

Sacramento Regional Transit District

#### COMBINED QUARTERLY MEETING OF THE RETIREMENT BOARDS FOR THE EMPLOYEES AND RETIREES OF THE SACRAMENTO REGIONAL TRANSIT DISTRICT 9:00 A.M., WEDNESDAY, JUNE 12, 2019 REGIONAL TRANSIT AUDITORIUM 1400 29<sup>TH</sup> STREET, SACRAMENTO, CALIFORNIA Website Address: www.sacrt.com

(29th St. Light Rail Station/Bus 38, 67, 68)

<u>MEETING NOTE:</u> This is a joint and concurrent meeting of the five independent Retirement Boards for the pension plans for the employees and retirees of the Sacramento Regional Transit District. This single, combined agenda designates which items will be subject to action by which board(s). Members of each board may be present for the other boards' discussions and actions, except during individual closed sessions.

ROLL CALL	ATU Retirement Board:	Directors: Li, Kennedy, Niz, McGee Lee Alternates: Jennings, Lucien
	IBEW Retirement Board:	Directors: Li, Kennedy, Ohlson, Bibbs Alternates: Jennings, McCleskey
	AEA Retirement Board:	Directors: Li, Kennedy, Devorak, Robison Alternates: Jennings, McGoldrick
	AFSCME Retirement Board:	Directors: Li, Kennedy, Parks, Guimond Alternates: Jennings, Thompson
	MCEG Retirement Board:	Directors: Li, Kennedy, Thorn, Norman Alternates: Jennings, Flores

#### PUBLIC ADDRESSES BOARD ON MATTERS ON CONSENT AND MATTERS NOT ON THE AGENDA

At this time the public may address the Retirement Board(s) on subject matters pertaining to Retirement Board business listed on the Consent Calendar, any Closed Sessions or items not listed on the agenda. Remarks may be limited to 3 minutes subject to the discretion of the Common Chair. Members of the public wishing to address one or more of the Boards may submit a "Public Comment Speaker Card" to the Assistant Secretary. While the Retirement Boards encourage your comments, State law prevents the Boards from discussing items that are not set forth on this meeting agenda. The Boards and staff take your comments very seriously and, if appropriate, will follow up on them.

CONSENT C	ALENDAR		 	1050
1. Motion:	Approving the Minutes for the March 20, 2019 Quarterly Retirement Board Meeting (AEA). (Weekly)			
2. Motion:	Receive and File Administrative Reports for the Quarter Ended March 31, 2019 for the Salaried Pension Plan (AEA/AFSCME/MCEG). (Adelman)			

		ATU	IBEW	AEA	AFSCME	MCEG
3. Motion	Approving the Minutes for the March 20, 2019 Quarterly Retirement Board Meeting (AFSCME). (Weekly)				$\boxtimes$	
4. Motion:	Receive and File Administrative Reports for the Quarter Ended March 31, 2019 for the Salaried Pension Plan (AEA/AFSCME/MCEG). (Adelman)					
5. Motion:	Approving the Minutes for the March 20, 2019 Quarterly Retirement Board Meeting (ATU). (Weekly)	$\boxtimes$				
6. Motion:	Receive and File Administrative Reports for the Quarter Ended March 31, 2019 for the ATU Pension Plan (ATU). (Adelman)					
7. Motion:	Approving the Minutes for the March 20, 2019 Quarterly Retirement Board Meeting (IBEW). (Weekly)		$\boxtimes$			
8. Motion:	Receive and File Administrative Reports for the Quarter Ended March 31, 2019 for the IBEW Pension Plan (IBEW). (Adelman)		$\bowtie$			
9. Motion:	Approving the Minutes for the March 20, 2019 Quarterly Retirement Board Meeting (MCEG). (Weekly)					$\boxtimes$
10. Motion:	Receive and File Administrative Reports for the Quarter Ended March 31, 2019 for the Salaried Pension Plan (AEA/AFSCME/MCEG). (Adelman)					$\boxtimes$
11. Motion:	Receive and File Update on Staff Roles and Responsibilities Related to Pension Administration (ALL). (Weekly)	$\boxtimes$			$\boxtimes$	$\boxtimes$
12. Resolution:	Amendment of the Investment Custodian Services Contract with State Street Bank and Trust Company to Extend the Term by Six Months and Increase the Limit to \$733,572 (ALL). (Adelman)					
NEW BUSINE	<u>SS</u>				450045	MOLO
	Investment Performance Review by AQR for the ATU, IBEW and Salaried Retirement Funds for the International Small Capitalization Equity Asset Class for the Quarter Ended March 31, 2019 (ALL). (Adelman)					
14. Motion	Receive and File Investment Performance Results for the ATU, IBEW and Salaried Employee Retirement Plans for Quarter Ended March 31, 2019 (ALL). (Adelman)					$\boxtimes$
15. Motion:	Receive and File the Asset/Liability Study for the ATU, IBEW and Salaried Employees Retirement Plans (ALL). (Adelman)	$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$	
16. Resolution:	Approving Disability Retirement Application for Charity Nation-Whaley (ATU). (Weekly)					
17. Resolution:	Approving Disability Retirement Application for MaryAnn Butcher (ATU). (Weekly)					

#### REPORTS FROM COMMITTEES REPORTS, IDEAS AND COMMUNICATIONS

18. Information	: Conference Report-Out: CALAPRS Training (ATU Directors Niz, McGee Lee and AFSCME Director Guimond).	<u>ATU</u>	IBEW		AFSCME	
RECESS TO	CLOSED SESSION					
19.	Closed Session Item (AEA): Conference with Legal Counsel – Anticipated Litigation Significant Exposure to Litigation Pursuant to Government Code Section 54956.9(d)(2): One Potential Case	<u>ATU</u>		<u>AEA</u>		
20.	Closed Session Item (AFSCME): Conference with Legal Counsel – Anticipated Litigation Significant Exposure to Litigation Pursuant to Government Code Section 54956.9(d)(2): One Potential Case					
21.	Closed Session Item (ATU): Conference with Legal Counsel – Anticipated Litigation Significant Exposure to Litigation Pursuant to Government Code Section 54956.9(d)(2): One Potential Case					
22.	Closed Session Item (IBEW): Conference with Legal Counsel – Anticipated Litigation Significant Exposure to Litigation Pursuant to Government Code Section 54956.9(d)(2): One Potential Case					

#### RECONVENE IN OPEN SESSION CLOSED SESSION REPORT ADJOURN

#### NOTICE TO THE PUBLIC

It is the policy of the Boards of Directors of the Sacramento Regional Transit District Retirement Plans to encourage participation in the meetings of the Boards of Directors. At each open meeting, members of the public shall be provided with an opportunity to directly address the Board on items of interest to the public that are within the subject matter jurisdiction of the Boards.

This agenda may be amended up to 72 hours prior to the meeting being held. An agenda, in final form, is located by the front door of Regional Transit's building at 1400 – 29<sup>th</sup> Street and posted to SacRT's website at www.sacrt.com.

Any person(s) requiring accessible formats of the agenda or assisted listening devices/sign language interpreters should contact the Human Resources Pension and Retiree Services Administrator at 916-556-0296 or TDD 916/483-4327 at least 72 business hours in advance of the Board Meeting.

Copies of staff reports or other written documentation relating to each item of business referred to on the agenda are on file with the Human Resources Administrative Technician at 916-556-0298 and/or Clerk to the Board of Directors of the Sacramento Regional Transit District and are available for public inspection at 1400 29<sup>th</sup> Street, Sacramento, CA. Any person who has questions concerning any agenda item may call the Human Resources Administrative Technician of Sacramento Regional Transit District to make inquiry.

#### Sacramento Regional Transit District IBEW Retirement Board Meeting Wednesday, March 20, 2019 <u>MEETING SUMMARY</u>

#### ROLL CALL

The Retirement Board was brought to order at 9:01 a.m. A quorum was present comprised as follows: Directors Kennedy, Ohlson and Bibbs. Alternate McCleskey was also present. Director Li and Alternate Jennings were absent.

This meeting was held as a common meeting of the five Sacramento Regional Transit District Retirement Boards.

#### PUBLIC ADDRESSES BOARD ON MATTERS NOT ON THE AGENDA

None.

#### CONSENT CALENDAR

- 16. Motion: Approving the Minutes for the December 12, 2018 Quarterly Retirement Board Meeting (IBEW). (Weekly)
- 17. Motion: Receive and File Administrative Reports for the Quarter Ended December 31, 2018 for the IBEW Pension Plan (IBEW). (Adelman)
- 18. Motion: Receive and File the Fiscal Year 2018 State Controller's Report (IBEW). (Adelman)
- 22. Motion: Receive and File the Independent Auditor's Report for the Twelve Month Period Ended June 30, 2018 (ALL). (Adelman)
- 23. Motion: Receive and File Update on Staff Roles and Responsibilities Related to Pension Administration (ALL). (Weekly)

Director Ohlson moved to adopt IBEW Retirement Board Items 16-18, 22 and 23. Director Bibbs seconded the motion. Items 16-18, 22 and 23 were carried unanimously by roll call vote: Ayes: Directors Kennedy, Ohlson and Bibbs. Noes: None.

#### NEW BUSINESS

24. Resolution: Election of a Chair and Vice Chair for all Common Retirement Board Meetings (ALL). (Weekly)

Pension & Retiree Services Administrator Valerie Weekly presented Item 24 for approval.

Director Ohlson moved to approve a resolution appointing Director Kennedy as Common Chair and Director Li as Common Vice Chair. Director Bibbs seconded the motion. Item 24 was carried unanimously by roll call vote: Ayes: Directors Kennedy, Ohlson and Bibbs. Noes: None.

26. Information: Investment Performance Review by BMO Pyrford for the ATU, IBEW and Salaried Funds for the International Large Capital Equity Asset Class for the Quarter Ended December 31, 2018 (ALL). (Adelman)

Sacramento Regional Transit District Treasury Controller Jamie Adelman introduced John Mirante from BMO Pyrford, who provided the performance results for the International Large Capital Equity Asset Class for the Quarter Ended December 31, 2018 and was available for questions.

27. Information: Investment Performance Review by Met West for the ATU, IBEW and Salaried Funds for the Domestic Fixed Income Asset Class for the Quarter Ended December 31, 2018 (ALL). (Adelman)

Jamie Adelman introduced Jamie Franco from Met West, who provided the performance results for the Domestic Fixed Income Asset Class for the Quarter Ended December 31, 2018 and was available for questions.

28. Motion Receive and File Investment Performance Results for the ATU, IBEW and Salaried Employee Retirement Plans for the Quarter Ended December 31, 2018 (ALL). (Adelman)

Jamie Adelman introduced Uvan Tseng with Callan LLC, who provided the Investment Performance Reports for Quarter Ended December 31, 2018 and was available for questions.

MCEG Director Thorn asked a question about the performance of AQR and the point at which it might make sense to look at changing the allocation being invested with AQR, especially given anticipated volatility in the market. Mr. Tseng advised that with excessive movement, it is difficult to track performance in the short term. Sacramento Regional Transit District CFO Brent Bernegger asked at what point it would be appropriate to put AQR on watch. Mr. Tseng responded that he would recommend putting an investment manager on watch after three years of underperformance or in case of significant changes to key staffing within the organization.

Ms. Adelman noted that investment managers can be put on watch at any time and for any length of time. Mr. Tseng noted that AQR will be presenting at the next Quarterly Retirement Board Meeting in June.

AEA Retirement Board Director Devorak cautioned that due to the time lag that occurs with changes to investment managers, performance can shift between when a search begins and when the change is implemented.

Director Ohlson moved to adopt Item 28. Director Bibbs seconded the motion. Item 28 was carried unanimously by roll call vote: Ayes: Directors Kennedy, Ohlson and Bibbs. Noes: None.

29. Information: Educational Session on Real Estate Investments Presented by Callan LLC (ALL). (Adelman)

Uvan Tseng introduced Jonathan Gould with Callan LLC, who provided an Educational Session on Real Estate Investments. This was the third and final in a series of three educational presentations made by Callan regarding different asset classes.

In response to Ms. Adelman's question about the range of investments within the "core" products of each type of real estate investment, Mr. Gould explained that typically with "core" products, funds are diversified and investors will have exposure to all of the property types. Mr. Gould also stated that it is typical for institutional real estate investors to have about 75% allocated to "core" products. Mr. Bernegger asked how performance is tracked. Mr. Gould and Mr. Tseng described some differences in how real estate and other types of investment performance can be presented and compared. Ms. Adelman advised that Callan LLC will return in June with a full asset liability study, which will include an opportunity for the Boards to revisit the pension funds' asset allocation.

31. Resolution: Accept the Actuarial Valuation and Approve the Actuarially Determined Contribution Rates for Fiscal Year 2020, for the IBEW Employees' Retirement Plan (IBEW). (Weekly)

Graham Schmidt, from Cheiron, provided an overview of the Actuarial Valuation Study for Fiscal Year 2020 for IBEW employees and was available for questions.

AEA Director Devorak asked about the timing of the Experience Study. Mr. Schmidt stated that the next Experience Study is expected in a year or two.

Ms. Adelman explained the fiscal impact of the setting of the Actuarially Determined Contribution Rate on Sacramento Regional Transit District and provided a chart depicting the changes from Fiscal Year 2019 to Fiscal Year 2020 for each Pension Plan. Ms. Adelman added that this year, the District will have an overall increase in Pension expenses of about \$833K, which is mostly a result of payroll growth. ATU Director Niz requested a copy of Ms. Adelman's chart. Ms. Adelman stated that she would provide the chart to all the members of the five Retirement Boards.

Director Ohlson moved to adopt Item 31, setting the Actuarially Determined Contribution Rate at 24.73% of payroll. Director Bibbs seconded the motion. Item 31 was carried unanimously by roll call vote: Ayes: Directors Kennedy, Ohlson and Bibbs. Noes: None.

33. Resolution: Authorizing Execution of a Contract or Contract Renewal for Fiduciary Insurance for All Retirement Boards and Approving Delegation of Authority for Renewals (ALL). (Weekly) Valerie Weekly presented Item 33 for approval and explained why the timing for receipt of quotes has led staff to recommend the proposed delegation of authority for future years.

AEA Director Robison asked if the Retirement Boards use the same broker as the District. Ms. Weekly responded in the affirmative.

Director Ohlson moved to adopt Item 33. Director Bibbs seconded the motion. Item 33 was carried unanimously by roll call vote: Ayes: Directors Kennedy, Ohlson and Bibbs. Noes: None.

#### **REPORTS FROM COMMITTEES**

None.

#### **REPORTS, IDEAS AND COMMUNICATIONS**

Jamie Adelman advised that the contract with State Street Bank and Trust, the current custodian for investments, is set to expire August 31, 2019. Staff is actively working with Callan LLC to revamp the Request For Proposal (RFP) for these services. Ms. Adelman will work with the Board Chairs to convene a committee responsible for RFP evaluations, with Callan's assistance on the technical side. Ms. Adelman added that she expects to return to the Retirement Board in June to ask for an extension of the current custodial contract for while the contracting process is underway.

#### The meeting was adjourned at 11:06 a.m.

Eric Ohlson, Chair

ATTEST:

Henry Li, Secretary

By:

## REGIONAL TRANSIT ISSUE PAPER

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Agenda	Board Meeting	Open/Closed	Information/Action	Issue
Item No.	Date	Session	Item	Date
8	06/12/19	Retirement	Action	04/16/19

Subject: Receive and File Administrative Reports for the Quarter Ended March 31, 2019 for the IBEW Pension Plan (IBEW). (Adelman)

#### <u>ISSUE</u>

Receive and File Administrative Reports for the Quarter Ended March 31, 2019 for the IBEW Pension Plan (IBEW). (Adelman)

#### **RECOMMENDED ACTION**

Motion: Receive and File Administrative Reports for the Quarter Ended March 31, 2019 for the IBEW Pension Plan (IBEW). (Adelman)

#### FISCAL IMPACT

None.

#### DISCUSSION

Table 1 below shows the employer and employee contribution rates for all of the Sacramento Regional Transit District Retirement Plans, by Plan and tier, as of the date indicated.

#### Table 1

#### Employer Contribution Rates As of March 31, 2019

	ATU	IBEW	Salary
	Contribution	Contribution	Contribution
	Rate	Rate	Rate
Classic	28.15%	25.03%	34.30%
Classic w/Contribution*	25.15%		
PEPRA**	21.65%	19.78%	29.05%

\*Includes members hired during calendar year 2015, employee rate 3%

\*\*PEPRA employee rates: ATU - 6.5%, IBEW and Salary 5.25%

#### **Unaudited Financial Statements**

Attached hereto are unaudited financial statements for the quarter and the year-to-date ended March 31, 2019. The financial statements are presented on an accrual basis and consist of a Statement of Fiduciary Net Position (balance sheet) (Attachment 1), a Statement of Changes in Fiduciary Net Position (income statement) for the quarter ended March 31, 2019

Approved:

Presented:

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<b>REGIONAL TR</b>	ANSIT ISSUE	PAPER		Page 2 of 3
Agenda Item No.	Board Meeting Date	Open/Closed Session	Information/Action Item	lssue Date
8	06/12/19	Retirement	Action	04/16/19

Subject:	Receive and File Administrative Reports for the Quarter Ended March 31, 2019
	for the IBEW Pension Plan (IBEW). (Adelman)

(Attachment 2), and a year-to-date Statement of Changes in Fiduciary Net Position (Attachment 3).

The Statement of Fiduciary Net Position includes a summary of fund assets showing the amounts in the following categories: investments, prepaid assets, and other receivables. This statement also provides amounts due from/to the District and Total Fund Equity (net position).

The Statement of Changes in Fiduciary Net Position includes activities in the following categories: investment gains/losses, dividends, interest income, unrealized gains/losses, benefit contributions/payouts, and investment management and administrative expenses.

#### Asset Rebalancing

Pursuant to Section IV, Asset Rebalancing Policy of the Statement of Investment Objectives and Policy Guidelines for the ATU, IBEW and Salaried Employees' Retirement Funds, the Retirement Boards have delegated authority to manage pension plan assets in accordance with the approved rebalancing policy to the District's Director, Finance and Treasury. The Director, Finance and Treasury is required to report asset rebalancing activity to the Boards at their quarterly meetings. Rebalancing can occur for one or more of the following reasons:

- 1. The Pension Plan ended the month with an accounts receivable or payable balance due to the District. A payable or receivable is the net amount of the monthly required contribution (required contribution is the percentage of covered payroll determined by the annual actuarial valuation) less the Plan's actual expenses.
- 2. The Pension Plan hires or removes a Fund Manager, in which case securities must be moved to a new fund manager.
- 3. The Pension Plan investment mix is under or over the minimum or maximum asset allocation as defined in the Statement of Investment Objectives and Policy Guidelines.

Attached hereto as Attachment 4 is the IBEW Plan's Schedule of Cash Activities for the three months ended March 31, 2019. The schedule of cash activities includes a summary of Plan activities showing the amounts in the following categories: District's pension contributions to the Plan, payments to retirees, and the Pension Plan's cash expenditures paid. This schedule also lists the rebalancing activity that occurred for the three months ended March 31, 2019. The IBEW Plan reimbursed \$161,973.62 to the District as the result of the net cash activity between the pension plan expenses and the required pension contributions. A line has been added to capture the appropriate Due To SacRT balance due to a transfer error by the custodian.

Attached hereto as Attachment 5 is the IBEW Plan's Asset Allocation as of March 31, 2019. This statement shows the IBEW Plan's asset allocation as compared to targeted allocation percentages as defined in the Statement of Investment Objectives and Policy Guidelines.

Attached hereto as Attachment 6 is a reconciliation between the Callan Performance Report and the ATU, IBEW and Salaried Pension Plans' unaudited financial statements. The reports **REGIONAL TRANSIT** ISSUE PAPER

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Agenda	Board Meeting	Open/Closed	Information/Action	Issue
Item No.	Date	Session	Item	Date
8	06/12/19	Retirement	Action	04/16/19

Subject:	Receive and File Administrative Reports for the Quarter Ended March 31, 2019
	for the IBEW Pension Plan (IBEW). (Adelman)

differ in that the unaudited financial statements reflect <u>both</u> investment activities and the pension fund's inflows and outflows. Callan's report <u>only</u> reflects the investment activities. The "Net Difference" amounts shown are the results of Callan and State Street using different valuations for the same securities and/or litigation settlements received by the Plans.

Included also as Attachment 7 is a reconciliation between the Callan Performance Report and the Schedule of Cash Activities for payments made from/to the District. Callan's report classifies gains from trades and litigation income as "net new investments." Finance staff classifies gains from trades and litigation income in the Pension Plan's unaudited Statement of Changes in Fiduciary Net Position as "Other Income," which is combined in the category of "Interest, Dividend, & Other Inc".

Attached hereto as Attachment 8 is a schedule reflecting Fund Managers' quarterly investment returns and their investment fees. Additionally, the schedule reflects annual rates of return on investment net of investment fees for the one-year and three-year periods ended March 31, 2019 as compared to their benchmarks.

Attached hereto as Attachment 9 is a schedule reflecting employee transfers from one union/employee group to another, as well as any transfers of plan assets from the ATU Plan to the Salaried Plan, all retirements, and retiree deaths during the three months ended March 31, 2019.

#### ATTACHMENT #1

### Sacramento Regional Transit District Retirement Plan - IBEW Statement of Fiduciary Net Position As of March 31, 2019

Accrual	Basis

	Mar 31, 19
ASSETS	
Current Assets	
Checking/Savings	
100000 · Long-Term Investments	58,430,540.95
Total Checking/Savings	58,430,540.95
Accounts Receivable	
1110105 · Other Receivable-CustodianError	16.10
Total Accounts Receivable	16.10
Other Current Assets	
1110120 · Prepaids	1,074.91
Total Other Current Assets	1,074.91
Total Current Assets	58,431,631.96
TOTAL ASSETS	58,431,631.96
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
3110102 · Administrative Expense Payable	16,482.59
3110110 · Other Pay - Due to RT	41,523.95
3110122 · MetWest	14,315.97
3110124 · Boston Partners	11,869.79
3110125 Callan	2,105.87
3110126 · State Street	13,769.97
3110128 · Atlanta Capital	10,043.68
3110129 · SSgA - S&P Index	1,194.47
3110130 · SSgA - EAFE	547.60
3110132 · Pyrford	9,171.51
Total Accounts Payable	121,025.40
Total Current Liabilities	121,025.40
Total Liabilities	121,025.40
Equity	
3340100 · Retained Earning	45,066,750.96
3340101 · Retained Earnings	12,099,826.24
Net Income	1,144,029.36
Total Equity	58,310,606.56
TOTAL LIABILITIES & EQUITY	58,431,631.96

### Sacramento Regional Transit District Retirement Plan - IBEW Statement of Changes in Fiduciary Net Position January through March 2019

Accrual Basis

	Jan - Mar 19	% of Incon	ne
Income			
Interest, Dividend, & Other Inc			
6830101 · Dividend	72,711.18	1.4%	
6830102 · Interest	186,310.87	3.6%	
6830103 · Other Income	21,062.51	0.4%	
Total Interest, Dividend, & Other Inc	280,084.56		5.5%
Investment Income			
6530900 · Gains/(Losses) - All	352,152.67	6.9%	
6530915 · Increase(Decrease) in FV	3,587,232.58	70.0%	
Total Investment Income	3,939,385.25		76.8%
RT Required Contribution			
6630110 · Employee Contributions	54,111.65	1.1%	
RT Required Contribution - Other	853,554.79	16.6%	
Total RT Required Contribution	907,666.44	5	17.7%
Total Income	5,127,136.25		100.0%
Cost of Goods Sold			
8531201 · IBEW - Retirement Benefits Paid	946,298.92		18.5%
8531203 · EE Contribution Refunds	0.00		0.0%
	14.315.97		0.3%
8532004 · Invest Exp - Metropolitan West 8532013 · Invest Exp - Boston Partners	11,869.79		0.2%
8532010 · Invest Exp - Callan	6,314.99		0.1%
8532020 · Invest Exp - Callan 8532021 · Invest Exp - State Street	7,029.60		0.1%
8532024 · Invest Exp - Atlanta Capital	10,043.68		0.2%
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1,194.47		0.0%
8532025 · Invest Exp - S&P Index - SSgA 8532026 · Invest Exp - EAFE - SSgA	547.60		0.0%
8532026 · Invest Exp - EAFE - SSgA 8532027 · Invest Exp - AQR	5,323.93		0.1%
8532027 · Invest Exp - Agr 8532028 · Invest Exp - Pyrford	9,171.51		0.2%
Total COGS	1,012,110.46	2 a 12 a 12	19.7%
Gross Profit	4,115,025.79		80.3%
Expense			
8533002 · Admin Exp - Actuary	6,998.42	* 0	0.1%
8533007 · Admin Exp - CALPRS Dues/Courses	1,000.00		0.0%
8533008 · Admin Exp - Accounting Software	1,949.98		0.0%
8533014 · Admin Exp - Fiduciary Insurance	3,224.66		0.1%
8533021 · Admin Exp - Legal Services	20,550.40		0.4%
8533028 · Admin Exp - Staff Training	31.66		0.0%
8533029 · Admin Exp - Administrator	22.326.10		0.4%
8533050 · Miscellaneous	0.00		0.0%
Total Expense	56,081.22		1.1%
Net Income	4,058,944.57		79.2%
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### Sacramento Regional Transit District Retirement Plan - IBEW Statement of Changes in Fiduciary Net Position July 2018 through March 2019

**Accrual Basis** 

	Jul '18 - Mar 19	% of Incom	е
Income			а. 1
Interest, Dividend, & Other Inc			
6830101 · Dividend	246,870.44	5.7%	
6830102 · Interest	549,391.61	12.8%	
6830103 · Other Income	51,758.27	1.2%	
Total Interest, Dividend, & Other Inc	848,020.32		19.7%
Investment Income			
6530900 · Gains/(Losses) - All	1,264,438.67	29.4%	
6530915 · Increase(Decrease) in FV	-443,415.12	-10.3%	
Total Investment Income	821,023.55		19.1%
RT Required Contribution			
6630110 · Employee Contributions	153,703.38	3.6%	
<b>RT Required Contribution - Other</b>	2,474,512.88	57.6%	
Total RT Required Contribution	2,628,216.26		61.2%
Total Income	4,297,260.13		100.0%
Cost of Goods Sold			
8531201 · IBEW - Retirement Benefits Paid	2,792,332.23		65.0%
8531203 · EE Contribution Refunds	747.11		0.0%
8532004 · Invest Exp - Metropolitan West	42,328.77		1.0%
8532013 · Invest Exp - Boston Partners	36,608.47		0.9%
8532020 · Invest Exp - Callan	19,343.27		0.5%
8532021 · Invest Exp - State Street	20,681.07		0.5%
8532023 · Invest Exp - JP Morgan	0.00		0.0%
8532024 · Invest Exp - Atlanta Capital	29,453.30		0.7%
8532025 · Invest Exp - S&P Index - SSgA	3,576.33		0.1%
8532026 · Invest Exp - EAFE - SSgA	1,643.56		0.0%
8532027 · Invest Exp - AQR	17,315.02		0.4%
8532028 · Invest Exp - Pyrford	27,282.19		0.6%
Total COGS	2,991,311.32		69.6%
Gross Profit	1,305,948.81		30.4%
Expense			
8533002 · Admin Exp - Actuary	19,382.53		0.5%
8533007 · Admin Exp - CALPRS Dues/Courses	2,642.82		0.1%
8533008 · Admin Exp - Accounting Software	1,949.98		0.0%
8533012 · Admin Exp - Travel	204.96		0.0%
8533014 · Admin Exp - Fiduciary Insurance	9,673.98		0.2%
8533021 · Admin Exp - Legal Services	64,194.14		1.5%
8533025 · Admin Exp - Information Service	250.00		0.0%
8533028 · Admin Exp - Staff Training	114.99		0.0%
8533029 · Admin Exp - Administrator	60,172.71		1.4%
8533030 · Admin Exp - Audit	3,333.34		0.1%
8533050 · Miscellaneous	0.00		0.0%
Total Expense	161,919.45		3.8%
Net Income	1,144,029.36		26.6%

#### Sacramento Regional Transit District Retirement Fund - IBEW Schedule of Cash Activities For the Three Months Period Ended March 31, 2019

	January 2019	February 2019	March 2019	Quarter Totals
Beginning Balance:	•			
Due (from)/to District - December 31, 2018	12,806.00	38,749.26	77,398.99	12,806.00
Monthly Activity:				
Deposits				
District Pension Contributions @ 19.78 to 25.03%	308,150.28	259,225.90	286,178.61	853,554.79
Employee Pension Contributions	18,676.33	17,428.24	18,007.08	54,111.65
Total Deposits	326,826.61	276,654.14	304,185.69	907,666.44
Expenses				
Payout to Retirees	(312,430.61)	(317,509.59)	(316,358.72)	(946,298.92)
Employee Contribution Refunds	_	-	-	-
Payout to Retirees Subtotal	(312,430.61)	(317,509.59)	(316,358.72)	(946,298.92)
Fund Investment Management Expenses:				
Boston Partners	(12,187.93)			(12,187.93)
SSgA S&P 500 Index	(,,	(1,141.83)		(1,141.83)
Atlanta Capital		(8,970.60)	-	(8,970.60)
Pyrford		(8,647.37)	-	(8,647.37)
SSgA EAFE MSCI	· · · · · · · · · · · · · · · · · · ·	(520.65)		(520.65)
Metropolitan West	(14,074.72)	(020:00)	_	(14,074.72)
Callan	(4,344.73)	(2,104.30)	(2,104.82)	(8,553.85)
State Street	(2,266.29)	(2,104.30)	(2,320.30)	(6,854.37)
	(32,873.67)	(23,652.53)	(4,425.12)	(60,951.32)
Fund Invest. Mgmt Exp. Subtotal	(32,073.07)	(23,052.53)	(4,425.12)	(00,951.52)
Administrative Expenses				
Actuarial Services	(2,096.83)	(5,098.59)	(1,733.67)	(8,929.09)
Legal Services	(10,183.47)	-	(13,700.27)	(23,883.74)
CALAPRS Training	_		(1,000.00)	(1,000.00)
Staff Training	<u>-</u>	(31.66)	-	(31.66)
Accounting Software	(1,949.98)	_		(1,949.98)
Pension Administration	(6,057.41)	(7,776.85)	(8,491.85)	(22,326.11)
Administrative Exp. Subtotal	(20,287.69)	(12,907.10)	(24,925.79)	(58,120.58)
Total Expenses	(365,591.97)	(354,069.22)	(345,709.63)	(1,065,370.82)
Monthly Net Owed from/(to) District	(38,765.36)	(77,415.08)	(41,523.94)	(157,704.38)
Due To ATU Plan - Custodian Error	32,971.09			32,971.09
Payment from/(to) the District	(45,793.19)	(38,765.35)	(77,415.08)	(161,973.62)
			<u>, , , ,</u>	
Ending Balance:				
Due (from)/to the District (=Beginning balance +				
monthly balance-payment to District)	38,749.26	77,398.99	41,507.85	41,507.85

#### RT Combined Pension Plans - ATU, IBEW and Salaried Asset Allocation \* As of March 31, 2019

Asset Class	Net Asset Market Value 3/31/2019	Actual Asset Allocation	Target Asset Allocation	% Variance	\$ Variance	Target Market Value
FUND MANAGERS:						
Domestic Equity:						
Large Cap Value - Boston Partners - Z8	\$ 44,908,834	15.54%	16.00%	-0.46%	\$ (1,335,388)	
Large Cap Growth - SSgA S&P 500 Index - XH	48,375,349	16.74%	16.00%	0.74%	2,131,127	
Total Large Cap Domestic Equity	93,284,182	32.28%	32.00%	0.28%	795,738	\$ 92,488,444
Small Cap - Atlanta Capital - XB	24,842,179	8.60%	8.00%	0.60%	1,720,068	23,122,111
International Equity: Large Cap Growth:						
Pyrford - ZD	26,490,383	9.17%	9.50%	-0.33%	(967,124)	
Large Cap Core: SSgA MSCI EAFE - XG Value - Brandes - XE	10,978,142 0	3.80% 0.00%				
Total Core	10,978,142	3.80%	4.50%	-0.70%	(2,028,045)	
Small Cap: AQR - ZB	12,986,738	4.49%	5.00%	-0.51%	(1,464,582)	
Emerging Markets DFA - ZA	16,317,042	5.65%	6.00%	-0.35%	(1,024,541)	
Total International Equity	66,772,305	23.10%	25.00%	-1.90%	(5,484,292)	72,256,597
Fixed Income:						
Met West - XD	104,127,722	36.03%	35.00%	1.03%	2,968,486	101,159,236
Total Combined Net Asset	\$ 289,026,387	100.00%	100.00%	0.00%	\$-	\$ 289,026,387

Asset Allocation Policy Ranges*:	Minimum	Target	Maximum
Domestic Equity	35%	40%	45%
Large Cap (50/50 value/growth)	28%	32%	36%
Small Cap	5%	8%	11%
International Equity	20%	25%	30%
Large Cap Developed Markets	10%	14%	18%
Small Cap Developed Markets	3%	5%	7%
Emerging Markets	4%	6%	8%
Domestic Fixed Income	30%	35%	40%

\* Per the Statement of Investment Objectives and Policy Guidelines as of 6/20/2018.

I:\F/\Close\FY 19\Pension\lsssue Paper - Attach 5 - Asset Rebalancing\(09 - Asset Rebalancing as of 3-31-19.x/s)ATU, IBEW and Salaried Ratios

Reconciliation between Callan Report and	
Consolidated Pension Fund Balance Shee As of March 31, 2019	et
Per Both Pension Fund Balance Sheets:	
ATU Allocated Custodial Assets	134,990,198
IBEW Allocated Custodial Assets	58,430,541
Salaried Allocated Custodial Assets	95,605,648
Total Consolidated Net Asset	289,026,387
Per Callan Report:	
Total Investments	289,020,016
Net Difference	6,371

\* The "Net Difference" amounts shown are the results of Callan and State Street using different valuations for the same securities and a timing difference on the AQR statement.

Reconciliation between Callan Report and	L .
Consolidated Pension Fund Income State For the Quarter Ended March 31, 2019	
Per Both Pension Fund Income Statements:	
ATU - Interest, Dividends, and Other Income	641,657
ATU - Investment Income	8,983,262
IBEW - Interest, Dividends, and Other Income	274,761
IBEW - Investment Income	3,939,385
Salaried - Interest, Dividends, and Other Income	431,243
Salaried - Investment Income	6,668,061
Total Investment Income	20,938,369
Per Callan Report:	
Investment Returns	20,927,922
Net Difference	10,447 **

\*\* The "Net Difference" amounts shown are the results of Callan and State Street using different valuations for the same securities and a timing difference on the AQR statement.

Consolid	ciliation between Callar and lated Schedule of Cash Quarter Ended March	Activities		
	January	February	March	Total
Payments from/(to) the District				-
Boston Partners - ATU		4		4
Boston Partners - IBEW		2		2
Boston Partners - Salaried		2		2
S&P 500 Index - ATU				-
S&P 500 Index - IBEW				-
S&P 500 Index - Salaried				
Brandes - ATU		(4)		(4
Brandes - IBEW		(2)		(2
Brandes - Salaried		(2)		(:
Metropolitan West - ATU	(225,439)	(245,973)	(328,754)	(800,16
Metropolitan West - IBEW	(45,793)	(38,765)	(77,415)	(161,974
Metropolitan West - Salaried	(14,387)	10,802	(56,203)	(59,78)
Total Payments from/(to) the District	(285,619)	(273,936)	(462,373)	(1,021,92
Transfers In/(Out) of Investment Funds				
Boston Partners		8	-	8
S&P 500 Index			-	-
Atlanta Capital				-
JP Morgan	-			-
Pyrford	-		-	-
EAFE		-	-	
Brandes	-	(8)		(1
AQR	그는 그는 것은 그는 것이?			-
DFA	- 10		·	-
Metropolitan West	(285,619)	(273,936)	(462,373)	(1,021,92
Total Transfers In/(Out) of Investment Funds	(285,619)	(273,936)	(462,373)	(1,021,92
ariance between Payments and Transfers				-
Per Callan Report:				
Net New Investment/(Withdrawals)			· · · · · · · · · · · · · · · · · · ·	(1,021,928
Net Difference				(

Consolidated Schedule of Cash Activities For the 12-Months March 31, 2019						
	2Q18	3Q18	4Q18	1Q19	Total	
ayments from/(to) the District						
Boston Partners - ATU/IBEW	-	· · · · · ·	-	-		
Boston Partners - ATU	(2,810,287)	-		4	(2,810,283	
Boston Partners - IBEW	(987,443)		-	2	(987,441	
Boston Partners - Salaried	(1,461,943)	<u>.</u>	i i i i i i i i i i i i i i i i i i i	2	(1,461,941	
S&P 500 Index - ATU/IBEW	-	-	2000 - <del>1</del> 2	-		
S&P 500 Index - ATU	(1,770,269)		(453,869)		(2,224,138	
S&P 500 Index - IBEW	(804,753)	-	(86,233)	-	(890,986	
S&P 500 Index - Salaried	(1,395,393)	-	(42,143)	· · · · ·	(1,437,536	
Atlanta Capital - ATU/IBEW	_	- "" ·	-	-	-	
Atlanta Capital - ATU	(1,844,745)	(572,143)		· · · ·	(2,416,888	
Atlanta Capital - IBEW	(788,042)	(121,006)	-	· · · · ·	(909,048	
Atlanta Capital - Salaried	(1,435,641)	(79,419)	-	-	(1,515,060	
Pyrford - ATU	-	-		· · ·	-	
Pyrford - IBEW	-	-	-	· -		
Pyrford - Salaried	-	-	-	_	-	
EAFE - ATU/IBEW	-	-	· · ·	_	-	
EAFE - ATU	-		_	-	-	
EAFE - IBEW	_			_	_	
EAFE - Salaried	-	· · · ·				
Brandes - ATU			· · · ·	(4)	(	
Brandes - IBEW	-			(2)	(	
Brandes - Salaried				(2)	(	
AQR - ATU	-	-	-	(2)	(.	
AQR - IBEW	-			-		
		-		-	-	
AQR - Salaried	-	-	-		-	
DFA - ATU/IBEW		· · ·		-	-	
DFA - ATU		-	-	-	-	
DFA - IBEW	-	-	-	-	-	
DFA - Salaried	A	-		-	-	
Metropolitan West - ATU/IBEW	-	-	-	-	-	
Metropolitan West - ATU	5,485,262	(327,866)	(299,003)	(800,166)	4,058,22	
Metropolitan West - IBEW	2,418,623	(56,407)	(78,875)	(161,974)	2,121,36	
Metropolitan West - Salaried	4,211,226	75,846	(106,423)	(59,788)	4,120,86	
Total Payments from/(to) the District	(1,183,405)	(1,080,995)	(1,066,545)	(1,021,928)	(4,352,87	

#### Sacramento Regional Transit District ATU, IBEW and Salaried Retirement Plans Schedule of Fund Investment Returns and Expenses 03/31/19

			-	1 Year				3 Years	
			Net of Fees	Bench- Mark	Favorable/ (Unfavor)		Net of Fees	Bench- Mark	Favorable/ (Unfavor)
	1 Year	%	Returns	Returns	Basis Pts	3 Years %	Returns	Returns	Basis Pts
Boston Partners									
Investment Returns	3,473,316	100.00%	1000		· · · · · · · · · · · · · · · · · · ·	17,074,557 100.00%	* x *		
Investment Expense	(241,282)	6.95%			3	(721,442) 4.23%			an <sup>1</sup>
Net Gain/(Loss)	3,232,034	93.05%	1.78%	5.67%	(389.00)	16,353,115 95.77%	11.17%	10.45%	72.00
S&P 500					1		8.		
Investment Returns	5,108,799	100.00%	R. Carl			17,981,502 100.00%	1		
Investment Expense	(23,425)	0.46%			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	(99,649) 0.55%			. 15.
Net Gain/(Loss)	5,085,374	99.54%	9.45%	9.50%	(5.00)	17,881,853 99.45%	13.48%	13.51%	(3.00)
Atlanta Capital					1.1193				
Investment Returns	3,703,012	100.00%				10,798,729 100.00%	- T		10 A.
Investment Expense	(195,071)	5.27%				(580,298) 5.37%			
Net Gain/(Loss)	3,507,941	94.73%	10.47%	2.05%	842.00	10,218,431 94.63%	13.60%	12.92%	68.00
Pyrford			ga - P						
Investment Returns	373,799	100.00%				1,142,298 100.00%	1.0		
Investment Expense	(180,545)	48.30%			n san Sig	(334,486) 29.28%	1		
Net Gain/(Loss)	193,254	51.70%	-1.56%	-3.71%	215.00	807,812 70.72%	N/A	N/A	N/A
Net Gain/(L035)	195,254	51.7070	-1.50 %	-0.7170	210.00	007,012 70.7270			
EAFE									
Investment Returns	37,152	100.00%	1.72		1.10	2,786,517 100.00%			
Investment Expense	(10,992)	29.59%	0.4004	0 7404	05.00	(34,296) 1.23%	7 500/	7 070/	
Net Gain/(Loss)	26,160	70.41%	-3.46%	-3.71%	25.00	2,752,221 98.77%	7.56%	7.27%	29.00
Brandes					<u></u>				
Investment Returns	(314)	100.00%				(2,226) 100.00%			
Investment Expense		0.00%				- 0.00%		Sec. 11.	·
Net Gain/(Loss)	(314)	100.00%	N/A	N/A	N/A	(2,226) 100.00%	N/A	N/A	N/A
AQR									×.
Investment Returns	(767,989)	100.00%			- 1	2,794,787 100.00%			en esta de la competencia de la competencia de la competencia de l
Investment Expense	(131,304)	-17.10%			1.1.1	(345,009) 12.34%			
Net Gain/(Loss)	(899,293)	117.10%	-13.61%	-9.36%	(425.00)	2,449,778 87.66%	N/A	N/A	N/A
DFA									
Investment Returns	(1,974,974)	100.00%	State and State		1.13.1	3,644,081 100.00%			1 T av 1
Investment Expense	(108,133)	-5.48%				(277,025) 7.60%			81.1
Net Gain/(Loss)	(2,083,107)	105.48%	-9.48%	-7.40%	(208.00)	3,367,056	9.58%	10.68%	(110.00)
Metropolitan West									1
Investment Returns	123,278	100.00%	· ·		1.1	2,749,596 100.00%	- 1 ×		
Investment Expense	(278,796)	226.15%				(772,759) 28.10%	5		e., 1
Net Gain/(Loss)	(155,518)	-126.15%	4.92%	4.48%	44.00	1,976,837 71.90%	2.46%	2.03%	43.00
Total Fund									
Investment Returns	10,076,079	100.00%				63,613,814 100.00%			
Investment Expense	(1,169,548)	11.61%	0	0	100.00	(3,263,836) 5.13%	7 7001	0.0401	(40.00)
Net Gain/(Loss)	8,906,531	88.39%	2.72%	3.55%	(83.00)	60,349,978 94.87%	7.76%	8.24%	(48.00)

#### Schedule of Transfers, Retirements and Deaths For the Time period: January 1, 2019 to March 31, 2019

Emp#	StartDate	JobTitle	EmpSubArea
3308	1/8/2019	Bus Operator	ATU
3689	2/16/2019	Administrative Assistant II	AFSCME Admin Tech
3689	3/1/2019	Revenue Clerk	ATU
3980	3/1/2019	Customer Advocate I	AFSCME Admin Tech
Retiremer	nts		
Emp#	Previous Position	Pension Group	RetirementDate
1578	Chief Operating Officer	MCEG	1/1/2019
842	Bus Operator	ATU	1/11/2019
352	Bus Operator	ATU	1/23/2019
704	Bus Operator	ATU	1/26/2019
650	Bus Operator	ATU	1/30/2019
655	Bus Operator	ATU	2/1/2019
1467	Accessible Svcs Eligibility Specialist	AFSCME Admin Tech	2/1/2019
2171	Transportation Supv	AFSCME Supervisor	2/1/2019
388	Bus Operator	ATU	2/21/2019
4325	Light Rail Asst Mechanic	IBEW	3/1/2019
2638	Transportation Supv	AFSCME Supervisor	3/1/2019
2161	Transportation Supv	AFSCME Supervisor	3/1/2019
451	Transportation Supv	AFSCME Supervisor	3/1/2019
2606	Bus Operator	ATU	3/2/2019
427	Light Rail Operator	ATU	3/17/2019
601	Light Rail Operator	ATU	3/17/2019
531	Light Rail Operator	ATU	3/29/2019

#### Deaths

Emp#	Pension Group	Туре	Date of Death
3011	ATU	100% J&S	1/14/2019
2201	IBEW	50% J&S	1/29/2019
3534	IBEW	Life	2/6/2019
1173	ATU	Life	2/8/2019
2562	AFSCME Admin Tech	100% J&S	2/28/2019
344	ATU	50% J&S	3/15/2019
1247	IBEW	Life	3/15/2019

### **REGIONAL TRANSIT ISSUE PAPER**

Page 1 of 1 Agenda Board Meeting Open/Closed Information/Action Issue Item No. Date Session Item Date 11 06/12/19 Information 04/17/19 Retirement

Subject: Receive and File Update on Roles and Responsibilities Related to Pension Administration (ALL). (Weekly)

#### ISSUE

Presentation regarding the transition of roles and responsibilities of various District Staff members related to administration of the Pension Plans as well as updates on Staff costs and Legal Services (ALL). (Weekly)

#### RECOMMENDED ACTION

None associated with this matter.

#### FISCAL IMPACT

None associated with this matter.

#### DISCUSSION

The attached documents are provided quarterly to keep the Retirement Boards informed about the various duties of RT staff and consultants (including the Retirement Boards' Legal Counsel) relative to administration and management of the pension plans and assets, and associated costs.

Attachment A – Pension Administration Staff Roles and Responsibilities Attachment B – RT Staff Costs Attributable and Charged to RT Pension Plans Attachment C – Summary of Legal Services Provided for the Quarter Ending March 31, 2019

Approved:

Presented:

Pension & Retiree Services Administrator J:\Retirement Board\2019\IP's\Quarterly Meetings\June 12, 2019\HR Working IPs\IP-Update on Roles and Responsibilities.doc

### Pension Administration Staff Roles and Responsibilities

### **Plan Administration**

Customer	<b>Relations:</b>

Г	Tan	Adi	m	เรเ	alio	11

Task	Primary Responsibility	Back Up Responsibility
Retirement Meetings	Pension and Retirement Services Administrator (PRSA)	Pension Analyst
Research and address benefit discrepancies	PRSA	Pension Analyst
Disability Retirements	PRSA	Pension Analyst
Conduct Educational Sessions	PRSA	Pension Analyst
Respond to all Employee and Retiree inquiries	Pension Analyst	PRSA
Creation of Pension Estimates	Pension Analyst	PRSA
Processing Employee and Retiree Deaths	Pension Analyst	PRSA
<ul> <li>Administration of Active and Term Vested (TV) Retirement Process, including:</li> <li>Notifications</li> <li>Lost Participant Process (TV)</li> <li>Collection of all required documents</li> <li>Legal/Compliance Review</li> <li>Approval by General Manager</li> </ul>	Pension Analyst	PRSA
Converting Employees to Retirees in SAP	Pension Analyst	Sr. HR Analyst - HRIS
Lost participant process for returned checks/stubs	Pension Analyst	PRSA
48-Month Salary Calculations	Pension Analyst	Payroll Supervisor and PRSA
Distribution of employee required contributions (per contract or PEPRA): • Send notification • Collect documentation • Lost participant process • Apply interest • Process check	Pension Analyst	PRSA
Conduct Lost Participant Searches	Pension Analyst	Pension Analyst
Administer Retiree Medical	Sr. HR Analyst	Sr. HR Analyst
Managing Stale Dated and Lost Check Replacement	Payroll Analyst and Accountant II	Payroll Supervisor
Copies of Retiree Pay Stubs and 1099R's	Payroll Analyst	Payroll Supervisor
Printing, Stuffing, and Mailing Pay Stubs	Payroll Analyst	Payroll Supervisor
Verification of Retiree Wages: gross pay, net wages, no pre-tax deductions, taxes	Administrative Technician (HR) and Payroll Analyst	Pension Analyst and/or Payroll Supervisor

#### **Plan Documents:**

Task	Primary Responsibility	Back Up Responsibility	
Negotiation of Benefits, Provisions	Director, Labor Relations	To be determined	
Incorporate Negotiated			
Benefits/Provisions into Plan	Deputy Chief Counsel, RT	Chief Counsel, RT	
Documents			
Interpretation of Provisions	PRSA and	Chief Counsel, RT	
	Deputy Chief Counsel, RT	Chief Courisei, KT	
Guidance to Staff regarding legal	PRSA and	Chief Counsel, RT	
changes that affect Plans	Deputy Chief Counsel, RT		

#### Vendor Administration:

Task	Primary Responsibility	Back Up Responsibility
Legal Services (Hanson Bridgett) Contract Procurement	PRSA and Treasury Controller	VP Finance/CFO
Actuarial Services (Cheiron) Contract Procurement	PRSA and Treasury Controller	VP Finance/CFO
Retirement Board Policy Development and Administration	PRSA and Treasury Controller	VP Finance/CFO
	Hanson Bridgett and Cheiron	Hanson Bridgett and Cheiron

#### **Retirement Board Administration:**

Task	Primary Responsibility	Back Up Responsibility
Creation of Agenda/IPs	Staff Presenting Issue to Board	n/a
Creation and Distribution of Retirement Board Packages	PRSA	Treasury Controller
Management of Retirement Board Meetings	PRSA	Treasury Controller
Training of Staff/Board Members	PRSA and Treasury Controller	Staff/Vendor SME
New Retirement Board Member Training	PRSA and Treasury Controller	Staff/Vendor SME

### Semi-Annual/Annual/Bi-Annual Administration:

Task	Primary Responsibility	Back Up Responsibility
Valuation Study	PRSA and Treasury Controller	VP Finance/CFO
Experience Study	PRSA and Treasury Controller	VP Finance/CFO
Fiduciary Liability Insurance	PRSA	Treasury Controller
Responses to Public Records Act Requests	PRSA	Treasury Controller
Statement of Investment Objectives and Policy Guidelines management	Treasury Controller	VP Finance/CFO

### **Contract Administration:**

Task	Primary Responsibility	Back Up Responsibility
Adherence to contract provisions	PRSA and Treasury Controller	VP Finance/CFO
Payment of Invoices	Treasury Controller or PRSA	VP Finance/CFO
Contract Management, including RFP process	PRSA and Treasury Controller	VP Finance/CFO

#### Asset Management:

Task	Primary Responsibility	Back Up Responsibility
Asset Rebalancing	Treasury Controller	Treasury Controller
Account Reconciliations	Treasury Controller	Treasury Controller
Cash Transfers	Treasury Controller	Treasury Controller
Fund Accounting	Treasury Controller	Treasury Controller
Investment Management	Treasury Controller	Treasury Controller
Financial Statement Preparation	Treasury Controller	Treasury Controller
Annual Audit	Treasury Controller	Treasury Controller
State Controller's Office Reporting	Treasury Controller	Treasury Controller
U.S. Census Bureau Reporting	Treasury Controller	Treasury Controller
Work with Contractors (Investment advisors (Callan), Custodian (State Street), Fund Managers, Auditors, and Actuary (Cheiron))	Treasury Controller	Treasury Controller
Review Monthly Asset Rebalancing	Treasury Controller	Treasury Controller

#### Sum of Value TranCurr **WBS Element** Source object name Per Total Human Resources / Martinelli, Christin SAXXXX.PENATU 007 496.28 009 1,281.45 008 1,123.16 Human Resources / Montung-Fuller, Mari 007 4,656.42 009 3,076.57 008 3,617.03 Human Resources / Weekly, Valerie 007 1,016.09 009 1,185.44 1,058.42 008 SAXXXX.PENATU Total 17,510.86 SAXXXX.PENIBEW Human Resources / Martinelli, Christin 007 235.08 009 1,203.09 008 783.60 Human Resources / Montung-Fuller, Mari 007 1,039.40 009 665.23 008 748.37 Human Resources / Weekly, Valerie 007 423.40 009 719.78 008 508.08 6,326.03 SAXXXX.PENIBEW Total SAXXXX.PENSALA Finance And Treasury / Adelman, Jamie 009 149.12 Human Resources / Martinelli, Christin 007 339.56 009 1,203.09 008 940.32 Human Resources / Montung-Fuller, Mari 007 1,579.89 009 997.84 008 1,039.40 Human Resources / Weekly, Valerie 007 1,016.11 009 973.75 008 973.76 SAXXXX.PENSALA Total 9,212.84 SAXXXX.PENSION Finance And Treasury / Adelman, Jamie 007 994.12 009 2,211.91 008 2,187.04 Finance And Treasury / Gardner, Leona 007 1,778.18 009 632.25 008 414.91 Finance And Treasury / Mata, Jennifer 007 1,767.17 009 1,106.56 008 1,177.91 Human Resources / Martinelli, Christin 007 339.56 009 1,205.18

#### Pension Administration Costs For the Time Period: January 1, 2019 to March 31, 2019

SAXXXX.PENSION	Human Resources / Martinelli, Christin	008	835.84
	Human Resources / Montung-Fuller, Mari	007	4,490.12
		009	6,901.47
		008	6,194.68
	Human Resources / Weekly, Valerie	007	2,624.83
		009	4,191.22
		008	2,455.49
	Board Support / Brooks, Cynthia	007	78.33
		009	234.99
	Finance And Treasury / Volk, Lynda	007	1,006.26
		009	1,227.66
		008	3,944.52
SAXXXX.PENSION Total			48,000.20
Grand Total			81,049.93



#### HANSON BRIDGETT LLP & SACRAMENTO REGIONAL TRANSIT DISTRICT RETIREMENT BOARDS

#### LEGAL SERVICES SUMMARY

Set forth below is a broad summary report of significant legal matters addressed by Hanson Bridgett LLP for the Sacramento Regional Transit District Retirement Boards during the Quarter ended March 31, 2019.

- 1. Weekly client conference calls and internal conferences on pending matters, upcoming Board meetings and follow-up from prior Board meetings.
- 2. Preparation for and participation in Quarterly Board Meetings, including review and markup of agenda materials and related Board Chair conference calls.
- 3. Preparation for and participation in new Board Member training.
- 4. Preparation for and participation in Special ATU Retirement Board Meeting.
- 5. Assist with finalizing the investment consultant services contract.
- 6. Review and revise investment management documentation.
- 7. Review and respond to issues regarding custodian RFP.
- 8. Review and respond to issues regarding operations audit.
- 9. Review and analyze issues regarding "pop-up" benefit under IBEW Plan.
- 10. Advise staff on issues regarding calculation of normal cost for PEPRA members.
- 11. Provide counsel on issues including, but not limited to:
  - a. Pension Plan documents and updates;
  - b. Financial reporting;
  - c. Benefit eligibility and claims determinations;
  - d. Calculation of benefits under various scenarios;
  - e. Fiduciary duties.

Respectfully Submitted,

/s/ Shayna M. van Hoften

### REGIONAL TRANSIT ISSUE PAPER

Page 1 of 2

				0
Agenda	Board Meeting	Open/Closed	Information/Action	Issue
Item No.	Date	Session	Item	Date
12	06/12/19	Retirement	Action	04/12/19

Subject: Amendment of the Investment Custodian Services Contract with State Street Bank and Trust Company to Extend the Term by Six Months and Increase the Limit to \$733,572

#### <u>ISSUE</u>

Amendment to the Retirement Fund Custodian Services Contract with State Street Bank and Trust Company to Extend the Term of the Contract by Six Months and Increase the Limit to \$733,572 (ALL). (Adelman)

#### **RECOMMENDED ACTION**

Adopt Resolution No. 19-06-\_\_\_\_, Delegating Authority to the Sacramento Regional Transit District's General Manager/CEO to Sign a First Amendment to the Retirement Fund Custodian Services Contract with State Street Bank and Trust Company to Extend the Term of the Contract by Six Months and Increase the Limit to \$733,572.

#### FISCAL IMPACT

The proposed six-month extension will increase the consideration limit for this contract by an estimated \$71,100.

Original Contract Not-to-Exceed Amount:	\$662,472
Estimated cost of six-month Contract Extension*:	71,100
Amended Total Contract Not-to-Exceed Amount:	\$733,572

\*The estimated cost was calculated as follows:

1. Monthly rate of \$10,648 times 6 months (September 2019 through February 2020) equals \$63,888.

2. Add \$4,800 for 6 months of compliance monitoring

3. Add \$2,412 of miscellaneous costs.

Note: This amount is an estimate. The Pension Plans will pay State Street based on the actual fees incurred

#### DISCUSSION

The Pension Plans require ongoing retirement fund custodian services, currently provided under a five-year 2014 contract with State Street Bank and Trust Company, due to expire August 31, 2019.

Earlier this month, Staff issued a Request for Proposal ("RFP") for custodian and compliance monitoring services for the Pension Plans, with responses due in June 2019. Before the RFP was released, Bo Abesamis, Executive Vice President, Mark Kinoshita, Senior Vice President, and Alvaro Vega, Assistant Vice President at Callan LLC ("Callan") provided technical support

Approved:

Presented:

Director, Finance and Treasury J:\Retirement Board\2019\IP's\Quarterly Meetings\June 12, 2019\FI FINAL IPs\06-12-19 SSB Contract Extension.docx

### REGIONAL TRANGIT ISSUIT DADED

REGIONAL TRANSIT ISSUE PAPER				
Agenda Item No.	Board Meeting Date	Open/Closed Session	Information/Action Item	lssue Date
12	06/12/19	Retirement	Action	04/12/19

ſ	Subject:	Amendment of the Investment Custodian Services Contract with State Street
		Bank and Trust Company to Extend the Term by Six Months and Increase the
		Limit to \$733,572

and revised the custodial services technical requirements, scope of work, and contract document to help ensure that the RFP meets current industry standards and will result in high quality responses. The SacRT procurement department in conjunction with Hanson Bridgett completed the RFP document. Callan will provide a first review of the proposals submitted in response to the RFP, and will prepare a summary matrix of all responses to streamline the review and selection process. The review, expected to be performed in July 2019, will be performed by a committee made up of Pension staff and a member from each of the five bargaining groups, with support from Callan. Staff anticipates bringing a recommendation regarding a new contract to provide custodian and compliance monitoring services to the Boards at the Quarterly Retirement Board Meeting in September 2019.

If a new custodian is selected, transition of services will take 60 to 90 days.

Based on this timeline, the proposed six-month contract extension is necessary to provide enough time to complete the selection process, negotiate contract terms and, if necessary, transition services to a new custodian. Therefore, staff recommends that the Retirement Boards authorize the Sacramento Regional Transit District General Manager/CEO to sign a First Amendment to the Retirement Fund Custodian Services contract with State Street Bank and Trust Company to extend the term of the contract through February 29, 2020 and increase the contract limit to \$733,572.

It is possible that a new contract could be in effect before November 30, 2019, which would allow the First Amendment to the State Street Bank and Trust Company contract to be terminated at an earlier date.

Adopted by the Board of Directors for the Retirement Plan for Sacramento Regional Transit District Employees Who Are Members of the ATU Local Union 256 on this date:

\_\_\_\_\_

#### AUTHORIZING SACRAMENTO REGIONAL TRANSIT DISTRICT'S GENERAL MANAGER/CEO TO SIGN THE FIRST AMENDMENT TO THE RETIREMENT FUND CUSTODIAN SERVICES CONTRACT WITH STATE STREET BANK AND TRUST COMPANY TO EXTEND THE CONTRACT TERM SIX MONTHS AND INCREASE THE TOTAL CONSIDERATION LIMIT TO \$733,572

BE IT HEREBY RESOLVED BY THE RETIREMENT BOARD OF DIRECTORS FOR THE RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES WHO ARE MEMBERS OF THE ATU LOCAL UNION 256 AS FOLLOWS:

THAT, it is in the best interest of the Retirement Plan to extend the five-year term of the custodian services contract with State Street Bank and Trust Company, effective September 1, 2014, for six months (through February 29, 2020).

THAT, the Retirement Board hereby authorizes the General Manager/CEO of the Sacramento Regional Transit District to sign the First Amendment to the custodian services contract with State Street Bank and Trust Company, in a form approved by Legal Counsel, to extend the contract term by six months and to increase the contract's total consideration by up to \$71,100, for a new total contract amount not to exceed \$733,572.

RALPH NIZ, Chair

A TT E S T:

Henry Li, Secretary

By:

Adopted by the Board of Directors for the Retirement Plan for Sacramento Regional Transit District Employees Who Are Members of the IBEW Local Union 1245 on this date:

AUTHORIZING SACRAMENTO REGIONAL TRANSIT DISTRICT'S GENERAL MANAGER/CEO TO SIGN THE FIRST AMENDMENT TO THE RETIREMENT FUND CUSTODIAN SERVICES CONTRACT WITH STATE STREET BANK AND TRUST COMPANY TO EXTEND THE CONTRACT TERM SIX MONTHS AND INCREASE THE TOTAL CONSIDERATION LIMIT TO \$733,572

BE IT HEREBY RESOLVED BY THE RETIREMENT BOARD OF DIRECTORS FOR THE RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES WHO ARE MEMBERS OF THE IBEW LOCAL UNION 1245 AS FOLLOWS:

THAT, it is in the best interest of the Retirement Plan to extend the five-year term of the custodian services contract with State Street Bank and Trust Company, effective September 1, 2014, for six months (through February 29, 2020).

THAT, the Retirement Board hereby authorizes the General Manager/CEO of the Sacramento Regional Transit District to sign the First Amendment to the custodian services contract with State Street Bank and Trust Company, in a form approved by Legal Counsel, to extend the contract term by six months and to increase the contract's total consideration by up to \$71,100, for a new total contract amount not to exceed \$733,572.

ERIC OHLSON, Chair

A TT E S T:

Henry Li, Secretary

By:

Adopted by the Board of Directors for the Retirement Plan for Sacramento Regional Transit District Employees Who Are Members of the AEA on this date:

\_\_\_\_\_

#### AUTHORIZING SACRAMENTO REGIONAL TRANSIT DISTRICT'S GENERAL MANAGER/CEO TO SIGN THE FIRST AMENDMENT TO THE RETIREMENT FUND CUSTODIAN SERVICES CONTRACT WITH STATE STREET BANK AND TRUST COMPANY TO EXTEND THE CONTRACT TERM SIX MONTHS AND INCREASE THE TOTAL CONSIDERATION LIMIT TO \$733,572

BE IT HEREBY RESOLVED BY THE RETIREMENT BOARD OF DIRECTORS FOR THE RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES WHO ARE MEMBERS OF THE AEA AS FOLLOWS:

THAT, it is in the best interest of the Retirement Plan to extend the five-year term of the custodian services contract with State Street Bank and Trust Company, effective September 1, 2014, for six months (through February 29, 2020).

THAT, the Retirement Board hereby authorizes the General Manager/CEO of the Sacramento Regional Transit District to sign the First Amendment to the custodian services contract with State Street Bank and Trust Company, in a form approved by Legal Counsel, to extend the contract term by six months and to increase the contract's total consideration by up to \$71,100, for a new total contract amount not to exceed \$733,572.

RUSSEL DEVORAK, Chair

ATTEST:

Henry Li, Secretary

By:

Adopted by the Board of Directors for the Retirement Plan for Sacramento Regional Transit District Employees Who Are Members of the AFSCME on this date:

\_\_\_\_\_

#### AUTHORIZING SACRAMENTO REGIONAL TRANSIT DISTRICT'S GENERAL MANAGER/CEO TO SIGN THE FIRST AMENDMENT TO THE RETIREMENT FUND CUSTODIAN SERVICES CONTRACT WITH STATE STREET BANK AND TRUST COMPANY TO EXTEND THE CONTRACT TERM SIX MONTHS AND INCREASE THE TOTAL CONSIDERATION LIMIT TO \$733,572

BE IT HEREBY RESOLVED BY THE RETIREMENT BOARD OF DIRECTORS FOR THE RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES WHO ARE MEMBERS OF THE AFSCME AS FOLLOWS:

THAT, it is in the best interest of the Retirement Plan to extend the five-year term of the custodian services contract with State Street Bank and Trust Company, effective September 1, 2014, for six months (through February 29, 2020).

THAT, the Retirement Board hereby authorizes the General Manager/CEO of the Sacramento Regional Transit District to sign the First Amendment to the custodian services contract with State Street Bank and Trust Company, in a form approved by Legal Counsel, to extend the contract term by six months and to increase the contract's total consideration by up to \$71,100, for a new total contract amount not to exceed \$733,572.

GARY PARKS, Chair

A TT E S T:

Henry Li, Secretary

By:

Adopted by the Board of Directors for the Retirement Plan for Sacramento Regional Transit District Employees Who Are Members of the MCEG on this date:

\_\_\_\_\_

#### AUTHORIZING SACRAMENTO REGIONAL TRANSIT DISTRICT'S GENERAL MANAGER/CEO TO SIGN THE FIRST AMENDMENT TO THE RETIREMENT FUND CUSTODIAN SERVICES CONTRACT WITH STATE STREET BANK AND TRUST COMPANY TO EXTEND THE CONTRACT TERM SIX MONTHS AND INCREASE THE TOTAL CONSIDERATION LIMIT TO \$733,572

BE IT HEREBY RESOLVED BY THE RETIREMENT BOARD OF DIRECTORS FOR THE RETIREMENT PLAN FOR SACRAMENTO REGIONAL TRANSIT DISTRICT EMPLOYEES WHO ARE MEMBERS OF THE MCEG AS FOLLOWS:

THAT, it is in the best interest of the Retirement Plan to extend the five-year term of the custodian services contract with State Street Bank and Trust Company, effective September 1, 2014, for six months (through February 29, 2020).

THAT, the Retirement Board hereby authorizes the General Manager/CEO of the Sacramento Regional Transit District to sign the First Amendment to the custodian services contract with State Street Bank and Trust Company, in a form approved by Legal Counsel, to extend the contract term by six months and to increase the contract's total consideration by up to \$71,100, for a new total contract amount not to exceed \$733,572.

ROGER THORN, Chair

A TT E S T:

Henry Li, Secretary

By:

### REGIONAL TRANSIT ISSUE PAPER

Agenda<br/>Item No.Board Meeting<br/>DateOpen/Closed<br/>SessionInformation/Action<br/>ItemIssue<br/>Date1306/12/19RetirementInformation04/12/19

Subject: Investment Performance Review by AQR for the ATU, IBEW and Salaried Retirement Funds for the International Small Capitalization Equity Asset Class for the Quarter Ended March 31, 2019 (ALL). (Adelman)

#### <u>ISSUE</u>

Investment Performance Review by AQR for the ATU, IBEW and Salaried Funds for the International Small Capitalization Equity Asset Class for the Quarter Ended March 31, 2019 (ALL). (Adelman)

#### **RECOMMENDED ACTION**

Information Only

#### FISCAL IMPACT

None.

#### DISCUSSION

Retirement funds are invested consistent with the Statement of Investment Objectives and Policy Guidelines (Policy) adopted by each Retirement Board (Board). Under the Policy, the Boards meet at least once every eighteen (18) months with each investment manager to review the performance of the manager's investment, the manager's adherence to the Policy, and any material changes to the manager's organization. The Policy also establishes the Retirement Funds' asset allocation policy and the asset classes in which the Plans funds are invested. The asset classes established by the Policy are (1) Domestic Large Capitalization Equity, (2) Domestic Small Capitalization Equity, (3) International Large Capitalization Equity, (4) International Small Capitalization Equity, (5) International Emerging Markets, and (6) Domestic Fixed-Income.

AQR is the Retirement Boards' International Small Capitalization Equity fund manager. AQR will be presenting performance results for the quarter ended March 31, 2019, shown in Attachment 1, and answering any questions.

Approved:

Presented:

Final 06/04/19 VP of Finance and Procurement/CFO

Director, Finance and Treasury J:\Retirement Board'2019\IP's\Quarterly Meetings\June 12, 2019\FI FINAL IPs\06-12-19 Fund Manager Review - AQR.docx

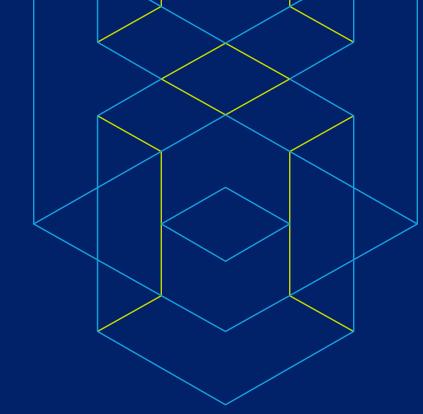
Page 1 of 1

# AQR International Small Cap April 2019 YTD Review

Prepared exclusively for Sacramento Regional Transit District

Private and Confidential FOR CLIENT REVIEW USE ONLY

June 12, 2019





For Institutional Investors Use Only

## **Disclosures**

You have requested certain performance information in connection with your due diligence review of the AQR International Small Cap Equity Fund, L.P. (the "Fund"). All information disclosed by AQR to you will be deemed Confidential Information and may be used only for informational, due diligence purposes. In consideration of AQR's making the Confidential Information available to you, you agree that you will not: (i) reproduce, summarize or otherwise use any Confidential Information for any purpose other than for Recipient's internal evaluation of establishing a relationship with AQR or investing in the Fund; or (ii) disclose the Confidential Information to any third party. You agree and acknowledge that the Confidential Information is and shall remain the property of AQR and AQR has not granted and will not grant you any license, copyright or similar right with respect to any of the Confidential Information.

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The views expressed reflect the current views as of the date hereof and neither the speaker nor AQR undertakes to advise you of any changes in the views expressed herein. It should not be assumed that the speaker or AQR will make investment recommendations in the future that are consistent with the views expressed herein, or use any or all of the techniques or methods of analysis described herein in managing client accounts. AQR and its affiliates may have positions (long or short) or engage in securities transactions that are not consistent with the information and views expressed in this presentation.

The information contained herein is only as current as of the date indicated, and may be superseded by subsequent market events or for other reasons. Charts and graphs provided herein are for illustrative purposes only. The information in this presentation has been developed internally and/or obtained from sources believed to be reliable; however, neither AQR nor the speaker guarantees the accuracy, adequacy or completeness of such information. Nothing contained herein constitutes investment, legal, tax or other advice nor is it to be relied on in making an investment or other decision.

There can be no assurance that an investment strategy will be successful. Historic market trends are not reliable indicators of actual future market behavior or future performance of any particular investment which may differ materially, and should not be relied upon as such. Target allocations contained herein are subject to change. There is no assurance that the target allocations will be achieved, and actual allocations may be significantly different than that shown here. This presentation should not be viewed as a current or past recommendation or a solicitation of an offer to buy or sell any securities or to adopt any investment strategy.

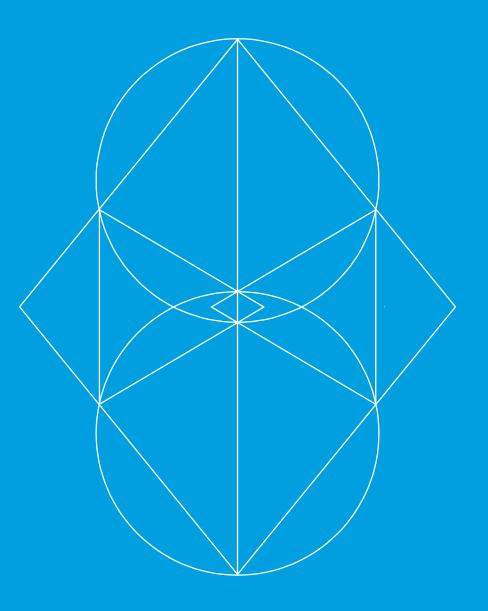
The information in this presentation may contain projections or other forward-looking statements regarding future events, targets, forecasts or expectations regarding the strategies described herein, and is only current as of the date indicated. There is no assurance that such events or targets will be achieved, and may be significantly different from that shown here. The information in this presentation, including statements concerning financial market trends, is based on current market conditions, which will fluctuate and may be superseded by subsequent market events or for other reasons. Performance of all cited indices is calculated on a total return basis with dividends reinvested.

The investment strategy and themes discussed herein may be unsuitable for investors depending on their specific investment objectives and financial situation. Please note that changes in the rate of exchange of a currency may affect the value, price or income of an investment adversely.

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# **Firm Overview**





# Our Firm

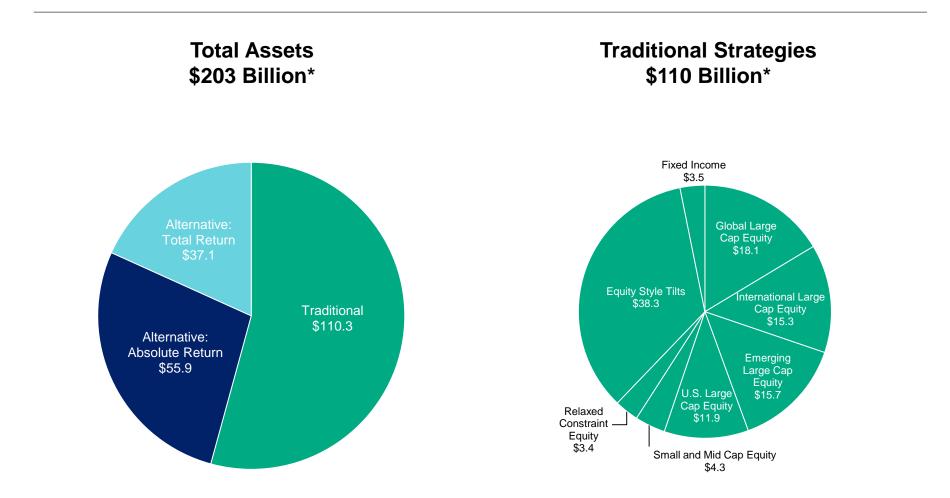
AQR is a global investment management firm built at the intersection of financial theory and practical application. We strive to deliver superior, long-term results for our clients by looking past market noise to identify and isolate what matters most, and by developing ideas that stand up to rigorous testing. Our focus on practical insights and analysis has made us leaders in alternative and traditional strategies since 1998.

### At a Glance

- · AQR takes a systematic, research-driven approach to managing alternative and traditional strategies
- We apply quantitative tools to process fundamental information and manage risk
- Our clients include institutional investors, such as pension funds, defined contribution plans, insurance companies, endowments, foundations, family offices and sovereign wealth funds, as well as RIAs, private banks and financial advisors
- The firm has 42 principals and ~1,000 employees; nearly half of employees hold advanced degrees
- AQR is based in Greenwich, Connecticut, with offices in Bengaluru, Boston, Chicago, Hong Kong, London, Los Angeles, Sydney, and Tokyo
- Approximately \$203 billion in assets under management as of March 31, 2019\*



## **Assets Under Management**





# Who We Are

Cliff Asness, Ph.D.* Managing and Founding Principal								
Portfolio Management, F	Research and Trading	Risk Management	Business Developn	nent	Corporate Infrastructure	Legal and Compliance		
John Liew, Ph.D.* Founding Principal			David Kabiller, CFA Founding Principal	۸*				
Portfolio Management and	Research	Risk Management	<b>Client Solutions</b>		Finance	Legal		
Michele Aghassi, Ph.D. Principal Jordan Brooks, Ph.D.	Tobias Moskowitz, Ph.D. Principal Yao Hua Ooi	Lars Nielsen Principal Chief Risk Officer	Gregor Andrade, Ph.D. Principal Bill Cashel	Marco Hanig, Ph.D. Principal Chris Palazzolo, CFA	John Howard* Principal, Chief Finance Officer / Co-Chief Operating Officer	Billy Fenrich Principal Chief Legal Officer		
Principal <b>Andrea Frazzini, Ph.D.</b> Principal	Principal Lasse Pedersen, Ph.D. Principal	Michael Patchen, CFA Principal	Principal <b>Jeff Dunn</b> Principal	Principal <b>Ted Pyne, Ph.D.</b> Principal	Bradley Asness Principal Co-Chief Operating Officer			
Jacques Friedman Principal	Scott Richardson, Ph.D. Principal		Jeremy Getson, CFA Principal					
<b>Brian Hurst</b> Principal	<b>Nathan Sosner, Ph.D.</b> Principal		Portfolio Solutions	Marketing	Accounting, Operations and Client Administration	Compliance		
<b>John Huss</b> Principal	Mark Mitchell, Ph.D. Principal (CNH)		Antti Ilmanen, Ph.D. Principal	Suzanne Escousse Principal	Steve Mellas Principal	H.J. Willcox Principal		
<b>Ronen Israel*</b> Principal	Todd Pulvino, Ph.D. Principal (CNH)			Chief Marketing Officer		Chief Compliance Officer		
Roni Israelov, Ph.D. Principal	Rocky Bryant Principal (CNH)				Systems Development and IT			
<b>Michael Katz, Ph.D.</b> Principal	Trading				Neal Pawar Principal			
David Kupersmith Principal	Isaac Chang Managing Director				Chief Technology Officer Stephen Mock			
<b>Oktay Kurbanov</b> Principal	<b>Brian Hurst</b> Principal				Principal			
<b>Ari Levine</b> Principal	Portfolio Finance				Human Resources			
Marcos López de Prado, Ph.D. Principal	Scott Carter Principal				Jen Frost Principal Chief Human Resources Officer			
Michael Mendelson* Principal					Unier Human Resources Officer			



Source: AQR \*Member of Executive Committee Personnel as of 3/31/2019

# **Industry-Leading Research**

# Committed to advancing financial knowledge around the world

### Academic Engagement

- Nearly half of employees hold advanced degrees and ~25% of Research has a Ph.D.
- 20 current and former professors work at AQR
- AQR Asset Management Institute at London Business School established to promote excellence in asset management
- AQR Insight Award: annual \$100,000 prize honoring unpublished papers that provide the most significant investment insights
- Online research library with more than 300 AQR papers, journal articles, books and periodicals, as well as our data sets

### Awards and Prizes

#### **57 Research Awards**

Notable awards include1:

- 9 Bernstein Fabozzi JPM Awards
- 9 Graham & Dodd Awards
- 6 Smith Breeden Awards<sup>2</sup>
- 4 DFA Prizes
- 4 Michael Brennan Awards<sup>2</sup>
- 1 Fischer Black Prize
- 1 Bernacer Prize
- 1 Markowitz JOIM Award

### Highly-Ranked Finance Research<sup>3</sup>

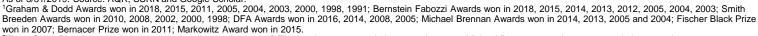
### **Top Journal Article Citations**

- 1. New York University (NYU)
- 2. AQR Capital Management
- 3. University of Chicago
- 4. University of Pennsylvania
- 5. Harvard University

#### SSRN Downloads

- 1. New York University (NYU)
- 2. Harvard University
- 3. University of Chicago
- 4. AQR Capital Management
- 5. Stanford University

As of 3/31/2019. Source: AQR, SSRN and Google Scholar.



<sup>2</sup>Three Smith Breeden awards were second place mentions; two DFA awards were second place mentions; one Michael Brennan award was a second place mention. <sup>3</sup>Social Science Research Network (SSRN) Finance Economic Network ranked by total new downloads of papers in the last 3 Years. SSRN List is as of March 1, 2019, Google Scholar list as of October 8, 2018.



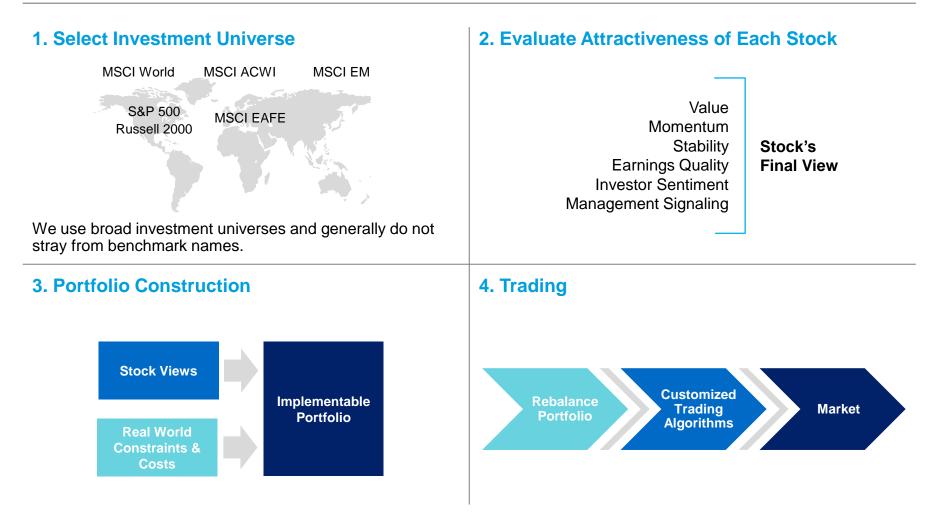
## **Global Stock Selection Team**

Portfolio Management and Research							
Jacques Friedman	Andrea Frazzini, Ph.D.	<b>Michele Aghassi, Ph.D., CFA</b>	<b>Ronen Israel</b>				
Principal	Principal	Principal	Principal				
<b>Tobias Moskowitz, Ph.D.</b>	Scott Richardson, Ph.D.	<b>Nathan Sosner, Ph.D.</b>	Shaun Fitzgibbons				
Principal	Principal	Principal	Managing Director				
Rodolfo Martell, Ph.D.	Greg McIntire, CFA	Lukasz Pomorski, Ph.D.	Laura Serban, Ph.D.				
Managing Director	Managing Director	Managing Director	Managing Director				
Greg Hall		r <b>shner, CFA</b>	Adrienne Ross, CFA				
Vice President		President	Vice President				
	Portfolio Im	nplementation					
<b>Michael Katz, Ph.D.</b> Principal		<b>Oktay Kurbanov</b> Principal					
Trading	Risk Ma	anagement	Front Office Technology				
Trading	Lars	nagement	Front Office Technology				
Isaac Chang		Nielsen	Neal Pawar				
Managing Director		incipal	Principal				



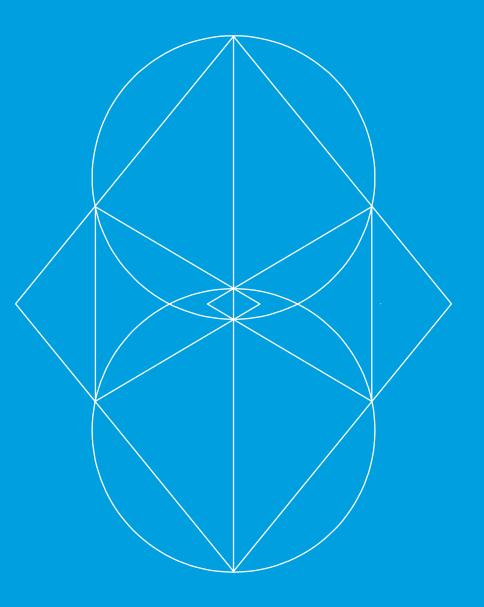
# **Investment Process**

## Consistent process across AQR Enhanced Equity Strategies





Source: AQR. Investment process is subject to change at any time without notice. Please read important disclosures in the Appendix. In equities and futures markets, AQR utilizes broker's infrastructure to access electronic trading venues. In FX markets, AQR connects directly to dealers and electronic trading venues.





## Since inception performance

### AQR International Small Cap Equity Fund, L.P.

August 1, 2007 – April 30, 2019

				Contr	<b>Contribution to Gross Excess Return</b>			
	Portfolio Return (Gross)	MSCI EAFE Small Cap	Gross Excess Return	Europe	UK	Japan	Australia & Asia ex- Japan	
Q2 2018	-2.62%	-1.57%	-1.06%	-1.0%	0.0%	-0.1%	0.1%	
Q3 2018	-2.01%	-0.88%	-1.14%	-0.1%	-0.1%	-0.2%	-0.8%	
Q4 2018	-16.23%	-16.05%	-0.18%	-0.5%	0.8%	-0.2%	-0.3%	
Q1 2019	9.13%	10.65%	-1.52%	-0.1%	-0.6%	-0.2%	-0.6%	
April 2019	1.36%	3.02%	-1.66%	-0.8%	-0.8%	-0.2%	0.2%	
Since Inception (AnnI)	5.57%	8.08%	-2.51%	-1.7%	-0.2%	-0.8%	0.1%	
Summary Sacramento F Since Inception (Cuml)	16.07%	23.80%	-7.73%	-5.1%	-0.2%	-2.5%	0.1%	
0	4 0007)							
Summary (since August	-12.43%	-7.88%	A 660/	2 4 9/	-0.7%	0.59/	4 30/	
Trailing 1 Year		7.75%	-4.55%	<b>-2.1%</b> -1.4%		-0.5%	-1.3%	
3 years (Annl)	5.82% 4.75%	5.27%	-1.93% -0.52%	-1.4%	0.1% 0.2%	-0.7% -0.5%	0.1% 0.1%	
5 years (Annl)	8.65%							
7 years (Annl)		8.75%	-0.10%	-0.2%	0.5%	-0.5%	0.1%	
10 years (Annl)	12.70%	11.49%	1.20%	0.6%	0.6%	-0.1%	0.1%	
Since Inception (Cuml)	77.93%	49.68%	28.25%	10.6%	14.9%	1.1%	1.7%	
Since Inception (Annl)	5.02%	3.49%	1.53%	0.6%	0.8%	0.1%	0.1%	
Since Inception (AnnI) Tracking Error	5.02%	3.49%	1.53% 2.2%	0.6%	0.8%	0.1%	0.1%	

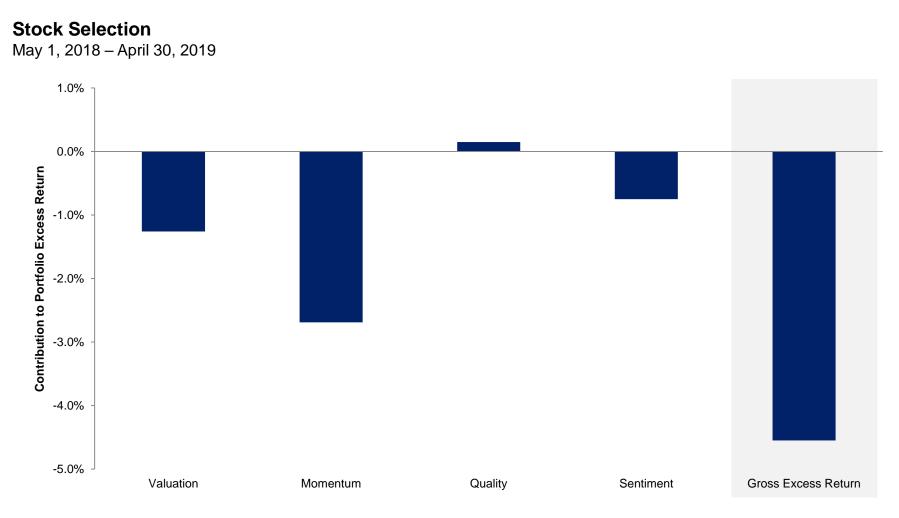
Period	Initial Contribution (\$K)	Contributions (\$K)	Withdrawals (\$K)	Investment Earnings (\$K)	Ending Balance (\$K)
Since Inception	\$ 12,202	-	\$ 704	\$ 1,655	\$ 13,153



Source: AQR. Performance figures herein represent unaudited estimates of realized and unrealized gains and losses prepared by AQR. Gross performance does not reflect the deduction of investment advisory fees. Please see the Appendix for important risk and performance disclosures. Excess returns are calculated as portfolio returns minus the benchmark. Past performance is not a guarantee of future performance. Please refer to the monthly statements provided by your custodian or administrator for actual returns. Attributions are subject to change without notice.

\* Information Ratio is calculated as the Annualized Excess Return divided by Tracking Error.

Trailing One Year Investment theme performance





Source: AQR. Investment theme performance is expressed as contributions to excess return above the account's stated benchmark by theme. Past performance is not a guarantee of future performance. The above analysis is specific to the client's account. Gross performance does not reflect the deduction of investment advisory fees. Attribution is subject to change at any time without notice. Please see additional performance disclosures in the Appendix.

## Trailing One Year Sector attribution

### **Stock Selection**

May 1, 2018 – April 30, 2019

	Av	Average Sector Weight			Excess Return	
	Portfolio	Benchmark	Active	Sector Selection	Stock Selection	Total
Communication Services	1.7%	2.7%	-1.0%	-0.1%	-0.1%	-0.2%
Consumer Discretionary	14.6%	13.9%	0.7%	0.0%	-0.5%	-0.5%
Consumer Staples	6.2%	6.6%	-0.4%	0.0%	-0.9%	-0.8%
Energy	4.6%	2.8%	1.8%	-0.3%	0.4%	0.2%
Financials	8.5%	11.6%	-3.1%	0.2%	0.1%	0.3%
Health Care	10.6%	7.5%	3.1%	-0.1%	-0.5%	-0.6%
Industrials	17.5%	21.6%	-4.1%	0.1%	-1.4%	-1.3%
Information Technology	15.1%	10.4%	4.8%	0.4%	-1.1%	-0.8%
Materials	7.8%	8.7%	-0.9%	0.0%	-0.6%	-0.6%
Real Estate	11.6%	11.4%	0.1%	0.0%	0.1%	0.1%
Telecom Services	0.1%	0.6%	-0.5%	0.0%	0.0%	-0.1%
Utilities	1.6%	2.2%	-0.6%	-0.3%	0.0%	-0.3%
Total	100.0%	100.0%	0.0%	-0.1%	-4.5%	-4.6%



Source: AQR. Performance figures herein represent unaudited estimates of realized and unrealized gains and losses prepared by AQR. Gross performance does not reflect the deduction of investment advisory fees. Please see the Appendix for important risk and performance disclosures. Excess returns are calculated excess of designated benchmark: MSCI EAFE Small Cap Net Index USD End of Day. Please refer to the monthly statements provided by your custodian or administrator for actual returns. Attributions are subject to change without notice.

## Portfolio characteristics: Equity exposure

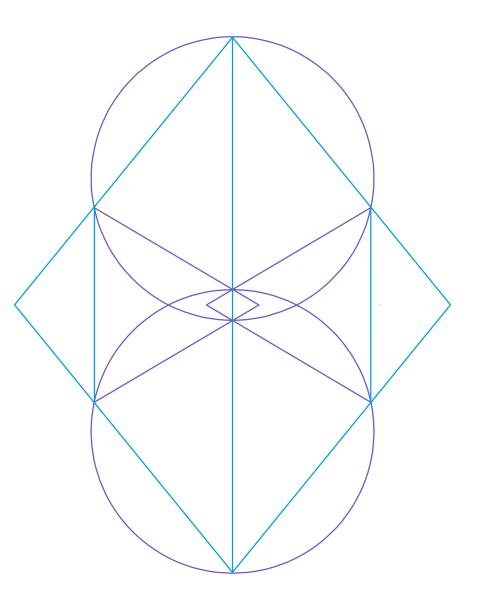
<b>Portfolio Characteristics</b> Stock Selection Exposure April 30, 2019	6		<b>Sector Exposure</b> Stock Selection Exposure April 30, 2019				Ac Und		Weight Over
	Portfolio	Benchmark		Portfolio	Benchmark	Active Weight	Apr-19	Mar-19	Sep-10 Jun-18
Number of Stocks	629	2,317	Communication Services	2.0%	4.9%	-2.9%			
Average Market Cap (\$M)	2,234	2,742	Consumer Discretionary	11.8%	12.9%	-1.0%			
Median Market Cap (\$M)	1,395	1,043	Consumer Staples	4.6%	6.3%	-1.6%			
			Energy	3.5%	2.7%	0.8%			
P/E (trailing)	12.8	15.9	Financials	7.5%	11.4%	-3.9%			
P/E (forward)	13.0	15.2	Health Care	12.8%	7.6%	5.2%			
P/B	1.6	1.5	Industrials	20.3%	21.7%	-1.4%			
P/CF	8.2	9.6	Information Technology	16.2%	10.2%	6.0%			
ROE (5-yr)	14.5	11.8	Materials	5.0%	8.2%	-3.2%			
Debt/EQ	0.4	0.6	Real Estate	12.2%	12.0%	0.2%			
Sales/EV	0.9	0.7	Utilities	4.0%	2.2%	1.8%			
Earnings Growth (5 yr trailing)	14.1	11.4							
12 Month Return of Holdings*	-1.0%	-1.0%	Total	100.0%	100.0%	0.0%			



Sources: AQR, Compustat, Datastream, Bloomberg, Worldscope and IBES. Average P/E ratios of the stocks in the portfolios exclude individual stock price-to-earnings ratios that are negative and the top and bottom 1 percentile of the remaining. Average P/B ratios of the stocks in the portfolios exclude individual stock price-to-book ratios that are negative and the top and bottom 1 percentile of the remaining. Average P/B ratios of the stocks in the portfolios exclude individual stock price-to-book ratios that are negative and the top and bottom 1 percentile of the remaining. Average Sales/EV ratios of the portfolios exclude individual stocks that have sales-to-enterprise values that are negative and the top and bottom 1 percentile of the remaining. Portfolio holdings are subject to change. Benchmark: MSCI EAFE Small Cap Net Index USD End of Day.

\* 12 Month Return of Holdings is representative of how stocks held in the account or benchmark would have performed over the previous 12 months in USD, gross of fees and weighted as of the date reported. This performance is not representative of the actual performance of the benchmark, account, or any other portfolio that AQR manages.

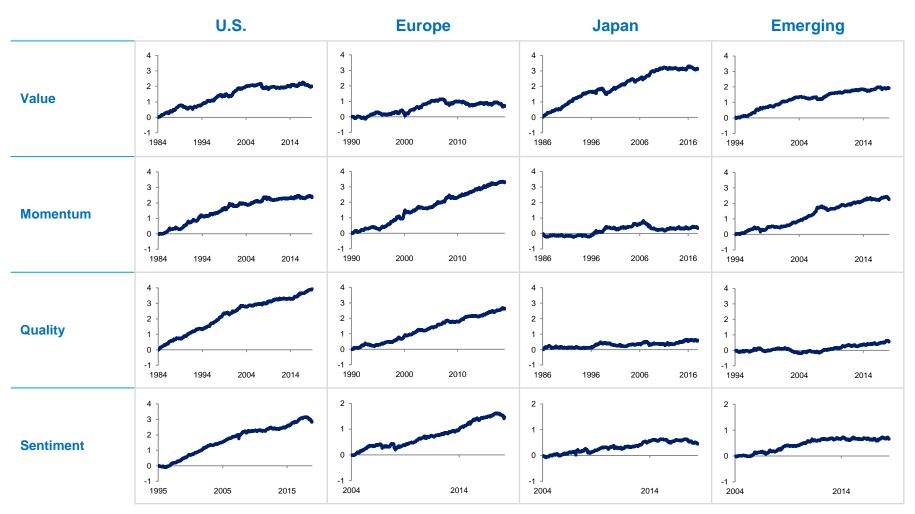
# Strategy Update





# **Investment Themes**\*

Hypothetical long-term efficacy across regions





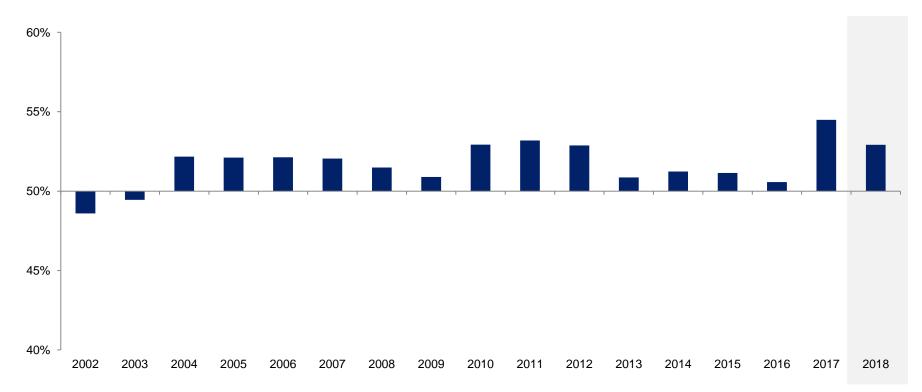
\* Source: AQR. AQR Value, Momentum, Quality, and Sentiment theme data is indicative of gross USD returns net of transactions-costs for a long-short, market neutral implementations of the factors at 7% volatility from 1/1/1984–12/31/2018 (where available for each theme). Y-axis for Europe, Japan, and Emerging Sentiment theme data is compressed due to shorter length of backtests (begin in 2004). Gross performance does not reflect the deduction of investment advisory fees. Hypothetical data has inherent limitations, some of which are disclosed in the Appendix. Diversification does not eliminate the risk of experiencing investment losses.

# **Fundamentals**

Model accuracy for predicting changes in fundamentals has not diminished

Percent of Earnings Surprises Predicted Correctly: Hypothetical International Small Cap Value & Momentum

January 1, 2002 - December 31, 2018



AQR

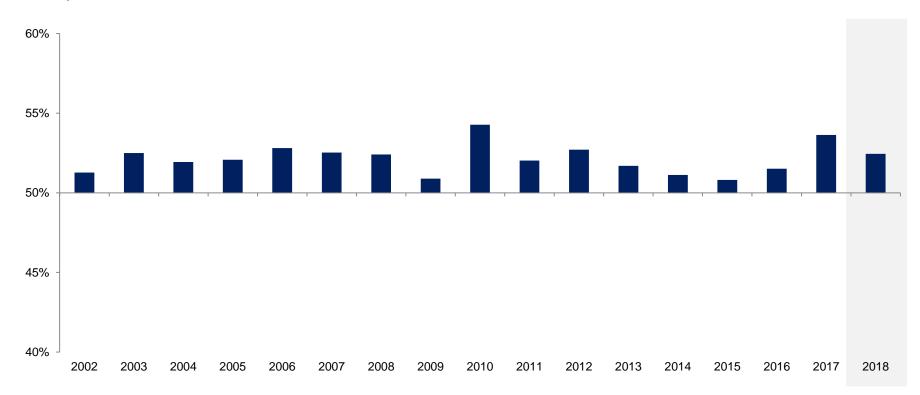
Source: AQR, Bloomberg. Data shows the alignment of AQR's Hypothetical Value and Momentum themes with subsequent earnings surprises of International Small Cap stocks (roughly equivalent to the MSCI World ex US Small Cap universe) using quarterly data. Positive/negative earnings surprises are defined relative to the median in the universe. Date range is January 1, 2002 – March 31, 2019. Returns are gross of fees and in USD. The date range is limited due to availability of earnings surprise data. For illustrative purposes only and not representative of an actual portfolio AQR currently manages. Hypothetical data has inherent limitations, some of which are disclosed in the Appendix.

# **Fundamentals**

Model accuracy for predicting changes in fundamentals has not diminished

Percent of Earnings Surprises Predicted Correctly: Hypothetical International Small Cap Model

January 1, 2002 - December 31, 2018



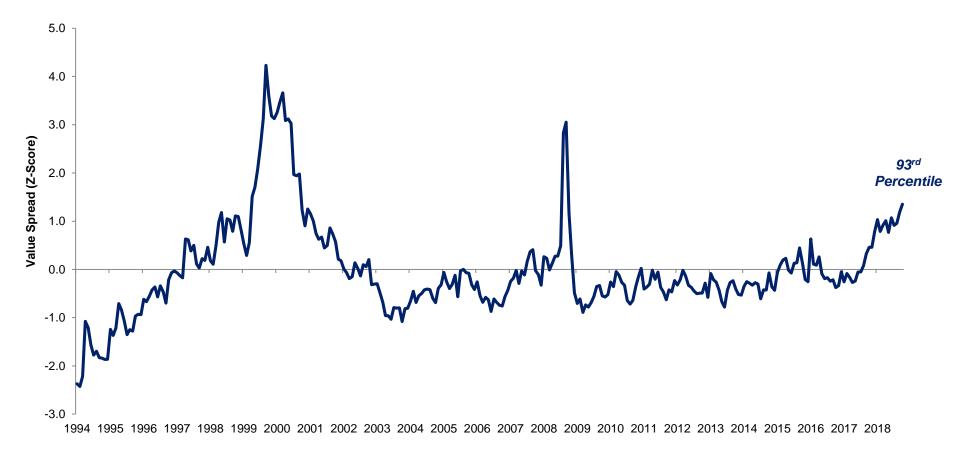


Source: AQR, Bloomberg. Data shows the alignment of AQR's Hypothetical model with subsequent earnings surprises of International Small Cap stocks (roughly equivalent to the MSCI World ex US Small Cap universe) using quarterly data.. Positive/negative earnings surprises are defined relative to the median in the universe. Date range is January 1, 2002 – March 31, 2019. Returns are gross of fees and in USD. The date range is limited due to availability of earnings surprise data. For illustrative purposes only and not representative of an actual portfolio AQR currently manages. Hypothetical data has inherent limitations, some of which are disclosed in the Appendix.

# Fundamentals

As value has sold off, spreads have moved significantly

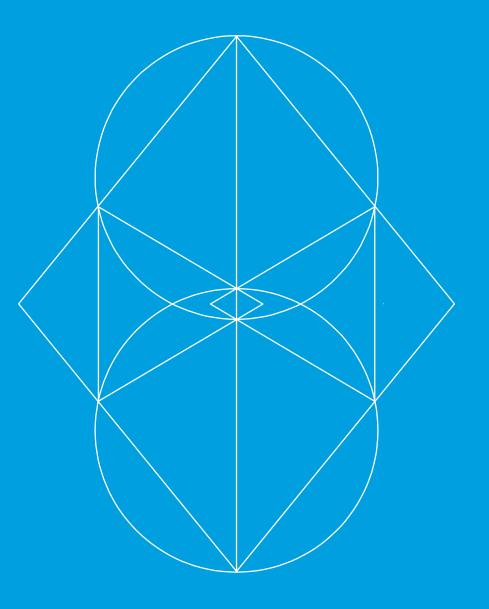
# International Small Cap Hypothetical Industry-Neutral Value Portfolio: Value Spread June 1, 1994 – March 31, 2019





Source: AQR. Value composite includes four value measures: book-to-price, earnings-to-price, forecast earnings-to-price, and sales-to-enterprise value; spreads are measured based on ratios. To construct industry-neutrality, the value spreads are constructed by comparing the aforementioned value measures within each industry, which are then aggregated up to represent an entire portfolio. Hypothetical data has inherent limitations, some of which are disclosed in the Appendix. Please read the Appendix for important disclosures.

# **Investment Philosophy** and **Process**





# **Evaluating Stocks** AQR's evaluation criteria are based on economic signals

- We form a view on each stock through a model developed and improved over the last 20 years.
- Stocks are evaluated based on the below signals, relative to other stocks in the below peer groups, both regionally and globally.

Signal Groups		Peer Groups
Valuation:	Attractive prices	Within Industries
Momentum:	Improving prices and fundamentals	
Stability:	Stable and high quality financials	Across Industries
Earnings Quality:	Sound accounting practices	Economically-Linked Groups
Investor Sentiment:	Support of high conviction investors	
Management Signaling:	Shareholder-friendly management	Country-Industry Pairs



# **Evaluating Stocks**

# Example: local auto components stock (tires & rubber)

Below is a stylized example of our model's view on a single stock (ranks/percentiles), highlighting a small subset of our signals.

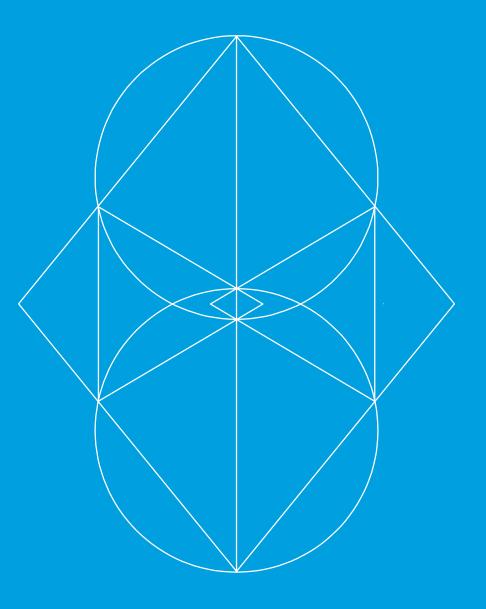
Within Indust (Example Stoc	r <b>y</b> ck vs. Auto Stock Peer	s)			Across Industry (Auto Industry vs. Other Industries)		
Signal	Example	Data Value	Percentile		Signal Example	Data Value	Percentile
Valuation:	Adjusted Price / Earnings	14.5x	31%		Industry Price Change Last 12 Months	-1.2%	24%
Momentum:	Adjusted 12 Month Return*	20.8%	77%	Percentile Score: 92%	Economically-Linked Groups (Example's Linked Peers vs. Other S	Stocks' Linke	ed Peers)
Earnings Quality:	Change in Accounts Receivable	0.9%	69%	Based on weighted-average	Signal Example	Data Value	Percentile
Stability:	3-year Return on Equity	12.7%	55%	signal scores	Momentum of Customer Supplier Pairs	16.6%	88%
Investor Sentiment	Change in % of Shares Shorted	0.7%	54%		<b>Country-Industry Pairs</b> (Local Auto Components Stocks vs.	Other Count	ries')
Management Signaling:	% Change in Shares Outstanding	-2.4%	91%		Signal Example 3-year Return on Equity	Data Value 17.5%	Percentile 81%



\*Does not include most recent month's return.

Source: AQR. Example is for illustrative purposes only. For Percentile score, the higher the score, the better. The elements of AQR's investment process presented herein do not indicate the possibility of profits or losses within a portfolio and are subject to change at any time. Holdings are subject to change. These representative security signals were randomly selected merely to illustrate our investment process. The securities presented herein are for illustrative purposes only and not a representation that they will or are likely to achieve profits or losses. Not to be construed as investment advice or a recommendation.

# Appendices





## **Performance Disclosures**

This document has been provided to you solely for information purposes and does not constitute an offer or solicitation of an offer or any advice or recommendation to purchase any securities or other financial instruments and may not be construed as such. The factual information set forth herein has been obtained or derived from sources believed to be reliable but it is not necessarily all-inclusive and is not guaranteed as to its accuracy and is not to be regarded as a representation or warranty, express or implied, as to the information's accuracy or completeness, nor should the attached information serve as the basis of any investment decision. This document is intended exclusively for the use of the person to whom it has been delivered and it is not to be reproduced or redistributed to any other person.

There is no guarantee, express or implied, that long-term return and/or volatility targets will be achieved. Realized returns and/or volatility may come in higher or lower than expected.

Performance figures contained herein reflect the reinvestment of dividends and all other earnings and represent unaudited estimates of realized and unrealized gains and losses prepared by AQR. There is no guarantee as to the above information's accuracy or completeness. PAST PERFORMANCE IS NOT A GUARANTEE OF FUTURE PERFORMANCE. Diversification does not eliminate the risk of experiencing investment losses.

There is a risk of substantial loss associated with trading commodities, futures, options and leverage. Before investing carefully consider your financial position and risk tolerance to determine if the proposed trading style is appropriate. Investors should realize that when engaging in leverage, trading futures, commodities and/or granting/writing options one could lose the full balance of their account. It is also possible to lose more than the initial deposit when engaging in leverage, trading futures and/or granting/writing options. All funds committed should be purely risk capital.

Broad-based securities indices are unmanaged and are not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly in an index.

Gross performance results do not reflect the deduction of investment advisory fees, which would reduce an investor's actual return. For example, assume that \$1 million is invested in an account with the Firm, and this account achieves a 10% compounded annualized return, gross of fees, for five years. At the end of five years that account would grow to \$1,610,510 before the deduction of management fees. Assuming management fees of 1.00% per year are deducted monthly from the account, the value of the account at the end of five years would be \$1,532,886 and the annualized rate of return would be 8.92%. For a 10-year period, the ending dollar values before and after fees would be \$2,593,742 and \$2,349,739, respectively. AQR's asset based fees may range up to 2.85% of assets under management, and are generally billed monthly or quarterly at the commencement of the calendar month or quarter during which AQR will perform the services to which the fees relate. Where applicable, performance fees are generally equal to 20% of net realized and unrealized profits each year, after restoration of any losses carried forward from prior years. In addition, AQR funds incur expenses (including start-up, legal, accounting, audit, administrative and regulatory expenses) and may neve redemption or withdrawal charges up to 2% based on gross redemption or withdrawal proceeds. Please refer to AQR's ADV Part 2A for more information on fees. Consultants supplied with gross results are to use this data in accordance with SEC, CFTC, NFA or the applicable jurisdiction's guidelines.



## **Performance Disclosures**

There is a risk of substantial loss associated with trading commodities, futures, options and leverage. Before investing carefully consider your financial position and risk tolerance to determine if the proposed trading style is appropriate. Investors should realize that when engaging in leverage, trading futures, commodities and/or granting/writing options one could lose the full balance of their account. It is also possible to lose more than the initial deposit when engaging in leverage, trading futures and/or granting/writing options. All funds committed should be purely risk capital.

The MSCI Emerging Markets Index captures large and mid cap representation across 24 Emerging Markets (EM) countries\*. With 1,138 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The Russell 1000 Index is an index of approximately 1,000 of the largest companies in the U.S. equity market.

The Russell 2000 index is an index measuring the performance of approximately 2,000 small-cap companies in the Russell 3000 Index, which is made up of 3,000 of the biggest U.S. stocks. The Russell 2000 serves as a benchmark for small-cap stocks in the United States.

The Russell 1000 Value Index measures the performance of the large-cap value segment of the U.S. equity universe. It includes those Russell 1000 companies with lower price-to-book ratios and lower expected growth values. The index is unmanaged, includes the reinvestment of dividends and cannot be purchased directly by investors.

The Russell 1000 Growth Index measures the performance of the large-cap growth segment of the U.S. equity universe. It includes those Russell 1000 companies with higher price-tobook ratios and higher forecasted growth values. The index is unmanaged and cannot be purchased directly by investors.



## **Performance Disclosures**

Hypothetical AQR U.S. Valuation Theme Backtest Description The AQR U.S. Valuation Theme Backtest utilizes the full set of underlying factors that compose the Valuation theme within AQR's Global Stock Selection strategy to evaluate stocks and create a long-short, market-neutral and industry-neutral equity portfolio based exclusively on these signals. The Valuation Theme is designed to capture the tendency for relatively cheap assets to outperform relatively expensive ones. Backtest returns are gross of advisory fees and transaction costs from January 1, 2001 – March 31, 2019. The backtest utilizes a monthly rebalancing schedule and targets 7% annual volatility. The investment universe includes a broad subset of liquid tradeable large and mid cap stocks within the U.S. The risk model used is the Barra U.S. Equity Risk Model (USE3L).

Hypothetical AQR U.S. Momentum Theme Backtest Description The AQR U.S. Momentum Theme Backtest utilizes the full set of underlying factors that compose the Momentum theme within AQR's Global Stock Selection strategy to evaluate stocks and create a long-short, market-neutral and industry-neutral equity portfolio based exclusively on these signals. The Momentum Theme is designed to capture the tendency for assets that have outperformed recently to continue to outperform. Backtest returns are gross of advisory fees and transaction costs from January 1, 2001 – March 31, 2019. The backtest utilizes a monthly rebalancing schedule and targets 7% annual volatility. The investment universe includes a broad subset of liquid tradeable large and small cap stocks within the U.S. The risk model used is the Barra U.S. Equity Risk Model (USE3L).

Hypothetical AQR U.S. Fundamental and Price Momentum Signals Backtest Description: The AQR U.S. Fundamental and Price Momentum Theme Backtest represent the full-set of fundamental and price momentum factors that within the Momentum theme of AQR's Global Stock Selection strategy to evaluate stocks and create a long-short, market-neutral and industry-neutral equity portfolio based exclusively on these signals. The Momentum Theme is designed to favor stocks with improving prices and fundamentals. Backtest returns are gross of advisory fees and transaction costs from January 1, 2018 – March 31, 2019. The backtest utilizes a monthly rebalancing schedule and targets 7% annual volatility. The investment universe includes a broad subset of liquid tradeable large and mid cap stocks within the U.S. The risk model used is the Barra U.S. Equity Risk Model (USE3L).

Hypothetical AQR U.S. Industry Momentum Theme Backtest Description The AQR U.S. Industry Momentum Theme Backtest utilizes the full set of underlying factors that compose the Industry Momentum theme within AQR's Global Stock Selection strategy to evaluate stocks and create a long-short, market-neutral and industry-neutral equity portfolio based exclusively on these signals. The Industry Momentum Theme is designed to capture the tendency for industries that have outperformed recently to continue to outperform. Backtest returns are gross of advisory fees and transaction costs from January 1, 2018 – March 31, 2019. The backtest utilizes a monthly rebalancing schedule and targets 7% annual volatility. The investment universe includes a broad subset of liquid tradeable large and small cap stocks within the U.S. The risk model used is the Barra U.S. Equity Risk Model (USE3L).

Hypothetical AQR U.S. Cross Momentum Theme Backtest Description The AQR U.S. Cross Momentum Theme Backtest utilizes the full set of underlying factors that compose the theme within AQR's Global Stock Selection strategy to evaluate stocks and create a long-short, market-neutral and industry-neutral equity portfolio based exclusively on these signals. The Cross Momentum Theme is designed to capture the tendency for a company's improvement to follow the improvement of related companies. Backtest returns are gross of advisory fees and transaction costs from January 1, 2018 – March 31, 2019. The backtest utilizes a monthly rebalancing schedule and targets 7% annual volatility. The investment universe includes a broad subset of liquid tradeable large and small cap stocks within the U.S. The risk model used is the Barra U.S. Equity Risk Model (USE3L).

#### Hypothetical AQR U.S. Valuation & Momentum Themes Combination Backtest Description:

The AQR U.S. Valuation and Momentum Combo Backtest is a simple 50/50 combination of the Valuation and Momentum themes within AQR's Global Stock Selection strategy to evaluate stocks and create a long-short, market-neutral and industry-neutral equity portfolio based exclusively on these signals within each of the identified regions. Backtest returns are gross of advisory fees and transaction costs from April 1, 2001 – March 31, 2019. The backtest utilizes a monthly rebalancing schedule and each sub-component targets 7% annual volatility. The investment universes include a broad





## REGIONAL TRANSIT ISSUE PAPER

Page 1 of 2

				•
Agenda	Board Meeting	Open/Closed	Information/Action	Issue
Item No.	Date	Session	Item	Date
14	06/12/19	Retirement	Action	04/12/19

Subject:	Receive ar	nd File Invest	ment P	erfo	rman	ce Result	s for the	e ATU, I	BEW	and S	Salaried
	Employee	Retirement	Plans	for	the	Quarter	Ended	March	31,	2019	(ALL).
	(Adelman)										. ,

#### <u>ISSUE</u>

Receive and File Investment Performance Results for the ATU, IBEW and Salaried Employee Retirement Plans for the Quarter Ended March 31, 2019 (ALL). (Adelman)

#### RECOMMENDED ACTION

Motion: Receive and File Investment Performance Results for the ATU, IBEW and Salaried Employee Retirement Plans for the Quarter Ended March 31, 2019 (ALL). (Adelman)

#### FISCAL IMPACT

None.

### DISCUSSION

Pension funds are invested consistent with the Statement of Investment Objectives and Policy Guidelines adopted by each Retirement Board. Attached are the two investment performance reports prepared by the Boards' pension investment consultants. The first report is the First Quarter 2019 Market Update (Attachment 1) and the second is the Investment Measurement Service Quarterly Review as of March 31, 2019 (Attachment 2). These reports provide a detailed analysis of the performance of each of the investment managers retained by the Retirement Boards to manage the Retirement Funds for the quarter ended March 31, 2019. The second report compares the performance of each investment manager with benchmark indices, other fund managers of similarly invested portfolios and other indices.

### Investment Compliance Monitoring

In accordance with the Statement of Investment Objectives and Policy Guidelines for the Sacramento Regional Transit District Retirement Plans (Investment Policy), State Street Bank performs daily investment compliance monitoring on the Plans' three (3) actively managed funds. As of March 31, 2019, there were no compliance warnings or alerts to be reported; therefore, the investments are in compliance with the Investment Policy. The final attached report includes the monitoring summary (Attachment 3).

Approved:

Presented:

Final 06/04/19 VP of Finance and Procurement/CFO

Director, Finance and Treasury J:Retirement Board/2019/IP's/Quarterly Meetings/June 12, 2019/FI FINAL IPs/06-12-19 Investment Performance.docx

## BEGIONAL TRANSIT ISSUE PAPER

REGIONAL TRANSIT ISSUE PAPER P								
Agenda Item No.	Board Meeting Date	Open/Closed Session	Information/Action Item	lssue Date				
14	06/12/19	Retirement	Action	04/12/19				

Receive and File Investment Performance Results for the ATU, IBEW and Subject: Salaried Employee Retirement Plans for the Quarter Ended March 31, 2019 (ALL). (Adelman)

The table below provides an overview of the <u>quarter performance</u>, quarter ending March 31, 2019 – gross of investment management fees:

Investment Manager - Description - Benchmark	Benchmark <u>Index</u>	ATU, IBEW & Salaried <u>Fund</u>	Investment Gains/ <u>(Losses)</u>	Pension Fund Contributions/ (Withdrawals)
Boston Partners (large cap value) Russell 1000 Value	11.93%	9.40%	\$3,857,732	\$8
S&P 500 Index (large cap value) S&P 500	13.65%	13.64%	\$5,807,407	-
Atlanta Capital (small cap) Russell 2000	14.58%	11.84%	\$2,629,792	-
Brandes (international equities) MSCI EAFE	-	-	\$(2,661)	\$(8)
Pyrford (international equities) MSCI EAFE	9.98%	8.26%	\$2,021,419	-
MSCI EAFE Index (international equities) MSCI EAFE	9.98%	10.11%	\$1,007,925	-
AQR (small cap international equities) MSCI EAFE SC	10.65%	9.11%	\$1,059,359	-
Dimensional Fund Advisors (emerging markets) MSCI EM	9.93%	8.75%	\$1,293,037	-
Metropolitan West (fixed income) Bloomberg Agg.	2.94%	3.21%	\$3,253,913	\$(1,021,928)
Totals	9.07%	7.80%	\$20,927,922	\$(1,021,928)

**Bold** – fund exceeding respective benchmark

The table below provides an overview of the year to date performance, as of March 31, 2019 net of investment management fees:

Investment Manager - Description - Benchmark	Benchmark <u>Index</u>	ATU, IBEW & Salaried <u>Fund</u>	Investment <u>Gains/(Loss)</u>	Pension Fund Contributions/ (Withdrawals)	
Boston Partners (large cap value) Russell 1000 Value	5.67%	1.78%	\$3,232,034	\$(5,259,665)	
S&P 500 Index (large cap value) S&P 500	9.50%	9.45%	\$5,085,374	\$(4,552,659)	
Atlanta Capital (small cap) Russell 2000	2.05%	10.47%	\$3,507,941	\$(4,840,996)	
Brandes (international equities) MSCI EAFE	-	-	\$(314)	\$(8)	
Pyrford (international equities) MSCI EAFE	(3.71)%	(1.56)%	\$193,254	-	
MSCI EAFE Index (international equities) MSCI EAFE	(3.71)%	(3.46)%	\$26,160	-	
AQR (small cap international equities) MSCI EAFE SC	(9.36)%	(13.61)%	\$(899,293)	-	
Dimensional Fund Advisors (emerging markets) MSCI EM	(7.40)%	(9.48)%	\$(2,083,107)	-	
Metropolitan West (fixed income) Bloomberg Agg.	4.48%	4.92%	\$(155,518)	\$10,300,456	
Totals	3.55%	2.72%	\$8,906,531	\$(4,352,872)	

**Bold** – fund exceeding respective benchmark

### ATTACHMENT #1



June 12, 2019

### Sacramento Regional Transit District

First Quarter 2019 Market Update

Anne Heaphy Fund Sponsor Consulting

Uvan Tseng, CFA Fund Sponsor Consulting

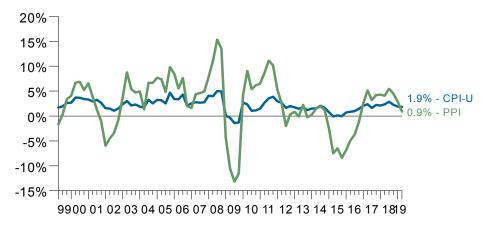
## **Economic Commentary**

First Quarter 2019

**Quarterly Real GDP Growth\*** 

### 8% 6% 4% 2% -0% -2% -4% -6% -8% -10% 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19

### Inflation Year-Over-Year

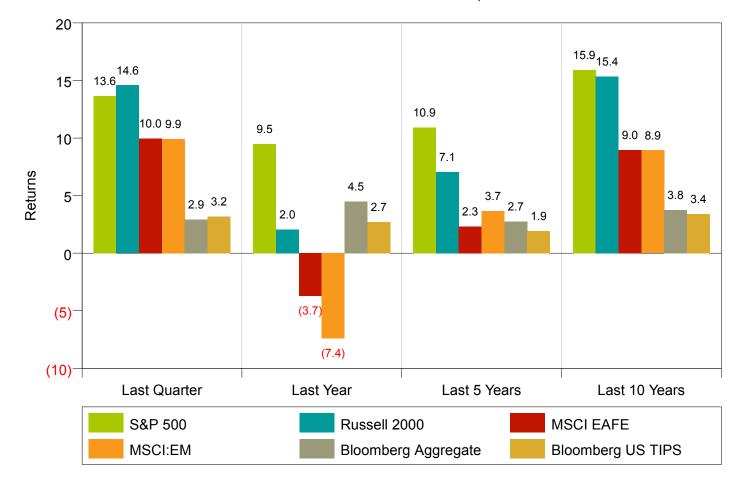


- The Fed is largely alone on a path to normalize interest rates, but has paused after 9 rate hikes
- U.S. economy remains strong, labor market very tight, reaching the limits of full employment
  - Q1 increase in GDP (3.2%) a sign of resilience after Q4 market swoon and government shutdown in January.
  - Consumer spending slowed in Q1, but it may be a blip, reflecting the impact of the shutdown.
  - Signal from Fed that further rate hikes are on hold have boosted consumer and business confidence.
- Oil prices may (or may not) radically alter inflation outlook

Source: Bureau of Economic Analysis, Bureau of Labor Statistics

## **Asset Class Performance**

Periods Ended March 31, 2019



Asset Class Performance for Periods Ended March 31, 2019

YTD as of 06/11/2019:

S&P 500:

Russell 2000:

MSCI EAFE:

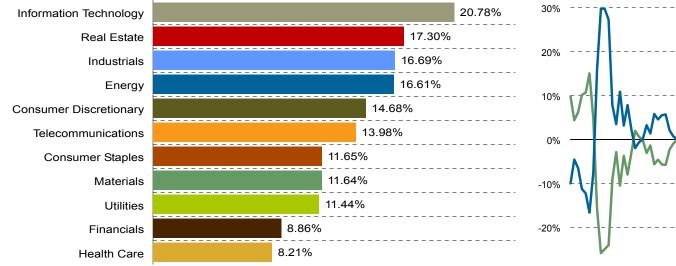
MSCI Emerging Markets:

Bloomberg Aggregate:

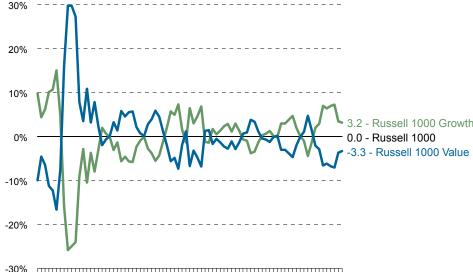
Bloomberg TIPS:

## **U.S. Equity**

First Quarter 2019



#### **Russell 3000 Sector Returns**



Rolling One-Year Relative Returns (versus Russell:1000 Index)

### **First Quarter Index Returns**

Russell 3000:	14.04
S&P 500:	13.65
Russell Mid Cap:	16.54
Russell 2000:	14.58

Source: Russell Investment Group

## **U.S. Equity Style Returns**

## Periods Ended March 31, 2019

		1Q 2019	Annualized 1 Year Returns					
	Value	Core	Growth		Value	Core	Growth	
Large	10.8%	13.1%	15.1%	Large	7.1%	10.4%	13.2%	
Mid	14.4%	16.5%	19.6%	Mid	2.9%	6.5%	11.5%	
Small	11.9%	14.6%	17.1%	Small	0.2%	2.1%	3.9%	

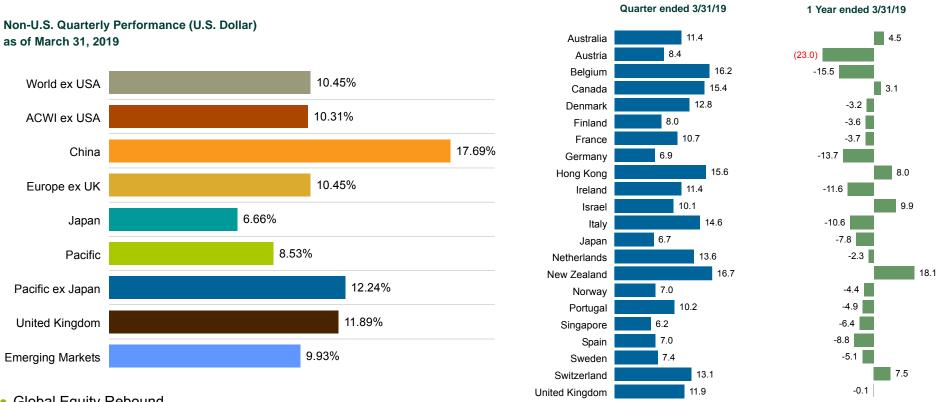
• Dovish Fed comments, solid corporate fundamentals and low employment propelled equity markets in first quarter.

- Risk-on market highlighted by low quality outperforming high quality by 440 basis points.
- Surprisingly, utilities and REITs produced solid returns as investors sought yield in face of flattening yield curve and end to rate hikes.
- Sharp change in Fed rhetoric influenced stronger growth performance.
- Investors favored companies with stronger earnings prospects to counter softer economic environment.
- Risk-on appetite fed small cap.

Large Cap Core is represented by the Russell Top 200 Index, Large Cap Value is represented by the Russell Top 200 Value Index and Large Cap Growth is represented by the Russell Top 200 Growth Index. Mid Cap Core is represented by the Russell Mid Cap Value is represented by the Russell Mid Cap Value Index and Mid Cap Growth is represented by the Russell Mid Cap Value Index and Mid Cap Growth is represented by the Russell Mid Cap Core is represented by the Russell 2000 Index, Small Cap Value is represented by the Russell 2000 Value Index and Small Cap Growth is represented by the Russell 2000 Growth Index.

## **Non-US Equity**

### First Quarter 2019



**Developed Country Returns** 

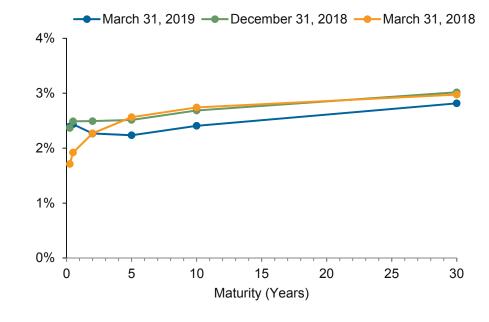
- Global Equity Rebound
  - Investors resumed a risk-on outlook as central banks telegraphed more accommodative positioning.
  - Market stabilized under delayed U.S./China trade talks and Brexit, although uncertain outcomes remain a future risk.
  - Currency effect was mixed as US\$ rose against euro and yen given soft economic data; and fell against British pound as possibility of "nodeal" Brexit diminished
  - Factor performance favored growth (historical and projected) as investors believed accommodative Fed will extend growth cycle.
- China Drove Emerging Markets

Callan

- EM surged on stimulus measures in China which spurred optimism and diminished growth worries.
- Improving outlook for Chinese consumption and rebound in Asian Tech also contributed.

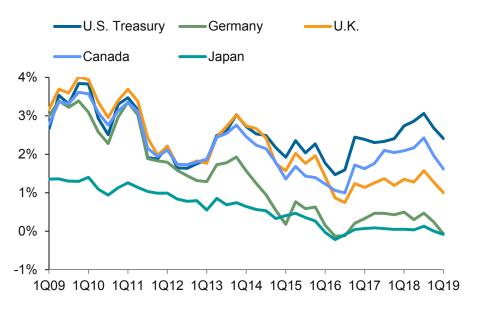
Source: MSCI, Callan

## Yield Curve Flattens While Global Rates Diverge



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

#### **10-Year Global Government Bond Yields**



# Treasury yield curve has flattened as rates moved up on the short end

- Yields have barely moved on the long end.
- Inverted yield curve has presaged most recessions in past 70 years.

# U.S. yields have diverged as monetary policies have fallen out of sync

 U.S. has paused, but tightening in Euro zone may be skipped entirely in this cycle.

Source: Callan

# Performance By Asset Class

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	1 Qtr. 2019
	MSCI Emerging		Bloomberg	MSCI Emerging	Russell 2000	Bloomberg	MSCI Emerging	Russell 2000	S&P 500	S&P 500	Russell 2000	MSCI Emerging	Bloomberg	Russell 2000
Markets		Markets	Barclays Agg	Markets	Growth	Barclays Agg	Markets	Growth	Growth	Growth	Value	Markets	Barclays Agg	Growth
34.00%	32.17%	39.38%	5.24%	78.51%	29.09%	7.84%	18.23%	43.30%	14.89%	5.52%	31.74%	37.28%	0.01%	17.14%
MSCI World ex	MSCI World ex	MSCI World ex	Bloomberg	Bloomberg	Russell 2000	Bloomberg	Russell 2000	Russell 2000	S&P 500	S&P 500	Russell 2000	S&P 500	S&P 500	S&P 500
USA	USA	USA	Barclays High Yield	Barclays High Yield		Barclays High Yield	Value					Growth	Growth	Growth
14.47%	25.71%	12.44%	-26.16%	58.21%	26.85%	4.98%	18.05%	38.82%	13.69%	1.38%	21.31%	27.44%	-0.01%	14.95%
S&P 500 Value	Russell 2000	S&P 500	Russell 2000	Russell 2000	Russell 2000	S&P 500	S&P 500 Value	Russell 2000	S&P 500 Value	Bloomberg	S&P 500 Value	MSCI World ex	Bloomberg	Russell 2000
	Value	Growth	Value	Growth	Value	Growth		Value		Barclays Agg		USA	Barclays High Yield	
5.82%	23.48%	9.13%	-28.92%	34.47%	24.50%	4.65%	17.68%	34.52%	12.36%	0.55%	17.40%	24.21%	-2.08%	14.58%
S&P 500	S&P 500 Value	Russell 2000	Russell 2000	MSCI World ex	MSCI Emerging	S&P 500	MSCI World ex	S&P 500	Bloomberg	Russell 2000	Bloomberg	Russell 2000	S&P 500	S&P 500
		Growth		USA	Markets		USA	Growth	Barclays Agg	Growth	Barclays High Yield	Growth		
4.91%	20.81%	7.05%	-33.79%	33.67%	18.88%	2.11%	16.41%	32.75%	5.97%	-1.38%	17.13%	22.17%	-4.38%	13.65%
Russell 2000 Value	Russell 2000	Bloomberg Barclays Agg	S&P 500 Growth	S&P 500 Growth	Bloomberg Barclays High Yield	S&P 500 Value	Russell 2000	S&P 500	Russell 2000 Growth	MSCI World ex USA	S&P 500	S&P 500	S&P 500 Value	S&P 500 Value
4.71%	18.37%	6.97%	-34.92%	31.57%	15.12%	-0.48%	16.35%	32.39%	5.60%	-3.04%	11.96%	21.83%	-8.95%	12.19%
Russell 2000	S&P 500	S&P 500	S&P 500	Russell 2000	S&P 500 Value	Russell 2000 Growth	S&P 500	S&P 500 Value	Russell 2000	S&P 500 Value	Russell 2000 Growth	S&P 500 Value	Russell 2000 Growth	Russell 2000 Value
4.55%	15.79%	5.49%	-37.00%	27.17%	15.10%	-2.91%	16.00%	31.99%	4.89%	-3.13%	11.32%	15.36%	-9.31%	11.93%
Russell 2000	Russell 2000	S&P 500 Value	Russell 2000	S&P 500	S&P 500	Russell 2000	Bloomberg	MSCI World ex	Russell 2000	Russell 2000	MSCI Emerging	Russell 2000	Russell 2000	MSCI World ex
Growth							Barclays High Yield	USA	Value		Markets			USA
4.15%	13.35%	1.99%	-38.54%	26.47%	15.06%	-4.18%	15.81%	21.02%	4.22%	-4.41%	11.19%	14.65%	-11.01%	10.45%
S&P 500	Bloomberg	Bloomberg	S&P 500 Value	S&P 500 Value	S&P 500	Russell 2000	S&P 500	Bloomberg	Bloomberg	Bloomberg	S&P 500	Russell 2000	Russell 2000	MSCI Emerging
Growth	Barclays High Yield	Barclays High Yield			Growth	Value	Growth	Barclays High Yield	Barclays High Yield	Barclays High Yield	Growth	Value	Value	Markets
4.00%	11.85%	1.87%	-39.22%	21.17%	15.05%	-5.50%	14.61%	7.44%	2.45%	-4.47%	6.89%	7.84%	-12.86%	9.93%
Bloomberg	S&P 500	Russell 2000	MSCI World ex	Russell 2000	MSCI World ex	MSCI World ex	Russell 2000	Bloomberg	MSCI Emerging	Russell 2000	MSCI World ex	Bloomberg	MSCI World ex	Bloomberg
Barclays High Yield	Growth		USA	Value	USA	USA	Growth	Barclays Agg	Markets	Value	USA	Barclays High Yield	USA	Barclays High Yield
2.74%	11.01%	-1.57%	-43.56%	20.58%	8.95%	-12.21%	14.59%	-2.02%	-2.19%	-7.47%	2.75%	7.50%	-14.09%	7.26%
Bloomberg	Bloomberg	Russell 2000	MSCI Emerging	Bloomberg	Bloomberg	MSCI Emerging	Bloomberg	MSCI Emerging	MSCI World ex	MSCI Emerging	Bloomberg	Bloomberg	MSCI Emerging	Bloomberg
Barclays Agg	Barclays Agg	Value		Barclays Agg	Barclays Agg	Markets	Barclays Agg	Markets	USA	Markets	Barclays Agg	Barclays Agg	Markets	Barclays Agg
2.43%	4.33%	-9.78%	-53.33%	5.93%	6.54%	-18.42%	4.21%	-2.60%	-4.32%	-14.92%	2.65%	3.54%	-14.57%	2.94%

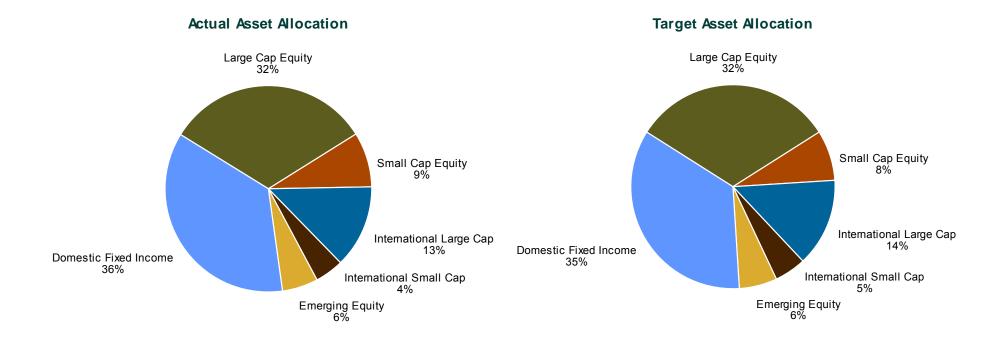


Sacramento Regional Transit District

Total Fund Overview

# **RT Asset Allocation**

# As of March 31, 2019



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap Equity	93,278	32.3%	32.0%	0.3%	791
Small Cap Equity	24,842	8.6%	8.0%	0.6%	1,721
International Large Cap	37,469	13.0%	14.0%	(1.0%)	(2,994)
International Small Cap	12,987	4.5%	5.0%	(0.5%)	(1,464)
Emerging Equity	16,317	5.6%	6.0%	(0.4%)	(1,024)
Domestic Fixed Income	104,128	36.0%	35.0%	1.0%	2,971
Total	289,020	100.0%	100.0%		

# **Total Fund**

Relative Attribution Effects for Quarter ended March 31, 2019	Relative Attrib	ution Effects for	Quarter ended	March 31, 2019
---------------------------------------------------------------	-----------------	-------------------	---------------	----------------

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relativ e Return
Large Cap Equity	32%	32%	11.56%	13.65%	(0.66%)	(0.02%)	(0.67%)
Small Cap Equity	8%	8%	11.84%	14.58%	(0.23%)	0.00%	(0.22%)
International Large Ca	p 13%	14%	8.79%	9.98%	(0.15%)	(0.01%)	(0.16%)
International Small Ca	p 5%	5%	9.11%	10.65%	(0.07%)	(0.01%)	(0.08%)
Emerging Equity	6%	6%	8.75%	9.93%	(0.07%)	(0.01%)	(0.07%)
Domestic Fixed Incon	ne 37%	35%	3.21%	2.94%	0.10%	(0.16%)	<u>(0.06%)</u>
Total			7.80% =	9.07%	+ (1.07%) +	(0.20%)	(1.27%)

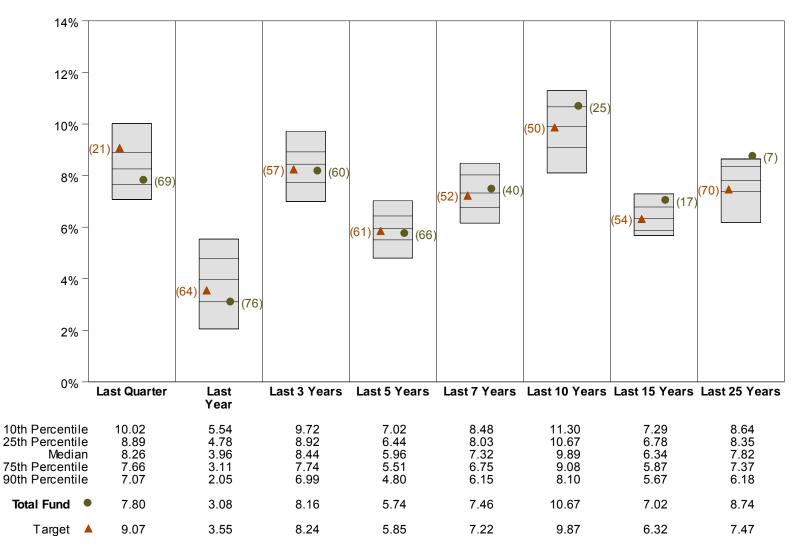
# One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relativ e Return
Large Cap Equity	32%	32%	5.72%	9.50%	(1.15%)	(0.08%)	(1.23%)
Small Cap Equity	9%	8%	11.36%	2.05%	0.77%	(0.07%)	0.70%
International Large Ca	ap 13%	14%	(1.62%)	(3.71%)	0.29%	0.05%	0.34%
International Small Ca	ap 5%	5%	(12.80%)	(9.36%)	(0.20%)	(0.00%)	(0.20%)
Emerging Equity	. 6%	6%	<b>`(8.99%</b> )	(7.40%)	(0.11%)	(0.02%)	(0.13%)
Domestic Fixed Incor	ne 36%	35%	5.13%	4.48%	0.23%	<u>(0.16%)</u>	0.07%
Total			3.08% =	3.55%	+ (0.19%) +	(0.28%)	(0.47%)

# **Total Fund**

# Performance as of March 31, 2019

# Performance vs Callan Public Fund Spons- Mid (100M-1B) (Gross)



# **Total Fund** Manager Asset Allocation

	March 31, 2019			December 31, 2018
	Market Value	Net New Inv.	Inv. Return	Market Value
Consolidated Plan				
Domestic Equity	\$118,119,990	\$8	\$12,294,930	\$105,825,052
Large Cap	\$93,277,809	\$8	\$9,665,139	\$83,612,662
Boston Partners	44,902,460	8	3,857,732	41,044,721
SSgA S&P 500	48,375,349	0	5,807,407	42,567,941
Small Cap	\$24,842,181	\$0	\$2,629,792	\$22,212,390
Atlanta Capital	24,842,181	0	2,629,792	22,212,390
International Equity	\$66,772,304	\$(8)	\$5,379,079	\$61,393,234
International Large Cap	\$37,468,525	\$(8)	\$3,026,683	\$34,441,850
Brandes	0	(8)	(2,661)	2,669
SSgA EAFE	10,978,142	0	1,007,925	9,970,217
Pyrford	26,490,383	0	2,021,419	24,468,964
International Small Cap	\$12,986,737	\$0	\$1,059,359	\$11,927,378
AQR	12,986,737	0	1,059,359	11,927,378
Emerging Equity	\$16,317,042	\$0	\$1,293,037	\$15,024,005
DFA Emerging Markets	16,317,042	0	1,293,037	15,024,005
Fixed Income	\$104,127,722	\$(1,021,928)	\$3,253,913	\$101,895,736
Metropolitan West	104,127,722	(1,021,928)	3,253,913	101,895,736
Total Plan - Consolidated	\$289,020,016	\$(1,021,928)	\$20,927,922	\$269,114,022

# **Total Fund**

# Manager Returns as of March 31, 2019

	Last	Last	Last 3	Last 5	Last 7
	Quarter	Year	Years	Years	Years
Demostic Equity	11.62%	6.91%	12.99%	9.79%	12.64%
Domestic Equity				<b>9.79%</b> 10.22%	12.49%
Domestic Equity Benchmark**	13.86%	8.04%	13.46%	10.22%	12.49%
Large Cap Equity	11.56%	5.72%	12.58%	9.35%	12.34%
Boston Partners	9.40%	1.92%	11.57%	7.73%	11.73%
Russell 1000 Value Index	11.93%	5.67%	10.45%	7.72%	11.14%
SSgA S&P 500	13.64%	9.51%	13.53%	10.95%	-
S&P 500 Index	13.65%	9.50%	13.51%	10.91%	12.85%
Small Cap Equity	11.84%	11.36%	14.50%	11.43%	13.81%
Atlanta Capital	11.84%	11.36%	14.50%	11.43%	13.81%
Russell 2000 Index	14.58%	2.05%	12.92%	7.05%	10.74%
International Equity	8.84%	(5.83%)	7.69%	2.58%	4.79%
International Benchmark***	10.11%	(5.70%)	8.21%	2.75%	5.61%
International Large Cap	8.79%	(1.62%)	7.54%	2.55%	-
SSgA EAFE	10.11%	(3.37%)	7.66%	2.68%	-
Pyrford	8.26%	(0.87%)	-	-	-
MSCI EAFE Index	9.98%	(3.71%)	7.27%	2.33%	5.63%
International Small Cap	9.11%	(12.80%)	-	-	-
AQR .	9.11%	(12.80%)	-	-	-
MSCI EAFE Small Cap Index	10.65%	(9.36%)	7.50%	4.47%	8.21%
Emerging Markets Equity	8.75%	(8.99%)	10.20%	4.03%	-
DFA Emerging Markets	8.75%	(8.99%)	10.20%	4.03%	-
MSCI Emerging Markets Index	9.93%	(7.40%)	10.68%	3.68%	2.69%
Demostic Fixed Income	2 249/	E 420/	0 700/	2.40%	3 340/
Domestic Fixed Income	3.21%	5.13%	2.72%	3.10%	3.31%
Met West	3.21%	5.13%	2.72%	3.10%	3.31%
Bloomberg Aggregate Index	2.94%	4.48%	2.03%	2.74%	2.48%
Total Plan	7.80%	3.08%	8.16%	5.74%	7.46%
Target*	9.07%	3.55%	8.24%	5.85%	7.22%

\* Current Quarter Target = 35.0% Bloomberg Aggregate Index, 32.0% S&P 500 Index, 14.0% MSCI EAFE Index, 8.0% Russell 2000 Index, 6.0% MSCI Emerging Markets Index, and 5.0% MSCI EAFE Small Cap Index. \*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20%

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter.

\*\*\* International Benchmark = MSCI EAFE until 6/30/2013, 78.26% MSCI EAFE + 21.74% MSCI EM until 4/30/2015, 76% MSCI EAFE + 24% MSCI EM until 7/31/2016, and 56% MSCI EAFE + 24% MSCI EM + 20% MSCI EAFE Small Cap thereafter.



# **Total Fund**

# Manager Calendar Year Returns

	12/2018- 3/2019	2018	2017	2016	2015
Domestic Equity	11.62%	(4.64%)	19.78%	14.58%	0.06%
Domestic Equity Benchmark**	13.86%	(5.69%)	20.41%	13.85%	0.26%
Large Cap Equity	11.56%	(6.33%)	21.10%	13.38%	(1.17%)
Boston Partners	9.40%	(8.27%)	20.32%	14.71%	(3.75%)
Russell 1000 Value Index	11.93%	(8.27%)	13.66%	17.34%	(3.83%)
SSgA S&P 500	13.64%	(4.39%)	21.86%	12.03%	1.46%
S&P 500 Index	13.65%	(4.38%)	21.83%	11.96%	1.38%
Small Cap Equity	11.84%	1.78%	15.01%	19.17%	5.14%
Atlanta Capital	11.84%	1.78%	15.01%	19.17%	5.14%
Russell 2000 Index	14.58%	(11.01%)	14.65%	21.31%	(4.41%)
International Equity	8.84%	(13.93%)	28.25%	2.55%	(4.17%)
International Benchmark***	10.11%	(14.76%)	29.51%	3.26%	(4.30%)
	10.11%	(14.70%)	29.51%	5.20%	(4.30%)
International Large Cap	8.79%	(11.25%)	22.63%	1.35%	(1.17%)
SSgA EAFE	10.11%	(13.49%)	25.47%	1.37%	(0.56%)
Py rf ord	8.26%	(10.31%)	-	-	-
MSCI EAFE Index	9.98%	(13.79%)	25.03%	1.00%	(0.81%)
International Small Cap	9.11%	(19.94%)	33.76%	-	-
AQR	9.11%	(19.94%)	33.76%	-	-
MSCI EAFE Small Cap Index	10.65%	(17.89%)	33.01%	2.18%	9.59%
Emerging Markets Equity	8.75%	(14.80%)	37.32%	12.99%	(14.33%)
DFA Emerging Markets	8.75%	(14.80%)	37.32%	12.99%	(14.33%)
MSCI Emerging Markets Index	9.93%	(14.57%)	37.28%	11.19%	(14.92%)
Demostic Fixed Income	2 240/	0.75%	2.00%	2.07%	0 540/
Domestic Fixed Income	3.21%	0.75%	3.89%	2.87%	0.51%
Met West	3.21%	0.75%	3.89%	2.87%	0.51%
Bloomberg Aggregate Index	2.94%	0.01%	3.54%	2.65%	0.55%
Total Plan	7.80%	(5.05%)	16.14%	7.65%	(0.97%)
Target*	9.07%	(5.82%)	16.39%	7.40%	(0.71%)

\* Current Quarter Target = 35.0% Bloomberg Aggregate Index, 32.0% S&P 500 Index, 14.0% MSCI EAFE Index, 8.0% Russell 2000 Index, 6.0% MSCI Emerging Markets Index, and 5.0% MSCI EAFE Small Cap Index. \*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20%

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 threafter.

\*\*\* International Benchmark = MSCI EAFE until 6/30/2013, 78.26% MSCI EAFE + 21.74% MSCI EM until 4/30/2015, 76% MSCI EAFE + 24% MSCI EM until 7/31/2016, and 56% MSCI EAFE + 24% MSCI EM + 20% MSCI EAFE Small Cap thereafter.





March 31, 2019

Sacramento Regional Transit District Retirement Plans

Investment Measurement Service Quarterly Review

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Executive Summary

Capital Markets Review

# **U.S. EQUITY**

Equity markets dramatically snapped back in the first quarter, driven by the Fed's unexpected dovish comments in January, solid corporate fundamentals, and low unemployment.

# Large Cap U.S. Equity (S&P 500: +13.6%; Russell 1000: +14.0%)

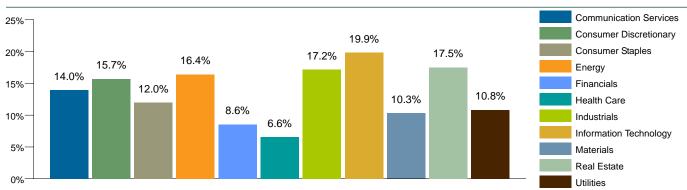
- All sectors delivered double-digit gains with the exception of Financials (+8.6%) and Health Care (+6.6%).
- Consumers remain in good shape, with household debt service as a percentage of disposable income at the lowest level in decades.
- The risk-on market was highlighted by low quality (S&P ratings B or lower) outperforming high quality (B+ or higher) by 440 basis points.
- Surprisingly, Utilities and REITs produced double-digit returns; investors sought yield in the face of a flattening yield curve and the end to rate hikes in the first quarter.

# **Growth vs. Value** (Russell 1000 Growth: +16.1%; Russell 1000 Value: +11.9%)

- The sharp change in Fed rhetoric influenced the stronger performance of growth stocks over value stocks during the quarter. Investors favored companies with stronger earnings prospects to counter a softer economic environment.
- Technology produced strong results, while the outlook for Financials weakened as the yield curve flattened.

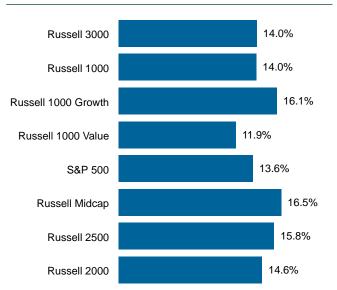
# **Small Cap** (Russell 2000: +14.6%; Russell 2000 Growth: +17.1%; Russell 2000 Value: +11.9%)

- Within the Russell 2000 Growth Index, the three largest sectors (Health Care, Consumer Discretionary, and Technology) surged 19%, 17%, and 23%, respectively. Software and biotechnology both posted 25% gains in the quarter; combined they are more than 23% of the benchmark weight.
- Influenced by excessive fourth quarter tax-loss selling, the market experienced a strong "January effect"—where last year's losers became January 2019's winners.

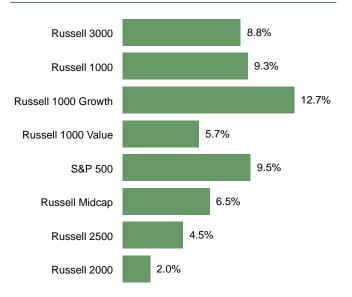


# S&P Sector Returns, Quarter Ended March 31, 2019

# U.S. Equity: Quarterly Returns



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



Source: Standard & Poor's



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

Global equity markets were positive in the first quarter following a sharp sell-off to end 2018. Investors resumed a risk-on outlook as central banks telegraphed more accommodative positioning. Delayed outcomes regarding U.S./China trade talks and Brexit negotiations allowed markets to stabilize, although uncertain outcomes remain a future risk.

Global/Non-U.S. Developed (MSCI EAFE: +10.0%; MSCI World ex USA: +10.4%; MSCI ACWI ex USA: +10.3%; MSCI Europe: +10.8%; MSCI Japan: +6.7%)

- Developed markets rallied as central banks around the world expressed more accommodative paths with interest rates and quantitative easing.
- Brexit negotiations continue and a "no-deal" Brexit remains a possibility, but with an extended deadline. The potential for investment paralysis drags on.
- European PMI continued to deteriorate, falling to 47.7 in March from 49.4.
- The currency effect was mixed as the U.S. dollar rose against the euro and yen, by 1.8% and 0.9%, but fell against the British pound by 2.3% as a delay in Brexit allowed for a temporary bounce.
- EAFE sector performance was mixed. Information Technology (+15.3%) and Materials (+13.2%) led economically sensitive sectors; Consumer Staples (+12.4%) led defensive sectors. Interest rate-sensitive Financials (+6.9%) and Utilities (+9.0%) trailed the broad index.
- Factor performance favored growth (historical and projected) while value factors were generally negative.

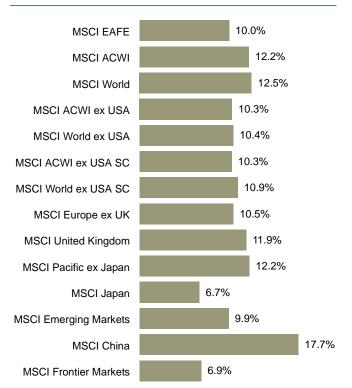
#### Emerging Markets (MSCI Emerging Markets Index: +9.9%)

- In a big reversal from the fourth quarter, China led emerging markets with MSCI China gaining 17.7% and MSCI China A up 30.9%.
- Trade talks continue but positive indications for a deal buoyed markets; uncertainty on the outcome remains.
- Asian Information Technology rebounded nicely with Chinese IT (+27.6%) leading the sector. An improving outlook on Chinese consumption positively influenced EM Consumer Discretionary (+20.8%), which was the topperforming sector.
- Growth led value with MSCI EM Growth gaining 12.0% and EM Value up 7.8%.

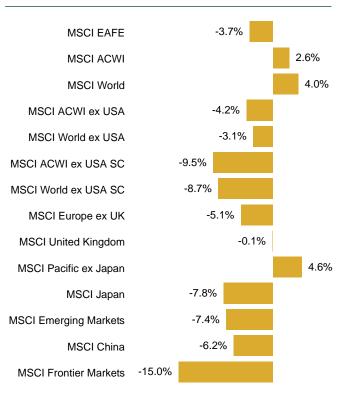
#### Non-U.S. Small Cap (MSCI World ex USA Small Cap: +10.9%; MSCI EM Small Cap: +7.8%; MSCI ACWI ex USA Small Cap: +10.3%)

- Within developed markets, small cap performed in line with large cap.
- EM Small Cap trailed EM as MSCI China Small Cap has less exposure to IT, which led the risk-on rally.





#### **Global Equity: One-Year Returns**



Source: MSCI

### **U.S. FIXED INCOME**

Risk markets sharply reversed from the fourth quarter sell-off supported by the Fed's unexpected dovish comments, relatively solid U.S. economic growth data, and tempered concern over a slowing China. This quarter's strong results recaptured most of the loss experienced in the prior quarter.

# **U.S. Fixed Income** (Bloomberg Barclays US Aggregate: +2.9%)

- U.S. Treasuries rose 2.1% as the yield curve shifted lower across maturities as growth and inflation expectations declined.
- The shape of the yield curve did not materially change during the quarter. The yield differential between the 10-year and 2-year key rates remained positive and traded around a range of +12 to +20 bps. However, the front-end of the curve inverted, with the 5-year offering less yield than the 2-year.
- TIPS outperformed nominal Treasuries as the Fed's balanced stance and unexpected wage pressures stoked higher inflation expectation.

# **Investment-Grade Corporates** (Bloomberg Barclays Corporate: +5.1%)

- Credit spreads rallied on the back of a softer Fed stance, positive economic news, and better than expected corporate earnings.
- Net new corporate issuance during the first quarter of \$117 billion was roughly on par with a year ago.
- Surprisingly, Aaa-rated corporates (+5.0%) outperformed Aa- (+3.7%) and single A-rated issuers (+4.7%). BBB-rated issuers were the best performers (+5.7%).

#### High Yield (Bloomberg Barclays Corporate High Yield: +7.3%)

- Given the risk-on environment, below-investment grade issuers were the best performers, aided by strong asset inflows.
- Ba/B sectors (+7.2%) marginally outpaced CCC by 6 bps; this was an unusual occurrence given that the dispersion between high-quality and low-quality is typically wide during these periods of absolute returns.

# Leveraged Loans (Credit Suisse Leveraged Loans Index: +3.8%)

- Leveraged loans participated in the rally but lagged both longer duration investment grade and high yield corporates. The sector was negatively impacted by the Fed's pause, retail outflows, and a slow-developing CLO pipeline.
- Bank loans have less sensitivity to interest rates but may have a similar spread duration profile to that of their high yield bond counterparts.

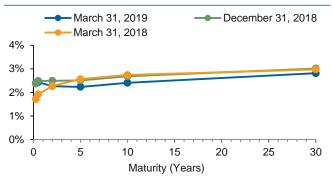
## **U.S. Fixed Income: Quarterly Returns**



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



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



Sources: Bloomberg, Bloomberg Barclays, Credit Suisse



# NON-U.S. FIXED INCOME

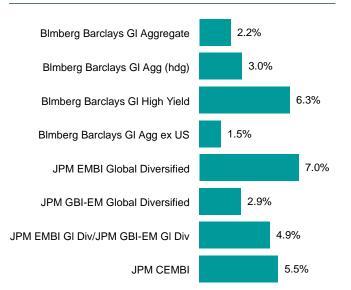
**Global Fixed Income** (Bloomberg Barclays Global Aggregate (unhedged): +2.2%)

 Developed market sovereign bonds rallied in tandem with Treasuries. The U.S. dollar appreciated modestly versus the euro and yen, but lost ground versus the British pound and Canadian dollar.

U.S. dollar-denominated emerging market debt (JPM EMBI Global Diversified: +7.0%), Local currency-denominated EMD (JPM GBI-EM Global Diversified: +2.9%)

- Country returns within the EMBI Global Diversified Index were all positive for the quarter.
- Turkey (-10.2%) and Argentina (-10.5%) were notable underperformers in the local currency index.
- Positive net inflows into the EM universe continued through quarter-end.

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



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



# Change in 10-Year Global Government Bond Yields

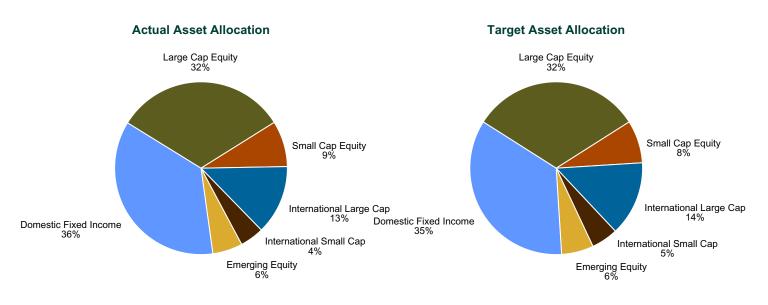


Sources: Bloomberg, Bloomberg Barclays, JP Morgan

**Combined Plan** 

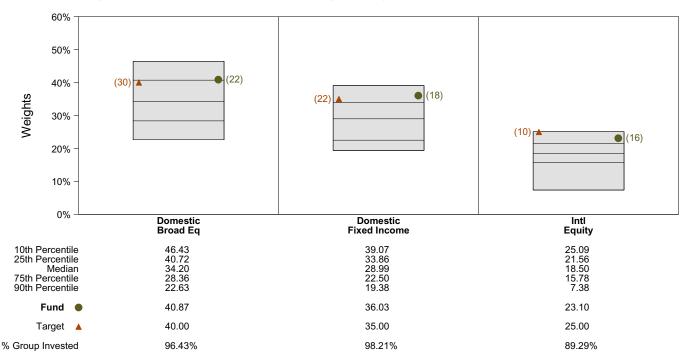
# Actual vs Target Asset Allocation As of March 31, 2019

The top left chart shows the Fund's asset allocation as of March 31, 2019. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Spons- Mid (100M-1B).



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap Equity	93,278	32.3%	32.0%	0.3%	791
Small Cap Equity	24,842	8.6%	8.0%	0.6%	1,721
International Large Cap	37,469	13.0%	14.0%	(1.0%)	(2,994)
International Small Cap	12,987	4.5%	5.0%	(0.5%)	(1.464)
Emerging Equity	16,317	5.6%	6.0%	(0.4%)	(1,024) 2,971
Domestic Fixed Income	104,128	36.0%	35.0%	1.0%	2,971
Total	289,020	100.0%	100.0%		

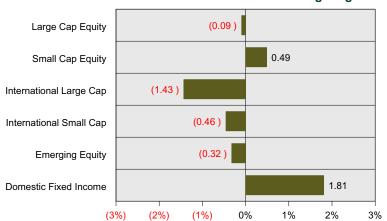
Asset Class Weights vs Callan Public Fund Spons- Mid (100M-1B)



\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

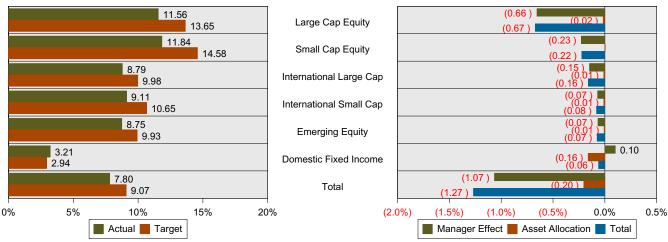
# **Quarterly Total Fund Relative Attribution - March 31, 2019**

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



Asset Class Under or Overweighting

### **Actual vs Target Returns**



### Relative Attribution Effects for Quarter ended March 31, 2019

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	32%	32%	11.56%	13.65%	(0.66%)	(0.02%)	(0.67%)
Small Cap Equity	8%	8%	11.84%	14.58%	(0.23%)	0.00%	(0.22%)
International Large Car	o 13%	14%	8.79%	9.98%	(0.15%)	(0.01%)	(0.16%)
International Small Car		5%	9.11%	10.65%	(0.07%)	(0.01%)	(0.08%)
Emerging Equity	6%	6%	8.75%	9.93%	(0.07%)	(0.01%)	(0.07%)
Domestic Fixed Income	e 37%	35%	3.21%	2.94%	`0.10%´	(0.16%)	(0.06%)
Total			7.80% =	9.07%	+ (1.07%) +	(0.20%)	(1.27%)

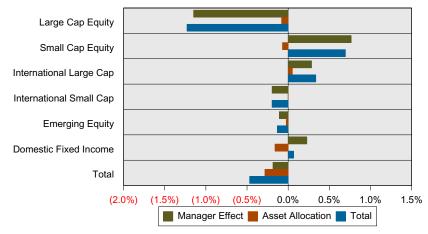
\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

**Relative Attribution by Asset Class** 

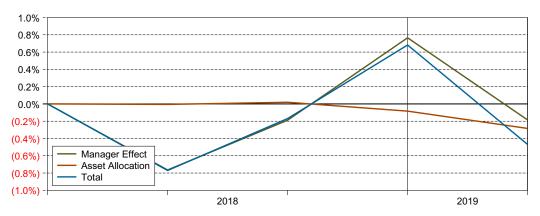
# Cumulative Total Fund Relative Attribution - March 31, 2019

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

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



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



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

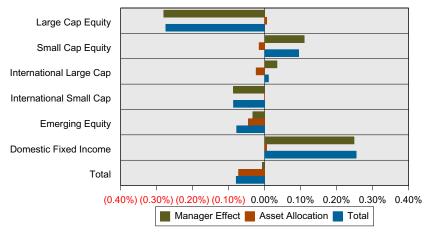
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	32%	32%	5.72%	9.50%	(1.15%)	(0.08%)	(1.23%)
Small Cap Equity	9%	8%	11.36%	2.05%	0.77%	(0.07%)	0.70%
International Large Ca	o 13%	14%	(1.62%)	(3.71%)	0.29%	0.05%	0.34%
International Small Car		5% 6%	(12.80%)	(9.36%)	(0.20%)	(0.00%)	(0.20%)
Emerging Equity	6%	6%	`(8.99%)	(7.40%)	(0.11%)	(0.02%)	(0.13%)
Domestic Fixed Income	e 36%	35%	5.13%	4.48%	0.23%	(0.16%)	0.07%
Total			3.08% =	3.55% +	(0.19%) +	(0.28%)	(0.47%)

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

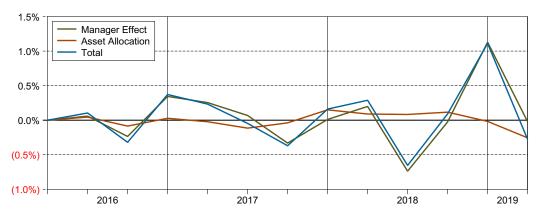
# **Cumulative Total Fund Relative Attribution - March 31, 2019**

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

#### **Three Year Annualized Relative Attribution Effects**



**Cumulative Relative Attribution Effects** 



## **Three Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	33%	32%	12.58%	13.51%	(0.28%)	0.01%	(0.27%)
Small Cap Equity	9%	8%	14.50%	12.92%	0.11%	(0.02%)	0.09%
International Large Ca		15%	7.54%	7.27%	0.03%	(0.02%)	0.01%
International Small Car	o 4%	4% 6%	4.56%	6.33%	(0.09%)	0.00%	(0.09%)
Emerging Equity	6%	6%	10.20%	10.68%	(0.03%)	(0.05%)	(0.08%)
Domestic Fixed Income	e 34%	35%	2.72%	2.03%	0.25%	0.01%	0.25%
Total			8.16% =	8.24%	+ (0.01%) +	(0.07%)	(0.08%)

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

# Total Fund Period Ended March 31, 2019

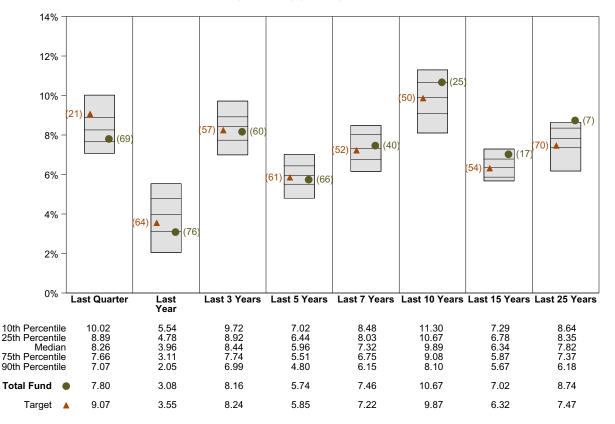
#### **Investment Philosophy**

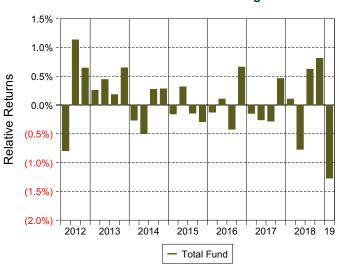
\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

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

- Total Fund's portfolio posted a 7.80% return for the quarter placing it in the 69 percentile of the Callan Public Fund Spons- Mid (100M-1B) group for the quarter and in the 76 percentile for the last year.
- Total Fund's portfolio underperformed the Target by 1.27% for the quarter and underperformed the Target for the year by 0.47%.

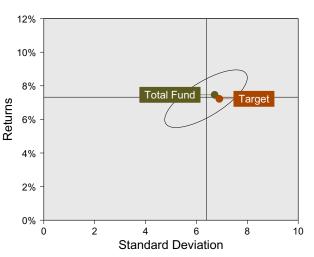
#### Performance vs Callan Public Fund Spons- Mid (100M-1B) (Gross)





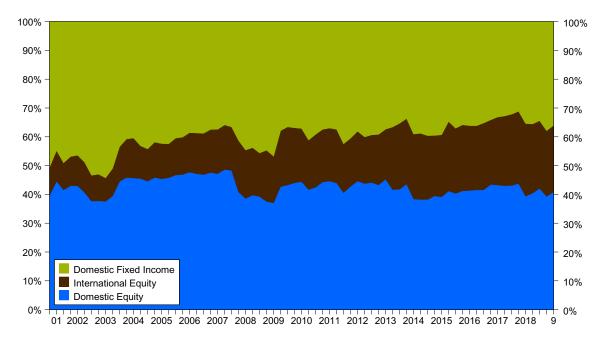
#### **Relative Return vs Target**

Callan Public Fund Spons- Mid (100M-1B) (Gross) Annualized Seven Year Risk vs Return

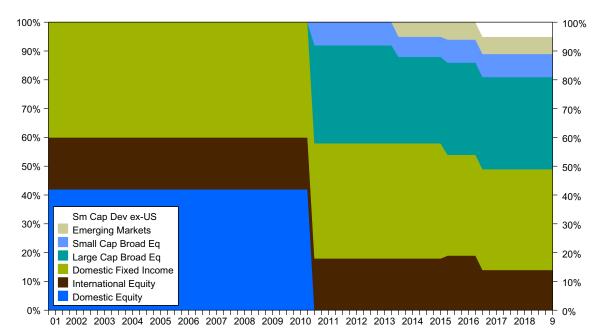


# **Actual vs Target Historical Asset Allocation**

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, and the fund's historical target asset allocation.







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

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.



# **Investment Manager Asset Allocation**

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2019, with the distribution as of December 31, 2018. 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.

	March 31, 2019			December 31, 201
	Market Value	Net New Inv.	Inv. Return	Market Value
Consolidated Plan				
Domestic Equity	\$118,119,990	\$8	\$12,294,930	\$105,825,052
Large Cap	\$93,277,809	\$8	\$9,665,139	\$83,612,662
Boston Partners	44,902,460	8	3,857,732	41,044,721
SSgA S&P 500	48,375,349	0	5,807,407	42,567,941
Small Cap	\$24,842,181	\$0	\$2,629,792	\$22,212,390
Atlanta Capital	24,842,181	0	2,629,792	22,212,390
International Equity	\$66,772,304	\$(8)	\$5,379,079	\$61,393,234
International Large Cap	\$37,468,525	\$(8)	\$3,026,683	\$34,441,850
Brandes	0	(8)	(2,661)	2,669
SSgA EAFE	10,978,142	Ó	1,007,925	9,970,217
Pyrford	26,490,383	0	2,021,419	24,468,964
International Small Cap	\$12,986,737	\$0	\$1,059,359	\$11,927,378
AQR	12,986,737	0	1,059,359	11,927,378
Emerging Equity	\$16,317,042	\$0	\$1,293,037	\$15,024,005
DFA Emerging Markets	16,317,042	0	1,293,037	15,024,005
Fixed Income	\$104,127,722	\$(1,021,928)	\$3,253,913	\$101,895,736
Metropolitan West	104,127,722	(1,021,928)	3,253,913	101,895,736
Total Plan - Consolidated	\$289,020,016	\$(1,021,928)	\$20,927,922	\$269,114,022

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

# Sacramento Regional Transit District Asset Growth

Ending March 31, 2019 <u>(</u> \$ Thousands)	Ending Market Value	Beginning Market = Value +	Net New Investment	Investment + Return
Total Plan				
1/4 Year Ended 3/2019	289,020.0	269,114.0	(1,021.9)	20,927.9
1/4 Year Ended 12/2018	269,114.0	292,722.5	(1,066.5)	(22,541.9)
1/4 Year Ended 9/2018	292,722.5	284,083.7	(1,081.0)	9,719.8
1/4 Year Ended 6/2018	284,083.7	284,995.0	(1,267.6)	356.3
1/4 Year Ended 3/2018	284,995.0	288,314.8	(1,183.4)	(2,136.5)
1/4 Year Ended 12/2017	288,314.8	277,835.6	(1,419.7)	11,899.0
1/4 Year Ended 9/2017	277,835.6	270,017.7	(1,582.3)	9,400.2
1/4 Year Ended 6/2017	270,017.7	263,189.7	(1,149.1)	7,977.1
1/4 Year Ended 3/2017	263,189.7	253,159.1	(930.2)	10,960.7
1/4 Year Ended 12/2016	253,159.1	251,635.0	(1,139.0)	2,663.2
1/4 Year Ended 9/2016	251,635.0	244.029.2	(1,139.0) (937.8)	8,543.5
1/4 Year Ended 6/2016	244,029.2	240,502.3	(684.5)	4,211.5
1/4 Year Ended 3/2016	240,502.3	238,289.7	(450.0)	2,662.6
1/4 Year Ended 12/2015	228 280 7	222.085.4	(916 4)	7 000 7
1/4 Year Ended 12/2015 1/4 Year Ended 9/2015	238,289.7 232,085.4	232,085.4 246,970.5	(816.4) (534.9)	7,020.7 (14,350.2)
1/4 Year Ended 6/2015	246,970.5	240,970.3	(766.8)	(14,350.2) (183.0)
1/4 Year Ended 3/2015	247,920.3	243,017.9	(295.4)	5,197.8
1/4 Year Ended 12/2014	242.047.0	220 642 2	(1.001.2)	E 077 0
1/4 Year Ended 12/2014 1/4 Year Ended 9/2014	243,017.9 238,642.3	238,642.3 241,859.7	(1,001.3)	5,377.0 (2,584,9)
1/4 Year Ended 6/2014	230,042.3 241,859.7	235,305.8	(632.5) (752.1)	(2,584.9) 7,306.0

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	Returns for Periods Ended March 31, 2019				
			Last	Last	Last
	Last	Last	3	5	7
	Quarter	Year	Years	Years	Years
Domestic Equity	11.62%	6.91%	12.99%	9.79%	12.64%
Domestic Equity Benchmark**	13.86%	8.04%	13.46%	10.22%	12.49%
Large Cap Equity	11.56%	5.72%	12.58%	9.35%	12.34%
Boston Partners	9.40%	1.92%	11.57%	7.73%	11.73%
Russell 1000 Value Index	11.93%	5.67%	10.45%	7.72%	11.14%
SSgA S&P 500	13.64%	9.51%	13.53%	10.95%	-
S&P 500 Index	13.65%	9.50%	13.51%	10.91%	12.85%
Small Cap Equity	11.84%	11.36%	14.50%	11.43%	13.81%
Atlanta Capital	11.84%	11.36%	14.50%	11.43%	13.81%
Russell 2000 Index	14.58%	2.05%	12.92%	7.05%	10.74%
	11.0070	2.0070	12.0270	1.00,0	1011 170
International Equity	8.84%	(5.83%)	7.69%	2.58%	4.79%
International Benchmark***	10.11%	(5.70%)	8.21%	2.75%	5.61%
		(0.1.070)	0.2.70		0.0170
nternational Large Cap	8.79%	(1.62%)	7.54%	2.55%	-
SSgA EAFE	10.11%	(3.37%)	7.66%	2.68%	-
Pyrford	8.26%	(0.87%)	-	-	-
MSCI EAFE Index	9.98%	(3.71%)	7.27%	2.33%	5.63%
	0.0070	(0.7170)	1.2170	2.0070	0.00 //
nternational Small Cap	9.11%	(12.80%)	-	-	-
AQR	9.11%	(12.80%)	-	-	-
MSCI EAFE Small Cap Index	10.65%	(9.36%)	7.50%	4.47%	8.21%
	10100 /0	(0.0070)	110070		0.2170
Emerging Markets Equity	8.75%	(8.99%)	10.20%	4.03%	-
DFA Emerging Markets	8.75%	(8.99%)	10.20%	4.03%	-
MSCI Emerging Markets Index	9.93%	(7.40%)	10.68%	3.68%	2.69%
	0.0070	(111070)	10.0070	0.0070	2.00 /
Domestic Fixed Income	3.21%	5.13%	2.72%	3.10%	3.31%
Met West	3.21%	5.13%	2.72%	3.10%	3.31%
Bloomberg Aggregate Index	2.94%	4.48%	2.03%	2.74%	2.48%
	2.0170		2.0070		2.1070
Total Plan	7.80%	3.08%	8.16%	5.74%	7.46%
		/			

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter.
 \*\*\* International Benchmark = MSCI EAFE until 6/30/2013, 78.26% MSCI EAFE + 21.74% MSCI EM until 4/30/2015, 76% MSCI EAFE + 24% MSCI EM until 7/31/2016, and 56% MSCI EAFE + 24% MSCI EM + 20% MSCI EAFE Small Cap thereafter.

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2019					
	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	
Domestic Equity	16.09%	9.27%	6.86%	-	
Domestic Equity Benchmark**	15.90%	8.59%	6.72%	9.93%	
Russell 1000 Value Index	14.52%	7.63%	6.68%	9.60%	
S&P 500 Index	15.92%	8.57%	6.04%	9.80%	
Russell 2000 Index	15.36%	8.04%	8.44%	8.99%	
International Equity	8.33%	5.18%	6.82%	-	
MSCI EAFE Index	8.96%	5.11%	3.94%	4.89%	
Domestic Fixed Income	6.28%	5.22%	5.55%	_	
Met West	6.28%	5.22%	-	-	
Bloomberg Aggregate Index	3.77%	3.89%	4.73%	5.33%	
Total Plan	10.67%	7.02%	6.11%	8.74%	
Target*	9.87%	6.32%	5.72%	7.47%	

# \* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter.

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

	12/2018- 3/2019	2018	2017	2016	2015
Domestic Equity	11.62%	(4.64%)	19.78%	14.58%	0.06%
Domestic Equity Benchmark**	13.86%	(5.69%)	20.41%	13.85%	0.26%
Bemeette Equity Benefimani	10.0070	(0.0070)	20.11/0	10.0070	0.2070
Large Cap Equity	11.56%	(6.33%)	21.10%	13.38%	(1.17%)
Boston Partners	9.40%	(8.27%)	20.32%	14.71%	(3.75%)
Russell 1000 Value Index	11.93%	(8.27%)	13.66%	17.34%	(3.83%)
SSgA S&P 500	13.64%	(4.39%)	21.86%	12.03%	1.46%
S&P 500 Index	13.65%	(4.38%)	21.83%	11.96%	1.38%
Small Cap Equity	11.84%	1.78%	15.01%	19.17%	5.14%
Atlanta Capital	11.84%	1.78%	15.01%	19.17%	5.14%
Russell 2000 Index	14.58%	(11.01%)	14.65%	21.31%	(4.41%)
	11.0070	(1110170)	1110070	21.0170	(,0)
International Equity	8.84%	(13.93%)	28.25%	2.55%	(4.17%)
International Benchmark***	10.11%	(14.76%)	29.51%	3.26%	(4.30%)
				4	
International Large Cap	8.79%	(11.25%)	22.63%	1.35%	(1.17%)
SSgA EAFE	10.11%	(13.49%)	25.47%	1.37%	(0.56%)
Pyrford	8.26%	(10.31%)	-	-	-
MSCI EAFE Index	9.98%	(13.79%)	25.03%	1.00%	(0.81%)
International Small Cap	9.11%	(19.94%)	33.76%	-	-
AQR	9.11%	(19.94%)	33.76%	-	-
MSCI EAFE Small Cap Index	10.65%	(17.89%)	33.01%	2.18%	9.59%
Emerging Markets Equity	8.75%	(14.80%)	37.32%	12.99%	(14.33%)
DFA Emerging Markets	8.75%	(14.80%)	37.32%	12.99%	(14.33%)
MSCI Emerging Markets Index	9.93%	(14.57%)	37.28%	11.19%	(14.92%)
					(
Domestic Fixed Income	3.21%	0.75%	3.89%	2.87%	0.51%
Met West	3.21%	0.75%	3.89%	2.87%	0.51%
Bloomberg Aggregate Index	2.94%	0.01%	3.54%	2.65%	0.55%
Total Plan	7.80%	(5.05%)	16.14%	7.65%	(0.97%)
Target*	9.07%	(5.82%)	16.39%	7.40%	(0.71%)
raiyet	9.07 /0	(3.02 /0)	10.59 /0	1.40/0	(0.7170)

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

Returns are for annualized calendar years.

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter. \*\*\* International Benchmark = MSCI EAFE until 6/30/2013, 78.26% MSCI EAFE + 21.74% MSCI EM until 4/30/2015, 76% MSCI EAFE + 24% MSCI EM until 7/31/2016, and 56% MSCI EAFE + 24% MSCI EM + 20% MSCI EAFE Small Cap thereafter.

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

	2014	2013	2012	2011	2010
Domestic Equity	10.85%	36.44%	19.19%	2.08%	15.93%
Domestic Equity Benchmark**	12.07%	33.61%	16.09%	0.94%	17.33%
Boston Partners	11.87%	37.52%	21.95%	1.27%	13.61%
Russell 1000 Value Index	13.45%	32.53%	17.51%	0.39%	15.51%
S&P 500 Index	13.69%	32.39%	16.00%	2.11%	15.06%
Russell 2000 Index	4.89%	38.82%	16.35%	(4.18%)	26.85%
International Equity	(3.72%)	16.66%	17.28%	(10.64%)	6.51%
MSCI EAFE Index	(4.90%)	22.78%	17.32%	(12.14%)	7.75%
Domestic Fixed Income	6.37%	(1.03%)	9.48%	6.10%	12.52%
Met West	6.37%	(1.03%)	9.48%	6.10%	12.52%
Bloomberg Aggregate Index	5.97%	(2.02%)	4.21%	7.84%	6.54%
Total Plan	5.61%	17.71%	14.80%	1.22%	12.70%
Target*	5.82%	15.99%	11.68%	1.52%	11.85%

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

Returns are for annualized calendar years.

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter.



The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2019					
	Last	Last	Last 3	Last 5	Last 7
Net of Fee Returns	Quarter	Year	Years	Years	Years
Net of ree Returns					
Domestic Equity	11.53%	6.56%	12.58%	-	-
Domestic Equity Benchmark**	13.86%	8.04%	13.46%	10.22%	12.49%
Large Cap Equity	11.50%	5.51%	12.30%	-	-
Boston Partners	9.30%	1.78%	11.17%	7.26%	11.21%
Russell 1000 Value Index	11.93%	5.67%	10.45%	7.72%	11.14%
SSgA S&P 500	13.63%	9.45%	13.48%	10.89%	13.28%
S&P 500 Index	13.65%	9.50%	13.51%	10.91%	12.85%
Small Cap Equity	11.62%	10.47%	13.60%	-	-
Atlanta Capital	11.62%	10.47%	13.60%	10.55%	12.92%
Russell 2000 Index	14.58%	2.05%	12.92%	7.05%	10.74%
International Equity	8.69%	(6.40%)	7.07%	-	-
International Equity Benchmark***	10.11%	(5.70%)	8.21%	2.75%	5.61%
International Large Cap	8.65%	(2.13%)	7.00%	-	-
SSgA EAFE	10.08%	(3.46%)	7.56%	2.57%	6.92%
Pyrford	8.08%	(1.56%)	-	-	-
MSCI EAFE Index	9.98%	(3.71%)	7.27%	2.33%	5.63%
International Small Cap	8.88%	(13.61%)	-	-	-
AQR	8.88%	(13.61%)	-	-	-
MSCI EAFE Small Cap Index	10.65%	(9.36%)	7.50%	4.47%	8.21%
Emerging Markets Equity	8.61%	(9.48%)	9.58%	-	-
DFA Emerging Markets	8.61%	(9.48%)	9.58%	3.43%	-
MSCI Emerging Markets Index	9.93%	(7.40%)	10.68%	3.68%	2.69%
Domestic Fixed Income	3.21%	4.92%	2.46%	-	-
Met West	3.21%	4.92%	2.46%	2.83%	3.03%
Bloomberg Aggregate Index	2.94%	4.48%	2.03%	2.74%	2.48%
Total Plan	7.73%	2.72%	7.76%	5.37%	7.07%
Target*	9.07%	3.55%	8.24%	5.85%	7.22%

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter.
 \*\*\* International Benchmark = MSCI EAFE until 6/30/2013, 78.26% MSCI EAFE + 21.74% MSCI EM until 4/30/2015, 76% MSCI EAFE + 24% MSCI EM until 7/31/2016, and 56% MSCI EAFE + 24% MSCI EM + 20% MSCI EAFE Small Cap thereafter.

Domestic Equity

# Domestic Equity Period Ended March 31, 2019

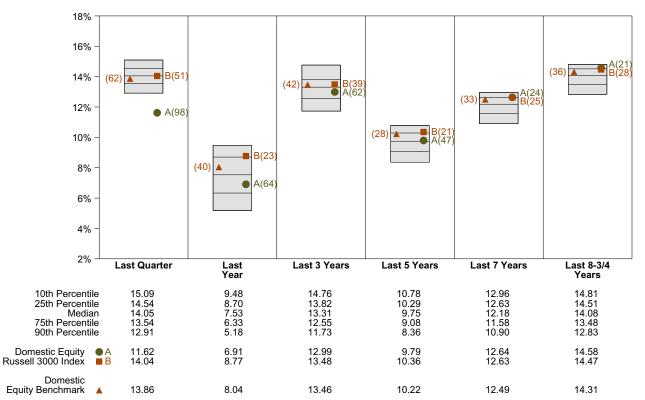
#### **Investment Philosophy**

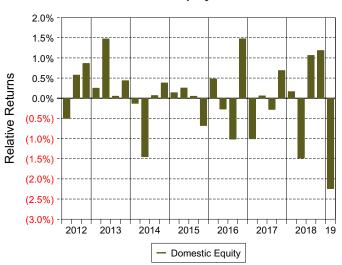
Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter.

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

- Domestic Equity's portfolio posted a 11.62% return for the quarter placing it in the 98 percentile of the Fund Spnsor -Domestic Equity group for the quarter and in the 64 percentile for the last year.
- Domestic Equity's portfolio underperformed the Domestic Equity Benchmark by 2.24% for the quarter and underperformed the Domestic Equity Benchmark for the year by 1.13%.

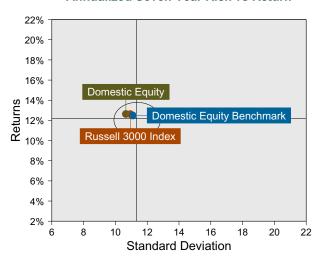
#### Performance vs Fund Spnsor - Domestic Equity (Gross)





#### Relative Returns vs Domestic Equity Benchmark

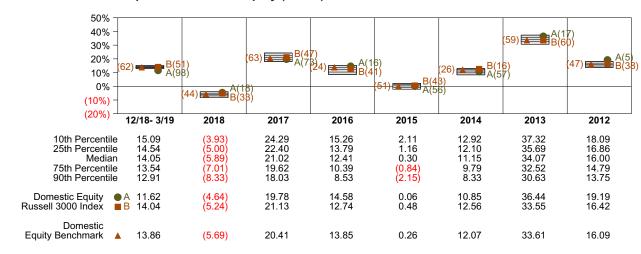
# Fund Spnsor - Domestic Equity (Gross) Annualized Seven Year Risk vs Return



# Domestic Equity Return Analysis Summary

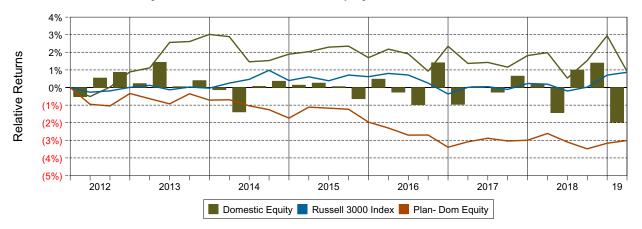
### **Return Analysis**

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.

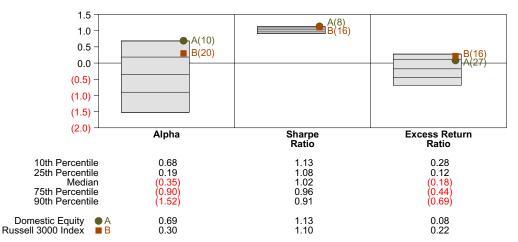


Performance vs Fund Spnsor - Domestic Equity (Gross)

**Cumulative and Quarterly Relative Return vs Domestic Equity Benchmark** 



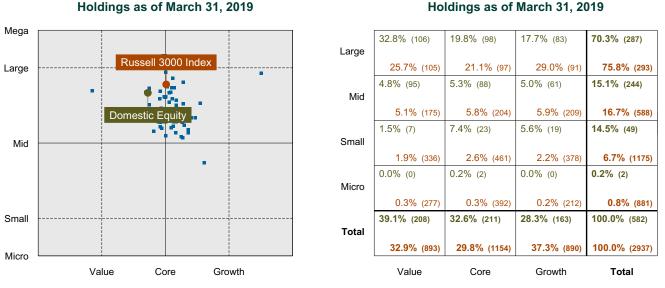
Risk Adjusted Return Measures vs Domestic Equity Benchmark Rankings Against Fund Spnsor - Domestic Equity (Gross) Seven Years Ended March 31, 2019



# Current Holdings Based Style Analysis Domestic Equity As of March 31, 2019

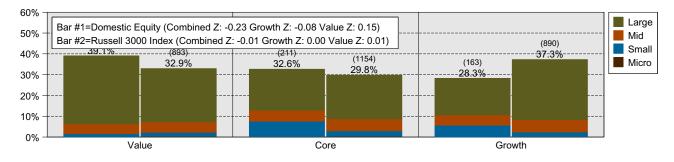
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization 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 Exposure Matrix** 

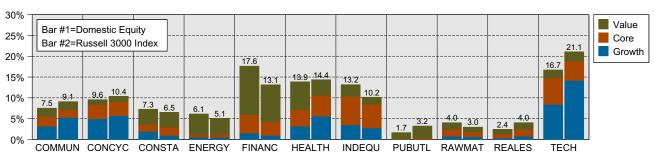


#### Style Map vs Plan- Dom Equity Holdings as of March 31, 2019

### Combined Z-Score Style Distribution Holdings as of March 31, 2019

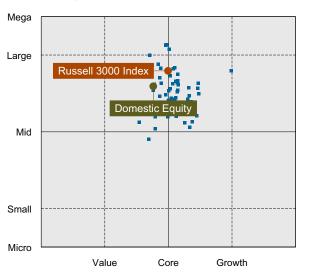


Sector Weights Distribution Holdings as of March 31, 2019



# Historical Holdings Based Style Analysis Domestic Equity For Five Years Ended March 31, 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.

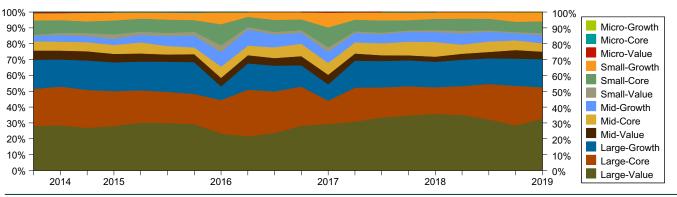


#### Average Style Map vs Plan- Dom Equity Holdings for Five Years Ended March 31, 2019

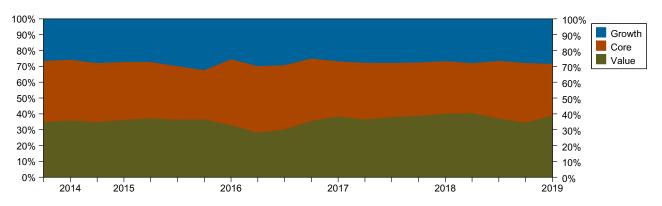
## Average Style Exposure Matrix Holdings for Five Years Ended March 31, 2019

	34.1% (894)	32.3% (1178)	33.7% (898)	<b>100.0%</b> (2970)
Total		. ,		
	36.2% (187)	36.2% (197)	27.5% (157)	100.0% (541)
WIICIO	0.3% (282)	0.4% (376)	0.2% (214)	<b>1.0%</b> (872)
Micro	0.1% (1)	0.1% (1)	0.0% (0)	0.2% (2)
	2.2% (336)	3.0% (487)	2.2% (378)	<b>7.4%</b> (1201)
Small				
	1.7% (10)	8.1% (26)	5.0% (14)	14.9% (50)
	5.3% (177)	6.3% (217)	6.0% (205)	17.5% (599)
Mid				
	4.9% (83)	6.5% (80)	6.1% (57)	17.5% (220)
	26.3% (99)	22.6% (98)	25.2% (101)	74.1% (298)
Large				
	29.6% (93)	21.5% (90)	16.4% (86)	67.5% (269)





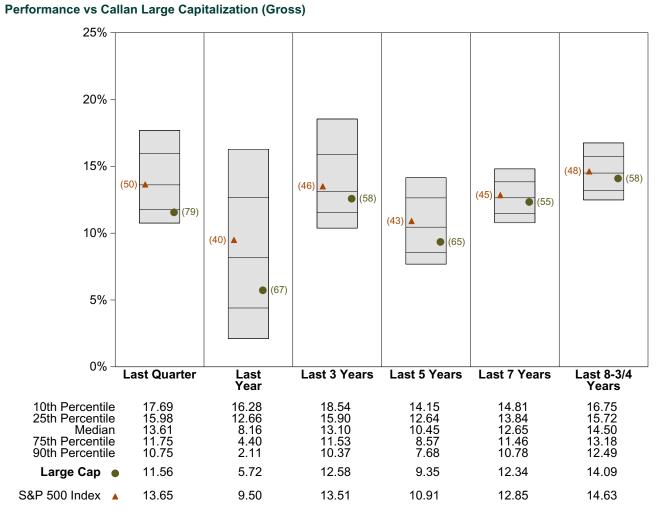




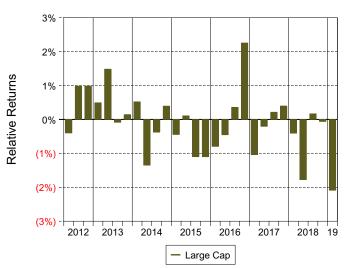
# Large Cap Period Ended March 31, 2019

### **Quarterly Summary and Highlights**

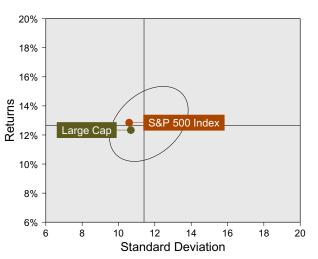
- Large Cap's portfolio posted a 11.56% return for the quarter placing it in the 79 percentile of the Callan Large Capitalization group for the quarter and in the 67 percentile for the last year.
- Large Cap's portfolio underperformed the S&P 500 Index by 2.09% for the quarter and underperformed the S&P 500 Index for the year by 3.77%.



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



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

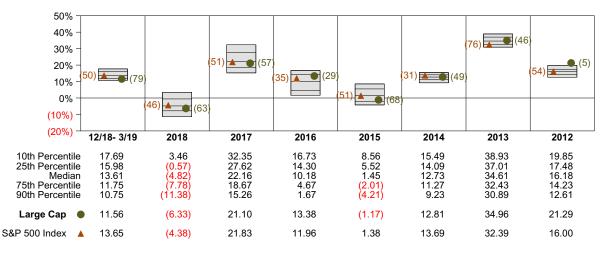


# Large Cap Return Analysis Summary

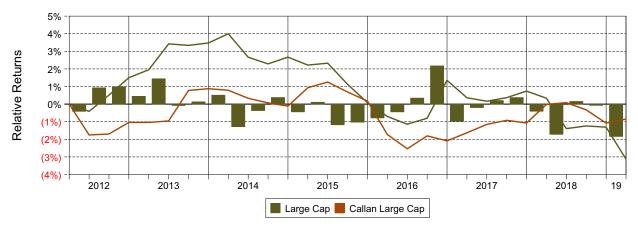
### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 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.

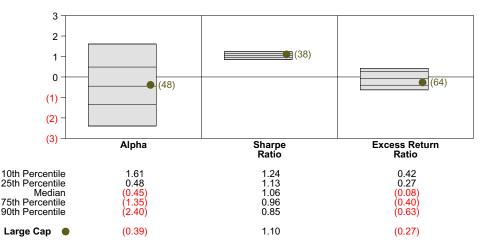
### Performance vs Callan Large Capitalization (Gross)



Cumulative and Quarterly Relative Return vs S&P 500 Index



Risk Adjusted Return Measures vs S&P 500 Index Rankings Against Callan Large Capitalization (Gross) Seven Years Ended March 31, 2019

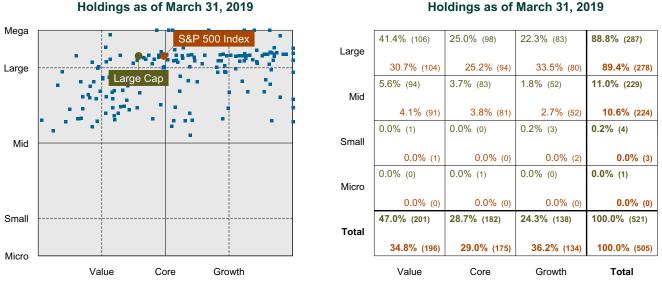




# Current Holdings Based Style Analysis Large Cap As of March 31, 2019

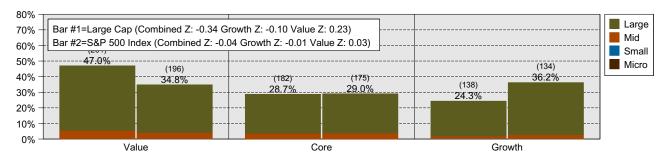
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization 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 Exposure Matrix** 

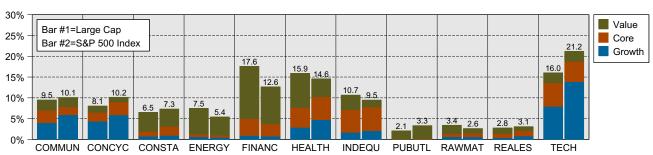


#### Style Map vs Callan Large Cap Holdings as of March 31, 2019

### Combined Z-Score Style Distribution Holdings as of March 31, 2019

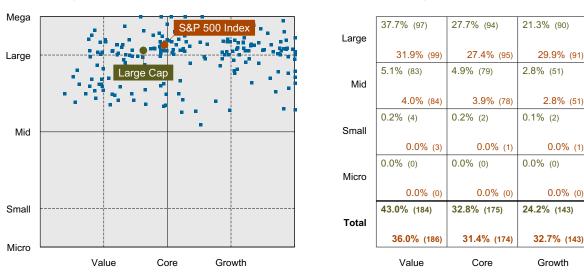


# Sector Weights Distribution Holdings as of March 31, 2019



## Historical Holdings Based Style Analysis Large Cap For Five Years Ended March 31, 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 Exposure Matrix Holdings for Five Years Ended March 31, 2019

86.7% (281)

12.7% (213)

0.6% (8)

0.0% (0)

89.2% (285)

**10.7%** (213)

0.1% (5)

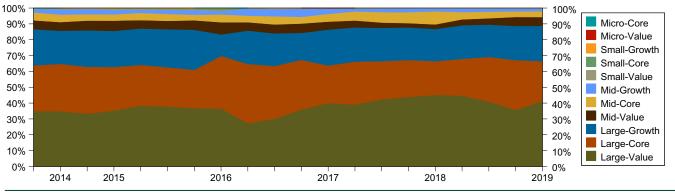
0.0% (0)

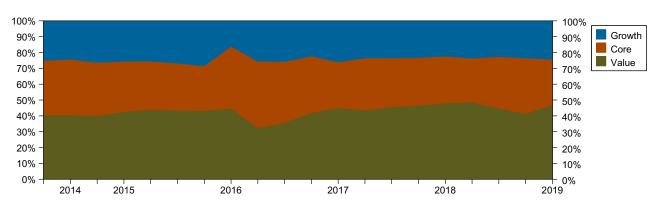
100.0% (502)

100.0% (503)

Total







Large Cap Historical Style Only Exposures

## SSgA S&P 500 Period Ended March 31, 2019

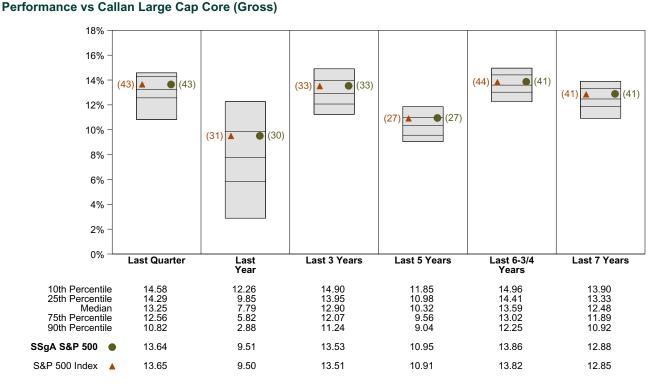
#### **Investment Philosophy**

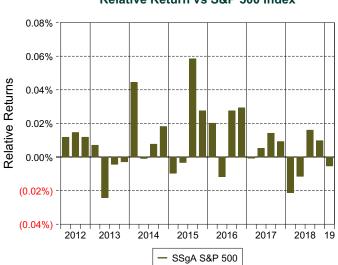
SSGA believes that their passive investment strategy can provide market-like returns with minimal transaction costs. Returns prior to 6/30/2012 are linked to a composite history.

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

- SSgA S&P 500's portfolio posted a 13.64% return for the quarter placing it in the 43 percentile of the Callan Large Cap Core group for the quarter and in the 30 percentile for the last year.
- SSgA S&P 500's portfolio underperformed the S&P 500 Index by 0.01% for the quarter and outperformed the S&P 500 Index for the year by 0.01%.

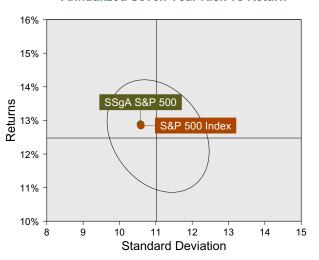
Quarterly Asset Growth						
Beginning Market Value	\$42,567,941					
Net New Investment	\$0					
Investment Gains/(Losses)	\$5,807,407					
Ending Market Value	\$48,375,349					





## Relative Return vs S&P 500 Index

## Callan Large Cap Core (Gross) Annualized Seven Year Risk vs Return

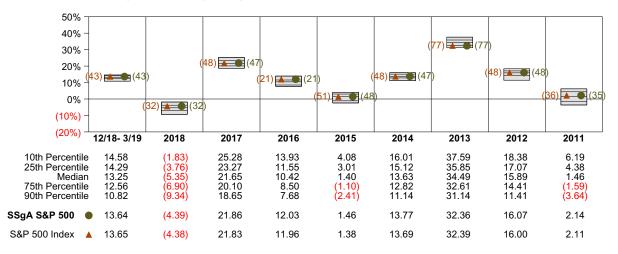


## SSgA S&P 500 Return Analysis Summary

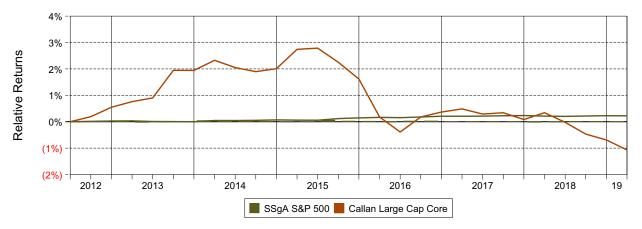
## **Return Analysis**

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.

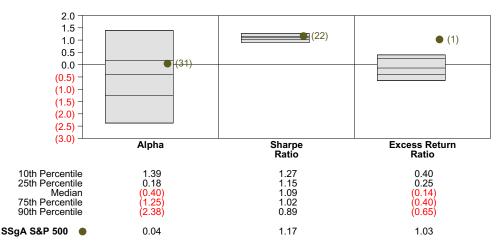
#### Performance vs Callan Large Cap Core (Gross)



Cumulative and Quarterly Relative Return vs S&P 500 Index



## Risk Adjusted Return Measures vs S&P 500 Index Rankings Against Callan Large Cap Core (Gross) Seven Years Ended March 31, 2019



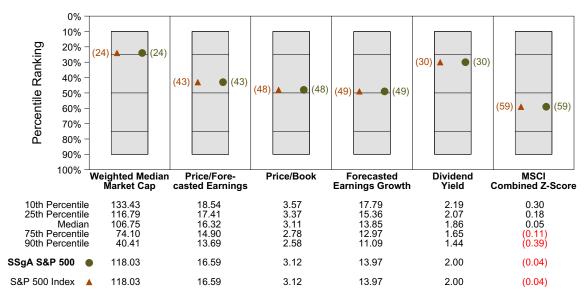


## SSgA S&P 500 Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

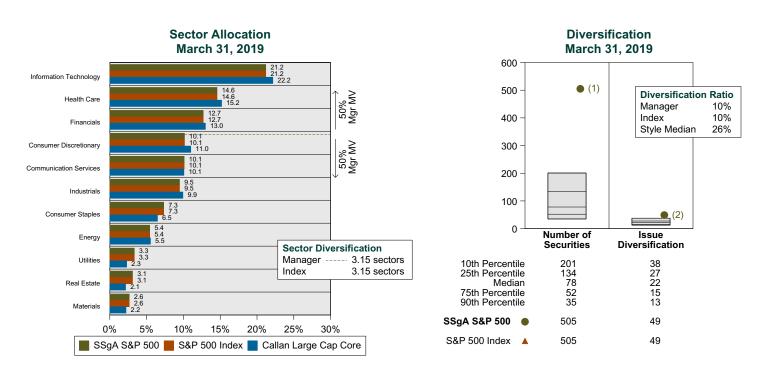
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

### Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Core as of March 31, 2019



## **Sector Weights**

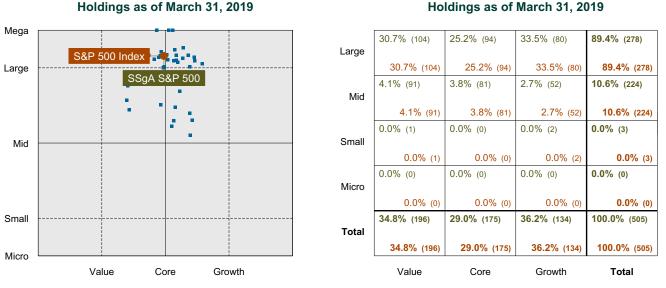
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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 SSgA S&P 500 As of March 31, 2019

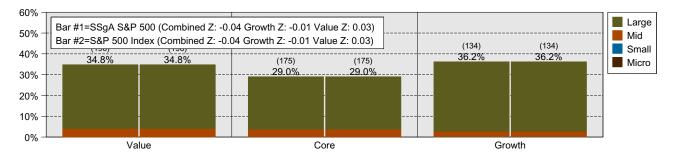
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization 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 Exposure Matrix

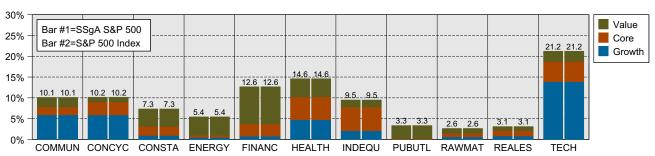


#### Style Map vs Callan Large Cap Core Holdings as of March 31, 2019

## Combined Z-Score Style Distribution Holdings as of March 31, 2019



Sector Weights Distribution Holdings as of March 31, 2019



## Boston Partners Period Ended March 31, 2019

#### **Investment Philosophy**

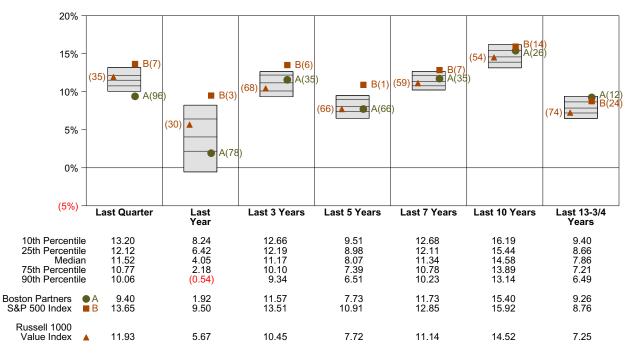
Boston Partners attempts to implement a disciplined investment process designed to find undervalued securities issued by companies with sound fundamentals and positive business momentum. Boston Partners was funded 6/27/05. The first full quarter for this portfolio is 3rd quarter 2005.

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

- Boston Partners's portfolio posted a 9.40% return for the quarter placing it in the 96 percentile of the Callan Large Cap Value group for the quarter and in the 78 percentile for the last year.
- Boston Partners's portfolio underperformed the Russell 1000 Value Index by 2.54% for the quarter and underperformed the Russell 1000 Value Index for the year by 3.75%.

Quarterly Asset Growth						
Beginning Market Value	\$41,044,721					
Net New Investment	\$8					
Investment Gains/(Losses)	\$3,857,732					
Ending Market Value	\$44,902,460					

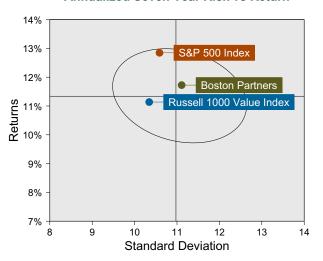
## Performance vs Callan Large Cap Value (Gross)





#### **Relative Return vs Russell 1000 Value Index**

#### Callan Large Cap Value (Gross) Annualized Seven Year Risk vs Return

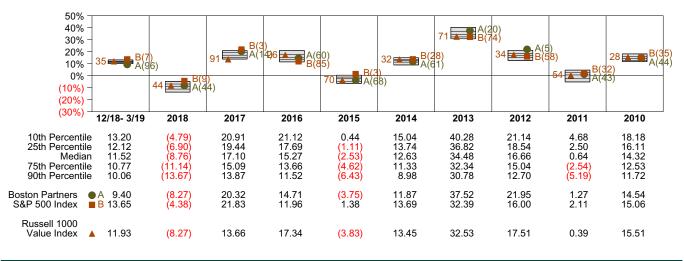


## Boston Partners Return Analysis Summary

## **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.

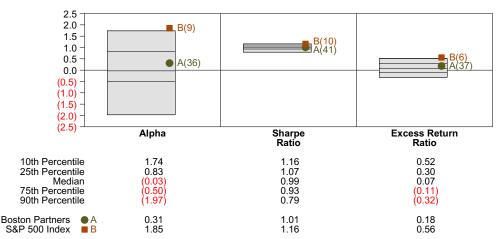




Cumulative and Quarterly Relative Return vs Russell 1000 Value Index





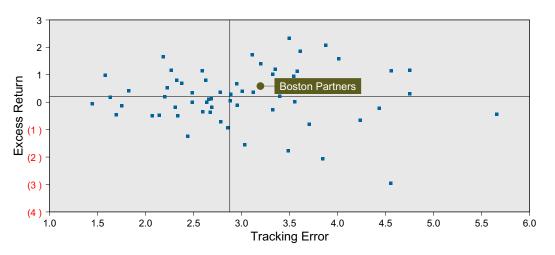


## **Boston Partners Risk Analysis Summary**

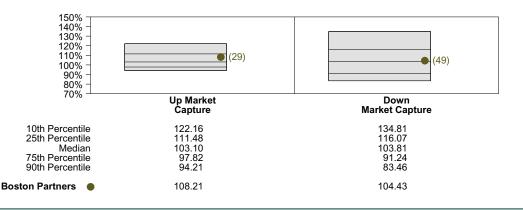
#### **Risk Analysis**

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.

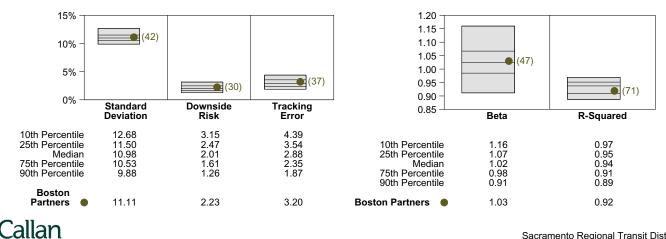
Risk Analysis vs Callan Large Cap Value (Gross) Seven Years Ended March 31, 2019



### Market Capture vs Russell 1000 Value Index Rankings Against Callan Large Cap Value (Gross) Seven Years Ended March 31, 2019





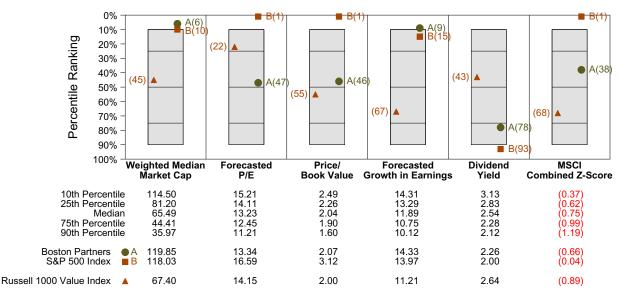


## Boston Partners Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

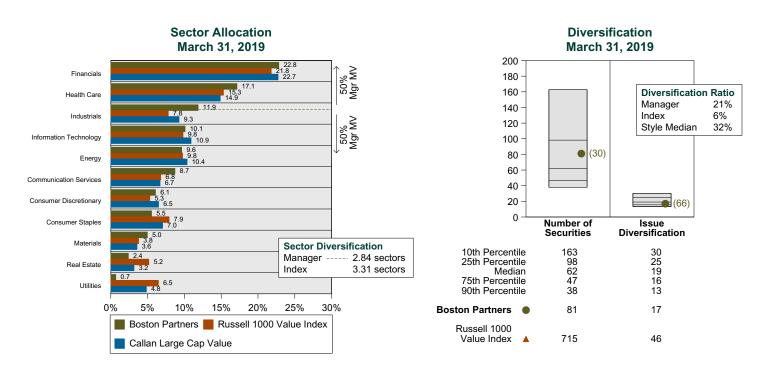
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Value as of March 31, 2019



## **Sector Weights**

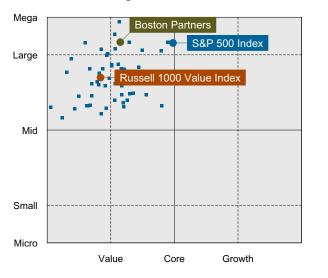
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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 Boston Partners As of March 31, 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.

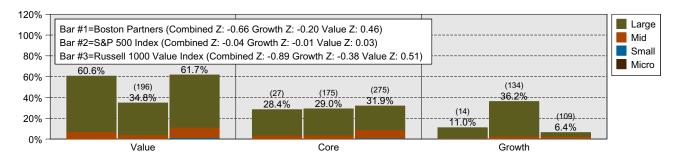


## Style Map vs Callan Large Cap Value Holdings as of March 31, 2019

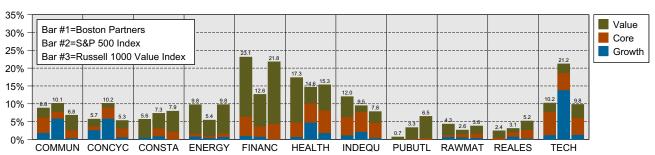
## Style Exposure Matrix Holdings as of March 31, 2019

Large	53.4% (35) 30.7% (104)	24.8% (18) 25.2% (94)	9.9% (12) 33.5% (80)	88.1% (65) 89.4% (278)
	50.5% (103)	23.0% (71)	3.8% (22)	77.3% (196)
	7.2% (9)	3.6% (8)	0.8% (1)	11.5% (18)
Mid	4.1% (91)	3.8% (81)	2.7% (52)	10.6% (224)
	10.2% (165)	8.1% (153)	2.4% (73)	<b>20.6%</b> (391)
	0.0% (0)	0.0% (0)	0.3% (1)	0.3% (1)
Small	0.0% (1)	0.0% (0)	0.0% (2)	0.0% (3)
	1.1% (59)	0.8% (50)	0.2% (14)	<b>2.1%</b> (123)
	0.0% (0)	0.0% (1)	0.0% (0)	0.0% (1)
Micro	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
	0.0% (0)	0.0% (1)	0.0% (0)	0.0% (1)
	60.6% (44)	28.4% (27)	11.0% (14)	100.0% (85)
Total	34.8% (196)	<b>29.0%</b> (175)	<b>36.2%</b> (134)	100.0% (505)
	61.7% (327)	31.9% (275)	6.4% (109)	<b>100.0%</b> (711)

## Combined Z-Score Style Distribution Holdings as of March 31, 2019

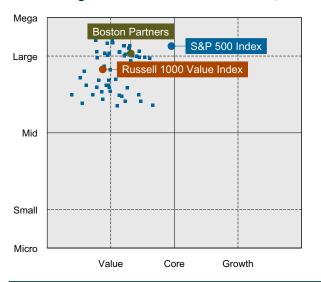


Sector Weights Distribution Holdings as of March 31, 2019



## Historical Holdings Based Style Analysis Boston Partners For Five Years Ended March 31, 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.

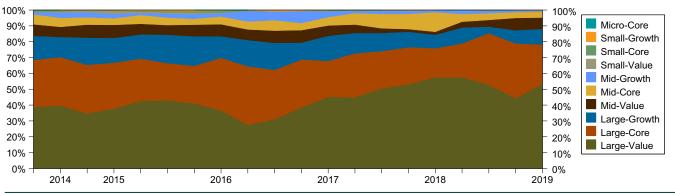


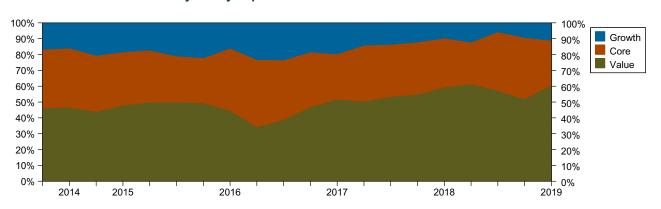
## Average Style Map vs Callan Large Cap Value Holdings for Five Years Ended March 31, 2019

## Average Style Exposure Matrix Holdings for Five Years Ended March 31, 2019

	43.6% (28)	27.8% (21)	13.0% (13)	84.4% (62)
Large	31.9% (99)	27.4% (95)	29.9% (91)	<b>89.2%</b> (285)
	51.0% (96)	23.0% (72)	4.1% (28)	78.1% (196)
	6.1% (9)	5.8% (9)	2.8% (4)	14.7% (22)
Mid	4.0% (84)	3.9% (78)	2.8% (51)	<b>10.7%</b> (213)
	10.2% (164)	7.0% (151)	2.3% (63)	<b>19.5%</b> (378)
	0.4% (1)	0.4% (1)	0.2% (1)	1.0% (3)
Small	0.0% (3)	0.0% (1)	0.0% (1)	0.1% (5)
	1.3% (60)	0.8% (45)	0.2% (16)	<b>2.3%</b> (121)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Micro	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
	0.0% (0)	0.0% (1)	0.0% (0)	<b>0.0%</b> (1)
	50.0% (38)	<b>34.0%</b> (31)	<b>16.0%</b> (18)	100.0% (87)
Total	<b>36.0%</b> (186)	31.4% (174)	32.7% (143)	100.0% (503)
	62.5% (320)	<b>30.9%</b> (269)	6.6% (107)	<b>100.0%</b> (696)
	Value	Core	Growth	Total





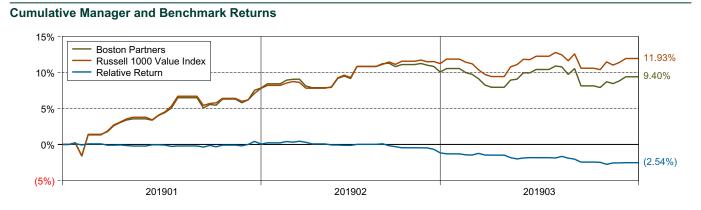




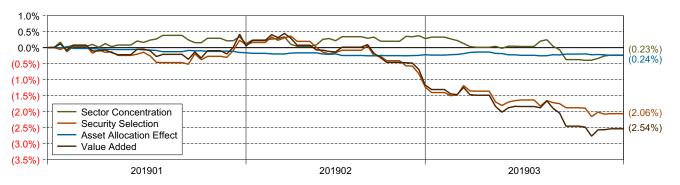
## Boston Partners vs Russell 1000 Value Index Domestic Equity Daily Performance Attribution One Quarter Ended March 31, 2019

#### **Return Sources and Timing**

The charts below illustrate the timing and cumulative paths of the manager's performance, as well as attributing relative performance to three sources: Sector Concentration, Security Selection, and Asset Allocation. The first chart shows the cumulative absolute return paths for the manager and index. The second chart shows the cumulative relative return path of the manager and the attributed sources of that value-added. The bottom table breaks the annualized attribution factors down to the sector level for more insight into sources of return.



Cumulative Attribution Effects vs. Russell 1000 Value Index



#### Attribution Effects by Sector vs. Russell 1000 Value Index One Quarter Ended March 31, 2019

Sector	Manager Eff Weight	Index Eff Weight	Manager Return	Index Return	Sector Concentration	Security Selection	Asset Allocation
Communication Services	6.00%	7.11%	12.56%	9.54%	0.02%	0.05%	-
Consumer Discretionary	4.92%	5.30%	15.83%	13.21%	0.02%	0.14%	-
Consumer Staples	5.34%	7.80%	10.47%	12.45%	(0.03)%	(0.11)%	-
Energy	8.76%	9.50%	14.53%	16.60%	(0.05)%	(0.18)%	-
Financials	27.34%	22.66%	8.60%	8.02%	(0.23)%	0.18%	-
Health Care	18.19%	15.39%	0.15%	7.67%	(0.18)%	(1.39)%	-
Industrials	11.48%	7.63%	17.10%	18.67%	0.23%	(0.20)%	-
Information Technology	10.74%	9.43%	16.25%	18.38%	0.11%	(0.23)%	-
Materials	4.10%	3.83%	3.17%	9.20%	(0.03)%	(0.28)%	-
Real Estate	2.40%	5.02%	15.49%	16.47%	(0.12)%	(0.02)%	-
Utilities	0.75%	6.33%	10.16%	11.53%	0.02%	(0.01)%	-
Non Equity	2.58%	0.00%	-	-	-	-	(0.24)%
Total	-	-	9.40%	11.93%	(0.23)%	(2.06)%	(0.24)%

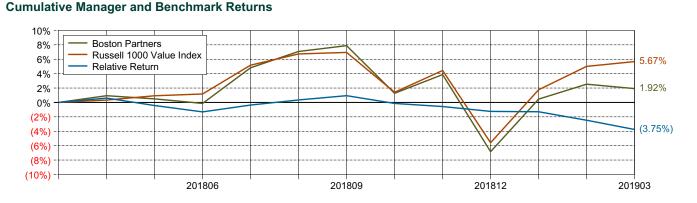
Manager Return =	Index Return	+ Sector Concentration +	Security Selection	+ Asset Allocation
9.40%	11.93%	(0.23%)	(2.06%)	(0.24%)



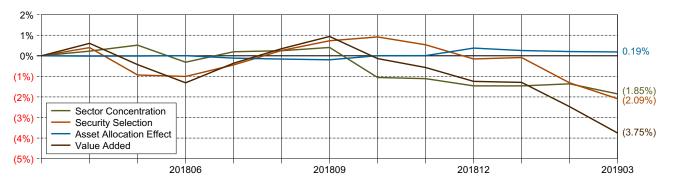
## Boston Partners vs Russell 1000 Value Index Domestic Equity Daily Performance Attribution One Year Ended March 31, 2019

#### **Return Sources and Timing**

The charts below illustrate the timing and cumulative paths of the manager's performance, as well as attributing relative performance to three sources: Sector Concentration, Security Selection, and Asset Allocation. The first chart shows the cumulative absolute return paths for the manager and index. The second chart shows the cumulative relative return path of the manager and the attributed sources of that value-added. The bottom table breaks the annualized attribution factors down to the sector level for more insight into sources of return.



Cumulative Attribution Effects vs. Russell 1000 Value Index



#### Attribution Effects by Sector vs. Russell 1000 Value Index One Year Ended March 31, 2019

Sector	Manager Eff Weight	Index Eff Weight	Manager Return	Index Return	Sector Concentration	Security Selection	Asset Allocation
Communication Services	4.63%	5.40%	30.06%	6.92%	(0.07)%	0.54%	-
Consumer Discretionary	4.23%	6.16%	(4.66)%	3.65%	0.20%	(0.23)%	-
Consumer Staples	2.25%	7.56%	20.71%	8.44%	(0.22)%	0.20%	-
Energy	11.42%	10.50%	4.59%	2.19%	(0.18)%	0.27%	-
Financials	30.16%	23.97%	(5.22)%	(5.91)%	(0.73)%	0.31%	-
Health Care	18.24%	14.74%	7.87%	18.62%	0.43%	(1.73)%	-
Industrials	10.37%	7.86%	(1.99)%	0.51%	(0.12)%	(0.23)%	-
Information Technology	11.95%	9.54%	5.68%	10.75%	(0.01)%	(0.43)%	-
Materials	4.18%	3.54%	(16.97)%	(5.01)%	(0.04)%	(0.51)%	-
Real Estate	1.88%	4.80%	8.77%	19.29%	(0.39)%	(0.18)%	-
Utilities	0.68%	5.94%	0.73%	20.36%	(0.74)%	(0.10)%	-
Non Equity	2.56%	0.00%	-	-	-	-	0.19%
Total	-	-	1.92%	5.67%	(1.85)%	(2.09)%	0.19%

Manager Return =	Index Return	+ Sector Concentration _	+ Security Selection	+ Asset Allocation
1.92%	5.67%	(1.85%)	(2.09%)	0.19%

## **Boston Partners vs Russell 1000 Value Index Domestic Equity Top 10 Contribution Holdings** One Quarter Ended March 31, 2019

#### Manager Holdings with Largest (+ or -) Contribution to Performance Contrib Contrib Manager Days Index Index Manager Excess Manager Eff Wt Eff Wt Issue Sector Held Return Return Perf Return Information Technology 25.53% 25.60% 0.91% 0.26% Cisco Sys Inc 3.86% 90 1.72% Citigroup Inc Financials 2.77% 90 1.17% 20.36% 20.36% 0.53% 0.12% Comcast Corp A (New) 0.51% 0.09% Communication Services 3.13% 90 1.33% 17.36% 17.42% Chevron Corp New Energy 3.44% 90 1.75% 14.55% 14.37% 0.45% 0.06% 17.72% 0.42% 0.26% Boeing Co 90 Industrials 2.26% --Johnson & Johnson Health Care 4.65% 90 2.35% 9.03% 9.04% 0.41% (0.07)% Procter & Gamble Co **Consumer Staples** 2.80% 90 1.91% 14.09% 14.09% 0.38% 0.02% Cigna Corp New 2.21% 0.34% (15.46)% (15.30)% (0.37)% (0.52)% Health Care 90 United Technologies Corp Industrials 1.87% 90 0.76% 21.73% 21.76% 0.36% 0.10% Bank Amer Corp Financials 3.21% 90 2.01% 12.50% 12.55% 0.36% (0.02)%

#### Index Holdings with Largest (+ or -) Contribution to Performance

Issue	gest (+ or -) Contribution to Sector	Manager Eff Wt	Days Held	Index Eff Wt	Manager Return	Index Return	Contrib Index Perf	Contrib Excess Return
Exxon Mobil Corp	Energy	-	-	2.49%	-	19.81%	0.46%	(0.18)%
Cisco Sys Inc	Information Technology	3.86%	90	1.72%	25.53%	25.60%	0.40%	0.26%
Philip Morris Intl Inc	Consumer Staples	-	-	0.96%	-	34.11%	0.29%	(0.18)%
Procter & Gamble Co	Consumer Staples	2.80%	90	1.91%	14.09%	14.09%	0.26%	0.02%
Intel Corp	Information Technology	-	-	1.79%	-	15.15%	0.26%	(0.05)%
Bank Amer Corp	Financials	3.21%	90	2.01%	12.50%	12.55%	0.25%	(0.02)9
Chevron Corp New	Energy	3.44%	90	1.75%	14.55%	14.37%	0.24%	0.06%
Citigroup Inc	Financials	2.77%	90	1.17%	20.36%	20.36%	0.23%	0.12%
Comcast Corp A (New)	Communication Services	3.13%	90	1.33%	17.36%	17.42%	0.22%	0.09%
General Electric Co	Industrials	-	-	0.65%	-	37.43%	0.21%	(0.14)

#### Positions with Largest Positive Contribution to Excess Return

sitions with Largest Po	ositive Contribution to Exc	cess Return					Contrib	Contrib
		Manager	Days	Index	Manager	Index	Manager	Excess
Issue	Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
Boeing Co	Industrials	2.26%	90	-	17.72%	-	0.42%	0.26%
Cisco Sys Inc	Information Technology	3.86%	90	1.72%	25.53%	25.60%	0.91%	0.26%
Noble Energy Inc	Energy	0.78%	90	0.08%	31.68%	32.53%	0.21%	0.14%
Citigroup Inc	Financials	2.77%	90	1.17%	20.36%	20.36%	0.53%	0.12%
Cme Group Inc	Financials	-	-	0.48%	-	(12.13)%	-	0.12%
Dxc Technology Co	Information Technology	1.45%	90	0.14%	21.31%	21.31%	0.26%	0.10%
United Technologies Corp	Industrials	1.87%	90	0.76%	21.73%	21.76%	0.36%	0.10%
Dover Corp	Industrials	0.75%	90	0.10%	32.20%	32.91%	0.19%	0.09%
Union Pacific Corp	Industrials	1.29%	90	0.07%	21.23%	21.59%	0.23%	0.09%
Discover Finl Svcs	Financials	1.14%	90	0.10%	21.32%	21.32%	0.23%	0.09%

## Positions with Largest Negative Contribution to Excess Return

jative Contribution to Exe	cess Return					Contrib	Contrib
	Manager	Days	Index	Manager	Index	Manager	Excess
Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
Health Care	2.21%	90	0.34%	(15.46)%	(15.30)%	(0.37)%	(0.52)%
Health Care	1.87%	90	0.65%	(16.99)%	(17.06)%	(0.33)%	(0.37)%
3 New Financials	4.50%	90	2.78%	(1.61)%	(1.61)%	(0.07)%	(0.23)%
Information Technology	1.44%	90	0.26%	(4.24)%	(4.24)%	(0.06)%	(0.20)%
Consumer Staples	-	-	0.96%	-	34.11%	-	(0.18)%
Energy	-	-	2.49%	-	19.81%	-	(0.18)%
Communication Services	1.40%	40	1.86%	(4.57)%	6.29%	(0.09)%	(0.15)%
Industrials	-	-	0.65%	-	37.43%	-	(0.14)%
Health Care	2.55%	90	2.01%	(1.82)%	(1.88)%	(0.07)%	(0.09)%
Industrials	1.42%	90	0.19%	3.79%	4.24%	0.06%	(0.09)%
	Sector Health Care Health Care New Financials Information Technology Consumer Staples Energy Communication Services Industrials Health Care	SectorEff WtHealth Care2.21%Health Care1.87%3 New Financials4.50%Information Technology1.44%Consumer Staples-Energy-Communication Services1.40%Industrials-Health Care2.55%	SectorManager Eff WtDays HeldHealth Care2.21%90Health Care1.87%90B NewFinancials4.50%90Information Technology1.44%90Consumer StaplesEnergyCommunication Services1.40%40IndustrialsHealth Care2.55%90	SectorManager Eff WtDays HeldIndex Eff WtHealth Care2.21%900.34%Health Care1.87%900.65%3 NewFinancials4.50%902.78%Information Technology1.44%900.26%Consumer Staples0.96%Energy2.49%Communication Services1.40%401.86%Industrials0.65%Health Care2.55%902.01%	Sector         Manager Eff Wt         Days Held         Index Eff Wt         Manager Return           Health Care         2.21%         90         0.34%         (15.46)%           Health Care         1.87%         90         0.65%         (16.99)%           3 New Financials         4.50%         90         2.78%         (1.61)%           Information Technology         1.44%         90         0.26%         (4.24)%           Consumer Staples         -         0.96%         -           Energy         -         2.49%         -           Communication Services         1.40%         40         1.86%         (4.57)%           Industrials         -         -         0.65%         -           Health Care         2.55%         90         2.01%         (1.82)%	Manager         Days         Index         Manager         Index           Sector         Eff Wt         Held         Eff Wt         Return         Return           Health Care         2.21%         90         0.34%         (15.46)%         (15.30)%           Health Care         1.87%         90         0.65%         (16.99)%         (17.06)%           3 New         Financials         4.50%         90         2.78%         (1.61)%         (1.61)%           Information Technology         1.44%         90         0.26%         (4.24)%         (4.24)%           Consumer Staples         -         -         0.96%         -         34.11%           Energy         -         -         2.49%         -         19.81%           Communication Services         1.40%         40         1.86%         (4.57)%         6.29%           Industrials         -         -         0.65%         -         37.43%           Health Care         2.55%         90         2.01%         (1.88)%	Manager         Days         Index         Manager         Index         Manager         Manager         Manager         Manager         Manager         Manager         Return         Perf           Health Care         2.21%         90         0.34%         (15.46)%         (15.30)%         (0.37)%           Health Care         1.87%         90         0.65%         (16.99)%         (17.06)%         (0.33)%           3 New         Financials         4.50%         90         2.78%         (1.61)%         (1.61)%         (0.07)%           Information Technology         1.44%         90         0.26%         (4.24)%         (0.06)%         (0.06)%           Consumer Staples         -         -         0.96%         -         34.11%         -           Energy         -         -         2.49%         -         19.81%         -           Communication Services         1.40%         40         1.86%         (4.57)%         6.29%         (0.09)%           Industrials         -         -         0.65%         -         37.43%         -           Health Care         2.55%         90         2.01%         (1.82)%         (1.88)%         (0.07)%

## Atlanta Capital Period Ended March 31, 2019

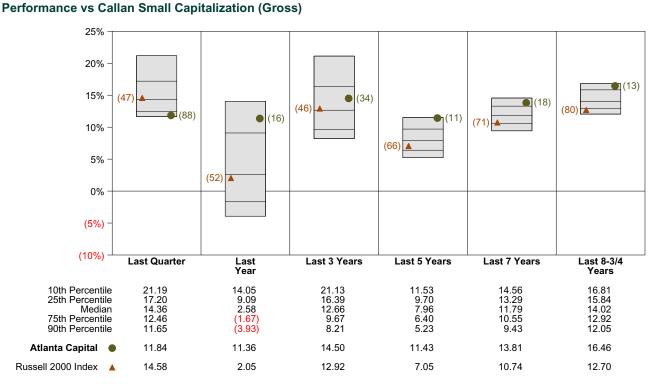
#### **Investment Philosophy**

Atlanta believes that high quality companies produce consistently increasing earnings and dividends, thereby providing attractive returns with moderate risk over the long-term. Returns prior to 6/30/2010 are linked to a composite history.

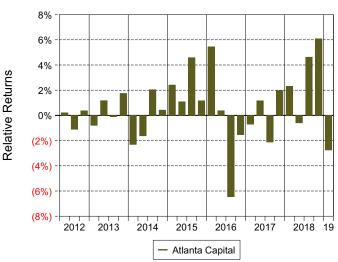
## **Quarterly Summary and Highlights**

- Atlanta Capital's portfolio posted a 11.84% return for the quarter placing it in the 88 percentile of the Callan Small Capitalization group for the quarter and in the 16 percentile for the last year.
- Atlanta Capital's portfolio underperformed the Russell 2000 Index by 2.74% for the quarter and outperformed the Russell 2000 Index for the year by 9.31%.

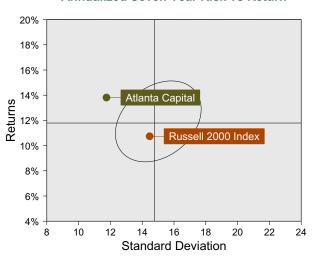
Quarterly Asset Growth							
Beginning Market Value	\$22,212,390						
Net New Investment	\$0						
Investment Gains/(Losses)	\$2,629,792						
Ending Market Value	\$24,842,181						



Relative Return vs Russell 2000 Index



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

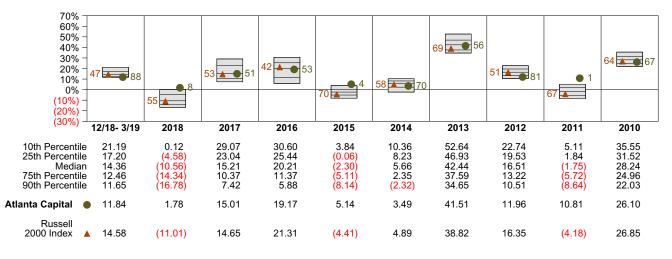


## Atlanta Capital Return Analysis Summary

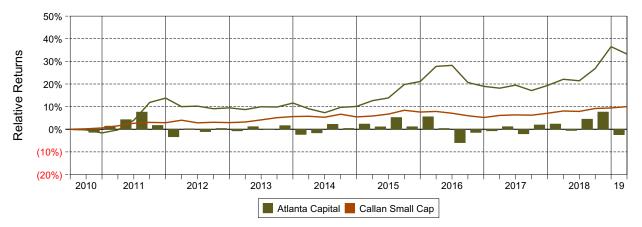
## **Return Analysis**

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.

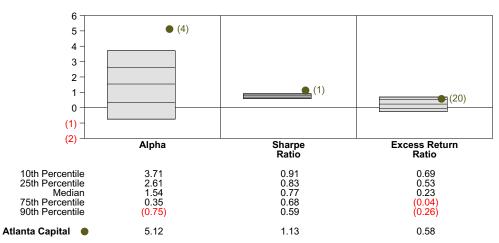
## Performance vs Callan Small Capitalization (Gross)



Cumulative and Quarterly Relative Return vs Russell 2000 Index



Risk Adjusted Return Measures vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Seven Years Ended March 31, 2019



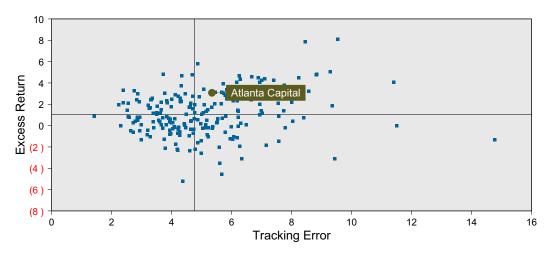


## Atlanta Capital Risk Analysis Summary

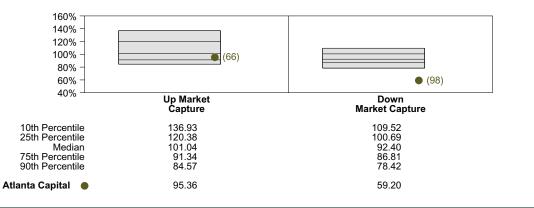
#### **Risk Analysis**

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.

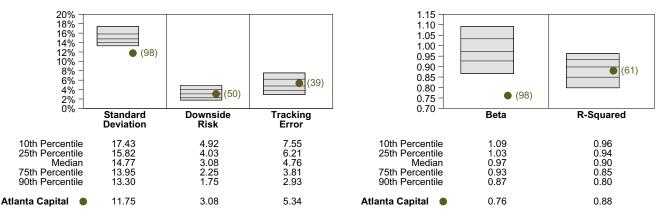
Risk Analysis vs Callan Small Capitalization (Gross) Seven Years Ended March 31, 2019



## Market Capture vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Seven Years Ended March 31, 2019



#### Risk Statistics Rankings vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Seven Years Ended March 31, 2019

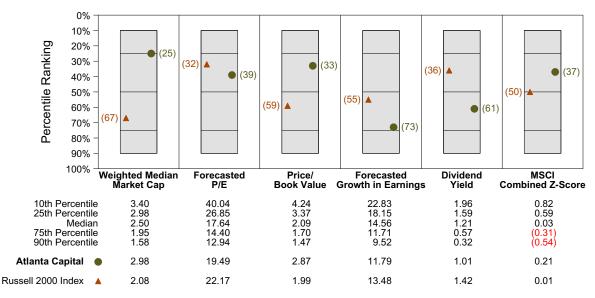


## Atlanta Capital Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

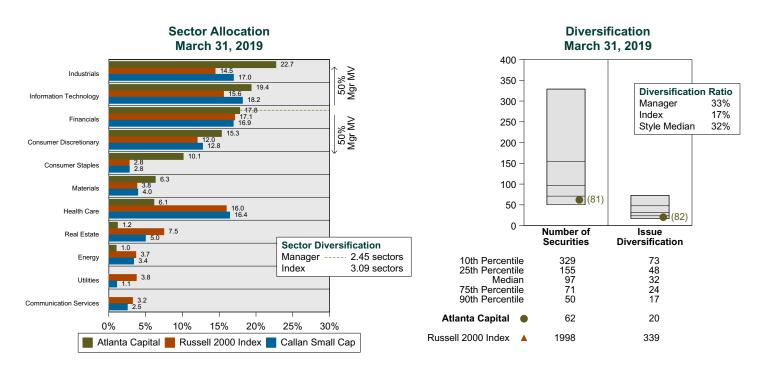
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Capitalization as of March 31, 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.

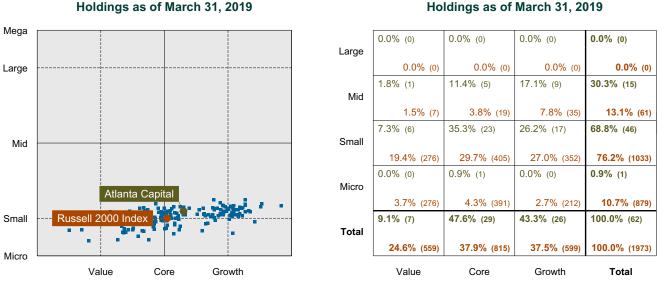




## Current Holdings Based Style Analysis Atlanta Capital As of March 31, 2019

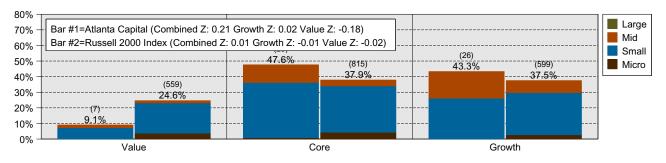
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization 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 Exposure Matrix** 

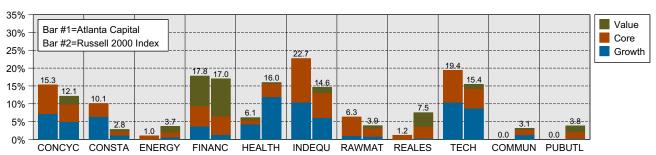


#### Style Map vs Callan Small Cap Holdings as of March 31, 2019

## Combined Z-Score Style Distribution Holdings as of March 31, 2019

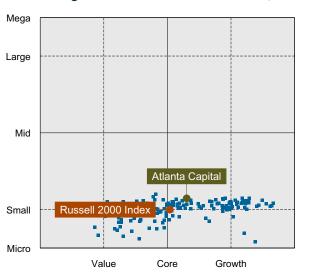


## Sector Weights Distribution Holdings as of March 31, 2019



## Historical Holdings Based Style Analysis Atlanta Capital For Five Years Ended March 31, 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.

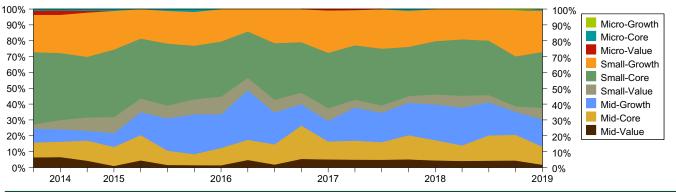


#### Average Style Map vs Callan Small Cap Holdings for Five Years Ended March 31, 2019

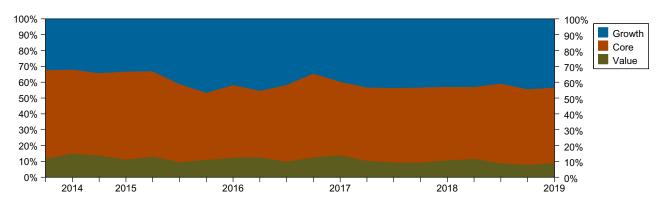
## Average Style Exposure Matrix Holdings for Five Years Ended March 31, 2019

Large				
	0.0% (0)	0.0% (0)	0.0% (0)	<b>0.0%</b> (0)
	3.9% (3)	12.5% (6)	17.4% (8)	33.9% (17)
Mid				
	1.7% (8)	3.1% (16)	5.3% (25)	<b>10.1%</b> (49)
	7.0% (6)	35.9% (24)	22.4% (13)	65.3% (43)
Small				
	20.1% (273)	31.8% (432)	25.4% (346)	<b>77.4%</b> (1051)
	0.4% (0)	0.4% (0)	0.0% (0)	0.9% (0)
Micro				
	4.2% (282)	5.1% (374)	3.2% (213)	<b>12.5%</b> (869)
	11.3% (9)	48.8% (30)	39.9% (21)	100.0% (60)
Total				
	<b>26.0%</b> (563)	40.1% (822)	33.9% (584)	<b>100.0%</b> (1969)
	Value	Core	Growth	Total





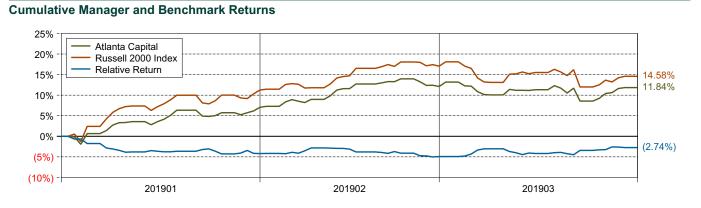




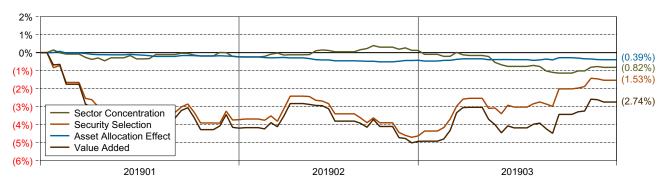
## Atlanta Capital vs Russell 2000 Index Domestic Equity Daily Performance Attribution One Quarter Ended March 31, 2019

#### **Return Sources and Timing**

The charts below illustrate the timing and cumulative paths of the manager's performance, as well as attributing relative performance to three sources: Sector Concentration, Security Selection, and Asset Allocation. The first chart shows the cumulative absolute return paths for the manager and index. The second chart shows the cumulative relative return path of the manager and the attributed sources of that value-added. The bottom table breaks the annualized attribution factors down to the sector level for more insight into sources of return.



**Cumulative Attribution Effects vs. Russell 2000 Index** 



#### Attribution Effects by Sector vs. Russell 2000 Index One Quarter Ended March 31, 2019

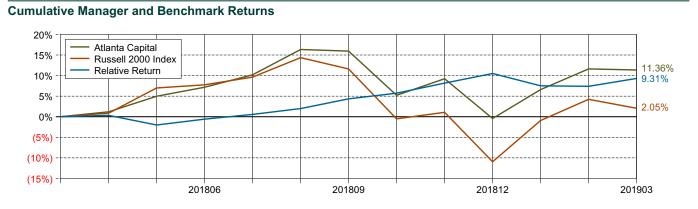
Sector	Manager Eff Weight	Index Eff Weight	Manager Return	Index Return	Sector Concentration	Security Selection	Asset Allocation
Communication Services	0.00%	3.24%	0.00%	15.14%	(0.02)%	0.00%	_
Consumer Discretionary	15.48%	12.16%	13.72%	13.15%	(0.05)%	0.04%	-
Consumer Staples	10.81%	2.81%	2.00%	7.46%	(0.59)%	(0.64)%	-
Energy	0.86%	3.56%	52.68%	19.88%	(0.14)%	0.24%	-
Financials	18.30%	17.99%	11.77%	8.59%	(0.03)%	0.58%	-
Health Care	5.75%	15.65%	6.21%	16.71%	(0.21)%	(0.60)%	-
Industrials	22.41%	14.84%	9.36%	12.22%	(0.18)%	(0.63)%	-
Information Technology	19.09%	14.94%	19.17%	22.60%	0.35%	(0.61)%	-
Materials	6.17%	3.84%	16.94%	16.96%	0.06%	(0.00)%	-
Real Estate	1.14%	7.30%	24.51%	17.62%	(0.18)%	0.07%	-
Utilities	0.00%	3.67%	0.00%	10.47%	0.16%	0.00%	-
Non Equity	3.43%	0.00%	-	-	-	-	(0.39)%
Total	-	-	11.84%	14.58%	(0.82)%	(1.53)%	(0.39)%

Manager Return =	Index Return	+ Sector Concentration +	Security Selection	Asset Allocation
11.84%	14.58%	(0.82%)	(1.53%)	(0.39%)

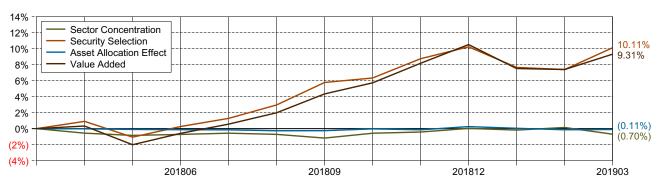
## Atlanta Capital vs Russell 2000 Index Domestic Equity Daily Performance Attribution One Year Ended March 31, 2019

### **Return Sources and Timing**

The charts below illustrate the timing and cumulative paths of the manager's performance, as well as attributing relative performance to three sources: Sector Concentration, Security Selection, and Asset Allocation. The first chart shows the cumulative absolute return paths for the manager and index. The second chart shows the cumulative relative return path of the manager and the attributed sources of that value-added. The bottom table breaks the annualized attribution factors down to the sector level for more insight into sources of return.



#### Cumulative Attribution Effects vs. Russell 2000 Index



#### Attribution Effects by Sector vs. Russell 2000 Index One Year Ended March 31, 2019

Sector	Manager Eff Weight	Index Eff Weight	Manager Return	Index Return	Sector Concentration	Security Selection	Asset Allocation
Communication Services	0.00%	2.15%	0.00%	24.16%	(0.35)%	0.00%	-
Consumer Discretionary	16.34%	12.38%	24.95%	2.16%	0.06%	3.55%	-
Consumer Staples	9.12%	2.68%	29.58%	2.55%	(0.01)%	2.35%	-
Energy	1.00%	4.25%	2.34%	(18.94)%	0.85%	0.22%	-
Financials	18.57%	17.95%	2.40%	(4.60)%	(0.03)%	1.35%	-
Health Care	6.08%	16.05%	2.33%	2.93%	(0.01)%	(0.07)%	-
Industrials	21.11%	14.95%	6.31%	(4.08)%	(0.38)%	2.38%	-
Information Technology	20.47%	15.19%	8.54%	15.98%	0.62%	(1.38)%	-
Materials	6.24%	4.10%	13.49%	(9.82)%	(0.25)%	1.54%	-
Real Estate	1.07%	6.95%	30.91%	13.64%	(0.61)%	0.16%	-
Utilities	0.00%	3.35%	0.00%	21.36%	(0.59)%	0.00%	-
Non Equity	2.66%	0.00%	-	-	-	-	(0.11)%
Total	-	-	11.36%	2.05%	(0.70)%	10.11%	(0.11)%

Manager Return =	Index Return	+ Sector Concentration	+ Security Selection	+ Asset Allocation
11.36%	2.05%	(0.70%)	10.11%	(0.11%)



# Atlanta Capital vs Russell 2000 Index Domestic Equity Top 10 Contribution Holdings One Quarter Ended March 31, 2019

nager Holdings with Lar	rgest (+ or -) Contribution	n to Performa	nce				Contrib	Contrik
		Manager	Days	Index	Manager	Index	Manager	Excess
Issue	Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
Manhattan Associates	Information Technology	3.31%	90	-	30.07%	-	0.90%	0.45%
Fair Isaac Corp	Information Technology	1.92%	90	-	45.28%	-	0.78%	0.48%
Blackbaud Inc	Information Technology	2.47%	90	0.17%	26.95%	26.95%	0.61%	0.25
Columbia Sportswear Co	Consumer Discretionary	2.05%	90	-	24.36%	-	0.61%	0.13
Dril-Quip Inc	Energy	0.83%	90	0.07%	52.68%	52.68%	0.36%	0.24
Inter Parfums Inc	Consumer Staples	2.35%	90	0.06%	16.17%	16.13%	0.36%	0.01
Integra Lifesciences Hldgs C	Health Care	1.66%	90	-	23.55%	-	0.36%	0.13
Frontdoor Inc Com	Consumer Discretionary	1.32%	90	-	29.35%	-	0.35%	0.17
Monro Inc	Consumer Discretionary	1.45%	90	0.12%	26.18%	26.18%	0.35%	0.13
Envestnet Inc	Information Technology	1.16%	90	0.13%	32.93%	32.93%	0.35%	0.17

#### Index Holdings with Largest (+ or -) Contribution to Performance

ex Holdings with Larges		Manager	Days	Index	Manager	Index	Contrib Index	Contrib Excess
Issue	Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
The Trade Desk Inc Com CI A	Information Technology	-	-	0.26%	-	70.56%	0.14%	(0.11)%
Loxo Oncology Inc	Health Care	-	-	0.26%	-	66.69%	0.14%	(0.10)%
Etsy Inc	Consumer Discretionary	-	-	0.35%	-	41.31%	0.12%	(0.08)9
Spark Therapeutics Inc	Health Care	-	-	0.11%	-	190.96%	0.12%	(0.11)9
Array Biopharma Inc	Health Care	-	-	0.20%	-	71.09%	0.11%	(0.09)9
Zscaler Inc	Information Technology	-	-	0.14%	-	80.90%	0.10%	(0.08)9
Coupa Software Inc	Information Technology	-	-	0.23%	-	44.73%	0.08%	(0.06)
Hubspot Inc	Information Technology	-	-	0.29%	-	32.20%	0.08%	(0.04)
Roku Inc Com CI A	Consumer Discretionary	-	-	0.10%	-	110.54%	0.08%	(0.07)
Cree Inc	Information Technology	-	-	0.26%	-	33.77%	0.08%	(0.04)

## Positions with Largest Positive Contribution to Excess Return

			_				Contrib	Contrib
		Manager	Days	Index	Manager	Index	Manager	Excess
Issue	Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
Fair Isaac Corp	Information Technology	1.92%	90	-	45.28%	-	0.78%	0.48%
Manhattan Associates	Information Technology	3.31%	90	-	30.07%	-	0.90%	0.45%
Blackbaud Inc	Information Technology	2.47%	90	0.17%	26.95%	26.95%	0.61%	0.25%
Dril-Quip Inc	Energy	0.83%	90	0.07%	52.68%	52.68%	0.36%	0.24%
Frontdoor Inc Com	Consumer Discretionary	1.32%	90	-	29.35%	-	0.35%	0.17%
Envestnet Inc	Information Technology	1.16%	90	0.13%	32.93%	32.93%	0.35%	0.17%
Aaon Inc Com Par \$0.004	Industrials	1.07%	90	0.08%	31.72%	31.72%	0.31%	0.15%
Monro Inc	Consumer Discretionary	1.45%	90	0.12%	26.18%	26.18%	0.35%	0.13%
Integra Lifesciences Hldgs C	Health Care	1.66%	90	-	23.55%	-	0.36%	0.13%
Columbia Sportswear Co	Consumer Discretionary	2.05%	90	-	24.36%	-	0.61%	0.13%

## Positions with Largest Negative Contribution to Excess Return

sitions with Largest Neg	gative Contribution to Ex	cess Return					Contrib	Contrib
		Manager	Days	Index	Manager	Index	Manager	Excess
Issue	Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
Central Garden & Pet Com	Consumer Staples	1.09%	90	0.02%	(25.93)%	(25.81)%	(0.30)%	(0.44)%
Caseys General Stores	Consumer Staples	3.08%	90	-	0.72%		0.03%	(0.43)%
Dorman Products Inc	Consumer Discretionary	2.35%	90	0.12%	(2.14)%	(2.14)%	(0.07)%	(0.42)%
Huron Consulting Group Inc	Industrials	1.41%	90	0.06%	(7.97)%	(7.97)%	(0.13)%	(0.33)%
National Instrs Corp	Information Technology	1.67%	90	-	(1.70)%	-	(0.03)%	(0.28)%
Lancaster Colony Corp	Consumer Staples	1.11%	90	0.16%	(11.03)%	(11.03)%	(0.14)%	(0.27)%
Emergent Biosolutions Inc	Health Care	1.07%	90	0.14%	(14.40)%	(14.78)%	(0.18)%	(0.27)%
Navigators Group Inc	Financials	1.94%	90	0.07%	0.65%	0.65%	0.01%	(0.27)%
Cass Information Sys Inc	Information Technology	1.01%	90	0.04%	(10.17)%	(10.17)%	(0.11)%	(0.25)%
Beacon Roofing Supply Inc	Industrials	2.24%	90	0.12%	1.39%	1.39%	0.06%	(0.24)%

## International Equity Period Ended March 31, 2019

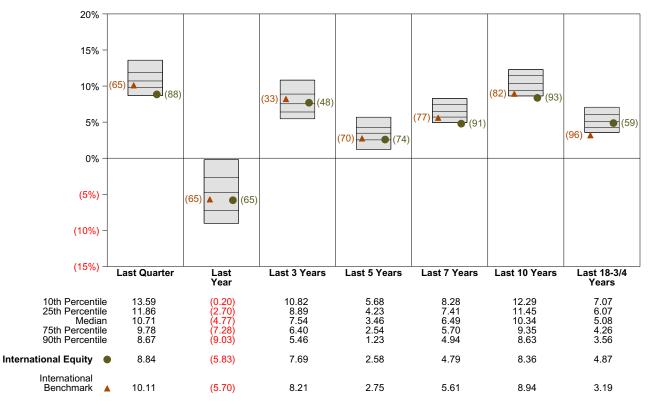
#### **Investment Philosophy**

International Benchmark = MSCI EAFE until 6/30/2013, 78.26% MSCI EAFE + 21.74% MSCI EM until 4/30/2015, 76% MSCI EAFE + 24% MSCI EM until 7/31/2016, and 56% MSCI EAFE + 24% MSCI EM + 20% MSCI EAFE Small Cap thereafter.

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

- International Equity's portfolio posted a 8.84% return for the quarter placing it in the 88 percentile of the Callan Non-US Equity group for the quarter and in the 65 percentile for the last year.
- International Equity's portfolio underperformed the International Benchmark by 1.27% for the quarter and underperformed the International Benchmark for the year by 0.13%.

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





#### **Relative Return vs International Benchmark**

## Callan Non-US Equity (Gross) Annualized Seven Year Risk vs Return

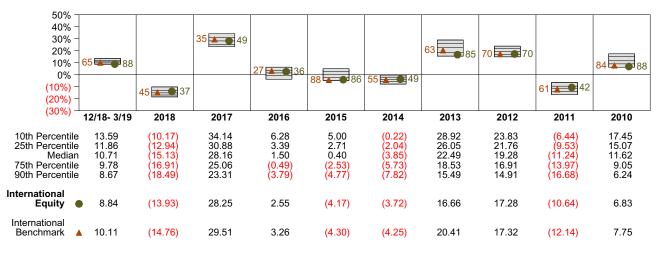


## International Equity Return Analysis Summary

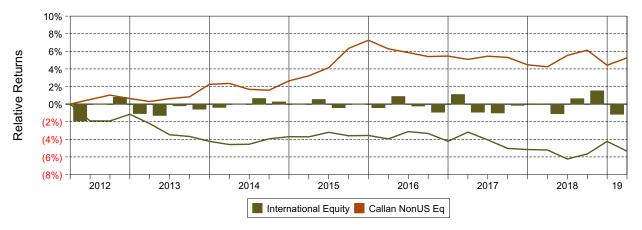
## **Return Analysis**

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.

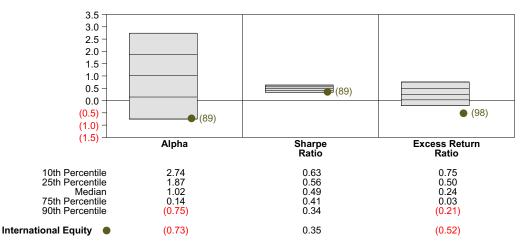




Cumulative and Quarterly Relative Return vs International Benchmark







## Current Holdings Based Style Analysis International Equity As of March 31, 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.



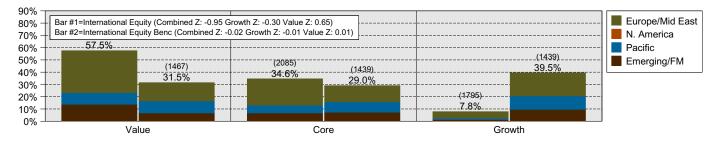
Style Map vs Callan NonUS Eq

Holdings as of March 31, 2019

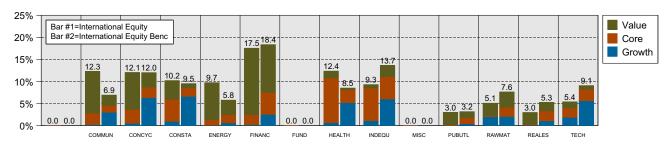
## Style Exposure Matrix Holdings as of March 31, 2019

	Value	Core	Growth	Total
	31.5% (1467)	<b>29.0%</b> (1439)	<b>39.5%</b> (1439)	100.0% (4345)
Total	011070 (2010)	c, c,		
	57.5% (2310)	34.6% (2085)	7.8% (1795)	100.0% (6190)
nerging/ FM	6.7% (379)	7.3% (366)	9.6% (365)	23.7% (1110)
	13.8% (1760)	6.7% (1551)	1.3% (1265)	21.8% (4576)
	9.8% (611)	8.5% (564)	11.0% (579)	<b>29.2%</b> (1754)
Pacific				
	9.4% (305)	6.3% (288)	1.3% (277)	17.1% (870)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
America				
	0.0% (0)	0.0% (3)	0.0% (2)	0.0% (5)
/lid East	15.0% (477)	13.2% (509)	18.9% (495)	<b>47.1%</b> (1481)
Europe/	34.4% (245)	21.6% (243)	5.2% (251)	61.2% (739)

### Combined Z-Score Style Distribution Holdings as of March 31, 2019





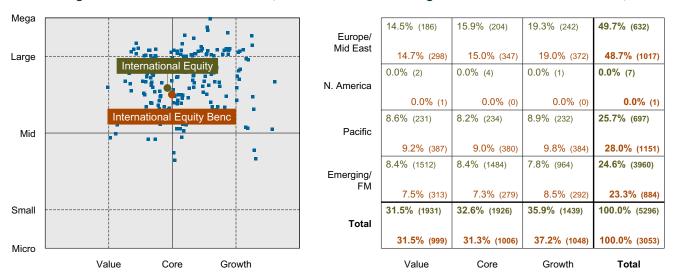


## Historical Holdings Based Style Analysis International Equity For Five Years Ended March 31, 2019

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.

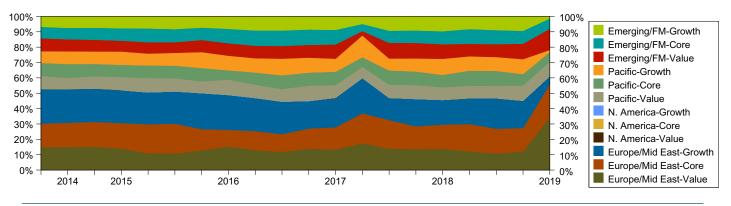
Average Style Exposure Matrix

Holdings for Five Years Ended March 31, 2019

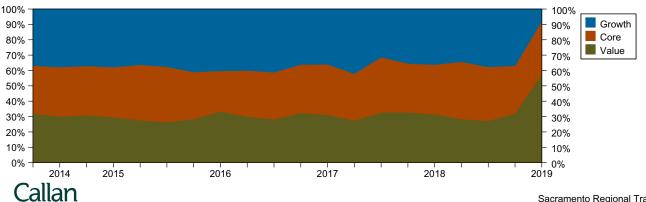


#### Average Style Map vs Callan NonUS Eq Holdings for Five Years Ended March 31, 2019

## International Equity Historical Region/Style Exposures



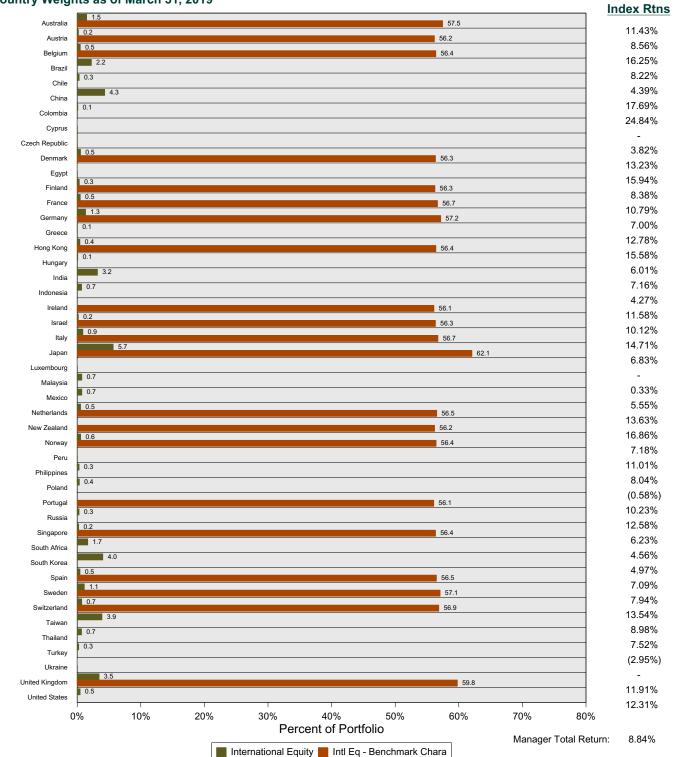




## Country Allocation International Equity VS Intl Eq - Benchmark Characteristics

### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of March 31, 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 March 31, 2019



## SSqA EAFE Period Ended March 31, 2019

#### **Investment Philosophy**

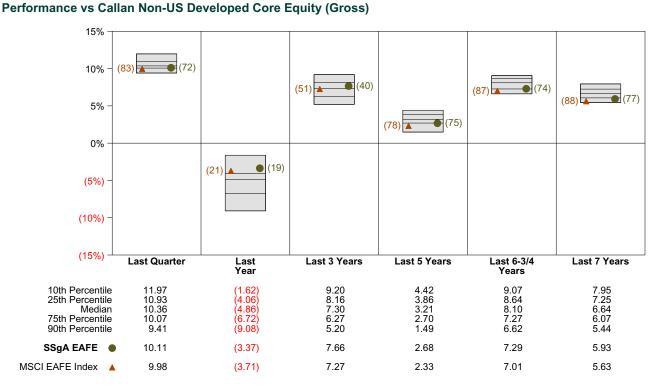
SSGA's objective is to provide the most cost-effective implementation of passive investing with stringent risk control and tracking requirements through a replication method. Returns prior to 6/30/2012 are linked to a composite history.

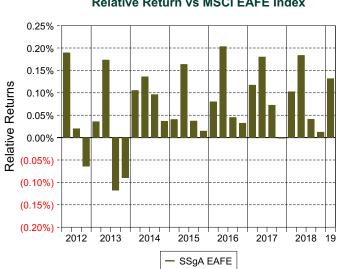
## **Quarterly Summary and Highlights**

• SSgA EAFE's portfolio posted a 10.11% return for the quarter placing it in the 72 percentile of the Callan Non-US Developed Core Equity group for the quarter and in the 19 percentile for the last year.

٠	SSgA EAFE's portfolio outperformed the MSCI EAFE Index
	by 0.13% for the quarter and outperformed the MSCI EAFE
	Index for the year by 0.35%.

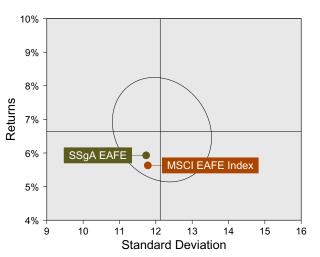
Quarterly Asset Growth					
Beginning Market Value	\$9,970,217				
Net New Investment \$0					
Investment Gains/(Losses) \$1,007,925					
Ending Market Value \$10,978,142					





### **Relative Return vs MSCI EAFE Index**

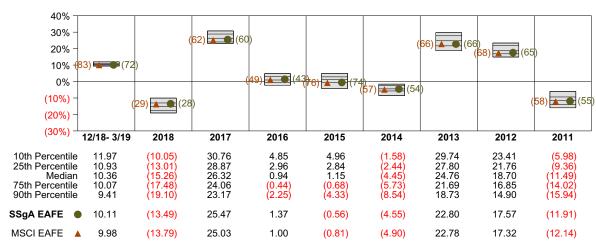
#### Callan Non-US Developed Core Equity (Gross) Annualized Seven Year Risk vs Return



## SSgA EAFE Return Analysis Summary

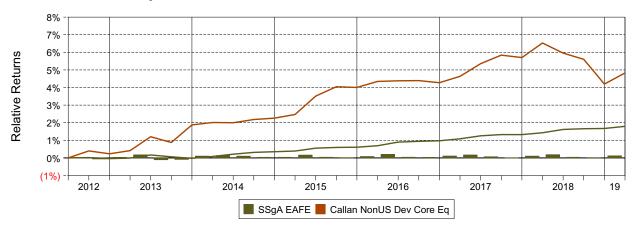
## **Return Analysis**

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.

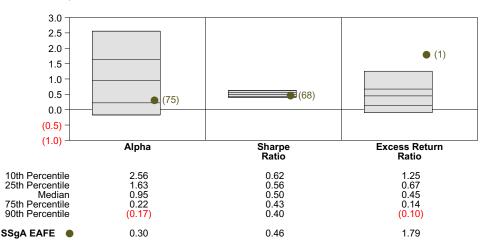


Performance vs Callan Non-US Developed Core Equity (Gross)

**Cumulative and Quarterly Relative Return vs MSCI EAFE** 



Risk Adjusted Return Measures vs MSCI EAFE Rankings Against Callan Non-US Developed Core Equity (Gross) Seven Years Ended March 31, 2019



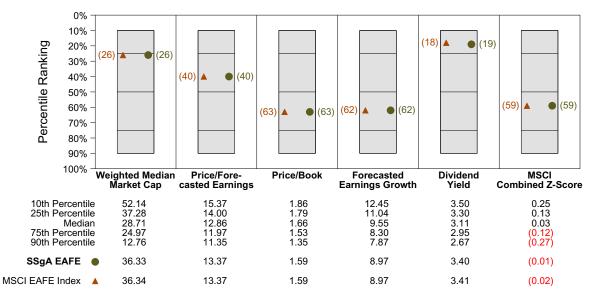


## SSgA EAFE Equity Characteristics Analysis Summary

## **Portfolio Characteristics**

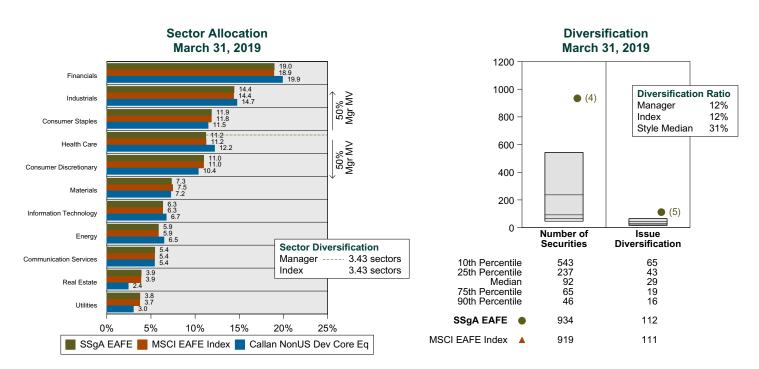
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non-US Developed Core Equity as of March 31, 2019



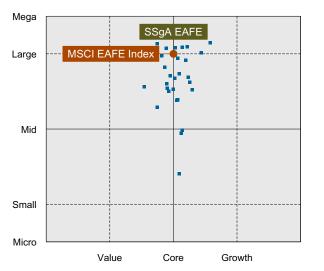
## **Sector Weights**

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** SSgA EAFE As of March 31, 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.

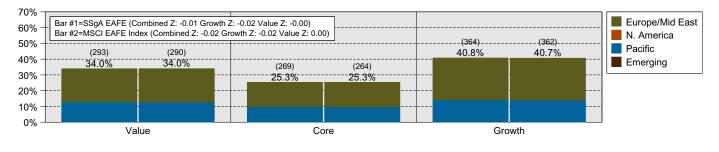


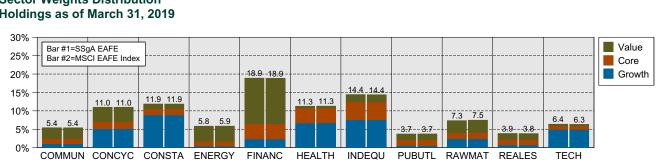
## Style Map vs Callan NonUS Dev Core Eq Holdings as of March 31, 2019

## **Style Exposure Matrix** Holdings as of March 31, 2019

	21.1% (144)	15.6% (126)	26.5% (181)	63.1% (451)
Europe/	21.170 (144)	13.0 % (120)	20.370 (101)	03.170 (451)
Mid East	21.2% (143)	15.7% (123)	26.5% (180)	63.3% (446)
	21.270 (143)	13.7 /0 (123)	20.376 (160)	03.3 /0 (440)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
N. America				
	0.0% (0)	0.0% (0)	0.0% (1)	0.0% (1)
	12.9% (149)	9.7% (143)	14.3% (182)	36.9% (474)
Pacific				. ,
	12.8% (147)	9.7% (141)	14.2% (181)	36.6% (469)
	0.0% (0)	0.0% (0)	0.0% (1)	0.0% (1)
Emerging				
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
	34.0% (293)	25.3% (269)	40.8% (364)	100.0% (926)
Total				
	34.0% (290)	25.3% (264)	40.7% (362)	100.0% (916)
	Value	Core	Growth	Total

### **Combined Z-Score Style Distribution** Holdings as of March 31, 2019



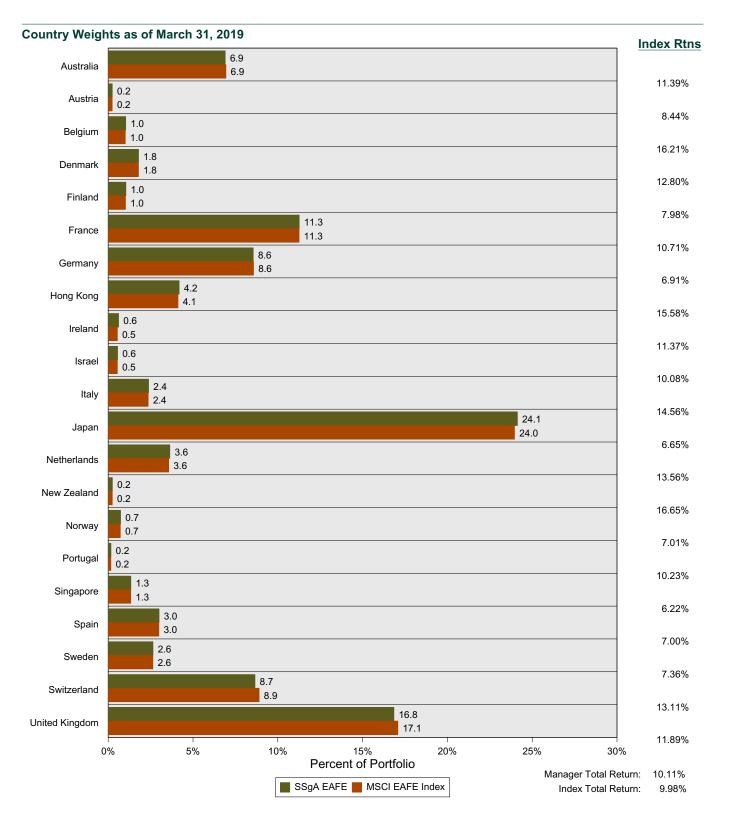


### **Sector Weights Distribution** Holdings as of March 31, 2019

## Country Allocation SSgA EAFE VS MSCI EAFE Index

## **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of March 31, 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.



## SSgA EAFE Top 10 Portfolio Holdings Characteristics as of March 31, 2019

## 10 Largest Holdings

		Ending	Percent			Price/ Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Nestle S A Shs Nom New	Consumer Staples	\$232,111	2.1%	17.72%	291.88	21.61	2.58%	8.72%
Novartis	Health Care	\$165,815	1.5%	16.42%	245.31	17.32	2.98%	6.92%
Roche Hldgs Ag Basel Div Rts Ctf	Health Care	\$153,912	1.4%	15.14%	193.54	14.81	3.03%	4.59%
Hsbc Holdings (Gb)	Financials	\$130,156	1.2%	1.12%	163.20	11.23	6.05%	3.44%
Bp Plc Shs	Energy	\$116,754	1.1%	16.86%	148.07	12.86	5.58%	27.32%
Royal Dutch Shell A Shs	Energy	\$113,358	1.0%	8.75%	138.21	11.50	5.85%	16.80%
Toyota Motor Corp	Consumer Discretionary	\$108,543	1.0%	0.39%	191.24	7.94	3.39%	4.40%
Total Sa Act	Energy	\$108,189	1.0%	6.64%	146.89	9.96	5.13%	13.61%
Aia Group Ltd Com Par Usd 1	Financials	\$99,169	0.9%	19.91%	120.23	17.87	1.41%	25.04%
Royal Dutch Shell 'b' Shs	Energy	\$94,786	0.9%	7.71%	118.50	11.35	5.94%	14.35%

#### **10 Best Performers**

		Ending	Percent			Price/ Forecasted		Forecasted
Stock	Sector	Market Value	of Portfolio	Qtrly Return	Market Capital	Earnings Ratio	Dividend Yield	Growth in Earnings
								Earnings
Abengoa Sa Eur0.01 Class B	Industrials	\$30	0.0%	137.50%	0.16	(1.17)	0.00%	-
Allied Mining & Proc.	Materials	\$6,288	0.1%	73.19%	15.55	9.22	4.36%	(8.71)%
Micro Focus International PI Spon Ad	Information Technology	\$3,302	0.0%	53.38%	10.58	-	4.52%	(7.38)%
Zalando	Consumer Discretionary	\$3,528	0.0%	52.36%	9.82	98.54	0.00%	14.30%
Micro Focus International PI Ord	Information Technology	\$5,476	0.0%	51.27%	10.68	11.77	4.46%	(2.10)%
Hitachi Chemical Co Ltd Shs	Materials	\$1,864	0.0%	48.12%	4.62	14.24	2.45%	7.24%
Shimadzu Corp Shs	Information Technology	\$5,198	0.0%	46.50%	8.56	26.35	0.81%	10.92%
Softbank Corp Ord	Communication Services	\$64,976	0.6%	46.09%	106.85	8.71	0.41%	(26.38)%
Adyen NV Common Stock Eur.01	Information Technology	\$6,640	0.1%	44.32%	23.18	101.02	0.00%	38.25%
Aker Bp Asa Shs	Energy	\$3,173	0.0%	44.00%	12.84	23.44	4.03%	11.40%

## **10 Worst Performers**

						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Bank Ireland Group Plc Ord Shs	Financials	\$4,754	0.0%	(94.12)%	6.43	8.10	3.01%	(0.71)%
Foreningssparbanken	Financials	\$10,352	0.1%	(29.65)%	16.03	7.21	10.81%	3.13%
Iliad Act	Communication Services	\$2,167	0.0%	(28.32)%	5.91	13.95	1.01%	9.35%
Bezeq The Israeli Telecom Cp Ord	Communication Services	\$1,232	0.0%	(28.04)%	1.94	7.40	4.51%	(16.15)%
Eisai Co	Health Care	\$11,468	0.1%	(26.64)%	16.65	27.75	2.41%	13.85%
Tui	Consumer Discretionary	\$952	0.0%	(25.66)%	5.73	6.96	8.29%	3.50%
Green Cross Coa Co.	Consumer Staples	\$1,312	0.0%	(24.58)%	3.56	18.65	1.12%	9.76%
Yamazaki Baking Co	Consumer Staples	\$1,612	0.0%	(22.79)%	3.57	22.86	1.11%	24.49%
Dainippon Sumitomo Pharma Co Ord	Health Care	\$3,184	0.0%	(22.06)%	9.84	25.44	0.66%	(1.87)%
Telefonica Deutschland Hldg Ag Npv	Communication Services	\$1,874	0.0%	(19.52)%	9.35	(261.92)	9.65%	-

## Pyrford Period Ended March 31, 2019

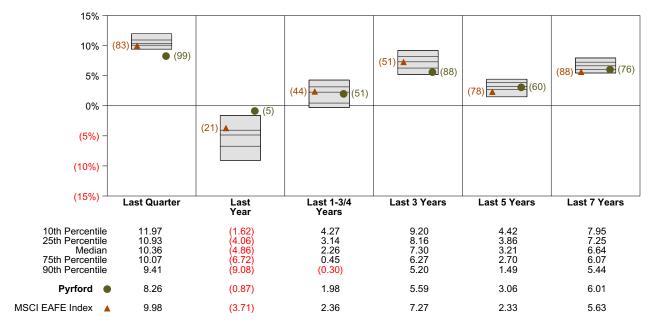
#### **Investment Philosophy**

Pyrford's investment strategy is based on a value-driven, absolute return approach, with both top-down and bottom-up elements. At the country level they seek to invest in countries that offer an attractive market valuation relative to their long-term prospects. At the stock level they identify companies that offer excellent value relative to in-house forecasts of long-term (5 years) earnings growth. This approach is characterized by low absolute volatility and downside protection. Returns prior to 6/30/2017 are linked to a composite history.

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

- Pyrford's portfolio posted a 8.26% return for the quarter placing it in the 99 percentile of the Callan Non-US Developed Core Equity group for the quarter and in the 5 percentile for the last year.
- Pyrford's portfolio underperformed the MSCI EAFE Index by 1.72% for the quarter and outperformed the MSCI EAFE Index for the year by 2.85%.

Quarterly Asset Growth					
Beginning Market Value	\$24,468,964				
Net New Investment	\$0				
Investment Gains/(Losses)	\$2,021,419				
Ending Market Value \$26,490,383					

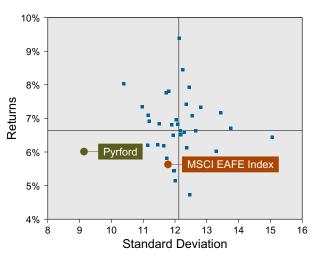


## Performance vs Callan Non-US Developed Core Equity (Gross)



Relative Return vs MSCI EAFE Index

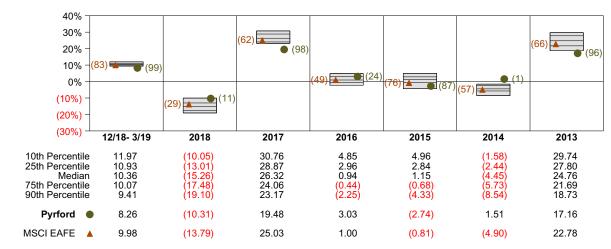
#### Callan Non-US Developed Core Equity (Gross) Annualized Seven Year Risk vs Return



# Pyrford Return Analysis Summary

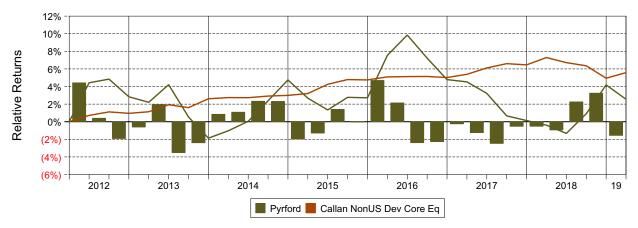
## **Return Analysis**

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.

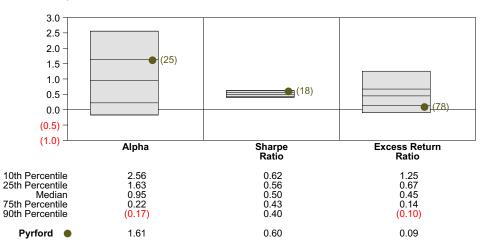


Performance vs Callan Non-US Developed Core Equity (Gross)

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



Risk Adjusted Return Measures vs MSCI EAFE Rankings Against Callan Non-US Developed Core Equity (Gross) Seven Years Ended March 31, 2019



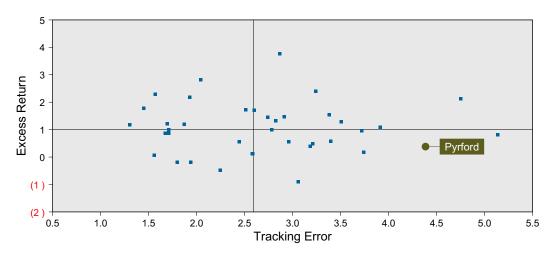


# Pyrford Risk Analysis Summary

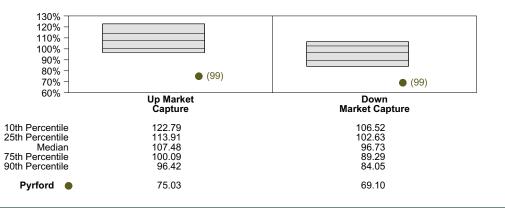
#### **Risk Analysis**

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.

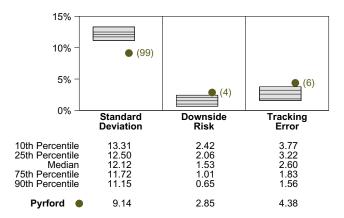
Risk Analysis vs Callan Non-US Developed Core Equity (Gross) Seven Years Ended March 31, 2019

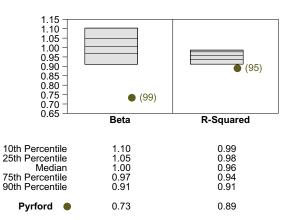


Market Capture vs MSCI EAFE Index (USD Net Div) Rankings Against Callan Non-US Developed Core Equity (Gross) Seven Years Ended March 31, 2019



Risk Statistics Rankings vs MSCI EAFE Index (USD Net Div) Rankings Against Callan Non-US Developed Core Equity (Gross) Seven Years Ended March 31, 2019



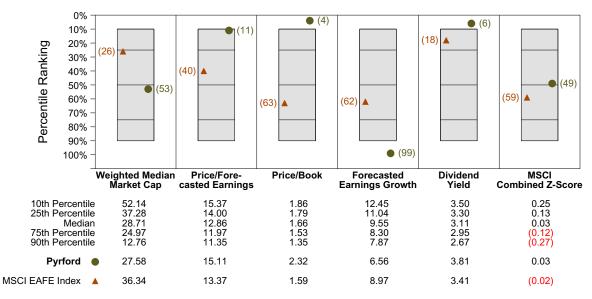


# Pyrford Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

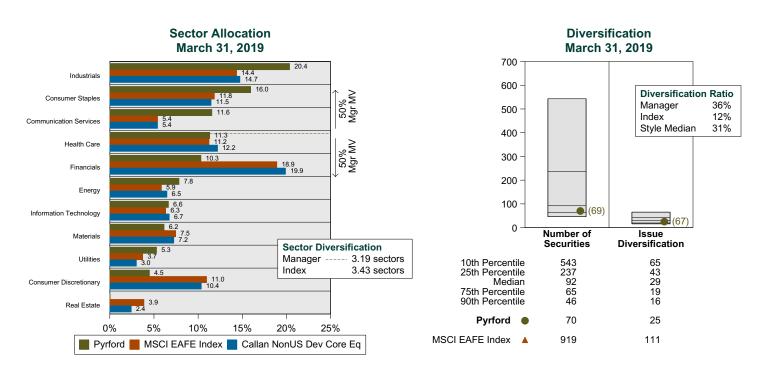
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non-US Developed Core Equity as of March 31, 2019



## **Sector Weights**

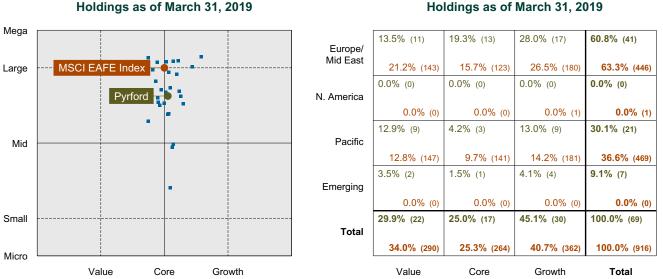
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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 Pvrford** As of March 31, 2019

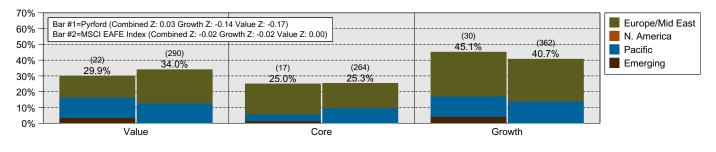
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are 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.

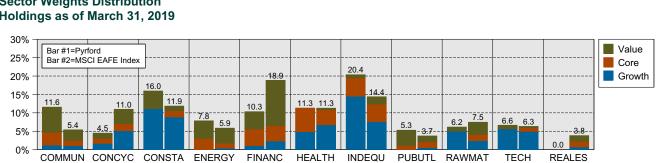
**Style Exposure Matrix** 



## Style Map vs Callan NonUS Dev Core Eq Holdings as of March 31, 2019

## **Combined Z-Score Style Distribution** Holdings as of March 31, 2019





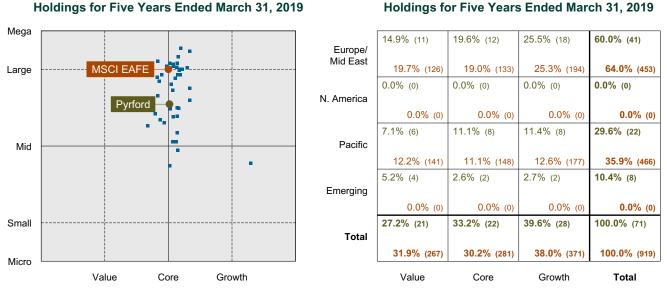
## **Sector Weights Distribution** Holdings as of March 31, 2019

## Historical Holdings Based Style Analysis Pyrford For Five Years Ended March 31, 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.

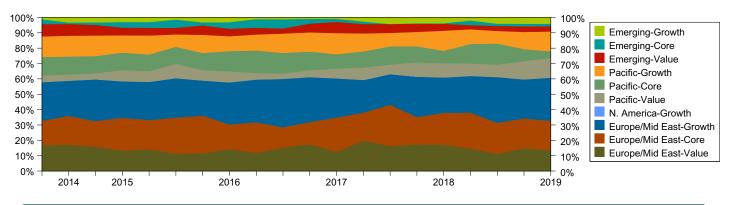
**Average Style Exposure Matrix** 

70

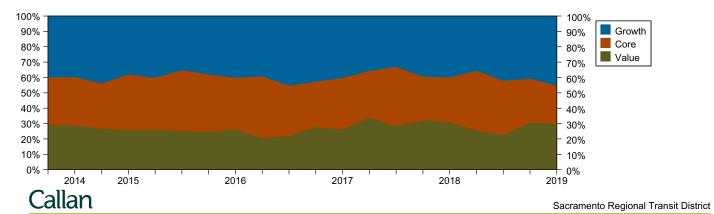


#### Average Style Map vs Callan NonUS Dev Core Eq Holdings for Five Years Ended March 31, 2019





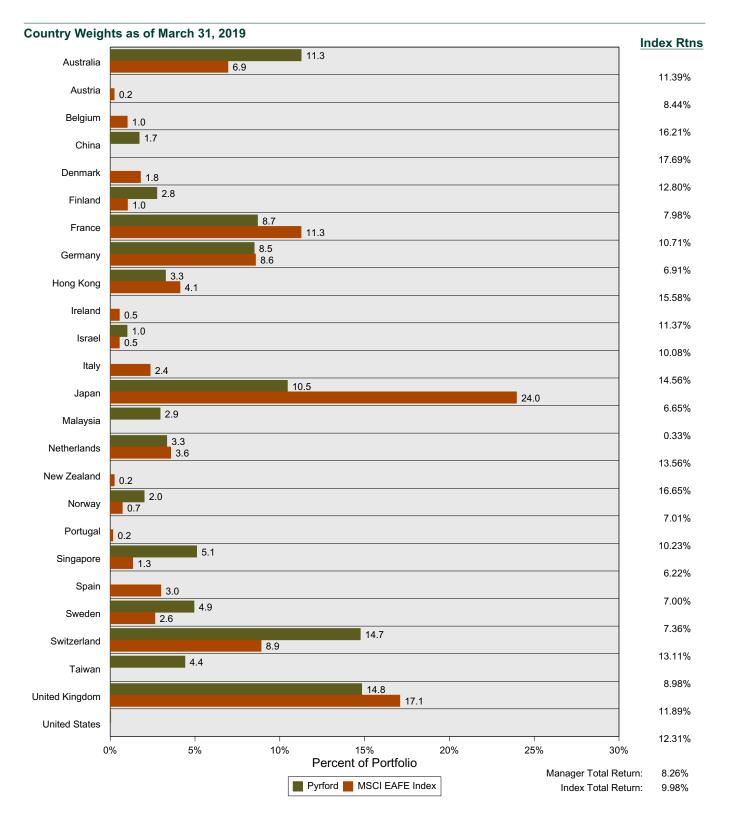




# Country Allocation Pyrford VS MSCI EAFE Index

#### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of March 31, 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.



# Pyrford Top 10 Portfolio Holdings Characteristics as of March 31, 2019

# 10 Largest Holdings

		Ending	Percent			Price/ Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Nestle S A Shs Nom New	Consumer Staples	\$1,001,140	3.8%	17.72%	291.88	21.61	2.58%	8.72%
Roche Hldgs Ag Basel Div Rts Ctf	Health Care	\$901,302	3.4%	15.14%	193.54	14.81	3.03%	4.59%
Novartis	Health Care	\$791,901	3.0%	16.42%	245.31	17.32	2.98%	6.92%
Japan Tobacco Inc Ord	Consumer Staples	\$658,333	2.5%	4.15%	49.60	12.57	5.46%	(5.55)%
Brambles Ltd Npv	Industrials	\$578,530	2.2%	17.66%	13.31	20.03	2.47%	7.25%
Woolworths Ltd	Consumer Staples	\$565,642	2.1%	5.90%	28.45	22.29	3.13%	6.65%
National Grid Ord	Utilities	\$552,510	2.1%	13.91%	37.81	14.67	5.47%	1.32%
Essity Ab	Consumer Staples	\$544,068	2.1%	17.75%	18.45	18.86	2.14%	7.78%
Telenor Asa Shs	Communication Services	\$531,807	2.0%	3.68%	29.51	16.95	4.86%	2.34%
Woodside Petroleum	Energy	\$481,191	1.8%	12.87%	23.02	14.52	5.77%	10.65%

#### **10 Best Performers**

		Ending	Percent			Price/ Forecasted		Forecasted
Oto ale	Contan.	Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
British American Tobacco	Consumer Staples	\$363,893	1.4%	32.80%	95.47	10.08	6.17%	6.34%
Rio Tinto Ltd Ord	Materials	\$290,735	1.1%	27.32%	25.82	12.55	4.08%	(8.93)%
Panalpina Welt Ag	Industrials	\$199,821	0.8%	25.28%	3.95	33.39	2.26%	34.90%
Qbe Insurance Group Ltd Shs	Financials	\$389,539	1.5%	24.45%	11.62	12.90	4.06%	14.28%
Merida Industry Co.	Consumer Discretionary	\$117,305	0.4%	24.30%	1.67	21.54	1.16%	(30.49)%
Vtech Holdings Ltd Shs New	Information Technology	\$274,199	1.0%	23.52%	2.57	13.14	7.81%	(3.56)%
Legal & General Group	Financials	\$425,121	1.6%	21.93%	21.38	8.69	5.96%	3.92%
Assa Abloy A B Ord B	Industrials	\$395,809	1.5%	21.30%	22.83	21.30	1.74%	11.40%
Advantech Co	Information Technology	\$274,911	1.0%	21.29%	5.80	23.81	2.58%	12.36%
Comfortdelgro Corporation Lt Shs	Industrials	\$385,662	1.5%	20.29%	4.11	17.25	4.09%	6.84%

## **10 Worst Performers**

						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Bezeq The Israeli Telecom Cp Ord	Communication Services	\$264,767	1.0%	(28.04)%	1.94	7.40	4.51%	(16.15)%
Nihon Kohden Corp Shs	Health Care	\$394,185	1.5%	(8.15)%	2.64	23.80	1.06%	(15.66)%
Kddi	Communication Services	\$443,677	1.7%	(8.08)%	54.56	9.24	3.98%	4.50%
Vodafone Group Plc New Shs New	Communication Services	\$300,312	1.1%	(6.49)%	49.55	14.92	9.51%	4.60%
Chunghwa Telecom Co Ltd Shs	Communication Services	\$393,519	1.5%	(3.32)%	27.56	24.32	4.38%	(1.25)%
Malayan Banking Bhd Maybank Shs	Financials	\$465,109	1.8%	(1.23)%	25.09	12.08	6.15%	8.69%
Power Assets Holdings Limite Shs	Utilities	\$305,251	1.2%	(0.35)%	14.80	14.95	5.14%	4.64%
Sumitomo Rubber Ind	Consumer Discretionary	\$380,181	1.4%	0.78%	3.16	9.43	4.14%	4.57%
Computershare Limited Cpu Shs	Information Technology	\$436,744	1.6%	0.84%	6.59	15.90	2.46%	9.57%
Fuchs Petrolub Pref.	Materials	\$409,087	1.5%	1.46%	2.89	18.59	2.56%	3.94%

# AQR Period Ended March 31, 2019

#### Investment Philosophy

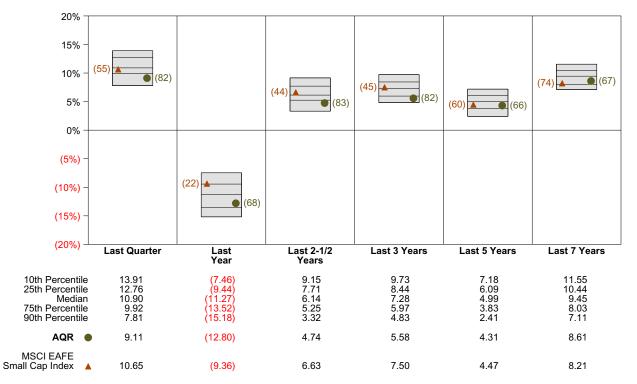
Returns prior to 9/30/2016 are linked to a composite history.

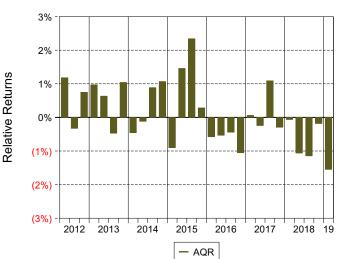
#### **Quarterly Summary and Highlights**

- AQR's portfolio posted a 9.11% return for the quarter placing it in the 82 percentile of the Callan International Small Cap group for the quarter and in the 68 percentile for the last year.
- AQR's portfolio underperformed the MSCI EAFE Small Cap Index by 1.55% for the quarter and underperformed the MSCI EAFE Small Cap Index for the year by 3.44%.

Quarterly Asset Growth							
Beginning Market Value	\$11,927,378						
Net New Investment	\$0						
Investment Gains/(Losses)	\$1,059,359						
Ending Market Value	\$12,986,737						

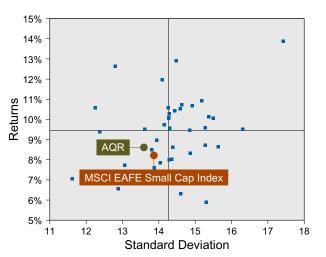
## Performance vs Callan International Small Cap (Gross)





#### Relative Returns vs MSCI EAFE Small Cap Index

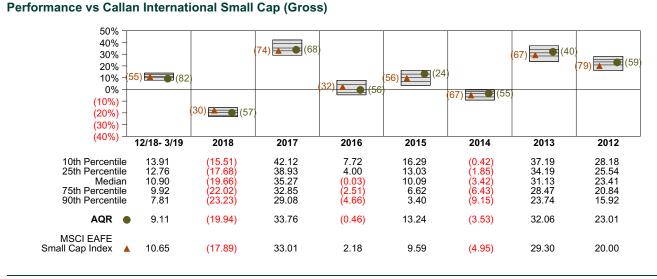
### Callan International Small Cap (Gross) Annualized Seven Year Risk vs Return



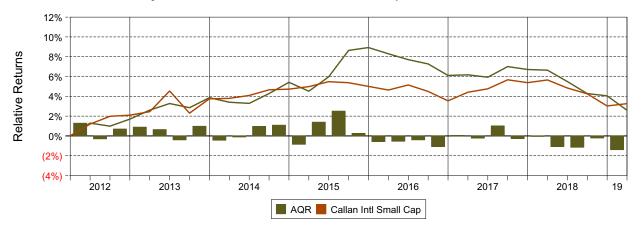
# AQR Return Analysis Summary

## **Return Analysis**

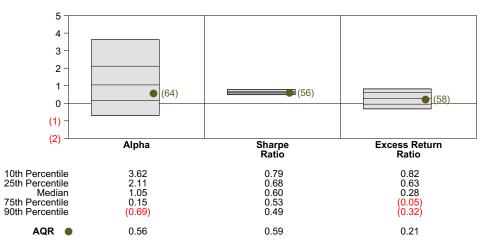
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate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



Cumulative and Quarterly Relative Return vs MSCI EAFE Small Cap Index



Risk Adjusted Return Measures vs MSCI EAFE Small Cap Index Rankings Against Callan International Small Cap (Gross) Seven Years Ended March 31, 2019



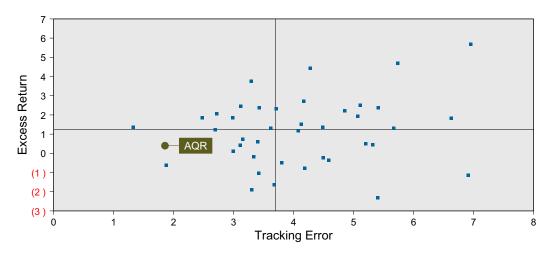


# AQR **Risk Analysis Summary**

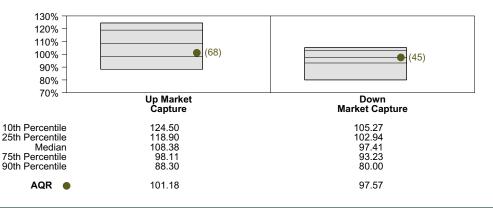
#### **Risk Analysis**

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

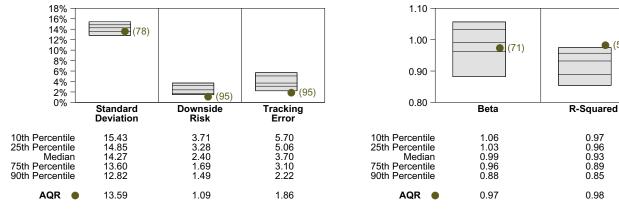
**Risk Analysis vs Callan International Small Cap (Gross)** Seven Years Ended March 31, 2019



#### Market Capture vs MSCI EAFE Small Cap Index Rankings Against Callan International Small Cap (Gross) Seven Years Ended March 31, 2019









0.96

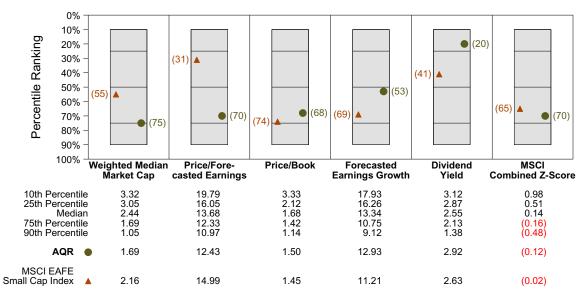
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# AQR Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

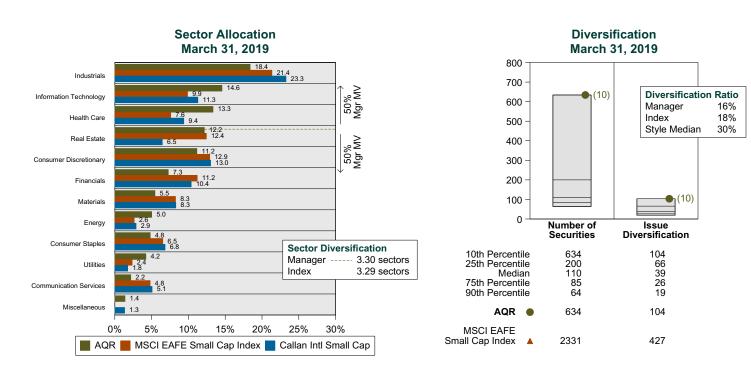
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan International Small Cap as of March 31, 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** AQR As of March 31, 2019

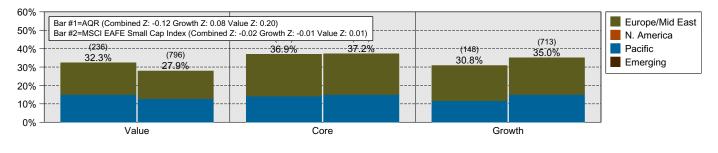
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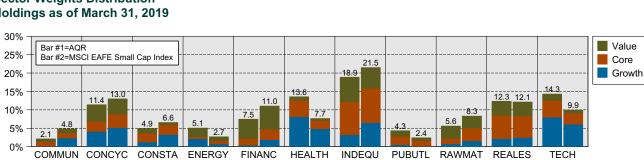
**Style Exposure Matrix** 



## Style Map vs Callan Intl Small Cap Holdings as of March 31, 2019

## **Combined Z-Score Style Distribution** Holdings as of March 31, 2019





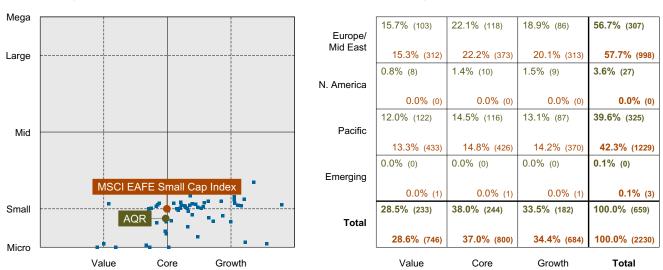
#### **Sector Weights Distribution** Holdings as of March 31, 2019

## Historical Holdings Based Style Analysis AQR For Five Years Ended March 31, 2019

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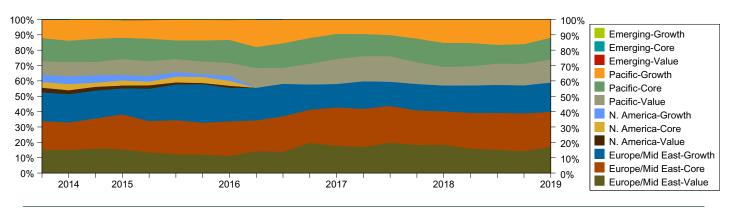
Average Style Exposure Matrix

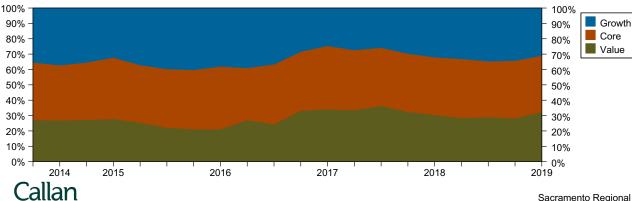
Holdings for Five Years Ended March 31, 2019



#### Average Style Map vs Callan Intl Small Cap Holdings for Five Years Ended March 31, 2019







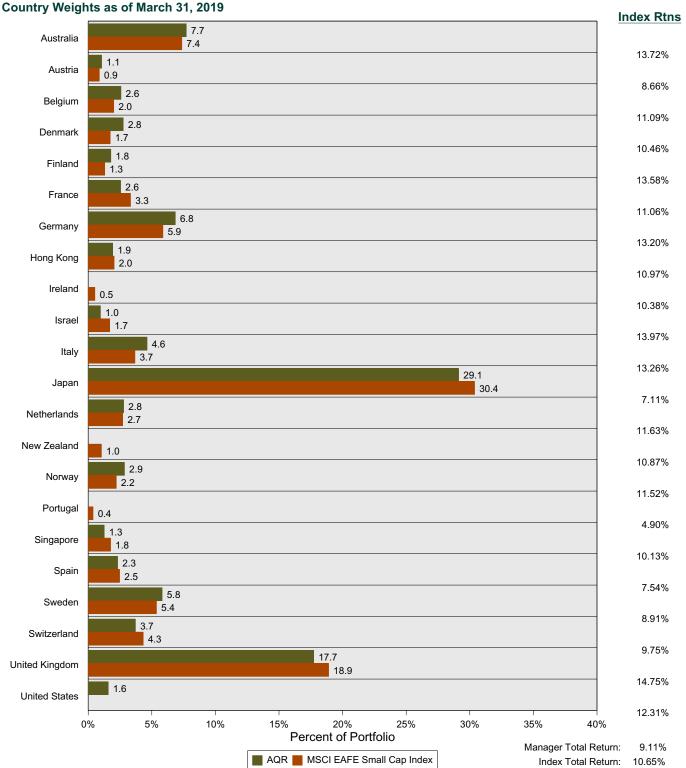
AQR Historical Style Only Exposures

Sacramento Regional Transit District 78

# Country Allocation AQR VS MSCI EAFE Small Cap Index

#### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of March 31, 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.



# AQR Top 10 Portfolio Holdings Characteristics as of March 31, 2019

# 10 Largest Holdings

						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Swedish Orphan Biovitrum Ab Shs	Health Care	\$216,003	1.7%	8.03%	7.00	17.95	0.00%	14.44%
Dno Asa Shs A	Energy	\$202,098	1.6%	55.07%	2.41	8.60	2.09%	14.26%
Saras Raffinerie Sarde Spa Shs	Energy	\$156,425	1.2%	(4.09)%	1.76	7.57	4.85%	0.32%
Drax Group Ord Gbp0.1	Utilities	\$128,695	1.0%	7.90%	1.94	12.54	3.73%	185.40%
Cancom It Systeme Nm	Information Technology	\$116,087	0.9%	36.42%	1.57	23.51	1.25%	22.20%
Ferrexpo Plc London Shs	Materials	\$115,672	0.9%	30.14%	1.90	5.37	2.05%	(12.32)%
Electrocomponent Plc Ord	Information Technology	\$113,619	0.9%	13.46%	3.25	14.35	2.37%	14.48%
Sandfire Resources NI Shs	Materials	\$110,587	0.9%	5.36%	0.78	6.35	3.76%	12.40%
Unipol Gruppo Finanziario Sp Shs	Financials	\$109,730	0.8%	23.96%	3.58	6.89	4.05%	23.23%
Computacenter Plc Shs Par 0.075555	Information Technology	\$107,740	0.8%	12.48%	1.64	14.09	2.74%	4.37%

#### **10 Best Performers**

		Ending	Percent			Price/ Forecasted		Forecasted
Stock	Sector	Market Value		Qtrly Return	Market Capital	Earnings Ratio	Dividend Yield	Growth in Earnings
Appen	Information Technology	\$38,556	0.3%	74.73%	1.90	45.22	0.49%	74.71%
Afterpay Touch Group	Information Technology	\$5,080	0.0%	70.48%	3.54	183.73	0.00%	-
Petroleum Geo-Services	Energy	\$25,583	0.2%	69.65%	0.78	30.80	0.00%	(59.42)%
Ophir Energy	Energy	\$1,804	0.0%	63.05%	0.53	15.74	0.00%	
Nemetschek Nm	Information Technology	\$76,949	0.6%	55.88%	6.53	60.32	0.54%	11.30%
Dno Asa Shs A	Energy	\$202,098	1.6%	55.07%	2.41	8.60	2.09%	14.26%
Beach Petroleum	Energy	\$9,868	0.1%	54.97%	3.33	10.30	0.97%	23.22%
Myer Holdings Ltd Npv	Consumer Discretionary	\$14,669	0.1%	50.75%	0.36	15.73	8.06%	(17.54)%
Altium Ltd Shs	Information Technology	\$10,352	0.1%	50.67%	3.00	48.85	0.93%	18.82%
Bravura Solutions	Information Technology	\$28,002	0.2%	50.66%	0.83	31.85	1.79%	-

## **10 Worst Performers**

						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Attendo	Health Care	\$5,167	0.0%	(43.12)%	0.81	12.29	1.28%	4.55%
Plus500 (Di)	Financials	\$62,312	0.5%	(40.61)%	1.11	5.52	20.65%	40.95%
Bang & Olufsen Ord Cl B	Consumer Discretionary	\$4,443	0.0%	(33.84)%	0.39	14.17	0.00%	5.10%
Just Retirement	Financials	\$44,627	0.3%	(31.76)%	0.75	3.92	0.00%	2.91%
St Barbara Ltd Shs New	Materials	\$54,101	0.4%	(26.97)%	1.26	11.13	5.09%	(14.82)%
Helphire Group	Industrials	\$11,248	0.1%	(25.50)%	0.48	8.66	9.79%	18.85%
Nippon Gas	Utilities	\$7,874	0.1%	(22.85)%	1.19	15.44	1.50%	75.05%
Partner Communications Co Lt Ord	Communication Services	\$5,283	0.0%	(21.68)%	0.63	26.90	0.00%	(10.05)%
Swissquote Group Holding Ag Ord	Financials	\$30,095	0.2%	(20.59)%	0.56	10.47	2.75%	19.40%
Gam Holding	Financials	\$31,569	0.2%	(20.16)%	0.50	16.02	0.00%	(15.60)%

# DFA Emerging Markets Period Ended March 31, 2019

#### **Investment Philosophy**

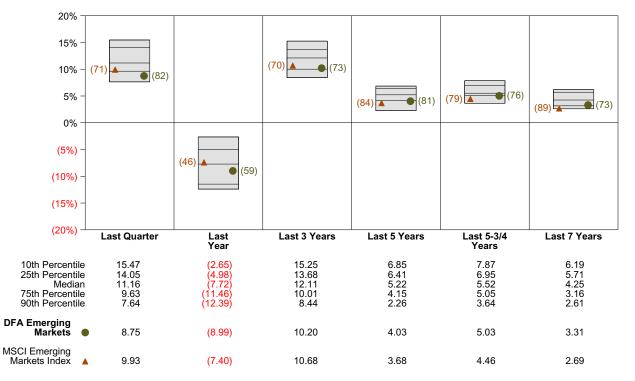
Returns prior to 6/30/2013 are linked to a composite history.

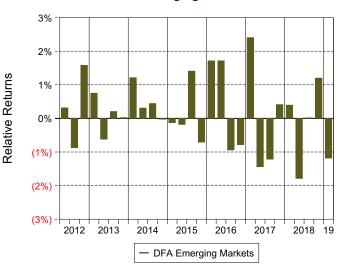
#### **Quarterly Summary and Highlights**

- DFA Emerging Markets's portfolio posted a 8.75% 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 59 percentile for the last year.
- DFA Emerging Markets's portfolio underperformed the MSCI Emerging Markets Index by 1.18% for the quarter and underperformed the MSCI Emerging Markets Index for the year by 1.59%.

Quarterly Asset Growth						
Beginning Market Value	\$15,024,005					
Net New Investment	\$0					
Investment Gains/(Losses)	\$1,293,037					
Ending Market Value	\$16,317,042					

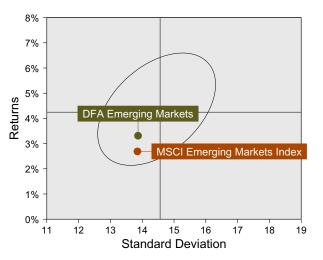
#### Performance vs Callan Emerging Markets Equity Mut Funds (Gross)





#### Relative Returns vs MSCI Emerging Markets Index

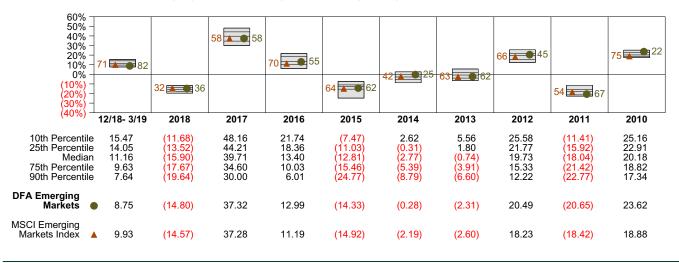
Callan Emerging Markets Equity Mut Funds (Gross) Annualized Seven Year Risk vs Return



# DFA Emerging Markets Return Analysis Summary

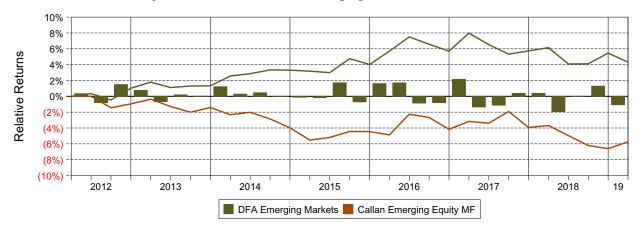
## **Return Analysis**

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.

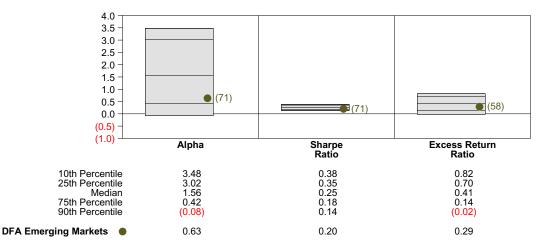


#### Performance vs Callan Emerging Markets Equity Mut Funds (Gross)

**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 (Gross) Seven Years Ended March 31, 2019



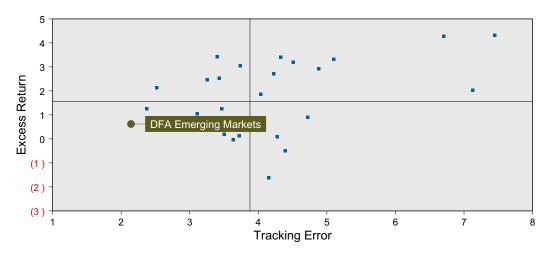


# **DFA Emerging Markets Risk Analysis Summary**

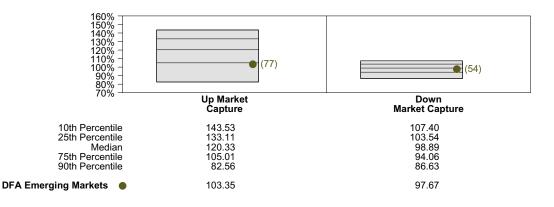
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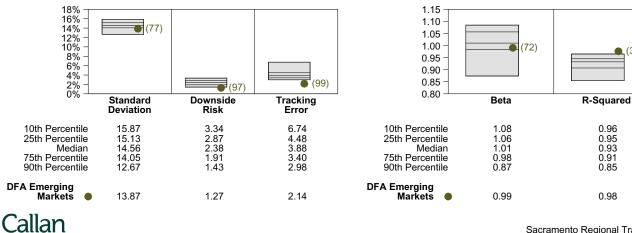
Risk Analysis vs Callan Emerging Markets Equity Mut Funds (Gross) Seven Years Ended March 31, 2019



Market Capture vs MSCI Emerging Markets Index Rankings Against Callan Emerging Markets Equity Mut Funds (Gross) Seven Years Ended March 31, 2019



**Risk Statistics Rankings vs MSCI Emerging Markets Index** Rankings Against Callan Emerging Markets Equity Mut Funds (Gross) Seven Years Ended March 31, 2019



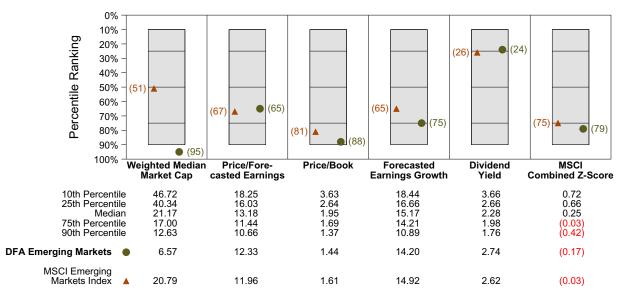
(3)

# DFA Emerging Markets Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

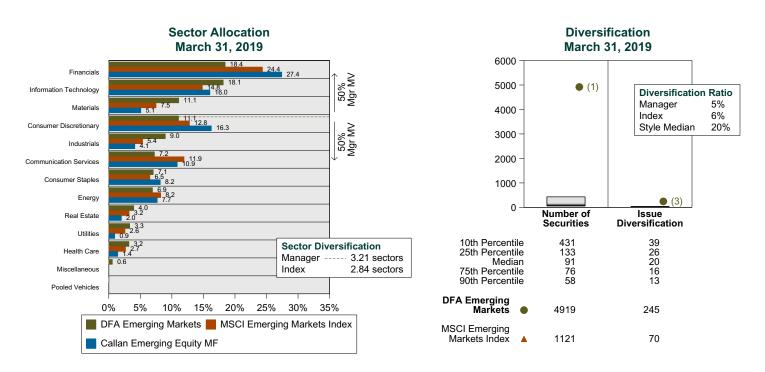
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Emerging Markets Equity Mut Funds as of March 31, 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 DFA Emerging Markets As of March 31, 2019

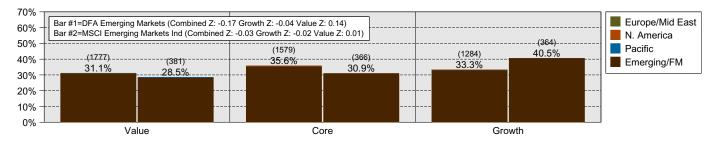
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are 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 Exposure Matrix** 

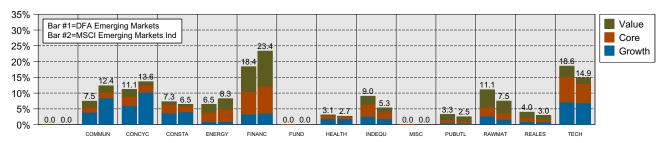


## Style Map vs Callan Emerging Equity MF Holdings as of March 31, 2019

## Combined Z-Score Style Distribution Holdings as of March 31, 2019



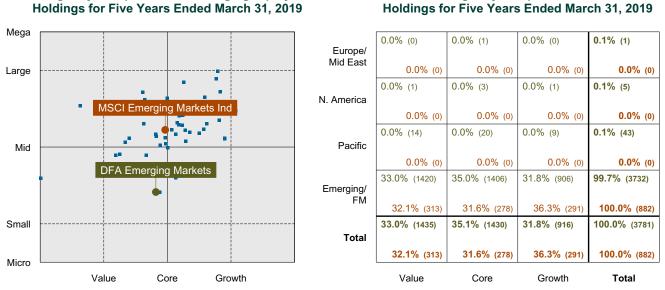




# **Historical Holdings Based Style Analysis DFA Emerging Markets** For Five Years Ended March 31, 2019

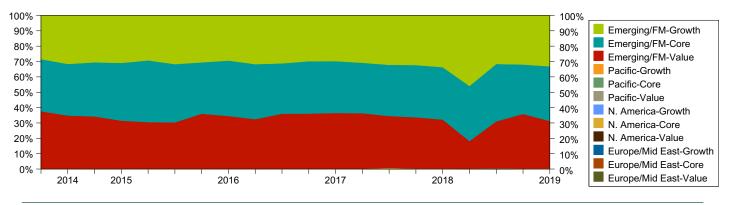
This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various region and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments 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 guarterly region/style and style only segment exposures of the portfolio through history.

Average Style Exposure Matrix

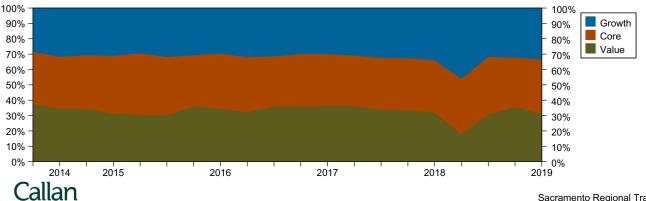


# Average Style Map vs Callan Emerging Equity MF

## **DFA Emerging Markets Historical Region/Style Exposures**



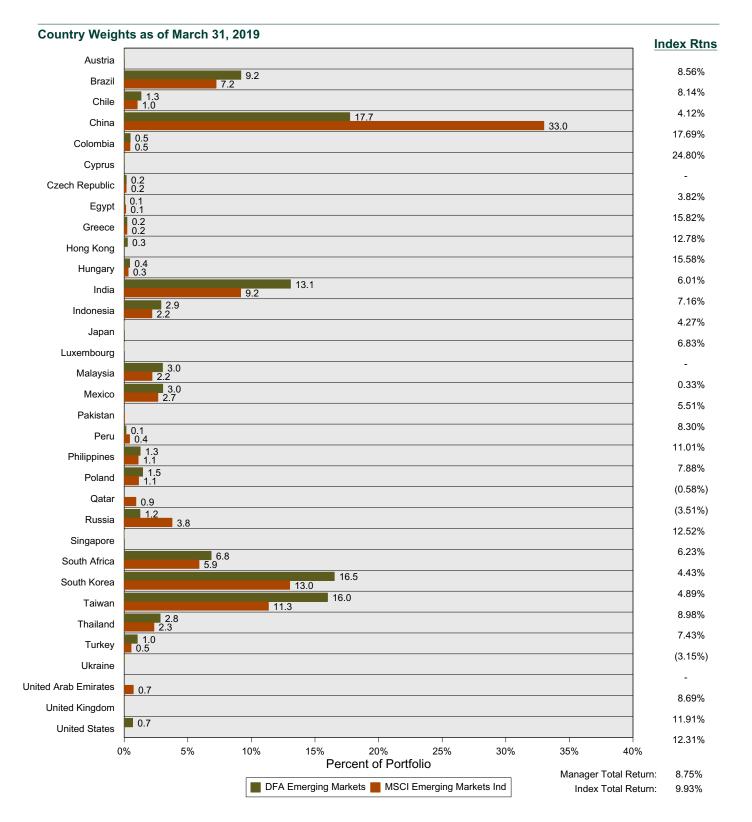




# Country Allocation DFA Emerging Markets VS MSCI Emerging Markets Index

### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of March 31, 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.



# DFA Emerging Markets Top 10 Portfolio Holdings Characteristics as of March 31, 2019

# 10 Largest Holdings

						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Samsung Electronics Co Ltd Ord	Information Technology	\$615,232	3.8%	14.47%	234.83	10.55	3.17%	(2.70)%
Tencent Holdings Limited Shs Par Hkd	Communication Services	\$289,721	1.8%	14.67%	437.82	29.73	0.28%	22.04%
Taiwan Semiconductor Mfg Co Ltd Spon	Information Technology	\$256,699	1.6%	10.97%	206.55	17.99	3.26%	7.10%
Taiwan Semicond Manufac Co L Shs	Information Technology	\$190,579	1.2%	8.57%	206.55	17.99	3.26%	7.10%
Alibaba Group Hldg Ltd Sponsored Ads	Consumer Discretionary	\$160,204	1.0%	33.11%	472.94	27.07	0.00%	24.20%
Vale Sa Shs	Materials	\$145,478	0.9%	(0.55)%	69.16	7.27	4.28%	0.60%
Sk Hynix Inc Shs	Information Technology	\$129,597	0.8%	50.00%	47.59	8.30	2.02%	4.31%
Ping An Insurance H	Financials	\$115,464	0.7%	22.66%	83.39	10.24	2.28%	17.36%
Reliance Industries Ltd Shs Demateri	Energy	\$114,582	0.7%	22.53%	124.74	16.83	0.44%	13.10%
China Construction Bank Shs H	Financials	\$112,740	0.7%	3.92%	206.12	5.19	5.31%	3.69%

#### **10 Best Performers**

		Ending	Deveent			Price/		Ferresolad
Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings
China Yurun Food Grp Ltd Shs	Consumer Staples	\$1,206	0.0%	190.30%	0.43	(0.71)	0.00%	-
Naim Cendera Hldg. Bhd.	Real Estate	\$309	0.0%	163.75%	0.15	3.42	0.00%	-
Dayang Enter.Hdg.	Energy	\$757	0.0%	160.55%	0.33	13.08	2.52%	14.90%
Jettech	Information Technology	\$742	0.0%	142.11%	0.17	68.32	0.77%	87.38%
The Korea Express Co Ltd Shs	Industrials	\$4,424	0.0%	129.27%	3.33	30.86	0.00%	67.98%
Digital Daesung	Information Technology	\$57	0.0%	120.00%	0.20	13.94	1.99%	(35.13)%
Vestel Elektronik	Consumer Discretionary	\$1,564	0.0%	118.70%	0.77	10.41	0.00%	49.00%
China Pwr New Energy Dev	Utilities	\$954	0.0%	117.16%	0.78	27.38	1.24%	9.99%
Essel Propack	Materials	\$1,224	0.0%	114.33%	0.53	15.14	1.03%	4.00%
Clean & Science	Materials	\$618	0.0%	113.64%	0.16	16.19	0.55%	(61.24)%

## **10 Worst Performers**

						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Fossal S A A Sponsored Adr	Miscellaneous	\$0	0.0%	(99.91)%	0.00	-	0.00%	-
Reliance Communication Ventu Shs Dem	Communication Services	\$474	0.0%	(71.43)%	0.16	(0.05)	0.00%	(33.64)%
Jiayuan Intl.Gp.	Real Estate	\$507	0.0%	(70.84)%	1.35	4.85	5.06%	
Pricerite Group	Real Estate	\$29	0.0%	(66.67)%	0.14	-	0.00%	-
Enterprise Outsourcing	Information Technology	\$503	0.0%	(66.34)%	0.13	4.65	0.00%	21.50%
Kic	Industrials	\$16	0.0%	(63.64)%	0.26	(10.53)	0.00%	-
Tongaat Hulett Ltd Shs	Consumer Staples	\$1,040	0.0%	(61.45)%	0.20	2.88	7.42%	(9.36)%
Innovis Hdg. Ltd.	Materials	\$28	0.0%	(60.83)%	0.09	-	0.00%	
Reliance Power	Utilities	\$706	0.0%	(60.00)%	0.46	3.14	0.00%	(5.62)%
Kai Shi China Holdings Co.	Industrials	\$23	0.0%	(59.64)%	0.14	9.20	0.00%	-

Domestic Fixed Income

## Metropolitan West Period Ended March 31, 2019

#### **Investment Philosophy**

Metropolitan West Asset Management (MWAM) attempts to add value by limiting duration, managing the yield curve, rotating among bond market sectors and using proprietary quantitative valuation techniques.

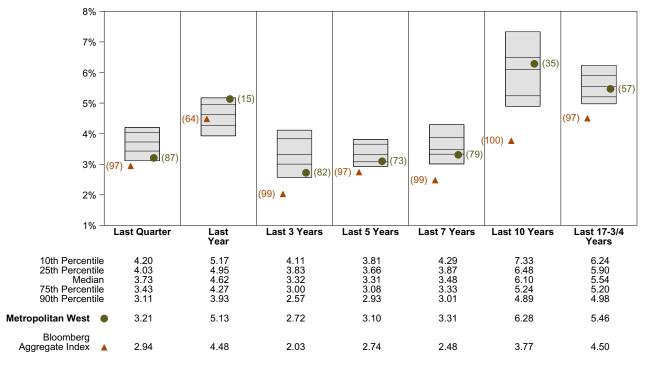
## **Quarterly Summary and Highlights**

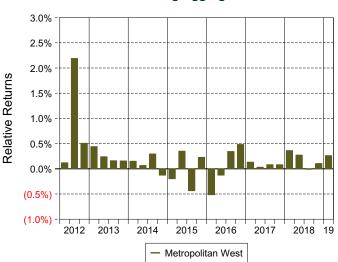
• Metropolitan West's portfolio posted a 3.21% return for the quarter placing it in the 87 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 15 percentile for the last year.

Quarterly Asset Growth							
Beginning Market Value	\$101,895,736						
Net New Investment	\$-1,021,928						
Investment Gains/(Losses)	\$3,253,913						
Ending Market Value	\$104,127,722						

• Metropolitan West's portfolio outperformed the Bloomberg Aggregate Index by 0.26% for the quarter and outperformed the Bloomberg Aggregate Index for the year by 0.65%.

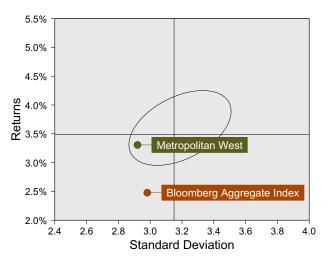
## Performance vs Callan Core Plus Fixed Income (Gross)





#### Relative Returns vs Bloomberg Aggregate Index

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

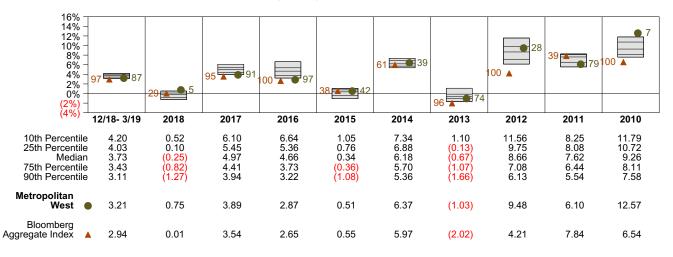


# Metropolitan West Return Analysis Summary

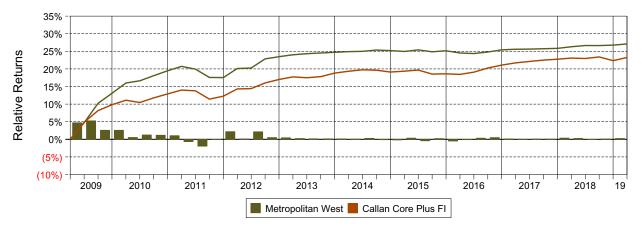
## **Return Analysis**

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.

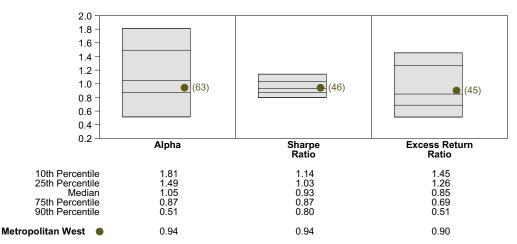
## Performance vs Callan Core Plus Fixed Income (Gross)



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) Seven Years Ended March 31, 2019

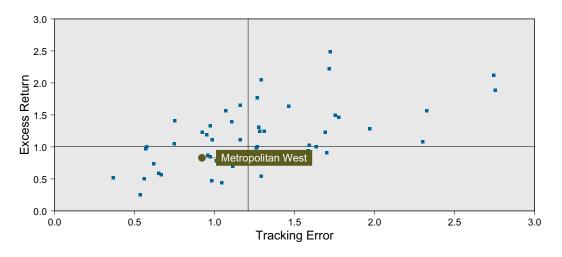


# **Metropolitan West Risk Analysis Summary**

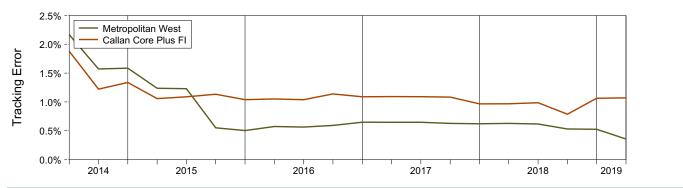
#### **Risk Analysis**

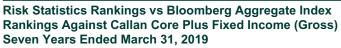
The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over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

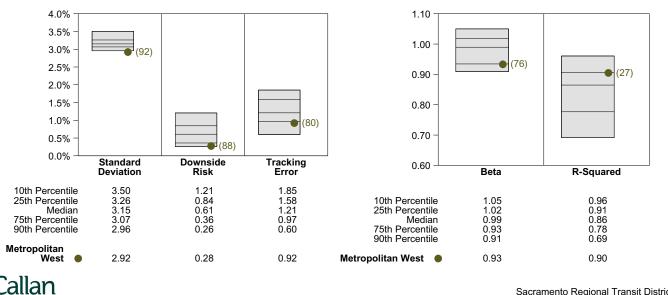
Risk Analysis vs Callan Core Plus Fixed Income (Gross) Seven Years Ended March 31, 2019









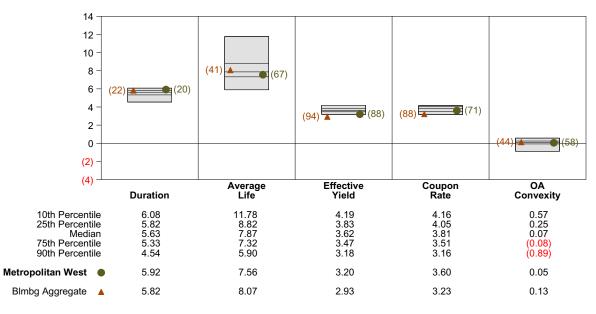


# Metropolitan West Bond Characteristics Analysis Summary

## **Portfolio Characteristics**

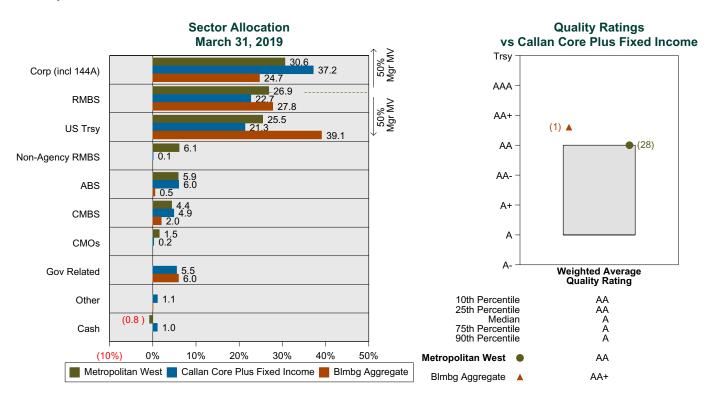
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

### Fixed Income Portfolio Characteristics Rankings Against Callan Core Plus Fixed Income as of March 31, 2019



## Sector Allocation and Quality Ratings

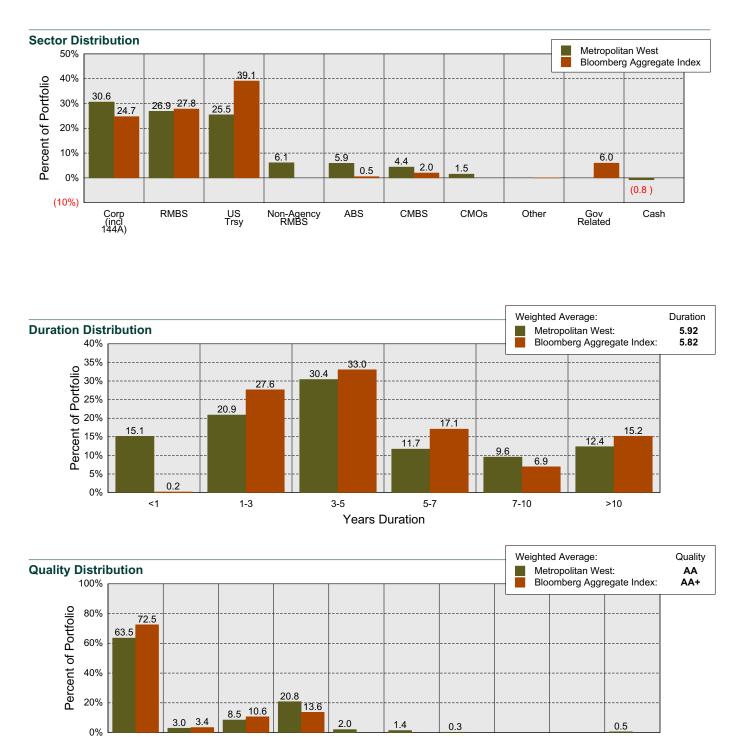
The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.



# Metropolitan West Portfolio Characteristics Summary As of March 31, 2019

# Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.



AAA

AA

А

BBB

BΒ

В

**Quality Rating** 

CCC

СС

С

D

Definitions

## **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.

Callan Research/Education



# **Education**

1st Quarter 2019

# **Research and Educational Programs**

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives." For more information contact Corry Walsh at 312.346.3536 / institute@callan.com.

# New Research from Callan's Experts

<u>Callan's 2019-2028 Capital Market Projections</u> | Callan develops long-term capital market projections at the start of each year, detailing our expectations for return, volatility, and correlation for broad



asset classes. For 2019-2028, we made gradual, evolutionary changes to our expectations from our projections last year. We increased our fixed income assumptions to reflect higher starting yields compared to one year ago, including a higher return for cash, but we held constant our equity return premium over cash. As a result, we have narrowed the equity risk premium over bonds.

**Two Questions to Help DC Plans Save on Litigation Costs** | Executives can monitor whether in-house fiduciaries for their defined contribution plans are on track or need assistance by asking these questions: 1) Are plan administration costs too high? 2) Are participants getting the best "bang for their buck" from investment fees?

The Good, the Bad, and the Ugly: Which Will Your DC Plan Be in 2019? | In this paper, we outline best practices for defined contribution (DC) plan sponsors that aspire to be the Good gunslinger, and flag traps that could ensnare them in Bad or even Ugly territory.

**2019 DC Trends Survey** | Callan's 12th Annual DC Trends Survey highlights plan sponsors' key themes from 2018 and expectations for 2019.



**2019 National Workshop Summary: DC Plans** | This workshop by Callan's Ben Taylor, Jana Steele, and Gordon Weightman, "The New Face of DC Plans," provided what plan sponsors and investment managers need to know to stay current on new developments and how they might benefit plans. **2019** National Workshop Summary: Private Equity | In their workshop, "Private Equity: Primary Investment Opportunities and Considerations," Callan's Pete Keliuotis, Jay Nayak, and Weston Lewis demonstrated how a thoughtful approach to program design, strategy allocation, and capital commitment pacing can lead to long-term success in private equity investing.

**2019 National Workshop Summary: Strategic Allocations** | In this workshop, Callan's Ann O'Bradovich, Ho Hwang, and Gary Chang discussed the trend over the past several decades in which U.S. institutional investors have shifted their public equity portfolios to increase allocations to non-U.S. stocks.

The Callan Periodic Table Collection: Year-End 2018 | The Periodic Table Collection offers versions focused on equity, fixed income, fund sponsors, and alternatives. Other tables compare the performance of key indices to zero and to inflation.

## **Quarterly Periodicals**

**Private Equity Trends** | A newsletter on private equity activity, covering both the fundraising cycle and performance over time.

<u>Market Pulse Flipbook</u> | A market reference guide covering trends in the U.S. economy, developments for fund sponsors, 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.

**<u>Capital Market Review</u>** | Provides 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/

Please mark your calendar and look forward to upcoming invitations.

June Regional Workshops: June 4, 2019 – Atlanta June 5, 2019 – San Francisco

## **October Regional Workshops:**

October 22, 2019 – Denver October 24, 2019 – Chicago

Invitations have been sent for June and registration is available on our website at www.callan.com/events-reg-workshop-june/

Please also keep your eye out for upcoming Webinars in 2019! We will be sending invitations for these and also will have registration links on our website at www.callan.com/events.

For more information about events, please contact Barb Gerraty: 415.274.3093 / 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. Our next sessions are:

### Introduction to Investments

San Francisco, July 16-17, 2019 Chicago, October 22-23, 2019

This program familiarizes fund sponsor trustees, 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 assetmanagement 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.

"Callan College" on Alternative Investing Chicago, October 2019—Date TBD

Learn more at www.callan.com/events/callan-college-intro or contact Kathleen Cunnie: 415.274.3029 / cunnie@callan.com

## **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

Disclosures

# 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 and 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	Manager Name
Aberdeen Standard Investments	Chartwell Investment Partners
Acadian Asset Management LLC	ClearBridge Investments, LLC
AEGON USA Investment Management	Cohen & Steers Capital Management, Inc.
Alcentra	Columbia Threadneedle Investments
AllianceBernstein	Columbus Circle Investors
Allianz Global Investors	Cooke & Bieler, L.P.
Allianz Life Insurance Company of North America	Credit Suisse Asset Management
AlphaSimplex Group, LLC	CS McKee, L.P.
American Century Investments	DePrince, Race & Zollo, Inc.
Amundi Pioneer Asset Management	Diamond Hill Capital Management, Inc.
AQR Capital Management	Dimensional Fund Advisors LP
Ares Management LLC	Doubleline
Ariel Investments, LLC	Duff & Phelps Investment Management Co.
Atlanta Capital Management Co., LLC	DWS
Aviva Investors Americas	EARNEST Partners, LLC
AXA Investment Managers	Eaton Vance Management
Baillie Gifford International, LLC	Epoch Investment Partners, Inc.
Baird Advisors	Fayez Sarofim & Company
Baron Capital Management, Inc.	Federated Investors
Barrow, Hanley, Mewhinney & Strauss, LLC	Fidelity Institutional Asset Management
BlackRock	Fiera Capital Corporation
BMO Global Asset Management	Financial Engines
BNP Paribas Asset Management	First Hawaiian Bank Wealth Management Division
BNY Mellon Asset Management	First State Investments
Boston Partners	Fisher Investments
Brandes Investment Partners, L.P.	Franklin Templeton
Brandywine Global Investment Management, LLC	Fred Alger Management, Inc.
BrightSphere Investment Group	GAM (USA) Inc.
Brown Brothers Harriman & Company	Glenmeade Investment Management, LP
Cambiar Investors, LLC	GlobeFlex Capital, L.P.
Capital Group	Goldman Sachs Asset Management
Carillon Tower Advisers	Green Square Capital LLC
CastleArk Management, LLC	Guggenheim Investments
Causeway Capital Management	GW&K Investment Management

Manager Name
Harbor Capital Group Trust
Hartford Investment Management Co.
Heitman LLC
Hotchkis & Wiley Capital Management, LLC
HSBC Global Asset Management
Impax Asset Management Limited
Income Research + Management, Inc.
Insight Investment Management Limited
Intech Investment Management, LLC
Intercontinental Real Estate Corporation
Invesco
Investec Asset Management
Ivy Investments
J.P. Morgan
Janus
Jennison Associates LLC
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
LGT Capital Partners Ltd.
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
MacKay Shields LLC
Macquarie Investment Management (MIM)
Manulife Asset Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
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
Osterweis Capital Management, LLC
P/F Investments

Manager Name
Pacific Investment Management Company
Pathway Capital Management
Peregrine Capital Management, Inc.
Perkins Investment Management
PFM Asset Management LLC
PGIM Fixed Income
PineBridge Investments
PNC Capital Advisors, LLC
Principal Global Investors
Putnam Investments, LLC
QMA LLC
RBC Global Asset Management
Record Currency Management Ltd.
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.
Silvercrest Asset Management Group
Smith Graham & Co. Investment Advisors, L.P.
Smith Group Asset Management
South Texas Money Management, Ltd.
State Street Global Advisors
Stone Harbor Investment Partners, L.P.
Sun Life Investment Management
T. Rowe Price Associates, Inc.
The Boston Company Asset Management
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
VanEck
Velanne Asset Management Ltd.
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



Attachment #3

Production Date: 03/29/2019

Alerts:	0
Warnings:	0
Passes:	14

#### A5XB SACRT - ATLANTA CAPITAL MGMT

Se	curities + Cash	24,827,014.02	Base Currency	USD	Net Assets	24,842,177	
Ru	ile Name			Limit Type	Limit Value	Result	Result Status
	4A and Private Place vate Placements are pro			Maximum	0.00%	0.00 %	Pass
	<u>set Measures</u> setMeasure: AssetMeas	sure_Funds_Preferred_Denominator (34662)			24,82	27,014.02 Value	Pass
3 Inte Am		ties which trade on U.Sbased exchanges, i pipts (ADRs), shall not exceed 5% of the port		Maximum	5.00%	0.00 %	Pass
4 Inv	restments in commodition	es are prohibited (143655)		Maximum	0.00%	0.00 %	Pass
5 Ma	rgin Securities are proh	ibited. (143651)		Maximum	0.00%	0.00 %	Pass
6 Ow	nership of shares/debt	issued limit 5% ex null (143652)		Maximum	5.00%	0.07 %	Pass
7 The	e Fund may not enter in	to short sales. (143654)		Maximum	0.00%	0.00 %	Pass
8 The	e Fund may not hold an	y Options. (143657)		Maximum	0.00%	0.00 %	Pass
	e Fund may not hold mo curity (143659)	ore than 5% of the shares outstanding of any	v domestic equity	Maximum	5.00%	0.07 %	Pass
<u>Ca</u> 10 No		und in cash and cash equivalents. (143656)		Maximum	10.00%	2.98 %	Pass
	<u>change</u> g any non-US exchange	e traded futures (143670)		Maximum	0.00%	0.00 %	Pass
-	lustry lustry Sector GICS - Ma	x 25% at cost (143660)		Maximum	25.00%	8.72 %	Pass
	e Fund shall not investe lustry as defined by GIC	d in any security issued by a company in th S (143650)	e Tobacco Sub-	Maximum	0.00%	0.00 %	Pass
	suer restments in a single do	mestic equity issuer shall not exceed 5% at	cost (143661)	Maximum	5.00%	2.69 %	Pass



Alerts:	0
Warnings:	0
Passes:	8

# A5XD SACRT - METWEST

Production Date: 03/29/2019

	Securities + Cash 108,665,704.16	Base Currency	USD	Net Assets	104,148,771	
	Rule Name		Limit Type	Limit Value	Result	Result Status
1	<u>144A and Private Placem</u> The Fund is not permitted to hold any Private Placements excluding 144	ła (143666)	Maximum	0.00%	0.00 %	Pass
2	<u>Asset Measures</u> AssetMeasure: AssetMeasure_Funds_Preferred_Denominator (34662)			108,66	5,704.16 Value	Pass
3	Asset_Type A5XD: Flag all prohibited security types (143665)		Maximum	0.00%	0.00 %	Pass
4	Asset-Backed Commercial Paper - Minimum Quality of A2/P2 (157603)		Maximum	0	0 Num Bkts	Pass
5	<u>Credit Quality</u> Minimum Quality must be at lesst 80% Baa or above (157604)		Minimum	80.00%	92.18 %	Pass
6	No Commercial Paper rated < A2/P2 at time of purchase (143662)		Maximum	0.00%	0.00 %	Pass
7	The Weighted Average Credit Rating of the Fund must be A or better (14	13663)	Minimum	20	22.36 Rank	Pass
8	Industry The Fund shall not invested in any security issued by a company in the Industry as defined by GICS (143650)	Tobacco Sub-	Maximum	0.00%	0.00 %	Pass



Alerts:	0
Warnings:	0
Passes:	14

Production Date: 03/29/2019

#### **A5Z8 SACRT BOSTON PARTNERS**

	Securities + Cash 44,829,704.90	Base Currency	USD	Net Assets	44,908,893	
	Rule Name		Limit Type	Limit Value	Result	Result Status
1	<u>144A and Private Placem</u> Private Placements are prohibited. (143653)		Maximum	0.00%	0.00 %	Pass
2	<u>Asset Measures</u> AssetMeasure: AssetMeasure_Funds_Preferred_Denominator (34662)			44,82	29,704.90 Value	Pass
3	Asset_Type International equity securities which trade on U.Sbased exchanges, in American Depository Receipts (ADRs), shall not exceed 5% of the portf (143658)		Maximum	5.00%	1.04 %	Pass
4	Investments in commodities are prohibited (143655)		Maximum	0.00%	0.00 %	Pass
5	Margin Securities are prohibited. (143651)		Maximum	0.00%	0.00 %	Pass
6	Ownership of shares/debt issued limit 5% ex null (143652)		Maximum	5.00%	0.01 %	Pass
7	The Fund may not enter into short sales. (143654)		Maximum	0.00%	0.00 %	Pass
8	The Fund may not hold any Options. (143657)		Maximum	0.00%	0.00 %	Pass
9	The Fund may not hold more than 5% of the shares outstanding of any security (143659)	domestic equity	Maximum	5.00%	0.01 %	Pass
10	<u>Cash</u> No more than 10% of the Fund in cash and cash equivalents. (143656)		Maximum	10.00%	2.49 %	Pass
11	<u>Exchange</u> Flag any non-US exchange traded futures (143670)		Maximum	0.00%	0.00 %	Pass
12	Industry Industry Sector GICS - Max 25% at cost (143660)		Maximum	25.00%	8.54 %	Pass
13	The Fund shall not invested in any security issued by a company in the Industry as defined by GICS (143650)	Tobacco Sub-	Maximum	0.00%	0.00 %	Pass
14	<u>Issuer</u> Investments in a single domestic equity issuer shall not exceed 5% at c	cost (143661)	Maximum	5.00%	3.43 %	Pass





#### **A5Z8 SACRT BOSTON PARTNERS**

Production	Date:	03/29	/2019
FIUUUUUU	Date.	03/23	12013

Securities + Cash	44,829,704.90	Base Currency	USD	Net Assets	44,908,893	
Rule Name			Limit Type	Limit Value	Result	Result Status

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March 31, 2019

Sacramento Regional Transit District Retirement Plans

Investment Measurement Service Quarterly Review

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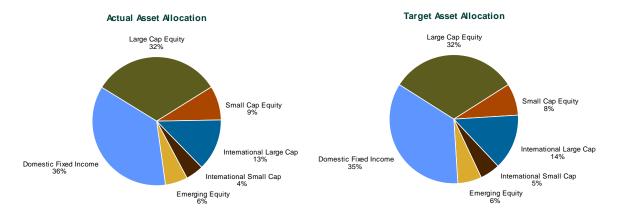
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Executive Summary

# Sacramento Regional Transit District

Executive Summary for Period Ending March 31, 2019

**Asset Allocation** 



#### Performance

	Last	Last	Last 3	Last 5	Last 7	
	Quarter	Year	Years	Years	Years	
Total Plan	7.80%	3.08%	8.16%	5.74%	7.46%	
Target*	9.07%	3.55%	8.24%	5.85%	7.22%	

# **Recent Developments**

N/A

# Organizational Issues

N/A

#### **Manager Performance**

		Peer Group Rank	king
Manager	Last Year	Last 3 Years	Last 7 Years
Boston Partners	78	35	35
Atlanta Capital	16	34	18
Pyrford	5	[88]	[76]
AQR	68	[82]	[67]
DFA	59	73	[73]
MetWest	15	82	79

Brackets indicate performance linked with manager's composite

# Watch List

N/A

# Items Outstanding N/A

\*Current quarter target = 35% Bloomberg Barclays Aggregate Index, 32% S&P 500 Index, 8% Russell 2000 Index, 14% MSCI EAFE Index, 5% MSCI EAFE Small Cap Index, and 6% MSCI Emerging Markets Index.

Capital Markets Review

#### **U.S. EQUITY**

Equity markets dramatically snapped back in the first quarter, driven by the Fed's unexpected dovish comments in January, solid corporate fundamentals, and low unemployment.

# Large Cap U.S. Equity (S&P 500: +13.6%; Russell 1000: +14.0%)

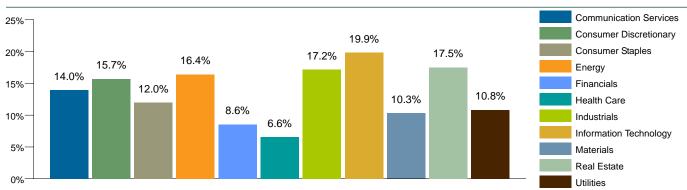
- All sectors delivered double-digit gains with the exception of Financials (+8.6%) and Health Care (+6.6%).
- Consumers remain in good shape, with household debt service as a percentage of disposable income at the lowest level in decades.
- The risk-on market was highlighted by low quality (S&P ratings B or lower) outperforming high quality (B+ or higher) by 440 basis points.
- Surprisingly, Utilities and REITs produced double-digit returns; investors sought yield in the face of a flattening yield curve and the end to rate hikes in the first quarter.

# **Growth vs. Value** (Russell 1000 Growth: +16.1%; Russell 1000 Value: +11.9%)

- The sharp change in Fed rhetoric influenced the stronger performance of growth stocks over value stocks during the quarter. Investors favored companies with stronger earnings prospects to counter a softer economic environment.
- Technology produced strong results, while the outlook for Financials weakened as the yield curve flattened.

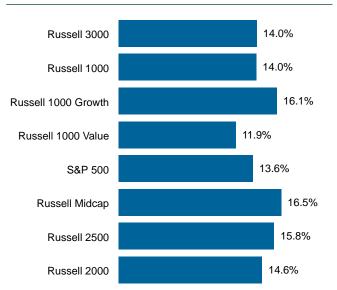
# **Small Cap** (Russell 2000: +14.6%; Russell 2000 Growth: +17.1%; Russell 2000 Value: +11.9%)

- Within the Russell 2000 Growth Index, the three largest sectors (Health Care, Consumer Discretionary, and Technology) surged 19%, 17%, and 23%, respectively. Software and biotechnology both posted 25% gains in the quarter; combined they are more than 23% of the benchmark weight.
- Influenced by excessive fourth quarter tax-loss selling, the market experienced a strong "January effect"—where last year's losers became January 2019's winners.

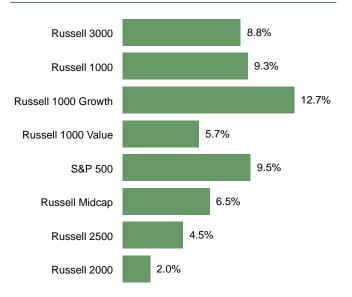


#### S&P Sector Returns, Quarter Ended March 31, 2019

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



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



Source: Standard & Poor's



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

Global equity markets were positive in the first quarter following a sharp sell-off to end 2018. Investors resumed a risk-on outlook as central banks telegraphed more accommodative positioning. Delayed outcomes regarding U.S./China trade talks and Brexit negotiations allowed markets to stabilize, although uncertain outcomes remain a future risk.

Global/Non-U.S. Developed (MSCI EAFE: +10.0%; MSCI World ex USA: +10.4%; MSCI ACWI ex USA: +10.3%; MSCI Europe: +10.8%; MSCI Japan: +6.7%)

- Developed markets rallied as central banks around the world expressed more accommodative paths with interest rates and quantitative easing.
- Brexit negotiations continue and a "no-deal" Brexit remains a possibility, but with an extended deadline. The potential for investment paralysis drags on.
- European PMI continued to deteriorate, falling to 47.7 in March from 49.4.
- The currency effect was mixed as the U.S. dollar rose against the euro and yen, by 1.8% and 0.9%, but fell against the British pound by 2.3% as a delay in Brexit allowed for a temporary bounce.
- EAFE sector performance was mixed. Information Technology (+15.3%) and Materials (+13.2%) led economically sensitive sectors; Consumer Staples (+12.4%) led defensive sectors. Interest rate-sensitive Financials (+6.9%) and Utilities (+9.0%) trailed the broad index.
- Factor performance favored growth (historical and projected) while value factors were generally negative.

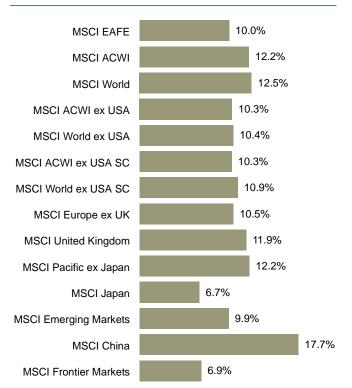
#### Emerging Markets (MSCI Emerging Markets Index: +9.9%)

- In a big reversal from the fourth quarter, China led emerging markets with MSCI China gaining 17.7% and MSCI China A up 30.9%.
- Trade talks continue but positive indications for a deal buoyed markets; uncertainty on the outcome remains.
- Asian Information Technology rebounded nicely with Chinese IT (+27.6%) leading the sector. An improving outlook on Chinese consumption positively influenced EM Consumer Discretionary (+20.8%), which was the topperforming sector.
- Growth led value with MSCI EM Growth gaining 12.0% and EM Value up 7.8%.

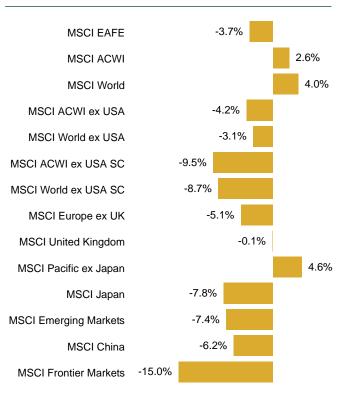
# Non-U.S. Small Cap (MSCI World ex USA Small Cap: +10.9%; MSCI EM Small Cap: +7.8%; MSCI ACWI ex USA Small Cap: +10.3%)

- Within developed markets, small cap performed in line with large cap.
- EM Small Cap trailed EM as MSCI China Small Cap has less exposure to IT, which led the risk-on rally.





#### **Global Equity: One-Year Returns**



Source: MSCI

#### **U.S. FIXED INCOME**

Risk markets sharply reversed from the fourth quarter sell-off supported by the Fed's unexpected dovish comments, relatively solid U.S. economic growth data, and tempered concern over a slowing China. This quarter's strong results recaptured most of the loss experienced in the prior quarter.

# **U.S. Fixed Income** (Bloomberg Barclays US Aggregate: +2.9%)

- U.S. Treasuries rose 2.1% as the yield curve shifted lower across maturities as growth and inflation expectations declined.
- The shape of the yield curve did not materially change during the quarter. The yield differential between the 10-year and 2-year key rates remained positive and traded around a range of +12 to +20 bps. However, the front-end of the curve inverted, with the 5-year offering less yield than the 2-year.
- TIPS outperformed nominal Treasuries as the Fed's balanced stance and unexpected wage pressures stoked higher inflation expectation.

# **Investment-Grade Corporates** (Bloomberg Barclays Corporate: +5.1%)

- Credit spreads rallied on the back of a softer Fed stance, positive economic news, and better than expected corporate earnings.
- Net new corporate issuance during the first quarter of \$117 billion was roughly on par with a year ago.
- Surprisingly, Aaa-rated corporates (+5.0%) outperformed Aa- (+3.7%) and single A-rated issuers (+4.7%). BBB-rated issuers were the best performers (+5.7%).

#### High Yield (Bloomberg Barclays Corporate High Yield: +7.3%)

- Given the risk-on environment, below-investment grade issuers were the best performers, aided by strong asset inflows.
- Ba/B sectors (+7.2%) marginally outpaced CCC by 6 bps; this was an unusual occurrence given that the dispersion between high-quality and low-quality is typically wide during these periods of absolute returns.

# Leveraged Loans (Credit Suisse Leveraged Loans Index: +3.8%)

- Leveraged loans participated in the rally but lagged both longer duration investment grade and high yield corporates. The sector was negatively impacted by the Fed's pause, retail outflows, and a slow-developing CLO pipeline.
- Bank loans have less sensitivity to interest rates but may have a similar spread duration profile to that of their high yield bond counterparts.

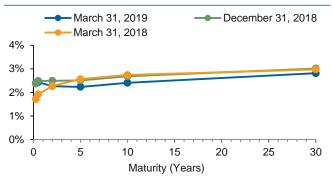
#### **U.S. Fixed Income: Quarterly Returns**



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



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



Sources: Bloomberg, Bloomberg Barclays, Credit Suisse



#### NON-U.S. FIXED INCOME

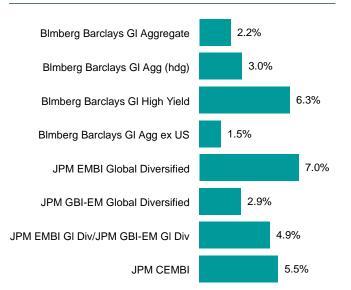
**Global Fixed Income** (Bloomberg Barclays Global Aggregate (unhedged): +2.2%)

 Developed market sovereign bonds rallied in tandem with Treasuries. The U.S. dollar appreciated modestly versus the euro and yen, but lost ground versus the British pound and Canadian dollar.

U.S. dollar-denominated emerging market debt (JPM EMBI Global Diversified: +7.0%), Local currency-denominated EMD (JPM GBI-EM Global Diversified: +2.9%)

- Country returns within the EMBI Global Diversified Index were all positive for the quarter.
- Turkey (-10.2%) and Argentina (-10.5%) were notable underperformers in the local currency index.
- Positive net inflows into the EM universe continued through quarter-end.

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



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



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

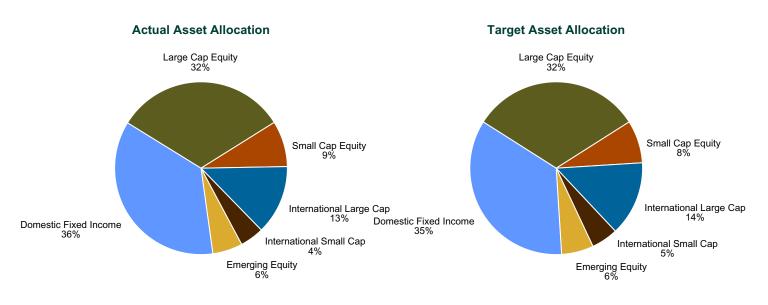


Sources: Bloomberg, Bloomberg Barclays, JP Morgan

**Combined Plan** 

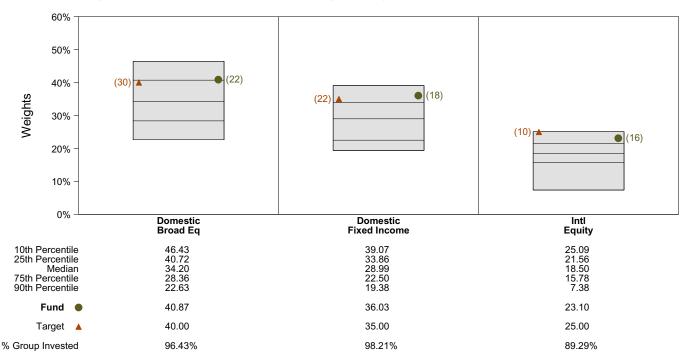
### Actual vs Target Asset Allocation As of March 31, 2019

The top left chart shows the Fund's asset allocation as of March 31, 2019. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Public Fund Spons- Mid (100M-1B).



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap Equity	93,278	32.3%	32.0%	0.3%	791
Small Cap Equity	24,842	8.6%	8.0%	0.6%	1,721
International Large Cap	37,469	13.0%	14.0%	(1.0%)	(2,994)
International Small Cap	12,987	4.5%	5.0%	(0.5%)	(1.464)
Emerging Equity	16,317	5.6%	6.0%	(0.4%)	(1,024) 2,971
Domestic Fixed Income	104,128	36.0%	35.0%	1.0%	2,971
Total	289,020	100.0%	100.0%		

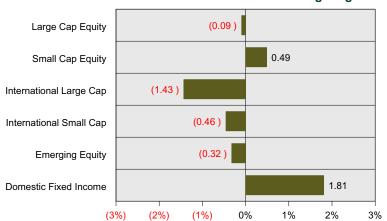
Asset Class Weights vs Callan Public Fund Spons- Mid (100M-1B)



\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

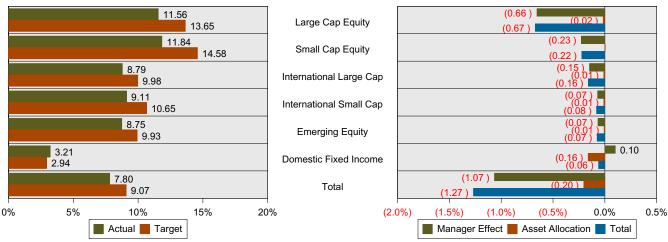
# **Quarterly Total Fund Relative Attribution - March 31, 2019**

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



Asset Class Under or Overweighting

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



#### Relative Attribution Effects for Quarter ended March 31, 2019

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	32%	32%	11.56%	13.65%	(0.66%)	(0.02%)	(0.67%)
Small Cap Equity	8%	8%	11.84%	14.58%	(0.23%)	0.00%	(0.22%)
International Large Car	o 13%	14%	8.79%	9.98%	(0.15%)	(0.01%)	(0.16%)
International Small Car		5%	9.11%	10.65%	(0.07%)	(0.01%)	(0.08%)
Emerging Equity	6%	6%	8.75%	9.93%	(0.07%)	(0.01%)	(0.07%)
Domestic Fixed Income	e 37%	35%	3.21%	2.94%	`0.10%´	(0.16%)	(0.06%)
Total			7.80% =	9.07%	+ (1.07%) +	(0.20%)	(1.27%)

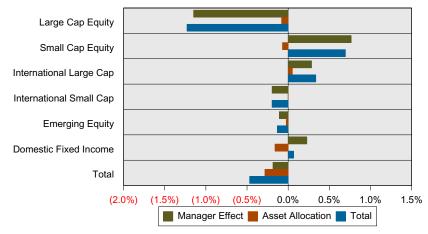
\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

**Relative Attribution by Asset Class** 

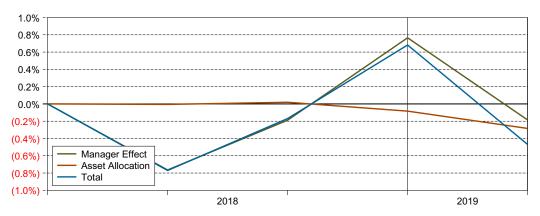
# Cumulative Total Fund Relative Attribution - March 31, 2019

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

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



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



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

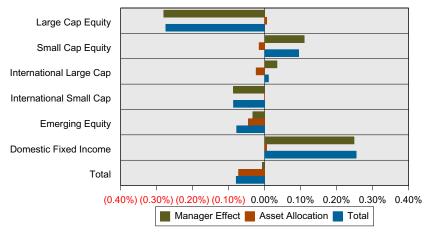
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	32%	32%	5.72%	9.50%	(1.15%)	(0.08%)	(1.23%)
Small Cap Equity	9%	8%	11.36%	2.05%	0.77%	(0.07%)	0.70%
International Large Ca	o 13%	14%	(1.62%)	(3.71%)	0.29%	0.05%	0.34%
International Small Car		5% 6%	(12.80%)	(9.36%)	(0.20%)	(0.00%)	(0.20%)
Emerging Equity	6%	6%	`(8.99%)	(7.40%)	(0.11%)	(0.02%)	(0.13%)
Domestic Fixed Income	e 36%	35%	5.13%	4.48%	0.23%	(0.16%)	0.07%
Total			3.08% =	3.55% +	(0.19%) +	(0.28%)	(0.47%)

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

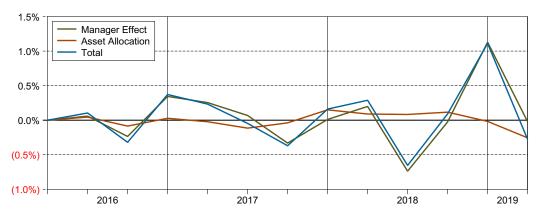
# **Cumulative Total Fund Relative Attribution - March 31, 2019**

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

#### **Three Year Annualized Relative Attribution Effects**



**Cumulative Relative Attribution Effects** 



#### **Three Year Annualized Relative Attribution Effects**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap Equity	33%	32%	12.58%	13.51%	(0.28%)	0.01%	(0.27%)
Small Cap Equity	9%	8%	14.50%	12.92%	0.11%	(0.02%)	0.09%
International Large Ca		15%	7.54%	7.27%	0.03%	(0.02%)	0.01%
International Small Car	o 4%	4% 6%	4.56%	6.33%	(0.09%)	0.00%	(0.09%)
Emerging Equity	6%	6%	10.20%	10.68%	(0.03%)	(0.05%)	(0.08%)
Domestic Fixed Income	e 34%	35%	2.72%	2.03%	0.25%	0.01%	0.25%
Total			8.16% =	8.24%	+ (0.01%) +	(0.07%)	(0.08%)

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

### Total Fund Period Ended March 31, 2019

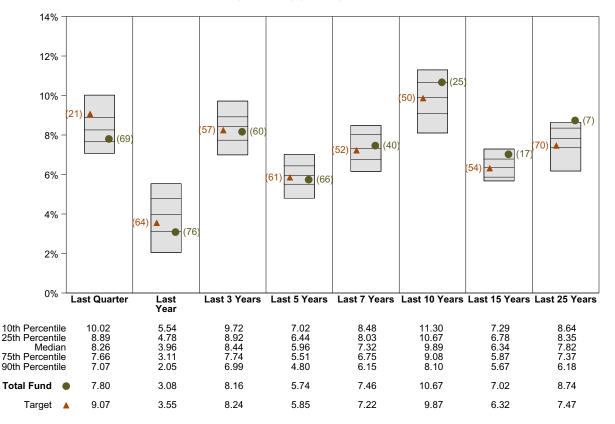
#### **Investment Philosophy**

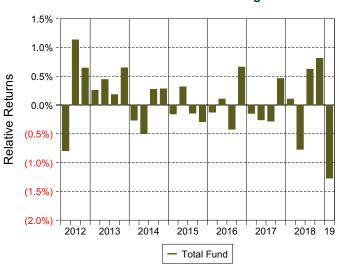
\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

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

- Total Fund's portfolio posted a 7.80% return for the quarter placing it in the 69 percentile of the Callan Public Fund Spons- Mid (100M-1B) group for the quarter and in the 76 percentile for the last year.
- Total Fund's portfolio underperformed the Target by 1.27% for the quarter and underperformed the Target for the year by 0.47%.

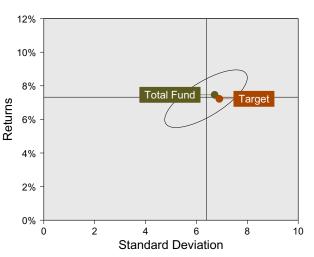
#### Performance vs Callan Public Fund Spons- Mid (100M-1B) (Gross)





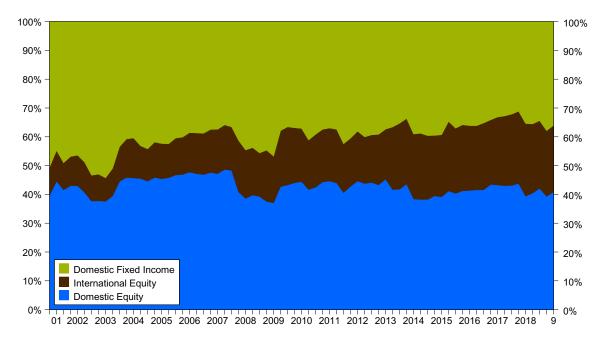
#### **Relative Return vs Target**

Callan Public Fund Spons- Mid (100M-1B) (Gross) Annualized Seven Year Risk vs Return

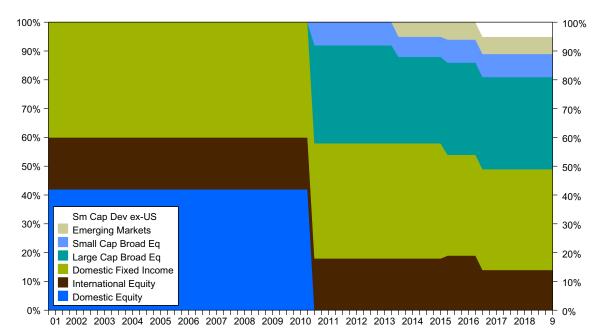


### **Actual vs Target Historical Asset Allocation**

The Historical asset allocation for a fund is by far the largest factor explaining its performance. The charts below show the fund's historical actual asset allocation, and the fund's historical target asset allocation.







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

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.



# **Investment Manager Asset Allocation**

The table below contrasts the distribution of assets across the Fund's investment managers as of March 31, 2019, with the distribution as of December 31, 2018. 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.

	March 31, 2019			December 31, 201
	Market Value	Net New Inv.	Inv. Return	Market Value
Consolidated Plan				
Domestic Equity	\$118,119,990	\$8	\$12,294,930	\$105,825,052
Large Cap	\$93,277,809	\$8	\$9,665,139	\$83,612,662
Boston Partners	44,902,460	8	3,857,732	41,044,721
SSgA S&P 500	48,375,349	0	5,807,407	42,567,941
Small Cap	\$24,842,181	\$0	\$2,629,792	\$22,212,390
Atlanta Capital	24,842,181	0	2,629,792	22,212,390
International Equity	\$66,772,304	\$(8)	\$5,379,079	\$61,393,234
International Large Cap	\$37,468,525	\$(8)	\$3,026,683	\$34,441,850
Brandes	0	(8)	(2,661)	2,669
SSgA EAFE	10,978,142	Ó	1,007,925	9,970,217
Pyrford	26,490,383	0	2,021,419	24,468,964
International Small Cap	\$12,986,737	\$0	\$1,059,359	\$11,927,378
AQR	12,986,737	0	1,059,359	11,927,378
Emerging Equity	\$16,317,042	\$0	\$1,293,037	\$15,024,005
DFA Emerging Markets	16,317,042	0	1,293,037	15,024,005
Fixed Income	\$104,127,722	\$(1,021,928)	\$3,253,913	\$101,895,736
Metropolitan West	104,127,722	(1,021,928)	3,253,913	101,895,736
Total Plan - Consolidated	\$289,020,016	\$(1,021,928)	\$20,927,922	\$269,114,022

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

# Sacramento Regional Transit District Asset Growth

Ending March 31, 2019 <u>(</u> \$ Thousands)	Ending Market Value	Beginning Market = Value +	Net New Investment	Investment + Return
Total Plan				
1/4 Year Ended 3/2019	289,020.0	269,114.0	(1,021.9)	20,927.9
1/4 Year Ended 12/2018	269,114.0	292,722.5	(1,066.5)	(22,541.9)
1/4 Year Ended 9/2018	292,722.5	284,083.7	(1,081.0)	9,719.8
1/4 Year Ended 6/2018	284,083.7	284,995.0	(1,267.6)	356.3
1/4 Year Ended 3/2018	284,995.0	288,314.8	(1,183.4)	(2,136.5)
1/4 Year Ended 12/2017	288,314.8	277,835.6	(1,419.7)	11,899.0
1/4 Year Ended 9/2017	277,835.6	270,017.7	(1,582.3)	9,400.2
1/4 Year Ended 6/2017	270,017.7	263,189.7	(1,149.1)	7,977.1
1/4 Year Ended 3/2017	263,189.7	253,159.1	(930.2)	10,960.7
1/4 Year Ended 12/2016	253,159.1	251,635.0	(1,139.0)	2,663.2
1/4 Year Ended 9/2016	251,635.0	244.029.2	(1,139.0) (937.8)	8,543.5
1/4 Year Ended 6/2016	244,029.2	240,502.3	(684.5)	4,211.5
1/4 Year Ended 3/2016	240,502.3	238,289.7	(450.0)	2,662.6
1/4 Year Ended 12/2015	228 280 7	222.085.4	(916 4)	7 000 7
1/4 Year Ended 12/2015 1/4 Year Ended 9/2015	238,289.7 232,085.4	232,085.4 246,970.5	(816.4) (534.9)	7,020.7 (14,350.2)
1/4 Year Ended 6/2015	246,970.5	240,970.3	(766.8)	(14,350.2) (183.0)
1/4 Year Ended 3/2015	247,920.3	243,017.9	(295.4)	5,197.8
1/4 Year Ended 12/2014	242.047.0	220 642 2	(1.001.2)	E 077 0
1/4 Year Ended 12/2014 1/4 Year Ended 9/2014	243,017.9 238,642.3	238,642.3 241,859.7	(1,001.3)	5,377.0 (2,584,9)
1/4 Year Ended 6/2014	230,042.3 241,859.7	235,305.8	(632.5) (752.1)	(2,584.9) 7,306.0

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	Returns for Peri				
		_	Last	Last	Last
	Last	Last	3	5	7
	Quarter	Year	Years	Years	Years
Domestic Equity	11.62%	6.91%	12.99%	9.79%	12.64%
Domestic Equity Benchmark**	13.86%	8.04%	13.46%	10.22%	12.49%
Large Cap Equity	11.56%	5.72%	12.58%	9.35%	12.34%
Boston Partners	9.40%	1.92%	11.57%	7.73%	11.73%
Russell 1000 Value Index	11.93%	5.67%	10.45%	7.72%	11.14%
SSgA S&P 500	13.64%	9.51%	13.53%	10.95%	-
S&P 500 Index	13.65%	9.50%	13.51%	10.91%	12.85%
Small Cap Equity	11.84%	11.36%	14.50%	11.43%	13.81%
Atlanta Capital	11.84%	11.36%	14.50%	11.43%	13.81%
Russell 2000 Index	14.58%	2.05%	12.92%	7.05%	10.74%
	11.0070	2.0070	12:02 /0	1.00,0	1017 170
International Equity	8.84%	(5.83%)	7.69%	2.58%	4.79%
International Benchmark***	10.11%	(5.70%)	8.21%	2.75%	5.61%
		(011 0 /0)	0.2.70		0.0170
nternational Large Cap	8.79%	(1.62%)	7.54%	2.55%	-
SSgA EAFE	10.11%	(3.37%)	7.66%	2.68%	-
Pyrford	8.26%	(0.87%)	-	-	-
MSCI EAFE Index	9.98%	(3.71%)	7.27%	2.33%	5.63%
	0.0070	(0.1170)	1.2170	2.0070	0.00 /
International Small Cap	9.11%	(12.80%)	-	-	-
AQR	9.11%	(12.80%)	-	-	-
MSCI EAFE Small Cap Index	10.65%	(9.36%)	7.50%	4.47%	8.21%
	10.0070	(0.0070)	1.0070		0.2170
Emerging Markets Equity	8.75%	(8.99%)	10.20%	4.03%	-
DFA Emerging Markets	8.75%	(8.99%)	10.20%	4.03%	-
MSCI Emerging Markets Index	9.93%	(7.40%)	10.68%	3.68%	2.69%
	0.0070	(1.10,0)	10.0070	0.0070	2.00 /
Domestic Fixed Income	3.21%	5.13%	2.72%	3.10%	3.31%
Met West	3.21%	5.13%	2.72%	3.10%	3.31%
Bloomberg Aggregate Index	2.94%	4.48%	2.03%	2.74%	2.48%
	2.0175		2.00 /0	2.1.1./0	
Total Plan	7.80%	3.08%	8.16%	5.74%	7.46%
Target*	9.07%	3.55%	8.24%	5.85%	7.22%

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter.
 \*\*\* International Benchmark = MSCI EAFE until 6/30/2013, 78.26% MSCI EAFE + 21.74% MSCI EM until 4/30/2015, 76% MSCI EAFE + 24% MSCI EM until 7/31/2016, and 56% MSCI EAFE + 24% MSCI EM + 20% MSCI EAFE Small Cap thereafter.

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2019					
	Last 10 Years	Last 15 Years	Last 20 Years	Last 25 Years	
Domestic Equity	16.09%	9.27%	6.86%	-	
Domestic Equity Benchmark**	15.90%	8.59%	6.72%	9.93%	
Russell 1000 Value Index	14.52%	7.63%	6.68%	9.60%	
S&P 500 Index	15.92%	8.57%	6.04%	9.80%	
Russell 2000 Index	15.36%	8.04%	8.44%	8.99%	
International Equity	8.33%	5.18%	6.82%	-	
MSCI EAFE Index	8.96%	5.11%	3.94%	4.89%	
Domestic Fixed Income	6.28%	5.22%	5.55%	_	
Met West	6.28%	5.22%	-	-	
Bloomberg Aggregate Index	3.77%	3.89%	4.73%	5.33%	
Total Plan	10.67%	7.02%	6.11%	8.74%	
Target*	9.87%	6.32%	5.72%	7.47%	

# \* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter.

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

	12/2018- 3/2019	2018	2017	2016	2015
Domestic Equity	11.62%	(4.64%)	19.78%	14.58%	0.06%
Domestic Equity Benchmark**	13.86%	(5.69%)	20.41%	13.85%	0.26%
Bemeene Equity Benefimant	10.0070	(0.0070)	20.11/0	10.0070	0.2070
Large Cap Equity	11.56%	(6.33%)	21.10%	13.38%	(1.17%)
Boston Partners	9.40%	(8.27%)	20.32%	14.71%	(3.75%)
Russell 1000 Value Index	11.93%	(8.27%)	13.66%	17.34%	(3.83%)
SSgA S&P 500	13.64%	(4.39%)	21.86%	12.03%	1.46%
S&P 500 Index	13.65%	(4.38%)	21.83%	11.96%	1.38%
Small Cap Equity	11.84%	1.78%	15.01%	19.17%	5.14%
Atlanta Capital	11.84%	1.78%	15.01%	19.17%	5.14%
Russell 2000 Index	14.58%	(11.01%)	14.65%	21.31%	(4.41%)
	11.0070	(1110170)	1110070	21.0170	(,0)
International Equity	8.84%	(13.93%)	28.25%	2.55%	(4.17%)
International Benchmark***	10.11%	(14.76%)	29.51%	3.26%	(4.30%)
				4	
International Large Cap	8.79%	(11.25%)	22.63%	1.35%	(1.17%)
SSgA EAFE	10.11%	(13.49%)	25.47%	1.37%	(0.56%)
Pyrford	8.26%	(10.31%)	-	-	-
MSCI EAFE Index	9.98%	(13.79%)	25.03%	1.00%	(0.81%)
International Small Cap	9.11%	(19.94%)	33.76%	-	-
AQR	9.11%	(19.94%)	33.76%	-	-
MSCI EAFE Small Cap Index	10.65%	(17.89%)	33.01%	2.18%	9.59%
Emerging Markets Equity	8.75%	(14.80%)	37.32%	12.99%	(14.33%)
DFA Emerging Markets	8.75%	(14.80%)	37.32%	12.99%	(14.33%)
MSCI Emerging Markets Index	9.93%	(14.57%)	37.28%	11.19%	(14.92%)
Domestic Fixed Income	3.21%	0.75%	3.89%	2.87%	0.51%
Met West	3.21%	0.75%	3.89%	2.87%	0.51%
Bloomberg Aggregate Index	2.94%	0.01%	3.54%	2.65%	0.55%
Total Plan	7.80%	(5.05%)	16.14%	7.65%	(0.97%)
Target*	9.07%	(5.82%)	16.39%	7.40%	(0.71%)
laiget	5.07 /0	(0.0270)	10.0070	1.10/0	(0.7170)

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

Returns are for annualized calendar years.

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter. \*\*\* International Benchmark = MSCI EAFE until 6/30/2013, 78.26% MSCI EAFE + 21.74% MSCI EM until 4/30/2015, 76% MSCI EAFE + 24% MSCI EM until 7/31/2016, and 56% MSCI EAFE + 24% MSCI EM + 20% MSCI EAFE Small Cap thereafter.

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

	2014	2013	2012	2011	2010
Domestic Equity	10.85%	36.44%	19.19%	2.08%	15.93%
Domestic Equity Benchmark**	12.07%	33.61%	16.09%	0.94%	17.33%
Boston Partners	11.87%	37.52%	21.95%	1.27%	13.61%
Russell 1000 Value Index	13.45%	32.53%	17.51%	0.39%	15.51%
S&P 500 Index	13.69%	32.39%	16.00%	2.11%	15.06%
Russell 2000 Index	4.89%	38.82%	16.35%	(4.18%)	26.85%
International Equity	(3.72%)	16.66%	17.28%	(10.64%)	6.51%
MSCI EAFE Index	(4.90%)	22.78%	17.32%	(12.14%)	7.75%
Domestic Fixed Income	6.37%	(1.03%)	9.48%	6.10%	12.52%
Met West	6.37%	(1.03%)	9.48%	6.10%	12.52%
Bloomberg Aggregate Index	5.97%	(2.02%)	4.21%	7.84%	6.54%
Total Plan	5.61%	17.71%	14.80%	1.22%	12.70%
Target*	5.82%	15.99%	11.68%	1.52%	11.85%

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

Returns are for annualized calendar years.

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter.



The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2019						
	Last	Last	Last 3	Last 5	Last 7	
Net of Fee Returns	Quarter	Year	Years	Years	Years	
Net of ree Returns						
Domestic Equity	11.53%	6.56%	12.58%	-	-	
Domestic Equity Benchmark**	13.86%	8.04%	13.46%	10.22%	12.49%	
Large Cap Equity	11.50%	5.51%	12.30%	-	-	
Boston Partners	9.30%	1.78%	11.17%	7.26%	11.21%	
Russell 1000 Value Index	11.93%	5.67%	10.45%	7.72%	11.14%	
SSgA S&P 500	13.63%	9.45%	13.48%	10.89%	13.28%	
S&P 500 Index	13.65%	9.50%	13.51%	10.91%	12.85%	
Small Cap Equity	11.62%	10.47%	13.60%	-	-	
Atlanta Capital	11.62%	10.47%	13.60%	10.55%	12.92%	
Russell 2000 Index	14.58%	2.05%	12.92%	7.05%	10.74%	
International Equity	8.69%	(6.40%)	7.07%	-	-	
International Equity Benchmark***	10.11%	(5.70%)	8.21%	2.75%	5.61%	
International Large Cap	8.65%	(2.13%)	7.00%	-	-	
SSgA EAFE	10.08%	(3.46%)	7.56%	2.57%	6.92%	
Pyrford	8.08%	(1.56%)	-	-	-	
MSCI EAFE Index	9.98%	(3.71%)	7.27%	2.33%	5.63%	
International Small Cap	8.88%	(13.61%)	_	-	-	
AQR	8.88%	(13.61%)	-	-	-	
MSCI EAFE Small Cap Index	10.65%	(9.36%)	7.50%	4.47%	8.21%	
Emerging Markets Equity	8.61%	(9.48%)	9.58%	-	-	
DFA Emerging Markets	8.61%	(9.48%)	9.58%	3.43%	-	
MSCI Emerging Markets Index	9.93%	(7.40%)	10.68%	3.68%	2.69%	
Domestic Fixed Income	3.21%	4.92%	2.46%	-	-	
Met West	3.21%	4.92%	2.46%	2.83%	3.03%	
Bloomberg Aggregate Index	2.94%	4.48%	2.03%	2.74%	2.48%	
Total Plan	7.73%	2.72%	7.76%	5.37%	7.07%	
Target*	9.07%	3.55%	8.24%	5.85%	7.22%	

\* Current Quarter Target = 35.0% Blmbg Aggregate, 32.0% S&P 500 Index, 14.0% MSCI EAFE, 8.0% Russell 2000 Index, 6.0% MSCI EM and 5.0% MSCI EAFE Small Cap.

\*\* Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter.
 \*\*\* International Benchmark = MSCI EAFE until 6/30/2013, 78.26% MSCI EAFE + 21.74% MSCI EM until 4/30/2015, 76% MSCI EAFE + 24% MSCI EM until 7/31/2016, and 56% MSCI EAFE + 24% MSCI EM + 20% MSCI EAFE Small Cap thereafter.

Domestic Equity

### Domestic Equity Period Ended March 31, 2019

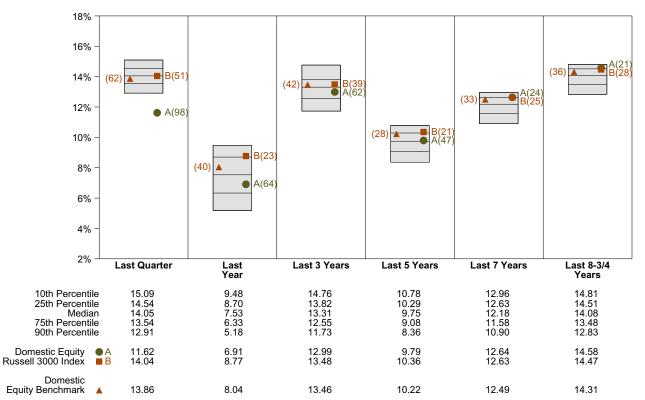
#### **Investment Philosophy**

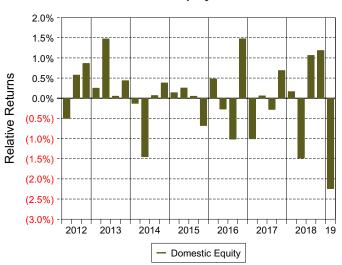
Domestic Equity Benchmark = 80.95% S&P500 + 19.05% Russell 2000 until 6/30/2010, 80.95% S&P500 + 19.05% Russell 2500 until 6/30/2013, 81.08% S&P500 + 18.92% Russell 2000 until 4/30/2015, and 80% S&P500 + 20% Russell 2000 thereafter.

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

- Domestic Equity's portfolio posted a 11.62% return for the quarter placing it in the 98 percentile of the Fund Spnsor -Domestic Equity group for the quarter and in the 64 percentile for the last year.
- Domestic Equity's portfolio underperformed the Domestic Equity Benchmark by 2.24% for the quarter and underperformed the Domestic Equity Benchmark for the year by 1.13%.

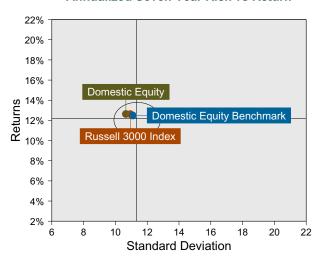
#### Performance vs Fund Spnsor - Domestic Equity (Gross)





#### Relative Returns vs Domestic Equity Benchmark

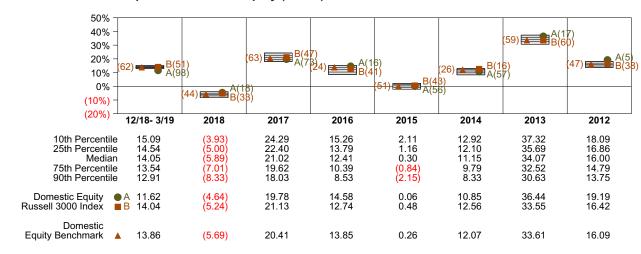
#### Fund Spnsor - Domestic Equity (Gross) Annualized Seven Year Risk vs Return



### Domestic Equity Return Analysis Summary

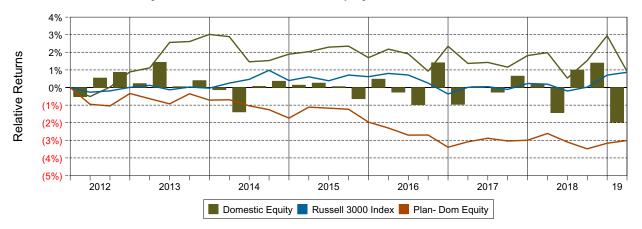
#### **Return Analysis**

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.

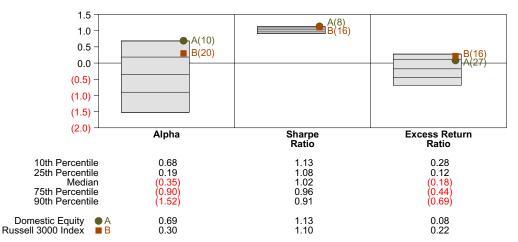


Performance vs Fund Spnsor - Domestic Equity (Gross)

**Cumulative and Quarterly Relative Return vs Domestic Equity Benchmark** 



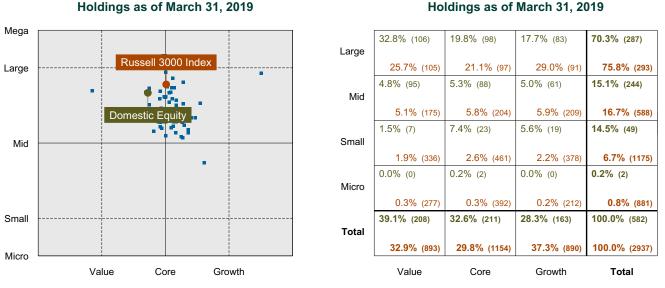
Risk Adjusted Return Measures vs Domestic Equity Benchmark Rankings Against Fund Spnsor - Domestic Equity (Gross) Seven Years Ended March 31, 2019



# Current Holdings Based Style Analysis Domestic Equity As of March 31, 2019

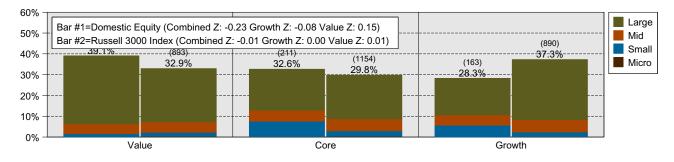
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization 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 Exposure Matrix** 

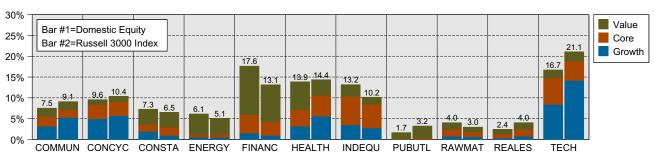


#### Style Map vs Plan- Dom Equity Holdings as of March 31, 2019

#### Combined Z-Score Style Distribution Holdings as of March 31, 2019

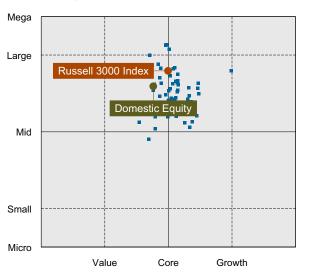


Sector Weights Distribution Holdings as of March 31, 2019



### Historical Holdings Based Style Analysis Domestic Equity For Five Years Ended March 31, 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.

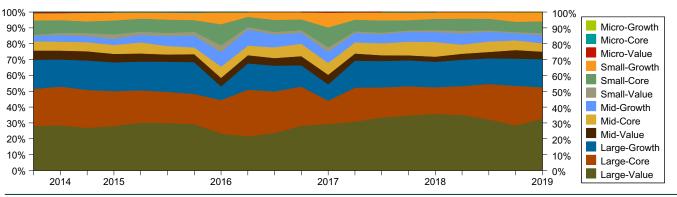


#### Average Style Map vs Plan- Dom Equity Holdings for Five Years Ended March 31, 2019

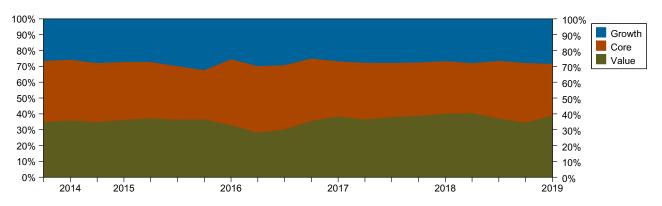
#### Average Style Exposure Matrix Holdings for Five Years Ended March 31, 2019

34.1% (894)		32.3% (1178)	33.7% (898)	<b>100.0%</b> (2970)
Total		. ,		
	36.2% (187)	36.2% (197)	27.5% (157)	100.0% (541)
WIICIO	0.3% (282)	0.4% (376)	0.2% (214)	<b>1.0%</b> (872)
Micro	0.1% (1)	0.1% (1)	0.0% (0)	0.2% (2)
	2.2% (336)	3.0% (487)	2.2% (378)	<b>7.4%</b> (1201)
Small				
	1.7% (10)	8.1% (26)	5.0% (14)	14.9% (50)
	5.3% (177)	6.3% (217)	6.0% (205)	17.5% (599)
Mid				
	4.9% (83)	6.5% (80)	6.1% (57)	17.5% (220)
	26.3% (99)	22.6% (98)	25.2% (101)	74.1% (298)
Large				
	29.6% (93)	21.5% (90)	16.4% (86)	67.5% (269)





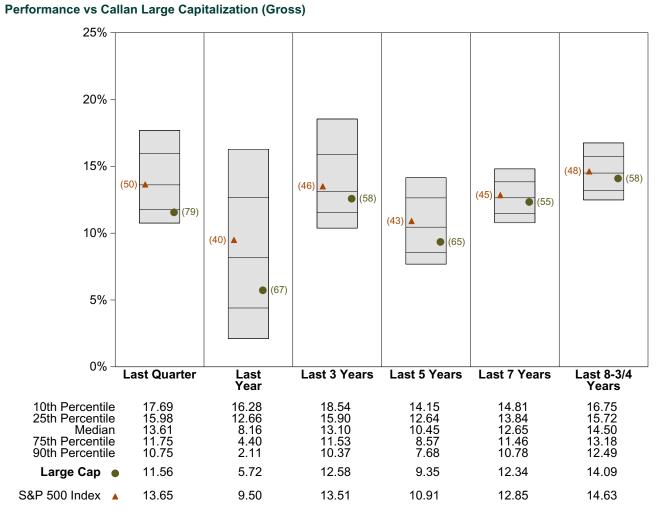




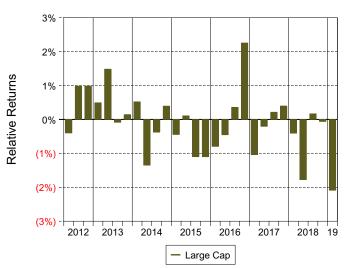
### Large Cap Period Ended March 31, 2019

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

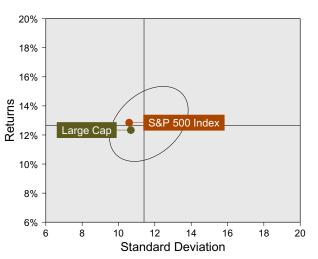
- Large Cap's portfolio posted a 11.56% return for the quarter placing it in the 79 percentile of the Callan Large Capitalization group for the quarter and in the 67 percentile for the last year.
- Large Cap's portfolio underperformed the S&P 500 Index by 2.09% for the quarter and underperformed the S&P 500 Index for the year by 3.77%.



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



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

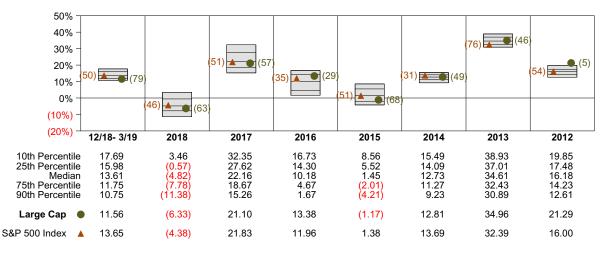


### Large Cap Return Analysis Summary

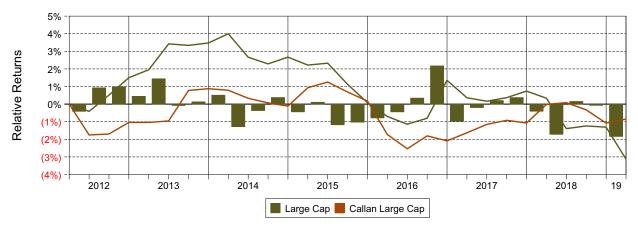
#### **Return Analysis**

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and 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.

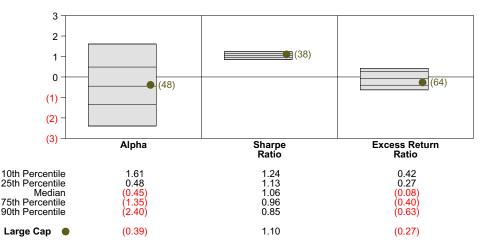
#### Performance vs Callan Large Capitalization (Gross)



Cumulative and Quarterly Relative Return vs S&P 500 Index



Risk Adjusted Return Measures vs S&P 500 Index Rankings Against Callan Large Capitalization (Gross) Seven Years Ended March 31, 2019

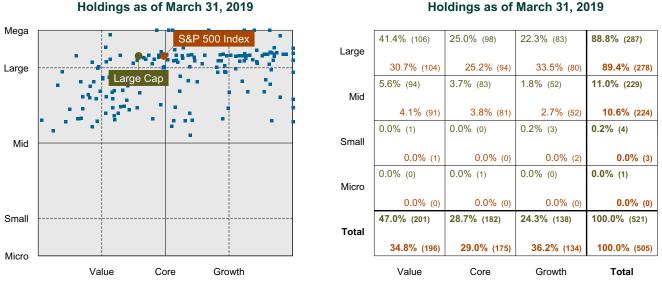




# Current Holdings Based Style Analysis Large Cap As of March 31, 2019

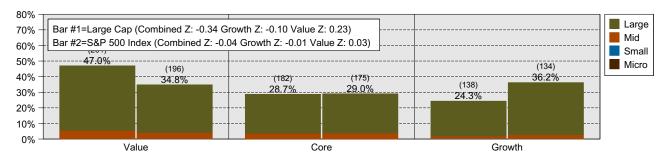
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization 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 Exposure Matrix** 

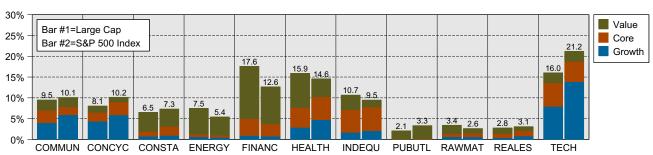


#### Style Map vs Callan Large Cap Holdings as of March 31, 2019

### Combined Z-Score Style Distribution Holdings as of March 31, 2019

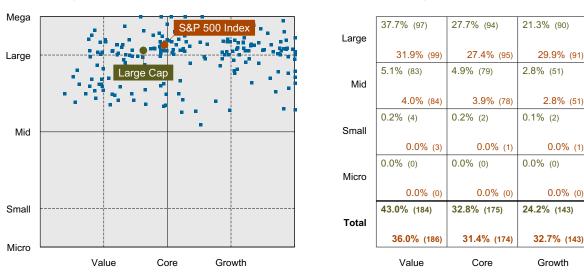


# Sector Weights Distribution Holdings as of March 31, 2019



# Historical Holdings Based Style Analysis Large Cap For Five Years Ended March 31, 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 Exposure Matrix Holdings for Five Years Ended March 31, 2019

86.7% (281)

12.7% (213)

0.6% (8)

0.0% (0)

89.2% (285)

**10.7%** (213)

0.1% (5)

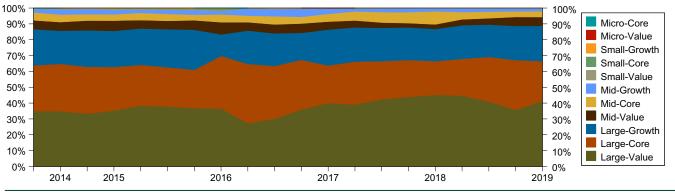
0.0% (0)

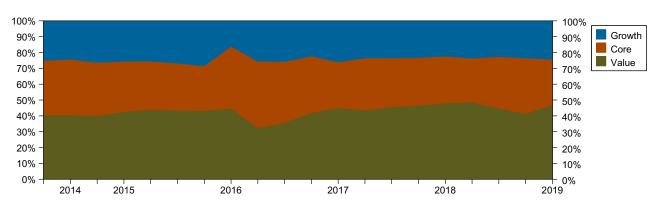
100.0% (502)

100.0% (503)

Total







Large Cap Historical Style Only Exposures

# SSgA S&P 500 Period Ended March 31, 2019

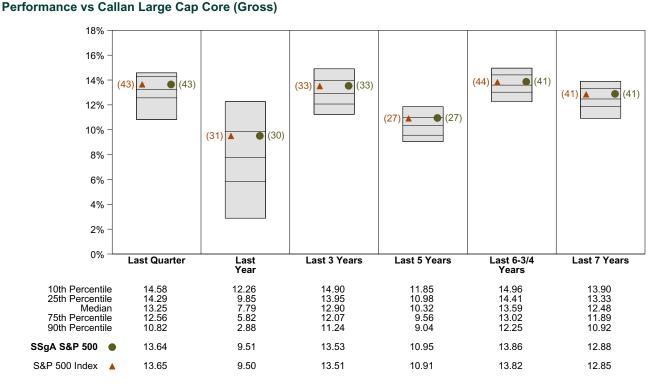
#### **Investment Philosophy**

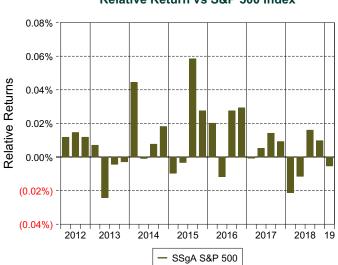
SSGA believes that their passive investment strategy can provide market-like returns with minimal transaction costs. Returns prior to 6/30/2012 are linked to a composite history.

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

- SSgA S&P 500's portfolio posted a 13.64% return for the quarter placing it in the 43 percentile of the Callan Large Cap Core group for the quarter and in the 30 percentile for the last year.
- SSgA S&P 500's portfolio underperformed the S&P 500 Index by 0.01% for the quarter and outperformed the S&P 500 Index for the year by 0.01%.

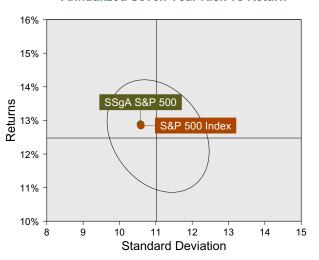
Quarterly Asset Growth						
Beginning Market Value	\$42,567,941					
Net New Investment	\$0					
Investment Gains/(Losses)	\$5,807,407					
Ending Market Value	\$48,375,349					





# Relative Return vs S&P 500 Index

### Callan Large Cap Core (Gross) Annualized Seven Year Risk vs Return

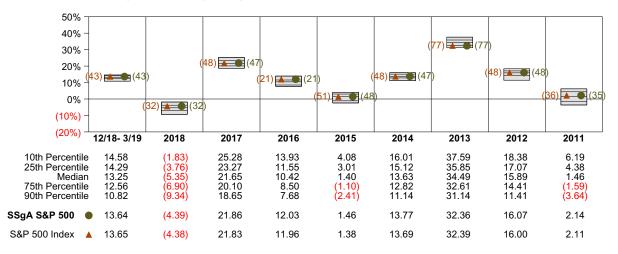


# SSgA S&P 500 Return Analysis Summary

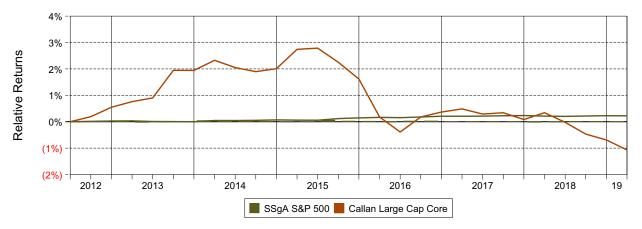
# **Return Analysis**

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.

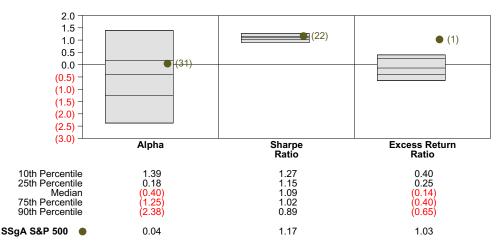
#### Performance vs Callan Large Cap Core (Gross)



Cumulative and Quarterly Relative Return vs S&P 500 Index



# Risk Adjusted Return Measures vs S&P 500 Index Rankings Against Callan Large Cap Core (Gross) Seven Years Ended March 31, 2019



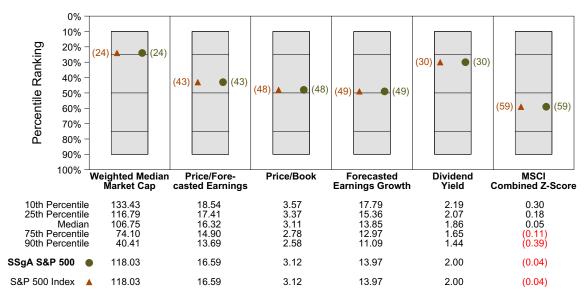


# SSgA S&P 500 Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

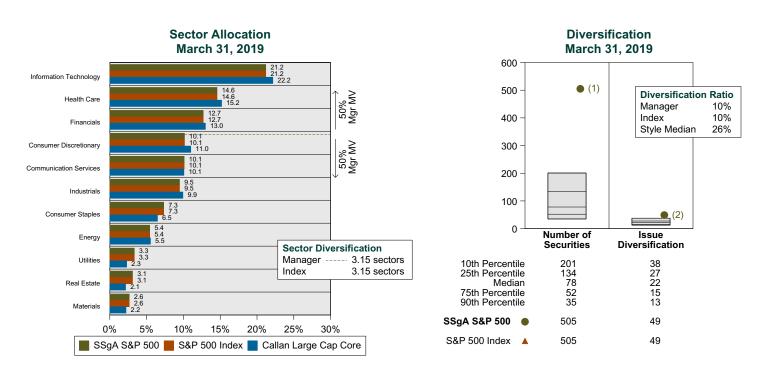
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

### Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Core as of March 31, 2019



# **Sector Weights**

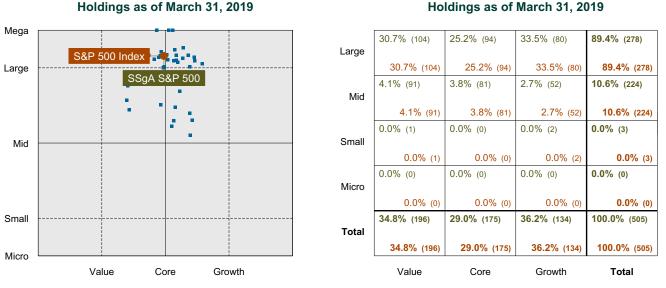
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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 SSgA S&P 500 As of March 31, 2019

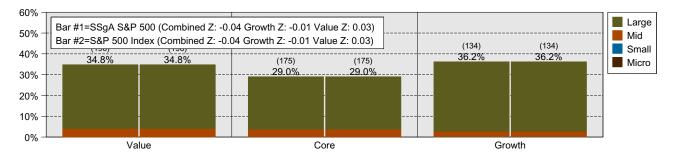
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization 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 Exposure Matrix

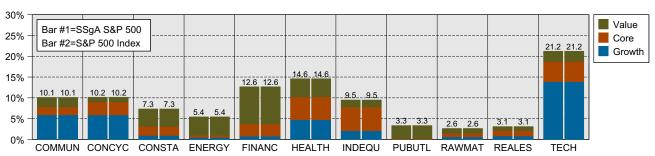


#### Style Map vs Callan Large Cap Core Holdings as of March 31, 2019

# Combined Z-Score Style Distribution Holdings as of March 31, 2019



Sector Weights Distribution Holdings as of March 31, 2019



# Boston Partners Period Ended March 31, 2019

#### **Investment Philosophy**

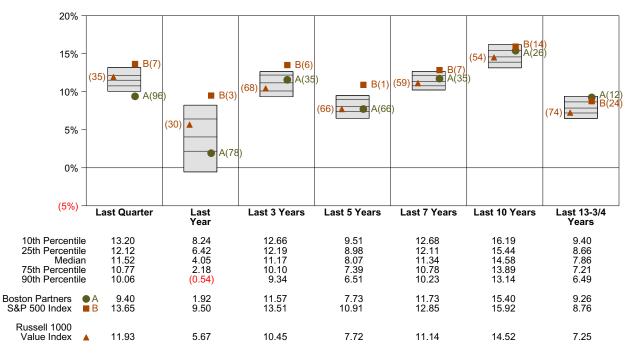
Boston Partners attempts to implement a disciplined investment process designed to find undervalued securities issued by companies with sound fundamentals and positive business momentum. Boston Partners was funded 6/27/05. The first full guarter for this portfolio is 3rd guarter 2005.

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

- Boston Partners's portfolio posted a 9.40% return for the quarter placing it in the 96 percentile of the Callan Large Cap Value group for the quarter and in the 78 percentile for the last year.
- Boston Partners's portfolio underperformed the Russell 1000 Value Index by 2.54% for the quarter and underperformed the Russell 1000 Value Index for the year by 3.75%.

Quarterly Asset Growth						
Beginning Market Value	\$41,044,721					
Net New Investment	\$8					
Investment Gains/(Losses)	\$3,857,732					
Ending Market Value	\$44,902,460					

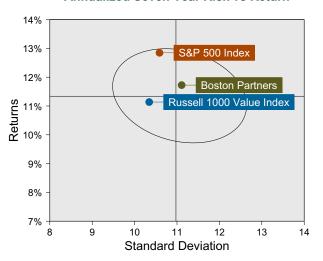
### Performance vs Callan Large Cap Value (Gross)





#### **Relative Return vs Russell 1000 Value Index**

#### Callan Large Cap Value (Gross) Annualized Seven Year Risk vs Return

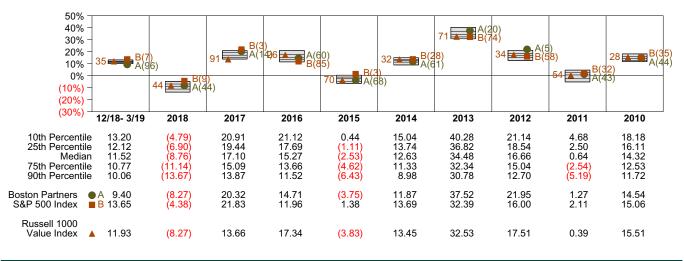


# Boston Partners Return Analysis Summary

# **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.

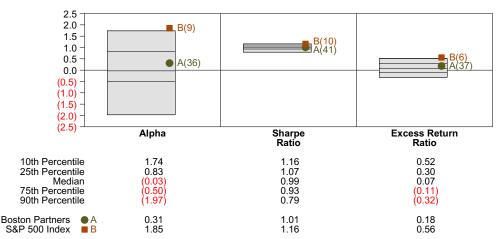




Cumulative and Quarterly Relative Return vs Russell 1000 Value Index





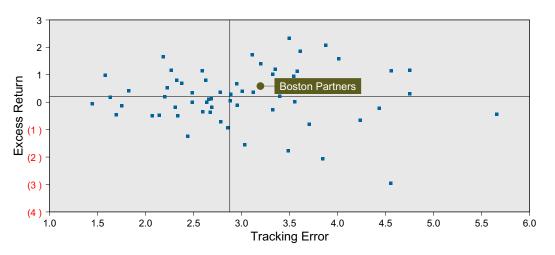


# **Boston Partners Risk Analysis Summary**

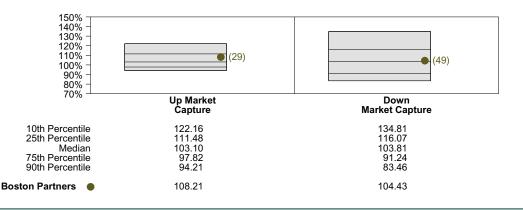
#### **Risk Analysis**

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.

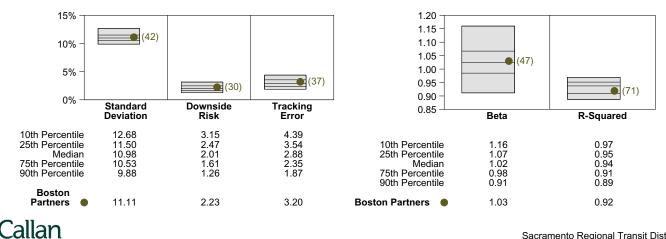
Risk Analysis vs Callan Large Cap Value (Gross) Seven Years Ended March 31, 2019



### Market Capture vs Russell 1000 Value Index Rankings Against Callan Large Cap Value (Gross) Seven Years Ended March 31, 2019





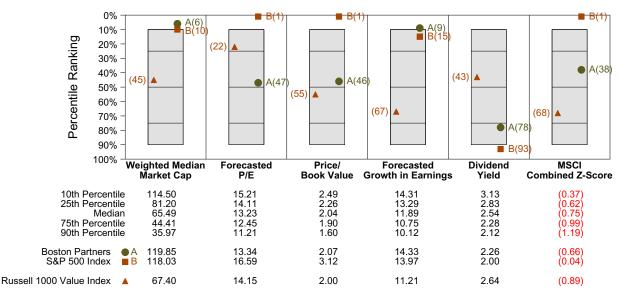


# Boston Partners Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

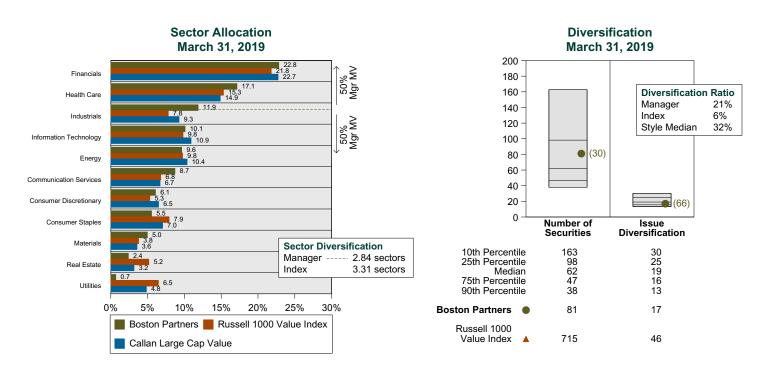
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

# Portfolio Characteristics Percentile Rankings Rankings Against Callan Large Cap Value as of March 31, 2019



# **Sector Weights**

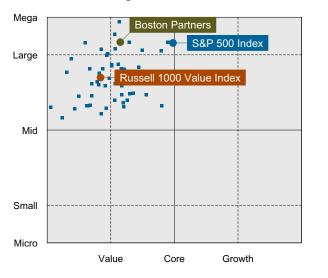
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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 Boston Partners As of March 31, 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.

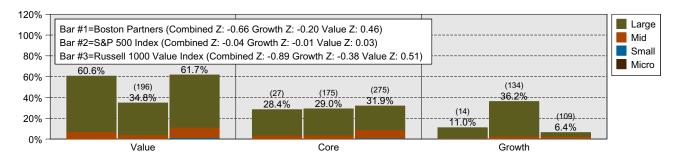


# Style Map vs Callan Large Cap Value Holdings as of March 31, 2019

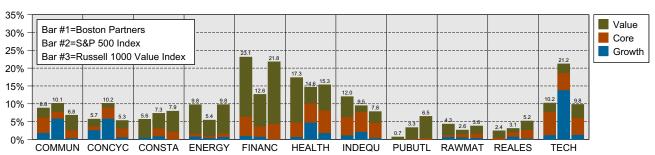
# Style Exposure Matrix Holdings as of March 31, 2019

Large	53.4% (35) 30.7% (104)	24.8% (18) 25.2% (94)	9.9% (12) 33.5% (80)	88.1% (65) 89.4% (278)
	50.5% (103)	23.0% (71)	3.8% (22)	77.3% (196)
	7.2% (9)	3.6% (8)	0.8% (1)	11.5% (18)
Mid	4.1% (91)	3.8% (81)	2.7% (52)	10.6% (224)
	10.2% (165)	8.1% (153)	2.4% (73)	<b>20.6%</b> (391)
	0.0% (0)	0.0% (0)	0.3% (1)	0.3% (1)
Small	0.0% (1)	0.0% (0)	0.0% (2)	0.0% (3)
	1.1% (59)	0.8% (50)	0.2% (14)	<b>2.1%</b> (123)
	0.0% (0)	0.0% (1)	0.0% (0)	0.0% (1)
Micro	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
	0.0% (0)	0.0% (1)	0.0% (0)	0.0% (1)
	60.6% (44)	28.4% (27)	11.0% (14)	100.0% (85)
Total	34.8% (196)	<b>29.0%</b> (175)	<b>36.2%</b> (134)	100.0% (505)
	61.7% (327)	31.9% (275)	6.4% (109)	<b>100.0%</b> (711)

# Combined Z-Score Style Distribution Holdings as of March 31, 2019

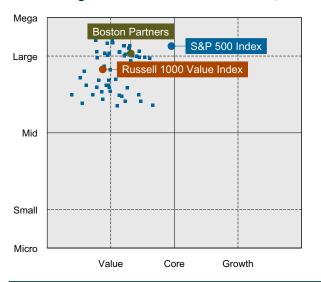


Sector Weights Distribution Holdings as of March 31, 2019



# Historical Holdings Based Style Analysis Boston Partners For Five Years Ended March 31, 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.

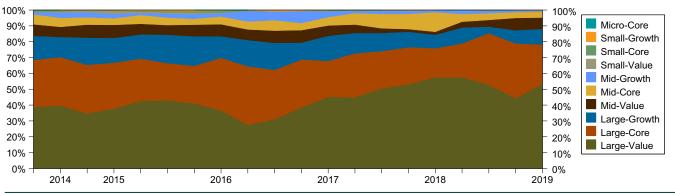


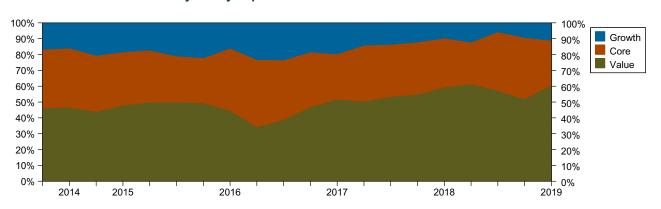
# Average Style Map vs Callan Large Cap Value Holdings for Five Years Ended March 31, 2019

# Average Style Exposure Matrix Holdings for Five Years Ended March 31, 2019

	43.6% (28)	27.8% (21)	13.0% (13)	84.4% (62)
Large	31.9% (99)	27.4% (95)	29.9% (91)	<b>89.2%</b> (285)
	51.0% (96)	23.0% (72)	4.1% (28)	78.1% (196)
	6.1% (9)	5.8% (9)	2.8% (4)	14.7% (22)
Mid	4.0% (84)	3.9% (78)	2.8% (51)	<b>10.7%</b> (213)
	10.2% (164)	7.0% (151)	2.3% (63)	<b>19.5%</b> (378)
	0.4% (1)	0.4% (1)	0.2% (1)	1.0% (3)
Small	0.0% (3)	0.0% (1)	0.0% (1)	0.1% (5)
	1.3% (60)	0.8% (45)	0.2% (16)	<b>2.3%</b> (121)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Micro	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
	0.0% (0)	0.0% (1)	0.0% (0)	<b>0.0%</b> (1)
	50.0% (38)	<b>34.0%</b> (31)	<b>16.0%</b> (18)	100.0% (87)
Total	<b>36.0%</b> (186)	31.4% (174)	32.7% (143)	100.0% (503)
	62.5% (320)	<b>30.9%</b> (269)	6.6% (107)	<b>100.0%</b> (696)
	Value	Core	Growth	Total





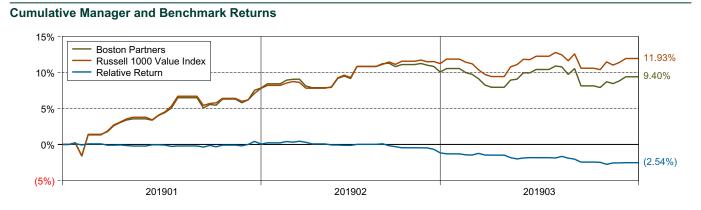




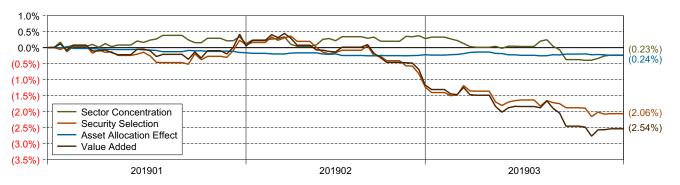
# Boston Partners vs Russell 1000 Value Index Domestic Equity Daily Performance Attribution One Quarter Ended March 31, 2019

#### **Return Sources and Timing**

The charts below illustrate the timing and cumulative paths of the manager's performance, as well as attributing relative performance to three sources: Sector Concentration, Security Selection, and Asset Allocation. The first chart shows the cumulative absolute return paths for the manager and index. The second chart shows the cumulative relative return path of the manager and the attributed sources of that value-added. The bottom table breaks the annualized attribution factors down to the sector level for more insight into sources of return.



Cumulative Attribution Effects vs. Russell 1000 Value Index



#### Attribution Effects by Sector vs. Russell 1000 Value Index One Quarter Ended March 31, 2019

Sector	Manager Eff Weight	Index Eff Weight	Manager Return	Index Return	Sector Concentration	Security Selection	Asset Allocation
Communication Services	6.00%	7.11%	12.56%	9.54%	0.02%	0.05%	-
Consumer Discretionary	4.92%	5.30%	15.83%	13.21%	0.02%	0.14%	-
Consumer Staples	5.34%	7.80%	10.47%	12.45%	(0.03)%	(0.11)%	-
Energy	8.76%	9.50%	14.53%	16.60%	(0.05)%	(0.18)%	-
Financials	27.34%	22.66%	8.60%	8.02%	(0.23)%	0.18%	-
Health Care	18.19%	15.39%	0.15%	7.67%	(0.18)%	(1.39)%	-
Industrials	11.48%	7.63%	17.10%	18.67%	0.23%	(0.20)%	-
Information Technology	10.74%	9.43%	16.25%	18.38%	0.11%	(0.23)%	-
Materials	4.10%	3.83%	3.17%	9.20%	(0.03)%	(0.28)%	-
Real Estate	2.40%	5.02%	15.49%	16.47%	(0.12)%	(0.02)%	-
Utilities	0.75%	6.33%	10.16%	11.53%	0.02%	(0.01)%	-
Non Equity	2.58%	0.00%	-	-	-	-	(0.24)%
Total	-	-	9.40%	11.93%	(0.23)%	(2.06)%	(0.24)%

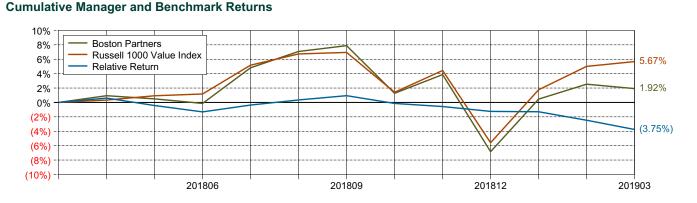
Manager Return =	Index Return	+ Sector Concentration +	Security Selection	+ Asset Allocation
9.40%	11.93%	(0.23%)	(2.06%)	(0.24%)



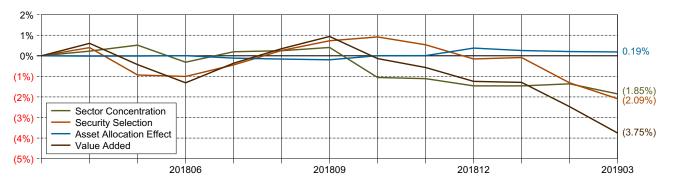
# Boston Partners vs Russell 1000 Value Index Domestic Equity Daily Performance Attribution One Year Ended March 31, 2019

#### **Return Sources and Timing**

The charts below illustrate the timing and cumulative paths of the manager's performance, as well as attributing relative performance to three sources: Sector Concentration, Security Selection, and Asset Allocation. The first chart shows the cumulative absolute return paths for the manager and index. The second chart shows the cumulative relative return path of the manager and the attributed sources of that value-added. The bottom table breaks the annualized attribution factors down to the sector level for more insight into sources of return.



**Cumulative Attribution Effects vs. Russell 1000 Value Index** 



#### Attribution Effects by Sector vs. Russell 1000 Value Index One Year Ended March 31, 2019

Sector	Manager Eff Weight	Index Eff Weight	Manager Return	Index Return	Sector Concentration	Security Selection	Asset Allocation
Communication Services	4.63%	5.40%	30.06%	6.92%	(0.07)%	0.54%	-
Consumer Discretionary	4.23%	6.16%	(4.66)%	3.65%	0.20%	(0.23)%	-
Consumer Staples	2.25%	7.56%	20.71%	8.44%	(0.22)%	0.20%	-
Energy	11.42%	10.50%	4.59%	2.19%	(0.18)%	0.27%	-
Financials	30.16%	23.97%	(5.22)%	(5.91)%	(0.73)%	0.31%	-
Health Care	18.24%	14.74%	7.87%	18.62%	0.43%	(1.73)%	-
Industrials	10.37%	7.86%	(1.99)%	0.51%	(0.12)%	(0.23)%	-
Information Technology	11.95%	9.54%	5.68%	10.75%	(0.01)%	(0.43)%	-
Materials	4.18%	3.54%	(16.97)%	(5.01)%	(0.04)%	(0.51)%	-
Real Estate	1.88%	4.80%	8.77%	19.29%	(0.39)%	(0.18)%	-
Utilities	0.68%	5.94%	0.73%	20.36%	(0.74)%	(0.10)%	-
Non Equity	2.56%	0.00%	-	-	-	-	0.19%
Total	-	-	1.92%	5.67%	(1.85)%	(2.09)%	0.19%

Manager Return =	Index Return	+ Sector Concentration _	+ Security Selection	+ Asset Allocation
1.92%	5.67%	(1.85%)	(2.09%)	0.19%

# **Boston Partners vs Russell 1000 Value Index Domestic Equity Top 10 Contribution Holdings** One Quarter Ended March 31, 2019

#### Manager Holdings with Largest (+ or -) Contribution to Performance Contrib Contrib Manager Days Index Index Manager Excess Manager Eff Wt Eff Wt Issue Sector Held Return Return Perf Return Information Technology 25.53% 25.60% 0.91% 0.26% Cisco Sys Inc 3.86% 90 1.72% Citigroup Inc Financials 2.77% 90 1.17% 20.36% 20.36% 0.53% 0.12% Comcast Corp A (New) 0.51% 0.09% Communication Services 3.13% 90 1.33% 17.36% 17.42% Chevron Corp New Energy 3.44% 90 1.75% 14.55% 14.37% 0.45% 0.06% 17.72% 0.42% 0.26% Boeing Co 90 Industrials 2.26% --Johnson & Johnson Health Care 4.65% 90 2.35% 9.03% 9.04% 0.41% (0.07)% Procter & Gamble Co **Consumer Staples** 2.80% 90 1.91% 14.09% 14.09% 0.38% 0.02% Cigna Corp New 2.21% 0.34% (15.46)% (15.30)% (0.37)% (0.52)% Health Care 90 United Technologies Corp Industrials 1.87% 90 0.76% 21.73% 21.76% 0.36% 0.10% Bank Amer Corp Financials 3.21% 90 2.01% 12.50% 12.55% 0.36% (0.02)%

#### Index Holdings with Largest (+ or -) Contribution to Performance

Issue	gest (+ or -) Contribution to Sector	Manager Eff Wt	Days Held	Index Eff Wt	Manager Return	Index Return	Contrib Index Perf	Contrib Excess Return
Exxon Mobil Corp	Energy	-	-	2.49%	-	19.81%	0.46%	(0.18)%
Cisco Sys Inc	Information Technology	3.86%	90	1.72%	25.53%	25.60%	0.40%	0.26%
Philip Morris Intl Inc	Consumer Staples	-	-	0.96%	-	34.11%	0.29%	(0.18)%
Procter & Gamble Co	Consumer Staples	2.80%	90	1.91%	14.09%	14.09%	0.26%	0.02%
Intel Corp	Information Technology	-	-	1.79%	-	15.15%	0.26%	(0.05)%
Bank Amer Corp	Financials	3.21%	90	2.01%	12.50%	12.55%	0.25%	(0.02)9
Chevron Corp New	Energy	3.44%	90	1.75%	14.55%	14.37%	0.24%	0.06%
Citigroup Inc	Financials	2.77%	90	1.17%	20.36%	20.36%	0.23%	0.12%
Comcast Corp A (New)	Communication Services	3.13%	90	1.33%	17.36%	17.42%	0.22%	0.09%
General Electric Co	Industrials	-	-	0.65%	-	37.43%	0.21%	(0.14)

#### Positions with Largest Positive Contribution to Excess Return

sitions with Largest Po	ositive Contribution to Exc	cess Return					Contrib	Contrib
		Manager	Days	Index	Manager	Index	Manager	Excess
Issue	Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
Boeing Co	Industrials	2.26%	90	-	17.72%	-	0.42%	0.26%
Cisco Sys Inc	Information Technology	3.86%	90	1.72%	25.53%	25.60%	0.91%	0.26%
Noble Energy Inc	Energy	0.78%	90	0.08%	31.68%	32.53%	0.21%	0.14%
Citigroup Inc	Financials	2.77%	90	1.17%	20.36%	20.36%	0.53%	0.12%
Cme Group Inc	Financials	-	-	0.48%	-	(12.13)%	-	0.12%
Dxc Technology Co	Information Technology	1.45%	90	0.14%	21.31%	21.31%	0.26%	0.10%
United Technologies Corp	Industrials	1.87%	90	0.76%	21.73%	21.76%	0.36%	0.10%
Dover Corp	Industrials	0.75%	90	0.10%	32.20%	32.91%	0.19%	0.09%
Union Pacific Corp	Industrials	1.29%	90	0.07%	21.23%	21.59%	0.23%	0.09%
Discover Finl Svcs	Financials	1.14%	90	0.10%	21.32%	21.32%	0.23%	0.09%

# Positions with Largest Negative Contribution to Excess Return

jative Contribution to Exe	cess Return					Contrib	Contrib
	Manager	Days	Index	Manager	Index	Manager	Excess
Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
Health Care	2.21%	90	0.34%	(15.46)%	(15.30)%	(0.37)%	(0.52)%
Health Care	1.87%	90	0.65%	(16.99)%	(17.06)%	(0.33)%	(0.37)%
3 New Financials	4.50%	90	2.78%	(1.61)%	(1.61)%	(0.07)%	(0.23)%
Information Technology	1.44%	90	0.26%	(4.24)%	(4.24)%	(0.06)%	(0.20)%
Consumer Staples	-	-	0.96%	-	34.11%	-	(0.18)%
Energy	-	-	2.49%	-	19.81%	-	(0.18)%
Communication Services	1.40%	40	1.86%	(4.57)%	6.29%	(0.09)%	(0.15)%
Industrials	-	-	0.65%	-	37.43%	-	(0.14)%
Health Care	2.55%	90	2.01%	(1.82)%	(1.88)%	(0.07)%	(0.09)%
Industrials	1.42%	90	0.19%	3.79%	4.24%	0.06%	(0.09)%
	Sector Health Care Health Care New Financials Information Technology Consumer Staples Energy Communication Services Industrials Health Care	SectorEff WtHealth Care2.21%Health Care1.87%3 New Financials4.50%Information Technology1.44%Consumer Staples-Energy-Communication Services1.40%Industrials-Health Care2.55%	SectorManager Eff WtDays HeldHealth Care2.21%90Health Care1.87%90B NewFinancials4.50%90Information Technology1.44%90Consumer StaplesEnergyCommunication Services1.40%40IndustrialsHealth Care2.55%90	SectorManager Eff WtDays HeldIndex Eff WtHealth Care2.21%900.34%Health Care1.87%900.65%3 NewFinancials4.50%902.78%Information Technology1.44%900.26%Consumer Staples0.96%Energy2.49%Communication Services1.40%401.86%Industrials0.65%Health Care2.55%902.01%	Sector         Manager Eff Wt         Days Held         Index Eff Wt         Manager Return           Health Care         2.21%         90         0.34%         (15.46)%           Health Care         1.87%         90         0.65%         (16.99)%           3 New Financials         4.50%         90         2.78%         (1.61)%           Information Technology         1.44%         90         0.26%         (4.24)%           Consumer Staples         -         0.96%         -           Energy         -         2.49%         -           Communication Services         1.40%         40         1.86%         (4.57)%           Industrials         -         -         0.65%         -           Health Care         2.55%         90         2.01%         (1.82)%	Manager         Days         Index         Manager         Index           Sector         Eff Wt         Held         Eff Wt         Return         Return           Health Care         2.21%         90         0.34%         (15.46)%         (15.30)%           Health Care         1.87%         90         0.65%         (16.99)%         (17.06)%           3 New         Financials         4.50%         90         2.78%         (1.61)%         (1.61)%           Information Technology         1.44%         90         0.26%         (4.24)%         (4.24)%           Consumer Staples         -         -         0.96%         -         34.11%           Energy         -         -         2.49%         -         19.81%           Communication Services         1.40%         40         1.86%         (4.57)%         6.29%           Industrials         -         -         0.65%         -         37.43%           Health Care         2.55%         90         2.01%         (1.88)%	Manager         Days         Index         Manager         Index         Manager         Manager         Manager         Manager         Manager         Manager         Return         Perf           Health Care         2.21%         90         0.34%         (15.46)%         (15.30)%         (0.37)%           Health Care         1.87%         90         0.65%         (16.99)%         (17.06)%         (0.33)%           3 New         Financials         4.50%         90         2.78%         (1.61)%         (1.61)%         (0.07)%           Information Technology         1.44%         90         0.26%         (4.24)%         (0.06)%         (0.06)%           Consumer Staples         -         -         0.96%         -         34.11%         -           Energy         -         -         2.49%         -         19.81%         -           Communication Services         1.40%         40         1.86%         (4.57)%         6.29%         (0.09)%           Industrials         -         -         0.65%         -         37.43%         -           Health Care         2.55%         90         2.01%         (1.82)%         (1.88)%         (0.07)%

# Atlanta Capital Period Ended March 31, 2019

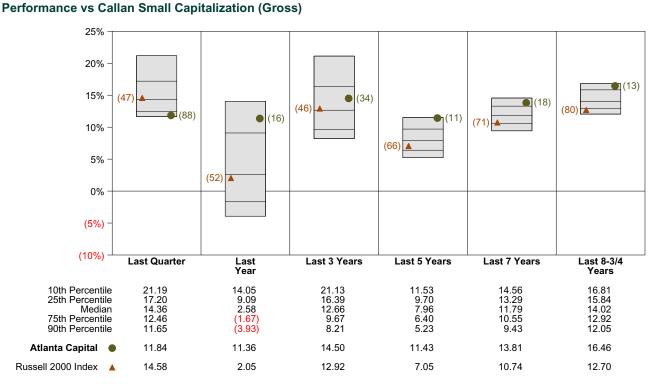
#### **Investment Philosophy**

Atlanta believes that high quality companies produce consistently increasing earnings and dividends, thereby providing attractive returns with moderate risk over the long-term. Returns prior to 6/30/2010 are linked to a composite history.

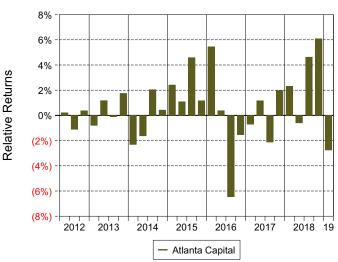
# **Quarterly Summary and Highlights**

- Atlanta Capital's portfolio posted a 11.84% return for the quarter placing it in the 88 percentile of the Callan Small Capitalization group for the quarter and in the 16 percentile for the last year.
- Atlanta Capital's portfolio underperformed the Russell 2000 Index by 2.74% for the quarter and outperformed the Russell 2000 Index for the year by 9.31%.

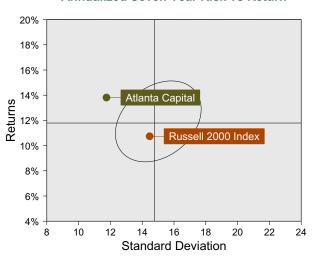
Quarterly Asset Growth							
Beginning Market Value	\$22,212,390						
Net New Investment	\$0						
Investment Gains/(Losses)	\$2,629,792						
Ending Market Value	\$24,842,181						



Relative Return vs Russell 2000 Index



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

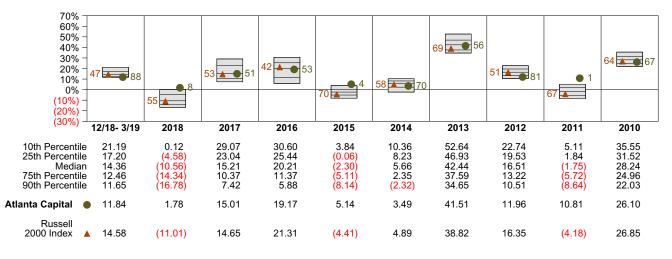


# Atlanta Capital Return Analysis Summary

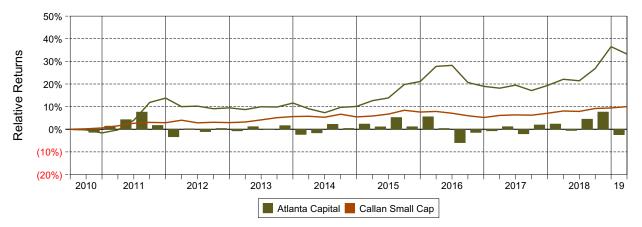
# **Return Analysis**

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.

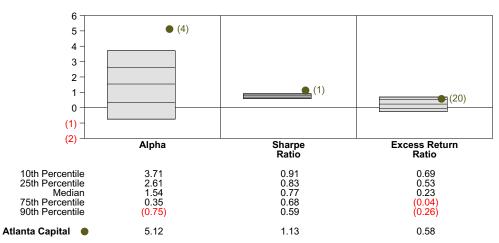
# Performance vs Callan Small Capitalization (Gross)



Cumulative and Quarterly Relative Return vs Russell 2000 Index



Risk Adjusted Return Measures vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Seven Years Ended March 31, 2019



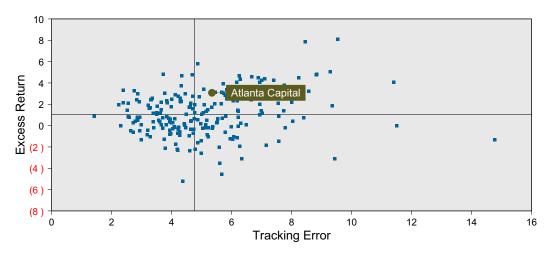


# Atlanta Capital Risk Analysis Summary

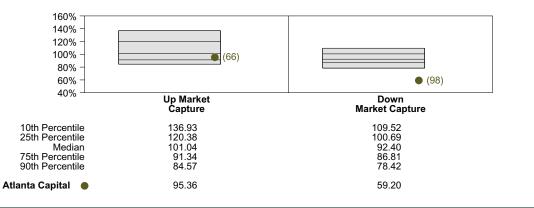
#### **Risk Analysis**

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.

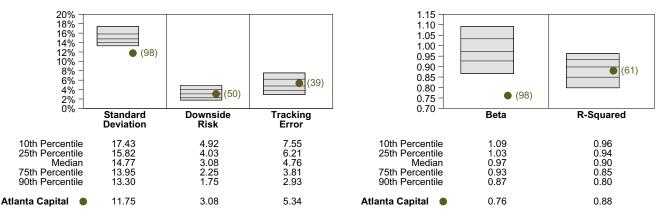
Risk Analysis vs Callan Small Capitalization (Gross) Seven Years Ended March 31, 2019



# Market Capture vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Seven Years Ended March 31, 2019



#### Risk Statistics Rankings vs Russell 2000 Index Rankings Against Callan Small Capitalization (Gross) Seven Years Ended March 31, 2019

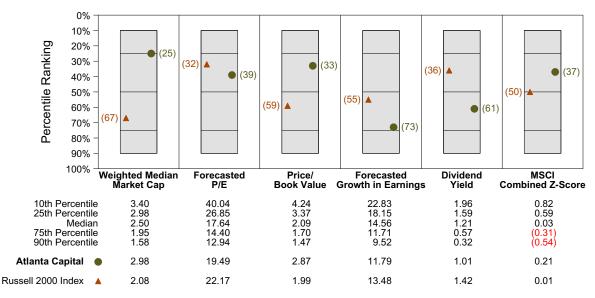


# Atlanta Capital Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

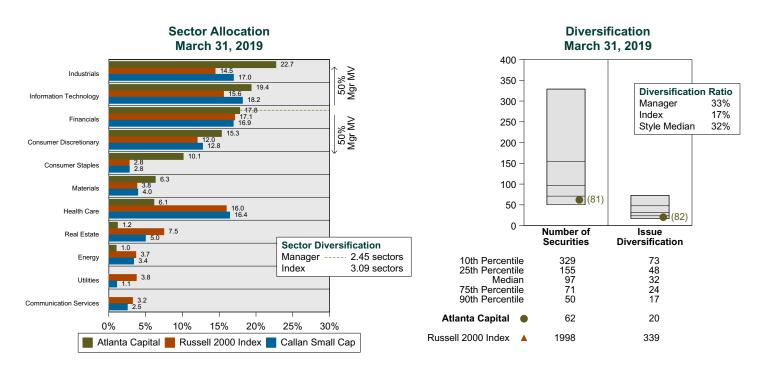
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

# Portfolio Characteristics Percentile Rankings Rankings Against Callan Small Capitalization as of March 31, 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.

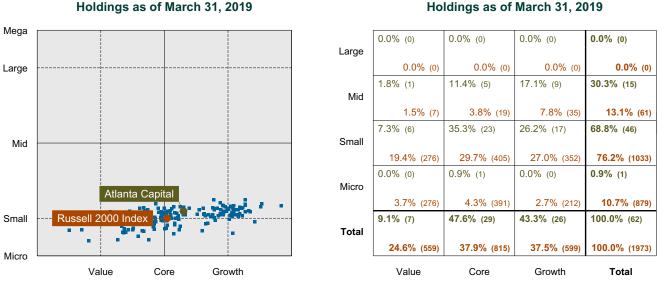




# Current Holdings Based Style Analysis Atlanta Capital As of March 31, 2019

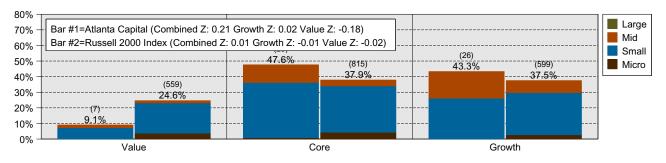
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various market capitalization and style segments of the domestic equity market. The market is segmented quarterly by capitalization and style. The capitalization 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 Exposure Matrix** 

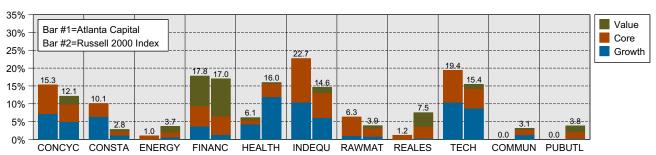


#### Style Map vs Callan Small Cap Holdings as of March 31, 2019

# Combined Z-Score Style Distribution Holdings as of March 31, 2019

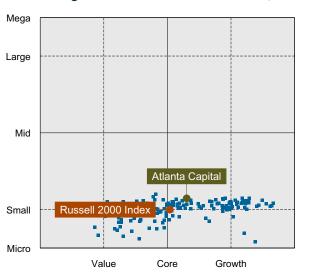


# Sector Weights Distribution Holdings as of March 31, 2019



# Historical Holdings Based Style Analysis Atlanta Capital For Five Years Ended March 31, 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.

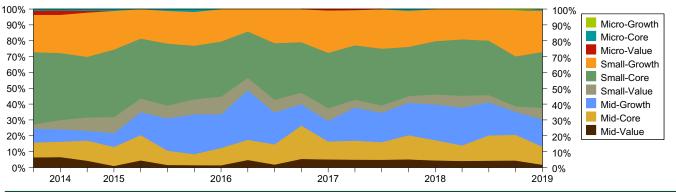


#### Average Style Map vs Callan Small Cap Holdings for Five Years Ended March 31, 2019

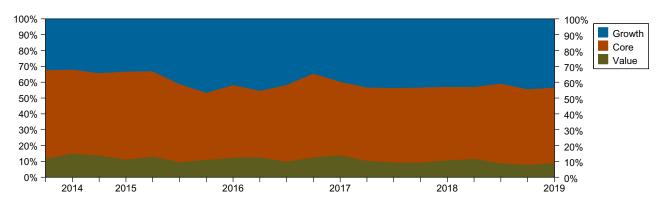
# Average Style Exposure Matrix Holdings for Five Years Ended March 31, 2019

Large				
	0.0% (0)	0.0% (0)	0.0% (0)	<b>0.0%</b> (0)
	3.9% (3)	12.5% (6)	17.4% (8)	33.9% (17)
Mid				
	1.7% (8)	3.1% (16)	5.3% (25)	<b>10.1%</b> (49)
	7.0% (6)	35.9% (24)	22.4% (13)	65.3% (43)
Small				
	20.1% (273)	31.8% (432)	25.4% (346)	<b>77.4%</b> (1051)
	0.4% (0)	0.4% (0)	0.0% (0)	0.9% (0)
Micro				
	4.2% (282)	5.1% (374)	3.2% (213)	<b>12.5%</b> (869)
	11.3% (9)	48.8% (30)	39.9% (21)	100.0% (60)
Total				
	<b>26.0%</b> (563)	40.1% (822)	33.9% (584)	<b>100.0%</b> (1969)
	Value	Core	Growth	Total





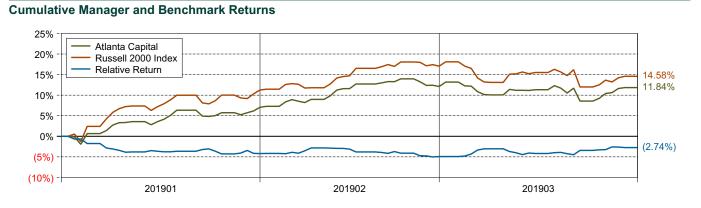




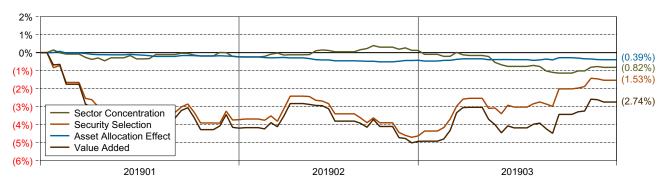
# Atlanta Capital vs Russell 2000 Index Domestic Equity Daily Performance Attribution One Quarter Ended March 31, 2019

#### **Return Sources and Timing**

The charts below illustrate the timing and cumulative paths of the manager's performance, as well as attributing relative performance to three sources: Sector Concentration, Security Selection, and Asset Allocation. The first chart shows the cumulative absolute return paths for the manager and index. The second chart shows the cumulative relative return path of the manager and the attributed sources of that value-added. The bottom table breaks the annualized attribution factors down to the sector level for more insight into sources of return.



**Cumulative Attribution Effects vs. Russell 2000 Index** 



#### Attribution Effects by Sector vs. Russell 2000 Index One Quarter Ended March 31, 2019

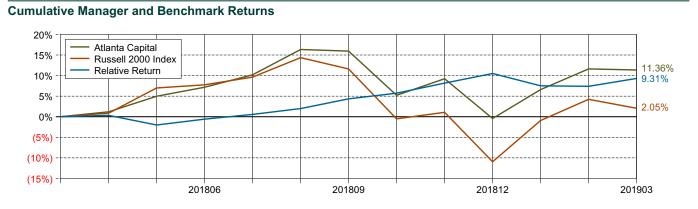
Sector	Manager Eff Weight	Index Eff Weight	Manager Return	Index Return	Sector Concentration	Security Selection	Asset Allocation
Communication Services	0.00%	3.24%	0.00%	15.14%	(0.02)%	0.00%	_
Consumer Discretionary	15.48%	12.16%	13.72%	13.15%	(0.05)%	0.04%	-
Consumer Staples	10.81%	2.81%	2.00%	7.46%	(0.59)%	(0.64)%	-
Energy	0.86%	3.56%	52.68%	19.88%	(0.14)%	0.24%	-
Financials	18.30%	17.99%	11.77%	8.59%	(0.03)%	0.58%	-
Health Care	5.75%	15.65%	6.21%	16.71%	(0.21)%	(0.60)%	-
Industrials	22.41%	14.84%	9.36%	12.22%	(0.18)%	(0.63)%	-
Information Technology	19.09%	14.94%	19.17%	22.60%	0.35%	(0.61)%	-
Materials	6.17%	3.84%	16.94%	16.96%	0.06%	(0.00)%	-
Real Estate	1.14%	7.30%	24.51%	17.62%	(0.18)%	0.07%	-
Utilities	0.00%	3.67%	0.00%	10.47%	0.16%	0.00%	-
Non Equity	3.43%	0.00%	-	-	-	-	(0.39)%
Total	-	-	11.84%	14.58%	(0.82)%	(1.53)%	(0.39)%

Manager Return =	Index Return	+ Sector Concentration +	Security Selection	Asset Allocation
11.84%	14.58%	(0.82%)	(1.53%)	(0.39%)

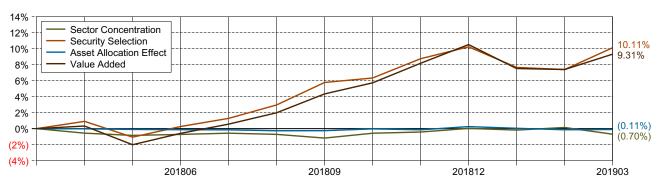
# Atlanta Capital vs Russell 2000 Index Domestic Equity Daily Performance Attribution One Year Ended March 31, 2019

### **Return Sources and Timing**

The charts below illustrate the timing and cumulative paths of the manager's performance, as well as attributing relative performance to three sources: Sector Concentration, Security Selection, and Asset Allocation. The first chart shows the cumulative absolute return paths for the manager and index. The second chart shows the cumulative relative return path of the manager and the attributed sources of that value-added. The bottom table breaks the annualized attribution factors down to the sector level for more insight into sources of return.



#### Cumulative Attribution Effects vs. Russell 2000 Index



#### Attribution Effects by Sector vs. Russell 2000 Index One Year Ended March 31, 2019

Sector	Manager Eff Weight	Index Eff Weight	Manager Return	Index Return	Sector Concentration	Security Selection	Asset Allocation
Communication Services	0.00%	2.15%	0.00%	24.16%	(0.35)%	0.00%	-
Consumer Discretionary	16.34%	12.38%	24.95%	2.16%	0.06%	3.55%	-
Consumer Staples	9.12%	2.68%	29.58%	2.55%	(0.01)%	2.35%	-
Energy	1.00%	4.25%	2.34%	(18.94)%	0.85%	0.22%	-
Financials	18.57%	17.95%	2.40%	(4.60)%	(0.03)%	1.35%	-
Health Care	6.08%	16.05%	2.33%	2.93%	(0.01)%	(0.07)%	-
Industrials	21.11%	14.95%	6.31%	(4.08)%	(0.38)%	2.38%	-
Information Technology	20.47%	15.19%	8.54%	15.98%	0.62%	(1.38)%	-
Materials	6.24%	4.10%	13.49%	(9.82)%	(0.25)%	1.54%	-
Real Estate	1.07%	6.95%	30.91%	13.64%	(0.61)%	0.16%	-
Utilities	0.00%	3.35%	0.00%	21.36%	(0.59)%	0.00%	-
Non Equity	2.66%	0.00%	-	-	-	-	(0.11)%
Total	-	-	11.36%	2.05%	(0.70)%	10.11%	(0.11)%

Manager Return =	Index Return	+ Sector Concentration	+ Security Selection	+ Asset Allocation
11.36%	2.05%	(0.70%)	10.11%	(0.11%)



# Atlanta Capital vs Russell 2000 Index Domestic Equity Top 10 Contribution Holdings One Quarter Ended March 31, 2019

nager Holdings with Lar	rgest (+ or -) Contribution	n to Performa	nce				Contrib	Contrik
		Manager	Days	Index	Manager	Index	Manager	Excess
Issue	Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
Manhattan Associates	Information Technology	3.31%	90	-	30.07%	-	0.90%	0.45%
Fair Isaac Corp	Information Technology	1.92%	90	-	45.28%	-	0.78%	0.48%
Blackbaud Inc	Information Technology	2.47%	90	0.17%	26.95%	26.95%	0.61%	0.25
Columbia Sportswear Co	Consumer Discretionary	2.05%	90	-	24.36%	-	0.61%	0.13
Dril-Quip Inc	Energy	0.83%	90	0.07%	52.68%	52.68%	0.36%	0.24
Inter Parfums Inc	Consumer Staples	2.35%	90	0.06%	16.17%	16.13%	0.36%	0.01
Integra Lifesciences Hldgs C	Health Care	1.66%	90	-	23.55%	-	0.36%	0.13
Frontdoor Inc Com	Consumer Discretionary	1.32%	90	-	29.35%	-	0.35%	0.17
Monro Inc	Consumer Discretionary	1.45%	90	0.12%	26.18%	26.18%	0.35%	0.13
Envestnet Inc	Information Technology	1.16%	90	0.13%	32.93%	32.93%	0.35%	0.17

#### Index Holdings with Largest (+ or -) Contribution to Performance

ex Holdings with Larges		Manager	Days	Index	Manager	Index	Contrib Index	Contrib Excess
Issue	Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
The Trade Desk Inc Com CI A	Information Technology	-	-	0.26%	-	70.56%	0.14%	(0.11)%
Loxo Oncology Inc	Health Care	-	-	0.26%	-	66.69%	0.14%	(0.10)%
Etsy Inc	Consumer Discretionary	-	-	0.35%	-	41.31%	0.12%	(0.08)9
Spark Therapeutics Inc	Health Care	-	-	0.11%	-	190.96%	0.12%	(0.11)9
Array Biopharma Inc	Health Care	-	-	0.20%	-	71.09%	0.11%	(0.09)9
Zscaler Inc	Information Technology	-	-	0.14%	-	80.90%	0.10%	(0.08)9
Coupa Software Inc	Information Technology	-	-	0.23%	-	44.73%	0.08%	(0.06)
Hubspot Inc	Information Technology	-	-	0.29%	-	32.20%	0.08%	(0.04)
Roku Inc Com CI A	Consumer Discretionary	-	-	0.10%	-	110.54%	0.08%	(0.07)
Cree Inc	Information Technology	-	-	0.26%	-	33.77%	0.08%	(0.04)

# Positions with Largest Positive Contribution to Excess Return

			_				Contrib	Contrib
		Manager	Days	Index	Manager	Index	Manager	Excess
Issue	Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
Fair Isaac Corp	Information Technology	1.92%	90	-	45.28%	-	0.78%	0.48%
Manhattan Associates	Information Technology	3.31%	90	-	30.07%	-	0.90%	0.45%
Blackbaud Inc	Information Technology	2.47%	90	0.17%	26.95%	26.95%	0.61%	0.25%
Dril-Quip Inc	Energy	0.83%	90	0.07%	52.68%	52.68%	0.36%	0.24%
Frontdoor Inc Com	Consumer Discretionary	1.32%	90	-	29.35%	-	0.35%	0.17%
Envestnet Inc	Information Technology	1.16%	90	0.13%	32.93%	32.93%	0.35%	0.17%
Aaon Inc Com Par \$0.004	Industrials	1.07%	90	0.08%	31.72%	31.72%	0.31%	0.15%
Monro Inc	Consumer Discretionary	1.45%	90	0.12%	26.18%	26.18%	0.35%	0.13%
Integra Lifesciences Hldgs C	Health Care	1.66%	90	-	23.55%	-	0.36%	0.13%
Columbia Sportswear Co	Consumer Discretionary	2.05%	90	-	24.36%	-	0.61%	0.13%

# Positions with Largest Negative Contribution to Excess Return

sitions with Largest Neg	gative Contribution to Ex	cess Return					Contrib	Contrib
		Manager	Days	Index	Manager	Index	Manager	Excess
Issue	Sector	Eff Wt	Held	Eff Wt	Return	Return	Perf	Return
Central Garden & Pet Com	Consumer Staples	1.09%	90	0.02%	(25.93)%	(25.81)%	(0.30)%	(0.44)%
Caseys General Stores	Consumer Staples	3.08%	90	-	0.72%		0.03%	(0.43)%
Dorman Products Inc	Consumer Discretionary	2.35%	90	0.12%	(2.14)%	(2.14)%	(0.07)%	(0.42)%
Huron Consulting Group Inc	Industrials	1.41%	90	0.06%	(7.97)%	(7.97)%	(0.13)%	(0.33)%
National Instrs Corp	Information Technology	1.67%	90	-	(1.70)%	-	(0.03)%	(0.28)%
Lancaster Colony Corp	Consumer Staples	1.11%	90	0.16%	(11.03)%	(11.03)%	(0.14)%	(0.27)%
Emergent Biosolutions Inc	Health Care	1.07%	90	0.14%	(14.40)%	(14.78)%	(0.18)%	(0.27)%
Navigators Group Inc	Financials	1.94%	90	0.07%	0.65%	0.65%	0.01%	(0.27)%
Cass Information Sys Inc	Information Technology	1.01%	90	0.04%	(10.17)%	(10.17)%	(0.11)%	(0.25)%
Beacon Roofing Supply Inc	Industrials	2.24%	90	0.12%	1.39%	1.39%	0.06%	(0.24)%

# International Equity Period Ended March 31, 2019

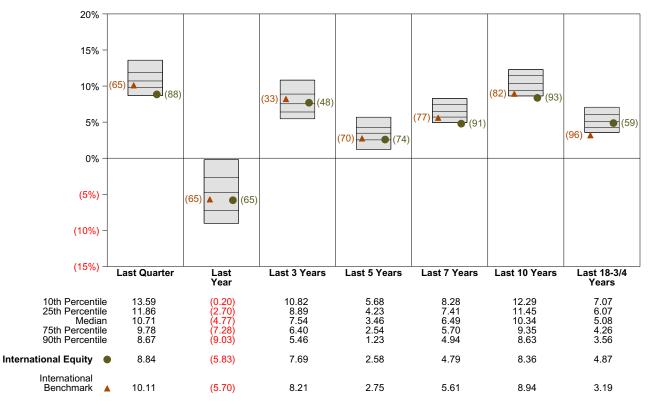
#### **Investment Philosophy**

International Benchmark = MSCI EAFE until 6/30/2013, 78.26% MSCI EAFE + 21.74% MSCI EM until 4/30/2015, 76% MSCI EAFE + 24% MSCI EM until 7/31/2016, and 56% MSCI EAFE + 24% MSCI EM + 20% MSCI EAFE Small Cap thereafter.

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

- International Equity's portfolio posted a 8.84% return for the quarter placing it in the 88 percentile of the Callan Non-US Equity group for the quarter and in the 65 percentile for the last year.
- International Equity's portfolio underperformed the International Benchmark by 1.27% for the quarter and underperformed the International Benchmark for the year by 0.13%.

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





#### **Relative Return vs International Benchmark**

# Callan Non-US Equity (Gross) Annualized Seven Year Risk vs Return

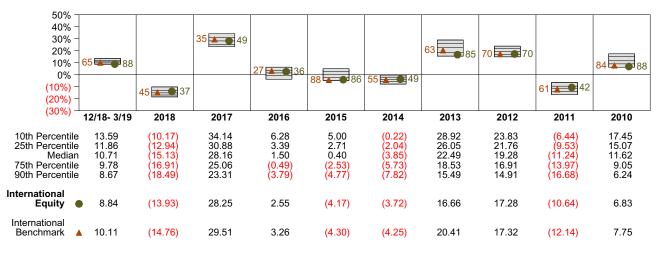


# International Equity Return Analysis Summary

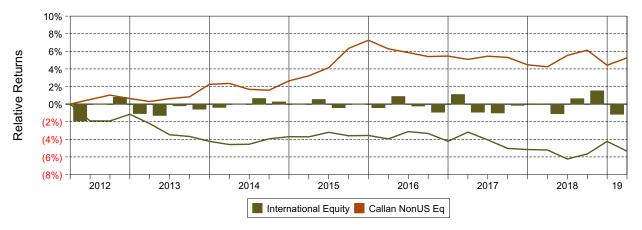
# **Return Analysis**

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.

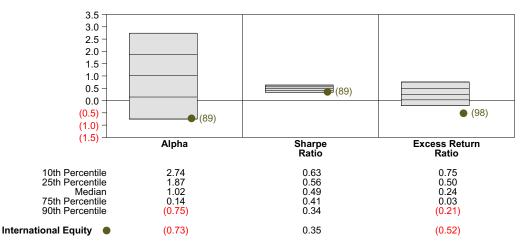




Cumulative and Quarterly Relative Return vs International Benchmark







# Current Holdings Based Style Analysis International Equity As of March 31, 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.



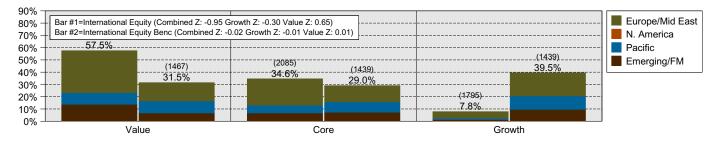
Style Map vs Callan NonUS Eq

Holdings as of March 31, 2019

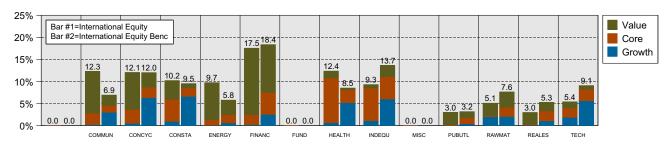
# Style Exposure Matrix Holdings as of March 31, 2019

	Value	Core	Growth	Total
	31.5% (1467)	<b>29.0%</b> (1439)	<b>39.5%</b> (1439)	100.0% (4345)
Total	011070 (2010)	c, c,		
	57.5% (2310)	34.6% (2085)	7.8% (1795)	100.0% (6190)
nerging/ FM	6.7% (379)	7.3% (366)	9.6% (365)	23.7% (1110)
	13.8% (1760)	6.7% (1551)	1.3% (1265)	21.8% (4576)
	9.8% (611)	8.5% (564)	11.0% (579)	<b>29.2%</b> (1754)
Pacific				
	9.4% (305)	6.3% (288)	1.3% (277)	17.1% (870)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
America				
	0.0% (0)	0.0% (3)	0.0% (2)	0.0% (5)
/lid East	15.0% (477)	13.2% (509)	18.9% (495)	<b>47.1%</b> (1481)
Europe/	34.4% (245)	21.6% (243)	5.2% (251)	61.2% (739)

### Combined Z-Score Style Distribution Holdings as of March 31, 2019





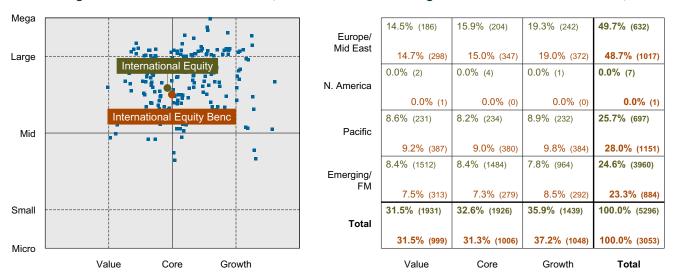


# Historical Holdings Based Style Analysis International Equity For Five Years Ended March 31, 2019

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.

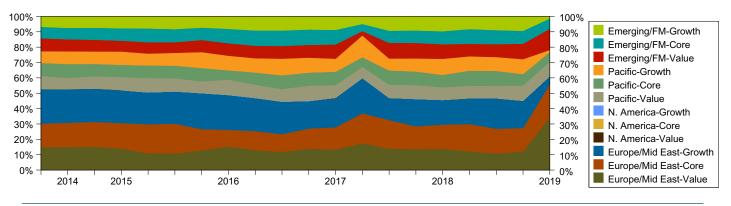
Average Style Exposure Matrix

Holdings for Five Years Ended March 31, 2019

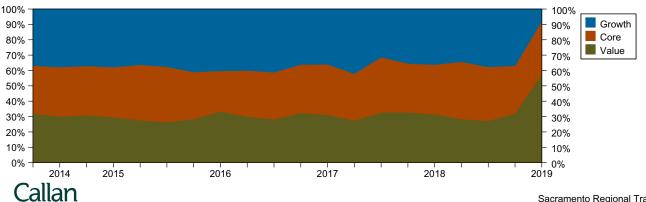


#### Average Style Map vs Callan NonUS Eq Holdings for Five Years Ended March 31, 2019

# International Equity Historical Region/Style Exposures



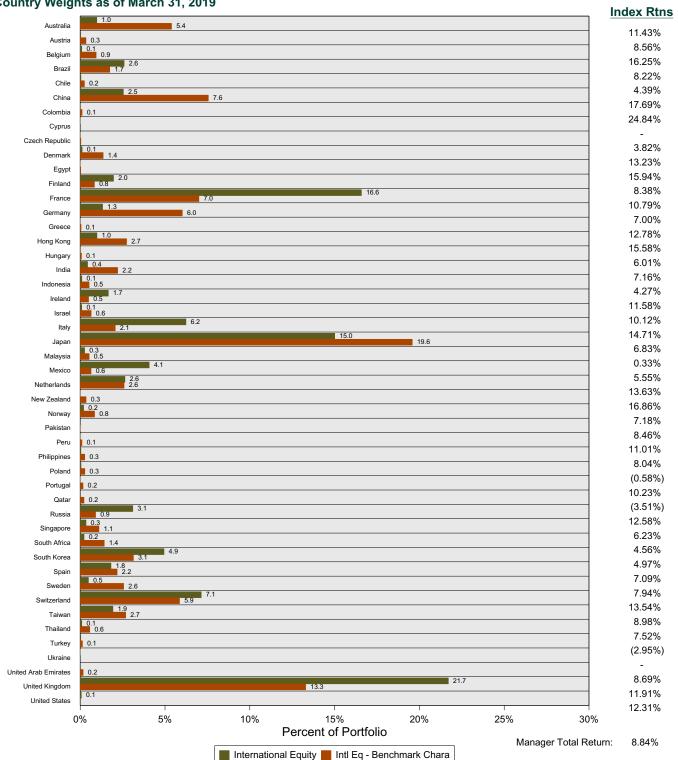




# **Country Allocation** International Equity VS Intl Eq - Benchmark Characteristics

#### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of March 31, 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 March 31, 2019



# SSqA EAFE Period Ended March 31, 2019

#### **Investment Philosophy**

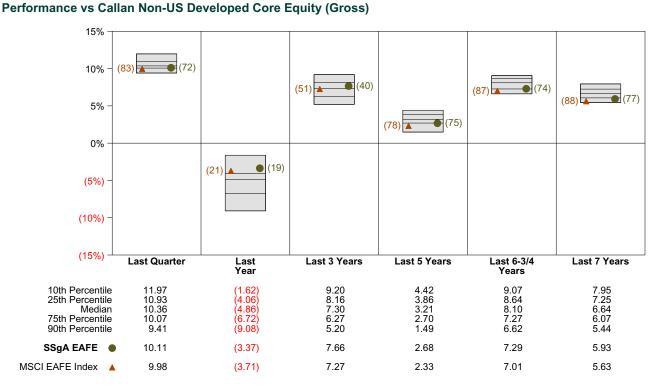
SSGA's objective is to provide the most cost-effective implementation of passive investing with stringent risk control and tracking requirements through a replication method. Returns prior to 6/30/2012 are linked to a composite history.

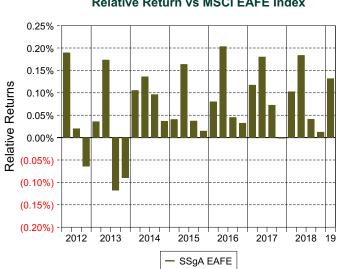
# **Quarterly Summary and Highlights**

• SSgA EAFE's portfolio posted a 10.11% return for the quarter placing it in the 72 percentile of the Callan Non-US Developed Core Equity group for the quarter and in the 19 percentile for the last year.

٠	SSgA EAFE's portfolio outperformed the MSCI EAFE Index
	by 0.13% for the quarter and outperformed the MSCI EAFE
	Index for the year by 0.35%.

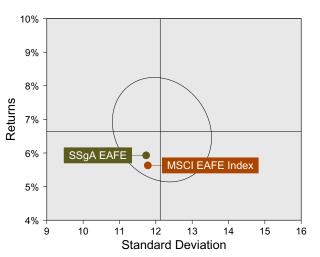
Quarterly Asset Growth					
Beginning Market Value	\$9,970,217				
Net New Investment \$0					
Investment Gains/(Losses) \$1,007,925					
Ending Market Value \$10,978,142					





### **Relative Return vs MSCI EAFE Index**

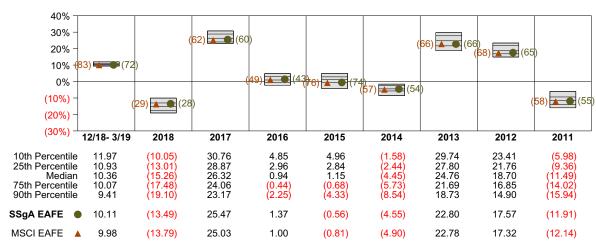
#### Callan Non-US Developed Core Equity (Gross) Annualized Seven Year Risk vs Return



# SSgA EAFE Return Analysis Summary

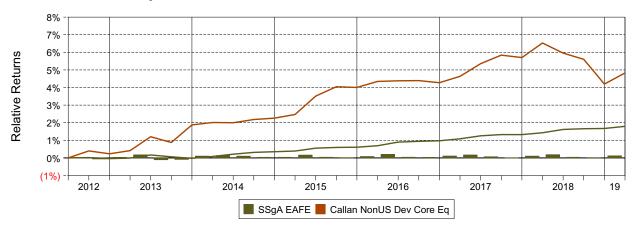
# **Return Analysis**

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.

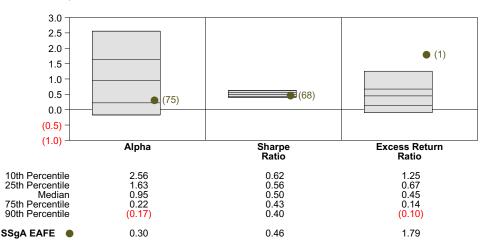


Performance vs Callan Non-US Developed Core Equity (Gross)

**Cumulative and Quarterly Relative Return vs MSCI EAFE** 



Risk Adjusted Return Measures vs MSCI EAFE Rankings Against Callan Non-US Developed Core Equity (Gross) Seven Years Ended March 31, 2019



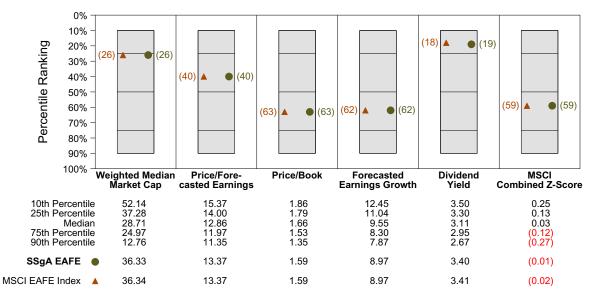


# SSgA EAFE Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

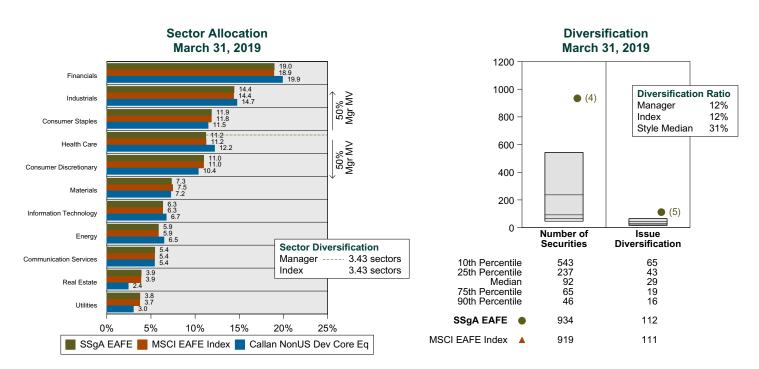
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

# Portfolio Characteristics Percentile Rankings Rankings Against Callan Non-US Developed Core Equity as of March 31, 2019



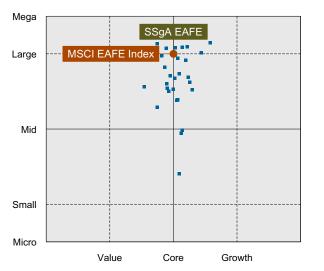
# **Sector Weights**

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** SSgA EAFE As of March 31, 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.

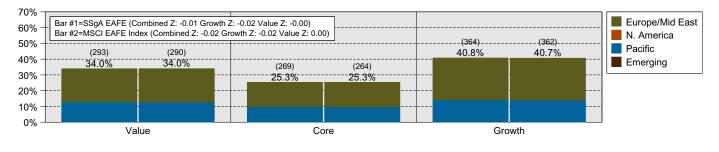


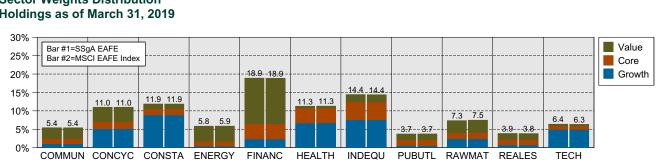
# Style Map vs Callan NonUS Dev Core Eq Holdings as of March 31, 2019

# **Style Exposure Matrix** Holdings as of March 31, 2019

	21.1% (144)	15.6% (126)	26.5% (181)	63.1% (451)
Europe/	21.170 (144)	13.0 % (120)	20.370 (101)	03.170 (451)
Mid East	21.2% (143)	15.7% (123)	26.5% (180)	63.3% (446)
	21.270 (143)	13.7 /0 (123)	20.376 (160)	03.3 /0 (440)
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
N. America				
	0.0% (0)	0.0% (0)	0.0% (1)	0.0% (1)
	12.9% (149)	9.7% (143)	14.3% (182)	36.9% (474)
Pacific				. ,
	12.8% (147)	9.7% (141)	14.2% (181)	36.6% (469)
	0.0% (0)	0.0% (0)	0.0% (1)	0.0% (1)
Emerging				
	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
	34.0% (293)	25.3% (269)	40.8% (364)	100.0% (926)
Total				
	34.0% (290)	25.3% (264)	40.7% (362)	100.0% (916)
	Value	Core	Growth	Total

### **Combined Z-Score Style Distribution** Holdings as of March 31, 2019



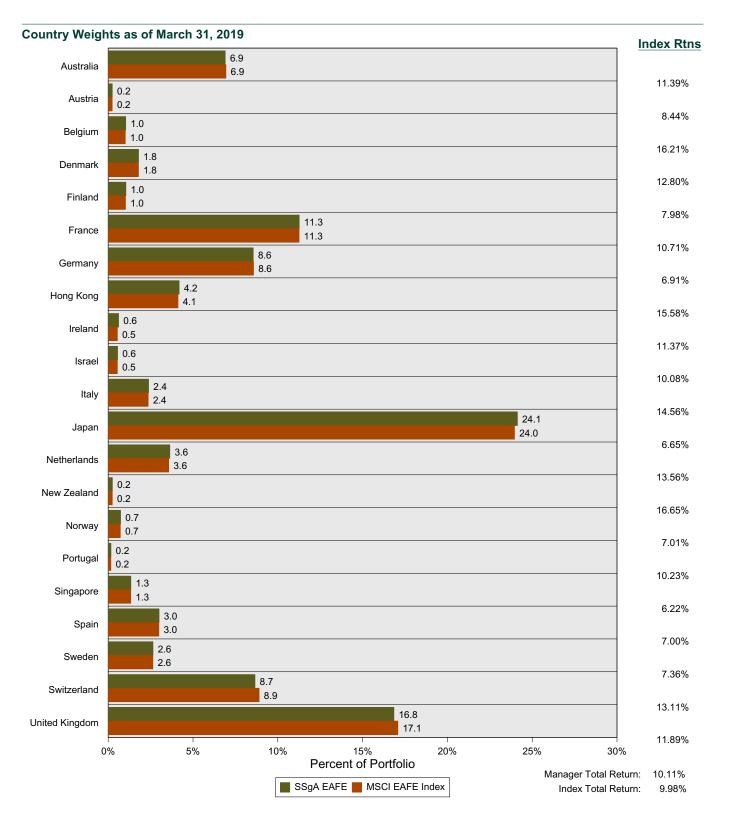


### **Sector Weights Distribution** Holdings as of March 31, 2019

# Country Allocation SSgA EAFE VS MSCI EAFE Index

### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of March 31, 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.



# SSgA EAFE Top 10 Portfolio Holdings Characteristics as of March 31, 2019

# 10 Largest Holdings

		Ending	Percent			Price/ Forecasted	Dividend	Forecasted Growth in
		Market	of	Qtrly	Market	Earnings		
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Nestle S A Shs Nom New	Consumer Staples	\$232,111	2.1%	17.72%	291.88	21.61	2.58%	8.72%
Novartis	Health Care	\$165,815	1.5%	16.42%	245.31	17.32	2.98%	6.92%
Roche Hldgs Ag Basel Div Rts Ctf	Health Care	\$153,912	1.4%	15.14%	193.54	14.81	3.03%	4.59%
Hsbc Holdings (Gb)	Financials	\$130,156	1.2%	1.12%	163.20	11.23	6.05%	3.44%
Bp Plc Shs	Energy	\$116,754	1.1%	16.86%	148.07	12.86	5.58%	27.32%
Royal Dutch Shell A Shs	Energy	\$113,358	1.0%	8.75%	138.21	11.50	5.85%	16.80%
Toyota Motor Corp	Consumer Discretionary	\$108,543	1.0%	0.39%	191.24	7.94	3.39%	4.40%
Total Sa Act	Energy	\$108,189	1.0%	6.64%	146.89	9.96	5.13%	13.61%
Aia Group Ltd Com Par Usd 1	Financials	\$99,169	0.9%	19.91%	120.23	17.87	1.41%	25.04%
Royal Dutch Shell 'b' Shs	Energy	\$94,786	0.9%	7.71%	118.50	11.35	5.94%	14.35%

#### **10 Best Performers**

		Ending	Percent		Price/ Forecasted			Forecasted
Stock	Conton	Market Value	of Portfolio	Qtrly Return	Market	Earnings Ratio	Dividend Yield	Growth in
	Sector				Capital			Earnings
Abengoa Sa Eur0.01 Class B	Industrials	\$30	0.0%	137.50%	0.16	(1.17)	0.00%	-
Allied Mining & Proc.	Materials	\$6,288	0.1%	73.19%	15.55	9.22	4.36%	(8.71)%
Micro Focus International PI Spon Ad	Information Technology	\$3,302	0.0%	53.38%	10.58	-	4.52%	(7.38)%
Zalando	Consumer Discretionary	\$3,528	0.0%	52.36%	9.82	98.54	0.00%	14.30%
Micro Focus International PI Ord	Information Technology	\$5,476	0.0%	51.27%	10.68	11.77	4.46%	(2.10)%
Hitachi Chemical Co Ltd Shs	Materials	\$1,864	0.0%	48.12%	4.62	14.24	2.45%	7.24%
Shimadzu Corp Shs	Information Technology	\$5,198	0.0%	46.50%	8.56	26.35	0.81%	10.92%
Softbank Corp Ord	Communication Services	\$64,976	0.6%	46.09%	106.85	8.71	0.41%	(26.38)%
Adyen NV Common Stock Eur.01	Information Technology	\$6,640	0.1%	44.32%	23.18	101.02	0.00%	38.25%
Aker Bp Asa Shs	Energy	\$3,173	0.0%	44.00%	12.84	23.44	4.03%	11.40%

# **10 Worst Performers**

						Price/		
	Sector	Ending Market Value	Percent			Forecasted		Forecasted Growth in Earnings
			of Portfolio	Qtrly Return	Market Capital	5	Dividend Yield	
Stock								
Bank Ireland Group Plc Ord Shs	Financials	\$4,754	0.0%	(94.12)%	6.43	8.10	3.01%	(0.71)%
Foreningssparbanken	Financials	\$10,352	0.1%	(29.65)%	16.03	7.21	10.81%	3.13%
Iliad Act	Communication Services	\$2,167	0.0%	(28.32)%	5.91	13.95	1.01%	9.35%
Bezeq The Israeli Telecom Cp Ord	Communication Services	\$1,232	0.0%	(28.04)%	1.94	7.40	4.51%	(16.15)%
Eisai Co	Health Care	\$11,468	0.1%	(26.64)%	16.65	27.75	2.41%	13.85%
Tui	Consumer Discretionary	\$952	0.0%	(25.66)%	5.73	6.96	8.29%	3.50%
Green Cross Coa Co.	Consumer Staples	\$1,312	0.0%	(24.58)%	3.56	18.65	1.12%	9.76%
Yamazaki Baking Co	Consumer Staples	\$1,612	0.0%	(22.79)%	3.57	22.86	1.11%	24.49%
Dainippon Sumitomo Pharma Co Ord	Health Care	\$3,184	0.0%	(22.06)%	9.84	25.44	0.66%	(1.87)%
Telefonica Deutschland Hldg Ag Npv	Communication Services	\$1,874	0.0%	(19.52)%	9.35	(261.92)	9.65%	-

## Pyrford Period Ended March 31, 2019

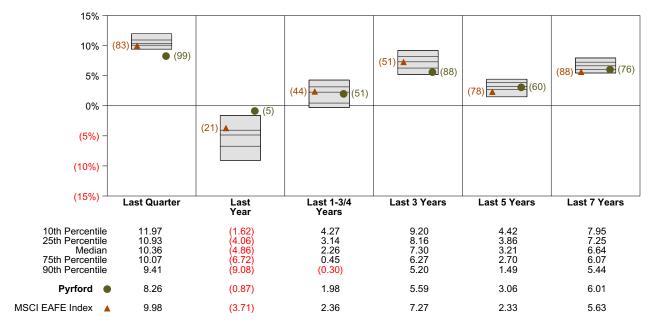
#### **Investment Philosophy**

Pyrford's investment strategy is based on a value-driven, absolute return approach, with both top-down and bottom-up elements. At the country level they seek to invest in countries that offer an attractive market valuation relative to their long-term prospects. At the stock level they identify companies that offer excellent value relative to in-house forecasts of long-term (5 years) earnings growth. This approach is characterized by low absolute volatility and downside protection. Returns prior to 6/30/2017 are linked to a composite history.

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

- Pyrford's portfolio posted a 8.26% return for the quarter placing it in the 99 percentile of the Callan Non-US Developed Core Equity group for the quarter and in the 5 percentile for the last year.
- Pyrford's portfolio underperformed the MSCI EAFE Index by 1.72% for the quarter and outperformed the MSCI EAFE Index for the year by 2.85%.

Quarterly Asset Gro	owth
Beginning Market Value	\$24,468,964
Net New Investment	\$0
Investment Gains/(Losses)	\$2,021,419
Ending Market Value	\$26,490,383

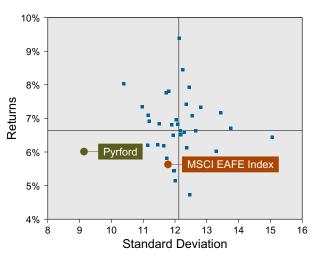


## Performance vs Callan Non-US Developed Core Equity (Gross)



Relative Return vs MSCI EAFE Index

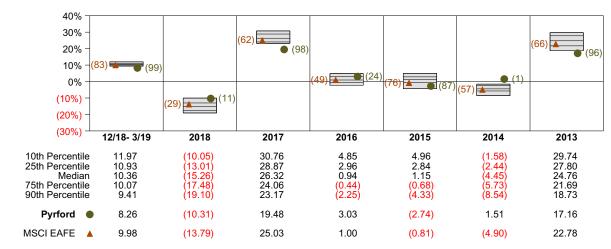
#### Callan Non-US Developed Core Equity (Gross) Annualized Seven Year Risk vs Return



# Pyrford Return Analysis Summary

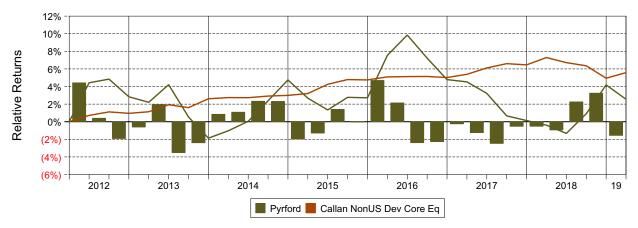
## **Return Analysis**

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.

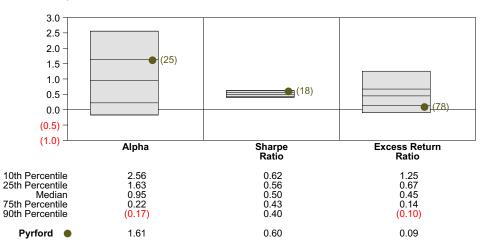


Performance vs Callan Non-US Developed Core Equity (Gross)

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



Risk Adjusted Return Measures vs MSCI EAFE Rankings Against Callan Non-US Developed Core Equity (Gross) Seven Years Ended March 31, 2019



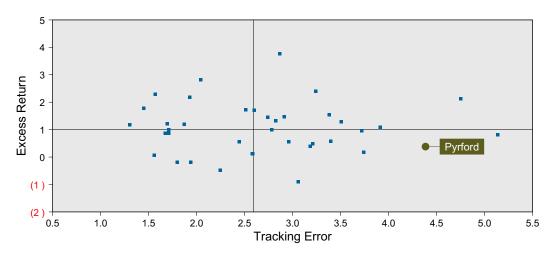


# Pyrford Risk Analysis Summary

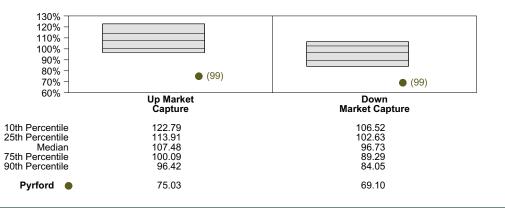
#### **Risk Analysis**

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.

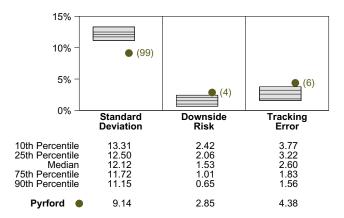
Risk Analysis vs Callan Non-US Developed Core Equity (Gross) Seven Years Ended March 31, 2019

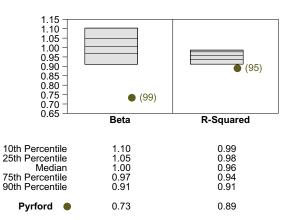


Market Capture vs MSCI EAFE Index (USD Net Div) Rankings Against Callan Non-US Developed Core Equity (Gross) Seven Years Ended March 31, 2019



Risk Statistics Rankings vs MSCI EAFE Index (USD Net Div) Rankings Against Callan Non-US Developed Core Equity (Gross) Seven Years Ended March 31, 2019



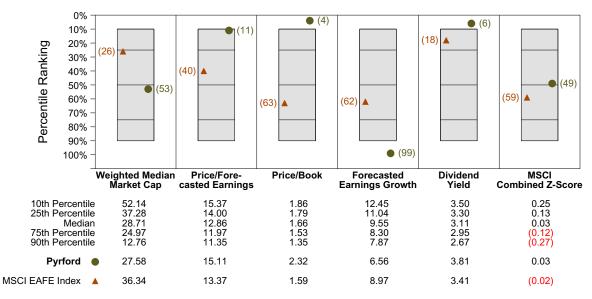


# Pyrford Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

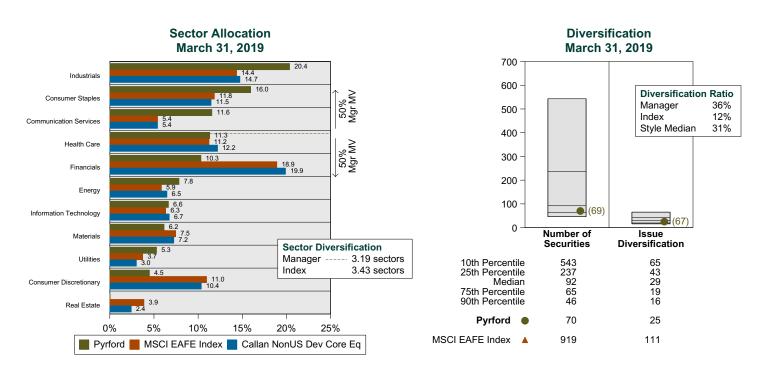
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Non-US Developed Core Equity as of March 31, 2019



## **Sector Weights**

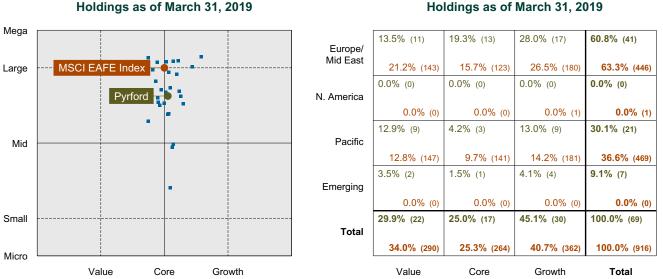
The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration 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 Pvrford** As of March 31, 2019

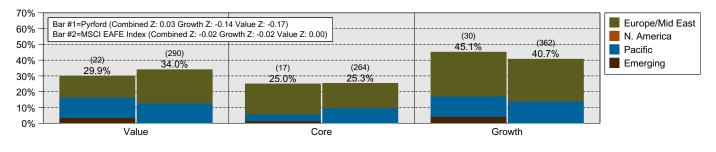
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are 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.

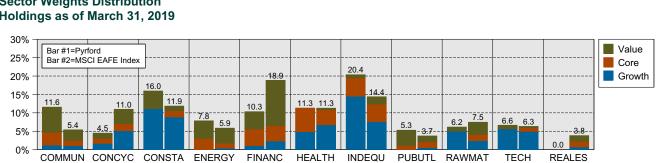
**Style Exposure Matrix** 



## Style Map vs Callan NonUS Dev Core Eq Holdings as of March 31, 2019

## **Combined Z-Score Style Distribution** Holdings as of March 31, 2019





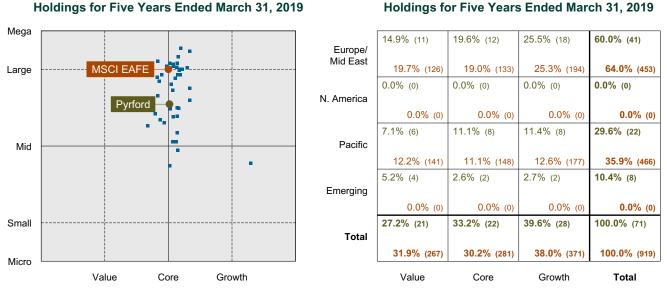
## **Sector Weights Distribution** Holdings as of March 31, 2019

## Historical Holdings Based Style Analysis Pyrford For Five Years Ended March 31, 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.

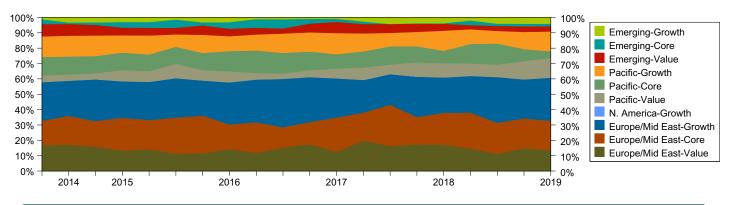
**Average Style Exposure Matrix** 

70

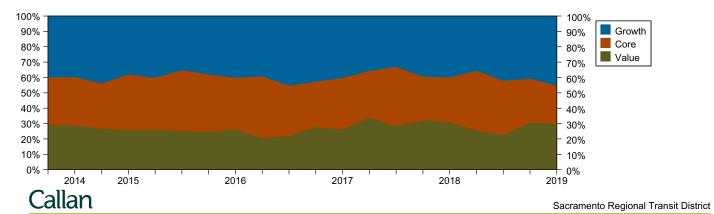


#### Average Style Map vs Callan NonUS Dev Core Eq Holdings for Five Years Ended March 31, 2019





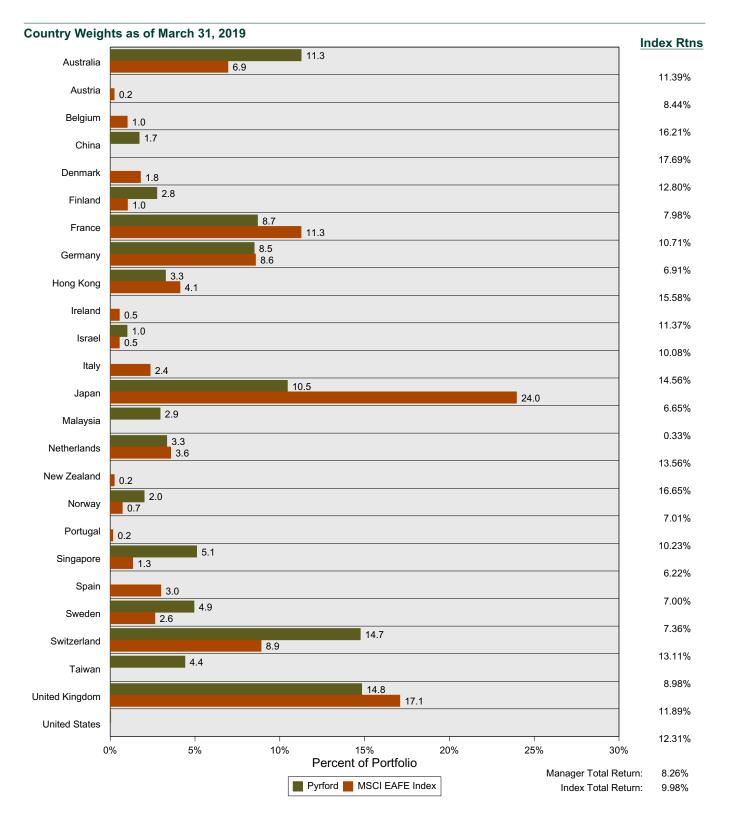




# Country Allocation Pyrford VS MSCI EAFE Index

#### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of March 31, 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.



# Pyrford Top 10 Portfolio Holdings Characteristics as of March 31, 2019

# 10 Largest Holdings

		Ending	Percent			Price/ Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Nestle S A Shs Nom New	Consumer Staples	\$1,001,140	3.8%	17.72%	291.88	21.61	2.58%	8.72%
Roche Hldgs Ag Basel Div Rts Ctf	Health Care	\$901,302	3.4%	15.14%	193.54	14.81	3.03%	4.59%
Novartis	Health Care	\$791,901	3.0%	16.42%	245.31	17.32	2.98%	6.92%
Japan Tobacco Inc Ord	Consumer Staples	\$658,333	2.5%	4.15%	49.60	12.57	5.46%	(5.55)%
Brambles Ltd Npv	Industrials	\$578,530	2.2%	17.66%	13.31	20.03	2.47%	7.25%
Woolworths Ltd	Consumer Staples	\$565,642	2.1%	5.90%	28.45	22.29	3.13%	6.65%
National Grid Ord	Utilities	\$552,510	2.1%	13.91%	37.81	14.67	5.47%	1.32%
Essity Ab	Consumer Staples	\$544,068	2.1%	17.75%	18.45	18.86	2.14%	7.78%
Telenor Asa Shs	Communication Services	\$531,807	2.0%	3.68%	29.51	16.95	4.86%	2.34%
Woodside Petroleum	Energy	\$481,191	1.8%	12.87%	23.02	14.52	5.77%	10.65%

#### **10 Best Performers**

		Ending	Percent			Price/ Forecasted		Forecasted
	Contan.	Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
British American Tobacco	Consumer Staples	\$363,893	1.4%	32.80%	95.47	10.08	6.17%	6.34%
Rio Tinto Ltd Ord	Materials	\$290,735	1.1%	27.32%	25.82	12.55	4.08%	(8.93)%
Panalpina Welt Ag	Industrials	\$199,821	0.8%	25.28%	3.95	33.39	2.26%	34.90%
Qbe Insurance Group Ltd Shs	Financials	\$389,539	1.5%	24.45%	11.62	12.90	4.06%	14.28%
Merida Industry Co.	Consumer Discretionary	\$117,305	0.4%	24.30%	1.67	21.54	1.16%	(30.49)%
Vtech Holdings Ltd Shs New	Information Technology	\$274,199	1.0%	23.52%	2.57	13.14	7.81%	(3.56)%
Legal & General Group	Financials	\$425,121	1.6%	21.93%	21.38	8.69	5.96%	3.92%
Assa Abloy A B Ord B	Industrials	\$395,809	1.5%	21.30%	22.83	21.30	1.74%	11.40%
Advantech Co	Information Technology	\$274,911	1.0%	21.29%	5.80	23.81	2.58%	12.36%
Comfortdelgro Corporation Lt Shs	Industrials	\$385,662	1.5%	20.29%	4.11	17.25	4.09%	6.84%

## **10 Worst Performers**

						Price/		
		Ending	Percent			Forecasted		Forecasted
Stock		Market	of	Qtrly	Market	Earnings Ratio	Dividend Yield	Growth in
	Sector	Value	Portfolio	Return	Capital			Earnings
Bezeq The Israeli Telecom Cp Ord	Communication Services	\$264,767	1.0%	(28.04)%	1.94	7.40	4.51%	(16.15)%
Nihon Kohden Corp Shs	Health Care	\$394,185	1.5%	(8.15)%	2.64	23.80	1.06%	(15.66)%
Kddi	Communication Services	\$443,677	1.7%	(8.08)%	54.56	9.24	3.98%	4.50%
Vodafone Group Plc New Shs New	Communication Services	\$300,312	1.1%	(6.49)%	49.55	14.92	9.51%	4.60%
Chunghwa Telecom Co Ltd Shs	Communication Services	\$393,519	1.5%	(3.32)%	27.56	24.32	4.38%	(1.25)%
Malayan Banking Bhd Maybank Shs	Financials	\$465,109	1.8%	(1.23)%	25.09	12.08	6.15%	8.69%
Power Assets Holdings Limite Shs	Utilities	\$305,251	1.2%	(0.35)%	14.80	14.95	5.14%	4.64%
Sumitomo Rubber Ind	Consumer Discretionary	\$380,181	1.4%	0.78%	3.16	9.43	4.14%	4.57%
Computershare Limited Cpu Shs	Information Technology	\$436,744	1.6%	0.84%	6.59	15.90	2.46%	9.57%
Fuchs Petrolub Pref.	Materials	\$409,087	1.5%	1.46%	2.89	18.59	2.56%	3.94%

# AQR Period Ended March 31, 2019

#### Investment Philosophy

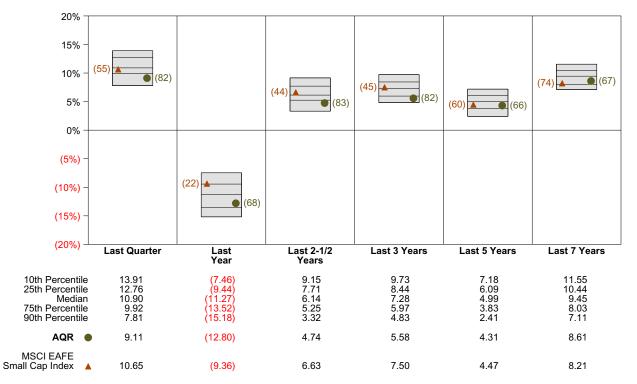
Returns prior to 9/30/2016 are linked to a composite history.

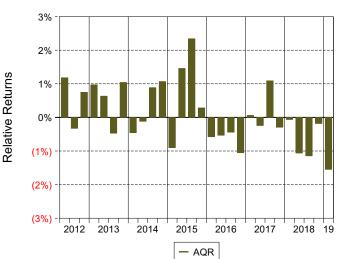
#### **Quarterly Summary and Highlights**

- AQR's portfolio posted a 9.11% return for the quarter placing it in the 82 percentile of the Callan International Small Cap group for the quarter and in the 68 percentile for the last year.
- AQR's portfolio underperformed the MSCI EAFE Small Cap Index by 1.55% for the quarter and underperformed the MSCI EAFE Small Cap Index for the year by 3.44%.

Quarterly Asset Gro	owth
Beginning Market Value	\$11,927,378
Net New Investment	\$0
Investment Gains/(Losses)	\$1,059,359
Ending Market Value	\$12,986,737

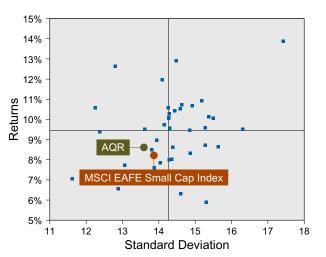
## Performance vs Callan International Small Cap (Gross)





#### Relative Returns vs MSCI EAFE Small Cap Index

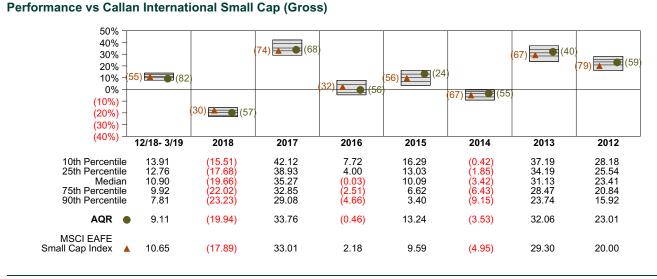
#### Callan International Small Cap (Gross) Annualized Seven Year Risk vs Return



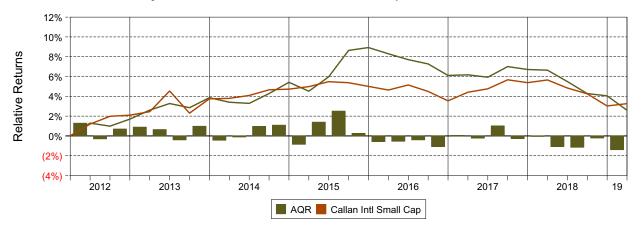
# AQR Return Analysis Summary

## **Return Analysis**

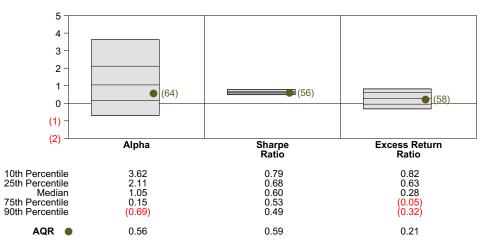
The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate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



Cumulative and Quarterly Relative Return vs MSCI EAFE Small Cap Index



Risk Adjusted Return Measures vs MSCI EAFE Small Cap Index Rankings Against Callan International Small Cap (Gross) Seven Years Ended March 31, 2019



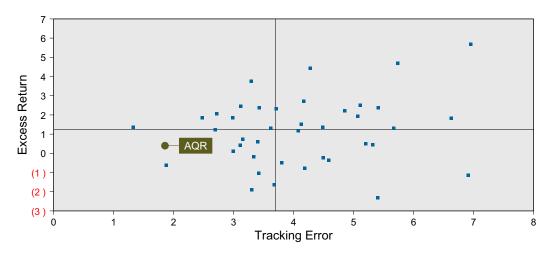


# AQR **Risk Analysis Summary**

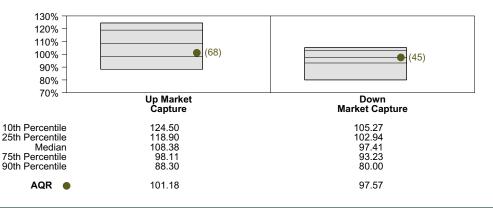
#### **Risk Analysis**

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

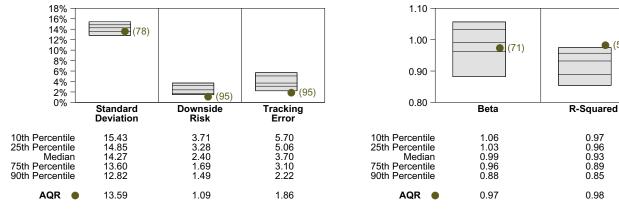
**Risk Analysis vs Callan International Small Cap (Gross)** Seven Years Ended March 31, 2019



#### Market Capture vs MSCI EAFE Small Cap Index Rankings Against Callan International Small Cap (Gross) Seven Years Ended March 31, 2019









0.96

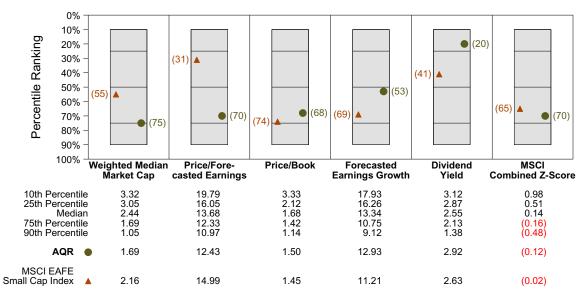
(5) 

# AQR Equity Characteristics Analysis Summary

### **Portfolio Characteristics**

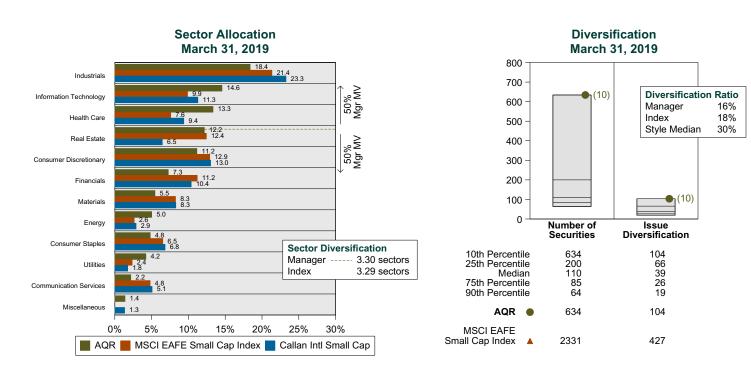
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan International Small Cap as of March 31, 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** AQR As of March 31, 2019

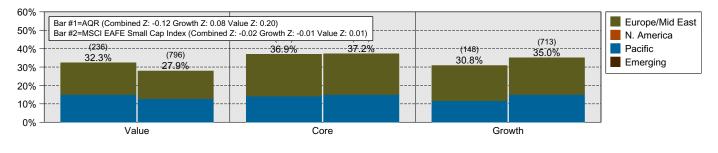
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are 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.

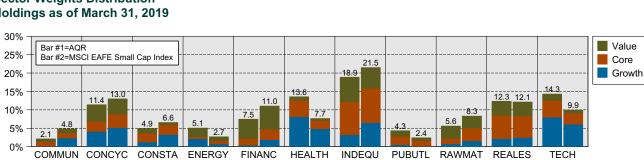
**Style Exposure Matrix** 



## Style Map vs Callan Intl Small Cap Holdings as of March 31, 2019

## **Combined Z-Score Style Distribution** Holdings as of March 31, 2019





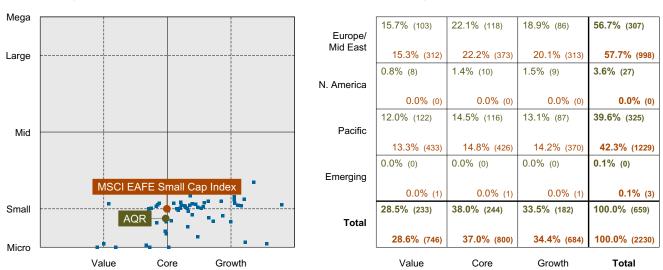
#### **Sector Weights Distribution** Holdings as of March 31, 2019

## Historical Holdings Based Style Analysis AQR For Five Years Ended March 31, 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.

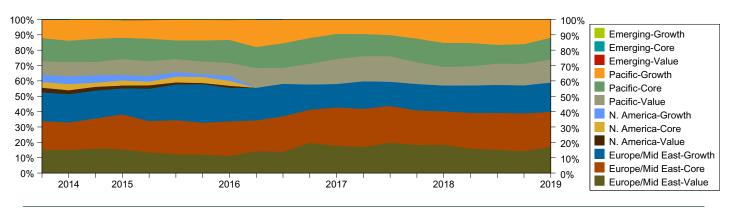
Average Style Exposure Matrix

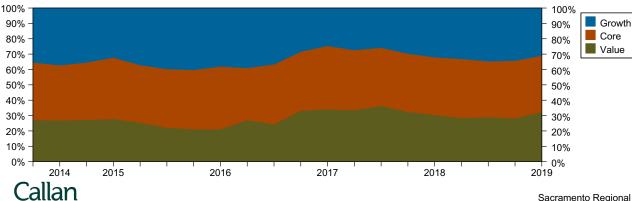
Holdings for Five Years Ended March 31, 2019



#### Average Style Map vs Callan Intl Small Cap Holdings for Five Years Ended March 31, 2019







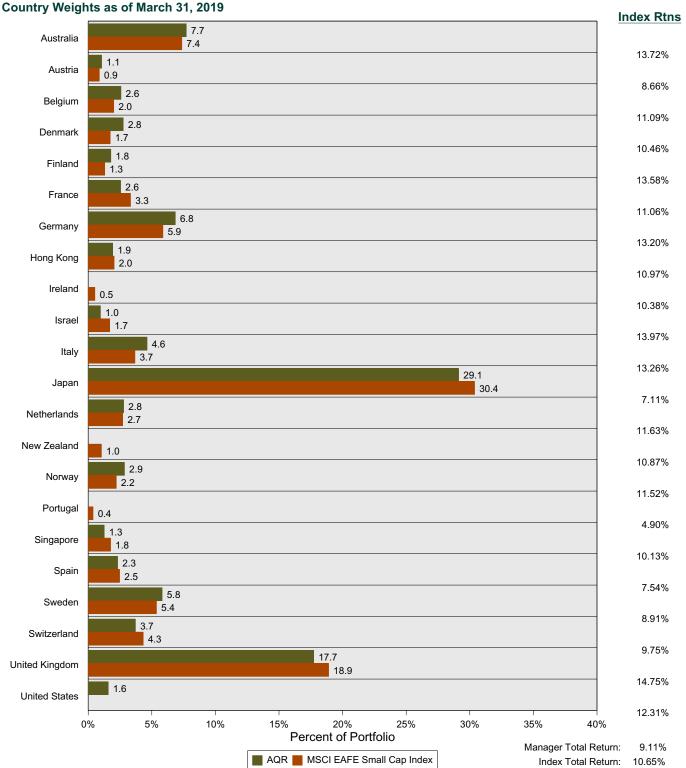
AQR Historical Style Only Exposures

Sacramento Regional Transit District 78

# Country Allocation AQR VS MSCI EAFE Small Cap Index

#### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of March 31, 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.



# AQR Top 10 Portfolio Holdings Characteristics as of March 31, 2019

# 10 Largest Holdings

						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Swedish Orphan Biovitrum Ab Shs	Health Care	\$216,003	1.7%	8.03%	7.00	17.95	0.00%	14.44%
Dno Asa Shs A	Energy	\$202,098	1.6%	55.07%	2.41	8.60	2.09%	14.26%
Saras Raffinerie Sarde Spa Shs	Energy	\$156,425	1.2%	(4.09)%	1.76	7.57	4.85%	0.32%
Drax Group Ord Gbp0.1	Utilities	\$128,695	1.0%	7.90%	1.94	12.54	3.73%	185.40%
Cancom It Systeme Nm	Information Technology	\$116,087	0.9%	36.42%	1.57	23.51	1.25%	22.20%
Ferrexpo Plc London Shs	Materials	\$115,672	0.9%	30.14%	1.90	5.37	2.05%	(12.32)%
Electrocomponent Plc Ord	Information Technology	\$113,619	0.9%	13.46%	3.25	14.35	2.37%	14.48%
Sandfire Resources NI Shs	Materials	\$110,587	0.9%	5.36%	0.78	6.35	3.76%	12.40%
Unipol Gruppo Finanziario Sp Shs	Financials	\$109,730	0.8%	23.96%	3.58	6.89	4.05%	23.23%
Computacenter Plc Shs Par 0.075555	Information Technology	\$107,740	0.8%	12.48%	1.64	14.09	2.74%	4.37%

#### **10 Best Performers**

_Stock		Ending	Percent			Forecasted		
	Sector	Market Value	of Portfolio	Qtrly Return	Market Capital	Earnings Ratio	Dividend Yield	Growth in Earnings
Appen	Information Technology	\$38,556	0.3%	74.73%	1.90	45.22	0.49%	74.71%
Afterpay Touch Group	Information Technology	\$5,080	0.0%	70.48%	3.54	183.73	0.00%	-
Petroleum Geo-Services	Energy	\$25,583	0.2%	69.65%	0.78	30.80	0.00%	(59.42)%
Ophir Energy	Energy	\$1,804	0.0%	63.05%	0.53	15.74	0.00%	
Nemetschek Nm	Information Technology	\$76,949	0.6%	55.88%	6.53	60.32	0.54%	11.30%
Dno Asa Shs A	Energy	\$202,098	1.6%	55.07%	2.41	8.60	2.09%	14.26%
Beach Petroleum	Energy	\$9,868	0.1%	54.97%	3.33	10.30	0.97%	23.22%
Myer Holdings Ltd Npv	Consumer Discretionary	\$14,669	0.1%	50.75%	0.36	15.73	8.06%	(17.54)%
Altium Ltd Shs	Information Technology	\$10,352	0.1%	50.67%	3.00	48.85	0.93%	18.82%
Bravura Solutions	Information Technology	\$28,002	0.2%	50.66%	0.83	31.85	1.79%	-

## **10 Worst Performers**

		Ending	Percent			Forecasted		Forecasted
Stock		Market	of	Qtrly Return	Market	Earnings Ratio	Dividend Yield	Growth in
	Sector	Value	Portfolio		Capital			Earnings
Attendo	Health Care	\$5,167	0.0%	(43.12)%	0.81	12.29	1.28%	4.55%
Plus500 (Di)	Financials	\$62,312	0.5%	(40.61)%	1.11	5.52	20.65%	40.95%
Bang & Olufsen Ord Cl B	Consumer Discretionary	\$4,443	0.0%	(33.84)%	0.39	14.17	0.00%	5.10%
Just Retirement	Financials	\$44,627	0.3%	(31.76)%	0.75	3.92	0.00%	2.91%
St Barbara Ltd Shs New	Materials	\$54,101	0.4%	(26.97)%	1.26	11.13	5.09%	(14.82)%
Helphire Group	Industrials	\$11,248	0.1%	(25.50)%	0.48	8.66	9.79%	18.85%
Nippon Gas	Utilities	\$7,874	0.1%	(22.85)%	1.19	15.44	1.50%	75.05%
Partner Communications Co Lt Ord	Communication Services	\$5,283	0.0%	(21.68)%	0.63	26.90	0.00%	(10.05)%
Swissquote Group Holding Ag Ord	Financials	\$30,095	0.2%	(20.59)%	0.56	10.47	2.75%	19.40%
Gam Holding	Financials	\$31,569	0.2%	(20.16)%	0.50	16.02	0.00%	(15.60)%

# DFA Emerging Markets Period Ended March 31, 2019

#### **Investment Philosophy**

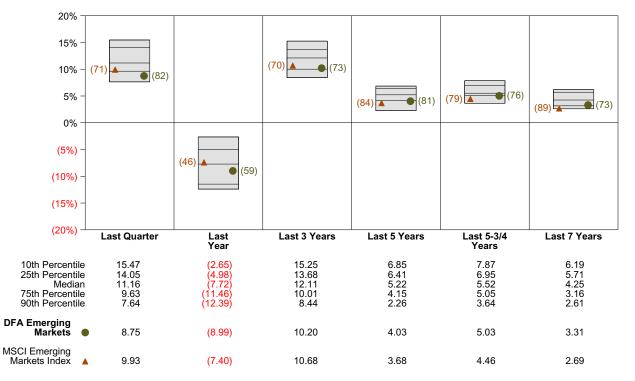
Returns prior to 6/30/2013 are linked to a composite history.

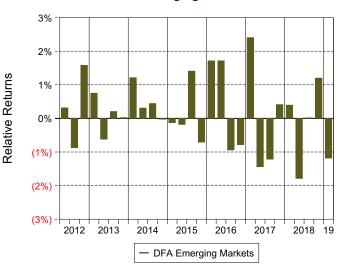
#### **Quarterly Summary and Highlights**

- DFA Emerging Markets's portfolio posted a 8.75% 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 59 percentile for the last year.
- DFA Emerging Markets's portfolio underperformed the MSCI Emerging Markets Index by 1.18% for the quarter and underperformed the MSCI Emerging Markets Index for the year by 1.59%.

Quarterly Asset Gro	wth
Beginning Market Value	\$15,024,005
Net New Investment	\$0
Investment Gains/(Losses)	\$1,293,037
Ending Market Value	\$16,317,042

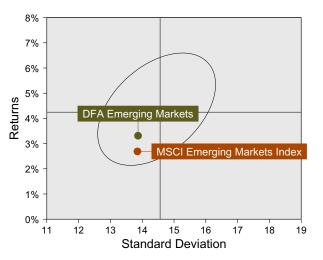
#### Performance vs Callan Emerging Markets Equity Mut Funds (Gross)





#### Relative Returns vs MSCI Emerging Markets Index

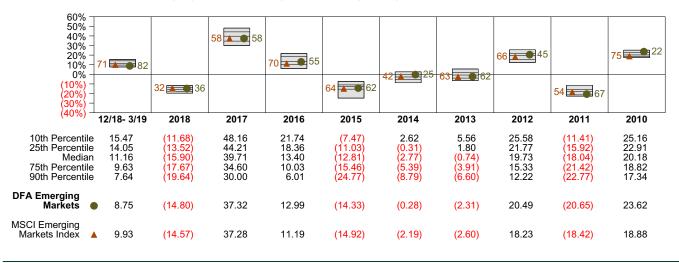
Callan Emerging Markets Equity Mut Funds (Gross) Annualized Seven Year Risk vs Return



# DFA Emerging Markets Return Analysis Summary

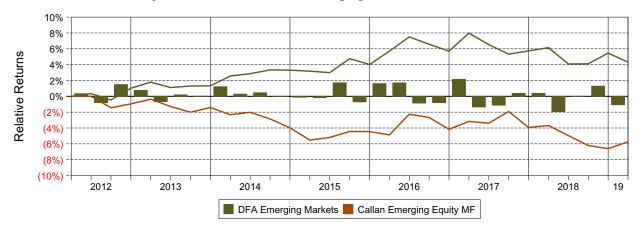
## **Return Analysis**

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.

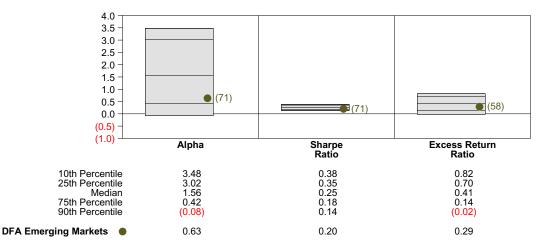


#### Performance vs Callan Emerging Markets Equity Mut Funds (Gross)

**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 (Gross) Seven Years Ended March 31, 2019



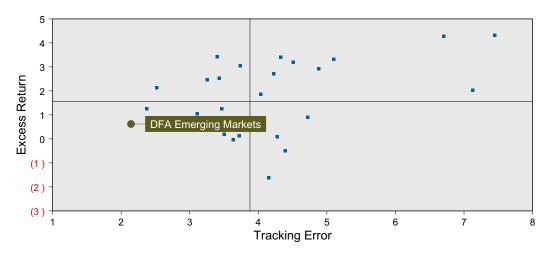


# **DFA Emerging Markets Risk Analysis Summary**

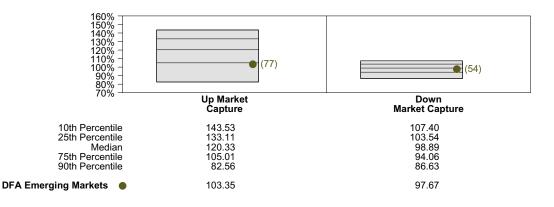
#### **Risk Analysis**

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.

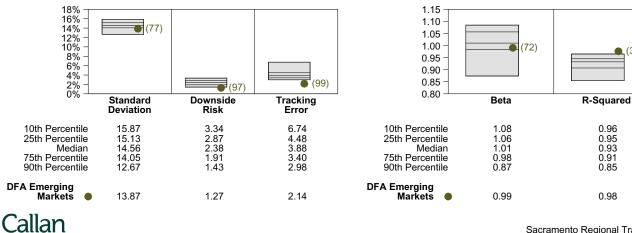
Risk Analysis vs Callan Emerging Markets Equity Mut Funds (Gross) Seven Years Ended March 31, 2019



Market Capture vs MSCI Emerging Markets Index Rankings Against Callan Emerging Markets Equity Mut Funds (Gross) Seven Years Ended March 31, 2019



**Risk Statistics Rankings vs MSCI Emerging Markets Index** Rankings Against Callan Emerging Markets Equity Mut Funds (Gross) Seven Years Ended March 31, 2019



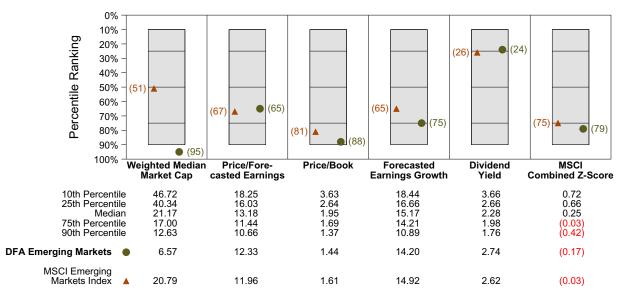
(3)

# DFA Emerging Markets Equity Characteristics Analysis Summary

#### **Portfolio Characteristics**

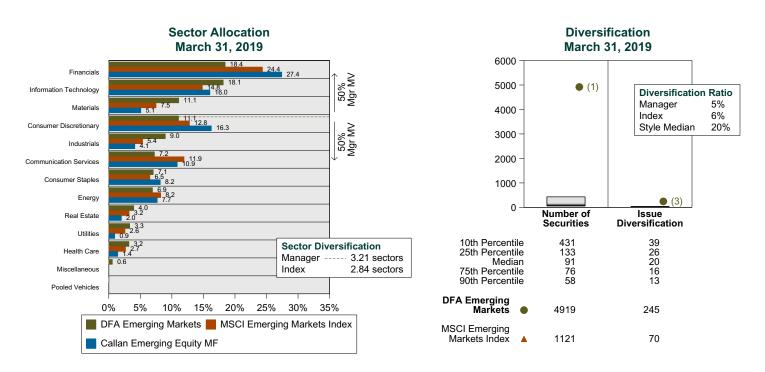
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

## Portfolio Characteristics Percentile Rankings Rankings Against Callan Emerging Markets Equity Mut Funds as of March 31, 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 DFA Emerging Markets As of March 31, 2019

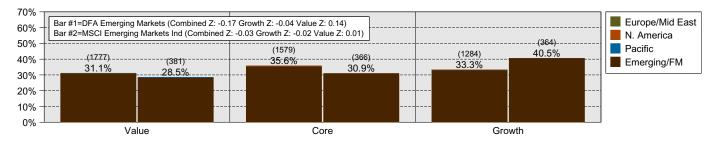
This page analyzes the current investment style of a portfolio utilizing a detailed holdings-based style analysis to determine actual exposures to various regional and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments are 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 Exposure Matrix** 

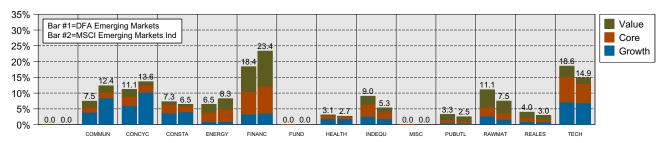


## Style Map vs Callan Emerging Equity MF Holdings as of March 31, 2019

## Combined Z-Score Style Distribution Holdings as of March 31, 2019



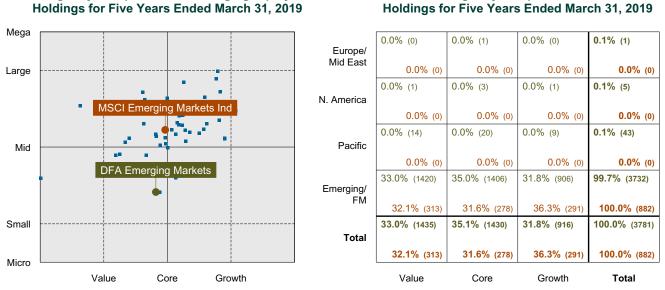




# **Historical Holdings Based Style Analysis DFA Emerging Markets** For Five Years Ended March 31, 2019

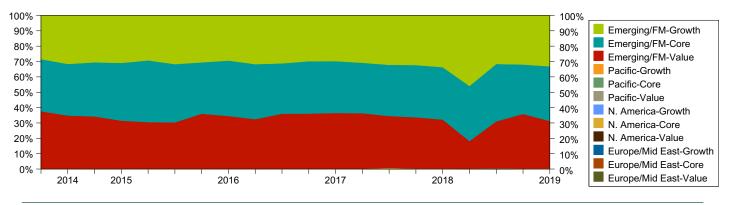
This page analyzes the historical investment style of a portfolio utilizing a detailed holdings-based style analysis to determine average actual exposures to various region and style segments of the international/global equity market. The market is segmented quarterly by region and style. The style segments 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 guarterly region/style and style only segment exposures of the portfolio through history.

Average Style Exposure Matrix

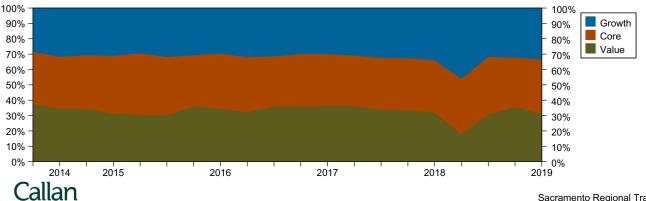


# Average Style Map vs Callan Emerging Equity MF

## **DFA Emerging Markets Historical Region/Style Exposures**



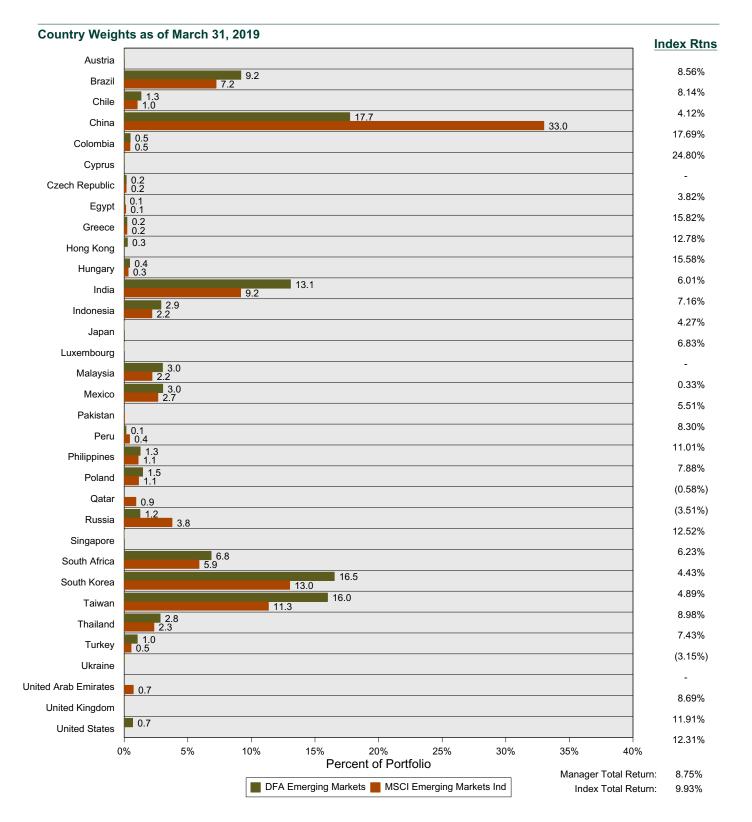




# Country Allocation DFA Emerging Markets VS MSCI Emerging Markets Index

#### **Country Allocation**

The chart below contrasts the portfolio's country allocation with that of the index as of March 31, 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.



# DFA Emerging Markets Top 10 Portfolio Holdings Characteristics as of March 31, 2019

# 10 Largest Holdings

						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Samsung Electronics Co Ltd Ord	Information Technology	\$615,232	3.8%	14.47%	234.83	10.55	3.17%	(2.70)%
Tencent Holdings Limited Shs Par Hkd	Communication Services	\$289,721	1.8%	14.67%	437.82	29.73	0.28%	22.04%
Taiwan Semiconductor Mfg Co Ltd Spon	Information Technology	\$256,699	1.6%	10.97%	206.55	17.99	3.26%	7.10%
Taiwan Semicond Manufac Co L Shs	Information Technology	\$190,579	1.2%	8.57%	206.55	17.99	3.26%	7.10%
Alibaba Group Hldg Ltd Sponsored Ads	Consumer Discretionary	\$160,204	1.0%	33.11%	472.94	27.07	0.00%	24.20%
Vale Sa Shs	Materials	\$145,478	0.9%	(0.55)%	69.16	7.27	4.28%	0.60%
Sk Hynix Inc Shs	Information Technology	\$129,597	0.8%	50.00%	47.59	8.30	2.02%	4.31%
Ping An Insurance H	Financials	\$115,464	0.7%	22.66%	83.39	10.24	2.28%	17.36%
Reliance Industries Ltd Shs Demateri	Energy	\$114,582	0.7%	22.53%	124.74	16.83	0.44%	13.10%
China Construction Bank Shs H	Financials	\$112,740	0.7%	3.92%	206.12	5.19	5.31%	3.69%

#### **10 Best Performers**

		Ending	Deveent		Price/				
Stock	Sector	Ending Market Value	Percent of Portfolio	Qtrly Return	Market Capital	Forecasted Earnings Ratio	Dividend Yield	Forecasted Growth in Earnings	
China Yurun Food Grp Ltd Shs	Consumer Staples	\$1,206	0.0%	190.30%	0.43	(0.71)	0.00%	-	
Naim Cendera Hldg. Bhd.	Real Estate	\$309	0.0%	163.75%	0.15	3.42	0.00%	-	
Dayang Enter.Hdg.	Energy	\$757	0.0%	160.55%	0.33	13.08	2.52%	14.90%	
Jettech	Information Technology	\$742	0.0%	142.11%	0.17	68.32	0.77%	87.38%	
The Korea Express Co Ltd Shs	Industrials	\$4,424	0.0%	129.27%	3.33	30.86	0.00%	67.98%	
Digital Daesung	Information Technology	\$57	0.0%	120.00%	0.20	13.94	1.99%	(35.13)%	
Vestel Elektronik	Consumer Discretionary	\$1,564	0.0%	118.70%	0.77	10.41	0.00%	49.00%	
China Pwr New Energy Dev	Utilities	\$954	0.0%	117.16%	0.78	27.38	1.24%	9.99%	
Essel Propack	Materials	\$1,224	0.0%	114.33%	0.53	15.14	1.03%	4.00%	
Clean & Science	Materials	\$618	0.0%	113.64%	0.16	16.19	0.55%	(61.24)%	

## **10 Worst Performers**

						Price/		
		Ending	Percent			Forecasted		Forecasted
		Market	of	Qtrly	Market	Market Earnings	Dividend	Growth in
Stock	Sector	Value	Portfolio	Return	Capital	Ratio	Yield	Earnings
Fossal S A A Sponsored Adr	Miscellaneous	\$0	0.0%	(99.91)%	0.00	-	0.00%	-
Reliance Communication Ventu Shs Dem	Communication Services	\$474	0.0%	(71.43)%	0.16	(0.05)	0.00%	(33.64)%
Jiayuan Intl.Gp.	Real Estate	\$507	0.0%	(70.84)%	1.35	4.85	5.06%	
Pricerite Group	Real Estate	\$29	0.0%	(66.67)%	0.14	-	0.00%	-
Enterprise Outsourcing	Information Technology	\$503	0.0%	(66.34)%	0.13	4.65	0.00%	21.50%
Kic	Industrials	\$16	0.0%	(63.64)%	0.26	(10.53)	0.00%	-
Tongaat Hulett Ltd Shs	Consumer Staples	\$1,040	0.0%	(61.45)%	0.20	2.88	7.42%	(9.36)%
Innovis Hdg. Ltd.	Materials	\$28	0.0%	(60.83)%	0.09	-	0.00%	
Reliance Power	Utilities	\$706	0.0%	(60.00)%	0.46	3.14	0.00%	(5.62)%
Kai Shi China Holdings Co.	Industrials	\$23	0.0%	(59.64)%	0.14	9.20	0.00%	-

Domestic Fixed Income

## Metropolitan West Period Ended March 31, 2019

#### **Investment Philosophy**

Metropolitan West Asset Management (MWAM) attempts to add value by limiting duration, managing the yield curve, rotating among bond market sectors and using proprietary quantitative valuation techniques.

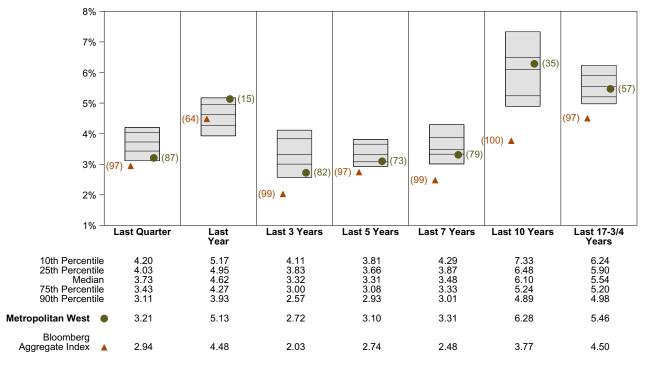
### **Quarterly Summary and Highlights**

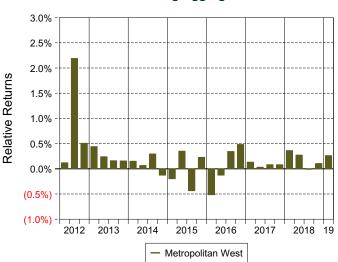
• Metropolitan West's portfolio posted a 3.21% return for the quarter placing it in the 87 percentile of the Callan Core Plus Fixed Income group for the quarter and in the 15 percentile for the last year.

Quarterly Asset Growth		
Beginning Market Value	\$101,895,736	
Net New Investment	\$-1,021,928	
Investment Gains/(Losses)	\$3,253,913	
Ending Market Value	\$104,127,722	

• Metropolitan West's portfolio outperformed the Bloomberg Aggregate Index by 0.26% for the quarter and outperformed the Bloomberg Aggregate Index for the year by 0.65%.

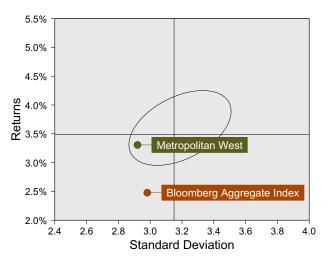
## Performance vs Callan Core Plus Fixed Income (Gross)





#### Relative Returns vs Bloomberg Aggregate Index

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

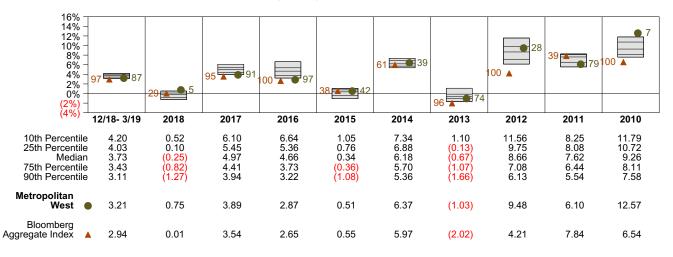


# Metropolitan West Return Analysis Summary

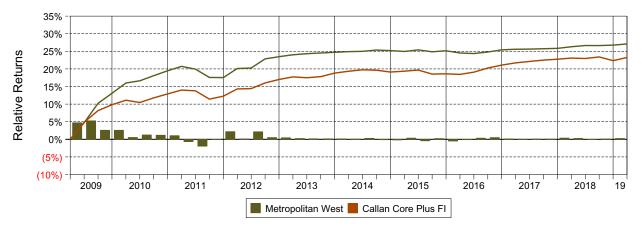
## **Return Analysis**

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.

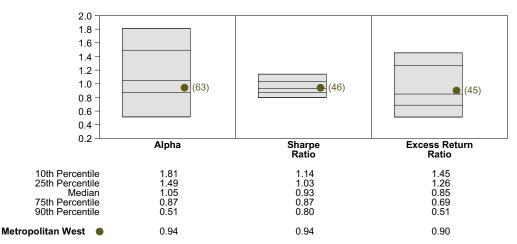
## Performance vs Callan Core Plus Fixed Income (Gross)



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) Seven Years Ended March 31, 2019

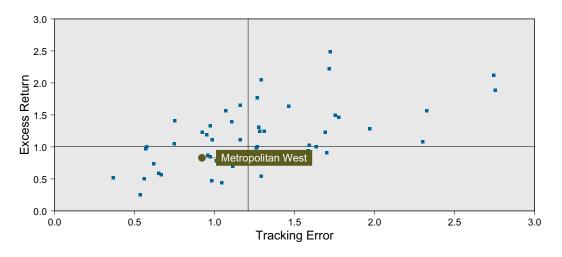


# **Metropolitan West Risk Analysis Summary**

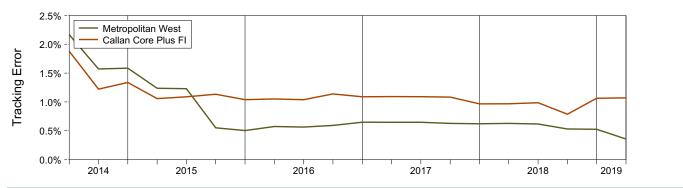
#### **Risk Analysis**

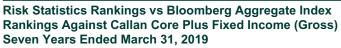
The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over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

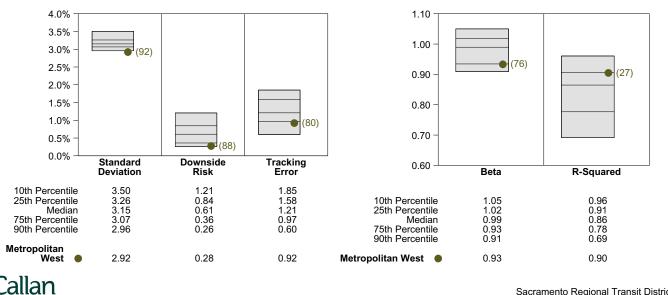
Risk Analysis vs Callan Core Plus Fixed Income (Gross) Seven Years Ended March 31, 2019









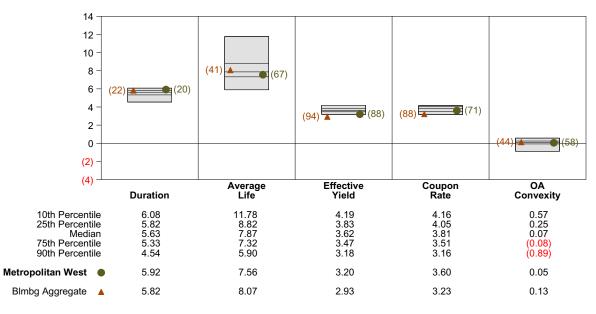


# Metropolitan West Bond Characteristics Analysis Summary

## **Portfolio Characteristics**

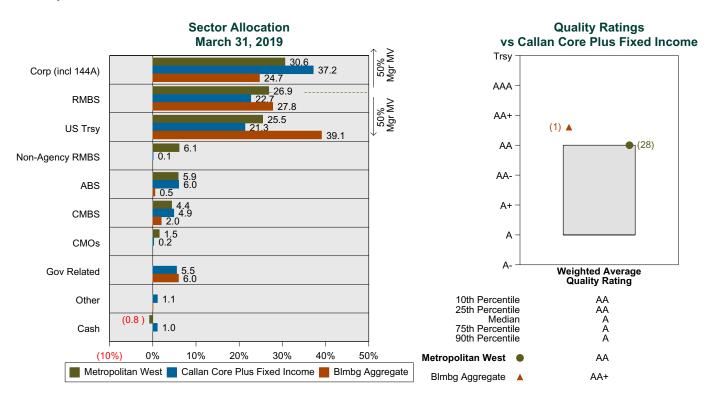
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

### Fixed Income Portfolio Characteristics Rankings Against Callan Core Plus Fixed Income as of March 31, 2019



## Sector Allocation and Quality Ratings

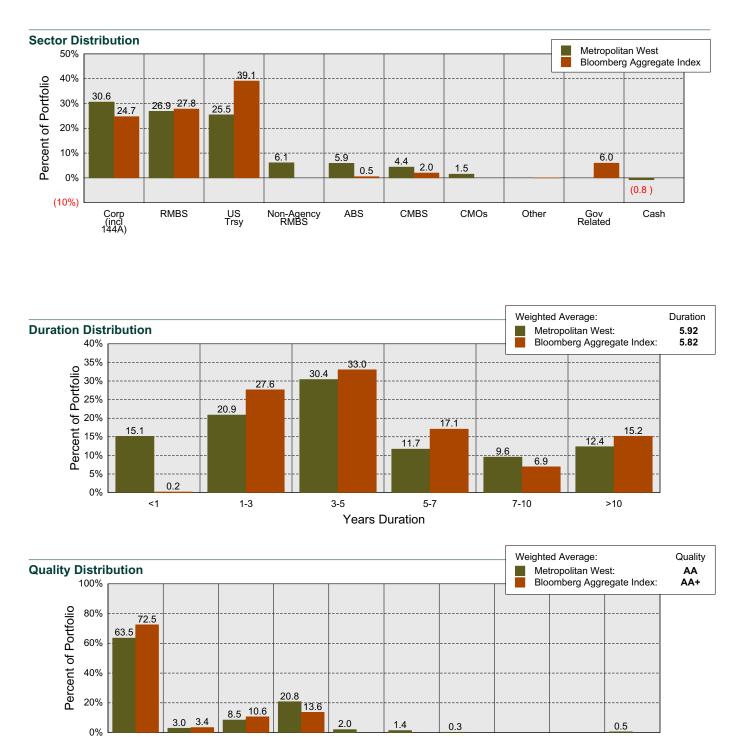
The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.



# Metropolitan West Portfolio Characteristics Summary As of March 31, 2019

# Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.



AAA

AA

А

BBB

BΒ

В

**Quality Rating** 

CCC

СС

С

D

Definitions

## **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.

Callan Research/Education



# **Education**

1st Quarter 2019

# **Research and Educational Programs**

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/library to see all of our publications, and www.callan.com/blog to view our blog "Perspectives." For more information contact Corry Walsh at 312.346.3536 / institute@callan.com.

# New Research from Callan's Experts

<u>Callan's 2019-2028 Capital Market Projections</u> | Callan develops long-term capital market projections at the start of each year, detailing our expectations for return, volatility, and correlation for broad



asset classes. For 2019-2028, we made gradual, evolutionary changes to our expectations from our projections last year. We increased our fixed income assumptions to reflect higher starting yields compared to one year ago, including a higher return for cash, but we held constant our equity return premium over cash. As a result, we have narrowed the equity risk premium over bonds.

**Two Questions to Help DC Plans Save on Litigation Costs** | Executives can monitor whether in-house fiduciaries for their defined contribution plans are on track or need assistance by asking these questions: 1) Are plan administration costs too high? 2) Are participants getting the best "bang for their buck" from investment fees?

The Good, the Bad, and the Ugly: Which Will Your DC Plan Be in 2019? | In this paper, we outline best practices for defined contribution (DC) plan sponsors that aspire to be the Good gunslinger, and flag traps that could ensnare them in Bad or even Ugly territory.

**2019 DC Trends Survey** | Callan's 12th Annual DC Trends Survey highlights plan sponsors' key themes from 2018 and expectations for 2019.



**2019 National Workshop Summary: DC Plans** | This workshop by Callan's Ben Taylor, Jana Steele, and Gordon Weightman, "The New Face of DC Plans," provided what plan sponsors and investment managers need to know to stay current on new developments and how they might benefit plans.

**2019** National Workshop Summary: Private Equity | In their workshop, "Private Equity: Primary Investment Opportunities and Considerations," Callan's Pete Keliuotis, Jay Nayak, and Weston Lewis demonstrated how a thoughtful approach to program design, strategy allocation, and capital commitment pacing can lead to long-term success in private equity investing.

**2019 National Workshop Summary: Strategic Allocations** | In this workshop, Callan's Ann O'Bradovich, Ho Hwang, and Gary Chang discussed the trend over the past several decades in which U.S. institutional investors have shifted their public equity portfolios to increase allocations to non-U.S. stocks.

The Callan Periodic Table Collection: Year-End 2018 | The Periodic Table Collection offers versions focused on equity, fixed income, fund sponsors, and alternatives. Other tables compare the performance of key indices to zero and to inflation.

## **Quarterly Periodicals**

**Private Equity Trends** | A newsletter on private equity activity, covering both the fundraising cycle and performance over time.

<u>Market Pulse Flipbook</u> | A market reference guide covering trends in the U.S. economy, developments for fund sponsors, 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.

**<u>Capital Market Review</u>** | Provides 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/

Please mark your calendar and look forward to upcoming invitations.

June Regional Workshops: June 4, 2019 – Atlanta June 5, 2019 – San Francisco

## **October Regional Workshops:**

October 22, 2019 – Denver October 24, 2019 – Chicago

Invitations have been sent for June and registration is available on our website at www.callan.com/events-reg-workshop-june/

Please also keep your eye out for upcoming Webinars in 2019! We will be sending invitations for these and also will have registration links on our website at www.callan.com/events.

For more information about events, please contact Barb Gerraty: 415.274.3093 / 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. Our next sessions are:

### Introduction to Investments

San Francisco, July 16-17, 2019 Chicago, October 22-23, 2019

This program familiarizes fund sponsor trustees, 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 assetmanagement 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.

"Callan College" on Alternative Investing Chicago, October 2019—Date TBD

Learn more at www.callan.com/events/callan-college-intro or contact Kathleen Cunnie: 415.274.3029 / cunnie@callan.com

## **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

Disclosures

#### 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 and 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	Manager Name
Aberdeen Standard Investments	Chartwell Investment Partners
Acadian Asset Management LLC	ClearBridge Investments, LLC
AEGON USA Investment Management	Cohen & Steers Capital Management, Inc.
Alcentra	Columbia Threadneedle Investments
AllianceBernstein	Columbus Circle Investors
Allianz Global Investors	Cooke & Bieler, L.P.
Allianz Life Insurance Company of North America	Credit Suisse Asset Management
AlphaSimplex Group, LLC	CS McKee, L.P.
American Century Investments	DePrince, Race & Zollo, Inc.
Amundi Pioneer Asset Management	Diamond Hill Capital Management, Inc.
AQR Capital Management	Dimensional Fund Advisors LP
Ares Management LLC	Doubleline
Ariel Investments, LLC	Duff & Phelps Investment Management Co.
Atlanta Capital Management Co., LLC	DWS
Aviva Investors Americas	EARNEST Partners, LLC
AXA Investment Managers	Eaton Vance Management
Baillie Gifford International, LLC	Epoch Investment Partners, Inc.
Baird Advisors	Fayez Sarofim & Company
Baron Capital Management, Inc.	Federated Investors
Barrow, Hanley, Mewhinney & Strauss, LLC	Fidelity Institutional Asset Management
BlackRock	Fiera Capital Corporation
BMO Global Asset Management	Financial Engines
BNP Paribas Asset Management	First Hawaiian Bank Wealth Management Division
BNY Mellon Asset Management	First State Investments
Boston Partners	Fisher Investments
Brandes Investment Partners, L.P.	Franklin Templeton
Brandywine Global Investment Management, LLC	Fred Alger Management, Inc.
BrightSphere Investment Group	GAM (USA) Inc.
Brown Brothers Harriman & Company	Glenmeade Investment Management, LP
Cambiar Investors, LLC	GlobeFlex Capital, L.P.
Capital Group	Goldman Sachs Asset Management
Carillon Tower Advisers	Green Square Capital LLC
CastleArk Management, LLC	Guggenheim Investments
Causeway Capital Management	GW&K Investment Management

Manager Name
Harbor Capital Group Trust
Hartford Investment Management Co.
Heitman LLC
Hotchkis & Wiley Capital Management, LLC
HSBC Global Asset Management
Impax Asset Management Limited
Income Research + Management, Inc.
Insight Investment Management Limited
Intech Investment Management, LLC
Intercontinental Real Estate Corporation
Invesco
Investec Asset Management
Ivy Investments
J.P. Morgan
Janus
Jennison Associates LLC
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
LGT Capital Partners Ltd.
Lincoln National Corporation
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
MacKay Shields LLC
Macquarie Investment Management (MIM)
Manulife Asset Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
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
Osterweis Capital Management, LLC
P/F Investments

Manager Name
Pacific Investment Management Company
Pathway Capital Management
Peregrine Capital Management, Inc.
Perkins Investment Management
PFM Asset Management LLC
PGIM Fixed Income
PineBridge Investments
PNC Capital Advisors, LLC
Principal Global Investors
Putnam Investments, LLC
QMA LLC
RBC Global Asset Management
Record Currency Management Ltd.
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.
Silvercrest Asset Management Group
Smith Graham & Co. Investment Advisors, L.P.
Smith Group Asset Management
South Texas Money Management, Ltd.
State Street Global Advisors
Stone Harbor Investment Partners, L.P.
Sun Life Investment Management
T. Rowe Price Associates, Inc.
The Boston Company Asset Management
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
VanEck
Velanne Asset Management Ltd.
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

# REGIONAL TRANSIT ISSUE PAPER

Closed Information/Action Issue

Agenda	Board Meeting	Open/Closed	Information/Action	Issue
Item No.	Date Session		Item	Date
15	06/12/19	Retirement	Action	04/16/19

Subject: Receive and File the Asset/Liability Study for the ATU, IBEW and Salaried Employees Retirement Plans (ALL). (Adelman)

#### <u>ISSUE</u>

Receive and File the Asset/Liability Study for the ATU, IBEW and Salaried Employees Retirement Plans (ALL). (Adelman)

#### RECOMMENDED ACTION

Motion: Receive and File the Asset/Liability Study for the ATU, IBEW and Salaried Employees Retirement Plans (ALL).

#### FISCAL IMPACT

None.

#### DISCUSSION

In 2014, Callan LLC ("Callan") performed an Asset/Liability Study for the ATU/IBEW and Salaried Employees Retirement Plans to provide an in-depth look at the then-current investment strategy used by the Pension Plans, as well as the liability associated with the Plans and their investments. (Since that time, the ATU and IBEW plan assets have been split into two separate funds.) In general, Asset/Liability Studies focus on the investment goals of the subject plan, such as to provide a reasonable return without over-exposure to risk, and on the overall allocation of investments in various asset classes, as opposed to individual investment managers or their relative performance.

Updated Asset/Liability Studies typically are required once every three to five years, unless there is a significant change in market conditions or a significant change to the asset allocation mix requiring more frequent in-depth analysis of this type. The Retirement Boards entered into a new five-year agreement for investment performance advisory and evaluation services with Callan in 2018, the scope of services for which includes performance of Asset/Liability studies as requested. Given that it has been five years since the last Asset/Liability study was completed, staff instructed Callan to complete an updated study.

At the June 20, 2018 Quarterly Retirement Board meeting, Callan presented the annual Asset Allocation Review, required under the Retirement Plans' Investment Policy. As part of that presentation, Callan discussed the potential for further diversification by investing in asset classes that are not currently part of the Retirement Plans' portfolio, including hedge funds, private equity, and real estate. To prepare for the Asset/Liability Study presentation and discussion this year, the Retirement Boards requested additional information about those asset classes in the form of educational presentations by Callan. Accordingly, Callan presented

Approved:

Final 06/04/19

VP of Finance and Procurement/CFO

Presented:

#### **REGIONAL TRANSIT** ISSUE PAPER

Page 2 of 2

Agenda Item No.	Board Meeting Date	Open/Closed Session	Information/Action Item	Issue Date
15	06/12/19	Retirement	Action	04/16/19

Subjec	Receive and File the Asset/Liability Study for the ATU, IBEW and Salaried	
	Employees Retirement Plans (ALL). (Adelman)	

information and answered questions regarding (1) hedge funds and multi-asset class investments at the September 12, 2018 Quarterly Retirement Board Meeting, (2) private equity investments at the December 12, 2018 Quarterly Retirement Board Meeting, and (3) Real Estate Investments at the March 20, 2019 Quarterly Retirement Board Meeting.

Following those presentations, Callan was asked to include these diversification options in the new Asset/Liability study.

The Asset/Liability Study presents the risk and potential return for multiple asset class mixes, both under the current asset allocation target policy and taking into account new investments in real estate, private equity and/or hedge funds, and provides an excellent opportunity for the Boards to consider potential changes to the asset allocation.

Staff recommends that the Boards receive and file Asset/Liability Study completed by Callan (Attachment #1) and provide direction to Staff and Callan regarding the asset allocation target policy as described therein.

ATTACHMENT #1

# Callan

Regional Transit

June 12, 2019

#### Sacramento Regional Transit District

Asset Liability Study

Gary Chang, CFA Capital Markets Research

Jay Kloepfer Capital Markets Research Anne Heaphy Fund Sponsor Consulting

Uvan Tseng, CFA Fund Sponsor Consulting

### **Goal of the Study**

The goal of this asset-liability study is to establish a long-term strategic asset allocation target for Sacramento Regional Transit District pension fund (the "Plan").

An appropriate asset allocation will depend on the Plan's investment objectives.

- Minimize costs over the long run (long-term goal)
- How much return generation (from beta and alpha) is necessary to lower costs and/or improve funded status?
- Minimize funded status volatility (short-term goal)
- How much risk reduction is necessary to reduce funded status volatility?

Investment solution is an optimal balance between sustainable funded status volatility and minimization of costs over the long run.

Asset allocation will vary by the unique circumstances of the Plan.

No "one-size-fits-all" solution exists

#### **Executive Summary**

Sacramento Regional Transit District ("SacRT") needs a tilt toward growth assets to serve the goal of funding the plan and the current policy target contains such a tilt.

The current target is diversified across stocks and bonds and it would be reasonable to retain it as the policy target going forward.

- Liquidity needs are manageable and low
- Liability growth is moderate over the next 10 years
- After taking into account different inflation expectations, Callan models the liability growth rate as 6.90%, which is slightly less than the 7.25% actuarial discount rate.

SacRT can also consider further diversification, and Callan believes real estate in particular offers a potentially attractive source of return that would complement and diversify the existing portfolio.

• Of course, there are cost and implementation considerations to take into account

The liability and demographic profiles suggest SacRT has a sufficiently long time horizon in which to assume investment risk.

### Agenda

Model portfolio with 2019-2028 capital market projections

Present Alternative Asset Mixes

Review asset-liability results

- Baseline scenarios
- Monte Carlo simulations

Explore risk tolerance

• Willingness and ability to take risk

Propose candidate asset allocation mixes

Illustrate a range of potential outcomes

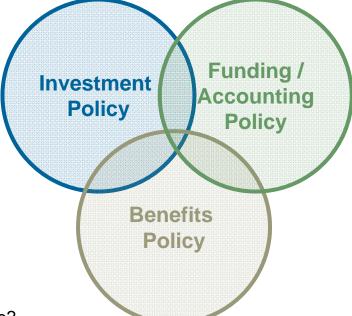
*Objective* Select an appropriate asset allocation

### Where Does Asset Allocation Fit In?

We evaluate the interaction of the three key policies that govern a pension plan with the goal of establishing the best investment policy

#### **Investment Policy**

- How will the assets supporting the benefits be invested?
- What risk and return objectives?
- How to manage cash flows?



#### **Funding / Accounting Policy**

- How will the benefits be paid for (funded)?
- What actuarial discount rate?
- How will deficits be paid for?
- How will costs be recognized?

#### **Benefits Policy**

- What type/kind of benefits?
- What level of benefit?
- When and to whom are they payable?

# Today's Focus is on Examining the Investment Policy

#### **Overview of Investment Goals**

The investment policy, or asset allocation, is one of the three key components of a benefit plan (along with contribution and benefit policy).

Asset allocation is the process of determining the optimal allocation of a portfolio among broad asset classes based on several factors:

- Capital market expectations
- Cash flow considerations
- Recent experience
- Investment goals and objectives
- Risk tolerance
- Time horizon

A well engineered asset allocation considers:

- All appropriate asset classes for inclusion
- Liquidity needs, asset class limitations, implementation challenges, administrative and legal burdens, size or capacity constraints
- Rebalancing discipline

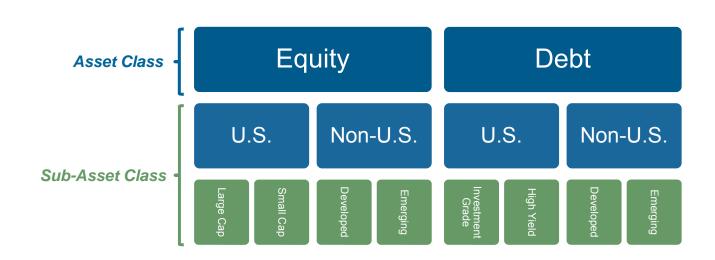
#### The Focus is on Broad Asset Classes

Breakdowns between investment styles within asset classes (growth vs. value, large cap vs. small cap) are best addressed in a manager structure analysis.

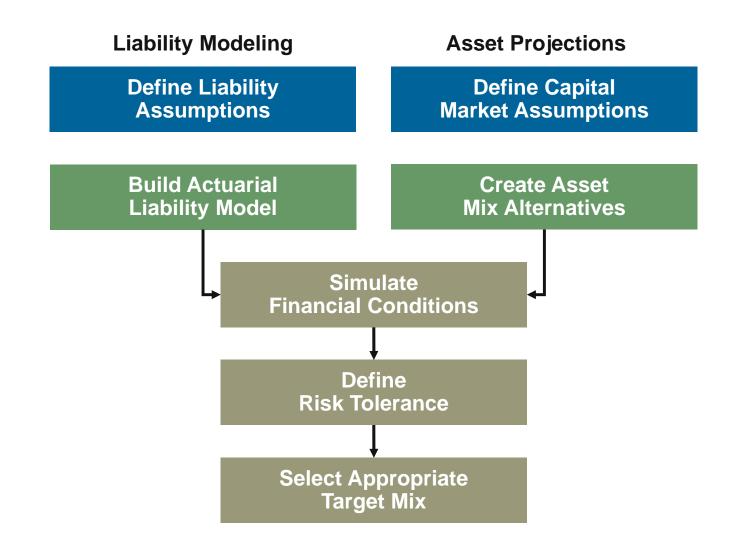
Primary asset classes and important sub-asset classes include:

- U.S. Stocks
- U.S. Bonds
- Non-U.S. Stocks
- Non-U.S. Bonds
- Real Estate
- Alternative Investments
- Private equity
- -Absolute return





#### **Overview of the Asset-Liability Process**





**Asset Projections** 

### **Callan Capital Market Process and Philosophy**

Underlying beliefs guide the development of the projections:

- An initial bias toward long-run averages
- A conservative bias
- An awareness of risk premiums
- A presumption that markets ultimately clear and are rational

Reflect our belief that long-term equilibrium relationships between the capital markets and lasting trends in global economic growth are key drivers to setting capital market expectations.

Long-term compensated risk premiums represent "beta"—exposure to each broad market, whether traditional or "exotic," with limited dependence on successful realization of alpha.

The projection process is built around several key building blocks:

- Advanced modeling at the individual asset class level (e.g., a detailed bond model, an equity model)
- A path for interest rates and inflation
- A cohesive economic outlook
- A framework that encompasses Callan beliefs about the long-term operation and efficiencies of the capital markets.

### 2019 - 2028 Return and Risk Assumptions

Asset Class	Index	Expected Return*	Standard Deviation	
Equities				
Broad Domestic Equity	Russell 3000	7.15%	17.95%	
Large Cap	S&P 500	7.00%	17.10%	
Small/Mid Cap	Russell 2500	7.25%	22.65%	
Global ex-US Equity	MSCI ACWI ex USA	7.25%	21.10%	
International Equity	MSCI World ex USA	7.00%	19.75%	
Emerging Markets Equity	MSCI Emerging Markets	7.25%	27.45%	
Fixed Income				
Short Duration	Bloomberg Barclays 1-3 Yr G/C	3.40%	2.10%	
Domestic Fixed	Bloomberg Barclays Aggregate	3.75%	3.75%	
Long Duration	Bloomberg Barclays Long G/C	3.75%	10.65%	
TIPS	Bloomberg Barclays TIPS	3.75%	5.05%	
High Yield	Bloomberg Barclays High Yield	5.35%	10.35%	
Non-US Fixed	Bloomberg Barclays Glbl Agg xUSD	1.40%	9.20%	
Emerging Market Debt EMBI Global Diversified		5.05%	9.50%	
Other				
Real Estate	NCREIF ODCE	6.25%	15.70%	
Private Equity	Cambridge Private Equity	8.50%	29.30%	
Hedge Funds	Callan Hedge FoF Database	5.50%	8.85%	
Commodities	Bloomberg Commodity	3.20%	18.00%	
Cash Equivalents	Cash Equivalents 90-Day T-Bill		0.90%	
Inflation	CPI-U	2.25%	1.50%	

\* 10 year annualized return

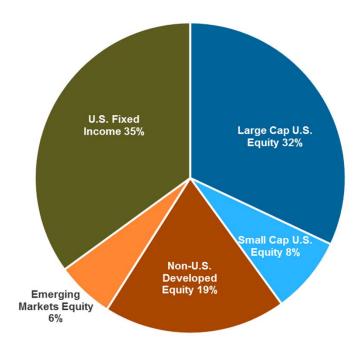
Capital market expectations represent passive exposure (beta only) with the exception of Real Estate, Private Equity, and Hedge Funds.

All return expectations are net of fees.

Asset classes to be modeled in the 2019 asset-liability study are highlighted in green.

### **Policy Target Allocation**

	Policy
Asset Class	Target
Global Equity	<b>65%</b>
Large Cap U.S. Equity	32%
Small Cap U.S. Equity	8%
LC Non-U.S. Developed Equity	14%
SC Non-U.S. Developed Equity	5%
Emerging Markets Equity	6%
Fixed Income	35%
U.S. Fixed Income	35%
Expected Return Expected Standard Deviation	6.48% 11.89%



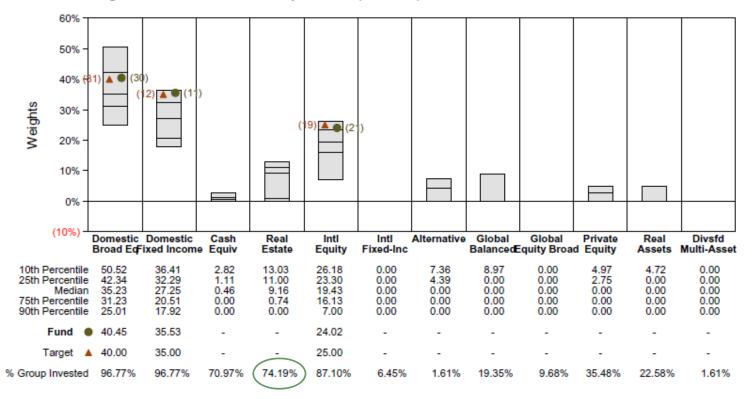
SacRT employs an actuarial discount rate of 7.25% which is based on a 3.0% inflation expectation while Callan uses a 2.25% inflation expectation.

Callan expects lower inflation to flow through the liabilities and result in a lower liability growth rate of 6.90% (vs. the actuarial discount rate of 7.25%).

Expected returns assume passive implementation; however, roughly 80% of SacRT's assets are actively managed.

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### **Peer Group Comparisons**



#### Asset Class Weights vs Callan Public Fund Spons- Mid (100M-1B)

Relative to a peer group of other public funds, the target policy is relatively conservative with a high allocation to fixed income.

• Peer groups do not take into account differences in risk tolerances

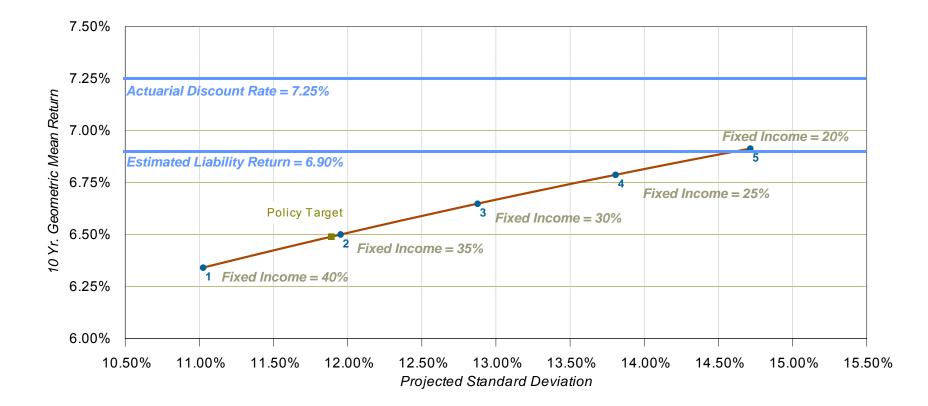
#### **Alternative Asset Mixes**

	Policy					
Asset Class	Target	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
Global Equity	<b>65%</b>	<b>60%</b>	<b>65%</b>	<b>70%</b>	75%	80%
Large Cap U.S. Equity	32%	29%	31%	33%	36%	38%
Small Cap U.S. Equity	8%	8%	8%	9%	10%	10%
LC Non-U.S. Developed Equity	14%	13%	14%	15%	16%	17%
SC Non-U.S. Developed Equity	5%	5%	5%	5%	6%	6%
Emerging Markets Equity	6%	6%	7%	7%	8%	9%
Fixed Income	35%	40%	35%	30%	25%	20%
U.S. Fixed Income	35%	40%	35%	30%	25%	20%
Expected Return Expected Standard Deviation	6.48% 11.89%	6.34% 11.06%	6.50% 11.99%	6.65% 12.92%	6.79% 13.86%	6.91% 14.77%

The optimal mixes are constructed with decreasing allocations to fixed income (from 40% to 20%); Mix 1 is the most conservative while Mix 5 is the most aggressive.

As the fixed income allocation decreases the expected portfolio return increases, but so does the expected risk.

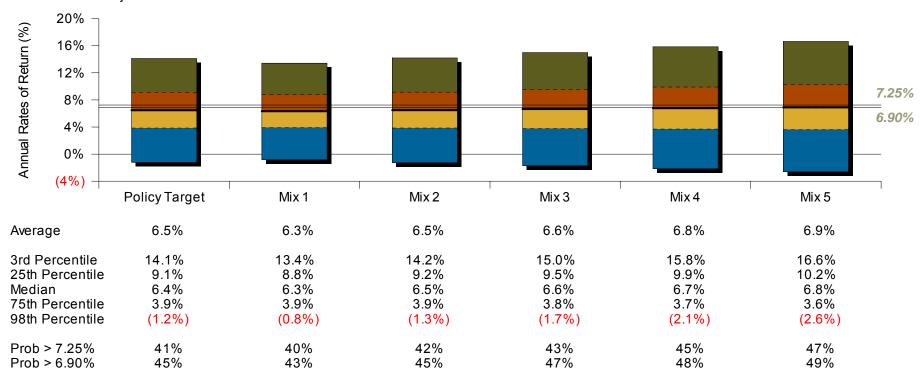
#### **The Efficient Frontier**



The efficient frontier represents mixes which optimally trade off between expected return and expected risk; the numbered dots represent optimal mixes 1 - 5, detailed on the previous slide.

Mix 5 delivers a return close to the expected liability return.

### Probability of Achieving a 7.25% or 6.90% Return



Range of Projected Rates of Return Projection Period: 10 Years

The above chart illustrates the probability of achieving 7.25% and 6.90% return over the next 10 years.

#### **New Asset Classes Considered**

The following asset classes were also considered for inclusion in the portfolio

- Private Real Estate
- Hedge Funds/Multi-Asset Class strategies (MAC's)
- Private Equity

Two additional sets of optimal mixes were examined:

- Current Asset Classes with the addition of private real estate
- Current Asset Classes with the addition of private real estate, private equity, and hedge funds/MAC's

#### **Asset Mixes with Real Estate**

	Policy		Re	al Estate Mix	kes	
Asset Class	Target	Mix 1R	Mix 2R	Mix 3R	Mix 4R	Mix 5R
Global Equity	<b>65%</b>	53%	<b>58%</b>	<b>63%</b>	68%	73%
Large Cap U.S. Equity	32%	25%	28%	30%	32%	34%
Small Cap U.S. Equity	8%	6%	7%	8%	9%	9%
LC Non-U.S. Developed Equity	14%	12%	13%	14%	15%	16%
SC Non-U.S. Developed Equity	5%	4%	4%	5%	5%	6%
Emerging Markets Equity	6%	6%	6%	6%	7%	8%
Fixed Income	35%	37%	32%	27%	22%	17%
U.S. Fixed Income	35%	37%	32%	27%	22%	17%
Alternative Assets	0%	10%	10%	10%	10%	10%
Real Estate	0%	10%	10%	10%	10%	10%
Expected Geometric Return Expected Standard Deviation	6.48% 11.89%	6.34% 10.95%	6.50% 11.87%	6.65% 12.78%	6.79% 13.71%	6.91% 14.61%

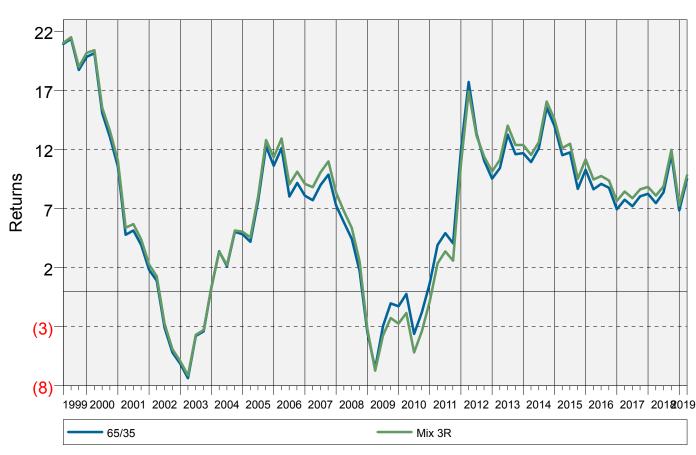
The real estate mixes are constructed keeping the returns the same from the simulated mixes.

Real Estate constrained to 10% maximum.

At each level of return, volatility decreases between 10-20 bps relative to the simulated mixes.

### Hypothetical Performance With Real Estate

#### Rolling 12 Quarter Returns for 20 Years Ended March 31, 2019



- Real estate provides diversification and a smoothing effect that is not easy to capture in the numbers.
- Mix 3R raises the expected return assumption to 6.65% from 6.48%.
- This graph provides a comparison of a 65/35 portfolio (the current target) vs Mix 3R (which is a 63/27/10 mix) over the last 20 years.
- The Mix 3R trails the 65/35 portfolio when the market experiences strong rebound rallies, such as from 2009 – 2011 but generally outperforms otherwise.
- The annualized returns of the 65/35 portfolio are 5.86% over the last 20 years, versus 6.09% for Mix 3R.

<sup>•</sup> Batting average for Mix 3R is 81%.

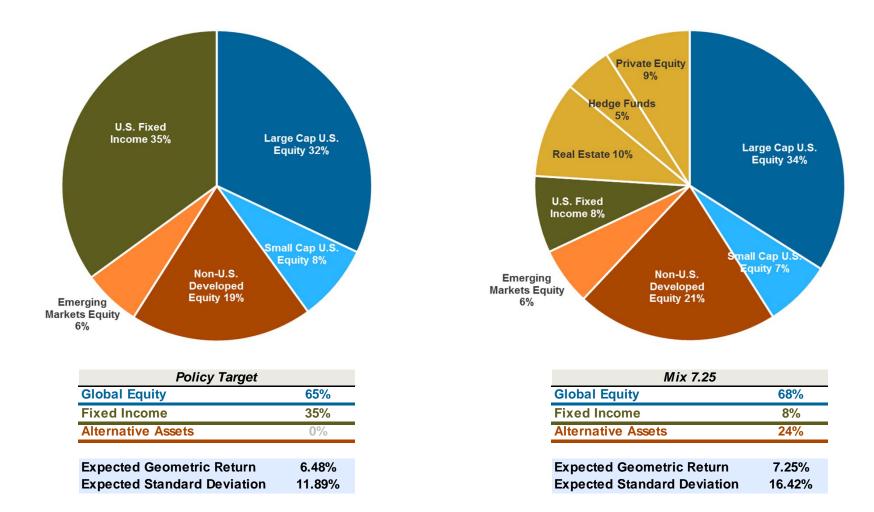
### Asset Mixes with Real Estate, Private Equity, and Hedge Funds

	Policy		Alt	ernatives Mi	xes	
Asset Class	Target	Mix 1A	Mix 2A	Mix 3A	Mix 4A	Mix 5A
Global Equity	<b>65%</b>	42%	45%	<b>49%</b>	54%	<b>58%</b>
Large Cap U.S. Equity	32%	21%	22%	25%	26%	29%
Small Cap U.S. Equity	8%	4%	5%	5%	6%	6%
LC Non-U.S. Developed Equity	14%	10%	10%	11%	13%	13%
SC Non-U.S. Developed Equity	5%	3%	4%	4%	4%	5%
Emerging Markets Equity	6%	4%	4%	4%	5%	5%
Fixed Income	35%	40%	35%	30%	25%	20%
U.S. Fixed Income	35%	40%	35%	30%	25%	20%
Alternative Assets	0%	18%	20%	21%	21%	22%
Real Estate	0%	8%	9%	10%	10%	10%
Hedge Funds/Multi-Asset Class	0%	5%	5%	5%	4%	5%
Private Equity	0%	5%	6%	6%	7%	7%
Expected Geometric Return Expected Standard Deviation	6.48% 11.89%	6.30% 10.34%	6.46% 11.19%	6.63% 12.15%	6.79% 13.12%	6.95% 14.17%

These mixes were constructed keeping the same increments of fixed income as mixes 1-5. Private Equity constrained to 12.5% of total public equity. Real Estate constrained to 10%.

Similar returns to the simulated mixes at a lower volatility.

#### How to Achieve a 7.25% Expected Return



In order to achieve a 7.25% expected return, significantly more complexity and risk would be required.



**Liability Modeling** 

#### **Build Actuarial Liability Model**

For purposes of asset-liability modeling, Callan built an actuarial liability model based on the Plan's specific liabilities which match Cheiron's actuarial accrued liability within +/-3%.

• Results are then scaled to match the actuarial report exactly.

Liability model is based on the 7/1/2018 actuarial valuation report.

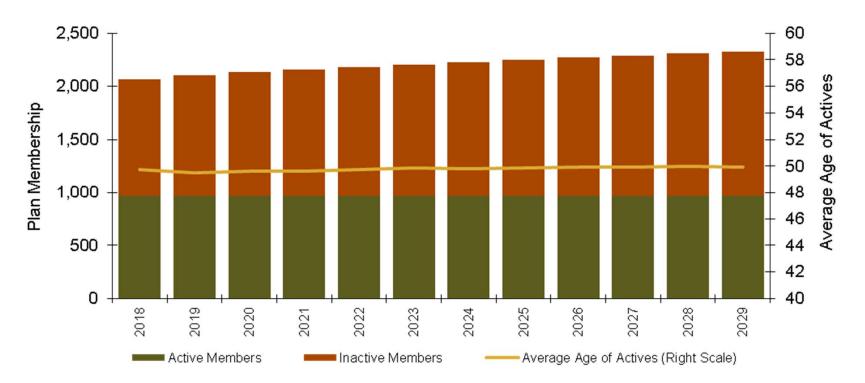
Other assumptions:

- Open to new entrants
- 0% workforce growth
- UAL amortized by 2032 (14 years)

July 1, 2018 Actuarial Valuation	All Plans
Actuarial Accrued Liability	\$398.9 mm
Market Value of Assets	\$283.5 mm
Actuarial Value of Assets	\$288.0 mm
Market Funded Status (MVA/AL)	71%
Actuarial Funded Status (AVA/AL)	72%
Employer Contribution (\$)	\$20.8mm
Employer Contribution (%)	29.7%

Key Assumptions	Actuarial Assumption	Callan 10-year Expectation
Investment Return	7.25%	6.50%
Price Inflation	3.0%	2.25%

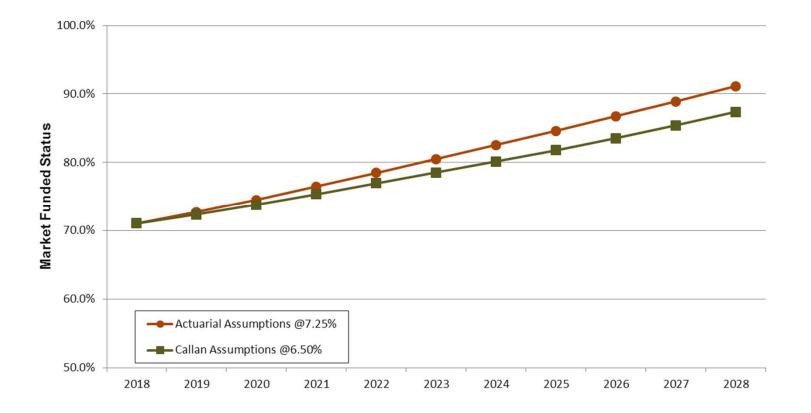
# **Demographic Projection**



Plan membership is gradually increasing.

- Total population increases from 2,000 to 2,300
- Active population is assumed to hold while inactive population is growing over time
- Average age of active members remains around 50

### **Expected Funded Status Projections**



A return gap (6.5% vs 7.25%) results in a lower funded status at the end of 10 years.

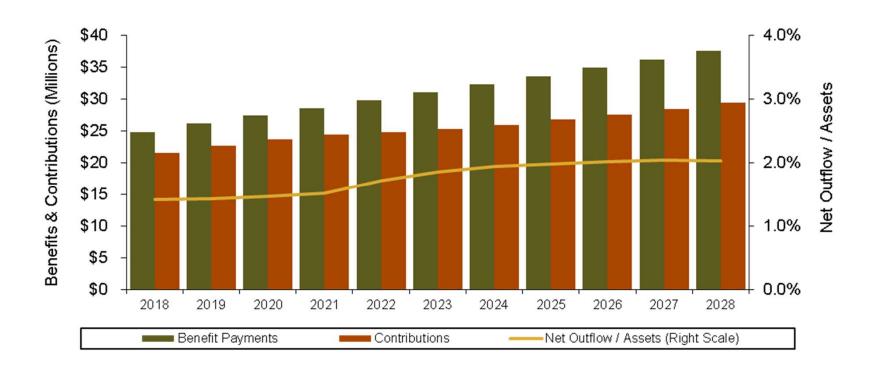
• The return gap is offset to some extent by projecting liabilities at lower price inflation

This study will introduce annual return volatility.

Funded status is projected to reach 87% at the end of 10 years.

# **Liquidity Needs**

Net Outflow (% of Market Assets)



*Net Outflow = Benefit Payments – Funding Contributions (Employer + Employee)*, taken as a percentage of the market value of assets at the beginning of the year.

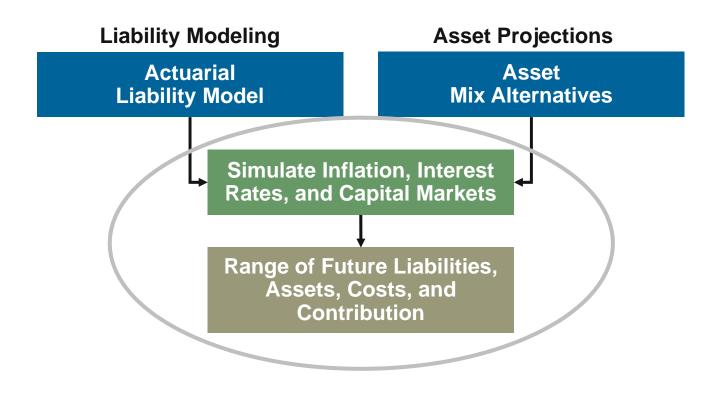
Liquidity needs help define the appropriate time horizon for plan investments and shape the ability of the Plan to commit to illiquid asset classes – liquidity needs are projected to be manageable.

Under the current funding policy, liquidity needs are low.



**Stochastic Forecast** 

### Introduction to the Stochastic Forecast



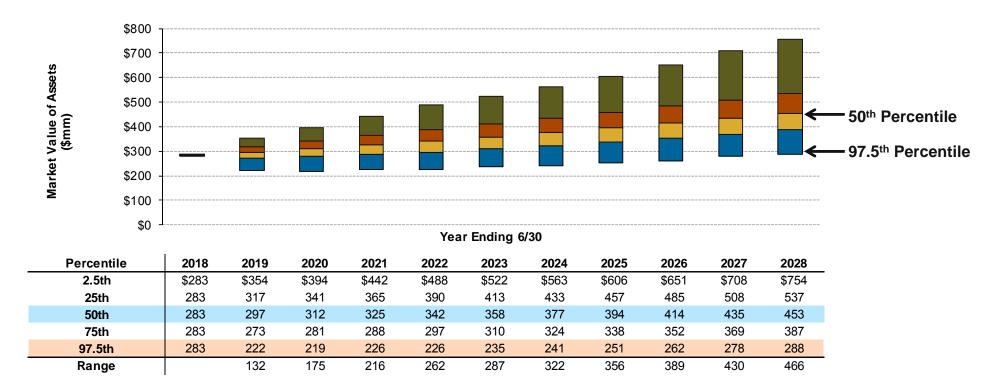
This section demonstrates a stochastic forecast: the modeling of uncertainty associated with the capital markets by generating 2,000 simulations per year, per asset mix, to capture possible future economic scenarios and their effect on the portfolio.

Simulate three key variables: 1) inflation rate, 2) interest rate, and 3) asset class returns

Focus is on a 10-year planning horizon (2019 - 2028)

# Market Value of Assets (MVA)

**Current Policy** 



The expected outcome is the 50<sup>th</sup> percentile.

• There is a 50% chance that asset values will be above the value shown and a 50% chance that asset values will be below the value shown.

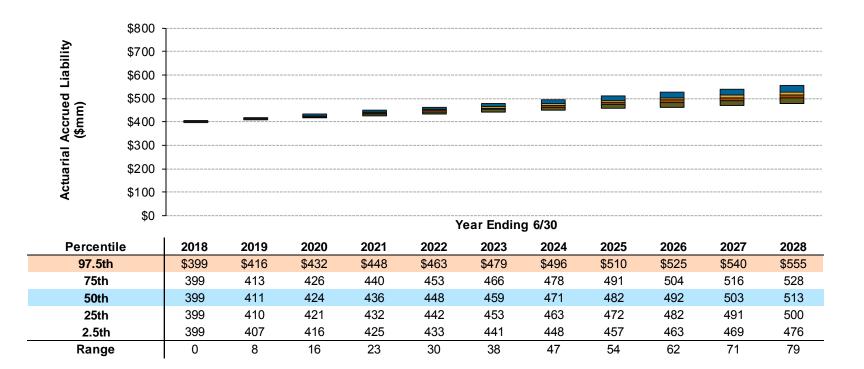
The worse-case scenario is the 97.5<sup>th</sup> percentile; a 1 in 40 chance of occurrence.

For example, there is a 1-in-40 chance (2.5% probability) that the 6/30/2028 market value of assets will be \$288M or less.

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# **Range of Actuarial Liability**

**Current Policy** 

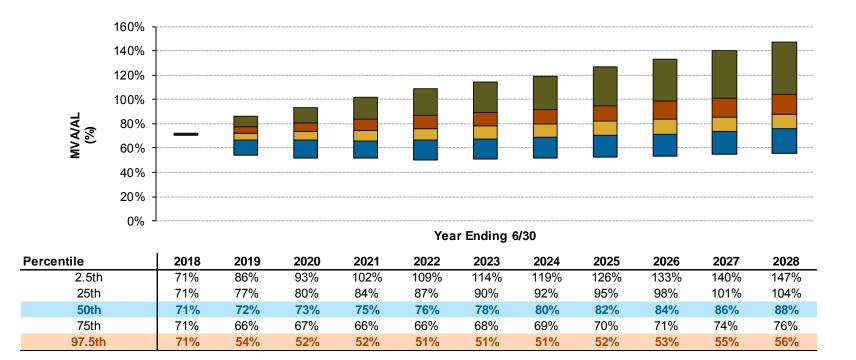


Actuarial liabilities have much less capital market risk since they are not marked-to-market using current interest rates.

- Projection assumes constant actuarial discount rate of 7.25%
- Current variability reflects the uncertainty of inflation as it impacts participants' wages

# Range of Funded Ratio (MVA / AL)

**Current Policy** 



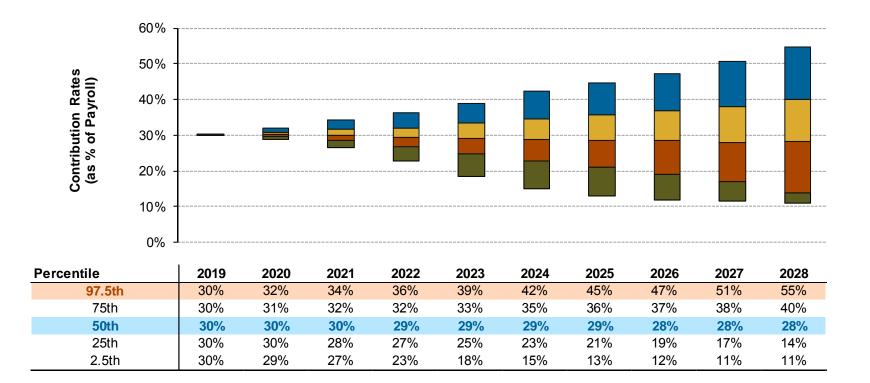
Funded Status = Market Value of Assets (MVA) / Actuarial Liability

Asset and liability experience is combined in determining funded status volatility.

Funded ratio volatility is largely driven by asset volatility which highlights the importance of the asset mix decision.

# **Range of Contribution Rates**

**Current Policy** 

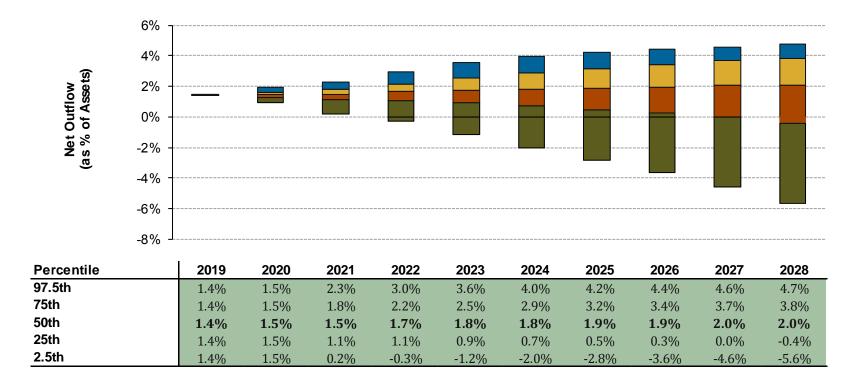


Contribution volatility is another measure of investment risk, with the potential for worse case contribution rates to increase over time.

This chart demonstrates the impact of not earning the actuarial rate of return.

### Range of Simulated Net Cash Flows (% Market Assets)

**Current Policy** 



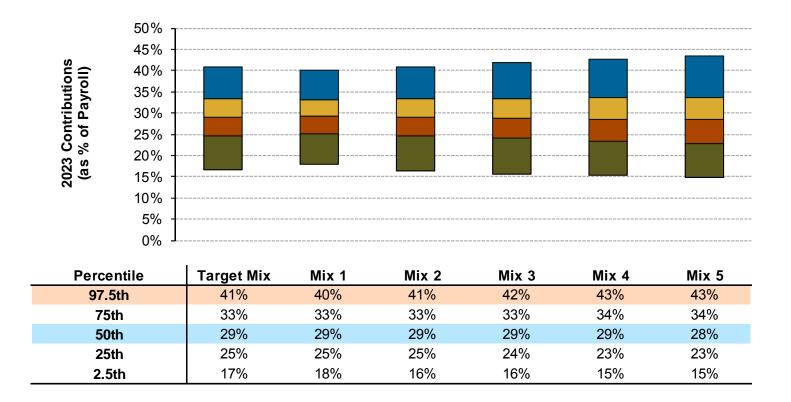
Volatility of liquidity needs are forecasted to be manageable, even in worse-case scenarios.

Current Target has no illiquid investments.

Net outflow above 7% may constrain illiquid investments below 20-40%, depending on funding policy, funded status and portfolio risk (potential for large drawdown).

### Range of Contribution Rates – 5<sup>th</sup> Year

#### All Mixes including Current Policy



Investment volatility is reflected in employer contribution rates through the amortization payment.

Chart compares the contribution rates in the fifth year across the range of alternative asset mixes

Differences across mixes are small

## Range of Simulated Funded Ratio (MVA / AL) – End of 10 Years

#### All Mixes including Current Policy

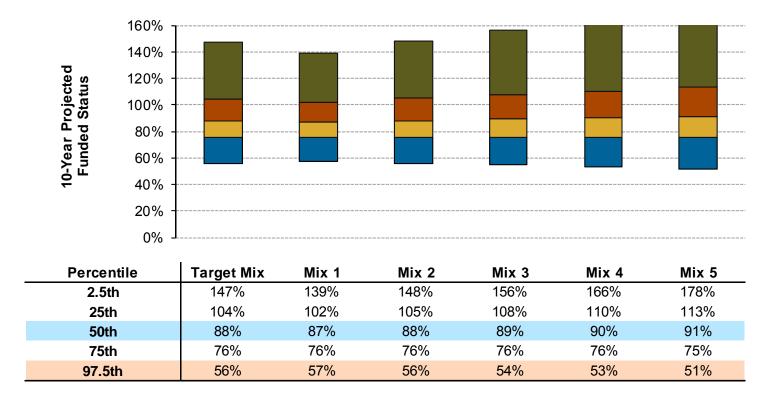


Chart compares funded ratio volatility across a range of alternative asset mixes; no change in the 7.25% discount rate is modeled.

A more aggressive asset mix is expected (50th percentile) to result in a higher funded status but in a worse case scenario (97.5th percentile) the funded status would be lower.

Differences between mixes are relatively small.

#### Range of Ultimate Net Cost – End of 10 Years



Ultimate Net Cost is a decision variable that combines funded status and contribution risk

- Ultimate Net Cost = Cumulative Contributions
   + Unfunded Liability (MV) in year 10
- 97.5<sup>th</sup> percentile is used to describe Worse Case
- UNC can be plotted similar to an "efficient frontier"

The risk/reward trade-off for each alternative compared to the current target is broadly similar, resulting in a linear relationship.



# **Observations and Recommendations**

#### **Summary of Results and Observations**

The liability and demographic profiles suggest SacRT has a sufficiently long time horizon in which to assume investment risk.

Liquidity needs are manageable and low

- Net outflows are less than 5% over much of the next 10 years
- No illiquid asset classes in the current target

Liabilities are expected to grow at a moderate pace

• Plan is open and accruing benefits

After taking into account different inflation expectations, Callan models the liability return as 6.90%, which is slightly less than the 7.25% actuarial discount rate.

- A return objective of 6.90% is consistent with Callan's capital market assumptions with embedded price inflation of 2.25%
- Higher inflation than expected (2.25%) should result in higher nominal returns and higher liabilities over the long run

The risk/return stance of the current target appears to be sufficient to meet the very long-term goals and funding needs for the plan.

Alternative mixes explore modest changes to the current target and illustrate the impact of increasing risk in pursuit of return.

#### Conclusion

The current target is diversified across stocks and bonds, and it would be reasonable to retain it as the policy target going forward.

SacRT can also consider further diversification, and Callan believes real estate in particular offers a potentially attractive source of return that would complement and diversify the existing portfolio.

• Of course, there are cost and implementation considerations to take into account

Mix 3R (which includes 10% to real estate, funded from both stocks and bonds) is compelling for several reasons:

- Diversifier to equities and fixed income
- Lagged valuation process helps smooth out volatility
- Intermediate to long term inflation hedge
- Potential to add active management premium
- Many similarly sized public funds (~75%) have an allocation to real estate

Mix 3R increases the expected return to 6.65%, from the current target expected return of 6.48%. Including an active management premium assumption of 20-30 bps gets the Plan closer to the 6.90% liability growth rate (though still short of the 7.25% discount rate).



Appendix

#### **Role of Asset Classes and Strategies**

#### **Capital Accumulation**

- U.S. Equity
- Non-U.S. Equity
- Private Equity
- Private Real Estate
- Diversification/Expand Opportunity Set
- TIPS
- Non-U.S. Equity
- Commodities
- Private Equity
- Private Real Estate
- Infrastructure
- Hedge Funds
- Timber

Lower Volatility

- U.S. Fixed Income
- Hedge funds

Alpha Generation

- Small/Mid Cap U.S. Equity
- Non-U.S. Equity
- Private Equity
- Private Real Estate
- Infrastructure
- Hedge Funds

**Deflation Hedge** 

U.S. Fixed Income

Inflation Hedge

- TIPS
- Private Real Estate
- Infrastructure
- Commodities
- Timber

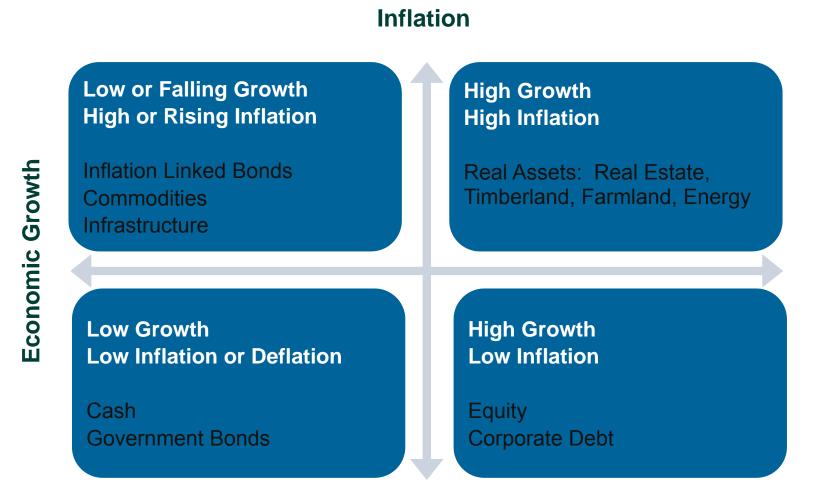
Asset classes in color represent illiquid investments

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### **Grouping Asset Classes by Economic Roles**

Evaluate Economic Growth and Inflation Scenarios

Investors seek economic diversification to a range of scenarios like inflation, deflation, stagflation and growth given the uncertainty.



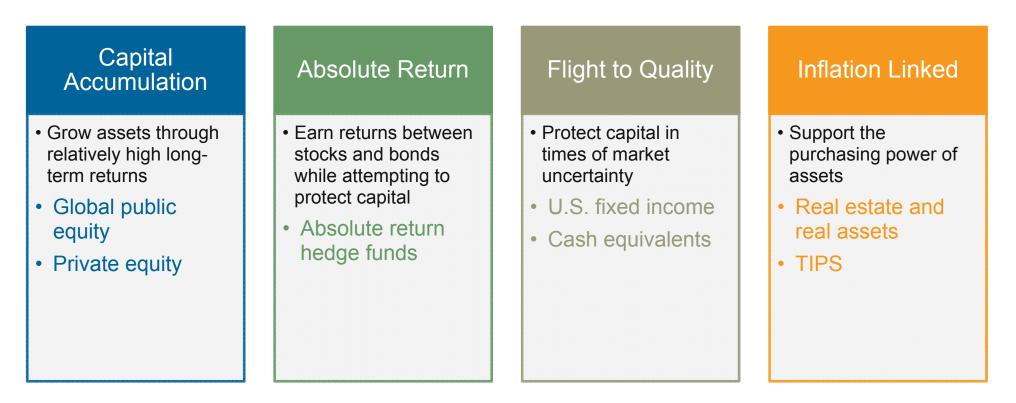
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#### **Economic Roles of Asset Classes**

Asset classes can be bucketed based on their responses to macroeconomic scenarios

• This approach combines the transparency of asset classes with the granularity of risk factor-based approaches



### **Callan's 2019 Capital Market Expectations**

#### Correlations

		Broad	Lg Cap	Sm/Mid	GlobxUS	Int'l Eq	Emerge	Sht Dur	Dom Fix	Long D	TIPS	Hi Yield	NUS Fix	EMD	Real Est	Pvt Eqt	Hedge Fd	Comm	Cash Eq	Inflation
1	Broad Domestic Equity	1.000																		
2	Large Cap	0.996	1.000																	
3	Small/Mid Cap	0.960	0.930	1.000																
4	Global ex-US Equity	0.853	0.842	0.842	1.000															
5	International Equity	0.811	0.800	0.800	0.988	1.000														
6	Emerging Markets Equity	0.872	0.860	0.860	0.940	0.875	1.000													
7	Short Duration	-0.232	-0.220	-0.255	-0.248	-0.225	-0.275	1.000												
8	Domestic Fixed	-0.113	-0.100	-0.145	-0.136	-0.115	-0.170	0.875	1.000											
9	Long Duration	0.109	0.112	0.095	0.080	0.094	0.042	0.739	0.930	1.000										
10	TIPS	-0.049	-0.040	-0.075	-0.063	-0.050	-0.085	0.555	0.640	0.532	1.000									
11	High Yield	0.636	0.630	0.620	0.625	0.605	0.615	-0.130	0.020	0.189	0.055	1.000								
12	Non-US Fixed	0.008	0.010	0.000	0.068	0.050	0.100	0.480	0.530	0.539	0.400	0.120	1.000							
13	EMD	0.573	0.570	0.550	0.568	0.540	0.580	-0.040	0.100	0.202	0.180	0.600	0.010	1.000						
14	Real Estate	0.736	0.730	0.715	0.706	0.680	0.700	-0.125	-0.035	0.168	0.000	0.560	-0.051	0.470	1.000					
15	Private Equity	0.917	0.915	0.875	0.883	0.860	0.855	-0.300	-0.225	-0.005	-0.135	0.550	0.060	0.450	0.660	1.000				
16	Hedge Funds	0.760	0.755	0.735	0.738	0.715	0.725	-0.080	0.090	0.287	0.085	0.570	-0.050	0.540	0.640	0.620	1.000			
17	Commodities	0.152	0.150	0.150	0.161	0.155	0.160	-0.220	-0.100	-0.041	0.120	0.100	0.150	0.190	0.200	0.180	0.210	1.000		
18	Cash Equivalents	-0.043	-0.030	-0.080	-0.040	-0.010	-0.100	0.300	0.100	-0.040	0.120	-0.110	0.000	-0.070	-0.060	0.000	-0.070	0.070	1.000	
19	Inflation	-0.010	-0.020	0.020	0.010	0.000	0.030	-0.200	-0.280	-0.288	0.100	0.070	-0.100	0.000	0.100	0.060	0.200	0.400	0.000	1.000

Relationships between asset classes are as important, or more important, than the levels of individual asset class assumptions.

These relationships will have a large impact on the generation of efficient asset mixes using mean-variance optimization.

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