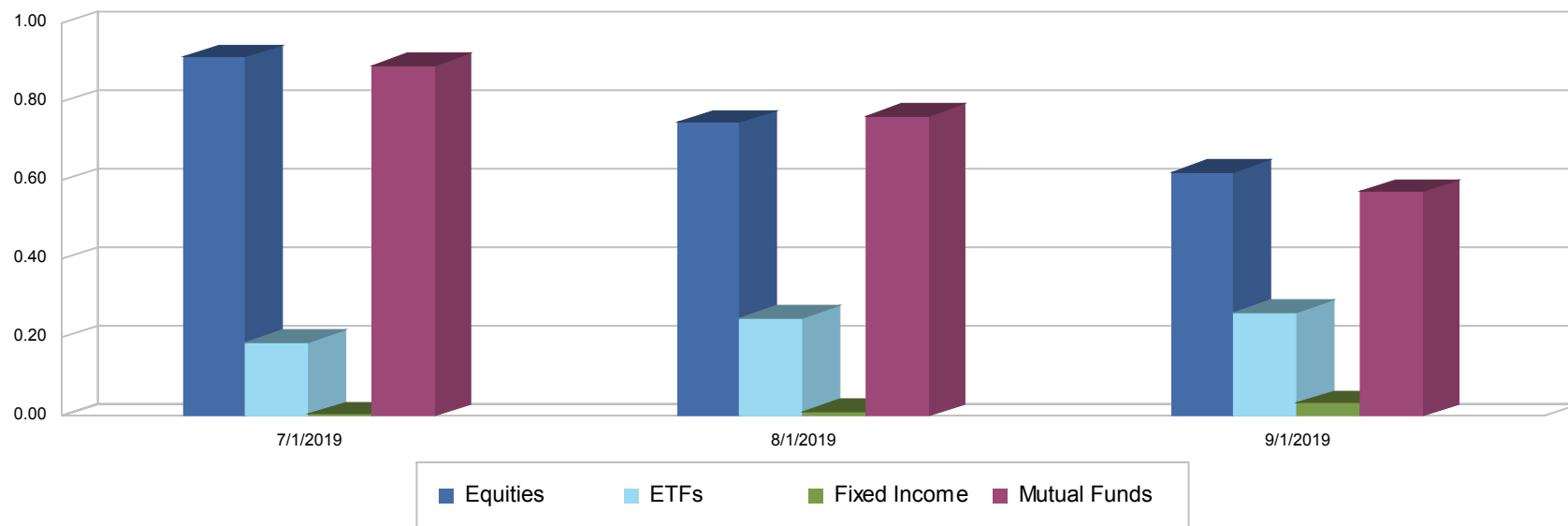
Net Flow is the net of all cash inflows and outflows in and out of financial assets; the performance of an asset or fund is not taken into account, only share redemptions, or outflows, and share purchases, or inflows.



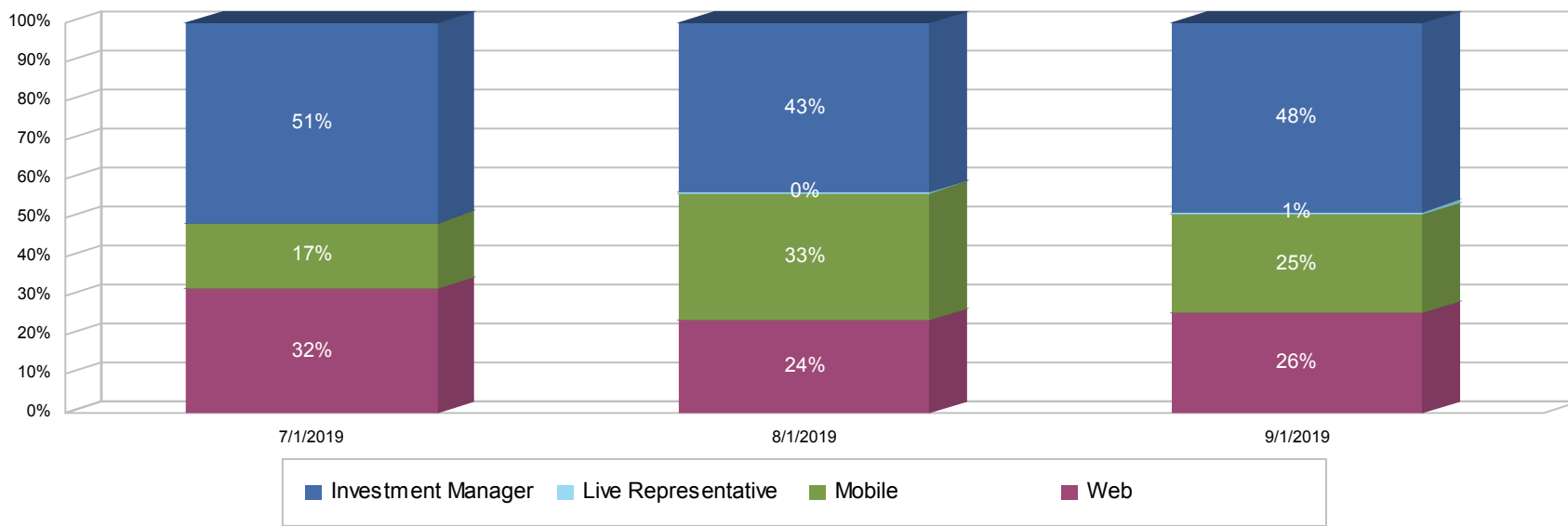
# The Schwab Personal Choice Retirement Account (PCRA) Quarterly Report

## OREGON SAVINGS GROWTH PLAN as of 9/30/2019

### Average Monthly Trades Per Account (3-Month Period Ending 9/30/2019)



### Trading Channel Mix (Month over Month)



# The Schwab Personal Choice Retirement Account (PCRA) Quarterly Report

## OREGON SAVINGS GROWTH PLAN as of 9/30/2019

### Important Disclosures

Schwab Personal Choice Retirement Account (PCRA) is offered through Charles Schwab & Co., Inc. (Member SIPC), the registered broker/dealer, which also provides other brokerage and custody services to its customers.

For participants who utilize the Personal Choice Retirement Account (PCRA), the following fees and conditions may apply: Schwab's short-term redemption fee of \$49.95 will be charged on redemption of funds purchased through Schwab's Mutual Fund OneSource® service (and certain other funds with no transaction fee) and held for 90 days or less. Schwab reserves the right to exempt certain funds from this fee, including Schwab Funds®, which may charge a separate redemption fee, and funds that accommodate short-term trading.

Trades in no-load mutual funds available through Mutual Funds OneSource service (including Schwab Funds) as well as certain other funds, are available without transaction fees when placed through schwab.com or our automated phone channels. Schwab reserves the right to change the funds we make available without transaction fees and to reinstate fees on any funds. Funds are also subject to management fees and expenses.

Charles Schwab & Co., Inc., member SIPC, receives remuneration from fund companies for record keeping, shareholder services and other administrative services for shares purchased through its Mutual Fund OneSource service. Schwab also may receive remuneration from transaction fee fund companies for certain administrative services.

This material is for institutional use only.

The information contained herein is obtained from third-party sources and believed to be reliable, but its accuracy or completeness is not guaranteed. This report is for informational purposes only and is not a solicitation, or a recommendation that any particular investor should purchase or sell any particular security.



# INVESTMENT OPTION PERFORMANCE RESULTS

Investment Option Returns  
for the Period Ending  
July 31, 2019

## CORE INVESTMENT OPTIONS

OPTION BENCHMARKS (for comparison)	1 Month	3 Months	Year to Date	Annualized						
				From Inception 10/31/96	Since 10/31/01	1 Year	2 Years	3 Years	5 Years	10 Years
Stable Value Option	0.20%	0.59%	1.32%	3.29%	2.66%	2.20%	2.00%	1.83%	1.63%	1.57%
91-Day T-Bill	0.18%	0.63%	1.43%	2.24%	1.39%	2.34%	1.89%	1.44%	0.91%	0.51%
Rolling Average 5 Year CMT**	0.16%	0.48%	1.09%	3.65%	2.97%	1.84%	1.70%	1.57%	1.47%	1.96%
Active Fixed Income Option	0.21%	2.92%	6.03%	5.07%	4.64%	7.36%	3.69%	2.76%	3.31%	4.43%
BC Aggregate	0.22%	3.28%	6.35%	5.11%	4.31%	8.08%	3.55%	2.17%	3.05%	3.75%
Large Company Value Stock Option	0.83%	1.09%	17.17%	8.08%	7.95%	5.21%	7.32%	9.38%	7.78%	12.26%
Russell 1000 Value	0.83%	1.12%	17.20%	8.51%	7.92%	5.20%	7.35%	9.44%	8.01%	12.40%
Stock Index Option	1.48%	1.56%	20.43%	8.46%	8.29%	6.97%	11.50%	12.99%	10.85%	13.84%
Russell 3000	1.49%	1.59%	20.48%	8.68%	8.46%	7.05%	11.62%	13.11%	10.96%	13.98%
Large Company Growth Stock Option	2.23%	2.32%	24.16%	8.06%	8.56%	10.74%	16.52%	16.99%	13.79%	15.51%
Russell 1000 Growth	2.26%	2.38%	24.23%	8.47%	8.75%	10.82%	16.68%	17.13%	14.25%	15.74%
International Stock Option	-2.11%	-1.64%	10.75%	5.57%	6.25%	-4.79%	-0.08%	5.64%	2.21%	5.55%
MSCI ACWI EX-US BLENDED	-1.21%	-0.88%	12.22%	4.66%	5.84%	-2.27%	1.75%	7.20%	2.38%	5.83%
Small Company Stock Option	0.56%	-1.01%	17.51%	10.11%	9.85%	-4.64%	6.49%	10.04%	8.06%	12.62%
RUSSELL SMALL CAP BLENDED	0.58%	-0.69%	17.66%	9.57%	9.79%	-4.42%	6.53%	10.36%	8.41%	13.27%
Real Return Option	-0.69%	0.65%	6.44%			0.49%	1.51%	2.51%		
CPI + 3%	0.27%	1.00%	3.74%			4.71%	5.37%	5.17%		
Environmental Social Governance Option	1.83%	2.17%	20.32%			7.19%	11.04%	12.83%		
Russell 3000	1.49%	1.59%	20.48%			7.05%	11.62%	13.11%		

## TARGET DATE FUNDS ( LIFEPATH PORTFOLIOS)

OPTION BENCHMARKS (for comparison)	1 Month	3 Months	Year to Date	Annualized				
				1 Year	2 Years	3 Years	5 Years	10 Years
LifePath® Retirement	0.25%	2.09%	10.32%	5.73%	5.05%	5.13%	4.30%	6.16%
LifePath® 2020	0.24%	1.98%	10.69%	5.43%	5.27%	5.72%	4.65%	7.12%
LifePath® 2025	0.21%	1.66%	12.05%	5.13%	5.77%	6.60%	5.17%	7.77%
LifePath® 2030	0.18%	1.38%	13.26%	4.90%	6.27%	7.46%	5.72%	8.40%
LifePath® 2035	0.15%	1.10%	14.23%	4.51%	6.56%	8.08%	6.03%	8.84%
LifePath® 2040	0.13%	0.86%	15.18%	4.19%	6.87%	8.70%	6.38%	9.29%
LifePath® 2045	0.10%	0.66%	15.86%	3.90%	7.03%	9.05%	6.58%	9.63%
LifePath® 2050	0.09%	0.57%	16.16%	3.79%	7.08%	9.17%	6.63%	9.88%
LifePath® 2055	0.09%	0.56%	16.19%	3.78%	7.08%	9.16%	6.60%	
LifePath® 2060	0.08%	0.55%	16.18%	3.77%	7.05%	9.14%		

\*\*5 Year Rolling Average of the 5 Year Constant Maturing Treasury Yield.

Updated on 8/7/2019

Performance figures are net all fees including management, recordkeeping and other administrative fees. The results shown represent past performance and should not be considered a representation of performance of the options in the future. Investment returns and principal are not guaranteed.

Monthly performance results are published on [growyourtomorrow.com](http://growyourtomorrow.com)  
To access current account information 24 hours a day call our customer service center at 1-800-365-8494 or visit our web site at [growyourtomorrow.com](http://growyourtomorrow.com)



# INVESTMENT OPTION PERFORMANCE RESULTS

Investment Option Returns  
for the Period Ending  
August 31, 2019

## CORE INVESTMENT OPTIONS

OPTION BENCHMARKS (for comparison)	1 Month	3 Months	Year to Date	Annualized						
				From Inception 10/31/96	Since 10/31/01	1 Year	2 Years	3 Years	5 Years	10 Years
Stable Value Option	0.20%	0.59%	1.52%	3.28%	2.66%	2.23%	2.03%	1.86%	1.64%	1.58%
91-Day T-Bill	0.21%	0.61%	1.63%	2.24%	1.40%	2.36%	1.94%	1.50%	0.95%	0.52%
Rolling Average 5 Year CMT**	0.15%	0.47%	1.24%	3.64%	2.96%	1.85%	1.72%	1.58%	1.47%	1.95%
Active Fixed Income Option	2.20%	3.59%	8.36%	5.15%	4.74%	9.12%	4.32%	3.49%	3.56%	4.53%
BC Aggregate	2.59%	4.11%	9.10%	5.21%	4.43%	10.17%	4.41%	3.09%	3.35%	3.91%
Large Company Value Stock Option	-2.91%	4.91%	13.76%	7.91%	7.73%	0.64%	6.37%	8.03%	6.42%	11.41%
Russell 1000 Value	-2.94%	4.89%	13.75%	8.33%	7.70%	0.62%	6.38%	8.08%	6.59%	11.49%
Stock Index Option	-2.06%	6.37%	17.95%	8.33%	8.12%	1.23%	10.25%	12.12%	9.49%	13.21%
Russell 3000	-2.04%	6.40%	18.02%	8.54%	8.30%	1.31%	10.37%	12.24%	9.60%	13.35%
Large Company Growth Stock Option	-0.78%	8.40%	23.19%	7.99%	8.47%	4.21%	15.04%	16.87%	12.80%	15.17%
Russell 1000 Growth	-0.77%	8.44%	23.28%	8.40%	8.66%	4.27%	15.18%	17.03%	13.06%	15.42%
International Stock Option	-3.03%	0.65%	7.39%	5.41%	6.04%	-5.47%	-1.91%	4.48%	1.47%	4.80%
MSCI ACWI EX-US BLENDED	-3.09%	1.50%	8.76%	4.50%	5.63%	-3.27%	-0.10%	5.87%	1.77%	4.94%
Small Company Stock Option	-5.28%	2.15%	11.31%	9.81%	9.47%	-13.70%	4.34%	7.49%	5.89%	11.61%
RUSSELL SMALL CAP BLENDED	-4.94%	2.37%	11.85%	9.29%	9.43%	-12.89%	4.53%	7.89%	6.28%	12.25%
Real Return Option	-1.07%	2.01%	5.30%			-0.02%	0.39%	2.26%		
CPI + 3%	0.41%	1.10%	4.33%			4.98%	5.37%	5.25%		
Environmental Social Governance Option	-1.92%	6.74%	18.02%			1.84%	10.19%	11.82%		
Russell 3000	-2.04%	6.40%	18.02%			1.31%	10.37%	12.24%		

## TARGET DATE FUNDS ( LIFEPATH PORTFOLIOS)

OPTION BENCHMARKS (for comparison)	1 Month	3 Months	Year to Date	Annualized				
				1 Year	2 Years	3 Years	5 Years	10 Years
LifePath® Retirement	0.69%	4.16%	11.08%	5.43%	5.08%	5.39%	4.11%	6.01%
LifePath® 2020	0.60%	4.21%	11.35%	5.02%	5.27%	5.96%	4.40%	6.89%
LifePath® 2025	0.02%	4.21%	12.08%	4.07%	5.50%	6.64%	4.77%	7.45%
LifePath® 2030	-0.48%	4.19%	12.71%	3.27%	5.76%	7.33%	5.19%	8.00%
LifePath® 2035	-0.95%	4.17%	13.15%	2.35%	5.82%	7.79%	5.38%	8.36%
LifePath® 2040	-1.38%	4.16%	13.59%	1.56%	5.91%	8.26%	5.62%	8.74%
LifePath® 2045	-1.67%	4.13%	13.92%	0.96%	5.93%	8.51%	5.73%	9.03%
LifePath® 2050	-1.80%	4.11%	14.07%	0.72%	5.92%	8.58%	5.75%	9.25%
LifePath® 2055	-1.81%	4.12%	14.09%	0.71%	5.91%	8.57%	5.70%	
LifePath® 2060	-1.82%	4.09%	14.06%	0.68%	5.88%	8.54%		

\*\*5 Year Rolling Average of the 5 Year Constant Maturing Treasury Yield.

Updated on 9/6/2019

Performance figures are net all fees including management, recordkeeping and other administrative fees. The results shown represent past performance and should not be considered a representation of performance of the options in the future. Investment returns and principal are not guaranteed.

Monthly performance results are published on [growyourtomorrow.com](http://growyourtomorrow.com)  
To access current account information 24 hours a day call our customer service center at 1-800-365-8494 or visit our web site at [growyourtomorrow.com](http://growyourtomorrow.com)



# INVESTMENT OPTION PERFORMANCE RESULTS

Investment Option Returns  
for the Period Ending  
September 30, 2019

## CORE INVESTMENT OPTIONS

OPTION BENCHMARKS (for comparison)	1 Month	3 Months	Year to Date	Annualized						
				From Inception 10/31/96	Since 10/31/01	1 Year	2 Years	3 Years	5 Years	10 Years
Stable Value Option	0.19%	0.59%	1.71%	3.28%	2.65%	2.25%	2.06%	1.88%	1.66%	1.59%
91-Day T-Bill	0.17%	0.56%	1.81%	2.24%	1.40%	2.39%	1.99%	1.54%	0.98%	0.54%
Rolling Average 5 Year CMT**	0.15%	0.46%	1.39%	3.64%	2.96%	1.85%	1.73%	1.60%	1.48%	1.93%
Active Fixed Income Option	-0.32%	2.09%	8.02%	5.12%	4.70%	9.29%	4.35%	3.38%	3.65%	4.33%
BC Aggregate	-0.53%	2.27%	8.52%	5.17%	4.38%	10.30%	4.38%	2.92%	3.38%	3.75%
Large Company Value Stock Option	3.53%	1.35%	17.78%	8.04%	7.90%	4.00%	6.68%	9.37%	7.57%	11.38%
Russell 1000 Value	3.57%	1.36%	17.81%	8.47%	7.87%	4.00%	6.69%	9.43%	7.79%	11.46%
Stock Index Option	1.75%	1.13%	20.01%	8.38%	8.19%	2.84%	9.89%	12.72%	10.34%	12.94%
Russell 3000	1.76%	1.16%	20.09%	8.60%	8.36%	2.92%	10.00%	12.83%	10.44%	13.08%
Large Company Growth Stock Option	0.01%	1.45%	23.21%	7.96%	8.43%	3.66%	14.31%	16.74%	13.17%	14.69%
Russell 1000 Growth	0.01%	1.49%	23.30%	8.37%	8.62%	3.71%	14.45%	16.89%	13.39%	14.94%
International Stock Option	2.89%	-2.33%	10.50%	5.52%	6.18%	-3.14%	-1.30%	4.91%	2.94%	4.63%
MSCI ACWI EX-US BLENDED	2.57%	-1.80%	11.56%	4.60%	5.75%	-1.23%	0.26%	6.33%	3.10%	4.81%
Small Company Stock Option	2.42%	-2.44%	14.00%	9.89%	9.57%	-9.57%	2.29%	8.04%	7.55%	11.22%
RUSSELL SMALL CAP BLENDED	2.08%	-2.40%	14.18%	9.35%	9.51%	-8.89%	2.47%	8.23%	7.85%	11.85%
Real Return Option	1.05%	-0.71%	6.41%			0.87%	1.03%	2.21%		
CPI + 3%	0.24%	0.90%	4.40%			4.67%	5.00%	5.10%		
Environmental Social Governance Option	2.09%	1.96%	20.48%			3.93%	9.85%	12.60%		
Russell 3000	1.76%	1.16%	20.09%			2.92%	10.00%	12.83%		

## TARGET DATE FUNDS ( LIFEPATH PORTFOLIOS)

OPTION BENCHMARKS (for comparison)	1 Month	3 Months	Year to Date	Annualized				
				1 Year	2 Years	3 Years	5 Years	10 Years
LifePath® Retirement	0.42%	1.37%	11.54%	6.25%	4.99%	5.43%	4.59%	5.79%
LifePath® 2020	0.47%	1.31%	11.88%	5.85%	5.13%	6.01%	4.97%	6.60%
LifePath® 2025	0.85%	1.09%	13.03%	5.21%	5.44%	6.81%	5.47%	7.17%
LifePath® 2030	1.19%	0.88%	14.05%	4.68%	5.78%	7.60%	6.01%	7.74%
LifePath® 2035	1.49%	0.68%	14.84%	4.00%	5.91%	8.16%	6.31%	8.10%
LifePath® 2040	1.78%	0.50%	15.61%	3.43%	6.08%	8.72%	6.64%	8.48%
LifePath® 2045	1.97%	0.37%	16.17%	2.99%	6.15%	9.03%	6.83%	8.78%
LifePath® 2050	2.06%	0.31%	16.41%	2.82%	6.16%	9.13%	6.89%	8.99%
LifePath® 2055	2.06%	0.30%	16.44%	2.81%	6.15%	9.12%	6.90%	
LifePath® 2060	2.07%	0.29%	16.42%	2.78%	6.13%	9.10%		

\*\*5 Year Rolling Average of the 5 Year Constant Maturing Treasury Yield.

Updated on 10/4/2019

Performance figures are net all fees including management, recordkeeping and other administrative fees. The results shown represent past performance and should not be considered a representation of performance of the options in the future. Investment returns and principal are not guaranteed.

Monthly performance results are published on [growyourtomorrow.com](http://growyourtomorrow.com)  
To access current account information 24 hours a day call our customer service center at 1-800-365-8494 or visit our web site at [growyourtomorrow.com](http://growyourtomorrow.com)