



Alameda County Employees' Retirement Association  
**BOARD OF RETIREMENT**

**INVESTMENT COMMITTEE/BOARD MEETING**

**ACERA MISSION:**

**To provide ACERA members and employers with flexible, cost-effective, participant-oriented benefits through prudent investment management and superior member services.**

Wednesday, December 11, 2019  
 9:30 a.m.

LOCATION	COMMITTEE MEMBERS	
ACERA C.G. "BUD" QUIST BOARD ROOM 475 14 <sup>TH</sup> STREET, 10 <sup>TH</sup> FLOOR OAKLAND, CALIFORNIA 94612-1900 MAIN LINE: 510.628.3000 FAX: 510.268.9574	ELIZABETH ROGERS, CHAIR	ELECTED GENERAL
	TARRELL GAMBLE, VICE CHAIR	APPOINTED
	DALE AMARAL	ELECTED SAFETY
	OPHELIA BASGAL	APPOINTED
	KEITH CARSON	APPOINTED
	JAIME GODFREY	APPOINTED
	LIZ KOPPENHAVER	ELECTED RETIRED
	HENRY LEVY	TREASURER
	GEORGE WOOD	ELECTED GENERAL
	NANCY REILLY	ALTERNATE RETIRED <sup>1</sup>
	DARRYL L. WALKER	ALTERNATE SAFETY <sup>2</sup>

Should a quorum of the Board attend this meeting, this meeting shall be deemed a joint meeting of the Board and Committee. The order of agenda items is subject to change without notice. Board and Committee agendas and minutes are available online at [www.acera.org](http://www.acera.org).

**Note regarding public comments:** Public comments are limited to four (4) minutes per person in total.

**Note regarding accommodations:** The Board of Retirement will provide reasonable accommodations for persons with special needs of accessibility who plan to attend Board meetings. Please contact ACERA at (510) 628-3000 to arrange for accommodation.

<sup>1</sup> Alternate Retired Member (Votes in the absence of the Elected Retired Member, or, if the Elected Retired Member is present, then votes if both Elected General Members, or the Elected Safety Member and an Elected General Member, are absent.

<sup>2</sup> Alternate Safety Member (Votes in the absence of (1) the Elected Safety, (2) either of the two Elected General Members, or (3) both the Retired and Alternate Retired Members).

# ***INVESTMENT COMMITTEE/BOARD MEETING***

**NOTICE and AGENDA, Page 2 of 3 – Wednesday, December 11, 2019**

**Call to Order:** 9:30 a.m.

**Public Input (Time Limit: 4 minutes per speaker)**

## **Action Items: Matters for discussion and possible motion by the Committee**

There are no action items

## **Information Items: These items are not presented for Committee action but consist of status updates and cyclical reports**

1. Review of State Street Bank and Trust Company (“SSB”) – Custodian Bank

Brenda Dulger-Sheikin, Senior Vice President, SSB  
Grant Danner, Vice President, SSB  
Margaret Allen, ACERA  
Thomas Taylor, ACERA  
Betty Tse, ACERA

2. Semiannual Performance Review for the Period Ending September 30, 2019 – Equities and Fixed Income

Barry Dennis, Verus Advisory Inc.  
Margaret Jadallah, Verus Advisory Inc.  
Clint Kuboyama, ACERA  
Thomas Taylor, ACERA  
Betty Tse, ACERA

3. Semiannual Performance Review for the Period Ending September 30, 2019 – Absolute Return

Margaret Jadallah, Verus Advisory Inc.  
Clint Kuboyama, ACERA  
Betty Tse, ACERA

4. Semiannual Performance Review for the Period Ending June 30, 2019 – Private Equity

Faraz Shooshani, Verus Advisory Inc.  
Clint Kuboyama, ACERA  
John Ta, ACERA  
Betty Tse, ACERA

5. Semiannual Performance Review for the Period Ending June 30, 2019 – Real Assets

# **INVESTMENT COMMITTEE/BOARD MEETING**

**NOTICE and AGENDA, Page 3 of 3 – Wednesday, December 11, 2019**

John Nicolini, Verus Advisory Inc.  
Clint Kuboyama, ACERA  
Betty Tse, ACERA

6. Semiannual Performance Review for the Period Ending September 30, 2019 – Real Estate

Avery Robinson, Callan LLC  
Jonathan Gould, Callan LLC  
Thomas Taylor, ACERA  
Betty Tse, ACERA

7. CA Gov. Code § 7514.7 Alternative Investment Vehicles Information Report

John Ta, ACERA  
Betty Tse, ACERA

## **Adjournment into Closed Session**

1. Consider the Purchase or Sale of Particular, Specific Pension Fund Investments (2 matters)(CA Gov. Code §§ 54956.81 and 6254.26)

## **Reconvene into Open Session to Report on Action Taken in Closed Session**

## **Trustee Remarks**

## **Future Discussion Items**

## **Establishment of Next Meeting Date**

January 8, 2020 at 9:30 a.m.



TO: Members of the Investment Committee  
FROM: Betty Tse, Chief Investment Officer *BTC*  
Margaret Allen, Fiscal Services Officer *EBH*  
DATE: December 11, 2019  
SUBJECT: Review of State Street Bank and Trust Company ("SSB") – Custodian Bank

---

**Recommendation:**

Not applicable – this is a standard review of the custodial services provided by State Street Bank and Trust Company.

**Background**

State Street Bank and Trust Company ("SSB") has been ACERA's custodian bank since April 1999. As a key service provider, ACERA regularly monitors the service relationship and has conducted a number of reviews over the years. In the last three years, SSB has been through two reviews and contract extensions as (ACERA) staff evaluated service levels during times of high turnover at SSB, in particular regard to service levels affecting Primary Contacts and Core Custodial Services<sup>1</sup>. Each time, staff has recommended extending the custody contract because of service improvements observed. Accordingly, the Board approved staff's recommendation to extend the Custody Contract on June 20, 2018, for another 18-month period, or until February 7, 2020.

**Discussion**

Since June 2018, staff believes that SSB has improved its services and has fulfilled its contractual obligations to meet ACERA's minimum service quality requirements. Though its current overall average scores are lower than that previously recorded in 2012<sup>2</sup>, State Street Bank has addressed staff concerns and improved its services in both Primary Contact Service, as well as, Core Custodial service levels with newly assigned individuals. Under the direction of the CIO Betty Tse and SSB's Senior Vice President Brenda Dulger-Sheikin, staff and SSB had successfully concluded a new Service Level Document (SLD) detailing the day-to-day scope of services and expectations. Accordingly, over the past 18-months, SSB's new client service team has improved and enhanced services to ACERA. Using a scale of 1 to 5 --with five the maximum score, staff conducted a self-survey as well as its investment managers. Please see below for the overall results and Attachment #2 & #3.

---

<sup>1</sup> Additional to the reviews, staff made two onsite due diligence trips i) to the Kansas City Center in May 2014, ii) to the Boston headquarters in May 2016, and iii) to the Sacramento Center in 2019.

<sup>2</sup> The most recent in-depth review ACERA was conducted was May 2012 with ACERA extending the Custody Contract with SSB until for a 5-year term.



## **Results of Evaluation**

SSB received an overall average score of 3.8 (75.1% of total points possible) for the 2019 evaluation, which is slightly below the previous 4.0 score received in 2012. There were no official survey evaluations conducted for the 2017 and 2018 interim reviews. Consequently, comparing 2019 to 2012 is less relevant for this review for the following reasons: 1) Seven years have passed and the old scores are dated; 2) ACERA staff members have changed –including the addition of the Fiscal Services Department; 3) The Total Fund is more diversified and complicated to monitor; and, 4) SSB now has new client-service team and middle management professionals.

The following is a summary of staff's 2019 evaluation of SSB's custodial services. Some of the guidelines in the SLD are integrated into the sections below.

### **I. Investment Staff's Evaluation of SSB**

#### **1. Overall Master Custodial Services**

In general, investment and fiscal services staff are satisfied with SSB's overall service quality exemplified by giving SSB an average score of 3.9. Accordingly, the overall score remains above average. Please see below for detailed assessments of various categories.

#### **2. Primary Contacts at SSB**

SSB earned an average 3.3 score. Over the past 7-years, SSB has experienced turnover at the client service level, as well as, the senior leadership level. In part, the turnover was due to attrition, but also corporate restructuring. Consequently, SSB assigned a knowledgeable Client Service Team, which has been bifurcated into operations (documentation processing) and client services (communications). In an effort to improve timely resolution of open items, SSB and staff continue to conduct bi-weekly calls to resolve outstanding issues. SSB and staff have solidified the SLD to outline the day-to-day scope of expected services.

#### **3. Core Custodial Services**

SSB earned an average 3.9 score. Core custody services, security valuations, cash flow management, and month-end reporting have been accurate and timely. There have been no issues (unlike previous reviews) with wire- and funds-transfer, or with transaction origination procedures.

#### **4. Value-Added Services**

SSB earned an average 3.5 score. Overall staff is satisfied with SSB's Value-Added Services. Technology improvements (MyStateStreet.com, eCFM) and performance measurement rated above average; however, global market services scored below average. At issue are foreign account opening and documentations that are initiated by (new) investment managers or the emerging market countries themselves. These issues are now being addressed and resolved.

- a) The Performance Measurement Analytics Group, in particular, continue to demonstrate above average execution to meet ACERA's reporting requirements (see #5 below). An example of SSB's commitment toward timely delivery of reports, on multiple occasions, the performance measurement team worked beyond regular business hours to ensure reports were delivered by agreed to

dates. The Performance Measurement Team also demonstrated great willingness to cater to ACERA's ad-hoc reporting requirements as new managers and asset classes have been adopted by the Board.

- b) The Securities Lending Group is responsive when staff has inquiries. SSB's Securities Lending Team also impressed the investment staff as knowledgeable and resourceful regarding lending activities and market participants in general. This team has also been timely in generating ACERA's quarterly securities lending reports. Over the past couple of years, the utilization rate (loaned shares divided by available shares in the securities lending market) has averaged 11.4% vs. 8% industry average<sup>3</sup>.

5. Reports

SSB earned an average score of 4.0. This score is above average as many reports are now online (MyStateStreet) and staff can easily access these records. Examples of such reports, which are noted in the SLD, are Accounting, Trial Balances, Analytics and Monthly Performance Reporting, Custody and Transaction Information Reporting, Monthly Performance Report, Monthly Reporting, Net Asset Value, Trades and Transactions, Securities Litigation, etc. For annual reporting, SSB also provides information for GASB reporting (i.e., GASB 28, 31, 40, 53, and 72), and audit reporting (FASB Statement, Year-end Investment Manager Reconciliations).

6. Communications

SSB earned an average score of 3.7. Staff is encouraged with SSB's communication efforts with ACERA. SSB's Client Services, Performance Analytics, and Private Edge teams respond timely to ACERA's requests. MyStateStreet.com, SSB's now more mature portal, contains an abundance of information—all the data and statistics to running a Total Fund, and is generally available 24 hours a day, 7 days a week. Furthermore, SSB provides investment research as a resource available to ACERA as one of its clients. State Street Global Markets and Investment Research, Recommendations and Resources (IR<sup>3</sup>) provide information on investor behavior, portfolio and risk management.

7. Custody Fees

The Fee Schedule, which the Board approved on 2/16/12, is an annual flat fee structure and provides for a cap on the upside for ACERA, which continues to yield current savings and additional potential savings in the future, because the number of accounts, transactions, and holdings in custody continues to grow. This flat fee structure also provides the additional benefit of saving staff time that was previously spent verifying and reconciling detailed quarterly invoices from SSB.

**II. Traditional Investment Manager's Evaluation of SSB**

Similar to the evaluation form used by staff, a separate survey was distributed to all of ACERA's investment managers and consultants to whom SSB provides ancillary account services. This survey used the same one-to-five-point evaluation scale. Managers and

consultants gave SSB an overall 3.1 average score, this compared to SSB's previous overall 4.4 average score. On the plus side, SSB has scored slightly above average in its overall master custodial services, core custody services and value-added services; however, areas for improvement exist in the areas of primary contacts and communications. Investment managers were split in their comments depending on their experiences. Most of ACERA's older investment managers typically have established good working relationships with SSB while newer investment managers were in the nascent stage of working with SSB. (Please see Attachment #3 for the Investment Manager's Evaluation of SSB).

### **III. Survey of other 1937 Act County Plans**

Separate from the surveys given to staff and Investment managers, ACERA surveyed the other '37 Act county plans. Out of the 19 other plans, four counties responded with two of the four working with SSB (both 20+ years). On a scale of "very dissatisfied", "dissatisfied", "neutral", "satisfied", and "very satisfied", the two plans scored SSB with a "neutral" or "satisfied" ranking. The other two counties scored their respective custodial bank relationships (other than SSB) with a similar "neutral" or "satisfied" ranking. With a small sample size, it is difficult to garner any significant information from the survey.

### **IV Other Observations**

In comparing this 2019 review of SSB to 2016 review, there are additional details about SSB in the Executive Summary (see Attachment #1). ACERA's assets have grown from \$6.7 billion to \$8.32 billion over the 5-year period. For SSB, total assets under custody have declined from \$27.0 to \$25.0 trillion and total number of institutional clients from 994 to 542. The total number of public clients, a subset, have declined from 109 to 102. Lastly, SSB has expanded number of hours covered by its service center(s) in India which has grown from 40 hours (or 23.5% of the time) to 60 HRS (or 33.33% of the time). Fees for custodial services has remained relatively flat, but incrementally more because of the increase in our commitments in private placements.

### **Conclusion**

ACERA has negotiated a fresh start with the new Client Service Team and the oversight of Brenda Dulger-Sheikin. As with any change there is a learning curve; nevertheless, SSB has made good strides in building out its Client Service Team and its technology, i.e., MyStateStreet platform. ACERA staff, investment managers, and consultants believe that SSB has provided satisfactory custodial and administrative services with acknowledgement for continued improvement. With the affirmation of the Committee, staff will bring to the January 8, 2020 Investment Committee Meeting an action item recommending another 5-year extension to the SSB custody contract – including the separate securities lending contract.

### **Attachments:**

1. Executive Summary of State Street Bank prepared by Investment Department Staff
2. Evaluation of State Street Bank, Investment and Fiscal Services Department Staff Survey
3. Evaluation of State Street Bank, Investment Manager's Evaluation
4. Presentation Report by State Street Bank





## Executive Summary

Attachment # 1

### State Street Bank and Trust Company

Organization: Founded in 1792, State Street Bank and Trust Company (SSB) is one of the largest master trust and custodial service providers worldwide. SSB headquarters are in Boston, MA with service locations globally, and is the primary custody provider for ACERA. The relationship is serviced out of the Kansas City, MO office, where seven of the other 1937 Act retirement systems are also serviced.

<u>Inception Date with ACERA:</u>	July 1999
Name of ACERA's Relationship Manager:	Chris Vokolek, Grant Danner
Total ACERA's Assets:	\$8.32 billion
ACERA's Custodian Fees <sup>1</sup> Paid 2018/2019 YTD:	\$554,826.54/\$273,410.43 (a/o 6/30/19)

### State Street Bank & Trust Company

Total Assets under Custody:	\$25 trillion
Total Number of Custody Clients:	1,841
Total Number of Institutional Clients:	542

### State Street Public Funds

Total Assets:	\$2.18 trillion
Total Number of Public Clients:	102
Total Number of Endowment Clients:	150
Asset Turnover in 2019 Gained/Lost:	\$1.24 billion/\$7.89billion
Client Turnover in 2019 Gained/Lost:	0/9 (0/8 public, 0/1 endowment)
Average Asset Size of Public Client:	\$ 21.37 billion
State Street Kansas City Servicing Team	
Ratio of Client Relationship Managers to Clients:	1 Manager / 7 Clients <sup>2</sup>
Average Years of Experience of Relationship Managers:	15.5 years
Turnover since Last Review Addition/Reduction:	2/2 (Vokolek, Danner / Tonya Cordray; Kris Auer in 2019)

<sup>1</sup> Flat Rate: \$125,000/ quarter plus miscellaneous fees for private placements and foreign custody.

<sup>2</sup> Ratio in 2016 was 1 client relationship manager / 6 clients

# ACERA

## ACERA Staff's Evaluation of SSB (2019)

The following is Investment Staff's evaluation of the investment related master custodial services that SSB provided to ACERA since SSB's last review. Investment Staff used a 5-point scale for the evaluation where "5" means "extremely satisfied" and "1" means "not at all satisfied".

<b>Category</b>	<b><u>Aggregate</u></b>
<b><u>1. Overall Master Custodial Services</u></b>	
a) Demonstrates in-depth knowledge and experience about the institutional custodian business	3.9
b) Clearly demonstrates the role of a fiduciary towards ACERA	3.9
c) Places a high priority on ACERA's interests and works hard to address ACERA's needs and concerns	3.9
d) Provides master custodial services with integrity, effectiveness and efficiency	3.8
<b><u>Average:</u></b>	<b><u>3.9</u></b>
<b><u>2. Primary Contacts at SSB</u></b>	
a) Effectively addresses ACERA's unique requirements and needs in a timely fashion	3.5
b) Clearly demonstrates the knowledge about all available services at SSB and how those services can enhance the value of ACERA's portfolio	3.2
c) Clearly demonstrates the knowledge about the organization and business of ACERA	3.3
d) Effectively and efficiently plays a role as liaison to support an on going, three-way relationship among ACERA, SSB and ACERA's investment vendors	3.3
<b><u>Average:</u></b>	<b><u>3.3</u></b>
<b><u>3. Core Custodial Services</u></b>	
a) Core Custody	3.6
b) Security Valuation	4.0
c) Short-Term Cash Management	4.5
d) Cash Flow Management	4.3
e) Month-End Reporting / Reconciliation	3.3
<b><u>Average:</u></b>	<b><u>3.9</u></b>
<b><u>4. Value -Added Services</u></b>	
a) Performance Measurement Analytics (Monthly Snapshot)	3.5
b) Securities Lending	4.3
c) Global Market Services (Foreign Opening Documents, Tax Reclamation)	2.8
d) Technology (MyStateStreet.com, eCFM)	3.5
e) Charles River Development (Monthly Investment Manager Compliance Review)	3.5
<b><u>Average:</u></b>	<b><u>3.5</u></b>
<b><u>5. Reports</u></b>	
a) Measures the performance of ACERA's portfolio and of each investment manager in the portfolio accurately and timely	4.3
b) Reconciles each ACERA's investment manager's monthly report accurately and timely	3.8
c) Delivers the required reports accurately and timely	3.8
d) Accommodates ACERA's special report needs and ad-hoc report needs	4.1
<b><u>Average:</u></b>	<b><u>4.0</u></b>
<b><u>6. Communications</u></b>	
a) Keeps ACERA updated about any changes of its investment portfolio in a timely fashion	3.8
b) Keeps ACERA updated about any changes within SSB itself in a timely fashion	3.3
c) Attends ACERA's investment committee meeting as needed	4.1
d) Accommodates ACERA's ad-hoc meeting/review requests	4.1
e) Promptly replies ACERA's inquires	3.4
<b><u>Average:</u></b>	<b><u>3.7</u></b>
<b><u>7. Fees</u></b>	
a) Charges reasonable fees	4.3
<b><u>Average:</u></b>	<b><u>4.3</u></b>
<b><u>Total Average:</u></b>	<b><u>3.8</u></b>

## ACERA Traditional Investment Manager's Evaluation of SSB (2019)

The following is the evaluation of the investment related master custodial services provided by SSB to ACERA since SSB's last review by ACERA's investment managers and investment consultants. A 5-point scale is used for the evaluation where "5" means "extremely satisfied" and "1" means "not at all satisfied".

<b>Category</b>	<b><u>Score</u></b>
<b><u>1. Overall Master Custodial Services</u></b>	
a) Demonstrates in-depth knowledge and experience about the institutional custodian business	3.2
b) Clearly demonstrates the role of a fiduciary with respect to the safekeeping and custody of ACERA's assets	3.4
c) Places a high priority on ACERA's interests	3.3
d) Works diligently to address ACERA's needs and concerns	3.1
e) Provides general custodial services with integrity, effectiveness and efficiency	2.9
	<b><u>Average:</u> 3.2</b>
<b><u>2. Primary Contacts at SSB</u></b>	
a) Effectively addresses my firm's unique requirements and needs in a timely fashion	2.4
b) Clearly demonstrates knowledge about all available services at SSB and how those services can help my firm to enhance the value of my firm's product to ACERA	3.0
c) Clearly demonstrates knowledge about my firm's product and relationship with ACERA	2.9
d) Plays effective and efficient roles as liaison to support an ongoing, three-way relationship among SSB, ACERA and my firm	2.8
	<b><u>Average:</u> 2.8</b>
<b><u>3. Core Custodial Services</u></b>	
a) Core Custody	3.4
b) Security Valuation	3.7
c) Short-Term Cash Management	3.2
d) Month-End Reporting / Reconciliation	3.3
	<b><u>Average:</u> 3.4</b>
<b><u>4. Value -Added Services</u></b>	
a) Performance Measurement Analytics	3.3
b) Securities Lending	3.3
c) Global Market Services (Foreign Opening Documents, Tax Reclamation, etc.)	3.5
d) Transition Management	2.8
e) Charles River Development	3.0
	<b><u>Average:</u> 3.2</b>
<b><u>5. Communications</u></b>	
a) Keeps my firm updated about any changes pertaining to ACERA in a timely fashion	3.0
b) Proactively keeps my firm updated about organizational or operational changes of SSB	3.1
c) Informs my firm about ACERA's needs in a timely fashion	3.0
d) Promptly replies to my inquires	2.4
	<b><u>Average:</u> 2.9</b>
	<b><u>Total Average:</u> 3.1</b>

# Alameda County Employees' Retirement Association

December 11, 2019

**ACERA  
Investment  
Committee &  
Board Meeting**

CONFIDENTIALITY NOTICE: This presentation and the information contained herein is intended for the confidential use of authorized project participants. Any review, dissemination, distribution, or copying of this presentation or information other than in connection with its intended business purpose is strictly prohibited.



# A global enterprise built for your success...

## Global Services

- \$32.90 trillion AUC/A<sup>1</sup>
- One of the world's leading investment service providers
- Fund accounting and administration, custody, investment operations outsourcing

## Global Advisors

- \$2.95 trillion AUM<sup>2</sup>
- One of the largest ETF providers in the world
- Investment strategies across risk / return spectrum

## Global Exchange

- Information, analytics and data solutions
- Leveraging big data and advanced technology to offer investment indicators and analytics

## Global Markets

- \$18.49 trillion in foreign exchange and interbank volume traded<sup>3</sup>
- Investment research, foreign exchange trading and securities lending



Responsible for more than **10%** of the world's assets<sup>4</sup>

**No. 1** in alternative asset servicing<sup>7</sup>

Servicing more than **40%** of all US mutual funds<sup>5</sup>

**No. 1** in ETF servicing<sup>8</sup>

**Third-Largest** money manager globally<sup>6</sup>

**No. 1** service provider of fund administration and transfer agency<sup>9</sup> in Luxembourg and Ireland

1. As of September 30, 2019  
 2. This figure is presented as of September 30, 2019 and includes approximately \$44 billion of assets with respect to SPDR products for which State Street Global Advisors Funds Distributors, LLC (SSGA FD) acts solely as the marketing agent. SSGA FD and State Street Global Advisors are affiliated.  
 3. YTD as of September 30, 2019  
 4. Source: State Street and McKinsey Global Institute, Global Capital Markets, June 30, 2017\*  
 \*Updated in March 2019 per bespoke McKinsey report. This represents State Street's Q2 2017 AUCA (\$31t) as a proportion of total global financial assets (\$289t).

5. Source: Investment Company Institute, as of June 30 2019. This statistic is based on assets under custody and administration.  
 6. Source: P&I Research Center, as of December 31, 2018, Published May 27, 2019. This online data resource aggregates data collected by P&I's editorial team through surveys and day-to-day reporting on thousands of money managers and institutional asset owners.  
 7. Source: eVestment Alternative Fund Administration Survey 2019. Includes private equity and real assets under portfolio administration. This annual industry survey gathers AuA data from service providers.  
 8. Source: ETFGI Global ETF Industry Insights September 30, 2019 (61.1% share of Global ETFs)  
 9. Source: Monterey Insight Ireland Fund Report, June 2019



# Strong Global Presence\*



\*December 31, 2018  
\*\*Employees as of September 30, 2019

# Client Service & Delivery

# Service Enhancements

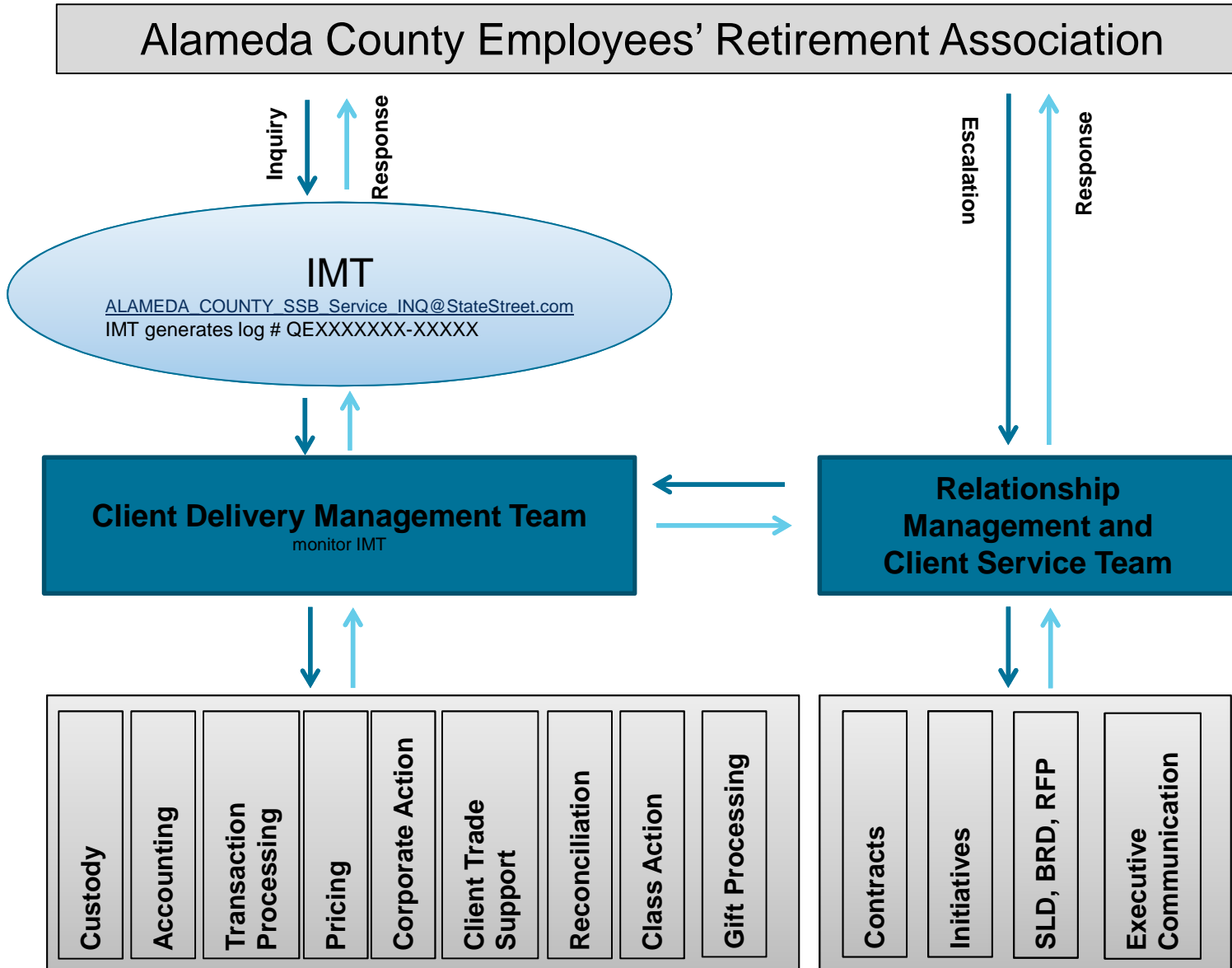
## Remediation

Themes	Actions Taken	Date
Resource Enhancements	•Introduced Client Delivery Management (CDM) as additional resources to the client service team.	Q2 2019
	•Created dotted line reporting structure for client delivery team	Q2 2019
Enhanced Internal Oversight	•Implemented additional key control review of the daily NAV process for fund HI1A	Q3 2019
	•Implemented statement tracking across operational organization to ensure timely accounting close process	Q3 2019
Technology	•Developed eCFM procedure to automate accounting only transfers related to LP activity	Q3 2019
	•Implemented Inquiry Management Tool (IMT) to streamline and track inquiries	Q2 2019
Governance	•Bi-weekly operations call to discuss current and upcoming initiatives	Ongoing
	•Executed a Service Level Agreement (SLA) that outlines all services provided to ensure optimal service	Q3 2019
Transition Management	•Provided transition services for multi-date reallocation including fund setups/closings, security and cash transitions across multiple managers, and opening of foreign markets	May-19
	•Provided transition services for multi-date reallocation across a two month period of September and October	Q3 2019

# Relationship and Service Model

Executive Leadership				
Mark Schafer– SVP Brenda Dulger-Sheikin - SVP				<ul style="list-style-type: none"> <li>• ACERA’s executive advocate</li> <li>• Access to senior decision makers</li> </ul>
Client Service and Delivery				
US Asset Owners				<ul style="list-style-type: none"> <li>• Conversion and Implementation</li> <li>• Senior client advocate driving continuous improvement for ACERA</li> <li>• Manage business to business issues</li> <li>• Strategic planning</li> <li>• Contract and service level negotiations</li> <li>• Day to day servicing</li> <li>• Management of negotiated business requirements</li> <li>• Primary contact to disseminate news and impact to ACERA regarding day to day client direction</li> <li>• Primary contact for operational requests</li> </ul>
Kate Hubbard – Vice President – Client Service Department Lead				
Grant Danner – Vice Present – Client Service Team Lead				
Chris Vokolek– Assistant Vice President – Client Service Owner				
Sharon Honeyman – Officer– Client Delivery Management				
Functional Expertise of Extended Team				
Global Network	Corporate Actions	Class Action	Trade Processing	<ul style="list-style-type: none"> <li>• Delivery of services</li> <li>• Subject matter expertise</li> <li>• Measure impact of regulatory change on clients</li> </ul>
Global Custody	Securities Pricing	Income Collections	Information Technology and Integration	
Reconciliations	FX Trading	Performance & Analytics	State Street Global Advisors	

# Inquiry Management Tool (IMT): Flow of Information



# Our Objective

## Mission

Coordinate all aspects of the relationship and be your advocate within State Street

- Share best practices and new ideas from extensive relationship network
- Rise to the occasion to meet all challenges and work collaboratively to ensure we are exceeding your expectations
- Formalize engagement structure

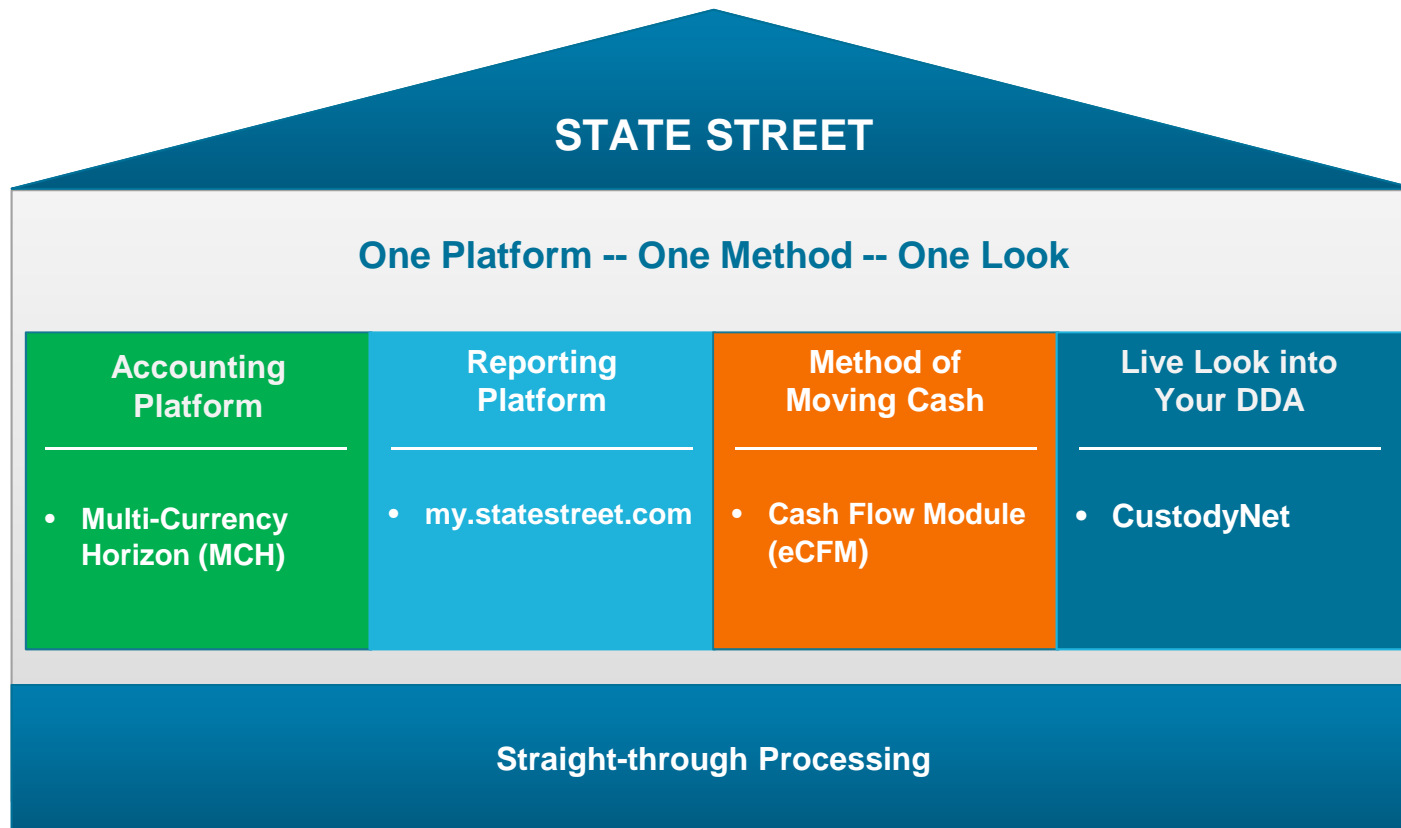
Provide Consistent, Proactive Client Service

- Be responsive — “Sunset Rule”
- Solicit client feedback — annual client survey
- Ensure backup assistance is always available
- Provide timely and accurate reporting
- Ensure deliverables are met
- Get the core right ensuring all downstream reporting is accurate
- Provide cutting edge tools and technology that deliver information that you can use

# Systems and Technology, Client Delivery and Access

# State Street's Suite of Technology Working for ACERA

Industry Expertise At Your Fingertips





# Custody and Accounting

# Alameda County Employees' Retirement Association

## At a Glance



### Relationship

Legal Entity

Alameda County Employees'  
Retirement Association

Client Since: 1999

Year End: 12/31



### Contacts

Betty Tse

Margaret Allen

Tom Taylor

Clint Kuboyama

Uzair Khan

Robin Chen

Noe Reynoso

Agnes Ducanes



### Reporting

Monthly Accounting Reporting

- Completed 6<sup>th</sup> BD or sooner based on timing of the ACERA Monthly Board Meeting

Monthend Accounting Reports

- Available on 7<sup>th</sup> BD via MyStateStreet.com or sooner based on timing of the ACERA Monthly Board Meeting

Year End Reporting:

- Audit requests completed as required

# Our Fully Integrated System

Global Horizon		
A single platform which is the foundation for many critical business decisions		
Global Horizon	Client Service Workstation	my.statestreet.com
<ul style="list-style-type: none"> <li>• Real-time</li> <li>• Base and local currency reporting</li> <li>• Trade date calculation</li> <li>• Full accrual and “as of” capabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Automated daily processing</li> <li>• Exceptions identified daily</li> <li>• 13 automated audits</li> <li>• Cost and Share</li> <li>• Price Tolerance</li> <li>• Price Consistency</li> <li>• Unrealized gain / loss</li> <li>• Realized gain / loss</li> <li>• Income Verification</li> <li>• Income Activity</li> <li>• Open Trades</li> <li>• Pending Foreign Exchange</li> <li>• Payable and Receivable</li> <li>• Local cash</li> <li>• Base Equivalent Cash</li> <li>• Trial Balance</li> </ul>	<ul style="list-style-type: none"> <li>• Web-based</li> <li>• 24-hour access from work or home</li> <li>• Reporting</li> <li>• Standard</li> <li>• Customized</li> <li>• Performance</li> <li>• Private assets</li> <li>• Sophisticated Dashboards</li> </ul>

# Limited Partnership Services

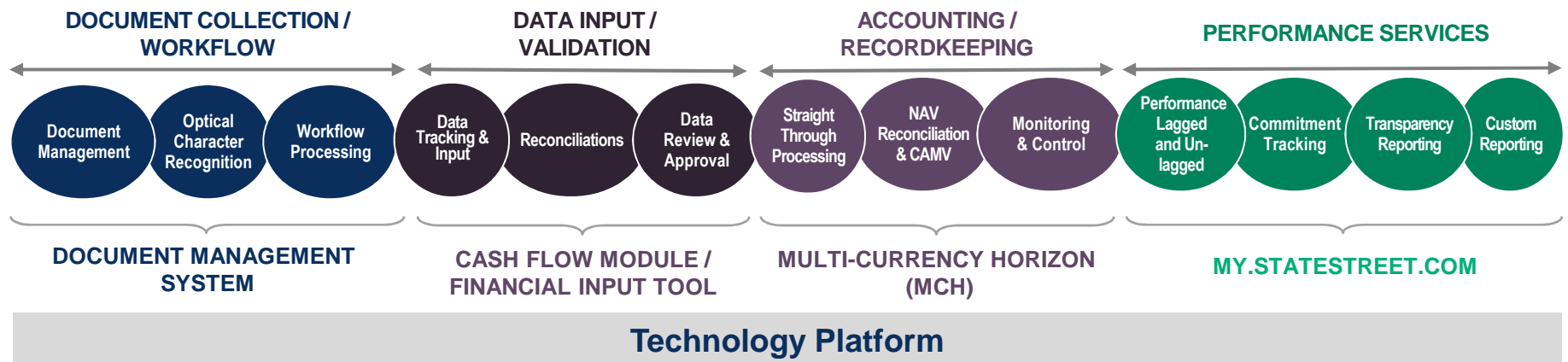
# Limited Partner Services

Our experienced teams are focused on extracting information from the General Partners (GPs) reports to get investment data back to our clients in a controlled and timely manner. Our proprietary tools and global support model create a fully integrated platform for data collection, input, and review, and our online portal allows client users to access their information at any time.

## Key Facts

- Specialized unit dedicated to the focused needs of servicing asset owners with alternative investments
- Over 70 clients, including Endowments, Foundations, Pension Funds, Sovereign Wealth and other institutional investors
- Servicing provided to over 15,000 funds/investments representing over \$900 billion in commitments
- Collection and processing of over 700,000 documents annually
- Delivered on an integrated proprietary technology platform designed to support the unique data gathering and reporting requirements for asset owners with alternative assets
- Expert client support provided through service centers in North America, Europe and Asia

## Alternative Investments Servicing Value Chain



STATE STREET

# Performance & Analytics

# Performance and Analytics Services

## Current Operating Model

### Deliverables

- Monthly Deliverable – On a Monday after second Thursday.

### Performance Reports

- Four monthly PDF reports including: Performance Summary Consecutive Quarter DB report, Performance Summary Defined Benefit report, Board Performance Summary Defined Benefit report, and Board Consecutive Quarter DB report.
- Excel version of monthly Snapshot report.
- Monthly Bivium report. (excel)
- Monthly Financial Sector Exposure report. (excel)
- All of the above reports are posted on performance and analytics dashboard in Reports section.

# Investment Compliance Services



# Investment Compliance Services

## Breach Awareness and Management

- Investment guidelines and regulatory requirements monitoring
- Flexible solution includes transparency into commingled assets
- Simple investment restrictions to the most complex quantitative guidelines across single or multiple portfolios
- Core Capabilities Include:
  - Asset allocation and issuer concentration
  - Duration, risk characteristics, and leverage restrictions
  - Country and regional exposures and investment rules
  - Asset mix, tracking error, quality ratings
  - Environmental and social governance
  - Corporate governance and industry regulations
- Client service expertise
- Rapid exception research and resolution



# Securities Lending

# Relationship Summary

## ACERA Current Lending Program

### Assets

Overall Securities Finance relationship with ACERA commenced in 1999:

- Currently **22 funds** enrolled in the Agency Lending program
- Most recent Securities Lending Authorization Agreement extension through February 2020

### Revenue Sharing

Fee Split:

- 80% ACERA / 20% State Street

### Borrowers

- ACERA uses State Street's program approved borrowers list
- Indemnified against borrower default

### Collateral

- Cash (US and foreign currency)
- Securities issued or guaranteed by the US Government, its agencies or instrumentalities
- Sovereign Debt
- Irrevocable bank letters of credit

### Program Summary (as-of 10/31)

- ACERA has earned \$43.7 million since joining the Agency Lending program
- Lendable Market Value = \$2.4 Billion
- On Loan Market Value = \$163 Million

Notes:

- (1) Data represents past performance and is not a guarantee of future results
- (2) Enrolled funds as of: November 30, 2019
- (3) Earnings data through October 2019
- (4) Lendable and Loan data as of October 31, 2019
- (5) Data Source: Securities Finance Business Intelligence & my.statestreet.com

# Bios



**Brenda Dulger-Sheikin**

Senior Vice President

State Street US Asset Owners

Brenda currently leads the US Asset Owner West enhanced asset owner business focused on providing innovative custodian solutions to asset owners undergoing dynamic change. Safekeeping over a trillion dollars in customer assets, providing the highest quality accounting book of records and solution strategies to address gaps in the sector through technology, data and premium analytical service delivery. Highly specialized servicing unit focused on bringing world class investment management servicing through a 40's Act mutual fund daily valuation heritage to the most sophisticated asset owner clients.

Brenda joined State Street in July 2007 as part of the acquisition of Investor's Bank and Trust (IFIN). Prior to joining State Street, Brenda spent seven years at IBT and Barclays Global Investors (BGI) where she held various positions, including manager of accounting and relationship management.

Brenda earned a Bachelor of Science business degree in strategic management from the California State University of Sacramento



**Grant Danner**  
Vice President

State Street US Asset Owners

Grant Danner is a Vice President within the US Asset Owner division at State Street. He is responsible for leading the client service team which oversees asset owner relationships for public, corporate, Taft-Hartley, and not for profits. He works directly with clients and client leads to develop and strengthen partnerships through communication and keeping up on industry initiatives. Grant began his career in the financial services industry in 2002 and has provided excellent levels of service to a variety of State Street clients. Grant has played key roles in various organizational initiatives across State Street to strengthen the service provided to our clients.

Grant is also active with many of the volunteer opportunities offered by State Street. He has participated in hosting young professionals for PREP-KC, which helps prepare urban youth for college and professional careers in the fields of business and finance. Additionally he has volunteered to build houses for the Veterans Community Project, which helps serve homeless veterans. Grant has earned Bachelor of Science degrees in accounting and finance from Kansas State University and a Master's of Business Administration degree from Baker University.



**Chris Vokolek**  
Assistant Vice President,  
State Street US Asset Owners

Chris brings over 16 years of State Street experience to his position. During this timeframe, Chris has gained experience in custody and accounting services, mutual funds, cash processing and pension plans.

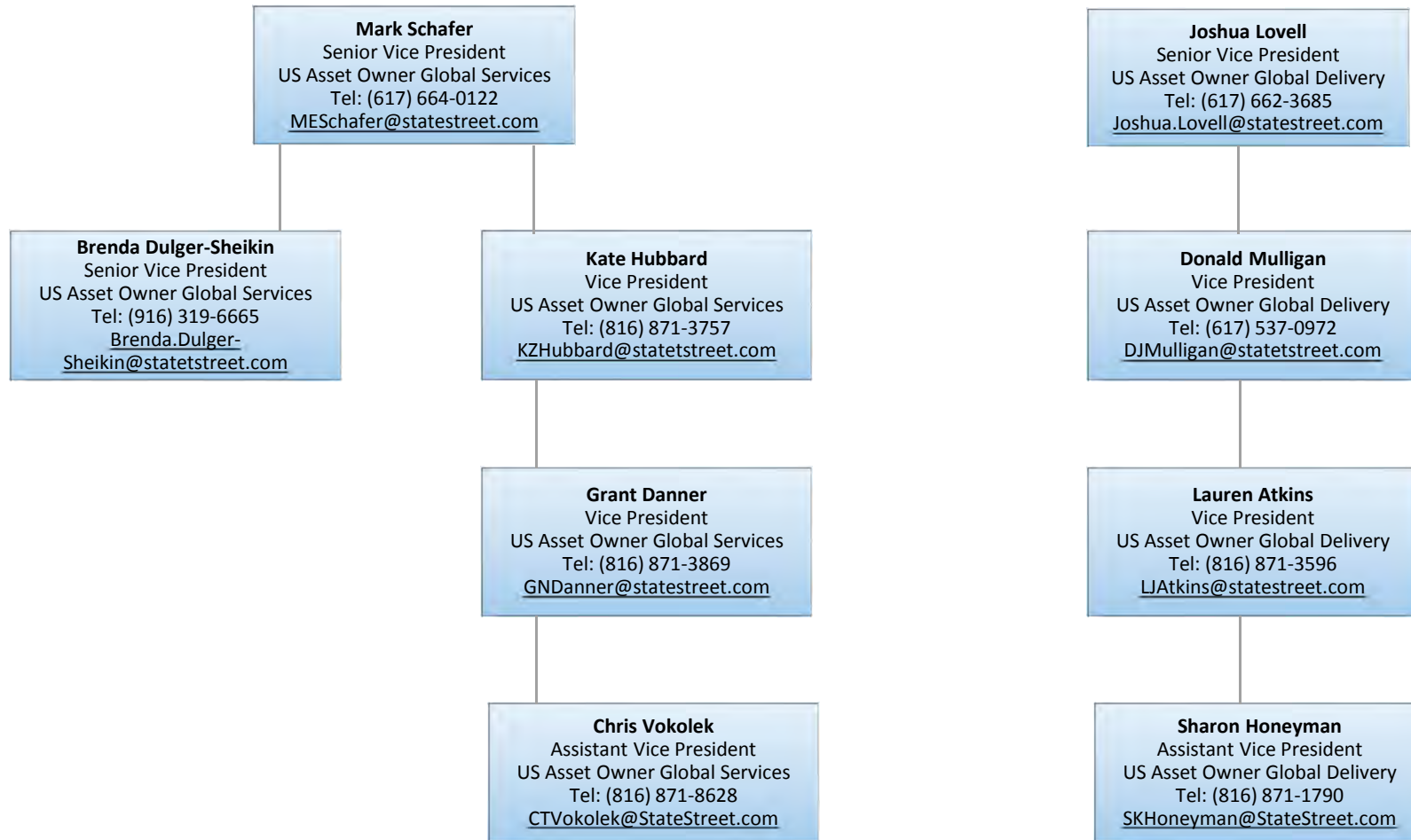
He began his career in 2003, assisting the fund accounting area in providing market value and NAV calculations to clients. Promoted to Fund Accountant shortly thereafter, Chris has spent a good portion of his early career in the fund and portfolio accounting areas.

Within these areas, Chris also served in a management role, responsible for maintaining client relationships, reconciliation of accounting operations and the development of staff personnel.

After also utilizing his experience in the Cash Team area, Chris accepted a Client Service Manager position on the Client Service team in July of 2012. In September of 2013, Chris was promoted to Officer. In early 2016, Chris was promoted to his current position of AVP.

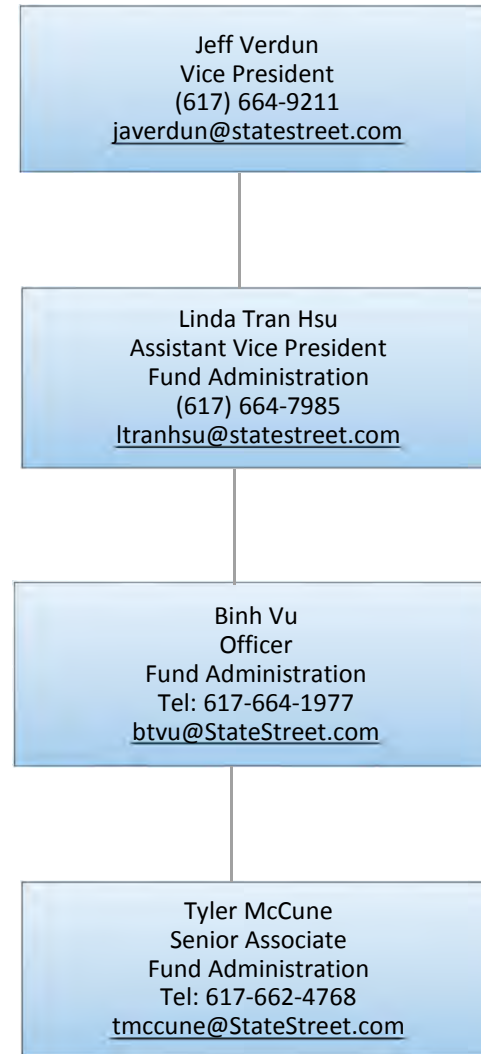
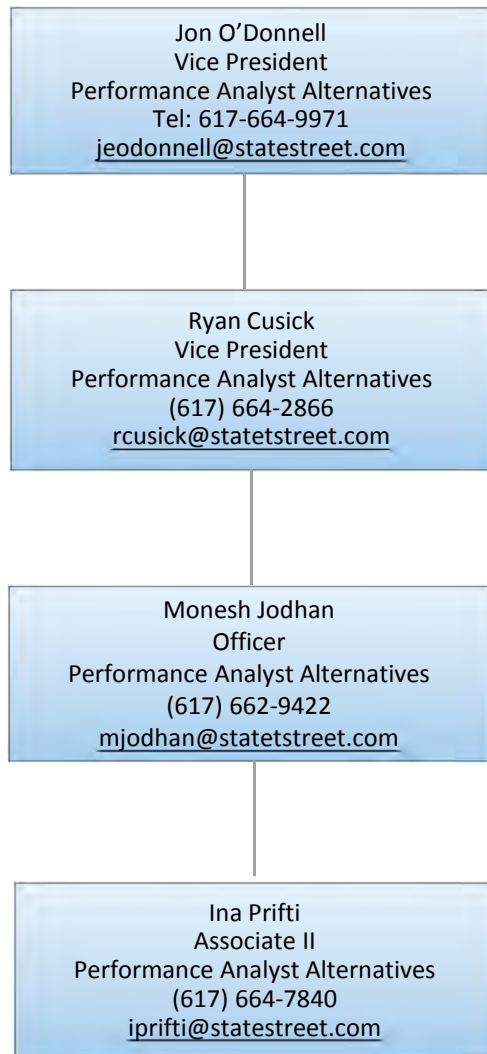
Chris is a graduate of DeVry University with a Bachelor of Science degree in Business Administration.

# ACERA's Client Service and Delivery Team

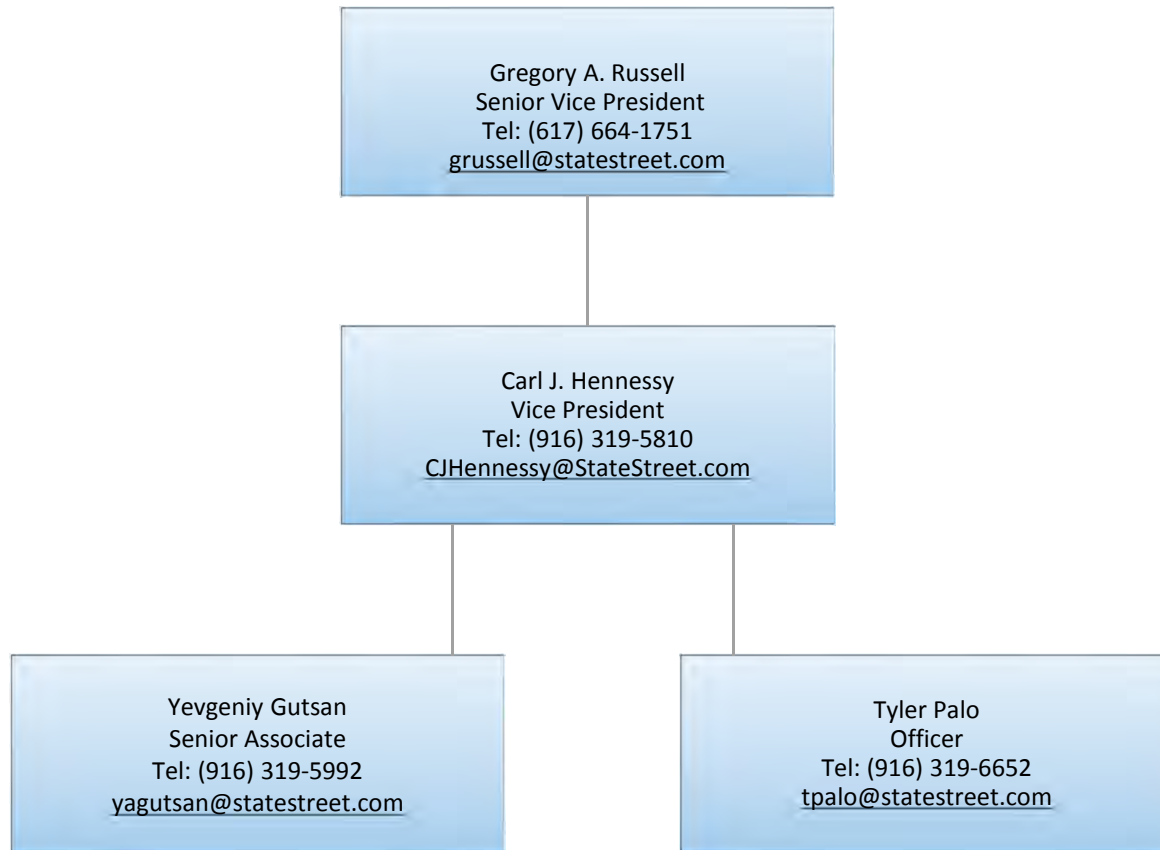




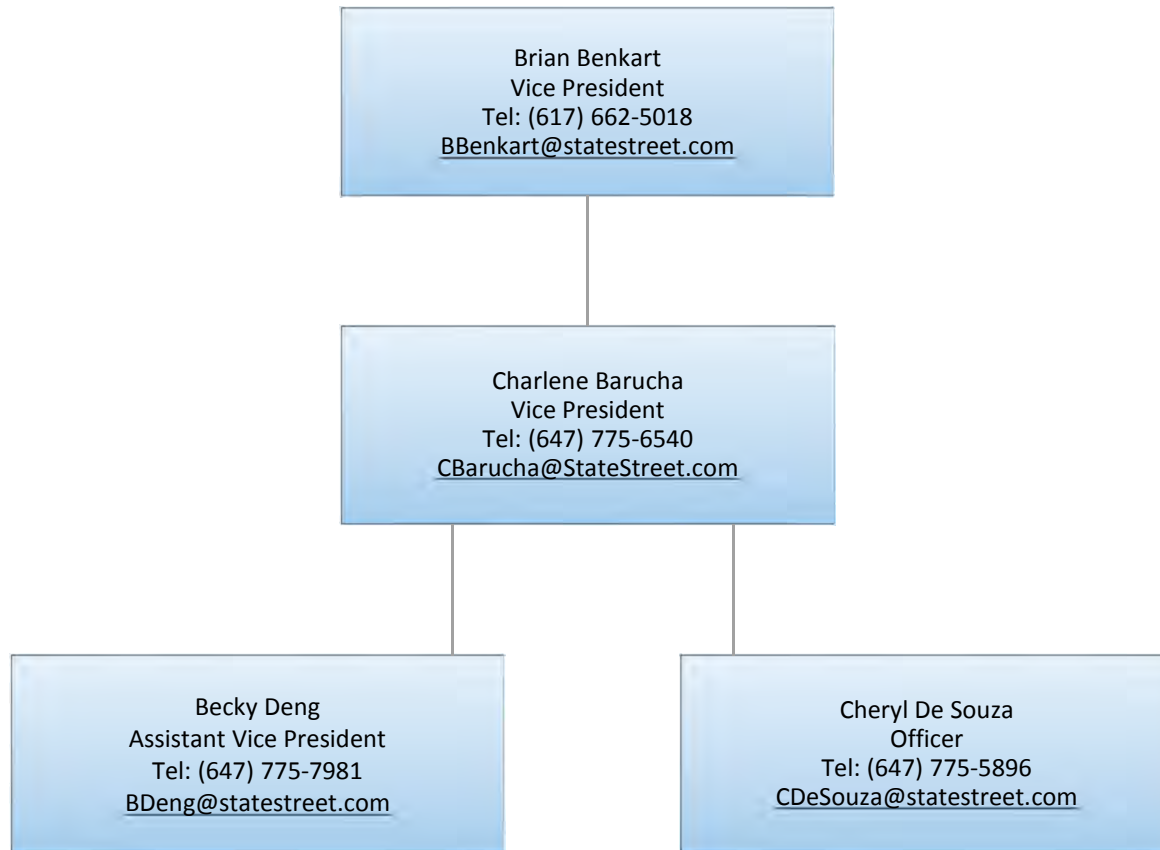
# ACERA's Limited Partner Service (LPS) Team



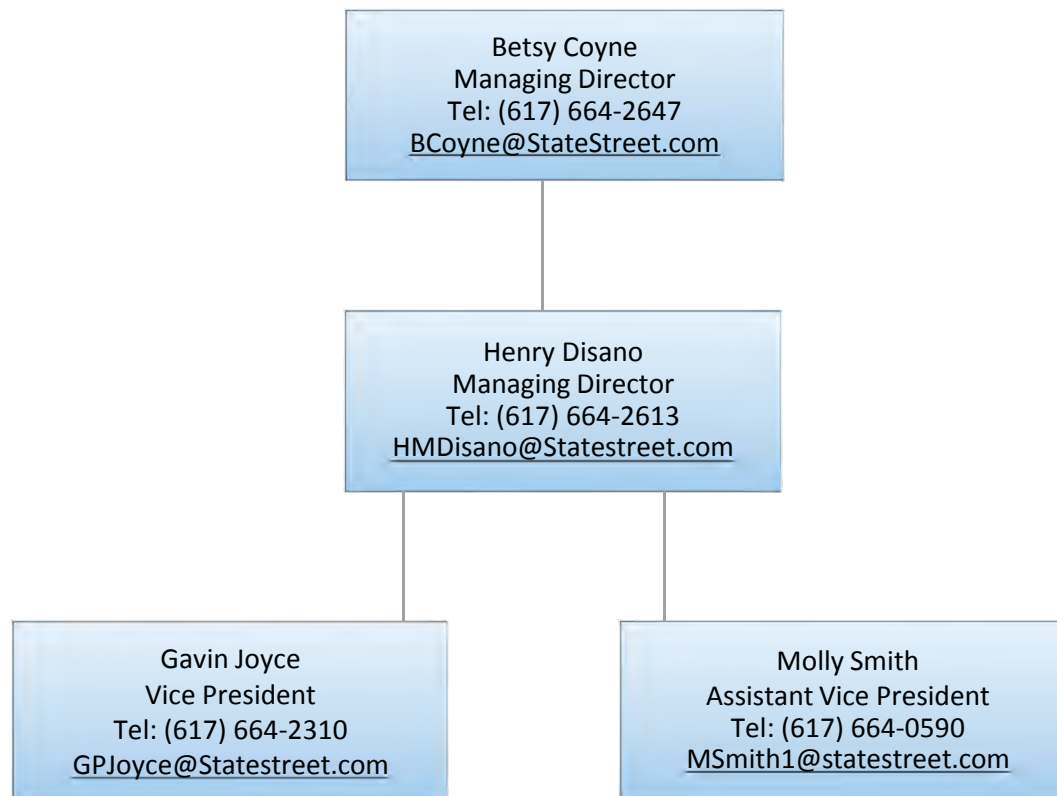
# ACERA's Performance and Analytics Team



# ACERA's Compliance Team



# ACERA's Securities Finance Team



# Disclaimer

The material presented herein is for informational purposes only. The views expressed herein are subject to change based on market and other conditions and factors. The opinions expressed herein reflect general perspectives and information and are not tailored to specific requirements, circumstances and / or investment philosophies. The information presented herein does not take into account any particular investment objectives, strategies, tax status or investment horizon. It does not constitute investment research or investment, legal, or tax advice and it should not be relied on as such. It should not be considered an offer or solicitation to buy or sell any product, service, investment, security or financial instrument or to pursue any trading or investment strategy. It does not constitute any binding contractual arrangement or commitment of any kind. State Street is not, by virtue of providing the material presented herein or otherwise, undertaking to manage money or act as your fiduciary.

You acknowledge and agree that the material presented herein is not intended to and does not, and shall not, serve as the primary basis for any investment decisions. You should evaluate and assess this material independently in light of those circumstances. We encourage you to consult your tax or financial advisor.

All material, including information from or attributed to State Street, has been obtained from sources believed to be reliable, but its accuracy is not guaranteed and State Street does not assume any responsibility for its accuracy, efficacy or use. Any information provided herein and obtained by State Street from third parties has not been reviewed for accuracy. In addition, forecasts, projections, or other forward-looking statements or information, whether by State Street or third parties, are not guarantees of future results or future performance, are inherently uncertain, are based on assumptions that, at the time, are difficult to predict, and involve a number of risks and uncertainties. Actual outcomes and results may differ materially from what is expressed herein. The information presented herein may or may not produce results beneficial to you. State Street does not undertake and is under no obligation to update or keep current the information or opinions contained in this communication.

To the fullest extent permitted by law, this information is provided “as-is” at your sole risk and neither State Street nor any of its affiliates or third party providers makes any guarantee, representation, or warranty of any kind regarding such information, including, without limitation, any representation that any investment, security or other property is suitable for you or for others or that any materials presented herein will achieve the results intended. State Street and its affiliates and third party providers disclaim any warranty and all liability, whether arising in contract, tort or otherwise, for any losses, liabilities, damages, expenses or costs, either direct, indirect, consequential, special or punitive, arising from or in connection with your access to and / or use of the information herein. Neither State Street nor any of its affiliates or third party providers shall have any liability, monetary or otherwise, to you or any other person or entity in the event the information presented herein produces incorrect, invalid or detrimental results.

No permission is granted to reprint, sell, copy, distribute, or modify any material herein, in any form or by any means without the prior written consent of State Street.

© 2019 State Street Corporation. All rights reserved.



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



**PERIOD ENDING: SEPTEMBER 30, 2019**

Investment Performance Review for

**Alameda County Employees' Retirement Association**

# 3<sup>rd</sup> quarter summary

## THE ECONOMIC CLIMATE

- Real GDP grew at a 2.3% rate year-over-year in the second quarter (2.0% quarterly annualized rate). U.S. Q2 consumer spending came in stronger than any time since 2014, while weak business inventory investment acted as a slight drag.
- Trade policies and conflict likely weighed on economic progress. Uncertainty regarding the future of U.S.-China trade relations and supply chain disruptions caused by new tariff impositions are expected to hinder growth in the future.

## PORTFOLIO IMPACTS

- U.S. equities outperformed international in Q3 (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter.
- Core inflation has crept up to cycle-highs in 2019, increasing to 2.4% YoY in September. Headline inflation rose 1.7% YoY, dragged down by falling energy prices. Neither the media nor investors appear to be concerned about rising inflation, as of yet. Investors remain focused on deflationary forces in the global economy.

## THE INVESTMENT CLIMATE

- The Federal Open Market Committee cut the range for its benchmark interest rate by 0.25% in both its July and September meetings, bringing the new range for federal funds to 1.75-2.00%.
- Global sovereign bonds rallied, encouraged by muted inflation expectations and dovish guidance from global central banks. Central bankers appealed for fiscal action, citing the limited capacity of monetary policy to sustain further economic expansion.

## ASSET ALLOCATION ISSUES

- Risk assets were flat over the quarter. Global equities gained 0.0% and U.S. Treasuries gained 2.4% as domestic interest rates fell. Longer duration exposures continued to outperform.
- The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted basket of currencies. Dollar volatility has been suppressed so far in 2019, following large swings experienced during years 2014-2018. Emerging market currencies fell -4.0% in Q3 on the back of U.S. dollar strength. These currencies remain depressed relative to history.

A neutral risk stance may be appropriate in today's environment



# U.S. economics summary

- Real GDP grew at a 2.3% rate year-over-year in the second quarter (2.0% quarterly annualized rate). U.S. Q2 consumer spending came in stronger than any time since 2014, while weak business inventory investment acted as a slight drag.
- U.S-China trade remained a major story in Q3. The U.S. scheduled tariff rate hikes on \$250B in already-tariffed Chinese imports, as well as tariff impositions of up to 15% on the remaining \$300B in Chinese imports not currently exposed to duties. The Chinese retaliated with commensurate tariff adjustments. The two sides agreed to continued trade talks in Washington D.C. at the beginning of October.
- Trade conflict has likely weighed on economic progress. Uncertainty regarding the future of U.S.-China trade relations and supply chain disruptions caused by new tariff impositions are expected to act as a drag on growth in the future.
- Core inflation has crept up to cycle-highs, rising 2.4% YoY in September. Headline inflation increased 1.7% YoY, dragged down by falling energy prices.
- The U.S. unemployment rate reached a 50-year low of 3.5% in September. Historically, the rate of unemployment has risen prior to the beginning of each U.S. recession, which suggests the U.S. expansion may still have room to run.
- Despite record unemployment, wage growth remains lukewarm, decelerating from a cycle high of 3.4% achieved in February, to 2.9% in September.
- In October, the IMF cut its 2019 global economic growth forecast from 3.2% to 3.0%, referencing global trade friction as a primary driver.

	Most Recent	12 Months Prior
GDP (YoY)	2.3% <i>6/30/19</i>	3.2% <i>6/30/18</i>
Inflation (CPI YoY, Core)	2.4% <i>9/30/19</i>	2.3% <i>9/30/18</i>
Expected Inflation (5yr-5yr forward)	1.7% <i>9/30/19</i>	2.2% <i>9/30/18</i>
Fed Funds Target Range	1.75 – 2.00% <i>9/30/19</i>	2.00 – 2.25% <i>9/30/18</i>
10 Year Rate	1.7% <i>9/30/19</i>	3.1% <i>9/30/18</i>
U-3 Unemployment	3.5% <i>9/30/19</i>	3.7% <i>9/30/18</i>
U-6 Unemployment	6.9% <i>9/30/19</i>	7.5% <i>9/30/18</i>



# International economics summary

— The Organization for Economic Development cut its 2019 calendar year forecast for global growth from 3.2% to 2.9% and its 2020 calendar year forecast from 3.4% to 3.0%. Driving the downward revisions were trade tensions, which the OECD estimated would reduce 2019 global growth by 0.6%,

— A major theme in the third quarter was the global manufacturing slowdown, which was illuminated by gloomy European manufacturing PMI data. The Markit Eurozone Manufacturing PMI fell to 45.7, further into contractionary territory indicated by a reading below 50. The German reading fell to 41.7. It has yet to be seen whether manufacturing weakness will spill into the larger services sector, where PMIs still indicate business expansion.

— Inflation has remained subdued across international developed markets, and many pundits have viewed the mild inflation data as a

cue for central banks to step in and attempt to bolster economic growth through more accommodative policy.

— Unemployment rates continued to tick lower around the globe. In the U.S., unemployment hit a 50-year low at 3.5%.

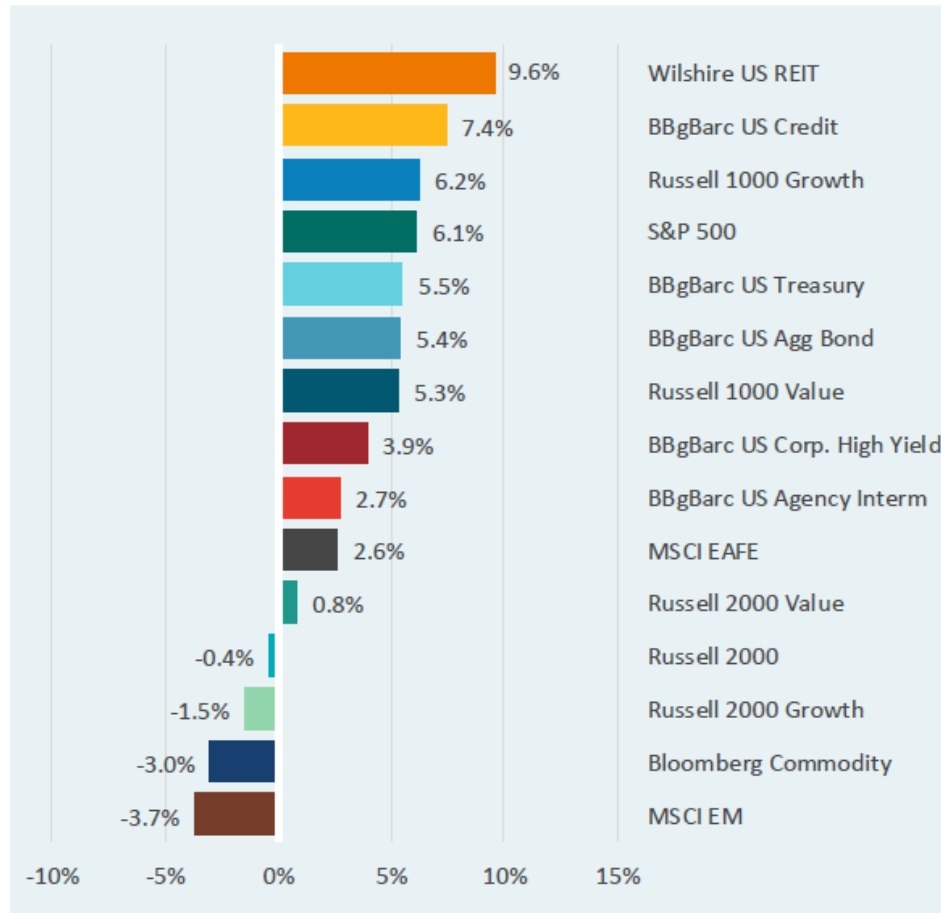
— U.S-China negotiations will likely continue to impact trade around the world. The U.S. scheduled tariff rate hikes on \$250B in already-tariffed Chinese imports, as well as tariff impositions of up to 15% on the remaining \$300B in Chinese imports not currently exposed to duties. The Chinese retaliated with commensurate tariff adjustments. The two sides agreed to continued trade talks in Washington D.C. at the beginning of October.

— Dormant trade tensions between the U.S. and the E.U. saw a resurgence over the quarter – the U.S. applied tariffs between 10-25% on \$7.5B of imports from the E.U.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.3% <i>6/30/19</i>	1.7% <i>9/30/19</i>	3.5% <i>9/30/19</i>
Eurozone	1.2% <i>6/30/19</i>	0.8% <i>9/30/19</i>	7.4% <i>8/31/19</i>
Japan	1.0% <i>6/30/19</i>	0.4% <i>9/30/19</i>	2.3% <i>5/31/19</i>
BRICS Nations	5.0% <i>6/30/19</i>	3.1% <i>9/30/19</i>	5.1% <i>6/30/19</i>
Brazil	1.0% <i>6/30/19</i>	2.9% <i>9/30/19</i>	11.8% <i>8/31/19</i>
Russia	0.9% <i>6/30/19</i>	4.0% <i>9/30/19</i>	4.3% <i>8/31/19</i>
India	5.8% <i>3/31/19</i>	4.0% <i>9/30/19</i>	8.5% <i>12/31/17</i>
China	6.2% <i>6/30/19</i>	3.0% <i>9/30/19</i>	3.6% <i>6/30/19</i>

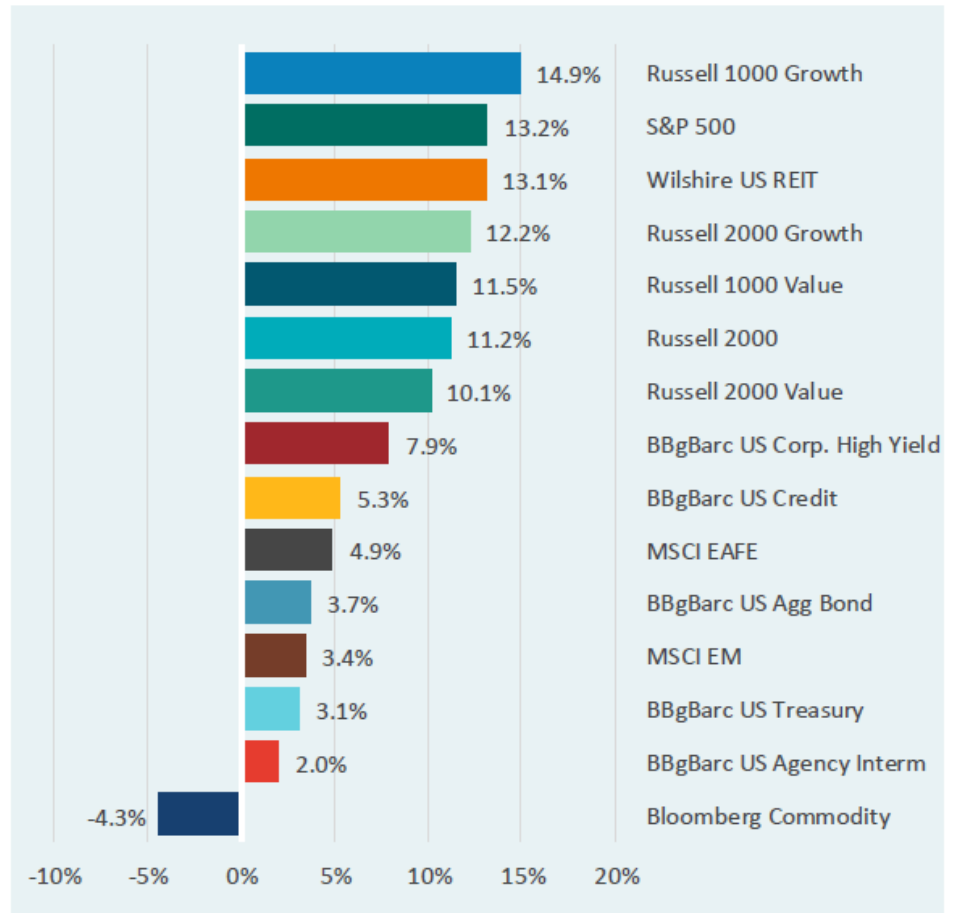
# Major asset class returns

SIX MONTHS ENDING SEPTEMBER



Source: Morningstar, as of 9/30/19

TEN YEARS ENDING SEPTEMBER



Source: Morningstar, as of 9/30/19

- The composite fund returned 0.33% for the third quarter of 2019 and ranked in the 76<sup>th</sup> percentile among public funds greater than \$1 billion (median of 0.6%). The fund matched its policy index return of 0.29% during this time period. Longer term, the five (7.0%), and ten-year (9.02%) returns ranked in the 27<sup>th</sup> and 19<sup>th</sup> percentile of large public plans respectively.
- Third quarter results were enhanced by the following factors:
  1. Newton lost 2.71% beating the MSCI Emerging Markets index (-4.11%). The biggest contributor to performance came from stock selection within the consumer discretionary sector, lead by china's New Oriental Education position.
- Third quarter results were hindered by the following factors:
  1. TCW Lost -1.86% for the quarter trailing the Russell 1000 Growth by 3.35% and ranked in the bottom of its peer group. The portfolio's weakest performance came from security specific holdings in the healthcare and consumer discretionary sectors. The Fund's overweight to IT and healthcare also contributed to relative underperformance.
  2. Pzena trailed the Russell 1000 Value (-0.87% vs 1.36%) and ranked in the bottom of its peers. Value started to come back in the beginning of September, but security selection in consumer discretionary, energy, and producer durables sectors hurt relative performance.
  3. Brandywine trailed the FTSE WGBI (-2.65%vs 0.85%). The strategies weak performance during the third quarter was due almost entirely to currency contribution. Performance suffered because of a strong US dollar during the third quarter.

Total Fund  
 Manager Allocation Analysis (One Quarter)

Period Ending: September 30, 2019

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Absolute Return <sup>1</sup>	\$730,035,694	\$1,105,068	\$9,360,863	\$740,501,625
Alta	\$4,213	\$0	\$0	\$4,213
Applied Research Investments	\$16,992,761	\$0	-\$12,669	\$16,980,092
AQR	\$422,831,549	-\$522,805	-\$12,954,762	\$409,353,982
Arga Investment Management	\$16,516,617	\$0	\$390,350	\$16,906,967
Baird Advisors	\$652,571,483	-\$135,581	\$15,507,606	\$667,943,508
Bivium Cash	\$658	\$0	\$4	\$662
BlackRock MSCI World ex-US Index Fd A	\$436,842,598	\$0	-\$3,887,149	\$432,955,449
BlackRock Russell 1000 Index Fund	\$2,021,534,482	-\$83,000,000	\$28,783,975	\$1,967,318,457
Brandywine	\$345,836,536	-\$233,108	-\$9,157,515	\$336,445,913
Capital Group	\$436,952,447	-\$970,471	-\$5,938,439	\$430,043,538
Cash Account	\$27,002,949	-\$13,451,284	\$61,871	\$13,613,537
Denali Advisors	\$16,608,604	\$0	-\$596,009	\$16,012,595
Dundas Partners	\$17,138,293	\$0	-\$99,044	\$17,039,249
Global Alpha Capital Management	\$6,148,515	\$0	-\$107,803	\$6,040,712
Huber	\$1,768	\$0	-\$4	\$1,763
Kennedy	\$113,983,752	-\$223,283	-\$953,641	\$112,806,828
Loomis Sayles	\$355,774,577	-\$278,627	\$5,296,057	\$360,792,007
Mondrian	\$428,706,424	-\$449,989	-\$11,603,166	\$416,653,270
Newton Emerging Mkt	\$216,731,811	\$0	-\$5,866,677	\$210,865,134
Next Century-SCG	\$135,662,881	-\$132,659,442	-\$2,955,117	\$48,322
OakBrook	\$13	\$66	\$0	\$79
Private Equity	\$521,269,148	\$22,228,743	\$30,863,628	\$574,361,518
Pzena	\$156,113,691	-\$34,193,088	-\$527,179	\$121,393,423
Radin Capital Partners	\$6,046,251	\$0	-\$450,046	\$5,596,205
RVX Asset Management	\$4,128,563	\$1,802	-\$165,760	\$3,964,605
Real Assets	\$293,108,397	\$121,797,120	-\$6,689,272	\$408,216,245
Real Estate	\$588,248,548	-\$13,777,600	\$7,930,235	\$582,401,182
Sec. Lending	\$0	-\$340,053	\$340,053	\$0
TCW	\$158,116,323	-\$38,164,367	-\$1,028,711	\$118,923,246
Templeton	\$228,287,206	\$0	-\$4,048,375	\$224,238,830
Transition Account (Macquarie Capital)	\$1,625,111	\$118,416,610	-\$3,683,931	\$116,357,789
<b>Total</b>	<b>\$8,354,821,862</b>	<b>-\$54,850,287</b>	<b>\$27,809,371</b>	<b>\$8,327,780,947</b>

<sup>1</sup> Preliminary ending market value

Bivium

Manager Allocation Analysis (One Quarter)

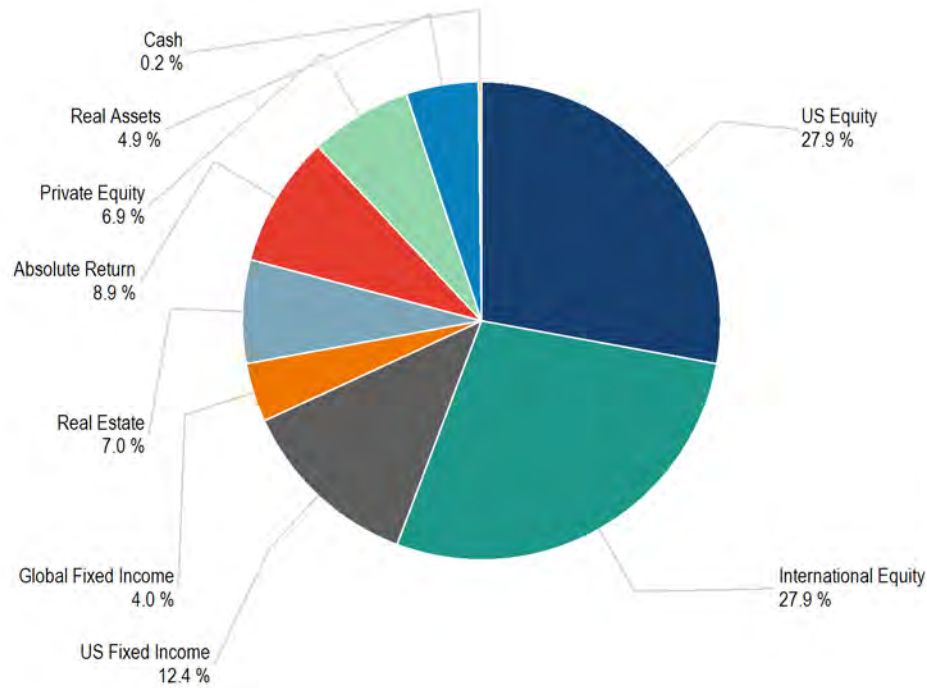
Period Ending: September 30, 2019

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Alta	\$4,213	\$0	\$0	\$4,213
Bivium Cash	\$658	\$0	\$4	\$662
Huber	\$1,768	\$0	-\$4	\$1,763
OakBrook	\$13	\$66	\$0	\$79
<b>Total</b>	<b>\$6,651</b>	<b>\$66</b>	<b>-\$1</b>	<b>\$6,717</b>

Applied Research Investments	\$16,992,761	\$0	-\$12,669	\$16,980,092
Arga Investment Management	\$16,516,617	\$0	\$390,350	\$16,906,967
Denali Advisors	\$16,608,604	\$0	-\$596,009	\$16,012,595
Dundas Partners	\$17,138,293	\$0	-\$99,044	\$17,039,249
Global Alpha Capital Management	\$6,148,515	\$0	-\$107,803	\$6,040,712
Radin Capital Partners	\$6,046,251	\$0	-\$450,046	\$5,596,205
RVX Asset Management	\$4,128,563	\$1,802	-\$165,760	\$3,964,605
<b>Total</b>	<b>\$83,579,604</b>	<b>\$1,802</b>	<b>-\$1,040,981</b>	<b>\$82,540,425</b>

Total Fund  
Asset Allocation Analysis

Period Ending: September 30, 2019



	Actual	Actual
US Equity	\$2,320,496,992	27.9%
International Equity	\$2,323,008,417	27.9%
US Fixed Income	\$1,028,735,515	12.4%
Global Fixed Income	\$336,445,913	4.0%
Real Estate	\$582,401,184	7.0%
Absolute Return	\$740,501,626	8.9%
Private Equity	\$574,361,518	6.9%
Real Assets	\$408,216,245	4.9%
Private Credit	\$0	0.0%
Cash	\$13,613,537	0.2%
<b>Total</b>	<b>\$8,327,780,947</b>	<b>100.0%</b>

	Actual	Target
US Equity	27.9%	25.0%
International Equity	27.9%	25.0%
US Fixed Income	12.4%	13.0%
Global Fixed Income	4.0%	3.0%
Real Estate	7.0%	8.0%
Absolute Return	8.9%	9.0%
Private Equity	6.9%	8.0%
Real Assets	4.9%	5.0%
Private Credit	0.0%	4.0%
Cash	0.2%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

Bivium Portfolio Liquidated U.S. Equities and invested in International Equities



# Total Fund Performance Summary

Period Ending: September 30, 2019

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Total Fund (Gross)</b>	<b>0.33</b>	<b>76</b>	<b>3.45</b>	<b>72</b>	<b>3.16</b>	<b>69</b>	<b>8.92</b>	<b>14</b>	<b>7.00</b>	<b>27</b>	<b>8.61</b>	<b>21</b>	<b>9.02</b>	<b>19</b>	<b>9.53</b>	<b>Sep-85</b>
<b>Total Fund (Net)</b>	<b>0.28</b>	<b>81</b>	<b>3.33</b>	<b>73</b>	<b>2.99</b>	<b>73</b>	<b>8.70</b>	<b>17</b>	<b>6.73</b>	<b>34</b>	<b>8.31</b>	<b>32</b>	<b>8.71</b>	<b>34</b>	<b>9.33</b>	
<i>Policy Index<sup>1</sup></i>	0.29	81	3.16	77	2.66	81	8.45	27	7.00	27	8.80	18	9.02	19	9.79	Sep-85
<i>Allocation Index</i>	0.26	81	3.38	73	2.65	81	8.36	31	6.83	31	8.50	23	8.69	35	--	Sep-85
<i>InvMetrics Public DB &gt; \$1B Gross Median</i>	0.60		3.88		3.92		8.02		6.49		7.94		8.34		8.78	Sep-85
<b>US Equity (Gross)</b>	<b>0.88</b>	<b>54</b>	<b>5.43</b>	<b>35</b>	<b>2.74</b>	<b>41</b>	<b>13.86</b>	<b>10</b>	<b>10.81</b>	<b>19</b>	<b>13.19</b>	<b>21</b>	<b>13.26</b>	<b>21</b>	<b>11.60</b>	<b>Sep-85</b>
<b>US Equity (Net)</b>	<b>0.86</b>	<b>54</b>	<b>5.32</b>	<b>38</b>	<b>2.59</b>	<b>43</b>	<b>13.60</b>	<b>14</b>	<b>10.50</b>	<b>29</b>	<b>12.86</b>	<b>41</b>	<b>12.94</b>	<b>39</b>	<b>--</b>	
<i>Russell 3000</i>	1.16	36	5.31	41	2.92	37	12.83	36	10.44	34	13.00	31	13.08	31	11.12	Sep-85
<i>InvMetrics All DB US Eq Gross Median</i>	0.93		5.16		2.14		12.48		10.12		12.70		12.77		10.79	Sep-85
BlackRock Russell 1000 Index Fund (Gross)	1.43	60	5.74	53	3.93	47	--	--	--	--	--	--	--	--	10.54	Apr-18
BlackRock Russell 1000 Index Fund (Net)	1.43	60	5.74	53	3.92	47	--	--	--	--	--	--	--	--	10.53	
<i>Russell 1000</i>	1.42	60	5.73	53	3.87	48	13.19	43	10.62	42	13.21	42	13.23	44	10.48	Apr-18
<b>Large Cap Active Equity (Gross)</b>	<b>-1.36</b>	<b>--</b>	<b>3.45</b>	<b>--</b>	<b>0.13</b>	<b>--</b>	<b>12.90</b>	<b>--</b>	<b>10.02</b>	<b>--</b>	<b>12.81</b>	<b>--</b>	<b>12.77</b>	<b>--</b>	<b>7.75</b>	<b>Mar-00</b>
<b>Large Cap Active Equity (Net)</b>	<b>-1.51</b>	<b>--</b>	<b>2.96</b>	<b>--</b>	<b>-0.44</b>	<b>--</b>	<b>12.38</b>	<b>--</b>	<b>9.56</b>	<b>--</b>	<b>12.35</b>	<b>--</b>	<b>12.34</b>	<b>--</b>	<b>7.31</b>	
<i>Russell 1000</i>	1.42	--	5.73	--	3.87	--	13.19	--	10.62	--	13.21	--	13.23	--	5.76	Mar-00
Pzena (Gross)	-0.87	97	2.70	92	-4.15	94	8.75	80	6.87	77	11.55	57	10.37	88	5.33	Jan-06
Pzena (Net)	-1.03	97	2.27	93	-4.71	95	8.20	85	6.36	83	11.04	70	9.90	91	4.88	
<i>Russell 1000 Value</i>	1.36	62	5.25	51	4.00	40	9.43	71	7.79	64	11.30	64	11.46	65	7.00	Jan-06
TCW (Gross)	-1.86	88	4.18	72	4.71	43	17.10	36	13.35	36	14.12	66	14.70	43	7.54	Jun-99
TCW (Net)	-1.99	89	3.65	77	4.18	48	16.63	44	12.95	43	13.74	74	14.33	57	--	
<i>Russell 1000 Growth</i>	1.49	29	6.20	41	3.71	53	16.89	40	13.39	35	15.02	38	14.94	35	5.56	Jun-99

<sup>1</sup> See Policy Index and Benchmark History.

Total Fund  
Performance Summary

Period Ending: September 30, 2019

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Small Cap Equity (Gross)</b>	-1.21	--	4.70	--	-3.37	--	12.42	--	10.27	--	12.30	--	12.84	--	13.34	Jul-85
<b>Small Cap Equity (Net)</b>	-1.36	--	4.12	--	-4.18	--	11.44	--	9.33	--	11.33	--	11.94	--	--	--
<i>Russell 2000</i>	-2.40	--	-0.36	--	-8.89	--	8.23	--	8.19	--	10.43	--	11.19	--	9.31	Jul-85
Kennedy (Gross)	-0.83	63	1.49	55	-8.11	61	6.38	68	6.68	65	11.24	36	--	--	11.38	Sep-10
Kennedy (Net)	-1.03	67	0.89	62	-8.89	69	5.46	81	5.77	79	10.30	63	--	--	10.49	--
<i>Russell 2000 Value</i>	-0.57	59	0.79	64	-8.24	63	6.54	65	7.17	57	9.35	82	10.06	87	9.86	Sep-10
<b>International Equity (Gross)</b>	-2.22	80	0.50	75	0.91	18	8.07	12	4.76	18	6.87	19	5.97	24	8.05	Dec-90
<b>International Equity (Net)</b>	-2.33	84	0.28	80	0.55	20	7.73	16	4.38	27	6.47	29	5.57	38	--	--
<i>MSCI ACWI ex USA IMI Gross</i>	-1.62	48	1.31	51	-1.35	50	6.60	41	3.52	51	5.64	60	5.01	61	6.14	Dec-90
<i>InvMetrics All DB ex-US Eq Gross Median</i>	-1.66		1.32		-1.38		6.30		3.54		5.89		5.30		6.57	Dec-90
Bivium Intl Equity (Gross)	-1.25	23	2.41	30	--	--	--	--	--	--	--	--	--	--	7.64	Oct-18
Bivium Intl Equity (Net)	-1.25	23	2.41	30	--	--	--	--	--	--	--	--	--	--	7.55	--
<i>MSCI ACWI ex USA Gross</i>	-1.70	46	1.47	51	-0.72	42	6.85	51	3.39	86	5.50	89	4.93	92	8.06	Oct-18
AQR (Gross)	-3.06	91	-2.17	93	-5.90	94	4.84	89	3.14	70	5.98	57	5.36	79	1.62	Oct-07
AQR (Net)	-3.19	93	-2.42	95	-6.28	97	4.35	93	2.63	84	5.48	80	4.87	90	1.14	--
<i>MSCI ACWI ex USA Gross</i>	-1.70	45	1.47	60	-0.72	43	6.85	34	3.39	65	5.50	80	4.93	88	1.12	Oct-07
BlackRock MSCI World ex-US Index Fd A (Gross)	-0.89	39	--	--	--	--	--	--	--	--	--	--	--	--	5.04	May-19
BlackRock MSCI World ex-US Index Fd A (Net)	-0.89	39	--	--	--	--	--	--	--	--	--	--	--	--	5.04	--
<i>MSCI World ex US Gross</i>	-0.85	38	3.19	31	-0.40	25	7.04	35	3.59	70	6.29	77	5.29	80	5.08	May-19
<i>eV All EAFE Equity Gross Median</i>	-1.21		2.25		-2.87		6.48		4.48		7.11		6.63		4.59	May-19
Capital Group (Gross)	-1.36	35	2.11	45	6.24	5	11.70	5	6.88	20	8.26	24	6.66	53	8.51	Dec-90
Capital Group (Net)	-1.56	39	1.76	51	5.87	7	11.47	5	6.59	22	7.94	30	6.32	61	--	--
<i>MSCI ACWI ex USA Gross</i>	-1.70	48	1.47	55	-0.72	42	6.85	50	3.39	69	5.50	82	4.93	83	6.14	Dec-90
<i>MSCI ACWI ex USA Growth Gross</i>	-0.79	20	3.72	24	2.43	16	7.77	35	5.25	36	6.71	57	6.18	62	--	Dec-90



# Total Fund Performance Summary

Period Ending: September 30, 2019

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Mondrian (Gross)	-2.70	91	-1.38	74	-1.78	41	5.17	58	2.49	45	5.05	68	4.82	48	6.73	Nov-03
Mondrian (Net)	-2.81	94	-1.68	77	-2.34	45	4.76	72	2.09	60	4.67	81	4.47	78	6.41	
MSCI ACWI ex USA Gross	-1.70	51	1.47	29	-0.72	36	6.85	14	3.39	14	5.50	57	4.93	44	6.64	Nov-03
MSCI ACWI ex USA Value Gross	-2.66	89	-0.85	66	-3.89	55	5.87	31	1.48	78	4.23	92	3.64	94	6.27	Nov-03
Newton Emerging Mkt (Gross)	-2.71	27	--	--	--	--	--	--	--	--	--	--	--	--	2.61	May-19
Newton Emerging Mkt (Net)	-2.74	28	--	--	--	--	--	--	--	--	--	--	--	--	2.57	
MSCI Emerging Markets Gross	-4.11	59	-3.40	67	-1.63	64	6.37	50	2.71	63	2.79	79	3.73	83	1.96	May-19
eV Emg Mkts Equity Gross Median	-3.76		-2.31		0.03		6.34		3.41		4.03		4.94		2.06	May-19
Templeton (Gross)	-1.78	31	-0.02	67	-3.03	35	6.46	56	4.90	70	7.31	74	--	--	5.71	Apr-11
Templeton (Net)	-1.92	34	-0.47	73	-3.64	38	5.80	67	4.21	76	6.56	82	--	--	5.00	
MSCI ACWI ex US Small Cap Gross	-1.09	17	0.29	62	-5.24	49	5.04	73	4.37	76	6.61	82	6.51	96	3.70	Apr-11
<b>Total Fixed Income (Gross)</b>	<b>0.86</b>	<b>84</b>	<b>4.23</b>	<b>56</b>	<b>8.25</b>	<b>54</b>	<b>3.74</b>	<b>54</b>	<b>3.91</b>	<b>37</b>	<b>4.01</b>	<b>27</b>	<b>5.94</b>	<b>20</b>	<b>7.31</b>	<b>Sep-86</b>
<b>Total Fixed Income (Net)</b>	<b>0.81</b>	<b>86</b>	<b>4.12</b>	<b>60</b>	<b>8.02</b>	<b>60</b>	<b>3.54</b>	<b>57</b>	<b>3.72</b>	<b>46</b>	<b>3.80</b>	<b>32</b>	<b>5.74</b>	<b>22</b>	<b>--</b>	<b>--</b>
Fixed Income Blend <sup>1</sup>	1.73	47	5.02	36	9.38	34	2.91	79	3.29	64	2.64	75	3.81	83	6.45	Sep-86
InvMetrics All DB Total Fix Inc Gross Median	1.66		4.52		8.39		3.84		3.62		3.24		4.62		7.25	Sep-86
<b>US Fixed Income (Gross)</b>	<b>2.06</b>	<b>46</b>	<b>5.30</b>	<b>39</b>	<b>9.88</b>	<b>38</b>	<b>4.16</b>	<b>37</b>	<b>4.45</b>	<b>31</b>	<b>4.56</b>	<b>25</b>	<b>6.23</b>	<b>19</b>	<b>7.25</b>	<b>Sep-86</b>
<b>US Fixed Income (Net)</b>	<b>2.02</b>	<b>48</b>	<b>5.22</b>	<b>41</b>	<b>9.70</b>	<b>39</b>	<b>3.99</b>	<b>41</b>	<b>4.28</b>	<b>33</b>	<b>4.38</b>	<b>27</b>	<b>6.05</b>	<b>22</b>	<b>--</b>	<b>--</b>
BBgBarc US Aggregate TR	2.27	35	5.42	36	10.30	34	2.92	75	3.38	68	2.72	76	3.75	76	6.22	Sep-86
InvMetrics All DB US Fix Inc Gross Median	1.92		4.83		9.13		3.62		3.78		3.38		4.68		6.46	Sep-86
Baird Advisors (Gross)	2.38	44	5.68	42	10.65	41	3.68	22	4.25	9	3.87	9	5.29	8	5.23	Oct-01
Baird Advisors (Net)	2.36	48	5.64	48	10.56	45	3.60	28	4.17	13	3.78	10	5.21	10	5.14	
BBgBarc US Aggregate TR	2.27	69	5.42	69	10.30	65	2.92	91	3.38	87	2.72	90	3.75	92	4.38	Oct-01

<sup>1</sup> See Policy Index and Benchmark History.

Total Fund  
Performance Summary

Period Ending: September 30, 2019

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Loomis Sayles (Gross)	1.49	97	4.60	94	8.39	96	5.06	3	4.82	3	5.83	1	7.91	1	8.22	Dec-00
Loomis Sayles (Net)	1.41	98	4.44	95	8.05	97	4.73	3	4.48	5	5.48	1	7.56	1	7.87	
<i>BBgBarc US Credit BAA TR</i>	3.26	1	8.22	1	13.49	1	5.12	3	4.89	3	4.40	4	6.17	2	6.52	Dec-00
<b>Global Fixed Income (Gross)</b>	<b>-2.65</b>	<b>92</b>	<b>1.10</b>	<b>92</b>	<b>3.47</b>	<b>90</b>	<b>2.31</b>	<b>86</b>	<b>2.23</b>	<b>69</b>	<b>2.37</b>	<b>71</b>	<b>5.04</b>	<b>69</b>	<b>7.14</b>	<b>Nov-01</b>
<b>Global Fixed Income (Net)</b>	<b>-2.72</b>	<b>93</b>	<b>0.89</b>	<b>93</b>	<b>3.11</b>	<b>92</b>	<b>2.03</b>	<b>91</b>	<b>1.94</b>	<b>75</b>	<b>2.07</b>	<b>75</b>	<b>4.73</b>	<b>73</b>	<b>6.83</b>	
<i>FTSE WGBI TR</i>	0.85	48	4.45	33	8.13	34	1.19	99	1.80	80	0.59	91	1.69	99	4.57	Nov-01
<i>InvMetrics All DB Gbl Fix Inc Gross Median</i>	0.75		3.62		7.55		4.05		3.51		3.15		5.36		6.45	Nov-01
Brandywine (Gross)	-2.65	95	1.10	89	3.47	79	2.31	68	2.23	68	2.37	60	5.04	34	7.14	Nov-01
Brandywine (Net)	-2.72	95	0.89	89	3.11	82	2.03	75	1.94	74	2.07	65	4.73	37	6.83	
<i>FTSE WGBI TR</i>	0.85	61	4.45	45	8.13	39	1.19	87	1.80	76	0.59	89	1.69	89	4.57	Nov-01
<b>Absolute Return (Gross)</b>	<b>1.28</b>	<b>22</b>	<b>1.18</b>	<b>56</b>	<b>0.43</b>	<b>53</b>	<b>2.45</b>	<b>74</b>	<b>1.93</b>	<b>69</b>	<b>3.95</b>	<b>67</b>	<b>--</b>	<b>--</b>	<b>3.21</b>	<b>Sep-11</b>
<b>Absolute Return (Net)</b>	<b>1.28</b>	<b>22</b>	<b>1.18</b>	<b>56</b>	<b>0.43</b>	<b>53</b>	<b>2.45</b>	<b>74</b>	<b>1.93</b>	<b>69</b>	<b>3.95</b>	<b>67</b>	<b>--</b>	<b>--</b>	<b>3.21</b>	
<i>HFRI Fund of Funds Composite Index</i>	-0.90	77	0.58	71	0.01	57	3.15	68	1.95	69	3.18	75	2.67	82	3.15	Sep-11
<i>InvMetrics All DB Hedge Funds Gross Median</i>	0.00		1.81		0.62		4.47		3.11		4.67		4.63		4.97	Sep-11
<b>Private Equity (Gross)</b>	<b>5.92</b>	<b>--</b>	<b>12.16</b>	<b>--</b>	<b>12.22</b>	<b>--</b>	<b>14.63</b>	<b>--</b>	<b>14.57</b>	<b>--</b>	<b>15.23</b>	<b>--</b>	<b>14.63</b>	<b>--</b>	<b>4.06</b>	<b>Nov-08</b>
<b>Private Equity (Net)</b>	<b>5.92</b>	<b>--</b>	<b>12.16</b>	<b>--</b>	<b>12.22</b>	<b>--</b>	<b>14.63</b>	<b>--</b>	<b>14.57</b>	<b>--</b>	<b>15.23</b>	<b>--</b>	<b>14.63</b>	<b>--</b>	<b>4.06</b>	
<i>Thomson Reuters C A Global All PE 1 Qtr Lag</i>	2.45	--	5.99	--	4.12	--	10.62	--	7.44	--	9.78	--	11.10	--	7.70	Nov-08
<b>Real Assets (Gross)</b>	<b>-1.32</b>	<b>--</b>	<b>-2.87</b>	<b>--</b>	<b>-12.38</b>	<b>--</b>	<b>-2.17</b>	<b>--</b>	<b>-5.95</b>	<b>--</b>	<b>-6.41</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-5.16</b>	<b>Sep-11</b>
<b>Real Assets (Net)</b>	<b>-1.32</b>	<b>--</b>	<b>-2.87</b>	<b>--</b>	<b>-12.38</b>	<b>--</b>	<b>-2.17</b>	<b>--</b>	<b>-5.95</b>	<b>--</b>	<b>-6.41</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-5.16</b>	
<i>Real Asset Blend<sup>1</sup></i>	-3.09	--	-0.76	--	-1.80	--	6.22	--	5.93	--	5.59	--	--	--	5.51	Sep-11

Total Fund  
Performance Summary

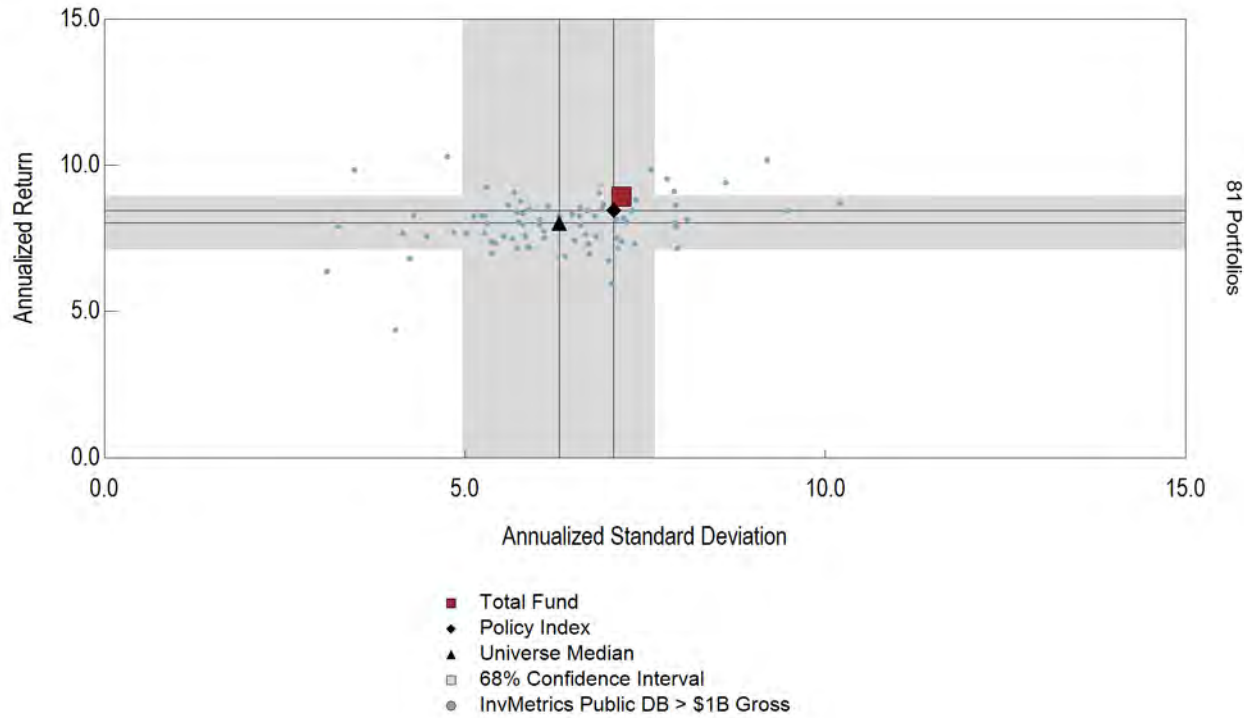
Period Ending: September 30, 2019

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Cash (Gross)	0.33	--	0.82	--	1.92	--	1.44	--	0.93	--	0.68	--	0.52	--	3.15	Sep-85
Cash (Net)	0.33	--	0.82	--	1.92	--	1.44	--	0.93	--	0.68	--	0.52	--	3.15	
91 Day T-Bills	0.50	--	1.08	--	2.26	--	1.54	--	0.97	--	0.71	--	0.52	--	3.25	Sep-85
Real Estate (Gross)	1.37	54	3.10	37	6.71	43	7.89	31	10.37	22	11.33	15	11.00	43	7.10	Mar-86
Real Estate (Net)	1.37	54	3.10	37	6.71	43	7.81	33	9.90	29	10.68	32	10.25	60	6.05	
NCREIF-ODCE	1.31	55	2.31	64	5.59	66	7.30	51	9.34	50	10.29	39	10.86	47	7.28	Mar-86
InvMetrics All DB Real Estate Pub+Priv Gross Median	1.45		2.87		6.15		7.33		9.30		10.06		10.71		7.48	Mar-86

1 See Policy Index and Benchmark History.

Total Fund  
Risk vs. Return (3 Years)

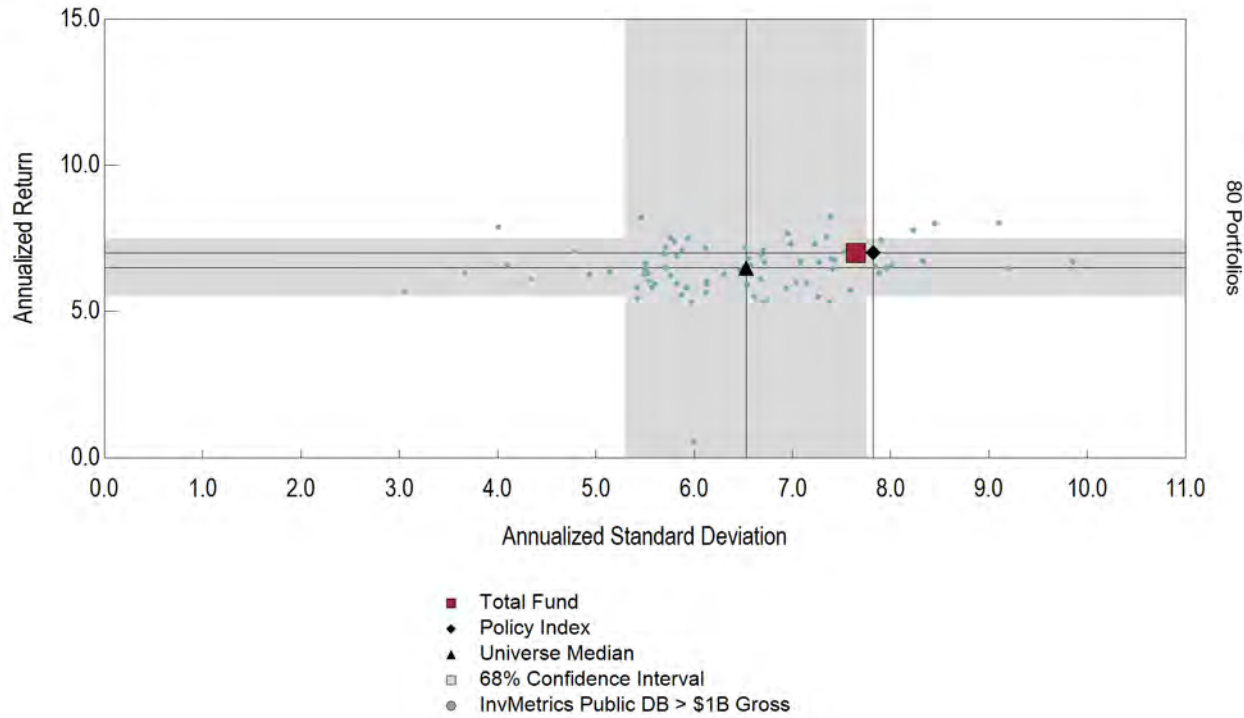
Period Ending: September 30, 2019



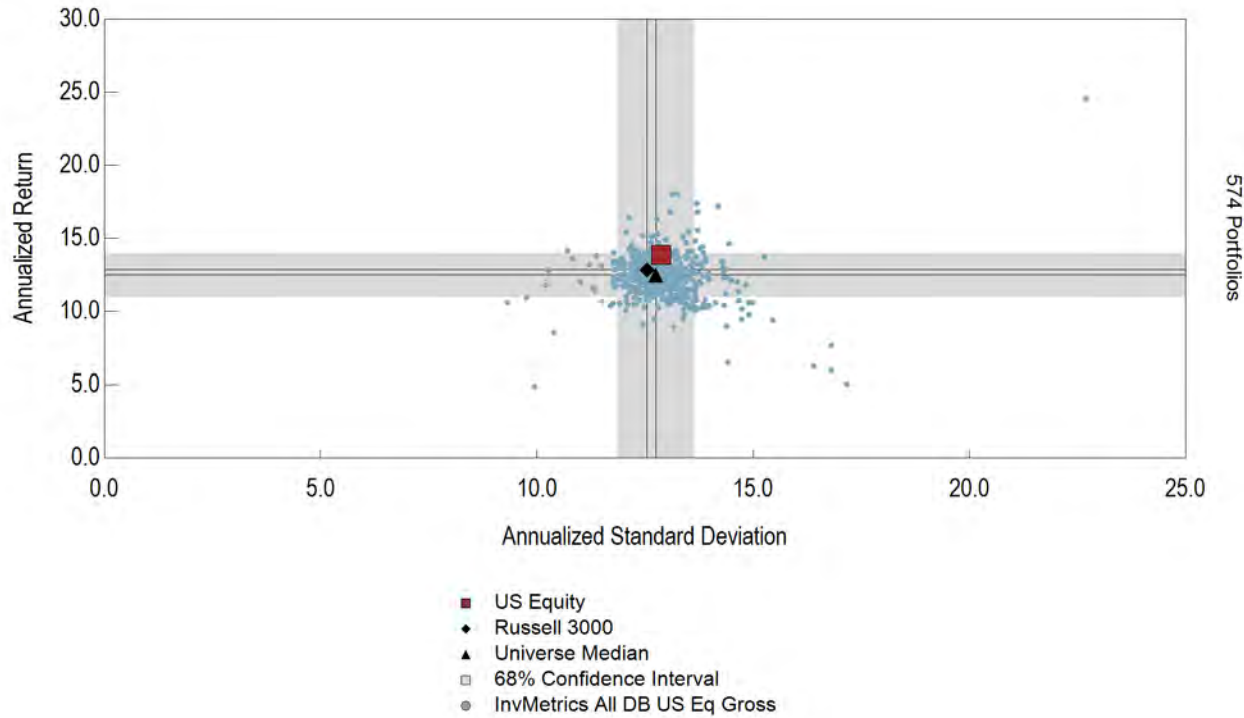
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	8.92%	14	7.18%	78	1.03	50	0.39	39	1.20%	63
Policy Index	8.45%	27	7.06%	72	0.98	62	--	--	0.00%	1
Allocation Index	8.36%	31	7.44%	85	0.92	73	-0.17	79	0.56%	5
InvMetrics Public DB > \$1B Gross Median	8.02%	--	6.31%	--	1.03	--	0.20	--	1.04%	--

Total Fund  
Risk vs. Return (5 Years)

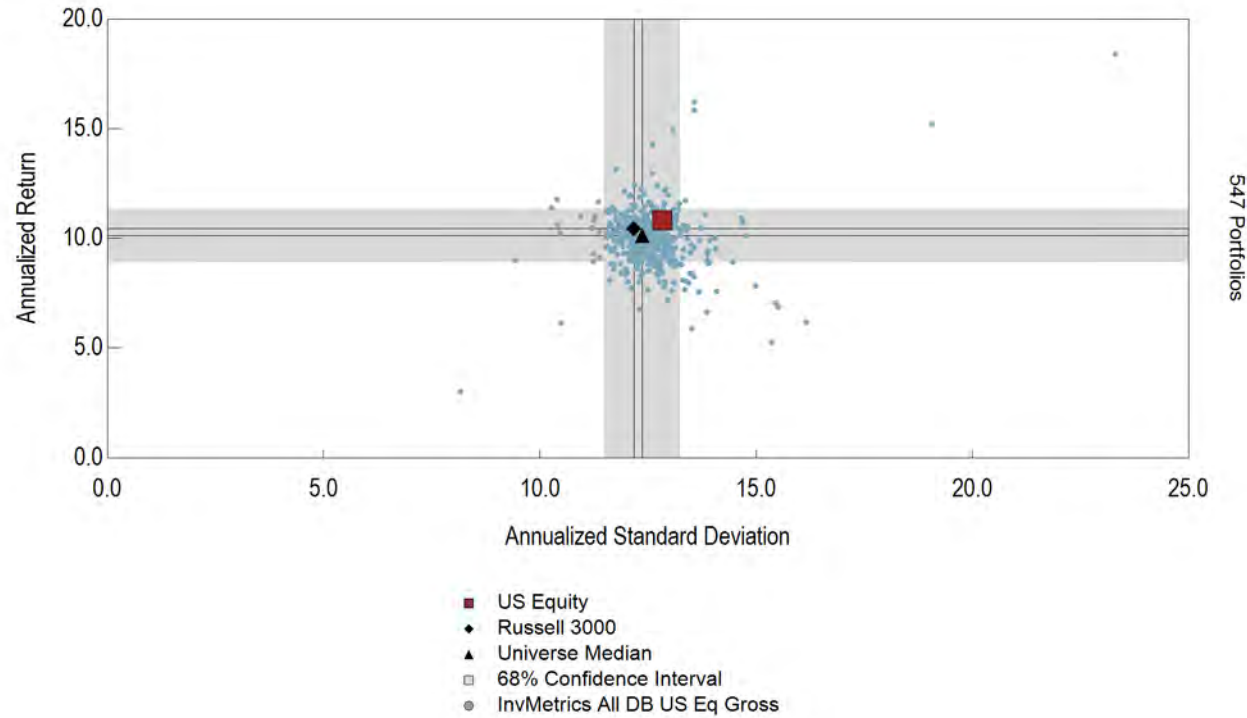
Period Ending: September 30, 2019



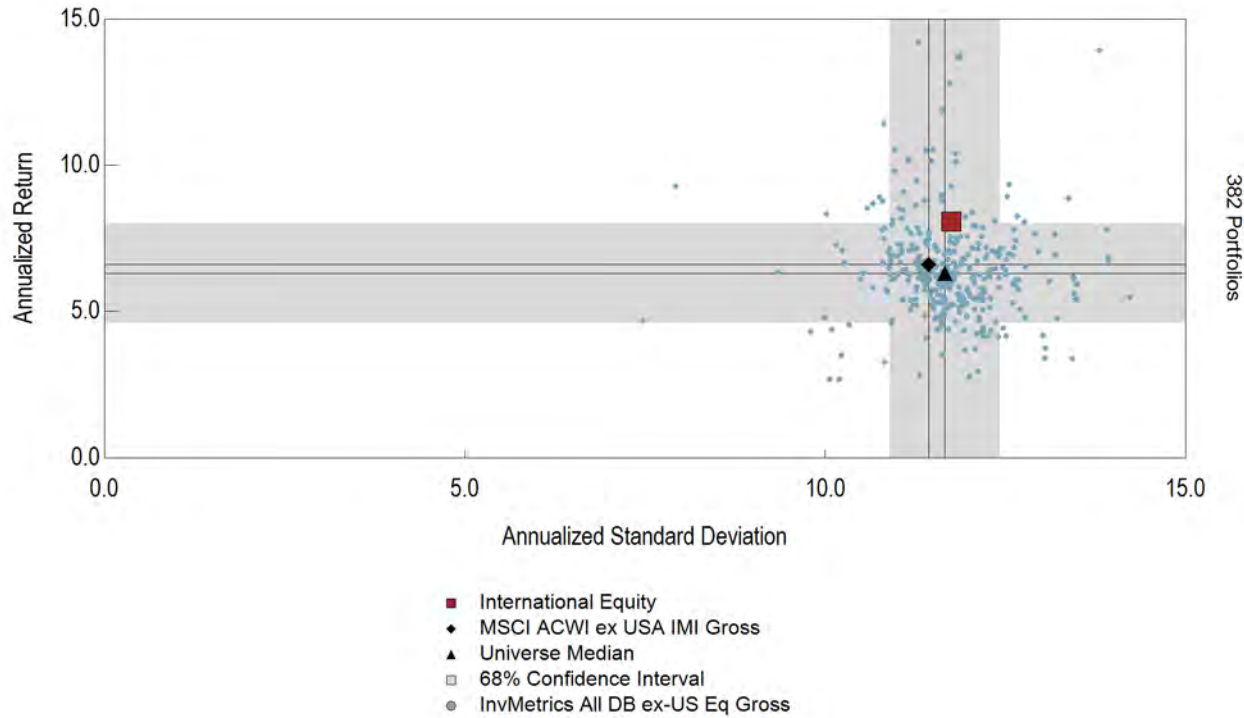
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	7.00%	27	7.65%	86	0.79	66	0.00	68	1.22%	53
Policy Index	7.00%	27	7.82%	86	0.77	72	--	--	0.00%	1
Allocation Index	6.83%	31	7.96%	92	0.74	77	-0.39	84	0.46%	3
InvMetrics Public DB > \$1B Gross Median	6.49%	--	6.53%	--	0.84	--	0.19	--	1.19%	--



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
US Equity	13.86%	10	12.87%	59	0.96	16	0.77	9	1.35%	34
Russell 3000	12.83%	36	12.54%	36	0.90	35	--	--	0.00%	1
InvMetrics All DB US Eq Gross Median	12.48%	--	12.75%	--	0.86	--	-0.23	--	1.85%	--

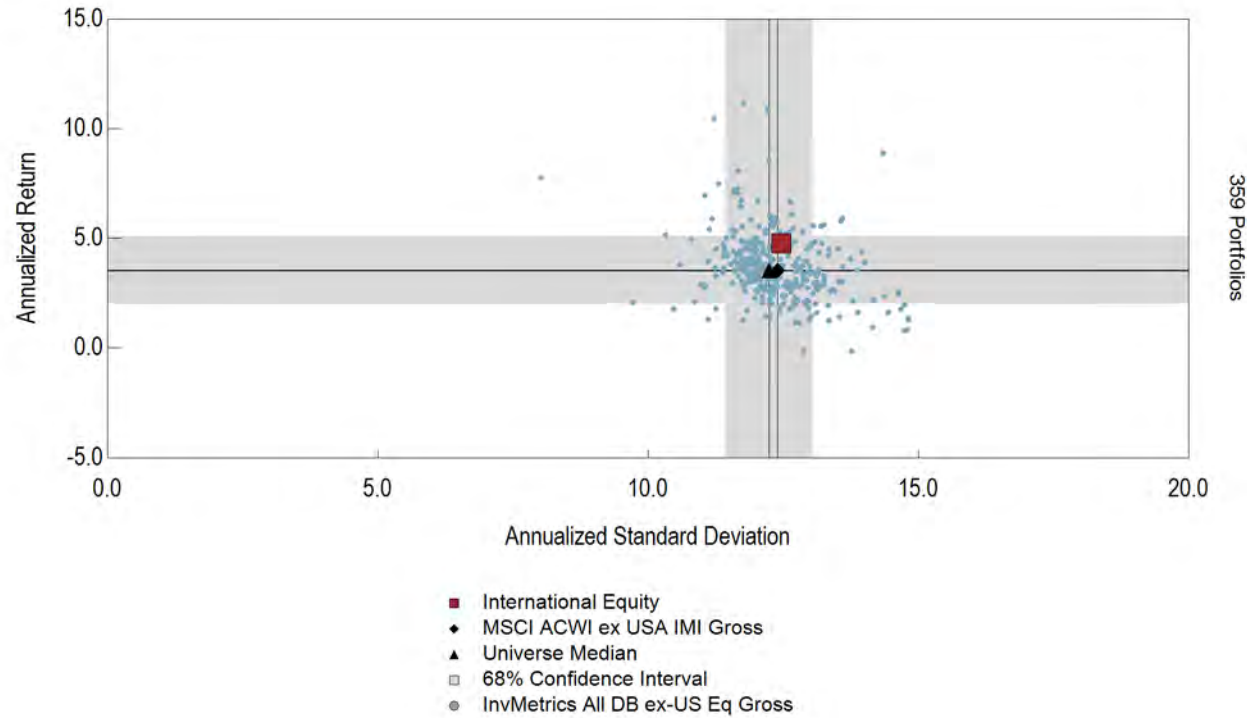


	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
US Equity	10.81%	19	12.83%	78	0.77	38	0.18	25	1.96%	51
Russell 3000	10.44%	34	12.17%	34	0.78	31	--	--	0.00%	1
InvMetrics All DB US Eq Gross Median	10.12%	--	12.37%	--	0.74	--	-0.22	--	1.93%	--



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
International Equity	8.07%	12	11.75%	57	0.56	13	1.01	6	1.46%	13
MSCI ACWI ex USA IMI Gross	6.60%	41	11.44%	35	0.44	37	--	--	0.00%	1
InvMetrics All DB ex-US Eq Gross Median	6.30%	--	11.66%	--	0.41	--	-0.06	--	2.50%	--

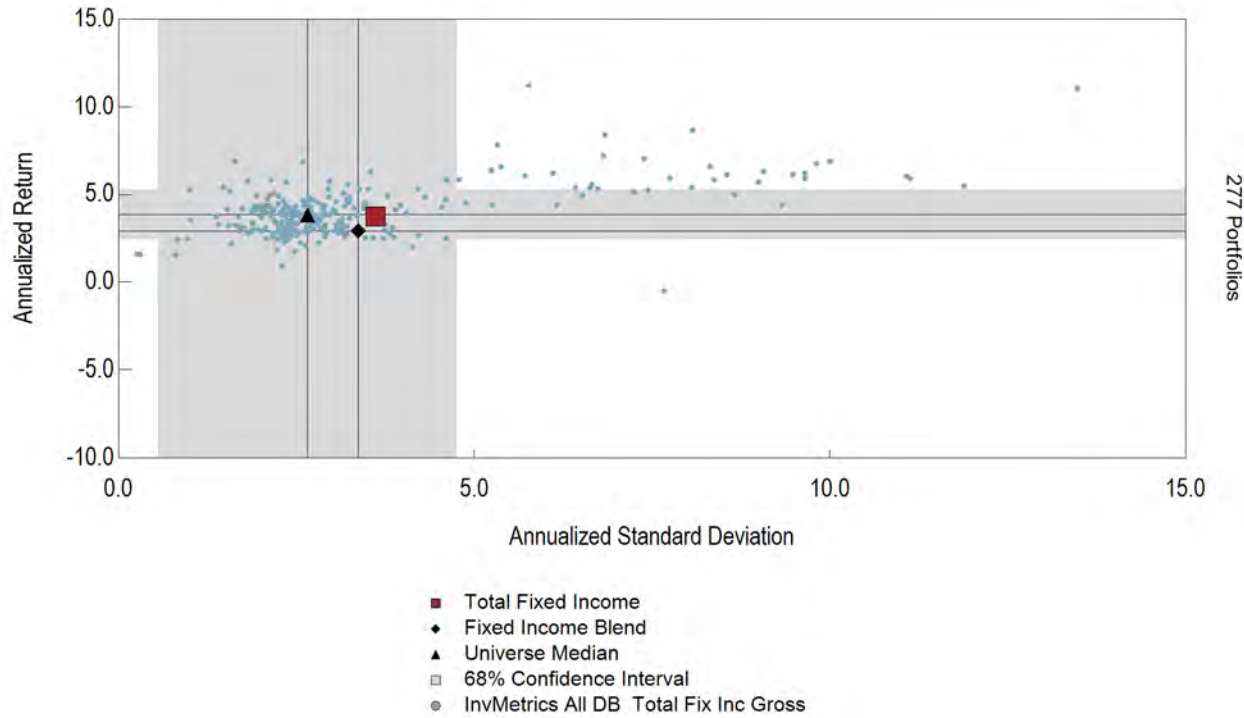




	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
International Equity	4.76%	18	12.47%	64	0.30	20	0.87	9	1.43%	6
MSCI ACWI ex USA IMI Gross	3.52%	51	12.39%	61	0.21	52	--	--	0.00%	1
InvMetrics All DB ex-US Eq Gross Median	3.54%	--	12.24%	--	0.21	--	0.16	--	2.81%	--

Total Fixed Income  
Risk vs. Return (3 Years)

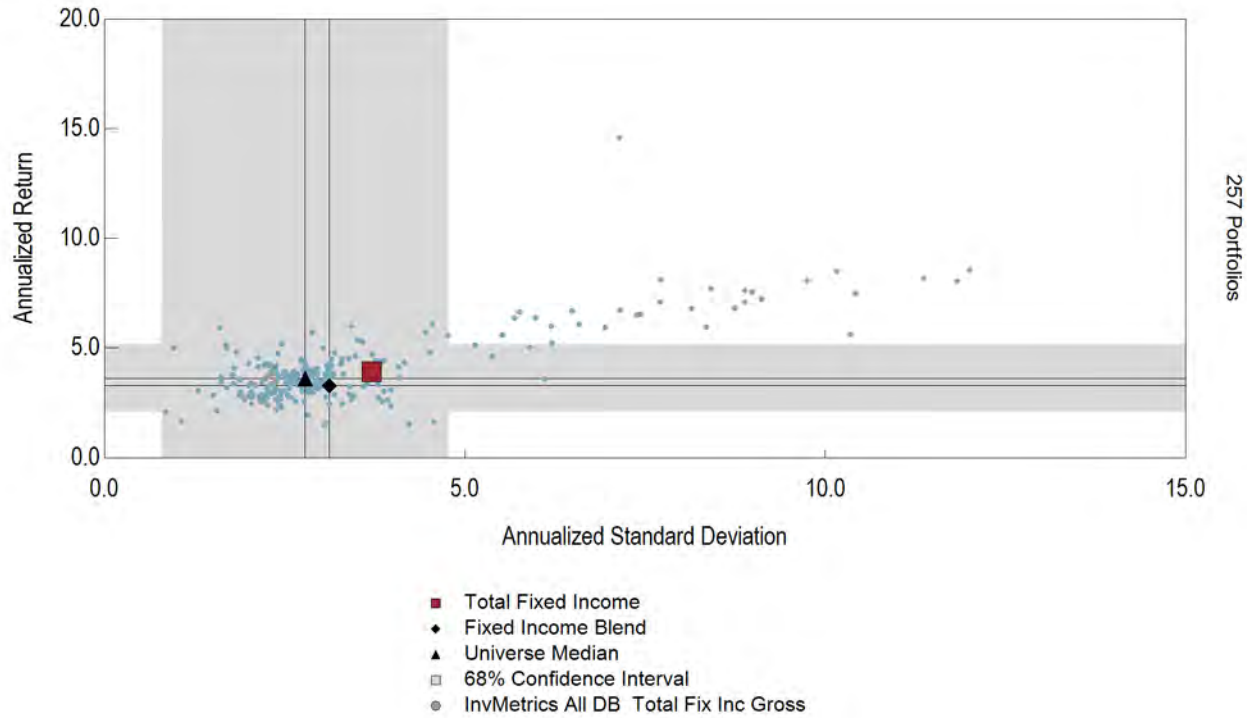
Period Ending: September 30, 2019



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fixed Income	3.74%	54	3.61%	80	0.61	61	0.50	54	1.66%	51
Fixed Income Blend	2.91%	79	3.37%	76	0.40	89	--	--	0.00%	1
InvMetrics All DB Total Fix Inc Gross Median	3.84%	--	2.66%	--	0.73	--	0.52	--	1.64%	--

Total Fixed Income  
Risk vs. Return (5 Years)

Period Ending: September 30, 2019



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fixed Income	3.91%	37	3.71%	78	0.79	68	0.35	38	1.79%	53
Fixed Income Blend	3.29%	64	3.12%	69	0.74	77	--	--	0.00%	1
InvMetrics All DB Total Fix Inc Gross Median	3.62%	--	2.79%	--	0.89	--	0.23	--	1.73%	--

# Equity environment

- U.S. equities outperformed international in Q3 (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter. We expect further declines in U.S. yields to be supportive of stocks, as low rates bolster earnings and reduce the attractiveness of fixed income.
- The S&P 500 has delivered moderate returns of 4.3% over the past year. Returns have likely been limited by flat earnings growth of 1.7%, and relatively high valuations. In the third quarter, S&P 500 YoY earnings growth is expected to be -4.1%, which would put U.S. equities on track for three consecutive quarters of earnings loss.
- The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted

basket of currencies, which created volatility and currency losses for unhedged investors.

- A large rotation from momentum stocks into value stocks occurred in Q3. The selloff was a multi-standard deviation event, with performance of the prior five months largely reversed in several days. The fall was likely due to a combination of better than expected economic news, monetary/fiscal stimulus expectations, and extreme positioning in these factors.
- Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have continued their run of underperformance.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (S&P 500)	1.7%		4.3%	
US Small Cap (Russell 2000)	(2.4%)		(8.9%)	
US Large Value (Russell 1000 Value)	1.4%		4.0%	
US Large Growth (Russell 1000 Growth)	1.5%		3.7%	
International Large (MSCI EAFE)	(1.1%)	2.3%	(1.3%)	4.2%
Eurozone (Euro Stoxx 50)	(1.4%)	3.8%	1.3%	11.5%
U.K. (FTSE 100)	(2.2%)	1.4%	(2.7%)	5.4%
Japan (NIKKEI 225)	2.9%	3.6%	(8.2%)	(5.9%)
Emerging Markets (MSCI Emerging Markets)	(4.2%)	(2.2%)	(2.0%)	(0.4%)

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 9/30/19

# Domestic equity

U.S. equities outpaced international in the third quarter (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter. We expect further declines in U.S. yields to be supportive of stocks, as low rates bolster earnings and reduce the attractiveness of fixed income.

The S&P 500 has delivered moderate returns of 4.3% over the past year. Returns have likely been limited by slow earnings growth of 1.7%, and relatively high valuations. In the third quarter, S&P 500 YoY earnings growth is expected to be -4.1%, which would put U.S.

equities on track for three consecutive quarters of earnings loss. Revenue growth in Q3 is expected to be 2.8% YoY. Investors may point to seemingly lofty earnings growth expectations for 2020 as reason for optimism, though in reality this is a fairly average forecast. Growth expectations are typically high initially, and then fall to a more realistic level as time passes.

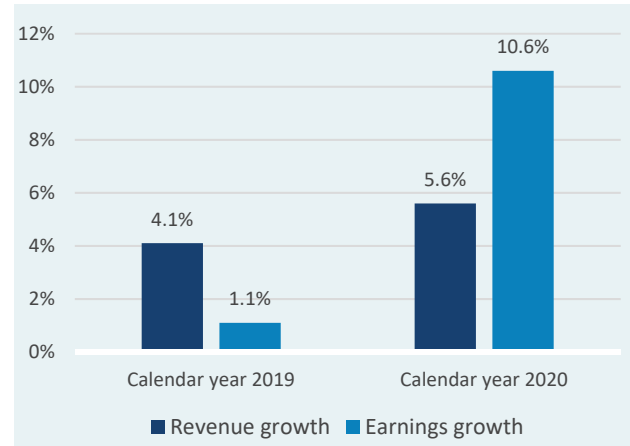
U.S. equities offer lower yields and less attractive valuations relative to other markets around the world, which suggests domestic equities might underperform over the long-term. However, U.S. may continue to outperform over the shorter-term due to relative economic and market strength.

## U.S. EQUITIES



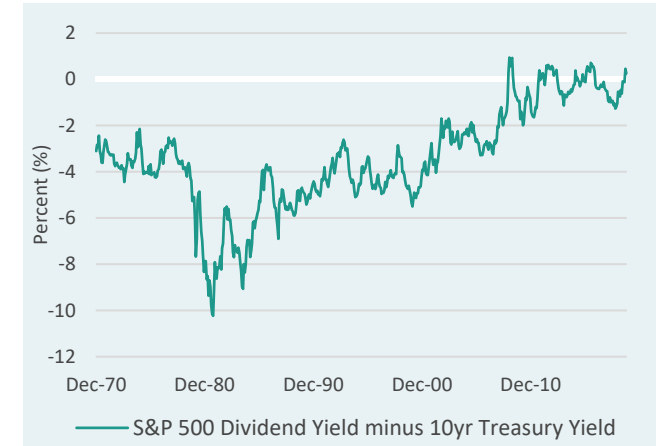
Source: Standard & Poor's, as of 9/30/19

## Q3 2019 EARNINGS EXPECTATIONS



Source: FactSet, as of 10/11/19

## RELATIVE YIELDS



Source: Standard & Poor's, as of 9/30/19

# Domestic equity size & style

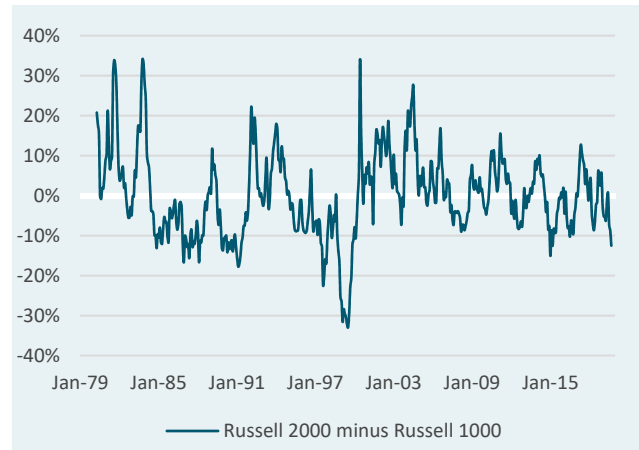
Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have extended their run of weakness.

The impact of sector performance on the value premium was mixed in the third quarter. Financials (+2.0%) and Utilities (+9.3%) outperformed the overall index (S&P 500 +1.7%) which boosted value, but poor Energy (-6.3%) performance counteracted these effects. Information Technology beat the

overall index (+3.3%) which acted as a headwind for value stocks.

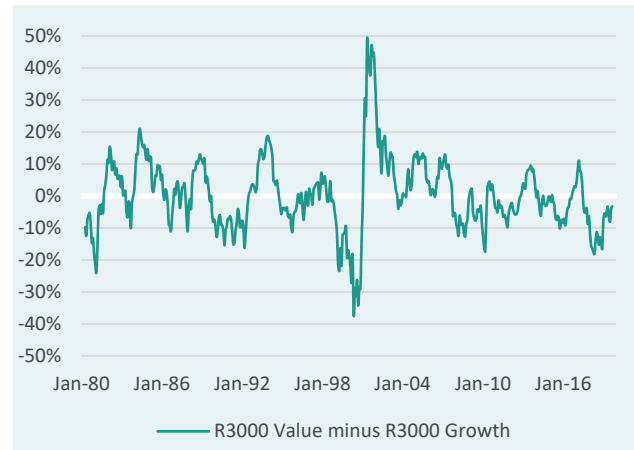
Value stocks have exhibited a long run of underperformance over the past decade. Our view has been that value stocks did not appear attractive, despite persistent performance pain. This was because value stocks had underperformed due to fundamental reasons rather than due to prices becoming stretched. Now, for the first time in this cycle it appears value prices are becoming unusually cheap, as indicated by a large disparity between Russell 1000 Value and Russell 1000 Growth P/E multiples.

**SMALL CAP VS LARGE CAP (YOY)**



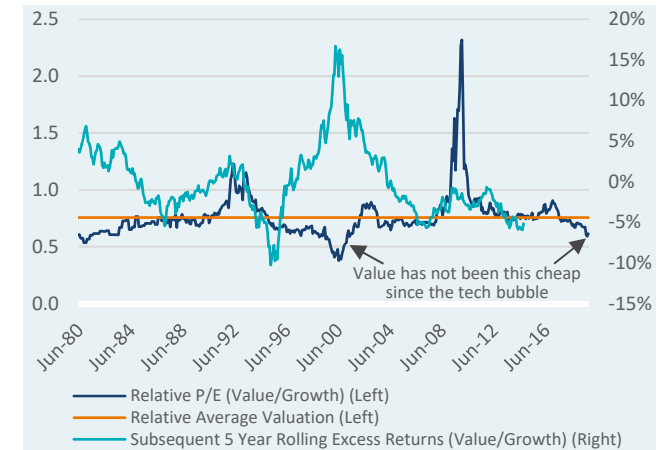
Source: FTSE, as of 9/30/19

**VALUE VS GROWTH (YOY)**

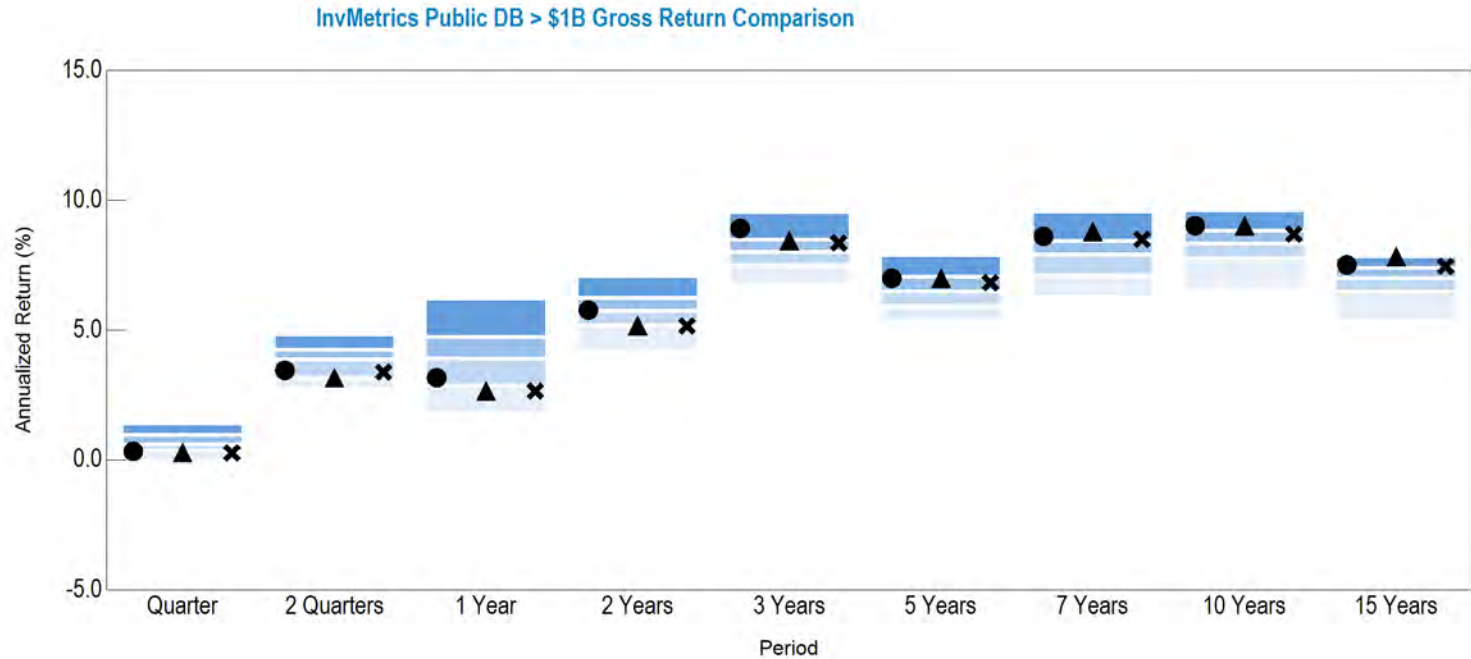


Source: FTSE, as of 9/30/19

**VALUE STARTING TO LOOK CHEAP**



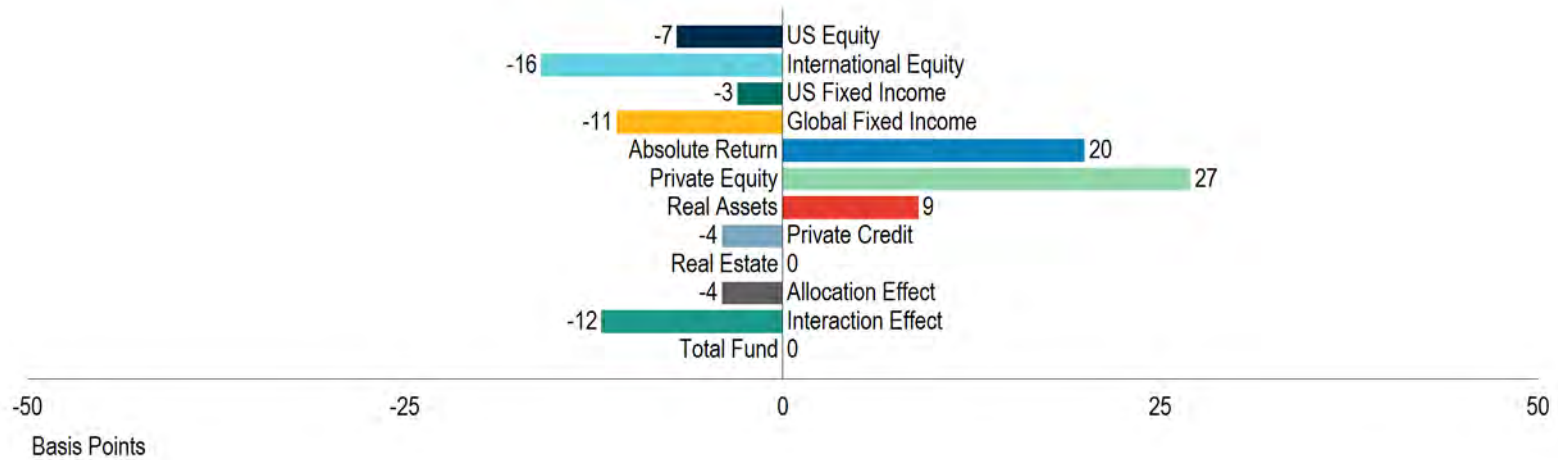
Source: Russell, Bloomberg, as of 9/30/19



	Return (Rank)								
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years	15 Years
5th Percentile	1.40	4.82	6.19	7.07	9.53	7.89	9.55	9.62	7.84
25th Percentile	0.97	4.26	4.75	6.25	8.50	7.05	8.46	8.83	7.41
Median	0.60	3.88	3.92	5.77	8.02	6.49	7.94	8.34	7.01
75th Percentile	0.36	3.18	2.87	5.20	7.50	5.96	7.11	7.78	6.50
95th Percentile	-0.05	2.72	1.83	4.20	6.80	5.35	6.29	6.60	5.39
# of Portfolios	81	81	81	81	81	80	79	74	70
● Total Fund	0.33 (76)	3.45 (72)	3.16 (69)	5.77 (50)	8.92 (14)	7.00 (27)	8.61 (21)	9.02 (19)	7.51 (18)
▲ Policy Index	0.29 (81)	3.16 (77)	2.66 (81)	5.18 (76)	8.45 (27)	7.00 (27)	8.80 (18)	9.02 (19)	7.82 (6)
✕ Allocation Index	0.26 (81)	3.38 (73)	2.65 (81)	5.16 (77)	8.36 (31)	6.83 (31)	8.50 (23)	8.69 (35)	7.46 (22)

Total Fund  
Performance Attribution (One Quarter)

Period Ending: September 30, 2019

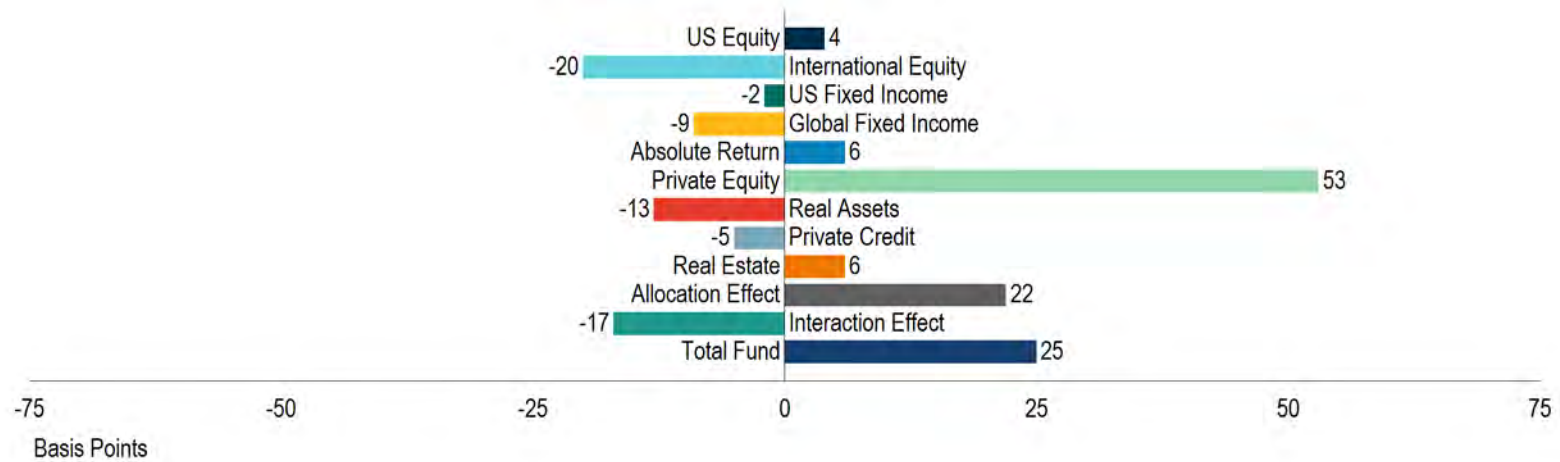


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	0.88%	1.16%	-0.28%	-0.07%	0.06%	-0.01%	-0.02%
International Equity	-2.22%	-1.62%	-0.61%	-0.16%	-0.04%	-0.01%	-0.21%
US Fixed Income	2.06%	2.27%	-0.21%	-0.03%	-0.03%	0.00%	-0.05%
Global Fixed Income	-2.65%	0.85%	-3.50%	-0.11%	0.01%	-0.04%	-0.14%
Absolute Return	1.28%	-0.90%	2.18%	0.20%	0.00%	0.00%	0.19%
Private Equity	5.92%	2.45%	3.47%	0.27%	-0.03%	-0.07%	0.17%
Real Assets	-1.32%	-3.09%	1.77%	0.09%	0.03%	-0.03%	0.09%
Private Credit	0.00%	0.99%	-0.99%	-0.04%	-0.03%	0.04%	-0.03%
Real Estate	1.37%	1.31%	0.06%	0.00%	-0.01%	0.00%	-0.01%
<b>Total</b>	<b>0.34%</b>	<b>0.33%</b>	<b>0.00%</b>	<b>0.17%</b>	<b>-0.04%</b>	<b>-0.12%</b>	<b>0.00%</b>



Total Fund  
Performance Attribution (6 Months)

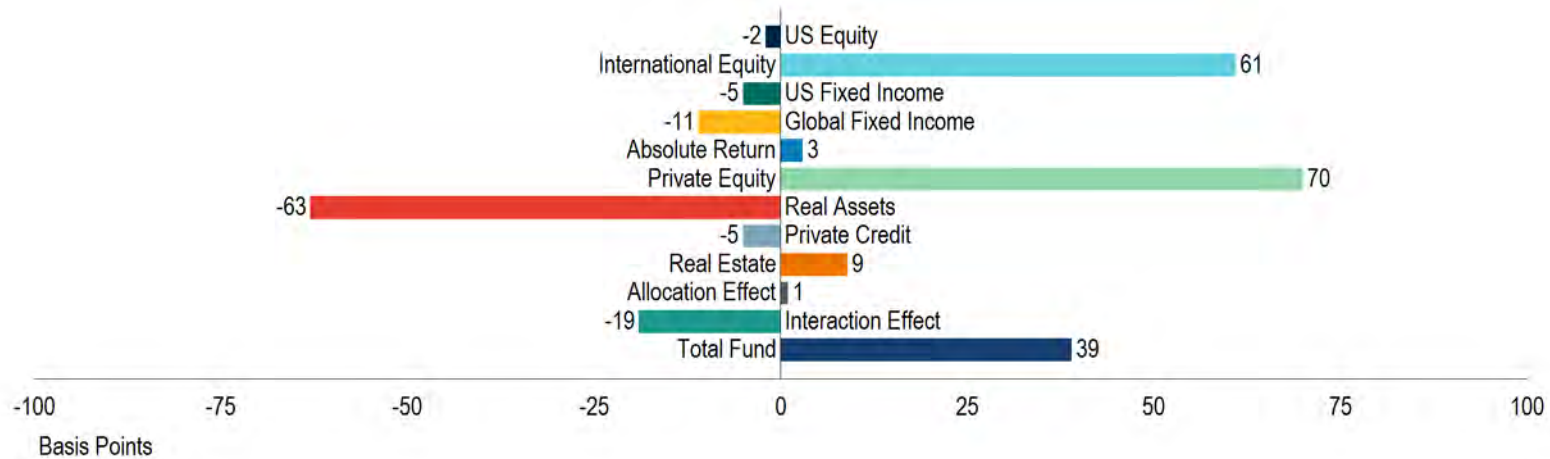
Period Ending: September 30, 2019



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	5.43%	5.31%	0.13%	0.04%	0.16%	0.00%	0.20%
International Equity	0.50%	1.31%	-0.81%	-0.20%	-0.04%	-0.01%	-0.25%
US Fixed Income	5.30%	5.42%	-0.12%	-0.02%	-0.04%	0.00%	-0.06%
Global Fixed Income	1.10%	4.45%	-3.35%	-0.09%	0.03%	-0.05%	-0.11%
Absolute Return	1.18%	0.58%	0.60%	0.06%	-0.01%	0.00%	0.04%
Private Equity	12.16%	5.99%	6.17%	0.53%	-0.05%	-0.19%	0.29%
Real Assets	-2.87%	-0.76%	-2.10%	-0.13%	0.03%	0.03%	-0.06%
Private Credit	0.00%	2.69%	-2.69%	-0.05%	0.14%	0.05%	0.14%
Real Estate	3.10%	2.31%	0.79%	0.06%	0.00%	-0.01%	0.06%
<b>Total</b>	<b>3.45%</b>	<b>3.20%</b>	<b>0.25%</b>	<b>0.20%</b>	<b>0.22%</b>	<b>-0.17%</b>	<b>0.25%</b>

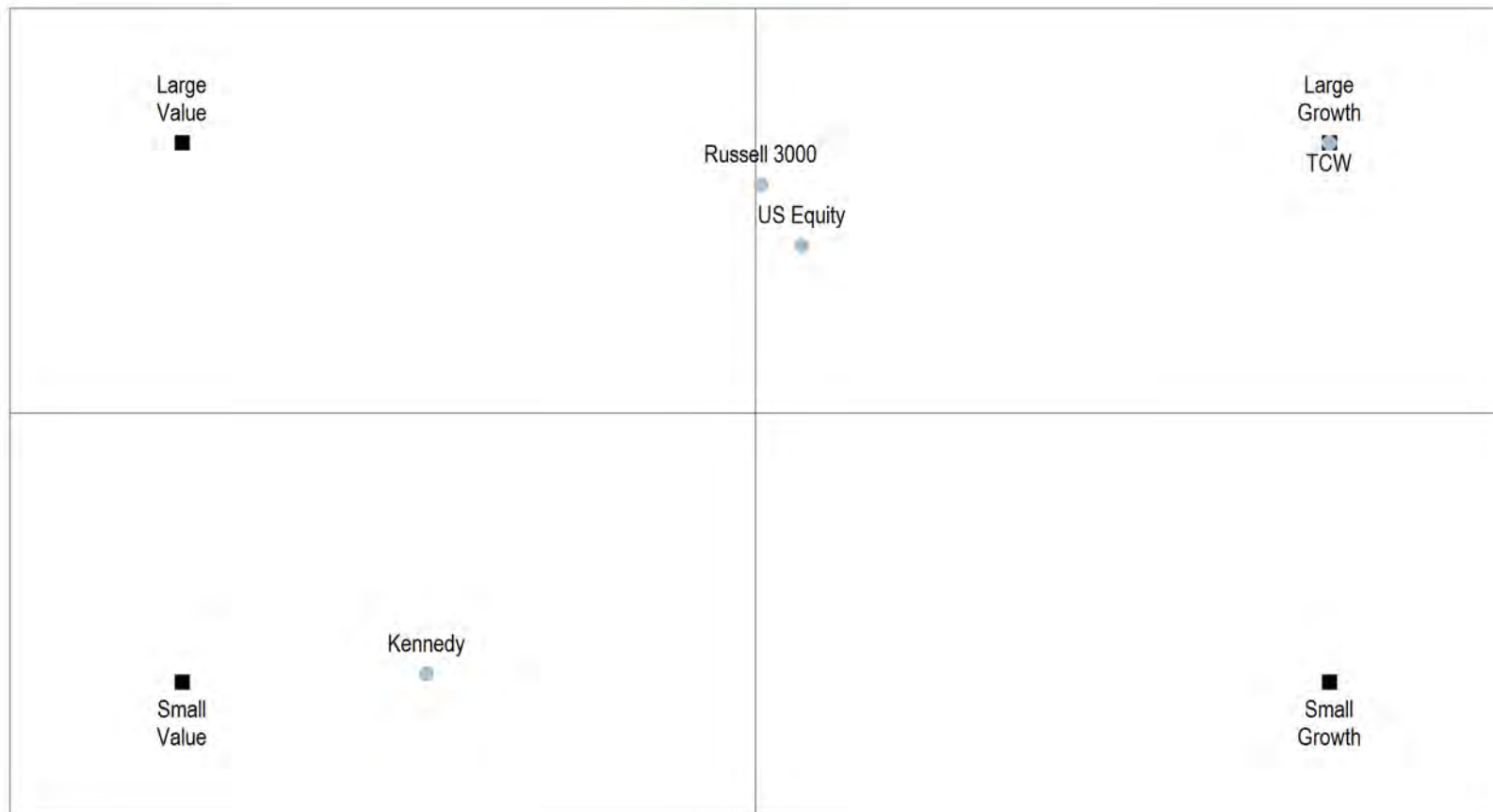
Total Fund  
Performance Attribution (One Year)

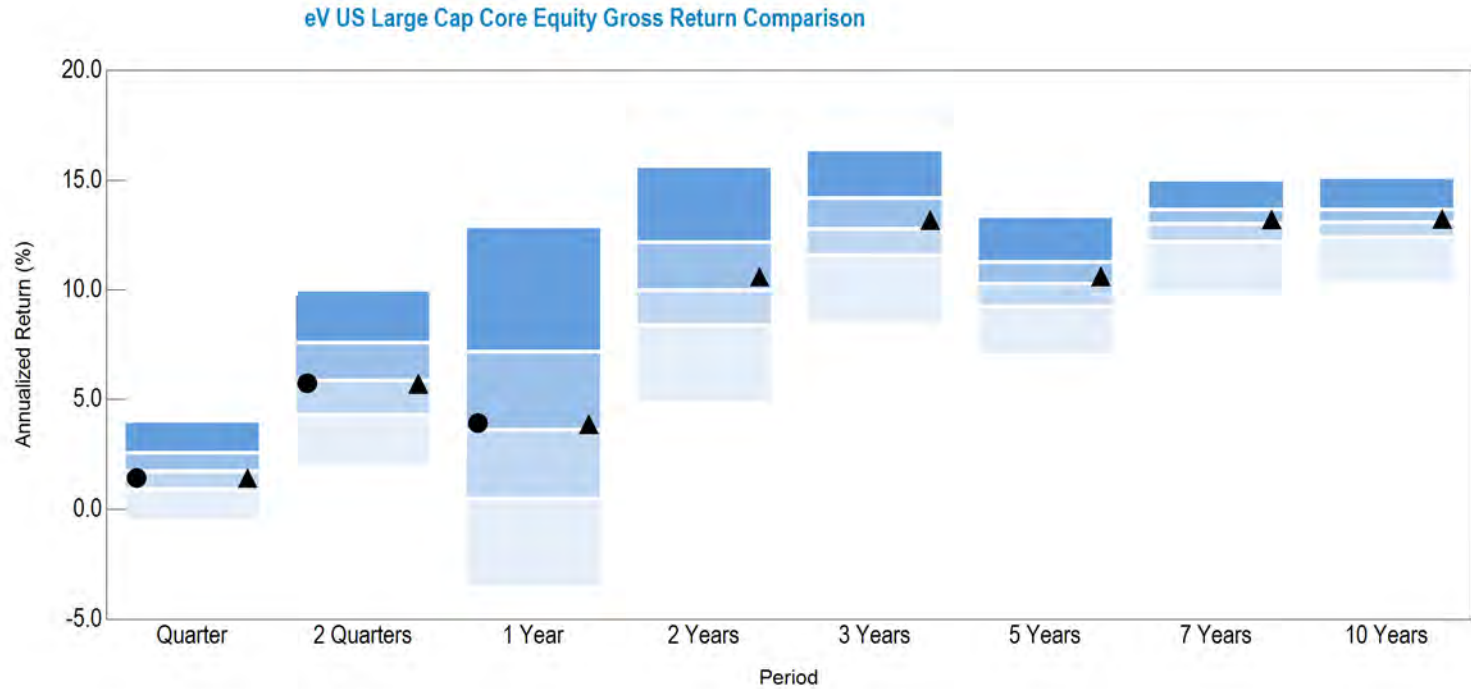
Period Ending: September 30, 2019



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	2.74%	2.92%	-0.18%	-0.02%	0.01%	-0.02%	-0.03%
International Equity	0.91%	-1.35%	2.26%	0.61%	-0.04%	0.01%	0.58%
US Fixed Income	9.88%	10.30%	-0.42%	-0.05%	-0.09%	0.01%	-0.14%
Global Fixed Income	3.47%	8.13%	-4.66%	-0.11%	0.07%	-0.06%	-0.10%
Absolute Return	0.43%	0.01%	0.42%	0.03%	-0.03%	-0.02%	-0.02%
Private Equity	12.22%	4.12%	8.10%	0.70%	-0.03%	-0.29%	0.39%
Real Assets	-12.38%	-1.80%	-10.58%	-0.63%	0.03%	0.15%	-0.45%
Private Credit	0.00%	3.10%	-3.10%	-0.05%	0.14%	0.05%	0.14%
Real Estate	6.71%	5.59%	1.12%	0.09%	-0.07%	-0.01%	0.01%
<b>Total</b>	<b>3.15%</b>	<b>2.76%</b>	<b>0.39%</b>	<b>0.57%</b>	<b>0.01%</b>	<b>-0.19%</b>	<b>0.39%</b>

US Effective Style Map





	Quarter		2 Quarters		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
<b>5th Percentile</b>	4.03		10.01		12.90		15.63		16.39		13.35		15.03		15.15	
<b>25th Percentile</b>	2.61		7.62		7.20		12.18		14.19		11.29		13.66		13.69	
<b>Median</b>	1.73		5.88		3.64		10.00		12.79		10.30		13.05		13.09	
<b>75th Percentile</b>	0.94		4.33		0.49		8.39		11.60		9.28		12.23		12.42	
<b>95th Percentile</b>	-0.49		2.02		-3.55		4.87		8.46		7.03		9.89		10.41	
<b># of Portfolios</b>	294		294		294		290		282		266		241		206	
<b>● BlackRock Russell 1000 Index Fund</b>	1.43	(60)	5.74	(53)	3.93	(47)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)
<b>▲ Russell 1000</b>	1.42	(60)	5.73	(53)	3.87	(48)	10.60	(44)	13.19	(43)	10.62	(42)	13.21	(42)	13.23	(44)

Characteristics

	Portfolio	Russell 1000
Number of Holdings	1,000	997
Weighted Avg. Market Cap. (\$B)	209.4	208.9
Median Market Cap. (\$B)	9.7	9.8
Price To Earnings	20.8	20.7
Price To Book	3.6	3.6
Price To Sales	2.1	2.1
Return on Equity (%)	24.7	24.6
Yield (%)	1.9	1.9
Beta (holdings; domestic)	1.0	1.0

Top Holdings

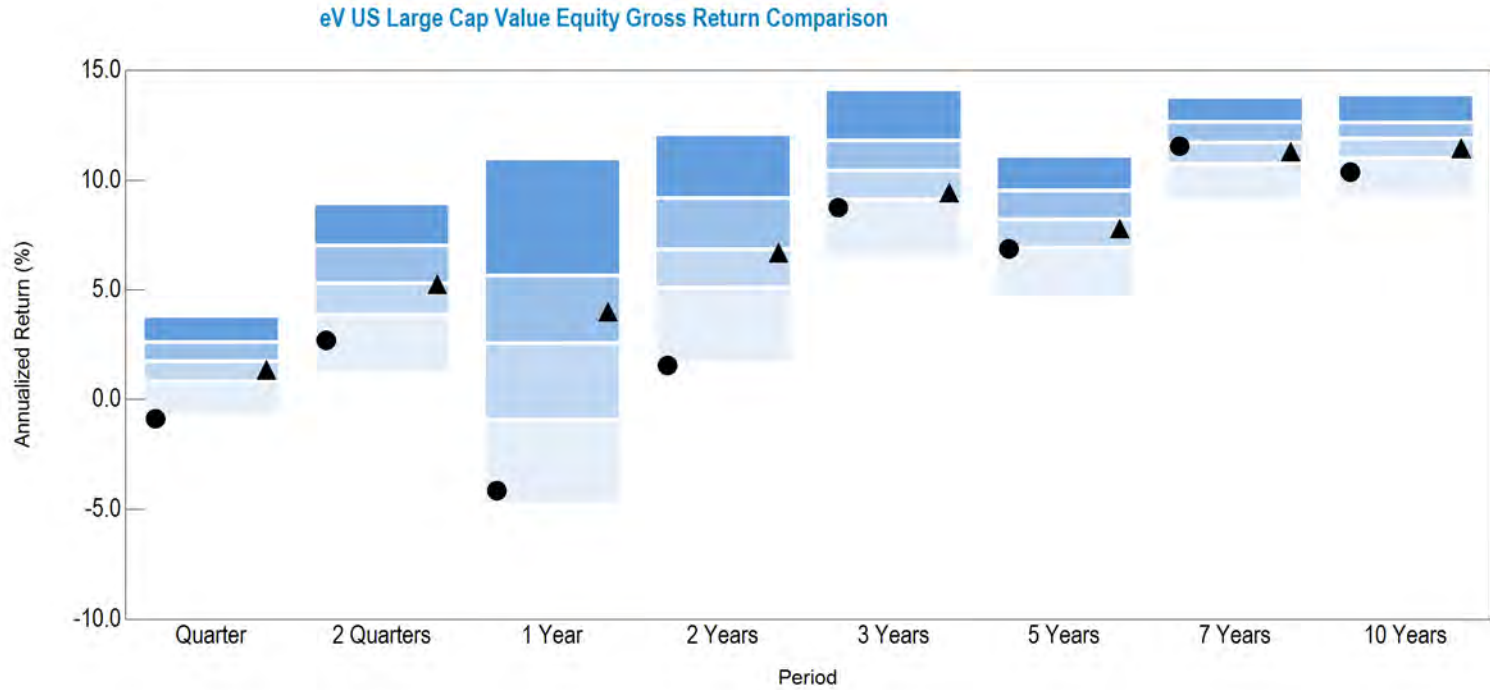
MICROSOFT	3.8%
APPLE	3.7%
AMAZON.COM	2.6%
FACEBOOK CLASS A	1.5%
BERKSHIRE HATHAWAY 'B'	1.5%
JP MORGAN CHASE & CO.	1.4%
ALPHABET 'C'	1.3%
ALPHABET A	1.3%
JOHNSON & JOHNSON	1.3%
PROCTER & GAMBLE	1.1%

Best Performers

	Return %
INSULET (PODD)	38.2%
CYRUSONE (CONE)	37.9%
KLA (KLAC)	35.7%
NEW YORK COMMUNITY BANCORP (NYCB)	27.6%
ENTEGRIS (ENTG)	26.3%
PILGRIMS PRIDE (PPC)	26.2%
WESTERN DIGITAL (WDC)	25.4%
DOCUSIGN (DOCU)	24.6%
TARGET (TGT)	24.4%
XPO LOGISTICS (XPO)	23.8%

Worst Performers

	Return %
2U (TWOU)	-56.7%
PG&E (PCG)	-56.4%
COVETRUS (CVET)	-51.4%
SAREPTA THERAPEUTICS (SRPT)	-50.4%
NEKTAR THERAPEUTICS (NKTR)	-48.8%
DXC TECHNOLOGY (DXC)	-46.2%
ANTERO RESOURCES (AR)	-45.4%
RANGE RES. (RRC)	-45.0%
PLURALSIGHT A (PS)	-44.6%
FLUOR (FLR)	-42.5%



	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.80	8.95	10.98	12.10	14.12	11.10	13.79	13.90
25th Percentile	2.64	7.04	5.66	9.20	11.84	9.56	12.68	12.65
Median	1.77	5.31	2.57	6.88	10.46	8.23	11.73	11.91
75th Percentile	0.85	3.90	-0.89	5.11	9.15	6.96	10.78	11.05
95th Percentile	-0.68	1.20	-4.75	1.68	6.52	4.61	9.11	9.30
# of Portfolios	314	314	314	313	309	304	289	258
● Pzena	-0.87 (97)	2.70 (92)	-4.15 (94)	1.55 (96)	8.75 (80)	6.87 (77)	11.55 (57)	10.37 (88)
▲ Russell 1000 Value	1.36 (62)	5.25 (51)	4.00 (40)	6.69 (53)	9.43 (71)	7.79 (64)	11.30 (64)	11.46 (65)

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	39	760
Weighted Avg. Market Cap. (\$B)	61.9	114.2
Median Market Cap. (\$B)	20.8	9.0
Price To Earnings	13.2	16.7
Price To Book	1.6	2.2
Price To Sales	0.7	1.5
Return on Equity (%)	6.8	14.9
Yield (%)	2.6	2.6
Beta (holdings; domestic)	1.3	1.0

Top Holdings

AMERICAN INTL.GP.	4.1%
CAPITAL ONE FINL.	4.1%
CITIGROUP	4.0%
GENERAL ELECTRIC	3.9%
WELLS FARGO & CO	3.9%
LEAR	3.7%
NATIONAL OILWELL VARCO	3.5%
PVH	3.5%
NEWELL BRANDS (XSC)	3.3%
HEWLETT PACKARD ENTER.	3.2%

Best Performers

	Return %
NEWELL BRANDS (XSC) (NWL)	23.1%
EDISON INTL. (EIX)	13.8%
AXIS CAPITAL HDG. (AXS)	11.9%
WELLS FARGO & CO (WFC)	7.8%
AXA EQUITABLE HOLDINGS (EQH)	6.8%
KKR AND A (KKR)	6.8%
CENOVUS ENERGY (NYS) (CVE)	6.8%
JP MORGAN CHASE & CO. (JPM)	6.0%
AMGEN (AMGN)	5.8%
AMERICAN INTL.GP. (AIG)	5.1%

Worst Performers

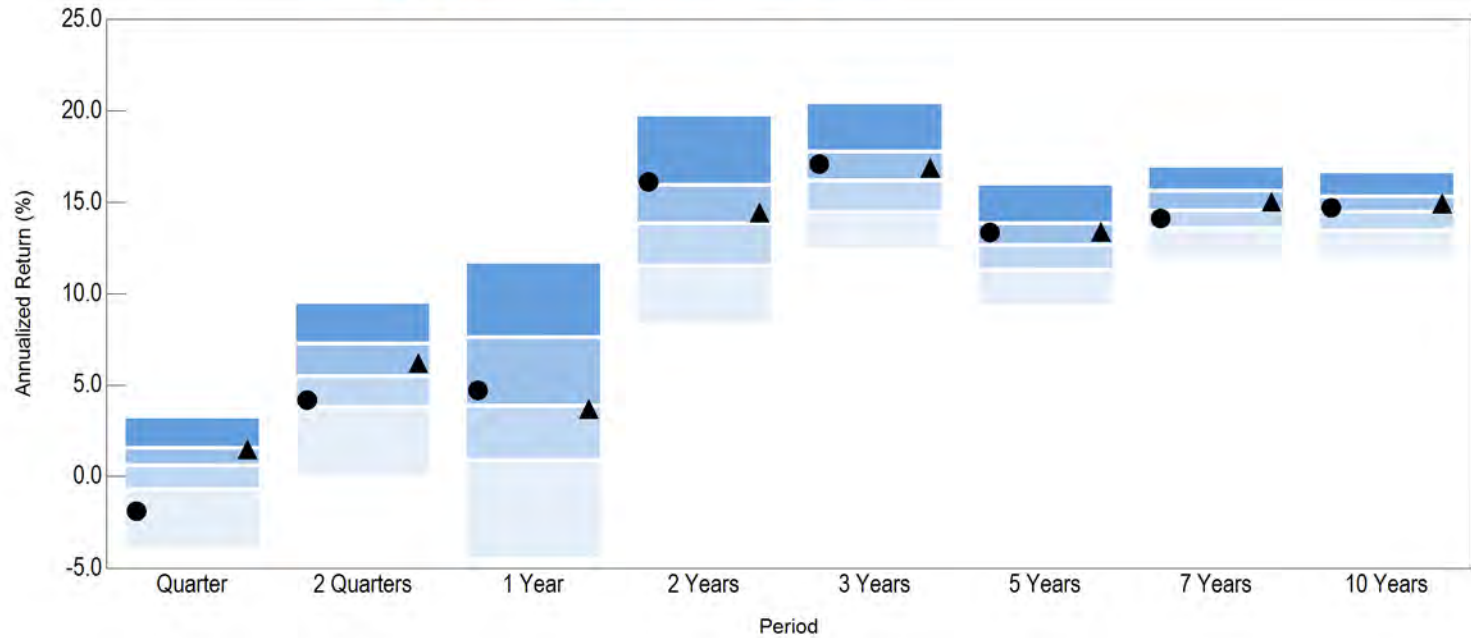
	Return %
HALLIBURTON (HAL)	-16.3%
MOHAWK INDUSTRIES (MHK)	-15.9%
GENERAL ELECTRIC (GE)	-14.8%
LEAR (LEA)	-14.7%
FORD MOTOR (F)	-9.1%
ROYAL DUTCH SHELL A ADR 1:2 (RDS.A)	-8.0%
GILDAN ACTIVEWEAR SBVTG. 'A' (NYS) (GIL)	-7.9%
PVH (PVH)	-6.7%
BAKER HUGHES COMPANY (BKR)	-5.1%
COGNIZANT TECH.SLTN.'A' (CTSH)	-4.6%

**Pzena Performance Attribution vs. Russell 1000 Value**

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.30%	0.01%	-0.32%	0.00%	-6.60%	-6.70%	12.76%	8.84%			
Materials	0.15%	--	0.15%	--	--	-2.26%	0.00%	4.04%			
Industrials	-0.42%	-0.37%	-0.02%	-0.03%	-6.39%	-1.76%	8.60%	7.89%			
Consumer Discretionary	-1.29%	-0.43%	0.03%	-0.88%	-6.54%	1.65%	16.11%	5.30%			
Consumer Staples	-0.43%	--	-0.43%	--	--	6.85%	0.00%	7.81%			
Health Care	0.66%	0.79%	0.26%	-0.39%	3.14%	-2.05%	7.72%	15.21%			
Financials	0.22%	0.04%	0.15%	0.03%	2.51%	2.33%	38.80%	22.56%			
Information Technology	-0.11%	-0.18%	0.03%	0.04%	-1.60%	0.20%	7.49%	9.76%			
Communication Services	-0.53%	-0.65%	-0.11%	0.23%	-3.51%	5.75%	4.61%	7.07%			
Utilities	-0.09%	0.36%	-0.25%	-0.20%	13.81%	8.25%	2.86%	6.45%			
Real Estate	-0.34%	--	-0.34%	--	--	8.07%	0.00%	5.06%			
Cash	-0.01%	0.00%	-0.01%	0.00%	0.50%	--	1.05%	0.00%			
<b>Portfolio</b>	<b>-2.49%</b>	<b>=</b>	<b>-0.43%</b>	<b>+</b>	<b>-0.85%</b>	<b>+</b>	<b>-1.21%</b>	<b>-1.11%</b>	<b>1.38%</b>	<b>100.00%</b>	<b>100.00%</b>



eV US Large Cap Growth Equity Gross Return Comparison



	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.28	9.55	11.76	19.79	20.44	16.01	16.98	16.68
25th Percentile	1.61	7.29	7.64	15.97	17.79	13.89	15.67	15.34
Median	0.63	5.50	3.90	13.86	16.23	12.70	14.57	14.50
75th Percentile	-0.70	3.85	0.91	11.57	14.50	11.31	13.61	13.51
95th Percentile	-3.90	0.06	-4.45	8.34	12.46	9.32	12.00	12.03
# of Portfolios	239	239	239	237	231	226	212	202
● TCW	-1.86 (88)	4.18 (72)	4.71 (43)	16.12 (24)	17.10 (36)	13.35 (36)	14.12 (66)	14.70 (43)
▲ Russell 1000 Growth	1.49 (29)	6.20 (41)	3.71 (53)	14.45 (44)	16.89 (40)	13.39 (35)	15.02 (38)	14.94 (35)

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	33	526
Weighted Avg. Market Cap. (\$B)	185.0	300.6
Median Market Cap. (\$B)	58.1	12.2
Price To Earnings	39.0	26.7
Price To Book	8.2	8.0
Price To Sales	5.1	3.1
Return on Equity (%)	28.5	35.4
Yield (%)	0.5	1.2
Beta (holdings; domestic)	1.1	1.0

Top Holdings

VISA 'A'	7.0%
AMAZON.COM	6.2%
ALPHABET 'C'	5.8%
AMERICAN TOWER	5.8%
ADOBE (NAS)	5.4%
FACEBOOK CLASS A	4.9%
SERVICENOW	4.8%
SALESFORCE.COM	4.3%
PAYPAL HOLDINGS	3.8%
MASTERCARD	3.6%

Best Performers

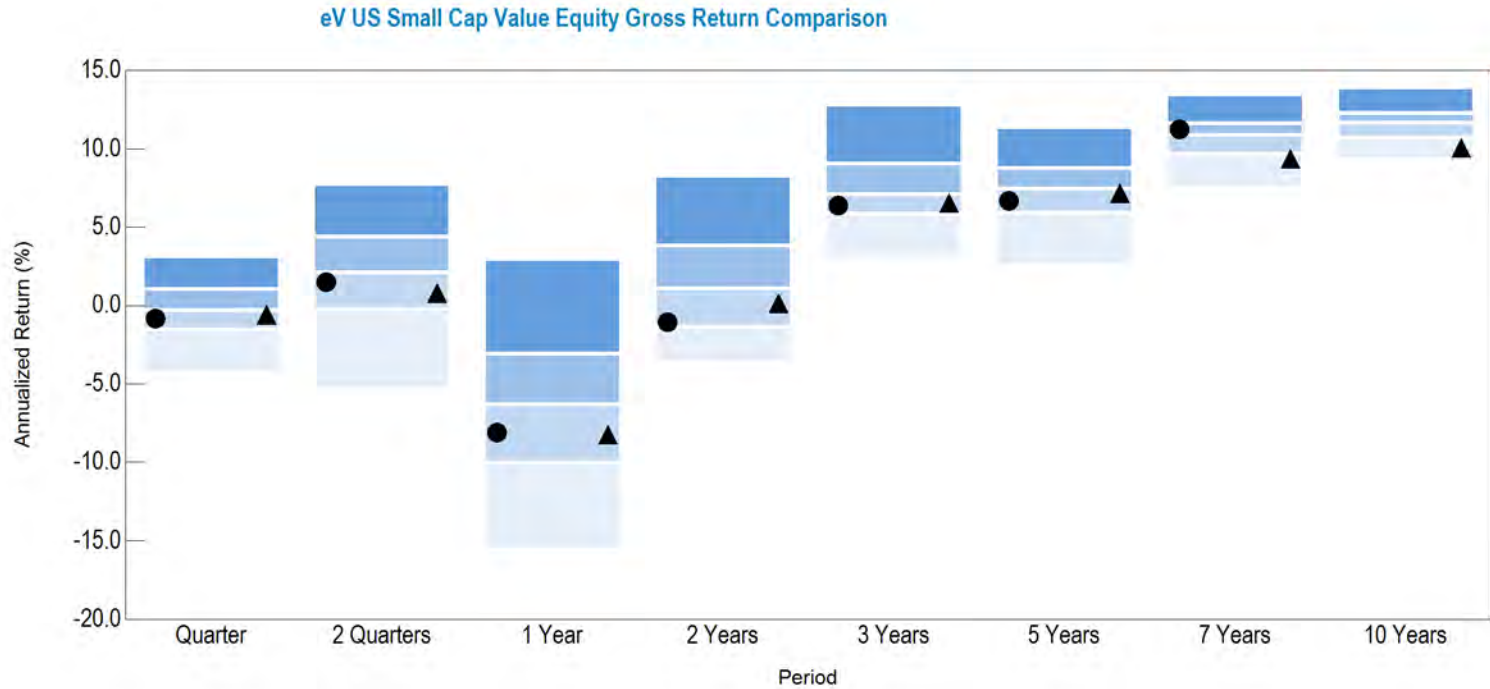
	Return %
ASML HLDG.ADR 1:1 (ASML)	19.5%
EQUINIX REIT (EQIX)	14.9%
ALPHABET 'C' (GOOG)	12.8%
HOME DEPOT (HD)	12.2%
TRANSUNION (TRU)	10.4%
CHUBB (CB)	10.1%
ZOETIS A (ZTS)	9.9%
COSTCO WHOLESALE (COST)	9.3%
AMERICAN TOWER (AMT)	8.6%
S&P GLOBAL (SPGI)	7.8%

Worst Performers

	Return %
CONCHO RESOURCES (CXO)	-34.1%
ALIGN TECHNOLOGY (ALGN)	-33.9%
ULTA BEAUTY (ULTA)	-27.7%
ALEXION PHARMS. (ALXN)	-25.2%
BIOMARIN PHARM. (BMRN)	-21.3%
TRADE DESK CL.A (TTD)	-17.7%
ILLUMINA (ILMN)	-17.4%
PAYPAL HOLDINGS (PYPL)	-9.5%
MONSTER BEVERAGE (MNST)	-9.0%
AMAZON.COM (AMZN)	-8.3%

TCW Performance Attribution vs. Russell 1000 Growth

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.19%	-0.12%	-0.03%	-0.04%	-34.08%	-13.70%	0.80%	0.61%			
Materials	-0.05%	--	-0.05%	--	--	4.17%	0.00%	1.88%			
Industrials	-0.04%	-0.02%	-0.02%	0.00%	2.35%	2.55%	9.33%	11.60%			
Consumer Discretionary	-0.90%	-1.15%	0.04%	0.22%	-7.10%	0.43%	12.44%	15.33%			
Consumer Staples	-0.24%	-0.25%	-0.03%	0.04%	0.58%	4.85%	4.82%	5.78%			
Health Care	-1.10%	-1.45%	0.11%	0.24%	-14.90%	-3.51%	10.64%	12.71%			
Financials	0.42%	0.31%	-0.02%	0.13%	7.72%	0.82%	6.34%	4.48%			
Information Technology	-2.22%	-2.18%	0.02%	-0.07%	-2.84%	3.72%	34.21%	33.18%			
Communication Services	0.24%	0.26%	0.03%	-0.04%	2.37%	0.25%	10.12%	12.07%			
Utilities	0.00%	--	--	--	--	--	0.00%	0.00%			
Real Estate	0.60%	0.09%	0.30%	0.21%	10.81%	7.06%	7.93%	2.37%			
Cash	-0.04%	0.00%	-0.04%	0.00%	0.50%	--	3.38%	0.00%			
<b>Portfolio</b>	<b>-3.52%</b>	<b>=</b>	<b>-4.52%</b>	<b>+</b>	<b>0.31%</b>	<b>+</b>	<b>0.69%</b>	<b>-1.86%</b>	<b>1.66%</b>	<b>100.00%</b>	<b>100.00%</b>



	Quarter		2 Quarters		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
<b>Return (Rank)</b>																
5th Percentile	3.14		7.74		2.96		8.27		12.79		11.36		13.47		13.90	
25th Percentile	1.09		4.44		-3.02		3.87		9.07		8.78		11.68		12.33	
Median	-0.24		2.15		-6.25		1.14		7.13		7.50		10.91		11.70	
75th Percentile	-1.50		-0.18		-9.97		-1.33		5.88		5.95		9.70		10.76	
95th Percentile	-4.25		-5.31		-15.55		-3.61		3.08		2.64		7.53		9.36	
# of Portfolios	217		217		217		215		213		204		197		181	
● Kennedy	-0.83	(63)	1.49	(55)	-8.11	(61)	-1.06	(73)	6.38	(68)	6.68	(65)	11.24	(36)	--	(--)
▲ Russell 2000 Value	-0.57	(59)	0.79	(64)	-8.24	(63)	0.16	(63)	6.54	(65)	7.17	(57)	9.35	(82)	10.06	(87)

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	294	1,387
Weighted Avg. Market Cap. (\$B)	2.4	2.0
Median Market Cap. (\$B)	1.3	0.6
Price To Earnings	16.5	14.9
Price To Book	1.8	1.6
Price To Sales	1.0	0.9
Return on Equity (%)	8.3	5.4
Yield (%)	1.8	2.2
Beta (holdings; domestic)	1.1	1.2

Top Holdings

COUSINS PROPERTIES INC	1.0%
IBERIABANK	0.9%
LUMENTUM HOLDINGS	0.9%
SJW GROUP	0.9%
SOUTH JERSEY INDUSTRY	0.9%
BLACK HILLS	0.8%
SPIRE	0.8%
STERLING BANCORP	0.8%
CENTRAL GDN.& PET 'A' NV.	0.8%
MERCURY SYSTEMS	0.8%

Best Performers

	Return %
INFINERA (INFN)	87.3%
ONE STOP SYSTEMS (OSS)	72.2%
PALOMAR HOLDINGS (PLMR)	64.0%
NEOPHOTONICS (NPTN)	45.7%
INVACARE (IVC)	44.9%
CORINDUS VASC.ROBOTICS (CVRS)	43.6%
AMBARELLA (AMBA)	42.4%
CYRUSONE (CONE)	37.9%
CHIPMOS TECHS.ADR 1:20 (IMOS)	37.6%
SYNAPTICS (SYNA)	37.1%

Worst Performers

	Return %
MALLINCKRODT (MNK)	-73.7%
FLUIDIGM (FLDM)	-62.4%
PROPETRO HOLDING (PUMP)	-56.1%
CARS COM (CARS)	-54.5%
CONCERT PHARMACEUTICALS (CNCE)	-51.0%
IMAGEWARE SYSTEMS (IWSY)	-49.2%
ANCHIANO THERAPEUTICS ADR 1:5 (ANCN)	-48.7%
RANGE RES. (RRC)	-45.0%
TRIPLE-S MANAGEMENT 'B' (GTS)	-40.9%
BRIGGS & STRATTON (BGG)	-40.4%

**Kennedy Performance Attribution vs. Russell 2000 Value**

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.65%	-0.28%	-0.28%	-0.09%	-23.79%	-18.15%	6.52%	4.95%			
Materials	-0.15%	0.00%	-0.15%	0.00%	-6.18%	-6.14%	6.64%	4.26%			
Industrials	-0.07%	-0.02%	-0.04%	-0.01%	-1.71%	-1.51%	14.42%	11.67%			
Consumer Discretionary	-0.43%	-0.44%	-0.03%	0.04%	-1.59%	3.58%	7.68%	8.47%			
Consumer Staples	0.07%	0.06%	0.01%	0.01%	6.48%	4.13%	2.63%	2.40%			
Health Care	-0.17%	-0.18%	0.00%	0.00%	-12.27%	-7.92%	4.05%	4.09%			
Financials	-0.06%	-0.06%	-0.02%	0.02%	0.03%	0.22%	21.22%	29.62%			
Information Technology	-0.38%	-0.38%	0.04%	-0.05%	-0.24%	3.01%	13.05%	11.61%			
Communication Services	0.24%	0.22%	0.17%	-0.14%	-1.14%	-8.39%	0.98%	2.97%			
Utilities	-0.21%	-0.18%	-0.06%	0.03%	3.14%	5.45%	6.63%	7.74%			
Real Estate	0.59%	0.59%	0.00%	0.00%	9.93%	5.08%	12.15%	12.22%			
Cash	0.02%	0.00%	0.02%	0.00%	0.50%	--	4.03%	0.00%			
<b>Portfolio</b>	<b>-1.21%</b>	<b>=</b>	<b>-0.67%</b>	<b>+</b>	<b>-0.34%</b>	<b>+</b>	<b>-0.20%</b>	<b>-1.26%</b>	<b>-0.05%</b>	<b>100.00%</b>	<b>100.00%</b>

# International developed equity

International equity performance was impacted heavily by currency movements in the third quarter. In local terms, the MSCI EAFE Index delivered a total return of 1.8%, bringing year-to-date performance to 15.7%. For unhedged U.S. investors however, the MSCI EAFE Index generated a quarterly return of -1.1%, dragging the year-to-date figure to 12.8%. Dollar strength reemerged as a powerful force driving returns due in part to widening interest rate differentials between the U.S. and the rest of the world.

Japanese equities outperformed over the period, delivering a

Q3 return of 3.5% in local terms. Unhedged U.S. investors in the MSCI Japan Index received only 3.1%, as the yen depreciated slightly vs. the U.S. dollar over the period.

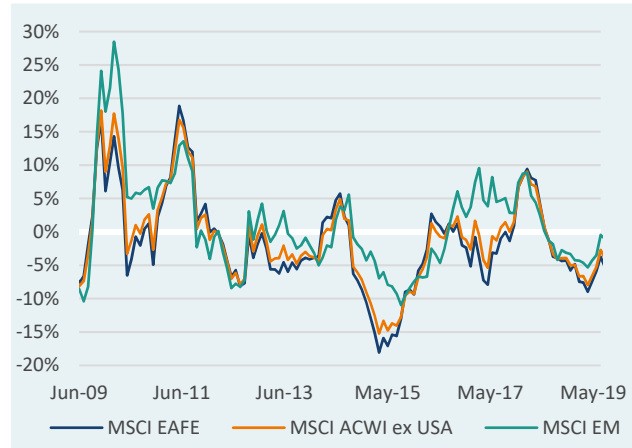
The British pound weakened in July as the new Prime Minister Boris Johnson signaled a much harder line on Brexit than his predecessor's. Toward the end of the quarter, the pound strengthened as markets began pricing a lower likelihood of a "no-deal" Brexit, which many market participants viewed as unfriendly to markets.

**INTERNATIONAL DEVELOPED EQUITIES**



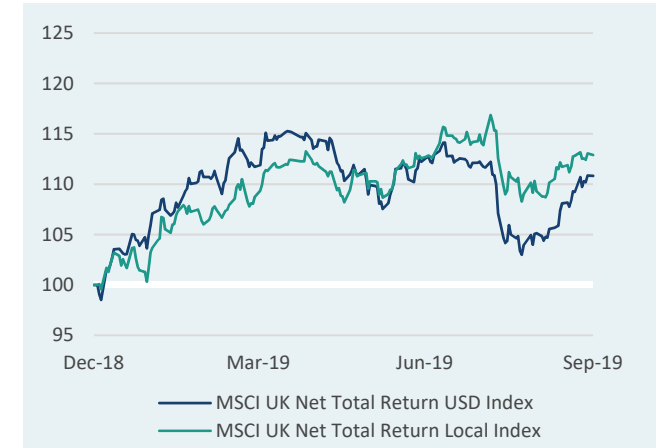
Source: MSCI, as of 9/30/19

**EFFECT OF CURRENCY (1-YEAR ROLLING)**



Source: MSCI, as of 9/30/19

**U.K. EQUITY PERFORMANCE (YTD)**



Source: Bloomberg, as of 9/30/19

# Emerging market equity

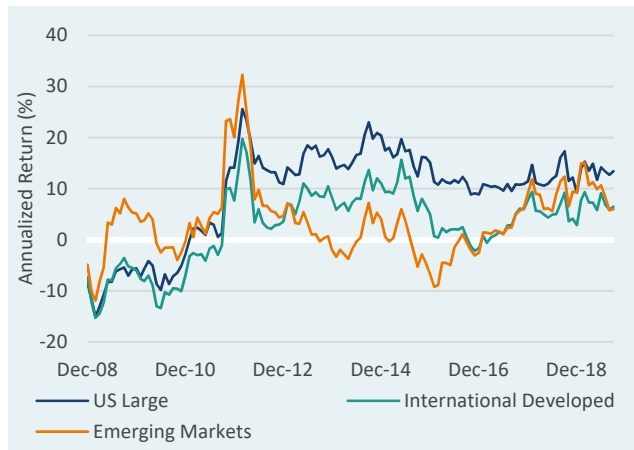
Emerging market equities (MSCI Emerging Markets -4.2%) lagged developed markets (MSCI EAFE -1.1%) over the quarter, while U.S. equities outperformed (S&P 500 +1.7%).

Equity multiples have expanded year-to-date, recovering to the levels of September 2018. Developed and emerging markets continue to appear cheap relative to domestic equity valuations.

We see two opposing forces impacting emerging markets in

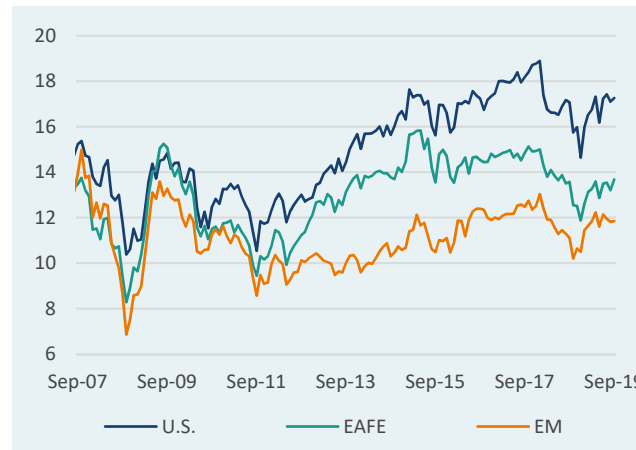
the current environment. The first force is decelerating global growth and a rising probability of recession, which likely bodes poorly for emerging market performance. However, the second force of widespread central bank dovishness may boost emerging market performance in the near term. Specifically, if global growth levels out while central banks unleash another round of easing, there may be material upside to emerging market equities. On balance, we remain moderately bullish on emerging markets, though we are watching developments closely.

**EQUITY PERFORMANCE (3-YR ROLLING)**



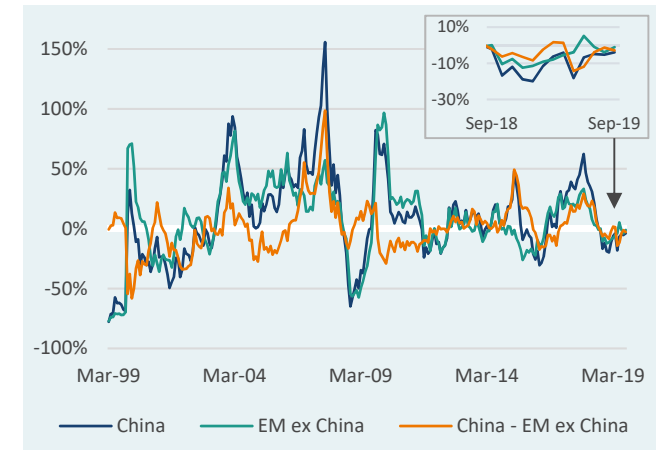
Source: Standard & Poor's, MSCI, as of 9/30/19

**FORWARD P/E**



Source: MSCI, as of 9/30/19

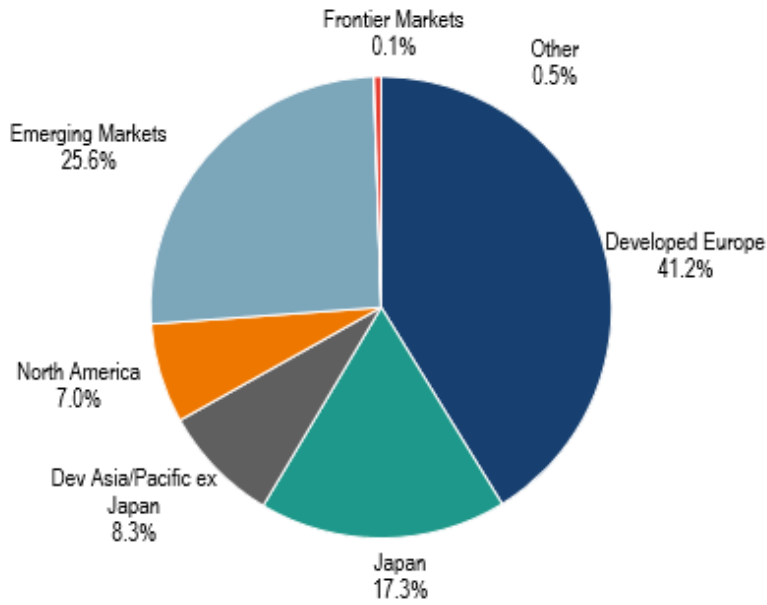
**CHINA & EM: ROLLING 1-YEAR PERFORMANCE (USD)**



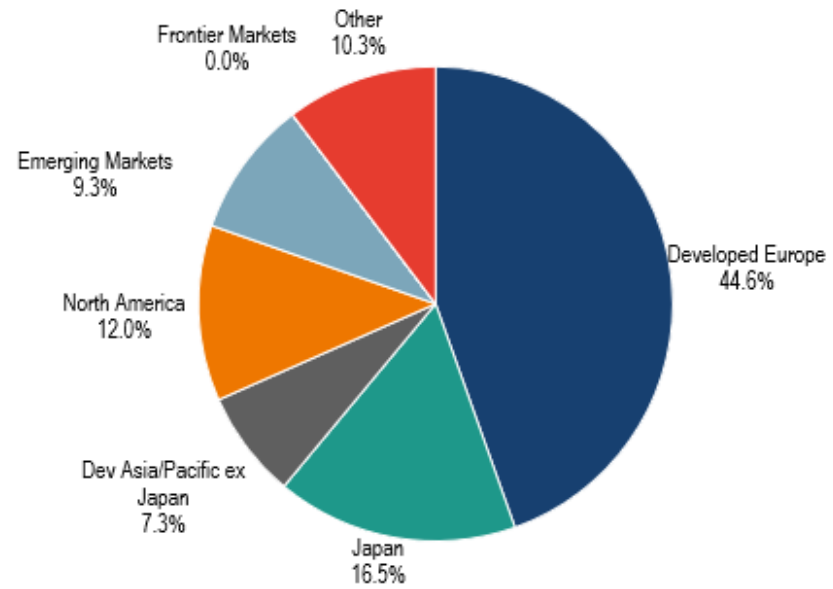
Source: MSCI, as of 9/30/19

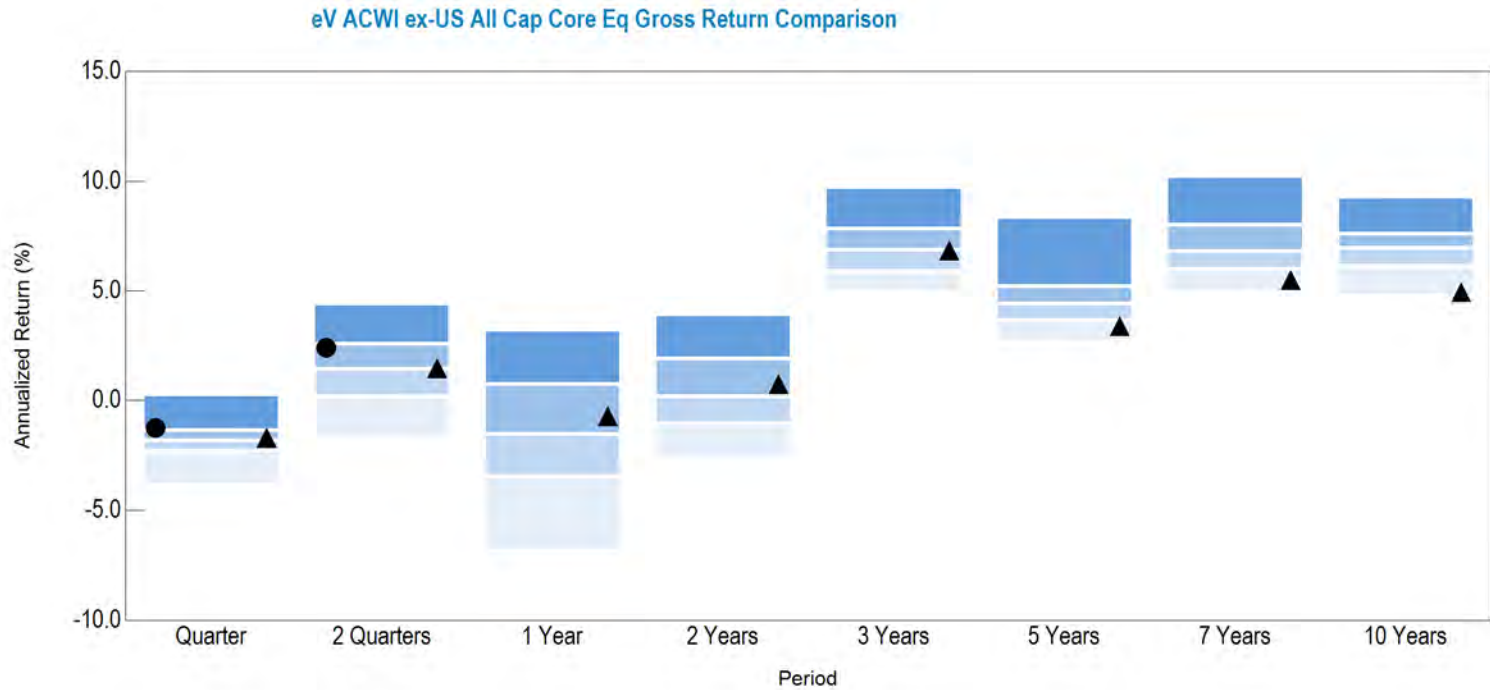


International Equity

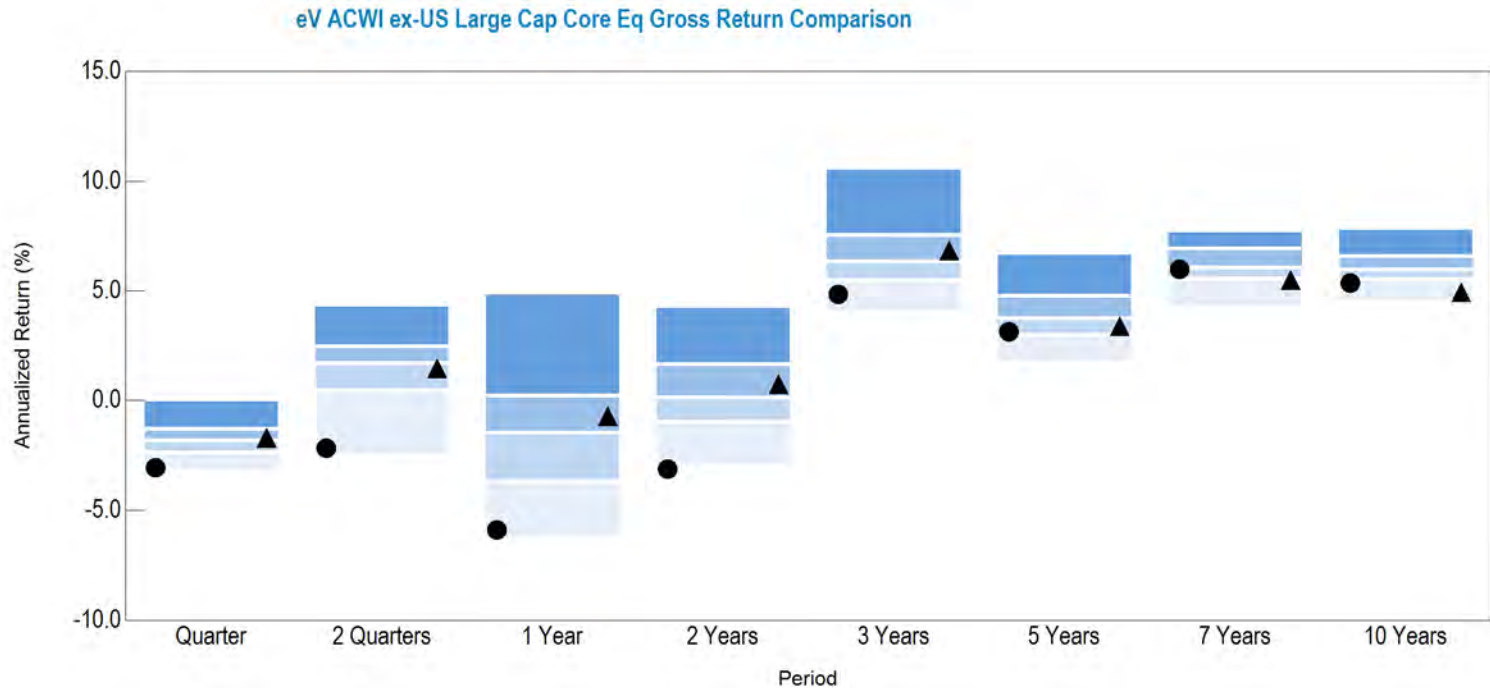


MSCI ACWI ex US IMI





	Quarter		2 Quarters		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
<b>Return (Rank)</b>																
5th Percentile	0.28		4.42		3.24		3.93		9.74		8.35		10.21		9.30	
25th Percentile	-1.32		2.62		0.78		1.94		7.87		5.24		8.04		7.63	
Median	-1.80		1.49		-1.49		0.23		6.89		4.44		6.83		6.99	
75th Percentile	-2.26		0.21		-3.43		-1.02		5.93		3.68		6.02		6.18	
95th Percentile	-3.80		-1.68		-6.81		-2.61		4.96		2.74		4.95		4.79	
# of Portfolios	47		47		47		47		47		43		42		29	
● Bivium Intl Equity	-1.25	(23)	2.41	(30)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)
▲ MSCI ACWI ex USA Gross	-1.70	(46)	1.47	(51)	-0.72	(42)	0.76	(43)	6.85	(51)	3.39	(86)	5.50	(89)	4.93	(92)



	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
<b>Return (Rank)</b>								
5th Percentile	0.04	4.37	4.92	4.31	10.60	6.71	7.74	7.86
25th Percentile	-1.26	2.49	0.24	1.69	7.57	4.80	6.95	6.59
Median	-1.80	1.72	-1.45	0.15	6.36	3.78	6.07	6.00
75th Percentile	-2.34	0.47	-3.66	-0.95	5.50	3.01	5.58	5.54
95th Percentile	-3.22	-2.50	-6.26	-2.97	4.03	1.77	4.25	4.54
# of Portfolios	60	60	60	59	58	52	43	36
● AQR	-3.06 (91)	-2.17 (93)	-5.90 (94)	-3.12 (96)	4.84 (89)	3.14 (70)	5.98 (57)	5.36 (79)
▲ MSCI ACWI ex USA Gross	-1.70 (45)	1.47 (60)	-0.72 (43)	0.76 (40)	6.85 (34)	3.39 (65)	5.50 (80)	4.93 (88)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	752	2,206
Weighted Avg. Market Cap. (\$B)	51.2	64.0
Median Market Cap. (\$B)	17.1	7.3
Price To Earnings	13.2	15.0
Price To Book	2.3	2.3
Price To Sales	1.0	1.2
Return on Equity (%)	15.3	15.0
Yield (%)	3.5	3.3
Beta (holdings; global)	1.0	0.9

Top Holdings

NESTLE 'R'	3.1%
ROCHE HOLDING	1.9%
ENEL	1.7%
SAP	1.6%
RIO TINTO	1.6%
ALLIANZ	1.6%
NOVO NORDISK 'B'	1.6%
BHP GROUP	1.5%
KONINKLIJKE AHOLD DELHAIZE	1.4%
CONSTELLATION SOFTWARE	1.3%

Best Performers

	Return %
ADVANTEST (J:AB@N)	60.5%
TOKYO ELECTRON (J:RG@N)	36.9%
LENDLEASE GROUP STAPLED UNITS (A:LLCX)	32.2%
RENESAS ELECTRONICS (J:RENE)	30.8%
LONDON STOCK EX.GROUP (UKIR:LSE)	29.4%
BANDAI NAMCO HDG. (J:N@MB)	28.7%
HULIC (J:HULI)	27.2%
OLYMPUS (J:OLYC)	21.4%
VODAFONE GROUP (UKIR:VOD)	21.3%
TREASURY WINE ESTATES (A:TWEX)	20.9%

Worst Performers

	Return %
MICRO FOCUS INTL. (UKIR:MCRO)	-44.4%
AURORA CANNABIS (C:ACB)	-44.0%
CRONOS GROUP (C:CRON)	-43.8%
CANOPY GROWTH (C:WEED)	-43.3%
YANGZIJIANG SHIPBUILDING (HOLDINGS) (T:YSHL)	-38.6%
CIMIC GROUP (A:CIMX)	-31.0%
BLACKBERRY (C:BB)	-29.8%
TECK RESOURCES SUBORDINATE VOTING B (C:TECK.B)	-29.7%
EVRAZ (UKIR:EVR)	-28.0%
KERRY PROPERTIES (K:KERP)	-25.5%

**AQR Performance Attribution vs. MSCI ACWI ex USA Gross**

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.08%	-0.19%	0.01%	0.10%	-7.60%	-4.35%	5.99%	7.08%			
Materials	-0.57%	-0.57%	0.01%	0.00%	-13.78%	-6.31%	7.15%	7.66%			
Industrials	-0.74%	-0.52%	-0.03%	-0.19%	-6.85%	-2.53%	15.01%	12.01%			
Consumer Discretionary	0.50%	0.68%	-0.03%	-0.15%	4.87%	-0.80%	7.43%	11.26%			
Consumer Staples	0.14%	0.19%	-0.08%	0.03%	3.54%	1.48%	7.14%	9.78%			
Health Care	-0.49%	-0.28%	0.23%	-0.44%	-2.21%	1.17%	15.37%	8.26%			
Financials	0.81%	0.84%	0.10%	-0.13%	0.17%	-3.36%	15.21%	21.91%			
Information Technology	-0.36%	-0.31%	0.05%	-0.10%	-1.67%	2.25%	8.55%	8.53%			
Communication Services	0.20%	0.12%	0.08%	0.01%	-1.19%	-2.70%	3.02%	6.88%			
Utilities	-0.13%	-0.01%	0.16%	-0.28%	0.02%	1.36%	9.07%	3.39%			
Real Estate	-0.30%	-0.16%	-0.04%	-0.10%	-7.42%	-2.94%	5.22%	3.23%			
Cash	0.00%	--	--	--	--	--	0.00%	0.00%			
Unclassified	-0.13%	0.00%	-0.10%	-0.04%	-13.86%	--	0.86%	0.00%			
<b>Portfolio</b>	<b>-1.15%</b>	<b>=</b>	<b>-0.22%</b>	<b>+</b>	<b>0.35%</b>	<b>+</b>	<b>-1.28%</b>	<b>-2.89%</b>	<b>-1.74%</b>	<b>100.00%</b>	<b>100.00%</b>

## AQR Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>Europe</b>									
Austria	--	-2.99%	0.00%	0.15%	--	0.00%	0.01%	--	0.01%
Belgium	-5.22%	3.44%	1.48%	0.65%	-0.06%	0.06%	-0.03%	-0.08%	-0.11%
Czech Republic*	--	-9.42%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Denmark	2.96%	-0.89%	2.35%	1.15%	0.05%	0.03%	-0.06%	0.05%	0.07%
Finland	-3.12%	-1.77%	1.16%	0.67%	-0.01%	0.01%	-0.02%	-0.01%	-0.03%
France	-2.52%	-1.63%	8.08%	7.61%	-0.07%	0.01%	-0.02%	0.00%	-0.08%
Germany	-7.40%	-3.97%	8.24%	5.83%	-0.21%	-0.01%	-0.09%	-0.09%	-0.40%
Greece*	--	-2.87%	0.00%	0.08%	--	0.00%	0.00%	--	0.00%
Hungary*	--	-3.88%	0.00%	0.08%	--	0.00%	0.01%	--	0.00%
Ireland	--	-0.55%	0.00%	0.36%	--	-0.01%	0.02%	--	0.00%
Italy	5.07%	0.19%	2.56%	1.55%	0.08%	0.04%	-0.05%	0.05%	0.12%
Luxembourg	16.45%	-1.70%	0.32%	0.00%	0.00%	0.00%	-0.02%	0.07%	0.05%
Netherlands	3.20%	3.65%	3.37%	1.98%	0.00%	0.10%	-0.07%	0.00%	0.02%
Norway	--	-3.30%	0.00%	0.45%	--	-0.01%	0.03%	--	0.02%
Poland*	--	-11.74%	0.00%	0.30%	--	0.02%	0.02%	--	0.04%
Portugal	--	1.88%	0.00%	0.10%	--	-0.01%	0.00%	--	0.00%
Russia*	--	-1.09%	0.00%	1.06%	--	-0.01%	0.03%	--	0.02%
Spain	1.22%	-3.80%	3.14%	1.99%	0.10%	0.00%	-0.06%	0.06%	0.10%
Sweden	-8.82%	-4.84%	2.56%	1.78%	-0.08%	0.00%	-0.04%	-0.03%	-0.15%
Switzerland	2.67%	0.28%	8.66%	6.22%	0.15%	0.04%	-0.06%	0.06%	0.19%
United Kingdom	-5.64%	-2.47%	12.41%	11.22%	-0.37%	0.00%	-0.03%	-0.04%	-0.43%

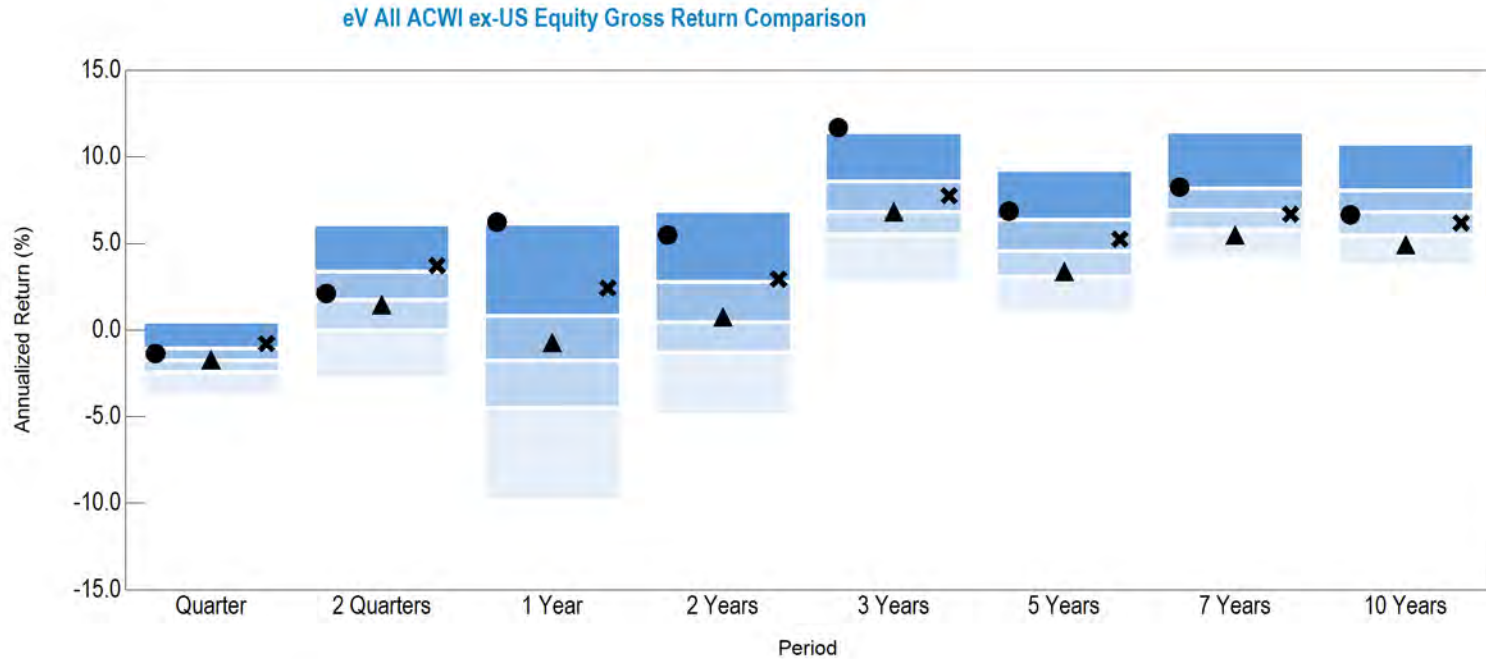
## AQR Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects	
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect		
<b>AsiaPacific</b>										
Australia	-8.12%	-1.33%	4.93%	4.82%	-0.34%	0.00%	0.01%	-0.01%	-0.34%	
China*	--	-4.66%	0.00%	8.38%	--	0.42%	0.04%	--	0.46%	
Hong Kong	-13.23%	-11.94%	3.81%	2.70%	-0.03%	-0.14%	0.00%	-0.01%	-0.19%	
India*	--	-5.23%	0.00%	2.39%	--	0.08%	0.06%	--	0.15%	
Indonesia*	--	-5.30%	0.00%	0.56%	--	0.03%	0.00%	--	0.03%	
Japan	1.25%	3.17%	17.91%	15.97%	-0.31%	0.05%	-0.01%	-0.04%	-0.30%	
Korea*	--	-4.72%	0.00%	3.28%	--	0.07%	0.11%	--	0.18%	
Malaysia*	--	-6.37%	0.00%	0.57%	--	0.03%	0.01%	--	0.04%	
New Zealand	--	-2.73%	0.00%	0.17%	--	-0.01%	0.01%	--	0.01%	
Pakistan*	--	1.22%	0.00%	0.01%	--	0.00%	0.00%	--	0.00%	
Philippines*	--	-4.53%	0.00%	0.30%	--	0.01%	0.00%	--	0.02%	
Singapore	-26.17%	-5.78%	0.93%	0.91%	-0.19%	0.00%	0.00%	0.00%	-0.19%	
Taiwan*	--	5.81%	0.00%	2.89%	--	-0.14%	0.00%	--	-0.14%	
Thailand*	--	-5.91%	0.00%	0.80%	--	0.06%	0.00%	--	0.05%	
<b>Americas</b>										
Argentina*	--	-46.71%	0.00%	0.09%	--	0.04%	0.00%	--	0.04%	
Brazil*	--	-4.65%	0.00%	2.01%	--	-0.06%	0.17%	--	0.11%	
Canada	-3.83%	0.69%	7.54%	6.82%	-0.31%	0.01%	-0.01%	-0.03%	-0.34%	
Chile*	--	-7.47%	0.00%	0.25%	--	0.00%	0.02%	--	0.02%	
Colombia*	--	-6.10%	0.00%	0.11%	--	0.00%	0.01%	--	0.01%	
Mexico*	--	-1.56%	0.00%	0.68%	--	0.00%	0.02%	--	0.02%	
Peru*	--	-9.25%	0.00%	0.11%	--	0.01%	0.00%	--	0.01%	

## AQR Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>Other</b>									
Egypt*	--	7.44%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Israel	--	-3.60%	0.00%	0.39%	--	0.02%	-0.01%	--	0.02%
Qatar*	--	-0.66%	0.00%	0.26%	--	0.00%	0.00%	--	0.00%
Saudi Arabia*	--	-9.73%	0.00%	0.38%	--	0.04%	0.00%	--	0.04%
South Africa*	--	-12.21%	0.00%	1.56%	--	0.10%	0.10%	--	0.20%
Turkey*	--	11.59%	0.00%	0.13%	--	-0.01%	0.00%	--	-0.01%
United Arab Emirates*	--	0.69%	0.00%	0.17%	--	0.00%	0.00%	--	0.00%
<b>Totals</b>									
Americas	-3.83%	-1.34%	7.54%	10.07%	-0.42%	-0.02%	0.21%	0.11%	-0.13%
Europe	-2.25%	-1.79%	54.34%	43.26%	-0.20%	0.13%	-0.42%	-0.05%	-0.54%
Asia/Pacific	-3.34%	-1.30%	27.58%	43.74%	-0.97%	0.16%	0.23%	0.36%	-0.22%
Other	--	-7.62%	0.00%	2.93%	--	0.16%	0.09%	--	0.25%
Cash	0.50%	--	10.54%	0.00%	0.00%	-0.03%	0.00%	0.00%	-0.03%
Unclassified	--	--	0.00%	0.00%	--	0.00%	0.00%	--	0.00%
<b>Total</b>	<b>-2.38%</b>	<b>-1.70%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>-1.59%</b>	<b>0.39%</b>	<b>0.11%</b>	<b>0.42%</b>	<b>-0.68%</b>
<b>Totals</b>									
Developed	-2.72%	-0.85%	89.46%	73.47%	-1.33%	0.16%	-0.48%	-0.29%	-1.94%
Emerging*	--	-4.06%	0.00%	26.53%	--	0.71%	0.58%	--	1.30%
Cash	0.50%	--	10.54%	0.00%	0.00%	-0.03%	0.00%	0.00%	-0.03%





	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	0.49	6.11	6.13	6.88	11.43	9.23	11.46	10.77
25th Percentile	-1.03	3.41	0.86	2.80	8.61	6.38	8.21	8.10
Median	-1.75	1.78	-1.73	0.48	6.84	4.60	6.95	6.84
75th Percentile	-2.43	-0.01	-4.47	-1.27	5.56	3.09	5.83	5.51
95th Percentile	-3.75	-2.82	-9.85	-4.84	2.77	1.02	4.22	3.77
# of Portfolios	286	286	286	281	277	246	213	164
● Capital Group	-1.36 (35)	2.11 (45)	6.24 (5)	5.49 (10)	11.70 (5)	6.88 (20)	8.26 (24)	6.66 (53)
▲ MSCI ACWI ex USA Gross	-1.70 (48)	1.47 (55)	-0.72 (42)	0.76 (47)	6.85 (50)	3.39 (69)	5.50 (82)	4.93 (83)
✕ MSCI ACWI ex USA Growth Gross	-0.79 (20)	3.72 (24)	2.43 (16)	2.95 (24)	7.77 (35)	5.25 (36)	6.71 (57)	6.18 (62)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	191	2,206
Weighted Avg. Market Cap. (\$B)	63.4	64.0
Median Market Cap. (\$B)	17.2	7.3
Price To Earnings	18.4	15.0
Price To Book	3.1	2.3
Price To Sales	1.9	1.2
Return on Equity (%)	17.6	15.0
Yield (%)	2.1	3.3
Beta (holdings; global)	1.0	0.9

Top Holdings

AIRBUS	2.7%
OCADO GROUP	2.7%
HDFC BANK ADR 1:3	2.4%
ENEL	2.3%
ASTRAZENECA	2.3%
AIA GROUP	2.3%
TAIWAN SEMICON.MNFG.	2.1%
PING AN INSURANCE (GROUP) OF CHINA 'H'	2.1%
ICICI BK.ADR 1:2	2.1%
SAMSUNG ELECTRONICS	1.9%

Best Performers

	Return %
ALTICE EUROPE (H:ATC)	45.5%
INTELLIGENT SYSTEMS (INS)	44.3%
GREENE KING (UKIR:GNK)	38.3%
TOKYO ELECTRON (J:RG@N)	36.9%
CAPITA (UKIR:CPI)	33.0%
NAGACORP (K:NAGA)	30.0%
LONDON STOCK EX.GROUP (UKIR:LSE)	29.4%
HDFC LIFE INSURANCE COMPANY (IN:HDS)	26.2%
TMX GROUP (C:X)	24.5%
AKBANK (TK:AKB)	22.3%

Worst Performers

	Return %
LOMA NEGRA SPN.ADR 1:5 (LOMA)	-50.9%
BORR DRILLING (N:BDRR)	-46.4%
MICRO FOCUS INTL. (UKIR:MCRO)	-44.4%
VALARIS A (VAL)	-43.6%
NOAH HOLDINGS 'A' 2:1 ADR (NOAH)	-31.4%
GOLAR LNG (NAS) (GLNG)	-29.7%
DISCOVERY (R:DSYJ)	-28.9%
SURYA CITRA MEDIA (ID:SCM)	-28.3%
AIB GROUP (UKIR:A5G)	-27.5%
MODERN TIMES GROUP MTG B (W:MOTB)	-26.0%

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.18%	-0.28%	0.11%	0.35%	-7.33%	-4.37%	2.33%	7.11%			
Materials	0.36%	-0.04%	0.19%	0.21%	-4.86%	-6.29%	3.34%	7.69%			
Industrials	0.17%	0.26%	0.00%	-0.09%	-1.08%	-2.48%	12.23%	12.07%			
Consumer Discretionary	-0.28%	-0.09%	0.03%	-0.22%	-2.20%	-0.74%	15.26%	11.32%			
Consumer Staples	0.11%	0.21%	-0.07%	-0.04%	3.29%	1.68%	7.54%	9.40%			
Health Care	0.09%	0.14%	-0.03%	-0.02%	2.44%	1.15%	7.47%	8.30%			
Financials	-0.05%	-0.32%	-0.01%	0.27%	-3.53%	-3.36%	22.34%	22.00%			
Information Technology	-0.07%	-0.09%	0.12%	-0.09%	1.35%	2.35%	11.86%	8.54%			
Communication Services	0.10%	0.08%	0.02%	0.00%	-1.72%	-2.74%	5.69%	6.92%			
Utilities	0.23%	0.27%	0.01%	-0.04%	7.84%	1.38%	3.60%	3.40%			
Real Estate	-0.18%	-0.06%	-0.05%	-0.07%	-4.73%	-2.97%	5.48%	3.25%			
Cash	-0.01%	0.00%	-0.01%	0.00%	0.50%	--	2.86%	0.00%			
<b>Portfolio</b>	<b>0.64%</b>	<b>=</b>	<b>0.07%</b>	<b>+</b>	<b>0.31%</b>	<b>+</b>	<b>0.26%</b>	<b>-1.06%</b>	<b>-1.70%</b>	<b>100.00%</b>	<b>100.00%</b>

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

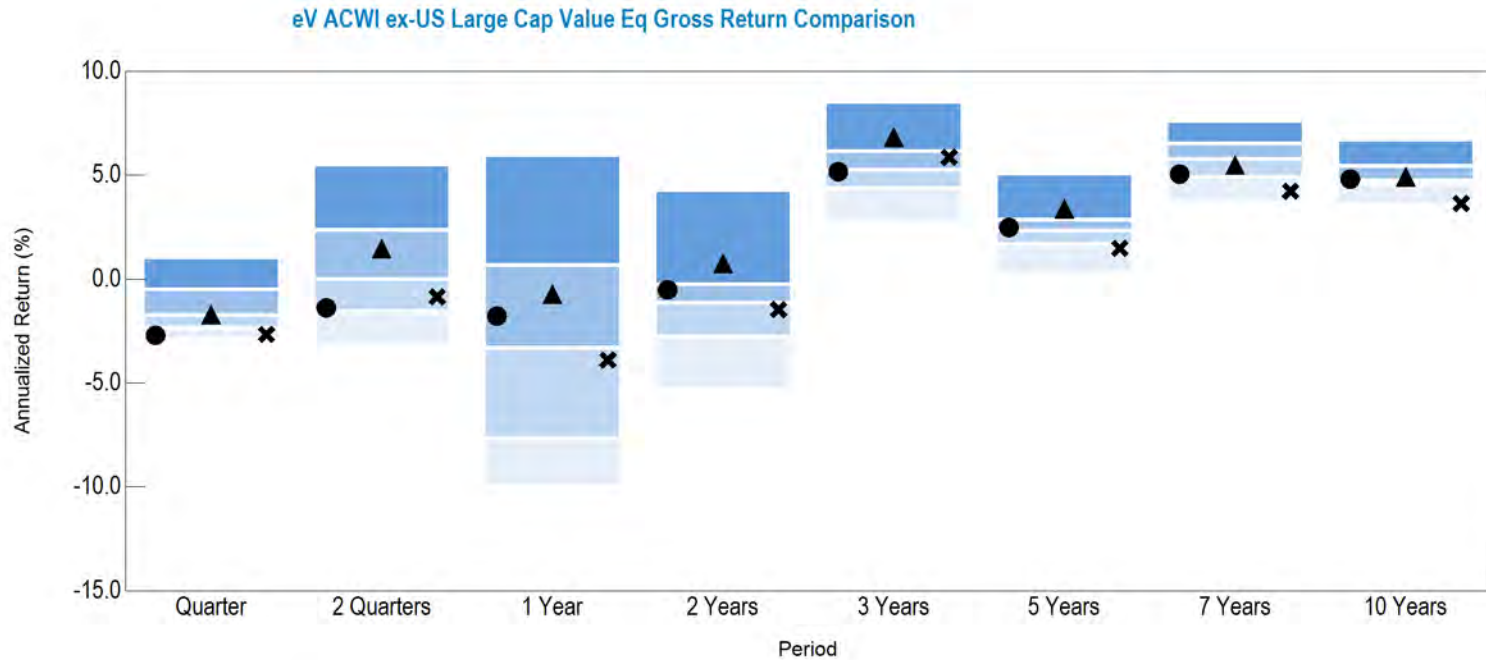
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>Europe</b>									
Austria	--	-2.99%	0.00%	0.15%	--	0.00%	0.01%	--	0.01%
Belgium	18.73%	3.44%	0.12%	0.65%	0.10%	-0.04%	0.02%	-0.09%	0.00%
Czech Republic*	--	-9.42%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Denmark	7.21%	-0.89%	3.30%	1.15%	0.10%	0.06%	-0.11%	0.18%	0.23%
Finland	--	-1.77%	0.00%	0.67%	--	-0.01%	0.03%	--	0.02%
France	-2.72%	-1.63%	11.49%	7.61%	-0.09%	0.08%	-0.16%	-0.04%	-0.22%
Germany	-1.76%	-3.97%	6.63%	5.83%	0.14%	0.00%	-0.04%	0.02%	0.11%
Greece*	--	-2.87%	0.00%	0.08%	--	0.00%	0.00%	--	0.00%
Hungary*	--	-3.88%	0.00%	0.08%	--	0.00%	0.01%	--	0.00%
Ireland	-19.00%	-0.55%	0.28%	0.36%	-0.07%	0.00%	0.01%	0.02%	-0.05%
Italy	9.20%	0.19%	2.11%	1.55%	0.15%	0.02%	-0.03%	0.05%	0.19%
Netherlands	13.88%	3.65%	2.10%	1.98%	0.22%	0.01%	-0.03%	0.01%	0.22%
Norway	-7.21%	-3.30%	0.55%	0.45%	-0.02%	0.00%	0.00%	0.00%	-0.03%
Poland*	--	-11.74%	0.00%	0.30%	--	0.02%	0.02%	--	0.04%
Portugal	--	1.88%	0.00%	0.10%	--	-0.01%	0.00%	--	0.00%
Russia*	-6.09%	-1.09%	1.03%	1.06%	-0.08%	0.00%	0.03%	0.00%	-0.05%
Spain	6.27%	-3.80%	1.33%	1.99%	0.21%	0.00%	0.02%	-0.07%	0.16%
Sweden	-2.41%	-4.84%	1.04%	1.78%	0.05%	0.00%	0.04%	-0.02%	0.07%
Switzerland	-1.93%	0.28%	2.94%	6.22%	-0.14%	-0.06%	0.08%	0.07%	-0.05%
United Kingdom	2.41%	-2.47%	13.70%	11.22%	0.56%	0.00%	-0.09%	0.12%	0.59%

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>AsiaPacific</b>									
Australia	-6.87%	-1.33%	0.27%	4.82%	-0.28%	-0.08%	0.18%	0.26%	0.08%
China*	-7.31%	-4.66%	6.48%	8.38%	-0.24%	0.10%	0.02%	0.05%	-0.07%
Hong Kong	-9.14%	-11.94%	8.67%	2.70%	0.08%	-0.75%	-0.03%	0.18%	-0.52%
India*	-4.47%	-5.23%	5.20%	2.39%	0.00%	-0.10%	-0.03%	0.00%	-0.13%
Indonesia*	-4.20%	-5.30%	2.65%	0.56%	0.01%	-0.12%	-0.01%	0.02%	-0.10%
Japan	1.29%	3.17%	10.33%	15.97%	-0.30%	-0.15%	0.02%	0.11%	-0.33%
Korea*	0.28%	-4.72%	1.95%	3.28%	0.17%	0.03%	0.04%	-0.07%	0.17%
Malaysia*	--	-6.37%	0.00%	0.57%	--	0.03%	0.01%	--	0.04%
New Zealand	-1.22%	-2.73%	0.12%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%
Pakistan*	--	1.22%	0.00%	0.01%	--	0.00%	0.00%	--	0.00%
Philippines*	-5.00%	-4.53%	0.26%	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%
Singapore	-5.86%	-5.78%	0.86%	0.91%	0.00%	0.00%	0.00%	0.00%	0.00%
Taiwan*	14.29%	5.81%	3.09%	2.89%	0.25%	0.01%	0.00%	0.02%	0.27%
Thailand*	7.10%	-5.91%	0.14%	0.80%	0.10%	0.05%	0.00%	-0.09%	0.06%
<b>Americas</b>									
Argentina*	--	-46.71%	0.00%	0.09%	--	0.04%	0.00%	--	0.04%
Brazil*	-7.82%	-4.65%	3.48%	2.01%	-0.16%	0.04%	0.04%	-0.11%	-0.19%
Canada	10.10%	0.69%	0.86%	6.82%	0.65%	-0.07%	0.08%	-0.57%	0.09%
Chile*	--	-7.47%	0.00%	0.25%	--	0.00%	0.02%	--	0.02%
Colombia*	--	-6.10%	0.00%	0.11%	--	0.00%	0.01%	--	0.01%
Mexico*	3.38%	-1.56%	0.54%	0.68%	0.01%	0.00%	0.02%	0.00%	0.03%
Peru*	--	-9.25%	0.00%	0.11%	--	0.01%	0.00%	--	0.01%
United States	-6.74%	1.60%	2.52%	0.00%	0.00%	0.02%	0.00%	-0.21%	-0.19%

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>Other</b>									
Egypt*	--	7.44%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Israel	1.37%	-3.60%	1.13%	0.39%	0.02%	-0.04%	0.02%	0.03%	0.02%
Qatar*	--	-0.66%	0.00%	0.26%	--	0.00%	0.00%	--	0.00%
Saudi Arabia*	--	-9.73%	0.00%	0.38%	--	0.04%	0.00%	--	0.04%
South Africa*	-15.63%	-12.21%	1.51%	1.56%	-0.06%	0.00%	0.01%	0.00%	-0.05%
Turkey*	22.32%	11.59%	0.44%	0.13%	0.01%	0.02%	0.01%	0.03%	0.08%
United Arab Emirates*	--	0.69%	0.00%	0.17%	--	0.00%	0.00%	--	0.00%
<b>Totals</b>									
Americas	-4.57%	-1.34%	7.40%	10.07%	-0.43%	-0.02%	0.16%	0.12%	-0.18%
Europe	1.06%	-1.79%	46.63%	43.26%	1.30%	0.04%	-0.20%	0.10%	1.24%
Asia/Pacific	-2.76%	-1.30%	40.03%	43.74%	-0.82%	0.04%	0.21%	0.07%	-0.51%
Other	-3.97%	-7.62%	3.08%	2.93%	0.07%	-0.01%	0.04%	0.00%	0.10%
Cash	0.50%	--	2.86%	0.00%	0.00%	-0.01%	0.00%	0.00%	-0.01%
Unclassified	--	--	0.00%	0.00%	--	0.00%	0.00%	--	0.00%
<b>Total</b>	<b>-1.06%</b>	<b>-1.70%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>0.10%</b>	<b>0.04%</b>	<b>0.21%</b>	<b>0.29%</b>	<b>0.64%</b>
<b>Totals</b>									
Developed	-0.35%	-0.85%	70.37%	73.47%	0.43%	-0.03%	0.03%	-0.02%	0.41%
Emerging*	-3.10%	-4.06%	26.77%	26.53%	0.06%	-0.01%	0.19%	0.00%	0.25%
Cash	0.50%	--	2.86%	0.00%	0.00%	-0.01%	0.00%	0.00%	-0.01%



	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	1.03	5.50	5.96	4.27	8.53	5.07	7.61	6.72
25th Percentile	-0.48	2.38	0.70	-0.24	6.18	2.87	6.55	5.47
Median	-1.69	0.01	-3.26	-1.11	5.28	2.36	5.83	4.76
75th Percentile	-2.33	-1.51	-7.64	-2.75	4.39	1.72	4.95	4.64
95th Percentile	-2.88	-3.15	-9.92	-5.27	2.84	0.26	3.71	3.61
# of Portfolios	22	22	22	22	22	21	17	13
● Mondrian	-2.70 (91)	-1.38 (74)	-1.78 (41)	-0.51 (45)	5.17 (58)	2.49 (45)	5.05 (68)	4.82 (48)
▲ MSCI ACWI ex USA Gross	-1.70 (51)	1.47 (29)	-0.72 (36)	0.76 (19)	6.85 (14)	3.39 (14)	5.50 (57)	4.93 (44)
✕ MSCI ACWI ex USA Value Gross	-2.66 (89)	-0.85 (66)	-3.89 (55)	-1.47 (53)	5.87 (31)	1.48 (78)	4.23 (92)	3.64 (94)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	52	2,206
Weighted Avg. Market Cap. (\$B)	47.4	64.0
Median Market Cap. (\$B)	29.1	7.3
Price To Earnings	15.0	15.0
Price To Book	1.6	2.3
Price To Sales	0.7	1.2
Return on Equity (%)	8.4	15.0
Yield (%)	4.5	3.3
Beta (holdings; global)	1.0	0.9

Top Holdings

UNITED OVERSEAS BANK	3.1%
TELIA COMPANY	3.0%
GLAXOSMITHKLINE	3.0%
SAINT GOBAIN	2.9%
CK HUTCHISON HOLDINGS	2.9%
SANOFI	2.9%
SSE	2.9%
ALLIANZ	2.9%
ROYAL DUTCH SHELL A	2.9%
LLOYDS BANKING GROUP	2.9%

Best Performers

	Return %
FUJITSU (J:FT@N)	15.9%
OTSUKA HOLDINGS (J:OTHD)	14.5%
SSE (UKIR:SSE)	14.3%
KONINKLIJKE AHOLD DELHAIZE (H:AD)	12.7%
KYUSHU RAILWAY (J:KRWC)	10.8%
ZURICH INSURANCE GROUP (S:ZURN)	9.9%
ENEL (I:ENEL)	9.2%
TOKIO MARINE HOLDINGS (J:MIHO)	8.4%
GLAXOSMITHKLINE (UKIR:GSK)	8.4%
SOCIETE GENERALE (F:SGE)	8.3%

Worst Performers

	Return %
ISS (DK:ISS)	-18.1%
WOOD GROUP (JOHN) (UKIR:WG.)	-16.5%
EVONIK INDUSTRIES (D:EVK)	-15.0%
FUJIFILM HOLDINGS (J:FP@N)	-12.6%
BANCO SANTANDER (E:SAN)	-12.3%
CONTINENTAL (D:CON)	-11.9%
COCA-COLA BOTTLERS JAPAN HOLDINGS (J:KITK)	-11.5%
DAIMLER (D:DAI)	-11.1%
BMW PREF. (D:BMW3)	-10.6%
SINGAPORE TELECOM (T:TELC)	-10.5%



**Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross**

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.53%	-0.20%	-0.06%	-0.26%	-8.49%	-4.35%	9.66%	7.08%			
Materials	0.28%	-0.56%	0.25%	0.58%	-15.04%	-6.31%	1.67%	7.66%			
Industrials	-0.42%	-0.28%	-0.02%	-0.11%	-4.69%	-2.53%	15.18%	12.01%			
Consumer Discretionary	-0.55%	-0.47%	0.01%	-0.08%	-5.07%	-0.80%	12.35%	11.26%			
Consumer Staples	-0.14%	-0.25%	-0.16%	0.27%	-1.20%	1.48%	5.00%	9.78%			
Health Care	0.28%	0.16%	0.10%	0.02%	3.48%	1.17%	11.38%	8.26%			
Financials	0.58%	0.60%	0.07%	-0.09%	-1.09%	-3.36%	18.14%	21.91%			
Information Technology	-0.33%	-0.57%	-0.09%	0.32%	-2.79%	2.25%	5.66%	8.53%			
Communication Services	0.01%	0.21%	-0.05%	-0.15%	-1.45%	-2.70%	10.11%	6.88%			
Utilities	0.65%	0.30%	0.17%	0.18%	10.03%	1.36%	8.36%	3.39%			
Real Estate	0.12%	0.12%	0.03%	-0.03%	0.79%	-2.94%	2.21%	3.23%			
Cash	0.00%	--	--	--	--	--	0.00%	0.00%			
Unclassified	-0.01%	0.00%	0.00%	0.00%	-1.43%	--	0.30%	0.00%			
<b>Portfolio</b>	<b>-0.07%</b>	<b>=</b>	<b>-0.94%</b>	<b>+</b>	<b>0.23%</b>	<b>+</b>	<b>0.64%</b>	<b>-1.81%</b>	<b>-1.74%</b>	<b>100.00%</b>	<b>100.00%</b>

Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross

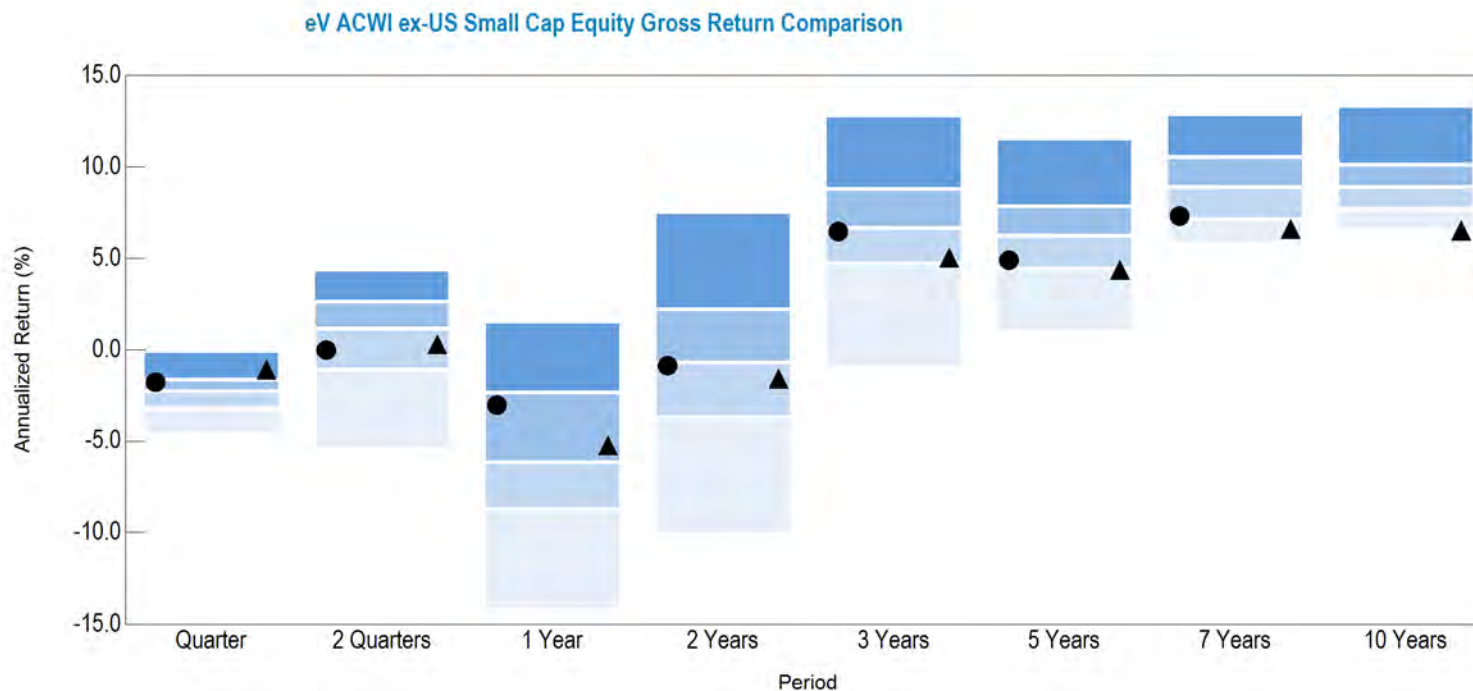
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>Europe</b>									
Austria	--	-2.99%	0.00%	0.15%	--	0.00%	0.01%	--	0.01%
Belgium	--	3.44%	0.00%	0.65%	--	-0.05%	0.03%	--	-0.02%
Czech Republic*	--	-9.42%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Denmark	-18.12%	-0.89%	1.86%	1.15%	-0.21%	0.02%	-0.02%	-0.13%	-0.33%
Finland	--	-1.77%	0.00%	0.67%	--	-0.01%	0.03%	--	0.02%
France	4.70%	-1.63%	7.02%	7.61%	0.50%	-0.01%	0.01%	-0.04%	0.46%
Germany	-8.07%	-3.97%	11.18%	5.83%	-0.25%	-0.03%	-0.21%	-0.23%	-0.72%
Greece*	--	-2.87%	0.00%	0.08%	--	0.00%	0.00%	--	0.00%
Hungary*	--	-3.88%	0.00%	0.08%	--	0.00%	0.01%	--	0.00%
Ireland	--	-0.55%	0.00%	0.36%	--	-0.01%	0.02%	--	0.00%
Italy	2.35%	0.19%	6.02%	1.55%	0.04%	0.17%	-0.21%	0.10%	0.10%
Netherlands	-4.86%	3.65%	3.81%	1.98%	-0.16%	0.13%	-0.08%	-0.15%	-0.27%
Norway	--	-3.30%	0.00%	0.45%	--	-0.01%	0.03%	--	0.02%
Poland*	--	-11.74%	0.00%	0.30%	--	0.02%	0.02%	--	0.04%
Portugal	--	1.88%	0.00%	0.10%	--	-0.01%	0.00%	--	0.00%
Russia*	--	-1.09%	0.00%	1.06%	--	-0.01%	0.03%	--	0.02%
Spain	-6.03%	-3.80%	4.06%	1.99%	-0.05%	-0.01%	-0.08%	-0.05%	-0.19%
Sweden	0.84%	-4.84%	2.79%	1.78%	0.11%	0.00%	-0.07%	0.06%	0.10%
Switzerland	0.06%	0.28%	6.39%	6.22%	-0.01%	0.00%	0.00%	0.00%	-0.01%
United Kingdom	-0.59%	-2.47%	21.48%	11.22%	0.22%	-0.01%	-0.34%	0.20%	0.06%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>AsiaPacific</b>									
Australia	4.12%	-1.33%	1.22%	4.82%	0.27%	-0.07%	0.14%	-0.20%	0.14%
China*	--	-4.66%	0.00%	8.38%	--	0.42%	0.04%	--	0.46%
Hong Kong	-9.27%	-11.94%	2.64%	2.70%	0.07%	0.01%	0.00%	0.00%	0.08%
India*	--	-5.23%	0.00%	2.39%	--	0.08%	0.06%	--	0.15%
Indonesia*	--	-5.30%	0.00%	0.56%	--	0.03%	0.00%	--	0.03%
Japan	0.42%	3.17%	22.80%	15.97%	-0.44%	0.18%	-0.02%	-0.19%	-0.47%
Korea*	--	-4.72%	0.00%	3.28%	--	0.07%	0.11%	--	0.18%
Malaysia*	--	-6.37%	0.00%	0.57%	--	0.03%	0.01%	--	0.04%
New Zealand	--	-2.73%	0.00%	0.17%	--	-0.01%	0.01%	--	0.01%
Pakistan*	--	1.22%	0.00%	0.01%	--	0.00%	0.00%	--	0.00%
Philippines*	--	-4.53%	0.00%	0.30%	--	0.01%	0.00%	--	0.02%
Singapore	-4.26%	-5.78%	5.28%	0.91%	0.01%	-0.20%	-0.09%	0.07%	-0.21%
Taiwan*	--	5.81%	0.00%	2.89%	--	-0.14%	0.00%	--	-0.14%
Thailand*	--	-5.91%	0.00%	0.80%	--	0.06%	0.00%	--	0.05%
<b>Americas</b>									
Argentina*	--	-46.71%	0.00%	0.09%	--	0.04%	0.00%	--	0.04%
Brazil*	--	-4.65%	0.00%	2.01%	--	-0.06%	0.17%	--	0.11%
Canada	1.47%	0.69%	1.52%	6.82%	0.05%	-0.06%	0.07%	-0.04%	0.02%
Chile*	--	-7.47%	0.00%	0.25%	--	0.00%	0.02%	--	0.02%
Colombia*	--	-6.10%	0.00%	0.11%	--	0.00%	0.01%	--	0.01%
Mexico*	--	-1.56%	0.00%	0.68%	--	0.00%	0.02%	--	0.02%
Peru*	--	-9.25%	0.00%	0.11%	--	0.01%	0.00%	--	0.01%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>Other</b>									
Egypt*	--	7.44%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Israel	--	-3.60%	0.00%	0.39%	--	0.02%	-0.01%	--	0.02%
Qatar*	--	-0.66%	0.00%	0.26%	--	0.00%	0.00%	--	0.00%
Saudi Arabia*	--	-9.73%	0.00%	0.38%	--	0.04%	0.00%	--	0.04%
South Africa*	--	-12.21%	0.00%	1.56%	--	0.10%	0.10%	--	0.20%
Turkey*	--	11.59%	0.00%	0.13%	--	-0.01%	0.00%	--	-0.01%
United Arab Emirates*	--	0.69%	0.00%	0.17%	--	0.00%	0.00%	--	0.00%
<b>Totals</b>									
Americas	1.47%	-1.34%	1.52%	10.07%	0.12%	-0.07%	0.28%	-0.10%	0.23%
Europe	-2.01%	-1.79%	64.61%	43.26%	-0.08%	0.25%	-0.83%	-0.04%	-0.70%
Asia/Pacific	-1.01%	-1.30%	31.95%	43.74%	-0.04%	0.12%	0.26%	0.01%	0.34%
Other	--	-7.62%	0.00%	2.93%	--	0.16%	0.09%	--	0.25%
Cash	0.50%	--	1.92%	0.00%	0.00%	-0.01%	0.00%	0.00%	-0.01%
Unclassified	--	--	0.00%	0.00%	--	0.00%	0.00%	--	0.00%
<b>Total</b>	<b>-1.59%</b>	<b>-1.70%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>	<b>0.45%</b>	<b>-0.20%</b>	<b>-0.13%</b>	<b>0.11%</b>
<b>Totals</b>									
Developed	-1.63%	-0.85%	98.08%	73.47%	-0.47%	0.24%	-0.79%	-0.16%	-1.18%
Emerging*	--	-4.06%	0.00%	26.53%	--	0.71%	0.58%	--	1.30%
Cash	0.50%	--	1.92%	0.00%	0.00%	-0.01%	0.00%	0.00%	-0.01%



	Quarter		2 Quarters		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
<b>5th Percentile</b>	-0.09		4.37		1.54		7.53		12.80		11.55		12.87		13.34	
<b>25th Percentile</b>	-1.62		2.65		-2.33		2.23		8.80		7.86		10.58		10.15	
<b>Median</b>	-2.26		1.19		-6.15		-0.67		6.68		6.24		8.92		8.91	
<b>75th Percentile</b>	-3.17		-1.07		-8.69		-3.65		4.76		4.46		7.16		7.73	
<b>95th Percentile</b>	-4.58		-5.36		-14.15		-10.09		-0.95		0.99		5.87		6.57	
<b># of Portfolios</b>	51		51		51		49		48		40		31		24	
<b>● Templeton</b>	-1.78	(31)	-0.02	(67)	-3.03	(35)	-0.87	(55)	6.46	(56)	4.90	(70)	7.31	(74)	--	(--)
<b>▲ MSCI ACWI ex US Small Cap Gross</b>	-1.09	(17)	0.29	(62)	-5.24	(49)	-1.57	(60)	5.04	(73)	4.37	(76)	6.61	(82)	6.51	(96)

Characteristics

	Portfolio	MSCI ACWI ex US Small Cap Gross
Number of Holdings	105	4,168
Weighted Avg. Market Cap. (\$B)	2.3	2.3
Median Market Cap. (\$B)	1.4	0.8
Price To Earnings	15.4	15.0
Price To Book	2.1	2.1
Price To Sales	1.0	0.9
Return on Equity (%)	12.2	11.7
Yield (%)	2.6	2.8
Beta (holdings; global)	1.0	0.9

Top Holdings

TECHNOGYM	2.1%
ONESP WORLD HOLDINGS	2.1%
HUHTAMAKI	2.0%
BARCO NEW	1.9%
TECHTRONIC INDS.	1.9%
INTERPUMP GROUP	1.8%
RATIONAL	1.8%
GREGGS	1.7%
MEITEC	1.7%
FUJI OIL HOLDINGS	1.7%

Best Performers

	Return %
IDOM (J:GULL)	64.1%
ASICS (J:FD@N)	57.6%
SQUARE ENIX HOLDINGS (J:ENIX)	52.0%
KING YUAN ELTN. (TW:KYE)	36.0%
POSTNL (H:PNL)	34.5%
NISSEI ASB MACHINE (J:NASB)	33.4%
ZOJIRUSHI (J:ZOJR)	23.8%
CHICONY ELECTRONICS (TW:CHY)	19.8%
SAO PAULO ALPARGATAS PN (BR:AL4)	16.8%
BELLWAY (UKIR:BWY)	16.3%

Worst Performers

	Return %
GOODBABY INTL.HOLDINGS (K:GBIH)	-33.6%
MAISONS DU MONDE (F:MDM)	-32.2%
MATAS (DK:MAT)	-32.1%
CHINA ZHENG TONG AUTO SVS. (K:CZTA)	-27.8%
XXL (N:XXL)	-25.5%
DE LA RUE ORD (UKIR:DLAR)	-25.1%
DESCENTE (J:DCNT)	-24.7%
VALUE PARTNERS GROUP (K:VALP)	-24.4%
CCC (PO:CCC)	-23.4%
THULE GROUP (W:THULE)	-23.3%

Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Total Effects	Attribution Effects				Returns		Sector Weights					
		Selection Effect	Allocation Effect	Currency Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark				
Energy	0.01%	-0.30%	0.08%	0.05%	0.18%	-13.59%	-5.10%	1.42%	3.48%				
Materials	0.30%	0.11%	0.15%	0.09%	-0.05%	-3.61%	-4.25%	5.58%	10.22%				
Industrials	0.17%	0.36%	-0.14%	-0.18%	0.13%	-1.21%	-3.06%	26.73%	19.58%				
Consumer Discretionary	-1.28%	-0.45%	0.09%	-0.42%	-0.50%	-4.36%	-0.34%	25.86%	12.26%				
Consumer Staples	-0.40%	-0.22%	-0.01%	-0.12%	-0.06%	-5.75%	-1.32%	8.00%	6.36%				
Health Care	0.08%	-0.14%	0.05%	0.12%	0.05%	-4.19%	-3.29%	4.68%	7.19%				
Financials	0.13%	0.04%	0.00%	0.08%	0.00%	-2.41%	-3.56%	10.56%	10.73%				
Information Technology	0.19%	0.07%	0.08%	0.03%	0.02%	3.94%	2.66%	12.73%	10.21%				
Communication Services	0.50%	1.49%	-0.05%	0.13%	-1.07%	33.87%	0.06%	1.33%	4.73%				
Utilities	0.03%	--	-0.10%	0.13%	--	--	0.53%	0.00%	3.40%				
Real Estate	-0.37%	-0.17%	-0.58%	0.23%	0.14%	3.26%	4.91%	2.05%	11.83%				
Cash	0.00%	--	--	--	--	--	--	0.00%	0.00%				
Unclassified	-0.02%	0.00%	0.00%	0.00%	-0.02%	-0.30%	-1.08%	1.05%	0.00%				
<b>Portfolio</b>	<b>-0.66%</b>	<b>=</b>	<b>0.80%</b>	<b>+</b>	<b>-0.42%</b>	<b>+</b>	<b>0.14%</b>	<b>+</b>	<b>-1.18%</b>	<b>-1.74%</b>	<b>-1.08%</b>	<b>100.00%</b>	<b>100.00%</b>

Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>Europe</b>									
Austria	--	-3.12%	0.00%	0.64%	--	0.00%	0.03%	--	0.03%
Belgium	-0.79%	4.16%	2.81%	1.52%	-0.08%	0.09%	-0.05%	-0.07%	-0.10%
Czech Republic*	--	0.60%	0.00%	0.02%	--	0.00%	0.00%	--	0.00%
Denmark	-22.99%	-7.28%	1.48%	1.30%	-0.21%	-0.01%	0.00%	-0.03%	-0.25%
Finland	-1.01%	-5.72%	2.36%	0.98%	0.05%	-0.04%	-0.06%	0.07%	0.01%
France	-11.11%	-2.59%	1.21%	2.49%	-0.22%	0.00%	0.06%	0.11%	-0.05%
Germany	-3.69%	-4.71%	6.67%	4.23%	0.05%	-0.05%	-0.11%	0.03%	-0.08%
Greece*	--	-0.95%	0.00%	0.16%	--	0.00%	0.01%	--	0.00%
Hungary*	--	-7.22%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Ireland	--	-7.84%	0.00%	0.33%	--	0.02%	0.01%	--	0.03%
Italy	1.56%	-1.40%	3.91%	2.53%	0.08%	0.02%	-0.07%	0.04%	0.08%
Luxembourg	-2.26%	-1.08%	1.20%	0.00%	0.00%	0.00%	-0.05%	0.01%	-0.04%
Netherlands	0.54%	-2.55%	6.04%	1.98%	0.07%	-0.01%	-0.20%	0.15%	0.02%
Norway	-25.50%	-6.29%	0.26%	1.61%	-0.33%	0.02%	0.09%	0.28%	0.06%
Poland*	-23.42%	-17.63%	0.68%	0.23%	-0.01%	-0.06%	-0.02%	-0.03%	-0.12%
Portugal	--	-14.95%	0.00%	0.27%	--	0.03%	0.01%	--	0.04%
Russia*	--	-6.72%	0.00%	0.24%	--	0.01%	0.01%	--	0.02%
Spain	0.48%	-6.47%	1.42%	1.61%	0.12%	0.01%	0.00%	-0.01%	0.11%
Sweden	-17.04%	-3.89%	5.69%	4.23%	-0.59%	0.01%	-0.04%	-0.20%	-0.83%
Switzerland	-2.22%	-1.49%	3.68%	3.46%	-0.04%	0.00%	0.02%	0.00%	-0.03%
United Kingdom	-1.62%	-1.07%	7.01%	12.65%	-0.07%	-0.04%	0.19%	0.03%	0.10%



Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>AsiaPacific</b>									
Australia	--	-0.64%	0.00%	5.62%	--	-0.11%	0.23%	--	0.12%
China*	-11.46%	-7.74%	0.51%	2.28%	-0.08%	0.16%	0.00%	0.07%	0.14%
Hong Kong	-10.86%	-7.69%	8.13%	1.42%	-0.05%	-0.59%	-0.02%	-0.21%	-0.87%
India*	-16.14%	-9.67%	1.23%	3.23%	-0.21%	0.17%	0.05%	0.13%	0.14%
Indonesia*	14.89%	-6.17%	0.65%	0.52%	0.11%	-0.01%	0.00%	0.03%	0.13%
Japan	6.88%	4.06%	20.68%	21.85%	0.62%	-0.03%	0.00%	-0.03%	0.55%
Korea*	-9.96%	-10.01%	1.96%	3.43%	0.00%	0.12%	0.05%	0.00%	0.17%
Malaysia*	--	-2.36%	0.00%	0.68%	--	0.02%	0.01%	--	0.03%
New Zealand	--	-1.67%	0.00%	0.73%	--	-0.03%	0.05%	--	0.02%
Pakistan*	--	-1.83%	0.00%	0.11%	--	0.01%	0.00%	--	0.00%
Philippines*	--	-8.69%	0.00%	0.21%	--	0.02%	0.00%	--	0.02%
Singapore	--	-1.62%	0.00%	1.29%	--	0.01%	0.03%	--	0.04%
Taiwan*	9.81%	4.84%	7.29%	4.08%	0.20%	0.11%	0.00%	0.16%	0.47%
Thailand*	--	-7.35%	0.00%	1.08%	--	0.10%	0.00%	--	0.09%
<b>Americas</b>									
Argentina*	--	-39.07%	0.00%	0.17%	--	0.07%	0.00%	--	0.07%
Brazil*	-3.84%	0.98%	3.84%	1.67%	-0.09%	0.18%	-0.17%	-0.11%	-0.20%
Canada	-3.27%	1.74%	5.85%	6.85%	-0.35%	-0.02%	0.02%	0.05%	-0.30%
Chile*	--	-9.53%	0.00%	0.33%	--	0.01%	0.02%	--	0.04%
Colombia*	--	-1.87%	0.00%	0.06%	--	0.00%	0.01%	--	0.00%
Mexico*	--	-0.71%	0.00%	0.60%	--	0.00%	0.02%	--	0.01%
United States	-3.99%	1.60%	5.42%	0.00%	0.00%	0.01%	0.00%	-0.30%	-0.29%

Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>Other</b>									
Egypt*	--	-0.56%	0.00%	0.13%	--	0.01%	0.00%	--	0.00%
Israel	--	8.08%	0.00%	1.15%	--	-0.05%	-0.03%	--	-0.08%
Qatar*	--	-1.09%	0.00%	0.24%	--	0.01%	0.00%	--	0.01%
Saudi Arabia*	--	7.09%	0.00%	0.25%	--	-0.01%	0.00%	--	-0.01%
South Africa*	--	-3.26%	0.00%	1.14%	--	-0.03%	0.08%	--	0.05%
Turkey*	--	9.26%	0.00%	0.26%	--	-0.01%	-0.01%	--	-0.02%
United Arab Emirates*	--	6.78%	0.00%	0.13%	--	-0.01%	0.00%	--	-0.01%
<b>Totals</b>									
Americas	-3.67%	0.33%	15.11%	9.68%	-0.41%	0.10%	-0.12%	-0.23%	-0.67%
Europe	-4.69%	-2.81%	44.44%	40.51%	-0.74%	-0.01%	-0.18%	-0.07%	-1.00%
Asia/Pacific	2.23%	-0.16%	40.45%	46.52%	0.74%	0.02%	0.40%	-0.10%	1.06%
Other	--	3.11%	0.00%	3.29%	--	-0.10%	0.04%	--	-0.05%
<b>Total</b>	<b>-1.74%</b>	<b>-1.08%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>-0.41%</b>	<b>0.01%</b>	<b>0.14%</b>	<b>-0.40%</b>	<b>-0.66%</b>
<b>Totals</b>									
Developed	-2.14%	-0.20%	83.83%	78.73%	-1.74%	0.05%	0.10%	-0.11%	-1.71%
Emerging*	0.33%	-4.33%	16.17%	21.27%	1.09%	0.18%	0.04%	-0.26%	1.05%

# Interest rate environment

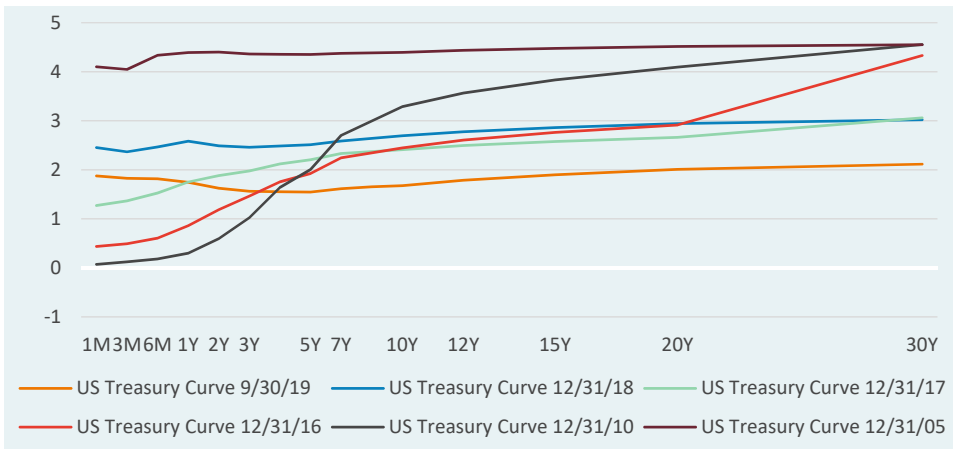
- Global sovereign bonds rallied, encouraged by muted inflation expectations and dovish guidance from global central banks. Central bankers appealed for fiscal action, citing the limited capacity of monetary policy to sustain further economic expansion.
- The Federal Open Market Committee cut the range for its benchmark interest rate by 0.25% in both its July and September meetings, bringing the new range for federal funds to 1.75-2.00%.
- FOMC members appear divided on the likely future path of interest rates. Per the September dot plot, 8 of 17 members expect one further 0.25% cut by the end of 2020, 2 expect no change, and 7 expect either one or two 0.25% rate hikes.
- The European Central Bank delivered a fresh stimulus package in September, in line with expectations. The ECB cut its main deposit rate from -0.40% to -0.50% and announced it would restart asset purchases of €20 billion per month, beginning November 1<sup>st</sup>.
- Global sovereign yields continued to plummet. In Germany, 10-year bond yields touched fresh all-time lows, and the entire German sovereign curve moved below 0%. In Italy, 10-year bond yields fell 1.28% to 0.82%, boosted by the formation of a new coalition government between the Democratic Party and the Five-Star Movement.
- Repo rates, which represent the overnight rate paid by short-term borrowers of cash, surged as overnight liquidity was constrained. The New York Fed intervened, injecting over \$300 billion into money markets over the course of a few weeks. Fed officials viewed the brief spike in repo rates as a financial “plumbing” issue, which could justify an “organic resumption of balance sheet growth”, not to be confused with crisis-era QE policy.

Area	Short Term (3M)	10-Year
United States	1.81%	1.66%
Germany	(0.57%)	(0.57%)
France	(0.59%)	(0.27%)
Spain	(0.54%)	0.15%
Italy	(0.28%)	0.82%
Greece	0.65%	1.35%
U.K.	0.78%	0.49%
Japan	(0.32%)	(0.21%)
Australia	1.06%	1.02%
China	2.33%	3.14%
Brazil	5.04%	7.05%
Russia	6.58%	7.01%

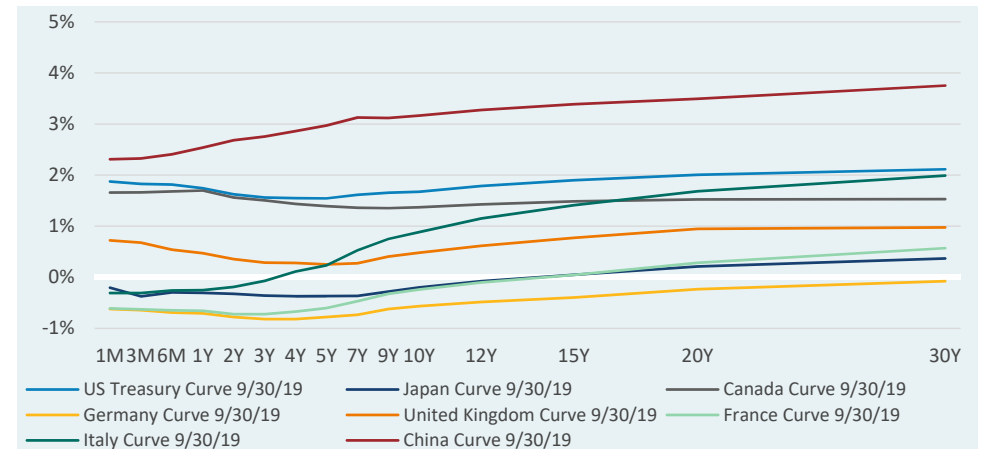
Source: Bloomberg, as of 9/30/19

# Yield environment

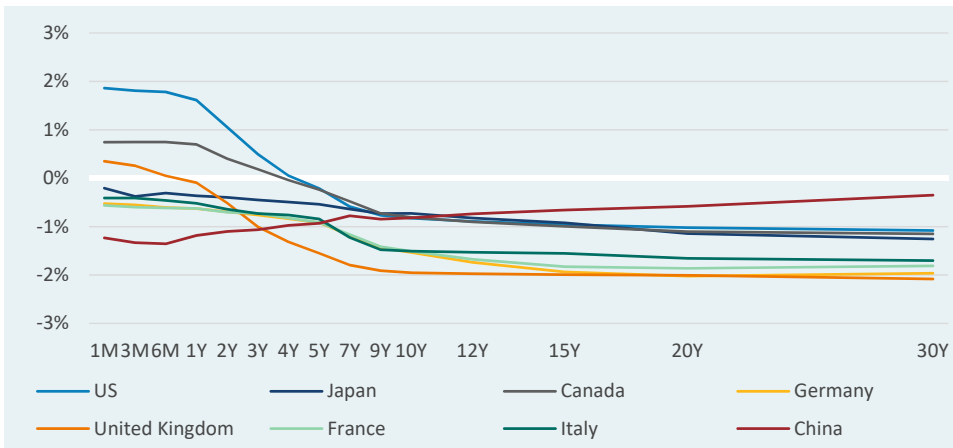
**U.S. YIELD CURVE**



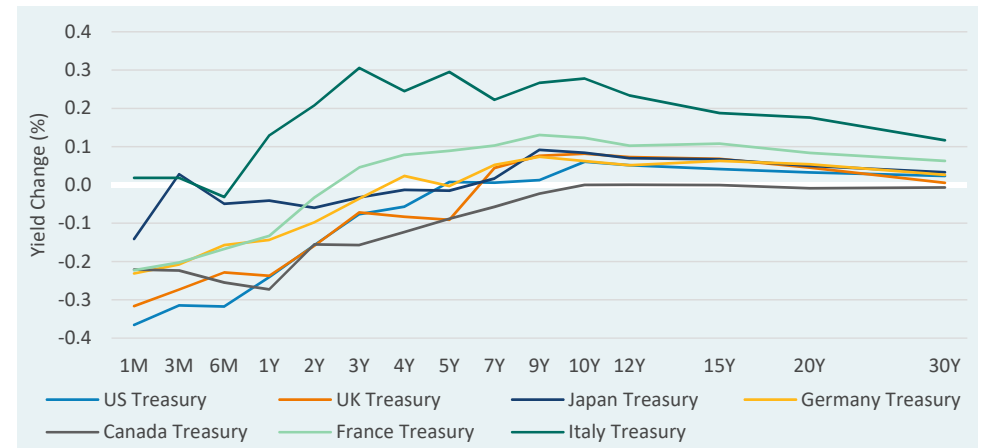
**GLOBAL GOVERNMENT YIELD CURVES**



**YIELD CURVE CHANGES OVER LAST FIVE YEARS**



**IMPLIED CHANGES OVER NEXT YEAR**



Source: Bloomberg, as of 9/30/19

# Currency

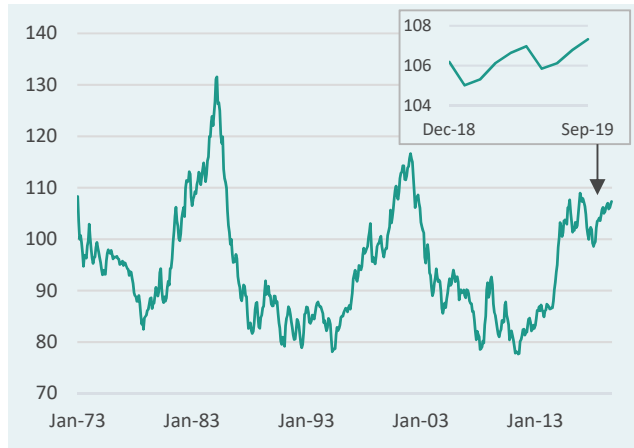
The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted basket of currencies. Dollar volatility has been suppressed so far in 2019, following large swings experienced during years 2014-2018. Investors are pricing in a 78% chance of one more 0.25% rate cut by the end of 2019, and a 25% chance of 0.50% in rate cuts. The market continues to price in more aggressive easing than what the Federal Reserve has indicated, which may contribute to volatility if actual easing measures underwhelm the market.

weakness in the short-term, including: aggressive easing by the Federal Reserve which leads to a convergence of U.S. and international interest rates levels, further upside surprise to U.S. inflation, and/or weakening U.S. economic conditions which brings the U.S. more in line with other developed economies.

Emerging market currencies fell -4% quarter, on the back of U.S. dollar strength. These currencies remain very depressed relative to history.

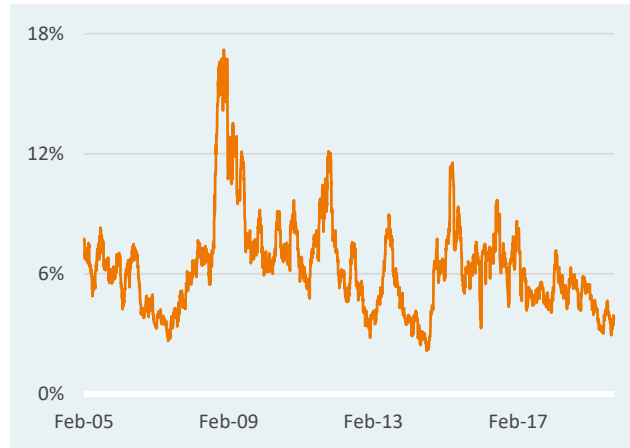
A variety of market scenarios may lead to U.S. dollar

**U.S. DOLLAR TRADE WEIGHTED INDEX**



Source: Federal Reserve, Verus, as of 9/30/19

**BLOOMBERG DOLLAR SPOT INDEX REALIZED 30-DAY VOLATILITY**

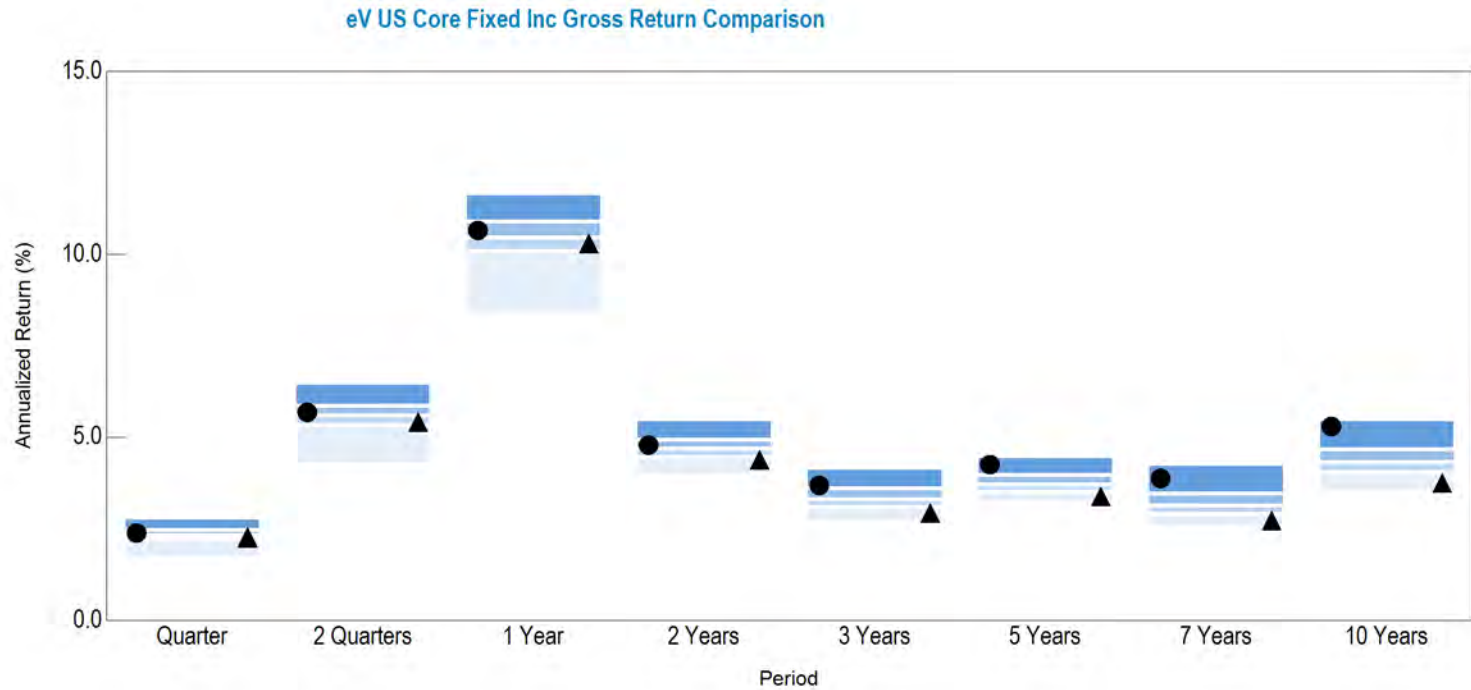


Source: Bloomberg, as of 9/30/19

**JPM EMERGING MARKET CURRENCY INDEX**



Source: Bloomberg, JPMorgan, as of 9/30/19



	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.79	6.48	11.67	5.49	4.15	4.47	4.25	5.48
25th Percentile	2.48	5.87	10.92	4.94	3.62	3.98	3.47	4.69
Median	2.34	5.61	10.48	4.70	3.32	3.72	3.14	4.33
75th Percentile	2.23	5.34	10.10	4.46	3.10	3.53	2.90	4.04
95th Percentile	1.71	4.28	8.41	3.98	2.68	3.20	2.54	3.52
# of Portfolios	216	216	216	215	214	211	209	195
● Baird Advisors	2.38 (44)	5.68 (42)	10.65 (41)	4.78 (39)	3.68 (22)	4.25 (9)	3.87 (9)	5.29 (8)
▲ BBgBarc US Aggregate TR	2.27 (69)	5.42 (69)	10.30 (65)	4.38 (81)	2.92 (91)	3.38 (87)	2.72 (90)	3.75 (92)

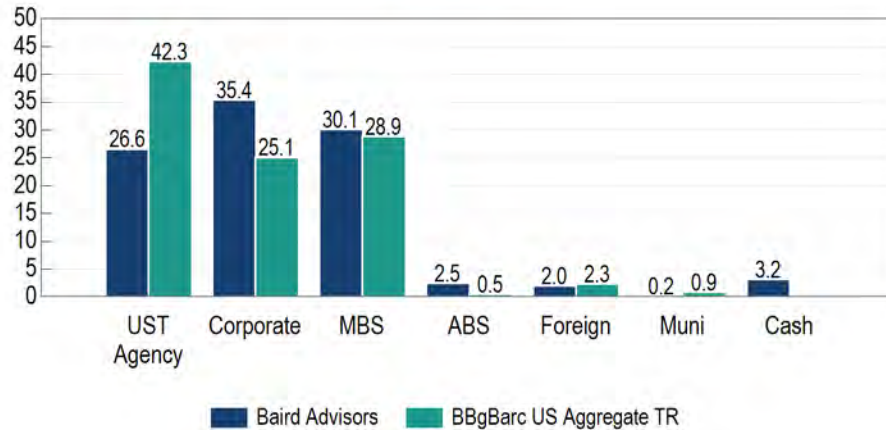
**PERFORMANCE BY QUALITY**

	<u>NUMBER OF ISSUES</u>	<u>FINAL MARKET VALUE (\$000)</u>	<u>FINAL MARKET VALUE %</u>	<u>QUARTERLY RETURN %</u>	<u>QUARTERLY CONTRIBUTION TO TOTAL RETURN %</u>
Cash & Equiv	1	21,374	3.2	0.54	0.02
Govt & Agency	104	343,991	51.5	2.47	1.27
AAA	23	57,443	8.6	2.24	0.19
AA	7	9,351	1.4	1.94	0.03
A	36	74,810	11.2	2.54	0.28
BAA	62	143,608	21.5	2.95	0.63
Below BAA	17	17,367	2.6	1.30	0.03
Other	0	-	0.0	0.00	0.00
<b>Total Account</b>	<b>250</b>	<b>\$667,944</b>	<b>100.0</b>	<b>2.46</b>	<b>2.46</b>

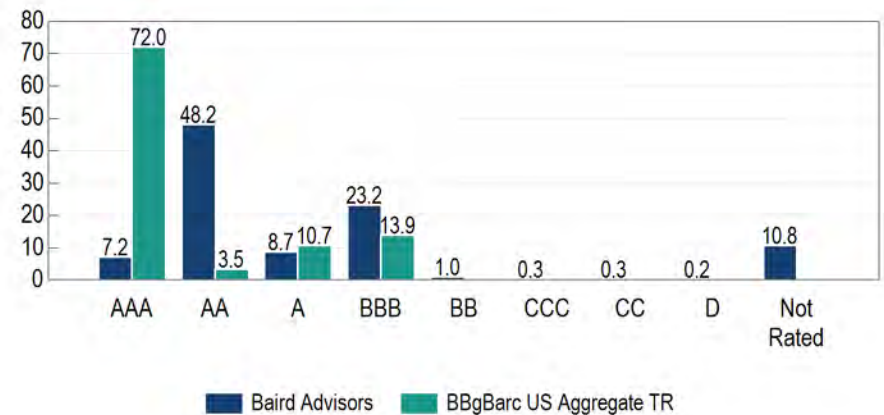
**PERFORMANCE BY DURATION**

	<u>NUMBER OF ISSUES</u>	<u>FINAL MARKET VALUE (\$000)</u>	<u>FINAL MARKET VALUE %</u>	<u>QUARTERLY RETURN %</u>	<u>QUARTERLY CONTRIBUTION TO TOTAL RETURN %</u>
Under 1 Year	27	45,420	6.8	0.64	0.04
1 - 3 Years	77	199,715	29.9	0.99	0.30
3 - 6 Years	86	219,085	32.8	1.47	0.48
Over 6 Years	60	203,723	30.5	5.36	1.63
<b>Total Account</b>	<b>250</b>	<b>\$667,944</b>	<b>100.0</b>	<b>2.46</b>	<b>2.46</b>

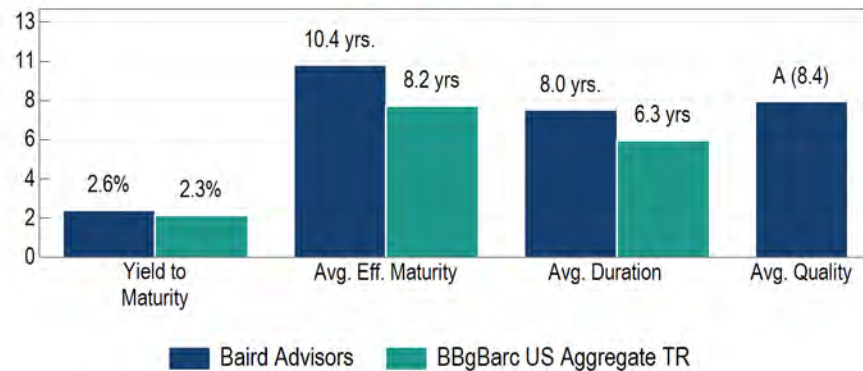
US Sector Allocation  
Baird Advisors



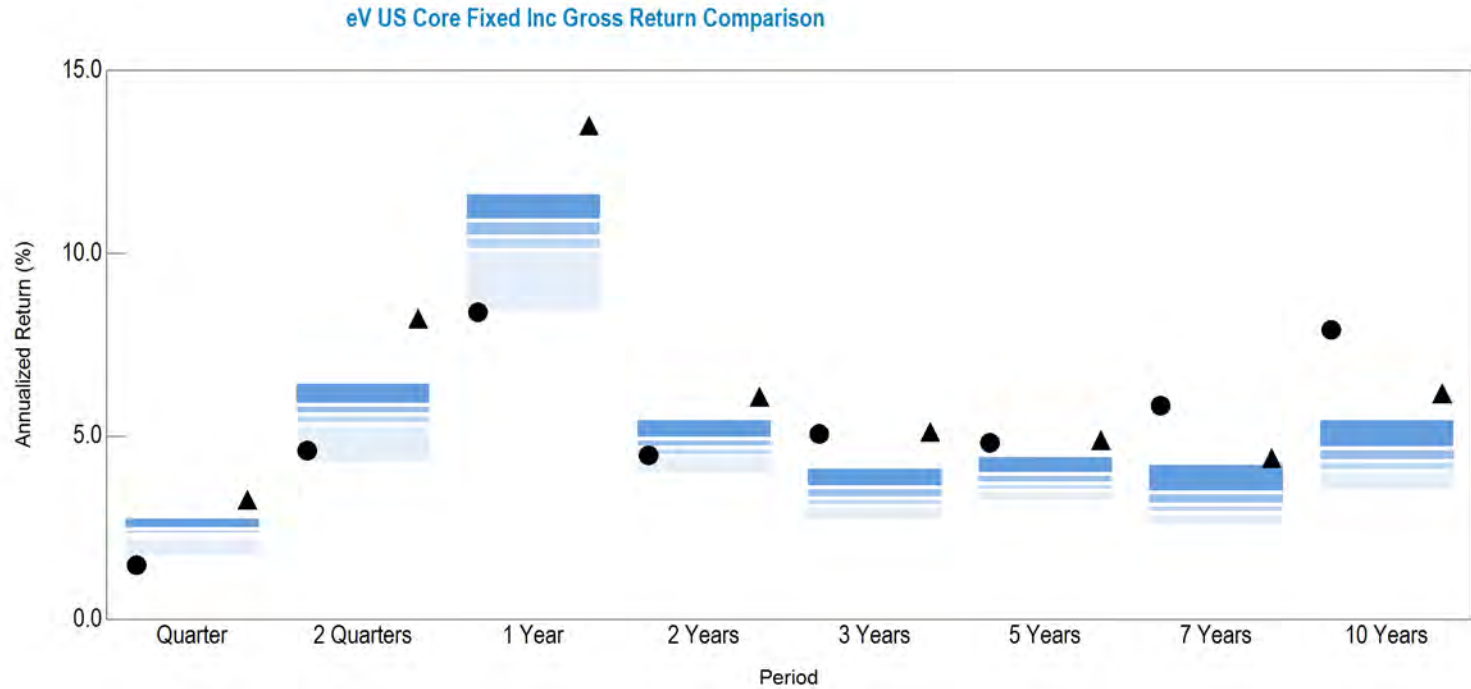
Credit Quality Allocation  
Baird Advisors



Characteristics  
Baird Advisors

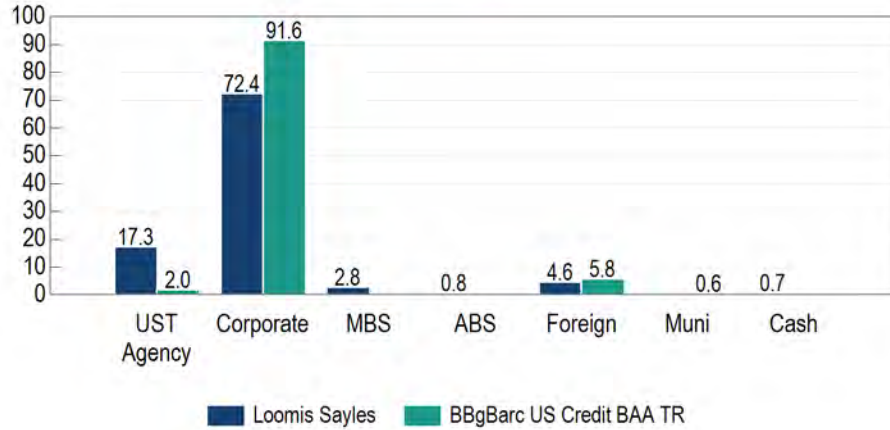




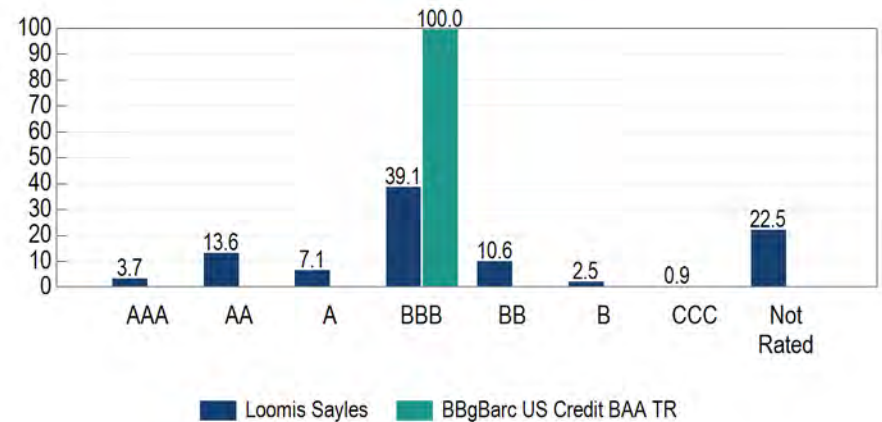


	Return (Rank)							
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.79	6.48	11.67	5.49	4.15	4.47	4.25	5.48
25th Percentile	2.48	5.87	10.92	4.94	3.62	3.98	3.47	4.69
Median	2.34	5.61	10.48	4.70	3.32	3.72	3.14	4.33
75th Percentile	2.23	5.34	10.10	4.46	3.10	3.53	2.90	4.04
95th Percentile	1.71	4.28	8.41	3.98	2.68	3.20	2.54	3.52
# of Portfolios	216	216	216	215	214	211	209	195
● Loomis Sayles	1.49 (97)	4.60 (94)	8.39 (96)	4.48 (74)	5.06 (3)	4.82 (3)	5.83 (1)	7.91 (1)
▲ BBgBarc US Credit BAA TR	3.26 (1)	8.22 (1)	13.49 (1)	6.08 (3)	5.12 (3)	4.89 (3)	4.40 (4)	6.17 (2)

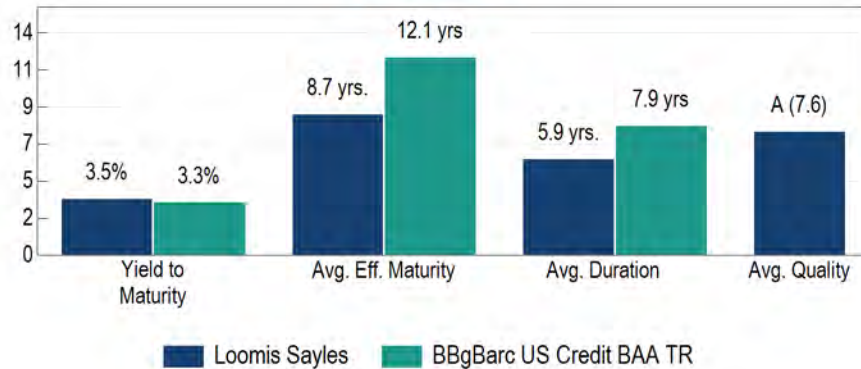
US Sector Allocation  
Loomis Sayles



Credit Quality Allocation  
Loomis Sayles



Characteristics  
Loomis Sayles



## Summary

Account Return	1.42
Benchmark Return	3.25
Excess Return	-1.83
Sector Allocation	0.00
Security Selection	-1.88
Trading	0.04
Pricing Differences	0.00
Compounding	0.00

## Details

Scheme	Average Weight Account	Average Weight Benchmark	Return Account	Return Benchmark	Contribution to Return Account	Contribution to Return Benchmark	Sector Allocation Effect	Security Selection Effect	Total Effect
Total	100.00	100.00	1.38	3.26	1.38	3.26	0.00	-1.88	-1.88
Argentine Peso	0.41	0.00	-54.89	3.26	-0.31	0.00	0.00	-0.33	-0.33
Canadian Dollar	0.02	0.00	-1.66	3.26	0.00	0.00	0.00	0.00	0.00
Hungarian Forint	0.18	0.00	-2.28	3.26	-0.01	0.00	0.00	-0.02	-0.02
Malaysian Ringgit	0.70	0.00	-0.36	3.26	0.00	0.00	0.00	-0.03	-0.03
Mexican Peso	0.00	0.00	0.70	3.26	0.00	0.00	0.00	0.00	0.00
Norwegian Krone	0.66	0.00	-5.77	3.26	-0.04	0.00	0.00	-0.06	-0.06
Polish Zloty	0.18	0.00	-3.12	3.26	-0.01	0.00	0.00	-0.02	-0.02
South African Rand	0.00	0.00	0.00	3.26	0.00	0.00	0.00	0.00	0.00
US Dollar	97.84	100.00	1.80	3.26	1.76	3.26	0.00	-1.42	-1.42

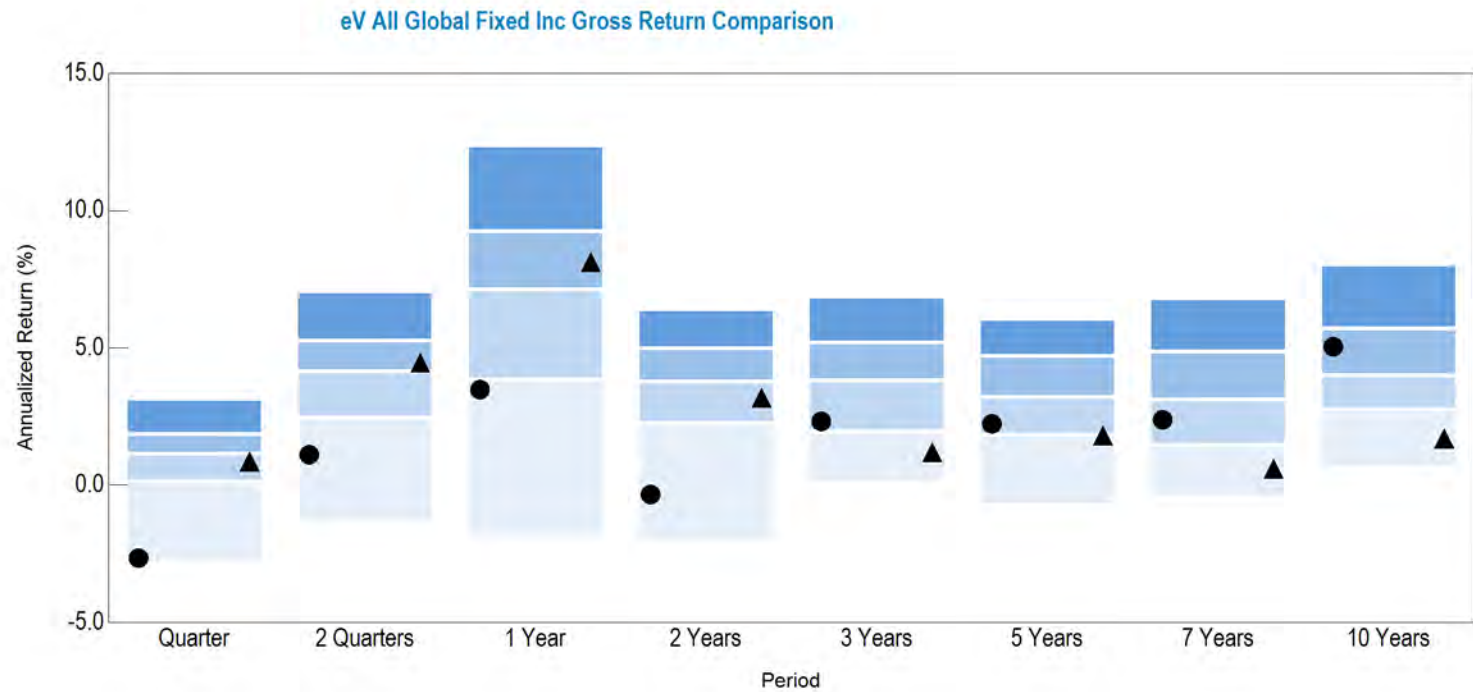
## Summary

Account Return	1.42
Benchmark Return	3.25
Excess Return	-1.83
Sector Allocation	0.00
Security Selection	-1.88
Trading	0.04
Pricing Differences	0.00
Compounding	0.00

## Details

Scheme	Average Weight Account	Average Weight Benchmark	Return Account	Return Benchmark	Contribution to Return Account	Contribution to Return Benchmark	Sector Allocation Effect	Security Selection Effect	Total Effect
Total	100.00	100.00	1.38	3.26	1.38	3.26	-0.85	-1.03	-1.88
No Value	0.09	0.00	-8.72	3.26	-0.07	0.00	0.00	-0.07	-0.07
Less than 1.0	11.08	0.61	-0.78	1.09	-0.10	0.01	-0.24	-0.22	-0.47
1.0 - 2.0	16.03	7.76	0.18	0.97	0.03	0.08	-0.21	-0.13	-0.35
2.0 - 3.0	8.89	8.27	-1.01	1.19	-0.09	0.10	-0.01	-0.20	-0.21
3.0 - 4.0	6.34	8.14	-0.36	1.45	-0.02	0.12	0.04	-0.11	-0.08
4.0 - 5.0	11.19	7.87	0.60	1.78	0.06	0.14	-0.06	-0.14	-0.19
5.0 - 6.0	6.03	7.03	0.28	1.96	0.02	0.14	0.01	-0.11	-0.10
6.0 - 7.0	5.05	6.91	0.85	2.52	0.04	0.17	0.01	-0.08	-0.07
7.0 - 8.0	5.89	5.85	0.76	2.81	0.05	0.17	0.00	-0.12	-0.12
8.0 - 9.0	6.62	6.02	2.82	2.99	0.17	0.18	0.00	-0.01	-0.01
9.0 - 10.0	6.24	4.88	3.27	3.26	0.13	0.16	-0.01	0.00	-0.01
10.0 - 11.0	0.37	1.33	6.04	3.45	0.03	0.05	0.00	0.01	0.01
11.0 - 12.0	0.00	0.95	0.00	3.15	0.00	0.03	0.00	0.00	0.00
12.0 - 13.0	0.00	0.87	0.00	2.95	0.00	0.03	0.00	0.00	0.00
13.0 - 14.0	0.25	0.46	1.01	4.15	0.01	0.02	0.00	-0.02	-0.02
14.0 - 15.0	1.47	0.76	5.78	3.96	0.08	0.03	0.01	0.00	0.01
15.0 - 16.0	0.09	1.59	1.83	5.19	0.00	0.08	-0.03	0.00	-0.03
16.0 - 17.0	0.74	1.40	7.50	5.85	0.02	0.08	-0.02	0.00	-0.02
17.0 - 18.0	0.88	1.31	3.96	4.82	0.07	0.06	0.00	0.01	0.01

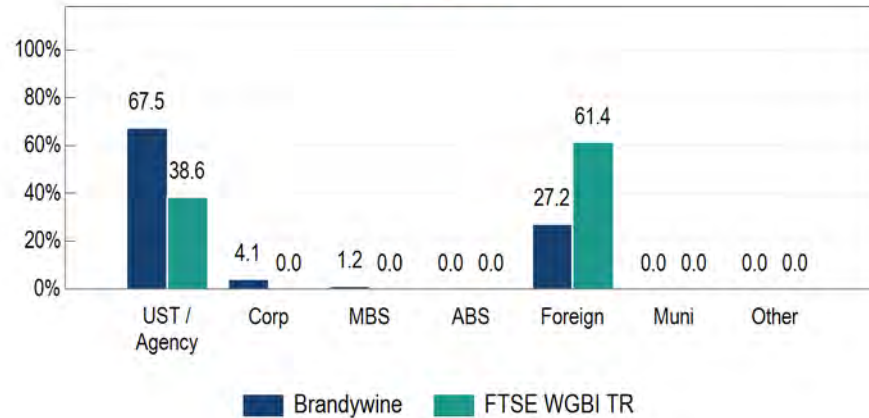
Scheme	Average Weight Account	Average Weight Benchmark	Return Account	Return Benchmark	Contribution to Return Account	Contribution to Return Benchmark	Sector Allocation Effect	Security Selection Effect	Total Effect
18.0 - 19.0	0.10	2.53	-1.02	5.15	0.00	0.13	-0.05	0.00	-0.05
19.0 - 20.0	0.24	0.92	14.92	5.98	0.03	0.06	-0.02	0.01	-0.01
20.0 - 21.0	1.36	1.80	8.61	5.15	0.11	0.08	0.00	0.04	0.04
21.0 - 22.0	0.57	1.41	4.02	4.96	0.02	0.07	-0.02	-0.01	-0.02
22.0 - 23.0	0.02	1.68	-18.55	5.40	0.00	0.09	-0.03	0.00	-0.04
23.0 - 24.0	0.90	1.71	7.68	5.40	0.07	0.09	-0.02	0.02	0.00
24.0 - 25.0	0.09	2.48	10.02	5.60	0.01	0.14	-0.06	0.01	-0.05
25.0 - 26.0	0.45	3.39	4.79	5.88	0.02	0.20	-0.08	-0.01	-0.08
26.0 - 27.0	0.42	2.42	13.91	6.31	0.06	0.14	-0.05	0.03	-0.02
27.0 - 28.0	0.46	2.48	-2.84	5.69	-0.01	0.14	-0.05	-0.04	-0.09
28.0 - 29.0	4.03	3.72	9.14	6.59	0.31	0.25	-0.01	0.09	0.07
29.0 - 30.0	4.29	2.17	7.81	6.56	0.33	0.13	0.09	0.03	0.13
30.0 - 31.0	0.02	0.11	0.13	5.38	0.00	0.01	0.00	0.00	-0.01
31.0 - 32.0	0.00	0.29	0.00	7.45	0.00	0.02	-0.01	0.00	-0.01
32.0 - 33.0	0.00	0.05	0.00	6.73	0.00	0.00	0.00	0.00	0.00
34.0 - 35.0	0.00	0.17	0.00	6.96	0.00	0.01	0.00	0.00	0.00
35.0 - 36.0	0.00	0.22	0.00	6.62	0.00	0.02	-0.01	0.00	-0.01
37.0 - 38.0	0.00	0.04	0.00	6.93	0.00	0.00	0.00	0.00	0.00
38.0 - 39.0	0.00	0.18	0.00	7.52	0.00	0.01	-0.01	0.00	-0.01
39.0 - 40.0	0.00	0.09	0.00	9.37	0.00	0.01	-0.01	0.00	-0.01
45.0 - 46.0	0.00	0.03	0.00	8.01	0.00	0.00	0.00	0.00	0.00
46.0 - 47.0	0.00	0.02	0.00	6.65	0.00	0.00	0.00	0.00	0.00
48.0 - 49.0	0.00	0.03	0.00	4.55	0.00	0.00	0.00	0.00	0.00
91.0 - 92.0	0.00	0.10	0.00	6.61	0.00	0.01	0.00	0.00	0.00
95.0 - 96.0	0.00	0.04	0.00	9.46	0.00	0.00	0.00	0.00	0.00
Greater than 98.0	0.00	0.03	0.00	8.51	0.00	0.00	0.00	0.00	0.00
44.0 - 45.0	0.00	0.01	0.00	5.25	0.00	0.00	0.00	0.00	0.00
47.0 - 48.0	0.00	0.02	0.00	8.23	0.00	0.00	0.00	0.00	0.00
58.0 - 59.0	0.00	0.02	0.00	1.58	0.00	0.00	0.00	0.00	0.00
36.0 - 37.0	0.00	0.01	0.00	-0.71	0.00	0.00	0.00	0.00	0.00



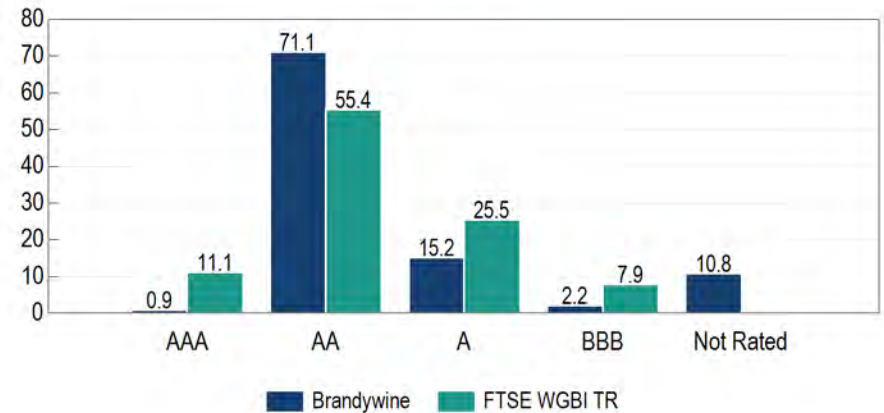
	Quarter	2 Quarters	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
<b>Return (Rank)</b>								
5th Percentile	3.14	7.05	12.38	6.40	6.86	6.05	6.78	8.03
25th Percentile	1.86	5.27	9.27	5.00	5.20	4.73	4.89	5.72
Median	1.15	4.16	7.14	3.79	3.83	3.22	3.14	4.02
75th Percentile	0.14	2.48	3.85	2.27	1.97	1.84	1.47	2.77
95th Percentile	-2.81	-1.37	-1.90	-2.06	0.08	-0.72	-0.43	0.64
# of Portfolios	452	452	451	440	429	386	328	221
● Brandywine	-2.65 (95)	1.10 (89)	3.47 (79)	-0.35 (89)	2.31 (68)	2.23 (68)	2.37 (60)	5.04 (34)
▲ FTSE WGBI TR	0.85 (61)	4.45 (45)	8.13 (39)	3.19 (62)	1.19 (87)	1.80 (76)	0.59 (89)	1.69 (89)



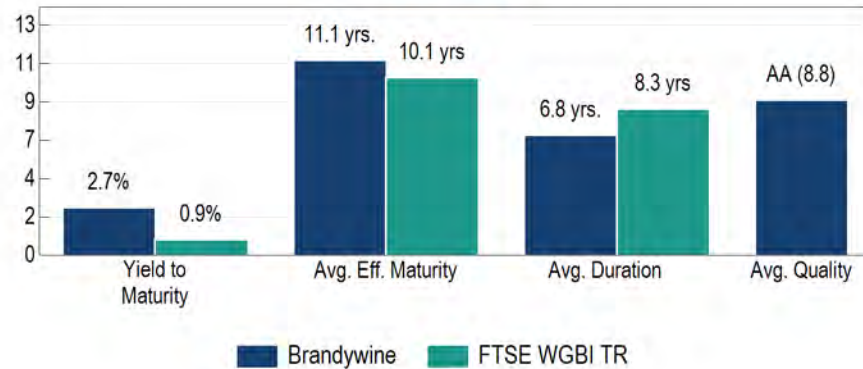
Sectors  
Brandywine



Credit Quality Allocation  
Brandywine

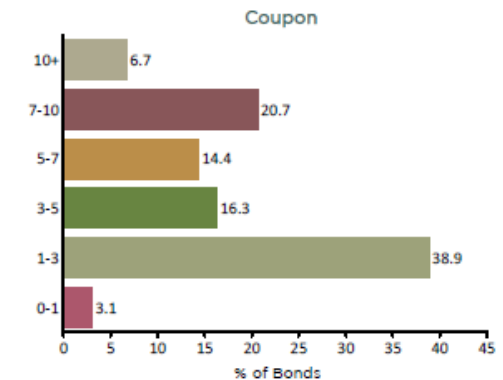
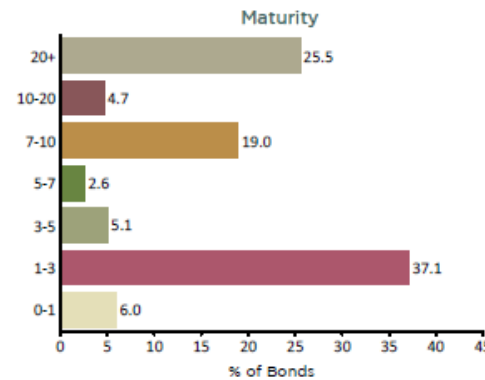


Characteristics  
Brandywine



**Portfolio Characteristics**

	Portfolio	Primary Benchmark
Yield to Maturity (%)	4.48	0.81
Yield to Worst (%)	4.43	0.81
Modified Duration	6.02	8.43
Effective Duration	5.93	8.55
Average Maturity	10.45	9.27
Average Market Price	104.19	-
Average Coupon (%)	4.63	2.30
Current Yield (%)	4.40	-
# of Issues	150	1,035



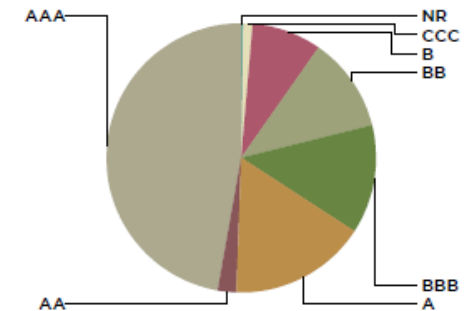
**Sector Breakdown**

	Market Value (%)	Duration Contribution (In Years)
Government Sovereign	82.91	5.26
Government Owned - No Guarantee	2.18	0.24
Corporate Bond - High Yield	6.93	0.18
Corporate Bond - Investment Grade	3.20	0.18
Government Regional Agencies	2.56	0.04
Mortgage Backed Securities	0.68	0.04
Cash	2.12	-
Derivatives	(0.59)	0.07
<b>Total:</b>	<b>100.00</b>	<b>6.02</b>

**Portfolio Credit Quality (Blended Weighted Average Rating)**

Combined Rating	%	Cumulative %
AAA	47.2	47.2
AA	2.3	49.5
A	16.5	66.0
BBB	13.0	79.0
BB	11.4	90.4
B	8.2	98.6
CCC	1.3	99.9
NR	0.1	100.0

Average Quality: A



PRIMARY BENCHMARK is FTSE WGBI (USD)

All Averages are US DOLLAR - weighted by the net market value. Average Market Price includes accrued interest. The "Blended Weighted Average Rating" is determined as follows: in line with the methodology used by Barclays Global indices, the middle rating from the three major NRSROs (S & P, Moody's, and Fitch) will be assigned to each security. In the event that ratings are provided by only two agencies, the lowest rating will be assigned. If only one agency assigns a rating, that rating will be applied. If the security is not rated by one of the three major agencies, U.S. treasuries and certain U.S. agencies are given the U.S. issuer rating. Sovereign treasuries are given the sovereign issuer rating. All other unrated securities are given a rating equivalent to a defaulted bond. The equivalent numerical rating is assigned to each security based on the Security Level scale. A Portfolio Level scale is applied on the weighted average calculation to round for fractional numerical ratings and then converted to an alpha weighted average rating. Cash is included and received the highest rating.

Data included on this page show the aggregate holdings of the Brandywine Emerging Markets Debt Fund ("EMD Fund"), in which the portfolio is invested. Holdings in the EMD Fund are not subject to ACERA's Investment Guidelines. Please note that ACERA owns units of the EMD Fund, not the underlying holdings. Data and characteristics shown are for illustrative purposes only.

Derivatives market value represents the unrealized profit/loss of all derivatives in the portfolio.



Global Opportunistic Fixed Income

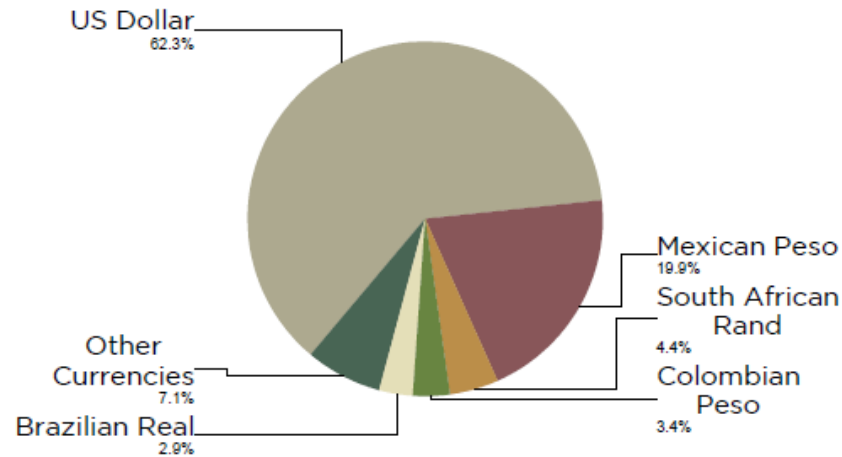
September 30, 2019

Country Allocation	9/30/2019			6/30/2019		Currency Allocation	9/30/2019			6/30/2019	
	Portfolio	Index	Active	Portfolio	Change		Portfolio	Index	Active	Portfolio	Change
*Mexico	14.26	0.67	13.59	12.73	1.53	Euro	0.47	30.80	(30.33)	5.84	(5.37)
United States	52.28	39.16	13.12	49.96	2.32	US Dollar	10.14	39.16	(29.02)	2.03	8.12
*Brazil	6.09	-	6.09	5.97	0.13	Japanese Yen	-	18.66	(18.66)	-	-
United Kingdom	0.25	5.09	(4.84)	0.13	0.12	British Pound Sterling	15.96	5.09	10.87	5.09	10.87
Spain	0.60	4.61	(4.01)	0.62	(0.02)	*Mexican Peso	10.42	0.67	9.76	10.37	0.05
*Colombia	3.88	-	3.88	4.96	(1.08)	Australian Dollar	10.19	1.62	8.57	10.30	(0.11)
Australia	4.85	1.62	3.23	4.89	(0.04)	Norwegian Krone	6.22	0.19	6.03	9.23	(3.01)
*Indonesia	2.72	-	2.72	2.61	0.11	*Brazilian Real	5.15	-	5.15	5.97	(0.82)
*Egypt	2.42	-	2.42	2.19	0.23	*Chilean Peso	5.04	-	5.04	5.63	(0.59)
*Malaysia	2.77	0.38	2.39	4.90	(2.14)	Swedish Krona	5.20	0.27	4.93	8.28	(3.07)
*South Africa	2.82	0.45	2.37	4.29	(1.47)	*Indonesian Rupiah	4.36	-	4.36	4.72	(0.35)
*Turkey	1.80	-	1.80	-	1.80	South Korean Won	3.94	-	3.94	3.97	(0.03)
Canada	0.19	1.50	(1.31)	0.18	0.01	*Colombian Peso	3.88	-	3.88	4.96	(1.08)
*Poland	1.72	0.47	1.25	2.13	(0.41)	New Zealand Dollar	3.85	-	3.85	4.02	(0.16)
*Argentina	1.09	-	1.09	1.75	(0.66)	*Russian Ruble	3.21	-	3.21	3.53	(0.31)
*Russian Federation	0.72	-	0.72	-	0.72	*Malaysian Ringgit	3.12	0.38	2.74	5.34	(2.22)
Ireland	0.07	0.59	(0.52)	-	0.07	*Polish Zloty	2.97	0.47	2.50	3.11	(0.14)
*Chile	0.37	-	0.37	-	0.37	*Egyptian Pound	2.42	-	2.42	2.19	0.23
*Zambia	0.28	-	0.28	0.08	0.19	*Czech Koruna	1.93	-	1.93	2.00	(0.06)
*Kuwait	0.23	-	0.23	-	0.23	Canadian Dollar	-	1.50	(1.50)	-	-
Israel	0.21	-	0.21	0.07	0.15	*Hungarian Forint	0.72	-	0.72	0.97	(0.25)
*Ghana	0.18	-	0.18	0.07	0.12	Danish Krone	-	0.43	(0.43)	-	-
*Saudi Arabia	0.18	-	0.18	-	0.18	*Argentine Peso	0.34	-	0.34	-	0.34
*Peru	0.15	-	0.15	2.11	(1.96)	Singapore Dollar	-	0.32	(0.32)	-	-
*United Arab Emirates	0.15	-	0.15	-	0.15	*South African Rand	0.16	0.45	(0.29)	0.37	(0.22)
Macao	0.11	-	0.11	-	0.11	*New Turkish Lira	0.15	-	0.15	-	0.15
*Vietnam	0.09	-	0.09	-	0.09	*Peruvian Nuevo Sol	0.15	-	0.15	2.11	(1.96)
*Ecuador	0.08	-	0.08	-	0.08						
Other Countries	0.04	45.47	(45.44)	0.02	0.01	<b>Total:</b>	<b>100.00</b>	<b>100.00</b>	<b>-</b>	<b>100.00</b>	<b>-</b>
Derivative P/L	(0.59)	-	(0.59)	0.33	(0.92)						
<b>Total:</b>	<b>100.00</b>	<b>100.00</b>	<b>-</b>	<b>100.00</b>	<b>-</b>						

Global Opportunistic Fixed Income

September 30, 2019

Source of Portfolio Duration by Currency Denomination



Modified Duration Contribution by Currency  
(In Years)

Currency	9/30/2019					6/30/2019	
	0-3	>3-10	>10-20	>20+	Total	Total	Change
US Dollar	0.05	0.79	0.14	2.78	3.75	0.04	
*Mexican Peso	-	0.10	0.35	0.74	1.20	0.00	
*South African Rand	-	-	-	0.27	0.27	(0.14)	
*Colombian Peso	0.00	0.20	-	-	0.21	(0.07)	
*Brazilian Real	0.02	0.15	-	-	0.18	(0.02)	
*Indonesian Rupiah	-	0.16	-	-	0.16	(0.01)	
*Malaysian Ringgit	0.03	0.07	-	-	0.10	(0.04)	
Australian Dollar	0.04	-	-	-	0.04	0.00	
Euro	-	-	-	0.03	0.03	0.00	
*Polish Zloty	0.01	-	0.02	-	0.03	0.01	
*Russian Ruble	-	0.03	-	-	0.03	0.03	
*Peruvian Nuevo Sol	-	0.01	-	-	0.01	(0.18)	
*Egyptian Pound	0.01	-	-	-	0.01	(0.00)	
*Chilean Peso	0.00	-	-	-	0.00	0.00	
*Argentine Peso	0.00	-	-	-	0.00	0.00	
<b>Total</b>	<b>0.17</b>	<b>1.52</b>	<b>0.51</b>	<b>3.82</b>	<b>6.02</b>	<b>(0.35)</b>	

Modified Duration Contribution by Country

vs. FTSE WGBI (USD)

(In Years)

Country	9/30/2019					Index	6/30/2019	
	0-3	>3-10	>10-20	>20+	Total		Total	Change
*Mexico	0.00	0.10	0.41	0.94	1.44	0.04	1.41	0.18
United Kingdom	-	0.01	-	-	0.01	0.74	(0.73)	0.00
United States	0.02	0.63	0.07	2.51	3.23	2.54	0.69	(0.30)
Spain	-	-	-	0.03	0.03	0.38	(0.34)	0.00
*South Africa	-	-	-	0.27	0.27	0.03	0.24	(0.14)
*Brazil	0.02	0.18	0.01	-	0.22	-	0.22	0.02
*Colombia	0.00	0.20	-	-	0.21	-	0.21	(0.07)
*Indonesia	0.01	0.16	-	-	0.17	-	0.17	(0.00)
*Turkey	-	0.05	-	0.08	0.12	-	0.12	0.12
Canada	0.00	-	-	-	0.00	0.11	(0.11)	(0.00)
*Malaysia	0.03	0.07	-	-	0.10	0.03	0.07	(0.04)
Australia	0.04	-	-	-	0.04	0.11	(0.07)	0.00
Ireland	-	0.00	-	-	0.00	0.05	(0.05)	0.00
*Russian Federation	-	0.04	-	-	0.04	-	0.04	0.04
*Argentina	0.00	0.04	-	-	0.04	-	0.04	(0.06)
*Saudi Arabia	-	0.01	-	-	0.01	-	0.01	0.01
*Peru	-	0.01	-	-	0.01	-	0.01	(0.18)
*Poland	0.01	-	0.02	-	0.03	0.02	0.01	0.01
*Egypt	0.01	-	-	-	0.01	-	0.01	(0.00)
*Kuwait	0.00	0.01	-	-	0.01	-	0.01	0.01
*Chile	0.01	0.00	-	-	0.01	-	0.01	0.01
*Zambia	0.01	-	-	-	0.01	-	0.01	0.00
*Vietnam	-	0.00	-	-	0.00	-	0.00	0.00
*Ecuador	-	0.00	-	-	0.00	-	0.00	0.00
Israel	0.00	-	-	-	0.00	-	0.00	0.00
*United Arab Emirates	0.00	-	-	-	0.00	-	0.00	0.00
*Ghana	0.00	-	-	-	0.00	-	0.00	0.00
*Uruguay	0.00	-	-	-	0.00	-	0.00	0.00
Macao	0.00	-	-	-	0.00	-	0.00	0.00
Other Countries	-	-	-	-	-	4.39	(4.39)	-
<b>Total</b>	<b>0.17</b>	<b>1.52</b>	<b>0.51</b>	<b>3.82</b>	<b>6.02</b>	<b>8.43</b>	<b>(2.41)</b>	<b>(0.35)</b>

Manager Compliance Checklist

Period Ending: September 30, 2019

MANAGER	INDEX OUTPERFORMANCE						DATABASE BENCHMARK		MANAGER TO BE PLACED ON WATCH LIST
	AFTER FEE VS. INDEX		BEFORE FEE VS. INDEX		RISK ADJUSTED (SHARPE RATIO)		MEDIAN		
	3 YEAR	5 YEAR	3 YEAR	5 YEAR	3 YEAR	5 YEAR	3 YEAR	5 YEAR	
AQR (MSCI ACWI EX US GROSS)	NO	NO	NO	NO	NO	NO	NO	NO	YES
BAIRD ADVISORS (BBGBARC US AGGREGATE)	YES	YES	YES	YES	YES	YES	YES	YES	NO
BRANDYWINE FIXED INCOME (FTSE WGBI)	YES	YES	YES	YES	YES	NO	NO	NO	YES
CAPITAL GROUP (MSCI ACWI EX US GROSS)	YES	YES	YES	YES	YES	YES	YES	YES	NO
KENNEDY (RUSSELL 2000 VALUE)	NO	NO	NO	NO	NO	NO	NO	NO	YES
LOOMIS SAYLES (BBGBARC US CREDIT BAA)	NO	NO	NO	NO	YES	YES	YES	YES	NO
MONDRIAN (MSCI ACWI EX US GROSS)	NO	NO	NO	NO	NO	NO	NO	YES	YES
PZENA (RUSSELL 1000 VALUE)	NO	NO	NO	NO	NO	NO	NO	NO	YES
TCW (RUSSELL 1000 GROWTH)	YES	YES	YES	YES	NO	NO	YES	YES	YES
TEMPLETON (MSCI ACWI EX US SMALL CAP GROSS)	YES	YES	YES	YES	YES	NO	NO	NO	YES

1 Next Century will be replaced by William Blair

Policy Index and Benchmark History

Period Ending: September 30, 2019

Total Plan Policy Index	As of:														
	6/1/19	10/1/17	7/1/16	1/1/13	10/1/11	4/1/11	1/1/09	7/1/06	4/1/03	6/1/01	10/1/97	1/1/96	10/1/94	1/1/92	1/1/80
91-day US T-Bill											1%	1%	1%	1%	2%
BBgBarc Aggregate	11.40%	11.25%	11.25%	11.25%	15%	18%	18%	21%	23%	26%	33%	29%	32%	37%	30%
BBgBarc High Yield	1.60%	1.50%	1.50%	1.50%	2.0%	2.4%	2%	3%	3%	3%					
Bloomberg Commodity	0.75%	0.75%	0.75%												
FTSE WGBI	3.00%	2.25%	2.25%	2.25%	3%	3.6%	3.6%	4%	4%	5%					
CPI-U +3% (RR)				5.00%	5%										
MSCI ACWI ex US							23%	22%	22%	22%					
MSCI ACWI ex US IMI	25.00%	26.00%	26.00%	27.00%	25%	23%									
MSCI EAFE											10%	10%	10%	10%	
MSCI Emg Mkts Free ex Malaysia											3%				
MSCI World net															10%
NCREIF						6%	6%	9%	9%	9%					
NCREIF ODCE	8.00%	8.00%	8.00%	6.00%	6%										
Russell 3000	25.00%	28.00%	28.00%	32.00%	34%	37%	37%	41%	39%	35%	42%	49%	47%	40%	
HFRI FoF Composite	9.00%	9.00%													
Thomson Reuters CJA Global All PE	8.00%	9.00%													
Russell 3000 +1% (PE)			18.00%	15.00%	10%										
Russell 3000 +1.5% (PE)						10%	10%								
Russell 3000 +4% (AI)											2%				
S&P 500															55%
S&P Global Infrastructure	1.75%	1.75%	1.75%												
S&P Global Natural Resources	2.50%	2.50%	2.50%												
S&P/LSTA Leveraged Loan	4.00%														
Wilshire RE											9%	11%	10%	12%	3%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

US Equity Benchmark	As of:	
	1/1/92	1/1/80
Russell 3000	100%	0%
S&P 500	0%	100%
	<b>100.0%</b>	<b>100.0%</b>

International Equity Benchmark	As of:				
	4/1/11	6/1/01	10/1/97	1/1/92	1/1/80
MSCI ACWI ex US		100%			
MSCI ACWI ex US IMI	100%				
MSCI EAFE			77%	100%	
MSCI Emg Mkts Free ex Malaysia			23%		
MSCI World net					100%
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Fixed Income Benchmark	As of:		
	6/1/19	6/1/01	1/1/80
BBgBarc Aggregate	71.25%	75%	100%
BBgBarc High Yield	10.00%	10%	
FTSE WGBI	18.75%	15%	
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Real Estate Benchmark	As of:
	1/1/80
NCREIF ODCE	100%
	<b>100.0%</b>

Real Assets Benchmark	As of:	
	7/1/16	10/1/11
CPI-U +3%		100%
Bloomberg Commodity	15%	
S&P Global Infrastructure	35%	
S&P Global Natural Resources	50%	
	<b>100.00%</b>	<b>100.0%</b>

## Glossary

---

**Allocation Effect:** An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

**Alpha:** The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as:  $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$ .

**Benchmark R-squared:** Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

**Beta:** A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

**Book-to-Market:** The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

**Capture Ratio:** A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

**Correlation:** A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

**Excess Return:** A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

**Information Ratio:** A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

**Interaction Effect:** An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

**Portfolio Turnover:** The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

**Price-to-Earnings Ratio (P/E):** Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

**R-Squared:** Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

**Selection Effect:** An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

**Sharpe Ratio:** A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as:  $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$ .

**Sortino Ratio:** Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

**Standard Deviation:** A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

**Style Analysis:** A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

**Style Map:** A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

## Disclaimer

---

This report contains confidential and proprietary information and is subject to the terms and conditions of the Consulting Agreement. It is being provided for use solely by the customer. The report may not be sold or otherwise provided, in whole or in part, to any other person or entity without written permission from Verus Advisory, Inc., (hereinafter Verus) or as required by law or any regulatory authority. The information presented does not constitute a recommendation by Verus and cannot be used for advertising or sales promotion purposes. This does not constitute an offer or a solicitation of an offer to buy or sell securities, commodities or any other financial instruments or products.

The information presented has been prepared using data from third party sources that Verus believes to be reliable. While Verus exercised reasonable professional care in preparing the report, it cannot guarantee the accuracy of the information provided by third party sources. Therefore, Verus makes no representations or warranties as to the accuracy of the information presented. Verus takes no responsibility or liability (including damages) for any error, omission, or inaccuracy in the data supplied by any third party. Nothing contained herein is, or should be relied on as a promise, representation, or guarantee as to future performance or a particular outcome. Even with portfolio diversification, asset allocation, and a long-term approach, investing involves risk of loss that the investor should be prepared to bear.

The information presented may be deemed to contain forward-looking information. Examples of forward looking information include, but are not limited to, (a) projections of or statements regarding return on investment, future earnings, interest income, other income, growth prospects, capital structure and other financial terms, (b) statements of plans or objectives of management, (c) statements of future economic performance, and (d) statements of assumptions, such as economic conditions underlying other statements. Such forward-looking information can be identified by the use of forward looking terminology such as believes, expects, may, will, should, anticipates, or the negative of any of the foregoing or other variations thereon comparable terminology, or by discussion of strategy. No assurance can be given that the future results described by the forward-looking information will be achieved. Such statements are subject to risks, uncertainties, and other factors which could cause the actual results to differ materially from future results expressed or implied by such forward looking information. The findings, rankings, and opinions expressed herein are the intellectual property of Verus and are subject to change without notice. The information presented does not claim to be all-inclusive, nor does it contain all information that clients may desire for their purposes. The information presented should be read in conjunction with any other material provided by Verus, investment managers, and custodians.

Verus will make every reasonable effort to obtain and include accurate market values. However, if managers or custodians are unable to provide the reporting period's market values prior to the report issuance, Verus may use the last reported market value or make estimates based on the manager's stated or estimated returns and other information available at the time. These estimates may differ materially from the actual value. Hedge fund market values presented in this report are provided by the fund manager or custodian. Market values presented for private equity investments reflect the last reported NAV by the custodian or manager net of capital calls and distributions as of the end of the reporting period. These values are estimates and may differ materially from the investments actual value. Private equity managers report performance using an internal rate of return (IRR), which differs from the time-weighted rate of return (TWRR) calculation done by Verus. It is inappropriate to compare IRR and TWRR to each other. IRR figures reported in the illiquid alternative pages are provided by the respective managers, and Verus has not made any attempts to verify these returns. Until a partnership is liquidated (typically over 10-12 years), the IRR is only an interim estimated return. The actual IRR performance of any LP is not known until the final liquidation.

Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.





**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



PERIOD ENDING: JUNE 30, 2019

Private Equity Performance Review

**Alameda County Employees' Retirement Association**



# Table of Contents



VERUSINVESTMENTS.COM

SEATTLE 206-622-3700

LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

---

Market Commentary	3	Private Equity Portfolio Diversification	10
Private Equity Strategies	7	— PE Portfolio Diversification by Strategy	
— Portfolio Overview		— PE Portfolio Diversification by Geography	
— Portfolio Summary		— PE Portfolio Diversification by Industry	
— Portfolio Activity		— PE Portfolio Diversification by Vintage Year	
Private Equity Portfolio Performance	8	Significant Events / Material Exceptions to Policy	14

---

*Past performance is no guarantee of future results. This document is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and is not intended for retail investors. Nothing herein constitutes investment, legal, accounting or tax advice, or a recommendation to buy, sell or hold a security or pursue a particular investment vehicle or any trading strategy. This document may include or imply estimates, outlooks, projections and other "forward-looking statements." No assurance can be given that future results described or implied by any forward looking information will be achieved. Investing entails risks, including possible loss of principal. Verus Advisory Inc. and Verus Investors, LLC ("Verus") file a single form ADV under the United States Investment Advisors Act of 1940, as amended.*

**DEBT RELATED**

- **HY issuance was up and leveraged loan issuance was down.** During the first half of 2019, US high yield issuance of \$130.7 billion<sup>1</sup> was up 21.0% compared to 1H 2018. Leveraged loan issuance has been very weak in 2019. 1H 2019 volume was \$315.6 billion<sup>1</sup>, down 57.2% versus 1H 2018.
- **Spreads widened across the board.** US HY Credit Index loosed by 38 bps or 9.9%<sup>2</sup> versus the same period last year. BB, B and CCC index loosed by 16 bps, 67 bps and 175 bps respectively, a 5.8%<sup>2</sup>, 15.9%<sup>2</sup> and 17.0%<sup>2</sup> increases versus the same period last year.
- **Slight increase in LBO debt, with deterioration in interest coverage.** US total leverage (Debt / EBITDA) for 1H 2019 at 6.0x<sup>3</sup> up 5.8% from the same time last year. Interest coverage (EBITDA / Cash Interest) of 1H 2019 was 2.3x<sup>3</sup>, down 22.6% from 1H 2018.

**GLOBAL**

- **PE dry powder keeps surging globally.** For Q1 2019, global total PE dry powder was at \$1.50 trillion<sup>4</sup>, up 14.2% from Q1 2018. US total PE was up by 17.2% to \$790.9 billion<sup>4</sup>; Europe total PE was up by 6.3% to \$298.4 billion<sup>4</sup>; Asia total PE was up by 15.8% to \$358.0 billion<sup>4</sup>; and the rest of world total PE was up by 10.5% to \$49.5 billion<sup>4</sup>.
- **Investment activity was down.** During 1H 2019, global PE firms invested in \$295.1 billion<sup>6&12</sup> worth of deals, down 22.8% from the same time prior year and closed on 9,861 transactions<sup>6&12</sup>, down 0.6% from the first half of 2018.

**US BUYOUTS**

- **Dry powder was up.** For Q1 2019, US buyout was \$437.4 billion<sup>4</sup>, up by 25.6% from the same time in 2018.
- **Less fundraising activity, but with significantly larger fund sizes.** In the first 6 months of 2019, US buyout firms across all buyout strategies raised \$106.5 billion<sup>5</sup>, up by 195.8% from same time prior year.
- **Investment activity was down.** During 1H 2019, US buyout firms invested in \$105.8 billion<sup>6</sup> worth of deals, down 27.4% from the same time last year and closed on 1,338 transactions<sup>6</sup>, down 16.4% versus the same time in 2018.

- **LBO price multiples were up.** As of June 30, 2019, US LBO purchase price multiples (Enterprise Value / EBITDA) were at 11.2x<sup>7</sup>, a 14.3% increase from the first half of 2018.
- **Exit activity slowed down but large transactions.** During 1H 2019, US buyout firms exited 441 companies<sup>12</sup>, representing \$72.8 billion<sup>12</sup> in total transaction value. This represented a 63.9% decrease in the number of exits and a 53.7% increase in total transaction value compared to the same time last year.

#### US VENTURE CAPITAL

- **Dry powder increasing.** For Q1 2019, US VC dry powder was at \$118.2 billion<sup>4</sup>, up 12.5% from the last year.
- **Fundraising activity slowed down a bit, but average fund size increased.** US VC firms raised \$24.9 billion<sup>5</sup> during 1H 2019, a 29.7% increase from the same period last year. 206 funds<sup>5</sup> closed in 1H 2019, an 8.8% decrease from the same period last year. The average US VC fund size increased by 42.3% at \$120.9 million<sup>5</sup> versus the same period last year.
- **Investment activity up.** US VC firms deployed \$62.9 billion<sup>12</sup> in capital during the first half of 2019, a 42.6% increase from 1H 2018. The number of rounds closed at 2,761<sup>12</sup>, a 21.5% decrease from the same time last year. The average investment per deal increased to \$22.8 million<sup>12</sup>, a 30% increase from prior year.
- **All stages valuations were up, except Series C flat.** Compared to 1H 2018, the average pre-money valuations increased across almost all stages in the first half of 2019: up 7.1% at \$7.5 million<sup>8</sup> for Seed stage, 12% at \$22.4 million<sup>8</sup> for Series A, 18.2% at \$65.0 million<sup>8</sup> for Series B, and 50.2% at \$417.5 million<sup>8</sup> for Series D. Series C pre-money valuation stayed flat \$115.0 million<sup>8</sup>. Over the past 3 years, the average pre-money valuations of Seed stage, Series A, Series B, Series C and Series D investments were up 27.1%, 58.5%, 72.9%, 27.8% and 108.8%, respectively<sup>9</sup>.
- **Exit activity increased with large transactions.** US VC firms exited 304 companies<sup>12</sup> in 1H 2019, up by 4.1% from the same period last year, representing \$46.0 billion<sup>12</sup> in transaction value, up 15.6% from the same period last year.

## EX US

- **Ex US dry powder grew but less than dry powder in the US.** PE dry powder outside the US grew to \$706.1 billion<sup>4</sup> for Q1 2019, a 10.9% increase versus last year. Dry powder outside the US was still 10.7% less than the dry powder in the US (\$790.9 billion<sup>4</sup>).
  - **Europe buyout and VC dry powders were up.** For Q1 2019, Europe buyout dry power was \$203.5 billion<sup>4</sup>, up by 7.6% from last year. Same time, VC dry powder in Europe grew to \$30.8 billion<sup>4</sup>, a 16.7% increase from prior year.
  - **Dry powder of buyout, VC and growth equity in Asia kept increasing.** At the end of Q1 2019, Asia buyout dry power was \$85.9 billion<sup>4</sup>, up by 6% from last year. VC dry powder in Asia increased to \$103.5 billion<sup>4</sup>, up by 24.0% from prior year. Growth equity dry powder grew to \$149.4 billion<sup>4</sup>, a 21.3% increase from 2018.
- **Fundraising outside of US was down.** For 1H 2019, Ex US fundraising was down 19.4% to \$103.3 billion<sup>5</sup> compared to same time prior year. The decrease was led by European funds which raised \$58.8 billion<sup>5</sup>, down 21.2% from same time last year. Fundraising was down in Asia as well, down by 17.2% from \$46.5 billion in 1H 2018 to \$38.5 billion<sup>5</sup> in 1H 2019. Fundraising in the rest of the world was down 15.5% to \$6.0 billion<sup>5</sup> compared to 1H 2018.
- **Investments activity was up except for Asia VC.** Both buyout and venture capital firms in Europe and Asia buyout firms increased number of deals and aggregate deal volume in the first half of 2019.
  - **Europe buyout and VC investment activities decreased.** In 1H 2019, Europe buyout firms transacted on \$46.0 billion<sup>6</sup> in aggregate value, down by 47.1% from 1H 2018. VC investment activity was up from \$11.3 billion during 1H 2018 to \$17.2 billion<sup>12</sup> during the first half of 2019, an increase of 52.3%.
  - **Asia buyout activity was up, while VC investment activities was down significantly.** During 1H 2019, Asia buyout firms closed on \$17.9 billion<sup>6</sup> in aggregate value, up by 2.4% from the same time of last year's \$17.5 billion<sup>6</sup>. VC investment activity was up from \$60.8 billion during 1H 2018 to \$32.5 billion<sup>12</sup>, a decrease of 46.6%.
- **Global purchase price multiples increased.** As of June 30, 2019, global median purchase price multiples (Enterprise Value / EBITDA) was 12.6x<sup>1</sup>, an 21.2% increase from the same time last year. This was driven by a 14.3% increase in US purchase multiples at 11.2x<sup>7</sup>, a 2.1% increase in purchase price multiples in Europe at 9.5x<sup>11</sup>, and a 20.9% decrease in the rest of the world at 11.5x<sup>11</sup>.
- **Leverage multiples in Europe moved up.** European LBO leverage multiples (Debt / EBITDA) averaged 5.6x<sup>10</sup> during 1H 2019, an increase of 3.0% from the same time last year and an 8.5% decrease from the peak (6.1x<sup>11</sup>) in 2007. European LBO Loan volume at \$27.5 billion<sup>11</sup> is down 41.4% versus 1H 2018, a decrease of 74.4% versus the peak of \$107.3 billion<sup>11</sup> in the first half of 2007.
- **Exit activity weaker in Europe, but stronger in Asia.** During the first half of 2019, Europe PE firms aggregate exit value amounted to \$45.1 billion<sup>6&12</sup>, a 35.7% decrease from the same time last year, while Asia PE firms' exits were up 24.5% from 1H 2018 to \$61.4<sup>6&12</sup> billion in the same time.



## Outlook

- **PE allocations likely to increase slightly.** A recent survey of institutional investors conducted on June 30, 2019 indicated that 40%<sup>13</sup> intend to increase their allocation for private equity compared to 29%<sup>13</sup> during the same period last year. 47%<sup>13</sup> intend to maintain their allocation for private equity compared to 57%<sup>13</sup> during the same period last year. 13%<sup>13</sup> intend to commit less capital to private equity compared to 14%<sup>13</sup> during the same period last year.
- **Institutional investors most interested in investing in North America and like small- to mid-market buyouts.** Based on the survey conducted on June 30, 2019, Institutional investors view North America as the most attractive location to invest in the current economic climate with 88%<sup>13</sup> choosing it as their preferred developed market investment destination. This compares favorably versus West Europe (60%<sup>13</sup>) and Asia (29%<sup>13</sup>). China (49%)<sup>13</sup> and India (39%)<sup>13</sup> are the top two desired countries in the emerging markets for investors. In the same survey, 68%<sup>13</sup> of institutional investors also cited the small to mid-market buyout strategy as presenting the best opportunities in the current financial climate. Venture capital strategy was mentioned next with 54%<sup>13</sup> of institutional investors believing it presented the best opportunities.

## Notes

1. *Leveraged Loan Monthly Thomson Reuters LPC*
2. *Guggenheim High-Yield Bank Loan Outlook*
3. *LCD's Leveraged Buyout Review*
4. *Preqin Dry powder by Geography (Preqin Website) Dry powder includes Buyout, Distressed PE, Growth, Mezzanine, Co-investments, Balanced, and Venture Strategies.*
5. *Preqin Private Equity Historical Fundraising Statistics*
6. *Preqin Quarterly Update: Private Equity & Venture Capital*
7. *US LBO Review*
8. *PitchBook-NVCA Venture Monitor*
9. *PitchBook's VC Valuations*
10. *LCD European Leveraged Buyout Review*
11. *European Leveraged Lending Review*
  - a. *Ex US Multiples were estimated utilizing a number of sources including Preqin Private Equity-Backed Buyout Deals and Exits Factsheet, LCD's Leveraged*
  - b. *Buyout Review, Pitchbook Europe M&A and Leveraged Loan Monthly Thomson Reuters LPC.*
12. *Preqin Pro Buyout and Venture Deals*
13. *Preqin Investor Update: Alternative Assets*

	Policy Target	Policy Range	Market Value %	Market Value \$(000)	Unfunded Commitment \$(000)	Market Value + Unfunded \$(000)
<b>ACERA Plan Assets - Total</b>				<b>\$8,354,082</b>		
<b>Private Equity:</b>	<b>9.0%</b>	<b>0-13%</b>	<b>6.7%</b>	<b>\$563,700</b>	<b>\$556,676</b>	<b>\$1,120,376</b>
Buyouts	60.0%	30-80%	56.2%	\$316,600	\$311,401	\$628,001
Venture Capital	20.0%	0-40%	32.1%	\$180,689	\$53,727	\$234,416
Debt-Related/Special Situations	20.0%	0-70%	11.8%	\$66,411	\$191,548	\$257,959

### Portfolio Summary

- As of June 30, 2019, the Private Equity portfolio had a total market value of \$563.7 million, with \$316.6 million in Buyouts, \$180.7 million in Venture Capital, and \$66.4 million in Debt-Related / Special Situations. Total market value is the current reported value of investments, excluding the remaining amount of unfunded commitments.
- Since its initial allocation to Private Equity in Q4 2008, ACERA has contributed \$764.8 million towards its Private Equity commitments, with \$416.1 million to Buyouts, \$154.6 million to Venture Capital, and \$194.0 million in Debt-Related / Special Situations. Unfunded commitments total \$556.7 million.

### Portfolio Activity

- ACERA made two new commitments to Private Equity in the first half of 2019: \$60.0 million to Great Hill Equity Partners VII, L.P. (\$35.0 million in Buyout and \$25.0 million in Venture Capital) and \$25.0 million to Genstar Capital Partners IX, L.P. (Buyout).

# Private Equity Portfolio Performance

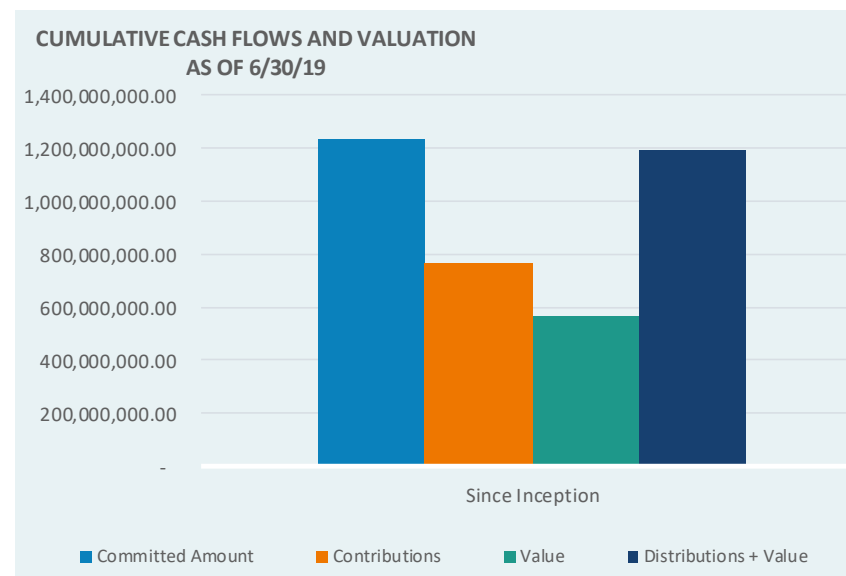
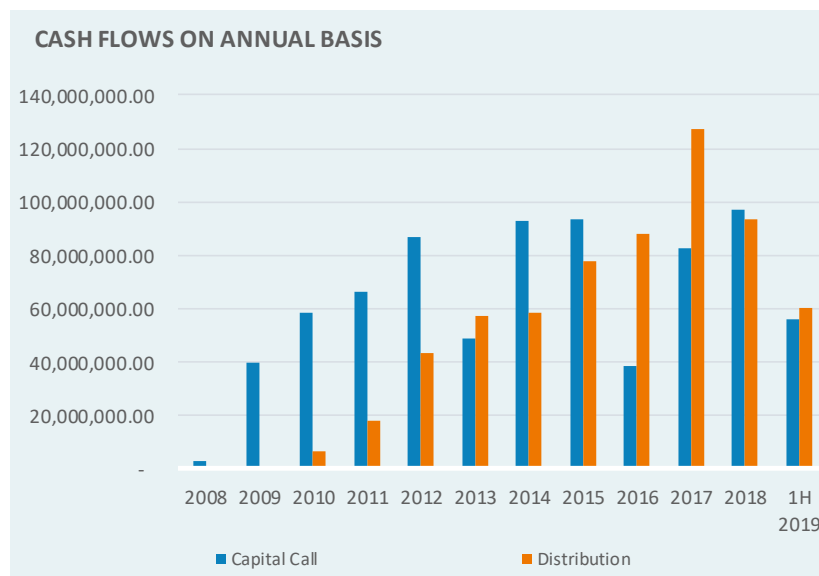
Period Ending: June 30, 2019

## Performance

- Current Private Equity portfolio is valued at \$563.7 million. Portfolio investments have a capital-weighted average life of 4.6 years.
  - Since inception, the portfolio has produced +15.08% net IRR, outperforming its Thomson Reuters C|A Global PE benchmark pooled IRR of 13.75% by 133 basis points. Portfolio returns rank above Median on net IRR, Total Value Multiple (TVPI); and Distribution Multiple (DPI).
  - Relative to the global benchmark peers in the same Vintage Years since inception (2008), the net IRR, TVPI, and DPI of the Buyout and Debt-Related / Special Situations portfolios rank above Median; and Venture Capital ranks above Top-Quartile on TVPI and DPI, and above Median on IRR.
- Together with \$630.4 million in realized distributions (0.82x cost), Private Equity's Total Value at \$1,194.1 million is approximately \$429.3 million above \$764.8 million cost (1.56x cost), net of fees. Return drivers include:
  - Venture Capital up \$177.99 million / +115.1% versus cost (General Catalyst VI, Third Rock II & III, Great Hill IV, Khosla Ventures IV & Seed B, and NEA 13

& 14 leading), with 98.3% of called capital realized and distributed. Since inception, this portfolio produced 21.00% net IRR versus its peer global benchmark of 17.36% pooled IRR.

- Buyouts up \$187.14 million / +45.0% versus cost (Sycamore I, Great Hill V, Insight Equity II, and ABRY Partners VII leading), with 68.9% of called capital realized and distributed. Since inception, the Buyouts portfolio produced 14.13% net IRR versus its peer global benchmark of 14.98% pooled IRR.
  - Debt-Related / Special Situations was up \$64.17 million/+33.1% versus cost (ABRY Advanced Securities II, Centerbridge, ABRY Senior Equity IV, and OHA Strategic Credit IB leading), with 98.8% of called capital realized and distributed. Since inception, this portfolio produced 10.50% net IRR versus its peer global benchmark of 10.93% pooled IRR.
- Within Private Equity, the current allocation of invested capital is 56% to Buyouts, 32% to Venture Capital and 12% to Debt / Special Situations. Of \$630.4 million in cash distributions, 45% were from Buyouts, 30% from Debt-Related/Special Situations, and 24% from Venture Capital.



# Private Equity – Portfolio Performance vs. Pooled Benchmark IRR

Period Ending: June 30, 2019

	1-Year	3-Year	5-Year	10-Year	Since Inception <sup>2</sup>
<b>Buyout</b>	<b>7.07%</b>	<b>11.54%</b>	<b>12.95%</b>	<b>14.34%</b>	<b>14.13%</b>
<i>Thomson Reuters C/A Global Buyout Benchmark<sup>1</sup></i>	12.55%	18.33%	15.14%	15.94%	14.98%
<b>Venture Capital</b>	<b>23.23%</b>	<b>21.95%</b>	<b>22.40%</b>	<b>21.16%</b>	<b>21.00%</b>
<i>Thomson Reuters C/A Global Venture Capital &amp; Growth Equity Benchmark<sup>1</sup></i>	19.30%	18.58%	17.41%	17.74%	17.36%
<b>Debt-Related / Special Situation</b>	<b>-3.65%</b>	<b>9.07%</b>	<b>6.32%</b>	<b>11.00%</b>	<b>10.50%</b>
<i>Thomson Reuters C/A Global Mezzanine &amp; Distressed Benchmark<sup>1</sup></i>	5.01%	10.46%	7.73%	11.13%	10.93%
<b>Total Private Equity</b>	<b>10.77%</b>	<b>14.78%</b>	<b>14.95%</b>	<b>15.37%</b>	<b>15.08%</b>
<i>Thomson Reuters C/A Global All Private Equity Benchmark<sup>1</sup></i>	11.91%	16.02%	13.03%	14.34%	13.75%

*Identical cash flows from portfolio inception through 6/30/2019 invested in Russell 3000 Total Return index would yield 13.49% (Long Nickels). The result is an over performance of the portfolio of 1.59% relative to the index. Analysis provided by Solovis.*

<sup>1</sup> Benchmarks: Thomson Reuters C/A as of 6/30/19, vintage 2008 through present.

<sup>2</sup> ACERA's inception date of November 21, 2008 vs. Thomson Reuters C/A's inception date of January 1, 2008.



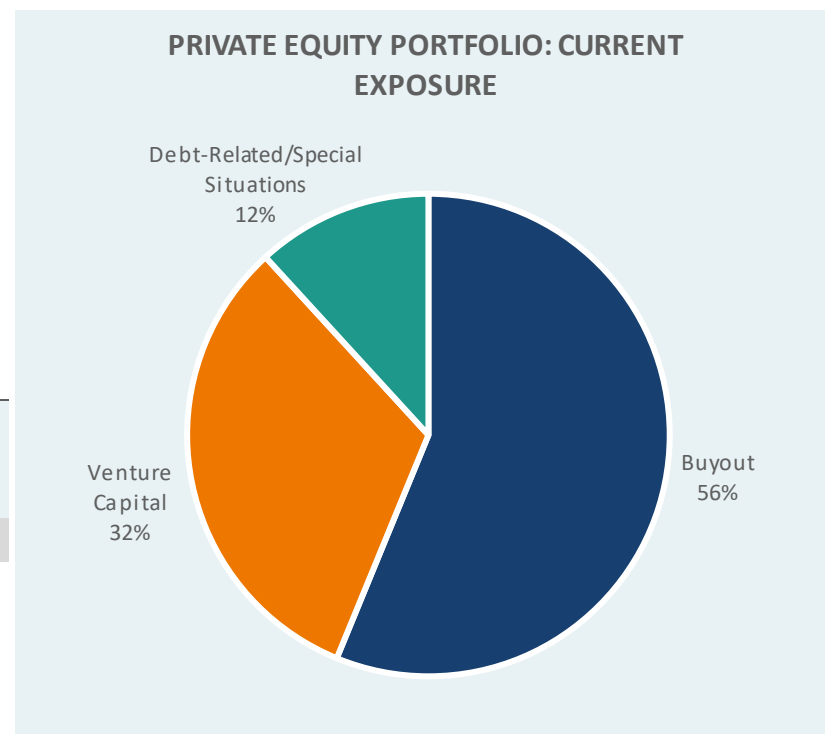
# Strategy

## Portfolio Diversification

Period Ending: June 30, 2019

Investment Type	Commitment	Current Exposure	Current Exposure as % of Private Equity
Buyout	682,080,900	316,599,509	56.2%
Venture Capital	208,100,000	180,689,434	32.0%
Debt-Related/Special Situations	343,196,451	66,411,391	11.8%
<b>Total Private Equity</b>	<b>1,233,377,351</b>	<b>563,700,334</b>	<b>100.0%</b>

Investment Type	Target Range	Target Exposure	Current Exposure as % of Target	Difference
Buyout	4%-8%	5.4%	3.8%	-1.6%
Venture Capital	0%-3%	1.8%	2.1%	0.3%
Debt-Related/Special Situations	1%-3%	1.8%	0.8%	-1.0%
<b>Total Private Equity</b>	<b>0%-13%</b>	<b>9.0%</b>	<b>6.7%</b>	<b>-2.3%</b>

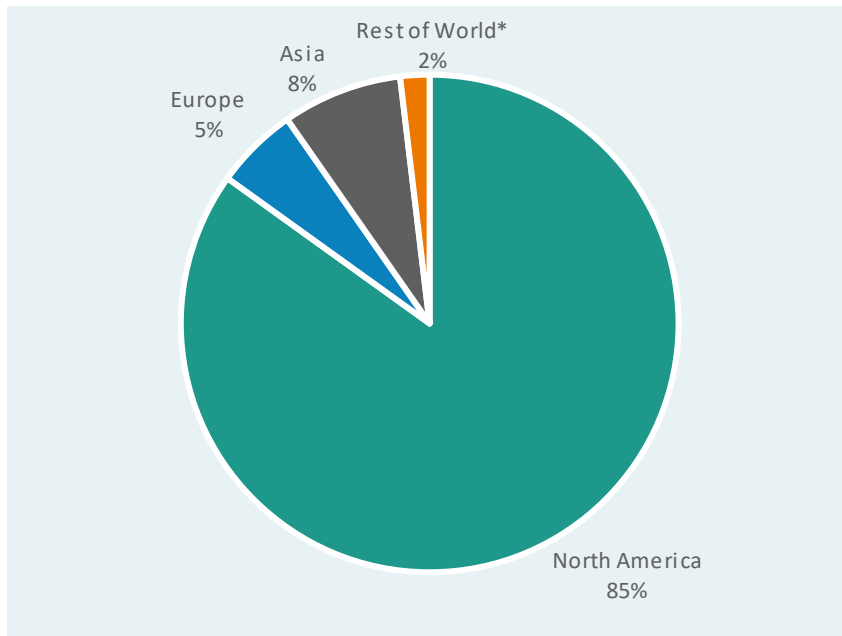


# Geography

## Private Equity Portfolio Diversification

Period Ending: June 30, 2019

<b>Geography</b>	<b>Current Exposure</b>
North America	463,783,780
Europe	29,036,836
Asia	42,044,595
Rest of World*	10,267,670
<b>Total Private Equity</b>	<b>545,132,880</b>



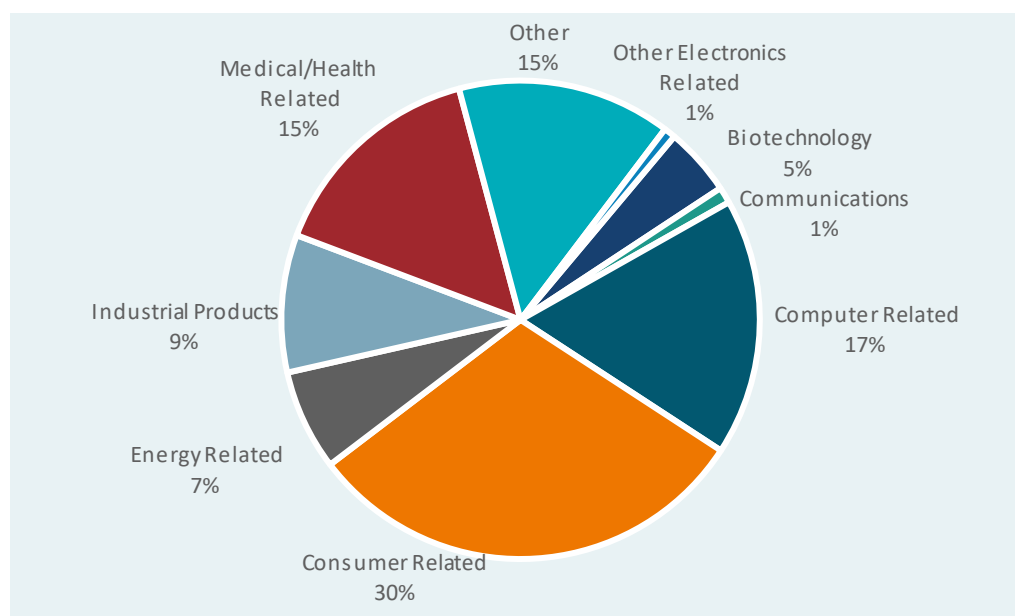
Based on the value of private equity portfolio companies as of June 30, 2019, as provided by the partnerships. Differences between reported value and the private equity portfolio valuation is due to temporary cash funds, fees, other expenses, and holdings with undisclosed geography breakdown.

\* Rest of World includes: Brazil, New Zealand, Kenya, Israel, United Arab Emirates, Australia, and Turkey.

# Industry Private Equity Portfolio Diversification

Period Ending: June 30, 2019

Industry	Current Exposure
Biotechnology	25,178,623
Communications	5,970,791
Computer Related	94,708,857
Consumer Related	165,986,638
Energy Related	37,124,150
Industrial Products	50,690,888
Medical/Health Related	82,292,678
Other	78,848,212
Other Electronics Related	4,332,043
<b>Total Private Equity</b>	<b>545,132,880</b>

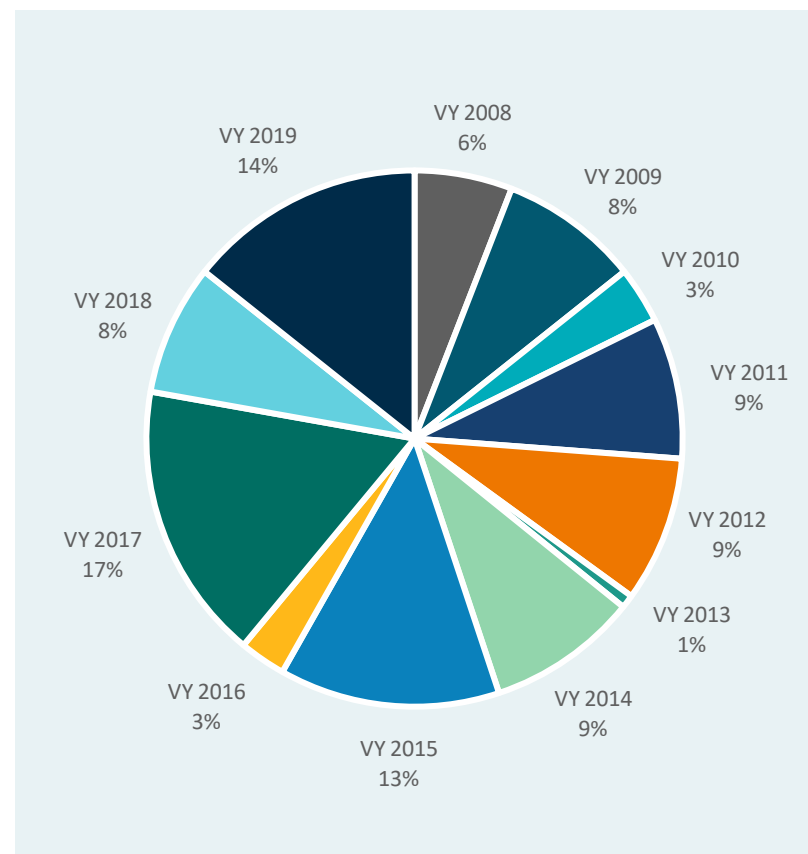


Based on the value of private equity portfolio companies as of June 30, 2019, as provided by the partnerships. Differences between reported value and the private equity portfolio valuation is due to temporary cash funds, fees, other expenses, and holdings with undisclosed industry breakdown.

# Vintage Year Private Equity Portfolio Diversification

Period Ending: June 30, 2019

Vintage Year	Commitment as of 6/30/19	% of Portfolio Commitment	Reported Value as of 6/30/19
2008	72,955,878	5.9%	8,541,771
2009	103,500,000	8.4%	36,476,302
2010	42,500,000	3.4%	8,045,211
2011	104,817,073	8.5%	66,832,698
2012	108,500,000	8.8%	124,954,354
2013	10,000,000	0.8%	12,896,956
2014	112,080,000	9.1%	94,812,050
2015	163,250,000	13.3%	125,478,547
2016	35,000,000	2.8%	6,366,218
2017	206,798,500	16.8%	68,377,916
2018	98,000,000	7.9%	8,497,294
2019	175,975,900	14.3%	2,421,018
<b>Total Private Equity</b>	<b>1,233,377,351</b>	<b>100%</b>	<b>563,700,334</b>



- **As of June 30, 2019, the Private Equity Portfolio is below its neutral target allocation of 9.0%, as commitments continue to be made to various funds. The allocation target increased from 6.0% to 9.0% in September 2017.**



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



PERIOD ENDING: JUNE 30, 2019

Real Assets Review

**Alameda County Employees' Retirement Association**

# Table of Contents



VERUSINVESTMENTS.COM

SEATTLE 206-622-3700

LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

---

Real Assets Portfolio Performance	3
-----------------------------------	---

---

Real Assets Portfolio Diversification	5
---------------------------------------	---

- RA Portfolio Diversification by Strategy
- RA Portfolio Diversification by Geography
- RA Portfolio Diversification by Vintage Year

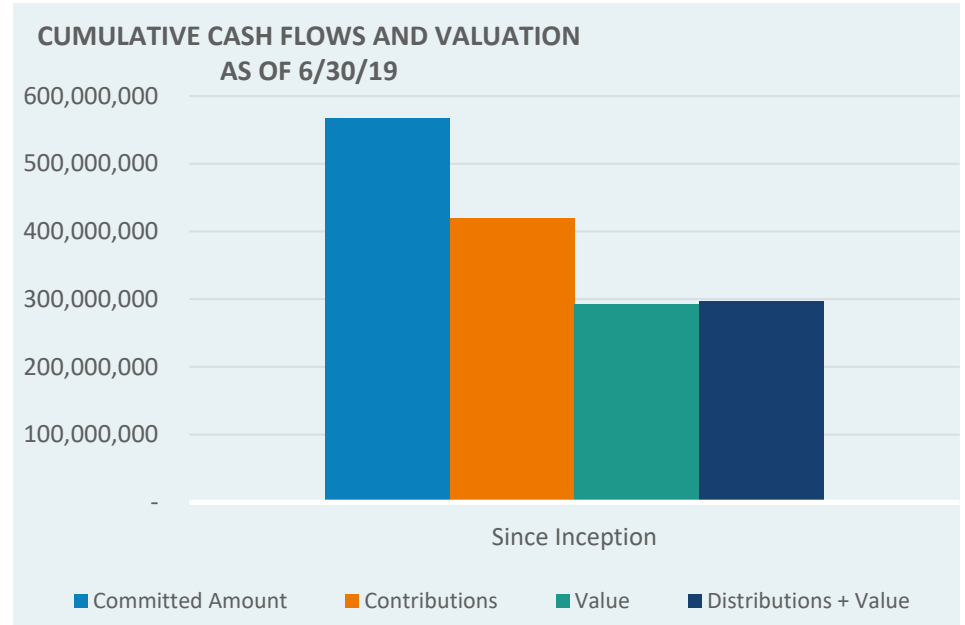
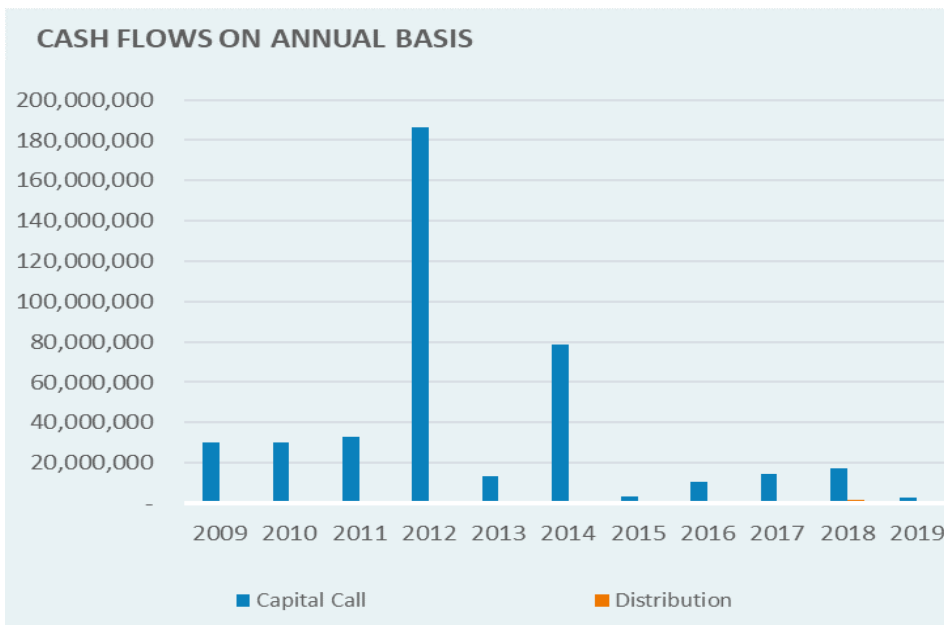
---

Real Assets Program Update	8
----------------------------	---

*Past performance is no guarantee of future results. This document is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and is not intended for retail investors. Nothing herein constitutes investment, legal, accounting or tax advice, or a recommendation to buy, sell or hold a security or pursue a particular investment vehicle or any trading strategy. This document may include or imply estimates, outlooks, projections and other "forward-looking statements." No assurance can be given that future results described or implied by any forward looking information will be achieved. Investing entails risks, including possible loss of principal. Verus Advisory Inc. and Verus Investors, LLC ("Verus") file a single form ADV under the United States Investment Advisors Act of 1940, as amended.*

## Performance

- ACERA’s Real Asset Pool has produced a -5.26% IRR since inception. The portfolio’s poor performance has been driven primarily by the large weighting in commodity futures (Gresham and AQR) and from earlier investments in energy (Sheridan). More recent investments in CIM Infrastructure, Quantum Energy, and ISQ Global Infrastructure have emerged from their j-curve but are still too early in their fund life to gauge performance.
- The commitment to Taurus Mining Finance II is ACERA’s first mining investment. Taurus’ strategy also helps to mitigate the broader portfolio’s j-curve due to the unique cash flow structure within project finance loans.





## Real Assets Performance vs. Pooled Benchmark IRR

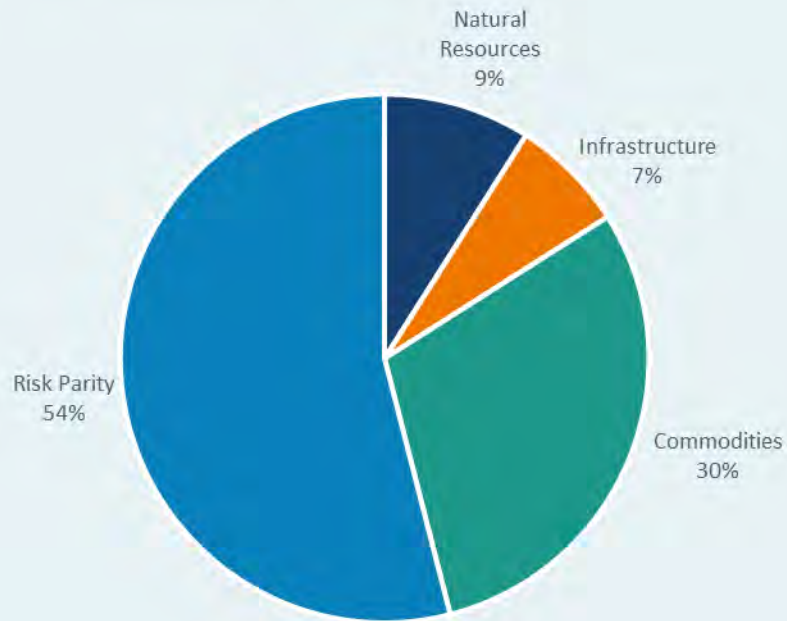
Period Ending: June 30, 2019

	1-Year	3-Year	5-Year	10-Year	Since Inception
<b>Natural Resources Funds</b>	<b>-28.20%</b>	<b>-19.68%</b>	<b>-15.79%</b>	<b>N/A</b>	<b>-15.43%</b>
<i>S&amp;P Global Natural Resources Index<sup>1</sup></i>	-4.20%	8.52%	1.91%	2.09%	2.09%
<b>Infrastructure Funds</b>	<b>7.10%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>5.29%</b>
<i>S&amp;P Global Infrastructure Index<sup>1</sup></i>	18.30%	9.02%	9.02%	9.02%	9.02%
<b>Liquid Pool Funds</b>	<b>-11.73%</b>	<b>-1.27%</b>	<b>-7.10%</b>	<b>-4.95%</b>	<b>-4.82%</b>
<i>Bloomberg Commodity Index<sup>1</sup></i>	-6.75%	-2.18%	-9.14%	-6.89%	-6.78%
<b>Total Real Assets</b>	<b>-12.41%</b>	<b>-2.59%</b>	<b>-7.34%</b>	<b>-5.38%</b>	<b>-5.26%</b>

<sup>1</sup> Benchmarks: Identical cash flows invested in the appropriate benchmarks through the life of the portfolio up through 6/30/2019. Analysis provided by Solovis.

Investment Type	Commitment	Current Exposure	Current Exposure as % of Portfolio
Natural Resources	104,000,000	26,517,629	9.1%
Infrastructure	115,000,000	21,280,727	7.3%
Commodities	123,700,000	88,025,341	30.1%
Risk Parity	223,979,858	156,198,951	53.5%
<b>Total Portfolio</b>	<b>566,679,858</b>	<b>292,022,648</b>	<b>100.0%</b>

REAL ASSETS PORTFOLIO: CURRENT EXPOSURE

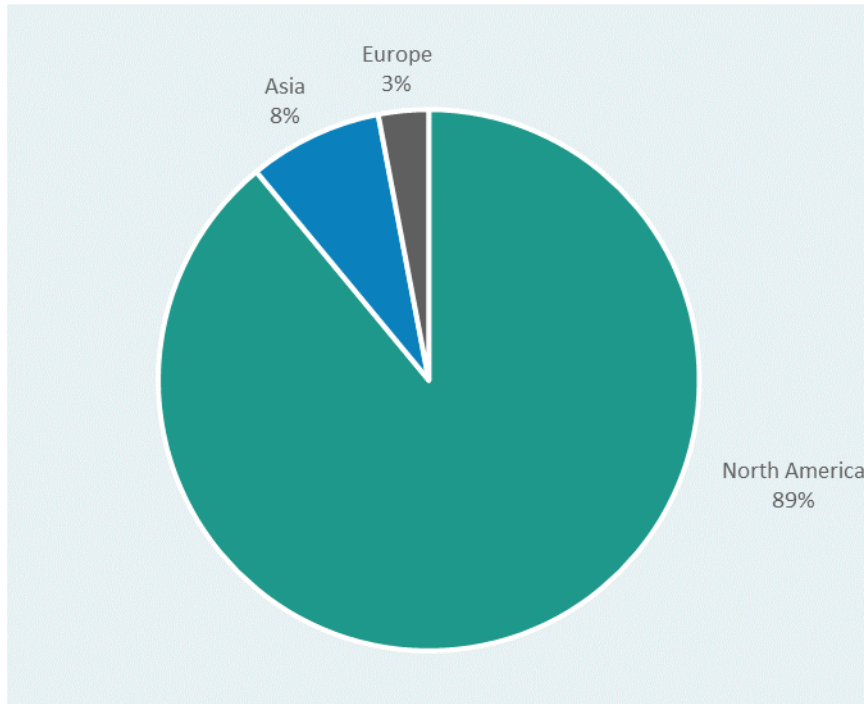


# Geography Portfolio Diversification

Period Ending: June 30, 2019

Geography	Reported Fair Value
North America	42,581,745
Asia	3,744,075
Europe	1,472,536
<b>Total Portfolio*</b>	<b>47,798,356</b>

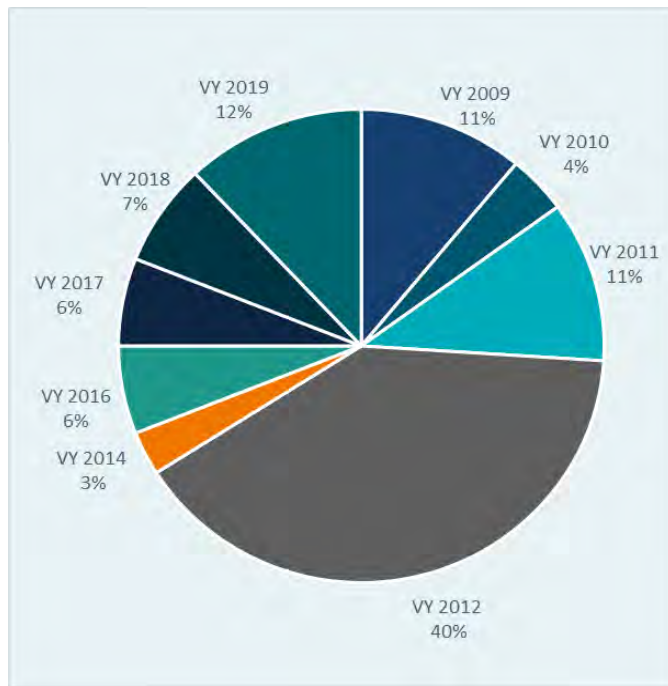
\* Excludes Liquid assets.



# Vintage Year Portfolio Diversification

Period Ending: June 30, 2019

Vintage Year	Commitment as of 6/30/19	% of Portfolio Commitment	Reported Value as of 6/30/19
2009	62,900,000	11.1%	49,821,337
2010	24,000,000	4.2%	0
2011	60,800,000	10.7%	38,204,004
2012	223,979,858	39.5%	156,198,951
2014	15,000,000	2.6%	12,058,281
2016	35,000,000	6.2%	9,039,276
2017	35,000,000	6.2%	14,459,348
2018	40,000,000	7.1%	10,965,884
2019	70,000,000	12.4%	1,275,567
<b>Total Portfolio</b>	<b>566,679,858</b>	<b>100%</b>	<b>292,022,648</b>



## Real Assets Program Update

---

- ACERA committed to Taurus Mining Finance II in February which marked the portfolio's first mining investment and the first dedicated debt fund.
- We are actively looking at an opportunity in Core Infrastructure which we may bring to the Board in early 2020.
- Valuations across most asset classes has made it challenging to find attractive opportunities. Fundraising within natural resources is daunting for GPs and mirrors our difficulty in finding investment strategies that meet risk/return hurdles. Infrastructure fundraising has the opposite problem as institutions increasingly look to deploy capital in defensive, yield-oriented strategies like infrastructure.
- As the shift away from commodity-oriented sectors continues, we will look opportunistically for strategies in the space, but we expect infrastructure to occupy a larger share of real asset portfolios going forward.



December 2019

**Semiannual Real Estate  
Performance Measurement Review**

Callan

**PUBLIC VERSION**

---

**Avery Robinson, CAIA**  
Senior Vice President

# Real Estate Market Overview

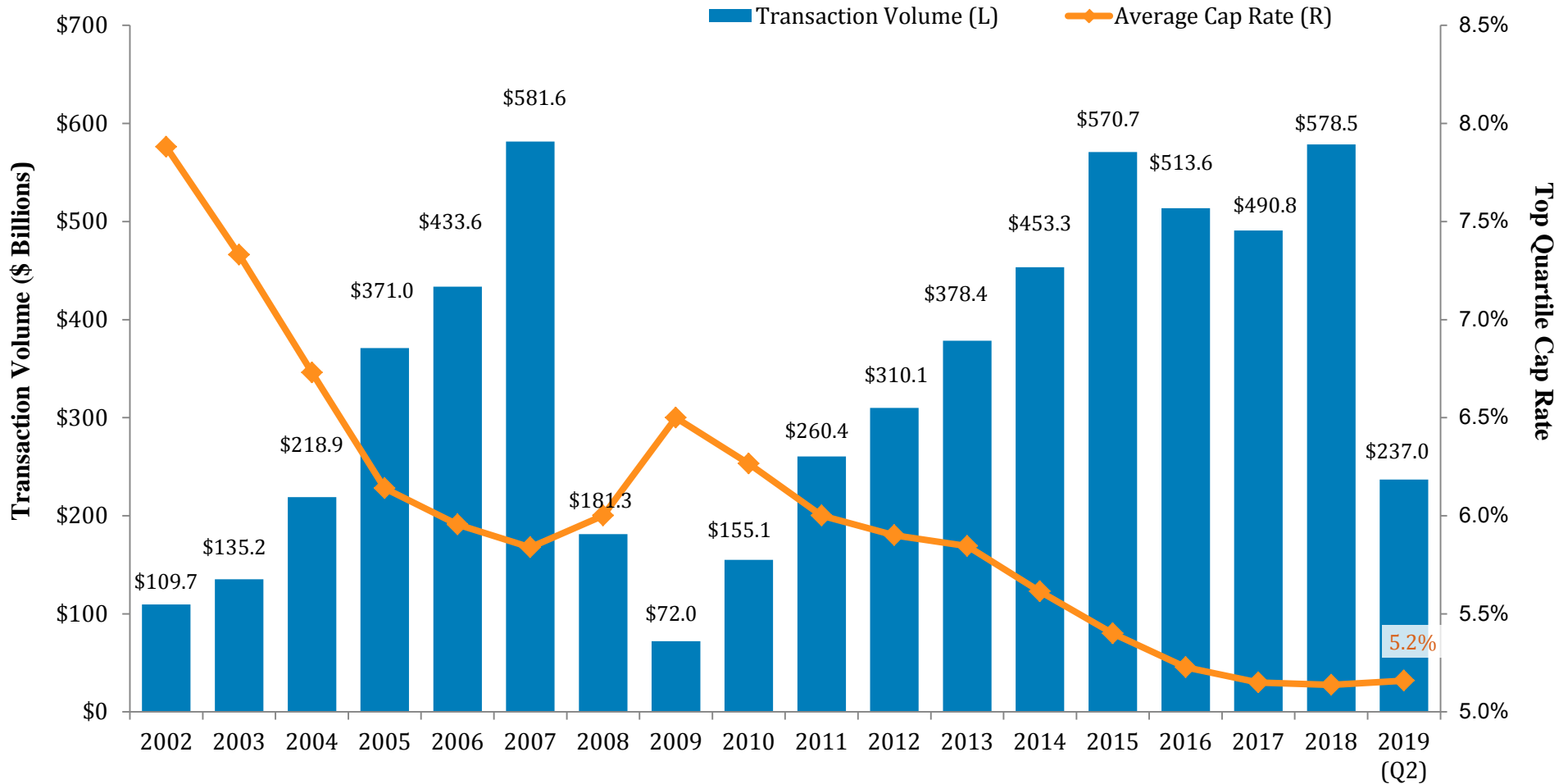
---

- 2018 represented a robust year for global capital flows into real estate. In the first half of 2019, flows remained substantial, however, cross border investment in the US slowed with certain sovereigns, as deals are getting tougher to pencil primarily due to historically low cap rates and the stronger US dollar.
- US Real estate fundamentals are healthy:
  - Within the NPI, the vacancy rate for U.S. property was 5.7% in the second quarter of 2019, its lowest level since 2000.
  - Vacancies were below their 20-year average in every major sector.
  - Net operating income is growing annually and it is expected to be the primary driver of returns going forward as the real estate cycle is in a mature phase with moderating appreciation; however, overall appreciation has not been slowing as quickly as investors predicted, driven primarily by the industrial markets.
  - Not all markets are created equal. Northeast primary markets have generally underperformed the Southeast and certain West Coast markets driven by affordability options in the Southeast and tech driven growth on the West Coast.
  - There is also dispersion within the property sectors as suburban office has outperformed central business district office over the last year. Neighborhood retail has been a relative bright spot in comparison to regional malls and power centers. Garden and low rise apartments lead the strong multifamily sector while high rise has lagged, albeit with stable rents that have just not experienced the rent growth in the suburban markets.
  - Industrial continues to be strong across all subsectors with warehouse, R&D and flex space performing equally well.

# 2019 Volume Matches 2017 and 2018 With Capitalization Rates at Historic Lows

Transaction volume through the first half of 2019 remains strong

All Property Types Transaction Volume And Top Quartile Cap Rates US 2002-2019 Q2



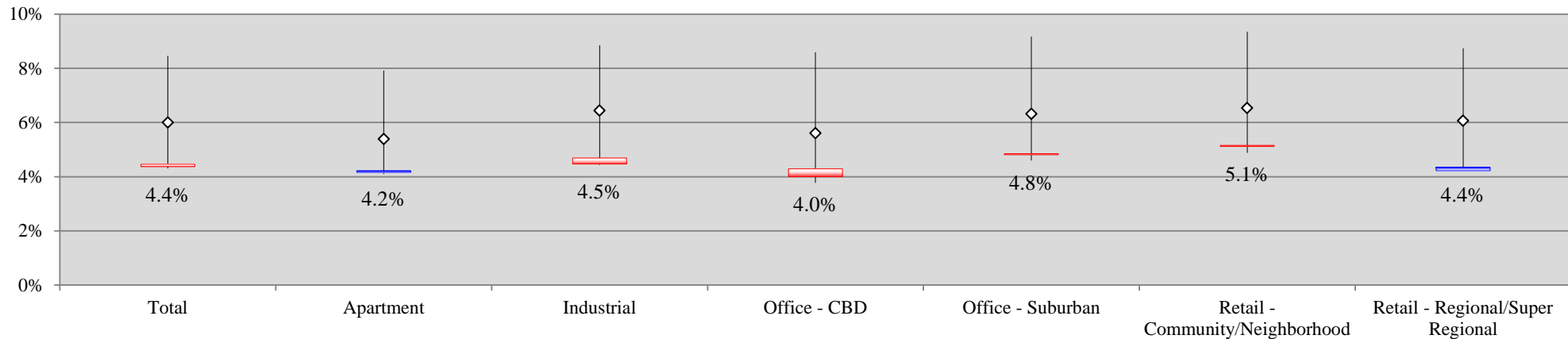
Source: Real Capital Analytics; Heitman Research



# Returns Are Expected to Continue to Moderate

September 2019 Survey	Actual 2018	Actual YTD 2019	2019	2020	2021	2019 to 2023
NPI Total Return	6.7%	3.3%	6.5%	5.3%	4.5%	5.5%
Income Return	4.6%	2.2%	4.5%	4.5%	4.6%	4.6%
Capital Appreciation	2.1%	1.1%	2.0%	0.8%	-0.1%	0.9%

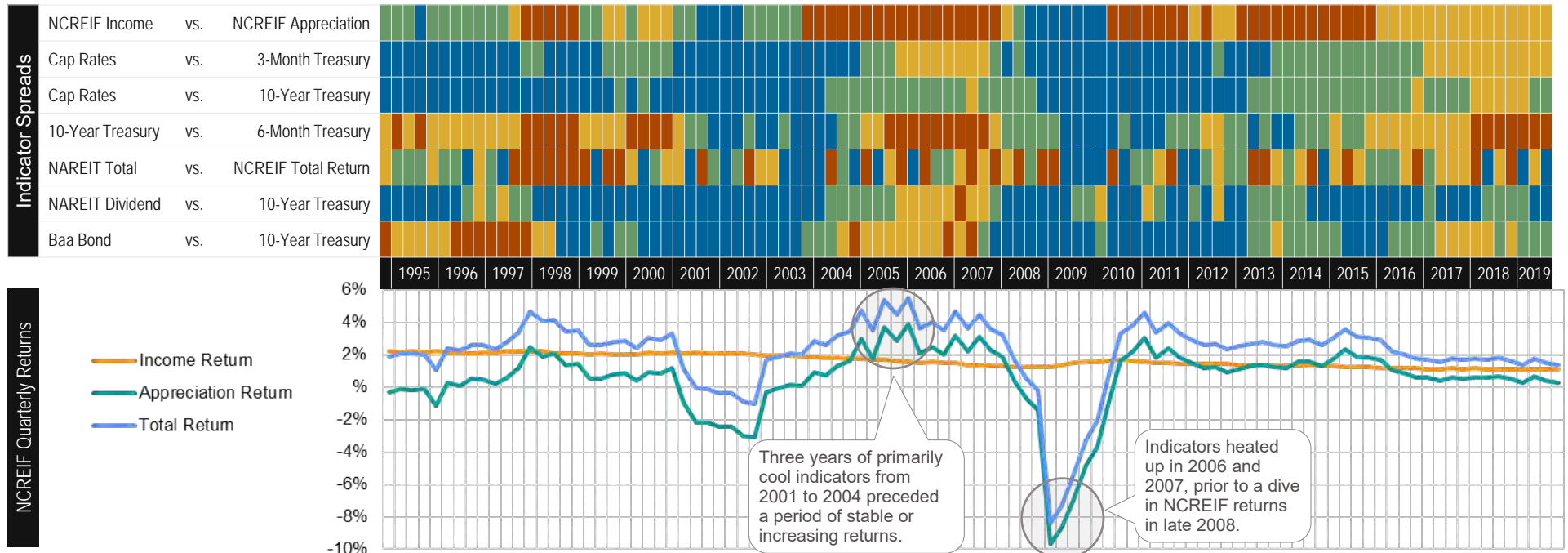
## NCREIF Appraisal Cap Rates By Property Type 1999-2019 Q2



Source: PREA, NCREIF, AEW Capital Management. Note: Retail definitions in appendix. Cap rate levels chart shows historic range (hi to low) with the average indicated by the diamond and the current cap rates shown as the numeric value. Red indicates cap rates have decreased over last year. Blue indicates cap rates have increased over the past year. The width of band represents the range in cap rates over the last year.

# Real Estate Indicators: Too Hot to Touch or Cool Enough to Handle?

## Quartile Results as of September 30, 2019



The seven indicator spreads reveal multiple instances when wide spreads (cool indicators) preceded stable or increasing performance, and narrow spreads (hot indicators) were more prevalent before declining market periods.

# Alameda County Employees' Retirement Association Performance Measurement Report Summary

## Portfolio Measurement Presentation

This is the Performance Measurement Report presentation for the Alameda County Employees' Retirement Association ("ACERA") Real Estate Portfolio ("Portfolio") Quarter ending September 30, 2019 ("Quarter").

## Funding Status as of September 30, 2019

	(\$ Millions)	(%)
ACERA Plan Assets	8,327.781	100.00%
Real Estate Target <sup>(1)</sup>	666.222	8.00%
Plan's Real Estate Market Value	583.195	7.00%
Net Unfunded Commitments	76.041	0.91%
RE Market Value & Unfunded Commitments	659.236	7.92%
Remaining Allocation	83.028	1.00%

## Portfolio Composition

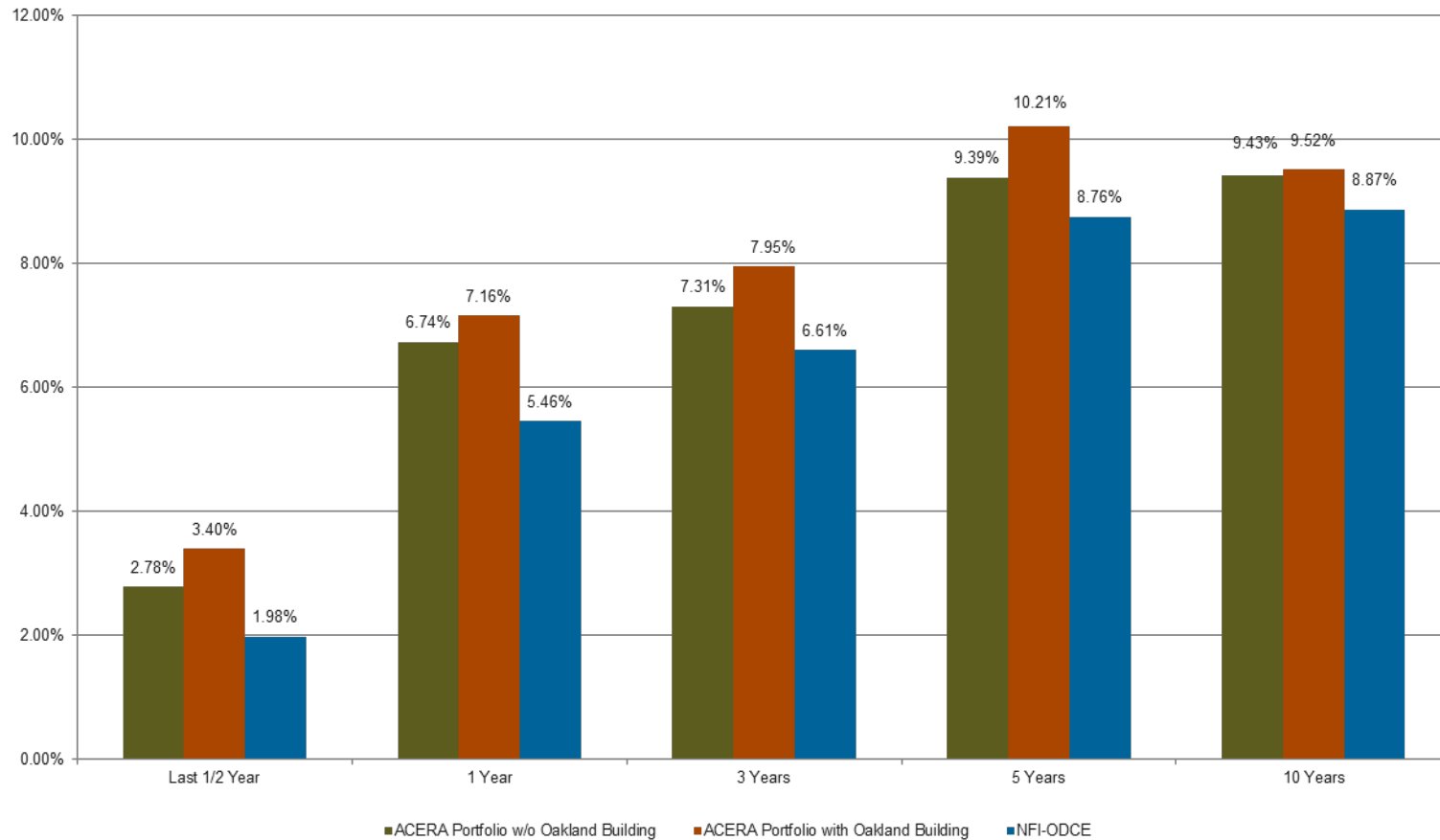
	Target	Funded	Funded & Committed
Core	70.00%	68.87%	63.84%
Non-Core	30.00%	31.12%	36.16%

1. The Real Estate Target increase from 6% to 8% was adopted in August 2015.
2. In July 2018 the Board adopted the recommendation to invest \$35 million in Angelo Gordon Realty Value Fund X. The initial contribution into the fund occurred on 6/10/2019.

# Portfolio Net Returns

For Period Ended June 30, 2019

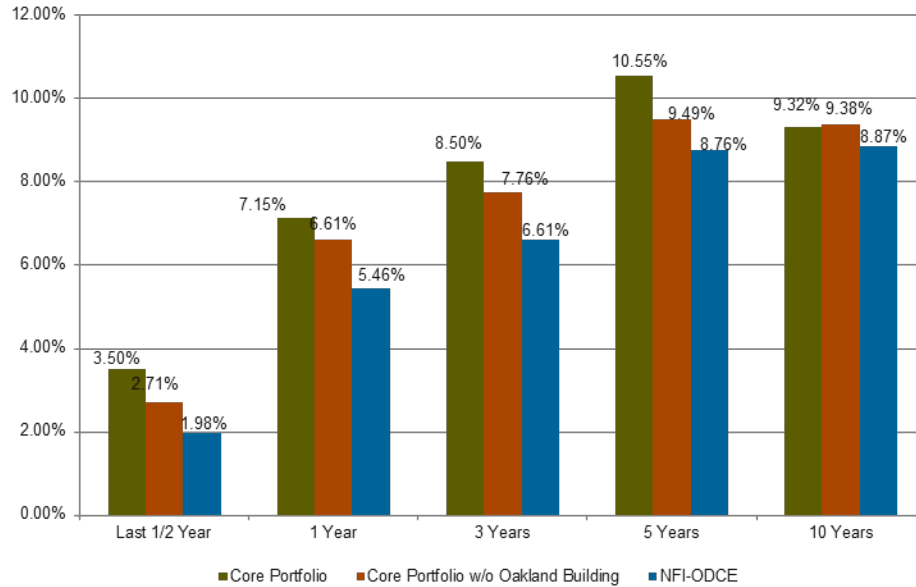
### Total Net Real Estate Portfolio Returns



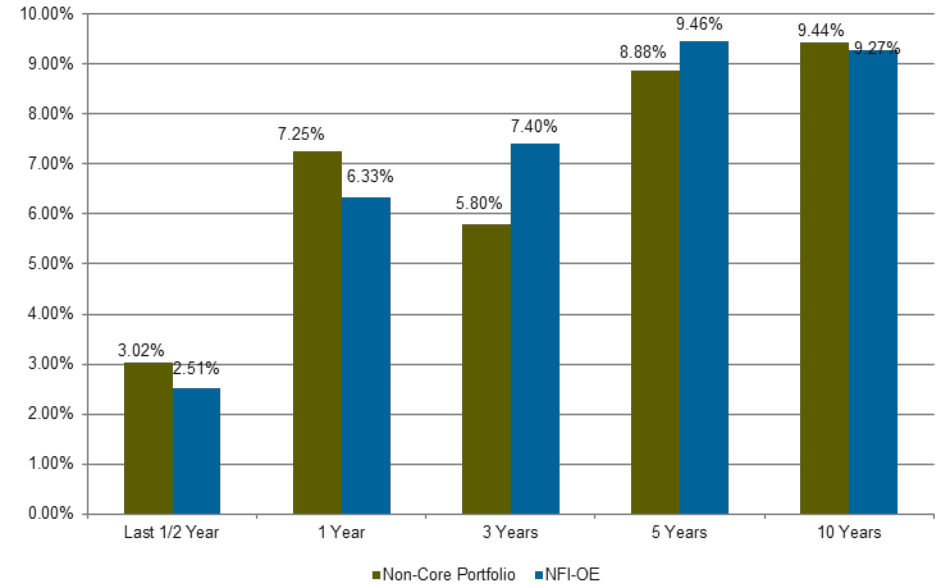
# Portfolio Returns by Style

For Period Ended June 30, 2019

Net Core Returns



Net Non-Core Returns



Net Portfolio w/o Oakland Building	Last ½ Year	1 Year	3 Years	5 Years	10 Years
Core Portfolio w/o Oakland Building	2.71%	6.61%	7.76%	9.49%	9.38%
Non-Core Portfolio	3.02%	7.25%	5.80%	8.88%	9.44%
<b>Total Portfolio w/o Oakland Building</b>	<b>2.78%</b>	<b>6.74%</b>	<b>7.31%</b>	<b>9.39%</b>	<b>9.43%</b>

Net Total Portfolio	Last ½ Year	1 Year	3 Years	5 Years	10 Years
Core Portfolio	3.50%	7.15%	8.50%	10.55%	9.32%
Non-Core Portfolio	3.02%	7.25%	5.80%	8.88%	9.44%
<b>Total Portfolio</b>	<b>3.40%</b>	<b>7.16%</b>	<b>7.95%</b>	<b>10.21%</b>	<b>9.52%</b>

# Performance Drivers and Detractors by Style

---

## Core Portfolio (Excluding Oakland Building)

- The ACERA Core Portfolio has outperformed the benchmark during every period over the last ten years and it continued that trend this quarter beating the benchmark by 14 bps.
- The Lion Industrial Trust once again was a performance leader during the first half of the year.
- The Oakland building also continued its strong performance recording a 8.20% return during the first half of the year.
- The UBS Trumbull Property Fund was a material detractor during the quarter as a result of property valuation write-downs.

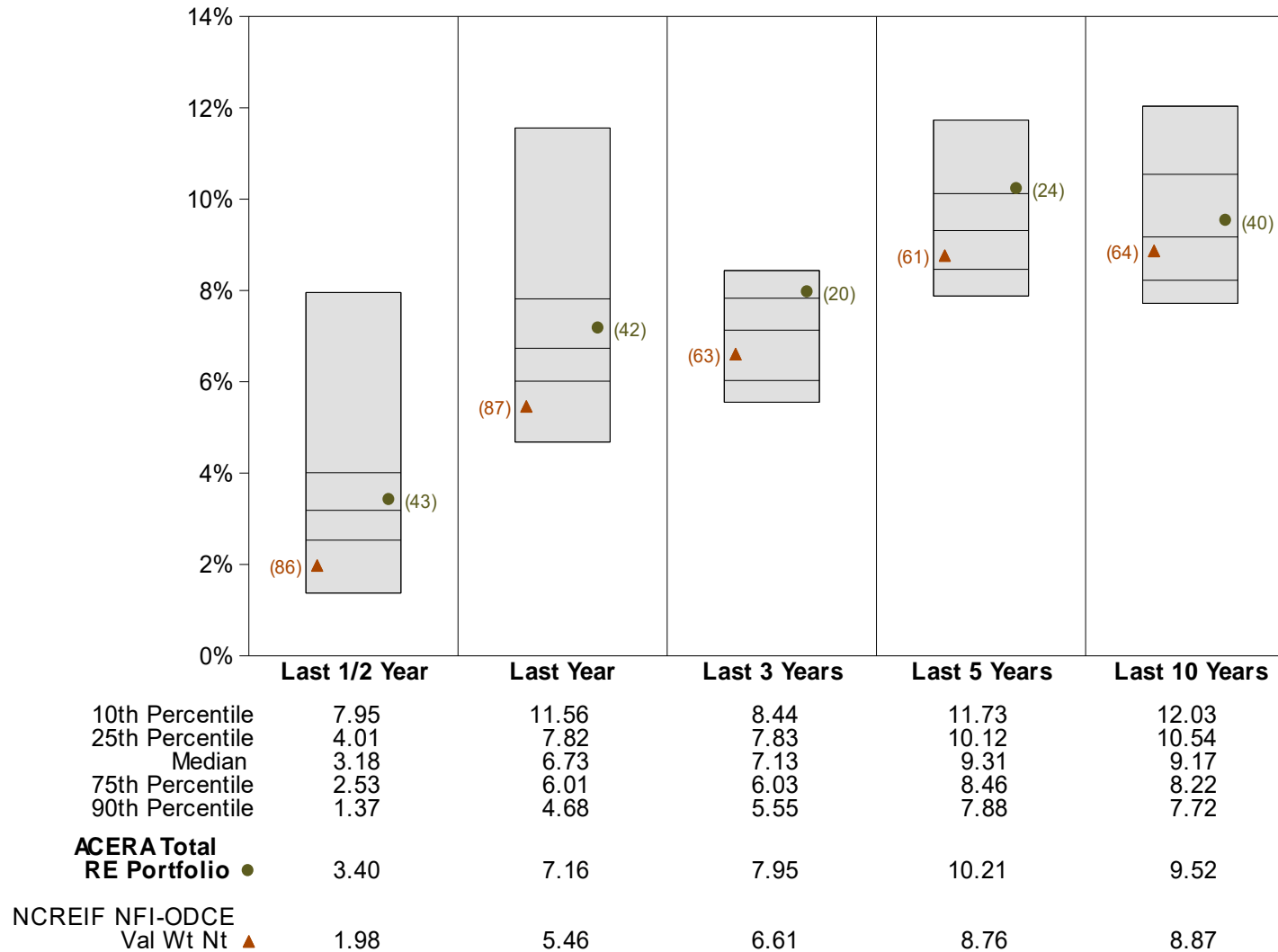
## Non-Core Portfolio

- The Non-Core portfolio's outperformance drivers were wide spread with AEW Partners VIII and Heitman Value Partners IV leading the way.
- The CIM VI account was the worst performer for the Non-Core Portfolio.

# Performance vs. Peer Group

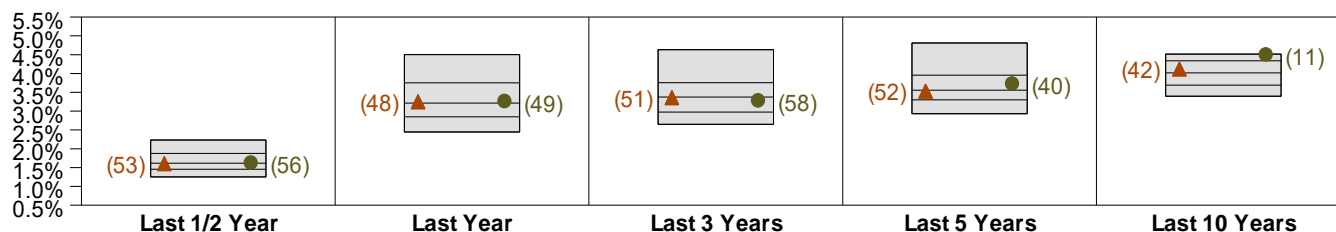
For Period Ended June 30, 2019

Performance vs Callan Open End Core Cmmingled Real Est



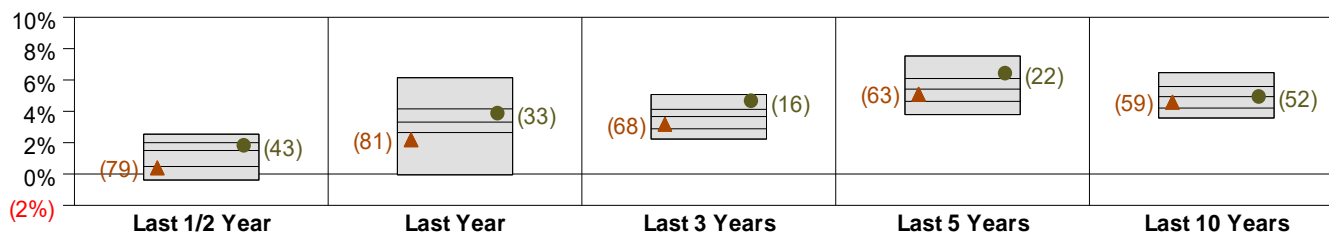
# Performance vs. Peer Group

## Income Rankings vs Callan OE Core Cmngld RE Periods ended June 30, 2019



	Last 1/2 Year	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	2.23	4.50	4.63	4.81	4.51
25th Percentile	1.88	3.75	3.76	3.95	4.34
Median	1.62	3.21	3.38	3.56	4.02
75th Percentile	1.46	2.85	2.97	3.30	3.69
90th Percentile	1.25	2.45	2.65	2.93	3.39
<b>ACERA Total RE Portfolio</b> ●	1.59	3.23	3.25	3.69	4.46
NCREIF NFI-ODCE Val Wt Nt ▲	1.61	3.25	3.36	3.53	4.12

## Appreciation Rankings vs Callan OE Core Cmngld RE Periods ended June 30, 2019



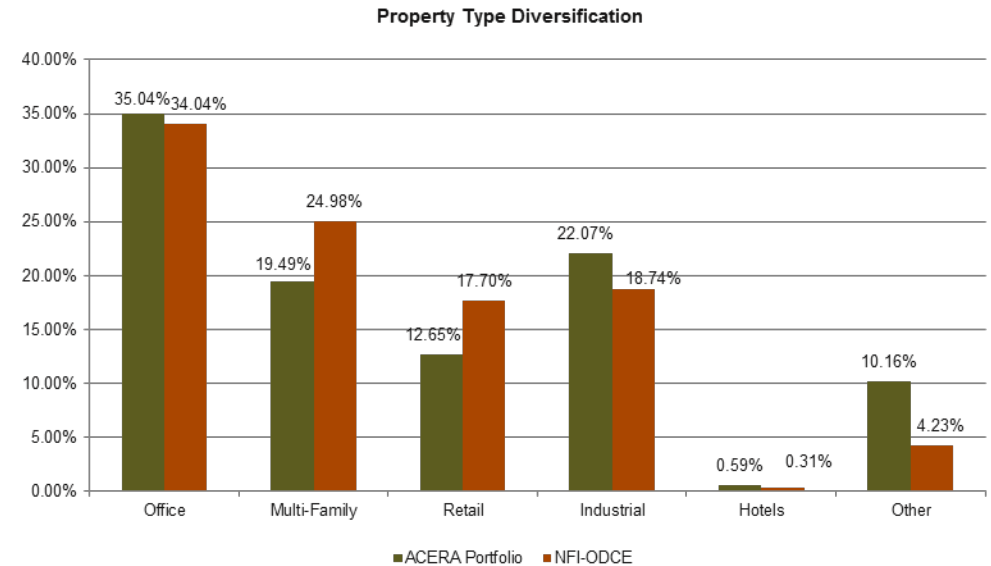
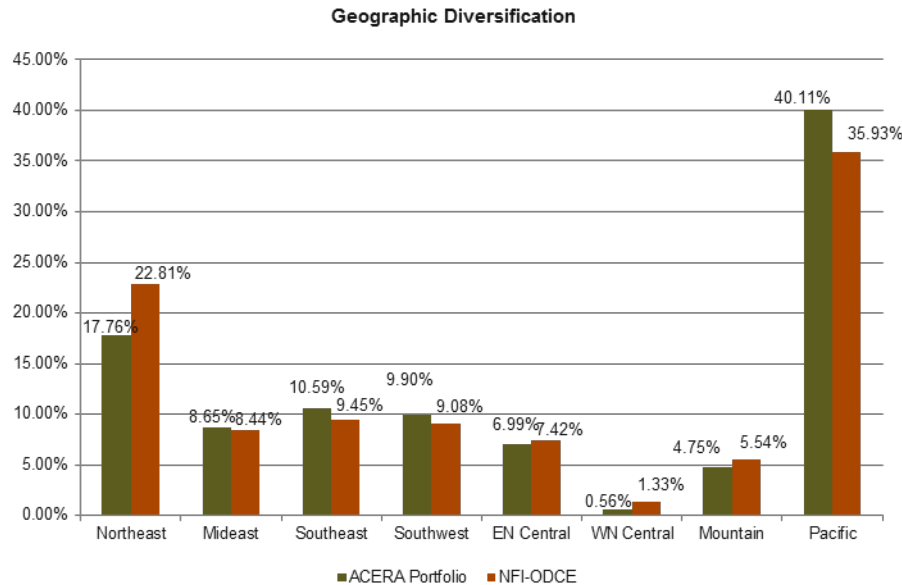
	Last 1/2 Year	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	2.55	6.15	5.07	7.53	6.47
25th Percentile	2.00	4.16	4.12	6.10	5.58
Median	1.50	3.32	3.67	5.42	4.94
75th Percentile	0.48	2.65	2.89	4.64	4.21
90th Percentile	(0.38)	(0.05)	2.23	3.79	3.57
<b>ACERA Total RE Portfolio</b> ●	1.74	3.78	4.58	6.34	4.85
NCREIF NFI-ODCE Val Wt Nt ▲	0.40	2.19	3.18	5.10	4.59



# Diversification & Debt

## Diversification – Total Portfolio (excluding Oakland Building)

- The ACERA Portfolio is well diversified by both property type and region.



## Debt Compliance

- The ACERA Strategic Plan limits leverage to 40.0% at the Portfolio level. As of June 30, 2019, the loan-to-value (“LTV”) ratio of the Portfolio was 24.66%.

# ACERA Real Estate Portfolio Snapshot – 2Q2019

Portfolio Composition (\$)									
Total Plan Assets	Allocation			Market Value		Unfunded Commitments		Remaining Allocation	
8,131,848,009	650,547,841	8.00%		588,248,080	7.23%	74,837,138	0.92%	62,299,761	0.77%

Performance Summary	Quarter (%)		1 Year		3 Years		5 Years		10 Years	
	TGRS	TNET	TGRS	TNET	TGRS	TNET	TGRS	TNET	TGRS	TNET
ACERA	1.94%	1.71%	8.19%	7.16%	9.10%	7.95%	11.32%	10.21%	10.59%	9.52%
NFI-ODCE	1.00%	0.77%	6.41%	5.46%	7.57%	6.61%	9.76%	8.76%	9.88%	8.87%

Funding Status (\$)	Investment Vintage Year	Commitment Amount	Funded Amount	Unfunded Amount	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)	Net IRR	Equity Multiple
Core Portfolio										
ACERA Oakland Building Portfolio	2002	31,700,000	31,700,000	\$0	42,695,934	73,547,029	12.50%	11.09%	9.57%	2.31x
<b>Core Portfolio</b>	<b>1986</b>	<b>336,700,000</b>	<b>336,700,000</b>	<b>\$0</b>	<b>128,615,180</b>	<b>471,186,268</b>	<b>80.11%</b>	<b>71.06%</b>		<b>1.49x</b>
Non-Core Portfolio										
<b>Non-Core Portfolio</b>	<b>1987</b>	<b>200,936,048</b>	<b>126,098,910</b>	<b>74,837,138</b>	<b>38,823,887</b>	<b>117,013,140</b>	<b>19.89%</b>	<b>28.94%</b>		<b>1.34x</b>
<b>Total Current Portfolio</b>	<b>1986</b>	<b>537,636,048</b>	<b>462,798,910</b>	<b>74,837,138</b>	<b>167,439,067</b>	<b>588,199,408</b>	<b>100.00%</b>	<b>100.00%</b>		<b>1.18x</b>
<b>ALAMEDA County Employees' Retirement Association</b>										

# Definitions

---

## Performance

Capitalization rate: Commonly known as cap rate, is a rate that helps in evaluating a real estate investment.  $\text{Cap rate} = \text{Net operating income} / \text{Current market value (Sale price) of the asset}$ .

Net operating income: Commonly known as NOI, is the annual income generated by an income-producing property, taking into account all income collected from operations, and deducting all expenses incurred from operations.

Real Estate Appraisal: The act of estimating the value of a property. A real estate appraisal may take into account the quality of the property, values of surrounding properties, and market conditions in the area.

Income Return ("INC"): Net operating income net of debt service before deduction of capital items (e.g., roof replacement, renovations, etc.)

Appreciation Return ("APP"): Increase or decrease in an investment's value based on internal or third party appraisal, recognition of capital expenditures which did not add value, uncollectible accrued income, or realized gain or loss from sales.

Total Gross Return ("TGRS"): The sum of the income return and appreciation return before adjusting for fees paid to and/or accrued by the manager.

Total Net Return ("TNET"): Total gross return less Advisor fees reported. All fees are requested (asset management, accrued incentives, paid incentives). No fee data is verified. May not include any fees paid directly by the investor as opposed to those paid from cash flows.

Inception Returns: The total net return for an investment or portfolio over the period of time the client has had funds invested. Total portfolio Inception Returns may include returns from investments no longer held in the current portfolio.

Net IRR: IRR after advisory fees, incentive, and promote. This includes actual cash flows and a reversion representing the LP Net Assets at market value as of the period end reporting date.

Equity Multiple: The ratio of Total Value to Paid-in-Capital (TVPIC). It represents the Total Return of the investment to the original investment not taking into consideration the time invested. Total Value is computed by adding the Residual Value and Distributions. It is calculated net of all investment advisory and incentive fees and promote.

# Definitions

---

## **Style Groups**

The Style Groups consist of returns from commingled funds with similar risk/return investment strategies. Investor portfolios/investments are compared to comparable style groupings.

Core: Direct investments in operating, fully leased, office, retail, industrial, or multifamily properties using little or no leverage (normally less than 30%).

Value-Added: Core returning investments that take on moderate additional risk from one or more of the following sources: leasing, re-development, exposure to non-traditional property types, the use of leverage.

Opportunistic: Investments that take on additional risk in order to achieve a higher return. Typical sources of risks are: development, land investing, operating company investing, international exposure, high leverage, distressed properties.

# Definitions

---

## Indices

Stylized Index: Weights the various style group participants so as to be comparable to the investor's portfolio holdings for each period.

Open-End Diversified Core Equity Index ("ODCE"): A core index that includes only open-end diversified core strategy funds with at least 95% of their investments in U.S. markets. The ODCE is the first of the NCREIF Fund Database products, created in May 2005, and is an index of investment returns reporting on both a historical and current basis (24 active vehicles). The ODCE Index is capitalization-weighted and is reported gross and net of fees. Measurement is time-weighted and includes leverage.

NCREIF Fund Index Open-End Index ("OE"): NFI-OE is an aggregate of open-end, commingled equity real estate funds with diverse investment strategies. Funds comprising NFI-OE have varied concentrations of sector and region, core and non-core, leverage, and life cycle.

NAREIT Equity Index: This is an index of Equity Real Estate Investment Trust returns reflecting the stock value changes of REIT issues as determined through public market transactions.

# Definitions

---

## **Cash Flow Statements**

Beginning Market Value: Value of real estate, cash, and other holdings from prior period end.

Contributions: Cash funded to the investment for acquisition and capital items (i.e., initial investment cost or significant capital improvements).

Distributions: Actual cash returned from the investment, representing distributions of income from operations.

Withdrawals: Cash returned from the investment, representing returns of capital or net sales proceeds.

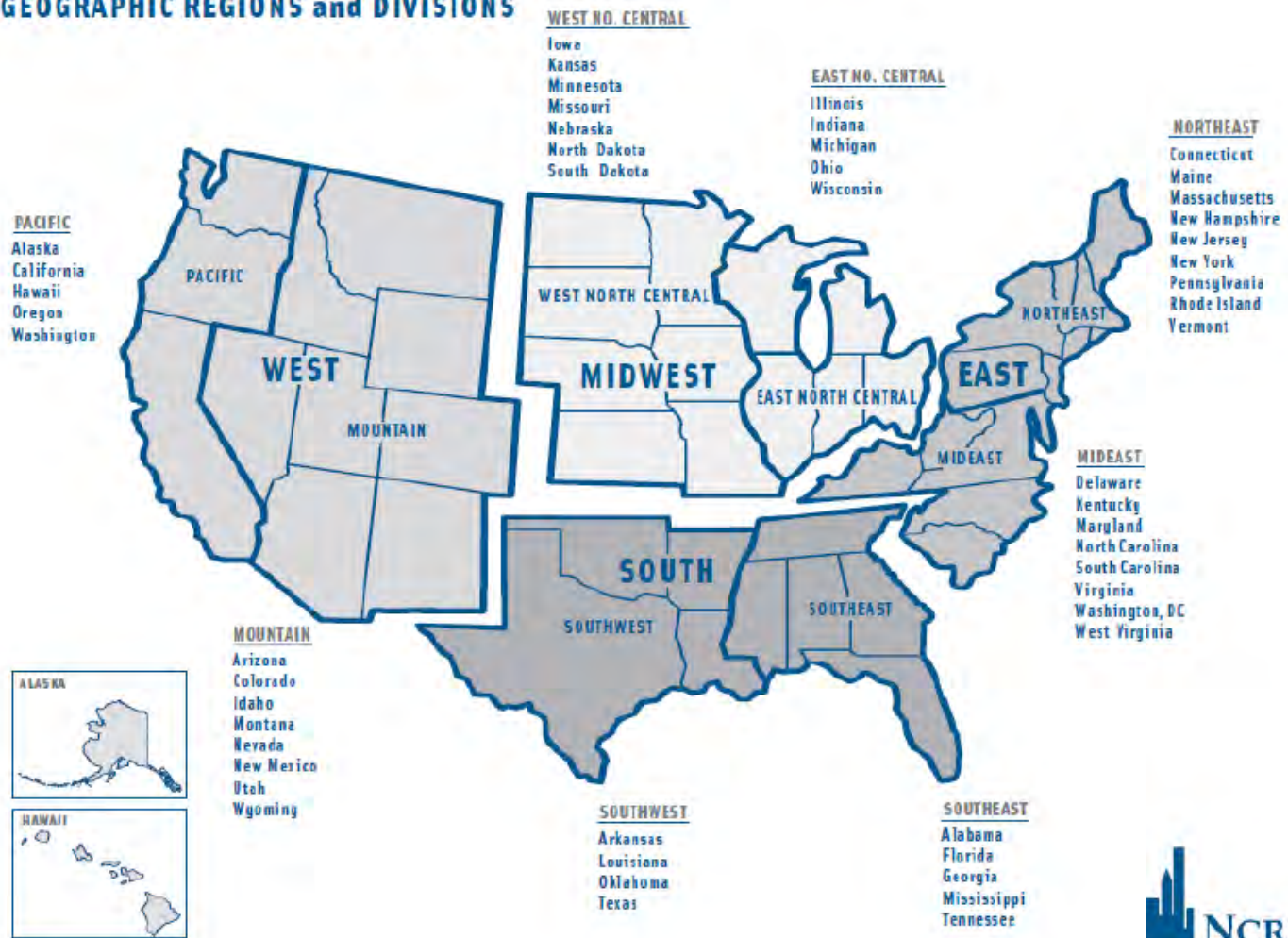
Ending Market Value: The value of an investment as determined by actual sales dollars invested and withdrawn plus the effects of appreciation and reinvestment; market value is equal to the ending cumulative balance of the cash flow statement (NAV).

Unfunded Commitments: Capital allocated to managers which has not yet been called for investment. Amounts are as reported by managers.

Remaining Allocation: The difference between the ending market value + the unfunded commitments and the target allocation. This figure represents dollars available for allocation.

# NCREIF Region Map

## GEOGRAPHIC REGIONS and DIVISIONS





**INVESTMENT MANAGER,  
CONSULTANT, AND CUSTODIAN FEES**  
For Quarter Ending September 30, 2019



**INVESTMENT NET ASSET VALUE AND INVESTMENT MANAGER FEES  
FOR THE QUARTER ENDED SEPT 30, 2019**

<b>For the Quarter Ended June 30, 2019</b>	<b>NAV<sup>2</sup> (\$) As of 3/31/19</b>	<b>Q1 - Total Fees (\$)</b>	<b>bps of NAV</b>	<b>NAV<sup>2</sup> (\$) As of 6/30/19</b>	<b>Q2 - Total Fees (\$)</b>	<b>bps of NAV</b>	<b>NAV<sup>2</sup> (\$) As of 9/30/19</b>	<b>Q3 - Total Fees (\$)</b>	<b>bps of NAV</b>
<b>Name of Fund</b>									
<b>Domestic Equity<sup>1</sup></b>									
BlackRock R1000 Index Fund	1,939,070,552	41,228	0.21	2,021,534,482	43,180	0.21	1,967,318,457	43,180	0.22
Kennedy Capital	111,814,917	216,630	19.37	113,983,752	223,283	19.59	112,806,828	225,933	20.03
NCG Small Cap	124,705,518	274,682	22.03	135,662,881	295,017	21.75	48,322*	284,244	58,822.99
Pzena	165,287,966	198,098	11.99	156,113,691	193,088	12.37	121,393,423	163,304	13.45
Trust Co. of the West	173,887,228	175,117	10.07	158,116,323	164,367	10.40	118,923,246	143,216	12.04
Total Domestic Equity	2,514,766,181	905,756	3.60	2,585,411,129	918,936	3.55	2,320,490,276	859,878	3.71
<b>International Equity<sup>1</sup></b>									
AQR International Equity	410,575,792	503,946	12.27	422,831,549	522,805	12.36	409,353,982	528,878	12.92
BlackRock MSCI World ex-US	N/A	N/A	N/A	436,952,447	11,631	0.27	432,955,449	11,631	0.27
Bivium International Equity	71,048,187	144,248	20.30	83,579,604	152,005	18.19	82,540,425	169,428	20.53
Capital Group	888,788,327	1,237,979	13.93	436,952,447	887,045	20.30	430,043,538	765,716	17.81
Franklin Templeton Inv.	202,371,196	307,674	15.20	228,287,206	338,416	14.82	224,238,830	354,130	15.79
Mondrian	655,384,429	552,109	8.42	428,706,424	449,989	10.50	416,653,270	376,890	9.05
Newton Emerging Market Equity Fund	N/A	N/A	N/A	216,731,808	69,865	3.22	210,865,134	131,791	6.25
Total International Equity	2,228,167,931	2,745,955	12.32	2,254,041,485	2,431,755	10.79	2,206,650,628	2,338,463	10.60
<b>Fixed Income<sup>1</sup></b>									
Baird Advisors	661,837,829	132,102	2.00	652,587,446	135,581	2.08	667,943,508	136,332	2.04
Loomis Sayles	345,442,633	268,531	7.77	335,733,885	278,627	8.30	360,792,007	278,627	7.72
Brandywine Global FI	333,487,201	229,383	6.88	345,836,536	233,108	6.74	336,445,913	239,117	7.11
Total Fixed Income	1,340,767,663	630,016	4.70	1,334,157,867	647,315	4.85	1,365,181,428	654,076	4.79
<b>Real Estate<sup>5,6</sup></b>									
Total Real Estate	575,212,636	1,400,965	24.36	585,932,080	1,399,136	23.88	583,194,695	1,676,855	28.75
<b>Private Equity<sup>4,5,6</sup></b>									
Total Private Equity	540,589,978	6,216,208	114.99	521,649,514	6,123,619	117.39	586,145,047	4,510,014	76.94
<b>Absolute Return<sup>5,6</sup></b>									
Total Absolute Return	703,082,609	1,992,651	28.34	731,409,738	2,258,210	30.87	742,112,287	2,617,220	35.27
<b>Real Assets<sup>4,5,6</sup></b>									
Total Real Assets	284,468,018	1,143,159	40.19	292,408,769	1,290,753	44.14	411,139,597	1,744,114	42.42
<b>Cash</b>	10,082,991			27,002,949			129,971,988*		
<b>TOTAL<sup>7</sup></b>	<b>8,197,138,008</b>	<b>15,034,710</b>	<b>18.34</b>	<b>8,332,013,531</b>	<b>15,069,724</b>	<b>18.09</b>	<b>8,344,885,945</b>	<b>14,400,619</b>	<b>17.26</b>

Notes:

\*The 3Q 2019 cash total includes the transition account NAV which was used to transfer assets from NCG Small Cap to William Blair Small Cap at the end of 3Q 2019.

1. Domestic, International Equity, and Fixed Income managers' fees are based on staff validated manager invoices.

2. NAVs may use estimates at the time of this report's production.

3. Some accounts contain submanaged funds; the fees shown include all assets in the account.

4. Sometimes fees may be estimates. According to the Limited Partnership Agreements, management fees are based on committed amounts and/or assets under management.

5. Detailed records regarding these investments of public pension funds are exempt from disclosure under California Government Code Section 6254.26

6. Fees may include management, incentive fees, and expenses as applicable.

7. Previous quarter's amounts may change as estimates are tried up to actual amounts. Each true up is made using the most recent information.

**CONSULTANT/CUSTODIAN FEES  
FOR THE QUARTER ENDED SEPT 30, 2019**

	<b>Q1 - Fees (\$)</b>	<b>Q2 - Fees (\$)</b>	<b>Q3 - Fees (\$)</b>
<b>Consultant</b>			
Doug McCalla	12,367	11,973	11,973
Callan Associates	56,250	56,250	56,250
Verus Advisory, Inc.	165,000	171,250	171,250
Institutional Shareholders Services	13,575	13,575	13,575
Zeno Consulting Group	11,250	11,250	11,250
Sub-total Consultant	258,442	264,298	264,298
<b>Custodian</b>			
State Street Bank	136,646	136,764	136,764
<b>TOTAL OF CONSULTANT / CUSTODIAN FEES <sup>1</sup></b>	<b>395,088</b>	<b>401,062</b>	<b>401,062</b>

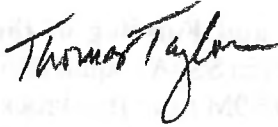
Notes:

1. Previous quarter's amounts may change as estimates are trued up to actual amounts. Each true up is made using the most recent information.



ALAMEDA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

475-14th Street, Suite 1000, Oakland, CA 94612 800/838-1932 510/628-3000 fax: 510/268-9574 www.acera.org

TO: Members of the Investment Committee  
FROM: Thomas Taylor, Investment Officer   
DATE: December 11, 2019  
SUBJECT: Summary of Rebalancing and Cash Activities Completed in 3Q2019

---

**Recommendation:**

Not Applicable – This is an information item.

**Background/Discussion:**

1. There was no action required to rebalance the Total Fund for the quarter ending September 30, 2019. In accordance with ACERA's General Investment Guidelines, Policies and Procedures, Section V: Asset Allocation and Rebalancing, Schedule IA: Asset Allocation Targets, and Schedule IC: Asset Allocation Portfolio Rebalancing, there were no rebalancing signals received during 3Q2019 as all traditionally managed accounts remained within their respective target ranges.
2. Regarding significant cash-flows for 3Q2019, Staff implemented the following changes to manage excess cash, make the supplemental month-end retiree benefits and administrative payroll, and to meet the capital calls and provide operating funds:
  - a. **Month-end payroll:** Staff withdrew a net \$51.0 million from the Total Fund<sup>1</sup> to supplement for month-end payroll for the three-months ending September 30, 2019. Staff wired out \$16.5M in July, \$17.5M in August, and \$18.0M in September to ACERA'S Wells Fargo Bank account. Fiscal Services wired-in \$1.0M from Wells Fargo Bank back to State Street Bank (#HI1A). Year-to-date withdrawals total \$136.5 million net.
  - b. **Capital Calls and Distributions:** In general, wire-payments of \$191.7M in aggregate were made to meet capital calls and new investments to ACERA's Private Equity, Absolute Return, Real Assets, and Real Estate funds and to pay quarterly management fees. Cash and in-kind distributions and recyclable capital received from ACERA's investments totaled \$194.0M. This dollar amount does not include other incidental income<sup>2</sup>.

---

<sup>1</sup> To meet month-end payroll, Staff withdrew from the ACERA's Blackrock Russell 1000 Index in accordance with the most overweight asset class according to policy and procedures.

<sup>2</sup> Securities Lending Income (\$227.7K), and Commission Recapture Income (\$16.9K) totaled \$244.6K. Incremental income does not include dividend and interest income from traditional managed accounts, which are reinvested.



- c. **Restructuring and Funding of the Real Assets Asset Class:** In the 3Q2019, Staff funded \$196.0M in SSgA Liquid Pool (Board approved: 11/8/2018). To fund the position, Staff raised \$102.0M from Blackrock Russell 1000 Index, Next Century, Pzena and TCW; and subsequently, fully liquidated Gresham TAP and eTAP. As of 9/30/2019, the Real Asset allocation was 4.9% of ACERA's Total Fund, or \$408.2M.

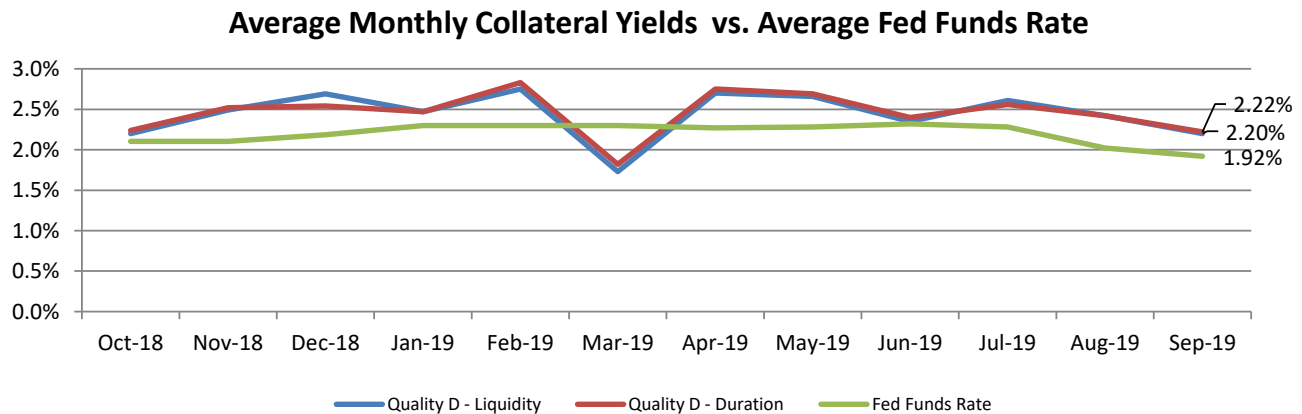
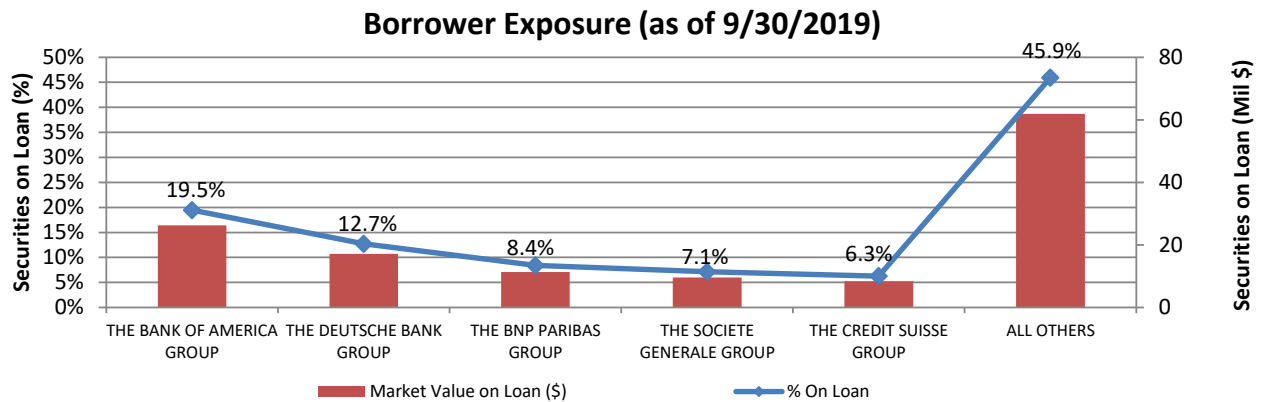
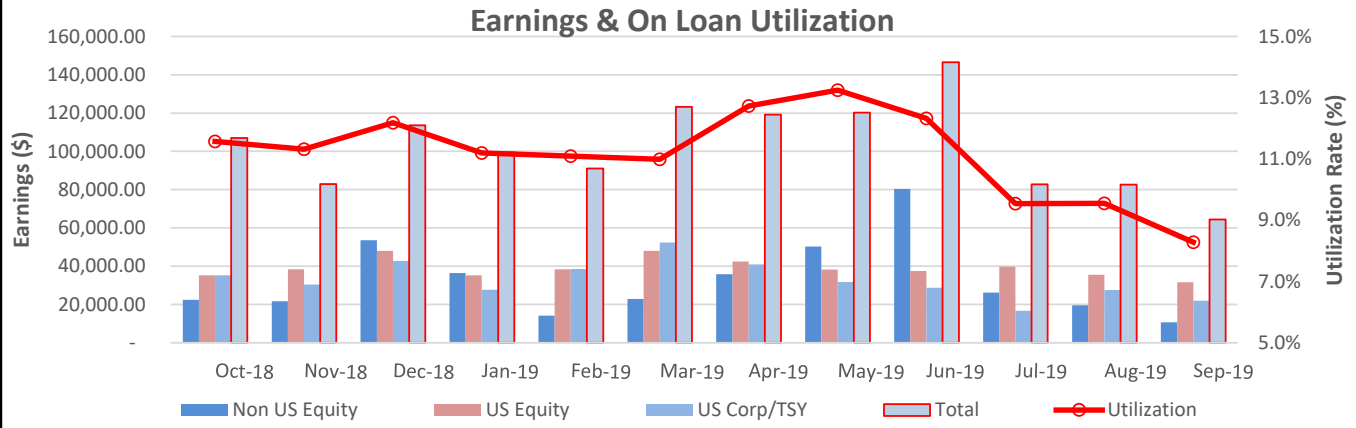
Reporting of rebalancing activities will continue to be submitted to the Investment Committee on a quarterly basis.

# Alameda County Employees' Retirement Association

## 3rd Quarter 2019 Securities Lending Report

### Quarterly Summary

In 3Q2019, ACERA's earnings from Securities Lending activities were \$229,833.55. US Equity generated the highest earnings of \$106,955.00. As of September 30, 2019, the average market value of securities on loan was \$134,717,187.39. Bank of America was the largest borrower of ACERA's securities with 19.5% as of the last day of the quarter.



**Notes:**

- (1) Quality D Liquidity and Quality D Duration Funds are managed by an affiliate of State Street Bank (SSB); these funds are common pools in which many securities lending clients of SSB invest their cash collateral generated from their security lending activities. ACERA invests the cash collateral received from its security lending activities into Quality D Liquidity and Quality D Duration Funds. As of 9/30/2019, ACERA's combined NAV per unit of the Quality D Liquidity (99.211) and Quality D Duration Funds (0.7890) was \$1.00. As of 9/30/2019, Quality D Liquidity had 121,205,465.20 units and Quality D Duration had 969,272.75 units.
- (2) Data represents past performance and is not necessarily indicative of future results.
- (3) Data Source: my.statestreet.com and Securities Finance Business Intelligence

*Securities Lending Report Provided by Staff*

ICM 12/11/2019

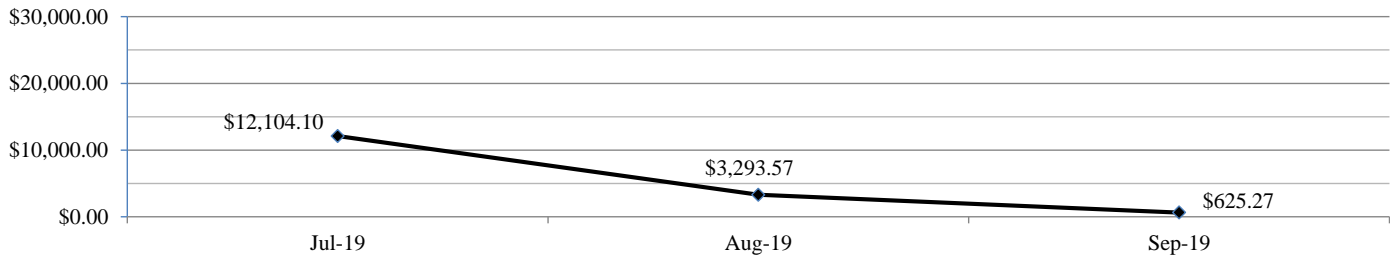


## Alameda County Employees' Retirement Association Third Quarter 2019 Directed Brokerage Report

### Quarterly Commentary

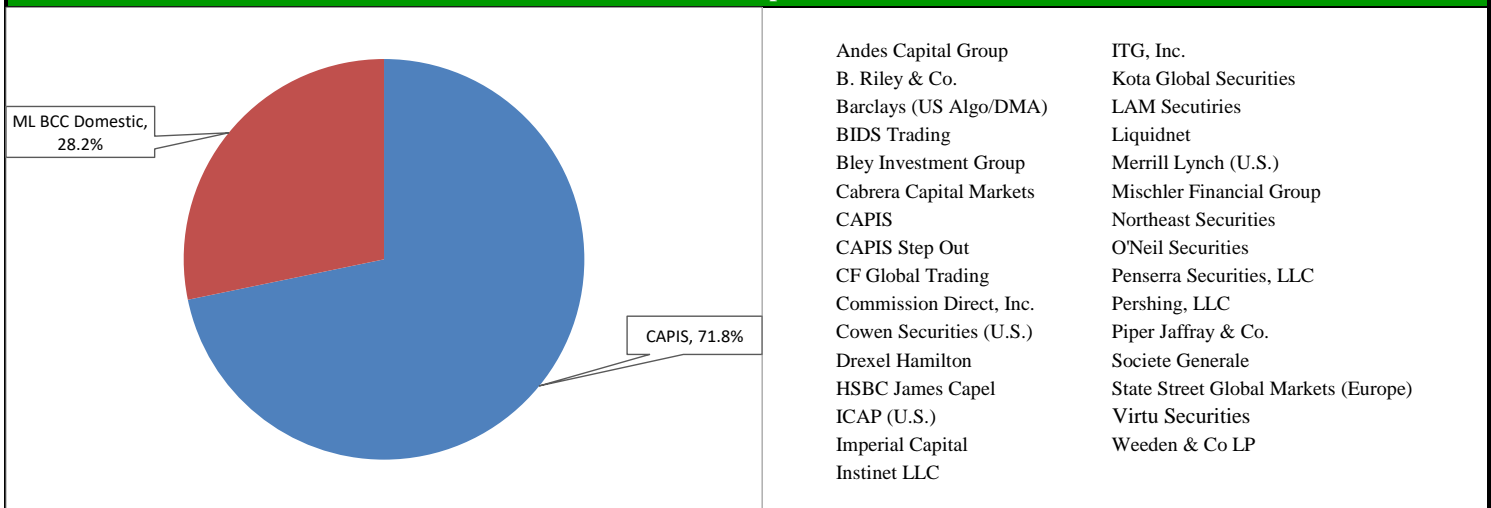
In 3Q19, the total recaptured dollar amount for ACERA's Directed Brokerage (DB) Program was \$16,022.94. Since inception<sup>1</sup>, ACERA has recaptured \$2,043,038.60. For the quarter, TCW directed the highest percentage (68.5%) of trading volume and Pzena generated the largest recaptured directed commission dollar amount (\$15,998.92). CAPIS received the majority of ACERA's directed trades (71.8%) among all correspondent brokers within the network. The program continues to operate in compliance with ACERA's DB Policy.

### Monthly Recaptured



Directed Commission \$ <sup>2</sup>			Directed % <sup>3</sup>	
Manager	3Q2019	YTD		
Capital Group	11.11	378.40	Capital Group	0.00 (Actual), 10.00 (Target)
Kennedy	13,157.98	17,023.19	Kennedy	9.20 (Actual), 10.00 (Target)
NCG Small Cap	0.00	0.00	NCG Small Cap	0.00 (Actual), 10.00 (Target)
Pzena	15,998.92	25,936.30	Pzena	15.90 (Actual), 30.00 (Target)
TCW	8,115.60	8,273.12	TCW	68.50 (Actual), 25.00 (Target)
Total	\$37,283.61	\$51,611.01		

### Directed % to Correspondent Brokers<sup>4</sup>



**Brokers are selected at the discretion of the Investment Managers, pursuant to Best Execution and ACERA's DB Policy.**


1. ACERA's DB Program began in September 2006. AQR Int'l, Mondrian, Bivium do not participate in Commission Recapture; Blackrock, Newton, and Templeton are not SMA.  
 2. Data provided by CAPIS. Directed Commission \$ - Dollar amount of commissions from directed trades - this amount is split among ACERA (42.98% for 3Q2019), CAPIS, & the Correspondent Brokers.  
 3. Data provided by Zeno Consulting Group (Zeno). Directed % - Calculated by dividing Manager's directed trading volume by its total trading volume and compared to its assigned target. Target percentages are ranges (e.g. up to 30% for Pzena).  
 4. Data provided by CAPIS.



**ALAMEDA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**

475 14th Street, Suite 1000, Oakland, CA 94612    800/838-1932    510/628-3000    fax: 510/268-9574    www.acera.org

TO:            Members of the Investment Committee

FROM:        Agnes Ducanes – Administrative Specialist II 

DATE:        December 11, 2019

SUBJECT:    Quarterly report on ACERA's Investment Products and Services  
                 Introductions (IPSI) Program

In the third quarter of 2019, Staff received 91 investment products and services inquiries from prospective providers. We met with 8 managers who presented through the IPSI process. Since we had staff turnovers, the IPSI meetings has been scheduled according to staff's availabilities.

The purpose of IPSI is to provide prospective vendors an opportunity to gain a better understanding of ACERA's investment objectives and for Staff to learn about the vendors' investment products/services through face-to-face meetings, teleconferences, or video conferences. Staff has designated the morning of the third Wednesday of every month as ACERA's IPSI day. Each introductory session is approximately 45 minutes.

Below please find a chart depicting the types of IPSI sessions that were held in the third quarter of 2019.

<b>ASSET CLASS</b>	<b>Q1 '19</b>	<b>Q2 '19</b>	<b>Q3 '19</b>	<b>Q4'19</b>	<b>TOTAL</b>
<b>U.S. Equities</b>	1	0	0	0	1
<b>Int'l Equities</b>	0	0	0	0	0
<b>Fixed Income</b>	0	0	0	0	0
<b>Real Estate</b>	0	0	0	0	0
<b>Private Equities</b>	0	0	0	0	0
<b>Absolute Return</b>	0	1	2	0	3
<b>Real Assets</b>	1	0	0	0	1
<b>Private Credit</b>			6		6
<b>Other Services</b>	1	0	0	0	1
<b>TOTAL:</b>	<b>3</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>12</b>



## Proposed Investment Committee Workplan for 2019

December 11, 2019

<b>Action Items</b>	<b>Information Items</b>
January 9 1. Interview of the Finalists for ACERA’s U.S. Small Cap Growth Manager Search – Domestic Equities and Possible Motion by the Investment Committee to Recommend one Finalist to the Board	1. Discussion on Asset – Liability Introduction and Enterprise Risk Tolerance 2. Proposed Investment Committee Workplan for 2019
February 13 1. Discussion of and Possible Motion to Recommend to the Board to Approve an up to \$33 million Investment in Genstar Capital Partners IX as part of ACERA’s Private Equity Portfolio – Buyouts 2. Discussion of and Possible Motion to Recommend that the Board Approve an up to \$30 million Investment in Taurus Mining Finance Fund No. 2 as part of ACERA’s Real Assets Portfolio – Natural Resources	1. 2019 Capital Market Assumptions 2. Investment Committee Workplan 2019
March 13 (meeting cancelled)	1. <i>Report of ACERA’s Proxy Voting Activities in 2018</i> 2. <i>Quarterly report of ACERA’s investment manager, consultant, and custodian bank fees for the fourth quarter of 2018</i> 3. <i>Quarterly report on ACERA’s rebalancing activities for the fourth quarter of 2018</i> 4. <i>Quarterly report on ACERA’s securities lending activities for the fourth quarter of 2018</i> 5. <i>Quarterly report on ACERA’s Directed Brokerage (DB) Program for the fourth quarter of 2018</i> 6. <i>Quarterly report on Investment Products and Services Introduction (IPSI) for the fourth quarter of 2018</i> 7. <i>Updated Investment Committee Workplan 2019</i>

**Notes:**

1. This workplan is subject to change without prior notice. Periodic rearrangements of agenda items will be made to the workplan to provide a reasonable length of time for each meeting.
2. Meeting date is assumed to be the second Wednesday of each month.
3. Educational sessions may be added to the Agenda from time-to-time e.g., Portable Alpha, Market and Currency Overlay, Equity Overlay, and Emerging Managers in Private Equity investments. Recommendations and reports on ACERA’s Real Estate, Private Equity, Absolute Return, and Real Assets investments will be added to the Agenda from time-to-time.





## Proposed Investment Committee Workplan for 2019

December 11, 2019

<b>Action Items</b>	<b>Information Items</b>
<p>April 17</p> <ol style="list-style-type: none"> <li>1. Discussion of and Possible Motion to Recommend to the Board to Adopt an Investment in ACERA's Real Estate Portfolio – Core Plus Debt (JP Morgan Mezzanine Debt)</li> </ol>	<ol style="list-style-type: none"> <li>1. Asset – Liability Integration</li> <li>2. Discussion of an establishment of a working group to evaluate a possible ESG Policy</li> <li>3. Closed Session: Govt. Code section 54956.81 – Consider the purchase or sale of a specific pension fund investment, and Govt. Code section 54957.1(d) (4) – Anticipated litigation (1 matter)</li> </ol>
<p>May 15 (meeting moved to third Wednesday due to SACRS Conference)</p> <ol style="list-style-type: none"> <li>1. Discussion of and Possible Motion to Recommend to the Board to Adopt an up to \$60 million Investment in Great Hill Equity Partners VII as part of ACERA's Private Equity Portfolio – Buyouts and Venture Capital</li> <li>2. Discussion of and Possible Motion to Recommend to the Board to Adopt Alternative #2 in the Asset – Liability Integration Study</li> </ol>	<ol style="list-style-type: none"> <li>1. Education Session: Timberland</li> <li>2. Real Assets Policy Update: Modification of Index Name in Benchmark Composite</li> </ol>
<p>June 12</p> <ol style="list-style-type: none"> <li>1. Discussion of and Possible Motion to Recommend to the Board to Adopt an up to \$33 million Investment in Altas Partner Holdings II as part of ACERA's Private Equity Portfolio – Buyouts</li> </ol>	<ol style="list-style-type: none"> <li>1. Review of Pzena Investment Management, LLC (Traditional Manager – Large Cap Value)</li> <li>2. Semiannual Performance Review for the Period Ending March 31, 2019 – Equities and Fixed Income</li> <li>3. Semiannual Performance Review for the Period Ending December 31, 2018 – Private Equities</li> <li>4. Semiannual Performance Review for the Period Ending March 31, 2019 – Absolute Return</li> <li>5. Semiannual Performance Review for the Period Ending December 31, 2018 – Real Assets</li> <li>6. Semiannual Performance Review for the Period Ending March 31, 2019 – Real Estate</li> <li>7. Closed Session: Govt. Code section 54956.81 – Consider the purchase or sale of a specific pension fund investment, and Govt. Code section 54957.1(d) (4) – Anticipated litigation (1 matter)</li> <li>8. <i>Quarterly report of ACERA's investment manager, consultant, and custodian fees for the first quarter of 2019</i></li> </ol>

**Notes:**

1. This workplan is subject to change without prior notice. Periodic rearrangements of agenda items will be made to the workplan to provide a reasonable length of time for each meeting.
2. Meeting date is assumed to be the second Wednesday of each month.
3. Educational sessions may be added to the Agenda from time-to-time e.g., Portable Alpha, Market and Currency Overlay, Equity Overlay, and Emerging Managers in Private Equity investments. Recommendations and reports on ACERA's Real Estate, Private Equity, Absolute Return, and Real Assets investments will be added to the Agenda from time-to-time.



## Proposed Investment Committee Workplan for 2019

December 11, 2019

### Action Items

### Information Items

	Action Items	Information Items
		<ol style="list-style-type: none"> <li>9. <i>Quarterly report on ACERA's rebalancing activities for the first quarter of 2019</i></li> <li>10. <i>Quarterly report on ACERA's securities lending activities for the first quarter of 2019</i></li> <li>11. <i>Quarterly report on ACERA's Directed Brokerage (DB) Program for the first quarter of 2019</i></li> <li>12. <i>Quarterly report on Investment Products and Services Introduction (IPSI) for the first quarter of 2019</i></li> <li>13. <i>Updated Investment Committee Workplan 2019</i></li> </ol>
July 10	<ol style="list-style-type: none"> <li>1. Discussion of and Possible Motion to Recommend to the Board to Adopt Private Credit Investment Policy</li> <li>2. Discussion of and Possible Motion to Recommend to the Board to Adopt Private Credit Investment Plan</li> <li>3. Discussion of and Possible Motion to Recommend to the Board to Adopt Private Equity Investment Plan</li> </ol>	<ol style="list-style-type: none"> <li>1. Review of Trust Company of the West (Traditional Manager – Large Cap Growth)</li> </ol>
August 14	<ol style="list-style-type: none"> <li>1. Discussion of and Possible Motion to Adopt the proposed timeline, search criteria, and evaluation matrix for ACERA's U.S. Large Cap Value Manager Search</li> </ol>	<ol style="list-style-type: none"> <li>1. Review of the Emerging Investment Manager Policy</li> </ol>

**Notes:**

1. This workplan is subject to change without prior notice. Periodic rearrangements of agenda items will be made to the workplan to provide a reasonable length of time for each meeting.
2. Meeting date is assumed to be the second Wednesday of each month.
3. Educational sessions may be added to the Agenda from time-to-time e.g., Portable Alpha, Market and Currency Overlay, Equity Overlay, and Emerging Managers in Private Equity investments. Recommendations and reports on ACERA's Real Estate, Private Equity, Absolute Return, and Real Assets investments will be added to the Agenda from time-to-time.



## Proposed Investment Committee Workplan for 2019

December 11, 2019

<b>Action Items</b>	<b>Information Items</b>
<p>September 11</p> <ol style="list-style-type: none"> <li>1. Discussion of and Possible Motion to Recommend to the Board to Adopt an up to \$80 million Investment in Owl Rock First Lien Fund, L.P. as part of ACERA’s Private Credit Portfolio</li> <li>2. Discussion of and Possible Motion to Recommend to the Board to Adopt Amendments on ACERA’s Emerging Investment Manager Policy</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Quarterly report of ACERA’s investment manager, consultant, and custodian bank fees for the second quarter of 2019</i></li> <li>2. <i>Quarterly report on ACERA’s rebalancing activities for the second quarter of 2019</i></li> <li>3. <i>Quarterly report on ACERA’s securities lending activities for the second quarter of 2019</i></li> <li>4. <i>Quarterly report on ACERA’s Directed Brokerage (DB) Program for the second quarter of 2019</i></li> <li>5. <i>Quarterly report on Investment Products and Services Introduction (IPSI) for the second quarter of 2019</i></li> <li>6. <i>Updated Investment Committee Workplan for 2019</i></li> </ol>
<p>October 9</p>	<ol style="list-style-type: none"> <li>1. Report on ACERA’s Private Equity Investment – Buyouts</li> </ol>
<p>November 6 (meeting moved to first Wednesday due to SACRS Conference)</p>	<ol style="list-style-type: none"> <li>1. Discussion of and Possible Motion to Recommend to the Board to Adopt an Investment in ACERA’s Real Estate Portfolio (Artemis REP Income and Growth Fund)</li> </ol>

**Notes:**

1. This workplan is subject to change without prior notice. Periodic rearrangements of agenda items will be made to the workplan to provide a reasonable length of time for each meeting.
2. Meeting date is assumed to be the second Wednesday of each month.
3. Educational sessions may be added to the Agenda from time-to-time e.g., Portable Alpha, Market and Currency Overlay, Equity Overlay, and Emerging Managers in Private Equity investments. Recommendations and reports on ACERA’s Real Estate, Private Equity, Absolute Return, and Real Assets investments will be added to the Agenda from time-to-time.



## Proposed Investment Committee Workplan for 2019

December 11, 2019

Action Items	Information Items
December 11	<ol style="list-style-type: none"> <li>1. Review of State Street Bank and Trust Company</li> <li>2. Semiannual Performance Review for the Period Ending September 30, 2019 – Equities and Fixed Income</li> <li>3. Semiannual Performance Review for the Period Ending June 30, 2019 – Private Equity</li> <li>4. Semiannual Performance Review for the Period Ending September 30, 2019 – Absolute Return</li> <li>5. Semiannual Performance Review for the Period Ending June 30, 2019 – Real Assets</li> <li>6. Semiannual Performance Review for the Period Ending September 30, 2019 – Real Estate</li> <li>7. CA Gov. Code § 7514.7 Information Report</li> <li>8. Closed Session: Govt. Code section 54956.81 – Consider the Purchase or Sale of Particular, Specific Pension Fund Investments (2 matters)(CA Gov. Code §§ 54956.81 and 6254.26)</li> <li>9. <i>Quarterly report of ACERA’s investment manager, consultant, and custodian bank fees for the third quarter of 2019</i></li> <li>10. <i>Quarterly report on ACERA’s rebalancing activities for the third quarter 2019</i></li> <li>11. <i>Quarterly report on ACERA’s securities lending activities for the third quarter of 2019</i></li> <li>12. <i>Quarterly report on ACERA’s Directed Brokerage (DB) Program for the third quarter of 2019</i></li> <li>13. <i>Quarterly report on Investment Products and Services Introductions (IPSI) for the third quarter of 2019</i></li> <li>14. <i>Updated Investment Committee Workplan for 2019</i></li> </ol>

**Notes:**

1. This workplan is subject to change without prior notice. Periodic rearrangements of agenda items will be made to the workplan to provide a reasonable length of time for each meeting.
2. Meeting date is assumed to be the second Wednesday of each month.
3. Educational sessions may be added to the Agenda from time-to-time e.g., Portable Alpha, Market and Currency Overlay, Equity Overlay, and Emerging Managers in Private Equity investments. Recommendations and reports on ACERA’s Real Estate, Private Equity, Absolute Return, and Real Assets investments will be added to the Agenda from time-to-time.