



# Notice of Public Meeting

## The Board of Retirement of the San Mateo County Employees' Retirement Association will meet on **Tuesday, December 3, 2019, at 10:00 A.M.**

**PUBLIC SESSION** – The Board will meet in Public Session at 10:00 a.m.

- 1. Call to Order, Roll Call and Miscellaneous Business**
- 2. Oral Communications**
  - 2.1 Oral Communications from the Board
  - 2.2 Oral Communications from the Public
- 3. Approval of the Minutes**
  - 3.1 Approval of Regular Board Meeting Minutes from October 29, 2019
  - 3.2 Approval of Audit Committee Meeting Minutes from October 29, 2019
- 4. Approval of the Consent Agenda\***

|                                       |   |
|---------------------------------------|---|
| 4.1 Disability Retirements            | 4.3 Service Retirements   |
| • Baker                               | 4.4 Continuances  |
| • Breton                              | 4.5 Deferred Retirements  |
| • Hernandez                           | 4.6 Member Account Refunds  |
| • Robles Moncada                      | 4.7 Member Account Rollovers  |
| • Sirotko                             | 4.8 Member Account Redeposits   |
| • Torrejon                            | 4.9 Acceptance of Trustees' Reports of<br>Educational Activities                      |
| 4.2 Survivor Death Benefits<br>(none) | 4.10 Reaffirmation of Education Policy  |
|                                       | 4.11 Approval of Resolution Amending and<br>Renaming the Securities Litigation Policy |
- 5. Benefit & Actuarial Services**
  - 5.1 Consideration of Agenda Items, if any, removed from the Consent Agenda
- 6. Investment Services**
  - 6.1 Report on Preliminary Monthly Portfolio Performance for the Period Ended 10/31/19
  - 6.2 Report on Quarterly Investment Performance for the Period Ended 09/30/19
  - 6.3 Report on Absolute Return and Risk Parity Annual Manager Reviews
  - 6.4 Presentation of Private Asset Semi-Annual Performance Reports as of June 30, 2019
  - 6.5 Approval of Real Estate Manager Structure
  - 6.6 Report on Securitized Fixed Income and Absolute Return Short-List Managers
  - 6.7 Approval of Proposed Alternative Investment (to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see item C2)
- 7. Board & Management Support**
  - 7.1 Annual Review of Board's Independent Auditor
  - 7.2 Discussion of Board/ Staff Retreat Topics

# Notice of Public Meeting

## Page 2 of 2

---

### 8. Management Reports

- 8.1 Chief Executive Officer's Report
- 8.2 Assistant Executive Officer's Report
- 8.3 Chief Investment Officer's Report
- 8.4 Chief Legal Counsel's Report

**CLOSED SESSION** – The Board may meet in closed session prior to adjournment

- C1 Consideration of Disability Items, if any, Removed from the Consent Agenda
- C2 Approval of Proposed Alternative Investment (to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see item 6.7)

### 9. Report on Actions Taken in Closed Session

### 10. Adjournment in Memory of the Following Deceased Members:

|                  |                   |                 |
|------------------|-------------------|-----------------|
| Rutley, Ralph    | October 14, 2019  | Probation       |
| Kennedy, Timothy | October 24, 2019  | Human Services  |
| Da Roza, Daniel  | October 25, 2019  | Public Health   |
| Hamaguchi, Bette | October 21, 2019  | Health Services |
| Killin, Betty    | October 21, 2019  | Mental Health   |
| Cuadra, Manuel   | November 4, 2019  | Public Health   |
| Caverly, Charles | November 5, 2019  | Sheriff's       |
| Du, Nang         | November 12, 2019 | Mental Health   |



Scott Hood, Chief Executive Officer

Posted: November 21, 2019

(\* ALL ITEMS ON THE CONSENT AGENDA ARE APPROVED BY ONE ROLL CALL MOTION UNLESS A REQUEST IS MADE BY A BOARD MEMBER THAT AN ITEM BE WITHDRAWN OR TRANSFERRED TO THE REGULAR AGENDA. ANY ITEM ON THE REGULAR AGENDA MAY BE TRANSFERRED TO THE CONSENT AGENDA. ANY 4.1 ITEMS REMOVED FROM THE CONSENT AGENDA WILL BE TAKEN UP UNDER CLOSED SESSION; ALL OTHER ITEMS REMOVED FROM THE CONSENT AGENDA WILL BE TAKEN UP UNDER ITEM 5.1.)

**THE BOARD MEETS AT 100 MARINE PARKWAY, SUITE 160**, WHICH IS LOCATED ON THE SE CORNER OF TWIN DOLPHIN & MARINE PARKWAY IN REDWOOD CITY. Detailed directions are available on the "Contact Us" page of the website [www.samcera.org](http://www.samcera.org). *Free Parking is available in all lots in the vicinity of the building. A copy of the Board of Retirement's open session agenda packet is available for review at the SamCERA offices and on our website unless the writings are privileged or otherwise exempt from disclosure under the provisions of the California Public Records Act. Office hours are Monday through Thursday 7 a.m. – 6 p.m.*

IN COMPLIANCE WITH THE CALIFORNIA GOVERNMENT CODE AND THE AMERICANS WITH DISABILITIES ACT: *SamCERA's* facilities and board and committee meetings are accessible to individuals with disabilities. Contact *SamCERA* at (650) 599-1234 at least three business days prior to the meeting if (1) you need special assistance or a disability-related modification or accommodation, including auxiliary aids or services, in order to participate in this meeting; or (2) you have a disability and wish to receive the agenda, meeting notice, agenda packet or other writings that may be distributed at the meeting in an alternative format. Notification in advance of the meeting will enable *SamCERA* to make reasonable arrangements to ensure full accessibility to this meeting and the materials related to it.

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**  
OCTOBER 29, 2019 – REGULAR BOARD MEETING MINUTES

**1910.1 Call to Order, Roll Call and Miscellaneous Business**

**Call to Order:** Mr. Hoefer, Chair, called the Regular Meeting of the Board of Retirement to order at 10:00 a.m.

**Roll Call:**

Present: Sandie Arnott, Mark Battey, Ben Bowler, Al David, Paul Hackleman, Kurt Hoefer, Katherine O'Malley, Robert Raw and Eric Tashman.

Absent: None.

Alternates present: Susan Lee and Alma Salas.

Staff: Brenda Carlson, Tat-Ling Chow, Michael Coultrip, Lili Dames, Scott Hood, Elizabeth LeNguyen, JulieAnne Nagal, Doris Ng, Gladys Smith and Anne Trujillo.

Consultants and speakers: Andy Paulden (Brown Armstrong), Margaret Jadallah and John Nicolini (Verus) and Nick Collier (Milliman, Inc.)

**1910.1.1 Administration of Oath of Office to Elected and Reappointed Trustee:** Sandie Arnott administered the Oath of Office to reappointed trustee, Ben Bowler (Fifth Member).

**1910.2.1 Oral Communications from the Board:** None.

**1910.2.2 Oral Communications from the Public:** None.

**1910.3.1 Approval of the Minutes:** Mr. Hoefer asked if there were any changes or corrections, or objections, to the meeting minutes from the Board meeting held on September 24, 2019.

**Action:** Mr. David moved to approve the minutes from the Board Meeting on September 24, 2019. The motion was seconded by Mr. Hackleman and carried with a vote of 6-0, with trustees Battey, David, Hackleman, Hoefer, O'Malley and Raw all in favor; none opposed; and Arnott, Bowler and Tashman abstained.

**1910.4.0 Approval of the Consent Agenda:** Mr. Hoefer asked if there were any items to be removed for discussion from the Consent Agenda. No items were removed.

**Action:** Mr. Raw moved to approve the Consent Agenda, and the motion was seconded by Mr. Hackleman. The motion carried with a vote of 9-0, with trustees Arnott, Battey, Bowler, David, Hackleman, Hoefer, O'Malley, Raw and Tashman all in favor; none opposed.

**1910.4.1 Disability Retirements:**

a) The Board found that **Sergio Gonzalez-Pavez** is (1) permanently incapacitated from the performance of his usual and customary duties as a Mental Health Program Specialist, (2) found that his disability was not the result of an illness arising out of and in the course of his employment and (3) granted his application for a non-service-connected disability retirement.

**1910.4.2 Survivor Death Benefits:** None.

1910.4.3 **Service Retirements:**

| <b>Name</b>        | <b>Effective Retirement Date</b> | <b>Department</b>              |
|--------------------|----------------------------------|--------------------------------|
| Bise, Eugene       | August 27, 2019                  | San Mateo Medical Center       |
| Cabebe, Elisa      | August 24, 2019                  | Sheriff's Dept.                |
| Cobb, Robert       | August 11, 2019                  | Human Service Agency           |
| Fan, Li-Ping       | August 3, 2019                   | Behavioral Health and Recovery |
| Lasker, Paul       | August 2, 2019                   | Agriculture                    |
| Mastrangelo, Maria | August 10, 2019                  | Agriculture                    |
| Mejia, Ingrid      | August 10, 2019                  | Dept of Public Works           |
| O'Brien, Victoria  | August 24, 2019                  | Sheriff's Dept.                |
| Raji, Fatna        | August 11, 2019                  | Correctional Health            |
| Ramdas, Raksha     | August 8, 2019                   | Deferred from Public Health    |
| Sudano, Patrina    | August 18, 2019                  | Sheriff's Dept.                |
| Wilson, Sebastian  | August 31, 2019                  | San Mateo Superior Court       |

1910.4.4 **Continuances:**

| <b>Survivor's Name</b> | <b>Beneficiary of:</b> |
|------------------------|------------------------|
| Green, Joann           | Green, Raymond         |
| Loeb, Peter            | Morrison, Nancy        |
| Sacher, Edward         | Mastrangelo, Maria     |

1910.4.5 **Deferred Retirements:**

The Board ratified the actions as listed below for the following members regarding deferred retirements:

| <b>Name</b>              | <b>Retirement Plan Type</b>          |
|--------------------------|--------------------------------------|
| Balbona, Erin            | G7, Non-vested- Reciprocity          |
| Catbagan, John           | G4, Vested - Auto Defer - Code 31700 |
| Hall, Rosa               | G7, Vested - Auto Defer - Code 31700 |
| Feng, Tzu-Ying           | G5, Vested - Auto Defer - Code 31700 |
| Keovongsa, Karen         | G7, Non-vested- Reciprocity          |
| Mair, Aaron              | G4, Vested- Reciprocity              |
| Raffin, Eric             | G7, Vested- Reciprocity              |
| Redding, Michael         | G7, Vested - Auto Defer - Code 31700 |
| Sadarangani-Holte, Rakhi | G4, Vested - Auto Defer - Code 31700 |
| Tomas, Ruby              | G4, Vested - Auto Defer - Code 31700 |
| Vera Cruz, Enrique       | G5, Non-vested- Reciprocity          |
| Williams, Nicole         | G4, Vested - Auto Defer - Code 31700 |

1910.4.6 **Member Account Refunds:**

The Board ratified the actions as listed below for the following members regarding refunds:

| <b>Name</b>                          | <b>Retirement Plan Type</b> |
|--------------------------------------|-----------------------------|
| Castillo, Martha                     | G7, Non-vested              |
| Gunther, Daniel                      | G5, Non-vested              |
| Leuck, Grace                         | G7, Non-vested              |
| Lee, Amarra                          | G5, Vested                  |
| Ramirez de Cartagena, Michael        | G5, Non-vested              |
| Ramirez de Cartagena, Michael (QDRO) | G4, Vested                  |
| Vera-Garcia, Javier                  | G5, Non-vested              |

1910.4.7 **Member Account Rollovers:**

The Board ratified the actions as listed below for the following members regarding rollovers:

| <b>Name</b>      | <b>Retirement Plan Type</b> |
|------------------|-----------------------------|
| Harnish, Regina  | G7, Non-vested              |
| Mefford, Tatiana | G7, Non-vested              |

1910.4.8 **Member Account Redeposits:** None.

1910.4.9 **Acceptance of Trustees' Reports of Educational Activities:** None.

1910.5.1 **Consideration of Agenda Items, if any, removed from the Consent Agenda:** None.

1910.5.2 **Annual Review of SamCERA's Actuarial Services Firm, Milliman, Inc.:** Ms. Smith presented the results of Milliman, Inc.'s annual performance report with Mr. Collier available via phone. Ms. Smith reported that Milliman received high marks from the Board and staff and that no concerns or issues were raised. She and Mr. Hood expressed their gratitude for all the work Mr. Collier and the rest of Milliman, Inc. has done for SamCERA this year.

This item was taken out of order and was set for a time certain of 12:00 p.m.

1910.6.1 **Report on Preliminary Monthly Portfolio Performance Report for the Period Ended September 30, 2019:** Mr. Coultrip discussed the preliminary monthly performance report with the Board. He reported that SamCERA's net preliminary return for September was 0.9%, bringing the preliminary trailing twelve-month return ending September 2019 to 4.8% net. September saw reduced volatility as equity returns were positive and U.S. Treasury yields rose modestly. This item was informational and for discussion only, no action was taken.

1910.6.2 **Report on Opportunistic Credit Manager Annual Reviews:** Ms. Ng reported that staff met with SamCERA's opportunistic credit managers: White Oak, BlackRock and Brigade Capital Management on September 12<sup>th</sup>. There were no significant concerns identified during the portfolio reviews. This item was informational and for discussion only, no action was taken.

1910.6.3 **Report on Inflation Hedge Manager Annual Reviews:** Ms. Ng reported that staff met with SamCERA's inflation hedge managers: State Street Global Advisors (SSgA) and Cushing Asset Management on October 3<sup>rd</sup>. Ms. Ng reviewed the meeting notes from the annual reviews and reported there were no significant concerns identified during the portfolio review. This item was informational only, no action was taken.

- 1910.6.4 **Report on Midstream Energy Investment Update:** Mr. Nicolini, of Verus, provided an update on the midstream energy market, briefly discussed a new potential private real asset manager in the midstream energy space and answered questions from the Board.
- 1910.6.5 **Approval of Asset Allocation Policy Portfolio Implementation:** Mr. Coultrip reviewed the proposed asset allocation implementation plan found in the Board's Day Of folders. He discussed the four phases of the implementation and answered questions from the Board.

**Action:** Mr. Battey motioned to approve the asset allocation policy portfolio implementation. The motion was seconded by Mr. Hackleman and carried a vote of 9-0, with trustees Arnott, Battey, Bowler, David, Hackleman, Hoefler, O'Malley, Raw and Tashman all in favor; none opposed.

This item was taken out of order and heard after item 6.2.

The meeting was adjourned for break at 10:55 a.m. and reconvened at 11:05 a.m. with item 6.3.

- 1910.7.1 **Presentation by Brown Armstrong of 2019 Financial Audit Management Reports:** Mr. Paulden, of Brown Armstrong, discussed the audit process and presented the results of the independent financial audit for the fiscal year ended June 30, 2019. Mr. Paulden reported that SamCERA received an unmodified, clean opinion report with no recommendations. Mr. Hood thanked Mr. Paulden and his team for the work they have done for SamCERA. Mr. Raw reported the Audit Committee met that morning and reviewed the financial audit report and findings. The Audit Committee recommends that the Board accept the 2019 financial audit report. With no objection, the financial audit report and findings were accepted by the Board.

This item was taken out of order and heard after item 4.0.

- 1910.7.2 **Approval of SamCERA's 2019 Comprehensive Annual Financial Report (CAFR):** Ms. Chow presented the highlights of the 2019 CAFR. She reported that SamCERA's net position increased by 8%, or \$349 million, compared to last fiscal year. The increase was mainly due to contributions due to an increase in covered payroll and supplemental contributions. Mr. Hood thanked Ms. Chow and staff for the great work they've done in putting together the CAFR. Mr. Raw reported the Audit Committee met that morning and reviewed the 2019 CAFR. The Audit Committee recommends that the Board approve the 2019 CAFR.

**Action:** Mr. Bowler motioned to approve SamCERA's 2019 Comprehensive Annual Financial Report. The motion was seconded by Mr. David and carried a vote of 9-0, with trustees Arnott, Battey, Bowler, David, Hackleman, Hoefler, O'Malley, Raw and Tashman all in favor; none opposed.

This item was taken out of order and heard after item 7.1.

- 1910.7.3 **Approval of Resolution adopting "Policy Allowing for the Use and Acceptance of Electronic Signatures for Documents Submitted by a Member":** Mr. Hood discussed the proposed electronic signature policy allowing the Chief Executive Officer to oversee the development, maintenance and application technology, ensuring the security of such transactions involving electronic signatures.

**Action:** Mr. Tashman motioned to approve the resolution adopting "Policy Allowing for the Use and Acceptance of Electronic Signatures for Documents Submitted by a Member". The motion was seconded by Mr. David and carried a vote of 9-0, with trustees Arnott, Battey, Bowler, David, Hackleman, Hoefler, O'Malley, Raw and Tashman all in favor; none opposed.

1910.7.4 **Approval of Board of Retirement Meeting Schedule for 2020:** Ms. Smith reviewed the highlights and changes to the 2020 Board Meeting schedule.

**Action:** Mr. Raw motioned to approve the Board of Retirement meeting schedule for calendar year 2020. The motion was seconded by Mr. Hackleman and carried a vote of 9-0, with trustees Arnott, Battey, Bowler, David, Hackleman, Hoefler, O'Malley, Raw and Tashman all in favor; none opposed.

1910.8.1 **Chief Executive Officer's Report:** Mr. Hood thanked staff that assisted with the CAFR. He informed the Board that staff had recently completed an IT Risk Assessment and will be going over the recommendations to strengthen SamCERA's internal controls. Mr. Hood mentioned a few trustees will be attending the 2019 SACRS Fall Conference, November 12<sup>th</sup>-15<sup>th</sup> in Monterey, CA. He also stated the next Board meeting agenda would include the education policy, annual review of Brown Armstrong and topics for the 2020 Board/Staff retreat. He also reminded the Board that he would not be at the December meeting and that Ms. Smith would stand in for him.

1910.8.2 **Assistant Executive Officer's Report:** None.

Ms. Trujillo informed Board members about upcoming educational events.

1910.8.3 **Chief Investment Officer's Report:** Mr. Coultrip informed the Board that staff will be conducting annual manager reviews on Private Equity and Private Real Asset Portfolios on November 19<sup>th</sup> at 10:30 a.m.

1910.8.4 **Chief Legal Counsel's Report:** None.

C1 **Consideration of Disability Items, if any, removed from the Consent Agenda:** None.

C2 **Conference with Legal Counsel – Existing Litigation (Govt. Code section 54956.9) In Re Sheridan Holding Company II, LLC et al., US Bankruptcy Court-Southern District, Case No. 19-35198(MI):** No reportable action was taken.

1910.10 **Adjournment:** Mr. Hoefler adjourned the meeting at 12:15 p.m. in memory of the deceased members listed below.

|                   |                   |                 |
|-------------------|-------------------|-----------------|
| Morrison, Nancy   | August 13, 2019   | Courts          |
| Gomes, Rita       | September 8, 2019 | Hospital        |
| Schwartz, David   | September 8, 2019 | Mental Health   |
| Garrett, Marilyn  | October 3, 2019   | Social Services |
| Howe, Anne        | October 4, 2019   | Mental Health   |
| Guillory, Anthony | October 9, 2019   | Sheriff's       |
| Odenheimer, Edith | October 11, 2019  | Long Term Care  |

---

Kurt Hoefler  
Board Chair

San Mateo County Employees' Retirement Association  
**Minutes of the Audit Committee Meeting of the Board of Retirement**

**October 29, 2019 – Audit Committee Meeting Minutes**

- 1. Call to Order:** Chair Robert Raw called the meeting of the Audit Committee to order at 9:10 a.m.

**Roll Call:** *Present:* Mark Battey, Susan Lee and Robert Raw.

*Not Present:* Alma Salas.

*Staff:* Scott Hood, Gladys Smith, Tat-Ling Chow, Brenda Carlson and Anne Trujillo.

*Consultants:* Andrew Paulden, Brown Armstrong.

- 2.1 Oral Communications from the Committee:** None.

- 2.2 Oral Communications from the Public:** None.

- 3.1 Recommendation to the Board of Retirement to Accept Financial Audit Management Reports and Findings:**

Mr. Paulden provided a thorough review of the audit process and presented the financial audit management reports and findings with the Committee. He reported that SamCERA received an unmodified (clean) opinion and that there were no recommendations given by the auditors. Mr. Paulden also answered questions from the Audit Committee.

**Action:** Mr. Battey moved to recommend that Board of Retirement accept the financial audit management reports and findings, as prepared by Brown Armstrong. The motion was seconded by Ms. Lee and carried with a vote of 3-0, with trustees Battey, Lee and Raw, all in favor; and none opposed.

- 3.2 Recommendation to the Board of Retirement to Approve SamCERA's 2019 Comprehensive Annual Financial Report:**

Ms. Chow explained the elements of the CAFR, and reviewed highlights of the report including SamCERA's net position, liabilities, investment income returns and funding status. She stated that SamCERA's net position has increased by 8%, or \$349 million, compared to last fiscal year.

**Action:** Ms. Lee moved to recommend that Board of Retirement approve SamCERA's 2019 Comprehensive Annual Financial Report. The motion was seconded by Mr. Battey and carried with a vote of 3-0, with trustees Battey, Lee and Raw, all in favor; and none opposed.

- 6. Adjournment:** With no further business, Mr. Raw adjourned the meeting at 9:40 a.m.

---

Scott Hood  
Chief Executive Officer

---

Anne Trujillo  
Retirement Executive Secretary



SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
**Board of Retirement**

December 3, 2019

Agenda Items 4.1- 4.8

**TO:** Board of Retirement

**FROM:** Elizabeth LeNguyen, Retirement Benefits Manager



**SUBJECT:** Approval of Consent Agenda Items 4.1 – 4.8

**4.1 Disability Retirements**

- a) The Board find that **Catherine Baker** (1) is permanently incapacitated from the performance of her usual and customary duties as a Social Worker III; (2) find that her disability was the result of an injury arising out of and in the course of her employment; (3) grant her application for a service-connected disability retirement; and (4) pursuant to Government Code section 31724, find that the filing of Ms. Baker's application was delayed by a combination of administrative oversight and the resulting inability to ascertain the permanency of her incapacity until after the date following the day Ms. Baker last received regular compensation, which is January 21, 2016, and that such date will be deemed to be the date the application was filed making the effective date of her benefits to be January 22, 2016.
- b) The Board further review the application of **Gabriela Breton** based on a new October 30, 2019, IME report by Dr. Brian Jacks, a psychiatrist, received after the Board's initial review in September 26, 2017, along with the original information submitted to the Board and: (1) find that she is permanently incapacitated from the performance of her usual and customary duties as a Marriage and Family Therapist II, (2) find that her disability was the result of an injury arising out of and in the course of her employment and (3) grant her application for a service-connected disability retirement.
- c) The Board find that **Christina Hernandez** (1) is permanently incapacitated from the performance of her usual and customary duties as a Court Reporter, (2) find that her disability was the result of an injury arising out of and in the course of her employment and (3) grant her application for a service-connected disability retirement.
- d) The Board find that **Hector Robles Moncada** (1) is permanently incapacitated from the performance of his usual and customary duties as a Supervising Mental Health Clinician, (2) find that his disability was not the result of an illness arising out of and in the course of his employment and (3) grant his application for a non-service-connected disability retirement.
- e) The Board find that **Lidia Sirotka** (1) is permanently incapacitated from the performance of her usual and customary duties as a Patient Services Assistant II, (2) find that her disability

was not the result of an illness arising out of and in the course of her employment and (3) grant her application for a non-service-connected disability retirement.

- f) The Board find that **Rosanna Torrejon** (1) is permanently incapacitated from the performance of her usual and customary duties as a Patient Services Specialist, (2) find that her disability was not the result of an illness arising out of and in the course of her employment and (3) grant her application for a non-service-connected disability retirement.

**4.2 Survivor Death Benefits**

None.

**4.3 Service Retirements**

The Board ratifies the service retirement for the individuals listed below as follows:

| <b>Name</b>           | <b>Effective Retirement Date</b> | <b>Department</b>                |
|-----------------------|----------------------------------|----------------------------------|
| Biel, Thomas          | September 28, 2019               | Human Services Agency            |
| Foster, Roxane        | March 30, 2019                   | Def'd from Human Services Agency |
| Garcia-Fulle, Marnita | September 28, 2019               | Human Services Agency            |
| Gonzales, Celia       | September 3, 2019                | San Mateo Medical Center         |
| Hayward, Christopher  | September 19, 2019               | Sheriff's Office                 |
| Khan, Abdul           | September 25, 2019               | Dept of Public Works             |
| Lapolla, Nancy        | September 14, 2019               | Family Health                    |
| Lewis, Robert Lee     | September 21, 2019               | San Mateo Medical Center         |
| Martinez, Rebecca     | September 14, 2019               | San Mateo Medical Center         |
| Meredith, Michael     | September 30, 2019               | Probation                        |
| Munguia-Chang, Roger  | September 28, 2019               | San Mateo Medical Center         |
| O'Malley-Riley, Marsi | October 1, 2019                  | Deferred from Library            |
| Puls, Cheryl          | September 25, 2019               | Def'd from Dept of Public Works  |
| Rihm, Michael         | September 18, 2019               | Aging & Adult Services           |
| Rosenberger, Jeffrey  | October 1, 2019                  | Deferred from Controller's       |
| Warner, Ana           | September 14, 2019               | Family Health                    |
| Yaming, Socorro       | September 21, 2019               | Courts                           |

**4.4 Continuances**

The Board ratifies the granting of a continuance to the following individuals:

| <b>Survivor's Name</b> | <b>Beneficiary of:</b> |
|------------------------|------------------------|
| Gomez, Alexander       | Gomez, Herlin          |
| Hansen, Marilyn        | Hansen, Carl           |
| Ochi, Tad              | Ochi, Mae              |

#### 4.5 Deferred Retirements

The Board ratifies the deferred retirements as listed below for the following individuals:

| <b>Name</b>          | <b>Retirement Plan Type</b>  |
|----------------------|------------------------------|
| Bonanno, Leandro     | S7, Non-vested - Reciprocity |
| Castellanos, Pauline | G7, Non-vested - Reciprocity |
| Ekhaus, Ruth         | G7, Non-vested - Reciprocity |
| Haro, Alejandra      | G4, Vested - Reciprocity     |
| Khadra, Sara         | G7, Non-vested - Reciprocity |
| Lau, Lilliam         | G7, Non-vested - Reciprocity |
| Salas, Adrienne      | G5, Vested - Reciprocity     |
| Tassone, Gina        | G7, Non-vested - Reciprocity |

#### 4.6 Member Account Refunds

The Board ratifies the refunds as listed below for the following individuals:

| <b>Name</b>                               | <b>Retirement Plan Type</b> |
|---|-----------------------------|
| Anderson, Jennifer L (QDRO)               | S4, Non-vested              |
| Bastidas, Leticia (FBO: Orlando Bastidas) | G4, Non-vested              |
| Beavers-Silva, Priscilla                  | G7, Non-vested              |
| Bendana, Guiselle                         | G7, Non-vested              |
| Coll, Eleana                              | G7, Non-vested              |
| Concordia, Raymund                        | G7, Non-vested              |
| Craig, Jason                              | S7, Non-vested              |
| Gutierrez, Joseph                         | G7, Non-vested              |
| Lavaki, Halamako (FBO: Epeli Lavaki)      | G4, Vested                  |
| Lunsford, Monique                         | G5, Non-vested              |
| Martin, Dominic                           | G7, Non-vested              |
| Minsky, Sarah                             | G7, Non-vested              |

|                         |                |
|-------------------------|----------------|
| Miranda, Jazmine        | G7, Non-vested |
| Moore, Anthony          | G7, Non-vested |
| Newsome, Jessica        | G7, Vested     |
| Sagrado, John           | G7, Non-vested |
| Scott, Aaron            | G7, Non-vested |
| Tonumailau, Tutulu      | G7, Non-vested |
| Villalobos Lopez, Mayte | G7, Non-vested |
| Ware, Trevor            | G7, Non-vested |
| Wright, Ayanna          | G7, Non-vested |
| Young, Zachery          | G4, Vested     |

#### 4.7 Member Account Rollovers

The Board ratifies the rollovers as listed below for the following individuals:

| Name                 | Retirement Plan Type |
|----------------------|----------------------|
| Delmonico, Anthony   | G5, Vested           |
| Jamison, Christopher | G7, Non-vested       |
| Lin, Szu-Yu          | G7, Non-vested       |
| Manuel, Freda        | G7, Non-vested       |
| Maplestone, Rodney   | G7, Non-vested       |
| Rangel, Christopher  | G7, Non-vested       |
| Sanders, Matthew     | G7, Non-vested       |
| Shepard, Derek       | G7, Non-vested       |

#### 4.8 Member Account Redeposits

None

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
**Board of Retirement**

December 4, 2019

Agenda Item 4.9

**TO:** Board of Retirement  
**FROM:** Anne Trujillo, Retirement Executive Secretary  
**SUBJECT:** Trustee's Reports of Educational Activities



**Recommendation**

Accept the following reports from Board of Retirement trustees who have recently attended educational events.

**Background**

SamCERA's Education Policy Section 1D states "Prior to the next regularly scheduled meeting of the Board following the Board member's participation in an educational activity, the Board member shall submit for inclusion on the Consent Agenda, a summary written report on the content of educational activities. The report shall substantially reflect the information contained in the attached sample report."

**Discussion**

SamCERA Trustees attended the following educational events, and their reports are attached:

IFEBP Annual Conference, San Diego

Sandie Arnott  
Paul Hackleman  
Susan Lee  
Alma Salas

**Attachments**

Trustee's Education Proof of Participation Certificates and Summaries

SamCERA Board of Retirement Trustee Education  
Proof of Participation Certificate and Summary



|   |  |  |
|---|--|--|
| <b>Trustee Name</b><br>Sandie Arnott  |  | <b>Date(s) of Event</b><br>10/20/19-10/23/19   |
| <b>Education Event Name</b><br>TMP Advanced Leadership/65th Annual Conference   |  |  |
| <b>Event Provider</b><br>IFEBP  |  |  |
| <b>Type of Participation:</b><br>Attended Event <input checked="" type="checkbox"/><br>Listened to Audio/Watched Video <input type="checkbox"/> |  | <b>Eligible Credit:</b><br>Total hours for sessions you participated in: _____<br>( <i>Staff may adjust hours if the provider issues an education certificate that reflects different hours.</i> ) |

This event satisfies the following requirements of the Board of Retirement's Education Policy and Government Code section 31522.8:

**Topic:** (Check all that apply)

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Fiduciary responsibilities                                 | <input type="checkbox"/> Disability evaluation              |
| <input type="checkbox"/> Ethics  | <input type="checkbox"/> Fair hearings                      |
| <input type="checkbox"/> Benefits administration   | <input checked="" type="checkbox"/> Pension fund governance |
| <input type="checkbox"/> Actuarial matters   | <input type="checkbox"/> New board member orientation       |
| <input checked="" type="checkbox"/> Pension funding  | <input checked="" type="checkbox"/> Other: <u>Health</u>    |
| <input checked="" type="checkbox"/> Pension fund investments and investment program management |   |

**Summary Report**

What concepts or information did you learn about?

*Stigma of mental health, Technology in health & medicine in the future, Legal uses of investment, Economic Outlook, Asset Allocation, Alternative Investments, Fund Governance, Fiduciary dilemmas.*

Would you recommend this event to other trustees?

- Yes       No       Maybe

You may provide additional comments to SamCERA's CEO.

By signing below, I certify that I participated in the activities described above and am entitled to claim the indicated amount of education credit hour(s).

|   |                         |
|---|-------------------------|
| <b>Trustee Signature (print this form and sign)</b><br> | <b>Date</b><br>10/24/19 |
|---|-------------------------|

**NOTE:** Please return this completed form to SamCERA's Executive Secretary prior to the mailing of the Board packet, so it can be included in that month's Consent Agenda.

SamCERA Board of Retirement Trustee Education  
 Proof of Participation Certificate and Summary



|   |  |  |
|---|--|--|
| <b>Trustee Name</b><br>Paul Hackleman   |  | <b>Date(s) of Event</b><br>10/20/19-10/23/19 |
| <b>Education Event Name</b><br>65th Annual Conference   |  |  |
| <b>Event Provider</b><br>IFEBP  |  |  |
| <b>Type of Participation:</b><br>Attended Event <input checked="" type="checkbox"/><br>Listened to Audio/Watched Video <input type="checkbox"/> | <b>Eligible Credit:</b><br>Total hours for sessions you participated in: _____<br><i>(Staff may adjust hours if the provider issues an education certificate that reflects different hours.)</i> |  |

This event satisfies the following requirements of the Board of Retirement's Education Policy and Government Code section 31522.8:

**Topic:** *(Check all that apply)*

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Fiduciary responsibilities                                 | <input type="checkbox"/> Disability evaluation              |
| <input type="checkbox"/> Ethics  | <input type="checkbox"/> Fair hearings                      |
| <input type="checkbox"/> Benefits administration   | <input checked="" type="checkbox"/> Pension fund governance |
| <input checked="" type="checkbox"/> Actuarial matters  | <input type="checkbox"/> New board member orientation       |
| <input checked="" type="checkbox"/> Pension funding  | <input type="checkbox"/> Other: _____                       |
| <input checked="" type="checkbox"/> Pension fund investments and investment program management |   |

**Summary Report**

What concepts or information did you learn about?

MANAGING RISKS, INCOME STRATEGIES, FORECASTING PENSION VALUATIONS  
 REAL ESTATE INVESTING, INVESTING IN A LOW-RETURN WORLD, ALTERNATIVE  
 INVESTING, ESG INVESTMENT INITIATIVE, INFRASTRUCTURE INVESTING

Would you recommend this event to other trustees?

- Yes       No       Maybe

*You may provide additional comments to SamCERA's CEO.*

By signing below, I certify that I participated in the activities described above and am entitled to claim the indicated amount of education credit hour(s).

|  |                         |
|--|-------------------------|
| <b>Trustee Signature</b> <i>(print this form and sign)</i><br> | <b>Date</b><br>10/24/19 |
|--|-------------------------|

**NOTE:** Please return this completed form to SamCERA's Executive Secretary prior to the mailing of the Board packet, so it can be included in that month's Consent Agenda.

SamCERA Board of Retirement Trustee Education  
 Proof of Participation Certificate and Summary



|   |   |  |
|---|---|--|
| <b>Trustee Name</b><br>Susan Lee  |   | <b>Date(s) of Event</b><br>10/19/19-10/23/19 |
| <b>Education Event Name</b><br>New Trustees Institute-Level I: Core Concepts/65th Annual Conference   |   |  |
| <b>Event Provider</b><br>IFEBP  |   |  |
| <b>Type of Participation:</b><br>Attended Event <input checked="" type="checkbox"/><br>Listened to Audio/Watched Video <input type="checkbox"/> | <b>Eligible Credit:</b><br>Total hours for sessions you participated in: <u>36</u><br>(Staff may adjust hours if the provider issues an education certificate that reflects different hours.) |  |

This event satisfies the following requirements of the Board of Retirement's Education Policy and Government Code section 31522.8:

**Topic:** (Check all that apply)

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Fiduciary responsibilities                                 | <input type="checkbox"/> Disability evaluation              |
| <input type="checkbox"/> Ethics  | <input type="checkbox"/> Fair hearings                      |
| <input checked="" type="checkbox"/> Benefits administration                                    | <input checked="" type="checkbox"/> Pension fund governance |
| <input checked="" type="checkbox"/> Actuarial matters  | <input type="checkbox"/> New board member orientation       |
| <input checked="" type="checkbox"/> Pension funding  | <input type="checkbox"/> Other: _____                       |
| <input checked="" type="checkbox"/> Pension fund investments and investment program management |   |

**Summary Report**

What concepts or information did you learn about?

Fixed Income, ESG, Infrastructure  
Investing, Cryptocurrency, Self-Care  
Future of Health & Medicine, Governance  
Trustee Responsibilities, Mental Health for Men  
Retirement Trends

Would you recommend this event to other trustees?

- Yes       No       Maybe

You may provide additional comments to SamCERA's CEO.

By signing below, I certify that I participated in the activities described above and am entitled to claim the indicated amount of education credit hour(s).

|  |                         |
|--|-------------------------|
| <b>Trustee Signature</b> ( <i>print this form and sign</i> )<br> | <b>Date</b><br>10/24/19 |
|--|-------------------------|

**NOTE:** Please return this completed form to SamCERA's Executive Secretary prior to the mailing of the Board packet, so it can be included in that month's Consent Agenda.



SamCERA Board of Retirement Trustee Education  
Proof of Participation Certificate and Summary



|   |  |   |  |
|---|--|---|--|
| <b>Trustee Name</b><br>Alma Salas   |  | <b>Date(s) of Event</b><br>10/20/19-10/23/19  |  |
| <b>Education Event Name</b><br>TMP Advanced Leadership/65th Annual Conference   |  |   |  |
| <b>Event Provider</b><br>IFEBP  |  |   |  |
| <b>Type of Participation:</b><br>Attended Event <input checked="" type="checkbox"/><br>Listened to Audio/Watched Video <input type="checkbox"/> |  | <b>Eligible Credit:</b><br>Total hours for sessions you participated in: _____<br>(Staff may adjust hours if the provider issues an education certificate that reflects different hours.) |  |

This event satisfies the following requirements of the Board of Retirement's Education Policy and Government Code section 31522.8:

**Topic:** (Check all that apply)

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Fiduciary responsibilities                                 | <input type="checkbox"/> Disability evaluation              |
| <input type="checkbox"/> Ethics  | <input type="checkbox"/> Fair hearings                      |
| <input type="checkbox"/> Benefits administration   | <input checked="" type="checkbox"/> Pension fund governance |
| <input checked="" type="checkbox"/> Actuarial matters  | <input type="checkbox"/> New board member orientation       |
| <input type="checkbox"/> Pension funding   | <input type="checkbox"/> Other: _____                       |
| <input checked="" type="checkbox"/> Pension fund investments and investment program management |   |

**Summary Report**

What concepts or information did you learn about?

*Depression signs in mental health, Economic outlook, Modern asset allocation, Governance, Alternative investments, Infrastructure investing*

Would you recommend this event to other trustees?

- Yes       No       Maybe

You may provide additional comments to SamCERA's CEO.

By signing below, I certify that I participated in the activities described above and am entitled to claim the indicated amount of education credit hour(s).

|  |                         |
|--|-------------------------|
| <b>Trustee Signature (print this form and sign)</b><br><i>Alma Salas</i> | <b>Date</b><br>10/24/19 |
|--|-------------------------|

**NOTE:** Please return this completed form to SamCERA's Executive Secretary prior to the mailing of the Board packet, so it can be included in that month's Consent Agenda.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
Board of Retirement

December 3, 2019

Agenda Item 4.10

**TO:** Board of Retirement  
**FROM:** Scott Hood, Chief Executive Officer  
**SUBJECT:** Education Policy



**Recommendation**

Reaffirm the Board's Education Policy.

**Background**

In 2016, the Board approved its Education Policy. The policy reflects the following core principles as stated by the Ad Hoc Education Policy Committee:

- **Fiduciary:** education must be consistent with the Board's fiduciary responsibilities.
- **Prudent:** exercising good judgment /decision making; understanding that the Board is entrusted with the Retirement Fund.
- **Relevant:** education must be relevant to Trustee's responsibilities and to individual experience and background.
- **Focus:** training/conference should focus on education not marketing
- **Cost Effective:** Board should apply the same discipline to Board travel/education as it does to all SamCERA expenses. Each Board member shall make every effort to obtain his or her education within California.
- **Optics/Perception:** location and perception of luxury are important. Board member education should be obtained in a cost-efficient manner minimizing costs wherever possible, multiple education providers provide similar educational opportunities.

**Discussion**

The Policy authorizes each Trustee to attend all of the following each fiscal year:

- Unlimited number of conferences and education programs within the Bay Area; and
- Any program sponsored by the State Association of County Retirement Systems (SACRS) and the California Association of Public Retirement Systems (CALAPRS) wherever located; and
- Up to two (2) approved out-of-Bay Area educational events requiring overnight stays.

The two approved out of Bay Area educational events requiring overnight stays can be from the following list of providers:

- International Foundation of Employee Benefit Plans (IFEBP)
- Wharton investment management programs
- Chartered Financial Analyst (CFA) Institute
- National Conference on Public Employee Retirement Systems (NCPERS)
- Institutional Limited Partner Association (ILPA) Institute (Educational Programs)

This list is subject to annual review and revision by the Board. Requests to attend an event not on the above list can be made by a Trustee by completing a form that is placed on the regular agenda for approval. One event request was made in 2018 and granted by the Board. No requests were brought to the Board in 2019.

**Attachment**

Education Policy

## BOARD EDUCATION POLICY

### SECTION 1. BOARD MEMBER EDUCATION IS REQUIRED

- A. **Fiduciary Duty.** Consistent with the Board's fiduciary responsibility to discharge its duties with respect to the system with care, skill, prudence, and diligence, the Board acknowledges the vital importance of making informed judgments on all matters which come before it and has determined that educational activities help provide the Board with knowledge and skills to make such informed decisions. Board members come to the Board with differing backgrounds, knowledge and expertise. Each member has a duty to receive the education that best fits his or her needs. Board member education should develop the individual knowledge of the Board members and in turn, improve the knowledge of the Board as whole so that it may discharge its fiduciary duties.
- B. **Minimum Required Hours of Training.** Each Board member shall receive a minimum of 24 hours of Board member education in the topics listed in Section 3 (A) within the first two years of assuming office and for every subsequent two-year period the Board member continues to hold membership, in accordance with Government Code §31522.8.
- C. **Posting of Policy and Board Member Compliance.** Staff shall maintain a record of Board member compliance with this policy and this policy and an annual report on Board member compliance will be posted on the Board's website which shall reflect the education completed for the prior fiscal year or calendar, depending upon when the Board member's term commences, in accordance with Government Code §31522.8.
- D. **Timely Report by Board Member of Educational Participation.** Prior to the next regularly scheduled meeting of the Board following the Board member's participation in an educational activity, the Board member shall submit for inclusion on the Consent Agenda, a summary written report on the content of educational activities. The report shall substantially reflect the information contained in the attached sample report.

### SECTION 2 COST EFFECTIVE EDUCATION

- A. **Limit for Attendance at Overnight Out-Of-Bay Area Educational Events.** Board member education should be obtained in a cost efficient manner minimizing costs wherever possible. Every Board member is authorized to attend conferences and education programs within the Bay Area, and programs sponsored by the State Association of County Retirement Systems (SACRS) and the California Association of Public Retirement Systems (CALAPRS). In addition, every Board member is authorized to attend up to two (2) approved out-of-Bay Area educational events requiring overnight stays per fiscal year. Multiple education providers provide similar educational opportunities and each Board member shall make every effort to obtain his or her education within California. Board members should not attend educational activities that conflict with regularly scheduled Board meetings.

- B. **Travel Expenses.** Travel expenses incurred by a Board member for education are subject to reimbursement by SamCERA in accordance with this policy and the Board’s “Policy For Reimbursement Of Travel And Other Official Expenses For Trustees.” Any international travel by a Board member must be placed on the Board’s regular agenda for the Board’s pre-approval. Costs for attendance at educational events that are not consistent with both policies will not be subject to reimbursement without Board approval.
- C. **Education through Electronic Means.** The Board further encourages members to participate to the fullest extent possible in approved taped and electronic delivery of educational opportunities.
- D. **Education Given by SamCERA Staff and Consultants.** Training provided by or arranged by the Chief Executive Officer, Chief Investment Officer, Chief Legal Counsel, and other SamCERA staff, the Board’s Medical Advisor, Actuary, Investment Consultant, Investment Managers shall satisfy the required education for the subject matters presented at such training and the required educational hours for the length of the training.
- E. **Education from Publications.** A Board member may count up to three hours towards his or her biannual education requirement by reading Pensions & Investments, the Public Retirement Journal, and/or the Wall Street Journal.
- F. **Education from On Site Visits.** A Board member may count up to three hours towards his or her biannual education requirement by accompanying staff on an onsite visit to a potential or existing investment consultant, manager or other SamCERA provider. Visits outside of the Bay Area requiring an overnight stay will count as an approved trip in accordance with Section 2 (A).

**SECTION 3. APPROVED EDUCATIONAL TOPIC AREAS AND PROGRAMS**

- A. **Educational Topic Areas.** Appropriate topics for Board member education, shall include two hours of Ethics Training consistent with Government Code §53234 and two hours of Sexual Harassment Prevention Training consistent with Government Code §53237.1 in a manner approved by the Chief Legal Counsel and, in accordance with Government Code §31522.8, may include but is not limited to, the following topics:
  - (1) Fiduciary responsibilities
  - (2) Ethics
  - (3) Pension fund investments and investment program management
  - (4) Actuarial matters
  - (5) Pension funding
  - (6) Benefits administration
  - (7) Disability evaluation
  - (8) Fair hearings
  - (9) Pension fund governance
  - (10) New board member orientation
- B. **Approved Educational Programs and Activities.** In addition to the SACRS and CALAPRS conferences and educational programs listed in Section 2 A, a Board member’s

attendance at and/or viewing or listening of recordings of one or more programs listed below shall satisfy the required education for the subject matters presented at such programs and the required educational hours for the length of the program. This list of programs is subject to annual review by the Board and shall be revised as determined by the Board.

- (1) International Foundation of Employee Benefit Plans (IFEBP)
- (2) Wharton investment management programs
- (3) Chartered Financial Analyst (CFA) Institute
- (4) National Conference on Public Employee Retirement Systems (NCPERS)
- (5) Institutional Limited Partner Association (ILPA) Institute (Educational Programs)

C. **Recommended Education for New Board members.** As part of a new Board member's orientation, staff will provide a recommended educational plan that best suits the Board member's educational needs for his or her first term.

D. **Special Request to attend Education Event.** In considering each request to attend a specified educational activity that is not authorized in Section 2B, the Board will consider if the overnight travel is appropriate and consistent with the intent of this policy and shall consider items such as:

- 1) Are the conference topics of current interest and importance and related to issues facing SamCERA?
- 2) Have reports from previous attendees been favorable regarding the content of the conference and the continuing value of future attendance?
- 3) Will the conference meet the educational needs of the attendee?
- 4) Can similar education be received from an already approved provider or that provider's on-line resources?
- 5) Does the cost of the event and overnight travel justify the benefits particularly if the conference is out of California?
- 6) How many overnight trips has the Board member attended and/or is planning on attending this fiscal year?

#### **SECTION 4. EDUCATIONAL EXPENSES FOR STAFF**

The Chief Executive Officer is authorized to approve the participation and associated travel of the Chief Executive Officer and staff in educational activities to the extent that the Chief Executive Officer finds that such participation will contribute to the staff member's ability to perform her or his duties and the budget provides funds for such activities.

Last amended 12/5/17

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
Board of Retirement

December 3, 2019

Agenda Item 4.11

**TO:** Board of Retirement

**FROM:** Scott Hood, Chief Executive Officer



**SUBJECT:** Securities and Other Investment Related Legal Actions Policy

**Recommendation**

Approve a resolution amending the “Securities Litigation Policy” and renaming it “Securities and Other Investment Related Legal Actions Policy.”

**Background**

In 2011, the Board adopted its Securities Litigation Policy (“Policy”) to address class actions in which SamCERA may decide to act as lead plaintiff. SamCERA has three firms to monitor the investment portfolio and to make recommendations in this area.

SamCERA’s custodial bank is responsible for filing claims in routine domestic class actions. The custodial bank is not responsible for filing claims in courts not located in the United States, claims filed in bankruptcy matters or antitrust claims. Due to timing issues, and in general, the routine nature of these claims, the Securities Litigation Policy was amended in 2012 to authorize the Chief Executive Officer, in consultation with the Chief Legal Counsel, to have the authority to file such a claim or action without seeking Board approval or ratification. The Policy also provides that: (1) if legal counsel must be promptly retained, the CEO is authorized to do so subject to ratification by the Board; and (2) the Board will be provided with status reports as needed.

**Discussion**

SamCERA’s alternative investment portfolio has grown since 2012 and there has been one, and there maybe future legal actions in relation to investments that are not securities. Staff recommends that the Policy be renamed “Securities and Other Investment Related Legal Actions Policy” and amended to expressly address:

“claims or actions for any investment assets filed in bankruptcy, other state or federal court, or administrative agency, in which the Chief Executive Officer, in consultation with the Chief Legal Counsel, determines that it is in the best interest of SamCERA to respond to or file such a claim or action, the Chief Executive Officer is authorized to take all necessary steps to recover or protect assets in these matters without seeking Board approval or ratification.”

**Attachments**

Resolution amending the “Securities Litigation Policy” and renaming to “Securities and Other Investment Related Legal Actions Policy.”

**Board of Retirement**

**RESOLUTION AMENDING THE "SECURITIES LITIGATION POLICY" AND RENAMING IT TO  
"SECURITIES AND OTHER INVESTMENT RELATED LEGAL ACTIONS POLICY"**

**RESOLUTION 2019 - \_\_**

**WHEREAS**, in January of 2011, the Board adopted its Security Litigation Policy ("Policy"), to address actions in which SamCERA may decide to act as lead or name plaintiff in security class actions; and

**WHEREAS**, in September 2012, the Board amended the Policy to authorize the Chief Executive Officer, in consultation with the Chief Legal Counsel, to file certain claims or action without seeking Board approval or ratification; and

**WHEREAS**, SamCERA's alternative investment portfolio has grown since 2012 and there has been one, and there maybe future legal actions, in relation to investments that are not securities; and

**WHEREAS**, Staff recommends that the Policy be renamed "Securities and Other Investment Related Legal Actions Policy" and amended to expressly address authority to the Chief Executive Officer regarding claims or actions for any investment assets; and

**WHEREAS**, this Board has reviewed the attached amendment to the Policy and desires to rename the Policy and make such amendment; therefore, be it

**RESOLVED** that the Board hereby renames the its "Securities Litigation Policy" to the "Securities and Other Investment Related Legal Actions Policy" amends it to read as attached:

\* \* \* \* \*

Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on December 3, 2019.

Ayes, Trustees:

Noes, Trustees:

Absent, Trustees:

Abstain, Trustees:

---

Robert Raw  
Board Secretary





## **SECURITIES AND OTHER INVESTMENT RELATED LEGAL ACTIONS POLICY**

### **PURPOSE**

In order to protect the assets of the fund, the Board of Retirement adopts this policy to establish procedures and guidelines for SamCERA's active participation (as a lead or named plaintiff) in securities class actions, participation in class action type claims filed in courts not located in the United States, authorize steps in asset recovery matters for any investment, including non-securities, such as alternative investments and real estate.

### **A. STATEMENT OF FUNCTIONS AND RESPONSIBILITIES -CLASS ACTIONS**

This policy shall not relieve SamCERA's custodial bank from its responsibility for filing all proofs of claim, including the necessary supporting documents and information, necessary to recover assets in every securities class action proceeding in which SamCERA has potentially suffered losses.

#### **1. Review of Class Action Filings**

The Board of Retirement shall select and retain one or more private law firms to identify and evaluate potential securities class action filings in which SamCERA would be a member of the class. Firms will only recommend active participation to SamCERA when they believe that without such participation SamCERA's rights and interests will not be represented in a case.

#### **2. Determination of Active Participation by SamCERA**

If SamCERA is asked to actively participate in a case, the Chief Executive Officer, after considering the factors listed below, and in consultation with the Chief Legal Counsel, shall make an initial determination of whether SamCERA will take an active role in a securities class action, or decline to do so.

The following factors will be considered:

- a) the likelihood of achieving a recovery

- b) the probable net amount of recovery (the probable amount of recovery less the estimated costs of staff and Chief Legal Counsel time and any other costs). Any estimated likely recovery amount must far outweigh any estimated participation costs (mainly staff and Chief Legal Counsel time) so as to eliminate any likelihood of a net loss due to active participation.
- c) the impact on the amount of recovery that would likely result from SamCERA participation as lead or named plaintiff
- d) whether SamCERA's rights and/or interests may in fact be preserved by active participation
- e) staff's and Chief Legal Counsel's potential workload
- f) any other relevant factors

For only those matters in which the Chief Executive Officer and Chief Legal Counsel will recommend to the Board that SamCERA should play an active role, a written report shall be presented to the Board. The report shall reflect the Chief Executive Officer's recommendation based upon the factors listed above. The report shall be placed on the Consent Agenda under Anticipated Litigation for the Board's approval. Any Board member has the authority to remove the report item for discussion and determination in closed session.

**B. ALL OTHER INVESTMENT ASSET RECOVERY INCLUDING FOREIGN SECURITIES ACTIONS, ALTERNATIVE INVESTMENT, REAL ESTATE**

For class action type claims filed in courts not located in the United States or claims or actions for any investment assets filed in bankruptcy, other state or federal court, or administrative agency, in which the Chief Executive Officer, in consultation with the Chief Legal Counsel, determines that it is in the best interest of SamCERA to respond to or file such a claim or action, the Chief Executive Officer is authorized to take all necessary steps to recover or protect assets in these matters without seeking Board approval or ratification.

**C. RETENTION OF OUTSIDE COUNSEL**

For matters in which the Chief Executive Officer, in consultation with the Chief Legal Counsel, has determined that outside counsel should be used, all retainer agreements shall be negotiated and submitted for approval, in advance, to the Board of Retirement. However, where it is determined that immediate approval is required to preserve SamCERA's rights and/or interests by retaining such counsel, the Chief Executive Officer in consultation with the Chief Legal Counsel is authorized to make the decision, subject to ratification by the Board.

#### **D. REPORTS TO THE BOARD ON ACTIVE LITIGATION**

The Chief Legal Counsel shall provide the Board with status reports as needed to keep the Board apprised of major developments in matters in which SamCERA is an active participant. Staff will present to the Board an annual report on the time spent by staff, if any, on active litigation matters.

Adopted by the Board of Retirement

January 25, 2011

Amended September 25, 2012

Amended December 3, 2019

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**  
**Board of Retirement**

December 3, 2019

Agenda Item 6.1

**TO:** Board of Retirement

**FROM:** Michael Coultrip, Chief Investment Officer

*Michael R. Coultrip*

**SUBJECT:** Preliminary Monthly Portfolio Performance Report for the Period Ended  
October 31, 2019

**Recommendation**

Accept the preliminary performance report dated October 31, 2019.

**Background**

This preliminary report is intended to provide a high-level view of the portfolio and its trends. It is not intended to provide short-term performance upon which the Board would act. As discussed previously, preliminary performance estimates are now included for AQR Risk Parity, AQR Delta, PanAgora Risk Parity, and Beach Point Select. The quarterly performance metrics are not yet available for our private equity, private credit, private real asset, and real estate portfolios. The performance for these portfolios will be reflected in the quarterly performance report generated by Verus.

The attached performance report shows both net and gross of fee returns for the total plan on page one, with net composite returns (pages 2-3) and net manager returns (pages 4-11) also shown.

**Discussion**

The fund's net preliminary return for October was 1.0%, bringing the preliminary trailing twelve-month return ending October 2019 to 10.3% net. The preliminary twelve-month net return is below SamCERA's Plan Benchmark return of 10.9% but above SamCERA's Actuarial Assumed Earnings Rate of 6.5%.

October saw reduced volatility in general, as equity returns were positive and other risk assets were generally higher as concerns about the global growth outlook dissipated. In line with expectations, the U.S. Federal Reserve cut rates by 25 basis points during the month. The broad U.S. equity market (as measured by the Russell 3000 Index) was up 2.2%. International markets were also higher on the month. Developed international equity (as measured by MSCI EAFE) was up 3.6%, while emerging markets were up 4.2%.

Economic data was mixed in October. U.S. real GDP grew at an annual rate of 1.9% in the third quarter, down from the 2% observed in the second quarter. Manufacturing activity continued to show weakness in October while non-farm payrolls increased, and consumer confidence was moderately positive.

The general U.S. fixed income market was up 0.3% during the month as lower credit spreads offset the slight increase in longer-term interest rates. The 10-year U.S. Treasury yield increased during the month, with the yield increasing 3 basis points and ending at 1.69% by month-end.

**Attachments**

Verus Capital Markets Update

Northern Trust Performance Report



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**

OCTOBER 2019  
Capital Markets Update

# Market commentary

## U.S. ECONOMICS

- U.S. GDP expanded at an annualized quarterly rate of 1.9% (exp. +1.6%) in Q3 2019, the lowest level since Q4 2018. Personal consumption continued to drive growth and contributed 1.9% to the overall print. A 1.5% contraction in gross private domestic investment weighed on growth.
- Nonfarm payrolls grew by 128,000 over the month, well above expectations for an increase of 80,000. Net payroll additions were revised 51,000 higher in August and 44,000 higher in September, bringing the three-month average payroll growth to 176,000. The Leisure and Hospitality (+61,000) and Education and Health Care (+39,000) sectors led job gains for the period.
- Consumer confidence ticked up in October. The University of Michigan's Consumer Sentiment Index rose from 93.2 to 95.5 (exp. 96.0) while the Conference Board's Consumer Confidence Index rose from 125.1 to 125.9 (exp. 128.0)

## U.S. EQUITIES

- The S&P 500 Index continued to climb in October, gaining 2.2% over the period. Views that U.S. – Chinese relations were on a productive track likely helped to push the index to fresh all-time highs.
- The CBOE VIX Index of implied volatility fell from 16.2 to 13.2 over the month, its lowest level since July. The trailing 30-day realized volatility of the S&P 500 Index remained subdued and fell slightly to 12.5.
- Per FactSet, the number of companies beating Q3 earnings estimates (76%) is above the 5-year average of 72% but by notably smaller margins. In aggregate, companies are reporting earnings that are 3.8% above expectations, below the 5-year average of 4.9%.

## U.S. FIXED INCOME

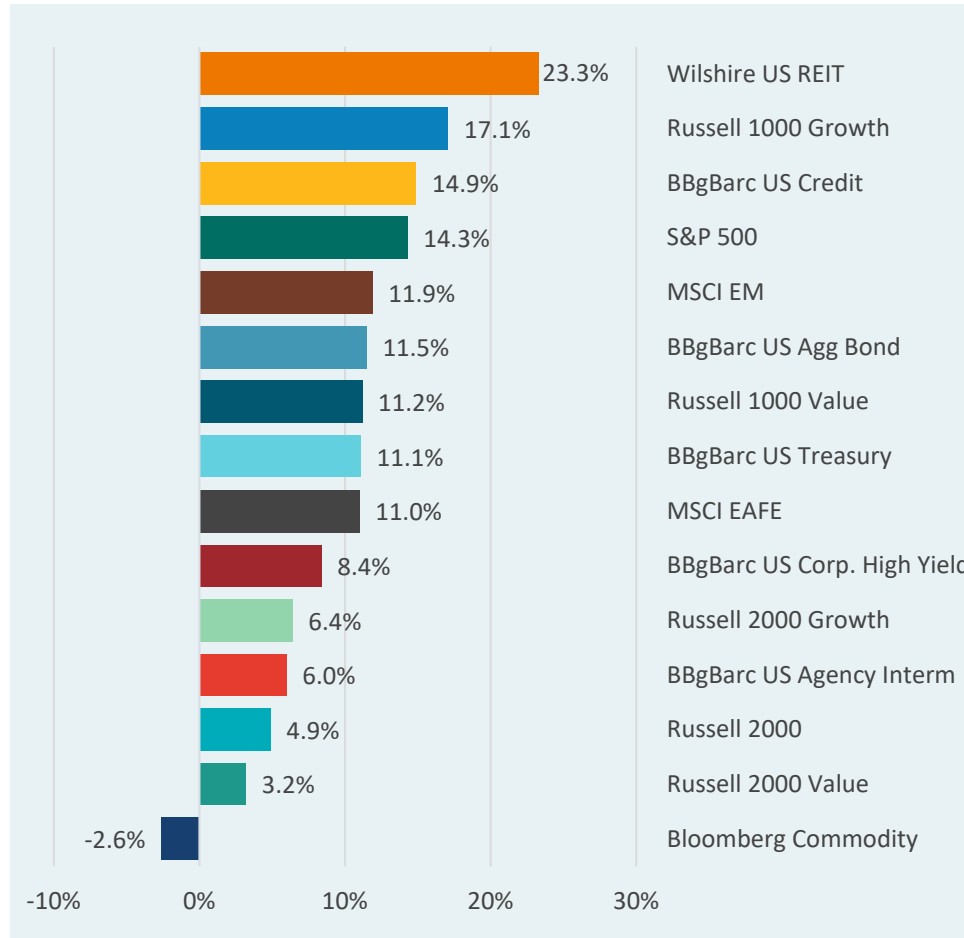
- The Federal Open Market Committee cut its range for the fed funds rate by 0.25% to 1.50% -1.75%, in line with expectations. Fed Chairman Jerome Powell signaled that moves to ease policy would likely be paused until conditions change materially.
- At the end of the period, the futures implied probability of the fed funds range being cut by at least 0.25% by the end of the year was 27%. There was a 38% probability of at least 0.25% in cuts by the end of Q1 2020.
- Ten-year Treasury yields ticked up from 1.67% to 1.69% and touched intra-month highs of 1.84%.

## INTERNATIONAL MARKETS

- For the second straight month global equities outperformed U.S. equities. International developed (MSCI EAFE Index 3.6%) and emerging market (MSCI EM Index 4.2%) equities outpaced the U.S. S&P 500 Index which rose 2.2%.
- The U.K. Prime Minister, Boris Johnson, reached an agreement with the E.U. to extend the deadline for the U.K. to leave the E.U. by three months, from October 31<sup>st</sup> to January 31<sup>st</sup>. The U.K. Parliament then voted in favor of holding a snap election in December, where Johnson's Conservative Party will attempt to gain a majority with hopes of clearing a path toward "Brexit".
- According to a preliminary report from Eurostat, economic growth in Europe remained subdued. Eurozone GDP grew 1.1% year-over-year in the third quarter, its slowest pace since Q4 2013. Year-over-year growth was slightly more robust in France (+1.3%), and significantly worse in Italy (+0.3%).

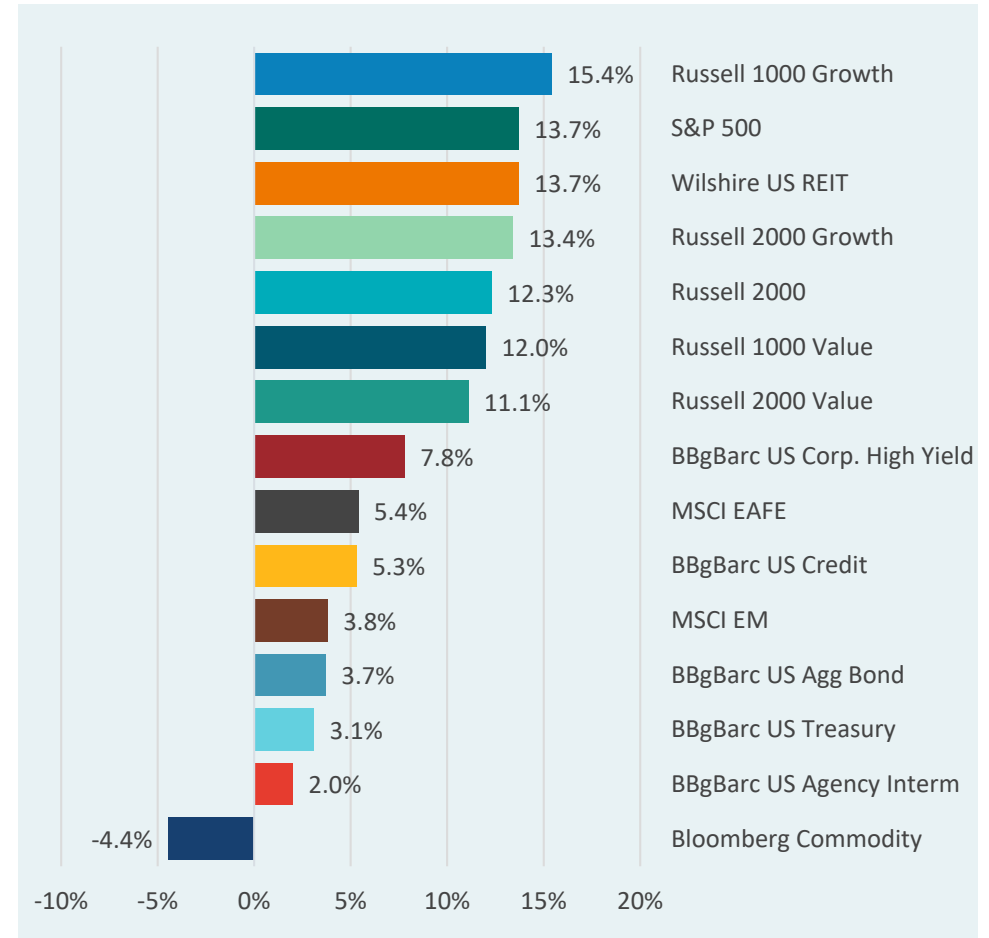
# Major asset class returns

ONE YEAR ENDING OCTOBER



Source: Morningstar, as of 10/31/19

TEN YEARS ENDING OCTOBER



Source: Morningstar, as of 10/31/19



# U.S. large cap equities

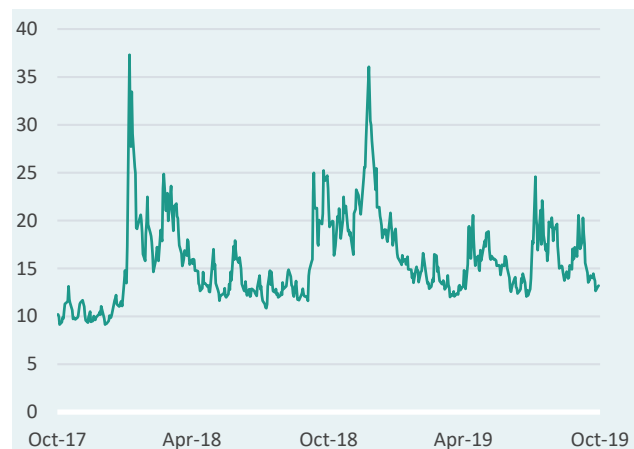
- The S&P 500 Index gained 2.2% over the period. The Health Care (+5.1%), Information Technology (+3.9%), and Communication Services (+3.0%) were the top performing sectors while the Energy (-2.3%) and Utilities sectors (-0.8%) lagged.
- The Energy (-2.3%) sector was the worst performing sector over the month. Weaker-than-expected economic data coming out of China stoked concerns over crude oil demand, which likely contributed to a sell-off in Energy-related stocks.
- At month-end, the forward one-year P/E ratio of the S&P 500 Index was 17.3, which exceeded both its 5- and 10-year averages of 16.6 and 14.9, respectively. Per FactSet, the Consumer Discretionary (21.6) and Financials (12.5) sectors have the highest and lowest forward one-year P/E ratios, respectively.
- Net futures positioning indicated a market expectation for lower short-term implied volatility. Per the CFTC, non-commercial investors were short 188,000 VIX futures contracts as of October 29<sup>th</sup>, a new all-time low.

**S&P 500 PRICE INDEX**



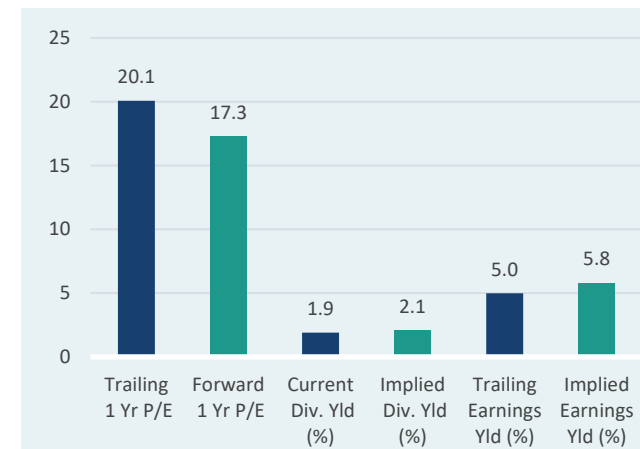
Source: Bloomberg, as of 10/31/19

**IMPLIED VOLATILITY (VIX INDEX)**



Source: CBOE, as of 10/31/19

**S&P 500 VALUATION SNAPSHOT**



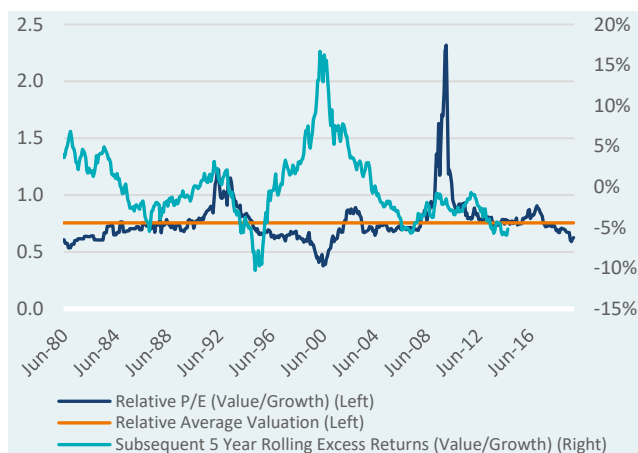
Source: Bloomberg, as of 10/31/19

# Domestic equity size and style

- Small-cap equities extended their recent outperformance of large-cap equities. The Russell 2000 Index returned 2.6% while the Russell 1000 Index gained 2.1% Year-to-date, small-cap equities (+17.2%) have underperformed large-cap equities (+23.1%) by 5.9%.
- The iShares Edge MSCI USA Quality Factor ETF, which seeks to track the performance of high quality large and mid-cap stocks based on ROE, earnings variability, and leverage, rose 2.1%, roughly in line with the S&P 500 Index.

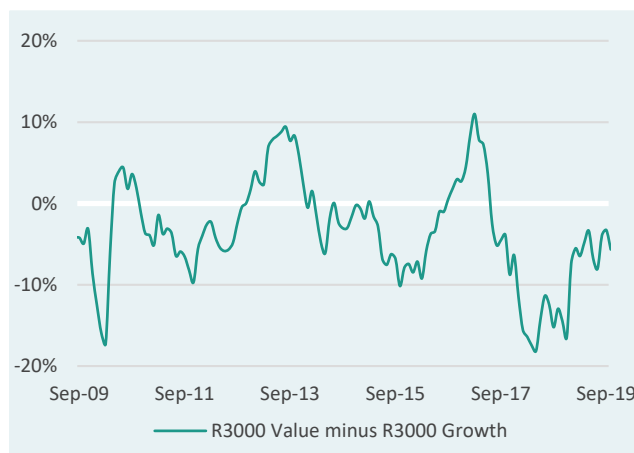
- Growth outperformed value over the period, across both large-and small-cap universes. The Russell 3000 Growth Index advanced 2.8% and has fared better than the Russell 3000 Value Index (+1.5%) for eight out of ten months this year.
- Growth outperformance was largely attributed to its larger exposure to the Information Technology and Health Care sectors which at month-end held a combined weight of 52% in the Russell 3000 Growth Index and an 18% weight in the Russell 3000 Value Index.

**VALUE VS. GROWTH RELATIVE VALUATIONS**



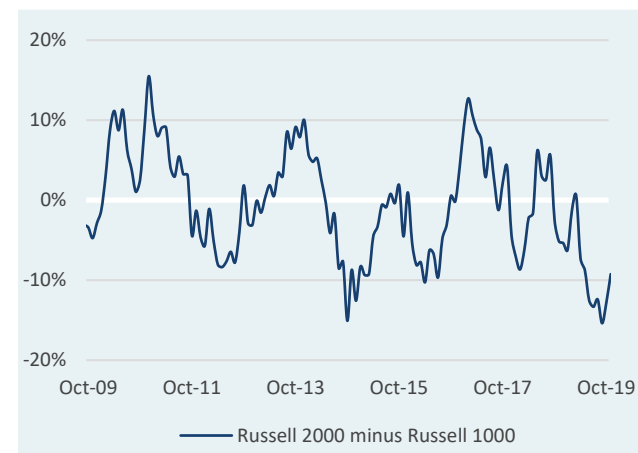
Source: Russell, Bloomberg, as of 10/31/19

**VALUE VS. GROWTH 1-YR ROLLING RELATIVE PERFORMANCE**



Source: FTSE, Bloomberg, as of 10/31/19

**SMALL VS. LARGE 1-YR ROLLING RELATIVE PERFORMANCE**

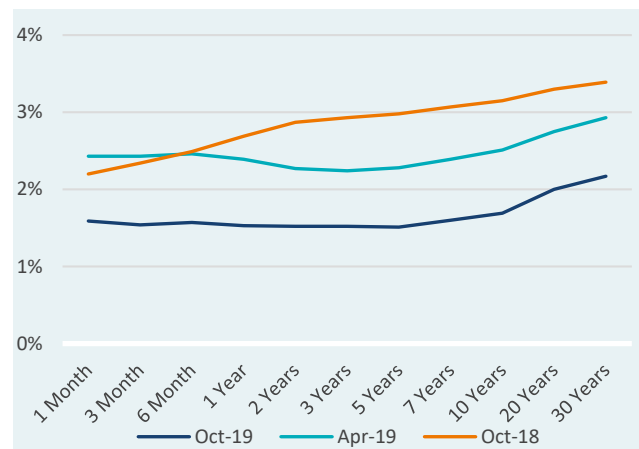


Source: FTSE, Bloomberg, as of 10/31/19

# Fixed income

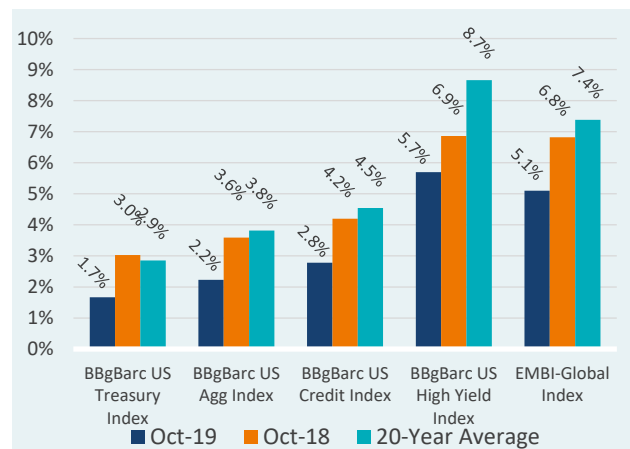
- The JPM GBI-EM Global Diversified Index rose 2.9% in October while the JPM EMBI Global Diversified Index rose 0.4%. Emerging market currency appreciation likely presented tailwinds for unhedged U.S. investors in emerging market debt.
- Expectations for future inflation ticked up, due in part to the Federal Reserve’s accommodative forward guidance on interest rates. Five- and ten-year breakeven inflation rates rose from 1.3% to 1.4% and from 1.5% to 1.6% respectively, over the period.
- Italy raised \$7 billion in its first issuance of U.S. dollar denominated bonds since 2010. Strong demand resulted in over \$18 billion in orders, a sign that investors wanted exposure to dollar-denominated Italian debt.
- Ten-year Japanese government bond yields rose from -0.22% to -0.15%, returning to the Bank of Japan’s stated preferred range of -0.20% to +0.20%. In its October meeting, the BoJ decided to leave policy unchanged, but tweaked its forward guidance to communicate a “downward bias on policy rates”.

**U.S. TREASURY YIELD CURVE**



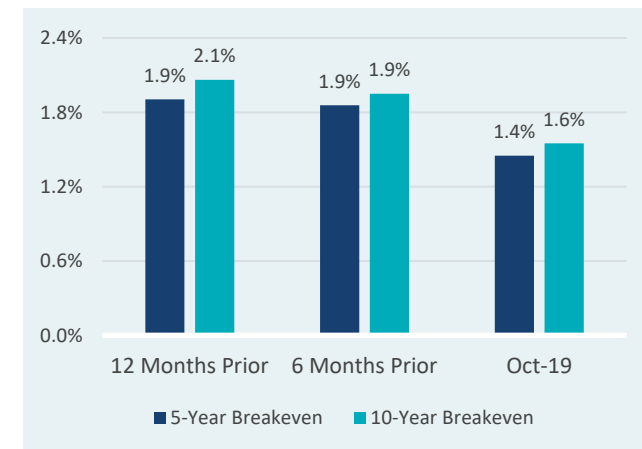
Source: Bloomberg, as of 10/31/19

**NOMINAL YIELDS**



Source: Morningstar, as of 10/31/19

**BREAKEVEN INFLATION RATES**

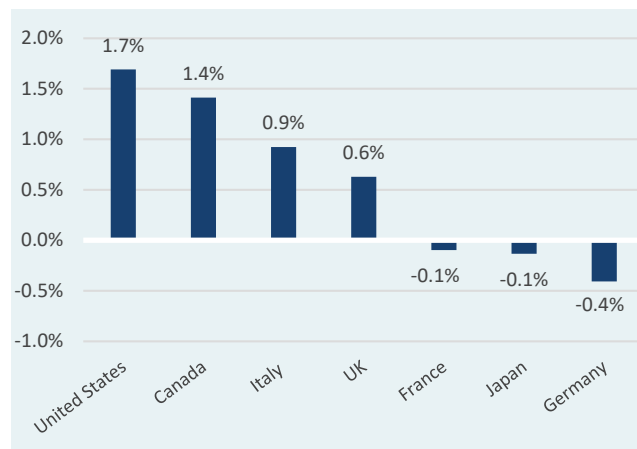


Source: Bloomberg, as of 10/31/19

# Global markets

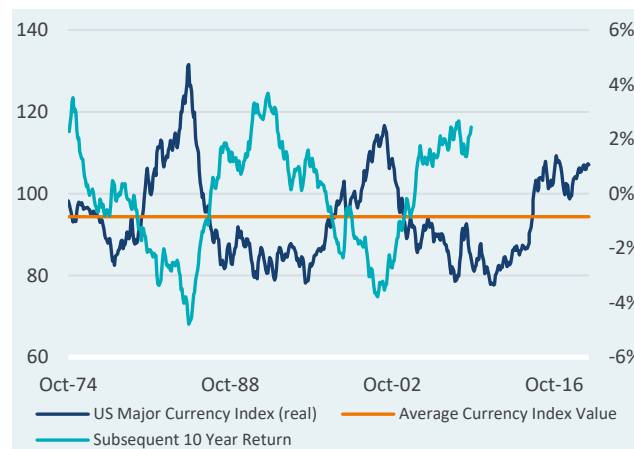
- Optimism regarding U.S.-Chinese relations built as negotiators continued to work towards a “phase one” agreement. China stated that it had agreed with Washington in principle and that currently in place tariffs may be removed in phases. Disagreements on the location to sign have helped to push the expected meeting date into December.
- The U.S. dollar depreciated materially versus trade-weighted pairs. The Bloomberg Dollar Spot Index fell 1.9%, bringing its year-to-date return to 0.0%.
- Emerging market currency exposure provided a tailwind to emerging market equity performance in October. The MSCI EM Index gained 4.2% in U.S. dollar terms and only 3.0% in local terms.
- The dividend yields of the MSCI EAFE and MSCI Emerging Market indices were relatively flat over the month but remained elevated compared to the MSCI USA Index. The trailing 12-month gross dividend yield of the MSCI EAFE Index ended the month 1.6% higher than the trailing dividend yield of the MSCI USA Index.

**GLOBAL SOVEREIGN 10-YEAR YIELDS**



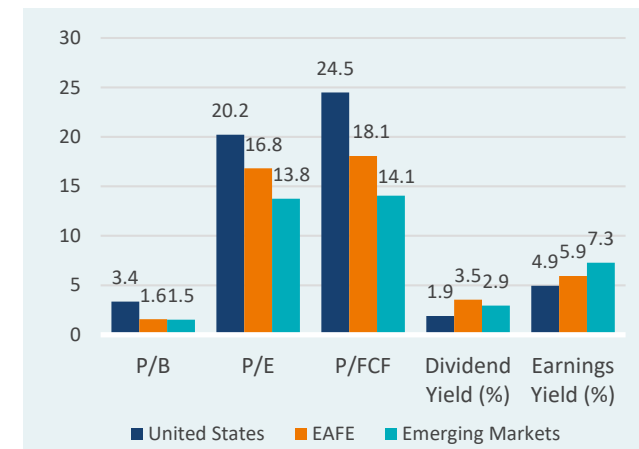
Source: Bloomberg, as of 10/31/19

**U.S. DOLLAR MAJOR CURRENCY INDEX**



Source: Federal Reserve, as of 10/31/19

**MSCI VALUATION METRICS (3-MONTH AVG)**



Source: Bloomberg, as of 10/31/19

# Commodities

- The Bloomberg Commodity Index advanced 2.0% over the period bringing its year-to-date performance to 5.2%. Every sector posted positive returns and the Precious Metals (+3.8%), Industrial Metals (+1.8%) and Agriculture (+1.7%) sectors posted the best performance.
- The Precious Metals Sub-Index rebounded and gained 3.8% in October. Easier monetary policy from the Fed likely contributed to the strong performance of gold (+3.0%) and silver (+6.4%) as falling interest rates lower the opportunity cost of holding non-yielding assets.

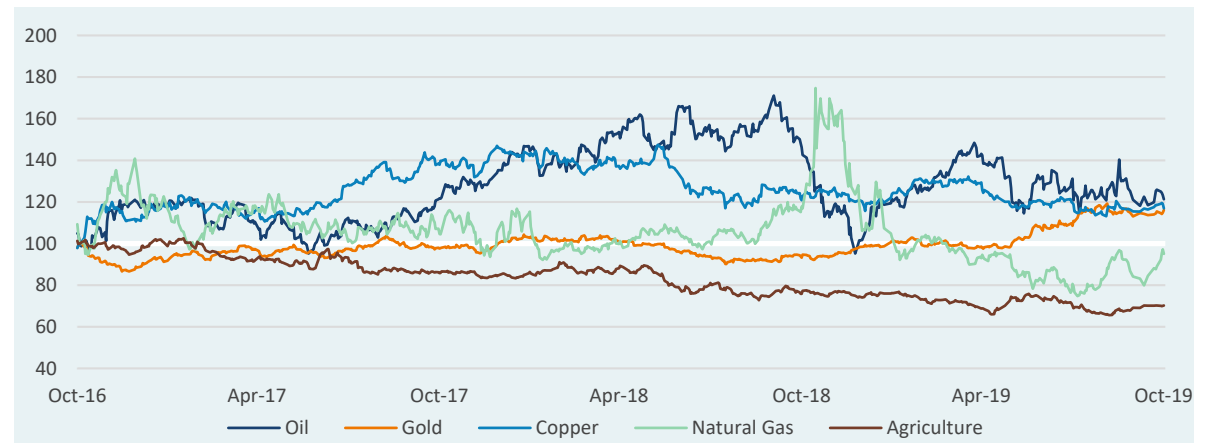
- The Agriculture component of the commodities basket saw positive returns of 1.7% as optimism for a “phase one” deal with China continued to build. China pledged to buy more U.S. soybeans, but purchases remain below levels seen prior to the beginning of the trade war.
- Saudi Aramco, perhaps the world’s most valuable company, announced its intention to price its IPO on December 5<sup>th</sup>. Analysts expect a valuation around \$1.5 trillion, while the Saudi Arabian Crown Prince has stated a valuation between \$1.5-2 trillion would be reasonable.

## INDEX AND SECTOR PERFORMANCE

|                             | Month | QTD | YTD   | 1 Year | 3 Year | 5 Year | 10 Year |
|-----------------------------|-------|-----|-------|--------|--------|--------|---------|
| Bloomberg Commodity         | 2.0   | 2.0 | 5.2   | (2.6)  | (0.7)  | (6.7)  | (4.4)   |
| Bloomberg Agriculture       | 1.7   | 1.7 | (3.4) | (5.3)  | (10.0) | (8.5)  | (3.7)   |
| Bloomberg Energy            | 1.6   | 1.6 | 7.3   | (15.7) | 0.6    | (15.0) | (12.1)  |
| Bloomberg Grains            | 1.4   | 1.4 | (3.2) | (2.4)  | (7.7)  | (8.9)  | (4.2)   |
| Bloomberg Industrial Metals | 1.8   | 1.8 | 9.2   | 5.5    | 6.0    | (1.6)  | (2.2)   |
| Bloomberg Livestock         | 0.7   | 0.7 | (5.5) | (4.1)  | 4.3    | (6.2)  | (1.8)   |
| Bloomberg Petroleum         | 1.4   | 1.4 | 19.6  | (14.0) | 6.0    | (12.6) | (7.0)   |
| Bloomberg Precious Metals   | 3.8   | 3.8 | 17.1  | 24.1   | 3.7    | 3.7    | 2.6     |
| Bloomberg Softs             | 0.8   | 0.8 | (7.7) | (16.5) | (18.2) | (11.0) | (5.9)   |

Source: Morningstar, as of 10/31/19

## COMMODITY PERFORMANCE



Source: Bloomberg, as of 10/31/19

# Appendix

# Periodic table of returns

|                         | 1998  | 1999 | 2000  | 2001  | 2002  | 2003 | 2004 | 2005 | 2006 | 2007 | 2008  | 2009  | 2010 | 2011  | 2012 | 2013 | 2014  | 2015  | 2016 | 2017 | 2018  | YTD  | 5-Year | 10-Year |
|-------------------------|-------|------|-------|-------|-------|------|------|------|------|------|-------|-------|------|-------|------|------|-------|-------|------|------|-------|------|--------|---------|
| Large Cap Growth        | 38.7  | 66.4 | 31.8  | 14.0  | 25.9  | 56.3 | 26.0 | 34.5 | 32.6 | 39.8 | 5.2   | 79.0  | 29.1 | 14.3  | 18.6 | 43.3 | 13.5  | 13.3  | 31.7 | 37.3 | 6.7   | 26.8 | 13.4   | 15.4    |
| Large Cap Equity        | 27.0  | 43.1 | 22.8  | 8.4   | 10.3  | 48.5 | 22.2 | 21.4 | 26.9 | 16.2 | 1.4   | 37.2  | 26.9 | 7.8   | 18.1 | 38.8 | 13.2  | 5.7   | 21.3 | 30.2 | 1.9   | 23.1 | 10.5   | 13.7    |
| Large Cap Value         | 20.3  | 33.2 | 12.2  | 7.3   | 6.7   | 47.3 | 20.7 | 20.1 | 23.5 | 15.8 | -6.5  | 34.5  | 24.5 | 2.6   | 17.9 | 34.5 | 13.0  | 0.9   | 17.3 | 25.0 | 0.0   | 19.5 | 8.6    | 13.4    |
| Small Cap Growth        | 19.3  | 27.3 | 11.6  | 3.3   | 1.6   | 46.0 | 18.3 | 14.0 | 22.2 | 11.8 | -21.4 | 32.5  | 19.2 | 1.5   | 17.5 | 33.5 | 11.8  | 0.6   | 12.1 | 22.2 | -1.5  | 18.6 | 8.4    | 12.3    |
| Small Cap Equity        | 16.2  | 26.5 | 7.0   | 2.8   | 1.0   | 39.2 | 16.5 | 7.5  | 18.4 | 11.6 | -25.9 | 28.4  | 16.8 | 0.4   | 16.4 | 33.1 | 6.0   | 0.0   | 11.8 | 21.7 | -3.5  | 17.2 | 7.6    | 12.0    |
| International Equity    | 8.7   | 21.3 | 4.1   | -2.4  | -6.0  | 29.9 | 14.3 | 6.3  | 15.5 | 10.3 | -33.8 | 23.3  | 16.1 | -2.1  | 15.3 | 23.3 | 4.9   | -0.8  | 11.2 | 14.6 | -6.0  | 16.9 | 7.4    | 11.1    |
| Small Cap Value         | 15.6  | 24.3 | 6.0   | 2.5   | -5.9  | 30.0 | 14.5 | 7.1  | 16.6 | 10.9 | -28.9 | 27.2  | 16.7 | 0.1   | 16.3 | 32.5 | 5.6   | -0.4  | 11.3 | 17.1 | -4.8  | 15.5 | 6.2    | 9.8     |
| 60/40 Global Portfolio  | 4.9   | 20.9 | -3.0  | -5.6  | -11.4 | 29.7 | 12.9 | 5.3  | 15.1 | 7.0  | -35.6 | 20.6  | 15.5 | -2.9  | 14.6 | 12.1 | 4.2   | -1.4  | 8.0  | 13.7 | -8.3  | 14.5 | 5.3    | 6.4     |
| Emerging Markets Equity | 1.2   | 13.2 | -7.3  | -9.1  | -15.5 | 25.2 | 11.4 | 4.7  | 13.3 | 7.0  | -36.8 | 19.7  | 13.1 | -4.2  | 11.5 | 11.0 | 3.4   | -2.5  | 7.1  | 7.8  | -9.3  | 10.4 | 4.3    | 5.4     |
| US Bonds                | -2.5  | 11.4 | -7.8  | -9.2  | -15.7 | 23.9 | 9.1  | 4.6  | 10.4 | 5.8  | -37.6 | 18.9  | 10.2 | -5.5  | 10.5 | 9.0  | 2.8   | -3.8  | 5.7  | 7.7  | -11.0 | 8.8  | 3.2    | 3.8     |
| Hedge Funds of Funds    | -5.1  | 7.3  | -14.0 | -12.4 | -20.5 | 11.6 | 6.9  | 4.6  | 9.1  | 4.4  | -38.4 | 11.5  | 8.2  | -5.7  | 4.8  | 0.1  | 0.0   | -4.4  | 2.6  | 7.0  | -11.2 | 5.8  | 2.9    | 3.7     |
| Commodities             | -6.5  | 4.8  | -22.4 | -19.5 | -21.7 | 9.0  | 6.3  | 4.2  | 4.8  | -0.2 | -38.5 | 5.9   | 6.5  | -11.7 | 4.2  | -2.0 | -1.8  | -7.5  | 1.0  | 3.5  | -12.9 | 5.2  | 2.2    | 2.7     |
| Real Estate             | -25.3 | -0.8 | -22.4 | -20.4 | -27.9 | 4.1  | 4.3  | 3.2  | 4.3  | -1.6 | -43.1 | 0.2   | 5.7  | -13.3 | 0.1  | -2.3 | -4.5  | -14.9 | 0.5  | 1.7  | -13.8 | 4.8  | 1.0    | 0.5     |
| Cash                    | -27.0 | -1.5 | -30.6 | -21.2 | -30.3 | 1.0  | 1.4  | 2.4  | 2.1  | -9.8 | -53.2 | -16.9 | 0.1  | -18.2 | -1.1 | -9.5 | -17.0 | -24.7 | 0.3  | 0.9  | -14.6 | 1.8  | -6.7   | -4.4    |

- Large Cap Equity
- Large Cap Value
- Large Cap Growth
- Small Cap Equity
- Small Cap Value

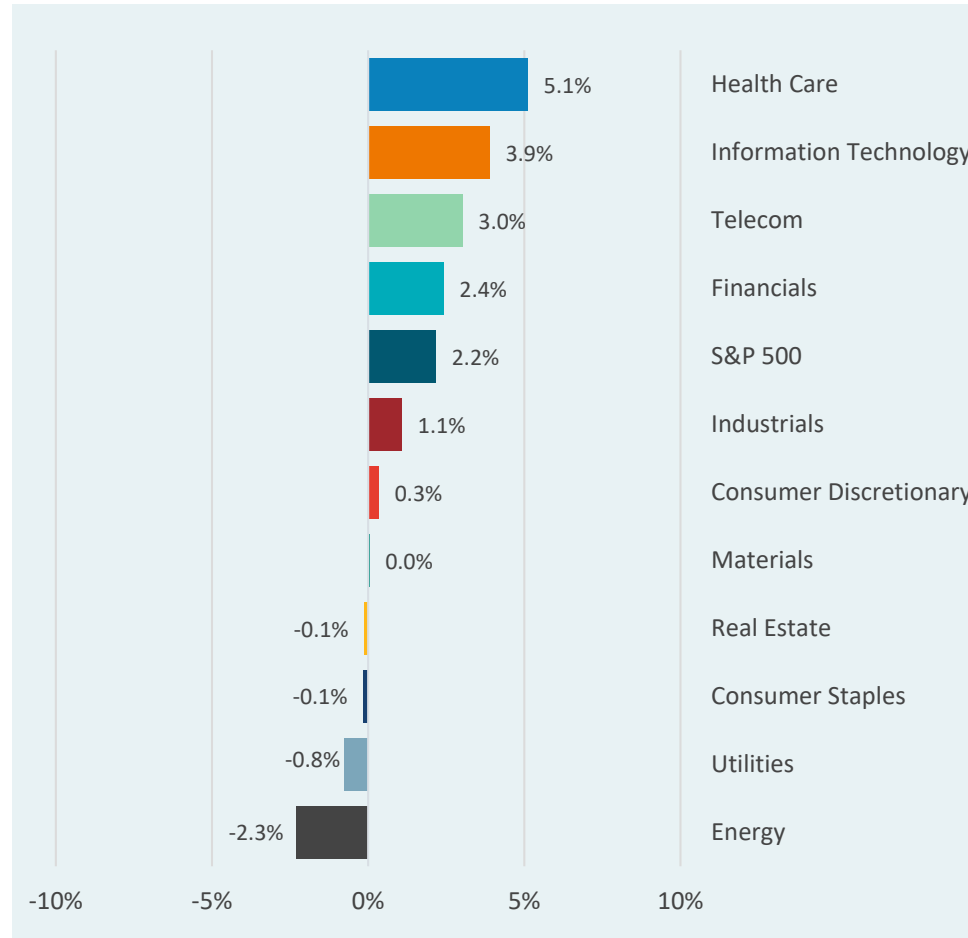
- Small Cap Growth
- International Equity
- Emerging Markets Equity
- US Bonds
- Cash

- Commodities
- Real Estate
- Hedge Funds of Funds
- 60% MSCI ACWI/40% BBgBarc Global Bond

Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 9/30/19.

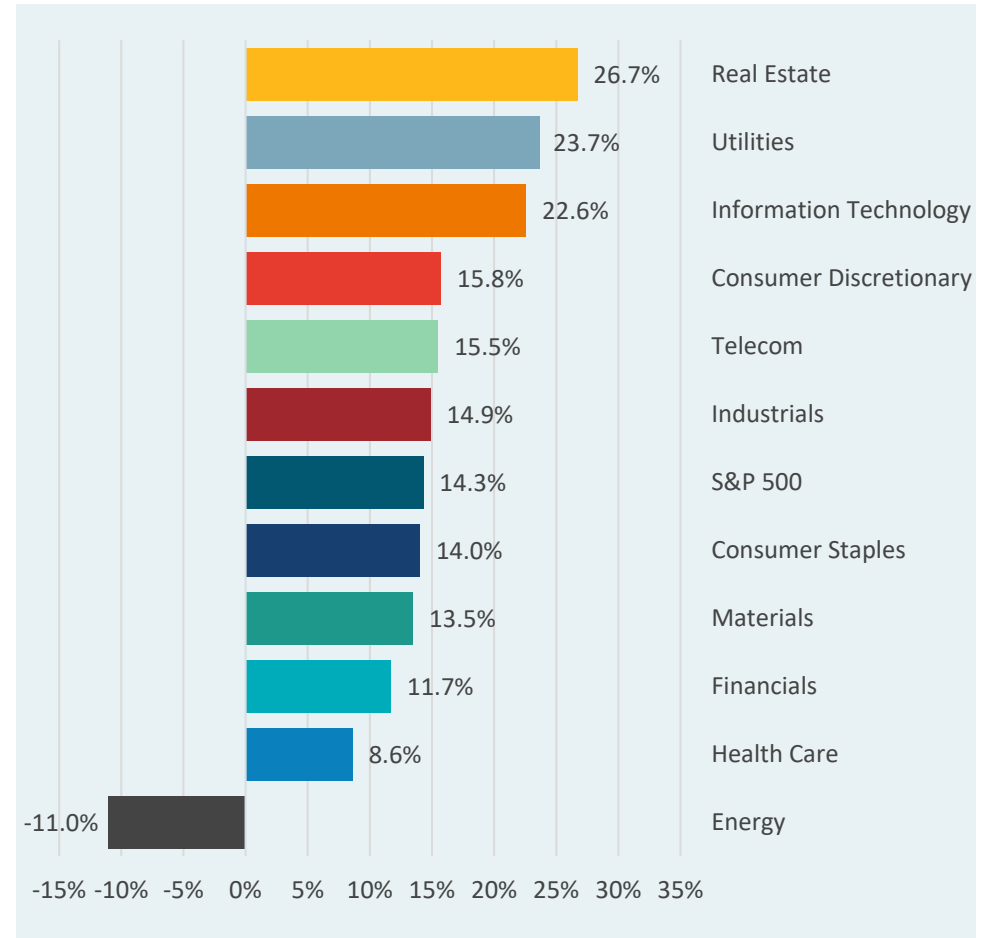
# S&P 500 sector returns

QTD



Source: Morningstar, as of 10/31/19

ONE YEAR ENDING OCTOBER



Source: Morningstar, as of 10/31/19



# Detailed index returns

## DOMESTIC EQUITY

|                        | Month | QTD | YTD  | 1 Year | 3 Year | 5 Year | 10 Year |
|------------------------|-------|-----|------|--------|--------|--------|---------|
| <b>Core Index</b>      |       |     |      |        |        |        |         |
| S&P 500                | 2.2   | 2.2 | 23.2 | 14.3   | 14.9   | 10.8   | 13.7    |
| S&P 500 Equal Weighted | 1.3   | 1.3 | 21.6 | 12.8   | 12.4   | 9.1    | 14.0    |
| DJ Industrial Average  | 0.6   | 0.6 | 18.2 | 10.3   | 17.0   | 11.9   | 13.6    |
| Russell Top 200        | 2.5   | 2.5 | 23.0 | 14.3   | 15.7   | 11.3   | 13.7    |
| Russell 1000           | 2.1   | 2.1 | 23.1 | 14.2   | 14.7   | 10.5   | 13.7    |
| Russell 2000           | 2.6   | 2.6 | 17.2 | 4.9    | 11.0   | 7.4    | 12.3    |
| Russell 3000           | 2.2   | 2.2 | 22.7 | 13.5   | 14.5   | 10.3   | 13.6    |
| Russell Mid Cap        | 1.1   | 1.1 | 23.2 | 13.7   | 12.3   | 8.7    | 13.7    |
| <b>Style Index</b>     |       |     |      |        |        |        |         |
| Russell 1000 Growth    | 2.8   | 2.8 | 26.8 | 17.1   | 18.9   | 13.4   | 15.4    |
| Russell 1000 Value     | 1.4   | 1.4 | 19.5 | 11.2   | 10.5   | 7.6    | 12.0    |
| Russell 2000 Growth    | 2.8   | 2.8 | 18.6 | 6.4    | 13.2   | 8.4    | 13.4    |
| Russell 2000 Value     | 2.4   | 2.4 | 15.5 | 3.2    | 8.6    | 6.2    | 11.1    |

## INTERNATIONAL EQUITY

|                        |     |     |      |      |      |     |       |
|------------------------|-----|-----|------|------|------|-----|-------|
| <b>Broad Index</b>     |     |     |      |      |      |     |       |
| MSCI ACWI              | 2.7 | 2.7 | 19.4 | 12.6 | 11.3 | 7.1 | 8.8   |
| MSCI ACWI ex US        | 3.5 | 3.5 | 15.5 | 11.3 | 8.1  | 3.8 | 4.9   |
| MSCI EAFE              | 3.6 | 3.6 | 16.9 | 11.0 | 8.5  | 4.3 | 5.4   |
| MSCI EM                | 4.2 | 4.2 | 10.4 | 11.9 | 7.4  | 2.9 | 3.8   |
| MSCI EAFE Small Cap    | 4.5 | 4.5 | 17.1 | 8.8  | 8.6  | 7.4 | 8.1   |
| <b>Style Index</b>     |     |     |      |      |      |     |       |
| MSCI EAFE Growth       | 3.6 | 3.6 | 22.2 | 16.6 | 10.6 | 6.4 | 6.9   |
| MSCI EAFE Value        | 3.6 | 3.6 | 11.6 | 5.5  | 6.3  | 2.1 | 3.8   |
| <b>Regional Index</b>  |     |     |      |      |      |     |       |
| MSCI UK                | 2.8 | 2.8 | 13.2 | 7.1  | 7.5  | 1.5 | 4.9   |
| MSCI Japan             | 4.9 | 4.9 | 16.5 | 9.2  | 7.4  | 6.9 | 6.3   |
| MSCI Euro              | 3.4 | 3.4 | 17.8 | 11.6 | 8.6  | 3.8 | 3.8   |
| MSCI EM Asia           | 4.5 | 4.5 | 10.7 | 12.8 | 8.4  | 4.7 | 5.8   |
| MSCI EM Latin American | 4.5 | 4.5 | 11.1 | 7.7  | 5.0  | 0.1 | (0.2) |

## FIXED INCOME

|                             | Month | QTD   | YTD  | 1 Year | 3 Year | 5 Year | 10 Year |
|-----------------------------|-------|-------|------|--------|--------|--------|---------|
| <b>Broad Index</b>          |       |       |      |        |        |        |         |
| BBgBarc US TIPS             | 0.3   | 0.3   | 7.9  | 9.0    | 2.4    | 2.3    | 3.4     |
| BBgBarc US Treasury Bills   | 0.2   | 0.2   | 2.1  | 2.5    | 1.6    | 1.0    | 0.6     |
| BBgBarc US Agg Bond         | 0.3   | 0.3   | 8.8  | 11.5   | 3.3    | 3.2    | 3.7     |
| <b>Duration</b>             |       |       |      |        |        |        |         |
| BBgBarc US Treasury 1-3 Yr  | 0.3   | 0.3   | 3.4  | 4.6    | 1.7    | 1.3    | 1.2     |
| BBgBarc US Treasury Long    | (0.9) | (0.9) | 18.7 | 27.6   | 5.2    | 6.0    | 6.9     |
| BBgBarc US Treasury         | 0.1   | 0.1   | 7.8  | 11.1   | 2.6    | 2.7    | 3.1     |
| <b>Issuer</b>               |       |       |      |        |        |        |         |
| BBgBarc US MBS              | 0.4   | 0.4   | 6.0  | 8.9    | 2.5    | 2.7    | 3.1     |
| BBgBarc US Corp. High Yield | 0.3   | 0.3   | 11.7 | 8.4    | 6.0    | 5.2    | 7.8     |
| BBgBarc US Agency Interm    | 0.3   | 0.3   | 4.4  | 6.0    | 2.1    | 1.9    | 2.0     |
| BBgBarc US Credit           | 0.6   | 0.6   | 13.3 | 14.9   | 4.8    | 4.4    | 5.3     |

## OTHER

|                        |       |       |       |       |       |       |       |
|------------------------|-------|-------|-------|-------|-------|-------|-------|
| <b>Index</b>           |       |       |       |       |       |       |       |
| Bloomberg Commodity    | 2.0   | 2.0   | 5.2   | (2.6) | (0.7) | (6.7) | (4.4) |
| Wilshire US REIT       | 1.0   | 1.0   | 28.5  | 23.3  | 9.7   | 8.2   | 13.7  |
| CS Leveraged Loans     | (0.5) | (0.5) | 5.9   | 2.6   | 4.2   | 4.0   | 5.3   |
| Alerian MLP            | 6.6   | 6.6   | 19.2  | 8.7   | 0.8   | (6.2) | 7.3   |
| <b>Regional Index</b>  |       |       |       |       |       |       |       |
| JPM EMBI Global Div    | 0.3   | 0.3   | 13.3  | 14.3  | 5.1   | 5.4   | 6.9   |
| JPM GBI-EM Global Div  | 2.9   | 2.9   | 11.0  | 15.6  | 4.3   | 0.8   | 2.7   |
| <b>Hedge Funds</b>     |       |       |       |       |       |       |       |
| HFRI Composite         | 0.4   | 0.4   | 7.2   | 4.1   | 4.1   | 3.1   | 4.0   |
| HFRI FOF Composite     | 0.5   | 0.5   | 5.8   | 3.6   | 3.4   | 2.2   | 2.7   |
| <b>Currency (Spot)</b> |       |       |       |       |       |       |       |
| Euro                   | 2.3   | 2.3   | (2.4) | (1.5) | 0.6   | (2.3) | (2.8) |
| Pound                  | 5.0   | 5.0   | 1.6   | 1.3   | 2.0   | (4.2) | (2.4) |
| Yen                    | (0.0) | (0.0) | 1.5   | 4.4   | (0.9) | 0.7   | (1.8) |

Source: Morningstar, HFR, as of 10/31/19

# Notices & disclosures

**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. (“Verus”) file a single form ADV under the United States Investment Advisors Act of 1940, as amended. Additional information about Verus Advisory, Inc. available on the SEC’s website at [www.adviserinfo.sec.gov](http://www.adviserinfo.sec.gov).

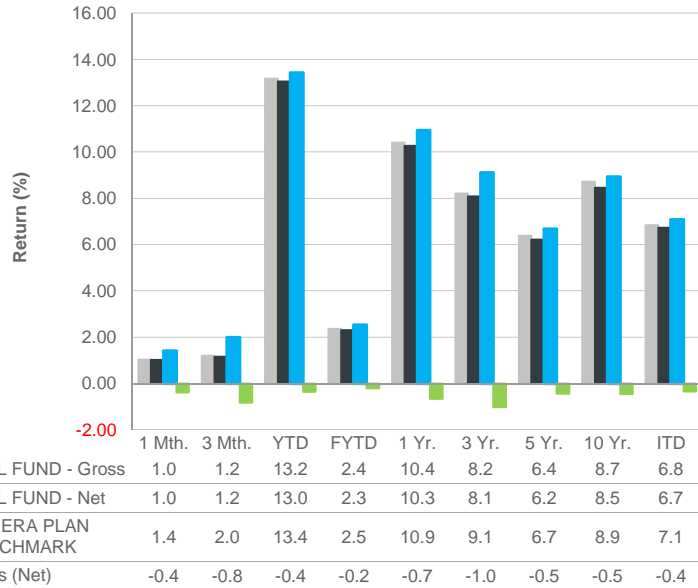
Verus – also known as Verus Advisory™.

# San Mateo County Composite Return Summary

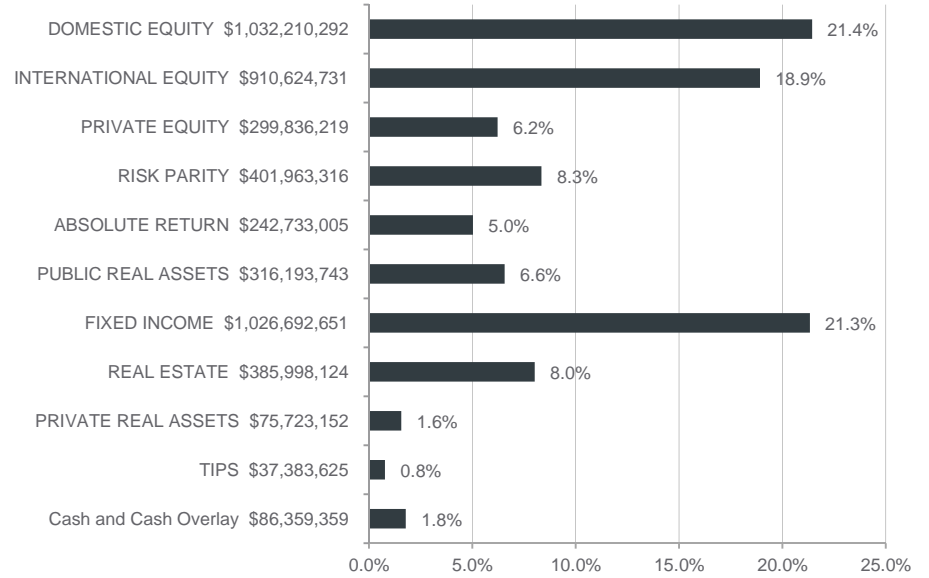
10/31/2019



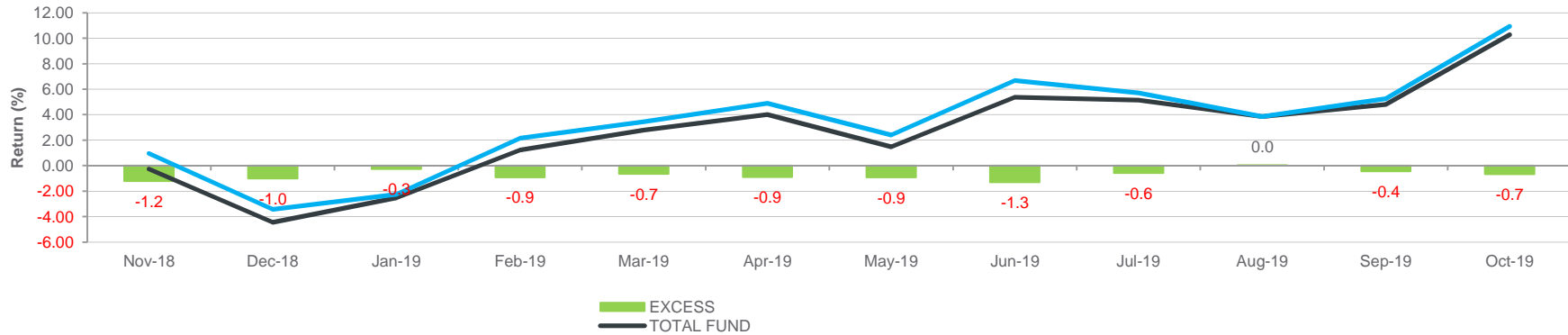
**Total Fund Performance**



**Asset Allocation**



**Rolling Month End Annual Returns**

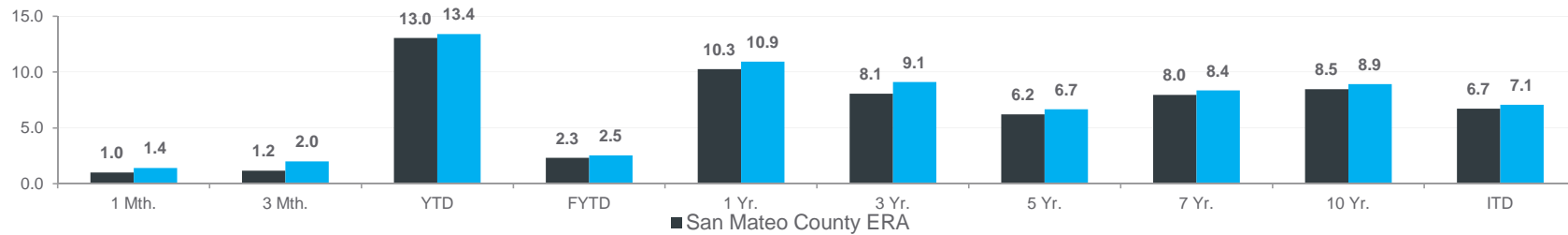


# San Mateo County Composite Return Summary

October 31, 2019



Return Comparison



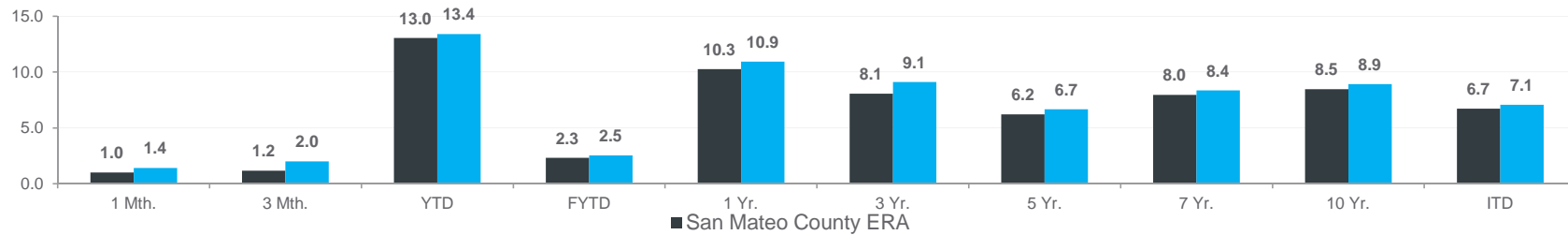
| Composite Returns (Net of Manager Fees) | Market Value (\$) | 1 Mth. | 3 Mth. | YTD  | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD  |
|---|-------------------|--------|--------|------|------|-------|-------|-------|-------|--------|------|
| San Mateo County ERA                    | 4,815,718,219     | 1.0    | 1.2    | 13.0 | 2.3  | 10.3  | 8.1   | 6.2   | 8.0   | 8.5    | 6.7  |
| Samcera Total Plan Benchmark            |                   | 1.4    | 2.0    | 13.4 | 2.5  | 10.9  | 9.1   | 6.7   | 8.4   | 8.9    | 7.1  |
| Excess                                  |                   | -0.4   | -0.8   | -0.4 | -0.2 | -0.7  | -1.0  | -0.5  | -0.4  | -0.5   | -0.4 |
| San Mateo Ex-Clifton Overlay            | 4,804,491,713     | 1.0    | 1.2    | 12.8 | 2.3  | 10.0  | 8.0   | 6.1   | 7.9   | 8.4    | 6.6  |
| Samcera Total Plan Benchmark            |                   | 1.4    | 2.0    | 13.4 | 2.5  | 10.9  | 9.1   | 6.7   | 8.4   | 8.9    | 7.1  |
| Excess                                  |                   | -0.4   | -0.8   | -0.7 | -0.2 | -0.9  | -1.1  | -0.6  | -0.5  | -0.5   | -0.4 |
| Total Equity                            | 1,942,835,023     | 2.4    | 2.2    | 19.4 | 2.9  | 12.7  | 11.6  | 7.8   | 10.5  | 10.2   | 7.8  |
| Samcera Total Equity Benchmark          |                   | 2.4    | 2.3    | 19.6 | 2.8  | 12.6  | 12.4  | 8.6   | 11.4  | 11.1   | 8.4  |
| Excess                                  |                   | -0.1   | -0.1   | -0.2 | 0.0  | 0.1   | -0.9  | -0.8  | -0.9  | -0.9   | -0.6 |
| Fixed Income                            | 1,026,692,651     | 0.5    | 1.3    | 7.2  | 1.6  | 8.4   | 4.6   | 3.9   | 3.9   | 5.4    | 5.5  |
| Samcera Fixed Income Benchmark          |                   | 0.4    | 2.2    | 10.1 | 2.5  | 11.4  | 4.1   | 3.7   | 2.9   | 4.1    | 5.1  |
| Excess                                  |                   | 0.2    | -0.9   | -2.9 | -1.0 | -3.1  | 0.6   | 0.2   | 1.0   | 1.4    | 0.5  |
| Risk Parity                             | 401,963,316       | 0.6    | 2.2    | 20.6 | 3.3  | 21.0  | 8.7   | 6.1   | 6.2   | --     | 6.8  |
| Samcera Risk Parity Benchmark           |                   | 1.8    | 2.3    | 15.2 | 2.4  | 11.8  | 9.2   | 7.1   | 9.0   | --     | 8.4  |
| Excess                                  |                   | -1.2   | -0.0   | 5.4  | 0.9  | 9.2   | -0.5  | -1.1  | -2.8  | --     | -1.6 |

# San Mateo County Composite Return Summary

October 31, 2019



Return Comparison



| Composite Returns (Net of Manager Fees) | Market Value (\$) | 1 Mth. | 3 Mth. | YTD  | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD  |
|---|-------------------|--------|--------|------|------|-------|-------|-------|-------|--------|------|
| Alternatives                            | 542,569,224       | -2.1   | -1.8   | 8.9  | 5.8  | 9.5   | 7.3   | 5.9   | 5.4   | -3.4   | -1.6 |
| Samcera Alternatives Benchmark          |                   | 1.1    | 2.0    | 6.0  | 4.6  | 8.8   | 11.9  | 7.7   | 9.2   | 9.8    | 7.9  |
| Excess                                  |                   | -3.2   | -3.8   | 2.9  | 1.2  | 0.6   | -4.6  | -1.9  | -3.8  | -13.2  | -9.5 |
| Inflation Hedge                         | 815,298,645       | 0.8    | 0.1    | 6.0  | -0.6 | 3.6   | 4.5   | --    | --    | --     | 6.4  |
| SamCERA Inflation Hedge Index           |                   | 0.3    | 1.0    | 7.1  | 0.5  | 6.2   | 6.1   | --    | --    | --     | 6.5  |
| Excess                                  |                   | 0.5    | -0.8   | -1.1 | -1.1 | -2.6  | -1.6  | --    | --    | --     | -0.1 |
| Cash                                    | 75,132,854        | 0.1    | 0.3    | 1.0  | 0.3  | 1.1   | 0.8   | 0.7   | 0.7   | 0.7    | 1.9  |
| Samcera Cash Benchmark                  |                   | 0.2    | 0.6    | 2.0  | 0.8  | 2.4   | 1.6   | 1.0   | 0.7   | 0.6    | 1.9  |
| Excess                                  |                   | -0.1   | -0.3   | -1.0 | -0.4 | -1.3  | -0.8  | -0.3  | -0.1  | 0.2    | 0.0  |

# San Mateo County Composite Return Summary

October 31, 2019



| Composite Returns (NET)        | Market Value (\$) | 1 Mth. | 3 Mth. | YTD  | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD  |
|--------------------------------|-------------------|--------|--------|------|------|-------|-------|-------|-------|--------|------|
| Total Equity                   | 1,942,835,023     | 2.4    | 2.2    | 19.4 | 2.9  | 12.7  | 11.6  | 7.8   | 10.5  | 10.2   | 7.8  |
| Samcera Total Equity Benchmark |                   | 2.4    | 2.3    | 19.6 | 2.8  | 12.6  | 12.4  | 8.6   | 11.4  | 11.1   | 8.4  |
| Excess                         |                   | -0.1   | -0.1   | -0.2 | 0.0  | 0.1   | -0.9  | -0.8  | -0.9  | -0.9   | -0.6 |
| Domestic Equity                | 1,032,210,292     | 1.5    | 1.8    | 21.5 | 3.2  | 12.5  | 14.2  | 10.1  | 13.1  | 13.1   | 8.7  |
| Samcera Dom. Equity Benchmark  |                   | 2.2    | 1.8    | 22.7 | 3.3  | 13.5  | 14.5  | 10.2  | 13.6  | 13.6   | 9.1  |
| Excess                         |                   | -0.7   | -0.1   | -1.2 | -0.1 | -1.0  | -0.2  | -0.2  | -0.4  | -0.5   | -0.4 |
| Large Cap Equity               | 945,493,699       | 1.4    | 1.8    | 22.1 | 3.3  | 13.7  | 14.9  | 11.0  | 13.8  | 13.3   | 9.5  |
| Russell 1000                   |                   | 2.1    | 2.0    | 23.1 | 3.6  | 14.2  | 14.7  | 10.5  | 13.8  | 13.7   | 9.8  |
| Excess                         |                   | -0.8   | -0.2   | -0.9 | -0.3 | -0.5  | 0.1   | 0.4   | -0.0  | -0.4   | -0.3 |
| Blackrock Russell 1000         | 499,123,832       | 2.1    | 2.0    | 23.0 | 3.6  | 14.1  | --    | --    | --    | --     | 13.0 |
| Russell 1000                   |                   | 2.1    | 2.0    | 23.1 | 3.6  | 14.2  | --    | --    | --    | --     | 13.0 |
| Excess                         |                   | 0.0    | 0.0    | -0.0 | 0.0  | -0.0  | --    | --    | --    | --     | 0.1  |
| DE Shaw Commingled Fund        | 150,967,549       | 2.5    | 2.6    | 20.1 | 3.9  | 12.3  | 13.9  | --    | --    | --     | 11.2 |
| Russell 1000                   |                   | 2.1    | 2.0    | 23.1 | 3.6  | 14.2  | 14.7  | --    | --    | --     | 10.4 |
| Excess                         |                   | 0.3    | 0.6    | -2.9 | 0.4  | -1.9  | -0.8  | --    | --    | --     | 0.8  |
| Acadian US MGD V-SL            | 144,840,941       | -0.2   | 0.5    | 18.9 | 2.6  | --    | --    | --    | --    | --     | 20.9 |
| Russell 1000                   |                   | 2.1    | 2.0    | 23.1 | 3.6  | --    | --    | --    | --    | --     | 24.1 |
| Excess                         |                   | -2.3   | -1.5   | -4.1 | -1.0 | --    | --    | --    | --    | --     | -3.2 |
| Panagora Defuseq -SL           | 150,561,377       | -0.7   | 1.5    | 24.4 | 2.5  | --    | --    | --    | --    | --     | 26.5 |
| Russell 1000                   |                   | 2.1    | 2.0    | 23.1 | 3.6  | --    | --    | --    | --    | --     | 24.1 |
| Excess                         |                   | -2.8   | -0.5   | 1.3  | -1.1 | --    | --    | --    | --    | --     | 2.4  |
| Small Cap Equity               | 86,716,593        | 3.1    | 1.4    | 15.1 | 2.2  | 1.3   | 9.1   | 4.3   | 8.8   | 11.1   | 6.1  |
| Russell 2000                   |                   | 2.6    | -0.4   | 17.2 | 0.2  | 4.9   | 11.0  | 7.4   | 11.2  | 12.3   | 7.6  |
| Excess                         |                   | 0.5    | 1.8    | -2.1 | 2.0  | -3.6  | -1.8  | -3.1  | -2.4  | -1.2   | -1.5 |
| QMA US Small Cap               | 86,716,593        | 3.1    | 1.4    | 15.1 | 2.2  | 1.3   | 9.1   | --    | --    | --     | 7.9  |
| Russell 2000                   |                   | 2.6    | -0.4   | 17.2 | 0.2  | 4.9   | 11.0  | --    | --    | --     | 9.0  |
| Excess                         |                   | 0.5    | 1.8    | -2.1 | 2.0  | -3.6  | -1.8  | --    | --    | --     | -1.1 |

# San Mateo County Composite Return Summary

October 31, 2019



| Composite Returns (NET)        | Market Value (\$) | 1 Mth. | 3 Mth. | YTD  | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD  |
|--------------------------------|-------------------|--------|--------|------|------|-------|-------|-------|-------|--------|------|
| International Equity           | 910,624,731       | 3.4    | 2.6    | 17.0 | 2.5  | 12.8  | 8.2   | 4.6   | 6.1   | 5.0    | 5.4  |
| SamCERA Custom Hedge Intl      |                   | 2.8    | 2.8    | 15.9 | 2.2  | 11.4  | 8.1   | 4.1   | 5.7   | 5.2    | 5.0  |
| Excess                         |                   | 0.6    | -0.1   | 1.1  | 0.3  | 1.4   | 0.0   | 0.5   | 0.4   | -0.2   | 0.4  |
| Developed Markets Equity       | 820,799,785       | 3.5    | 2.9    | 18.1 | 3.0  | 13.2  | 8.5   | 5.0   | 6.6   | 5.4    | 4.5  |
| MS AC WldxUS IMI Nt            |                   | 3.6    | 3.0    | 15.4 | 1.8  | 10.9  | 7.9   | 4.0   | 5.6   | 5.2    | 4.8  |
| Excess                         |                   | -0.1   | -0.0   | 2.7  | 1.2  | 2.3   | 0.6   | 1.0   | 0.9   | 0.2    | -0.3 |
| Baillie Gifford                | 266,979,051       | 4.7    | 3.0    | 24.4 | 3.7  | 19.3  | 9.5   | 6.5   | 8.0   | --     | 7.8  |
| MSCI ACWI ex US Growth         |                   | --     | --     | --   | --   | --    | --    | --    | --    | --     | --   |
| Excess                         |                   | --     | --     | --   | --   | --    | --    | --    | --    | --     | --   |
| Blackrock EAFE Index Fund      | 262,146,504       | 3.6    | 3.8    | 17.2 | 2.5  | 11.4  | 8.9   | 4.6   | --    | --     | 3.5  |
| MSCI EAFE ND                   |                   | 3.6    | 3.8    | 16.9 | 2.5  | 11.0  | 8.5   | 4.3   | --    | --     | 3.2  |
| Excess                         |                   | 0.0    | 0.0    | 0.3  | 0.0  | 0.3   | 0.4   | 0.3   | --    | --     | 0.3  |
| Mondrian Investment Partners   | 257,501,498       | 4.7    | 3.7    | 12.7 | 1.9  | 8.9   | 7.1   | 3.3   | 5.2   | 4.9    | 5.2  |
| MSCI ACWI ex US Value          |                   | --     | --     | --   | --   | --    | --    | --    | --    | --     | --   |
| Excess                         |                   | --     | --     | --   | --   | --    | --    | --    | --    | --     | --   |
| Parametriccurr Ovrla           | 34,172,732        | -13.6  | -8.5   | 20.6 | 13.4 | 15.5  | --    | --    | --    | --     | 39.3 |
| --                             |                   | --     | --     | --   | --   | --    | --    | --    | --    | --     | --   |
| Excess                         |                   | --     | --     | --   | --   | --    | --    | --    | --    | --     | --   |
| Emerging Markets Equity        | 89,824,945        | 2.7    | -0.0   | 8.0  | -1.7 | 8.8   | 5.0   | 0.7   | 2.1   | --     | 1.7  |
| MSCI Emerging Markets ND       |                   | 4.2    | 1.0    | 10.4 | -0.2 | 11.9  | 7.4   | 2.9   | 3.1   | --     | 2.5  |
| Excess                         |                   | -1.5   | -1.1   | -2.3 | -1.5 | -3.1  | -2.4  | -2.2  | -1.0  | --     | -0.8 |
| EV Parametric EM               | 89,824,945        | 2.7    | -0.0   | 8.0  | -1.7 | 8.8   | 5.0   | --    | --    | --     | 4.4  |
| MSCI Emerging Markets GD       |                   | 4.2    | 1.1    | 10.7 | -0.1 | 12.3  | 7.8   | --    | --    | --     | 6.3  |
| Excess                         |                   | -1.5   | -1.1   | -2.7 | -1.6 | -3.5  | -2.8  | --    | --    | --     | -2.0 |
| Fixed Income                   | 1,026,692,651     | 0.5    | 1.3    | 7.2  | 1.6  | 8.4   | 4.6   | 3.9   | 3.9   | 5.4    | 5.5  |
| Samcera Fixed Income Benchmark |                   | 0.4    | 2.2    | 10.1 | 2.5  | 11.4  | 4.1   | 3.7   | 2.9   | 4.1    | 5.1  |
| Excess                         |                   | 0.2    | -0.9   | -2.9 | -1.0 | -3.1  | 0.6   | 0.2   | 1.0   | 1.4    | 0.5  |
| Core Fixed Income              | 665,351,376       | 0.5    | 1.9    | 7.7  | 2.1  | 9.9   | 3.5   | 3.5   | 3.3   | 4.8    | 5.3  |

# San Mateo County Composite Return Summary

October 31, 2019



| Composite Returns (NET)   | Market Value (\$) | 1 Mth. | 3 Mth. | YTD  | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD |
|---------------------------|-------------------|--------|--------|------|------|-------|-------|-------|-------|--------|-----|
| BBG Barclays US Aggregate |                   | 0.3    | 2.4    | 8.8  | 2.6  | 11.5  | 3.3   | 3.2   | 2.7   | 3.7    | 5.0 |
| Excess                    |                   | 0.2    | -0.4   | -1.2 | -0.5 | -1.6  | 0.2   | 0.3   | 0.6   | 1.1    | 0.3 |



# San Mateo County Composite Return Summary

October 31, 2019



| Composite Returns (NET)        | Market Value (\$) | 1 Mth. | 3 Mth. | YTD  | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD  |
|--------------------------------|-------------------|--------|--------|------|------|-------|-------|-------|-------|--------|------|
| FIAM Core Bond                 | 288,718,611       | 0.4    | 2.3    | 9.5  | 2.7  | 11.6  | 3.6   | 3.6   | 3.3   | 4.6    | 4.8  |
| BBG Barclays US Aggregate      |                   | 0.3    | 2.4    | 8.8  | 2.6  | 11.5  | 3.3   | 3.2   | 2.7   | 3.7    | 4.4  |
| Excess                         |                   | 0.1    | -0.0   | 0.7  | 0.1  | 0.1   | 0.3   | 0.4   | 0.5   | 0.8    | 0.4  |
| Western Total Return           | 139,394,192       | 1.0    | 1.6    | 7.5  | 2.1  | 10.1  | 4.7   | --    | --    | --     | 4.5  |
| BBG Barclays US Aggregate      |                   | 0.3    | 2.4    | 8.8  | 2.6  | 11.5  | 3.3   | --    | --    | --     | 3.5  |
| Excess                         |                   | 0.7    | -0.8   | -1.3 | -0.5 | -1.4  | 1.4   | --    | --    | --     | 1.0  |
| Blackrock Inter Gov            | 237,238,573       | 0.3    | 1.7    | 5.6  | 1.5  | 7.9   | --    | --    | --    | --     | 3.0  |
| BBG Barclays US Aggregate      |                   | 0.3    | 2.4    | 8.8  | 2.6  | 11.5  | --    | --    | --    | --     | 4.4  |
| Excess                         |                   | -0.0   | -0.7   | -3.3 | -1.1 | -3.6  | --    | --    | --    | --     | -1.4 |
| Opportunistic Credit           | 361,341,276       | 0.6    | 0.2    | 6.5  | 0.5  | 5.3   | 6.9   | 5.8   | 6.9   | --     | 8.8  |
| BB Barc BA Intermediate HY Ind |                   | 0.5    | 1.9    | 12.7 | 2.4  | 11.1  | 5.7   | 5.2   | 5.5   | --     | 7.3  |
| Excess                         |                   | 0.0    | -1.7   | -6.2 | -1.9 | -5.8  | 1.3   | 0.6   | 1.3   | --     | 1.5  |
| Pimco Private Income           | 27,066,753        | 0.0    | 0.5    | --   | 0.5  | --    | --    | --    | --    | --     | 0.5  |
| BB Barc BA Intermediate HY Ind |                   | 0.5    | 1.9    | --   | 2.4  | --    | --    | --    | --    | --     | 5.3  |
| Excess                         |                   | -0.5   | -1.3   | --   | -1.9 | --    | --    | --    | --    | --     | -4.8 |
| AG Opportunistic Whole Loan    | 4,390,601         | 0.0    | 6.2    | 7.7  | 6.2  | 14.3  | 21.9  | 13.0  | --    | --     | 11.3 |
| BB Barc BA Intermediate HY Ind |                   | 0.5    | 1.9    | 12.7 | 2.4  | 11.1  | 5.7   | 5.2   | --    | --     | 5.1  |
| Excess                         |                   | -0.5   | 4.3    | -5.0 | 3.8  | 3.1   | 16.2  | 7.8   | --    | --     | 6.2  |
| Angelo Gordon                  | 3,519,899         | 0.0    | 8.0    | 18.0 | 8.0  | 18.0  | 25.4  | 16.2  | --    | --     | 15.2 |
| BB Barc BA Intermediate HY Ind |                   | 0.5    | 1.9    | 12.7 | 2.4  | 11.1  | 5.7   | 5.2   | --    | --     | 5.5  |
| Excess                         |                   | -0.5   | 6.1    | 5.3  | 5.6  | 6.9   | 19.8  | 11.0  | --    | --     | 9.7  |
| Beach Point Select Fund        | 52,942,797        | 0.8    | 0.8    | 5.9  | 0.8  | 5.1   | 7.5   | --    | --    | --     | 7.7  |
| BB Barc BA Intermediate HY Ind |                   | 0.5    | 1.9    | 12.7 | 2.4  | 11.1  | 5.7   | --    | --    | --     | 5.5  |
| Excess                         |                   | 0.2    | -1.1   | -6.8 | -1.6 | -6.0  | 1.8   | --    | --    | --     | 2.2  |
| Brigade Cap Mngmt              | 78,960,255        | 0.7    | -0.4   | 5.7  | -0.4 | 1.1   | 4.7   | 4.1   | 4.8   | --     | 6.1  |
| BB Barc BA Intermediate HY Ind |                   | 0.5    | 1.9    | 12.7 | 2.4  | 11.1  | 5.7   | 5.2   | 5.5   | --     | 6.7  |
| Excess                         |                   | 0.1    | -2.3   | -7.0 | -2.8 | -10.0 | -1.0  | -1.1  | -0.7  | --     | -0.6 |

# San Mateo County Composite Return Summary

October 31, 2019



| Composite Returns (NET)        | Market Value (\$) | 1 Mth. | 3 Mth. | YTD  | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD   |
|--------------------------------|-------------------|--------|--------|------|------|-------|-------|-------|-------|--------|-------|
| White Oak Yield Spec           | 31,591,358        | 0.0    | 1.6    | 4.2  | 1.6  | 5.5   | --    | --    | --    | --     | --    |
| BB Barc BA Intermediate HY Ind |                   | 0.5    | 1.9    | 12.7 | 2.4  | 11.1  | --    | --    | --    | --     | 5.7   |
| Excess                         |                   | -0.5   | -0.2   | -8.5 | -0.7 | -5.6  | --    | --    | --    | --     | --    |
| PIMCO Div. Income Fund         | 89,288,815        | 0.5    | 1.1    | 11.5 | 1.7  | 11.2  | --    | --    | --    | --     | 5.3   |
| BB Barc BA Intermediate HY Ind |                   | 0.5    | 1.9    | 12.7 | 2.4  | 11.1  | --    | --    | --    | --     | 5.0   |
| Excess                         |                   | -0.0   | -0.8   | -1.2 | -0.7 | 0.1   | --    | --    | --    | --     | 0.3   |
| TCP Direct Lending VIII        | 32,703,784        | 1.5    | 1.5    | 6.3  | 1.5  | 6.1   | 6.4   | --    | --    | --     | --    |
| BB Barc BA Intermediate HY Ind |                   | 0.5    | 1.9    | 12.7 | 2.4  | 11.1  | 5.7   | --    | --    | --     | 6.4   |
| Excess                         |                   | 1.0    | -0.4   | -6.4 | -0.9 | -5.0  | 0.7   | --    | --    | --     | --    |
| Franklin Templeton             | 40,877,014        | 0.6    | -5.0   | -0.4 | -3.5 | -0.3  | 2.1   | 0.7   | 2.2   | --     | 3.3   |
| BB Barclays Multiverse Index   |                   | 0.7    | 1.6    | 7.2  | 1.3  | 9.5   | 3.0   | 2.3   | 1.5   | --     | 2.4   |
| Excess                         |                   | -0.1   | -6.6   | -7.6 | -4.8 | -9.8  | -0.9  | -1.6  | 0.7   | --     | 1.0   |
| Risk Parity                    | 401,963,316       | 0.6    | 2.2    | 20.6 | 3.3  | 21.0  | 8.7   | 6.1   | 6.2   | --     | 6.8   |
| Samcera Risk Parity Benchmark  |                   | 1.8    | 2.3    | 15.2 | 2.4  | 11.8  | 9.2   | 7.1   | 9.0   | --     | 8.4   |
| Excess                         |                   | -1.2   | -0.0   | 5.4  | 0.9  | 9.2   | -0.5  | -1.1  | -2.8  | --     | -1.6  |
| AQR Global Risk III            | 201,153,136       | 1.2    | 1.2    | 18.7 | 2.4  | 18.9  | 9.1   | 4.8   | 5.0   | --     | 5.9   |
| Samcera Risk Parity Benchmark  |                   | 1.8    | 2.3    | 15.2 | 2.4  | 11.8  | 9.2   | 7.1   | 9.0   | --     | 8.4   |
| Excess                         |                   | -0.6   | -1.1   | 3.5  | -0.0 | 7.1   | -0.1  | -2.3  | -3.9  | --     | -2.5  |
| Panagora                       | 200,810,180       | 0.1    | 3.3    | 22.5 | 4.3  | 23.1  | 8.3   | 7.3   | --    | --     | 7.3   |
| Samcera Risk Parity Benchmark  |                   | 1.8    | 2.3    | 15.2 | 2.4  | 11.8  | 9.2   | 7.1   | --    | --     | 7.1   |
| Excess                         |                   | -1.7   | 1.1    | 7.3  | 1.8  | 11.4  | -0.9  | 0.2   | --    | --     | 0.2   |
| Alternatives                   | 542,569,224       | -2.1   | -1.8   | 8.9  | 5.8  | 9.5   | 7.3   | 5.9   | 5.4   | -3.4   | -1.6  |
| Samcera Alternatives Benchmark |                   | 1.1    | 2.0    | 6.0  | 4.6  | 8.8   | 11.9  | 7.7   | 9.2   | 9.8    | 7.9   |
| Excess                         |                   | -3.2   | -3.8   | 2.9  | 1.2  | 0.6   | -4.6  | -1.9  | -3.8  | -13.2  | -9.5  |
| Private Equity                 | 299,836,219       | -3.7   | -2.2   | 18.5 | 10.8 | 19.5  | 17.2  | 14.8  | 14.5  | --     | -14.8 |
| Samcera PE Benchmark           |                   | 2.4    | 2.6    | 25.7 | 4.4  | 16.9  | 17.9  | 13.5  | 17.0  | --     | 16.4  |
| Excess                         |                   | -6.1   | -4.7   | -7.2 | 6.4  | 2.6   | -0.7  | 1.2   | -2.4  | --     | -31.2 |

# San Mateo County Composite Return Summary

October 31, 2019



| Composite Returns (NET)        | Market Value (\$) | 1 Mth. | 3 Mth. | YTD   | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD  |
|--------------------------------|-------------------|--------|--------|-------|------|-------|-------|-------|-------|--------|------|
| Absolute Return                | 242,733,005       | -0.1   | -1.3   | -1.7  | -0.1 | -1.4  | -2.7  | 1.5   | 2.8   | --     | 2.3  |
| Samcera LIBOR + 4%             |                   | 0.5    | 1.5    | 5.4   | 2.1  | 6.4   | 5.7   | 5.2   | 4.9   | --     | 4.8  |
| Excess                         |                   | -0.6   | -2.8   | -7.0  | -2.2 | -7.9  | -8.5  | -3.7  | -2.1  | --     | -2.5 |
| AQR Delta XN                   | 138,918,173       | 0.0    | -2.4   | -7.6  | -1.2 | -7.2  | -5.9  | -0.3  | 1.5   | --     | 1.3  |
| Samcera LIBOR + 4%             |                   | 0.5    | 1.5    | 5.4   | 2.1  | 6.4   | 5.7   | 5.2   | 4.9   | --     | 4.8  |
| Excess                         |                   | -0.5   | -3.9   | -12.9 | -3.2 | -13.6 | -11.6 | -5.4  | -3.4  | --     | -3.5 |
| Aberdeen Std GARS              | 103,814,832       | -0.2   | 0.4    | 7.5   | 1.3  | 7.4   | 2.2   | --    | --    | --     | 0.7  |
| Samcera LIBOR + 4%             |                   | 0.5    | 1.5    | 5.4   | 2.1  | 6.4   | 5.7   | --    | --    | --     | 5.4  |
| Excess                         |                   | -0.7   | -1.1   | 2.2   | -0.7 | 1.0   | -3.5  | --    | --    | --     | -4.7 |
| Inflation Hedge                | 815,298,645       | 0.8    | 0.1    | 6.0   | -0.6 | 3.6   | 4.5   | --    | --    | --     | 6.4  |
| SamCERA Inflation Hedge Index  |                   | 0.3    | 1.0    | 7.1   | 0.5  | 6.2   | 6.1   | --    | --    | --     | 6.5  |
| Excess                         |                   | 0.5    | -0.8   | -1.1  | -1.1 | -2.6  | -1.6  | --    | --    | --     | -0.1 |
| TIPS                           | 37,383,625        | 0.3    | 0.8    | 6.5   | 0.9  | 6.9   | 2.4   | --    | --    | --     | 2.7  |
| BBG Barclays US TIPS           |                   | 0.3    | 1.2    | 7.9   | 1.6  | 9.0   | 2.4   | --    | --    | --     | 2.7  |
| Excess                         |                   | 0.0    | -0.5   | -1.3  | -0.8 | -2.0  | -0.0  | --    | --    | --     | -0.0 |
| BBH Inflation Indexed          | 37,383,620        | 0.3    | 0.8    | --    | 0.9  | --    | --    | --    | --    | --     | 4.9  |
| BBG Barclays US TIPS           |                   | 0.3    | 1.2    | --    | 1.6  | --    | --    | --    | --    | --     | --   |
| Excess                         |                   | 0.0    | -0.5   | --    | -0.8 | --    | --    | --    | --    | --     | --   |
| Real Estate                    | 385,998,124       | 2.0    | 2.1    | 6.6   | 2.1  | 6.6   | 7.7   | --    | --    | --     | 8.3  |
| Samcera NCREIF ODCE EW (gross) |                   | 0.0    | 1.4    | 4.5   | 1.4  | 6.2   | 7.6   | --    | --    | --     | 7.6  |
| Excess                         |                   | 2.0    | 0.7    | 2.1   | 0.7  | 0.5   | 0.1   | --    | --    | --     | 0.7  |
| Invesco Core Real Estate       | 272,016,166       | 1.9    | 1.9    | 6.1   | 1.8  | 6.1   | 7.7   | 9.5   | 10.4  | 10.6   | 7.8  |
| Samcera NCREIF ODCE EW (gross) |                   | 0.0    | 1.4    | 4.5   | 1.4  | 6.2   | 7.6   | 9.6   | 10.4  | 10.8   | 7.7  |
| Excess                         |                   | 1.9    | 0.5    | 1.6   | 0.4  | -0.1  | 0.1   | -0.1  | -0.0  | -0.2   | 0.1  |
| Invesco US Val IV              | 19,450,833        | 5.0    | 5.0    | 15.4  | 6.2  | 15.4  | 11.5  | --    | --    | --     | 12.9 |
| Samcera NCREIF ODCE EW (gross) |                   | 0.0    | 1.4    | 4.5   | 1.4  | 6.2   | 7.6   | --    | --    | --     | 8.5  |
| Excess                         |                   | 5.0    | 3.6    | 10.9  | 4.8  | 9.2   | 3.9   | --    | --    | --     | 4.3  |

# San Mateo County Composite Return Summary

October 31, 2019



| Composite Returns (NET)        | Market Value (\$) | 1 Mth. | 3 Mth. | YTD   | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD   |
|--------------------------------|-------------------|--------|--------|-------|------|-------|-------|-------|-------|--------|-------|
| PGIM Real Estate US Debt Fund  | 85,274,450        | 1.6    | 1.6    | 6.3   | 1.6  | 6.3   | --    | --    | --    | --     | 4.9   |
| Samcera NCREIF ODCE EW (gross) |                   | 0.0    | 1.4    | 4.5   | 1.4  | 6.2   | --    | --    | --    | --     | 7.2   |
| Excess                         |                   | 1.6    | 0.2    | 1.9   | 0.2  | 0.2   | --    | --    | --    | --     | -2.4  |
| Invesco US VAL V               | 9,256,675         | 0.7    | 6.1    | --    | 6.1  | --    | --    | --    | --    | --     | 1.3   |
| Samcera NCREIF ODCE EW (gross) |                   | 0.0    | 1.4    | --    | 1.4  | --    | --    | --    | --    | --     | --    |
| Excess                         |                   | 0.7    | 4.8    | --    | 4.8  | --    | --    | --    | --    | --     | --    |
| Public Real Assets             | 316,193,743       | -0.1   | -1.4   | 10.0  | -3.0 | 3.2   | 3.7   | --    | --    | --     | --    |
| SamCera Liquid Real Asset Inde |                   | 1.3    | 0.3    | 11.2  | -1.3 | 5.9   | 5.4   | --    | --    | --     | 7.2   |
| Excess                         |                   | -1.4   | -1.7   | -1.2  | -1.7 | -2.8  | -1.7  | --    | --    | --     | --    |
| CUSHING MLP ALPHA TR           | 68,313,037        | -4.8   | -7.1   | 6.8   | -8.4 | -4.9  | --    | --    | --    | --     | -11.2 |
| 50% BC US TIPS/50% SamCERA CRA |                   | 0.8    | 0.8    | 9.7   | 0.2  | 7.7   | --    | --    | --    | --     | 2.7   |
| Excess                         |                   | -5.6   | -7.9   | -3.0  | -8.6 | -12.6 | --    | --    | --    | --     | -13.8 |
| SSGA CST REAL ASSET NL         | 247,880,706       | 1.3    | 0.2    | 10.9  | -1.4 | 5.6   | 4.9   | --    | --    | --     | --    |
| SamCera Liquid Real Asset Inde |                   | 1.3    | 0.3    | 11.2  | -1.3 | 5.9   | 5.4   | --    | --    | --     | 5.5   |
| Excess                         |                   | 0.0    | -0.0   | -0.2  | -0.1 | -0.3  | -0.5  | --    | --    | --     | --    |
| Private Real Assets            | 75,723,152        | -0.9   | -3.1   | -13.9 | -3.8 | -12.1 | -2.8  | --    | --    | --     | 7.5   |
| SamCERA Private Real Asset Idx |                   | -1.0   | 0.8    | 3.2   | 1.1  | 2.7   | 5.0   | --    | --    | --     | 7.2   |
| Excess                         |                   | 0.1    | -3.8   | -17.2 | -5.0 | -14.9 | -7.9  | --    | --    | --     | 0.2   |
| Cash                           | 75,132,854        | 0.1    | 0.3    | 1.0   | 0.3  | 1.1   | 0.8   | 0.7   | 0.7   | 0.7    | 1.9   |
| Samcera Cash Benchmark         |                   | 0.2    | 0.6    | 2.0   | 0.8  | 2.4   | 1.6   | 1.0   | 0.7   | 0.6    | 1.9   |
| Excess                         |                   | -0.1   | -0.3   | -1.0  | -0.4 | -1.3  | -0.8  | -0.3  | -0.1  | 0.2    | 0.0   |
| General Account                | 41,630,526        | 0.2    | 0.5    | 2.0   | 0.7  | 2.4   | 1.8   | 1.2   | 0.9   | 0.7    | 2.0   |
| Transition Account             | 417               | --     | --     | --    | --   | --    | --    | --    | --    | --     | --    |
| County Treasury Pool           | 33,502,744        | 0.0    | 0.0    | 0.0   | 0.0  | 0.0   | 0.0   | 0.0   | 0.2   | 0.4    | 2.4   |
| Ex-Parametric MN Overlay       | 11,226,506        | 4.4    | 4.2    | 76.1  | -1.1 | 63.3  | 28.8  | 30.6  | --    | --     | 24.5  |
| San Mateo County ERA           | 4,815,718,219     | 1.0    | 1.2    | 13.0  | 2.3  | 10.3  | 8.1   | 6.2   | 8.0   | 8.5    | 6.7   |

# San Mateo County Composite Return Summary

October 31, 2019

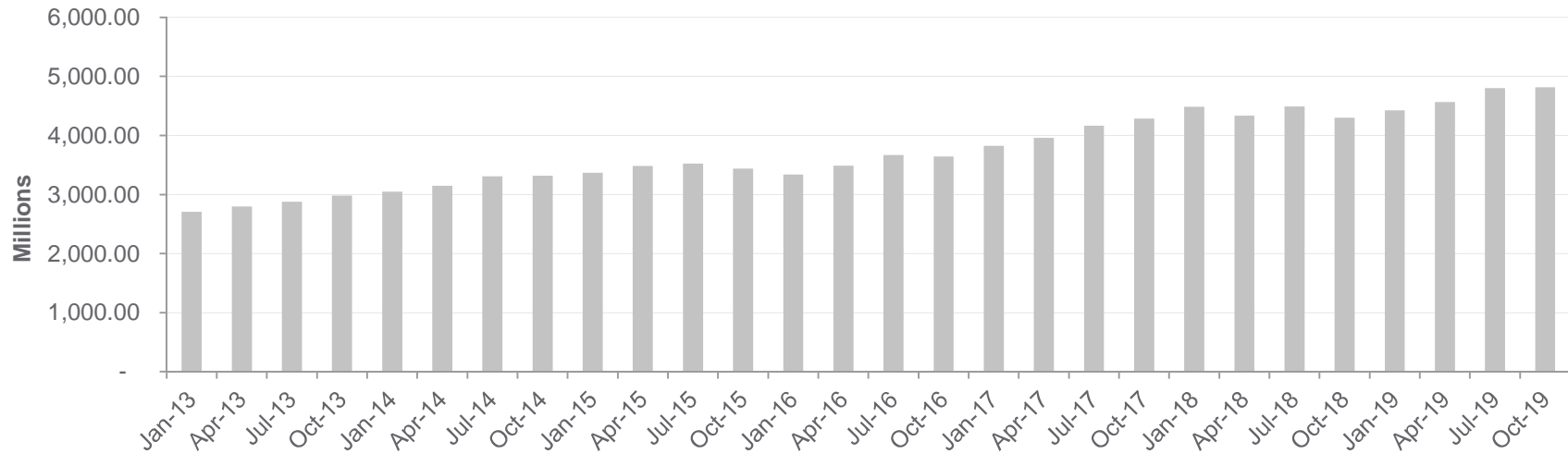


| Composite Returns (NET)      | Market Value (\$) | 1 Mth. | 3 Mth. | YTD  | FYTD | 1 Yr. | 3 Yr. | 5 Yr. | 7 Yr. | 10 Yr. | ITD  |
|------------------------------|-------------------|--------|--------|------|------|-------|-------|-------|-------|--------|------|
| Samcera Total Plan Benchmark |                   | 1.4    | 2.0    | 13.4 | 2.5  | 10.9  | 9.1   | 6.7   | 8.4   | 8.9    | 7.1  |
| Excess                       |                   | -0.4   | -0.8   | -0.4 | -0.2 | -0.7  | -1.0  | -0.5  | -0.4  | -0.5   | -0.4 |

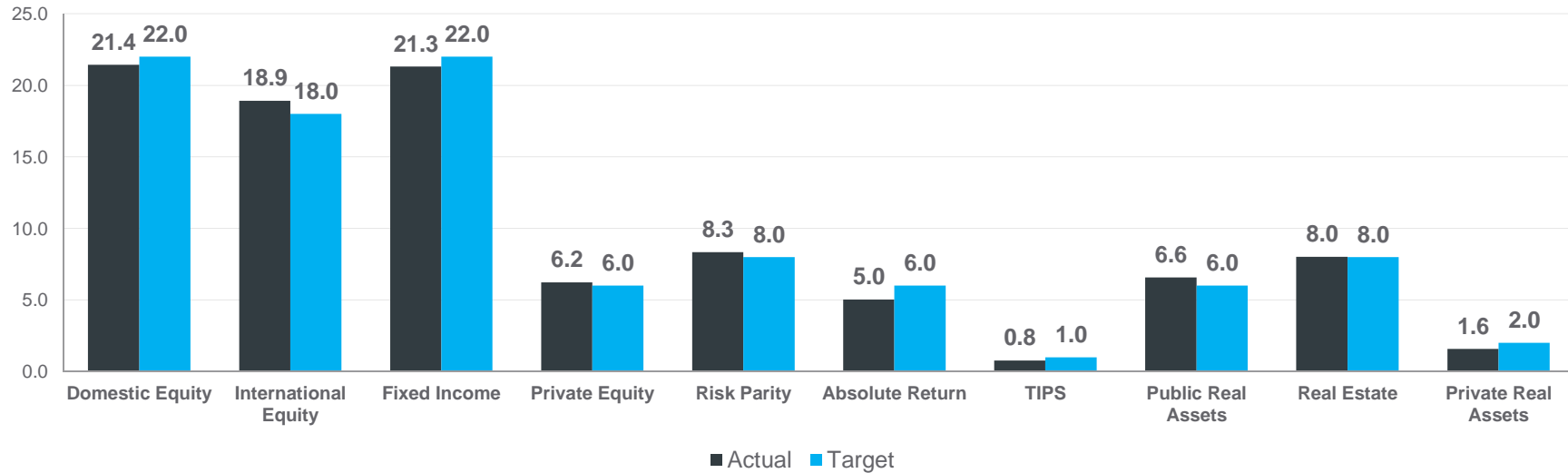
**Record of Asset Growth**

|                        | <b>Three Months</b> | <b>One Year</b> |
|------------------------|---------------------|-----------------|
| <b>TOTAL FUND</b>      |                     |                 |
| Beginning Market Value | 4,801,649,101       | 4,302,007,429   |
| Contributions          | 33,463,175          | 554,446,501     |
| Withdrawals            | -76,235,893         | -495,686,552    |
| Income Received        | 15,027,847          | 55,210,843      |
| Gain/Loss              | 42,137,050          | 399,221,632     |
| Ending Market Value    | 4,815,718,219       | 4,815,718,219   |

**Net Asset Values Over Time (\$000)**

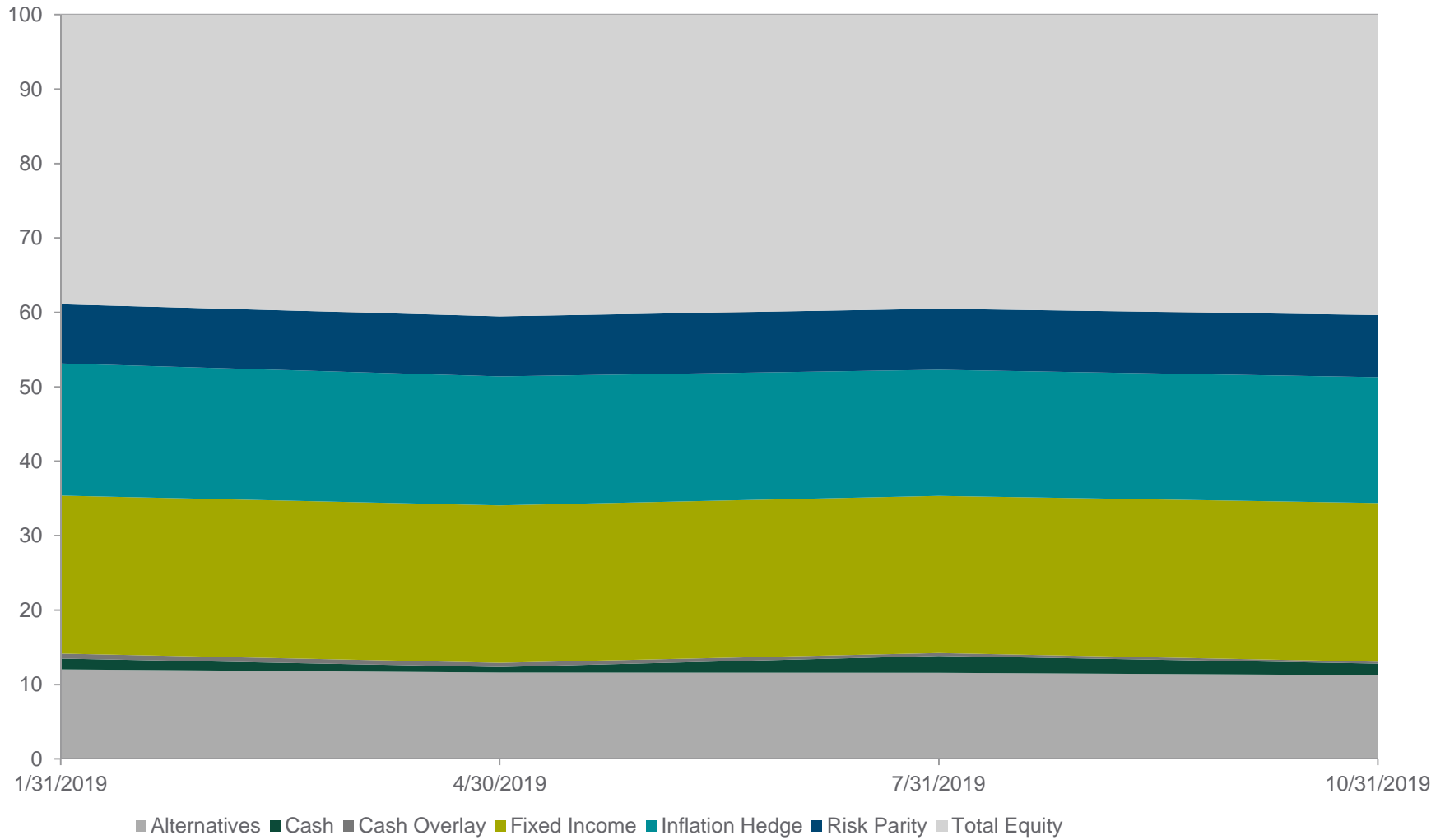


Actual vs Target Weights



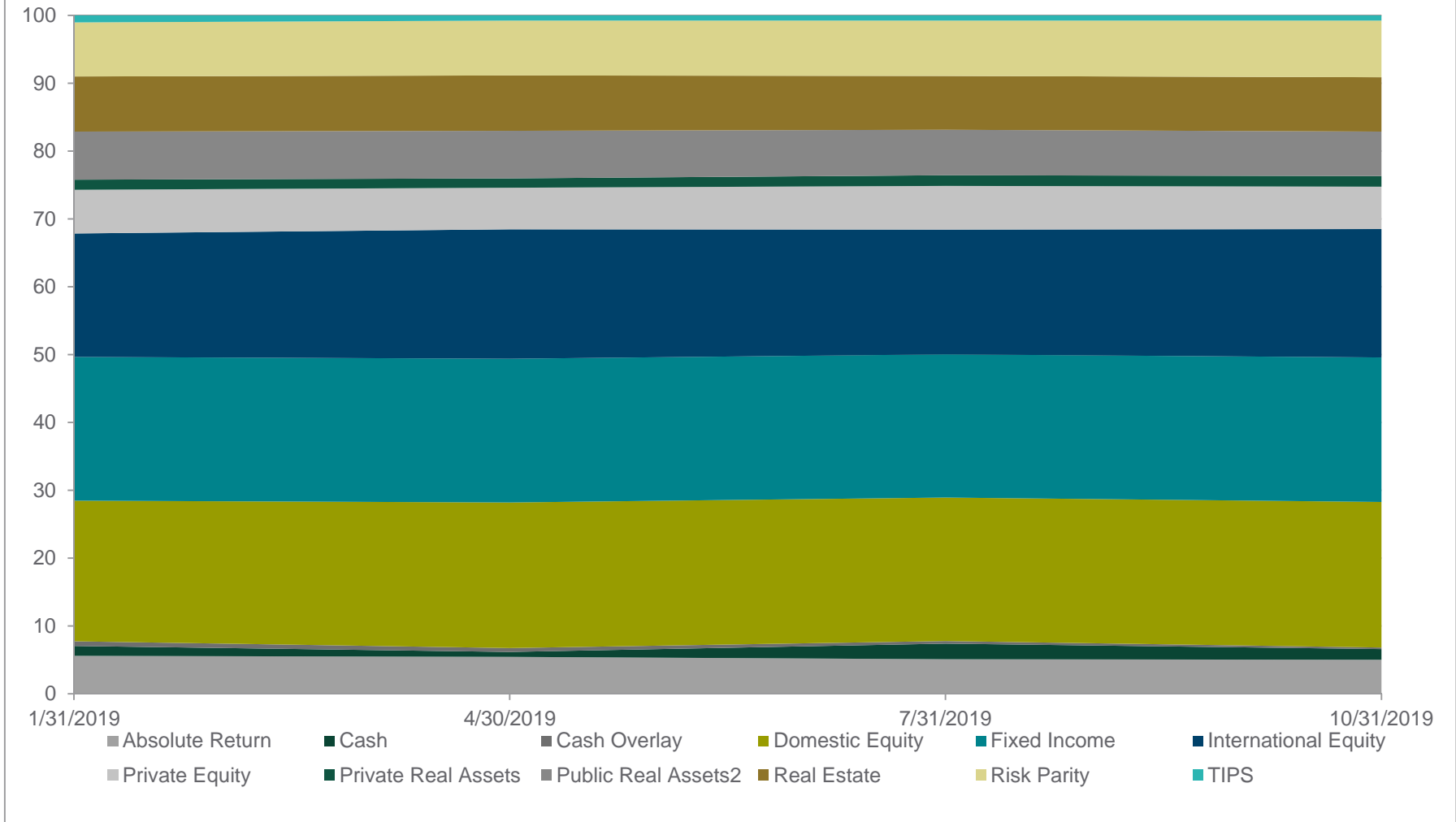
|                      | Min  | Actual | Target | Deviation | Max  |
|----------------------|------|--------|--------|-----------|------|
| Domestic Equity      | 20.0 | 21.4   | 22.0   | -0.6      | 24.0 |
| International Equity | 16.0 | 18.9   | 18.0   | 0.9       | 20.0 |
| Fixed Income         | 20.0 | 21.3   | 22.0   | -0.7      | 24.0 |
| Private Equity       | 4.0  | 6.2    | 6.0    | 0.2       | 8.0  |
| Risk Parity          | 6.0  | 8.3    | 8.0    | 0.3       | 10.0 |
| Absolute Return      | 4.0  | 5.0    | 6.0    | -1.0      | 8.0  |
| TIPS                 | 0.0  | 0.8    | 1.0    | -0.2      | 3.0  |
| Public Real Assets   | 4.0  | 6.6    | 6.0    | 0.6       | 8.0  |
| Real Estate          | 6.0  | 8.0    | 8.0    | 0.0       | 10.0 |
| Private Real Assets  | 0.0  | 1.6    | 2.0    | -0.4      | 4.0  |

Asset Allocation over Time





### Sub-Asset Class Allocation Over Time



## Disclaimer(s)

The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property and a service mark of Morgan Stanley Capital International Inc. ("MSCI") and Standard & Poor's, a division of The McGraw-Hill Companies, Inc. ("S&P") and is licensed for use by The Northern Trust Corporation and its wholly owned subsidiaries. Neither MSCI, S&P, nor any other party involved in making or compiling the GICS or any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability and fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling the GICS or any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

The Dow Jones Wilshire Indexes are calculated, distributed and marketed by Dow Jones & Company, Inc. pursuant to an agreement between Dow Jones and Wilshire and have been licensed for use. All content of the Dow Jones Wilshire Indexes © 2005 Dow Jones & Company, Inc. & Wilshire Associates Incorporated.

Standard and Poor's including its subsidiary corporations ("S&P") is a division of the McGraw-Hill Companies, Inc. Reproduction of S&P Index Alerts in any form is prohibited except with the prior written permission of S&P. Because of the possibility of human or mechanical error by S&P sources, S&P or others, S&P does not guarantee the accuracy, adequacy, completeness or availability of any information and is not responsible for any errors or omissions or for the results obtained from the use of such information. S&P gives not express or implied warranties, including, but not limited to, any warranties or merchantability or fitness for a particular purpose or use. In no event shall S&P be liable for any indirect, special or consequential damages in connection with subscriber's or others' use of S&P Index Alerts.

All MSCI equity characteristic results except for Dividend Yield, Price to Book Value, Price to Cash Earnings and Price Earnings Ratio were calculated by The Northern Trust Company. FTSE ® is a trade mark of London Stock Exchange Plc and The Financial Times Limited and is used by FTSE under license. All rights in the FTSE Indices vest in FTSE and/or its licensors. Neither FTSE nor its licensors accept any liability for any errors or omissions in the FTSE Indices or underlying data.

The Merrill Lynch Indices are used with permission. Copyright 2007, Merrill Lynch, Pierce, Fenner & Smith Incorporated. All rights reserved. The Merrill Lynch Indices may not be copied, used, or distributed without Merrill Lynch's prior written approval.

The Citi Index data is provided to you on an "AS IS" basis and you agree that use of the index data is at your sole risk. Citi Index makes no representations or warranties, express or implied, to you or any other person or entity, including without limitation any warranty of merchantability, originality, suitability or fitness for a particular purpose of the index data or any other matter and no warranty is given that the index data will conform to any description thereof or be free of omissions, errors, interruptions or defects. 4. In no event shall Citi Index be liable to you or any other person or entity for any direct, incidental, indirect, special or consequential damages (including, without limitation,

lost profits or revenues, loss of data, loss of use or claims of third parties), arising out of or in any manner in connection with your use of (or inability to use) the index data, whether or not you have been advised of, or otherwise might have anticipated the possibility of, such damages. Without limitation on the foregoing, you acknowledge that the index data may be incomplete or condensed, is for information purposes only and is not intended as, and shall not be construed to be, an offer or solicitation with respect to the purchase or sale of any security. All opinions and estimates provided constitute judgments as of their respective dates and are subject to change without notice. Such data, information, opinions and estimates are furnished as part of a general service, without regard to your particular circumstances, and Citi Index shall not be liable for any damages in connection therewith. Citi Index is not undertaking to manage money or act as a fiduciary with respect to your accounts or any of your managed or fiduciary accounts and you acknowledge and agree that the index data does not and shall not serve as the primary basis for any investment decisions made with respect to such accounts.

iShares® and BlackRock® are registered trademarks of BlackRock, Inc. and its affiliates ("BlackRock") and are used under license. BlackRock has licensed certain trademarks and trade names of BlackRock to The Northern Trust Company. The Northern Trust Company's products and services are not sponsored, endorsed, sold, or promoted by BlackRock, and BlackRock makes no representations or warranties related to such products or services either to The Northern Trust Company or any other person or entity, including but not limited to the advisability of investing in the products of The Northern Trust Company. BlackRock has no obligation or liability in connection with the operation, marketing, trading or sale of the products or services from The Northern Trust Company.

Please note that this report has been prepared using best available data. This report may also contain information provided by third parties, derived by third parties or derived from third party data and/or data that may have been categorized or otherwise reported based upon client direction - Northern Trust assumes no responsibility for the accuracy, timeliness or completeness of any such information. If you have questions regarding third party data or direction as it relates to this report, please contact your Northern Trust relationship team.

INVESTMENT ADVICE NOTICE: The data and analysis contained in this report is for informational purposes only. In providing the information contained herein, The Northern Trust Company is not undertaking to provide "investment advice" or to give advice in a fiduciary capacity for purposes of the Employee Retirement Income Security Act of 1974, as amended. Nothing in this report is intended as, or should be understood as, a recommendation to hire, retain, or terminate an investment manager or engage in any purchase or sale transaction with such a manager or any fund that it manages. The Northern Trust Company and/or its affiliates may have business relationships with one or more investment managers or funds for included in this report, and may receive compensation for providing custody, administration, banking, brokerage, foreign exchange or other services to such investment managers or funds. The Northern Trust Company and its affiliates shall have no responsibility for the consequences of investment decisions made in reliance on information contained in this report.

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**  
**Board of Retirement**

December 3, 2019

Agenda Item 6.2

**TO:** Board of Retirement

**FROM:** Michael Coultrip, Chief Investment Officer



**SUBJECT:** Report on Quarterly Investment Performance Report for the Period Ended September 30, 2019

**Recommendation**

Accept Verus Advisory's quarterly performance report for the period ended September 30, 2019.

**Discussion**

The 3rd quarter net total return for the SamCERA portfolio was +1.5%, which was 40 bps higher than the +1.1% policy benchmark return. As can be seen on Page 20 and 21, private equity was the primary source of outperformance during the quarter.

Margaret Jadallah will present the report to the Board and will be available for questions.

**Attachment**

Verus Quarterly Performance Report Ending 9/30/2019



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



**PERIOD ENDING: SEPTEMBER 30, 2019**

Investment Performance Review for

**San Mateo County Employees' Retirement Association**

# Table of Contents



---

VERUSINVESTMENTS.COM

SEATTLE 206-622-3700

LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

---

Market Environment

TAB I

---

Alternatives

TAB VI

---

Total Fund

TAB II

---

Inflation Hedge

TAB VII

---

US Equity

TAB III

---

Risk Parity

TAB VIII

---

International Equity

TAB IV

---

Appendix

TAB IX

---

Fixed Income

TAB V

# 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%<br><i>6/30/19</i>         | 3.2%<br><i>6/30/18</i>         |
| Inflation<br>(CPI YoY, Core)            | 2.4%<br><i>9/30/19</i>         | 2.3%<br><i>9/30/18</i>         |
| Expected Inflation<br>(5yr-5yr forward) | 1.7%<br><i>9/30/19</i>         | 2.2%<br><i>9/30/18</i>         |
| Fed Funds Target<br>Range               | 1.75 – 2.00%<br><i>9/30/19</i> | 2.00 – 2.25%<br><i>9/30/18</i> |
| 10 Year Rate                            | 1.7%<br><i>9/30/19</i>         | 3.1%<br><i>9/30/18</i>         |
| U-3 Unemployment                        | 3.5%<br><i>9/30/19</i>         | 3.7%<br><i>9/30/18</i>         |
| U-6 Unemployment                        | 6.9%<br><i>9/30/19</i>         | 7.5%<br><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<br>(Real, YoY)     | Inflation<br>(CPI, YoY) | Unemployment            |
|---------------|------------------------|-------------------------|-------------------------|
| United States | 2.3%<br><i>6/30/19</i> | 1.7%<br><i>9/30/19</i>  | 3.5%<br><i>9/30/19</i>  |
| Eurozone      | 1.2%<br><i>6/30/19</i> | 0.8%<br><i>9/30/19</i>  | 7.4%<br><i>8/31/19</i>  |
| Japan         | 1.0%<br><i>6/30/19</i> | 0.4%<br><i>9/30/19</i>  | 2.3%<br><i>5/31/19</i>  |
| BRICS Nations | 5.0%<br><i>6/30/19</i> | 3.1%<br><i>9/30/19</i>  | 5.1%<br><i>6/30/19</i>  |
| Brazil        | 1.0%<br><i>6/30/19</i> | 2.9%<br><i>9/30/19</i>  | 11.8%<br><i>8/31/19</i> |
| Russia        | 0.9%<br><i>6/30/19</i> | 4.0%<br><i>9/30/19</i>  | 4.3%<br><i>8/31/19</i>  |
| India         | 5.8%<br><i>3/31/19</i> | 4.0%<br><i>9/30/19</i>  | 8.5%<br><i>12/31/17</i> |
| China         | 6.2%<br><i>6/30/19</i> | 3.0%<br><i>9/30/19</i>  | 3.6%<br><i>6/30/19</i>  |



# 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.

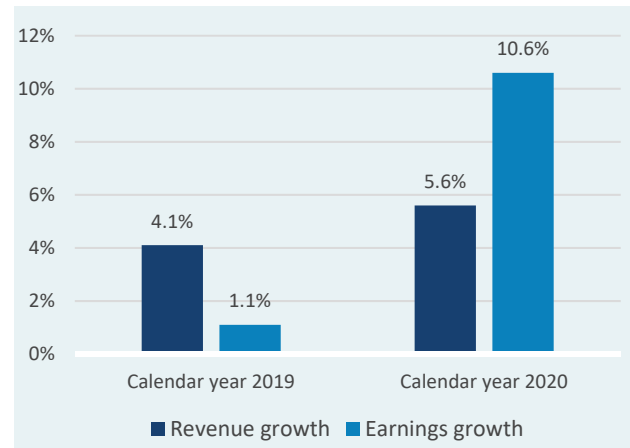
U.S. equities offer lower yields and less attractive valuations relative to other markets around the world, which suggests domestic equities might underperform over the long-term. However, U.S. may continue to outperform over the shorter-term due to relative economic and market strength.

## U.S. EQUITIES



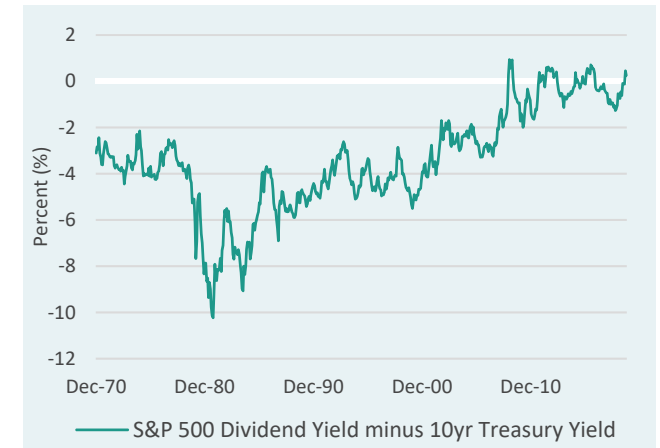
Source: Standard & Poor's, as of 9/30/19

## 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

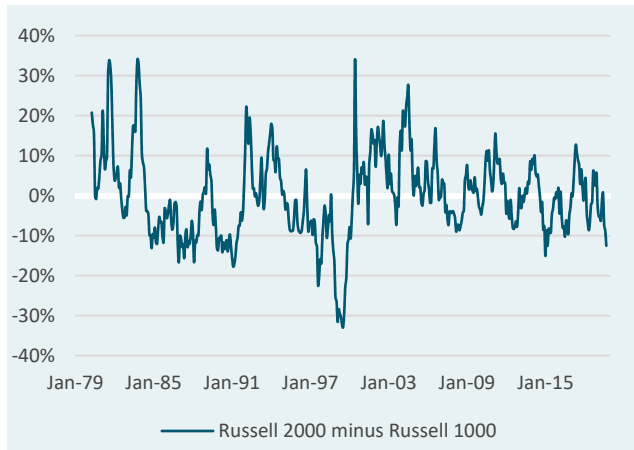
Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have extended their run of weakness.

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.

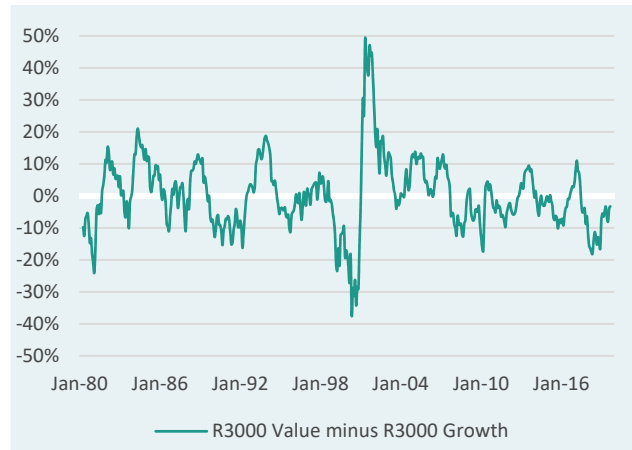
Value stocks have exhibited a long run of underperformance over the past decade. Our view has been that value stocks did not appear attractive, despite persistent performance pain. This was because value stocks had underperformed due to fundamental reasons rather than due to prices becoming stretched. 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)**



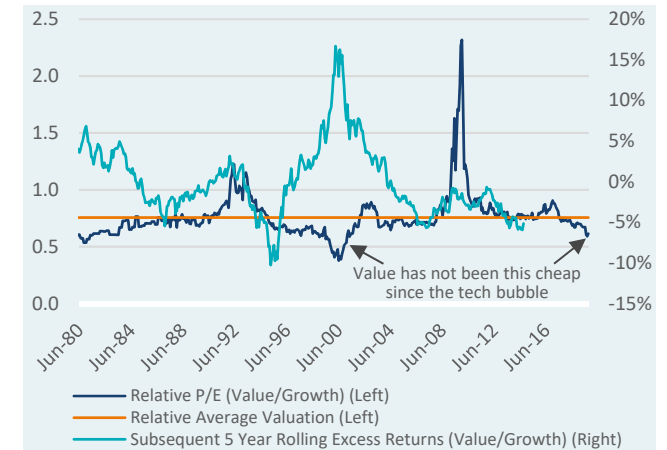
Source: FTSE, as of 9/30/19

**VALUE VS GROWTH (YOY)**



Source: FTSE, as of 9/30/19

**VALUE STARTING TO LOOK CHEAP**



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

# 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.

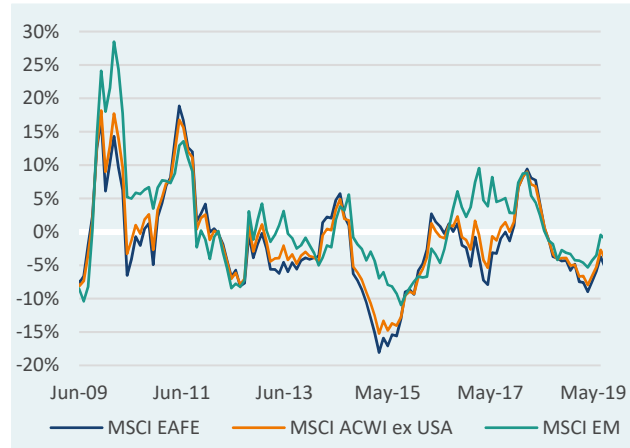
The British pound weakened in July as the new Prime Minister Boris Johnson signaled a much harder line on Brexit than his predecessor's. Toward the end of the quarter, the pound strengthened as markets began pricing a lower likelihood of a "no-deal" Brexit, which many market participants viewed as unfriendly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

**INTERNATIONAL DEVELOPED EQUITIES**



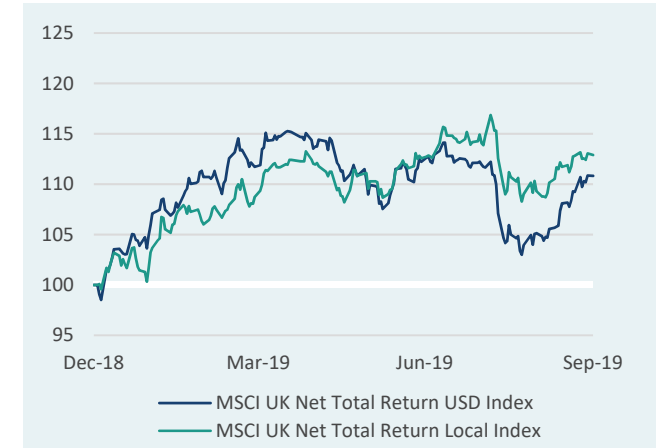
Source: MSCI, as of 9/30/19

**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

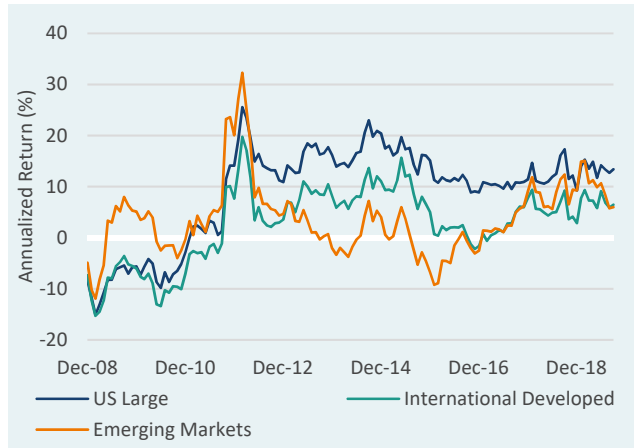
Emerging market equities (MSCI Emerging Markets -4.2%) lagged developed markets (MSCI EAFE -1.1%) over the quarter, while U.S. equities outperformed (S&P 500 +1.7%).

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

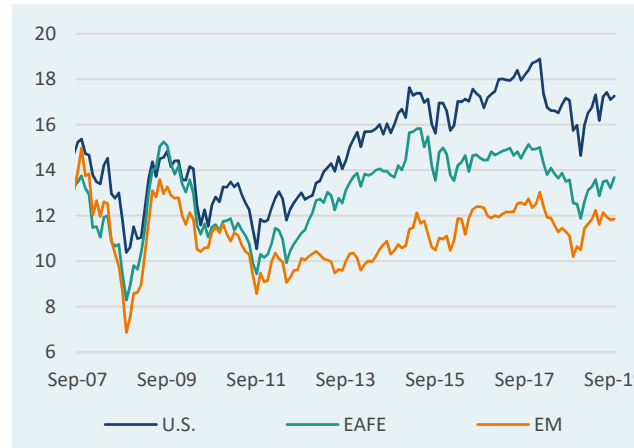
the current environment. The first force is decelerating global growth and a rising probability of recession, which likely bodes poorly for emerging market performance. However, the second force of widespread central bank dovishness may boost emerging market performance in the near term. Specifically, 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)**



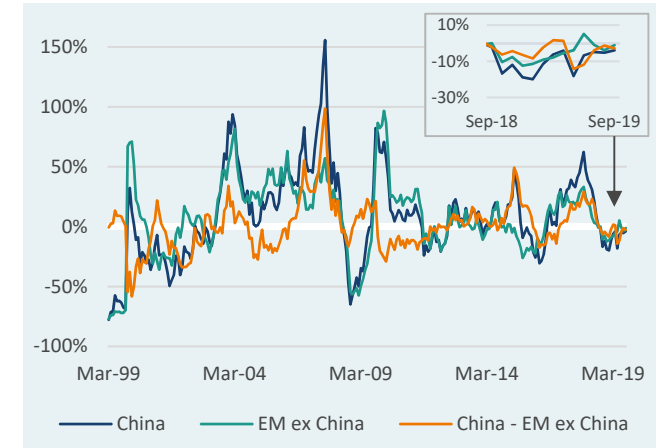
Source: Standard & Poor's, MSCI, as of 9/30/19

**FORWARD P/E**



Source: MSCI, as of 9/30/19

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



Source: MSCI, as of 9/30/19

# 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>.

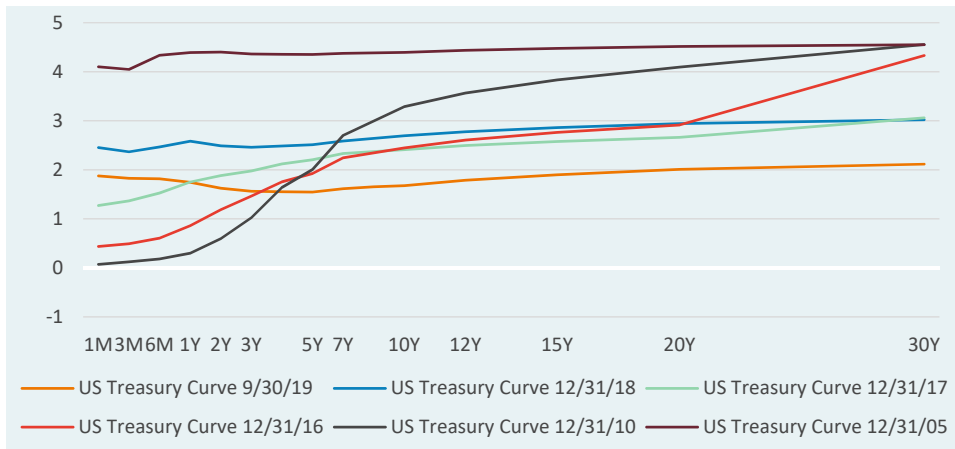
- Global sovereign yields continued to plummet. In Germany, 10-year bond yields touched fresh all-time lows, and the entire German sovereign curve moved below 0%. In Italy, 10-year bond yields fell 1.28% to 0.82%, boosted by the formation of a new coalition government between the Democratic Party and 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%   |

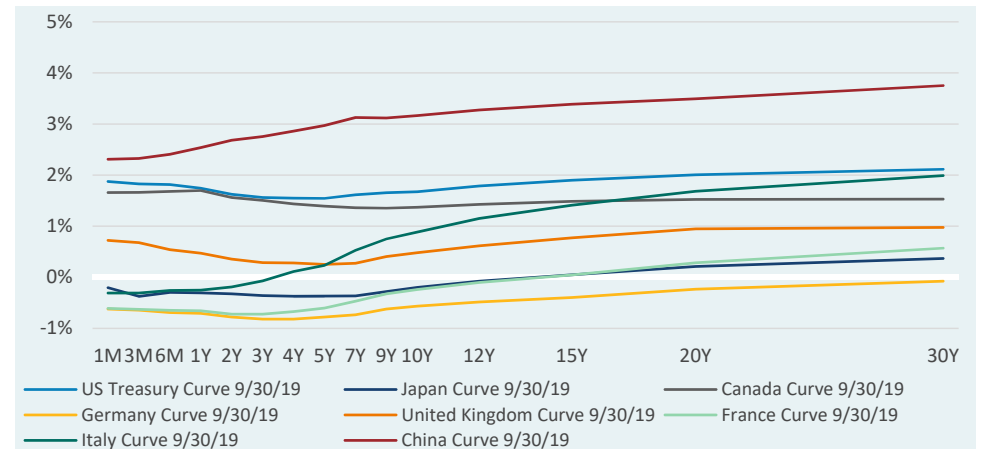
Source: Bloomberg, as of 9/30/19

# Yield environment

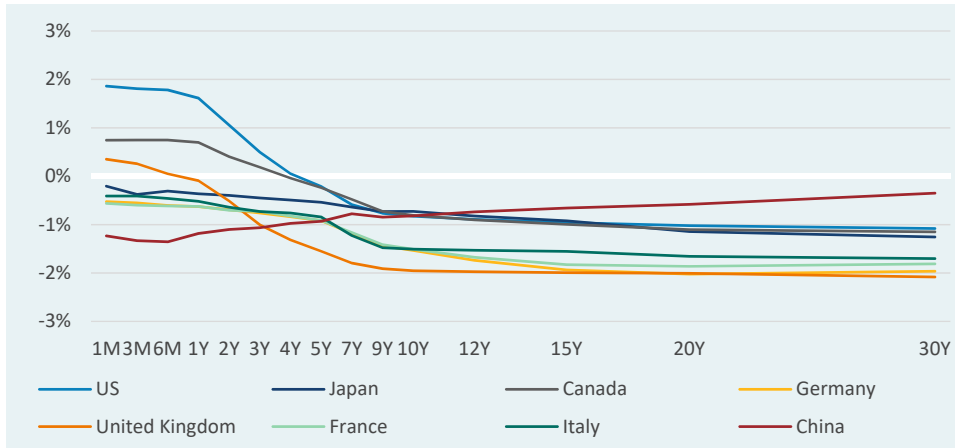
**U.S. YIELD CURVE**



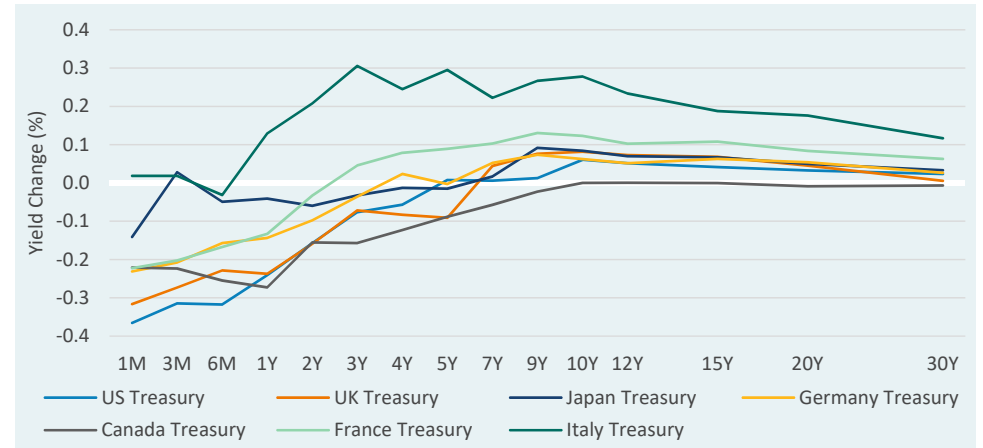
**GLOBAL GOVERNMENT YIELD CURVES**



**YIELD CURVE CHANGES OVER LAST FIVE YEARS**



**IMPLIED CHANGES OVER NEXT YEAR**



Source: Bloomberg, as of 9/30/19

# Currency

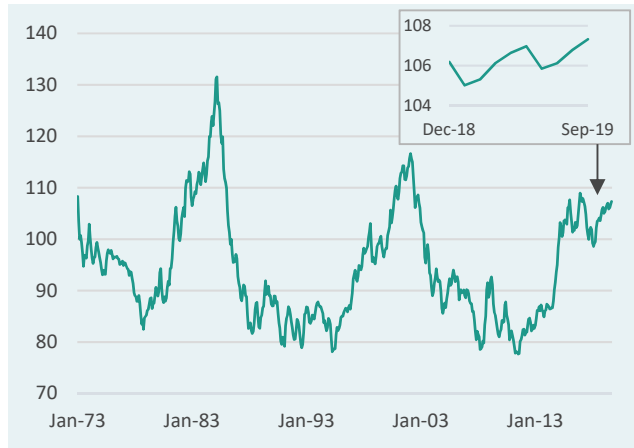
The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted basket of currencies. Dollar volatility has been suppressed so far in 2019, following large swings experienced during years 2014-2018. Investors are pricing in a 78% chance of one more 0.25% rate cut by the end of 2019, and a 25% chance 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.

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

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.

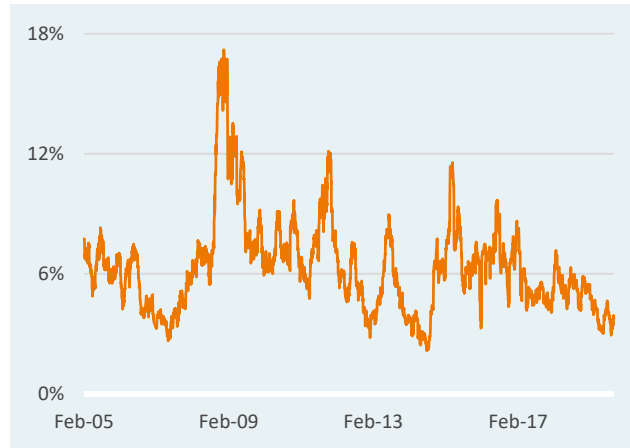
Emerging market currencies fell -4% quarter, on the back of U.S. dollar strength. These currencies remain very depressed relative to history.

**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



- The Total Fund, net of manager fees, returned 1.5% in the third quarter of 2019 and in the ranked 2<sup>nd</sup> percentile among other public plans greater than \$1 billion (median of 0.4%). It beat the policy index return of 1.1%. The Total Fund ex Overlay returned 1.4% for the quarter. The Total Fund one-year return of 4.9% lagged the policy index return of 5.3% and ranked in the 7<sup>th</sup> percentile of its peer universe. The three-year return of 7.4% (55<sup>th</sup> percentile) lagged the median large public plan (7.7%) and the policy index (8.1%).
  
- Third quarter results were enhanced by the following factors:
  1. PanAgora Defensive Equity gained 3.2% for the quarter beating the Russell 1000 return of 1.4%. Sector allocation accounted for 105 bps of the outperformance, led by an overweight to utilities.
  2. Acadian US Managed Volatility beat the Russell 1000 (2.8% vs 1.4%). Security selection in the consumer discretionary sector contributed to relative performance.
  3. QMA US Small Cap lost -0.9% beating the Russell 2000 (-2.4%). Security selection primarily within information technology, health care and industrials contributed to the strategy's outperformance.
  
- Third quarter results were hindered by the following factors:
  1. Franklin Templeton trailed the Bloomberg Barclays Multiverse (-3.4% vs. 0.6%). The fund's interest rate strategy detracted from relative performance while currency positions had a positive effect.
  2. Brigade capital lost -0.4% underperforming the Bloomberg Barclays HY Index (1.8%), the main detractors from relative performance were distressed positions (-0.6%).

Total Fund  
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

|  | 3 Mo (%) | Rank * | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|--|----------|--------|---------|------|----------|------|-----------|------|-----------|------|-----------|------|------------|------|
| <b>Total Fund**</b>                              | 1.5      | 2      | 11.9    | 29   | 4.9      | 7    | 5.2       | 61   | 7.4       | 55   | 6.4       | 40   | 8.2        | 35   |
| <i>Policy Index<sup>1</sup></i>                  | 1.1      | 8      | 11.9    | 30   | 5.3      | 3    | 5.9       | 29   | 8.1       | 38   | 6.7       | 31   | 8.6        | 20   |
| <i>InvMetrics Public DB &gt; \$1B Net Median</i> | 0.4      |        | 10.9    |      | 3.2      |      | 5.4       |      | 7.7       |      | 6.1       |      | 7.9        |      |
| <b>Total Fund ex Overlay</b>                     | 1.4      | 3      | 11.5    | 43   | 4.5      | 15   | 4.9       | 67   | 7.2       | 66   | 6.2       | 45   | 8.1        | 37   |
| <i>Policy Index<sup>1</sup></i>                  | 1.1      | 8      | 11.9    | 30   | 5.3      | 3    | 5.9       | 29   | 8.1       | 38   | 6.7       | 31   | 8.6        | 20   |
| <i>InvMetrics Public DB &gt; \$1B Net Median</i> | 0.4      |        | 10.9    |      | 3.2      |      | 5.4       |      | 7.7       |      | 6.1       |      | 7.9        |      |
| <b>Public Equity</b>                             | 0.5      | 27     | 16.6    | 53   | 1.3      | 48   | 5.4       | 71   | 9.7       | 69   | 7.4       | 61   | 9.6        | 64   |
| <i>Blended Public Equity Index<sup>1</sup></i>   | 0.4      | 32     | 16.6    | 53   | 1.4      | 47   | 5.7       | 67   | 10.1      | 50   | 7.6       | 58   | 10.0       | 57   |
| <i>InvMetrics All DB Total Eq Net Median</i>     | 0.1      |        | 16.9    |      | 1.1      |      | 6.1       |      | 10.1      |      | 7.7       |      | 10.2       |      |
| <b>US Equity</b>                                 | 1.7      | 12     | 19.7    | 53   | 2.2      | 47   | 9.4       | 42   | 12.5      | 37   | 10.1      | 40   | 12.6       | 42   |
| <i>Blended US Equity Index<sup>1</sup></i>       | 1.2      | 31     | 20.1    | 36   | 2.9      | 34   | 10.0      | 25   | 12.8      | 26   | 10.5      | 21   | 13.0       | 18   |
| <i>Russell 3000</i>                              | 1.2      | 31     | 20.1    | 36   | 2.9      | 34   | 10.0      | 25   | 12.8      | 26   | 10.4      | 23   | 13.1       | 16   |
| <i>InvMetrics All DB US Eq Net Median</i>        | 0.9      |        | 19.8    |      | 2.0      |      | 9.2       |      | 12.2      |      | 9.9       |      | 12.4       |      |
| <b>Large Cap Equity</b>                          | 1.9      | 35     | 20.5    | 38   | 4.4      | 35   | 10.9      | 35   | 14.0      | 29   | 11.2      | 25   | 13.0       | 34   |
| <i>Russell 1000</i>                              | 1.4      | 45     | 20.5    | 38   | 3.9      | 39   | 10.6      | 37   | 13.2      | 36   | 10.6      | 32   | 13.2       | 30   |
| <i>eV US Large Cap Equity Net Median</i>         | 1.3      |        | 19.3    |      | 2.6      |      | 9.3       |      | 12.0      |      | 9.4       |      | 12.3       |      |
| <i>Acadian US MGD V***</i>                       | 2.8      | 24     | 19.1    | 55   | --       | --   | --        | --   | --        | --   | --        | --   | --         | --   |
| <i>BlackRock Russell 1000</i>                    | 1.4      | 58     | 20.5    | 39   | 3.9      | 44   | 10.6      | 35   | --        | --   | --        | --   | --         | --   |
| <i>DE Shaw</i>                                   | 1.4      | 58     | 17.2    | 71   | 0.7      | 73   | 9.0       | 52   | 13.0      | 31   | 11.3      | 15   | 13.6       | 13   |
| <i>PanAgora Defuseq***</i>                       | 3.2      | 20     | 25.2    | 5    | --       | --   | --        | --   | --        | --   | --        | --   | --         | --   |
| <i>Russell 1000</i>                              | 1.4      | 59     | 20.5    | 39   | 3.9      | 45   | 10.6      | 35   | 13.2      | 29   | 10.6      | 26   | 13.2       | 21   |
| <i>eV US Large Cap Core Equity Net Median</i>    | 1.7      |        | 19.6    |      | 3.3      |      | 9.3       |      | 12.1      |      | 9.7       |      | 12.5       |      |

\* Total Fund and asset class aggregates are ranked in InvMetrics universes. Managers are ranked in eVest (eA) manager universes.

\*\* Includes Parametric Minneapolis manager funded in August 2013.

\*\*\*Funded December 2018.

1. See Appendix for Benchmark History.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

|   | 3 Mo (%)    | Rank      | YTD (%)     | Rank      | 1 Yr (%)     | Rank      | 2 Yrs (%)   | Rank      | 3 Yrs (%)  | Rank      | 5 Yrs (%)  | Rank      | 10 Yrs (%)  | Rank      |
|---|-------------|-----------|-------------|-----------|--------------|-----------|-------------|-----------|------------|-----------|------------|-----------|-------------|-----------|
| <b>Small Cap Equity</b>                               | <b>-0.9</b> | <b>39</b> | <b>11.7</b> | <b>80</b> | <b>-11.3</b> | <b>78</b> | <b>-0.2</b> | <b>72</b> | <b>6.6</b> | <b>64</b> | <b>5.3</b> | <b>83</b> | <b>10.5</b> | <b>72</b> |
| <i>Russell 2000</i>                                   | -2.4        | 60        | 14.2        | 60        | -8.9         | 61        | 2.5         | 52        | 8.2        | 48        | 8.2        | 46        | 11.2        | 54        |
| <i>eV US Small Cap Equity Net Median</i>              | -1.7        |           | 15.5        |           | -7.5         |           | 2.6         |           | 8.1        |           | 8.0        |           | 11.5        |           |
| <b>QMA US Small Cap</b>                               | <b>-0.9</b> | <b>39</b> | <b>11.7</b> | <b>74</b> | <b>-11.3</b> | <b>77</b> | <b>-0.2</b> | <b>71</b> | <b>6.6</b> | <b>74</b> | <b>--</b>  | <b>--</b> | <b>--</b>   | <b>--</b> |
| <i>Russell 2000</i>                                   | -2.4        | 72        | 14.2        | 54        | -8.9         | 59        | 2.5         | 51        | 8.2        | 47        | 8.2        | 52        | 11.2        | 59        |
| <i>eV US Small Cap Core Equity Net Median</i>         | -1.4        |           | 15.0        |           | -8.0         |           | 2.5         |           | 8.1        |           | 8.3        |           | 11.6        |           |
| <b>International Equity</b>                           | <b>-0.8</b> | <b>11</b> | <b>13.2</b> | <b>23</b> | <b>0.3</b>   | <b>19</b> | <b>1.0</b>  | <b>20</b> | <b>6.1</b> | <b>41</b> | <b>3.7</b> | <b>27</b> | <b>4.5</b>  | <b>65</b> |
| <i>Blended International Equity Index<sup>1</sup></i> | -0.6        | 7         | 12.7        | 31        | -0.5         | 24        | 0.6         | 24        | 6.7        | 22        | 3.6        | 30        | 5.0         | 41        |
| <i>MSCI EAFE Gross</i>                                | -1.0        | 14        | 13.3        | 23        | -0.8         | 30        | 1.2         | 16        | 7.0        | 17        | 3.8        | 26        | 5.4         | 25        |
| <i>InvMetrics All DB ex-US Eq Net Median</i>          | -1.8        |           | 11.8        |           | -1.8         |           | -0.6        |           | 6.0        |           | 3.0        |           | 4.8         |           |
| <b>Developed Markets</b>                              | <b>-1.6</b> | <b>47</b> | <b>13.0</b> | <b>51</b> | <b>-0.8</b>  | <b>42</b> | <b>0.7</b>  | <b>49</b> | <b>5.9</b> | <b>62</b> | <b>3.9</b> | <b>49</b> | <b>4.7</b>  | <b>68</b> |
| <i>MSCI ACWI ex USA Gross</i>                         | -1.7        | 54        | 12.1        | 56        | -0.7         | 42        | 0.8         | 48        | 6.8        | 37        | 3.4        | 60        | 4.9         | 57        |
| <i>InvMetrics All DB Dev Mkt ex-US Eq Net Median</i>  | -1.7        |           | 13.1        |           | -1.9         |           | 0.5         |           | 6.4        |           | 3.8        |           | 5.2         |           |
| <b>Baillie Gifford</b>                                | <b>-1.0</b> | <b>27</b> | <b>18.7</b> | <b>35</b> | <b>0.6</b>   | <b>37</b> | <b>1.8</b>  | <b>54</b> | <b>6.5</b> | <b>73</b> | <b>5.6</b> | <b>55</b> | <b>--</b>   | <b>--</b> |
| <i>MSCI ACWI ex US</i>                                | -1.7        | 47        | 12.1        | 92        | -0.7         | 49        | 0.8         | 72        | 6.8        | 67        | 3.4        | 97        | --          | --        |
| <i>MSCI ACWI ex US Growth</i>                         | -0.8        | 22        | 16.6        | 60        | 2.4          | 25        | 2.9         | 42        | 7.8        | 52        | 5.3        | 61        | --          | --        |
| <i>eV ACWI ex-US Growth Equity Net Median</i>         | -1.8        |           | 17.7        |           | -0.9         |           | 2.3         |           | 7.9        |           | 5.9        |           | 7.4         |           |
| <b>BlackRock EAFE Index</b>                           | <b>-1.0</b> | <b>38</b> | <b>13.2</b> | <b>37</b> | <b>-1.0</b>  | <b>21</b> | <b>1.0</b>  | <b>28</b> | <b>6.9</b> | <b>30</b> | <b>3.6</b> | <b>58</b> | <b>--</b>   | <b>--</b> |
| <i>MSCI EAFE</i>                                      | -1.1        | 38        | 12.8        | 40        | -1.3         | 24        | 0.7         | 30        | 6.5        | 35        | 3.3        | 65        | 4.9         | 83        |
| <i>MSCI EAFE Gross</i>                                | -1.0        | 36        | 13.3        | 34        | -0.8         | 20        | 1.2         | 28        | 7.0        | 27        | 3.8        | 55        | 5.4         | 71        |
| <i>eV EAFE Core Equity Net Median</i>                 | -1.4        |           | 12.0        |           | -4.5         |           | -0.9        |           | 5.7        |           | 3.9        |           | 6.5         |           |
| <b>Mondrian</b>                                       | <b>-2.8</b> | <b>67</b> | <b>7.6</b>  | <b>49</b> | <b>-2.0</b>  | <b>21</b> | <b>-0.8</b> | <b>17</b> | <b>4.8</b> | <b>42</b> | <b>2.0</b> | <b>43</b> | <b>4.3</b>  | <b>55</b> |
| <i>MSCI ACWI ex USA Value Gross</i>                   | -2.7        | 65        | 7.5         | 49        | -3.9         | 30        | -1.5        | 36        | 5.9        | 30        | 1.5        | 56        | 3.6         | 67        |
| <i>MSCI ACWI ex USA Gross</i>                         | -1.7        | 39        | 12.1        | 22        | -0.7         | 19        | 0.8         | 10        | 6.8        | 17        | 3.4        | 20        | 4.9         | 40        |
| <i>eV ACWI ex-US Value Equity Net Median</i>          | -2.1        |           | 7.5         |           | -5.4         |           | -2.4        |           | 4.5        |           | 1.6        |           | 4.5         |           |

1. See Appendix for Benchmark History.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

|  | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|--|----------|------|---------|------|----------|------|-----------|------|-----------|------|-----------|------|------------|------|
| <b>Emerging Markets</b>                    | -4.3     | 57   | 5.1     | 67   | -1.0     | 47   | -2.4      | 50   | 4.2       | 62   | 0.2       | 85   | --         | --   |
| MSCI Emerging Markets Gross                | -4.1     | 52   | 6.2     | 49   | -1.6     | 59   | -1.0      | 24   | 6.4       | 21   | 2.7       | 17   | 3.7        | 24   |
| InvMetrics All DB Emg Mkt Eq Net Median    | -4.0     |      | 6.2     |      | -1.2     |      | -2.4      |      | 4.9       |      | 1.4       |      | 2.8        |      |
| <b>Parametric Core</b>                     | -4.3     | 62   | 5.1     | 73   | -1.0     | 55   | -2.4      | 59   | 4.2       | 73   | --        | --   | --         | --   |
| MSCI Emerging Markets Gross                | -4.1     | 57   | 6.2     | 65   | -1.6     | 61   | -1.0      | 42   | 6.4       | 38   | 2.7       | 46   | 3.7        | 63   |
| eV Emg Mkts Equity Net Median              | -3.8     |      | 7.7     |      | -0.6     |      | -1.5      |      | 5.7       |      | 2.5       |      | 4.0        |      |
| Parametric Currency Overlay*               | 31.3     | --   | 45.2    | --   | 63.4     | --   | --        | --   | --        | --   | --        | --   | --         | --   |
| <b>Fixed Income</b>                        | 1.1      | 81   | 6.9     | 67   | 7.2      | 75   | 3.8       | 54   | 4.5       | 21   | 3.9       | 29   | 5.5        | 19   |
| Blended Fixed Income Index <sup>1</sup>    | 2.1      | 30   | 9.7     | 25   | 9.9      | 27   | 4.6       | 27   | 3.7       | 43   | 3.9       | 29   | 4.1        | 69   |
| InvMetrics All DB Total Fix Inc Net Median | 1.6      |      | 7.9     |      | 8.1      |      | 3.9       |      | 3.5       |      | 3.3       |      | 4.4        |      |
| <b>Core Fixed</b>                          | 1.6      | --   | 7.1     | --   | 8.5      | --   | 3.5       | --   | 3.2       | --   | 3.5       | --   | 4.8        | --   |
| BBgBarc US Aggregate TR                    | 2.3      | --   | 8.5     | --   | 10.3     | --   | 4.4       | --   | 2.9       | --   | 3.4       | --   | 3.7        | --   |
| <b>BlackRock Intermediate Govt</b>         | 1.2      | 72   | 5.3     | 77   | 7.6      | 69   | 3.2       | 58   | --        | --   | --        | --   | --         | --   |
| BBgBarc US Govt Int TR                     | 1.2      | 74   | 5.2     | 79   | 7.5      | 71   | 3.1       | 69   | 1.8       | 76   | 2.2       | 77   | 2.3        | 80   |
| eV US Government Fixed Inc Net Median      | 2.0      |      | 6.8     |      | 9.2      |      | 3.7       |      | 2.3       |      | 2.8       |      | 2.9        |      |
| <b>FIAM Bond</b>                           | 2.2      | 75   | 9.0     | 42   | 10.2     | 56   | 4.5       | 40   | 3.3       | 31   | 3.8       | 22   | 4.6        | 19   |
| BBgBarc US Aggregate TR                    | 2.3      | 55   | 8.5     | 73   | 10.3     | 49   | 4.4       | 54   | 2.9       | 66   | 3.4       | 63   | 3.7        | 73   |
| <b>Western TRU</b>                         | 0.9      | 99   | 6.1     | 98   | 6.9      | 99   | 2.1       | 99   | 4.1       | 5    | --        | --   | --         | --   |
| 3-Month Libor Total Return USD             | 0.6      | 99   | 1.9     | 99   | 2.6      | 99   | 2.3       | 99   | 1.9       | 98   | 1.3       | 99   | 0.8        | 99   |
| BBgBarc US Aggregate TR                    | 2.3      | 55   | 8.5     | 73   | 10.3     | 49   | 4.4       | 54   | 2.9       | 66   | 3.4       | 63   | 3.7        | 73   |
| eV US Core Fixed Inc Net Median            | 2.3      |      | 8.9     |      | 10.3     |      | 4.4       |      | 3.1       |      | 3.5       |      | 4.0        |      |
| <b>Opportunistic Credit</b>                | 0.2      | --   | 6.8     | --   | 4.7      | --   | 4.5       | --   | 6.5       | --   | 5.6       | --   | --         | --   |
| BBgBarc BA Intermediate HY <sup>1</sup>    | 1.8      | --   | 12.1    | --   | 9.1      | --   | 4.9       | --   | 5.5       | --   | 5.5       | --   | --         | --   |
| Angelo Gordon Opportunistic**              | 3.3      | --   | 9.8     | --   | 10.2     | --   | 20.4      | --   | 17.0      | --   | 11.0      | --   | --         | --   |
| Angelo Gordon STAR**                       | -0.9     | --   | 10.3    | --   | 12.9     | --   | 17.5      | --   | 17.5      | --   | 12.6      | --   | --         | --   |
| BBgBarc US Aggregate TR                    | 2.3      | --   | 8.5     | --   | 10.3     | --   | 4.4       | --   | 2.9       | --   | 3.4       | --   | 3.7        | --   |

\* Funded September 2018.

\*\* Preliminary return as of 09/30/2019.

1. See Appendix for Benchmark History.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

|   | 3 Mo (%)   | Rank      | YTD (%)    | Rank      | 1 Yr (%)   | Rank      | 2 Yrs (%)  | Rank      | 3 Yrs (%)  | Rank      | 5 Yrs (%) | Rank      | 10 Yrs (%) | Rank      |
|---|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|-----------|-----------|------------|-----------|
| Beach Point Select                      | 1.5        | 40        | 9.3        | 72        | 4.9        | 72        | 5.9        | 4         | 7.4        | 2         | --        | --        | --         | --        |
| BBgBarc BA Intermediate HY <sup>1</sup> | 1.8        | 19        | 12.1       | 23        | 9.1        | 4         | 4.9        | 22        | 5.5        | 54        | 5.5       | 15        | --         | --        |
| eV US High Yield Fixed Inc Net Median   | 1.3        |           | 11.0       |           | 6.0        |           | 4.3        |           | 5.6        |           | 4.7       |           | 7.4        |           |
| Brigade Capital                         | -0.4       | 96        | 5.7        | 95        | -0.1       | 98        | 2.5        | 97        | 4.9        | 80        | 3.7       | 91        | --         | --        |
| BBgBarc BA Intermediate HY <sup>1</sup> | 1.8        | 19        | 12.1       | 23        | 9.1        | 4         | 4.9        | 22        | 5.5        | 54        | 5.5       | 15        | --         | --        |
| 50% Barclays HY/ 50% Bank Loan          | 1.1        | 65        | 8.9        | 76        | 4.7        | 73        | 4.5        | 44        | 5.4        | 63        | 4.8       | 50        | --         | --        |
| eV US High Yield Fixed Inc Net Median   | 1.3        |           | 11.0       |           | 6.0        |           | 4.3        |           | 5.6        |           | 4.7       |           | 7.4        |           |
| PIMCO Diversified                       | 1.2        | 58        | 10.9       | 51        | 9.5        | 2         | 5.2        | 11        | --         | --        | --        | --        | --         | --        |
| Blended PIMCO Diversified Index         | 1.9        | 14        | 11.8       | 31        | 10.1       | 1         | 4.9        | 22        | 4.9        | 82        | 5.2       | 31        | 6.6        | 87        |
| BBgBarc BA Intermediate HY              | 1.8        | 19        | 12.1       | 23        | 9.1        | 4         | 4.9        | 22        | 5.5        | 54        | 5.5       | 15        | --         | --        |
| eV US High Yield Fixed Inc Net Median   | 1.3        |           | 11.0       |           | 6.0        |           | 4.3        |           | 5.6        |           | 4.7       |           | 7.4        |           |
| Franklin Templeton                      | -3.4       | 98        | -0.3       | 99        | 1.8        | 92        | -0.8       | 96        | 3.4        | 57        | 1.0       | 91        | --         | --        |
| BBgBarc Multiverse TR                   | 0.6        | 65        | 6.5        | 70        | 7.5        | 40        | 3.0        | 64        | 1.8        | 77        | 2.1       | 70        | 2.5        | 85        |
| eV All Global Fixed Inc Net Median      | 1.2        |           | 8.2        |           | 6.9        |           | 3.5        |           | 3.7        |           | 3.1       |           | 4.1        |           |
| <b>Private Credit</b>                   | <b>0.6</b> | <b>--</b> | <b>4.5</b> | <b>--</b> | <b>5.9</b> | <b>--</b> | <b>7.0</b> | <b>--</b> | <b>6.6</b> | <b>--</b> | <b>--</b> | <b>--</b> | <b>--</b>  | <b>--</b> |
| Cliffwater Direct Lending Index**       | 2.3        | --        | 7.5        | --        | 8.4        | --        | 8.8        | --        | 9.0        | --        | 8.4       | --        | 10.6       | --        |
| PIMCO Private Income***                 | 0.0        | 92        | --         | --        | --         | --        | --         | --        | --         | --        | --        | --        | --         | --        |
| BBgBarc BA Intermediate HY              | 1.8        | 19        | 12.1       | 23        | 9.1        | 4         | 4.9        | 22        | 5.5        | 54        | 5.5       | 15        | --         | --        |
| Cliffwater Direct Lending Index         | 2.3        | 7         | 7.5        | 84        | 8.4        | 8         | 8.8        | 1         | 9.0        | 1         | 8.4       | 1         | 10.6       | 1         |
| eV US High Yield Fixed Inc Net Median   | 1.3        |           | 11.0       |           | 6.0        |           | 4.3        |           | 5.6        |           | 4.7       |           | 7.4        |           |
| TCP Direct Lending VIII**               | 1.6        | 38        | 5.7        | 95        | 7.5        | 22        | 7.1        | 1         | 6.9        | 4         | --        | --        | --         | --        |
| White Oak Yield**                       | 0.0        | 92        | 3.9        | 98        | 4.8        | 73        | 7.0        | 1         | --         | --        | --        | --        | --         | --        |
| Cliffwater Direct Lending Index         | 2.3        | 7         | 7.5        | 84        | 8.4        | 8         | 8.8        | 1         | 9.0        | 1         | 8.4       | 1         | 10.6       | 1         |
| eV US High Yield Fixed Inc Net Median   | 1.3        |           | 11.0       |           | 6.0        |           | 4.3        |           | 5.6        |           | 4.7       |           | 7.4        |           |

\* Funded April 2019.

\*\* Preliminary return as of 09/30/2019.

1. See Appendix for Benchmark History.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

|   | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|---|----------|------|---------|------|----------|------|-----------|------|-----------|------|-----------|------|------------|------|
| <b>Risk Parity</b>                                  | 2.7      | --   | 20.6    | --   | 14.9     | --   | 8.2       | --   | 7.3       | --   | 6.4       | --   | --         | --   |
| <i>Blended Risk Parity Index<sup>1</sup></i>        | 1.4      | --   | 14.2    | --   | 5.7      | --   | 6.4       | --   | 8.1       | --   | 7.3       | --   | --         | --   |
| AQR GRP, 10% Volatility                             | 1.2      | --   | 18.9    | --   | 12.4     | --   | 7.8       | --   | 7.9       | --   | 4.8       | --   | --         | --   |
| PanAgora  | 4.2      | --   | 22.4    | --   | 17.4     | --   | 8.7       | --   | 6.8       | --   | 7.8       | --   | --         | --   |
| <i>Blended Risk Parity Index<sup>1</sup></i>        | 1.4      | --   | 14.2    | --   | 5.7      | --   | 6.4       | --   | 8.1       | --   | 7.3       | --   | --         | --   |
| S&P Risk Parity 10% Target Volatility Index TR USD  | 2.4      | --   | 15.4    | --   | 10.3     | --   | 7.0       | --   | 6.2       | --   | 4.4       | --   | 6.2        | --   |
| <b>Alternatives</b>                                 | 8.5      | --   | 10.4    | --   | 11.3     | --   | 7.1       | --   | 8.7       | --   | 7.9       | --   | --         | --   |
| <i>Blended Alternatives Index<sup>1</sup></i>       | 2.9      | --   | 4.6     | --   | 9.6      | --   | 9.4       | --   | 10.9      | --   | 7.6       | --   | --         | --   |
| <b>Private Equity<sup>**</sup></b>                  | 15.9     | 1    | 21.2    | 5    | 26.9     | 3    | 20.3      | 9    | 19.4      | 11   | 18.9      | 5    | --         | --   |
| <i>Blended Private Equity Index<sup>1</sup></i>     | 4.1      | 15   | 3.5     | 77   | 12.0     | 27   | 11.9      | 48   | 15.1      | 30   | 13.0      | 27   | 15.9       | 9    |
| <i>InvMetrics All DB Private Eq Net Median</i>      | 1.5      |      | 5.8     |      | 8.1      |      | 11.4      |      | 12.4      |      | 10.8      |      | 12.2       |      |
| <b>Hedge Fund/Absolute Return</b>                   | 0.0      | 50   | -1.5    | 93   | -4.9     | 90   | -6.0      | 97   | -2.2      | 93   | 1.5       | 65   | --         | --   |
| <i>Libor 1 month +4%</i>                            | 1.5      | 15   | 4.7     | 57   | 6.4      | 1    | 6.1       | 4    | 5.7       | 18   | 5.2       | 7    | --         | --   |
| <i>InvMetrics All DB Hedge Funds Net Median</i>     | 0.0      |      | 5.4     |      | 0.2      |      | 2.3       |      | 3.6       |      | 2.4       |      | 4.2        |      |
| AQR DELTA XN  | -1.2     | 78   | -7.4    | 95   | -11.4    | 92   | -10.8     | 94   | -5.3      | 93   | -0.3      | 87   | --         | --   |
| Aberdeen Standard GARS                              | 1.6      | 36   | 7.8     | 37   | 5.4      | 32   | 1.8       | 65   | 2.4       | 67   | --        | --   | --         | --   |
| <i>Libor 1 month +4%</i>                            | 1.5      | 37   | 4.7     | 60   | 6.4      | 25   | 6.1       | 28   | 5.7       | 42   | 5.2       | 41   | --         | --   |
| <i>eV Alt All Multi-Strategy Median</i>             | 0.8      |      | 6.3     |      | 2.5      |      | 3.1       |      | 4.5       |      | 4.3       |      | 5.7        |      |
| <b>Inflation Hedge</b>                              | -0.4     | --   | 5.2     | --   | 1.6      | --   | 3.2       | --   | 4.4       | --   | --        | --   | --         | --   |
| <i>Blended Inflation Hedge Index<sup>1</sup></i>    | 0.3      | --   | 6.7     | --   | 4.1      | --   | 4.5       | --   | 5.3       | --   | --        | --   | --         | --   |
| <b>Real Estate</b>                                  | 1.8      | 31   | 4.3     | 55   | 6.5      | 33   | 7.6       | 24   | 7.7       | 20   | 9.6       | 15   | 10.6       | 15   |
| NCREIF ODCE   | 1.3      | 58   | 3.8     | 65   | 5.6      | 58   | 7.1       | 44   | 7.3       | 35   | 9.3       | 21   | 10.9       | 8    |
| <i>InvMetrics All DB Real Estate Pub Net Median</i> | 1.4      |      | 4.5     |      | 5.9      |      | 6.9       |      | 6.7       |      | 8.2       |      | 9.3        |      |
| Invesco   | 1.9      | --   | 3.9     | --   | 6.1      | --   | 7.6       | --   | 7.7       | --   | 9.5       | --   | 10.5       | --   |
| NCREIF ODCE   | 1.3      | --   | 3.8     | --   | 5.6      | --   | 7.1       | --   | 7.3       | --   | 9.3       | --   | 10.9       | --   |

\* Excludes EnCap Energy Capital Fund and Sheridan Production Partners.

\*\* Returns are one-quarter lag.

1. See Appendix for Benchmark History.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

|  | 3 Mo (%)    | Rank      | YTD (%)      | Rank      | 1 Yr (%)    | Rank      | 2 Yrs (%)   | Rank      | 3 Yrs (%)   | Rank      | 5 Yrs (%)  | Rank      | 10 Yrs (%) | Rank      |
|--|-------------|-----------|--------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|------------|-----------|------------|-----------|
| Invesco US Val IV                                  | 1.9         | --        | 6.9          | --        | 11.2        | --        | 10.1        | --        | 10.4        | --        | --         | --        | --         | --        |
| NCREIF ODCE  | 1.3         | --        | 3.8          | --        | 5.6         | --        | 7.1         | --        | 7.3         | --        | 9.3        | --        | 10.9       | --        |
| NCREIF CEVA 1Q Lag - NET                           | 3.0         | --        | 9.1          | --        | 12.3        | --        | 12.2        | --        | 11.3        | --        | 13.0       | --        | --         | --        |
| Invesco US Val V***                                | 0.8         | --        | --           | --        | --          | --        | --          | --        | --          | --        | --         | --        | --         | --        |
| NCREIF ODCE  | 1.3         | --        | 3.8          | --        | 5.6         | --        | 7.1         | --        | 7.3         | --        | 9.3        | --        | 10.9       | --        |
| NCREIF CEVA 1Q Lag - NET                           | 3.0         | --        | 9.1          | --        | 12.3        | --        | 12.2        | --        | 11.3        | --        | 13.0       | --        | --         | --        |
| PGIM RE US Debt Fund                               | 1.6         | --        | 4.7          | --        | 6.4         | --        | 6.5         | --        | --          | --        | --         | --        | --         | --        |
| NCREIF ODCE  | 1.3         | --        | 3.8          | --        | 5.6         | --        | 7.1         | --        | 7.3         | --        | 9.3        | --        | 10.9       | --        |
| <b>Private Real Asset**</b>                        | <b>-0.8</b> | <b>--</b> | <b>-11.0</b> | <b>--</b> | <b>-7.3</b> | <b>--</b> | <b>-4.8</b> | <b>--</b> | <b>-3.3</b> | <b>--</b> | <b>4.7</b> | <b>--</b> | <b>--</b>  | <b>--</b> |
| Blended Private Real Asset Index <sup>1</sup>      | 3.7         | --        | 7.0          | --        | 6.8         | --        | 4.0         | --        | 5.6         | --        | 5.5        | --        | --         | --        |
| Blended Secondary CA Private RA Index <sup>1</sup> | -0.1        | --        | -0.1         | --        | 2.0         | --        | 6.5         | --        | 8.7         | --        | 3.8        | --        | --         | --        |
| <b>Public Real Assets</b>                          | <b>-2.9</b> | <b>--</b> | <b>10.0</b>  | <b>--</b> | <b>-2.3</b> | <b>--</b> | <b>0.2</b>  | <b>--</b> | <b>--</b>   | <b>--</b> | <b>--</b>  | <b>--</b> | <b>--</b>  | <b>--</b> |
| Blended Public Real Asset Index <sup>1</sup>       | -2.7        | --        | 9.4          | --        | -0.6        | --        | 1.3         | --        | 4.5         | --        | 4.9        | --        | --         | --        |
| Cushing MLP Alpha TR****                           | -3.9        | --        | 11.7         | --        | -8.1        | --        | --          | --        | --          | --        | --         | --        | --         | --        |
| 50% BBgBarc US TIPS/ 50% Blended PRA Index         | -0.6        | --        | 8.7          | --        | 3.4         | --        | --          | --        | --          | --        | --         | --        | --         | --        |
| Alerian MLP TR USD                                 | -5.0        | --        | 11.1         | --        | -8.1        | --        | -1.8        | --        | -2.5        | --        | -8.6       | --        | 6.3        | --        |
| SSgA Custom Real Asset                             | -2.6        | --        | 9.5          | --        | -0.5        | --        | 1.3         | --        | --          | --        | --         | --        | --         | --        |
| SSgA Custom Real Asset Index <sup>1</sup>          | -2.7        | --        | 9.4          | --        | -0.6        | --        | 1.3         | --        | 4.5         | --        | --         | --        | --         | --        |
| <b>TIPS</b>  | <b>0.6</b>  | <b>--</b> | <b>6.1</b>   | <b>--</b> | <b>5.2</b>  | <b>--</b> | <b>3.3</b>  | <b>--</b> | <b>2.4</b>  | <b>--</b> | <b>2.1</b> | <b>--</b> | <b>--</b>  | <b>--</b> |
| BBgBarc US TIPS TR                                 | 1.3         | --        | 7.6          | --        | 7.1         | --        | 3.7         | --        | 2.2         | --        | 2.4        | --        | 3.5        | --        |
| Brown Brothers Harriman                            | 0.6         | 85        | 6.1          | 73        | 5.2         | 85        | 3.3         | 63        | 2.4         | 30        | 2.1        | 60        | --         | --        |
| BBgBarc US TIPS TR                                 | 1.3         | 38        | 7.6          | 47        | 7.1         | 34        | 3.7         | 31        | 2.2         | 41        | 2.4        | 25        | 3.5        | 36        |
| eV US TIPS / Inflation Fixed Inc Net Median        | 1.2         |           | 7.5          |           | 6.5         |           | 3.5         |           | 2.2         |           | 2.3        |           | 3.3        |           |

\*\* Returns are one-quarter lag.

\*\*\* Funded February 2019.

\*\*\*\*Funded July 2018.

1. See Appendix for Benchmark History.

Total Fund  
Performance Summary (Net of Fees)

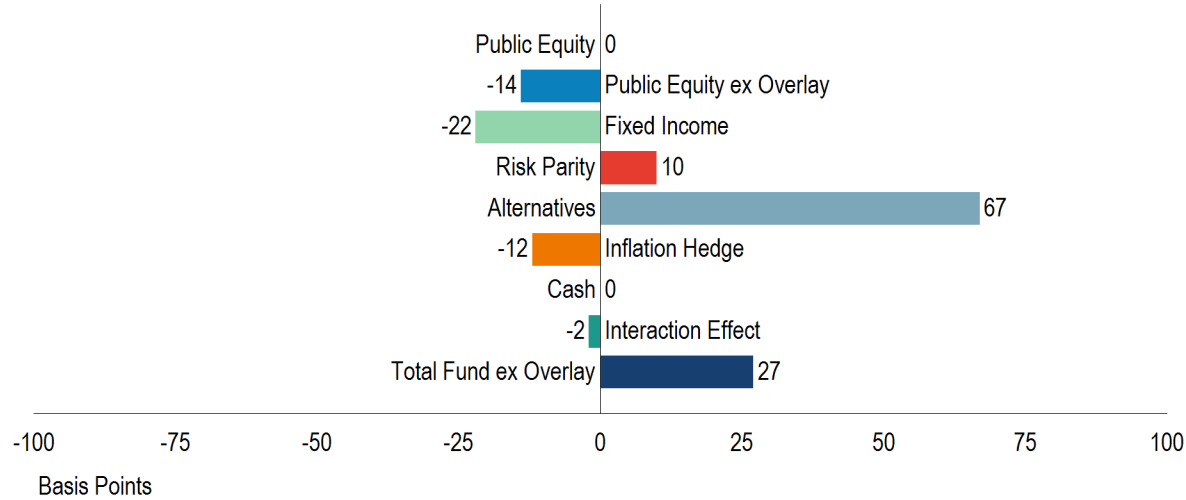
Period Ending: September 30, 2019

|                 | 3 Mo (%) | Rank | YTD (%) | Rank | 1 Yr (%) | Rank | 2 Yrs (%) | Rank | 3 Yrs (%) | Rank | 5 Yrs (%) | Rank | 10 Yrs (%) | Rank |
|-----------------|----------|------|---------|------|----------|------|-----------|------|-----------|------|-----------|------|------------|------|
| Cash            | 0.3      | --   | 0.9     | --   | 1.4      | --   | 1.2       | --   | 1.1       | --   | 1.0       | --   | 0.9        | --   |
| 91 Day T-Bills  | 0.5      | --   | 1.7     | --   | 2.3      | --   | 2.0       | --   | 1.5       | --   | 1.0       | --   | 0.5        | --   |
| General Account | 0.6      | --   | 2.6     | --   | 5.1      | --   | 4.1       | --   | 3.2       | --   | 2.5       | --   | 1.4        | --   |
| Treasury & LAIF | 0.8      | --   | 2.4     | --   | 3.1      | --   | 3.7       | --   | 2.7       | --   | 2.0       | --   | 1.4        | --   |
| 91 Day T-Bills  | 0.5      | --   | 1.7     | --   | 2.3      | --   | 2.0       | --   | 1.5       | --   | 1.0       | --   | 0.5        | --   |



Total Fund ex Overlay  
Performance Attribution

Period Ending: September 30, 2019

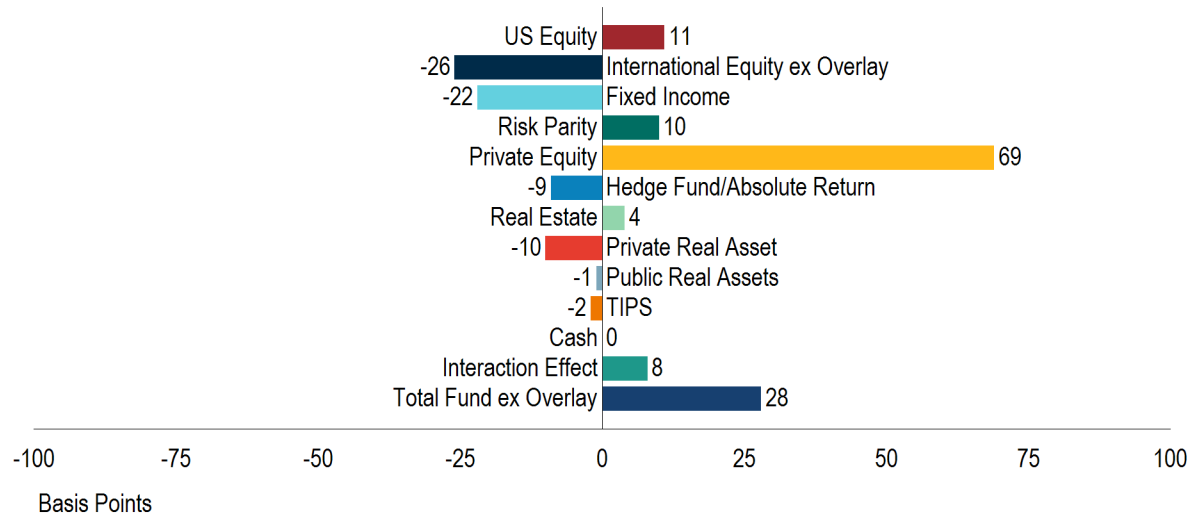


|                          | Wtd. Actual<br>Return | Wtd. Index<br>Return | Excess<br>Return | Selection<br>Effect | Allocation<br>Effect | Interaction*<br>Effects | Total<br>Effects |
|--------------------------|-----------------------|----------------------|------------------|---------------------|----------------------|-------------------------|------------------|
| Public Equity            | 0.49%                 | 0.37%                | 0.12%            | 0.00%               | 0.00%                | 0.00%                   | 0.00%            |
| Public Equity ex Overlay | 0.03%                 | 0.37%                | -0.34%           | -0.14%              | 0.01%                | 0.00%                   | -0.13%           |
| Fixed Income             | 1.09%                 | 2.13%                | -1.04%           | -0.22%              | 0.00%                | 0.00%                   | -0.23%           |
| Risk Parity              | 2.69%                 | 1.38%                | 1.31%            | 0.10%               | 0.00%                | 0.00%                   | 0.11%            |
| Alternatives             | 8.50%                 | 2.94%                | 5.55%            | 0.67%               | -0.01%               | -0.03%                  | 0.63%            |
| Inflation Hedge          | -0.36%                | 0.28%                | -0.64%           | -0.12%              | 0.00%                | 0.00%                   | -0.11%           |
| Cash                     | 0.27%                 | 0.50%                | -0.23%           | 0.00%               | -0.01%               | 0.00%                   | -0.01%           |
| <b>Total</b>             | <b>1.40%</b>          | <b>1.13%</b>         | <b>0.27%</b>     | <b>0.30%</b>        | <b>0.00%</b>         | <b>-0.02%</b>           | <b>0.27%</b>     |

Attribution does not include the impact of the Parametric Minneapolis strategy.  
\* Interaction Effects include Residual Effects.

Total Fund ex Overlay  
Performance Attribution

Period Ending: September 30, 2019

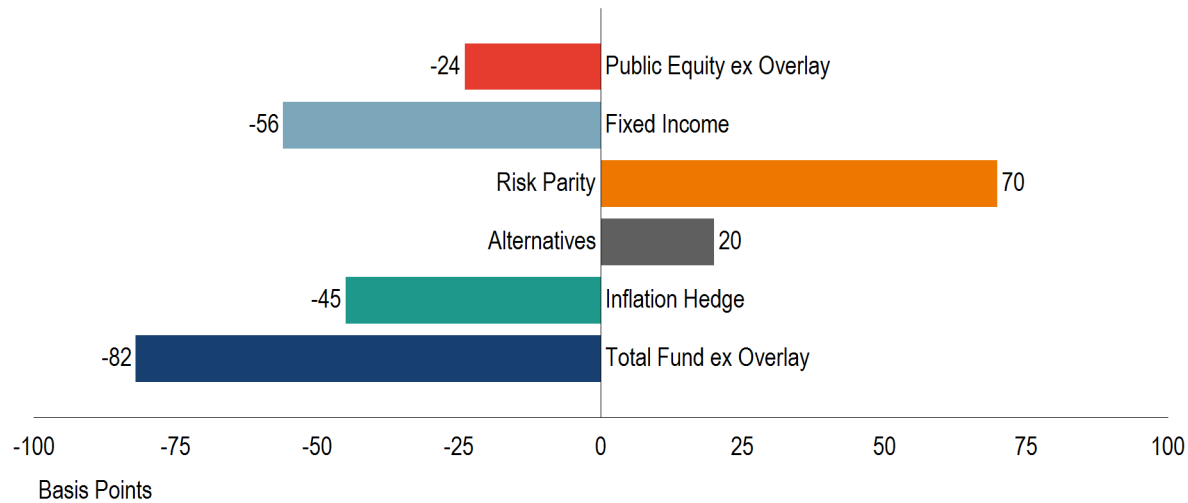


|                                 | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction* Effects | Total Effects |
|---------------------------------|--------------------|-------------------|---------------|------------------|-------------------|----------------------|---------------|
| US Equity                       | 1.68%              | 1.16%             | 0.51%         | 0.11%            | 0.00%             | 0.00%                | 0.11%         |
| International Equity ex Overlay | -1.89%             | -0.56%            | -1.34%        | -0.26%           | 0.01%             | 0.01%                | -0.24%        |
| Fixed Income                    | 1.09%              | 2.13%             | -1.04%        | -0.22%           | 0.00%             | 0.00%                | -0.23%        |
| Risk Parity                     | 2.69%              | 1.38%             | 1.31%         | 0.10%            | 0.00%             | 0.00%                | 0.11%         |
| Private Equity                  | 15.88%             | 4.11%             | 11.77%        | 0.69%            | 0.01%             | 0.03%                | 0.73%         |
| Hedge Fund/Absolute Return      | -0.01%             | 1.54%             | -1.55%        | -0.09%           | 0.00%             | 0.01%                | -0.08%        |
| Real Estate                     | 1.82%              | 1.31%             | 0.51%         | 0.04%            | 0.00%             | 0.00%                | 0.04%         |
| Private Real Asset              | -0.77%             | 3.71%             | -4.47%        | -0.10%           | -0.01%            | 0.02%                | -0.09%        |
| Public Real Assets              | -2.91%             | -2.66%            | -0.25%        | -0.01%           | -0.04%            | 0.00%                | -0.05%        |
| TIPS                            | 0.57%              | 1.34%             | -0.78%        | -0.02%           | 0.00%             | 0.01%                | -0.01%        |
| Cash                            | 0.27%              | 0.50%             | -0.23%        | 0.00%            | -0.01%            | 0.00%                | -0.01%        |
| <b>Total</b>                    | <b>1.42%</b>       | <b>1.13%</b>      | <b>0.28%</b>  | <b>0.25%</b>     | <b>-0.04%</b>     | <b>0.08%</b>         | <b>0.28%</b>  |

Attribution does not include the impact of the Parametric Minneapolis strategy.  
\* Interaction Effects include Residual Effects.

Total Fund ex Overlay  
Performance Attribution (1 Year)

Period Ending: September 30, 2019

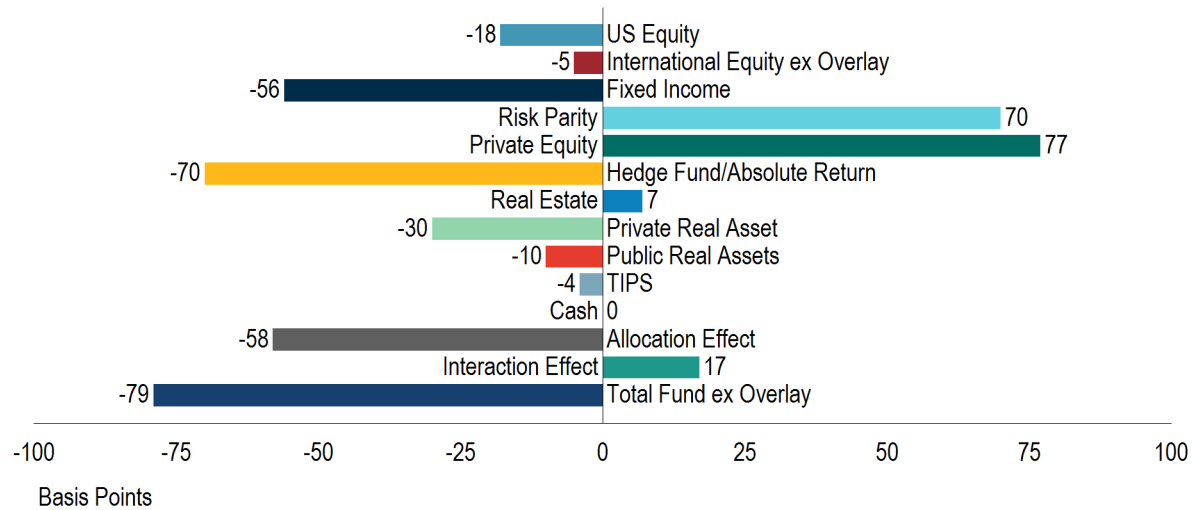


|                          | Wtd. Actual<br>Return | Wtd. Index<br>Return | Excess<br>Return | Selection<br>Effect | Allocation<br>Effect | Interaction*<br>Effects | Total<br>Effects |
|--------------------------|-----------------------|----------------------|------------------|---------------------|----------------------|-------------------------|------------------|
| Public Equity            | 1.33%                 | 1.35%                | -0.02%           | 0.00%               | 0.00%                | 0.00%                   | 0.00%            |
| Public Equity ex Overlay | 0.83%                 | 1.35%                | -0.52%           | -0.24%              | -0.20%               | 0.02%                   | -0.42%           |
| Fixed Income             | 7.23%                 | 9.94%                | -2.71%           | -0.56%              | -0.06%               | -0.02%                  | -0.64%           |
| Risk Parity              | 14.87%                | 5.66%                | 9.21%            | 0.70%               | 0.00%                | 0.00%                   | 0.70%            |
| Alternatives             | 11.31%                | 9.63%                | 1.68%            | 0.20%               | -0.08%               | -0.01%                  | 0.11%            |
| Inflation Hedge          | 1.64%                 | 4.12%                | -2.47%           | -0.45%              | 0.00%                | 0.01%                   | -0.44%           |
| Cash                     | 1.42%                 | 2.26%                | -0.84%           | 0.00%               | -0.11%               | -0.01%                  | -0.13%           |
| <b>Total</b>             | <b>4.47%</b>          | <b>5.29%</b>         | <b>-0.82%</b>    | <b>-0.34%</b>       | <b>-0.45%</b>        | <b>-0.02%</b>           | <b>-0.82%</b>    |

Attribution does not include the impact of the Parametric Minneapolis strategy.  
\* Interaction Effects include Residual Effects.

Total Fund ex Overlay  
Performance Attribution (1 Year)

Period Ending: September 30, 2019



|                                 | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction * | Total Effects |
|---------------------------------|--------------------|-------------------|---------------|------------------|-------------------|---------------|---------------|
| US Equity                       | 2.24%              | 2.92%             | -0.68%        | -0.18%           | -0.19%            | 0.01%         | -0.36%        |
| International Equity ex Overlay | -0.83%             | -0.55%            | -0.28%        | -0.05%           | -0.02%            | 0.01%         | -0.07%        |
| Fixed Income                    | 7.23%              | 9.94%             | -2.71%        | -0.56%           | -0.06%            | -0.02%        | -0.64%        |
| Risk Parity                     | 14.87%             | 5.66%             | 9.21%         | 0.70%            | 0.00%             | 0.00%         | 0.70%         |
| Private Equity                  | 26.92%             | 11.98%            | 14.94%        | 0.77%            | -0.04%            | 0.04%         | 0.78%         |
| Hedge Fund/Absolute Return      | -4.92%             | 6.42%             | -11.34%       | -0.70%           | -0.02%            | 0.07%         | -0.65%        |
| Real Estate                     | 6.46%              | 5.59%             | 0.87%         | 0.07%            | -0.03%            | 0.00%         | 0.04%         |
| Private Real Asset              | -7.30%             | 6.84%             | -14.14%       | -0.30%           | -0.02%            | 0.07%         | -0.25%        |
| Public Real Assets              | -2.33%             | -0.57%            | -1.77%        | -0.10%           | -0.07%            | -0.02%        | -0.19%        |
| TIPS                            | 5.25%              | 7.13%             | -1.88%        | -0.04%           | -0.02%            | 0.02%         | -0.03%        |
| Cash                            | 1.42%              | 2.26%             | -0.84%        | 0.00%            | -0.11%            | -0.01%        | -0.13%        |
| <b>Total</b>                    | <b>4.50%</b>       | <b>5.29%</b>      | <b>-0.79%</b> | <b>-0.38%</b>    | <b>-0.58%</b>     | <b>0.17%</b>  | <b>-0.79%</b> |

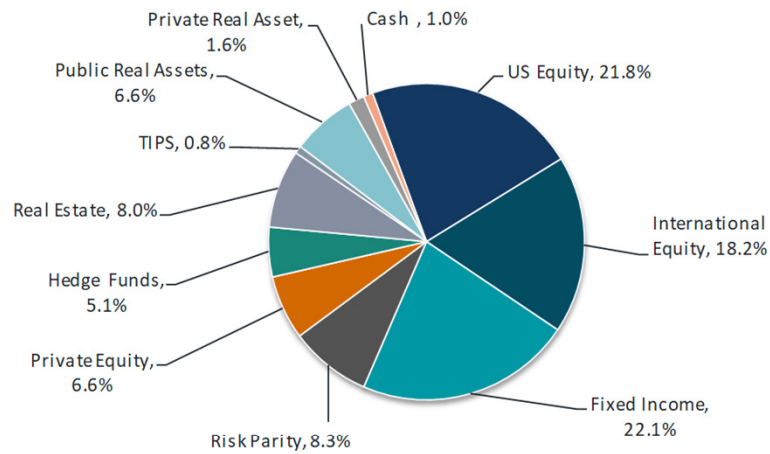
Attribution does not include the impact of the Parametric Minneapolis strategy.  
\* Interaction Effects include Residual Effects.

# Total Fund

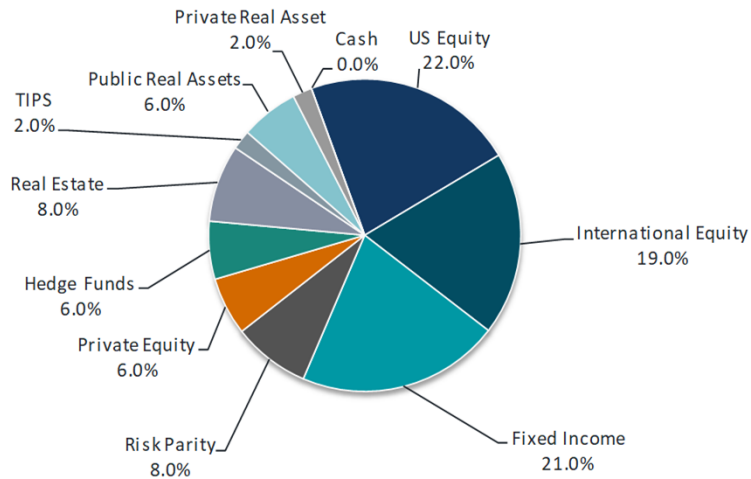
## Asset Allocation Analysis

Period Ending: September 30, 2019

**Current w/Overlay**



**Target**

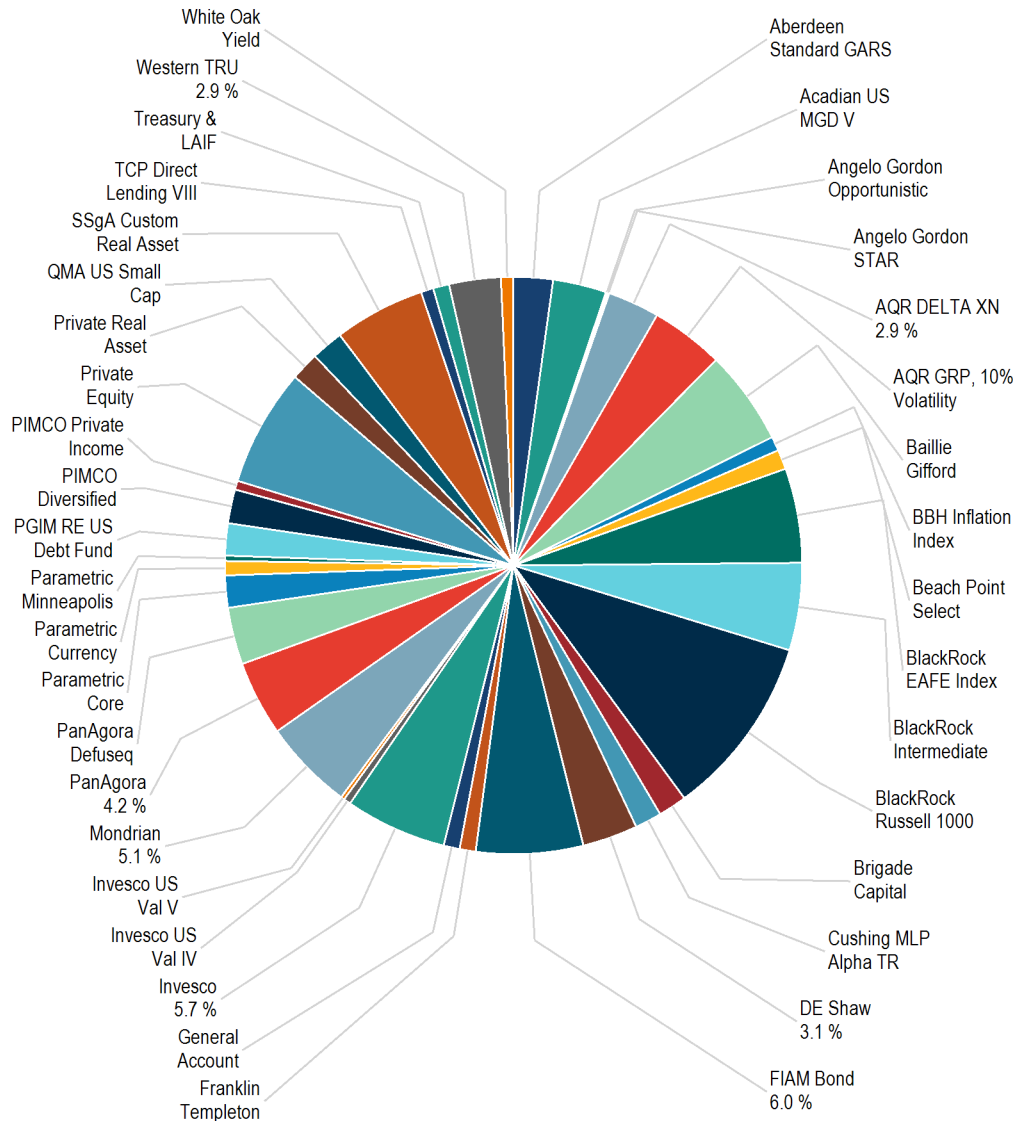


| ASSET ALLOCATION     | MARKET VALUE         |               |
|----------------------|----------------------|---------------|
|                      | W/OVERLAY            | W/O OVERLAY   |
| US Equity            | 1,044,138,176        | 21.8%         |
| International Equity | 871,573,762          | 18.2%         |
| Fixed Income         | 1,058,386,698        | 22.1%         |
| Risk Parity          | 399,513,506          | 8.3%          |
| Private Equity       | 315,113,728          | 6.6%          |
| Hedge Funds          | 242,992,968          | 5.1%          |
| Real Estate          | 384,199,102          | 8.0%          |
| TIPS                 | 37,278,220           | 0.8%          |
| Public Real Assets   | 316,558,835          | 6.6%          |
| Private Real Asset   | 77,239,837           | 1.6%          |
| Cash                 | 45,608,175           | 1.0%          |
| <b>TOTAL</b>         | <b>4,792,603,008</b> | <b>100.0%</b> |

| ASSET ALLOCATION     | W/OVERLAY     | TARGET        | DIFF        |
|----------------------|---------------|---------------|-------------|
| US Equity            | 21.8%         | 22.0%         | -0.2%       |
| International Equity | 18.2%         | 19.0%         | -0.8%       |
| Fixed Income         | 22.1%         | 21.0%         | 1.1%        |
| Risk Parity          | 8.3%          | 8.0%          | 0.3%        |
| Private Equity       | 6.6%          | 6.0%          | 0.6%        |
| Hedge Funds          | 5.1%          | 6.0%          | -0.9%       |
| Real Estate          | 8.0%          | 8.0%          | 0.0%        |
| TIPS                 | 0.8%          | 2.0%          | -1.2%       |
| Public Real Assets   | 6.6%          | 6.0%          | 0.6%        |
| Private Real Asset   | 1.6%          | 2.0%          | -0.4%       |
| Cash                 | 1.0%          | 0.0%          | 1.0%        |
| <b>TOTAL</b>         | <b>100.0%</b> | <b>100.0%</b> | <b>0.0%</b> |

# Total Fund Manager Allocation Analysis

Period Ending: September 30, 2019



|                                | Actual                 | Actual      |
|--------------------------------|------------------------|-------------|
| Aberdeen Standard GARS         | \$104,074,795          | 2%          |
| Acadian US MGD V               | \$145,139,425          | 3%          |
| Angelo Gordon Opportunistic    | \$4,913,000            | 0%          |
| Angelo Gordon STAR             | \$3,619,298            | 0%          |
| AQR DELTA XN                   | \$138,918,173          | 3%          |
| AQR GRP, 10% Volatility        | \$198,846,488          | 4%          |
| Baillie Gifford                | \$254,643,977          | 5%          |
| BBH Inflation Index            | \$37,278,215           | 1%          |
| Beach Point Select             | \$53,347,131           | 1%          |
| BlackRock EAFE Index           | \$253,027,328          | 5%          |
| BlackRock Intermediate Govt    | \$236,538,193          | 5%          |
| BlackRock Russell 1000         | \$488,761,017          | 10%         |
| Brigade Capital                | \$78,960,255           | 2%          |
| Brown Brothers Harriman        | \$5                    | 0%          |
| Cushing MLP Alpha TR           | \$71,794,624           | 1%          |
| DE Shaw                        | \$147,293,450          | 3%          |
| FIAM Bond                      | \$287,349,195          | 6%          |
| Franklin Templeton             | \$40,915,349           | 1%          |
| General Account                | \$43,725,703           | 1%          |
| Invesco                        | \$272,016,461          | 6%          |
| Invesco US Val IV              | \$19,450,833           | 0%          |
| Invesco US Val V               | \$7,457,351            | 0%          |
| Mondrian                       | \$245,632,214          | 5%          |
| PanAgora                       | \$200,667,018          | 4%          |
| PanAgora Defuseq               | \$151,591,359          | 3%          |
| Parametric Core                | \$87,371,343           | 2%          |
| Parametric Currency Overlay    | \$39,567,954           | 1%          |
| Parametric Minneapolis Overlay | \$15,689,964           | 0%          |
| PGIM RE US Debt Fund           | \$85,274,457           | 2%          |
| PIMCO Diversified              | \$88,839,498           | 2%          |
| PIMCO Private Income           | \$22,116,753           | 0%          |
| Private Equity                 | \$315,113,728          | 7%          |
| Private Real Asset             | \$77,239,837           | 2%          |
| QMA US Small Cap               | \$84,111,757           | 2%          |
| SSgA Custom Real Asset         | \$244,764,211          | 5%          |
| TCP Direct Lending VIII        | \$31,904,747           | 1%          |
| Treasury & LAIF                | \$42,380,647           | 1%          |
| Western TRU                    | \$137,965,723          | 3%          |
| White Oak Yield                | \$34,301,530           | 1%          |
| <b>Total</b>                   | <b>\$4,792,603,008</b> | <b>100%</b> |

**Statistics Summary**

**3 Years**

|  | 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                             | 7.4%         | 55                | 5.9%                     | 28                            | 1.0          | 37                | -0.6              | 80                     | 1.2%           | 66                  |
| Policy Index                           | 8.1%         | 38                | 6.0%                     | 34                            | 1.1          | 24                | --                | --                     | 0.0%           | 1                   |
| InvMetrics Public DB > \$1B Net Median | 7.7%         | --                | 6.5%                     | --                            | 0.9          | --                | 0.0               | --                     | 1.0%           | --                  |

**Statistics Summary**

**5 Years**

|  | 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                             | 6.4%         | 40                | 6.3%                     | 40                            | 0.9          | 30                | -0.3              | 66                     | 1.1%           | 54                  |
| Policy Index                           | 6.7%         | 31                | 6.6%                     | 55                            | 0.9          | 30                | --                | --                     | 0.0%           | 1                   |
| InvMetrics Public DB > \$1B Net Median | 6.1%         | --                | 6.5%                     | --                            | 0.8          | --                | 0.0               | --                     | 1.1%           | --                  |

**Statistics Summary**

**3 Years**

|                 | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-----------------|--------------|--------------------------|--------------|-------------------|----------------|
| Cash            | 1.1%         | 0.2%                     | -3.1         | -2.5              | 0.2%           |
| 91 Day T-Bills  | 1.5%         | 0.2%                     | 0.0          | --                | 0.0%           |
| General Account | 3.2%         | 1.0%                     | 1.7          | 1.8               | 0.9%           |
| 91 Day T-Bills  | 1.5%         | 0.2%                     | 0.0          | --                | 0.0%           |
| Treasury & LAIF | 2.7%         | 1.0%                     | 1.1          | 1.2               | 1.0%           |
| 91 Day T-Bills  | 1.5%         | 0.2%                     | 0.0          | --                | 0.0%           |

**Statistics Summary**

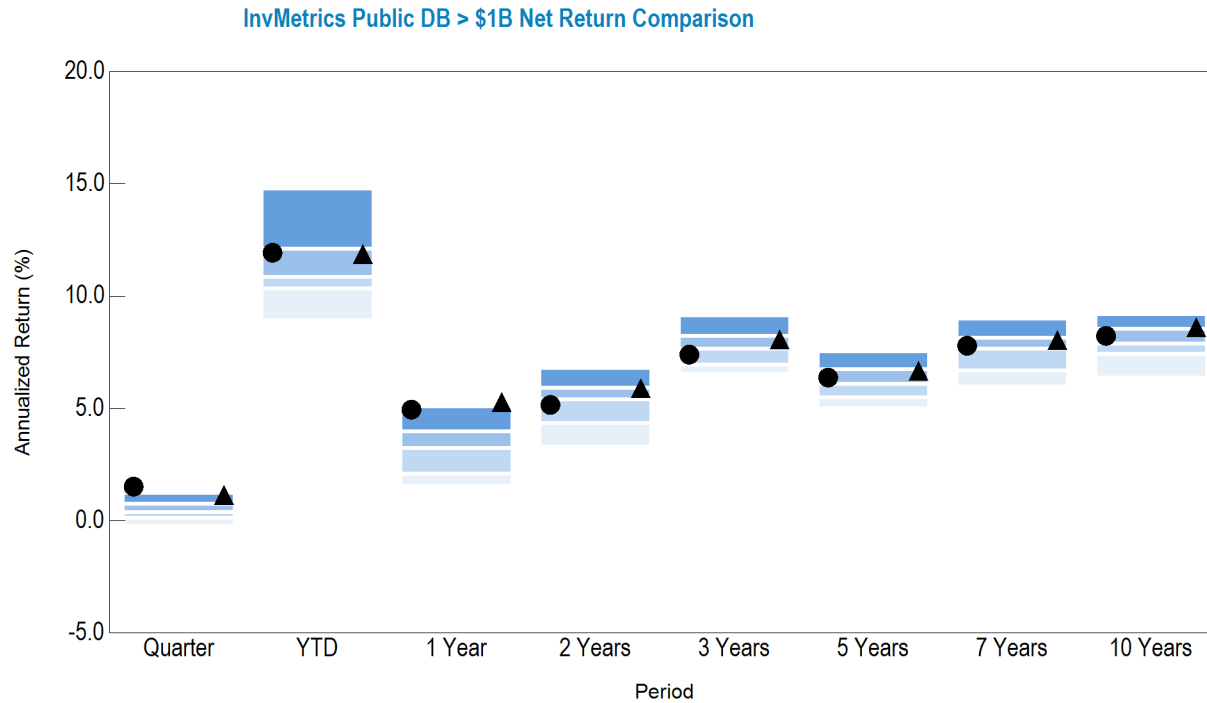
**5 Years**

|                 | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-----------------|--------------|--------------------------|--------------|-------------------|----------------|
| Cash            | 1.0%         | 0.3%                     | 0.2          | 0.2               | 0.4%           |
| 91 Day T-Bills  | 1.0%         | 0.3%                     | 0.0          | --                | 0.0%           |
| General Account | 2.5%         | 0.9%                     | 1.7          | 1.9               | 0.8%           |
| 91 Day T-Bills  | 1.0%         | 0.3%                     | 0.0          | --                | 0.0%           |
| Treasury & LAIF | 2.0%         | 0.9%                     | 1.2          | 1.3               | 0.8%           |
| 91 Day T-Bills  | 1.0%         | 0.3%                     | 0.0          | --                | 0.0%           |



Total Fund  
Peer Universe Comparison

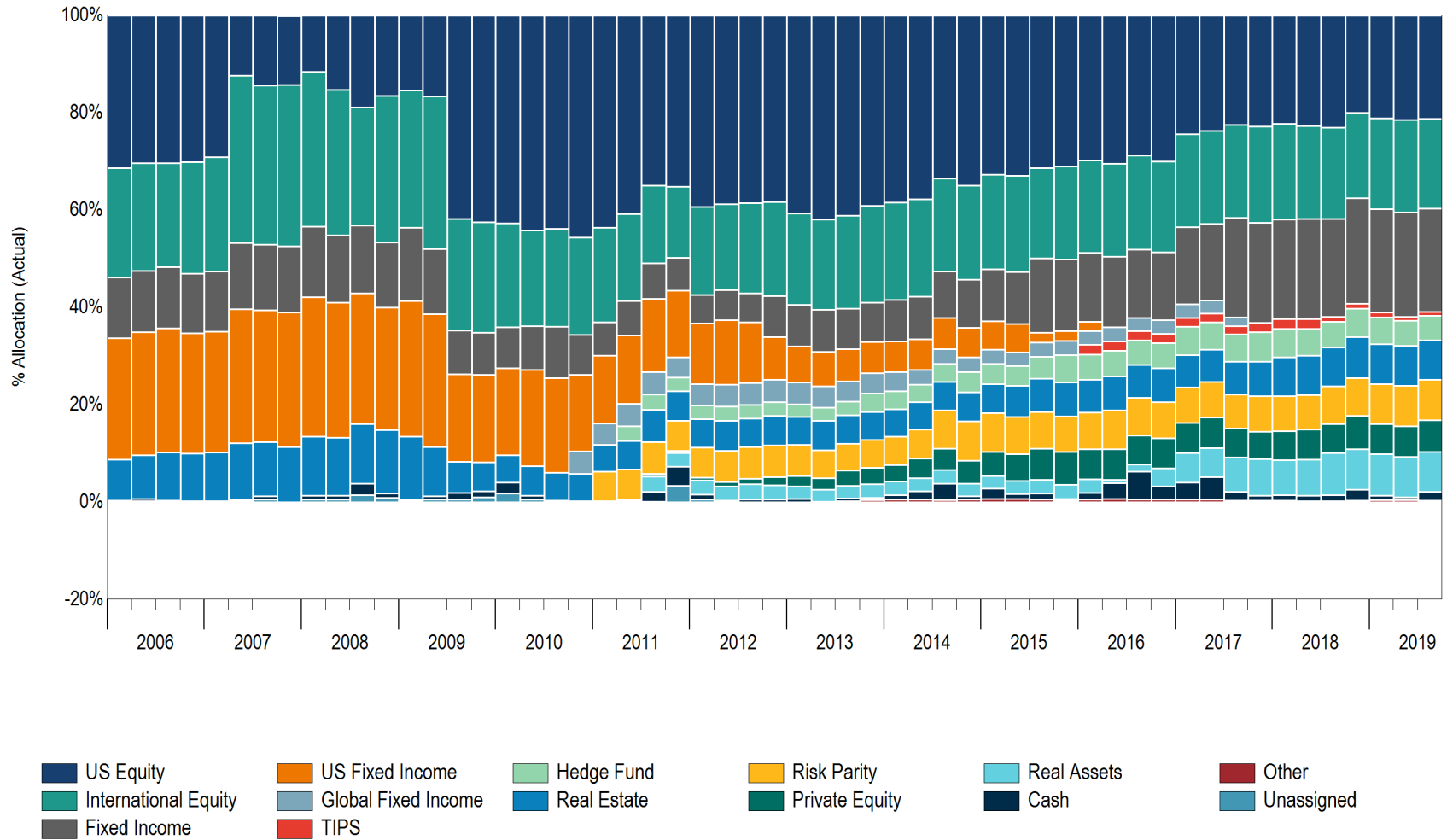
Period Ending: September 30, 2019



|                        | Return (Rank) |           |         |          |          |          |          |          |
|------------------------|---------------|-----------|---------|----------|----------|----------|----------|----------|
|                        | Quarter       | YTD       | 1 Year  | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| <b>5th Percentile</b>  | 1.2           | 14.8      | 5.1     | 6.8      | 9.1      | 7.5      | 9.0      | 9.2      |
| <b>25th Percentile</b> | 0.8           | 12.1      | 4.0     | 5.9      | 8.2      | 6.8      | 8.2      | 8.6      |
| <b>Median</b>          | 0.4           | 10.9      | 3.2     | 5.4      | 7.7      | 6.1      | 7.7      | 7.9      |
| <b>75th Percentile</b> | 0.1           | 10.3      | 2.1     | 4.4      | 7.0      | 5.5      | 6.7      | 7.5      |
| <b>95th Percentile</b> | -0.2          | 8.9       | 1.6     | 3.3      | 6.6      | 5.0      | 6.0      | 6.4      |
| <b># of Portfolios</b> | 41            | 41        | 41      | 41       | 41       | 39       | 39       | 35       |
| <b>● Total Fund</b>    | 1.5 (2)       | 11.9 (29) | 4.9 (7) | 5.2 (61) | 7.4 (55) | 6.4 (40) | 7.8 (40) | 8.2 (35) |
| <b>▲ Policy Index</b>  | 1.1 (8)       | 11.9 (30) | 5.3 (3) | 5.9 (29) | 8.1 (38) | 6.7 (31) | 8.0 (27) | 8.6 (20) |

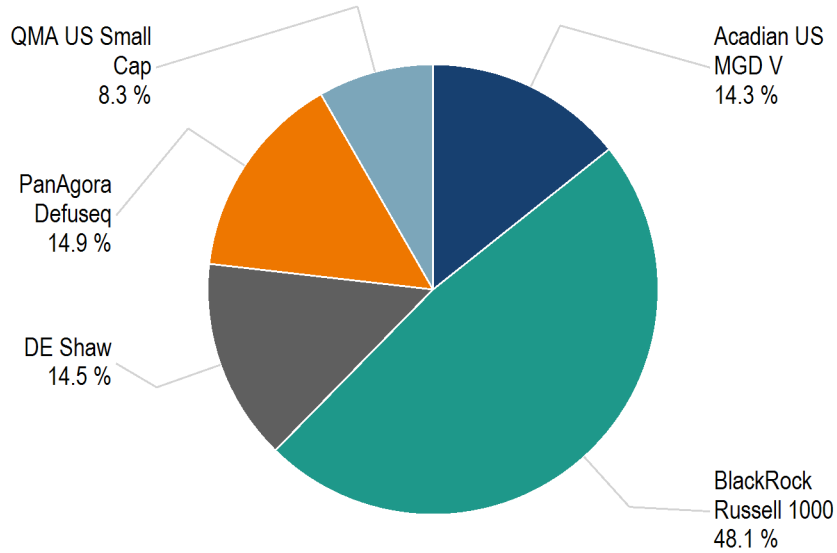
Total Fund  
Asset Allocation History

Period Ending: September 30, 2019



US Equity  
 Manager Allocation Analysis

Period Ending: September 30, 2019



|                                     | Actual \$              | Actual %      | Manager Contribution to Excess Return % |
|-------------------------------------|------------------------|---------------|---|
| Acadian US MGD V                    | \$145,139,425          | 14.3%         | 0.2%                                    |
| BlackRock Russell 1000              | \$488,761,017          | 48.1%         | 0.0%                                    |
| DE Shaw                             | \$147,293,450          | 14.5%         | 0.0%                                    |
| PanAgora Defuseq                    | \$151,591,359          | 14.9%         | 0.3%                                    |
| QMA US Small Cap                    | \$84,111,757           | 8.3%          | 0.1%                                    |
| Transition Account                  | \$0                    | 0.0%          | 0.0%                                    |
| Actual vs. Policy Weight Difference |                        |               | -0.1%                                   |
| <b>Total</b>                        | <b>\$1,016,897,008</b> | <b>100.0%</b> | <b>0.5%</b>                             |

**Statistics Summary**

**3 Years**

|                         | Anlzd Return | Anlzd Standard<br>Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| US Equity               | 12.5%        | 12.1%                       | 0.9          | -0.4              | 0.9%           |
| Blended US Equity Index | 12.8%        | 12.5%                       | 0.9          | --                | 0.0%           |
| Russell 3000            | 12.8%        | 12.5%                       | 0.9          | --                | 0.0%           |

Statistics Summary

3 Years

|                  | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Large Cap Equity | 14.0%        | 11.7%                    | 1.1          | 0.6               | 1.4%           |
| Russell 1000     | 13.2%        | 12.3%                    | 0.9          | --                | 0.0%           |
| DE Shaw          | 13.0%        | 11.9%                    | 1.0          | -0.1              | 2.3%           |
| Russell 1000     | 13.2%        | 12.3%                    | 0.9          | --                | 0.0%           |
| Small Cap Equity | 6.6%         | 17.4%                    | 0.3          | -0.6              | 2.7%           |
| Russell 2000     | 8.2%         | 17.2%                    | 0.4          | --                | 0.0%           |

**Statistics Summary**

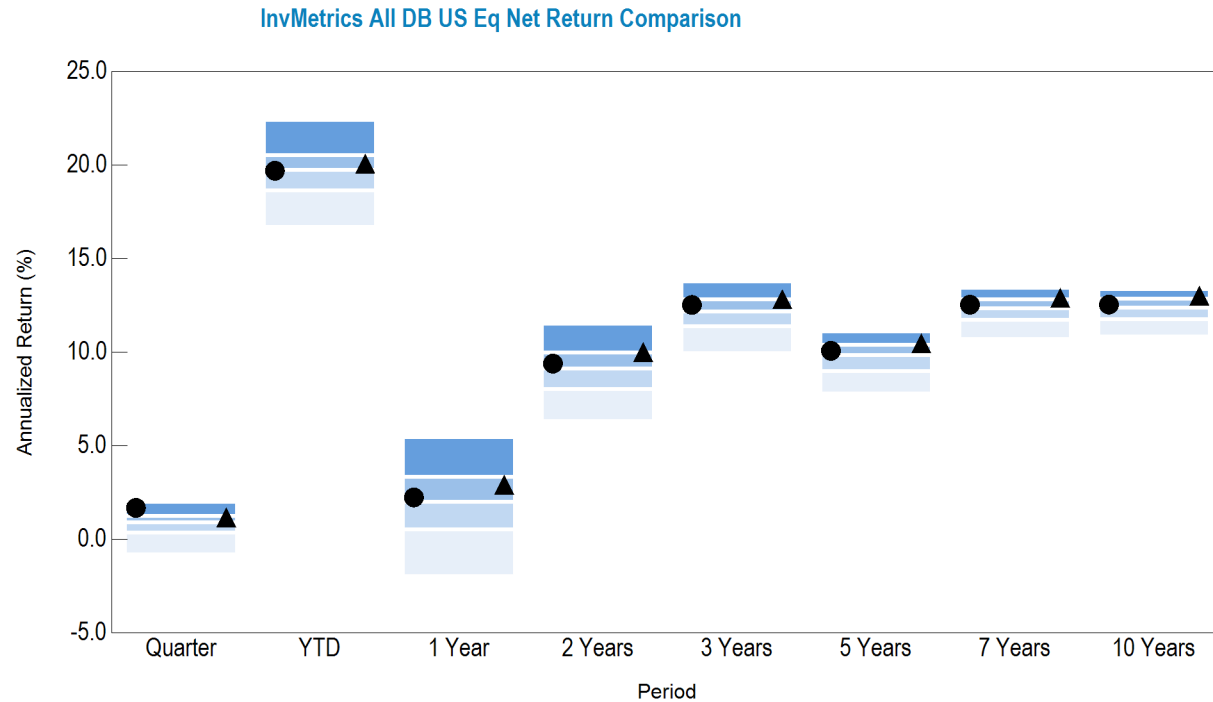
**5 Years**

|                         | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-------------------------|--------------|--------------------------|--------------|-------------------|----------------|
| US Equity               | 10.1%        | 11.9%                    | 0.8          | -0.5              | 0.8%           |
| Blended US Equity Index | 10.5%        | 12.2%                    | 0.8          | --                | 0.0%           |
| Russell 3000            | 10.4%        | 12.2%                    | 0.8          | -0.1              | 0.6%           |

**Statistics Summary**

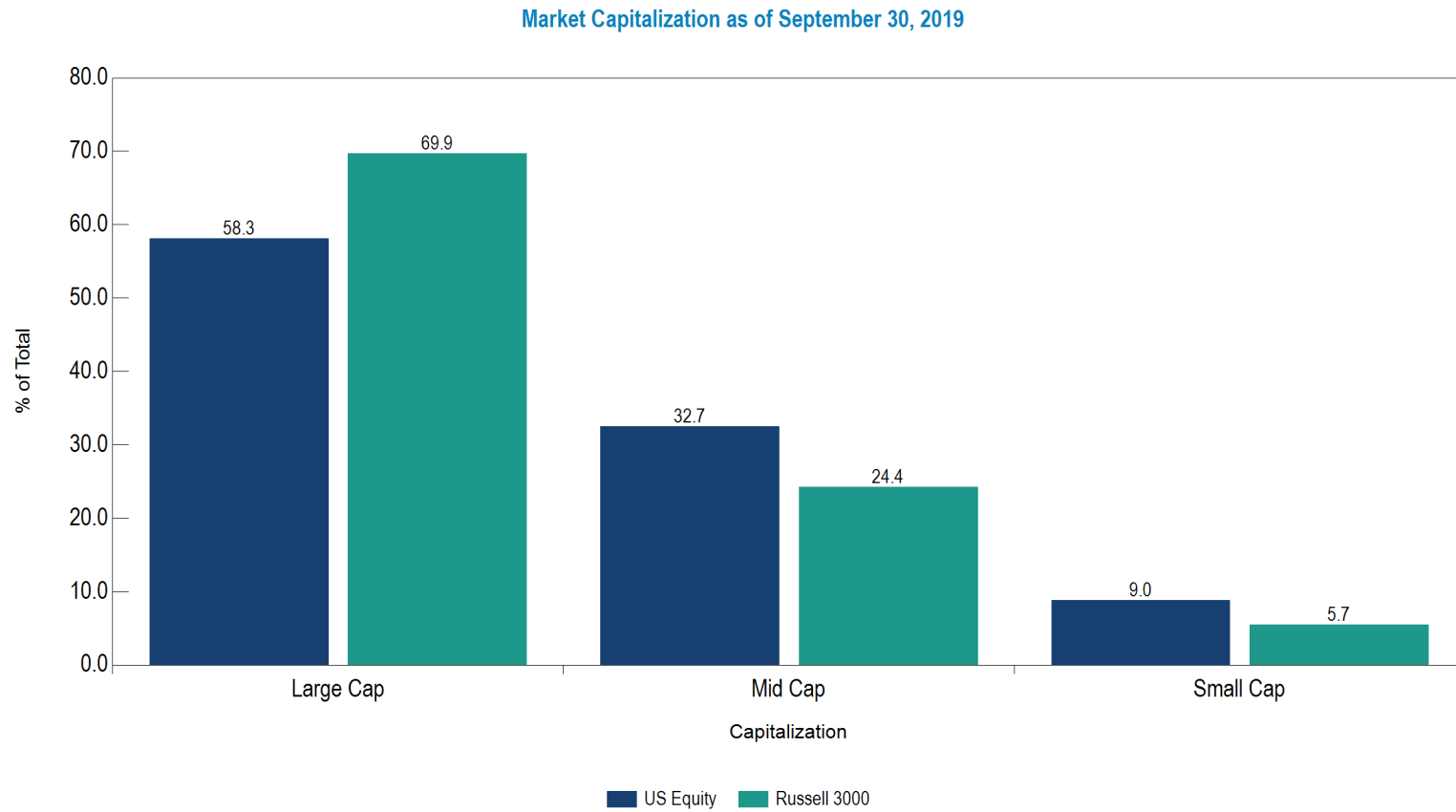
**5 Years**

|                  | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Large Cap Equity | 11.2%        | 11.7%                    | 0.9          | 0.5               | 1.2%           |
| Russell 1000     | 10.6%        | 12.0%                    | 0.8          | --                | 0.0%           |
| DE Shaw          | 11.3%        | 11.9%                    | 0.9          | 0.3               | 2.3%           |
| Russell 1000     | 10.6%        | 12.0%                    | 0.8          | --                | 0.0%           |
| Small Cap Equity | 5.3%         | 16.0%                    | 0.3          | -1.0              | 2.8%           |
| Russell 2000     | 8.2%         | 16.2%                    | 0.4          | --                | 0.0%           |



|                           | Return (Rank) |           |          |           |           |           |           |           |
|---------------------------|---------------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
|                           | Quarter       | YTD       | 1 Year   | 2 Years   | 3 Years   | 5 Years   | 7 Years   | 10 Years  |
| 5th Percentile            | 2.0           | 22.4      | 5.5      | 11.5      | 13.8      | 11.1      | 13.4      | 13.4      |
| 25th Percentile           | 1.3           | 20.5      | 3.4      | 10.0      | 12.8      | 10.4      | 12.8      | 12.9      |
| Median                    | 0.9           | 19.8      | 2.0      | 9.2       | 12.2      | 9.9       | 12.4      | 12.4      |
| 75th Percentile           | 0.4           | 18.7      | 0.5      | 8.1       | 11.4      | 9.0       | 11.7      | 11.8      |
| 95th Percentile           | -0.8          | 16.7      | -2.0     | 6.3       | 10.0      | 7.8       | 10.7      | 10.9      |
| # of Portfolios           | 492           | 489       | 488      | 482       | 463       | 439       | 386       | 284       |
| ● US Equity               | 1.7 (12)      | 19.7 (53) | 2.2 (47) | 9.4 (42)  | 12.5 (37) | 10.1 (40) | 12.5 (40) | 12.6 (42) |
| ▲ Blended US Equity Index | 1.2 (31)      | 20.1 (36) | 2.9 (34) | 10.0 (25) | 12.8 (26) | 10.5 (21) | 12.9 (22) | 13.0 (18) |





See appendix for the market capitalization breakpoints.

Characteristics

|                                 | Portfolio | Russell 3000 |
|---------------------------------|-----------|--------------|
| Number of Holdings              | 2,894     | 2,988        |
| Weighted Avg. Market Cap. (\$B) | 148.0     | 195.3        |
| Median Market Cap. (\$B)        | 3.0       | 1.6          |
| Price To Earnings               | 20.3      | 20.5         |
| Price To Book                   | 3.3       | 3.5          |
| Price To Sales                  | 1.8       | 1.9          |
| Return on Equity (%)            | 22.1      | 21.4         |
| Yield (%)                       | 2.0       | 1.9          |
| Beta (holdings; domestic)       | 0.9       | 1.0          |

Top Holdings

|                        |      |
|------------------------|------|
| MICROSOFT              | 2.5% |
| APPLE                  | 2.2% |
| AMAZON.COM             | 1.6% |
| AT&T                   | 1.2% |
| JOHNSON & JOHNSON      | 1.1% |
| VISA 'A'               | 1.0% |
| VERIZON COMMUNICATIONS | 1.0% |
| ALPHABET A             | 1.0% |
| JP MORGAN CHASE & CO.  | 0.9% |
| FACEBOOK CLASS A       | 0.9% |

Best Performers

|  | Return % |
|--|----------|
| DURECT (DRRX)                                | 182.2%   |
| CASTLE BRANDS (ROX)                          | 171.6%   |
| IMPAC MORTGAGE HDG. (IMH)                    | 153.9%   |
| HOVNANIAN ENTS.'A' (HOV)                     | 153.3%   |
| STAGE STORES (SSI)                           | 144.2%   |
| FRANCESCA'S HOLDINGS (FRAN)                  | 135.7%   |
| INFRASTRUCTURE AND ENERGY ALTERNATIVES (IEA) | 128.4%   |
| ICONIX BRAND GROUP (ICON)                    | 109.4%   |
| NEXTCURE (NXTC)                              | 105.9%   |
| SEACHANGE INTL. (SEAC)                       | 101.4%   |

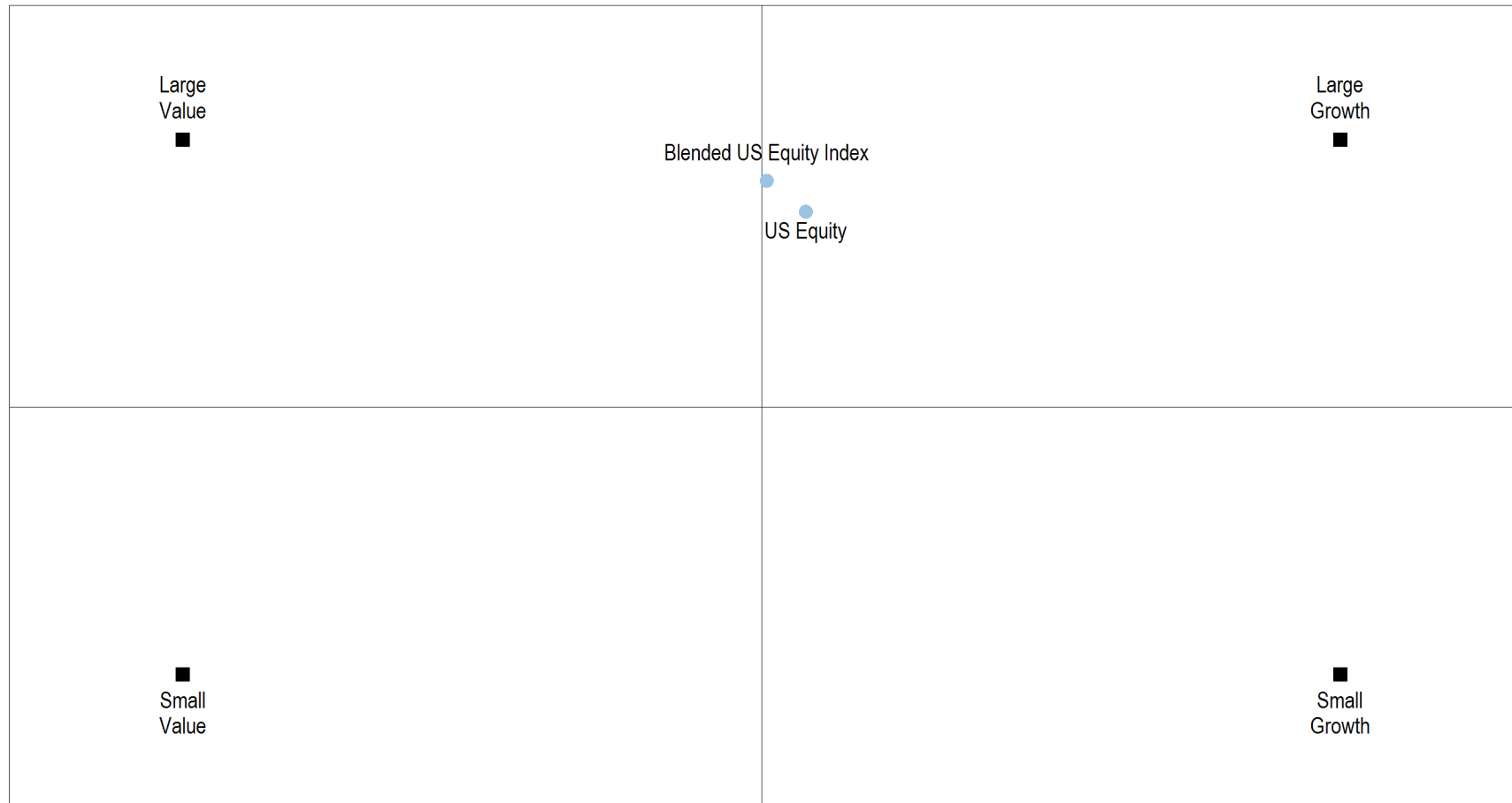
Worst Performers

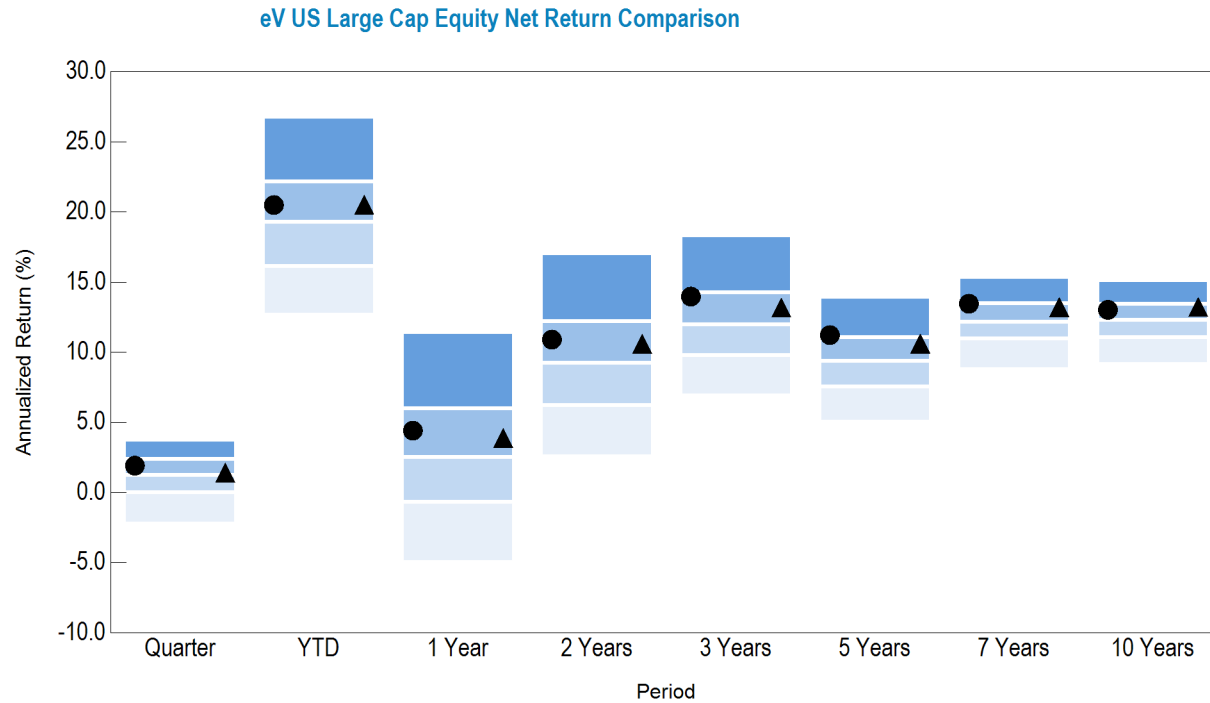
|                                 | Return % |
|---------------------------------|----------|
| FRED'S 'A' (FREDQ)              | -93.7%   |
| TOCAGEN (TOCA)                  | -90.1%   |
| SUPERIOR ENERGY SERVICES (SPNV) | -90.0%   |
| VIVEVE MEDICAL (VIVE)           | -88.4%   |
| ADVAXIS (ADXS)                  | -87.3%   |
| WAITR HOLDINGS (WTRH)           | -79.6%   |
| MCDERMOTT INTL. (MDR)           | -79.1%   |
| PIONEER ENERGY SERVICES (PESX)  | -78.3%   |
| SIENNA BIOPH. (SNNA)            | -77.0%   |
| SONIM TECHNOLOGIES (SONM)       | -77.0%   |

US Equity Performance Attribution vs. Russell 3000

|                        | Attribution Effects |                  |                   |                     | Returns     |           | Sector Weights |             |             |               |               |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|-------------|-------------|---------------|---------------|
|                        | Total Effects       | Selection Effect | Allocation Effect | Interaction Effects | Portfolio   | Benchmark | Portfolio      | Benchmark   |             |               |               |
| Energy                 | 0.1%                | 0.0%             | 0.0%              | 0.0%                | -7.3%       | -7.7%     | 4.1%           | 4.6%        |             |               |               |
| Materials              | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.3%        | -0.6%     | 3.6%           | 3.0%        |             |               |               |
| Industrials            | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.3%        | 0.7%      | 9.7%           | 10.2%       |             |               |               |
| Consumer Discretionary | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 1.0%        | 0.6%      | 12.6%          | 10.5%       |             |               |               |
| Consumer Staples       | 0.1%                | 0.0%             | 0.1%              | 0.0%                | 6.3%        | 5.9%      | 7.6%           | 6.5%        |             |               |               |
| Health Care            | 0.1%                | 0.1%             | 0.0%              | 0.0%                | -2.3%       | -3.2%     | 13.9%          | 14.1%       |             |               |               |
| Financials             | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 1.5%        | 1.8%      | 11.7%          | 13.7%       |             |               |               |
| Information Technology | -0.1%               | -0.1%            | 0.0%              | 0.0%                | 2.2%        | 2.7%      | 18.1%          | 21.2%       |             |               |               |
| Communication Services | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 2.4%        | 2.0%      | 8.6%           | 9.2%        |             |               |               |
| Utilities              | 0.2%                | 0.0%             | 0.2%              | 0.0%                | 8.0%        | 8.1%      | 6.4%           | 3.2%        |             |               |               |
| Real Estate            | -0.1%               | -0.1%            | 0.0%              | 0.0%                | 5.7%        | 7.4%      | 3.7%           | 3.9%        |             |               |               |
| Cash                   | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.5%        | --        | 0.1%           | 0.0%        |             |               |               |
| Unclassified           | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 1.0%        | --        | 0.1%           | 0.0%        |             |               |               |
| <b>Portfolio</b>       | <b>0.3%</b>         | <b>=</b>         | <b>0.0%</b>       | <b>+</b>            | <b>0.2%</b> | <b>+</b>  | <b>0.0%</b>    | <b>1.6%</b> | <b>1.3%</b> | <b>100.0%</b> | <b>100.0%</b> |

U.S. Effective Style Map





|                      | Quarter  | YTD       | 1 Year   | 2 Years   | 3 Years   | 5 Years   | 7 Years   | 10 Years  |
|----------------------|----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| <b>Return (Rank)</b> |          |           |          |           |           |           |           |           |
| 5th Percentile       | 3.7      | 26.8      | 11.4     | 17.0      | 18.3      | 13.9      | 15.4      | 15.1      |
| 25th Percentile      | 2.4      | 22.2      | 6.0      | 12.3      | 14.3      | 11.1      | 13.5      | 13.5      |
| Median               | 1.3      | 19.3      | 2.6      | 9.3       | 12.0      | 9.4       | 12.2      | 12.3      |
| 75th Percentile      | 0.1      | 16.2      | -0.6     | 6.3       | 9.8       | 7.6       | 11.0      | 11.1      |
| 95th Percentile      | -2.2     | 12.7      | -4.9     | 2.6       | 6.9       | 5.1       | 8.8       | 9.2       |
| # of Portfolios      | 606      | 606       | 597      | 591       | 578       | 547       | 498       | 435       |
| ● Large Cap Equity   | 1.9 (35) | 20.5 (38) | 4.4 (35) | 10.9 (35) | 14.0 (29) | 11.2 (25) | 13.5 (26) | 13.0 (34) |
| ▲ Russell 1000       | 1.4 (45) | 20.5 (38) | 3.9 (39) | 10.6 (37) | 13.2 (36) | 10.6 (32) | 13.2 (30) | 13.2 (30) |

Characteristics

|                                 | Portfolio | Russell 1000 |
|---------------------------------|-----------|--------------|
| Number of Holdings              | 2,837     | 997          |
| Weighted Avg. Market Cap. (\$B) | 161.0     | 208.9        |
| Median Market Cap. (\$B)        | 3.5       | 9.8          |
| Price To Earnings               | 20.7      | 20.7         |
| Price To Book                   | 3.5       | 3.6          |
| Price To Sales                  | 2.0       | 2.1          |
| Return on Equity (%)            | 23.1      | 24.6         |
| Yield (%)                       | 2.0       | 1.9          |
| Beta (holdings; domestic)       | 0.9       | 1.0          |

Top Holdings

|                        |      |
|------------------------|------|
| MICROSOFT              | 2.7% |
| APPLE                  | 2.4% |
| AMAZON.COM             | 1.8% |
| AT&T                   | 1.3% |
| JOHNSON & JOHNSON      | 1.2% |
| VISA 'A'               | 1.1% |
| VERIZON COMMUNICATIONS | 1.1% |
| ALPHABET A             | 1.1% |
| JP MORGAN CHASE & CO.  | 1.0% |
| FACEBOOK CLASS A       | 1.0% |

Best Performers

|  | Return % |
|--|----------|
| DURECT (DRRX)                                | 182.2%   |
| CASTLE BRANDS (ROX)                          | 171.6%   |
| IMPAC MORTGAGE HDG. (IMH)                    | 153.9%   |
| HOVNANIAN ENTS.'A' (HOV)                     | 153.3%   |
| STAGE STORES (SSI)                           | 144.2%   |
| FRANCESCA'S HOLDINGS (FRAN)                  | 135.7%   |
| INFRASTRUCTURE AND ENERGY ALTERNATIVES (IEA) | 128.4%   |
| ICONIX BRAND GROUP (ICON)                    | 109.4%   |
| NEXTCURE (NXTC)                              | 105.9%   |
| SEACHANGE INTL. (SEAC)                       | 101.4%   |

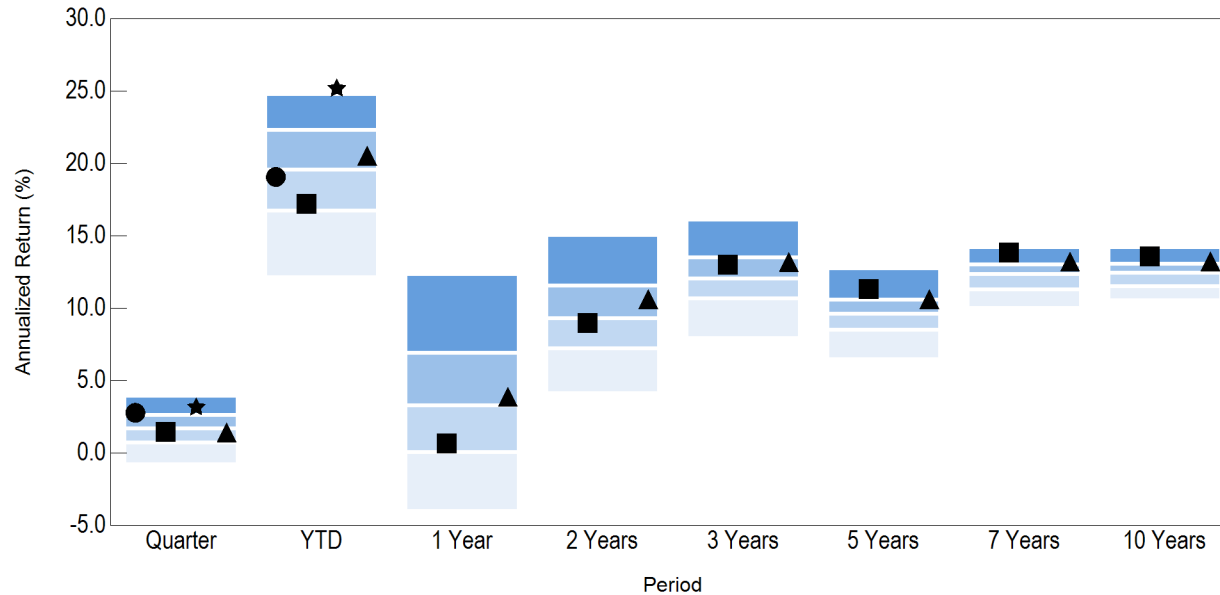
Worst Performers

|                                 | Return % |
|---------------------------------|----------|
| FRED'S 'A' (FREDQ)              | -93.7%   |
| TOCAGEN (TOCA)                  | -90.1%   |
| SUPERIOR ENERGY SERVICES (SPNV) | -90.0%   |
| VIVEVE MEDICAL (VIVE)           | -88.4%   |
| ADVAXIS (ADXS)                  | -87.3%   |
| WAITR HOLDINGS (WTRH)           | -79.6%   |
| MCDERMOTT INTL. (MDR)           | -79.1%   |
| PIONEER ENERGY SERVICES (PESX)  | -78.3%   |
| SIENNA BIOPH. (SNNA)            | -77.0%   |
| SONIM TECHNOLOGIES (SONM)       | -77.0%   |

Large Cap Equity Performance Attribution vs. Russell 1000

|                        | Attribution Effects |                  |                   |                     | Returns     |           | Sector Weights |             |             |               |               |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|-------------|-------------|---------------|---------------|
|                        | Total Effects       | Selection Effect | Allocation Effect | Interaction Effects | Portfolio   | Benchmark | Portfolio      | Benchmark   |             |               |               |
| Energy                 | 0.1%                | 0.0%             | 0.0%              | 0.0%                | -7.0%       | -7.2%     | 4.1%           | 4.7%        |             |               |               |
| Materials              | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.4%        | -0.2%     | 3.6%           | 2.9%        |             |               |               |
| Industrials            | -0.1%               | -0.1%            | 0.0%              | 0.0%                | -0.1%       | 0.8%      | 9.1%           | 9.8%        |             |               |               |
| Consumer Discretionary | 0.1%                | 0.1%             | 0.0%              | 0.0%                | 1.4%        | 0.7%      | 12.6%          | 10.4%       |             |               |               |
| Consumer Staples       | 0.1%                | 0.0%             | 0.1%              | 0.0%                | 6.3%        | 6.0%      | 8.1%           | 6.8%        |             |               |               |
| Health Care            | 0.1%                | 0.1%             | 0.0%              | 0.0%                | -2.0%       | -2.7%     | 13.7%          | 13.9%       |             |               |               |
| Financials             | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 2.0%        | 2.1%      | 11.2%          | 13.4%       |             |               |               |
| Information Technology | -0.2%               | -0.2%            | 0.0%              | 0.0%                | 2.2%        | 2.9%      | 18.2%          | 21.7%       |             |               |               |
| Communication Services | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 2.6%        | 2.2%      | 9.1%           | 9.6%        |             |               |               |
| Utilities              | 0.2%                | 0.0%             | 0.2%              | 0.0%                | 8.2%        | 8.2%      | 6.7%           | 3.2%        |             |               |               |
| Real Estate            | -0.1%               | 0.0%             | 0.0%              | 0.0%                | 6.6%        | 7.7%      | 3.4%           | 3.7%        |             |               |               |
| Cash                   | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.5%        | --        | 0.1%           | 0.0%        |             |               |               |
| Unclassified           | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 1.0%        | --        | 0.1%           | 0.0%        |             |               |               |
| <b>Portfolio</b>       | <b>0.2%</b>         | <b>=</b>         | <b>-0.1%</b>      | <b>+</b>            | <b>0.2%</b> | <b>+</b>  | <b>0.0%</b>    | <b>1.8%</b> | <b>1.5%</b> | <b>100.0%</b> | <b>100.0%</b> |

eV US Large Cap Core Equity Net Return Comparison



Return (Rank)

|                    |          |           |          |           |           |           |           |           |
|--------------------|----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| 5th Percentile     | 3.9      | 24.8      | 12.3     | 15.0      | 16.1      | 12.7      | 14.2      | 14.2      |
| 25th Percentile    | 2.6      | 22.3      | 6.9      | 11.6      | 13.5      | 10.6      | 13.1      | 13.1      |
| Median             | 1.7      | 19.6      | 3.3      | 9.3       | 12.1      | 9.7       | 12.4      | 12.5      |
| 75th Percentile    | 0.7      | 16.8      | 0.1      | 7.2       | 10.7      | 8.5       | 11.3      | 11.5      |
| 95th Percentile    | -0.8     | 12.1      | -4.0     | 4.1       | 8.0       | 6.5       | 10.0      | 10.5      |
| # of Portfolios    | 191      | 191       | 190      | 187       | 183       | 168       | 147       | 121       |
| ● Acadian US MGD V | 2.8 (24) | 19.1 (55) | -- (--)  | -- (--)   | -- (--)   | -- (--)   | -- (--)   | -- (--)   |
| ■ DE Shaw          | 1.4 (58) | 17.2 (71) | 0.7 (73) | 9.0 (52)  | 13.0 (31) | 11.3 (15) | 13.8 (12) | 13.6 (13) |
| ★ PanAgora Defuseq | 3.2 (20) | 25.2 (5)  | -- (--)  | -- (--)   | -- (--)   | -- (--)   | -- (--)   | -- (--)   |
| ▲ Russell 1000     | 1.4 (59) | 20.5 (39) | 3.9 (45) | 10.6 (35) | 13.2 (29) | 10.6 (26) | 13.2 (19) | 13.2 (21) |



Characteristics

|                                 | Portfolio | Russell 1000 |
|---------------------------------|-----------|--------------|
| Number of Holdings              | 137       | 997          |
| Weighted Avg. Market Cap. (\$B) | 72.2      | 208.9        |
| Median Market Cap. (\$B)        | 16.4      | 9.8          |
| Price To Earnings               | 19.4      | 20.7         |
| Price To Book                   | 3.1       | 3.6          |
| Price To Sales                  | 2.0       | 2.1          |
| Return on Equity (%)            | 24.9      | 24.6         |
| Yield (%)                       | 2.0       | 1.9          |
| Beta (holdings; domestic)       | 0.8       | 1.0          |

Top Holdings

|                                  |      |
|----------------------------------|------|
| ESTEE LAUDER COS.'A'             | 1.3% |
| ZOETIS A                         | 1.3% |
| ROYAL GOLD                       | 1.2% |
| COSTCO WHOLESALE                 | 1.2% |
| DANAHER                          | 1.2% |
| STARBUCKS                        | 1.2% |
| NEXTERA ENERGY                   | 1.2% |
| HOME DEPOT                       | 1.2% |
| SOUTHERN                         | 1.2% |
| BRIGHT HORIZONS FAMILY SOLUTIONS | 1.2% |

Best Performers

|                                   | Return % |
|-----------------------------------|----------|
| TARGET (TGT)                      | 24.4%    |
| ROYAL GOLD (RGLD)                 | 20.5%    |
| J & J SNACK FOODS (JJSF)          | 19.6%    |
| NEWMARKET (NEU)                   | 18.2%    |
| TELEDYNE TECHS. (TDY)             | 17.6%    |
| WESTERN UNION (WU)                | 17.5%    |
| BROOKFIELD INFR.PTNS. UNITS (BIP) | 16.8%    |
| GENOMIC HEALTH (GHDX)             | 16.6%    |
| HERSHEY (HSY)                     | 16.2%    |
| CHEMED (CHE)                      | 15.8%    |

Worst Performers

|                                 | Return % |
|---------------------------------|----------|
| PHIBRO ANIMAL HLTH.CL.A (PAHC)  | -32.5%   |
| ARENA PHARMS. (ARNA)            | -21.9%   |
| CBS 'B' (CBS)                   | -18.8%   |
| H&R BLOCK (HRB)                 | -18.5%   |
| CAREER EDUCATION (CECO)         | -16.7%   |
| METTLER TOLEDO INTL. (MTD)      | -16.1%   |
| ADTALEM GLOBAL EDUCATION (ATGE) | -15.4%   |
| ANTHEM (ANTM)                   | -14.6%   |
| TELEPHONE & DATA SYS. (TDS)     | -14.6%   |
| K12 (LRN)                       | -13.2%   |

Acadian US MGD V Performance Attribution vs. Russell 1000

|                        | Total<br>Effects | Attribution Effects |                      |                        | Returns     |           | Sector Weights |             |             |               |               |
|------------------------|------------------|---------------------|----------------------|------------------------|-------------|-----------|----------------|-------------|-------------|---------------|---------------|
|                        |                  | Selection<br>Effect | Allocation<br>Effect | Interaction<br>Effects | Portfolio   | Benchmark | Portfolio      | Benchmark   |             |               |               |
| Energy                 | 0.3%             | 0.2%                | 0.3%                 | -0.1%                  | -2.3%       | -7.2%     | 1.7%           | 4.7%        |             |               |               |
| Materials              | 0.2%             | 0.3%                | 0.0%                 | -0.1%                  | 11.7%       | -0.2%     | 1.9%           | 2.9%        |             |               |               |
| Industrials            | -0.1%            | -0.2%               | 0.0%                 | 0.1%                   | -1.2%       | 0.8%      | 4.2%           | 9.8%        |             |               |               |
| Consumer Discretionary | 0.2%             | 0.2%                | 0.0%                 | 0.1%                   | 2.6%        | 0.7%      | 15.0%          | 10.4%       |             |               |               |
| Consumer Staples       | 0.2%             | 0.0%                | 0.2%                 | 0.0%                   | 6.3%        | 6.0%      | 11.0%          | 6.8%        |             |               |               |
| Health Care            | 0.0%             | 0.1%                | 0.0%                 | 0.0%                   | -2.2%       | -2.7%     | 14.8%          | 13.9%       |             |               |               |
| Financials             | -0.1%            | -0.1%               | 0.0%                 | 0.0%                   | 1.0%        | 2.1%      | 14.3%          | 13.4%       |             |               |               |
| Information Technology | -0.4%            | -0.4%               | -0.2%                | 0.3%                   | 0.9%        | 2.9%      | 9.0%           | 21.7%       |             |               |               |
| Communication Services | 0.0%             | 0.0%                | 0.0%                 | 0.0%                   | 2.5%        | 2.2%      | 10.2%          | 9.6%        |             |               |               |
| Utilities              | 1.0%             | 0.0%                | 0.9%                 | 0.1%                   | 9.0%        | 8.2%      | 16.8%          | 3.2%        |             |               |               |
| Real Estate            | -0.2%            | -0.1%               | -0.2%                | 0.1%                   | 5.3%        | 7.7%      | 0.6%           | 3.7%        |             |               |               |
| Cash                   | 0.0%             | 0.0%                | 0.0%                 | 0.0%                   | 0.5%        | --        | 0.4%           | 0.0%        |             |               |               |
| Unclassified           | 0.0%             | --                  | --                   | --                     | --          | --        | 0.0%           | 0.0%        |             |               |               |
| <b>Portfolio</b>       | <b>1.4%</b>      | <b>=</b>            | <b>0.0%</b>          | <b>+</b>               | <b>1.0%</b> | <b>+</b>  | <b>0.4%</b>    | <b>2.9%</b> | <b>1.5%</b> | <b>100.0%</b> | <b>100.0%</b> |

Characteristics

|                                 | Portfolio | Russell 1000 |
|---------------------------------|-----------|--------------|
| Number of Holdings              | 1,001     | 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%   |

**Characteristics**

|                                 | Portfolio | Russell 1000 |
|---------------------------------|-----------|--------------|
| Number of Holdings              | 112       | 997          |
| Weighted Avg. Market Cap. (\$B) | 59.3      | 208.9        |
| Median Market Cap. (\$B)        | 15.1      | 9.8          |
| Price To Earnings               | 23.5      | 20.7         |
| Price To Book                   | 3.2       | 3.6          |
| Price To Sales                  | 2.2       | 2.1          |
| Return on Equity (%)            | 19.9      | 24.6         |
| Yield (%)                       | 2.6       | 1.9          |
| Beta (holdings; domestic)       | 0.7       | 1.0          |

**Top Holdings**

|                   |      |
|-------------------|------|
| AT&T              | 3.5% |
| CHEVRON           | 2.7% |
| REPUBLIC SVS.'A'  | 2.6% |
| APTARGROUP        | 2.2% |
| AIR PRDS.& CHEMS. | 2.1% |
| WASTE MANAGEMENT  | 2.1% |

**Best Performers**

|                      | Return % |
|----------------------|----------|
| KELLOGG (K)          | 21.2%    |
| NEWMARKET (NEU)      | 18.2%    |
| CAMPBELL SOUP (CPB)  | 18.1%    |
| CONAGRA BRANDS (CAG) | 16.5%    |
| HERSHEY (HSY)        | 16.2%    |

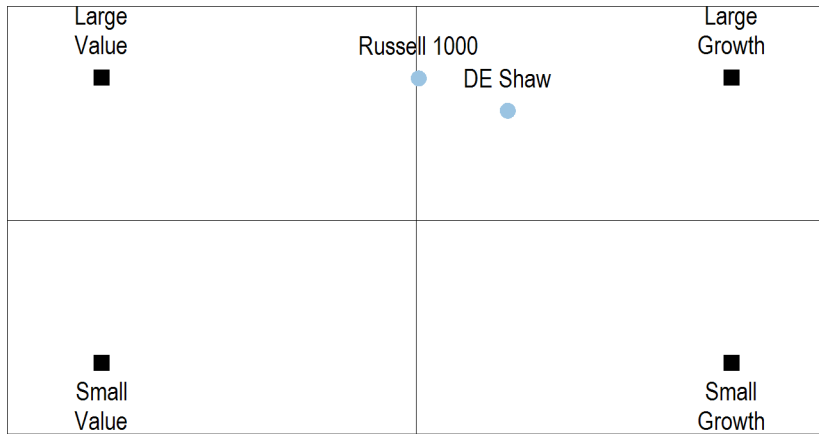
**Worst Performers**

|                              | Return % |
|------------------------------|----------|
| FOX B (FOX)                  | -13.0%   |
| VARIAN MEDICAL SYSTEMS (VAR) | -12.5%   |
| MARRIOTT INTL.'A' (MAR)      | -11.0%   |
| EXXON MOBIL (XOM)            | -6.7%    |
| JOHNSON & JOHNSON (JNJ)      | -6.4%    |

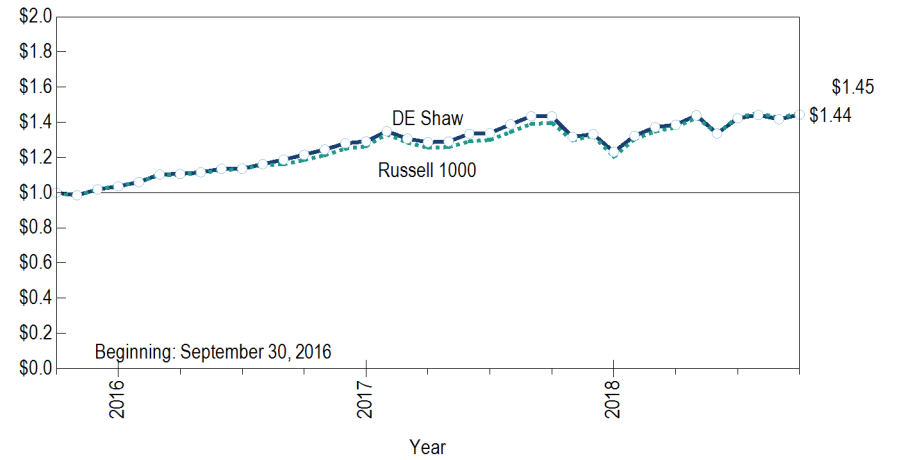
**PanAgora Defuseq Performance Attribution vs. Russell 1000**

|                        | Attribution Effects |                  |                   |                     | Returns     |           | Sector Weights |             |             |               |               |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|-------------|-------------|---------------|---------------|
|                        | Total Effects       | Selection Effect | Allocation Effect | Interaction Effects | Portfolio   | Benchmark | Portfolio      | Benchmark   |             |               |               |
| Energy                 | 0.1%                | 0.1%             | 0.0%              | 0.0%                | -4.7%       | -7.2%     | 4.6%           | 4.7%        |             |               |               |
| Materials              | -0.2%               | 0.0%             | -0.1%             | 0.0%                | -0.7%       | -0.2%     | 10.0%          | 2.9%        |             |               |               |
| Industrials            | -0.2%               | -0.2%            | 0.0%              | 0.0%                | -1.0%       | 0.8%      | 10.0%          | 9.8%        |             |               |               |
| Consumer Discretionary | 0.2%                | 0.1%             | 0.0%              | 0.0%                | 2.1%        | 0.7%      | 11.4%          | 10.4%       |             |               |               |
| Consumer Staples       | 0.4%                | 0.1%             | 0.3%              | 0.1%                | 7.2%        | 6.0%      | 12.6%          | 6.8%        |             |               |               |
| Health Care            | 0.5%                | 0.5%             | 0.3%              | -0.2%               | 0.7%        | -2.7%     | 7.8%           | 13.9%       |             |               |               |
| Financials             | 0.1%                | 0.3%             | 0.0%              | -0.2%               | 4.3%        | 2.1%      | 4.8%           | 13.4%       |             |               |               |
| Information Technology | 0.0%                | 0.5%             | -0.2%             | -0.3%               | 5.2%        | 2.9%      | 7.4%           | 21.7%       |             |               |               |
| Communication Services | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 2.8%        | 2.2%      | 9.6%           | 9.6%        |             |               |               |
| Utilities              | 0.7%                | 0.0%             | 0.8%              | -0.1%               | 7.3%        | 8.2%      | 15.1%          | 3.2%        |             |               |               |
| Real Estate            | 0.0%                | -0.1%            | 0.2%              | -0.1%               | 5.3%        | 7.7%      | 6.6%           | 3.7%        |             |               |               |
| Cash                   | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.5%        | --        | 0.2%           | 0.0%        |             |               |               |
| Unclassified           | 0.0%                | --               | --                | --                  | --          | --        | 0.0%           | 0.0%        |             |               |               |
| <b>Portfolio</b>       | <b>1.6%</b>         | <b>=</b>         | <b>1.3%</b>       | <b>+</b>            | <b>1.1%</b> | <b>+</b>  | <b>-0.9%</b>   | <b>3.1%</b> | <b>1.5%</b> | <b>100.0%</b> | <b>100.0%</b> |

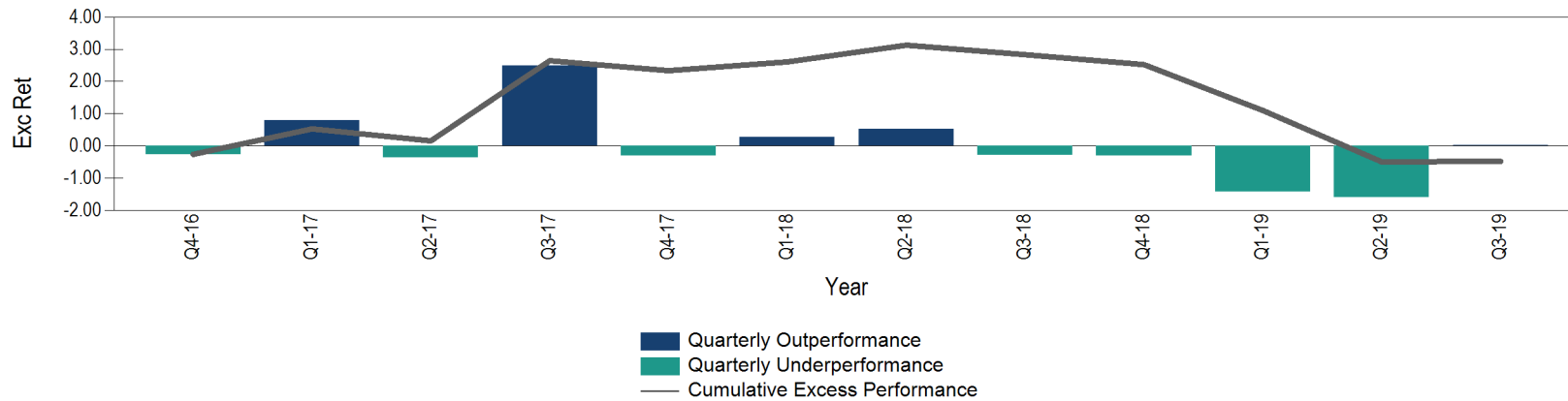
U.S. Effective Style Map



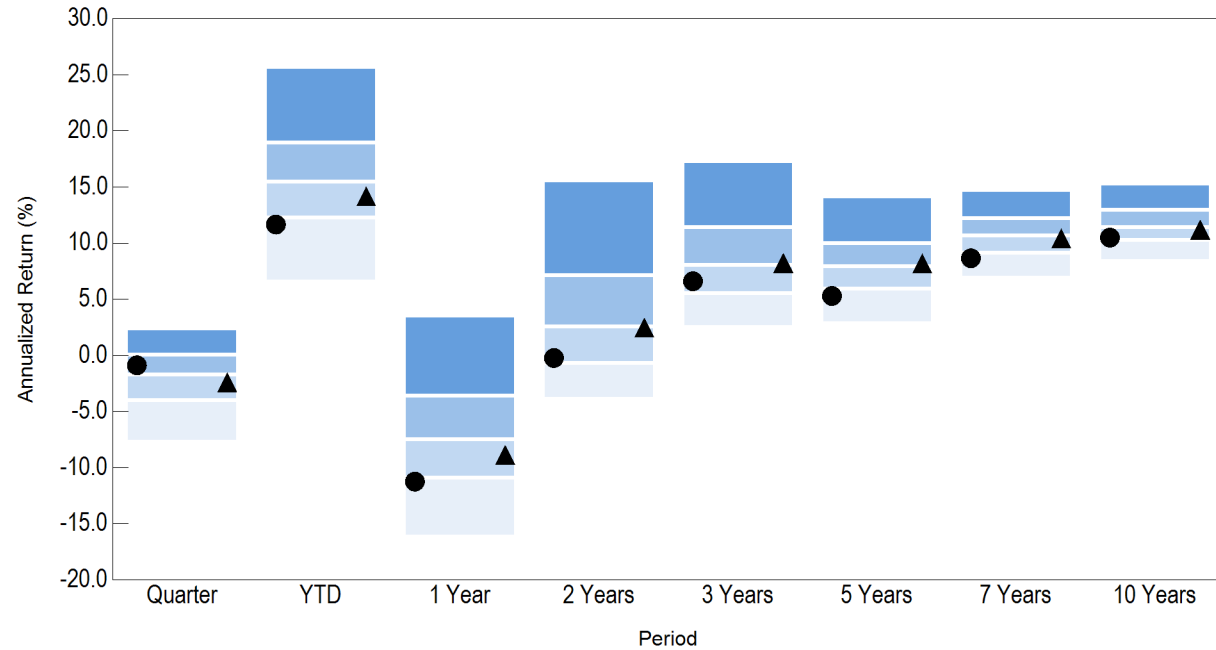
Growth of a Dollar



Quarterly and Cumulative Excess Performance



eV US Small Cap Equity Net Return Comparison



|                      | Quarter   | YTD       | 1 Year     | 2 Years   | 3 Years  | 5 Years  | 7 Years   | 10 Years  |
|----------------------|-----------|-----------|------------|-----------|----------|----------|-----------|-----------|
| <b>Return (Rank)</b> |           |           |            |           |          |          |           |           |
| 5th Percentile       | 2.4       | 25.7      | 3.5        | 15.6      | 17.3     | 14.1     | 14.7      | 15.3      |
| 25th Percentile      | 0.1       | 19.0      | -3.6       | 7.2       | 11.5     | 10.0     | 12.2      | 13.0      |
| Median               | -1.7      | 15.5      | -7.5       | 2.6       | 8.1      | 8.0      | 10.7      | 11.5      |
| 75th Percentile      | -3.9      | 12.3      | -10.9      | -0.7      | 5.6      | 6.0      | 9.2       | 10.3      |
| 95th Percentile      | -7.7      | 6.6       | -16.1      | -3.9      | 2.6      | 2.9      | 6.9       | 8.4       |
| # of Portfolios      | 404       | 404       | 401        | 398       | 389      | 366      | 342       | 308       |
| ● Small Cap Equity   | -0.9 (39) | 11.7 (80) | -11.3 (78) | -0.2 (72) | 6.6 (64) | 5.3 (83) | 8.6 (82)  | 10.5 (72) |
| ▲ Russell 2000       | -2.4 (60) | 14.2 (60) | -8.9 (61)  | 2.5 (52)  | 8.2 (48) | 8.2 (46) | 10.4 (56) | 11.2 (54) |

Characteristics

|                                 | Portfolio | Russell 2000 |
|---------------------------------|-----------|--------------|
| Number of Holdings              | 346       | 1,991        |
| Weighted Avg. Market Cap. (\$B) | 2.1       | 2.2          |
| Median Market Cap. (\$B)        | 1.3       | 0.7          |
| Price To Earnings               | 15.7      | 18.5         |
| Price To Book                   | 2.1       | 2.4          |
| Price To Sales                  | 0.7       | 1.2          |
| Return on Equity (%)            | 12.0      | 1.3          |
| Yield (%)                       | 1.7       | 1.5          |
| Beta (holdings; domestic)       | 1.2       | 1.2          |

Top Holdings

|                          |      |
|--------------------------|------|
| EMCOR GROUP              | 1.0% |
| PORTLAND GEN.ELEC.       | 1.0% |
| WORLD FUEL SVS.          | 0.9% |
| RYMAN HOSPITALITY PROPS. | 0.8% |
| TRINSEO                  | 0.8% |
| BMC STOCK HDG.           | 0.8% |
| ACACIA COMMUNICATIONS    | 0.8% |
| INTEGER HOLDINGS         | 0.8% |
| J2 GLOBAL                | 0.8% |
| RADIAN GP.               | 0.8% |

Best Performers

|   | Return % |
|---|----------|
| LANNETT (LCI)                           | 84.8%    |
| NEOPHOTONICS (NPTN)                     | 45.7%    |
| CIMPRESS (CMPR)                         | 45.1%    |
| ACACIA COMMUNICATIONS (ACIA)            | 38.7%    |
| CATALYST PHARMACEUTICAL PARTNERS (CPRX) | 38.3%    |
| SYNAPTICS (SYNA)                        | 37.1%    |
| MERITAGE HOMES (MTH)                    | 37.0%    |
| ANIKA THERAPEUTICS (ANIK)               | 35.1%    |
| SONIC AUTOMOTIVE 'A' (SAH)              | 34.9%    |
| ACADIA PHARMACEUTICALS (ACAD)           | 34.6%    |

Worst Performers

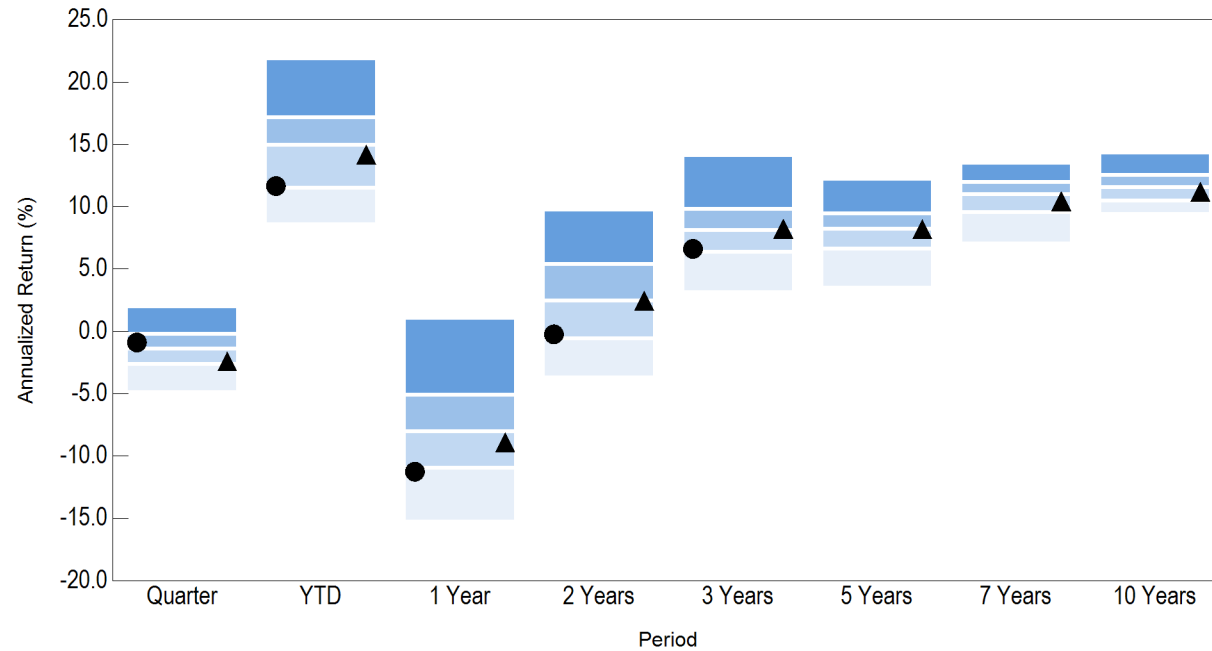
|                                 | Return % |
|---------------------------------|----------|
| SUPERIOR ENERGY SERVICES (SPNV) | -90.0%   |
| MALLINCKRODT (MNK)              | -73.7%   |
| MAMMOTH ENERGY SERVICES (TUSK)  | -64.0%   |
| ASSERTIO THERAPEUTICS (ASRT)    | -62.9%   |
| ACORDA THERAPEUTICS (ACOR)      | -62.6%   |
| AMNEAL PHARMACEUTICALS A (AMRX) | -59.6%   |
| CARS COM (CARS)                 | -54.5%   |
| TURNING POINT BRANDS (TPB)      | -52.8%   |
| CONCERT PHARMACEUTICALS (CNCE)  | -51.0%   |
| RETROPHIN (RTRX)                | -42.3%   |



Small Cap Equity Performance Attribution vs. Russell 2000

|                        | Total<br>Effects | Attribution Effects |                      |                        | Returns      |           | Sector Weights |              |              |               |               |
|------------------------|------------------|---------------------|----------------------|------------------------|--------------|-----------|----------------|--------------|--------------|---------------|---------------|
|                        |                  | Selection<br>Effect | Allocation<br>Effect | Interaction<br>Effects | Portfolio    | Benchmark | Portfolio      | Benchmark    |              |               |               |
| Energy                 | 0.1%             | 0.2%                | -0.1%                | 0.1%                   | -11.6%       | -18.0%    | 4.1%           | 3.2%         |              |               |               |
| Materials              | 0.2%             | 0.2%                | 0.0%                 | 0.0%                   | 0.0%         | -5.4%     | 2.9%           | 3.8%         |              |               |               |
| Industrials            | 0.4%             | 0.4%                | 0.0%                 | 0.0%                   | 2.3%         | -0.1%     | 16.4%          | 15.3%        |              |               |               |
| Consumer Discretionary | -0.2%            | -0.2%               | 0.0%                 | 0.0%                   | -2.9%        | -1.2%     | 11.6%          | 11.8%        |              |               |               |
| Consumer Staples       | 0.0%             | 0.0%                | 0.0%                 | 0.0%                   | 5.2%         | 4.6%      | 1.9%           | 2.7%         |              |               |               |
| Health Care            | 0.5%             | 0.5%                | 0.0%                 | 0.0%                   | -5.2%        | -8.4%     | 15.6%          | 15.6%        |              |               |               |
| Financials             | -0.2%            | -0.2%               | 0.0%                 | 0.0%                   | -2.0%        | -0.6%     | 17.1%          | 17.8%        |              |               |               |
| Information Technology | 0.6%             | 0.6%                | 0.0%                 | 0.0%                   | 2.6%         | -1.1%     | 16.4%          | 15.3%        |              |               |               |
| Communication Services | 0.1%             | 0.1%                | 0.0%                 | 0.0%                   | -2.9%        | -7.7%     | 3.5%           | 3.1%         |              |               |               |
| Utilities              | -0.1%            | 0.0%                | -0.1%                | 0.0%                   | 4.9%         | 5.9%      | 3.2%           | 3.9%         |              |               |               |
| Real Estate            | -0.3%            | -0.3%               | 0.0%                 | 0.0%                   | 0.9%         | 5.4%      | 7.4%           | 7.4%         |              |               |               |
| Cash                   | 0.0%             | 0.0%                | 0.0%                 | 0.0%                   | 0.5%         | --        | 0.1%           | 0.0%         |              |               |               |
| Unclassified           | 0.0%             | --                  | --                   | --                     | --           | --        | 0.0%           | 0.0%         |              |               |               |
| <b>Portfolio</b>       | <b>1.1%</b>      | <b>=</b>            | <b>1.2%</b>          | <b>+</b>               | <b>-0.2%</b> | <b>+</b>  | <b>0.1%</b>    | <b>-0.9%</b> | <b>-2.0%</b> | <b>100.0%</b> | <b>100.0%</b> |

eV US Small Cap Core Equity Net Return Comparison



|                           | Quarter   | YTD       | 1 Year     | 2 Years   | 3 Years  | 5 Years  | 7 Years   | 10 Years  |
|---------------------------|-----------|-----------|------------|-----------|----------|----------|-----------|-----------|
| <b>5th Percentile</b>     | 2.0       | 21.9      | 1.1        | 9.7       | 14.1     | 12.2     | 13.5      | 14.3      |
| <b>25th Percentile</b>    | -0.2      | 17.2      | -5.0       | 5.5       | 9.8      | 9.5      | 12.0      | 12.6      |
| <b>Median</b>             | -1.4      | 15.0      | -8.0       | 2.5       | 8.1      | 8.3      | 11.0      | 11.6      |
| <b>75th Percentile</b>    | -2.6      | 11.6      | -10.9      | -0.5      | 6.4      | 6.7      | 9.6       | 10.5      |
| <b>95th Percentile</b>    | -4.8      | 8.6       | -15.2      | -3.6      | 3.2      | 3.5      | 7.1       | 9.4       |
| <b># of Portfolios</b>    | 107       | 107       | 107        | 104       | 101      | 98       | 90        | 77        |
| <b>● QMA US Small Cap</b> | -0.9 (39) | 11.7 (74) | -11.3 (77) | -0.2 (71) | 6.6 (74) | -- (--)  | -- (--)   | -- (--)   |
| <b>▲ Russell 2000</b>     | -2.4 (72) | 14.2 (54) | -8.9 (59)  | 2.5 (51)  | 8.2 (47) | 8.2 (52) | 10.4 (62) | 11.2 (59) |

Characteristics

|                                 | Portfolio | Russell 2000 |
|---------------------------------|-----------|--------------|
| Number of Holdings              | 346       | 1,991        |
| Weighted Avg. Market Cap. (\$B) | 2.1       | 2.2          |
| Median Market Cap. (\$B)        | 1.3       | 0.7          |
| Price To Earnings               | 15.7      | 18.5         |
| Price To Book                   | 2.1       | 2.4          |
| Price To Sales                  | 0.7       | 1.2          |
| Return on Equity (%)            | 12.0      | 1.3          |
| Yield (%)                       | 1.7       | 1.5          |
| Beta (holdings; domestic)       | 1.2       | 1.2          |

Top Holdings

|                          |      |
|--------------------------|------|
| EMCOR GROUP              | 1.0% |
| PORTLAND GEN.ELEC.       | 1.0% |
| WORLD FUEL SVS.          | 0.9% |
| RYMAN HOSPITALITY PROPS. | 0.8% |
| TRINSEO                  | 0.8% |
| BMC STOCK HDG.           | 0.8% |
| ACACIA COMMUNICATIONS    | 0.8% |
| INTEGER HOLDINGS         | 0.8% |
| J2 GLOBAL                | 0.8% |
| RADIAN GP.               | 0.8% |

Best Performers

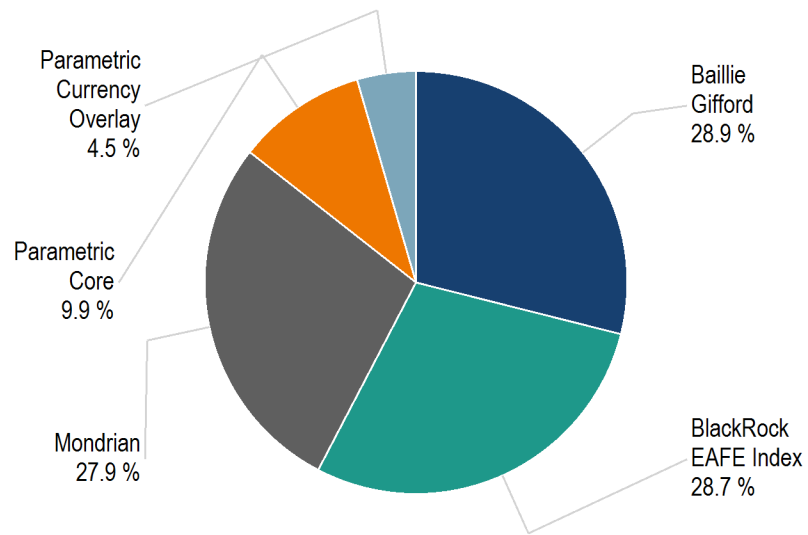
|   | Return % |
|---|----------|
| LANNETT (LCI)                           | 84.8%    |
| NEOPHOTONICS (NPTN)                     | 45.7%    |
| CIMPRESS (CMPR)                         | 45.1%    |
| ACACIA COMMUNICATIONS (ACIA)            | 38.7%    |
| CATALYST PHARMACEUTICAL PARTNERS (CPRX) | 38.3%    |
| SYNAPTICS (SYNA)                        | 37.1%    |
| MERITAGE HOMES (MTH)                    | 37.0%    |
| ANIKA THERAPEUTICS (ANIK)               | 35.1%    |
| SONIC AUTOMOTIVE 'A' (SAH)              | 34.9%    |
| ACADIA PHARMACEUTICALS (ACAD)           | 34.6%    |

Worst Performers

|                                 | Return % |
|---------------------------------|----------|
| SUPERIOR ENERGY SERVICES (SPNV) | -90.0%   |
| MALLINCKRODT (MNK)              | -73.7%   |
| MAMMOTH ENERGY SERVICES (TUSK)  | -64.0%   |
| ASSERTIO THERAPEUTICS (ASRT)    | -62.9%   |
| ACORDA THERAPEUTICS (ACOR)      | -62.6%   |
| AMNEAL PHARMACEUTICALS A (AMRX) | -59.6%   |
| CARS COM (CARS)                 | -54.5%   |
| TURNING POINT BRANDS (TPB)      | -52.8%   |
| CONCERT PHARMACEUTICALS (CNCE)  | -51.0%   |
| RETROPHIN (RTRX)                | -42.3%   |

**QMA US Small Cap Performance Attribution vs. Russell 2000**

|                        | Attribution Effects |                  |                   |                     | Returns      |           | Sector Weights |              |              |               |               |
|------------------------|---------------------|------------------|-------------------|---------------------|--------------|-----------|----------------|--------------|--------------|---------------|---------------|
|                        | Total Effects       | Selection Effect | Allocation Effect | Interaction Effects | Portfolio    | Benchmark | Portfolio      | Benchmark    |              |               |               |
| Energy                 | 0.1%                | 0.2%             | -0.1%             | 0.1%                | -11.6%       | -18.0%    | 4.1%           | 3.2%         |              |               |               |
| Materials              | 0.2%                | 0.2%             | 0.0%              | 0.0%                | 0.0%         | -5.4%     | 2.9%           | 3.8%         |              |               |               |
| Industrials            | 0.4%                | 0.4%             | 0.0%              | 0.0%                | 2.3%         | -0.1%     | 16.4%          | 15.3%        |              |               |               |
| Consumer Discretionary | -0.2%               | -0.2%            | 0.0%              | 0.0%                | -2.9%        | -1.2%     | 11.6%          | 11.8%        |              |               |               |
| Consumer Staples       | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 5.2%         | 4.6%      | 1.9%           | 2.7%         |              |               |               |
| Health Care            | 0.5%                | 0.5%             | 0.0%              | 0.0%                | -5.2%        | -8.4%     | 15.6%          | 15.6%        |              |               |               |
| Financials             | -0.2%               | -0.2%            | 0.0%              | 0.0%                | -2.0%        | -0.6%     | 17.1%          | 17.8%        |              |               |               |
| Information Technology | 0.6%                | 0.6%             | 0.0%              | 0.0%                | 2.6%         | -1.1%     | 16.4%          | 15.3%        |              |               |               |
| Communication Services | 0.1%                | 0.1%             | 0.0%              | 0.0%                | -2.9%        | -7.7%     | 3.5%           | 3.1%         |              |               |               |
| Utilities              | -0.1%               | 0.0%             | -0.1%             | 0.0%                | 4.9%         | 5.9%      | 3.2%           | 3.9%         |              |               |               |
| Real Estate            | -0.3%               | -0.3%            | 0.0%              | 0.0%                | 0.9%         | 5.4%      | 7.4%           | 7.4%         |              |               |               |
| Cash                   | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.5%         | --        | 0.1%           | 0.0%         |              |               |               |
| Unclassified           | 0.0%                | --               | --                | --                  | --           | --        | 0.0%           | 0.0%         |              |               |               |
| <b>Portfolio</b>       | <b>1.1%</b>         | <b>=</b>         | <b>1.2%</b>       | <b>+</b>            | <b>-0.2%</b> | <b>+</b>  | <b>0.1%</b>    | <b>-0.9%</b> | <b>-2.0%</b> | <b>100.0%</b> | <b>100.0%</b> |



|                                     | Actual \$            | Actual %      | Manager Contribution to Excess Return % |
|-------------------------------------|----------------------|---------------|---|
| Baillie Gifford                     | \$254,643,977        | 28.9%         | 0.2%                                    |
| BlackRock EAFE Index                | \$253,027,328        | 28.7%         | 0.0%                                    |
| Mondrian                            | \$245,632,214        | 27.9%         | 0.0%                                    |
| Parametric Core                     | \$87,371,343         | 9.9%          | 0.0%                                    |
| Parametric Currency Overlay         | \$39,567,954         | 4.5%          | 0.0%                                    |
| Actual vs. Policy Weight Difference |                      |               | -0.4%                                   |
| <b>Total</b>                        | <b>\$880,242,816</b> | <b>100.0%</b> | <b>-0.3%</b>                            |

**Statistics Summary**

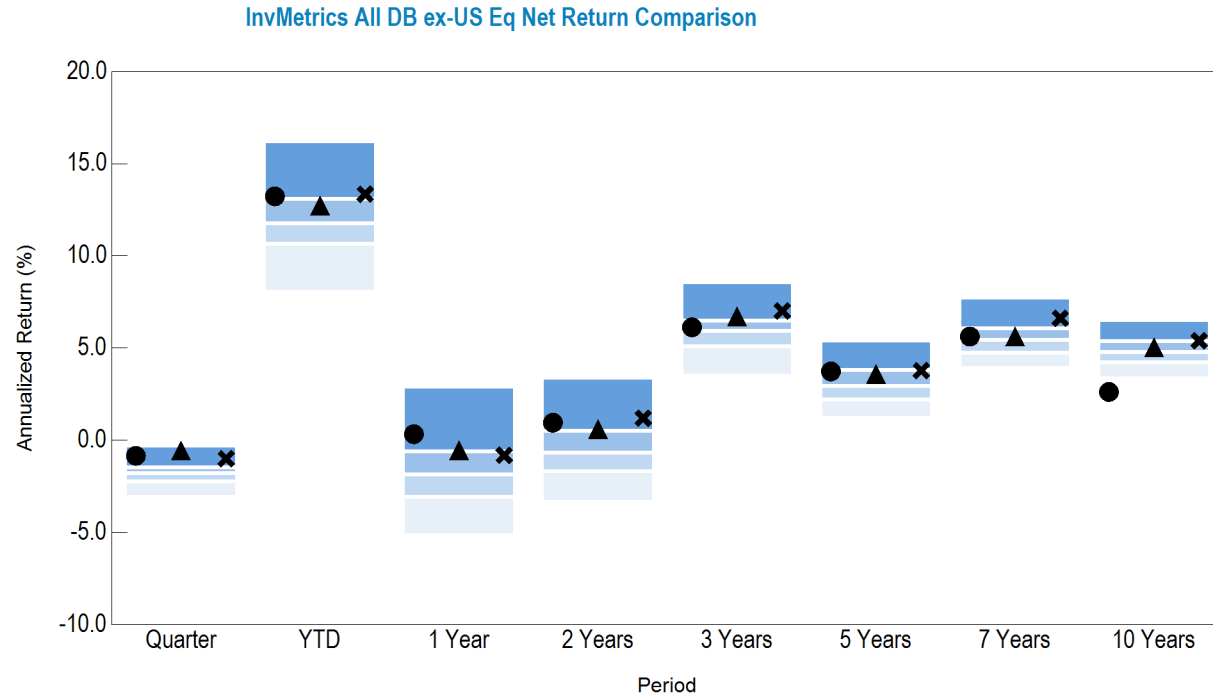
**3 Years**

|                                    | Anlzd Return | Anlzd Standard<br>Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| International Equity               | 6.1%         | 11.3%                       | 0.4          | -0.4              | 1.5%           |
| Blended International Equity Index | 6.7%         | 11.2%                       | 0.5          | --                | 0.0%           |
| Developed Markets                  | 5.9%         | 11.7%                       | 0.4          | -0.5              | 1.9%           |
| MSCI ACWI ex USA Gross             | 6.8%         | 11.4%                       | 0.5          | --                | 0.0%           |
| Baillie Gifford                    | 6.5%         | 13.2%                       | 0.4          | -0.1              | 5.2%           |
| MSCI ACWI ex US                    | 6.8%         | 11.4%                       | 0.5          | --                | 0.0%           |
| BlackRock EAFE Index               | 6.9%         | 11.1%                       | 0.5          | 1.8               | 0.2%           |
| MSCI EAFE                          | 6.5%         | 11.1%                       | 0.4          | --                | 0.0%           |
| Mondrian                           | 4.8%         | 11.8%                       | 0.3          | -0.3              | 3.5%           |
| MSCI ACWI ex USA Value Gross       | 5.9%         | 11.7%                       | 0.4          | --                | 0.0%           |
| Emerging Markets                   | 4.2%         | 12.3%                       | 0.2          | -0.6              | 3.8%           |
| MSCI Emerging Markets Gross        | 6.4%         | 14.0%                       | 0.3          | --                | 0.0%           |
| Parametric Core                    | 4.2%         | 12.3%                       | 0.2          | -0.6              | 3.8%           |
| MSCI Emerging Markets Gross        | 6.4%         | 14.0%                       | 0.3          | --                | 0.0%           |

Statistics Summary

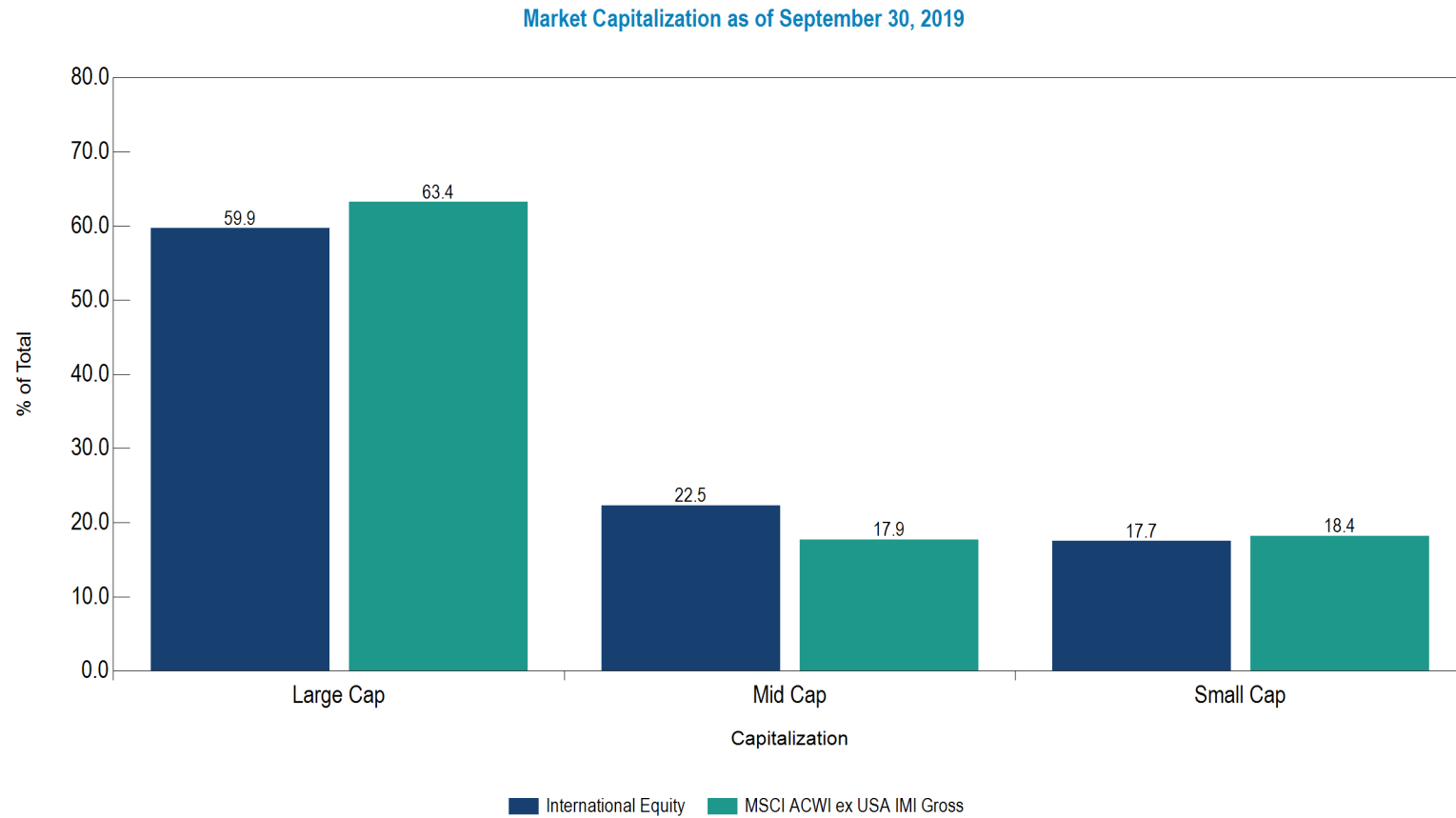
5 Years

|                                    | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------------|--------------|--------------------------|--------------|-------------------|----------------|
| International Equity               | 3.7%         | 12.1%                    | 0.2          | 0.1               | 1.6%           |
| Blended International Equity Index | 3.6%         | 12.3%                    | 0.2          | --                | 0.0%           |
| Developed Markets                  | 3.9%         | 12.2%                    | 0.2          | 0.2               | 2.0%           |
| MSCI ACWI ex USA Gross             | 3.4%         | 12.5%                    | 0.2          | --                | 0.0%           |
| Baillie Gifford                    | 5.6%         | 13.7%                    | 0.3          | 0.5               | 4.7%           |
| MSCI ACWI ex US                    | 3.4%         | 12.5%                    | 0.2          | --                | 0.0%           |
| BlackRock EAFE Index               | 3.6%         | 12.3%                    | 0.2          | 1.9               | 0.2%           |
| MSCI EAFE                          | 3.3%         | 12.2%                    | 0.2          | --                | 0.0%           |
| Mondrian                           | 2.0%         | 12.0%                    | 0.1          | 0.1               | 4.3%           |
| MSCI ACWI ex USA Value Gross       | 1.5%         | 13.2%                    | 0.0          | --                | 0.0%           |
| Emerging Markets                   | 0.2%         | 14.1%                    | -0.1         | -0.6              | 4.1%           |
| MSCI Emerging Markets Gross        | 2.7%         | 15.6%                    | 0.1          | --                | 0.0%           |



|                                      | Return (Rank) |           |           |          |          |          |          |          |
|--------------------------------------|---------------|-----------|-----------|----------|----------|----------|----------|----------|
|                                      | Quarter       | YTD       | 1 Year    | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile                       | -0.3          | 16.2      | 2.9       | 3.4      | 8.6      | 5.4      | 7.7      | 6.5      |
| 25th Percentile                      | -1.5          | 13.1      | -0.6      | 0.5      | 6.5      | 3.8      | 6.1      | 5.4      |
| Median                               | -1.8          | 11.8      | -1.8      | -0.6     | 6.0      | 3.0      | 5.5      | 4.8      |
| 75th Percentile                      | -2.2          | 10.7      | -3.1      | -1.7     | 5.1      | 2.2      | 4.8      | 4.3      |
| 95th Percentile                      | -3.0          | 8.1       | -5.1      | -3.3     | 3.5      | 1.2      | 3.9      | 3.4      |
| # of Portfolios                      | 323           | 323       | 321       | 317      | 303      | 285      | 246      | 180      |
| ● International Equity               | -0.8 (11)     | 13.2 (23) | 0.3 (19)  | 1.0 (20) | 6.1 (41) | 3.7 (27) | 5.6 (42) | 2.6 (99) |
| ▲ Blended International Equity Index | -0.6 (7)      | 12.7 (31) | -0.5 (24) | 0.6 (24) | 6.7 (22) | 3.6 (30) | 5.6 (41) | 5.0 (41) |
| ✕ MSCI EAFE Gross                    | -1.0 (14)     | 13.3 (23) | -0.8 (30) | 1.2 (16) | 7.0 (17) | 3.8 (26) | 6.6 (15) | 5.4 (25) |





See appendix for the market capitalization breakpoints.

Characteristics

|                                 | Portfolio | MSCI ACWI ex USA IMI Gross |
|---------------------------------|-----------|----------------------------|
| Number of Holdings              | 2,143     | 6,374                      |
| Weighted Avg. Market Cap. (\$B) | 48.7      | 55.8                       |
| Median Market Cap. (\$B)        | 6.6       | 1.5                        |
| Price To Earnings               | 16.5      | 14.9                       |
| Price To Book                   | 2.4       | 2.3                        |
| Price To Sales                  | 1.1       | 1.1                        |
| Return on Equity (%)            | 15.3      | 14.5                       |
| Yield (%)                       | 3.1       | 3.2                        |
| Beta (holdings; global)         | 1.0       | 0.9                        |

Top Holdings

|                               |      |
|-------------------------------|------|
| UNITED OVERSEAS BANK          | 1.3% |
| ALIBABA GROUP HOLDING ADR 1:8 | 1.0% |
| GLAXOSMITHKLINE               | 0.9% |
| SANOFI                        | 0.9% |
| NOVARTIS 'R'                  | 0.9% |
| TAIWAN SEMICON.SPN.ADR 1:5    | 0.9% |
| AIA GROUP                     | 0.9% |
| SHISEIDO                      | 0.8% |
| HARGREAVES LANSDOWN           | 0.8% |
| ASML HOLDING                  | 0.8% |

Best Performers

|                                  | Return % |
|----------------------------------|----------|
| SIAM CITY CEMENT FB (Q:SCCF)     | 76.3%    |
| NICKEL ASIA (PH:NIK)             | 74.0%    |
| HLB (KO:KPI)                     | 65.2%    |
| ADVANTEST (J:AB@N)               | 60.5%    |
| PUBLIC POWER (G:PPC)             | 59.0%    |
| MIGROS TICARET (TK:MIG)          | 57.2%    |
| ANADOLU GRUBU HOLDING A (TK:YAZ) | 50.8%    |
| SILOAM INTL.HOSPS. (ID:SIO)      | 50.3%    |
| BUMI ARMADA (L:ARMO)             | 49.2%    |
| VIA VAREJO ON (BR:GLB)           | 43.7%    |

Worst Performers

|  | Return % |
|--|----------|
| SILLAJEN (KO:JLS)  | -84.1%   |
| HOUSING DEV.&INFR. (IN:IHD)                              | -76.9%   |
| CENTRAL PUERTO ADR 1:10 (CEPU)                           | -68.2%   |
| BANCO MACRO 'B' SPN.ADR 1:10 (BMA)                       | -64.3%   |
| GRUPO FINANCIERO GALICIA CL.B<br>SHS.SPN.ADR 1:10 (GGAL) | -63.4%   |
| BBVA BANCO FRANCES ADR 1:3 (BBAR)                        | -61.7%   |
| INDIABULLS REAL ESTATE (IN:IBR)                          | -60.7%   |
| INDIABULLS HOUSING FIN (IN:IEZ)                          | -58.4%   |
| JASTRZEBSKA SPOLKA WEGLOWA<br>(PO:JSW)                   | -54.6%   |
| VIROMED (KO:VIR)   | -52.6%   |

International Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

|                        | Attribution Effects |                  |                   |                     | Returns     |           | Sector Weights |              |              |               |               |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|--------------|--------------|---------------|---------------|
|                        | Total Effects       | Selection Effect | Allocation Effect | Interaction Effects | Portfolio   | Benchmark | Portfolio      | Benchmark    |              |               |               |
| Energy                 | 0.0%                | -0.1%            | 0.0%              | 0.1%                | -6.6%       | -5.1%     | 5.2%           | 7.0%         |              |               |               |
| Materials              | 0.1%                | 0.0%             | 0.1%              | 0.0%                | -6.5%       | -6.7%     | 5.8%           | 7.6%         |              |               |               |
| Industrials            | 0.0%                | 0.0%             | 0.0%              | -0.1%               | -3.5%       | -3.7%     | 14.3%          | 12.4%        |              |               |               |
| Consumer Discretionary | -0.2%               | -0.2%            | 0.0%              | -0.1%               | -2.6%       | -0.9%     | 13.4%          | 11.7%        |              |               |               |
| Consumer Staples       | 0.1%                | 0.1%             | 0.0%              | 0.0%                | 2.4%        | 1.2%      | 9.1%           | 9.6%         |              |               |               |
| Health Care            | 0.1%                | 0.1%             | 0.1%              | 0.0%                | 1.5%        | 0.0%      | 9.1%           | 6.9%         |              |               |               |
| Financials             | 0.3%                | 0.1%             | 0.1%              | 0.1%                | -3.8%       | -4.6%     | 17.6%          | 21.3%        |              |               |               |
| Information Technology | 0.1%                | 0.0%             | 0.0%              | 0.0%                | 3.2%        | 2.3%      | 7.9%           | 7.6%         |              |               |               |
| Communication Services | 0.0%                | 0.1%             | 0.0%              | -0.1%               | -2.4%       | -2.4%     | 7.2%           | 7.5%         |              |               |               |
| Utilities              | 0.2%                | 0.2%             | 0.0%              | 0.0%                | 4.6%        | 0.3%      | 3.6%           | 3.8%         |              |               |               |
| Real Estate            | 0.1%                | 0.1%             | 0.0%              | 0.0%                | -1.1%       | -3.0%     | 2.3%           | 4.7%         |              |               |               |
| Cash                   | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.5%        | --        | 4.5%           | 0.0%         |              |               |               |
| Unclassified           | 0.0%                | --               | 0.0%              | --                  | --          | -2.4%     | 0.0%           | 0.0%         |              |               |               |
| <b>Portfolio</b>       | <b>0.8%</b>         | <b>=</b>         | <b>0.5%</b>       | <b>+</b>            | <b>0.3%</b> | <b>+</b>  | <b>0.0%</b>    | <b>-1.6%</b> | <b>-2.4%</b> | <b>100.0%</b> | <b>100.0%</b> |

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

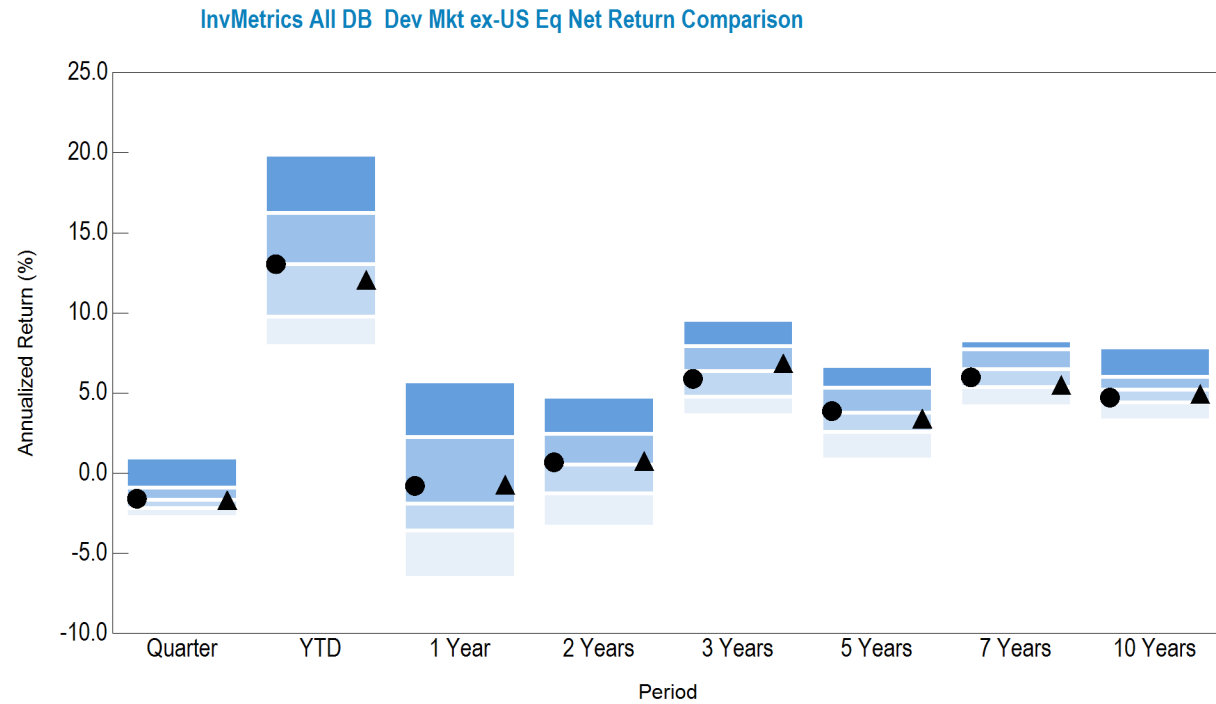
|                 | Returns and Weights |              |                |              | Attribution Effects |                   |                 |                    | Total Effects |
|-----------------|---------------------|--------------|----------------|--------------|---------------------|-------------------|-----------------|--------------------|---------------|
|                 | Manager Return      | Index Return | Manager Weight | Index Weight | Selection Effect    | Allocation Effect | Currency Effect | Interaction Effect |               |
| <b>Europe</b>   |                     |              |                |              |                     |                   |                 |                    |               |
| Austria         | -3.1%               | -1.9%        | 0.1%           | 0.3%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Belgium         | 3.4%                | 3.7%         | 0.3%           | 0.9%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Czech Republic* | -8.9%               | -7.8%        | 0.1%           | 0.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Denmark         | -9.1%               | -2.3%        | 1.4%           | 0.9%         | -0.1%               | 0.0%              | 0.0%            | 0.0%               | -0.1%         |
| Finland         | -2.8%               | -2.7%        | 0.7%           | 0.6%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| France          | 0.2%                | -2.4%        | 5.2%           | 6.2%         | 0.2%                | 0.0%              | 0.0%            | 0.0%               | 0.2%          |
| Germany         | -5.2%               | -4.4%        | 7.1%           | 4.6%         | 0.0%                | 0.0%              | -0.1%           | 0.0%               | -0.2%         |
| Greece*         | -1.3%               | -2.0%        | 0.2%           | 0.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Hungary*        | -7.4%               | -5.8%        | 0.1%           | 0.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Ireland         | -8.8%               | -4.1%        | 0.5%           | 0.3%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Italy           | 1.8%                | -0.7%        | 2.0%           | 1.6%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Luxembourg      | -6.4%               | -2.4%        | 0.0%           | 0.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Netherlands     | 2.8%                | 1.3%         | 2.2%           | 1.5%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Norway          | -3.3%               | -4.2%        | 0.2%           | 0.7%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Poland*         | -11.6%              | -13.6%       | 0.3%           | 0.3%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Portugal        | 4.3%                | -3.3%        | 0.4%           | 0.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Russia*         | -0.7%               | -0.6%        | 0.9%           | 1.5%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Spain           | -3.1%               | -3.7%        | 2.3%           | 1.7%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Sweden          | -2.5%               | -4.1%        | 2.8%           | 1.6%         | 0.0%                | 0.0%              | -0.1%           | 0.0%               | 0.0%          |
| Switzerland     | -1.1%               | -0.2%        | 5.0%           | 4.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| United Kingdom  | -2.0%               | -2.5%        | 13.6%          | 7.4%         | 0.0%                | 0.0%              | -0.2%           | 0.0%               | -0.1%         |

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI 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          | 0.8%                | -1.4%        | 3.6%           | 3.3%         | 0.1%                | 0.0%              | 0.0%            | 0.0%               | 0.1%          |
| China*             | -5.7%               | -4.1%        | 4.1%           | 18.7%        | -0.7%               | 0.3%              | 0.4%            | 0.5%               | 0.5%          |
| Hong Kong          | -7.2%               | -12.2%       | 4.6%           | 2.9%         | 0.1%                | -0.2%             | 0.0%            | 0.1%               | 0.0%          |
| India*             | -5.3%               | -5.8%        | 3.2%           | 4.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.1%          |
| Indonesia*         | -5.0%               | -6.2%        | 0.5%           | 0.9%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Japan              | 3.2%                | 3.2%         | 17.0%          | 14.1%        | 0.0%                | 0.1%              | 0.0%            | 0.0%               | 0.1%          |
| Korea*             | -5.8%               | -6.5%        | 1.9%           | 3.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.1%          |
| Malaysia*          | -7.4%               | -5.4%        | 0.8%           | 0.9%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| New Zealand        | -2.8%               | -1.9%        | 0.1%           | 0.2%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Pakistan*          | -3.2%               | -1.7%        | 0.1%           | 0.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Philippines*       | -5.4%               | -4.3%        | 0.3%           | 0.5%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Singapore          | -6.1%               | -5.4%        | 2.7%           | 1.0%         | 0.0%                | -0.1%             | 0.0%            | 0.0%               | -0.1%         |
| Taiwan*            | 9.5%                | 4.2%         | 2.2%           | 2.5%         | 0.1%                | 0.0%              | 0.0%            | 0.0%               | 0.1%          |
| Thailand*          | -4.6%               | -5.7%        | 0.4%           | 1.2%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>Americas</b>    |                     |              |                |              |                     |                   |                 |                    |               |
| Argentina*         | --                  | -47.0%       | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Brazil*            | 1.1%                | -3.5%        | 1.8%           | 2.2%         | 0.1%                | 0.0%              | 0.1%            | 0.0%               | 0.1%          |
| Canada             | -0.1%               | 0.7%         | 1.2%           | 4.8%         | -0.1%               | -0.1%             | 0.1%            | 0.1%               | 0.0%          |
| Chile*             | -7.2%               | -8.3%        | 0.3%           | 0.4%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Colombia*          | -6.0%               | -6.2%        | 0.2%           | 0.2%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Mexico*            | 2.0%                | -1.3%        | 1.0%           | 0.7%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Peru*              | -8.7%               | -10.2%       | 0.2%           | 0.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| United States      | -13.5%              | 1.6%         | 1.4%           | 0.0%         | 0.0%                | 0.0%              | 0.0%            | -0.2%              | -0.2%         |

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI 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*                | 3.1%                | 2.4%         | 0.1%           | 0.1%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Israel                | 0.0%                | 2.3%         | 0.1%           | 0.4%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Kuwait**              | -2.5%               | -2.4%        | 0.1%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Qatar*                | -2.0%               | -0.5%        | 0.2%           | 0.4%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Romania**             | 7.1%                | -2.4%        | 0.0%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Saudi Arabia*         | --                  | -8.0%        | 0.0%           | 1.2%          | --                  | 0.1%              | 0.0%            | --                 | 0.1%          |
| South Africa*         | -11.4%              | -11.4%       | 1.6%           | 1.2%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Turkey*               | 11.0%               | 10.0%        | 0.2%           | 0.2%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| United Arab Emirates* | 2.4%                | -0.1%        | 0.2%           | 0.4%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>Totals</b>         |                     |              |                |               |                     |                   |                 |                    |               |
| Americas              | -3.2%               | -1.8%        | 6.2%           | 8.5%          | -0.2%               | 0.0%              | 0.1%            | 0.0%               | 0.0%          |
| Europe                | -2.1%               | -2.3%        | 45.4%          | 34.4%         | 0.0%                | 0.2%              | -0.4%           | 0.0%               | -0.2%         |
| Asia/Pacific          | -0.8%               | -2.4%        | 41.5%          | 53.3%         | 0.5%                | 0.1%              | 0.4%            | -0.1%              | 1.0%          |
| Other                 | -6.4%               | -5.2%        | 2.5%           | 3.8%          | 0.0%                | 0.1%              | 0.0%            | 0.0%               | 0.0%          |
| Cash                  | 0.5%                | --           | 4.5%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>Total</b>          | <b>-1.6%</b>        | <b>-2.4%</b> | <b>100.0%</b>  | <b>100.0%</b> | <b>0.5%</b>         | <b>0.3%</b>       | <b>0.1%</b>     | <b>-0.1%</b>       | <b>0.8%</b>   |
| <b>Totals</b>         |                     |              |                |               |                     |                   |                 |                    |               |
| Developed             | -1.4%               | -1.1%        | 74.4%          | 58.9%         | -0.1%               | 0.2%              | -0.4%           | 0.0%               | -0.4%         |
| Emerging*             | -3.1%               | -4.3%        | 21.0%          | 41.1%         | 0.4%                | 0.4%              | 0.5%            | -0.2%              | 1.1%          |
| Frontier**            | -0.8%               | --           | 0.1%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Cash                  | 0.5%                | --           | 4.5%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |



|                          | Return (Rank) |           |           |          |          |          |          |          |
|--------------------------|---------------|-----------|-----------|----------|----------|----------|----------|----------|
|                          | Quarter       | YTD       | 1 Year    | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile           | 0.9           | 19.9      | 5.7       | 4.7      | 9.5      | 6.7      | 8.3      | 7.8      |
| 25th Percentile          | -0.9          | 16.3      | 2.2       | 2.5      | 8.0      | 5.3      | 7.7      | 6.0      |
| Median                   | -1.7          | 13.1      | -1.9      | 0.5      | 6.4      | 3.8      | 6.5      | 5.2      |
| 75th Percentile          | -2.2          | 9.8       | -3.6      | -1.2     | 4.8      | 2.6      | 5.4      | 4.4      |
| 95th Percentile          | -2.7          | 7.9       | -6.5      | -3.3     | 3.6      | 0.9      | 4.2      | 3.3      |
| # of Portfolios          | 139           | 137       | 136       | 133      | 126      | 117      | 101      | 63       |
| ● Developed Markets      | -1.6 (47)     | 13.0 (51) | -0.8 (42) | 0.7 (49) | 5.9 (62) | 3.9 (49) | 6.0 (60) | 4.7 (68) |
| ▲ MSCI ACWI ex USA Gross | -1.7 (54)     | 12.1 (56) | -0.7 (42) | 0.8 (48) | 6.8 (37) | 3.4 (60) | 5.5 (75) | 4.9 (57) |

Characteristics

|                                 | Portfolio | MSCI ACWI ex USA Gross |
|---------------------------------|-----------|------------------------|
| Number of Holdings              | 1,028     | 2,206                  |
| Weighted Avg. Market Cap. (\$B) | 51.5      | 64.0                   |
| Median Market Cap. (\$B)        | 10.6      | 7.3                    |
| Price To Earnings               | 17.1      | 15.0                   |
| Price To Book                   | 2.4       | 2.3                    |
| Price To Sales                  | 1.2       | 1.2                    |
| Return on Equity (%)            | 15.2      | 15.0                   |
| Yield (%)                       | 3.0       | 3.3                    |
| Beta (holdings: global)         | 1.0       | 0.9                    |

Top Holdings

|                               |      |
|-------------------------------|------|
| UNITED OVERSEAS BANK          | 1.4% |
| ALIBABA GROUP HOLDING ADR 1:8 | 1.1% |
| GLAXOSMITHKLINE               | 1.0% |
| SANOFI                        | 1.0% |
| NOVARTIS 'R'                  | 1.0% |
| TAIWAN SEMICON.SPN.ADR 1:5    | 1.0% |
| AIA GROUP                     | 1.0% |
| SHISEIDO                      | 0.9% |
| HARGREAVES LANSDOWN           | 0.9% |
| ASML HOLDING                  | 0.9% |

Best Performers

|  | Return % |
|--|----------|
| ADVANTEST (J:AB@N)                     | 60.5%    |
| CASINO GUICHARD-P (F:CSO)              | 39.7%    |
| TOKYO ELECTRON (J:RG@N)                | 36.9%    |
| NIPPON PAINT HOLDINGS (J:NPPT)         | 33.8%    |
| NAVER (KO:NHN)                         | 32.9%    |
| CHINA MED.SY.HDG.(DI) (K:CHM)          | 32.5%    |
| LENDLEASE GROUP STAPLED UNITS (A:LLCX) | 32.2%    |
| M3 (J:SNET)                            | 31.7%    |
| RENASAS ELECTRONICS (J:RENE)           | 30.8%    |
| LONDON STOCK EX.GROUP (UKIR:LSE)       | 29.4%    |

Worst Performers

|   | Return % |
|---|----------|
| INDIABULLS HOUSING FIN (IN:IEZ)             | -58.4%   |
| MICRO FOCUS INTL. (UKIR:MCRO)               | -44.4%   |
| YANGZIJANG SHIPBUILDING (HOLDINGS) (T:YSHL) | -38.6%   |
| SASOL (R:SOLJ)                              | -32.8%   |
| CIMIC GROUP (A:CIMX)                        | -31.0%   |
| IPSEN (F:IPN)                               | -30.5%   |
| EVRAZ (UKIR:EVR)                            | -28.0%   |
| KONICA MINOLTA (J:KONM)                     | -27.1%   |
| AIB GROUP (LON) (UKIR:AIBG)                 | -26.1%   |
| TEVA PHARM.INDS.ADR 1:1 (TEVA)              | -25.5%   |



Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

|                        | Attribution Effects |                  |                   |                     | Returns     |           | Sector Weights |              |              |               |               |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|--------------|--------------|---------------|---------------|
|                        | Total Effects       | Selection Effect | Allocation Effect | Interaction Effects | Portfolio   | Benchmark | Portfolio      | Benchmark    |              |               |               |
| Energy                 | 0.0%                | -0.2%            | 0.1%              | 0.1%                | -7.3%       | -4.4%     | 4.8%           | 7.1%         |              |               |               |
| Materials              | 0.2%                | 0.1%             | 0.1%              | 0.0%                | -6.1%       | -6.3%     | 5.5%           | 7.7%         |              |               |               |
| Industrials            | -0.3%               | -0.1%            | 0.0%              | -0.1%               | -3.4%       | -2.5%     | 15.3%          | 12.1%        |              |               |               |
| Consumer Discretionary | -0.3%               | -0.2%            | 0.0%              | -0.2%               | -2.6%       | -0.7%     | 14.4%          | 11.3%        |              |               |               |
| Consumer Staples       | 0.1%                | 0.1%             | 0.0%              | 0.0%                | 3.0%        | 1.7%      | 9.3%           | 9.4%         |              |               |               |
| Health Care            | 0.1%                | 0.0%             | 0.0%              | 0.0%                | 1.9%        | 1.1%      | 9.9%           | 8.3%         |              |               |               |
| Financials             | 0.1%                | -0.1%            | 0.1%              | 0.1%                | -3.6%       | -3.4%     | 18.4%          | 22.0%        |              |               |               |
| Information Technology | 0.1%                | 0.0%             | 0.0%              | 0.0%                | 3.1%        | 2.4%      | 8.6%           | 8.5%         |              |               |               |
| Communication Services | 0.0%                | 0.1%             | 0.0%              | -0.1%               | -2.2%       | -2.7%     | 7.1%           | 6.9%         |              |               |               |
| Utilities              | 0.2%                | 0.2%             | 0.0%              | 0.0%                | 6.6%        | 1.4%      | 3.4%           | 3.4%         |              |               |               |
| Real Estate            | 0.1%                | 0.1%             | 0.0%              | 0.0%                | 0.3%        | -3.0%     | 1.9%           | 3.2%         |              |               |               |
| Cash                   | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.5%        | --        | 1.4%           | 0.0%         |              |               |               |
| Unclassified           | 0.0%                | --               | --                | --                  | --          | --        | 0.0%           | 0.0%         |              |               |               |
| <b>Portfolio</b>       | <b>0.3%</b>         | <b>=</b>         | <b>0.1%</b>       | <b>+</b>            | <b>0.3%</b> | <b>+</b>  | <b>-0.1%</b>   | <b>-1.4%</b> | <b>-1.7%</b> | <b>100.0%</b> | <b>100.0%</b> |

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

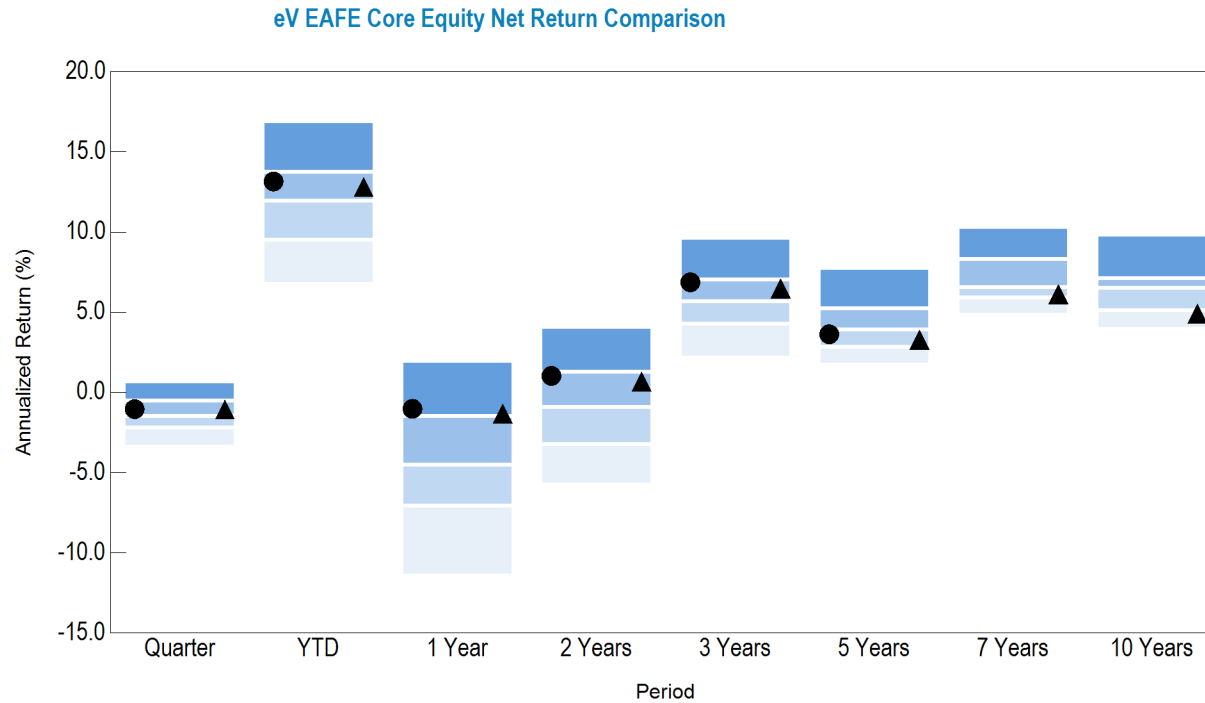
|                 | Returns and Weights |              |                |              | Attribution Effects |                   |                 |                    | Total Effects |
|-----------------|---------------------|--------------|----------------|--------------|---------------------|-------------------|-----------------|--------------------|---------------|
|                 | Manager Return      | Index Return | Manager Weight | Index Weight | Selection Effect    | Allocation Effect | Currency Effect | Interaction Effect |               |
| <b>Europe</b>   |                     |              |                |              |                     |                   |                 |                    |               |
| Austria         | -3.1%               | -3.0%        | 0.1%           | 0.2%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Belgium         | 3.4%                | 3.4%         | 0.3%           | 0.6%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Czech Republic* | --                  | -9.4%        | 0.0%           | 0.0%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Denmark         | -9.1%               | -0.9%        | 1.6%           | 1.1%         | -0.1%               | 0.0%              | 0.0%            | 0.0%               | -0.1%         |
| Finland         | -2.8%               | -1.8%        | 0.8%           | 0.7%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| France          | 0.2%                | -1.6%        | 6.0%           | 7.6%         | 0.1%                | 0.0%              | 0.1%            | 0.0%               | 0.1%          |
| Germany         | -5.2%               | -4.0%        | 8.2%           | 5.8%         | -0.1%               | 0.0%              | -0.1%           | 0.0%               | -0.2%         |
| Greece*         | --                  | -2.9%        | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Hungary*        | --                  | -3.9%        | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Ireland         | -8.8%               | -0.5%        | 0.6%           | 0.4%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | -0.1%         |
| Italy           | 1.8%                | 0.2%         | 2.3%           | 1.5%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Luxembourg      | -4.4%               | -1.7%        | 0.0%           | 0.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Netherlands     | 2.9%                | 3.6%         | 2.5%           | 2.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Norway          | -3.3%               | -3.3%        | 0.2%           | 0.5%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Poland*         | --                  | -11.7%       | 0.0%           | 0.3%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Portugal        | 4.3%                | 1.9%         | 0.5%           | 0.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Russia*         | 1.2%                | -1.1%        | 0.3%           | 1.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Spain           | -3.1%               | -3.8%        | 2.6%           | 2.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Sweden          | -2.5%               | -4.8%        | 3.2%           | 1.8%         | 0.0%                | 0.0%              | -0.1%           | 0.0%               | 0.0%          |
| Switzerland     | -1.1%               | 0.3%         | 5.7%           | 6.2%         | -0.1%               | 0.0%              | 0.0%            | 0.0%               | -0.1%         |
| United Kingdom  | -2.0%               | -2.5%        | 15.6%          | 11.2%        | 0.1%                | 0.0%              | -0.1%           | 0.0%               | -0.1%         |

Developed Markets 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          | 0.8%                | -1.3%        | 4.2%           | 4.8%         | 0.1%                | 0.0%              | 0.0%            | 0.0%               | 0.1%          |
| China*             | -5.6%               | -4.7%        | 4.0%           | 8.4%         | -0.1%               | 0.2%              | 0.0%            | 0.0%               | 0.2%          |
| Hong Kong          | -7.6%               | -11.9%       | 4.7%           | 2.7%         | 0.1%                | -0.2%             | 0.0%            | 0.1%               | 0.0%          |
| India*             | -5.3%               | -5.2%        | 2.8%           | 2.4%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Indonesia*         | -6.0%               | -5.3%        | 0.1%           | 0.6%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Japan              | 3.2%                | 3.2%         | 19.5%          | 16.0%        | 0.0%                | 0.1%              | 0.0%            | 0.0%               | 0.1%          |
| Korea*             | -4.3%               | -4.7%        | 1.4%           | 3.3%         | 0.0%                | 0.0%              | 0.1%            | 0.0%               | 0.1%          |
| Malaysia*          | -9.1%               | -6.4%        | 0.6%           | 0.6%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| New Zealand        | -2.8%               | -2.7%        | 0.1%           | 0.2%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Pakistan*          | --                  | 1.2%         | 0.0%           | 0.0%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Philippines*       | --                  | -4.5%        | 0.0%           | 0.3%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Singapore          | -6.0%               | -5.8%        | 3.1%           | 0.9%         | 0.0%                | -0.1%             | 0.0%            | 0.0%               | -0.2%         |
| Taiwan*            | 14.1%               | 5.8%         | 1.7%           | 2.9%         | 0.2%                | -0.1%             | 0.0%            | -0.1%              | 0.1%          |
| Thailand*          | -13.6%              | -5.9%        | 0.1%           | 0.8%         | -0.1%               | 0.0%              | 0.0%            | 0.1%               | 0.0%          |
| <b>Americas</b>    |                     |              |                |              |                     |                   |                 |                    |               |
| Argentina*         | --                  | -46.7%       | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Brazil*            | 1.9%                | -4.7%        | 1.3%           | 2.0%         | 0.1%                | 0.0%              | 0.1%            | 0.0%               | 0.1%          |
| Canada             | -0.1%               | 0.7%         | 1.4%           | 6.8%         | -0.1%               | -0.1%             | 0.1%            | 0.1%               | 0.0%          |
| Chile*             | --                  | -7.5%        | 0.0%           | 0.2%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Colombia*          | --                  | -6.1%        | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Mexico*            | 7.2%                | -1.6%        | 0.5%           | 0.7%         | 0.1%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Peru*              | -8.9%               | -9.3%        | 0.1%           | 0.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| United States      | -15.3%              | 1.6%         | 1.4%           | 0.0%         | 0.0%                | 0.0%              | 0.0%            | -0.2%              | -0.2%         |

Developed Markets 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*                | --                  | 7.4%         | 0.0%           | 0.0%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Israel                | 0.0%                | -3.6%        | 0.1%           | 0.4%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Qatar*                | -6.3%               | -0.7%        | 0.0%           | 0.3%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Romania**             | 7.1%                | -1.7%        | 0.0%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Saudi Arabia*         | --                  | -9.7%        | 0.0%           | 0.4%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| South Africa*         | -11.0%              | -12.2%       | 1.0%           | 1.6%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.1%          |
| Turkey*               | --                  | 11.6%        | 0.0%           | 0.1%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| United Arab Emirates* | 1.9%                | 0.7%         | 0.1%           | 0.2%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>Totals</b>         |                     |              |                |               |                     |                   |                 |                    |               |
| Americas              | -3.5%               | -1.3%        | 4.6%           | 10.1%         | -0.3%               | 0.0%              | 0.2%            | 0.1%               | 0.0%          |
| Europe                | -2.0%               | -1.8%        | 50.4%          | 43.3%         | -0.1%               | 0.1%              | -0.3%           | 0.0%               | -0.3%         |
| Asia/Pacific          | -0.3%               | -1.3%        | 42.2%          | 43.7%         | 0.4%                | 0.0%              | 0.1%            | 0.0%               | 0.4%          |
| Other                 | -8.8%               | -7.6%        | 1.3%           | 2.9%          | 0.0%                | 0.1%              | 0.0%            | 0.0%               | 0.1%          |
| Cash                  | 0.5%                | --           | 1.4%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>Total</b>          | <b>-1.4%</b>        | <b>-1.7%</b> | <b>100.0%</b>  | <b>100.0%</b> | <b>0.0%</b>         | <b>0.1%</b>       | <b>0.0%</b>     | <b>0.1%</b>        | <b>0.3%</b>   |
| <b>Totals</b>         |                     |              |                |               |                     |                   |                 |                    |               |
| Developed             | -1.3%               | -0.9%        | 84.5%          | 73.5%         | -0.4%               | 0.1%              | -0.3%           | -0.1%              | -0.6%         |
| Emerging*             | -2.3%               | -4.1%        | 14.1%          | 26.5%         | 0.5%                | 0.3%              | 0.3%            | -0.2%              | 0.9%          |
| Frontier**            | 7.1%                | --           | 0.0%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Cash                  | 0.5%                | --           | 1.4%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |



|                               | Return (Rank) |           |           |          |          |          |          |          |
|-------------------------------|---------------|-----------|-----------|----------|----------|----------|----------|----------|
|                               | Quarter       | YTD       | 1 Year    | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| <b>5th Percentile</b>         | 0.6           | 16.9      | 2.0       | 4.1      | 9.6      | 7.7      | 10.3     | 9.8      |
| <b>25th Percentile</b>        | -0.5          | 13.8      | -1.5      | 1.3      | 7.1      | 5.3      | 8.4      | 7.1      |
| <b>Median</b>                 | -1.4          | 12.0      | -4.5      | -0.9     | 5.7      | 3.9      | 6.6      | 6.5      |
| <b>75th Percentile</b>        | -2.2          | 9.5       | -7.1      | -3.2     | 4.3      | 2.9      | 6.0      | 5.2      |
| <b>95th Percentile</b>        | -3.4          | 6.8       | -11.4     | -5.7     | 2.2      | 1.7      | 4.9      | 4.0      |
| <b># of Portfolios</b>        | 146           | 146       | 146       | 144      | 143      | 122      | 104      | 86       |
| <b>● BlackRock EAFE Index</b> | -1.0 (38)     | 13.2 (37) | -1.0 (21) | 1.0 (28) | 6.9 (30) | 3.6 (58) | -- (--)  | -- (--)  |
| <b>▲ MSCI EAFE</b>            | -1.1 (38)     | 12.8 (40) | -1.3 (24) | 0.7 (30) | 6.5 (35) | 3.3 (65) | 6.1 (70) | 4.9 (83) |

Characteristics

|                                 | Portfolio | MSCI EAFE |
|---------------------------------|-----------|-----------|
| Number of Holdings              | 924       | 922       |
| Weighted Avg. Market Cap. (\$B) | 60.2      | 59.7      |
| Median Market Cap. (\$B)        | 9.9       | 9.9       |
| Price To Earnings               | 15.9      | 15.8      |
| Price To Book                   | 2.3       | 2.3       |
| Price To Sales                  | 1.1       | 1.1       |
| Return on Equity (%)            | 14.4      | 14.3      |
| Yield (%)                       | 3.3       | 3.3       |
| Beta (holdings; global)         | 1.0       | 1.0       |

Top Holdings

|                     |      |
|---------------------|------|
| NESTLE 'R'          | 2.4% |
| ROCHE HOLDING       | 1.5% |
| NOVARTIS 'R'        | 1.3% |
| HSBC HOLDINGS       | 1.1% |
| TOYOTA MOTOR        | 1.1% |
| BP                  | 0.9% |
| ROYAL DUTCH SHELL A | 0.9% |
| TOTAL               | 0.9% |
| ASTRAZENECA         | 0.9% |
| AIA GROUP           | 0.8% |

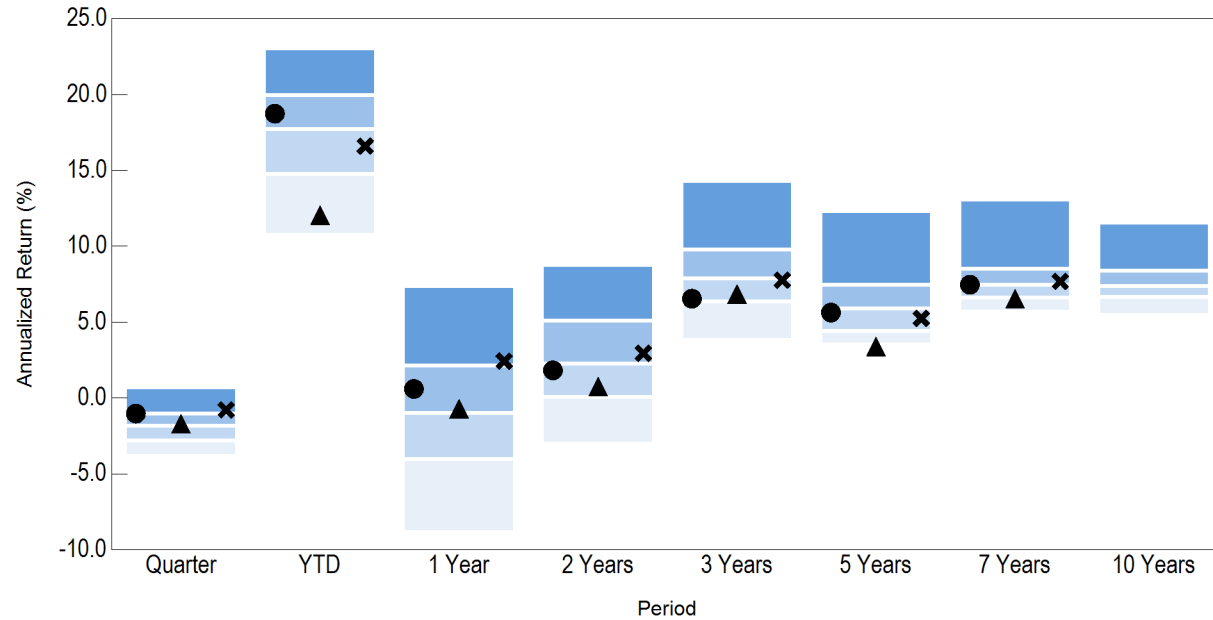
Best Performers

|                                       | Return % |
|---------------------------------------|----------|
| ADVANTEST (J:AB@N)                    | 60.5%    |
| CASINO GUICHARD-P (F:CSO)             | 39.7%    |
| TOKYO ELECTRON (J:RG@N)               | 36.9%    |
| NIPPON PAINT HOLDINGS (J:NPPT)        | 33.8%    |
| LENLEASE GROUP STAPLED UNITS (A:LLCX) | 32.2%    |
| M3 (J:SNET)                           | 31.7%    |
| RENASAS ELECTRONICS (J:RENE)          | 30.8%    |
| LONDON STOCK EX.GROUP (UKIR:LSE)      | 29.4%    |
| BANDAI NAMCO HDG. (J:N@MB)            | 28.7%    |
| KAKAKU.COM (J:KAKA)                   | 28.4%    |

Worst Performers

|  | Return % |
|--|----------|
| MICRO FOCUS INTL. (UKIR:MCRO)                | -44.4%   |
| YANGZIJIANG SHIPBUILDING (HOLDINGS) (T:YSHL) | -38.6%   |
| CIMIC GROUP (A:CIMX)                         | -31.0%   |
| IPSEN (F:IPN)                                | -30.5%   |
| EVRAZ (UKIR:EVR)                             | -28.0%   |
| KONICA MINOLTA (J:KONM)                      | -27.1%   |
| AIB GROUP (LON) (UKIR:AIBG)                  | -26.1%   |
| TEVA PHARM.INDS.ADR 1:1 (TEVA)               | -25.5%   |
| KERRY PROPERTIES (K:KERP)                    | -25.5%   |
| YAMATO HDG. (J:OJ@N)                         | -25.4%   |

eV ACWI ex-US Growth Equity Net Return Comparison



|                          | Return (Rank) |           |           |          |          |          |          |          |
|--------------------------|---------------|-----------|-----------|----------|----------|----------|----------|----------|
|                          | Quarter       | YTD       | 1 Year    | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile           | 0.7           | 23.0      | 7.4       | 8.7      | 14.3     | 12.3     | 13.1     | 11.6     |
| 25th Percentile          | -1.0          | 20.0      | 2.2       | 5.1      | 9.8      | 7.5      | 8.5      | 8.4      |
| Median                   | -1.8          | 17.7      | -0.9      | 2.3      | 7.9      | 5.9      | 7.5      | 7.4      |
| 75th Percentile          | -2.8          | 14.8      | -4.0      | 0.1      | 6.4      | 4.4      | 6.6      | 6.7      |
| 95th Percentile          | -3.8          | 10.8      | -8.8      | -3.0     | 3.8      | 3.6      | 5.7      | 5.5      |
| # of Portfolios          | 70            | 70        | 70        | 68       | 67       | 58       | 52       | 42       |
| ● Baillie Gifford        | -1.0 (27)     | 18.7 (35) | 0.6 (37)  | 1.8 (54) | 6.5 (73) | 5.6 (55) | 7.5 (51) | -- (--)  |
| ▲ MSCI ACWI ex US        | -1.7 (47)     | 12.1 (92) | -0.7 (49) | 0.8 (72) | 6.8 (67) | 3.4 (97) | 6.5 (78) | -- (--)  |
| ✕ MSCI ACWI ex US Growth | -0.8 (22)     | 16.6 (60) | 2.4 (25)  | 2.9 (42) | 7.8 (52) | 5.3 (61) | 7.7 (48) | -- (--)  |

Characteristics

|                                 | Portfolio | MSCI ACWI ex USA Gross |
|---------------------------------|-----------|------------------------|
| Number of Holdings              | 82        | 2,206                  |
| Weighted Avg. Market Cap. (\$B) | 42.9      | 64.0                   |
| Median Market Cap. (\$B)        | 14.0      | 7.3                    |
| Price To Earnings               | 24.7      | 15.0                   |
| Price To Book                   | 3.7       | 2.3                    |
| Price To Sales                  | 2.2       | 1.2                    |
| Return on Equity (%)            | 22.5      | 15.0                   |
| Yield (%)                       | 1.5       | 3.3                    |
| Beta (holdings; global)         | 1.0       | 0.9                    |

Top Holdings

|                               |      |
|-------------------------------|------|
| TAIWAN SEMICON.SPN.ADR 1:5    | 2.9% |
| HARGREAVES LANSDOWN           | 2.7% |
| SHISEIDO                      | 2.5% |
| ALIBABA GROUP HOLDING ADR 1:8 | 2.5% |
| COCHLEAR                      | 2.2% |
| SHOPIFY 'A' (NYS)             | 2.1% |
| AIA GROUP                     | 2.0% |
| RIGHTMOVE                     | 2.0% |
| ASML HOLDING                  | 2.0% |
| ASIAN PAINTS                  | 2.0% |

Best Performers

|                                  | Return % |
|----------------------------------|----------|
| NAVER (KO:NHN)                   | 32.9%    |
| KAKAKU.COM (J:KAKA)              | 28.4%    |
| ASIAN PAINTS (IN:API)            | 26.4%    |
| OLYMPUS (J:OLYC)                 | 21.4%    |
| TREASURY WINE ESTATES (A:TWEX)   | 20.9%    |
| TAIWAN SEMICON.SPN.ADR 1:5 (TSM) | 19.5%    |
| ASML HOLDING (H:ASML)            | 18.4%    |
| RAIA DROGASIL ON (BR:DR3)        | 16.0%    |
| SUGI HOLDINGS (J:SUGP)           | 15.4%    |
| SMC (J:SMCC)                     | 14.4%    |

Worst Performers

|   | Return % |
|---|----------|
| SPOTIFY TECHNOLOGY (SPOT)                   | -22.0%   |
| JARDINE STRATEGIC HDG. (T:JSTG)             | -21.4%   |
| CTRIP.COM INTL.ADR 8:1 (CTRP)               | -20.6%   |
| SOFTBANK GROUP (J:SFTB)                     | -17.7%   |
| JUPITER FUND MANAGEMENT (UKIR:JUP)          | -16.7%   |
| WOOD GROUP (JOHN) (UKIR:WG.)                | -16.5%   |
| METTLER TOLEDO INTL. (MTD)                  | -16.1%   |
| MAHINDRA & MAHINDRA GDR REG 'S' (UKIR:MHID) | -15.5%   |
| U-BLOX HOLDING (S:BHOL)                     | -15.1%   |
| JARDINE MATHESON HDG. (T:JMST)              | -14.4%   |



**Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross**

|                        | Attribution Effects |                  |                   |                     | Returns     |           | Sector Weights |              |              |               |               |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|--------------|--------------|---------------|---------------|
|                        | Total Effects       | Selection Effect | Allocation Effect | Interaction Effects | Portfolio   | Benchmark | Portfolio      | Benchmark    |              |               |               |
| Energy                 | 0.3%                | -0.5%            | 0.1%              | 0.6%                | -16.5%      | -4.4%     | 0.6%           | 7.1%         |              |               |               |
| Materials              | 0.6%                | 0.7%             | 0.1%              | -0.2%               | 2.0%        | -6.3%     | 4.5%           | 7.7%         |              |               |               |
| Industrials            | -0.4%               | -0.1%            | -0.1%             | -0.3%               | -3.8%       | -2.5%     | 18.6%          | 12.0%        |              |               |               |
| Consumer Discretionary | -0.5%               | -0.2%            | 0.1%              | -0.4%               | -3.1%       | -0.8%     | 19.6%          | 11.3%        |              |               |               |
| Consumer Staples       | 0.6%                | 0.4%             | 0.1%              | 0.1%                | 6.5%        | 1.5%      | 11.9%          | 9.8%         |              |               |               |
| Health Care            | -0.3%               | -0.4%            | 0.0%              | 0.0%                | -3.1%       | 1.2%      | 8.3%           | 8.3%         |              |               |               |
| Financials             | 0.1%                | -0.3%            | 0.1%              | 0.3%                | -4.2%       | -3.4%     | 15.5%          | 21.9%        |              |               |               |
| Information Technology | 0.5%                | 0.3%             | 0.1%              | 0.1%                | 6.6%        | 2.3%      | 11.2%          | 8.5%         |              |               |               |
| Communication Services | -0.1%               | 0.0%             | 0.0%              | 0.0%                | -3.2%       | -2.7%     | 8.3%           | 6.9%         |              |               |               |
| Utilities              | 0.0%                | --               | -0.1%             | --                  | --          | 1.4%      | 0.0%           | 3.4%         |              |               |               |
| Real Estate            | 0.1%                | --               | 0.1%              | --                  | --          | -2.9%     | 0.0%           | 3.2%         |              |               |               |
| Cash                   | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.5%        | --        | 1.5%           | 0.0%         |              |               |               |
| <b>Portfolio</b>       | <b>0.8%</b>         | <b>=</b>         | <b>0.0%</b>       | <b>+</b>            | <b>0.5%</b> | <b>+</b>  | <b>0.3%</b>    | <b>-1.0%</b> | <b>-1.7%</b> | <b>100.0%</b> | <b>100.0%</b> |

**Baillie Gifford 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         | --                  | -3.1%        | 0.0%           | 0.2%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Belgium         | --                  | 3.3%         | 0.0%           | 0.6%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Czech Republic* | --                  | -9.5%        | 0.0%           | 0.0%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Denmark         | -10.0%              | -0.9%        | 1.7%           | 1.1%         | -0.1%               | 0.0%              | 0.0%            | -0.1%              | -0.2%         |
| Finland         | -3.6%               | -1.7%        | 1.3%           | 0.7%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| France          | -2.5%               | -1.6%        | 1.4%           | 7.6%         | -0.1%               | -0.1%             | 0.3%            | 0.1%               | 0.1%          |
| Germany         | -3.6%               | -4.0%        | 7.8%           | 5.8%         | 0.0%                | 0.0%              | -0.1%           | 0.0%               | 0.0%          |
| Greece*         | --                  | -2.9%        | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Hungary*        | --                  | -3.9%        | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Ireland         | -9.9%               | -0.5%        | 1.4%           | 0.4%         | 0.0%                | 0.0%              | 0.0%            | -0.1%              | -0.1%         |
| Italy           | --                  | 0.2%         | 0.0%           | 1.5%         | --                  | -0.1%             | 0.1%            | --                 | 0.0%          |
| Netherlands     | 18.4%               | 1.9%         | 1.6%           | 2.4%         | 0.4%                | 0.0%              | 0.0%            | -0.1%              | 0.3%          |
| Norway          | --                  | -3.3%        | 0.0%           | 0.4%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Poland*         | --                  | -11.7%       | 0.0%           | 0.3%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Portugal        | 4.6%                | 1.9%         | 1.2%           | 0.1%         | 0.0%                | 0.1%              | -0.1%           | 0.0%               | 0.0%          |
| Russia*         | --                  | -1.1%        | 0.0%           | 1.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Spain           | 2.8%                | -3.8%        | 1.8%           | 2.0%         | 0.1%                | 0.0%              | 0.0%            | 0.0%               | 0.1%          |
| Sweden          | -3.1%               | -4.8%        | 4.9%           | 1.8%         | 0.0%                | 0.0%              | -0.2%           | 0.1%               | -0.1%         |
| Switzerland     | -6.3%               | 0.3%         | 3.4%           | 6.2%         | -0.4%               | 0.0%              | 0.1%            | 0.2%               | -0.2%         |
| United Kingdom  | -2.9%               | -2.5%        | 14.3%          | 11.2%        | 0.0%                | 0.0%              | -0.1%           | 0.0%               | -0.2%         |

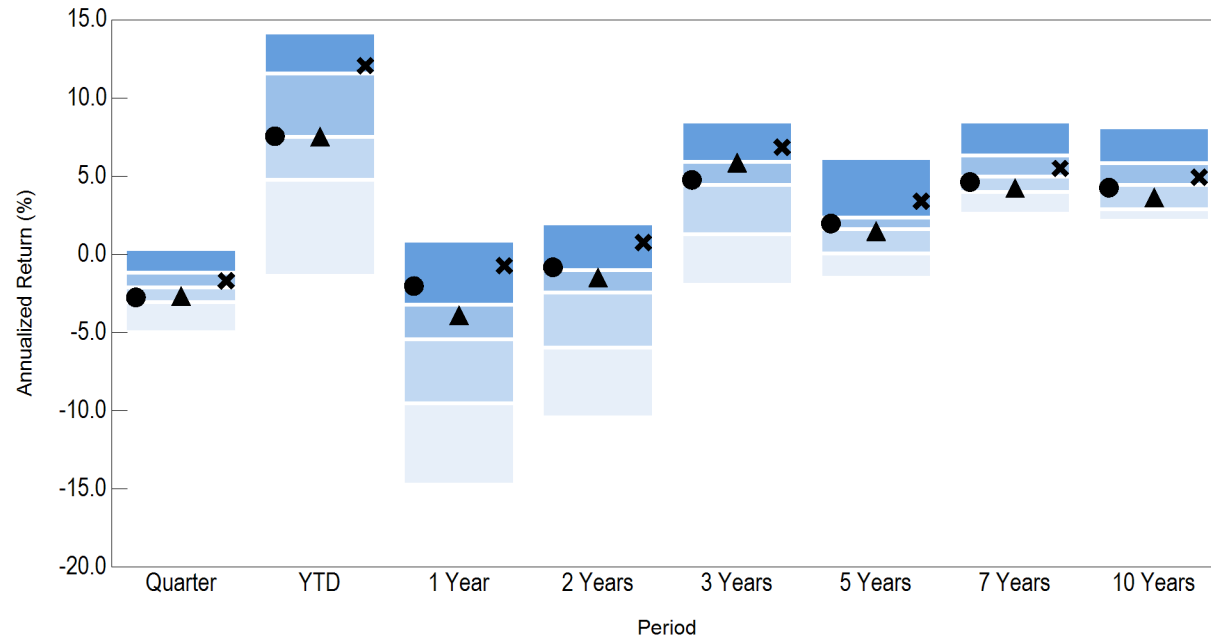
**Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross**

|                    | 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          | 3.2%                | -1.3%        | 4.3%           | 4.8%         | 0.2%                | 0.0%              | 0.0%            | 0.0%               | 0.2%          |
| China*             | -6.3%               | -4.6%        | 7.9%           | 8.4%         | -0.2%               | 0.1%              | 0.0%            | 0.0%               | 0.0%          |
| Hong Kong          | -10.8%              | -11.9%       | 3.4%           | 2.7%         | 0.0%                | -0.1%             | 0.0%            | 0.0%               | 0.0%          |
| India*             | 2.0%                | -5.1%        | 5.2%           | 2.4%         | 0.2%                | -0.1%             | -0.1%           | 0.2%               | 0.2%          |
| Indonesia*         | --                  | -5.3%        | 0.0%           | 0.6%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Japan              | 5.6%                | 3.2%         | 17.6%          | 15.9%        | 0.4%                | 0.1%              | 0.0%            | 0.1%               | 0.5%          |
| Korea*             | 32.9%               | -4.7%        | 0.4%           | 3.3%         | 1.1%                | 0.1%              | 0.1%            | -1.0%              | 0.3%          |
| Malaysia*          | -12.4%              | -6.3%        | 1.0%           | 0.6%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | -0.1%         |
| New Zealand        | --                  | -2.7%        | 0.0%           | 0.2%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Pakistan*          | --                  | 1.4%         | 0.0%           | 0.0%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Philippines*       | --                  | -4.5%        | 0.0%           | 0.3%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Singapore          | -7.5%               | -5.8%        | 3.7%           | 0.9%         | 0.0%                | -0.1%             | 0.0%            | -0.1%              | -0.2%         |
| Taiwan*            | 15.8%               | 5.9%         | 3.0%           | 2.9%         | 0.3%                | 0.0%              | 0.0%            | 0.0%               | 0.3%          |
| Thailand*          | --                  | -5.9%        | 0.0%           | 0.8%         | --                  | 0.1%              | 0.0%            | --                 | 0.1%          |
| <b>Americas</b>    |                     |              |                |              |                     |                   |                 |                    |               |
| Argentina*         | --                  | -46.9%       | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Brazil*            | 16.0%               | -4.6%        | 1.3%           | 2.0%         | 0.4%                | 0.0%              | 0.0%            | -0.2%              | 0.3%          |
| Canada             | -0.7%               | 0.7%         | 3.0%           | 6.8%         | 0.0%                | 0.0%              | 0.1%            | -0.1%              | -0.1%         |
| Chile*             | --                  | -7.3%        | 0.0%           | 0.2%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Colombia*          | --                  | -6.1%        | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Mexico*            | 9.7%                | -1.5%        | 0.6%           | 0.7%         | 0.1%                | 0.0%              | 0.0%            | 0.0%               | 0.1%          |
| Peru*              | --                  | -9.2%        | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| United States      | -17.2%              | 1.6%         | 3.6%           | 0.0%         | 0.0%                | 0.0%              | 0.0%            | -0.7%              | -0.6%         |

**Baillie Gifford 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*                | --                  | 7.4%         | 0.0%           | 0.0%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Israel                | --                  | -3.7%        | 0.0%           | 0.4%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Qatar*                | --                  | -0.7%        | 0.0%           | 0.3%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Saudi Arabia*         | --                  | -9.7%        | 0.0%           | 0.4%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| South Africa*         | -8.2%               | -12.2%       | 2.7%           | 1.6%          | 0.1%                | -0.1%             | -0.1%           | 0.1%               | 0.0%          |
| Turkey*               | --                  | 11.6%        | 0.0%           | 0.1%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| United Arab Emirates* | --                  | 0.7%         | 0.0%           | 0.2%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| <b>Totals</b>         |                     |              |                |               |                     |                   |                 |                    |               |
| Americas              | -4.5%               | -1.4%        | 8.5%           | 10.0%         | -0.4%               | 0.0%              | 0.1%            | 0.1%               | -0.2%         |
| Europe                | -2.5%               | -1.9%        | 40.9%          | 43.5%         | -0.2%               | 0.0%              | 0.0%            | 0.0%               | -0.2%         |
| Asia/Pacific          | 1.5%                | -1.3%        | 46.5%          | 43.6%         | 1.1%                | 0.0%              | 0.0%            | 0.1%               | 1.2%          |
| Other                 | -8.2%               | -7.5%        | 2.7%           | 2.9%          | 0.1%                | 0.0%              | -0.1%           | 0.0%               | 0.0%          |
| Cash                  | 0.5%                | --           | 1.5%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>Total</b>          | <b>-1.0%</b>        | <b>-1.7%</b> | <b>100.0%</b>  | <b>100.0%</b> | <b>0.6%</b>         | <b>-0.1%</b>      | <b>0.1%</b>     | <b>0.1%</b>        | <b>0.8%</b>   |
| <b>Totals</b>         |                     |              |                |               |                     |                   |                 |                    |               |
| Developed             | -1.5%               | -0.9%        | 76.5%          | 73.5%         | -0.5%               | 0.0%              | 0.0%            | 0.0%               | -0.5%         |
| Emerging*             | 0.8%                | -4.1%        | 22.0%          | 26.5%         | 1.3%                | 0.1%              | 0.1%            | -0.2%              | 1.3%          |
| Cash                  | 0.5%                | --           | 1.5%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |

eV ACWI ex-US Value Equity Net Return Comparison



|                                | Return (Rank) |           |           |           |          |          |          |          |
|--------------------------------|---------------|-----------|-----------|-----------|----------|----------|----------|----------|
|                                | Quarter       | YTD       | 1 Year    | 2 Years   | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile                 | 0.3           | 14.2      | 0.8       | 2.0       | 8.5      | 6.1      | 8.5      | 8.1      |
| 25th Percentile                | -1.2          | 11.6      | -3.2      | -1.0      | 5.9      | 2.4      | 6.3      | 5.9      |
| Median                         | -2.1          | 7.5       | -5.4      | -2.4      | 4.5      | 1.6      | 5.0      | 4.5      |
| 75th Percentile                | -3.0          | 4.8       | -9.5      | -5.9      | 1.3      | 0.1      | 4.0      | 2.9      |
| 95th Percentile                | -5.0          | -1.4      | -14.7     | -10.4     | -1.9     | -1.5     | 2.6      | 2.2      |
| # of Portfolios                | 40            | 40        | 40        | 38        | 37       | 35       | 27       | 20       |
| ● Mondrian                     | -2.8 (67)     | 7.6 (49)  | -2.0 (21) | -0.8 (17) | 4.8 (42) | 2.0 (43) | 4.6 (66) | 4.3 (55) |
| ▲ MSCI ACWI ex USA Value Gross | -2.7 (65)     | 7.5 (49)  | -3.9 (30) | -1.5 (36) | 5.9 (30) | 1.5 (56) | 4.2 (73) | 3.6 (67) |
| ✕ MSCI ACWI ex USA Gross       | -1.7 (39)     | 12.1 (22) | -0.7 (19) | 0.8 (10)  | 6.8 (17) | 3.4 (20) | 5.5 (39) | 4.9 (40) |

Characteristics

|                                 | Portfolio | MSCI ACWI ex USA Value Gross |
|---------------------------------|-----------|------------------------------|
| Number of Holdings              | 126       | 1,315                        |
| Weighted Avg. Market Cap. (\$B) | 51.5      | 48.6                         |
| Median Market Cap. (\$B)        | 21.3      | 6.7                          |
| Price To Earnings               | 14.0      | 11.5                         |
| Price To Book                   | 1.7       | 1.6                          |
| Price To Sales                  | 0.8       | 0.9                          |
| Return on Equity (%)            | 11.2      | 11.5                         |
| Yield (%)                       | 4.3       | 4.6                          |
| Beta (holdings: global)         | 1.0       | 0.9                          |

Top Holdings

|                       |      |
|-----------------------|------|
| UNITED OVERSEAS BANK  | 2.4% |
| TELIA COMPANY         | 2.3% |
| SAINT GOBAIN          | 2.3% |
| GLAXOSMITHKLINE       | 2.3% |
| SANOFI                | 2.2% |
| SSE                   | 2.2% |
| CK HUTCHISON HOLDINGS | 2.2% |
| ALLIANZ               | 2.1% |
| LLOYDS BANKING GROUP  | 2.1% |
| BANCO SANTANDER       | 2.0% |

Best Performers

|  | Return % |
|--|----------|
| CHINA MED.SY.HDG.(DI) (K:CHM)          | 32.5%    |
| CSPC PHARMACEUTICAL GP. (K:CPHA)       | 24.5%    |
| ASE TECHNOLOGY HOLDING (TW:AIH)        | 19.6%    |
| CMPH.COCS. RODOVIARIAS ON (BR:CCR)     | 16.2%    |
| FUJITSU (J:FT@N)                       | 15.9%    |
| TAIWAN SEMICON.MNFG. (TW:TSM)          | 14.8%    |
| OTSUKA HOLDINGS (J:OTHD)               | 14.5%    |
| SSE (UKIR:SSE)                         | 14.3%    |
| FIBRA UNO ADMINISTRACION REIT (MX:FUN) | 13.1%    |
| KONINKLIJKE AHOLD DELHAIZE (H:AD)      | 12.7%    |

Worst Performers

|                                 | Return % |
|---------------------------------|----------|
| INDIABULLS HOUSING FIN (IN:IEZ) | -58.4%   |
| SASOL (R:SOLJ)                  | -32.8%   |
| SAMSUNG FIRE & MAR.IN. (KO:AFM) | -19.7%   |
| LG CHEM (KO:LCM)                | -18.4%   |
| ISS (DK:ISS)                    | -18.1%   |
| ANGLO AMERICAN (UKIR:AAL)       | -16.8%   |
| KASIKORNBANK FB (Q:TFBF)        | -16.7%   |
| WOOD GROUP (JOHN) (UKIR:WG.)    | -16.5%   |
| TINGYI CYMN.ISLE.HLDG. (K:CAYM) | -15.6%   |
| EVONIK INDUSTRIES (D:EVK)       | -15.0%   |

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

|                        | Attribution Effects |                  |                   |                     | Returns     |           | Sector Weights |              |              |               |               |
|------------------------|---------------------|------------------|-------------------|---------------------|-------------|-----------|----------------|--------------|--------------|---------------|---------------|
|                        | Total Effects       | Selection Effect | Allocation Effect | Interaction Effects | Portfolio   | Benchmark | Portfolio      | Benchmark    |              |               |               |
| Energy                 | -0.2%               | -0.2%            | 0.0%              | 0.0%                | -7.7%       | -4.9%     | 8.4%           | 11.6%        |              |               |               |
| Materials              | 0.4%                | -1.0%            | 0.5%              | 0.9%                | -19.8%      | -9.6%     | 4.6%           | 9.8%         |              |               |               |
| Industrials            | -0.3%               | -0.2%            | 0.0%              | -0.2%               | -4.2%       | -1.9%     | 12.4%          | 8.7%         |              |               |               |
| Consumer Discretionary | -0.3%               | -0.3%            | 0.1%              | -0.2%               | -3.1%       | 0.0%      | 12.5%          | 8.4%         |              |               |               |
| Consumer Staples       | 0.0%                | -0.1%            | 0.1%              | -0.1%               | -1.2%       | 0.7%      | 5.0%           | 2.8%         |              |               |               |
| Health Care            | 0.4%                | 0.1%             | 0.3%              | 0.0%                | 4.4%        | 2.0%      | 10.2%          | 4.6%         |              |               |               |
| Financials             | 0.8%                | 0.6%             | 0.1%              | 0.1%                | -1.1%       | -3.3%     | 21.1%          | 33.4%        |              |               |               |
| Information Technology | -0.1%               | -0.1%            | 0.1%              | -0.1%               | -1.6%       | 0.3%      | 7.8%           | 3.8%         |              |               |               |
| Communication Services | -0.1%               | 0.0%             | 0.0%              | -0.1%               | -2.0%       | -0.6%     | 7.6%           | 6.9%         |              |               |               |
| Utilities              | 0.6%                | 0.5%             | 0.1%              | 0.1%                | 10.0%       | 2.2%      | 6.5%           | 5.6%         |              |               |               |
| Real Estate            | 0.1%                | 0.1%             | 0.0%              | 0.0%                | 0.7%        | -1.9%     | 2.1%           | 4.4%         |              |               |               |
| Cash                   | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.5%        | --        | 1.7%           | 0.0%         |              |               |               |
| Unclassified           | 0.0%                | 0.0%             | 0.0%              | 0.0%                | -1.4%       | --        | 0.2%           | 0.0%         |              |               |               |
| <b>Portfolio</b>       | <b>1.2%</b>         | <b>=</b>         | <b>-0.5%</b>      | <b>+</b>            | <b>1.2%</b> | <b>+</b>  | <b>0.5%</b>    | <b>-1.5%</b> | <b>-2.7%</b> | <b>100.0%</b> | <b>100.0%</b> |

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value 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         | --                  | -5.3%        | 0.0%           | 0.2%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Belgium         | --                  | 0.7%         | 0.0%           | 0.4%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Czech Republic* | --                  | -6.8%        | 0.0%           | 0.0%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Denmark         | -18.1%              | -7.2%        | 1.4%           | 0.2%         | 0.0%                | 0.0%              | 0.0%            | -0.1%              | -0.2%         |
| Finland         | --                  | -0.3%        | 0.0%           | 0.8%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| France          | 4.7%                | 0.0%         | 5.3%           | 6.8%         | 0.3%                | -0.1%             | 0.1%            | -0.1%              | 0.2%          |
| Germany         | -8.1%               | -1.9%        | 8.2%           | 5.6%         | -0.4%               | 0.1%              | -0.1%           | -0.2%              | -0.5%         |
| Greece*         | --                  | -3.1%        | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Hungary*        | --                  | -7.3%        | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Ireland         | --                  | -5.2%        | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Italy           | 2.4%                | 2.2%         | 4.6%           | 2.4%         | 0.0%                | 0.2%              | -0.1%           | 0.0%               | 0.1%          |
| Netherlands     | -3.4%               | -8.1%        | 2.0%           | 0.9%         | 0.0%                | 0.0%              | -0.1%           | 0.1%               | 0.0%          |
| Norway          | --                  | -3.9%        | 0.0%           | 0.5%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Poland*         | --                  | -12.1%       | 0.0%           | 0.3%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Portugal        | --                  | 2.0%         | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Russia*         | 1.2%                | 1.8%         | 1.0%           | 1.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Spain           | -5.9%               | -4.5%        | 3.1%           | 3.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Sweden          | 0.8%                | 0.6%         | 2.1%           | 1.3%         | 0.0%                | 0.1%              | 0.0%            | 0.0%               | 0.0%          |
| Switzerland     | 0.1%                | -0.3%        | 4.7%           | 3.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| United Kingdom  | -1.6%               | -4.2%        | 17.9%          | 15.2%        | 0.4%                | 0.0%              | -0.1%           | 0.1%               | 0.3%          |



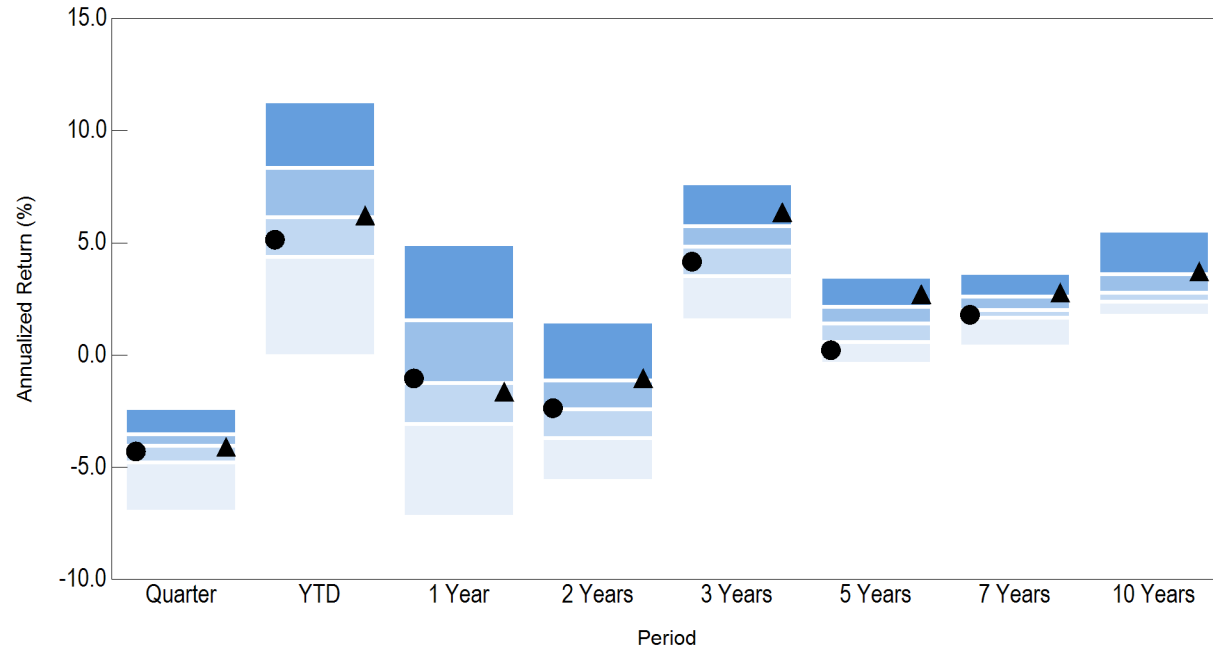
Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

|                    | 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          | 4.1%                | -2.8%        | 1.0%           | 5.0%         | 0.4%                | 0.0%              | 0.2%            | -0.3%              | 0.2%          |
| China*             | -4.0%               | -6.4%        | 4.1%           | 8.6%         | 0.2%                | 0.3%              | 0.0%            | -0.1%              | 0.4%          |
| Hong Kong          | -3.3%               | -11.8%       | 5.7%           | 2.7%         | 0.2%                | -0.3%             | 0.0%            | 0.3%               | 0.1%          |
| India*             | -17.1%              | -6.4%        | 3.2%           | 2.4%         | -0.3%               | 0.0%              | 0.0%            | -0.1%              | -0.4%         |
| Indonesia*         | -6.0%               | -9.0%        | 0.4%           | 0.6%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Japan              | 0.6%                | 2.4%         | 17.1%          | 16.1%        | -0.3%               | 0.0%              | 0.0%            | 0.0%               | -0.3%         |
| Korea*             | -8.7%               | -6.6%        | 3.7%           | 3.3%         | -0.1%               | 0.0%              | 0.0%            | 0.0%               | -0.1%         |
| Malaysia*          | -4.2%               | -5.5%        | 0.7%           | 0.6%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| New Zealand        | --                  | -1.4%        | 0.0%           | 0.2%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Pakistan*          | --                  | -1.8%        | 0.0%           | 0.0%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Philippines*       | --                  | -3.8%        | 0.0%           | 0.3%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Singapore          | -4.3%               | -7.7%        | 4.0%           | 1.0%         | 0.0%                | -0.2%             | -0.1%           | 0.1%               | -0.1%         |
| Taiwan*            | 11.6%               | 0.3%         | 2.2%           | 3.1%         | 0.3%                | 0.0%              | 0.0%            | -0.1%              | 0.2%          |
| Thailand*          | -13.6%              | -9.3%        | 0.4%           | 0.8%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>Americas</b>    |                     |              |                |              |                     |                   |                 |                    |               |
| Argentina*         | --                  | -53.2%       | 0.0%           | 0.1%         | --                  | 0.1%              | 0.0%            | --                 | 0.1%          |
| Brazil*            | -4.7%               | -8.5%        | 2.7%           | 2.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Canada             | 1.5%                | 1.7%         | 1.2%           | 6.9%         | 0.0%                | -0.2%             | 0.1%            | 0.0%               | -0.1%         |
| Chile*             | --                  | -7.2%        | 0.0%           | 0.3%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Colombia*          | --                  | -7.3%        | 0.0%           | 0.1%         | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Mexico*            | 5.1%                | -2.2%        | 0.7%           | 0.7%         | 0.1%                | 0.0%              | 0.0%            | 0.0%               | 0.1%          |
| Peru*              | -8.9%               | -9.2%        | 0.2%           | 0.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

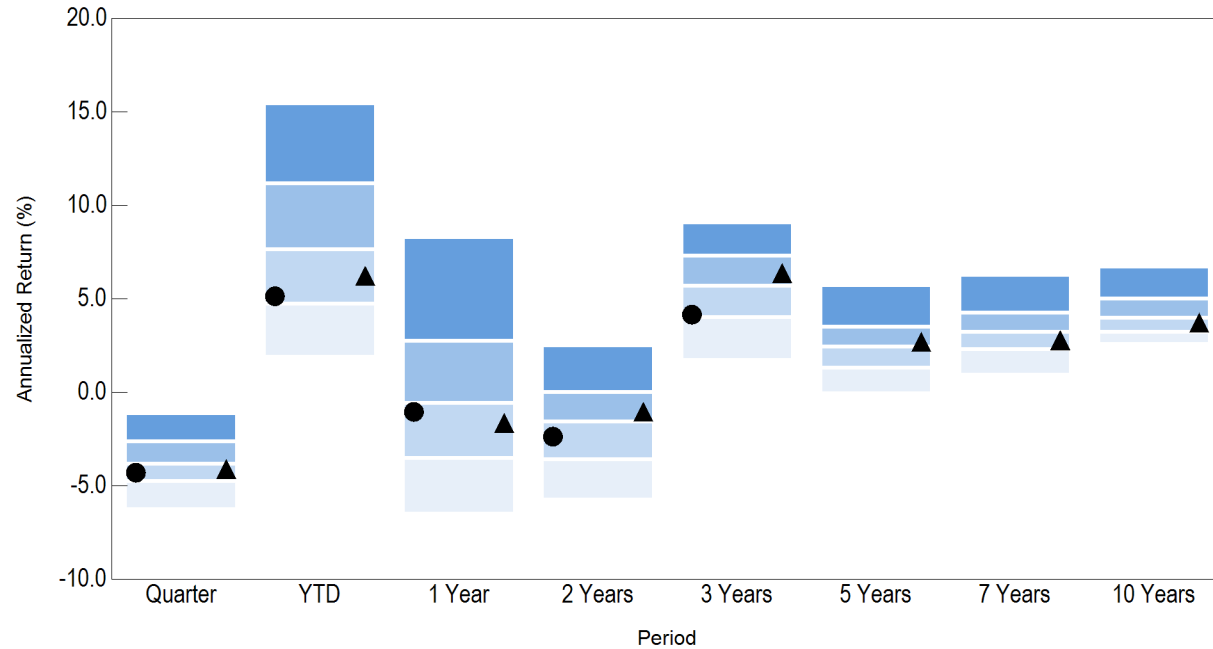
|                       | Returns and Weights |              |                |               | Attribution Effects |                   |                 |                    | Total Effects |
|-----------------------|---------------------|--------------|----------------|---------------|---------------------|-------------------|-----------------|--------------------|---------------|
|                       | Manager Return      | Index Return | Manager Weight | Index Weight  | Selection Effect    | Allocation Effect | Currency Effect | Interaction Effect |               |
| <b>Other</b>          |                     |              |                |               |                     |                   |                 |                    |               |
| Egypt*                | --                  | 7.0%         | 0.0%           | 0.0%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Israel                | --                  | -3.6%        | 0.0%           | 0.4%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| Qatar*                | -6.3%               | 0.0%         | 0.1%           | 0.3%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Romania**             | 7.1%                | -2.7%        | 0.1%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Saudi Arabia*         | --                  | -11.2%       | 0.0%           | 0.4%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| South Africa*         | -32.8%              | -16.4%       | 0.3%           | 1.6%          | -0.3%               | 0.1%              | 0.1%            | 0.2%               | 0.1%          |
| Turkey*               | --                  | 11.2%        | 0.0%           | 0.1%          | --                  | 0.0%              | 0.0%            | --                 | 0.0%          |
| United Arab Emirates* | 1.9%                | 1.2%         | 0.3%           | 0.2%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>Totals</b>         |                     |              |                |               |                     |                   |                 |                    |               |
| Americas              | -2.0%               | -1.5%        | 4.9%           | 10.1%         | 0.1%                | -0.1%             | 0.1%            | 0.0%               | 0.0%          |
| Europe                | -2.1%               | -2.3%        | 50.3%          | 42.3%         | 0.0%                | 0.1%              | -0.2%           | 0.0%               | -0.1%         |
| Asia/Pacific          | -2.6%               | -2.8%        | 42.4%          | 44.6%         | 0.0%                | 0.0%              | 0.1%            | 0.0%               | 0.1%          |
| Other                 | -15.7%              | -10.0%       | 0.7%           | 3.0%          | -0.2%               | 0.2%              | 0.1%            | 0.1%               | 0.2%          |
| Cash                  | 0.5%                | --           | 1.7%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>Total</b>          | <b>-2.4%</b>        | <b>-2.7%</b> | <b>100.0%</b>  | <b>100.0%</b> | <b>-0.1%</b>        | <b>0.2%</b>       | <b>0.0%</b>     | <b>0.1%</b>        | <b>0.3%</b>   |
| <b>Totals</b>         |                     |              |                |               |                     |                   |                 |                    |               |
| Developed             | -1.6%               | -1.4%        | 78.2%          | 72.9%         | -0.2%               | 0.1%              | -0.2%           | 0.0%               | -0.3%         |
| Emerging*             | -5.5%               | -6.1%        | 20.0%          | 27.1%         | 0.2%                | 0.3%              | 0.2%            | 0.0%               | 0.6%          |
| Frontier**            | 7.1%                | --           | 0.1%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Cash                  | 0.5%                | --           | 1.7%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |

InvMetrics All DB Emg Mkt Eq Net Return Comparison



|                               | Return (Rank) |          |           |           |          |          |          |          |  |
|-------------------------------|---------------|----------|-----------|-----------|----------|----------|----------|----------|--|
|                               | Quarter       | YTD      | 1 Year    | 2 Years   | 3 Years  | 5 Years  | 7 Years  | 10 Years |  |
| 5th Percentile                | -2.4          | 11.3     | 4.9       | 1.5       | 7.7      | 3.5      | 3.6      | 5.5      |  |
| 25th Percentile               | -3.5          | 8.4      | 1.6       | -1.1      | 5.7      | 2.2      | 2.6      | 3.6      |  |
| Median                        | -4.0          | 6.2      | -1.2      | -2.4      | 4.9      | 1.4      | 2.0      | 2.8      |  |
| 75th Percentile               | -4.8          | 4.4      | -3.1      | -3.7      | 3.5      | 0.6      | 1.7      | 2.4      |  |
| 95th Percentile               | -7.0          | 0.0      | -7.2      | -5.6      | 1.6      | -0.4     | 0.4      | 1.8      |  |
| # of Portfolios               | 60            | 60       | 60        | 58        | 54       | 49       | 40       | 14       |  |
| ● Emerging Markets            | -4.3 (57)     | 5.1 (67) | -1.0 (47) | -2.4 (50) | 4.2 (62) | 0.2 (85) | 1.8 (63) | -- (--)  |  |
| ▲ MSCI Emerging Markets Gross | -4.1 (52)     | 6.2 (49) | -1.6 (59) | -1.0 (24) | 6.4 (21) | 2.7 (17) | 2.8 (21) | 3.7 (24) |  |

eV Emg Mkts Equity Net Return Comparison



|                               | Return (Rank) |          |           |           |          |          |          |          |         |  |
|-------------------------------|---------------|----------|-----------|-----------|----------|----------|----------|----------|---------|--|
| 5th Percentile                | -1.1          | 15.4     | 8.3       | 2.5       | 9.1      | 5.7      | 6.3      | 6.7      |         |  |
| 25th Percentile               | -2.6          | 11.2     | 2.8       | 0.0       | 7.3      | 3.5      | 4.3      | 5.0      |         |  |
| Median                        | -3.8          | 7.7      | -0.6      | -1.5      | 5.7      | 2.5      | 3.2      | 4.0      |         |  |
| 75th Percentile               | -4.7          | 4.8      | -3.5      | -3.6      | 4.1      | 1.3      | 2.3      | 3.3      |         |  |
| 95th Percentile               | -6.2          | 1.9      | -6.5      | -5.7      | 1.7      | 0.0      | 1.0      | 2.6      |         |  |
| # of Portfolios               | 209           | 208      | 201       | 197       | 188      | 165      | 130      | 73       |         |  |
| ● Parametric Core             | -4.3 (62)     | 5.1 (73) | -1.0 (55) | -2.4 (59) | 4.2 (73) | -- (--)  | -- (--)  | -- (--)  | -- (--) |  |
| ▲ MSCI Emerging Markets Gross | -4.1 (57)     | 6.2 (65) | -1.6 (61) | -1.0 (42) | 6.4 (38) | 2.7 (46) | 2.8 (64) | 3.7 (63) |         |  |

Characteristics

|                                 | Portfolio | MSCI Emerging Markets<br>Gross |
|---------------------------------|-----------|--------------------------------|
| Number of Holdings              | 1,177     | 1,194                          |
| Weighted Avg. Market Cap. (\$B) | 22.2      | 80.2                           |
| Median Market Cap. (\$B)        | 3.1       | 5.3                            |
| Price To Earnings               | 12.8      | 13.6                           |
| Price To Book                   | 2.2       | 2.4                            |
| Price To Sales                  | 1.1       | 1.3                            |
| Return on Equity (%)            | 15.2      | 16.8                           |
| Yield (%)                       | 3.5       | 3.1                            |
| Beta (holdings; global)         | 0.7       | 0.9                            |

Top Holdings

|  |      |
|--|------|
| SBERBANK OF RUSSIA                       | 1.1% |
| PJSC GAZPROM ADR (OTC) CDI 1:2           | 1.0% |
| LUKOIL OAO SPN.ADR 1:1                   | 0.8% |
| CREDICORP                                | 0.8% |
| AMERICA MOVIL SAB DE CV SPN.ADR 'L' 1:20 | 0.7% |
| SAMSUNG ELECTRONICS                      | 0.7% |
| GPO FINANCE BANORTE                      | 0.6% |
| PJSC MMC NORILSK NICKEL SPN.ADR 10:1     | 0.6% |
| MTN GROUP                                | 0.6% |
| PETROLEO BRASILEIRO ADR 1:2              | 0.6% |

Best Performers

|                                  | Return % |
|----------------------------------|----------|
| SIAM CITY CEMENT FB (Q:SCCF)     | 76.3%    |
| NICKEL ASIA (PH:NIK)             | 74.0%    |
| HLB (KO:KPI)                     | 65.2%    |
| PUBLIC POWER (G:PPC)             | 59.0%    |
| MIGROS TICARET (TK:MIG)          | 57.2%    |
| ANADOLU GRUBU HOLDING A (TK:YAZ) | 50.8%    |
| SILOAM INTL.HOSPS. (ID:SIO)      | 50.3%    |
| BUMI ARMADA (L:ARMO)             | 49.2%    |
| VIA VAREJO ON (BR:GLB)           | 43.7%    |
| MITRA KELUARGA KYST. (ID:MKE)    | 43.6%    |

Worst Performers

|   | Return % |
|---|----------|
| SILLAJEN (KO:JLS)   | -84.1%   |
| HOUSING DEV.&.INFR. (IN:IHD)                              | -76.9%   |
| CENTRAL PUERTO ADR 1:10 (CEPU)                            | -68.2%   |
| BANCO MACRO 'B' SPN.ADR 1:10 (BMA)                        | -64.3%   |
| GRUPO FINANCIERO GALICIA CL.B<br>SHS.SP.N.ADR 1:10 (GGAL) | -63.4%   |
| BBVA BANCO FRANCES ADR 1:3 (BBAR)                         | -61.7%   |
| INDIABULLS REAL ESTATE (IN:IBR)                           | -60.7%   |
| JASTRZEBSKA SPOLKA WEGLOWA<br>(PO:JSW)                    | -54.6%   |
| VIROMED (KO:VIR)  | -52.6%   |
| LOMA NEGRA SPN.ADR 1:5 (LOMA)                             | -50.9%   |

**Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross**

|                        | Attribution Effects |                  |                   |                     | Returns      |           | Sector Weights |              |              |               |               |
|------------------------|---------------------|------------------|-------------------|---------------------|--------------|-----------|----------------|--------------|--------------|---------------|---------------|
|                        | Total Effects       | Selection Effect | Allocation Effect | Interaction Effects | Portfolio    | Benchmark | Portfolio      | Benchmark    |              |               |               |
| Energy                 | 0.0%                | -0.1%            | 0.0%              | 0.0%                | -3.6%        | -3.6%     | 10.1%          | 7.9%         |              |               |               |
| Materials              | -0.1%               | 0.1%             | -0.2%             | 0.0%                | -8.3%        | -10.2%    | 10.8%          | 7.6%         |              |               |               |
| Industrials            | -0.1%               | 0.1%             | -0.1%             | -0.1%               | -4.6%        | -5.5%     | 10.1%          | 5.6%         |              |               |               |
| Consumer Discretionary | 0.0%                | 0.1%             | 0.0%              | 0.0%                | -3.6%        | -3.2%     | 8.3%           | 13.5%        |              |               |               |
| Consumer Staples       | -0.1%               | -0.1%            | 0.2%              | -0.2%               | -2.1%        | -0.6%     | 10.4%          | 6.4%         |              |               |               |
| Health Care            | 0.0%                | 0.1%             | -0.1%             | 0.0%                | -4.7%        | -6.7%     | 4.9%           | 2.6%         |              |               |               |
| Financials             | 0.8%                | 0.5%             | 0.3%              | 0.0%                | -5.9%        | -7.7%     | 16.2%          | 25.2%        |              |               |               |
| Information Technology | -0.8%               | -0.2%            | -0.9%             | 0.2%                | 4.3%         | 5.9%      | 4.4%           | 13.8%        |              |               |               |
| Communication Services | 0.2%                | 0.3%             | 0.0%              | -0.1%               | -3.6%        | -4.9%     | 11.0%          | 11.5%        |              |               |               |
| Utilities              | -0.1%               | 0.0%             | 0.0%              | -0.2%               | -4.2%        | -3.5%     | 6.9%           | 2.7%         |              |               |               |
| Real Estate            | 0.0%                | 0.1%             | -0.2%             | 0.1%                | -4.8%        | -8.7%     | 6.6%           | 3.0%         |              |               |               |
| Cash                   | 0.0%                | 0.0%             | 0.0%              | 0.0%                | 0.5%         | --        | 0.2%           | 0.0%         |              |               |               |
| Unclassified           | 0.0%                | --               | --                | --                  | --           | --        | 0.0%           | 0.0%         |              |               |               |
| <b>Portfolio</b>       | <b>-0.2%</b>        | <b>=</b>         | <b>0.8%</b>       | <b>+</b>            | <b>-0.9%</b> | <b>+</b>  | <b>-0.1%</b>   | <b>-4.2%</b> | <b>-4.1%</b> | <b>100.0%</b> | <b>100.0%</b> |

Parametric Core Performance Attribution vs. MSCI Emerging Markets 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>      |                     |              |                |              |                     |                   |                 |                    |               |
| Czech Republic*    | -8.9%               | -9.4%        | 0.8%           | 0.2%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Greece*            | -1.3%               | -2.9%        | 1.9%           | 0.3%         | 0.0%                | 0.1%              | -0.1%           | 0.0%               | 0.0%          |
| Hungary*           | -7.4%               | -3.9%        | 0.8%           | 0.3%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Luxembourg         | -15.1%              | -4.1%        | 0.1%           | 0.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Netherlands        | -10.1%              | 3.6%         | 0.1%           | 0.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Poland*            | -11.6%              | -11.7%       | 3.6%           | 1.1%         | 0.0%                | -0.1%             | -0.2%           | 0.0%               | -0.2%         |
| Russia*            | -1.4%               | -1.1%        | 7.0%           | 4.0%         | -0.1%               | 0.1%              | 0.0%            | 0.0%               | 0.0%          |
| United Kingdom     | -4.3%               | -2.5%        | 0.4%           | 0.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>AsiaPacific</b> |                     |              |                |              |                     |                   |                 |                    |               |
| China*             | -6.8%               | -4.7%        | 6.5%           | 31.6%        | -0.7%               | 0.6%              | 0.1%            | 0.6%               | 0.6%          |
| Hong Kong          | -4.0%               | -11.9%       | 5.5%           | 0.0%         | 0.0%                | -0.5%             | 0.0%            | 0.4%               | -0.1%         |
| India*             | -5.5%               | -5.2%        | 7.5%           | 9.0%         | -0.1%               | 0.0%              | 0.1%            | 0.0%               | 0.0%          |
| Indonesia*         | -4.7%               | -5.3%        | 3.6%           | 2.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Korea*             | -8.4%               | -4.7%        | 7.1%           | 12.4%        | -0.5%               | 0.0%              | 0.2%            | 0.2%               | -0.1%         |
| Malaysia*          | -4.7%               | -6.4%        | 3.3%           | 2.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Pakistan*          | -3.2%               | 1.2%         | 0.8%           | 0.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Philippines*       | -5.4%               | -4.5%        | 3.6%           | 1.1%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | -0.1%         |
| Singapore          | -10.8%              | -5.8%        | 0.2%           | 0.0%         | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Taiwan*            | -0.3%               | 5.8%         | 7.3%           | 10.9%        | -0.7%               | -0.3%             | 0.0%            | 0.2%               | -0.7%         |
| Thailand*          | -1.8%               | -5.9%        | 3.5%           | 3.0%         | 0.1%                | 0.0%              | 0.0%            | 0.0%               | 0.1%          |
| <b>Americas</b>    |                     |              |                |              |                     |                   |                 |                    |               |
| Argentina*         | --                  | -46.7%       | 0.0%           | 0.3%         | --                  | 0.2%              | 0.0%            | --                 | 0.2%          |
| Brazil*            | -0.2%               | -4.7%        | 7.2%           | 7.6%         | 0.3%                | 0.0%              | 0.1%            | 0.0%               | 0.3%          |
| Chile*             | -7.2%               | -7.5%        | 3.6%           | 0.9%         | 0.0%                | 0.0%              | -0.1%           | 0.0%               | -0.1%         |
| Colombia*          | -6.0%               | -6.1%        | 1.9%           | 0.4%         | 0.0%                | 0.1%              | -0.1%           | 0.0%               | -0.1%         |
| Mexico*            | -1.3%               | -1.6%        | 6.7%           | 2.6%         | 0.0%                | 0.1%              | -0.1%           | 0.0%               | 0.0%          |
| Peru*              | -8.6%               | -9.3%        | 1.5%           | 0.4%         | 0.0%                | -0.1%             | 0.0%            | 0.0%               | -0.1%         |
| United States      | 0.5%                | 1.6%         | 1.6%           | 0.0%         | 0.0%                | 0.1%              | 0.0%            | 0.0%               | 0.0%          |

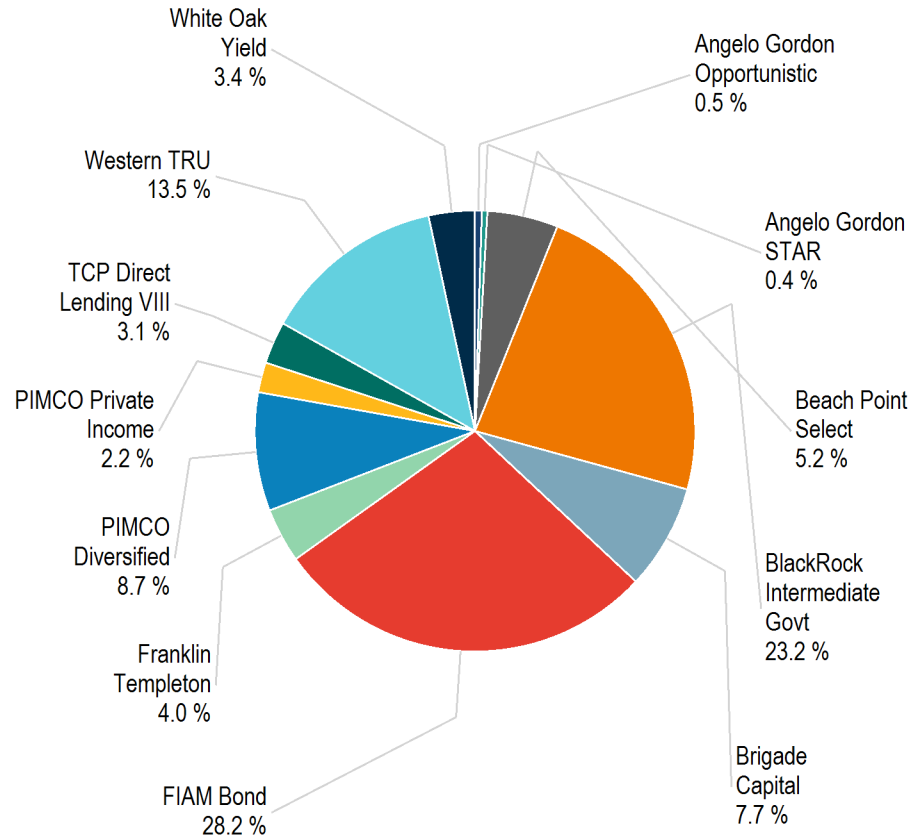
Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

|                       | 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*                | 3.1%                | 7.4%         | 0.8%           | 0.1%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Kuwait**              | -2.5%               | -4.1%        | 0.9%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Qatar*                | -1.2%               | -0.7%        | 1.7%           | 1.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Saudi Arabia*         | --                  | -9.7%        | 0.0%           | 1.4%          | --                  | 0.1%              | 0.0%            | --                 | 0.1%          |
| South Africa*         | -12.1%              | -12.2%       | 7.1%           | 5.9%          | 0.0%                | 0.0%              | -0.1%           | 0.0%               | -0.1%         |
| Turkey*               | 11.0%               | 11.6%        | 2.0%           | 0.5%          | 0.0%                | 0.2%              | 0.0%            | 0.0%               | 0.2%          |
| United Arab Emirates* | 2.6%                | 0.7%         | 1.4%           | 0.7%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>Totals</b>         |                     |              |                |               |                     |                   |                 |                    |               |
| Americas              | -2.6%               | -5.6%        | 22.4%          | 12.3%         | 0.1%                | 0.3%              | -0.2%           | 0.1%               | 0.3%          |
| Europe                | -4.9%               | -3.6%        | 14.6%          | 5.9%          | -0.1%               | 0.2%              | -0.3%           | -0.1%              | -0.3%         |
| Asia/Pacific          | -4.8%               | -3.3%        | 48.8%          | 72.3%         | -1.1%               | 0.1%              | 0.3%            | 0.4%               | -0.4%         |
| Other                 | -4.4%               | -8.2%        | 14.0%          | 9.6%          | 0.3%                | -0.1%             | 0.0%            | 0.1%               | 0.3%          |
| Cash                  | 0.5%                | --           | 0.2%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| <b>Total</b>          | <b>-4.2%</b>        | <b>-4.1%</b> | <b>100.0%</b>  | <b>100.0%</b> | <b>-0.8%</b>        | <b>0.4%</b>       | <b>-0.2%</b>    | <b>0.5%</b>        | <b>-0.2%</b>  |
| <b>Totals</b>         |                     |              |                |               |                     |                   |                 |                    |               |
| Developed             | -3.5%               | --           | 7.8%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | -0.1%              | -0.1%         |
| Emerging*             | -4.3%               | -4.1%        | 91.1%          | 100.0%        | 0.1%                | 0.0%              | -0.2%           | 0.0%               | -0.1%         |
| Frontier**            | -2.5%               | --           | 0.9%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |
| Cash                  | 0.5%                | --           | 0.2%           | 0.0%          | 0.0%                | 0.0%              | 0.0%            | 0.0%               | 0.0%          |



Fixed Income  
 Manager Allocation Analysis

Period Ending: September 30, 2019



|                                     | Actual \$              | Actual %      | Manager Contribution to Excess Return % |
|-------------------------------------|------------------------|---------------|---|
| Angelo Gordon Opportunistic         | \$4,913,000            | 0.5%          | 0.0%                                    |
| Angelo Gordon STAR                  | \$3,619,298            | 0.4%          | 0.0%                                    |
| Beach Point Select                  | \$53,347,131           | 5.2%          | 0.0%                                    |
| BlackRock Intermediate Govt         | \$236,538,193          | 23.2%         | 0.0%                                    |
| Brigade Capital                     | \$78,960,255           | 7.7%          | -0.2%                                   |
| FIAM Bond                           | \$287,349,195          | 28.2%         | 0.0%                                    |
| Franklin Templeton                  | \$40,915,349           | 4.0%          | -0.2%                                   |
| PIMCO Diversified                   | \$88,839,498           | 8.7%          | -0.1%                                   |
| PIMCO Private Income                | \$22,116,753           | 2.2%          | 0.0%                                    |
| TCP Direct Lending VIII             | \$31,904,747           | 3.1%          | 0.0%                                    |
| Western TRU                         | \$137,965,723          | 13.5%         | 0.0%                                    |
| White Oak Yield                     | \$34,301,530           | 3.4%          | -0.1%                                   |
| Actual vs. Policy Weight Difference |                        |               | -0.5%                                   |
| <b>Total</b>                        | <b>\$1,020,770,672</b> | <b>100.0%</b> | <b>-1.0%</b>                            |

Statistics Summary

3 Years

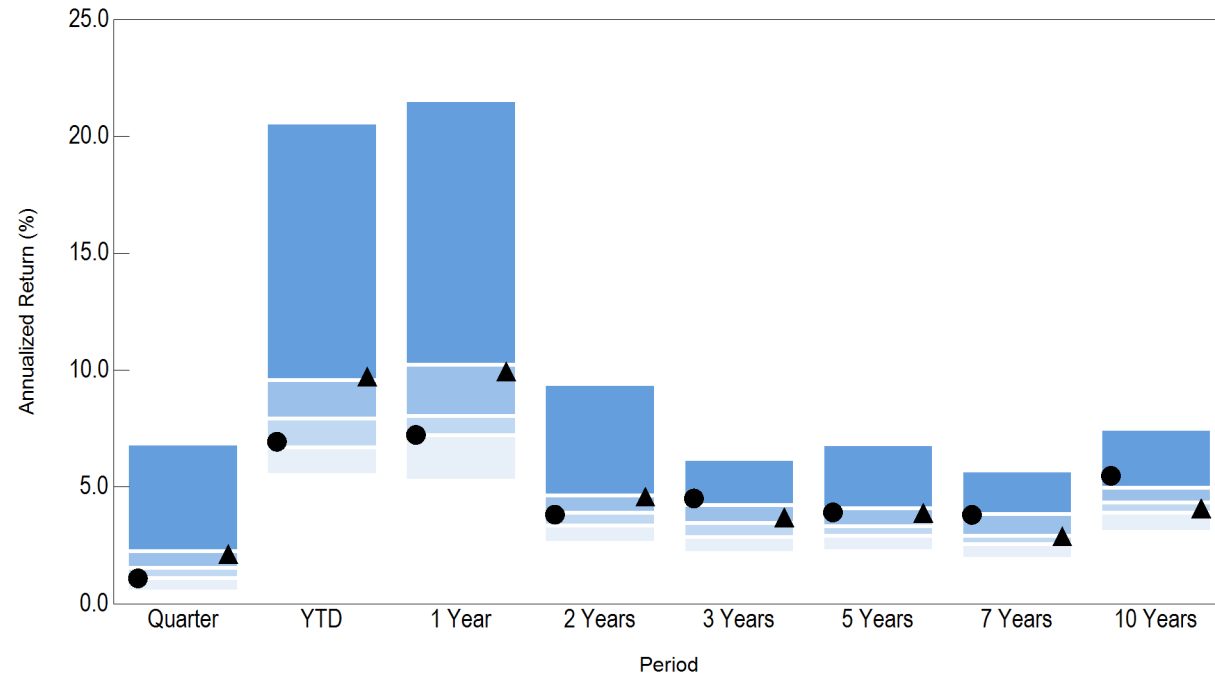
|                                | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|--------------------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Fixed Income                   | 4.5%         | 2.0%                     | 1.5          | 0.4               | 1.9%           |
| Blended Fixed Income Index     | 3.7%         | 3.0%                     | 0.7          | --                | 0.0%           |
| Core Fixed                     | 3.2%         | 2.5%                     | 0.6          | 0.2               | 1.2%           |
| BBgBarc US Aggregate TR        | 2.9%         | 3.3%                     | 0.4          | --                | 0.0%           |
| FIAM Bond                      | 3.3%         | 3.2%                     | 0.5          | 0.7               | 0.5%           |
| BBgBarc US Aggregate TR        | 2.9%         | 3.3%                     | 0.4          | --                | 0.0%           |
| Western TRU                    | 4.1%         | 3.4%                     | 0.8          | 0.6               | 3.5%           |
| 3-Month Libor Total Return USD | 1.9%         | 0.2%                     | 2.1          | --                | 0.0%           |
| Opportunistic Credit           | 6.5%         | 2.7%                     | 1.9          | 0.4               | 2.6%           |
| BBgBarc BA Intermediate HY     | 5.5%         | 3.6%                     | 1.1          | --                | 0.0%           |
| Angelo Gordon Opportunistic    | 17.0%        | 9.0%                     | 1.7          | 1.5               | 9.6%           |
| BBgBarc US Aggregate TR        | 2.9%         | 3.3%                     | 0.4          | --                | 0.0%           |
| Angelo Gordon STAR             | 17.5%        | 8.6%                     | 1.9          | 1.7               | 8.8%           |
| BBgBarc US Aggregate TR        | 2.9%         | 3.3%                     | 0.4          | --                | 0.0%           |
| Beach Point Select             | 7.4%         | 3.0%                     | 2.0          | 0.7               | 2.6%           |
| BBgBarc BA Intermediate HY     | 5.5%         | 3.6%                     | 1.1          | --                | 0.0%           |
| Brigade Capital                | 4.9%         | 3.9%                     | 0.9          | -0.2              | 3.3%           |
| BBgBarc BA Intermediate HY     | 5.5%         | 3.6%                     | 1.1          | --                | 0.0%           |
| Franklin Templeton             | 3.4%         | 7.2%                     | 0.3          | 0.2               | 9.3%           |
| BBgBarc Multiverse TR          | 1.8%         | 4.5%                     | 0.1          | --                | 0.0%           |

Statistics Summary

5 Years

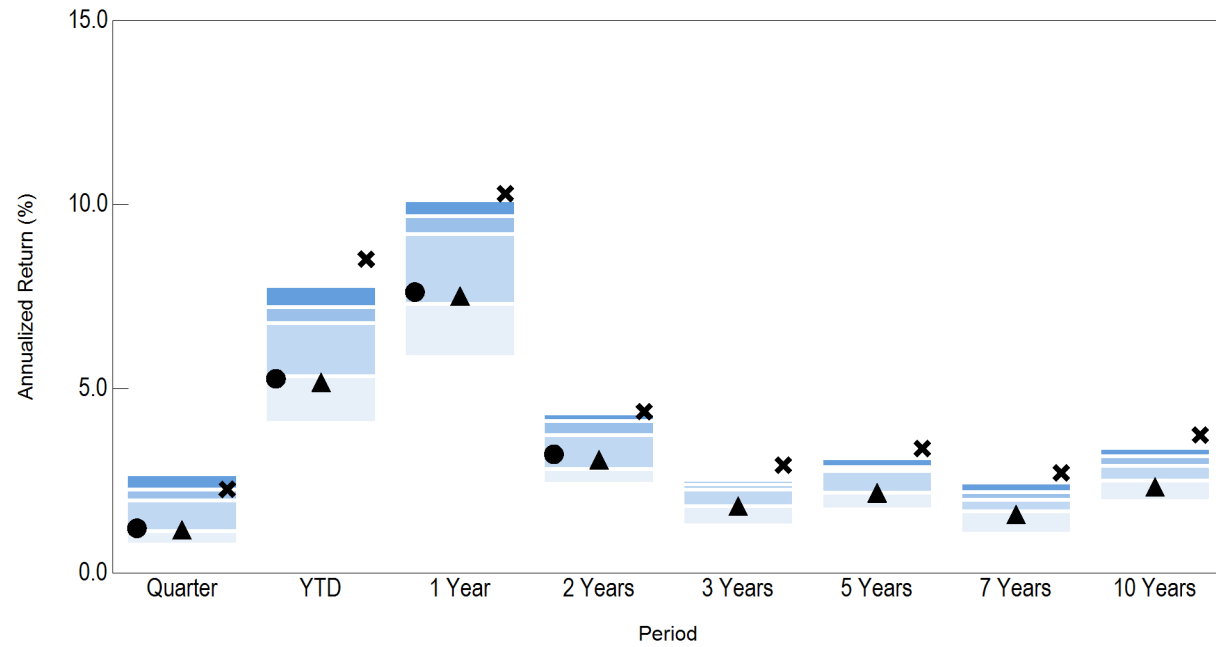
|                             | Anlzd Return | Anlzd Standard<br>Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|-----------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Fixed Income                | 3.9%         | 2.5%                        | 1.2          | 0.0               | 1.9%           |
| Blended Fixed Income Index  | 3.9%         | 2.9%                        | 1.0          | --                | 0.0%           |
| Core Fixed                  | 3.5%         | 2.7%                        | 0.9          | 0.1               | 1.6%           |
| BBgBarc US Aggregate TR     | 3.4%         | 3.1%                        | 0.8          | --                | 0.0%           |
| FIAM Bond                   | 3.8%         | 3.1%                        | 0.9          | 0.5               | 0.8%           |
| BBgBarc US Aggregate TR     | 3.4%         | 3.1%                        | 0.8          | --                | 0.0%           |
| Opportunistic Credit        | 5.6%         | 3.5%                        | 1.3          | 0.0               | 3.2%           |
| BBgBarc BA Intermediate HY  | 5.5%         | 4.3%                        | 1.1          | --                | 0.0%           |
| Angelo Gordon Opportunistic | 11.0%        | 7.5%                        | 1.3          | 0.9               | 8.4%           |
| BBgBarc US Aggregate TR     | 3.4%         | 3.1%                        | 0.8          | --                | 0.0%           |
| Angelo Gordon STAR          | 12.6%        | 7.3%                        | 1.6          | 1.2               | 7.8%           |
| BBgBarc US Aggregate TR     | 3.4%         | 3.1%                        | 0.8          | --                | 0.0%           |
| Brigade Capital             | 3.7%         | 6.3%                        | 0.4          | -0.4              | 4.3%           |
| BBgBarc BA Intermediate HY  | 5.5%         | 4.3%                        | 1.1          | --                | 0.0%           |
| Franklin Templeton          | 1.0%         | 7.0%                        | 0.0          | -0.1              | 8.5%           |
| BBgBarc Multiverse TR       | 2.1%         | 4.4%                        | 0.3          | --                | 0.0%           |

InvMetrics All DB Total Fix Inc Net Return Comparison



|                              | Return (Rank) |          |          |          |          |          |          |          |
|------------------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
|                              | Quarter       | YTD      | 1 Year   | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile               | 6.8           | 20.6     | 21.5     | 9.4      | 6.2      | 6.8      | 5.7      | 7.5      |
| 25th Percentile              | 2.3           | 9.6      | 10.3     | 4.7      | 4.3      | 4.1      | 3.9      | 5.0      |
| Median                       | 1.6           | 7.9      | 8.1      | 3.9      | 3.5      | 3.3      | 2.9      | 4.4      |
| 75th Percentile              | 1.1           | 6.7      | 7.2      | 3.4      | 2.9      | 2.9      | 2.6      | 3.9      |
| 95th Percentile              | 0.5           | 5.5      | 5.3      | 2.6      | 2.2      | 2.3      | 1.9      | 3.1      |
| # of Portfolios              | 286           | 285      | 285      | 278      | 263      | 246      | 224      | 178      |
| ● Fixed Income               | 1.1 (81)      | 6.9 (67) | 7.2 (75) | 3.8 (54) | 4.5 (21) | 3.9 (29) | 3.8 (26) | 5.5 (19) |
| ▲ Blended Fixed Income Index | 2.1 (30)      | 9.7 (25) | 9.9 (27) | 4.6 (27) | 3.7 (43) | 3.9 (29) | 2.9 (53) | 4.1 (69) |

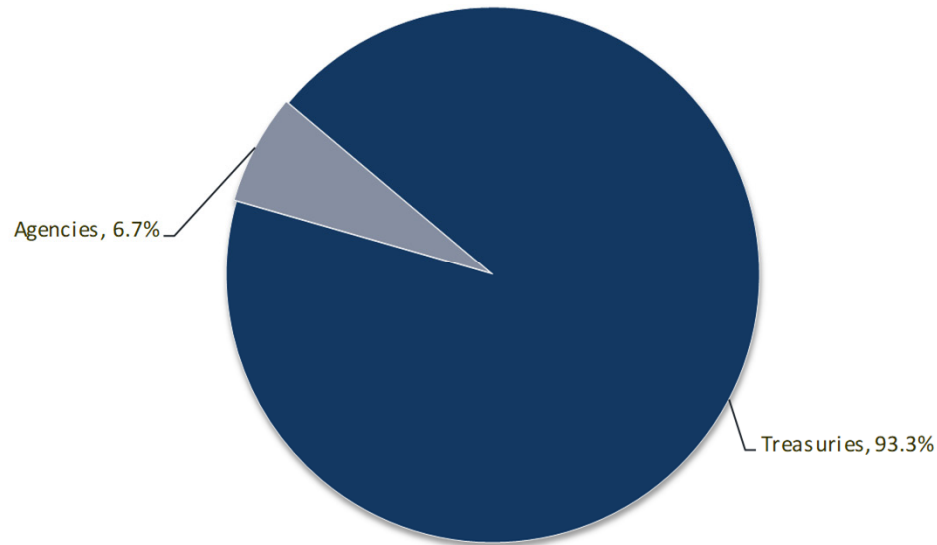
eV US Government Fixed Inc Net Return Comparison



|                               | Return (Rank) |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
|-------------------------------|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|                               | Quarter       |          | YTD      |          | 1 Year   |          | 2 Years  |          | 3 Years  |          | 5 Years  |          | 7 Years  |          | 10 Years |          |
| 5th Percentile                | 2.7           | 7.8      | 10.1     | 4.3      | 2.5      | 3.1      | 2.4      | 3.4      | 2.7      | 1.1      | 2.0      | 2.2      | 2.9      | 3.2      | 3.7      | 4.1      |
| 25th Percentile               | 2.3           | 7.2      | 9.7      | 4.1      | 2.4      | 2.9      | 2.2      | 3.2      | 2.2      | 1.8      | 2.8      | 2.0      | 2.9      | 3.7      | 4.1      | 4.1      |
| Median                        | 2.0           | 6.8      | 9.2      | 3.7      | 2.3      | 2.8      | 2.0      | 2.9      | 2.2      | 1.8      | 2.8      | 2.0      | 2.9      | 3.7      | 4.1      | 4.1      |
| 75th Percentile               | 1.1           | 5.4      | 7.3      | 2.8      | 1.8      | 2.2      | 1.7      | 2.5      | 1.8      | 1.8      | 2.2      | 1.7      | 2.5      | 3.1      | 3.7      | 4.1      |
| 95th Percentile               | 0.8           | 4.1      | 5.9      | 2.4      | 1.3      | 1.7      | 1.1      | 2.0      | 1.3      | 1.3      | 1.7      | 1.1      | 2.0      | 2.9      | 3.7      | 4.1      |
| # of Portfolios               | 13            | 13       | 13       | 13       | 12       | 12       | 12       | 12       | 12       | 12       | 12       | 12       | 12       | 12       | 12       | 12       |
| ● BlackRock Intermediate Govt | 1.2 (72)      | 5.3 (77) | 7.6 (69) | 3.2 (58) | -- (--)  | -- (--)  | -- (--)  | -- (--)  | -- (--)  | -- (--)  | -- (--)  | -- (--)  | -- (--)  | -- (--)  | -- (--)  | -- (--)  |
| ▲ BBgBarc US Govt Int TR      | 1.2 (74)      | 5.2 (79) | 7.5 (71) | 3.1 (69) | 1.8 (76) | 2.2 (77) | 1.6 (78) | 2.3 (80) | 1.8 (76) | 1.8 (76) | 2.2 (77) | 1.6 (78) | 2.3 (80) | 2.3 (80) | 2.3 (80) | 2.3 (80) |
| ✕ BBgBarc US Aggregate TR     | 2.3 (34)      | 8.5 (1)  | 10.3 (1) | 4.4 (3)  | 2.9 (1)  | 3.4 (1)  | 2.7 (1)  | 3.7 (1)  | 2.9 (1)  | 2.9 (1)  | 3.4 (1)  | 2.7 (1)  | 3.7 (1)  | 3.7 (1)  | 3.7 (1)  | 3.7 (1)  |

BlackRock Intermediate Govt Market Duration Pool  
 Bond Sector Allocation

Period Ending: September 30, 2019



| Sector       | Account Weight | BBgBarc Intermediate |             |
|--------------|----------------|----------------------|-------------|
|              |                | Govt Weight          | Difference  |
| Treasuries   | 93.3%          | 96.9%                | -3.6%       |
| Agencies     | 6.7%           | 3.1%                 | 3.6%        |
| Corporates   | 0.0%           | 0.0%                 | 0.0%        |
| Utilities    | 0.0%           | 0.0%                 | 0.0%        |
| Foreign      | 0.0%           | 0.0%                 | 0.0%        |
| MBS          | 0.0%           | 0.0%                 | 0.0%        |
| CMO          | 0.0%           | 0.0%                 | 0.0%        |
| ABS          | 0.0%           | 0.0%                 | 0.0%        |
| Municipals   | 0.0%           | 0.0%                 | 0.0%        |
| Others/Cash  | 0.0%           | 0.0%                 | 0.0%        |
| <b>TOTAL</b> | <b>100.0%</b>  | <b>100.0%</b>        | <b>0.0%</b> |

BlackRock Intermediate Govt Market Duration Pool  
 Bond Summary Statistics

Period Ending: September 30, 2019

| Portfolio Characteristics  |    | Portfolio   |
|----------------------------|----|-------------|
| Total Number of Securities |    | 259         |
| Total Market Value         | \$ | 236,538,193 |
| Current Coupon             |    | 2.67        |
| Yield to Maturity          |    | 1.65        |
| Average Life               |    | 4.05        |
| Duration                   |    | 3.75        |
| Quality                    |    | AA+         |

| BBgBarc Intermediate Govt |      |
|---------------------------|------|
| Current Coupon            | 2.22 |
| Yield to Maturity         | 1.64 |
| Average Life              | 4.06 |
| Duration                  | 3.78 |
| Quality                   | AA+  |

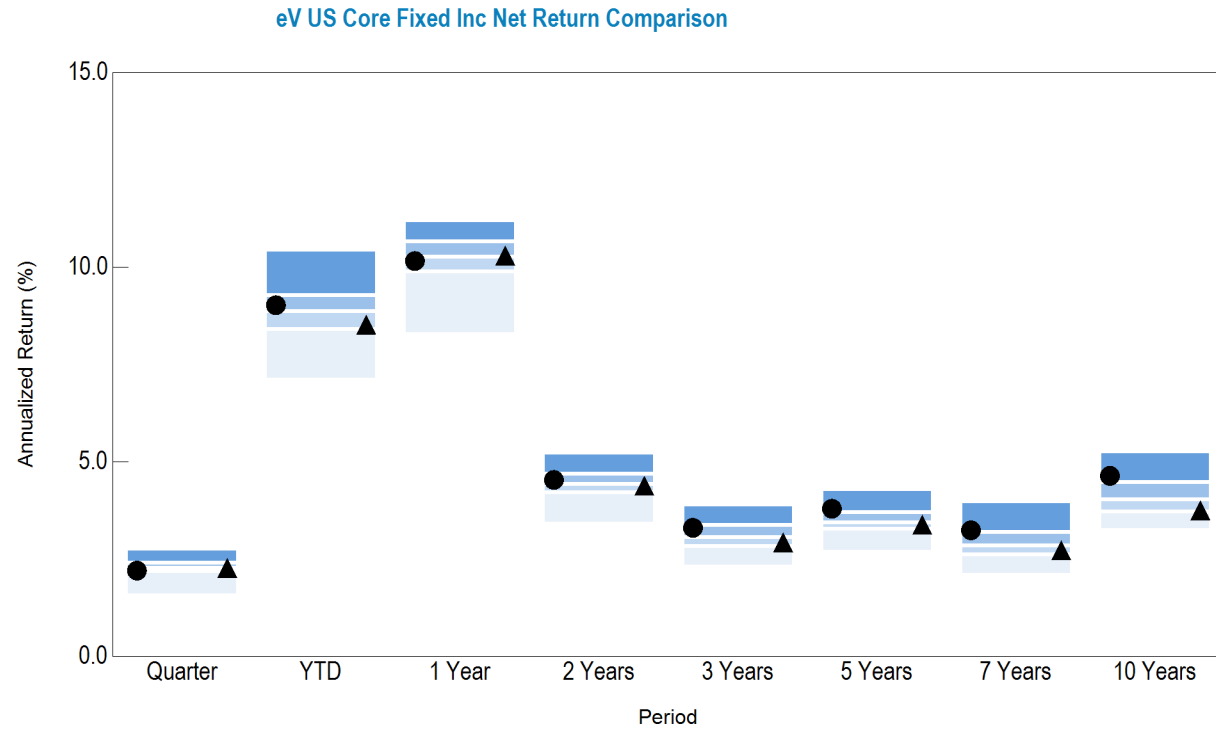
| Yield to Maturity |        |
|-------------------|--------|
| Range             | % Held |
| 0.0 - 5.0         | 100.0  |
| 5.0 - 7.0         | 0.0    |
| 7.0 - 9.0         | 0.0    |
| 9.0 - 11.0        | 0.0    |
| 11.0 - 13.0       | 0.0    |
| 13.0+             | 0.0    |
| Unclassified      | 0.0    |

| Average Life |        |
|--------------|--------|
| Range        | % Held |
| 0.0 - 1.0    | n/a    |
| 1.0 - 3.0    | n/a    |
| 3.0 - 5.0    | n/a    |
| 5.0 - 10.0   | n/a    |
| 10.0 - 20.0  | n/a    |
| 20.0+        | n/a    |
| Unclassified | n/a    |

| Duration     |        |
|--------------|--------|
| Range        | % Held |
| 0.0 - 2.0    | 26.0   |
| 2.0 - 4.0    | 32.8   |
| 4.0 - 6.0    | 22.8   |
| 6.0 - 8.0    | 17.4   |
| 8.0+         | 1.1    |
| Unclassified | 0.0    |

| Quality         |        |
|-----------------|--------|
| Range           | % Held |
| Govt (10)       | 0.0    |
| Aaa (10)        | 98.5   |
| Aa (9)          | 1.6    |
| A (8)           | 0.0    |
| Baa (7)         | 0.0    |
| Below Baa (6-1) | 0.0    |
| Other           | 0.0    |

| Coupon       |        |
|--------------|--------|
| Range        | % Held |
| 0.0 - 5.0    | 100.0  |
| 5.0 - 7.0    | 0.0    |
| 7.0 - 9.0    | 0.0    |
| 9.0 - 10.0   | 0.0    |
| 10.0+        | 0.0    |
| Unclassified | 0.0    |

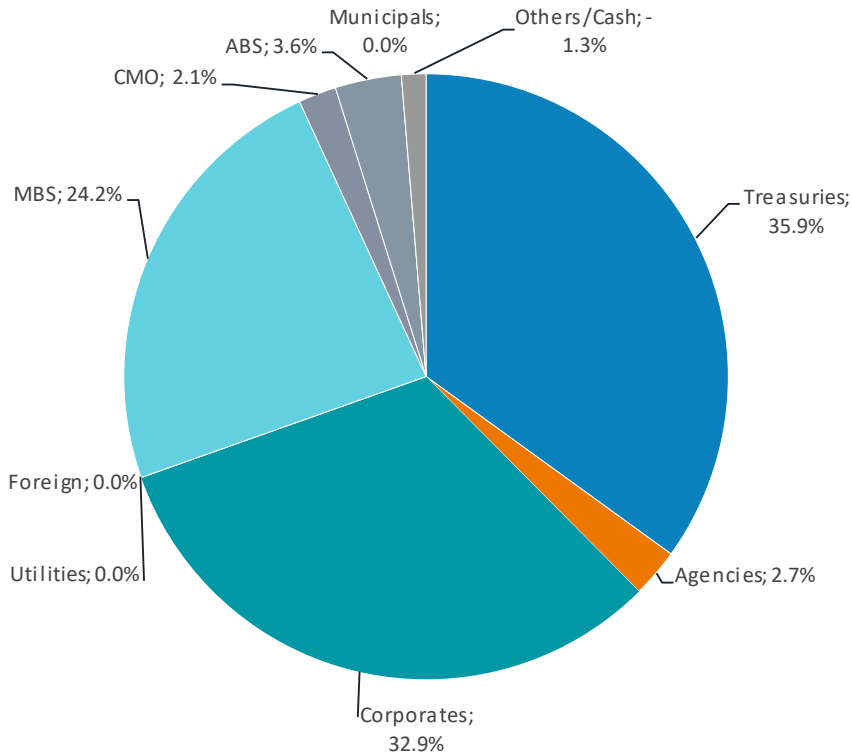


|                           | Return (Rank) |          |           |          |          |          |          |          |
|---------------------------|---------------|----------|-----------|----------|----------|----------|----------|----------|
|                           | Quarter       | YTD      | 1 Year    | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile            | 2.8           | 10.4     | 11.2      | 5.2      | 3.9      | 4.3      | 4.0      | 5.3      |
| 25th Percentile           | 2.4           | 9.3      | 10.7      | 4.7      | 3.4      | 3.7      | 3.2      | 4.5      |
| Median                    | 2.3           | 8.9      | 10.3      | 4.4      | 3.1      | 3.5      | 2.9      | 4.0      |
| 75th Percentile           | 2.2           | 8.4      | 9.9       | 4.2      | 2.8      | 3.3      | 2.6      | 3.7      |
| 95th Percentile           | 1.6           | 7.1      | 8.3       | 3.4      | 2.3      | 2.7      | 2.1      | 3.2      |
| # of Portfolios           | 138           | 138      | 137       | 136      | 135      | 133      | 131      | 119      |
| ● FIAM Bond               | 2.2 (75)      | 9.0 (42) | 10.2 (56) | 4.5 (40) | 3.3 (31) | 3.8 (22) | 3.2 (24) | 4.6 (19) |
| ▲ BBgBarc US Aggregate TR | 2.3 (55)      | 8.5 (73) | 10.3 (49) | 4.4 (54) | 2.9 (66) | 3.4 (63) | 2.7 (66) | 3.7 (73) |



FIAM Bond Market Duration Pool  
Bond Sector Allocation

Period Ending: September 30, 2019



| Sector       | Account Weight | BBgBarc Aggregate |             |
|--------------|----------------|-------------------|-------------|
|              |                | Weight            | Difference  |
| Treasuries   | 35.9%          | 39.7%             | -3.8%       |
| Agencies     | 2.7%           | 5.8%              | -3.1%       |
| Corporates   | 32.9%          | 25.1%             | 7.8%        |
| Utilities    | 0.0%           | 0.0%              | 0.0%        |
| Foreign      | 0.0%           | 0.0%              | 0.0%        |
| MBS          | 24.2%          | 27.0%             | -2.8%       |
| CMO          | 2.1%           | 0.0%              | 2.1%        |
| ABS          | 3.6%           | 2.5%              | 1.2%        |
| Municipals   | 0.0%           | 0.0%              | 0.0%        |
| Others/Cash  | -1.3%          | 0.0%              | -1.4%       |
| <b>TOTAL</b> | <b>100.0%</b>  | <b>100.0%</b>     | <b>0.0%</b> |

FIAM Bond Market Duration Pool  
Bond Summary Statistics

Period Ending: September 30, 2019

| Portfolio Characteristics  |           |             |
|----------------------------|-----------|-------------|
|                            | Portfolio |             |
| Total Number of Securities |           | 914         |
| Total Market Value         | \$        | 287,349,195 |
| Current Coupon             |           | 3.36        |
| Yield to Maturity          |           | 2.55        |
| Average Life               |           | 8.00        |
| Duration                   |           | 5.43        |
| Quality                    |           | AA-         |

| BBgBarc Aggregate |      |
|-------------------|------|
|                   | 3.27 |
|                   | 2.27 |
|                   | 7.91 |
|                   | 5.64 |
|                   | AA   |

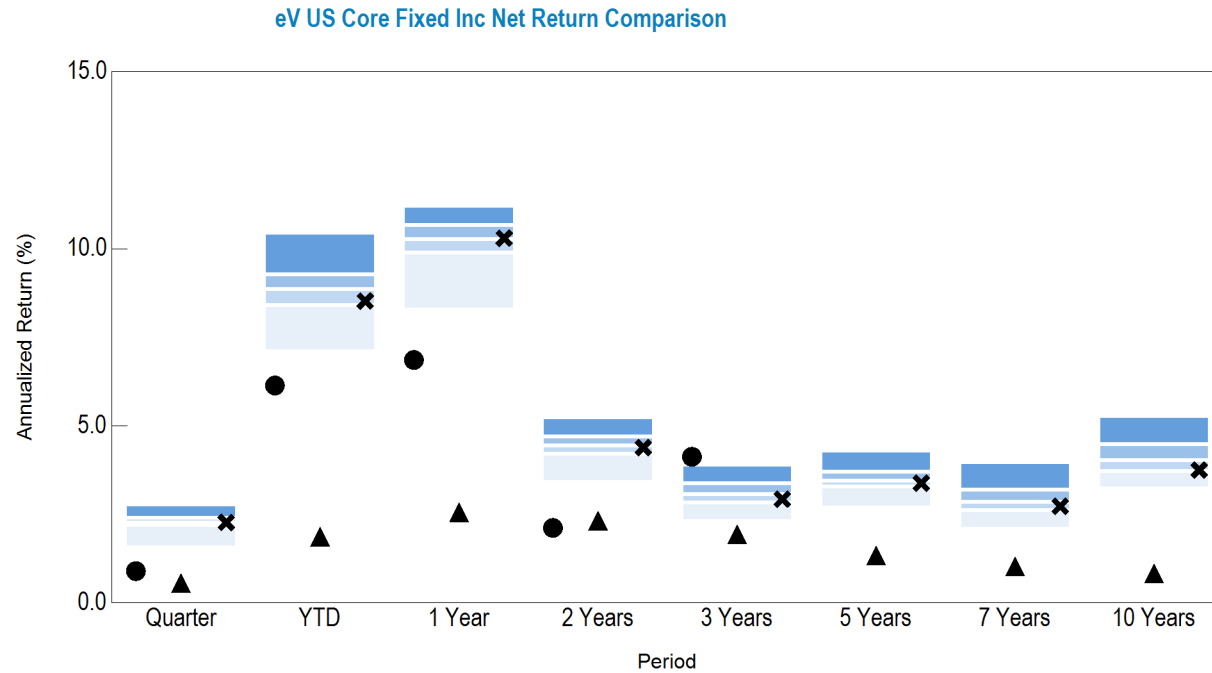
| Yield to Maturity |        |
|-------------------|--------|
| Range             | % Held |
| 0.0 - 5.0         | 97.5   |
| 5.0 - 7.0         | 1.4    |
| 7.0 - 9.0         | 0.9    |
| 9.0 - 11.0        | 0.0    |
| 11.0 - 13.0       | 0.0    |
| 13.0+             | 0.1    |
| Unclassified      | 0.0    |

| Average Life |        |
|--------------|--------|
| Range        | % Held |
| 0.0 - 1.0    | 1.1    |
| 1.0 - 3.0    | 16.4   |
| 3.0 - 5.0    | 31.4   |
| 5.0 - 10.0   | 35.5   |
| 10.0 - 20.0  | 4.2    |
| 20.0+        | 11.5   |
| Unclassified | 0.0    |

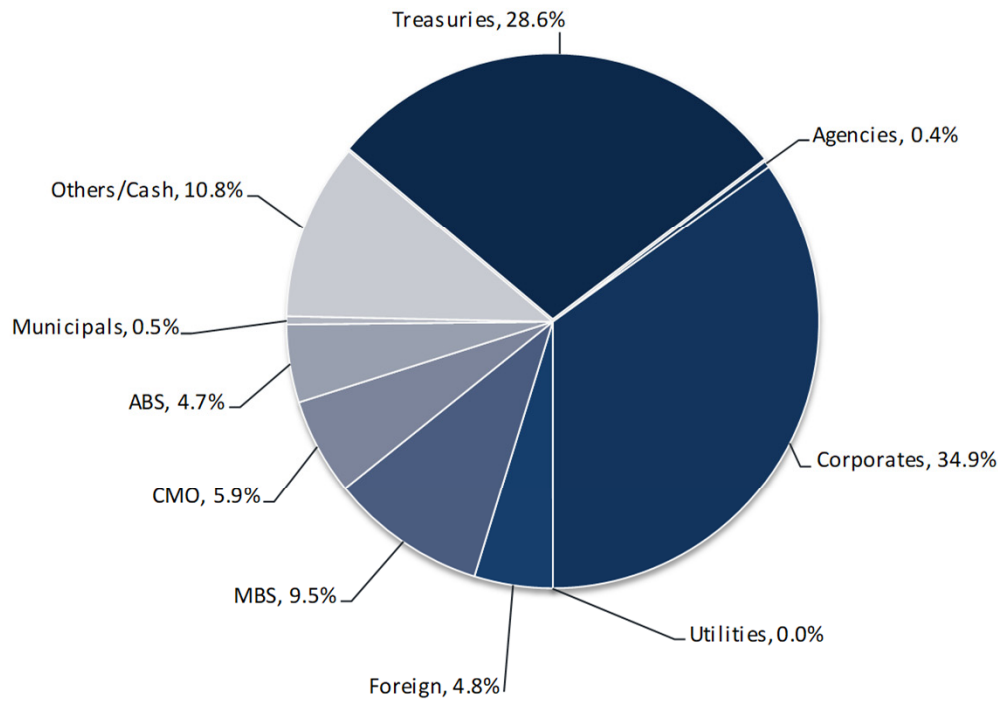
| Duration     |        |
|--------------|--------|
| Range        | % Held |
| 0.0 - 1.0    | 2.8    |
| 1.0 - 3.0    | 31.4   |
| 3.0 - 5.0    | 28.6   |
| 5.0 - 7.0    | 12.7   |
| 7.0 - 10.0   | 9.0    |
| 10.0+        | 15.5   |
| Unclassified | 0.0    |

| Quality         |        |
|-----------------|--------|
| Range           | % Held |
| Govt (10)       | 61.4   |
| Aaa (10)        | 2.1    |
| Aa (9)          | 1.9    |
| A (8)           | 15.1   |
| Baa (7)         | 19.6   |
| Below Baa (6-1) | 0.6    |
| Other           | -0.7   |

| Coupon       |        |
|--------------|--------|
| Range        | % Held |
| 0.0 - 5.0    | 87.9   |
| 5.0 - 7.0    | 9.3    |
| 7.0 - 9.0    | 1.2    |
| 9.0 - 11.0   | 0.0    |
| 11.0 - 13.0  | 0.0    |
| 13.0+        | 1.7    |
| Unclassified | 0.0    |



|                                  | Return (Rank) |          |           |          |          |          |          |          |
|----------------------------------|---------------|----------|-----------|----------|----------|----------|----------|----------|
|                                  | Quarter       | YTD      | 1 Year    | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile                   | 2.8           | 10.4     | 11.2      | 5.2      | 3.9      | 4.3      | 4.0      | 5.3      |
| 25th Percentile                  | 2.4           | 9.3      | 10.7      | 4.7      | 3.4      | 3.7      | 3.2      | 4.5      |
| Median                           | 2.3           | 8.9      | 10.3      | 4.4      | 3.1      | 3.5      | 2.9      | 4.0      |
| 75th Percentile                  | 2.2           | 8.4      | 9.9       | 4.2      | 2.8      | 3.3      | 2.6      | 3.7      |
| 95th Percentile                  | 1.6           | 7.1      | 8.3       | 3.4      | 2.3      | 2.7      | 2.1      | 3.2      |
| # of Portfolios                  | 138           | 138      | 137       | 136      | 135      | 133      | 131      | 119      |
| ● Western TRU                    | 0.9 (99)      | 6.1 (98) | 6.9 (99)  | 2.1 (99) | 4.1 (5)  | -- (--)  | -- (--)  | -- (--)  |
| ▲ 3-Month Libor Total Return USD | 0.6 (99)      | 1.9 (99) | 2.6 (99)  | 2.3 (99) | 1.9 (98) | 1.3 (99) | 1.0 (99) | 0.8 (99) |
| ✕ BBgBarc US Aggregate TR        | 2.3 (55)      | 8.5 (73) | 10.3 (49) | 4.4 (54) | 2.9 (66) | 3.4 (63) | 2.7 (66) | 3.7 (73) |



| Sector       | Account Weight | BBgBarc Aggregate |              |
|--------------|----------------|-------------------|--------------|
|              |                | Weight            | Difference   |
| Treasuries   | 28.6%          | 39.7%             | -11.1%       |
| Agencies     | 0.4%           | 5.8%              | -5.4%        |
| Corporates   | 34.9%          | 25.1%             | 9.9%         |
| Utilities    | 0.0%           | 0.0%              | 0.0%         |
| Foreign      | 4.8%           | 0.0%              | 4.8%         |
| MBS          | 9.5%           | 27.0%             | -17.6%       |
| CMO          | 5.9%           | 0.0%              | 5.9%         |
| ABS          | 4.7%           | 2.5%              | 2.3%         |
| Municipals   | 0.5%           | 0.0%              | 0.5%         |
| Others/Cash  | 10.8%          | 0.0%              | 10.7%        |
| <b>TOTAL</b> | <b>100.0%</b>  | <b>100.0%</b>     | <b>-0.1%</b> |

| Portfolio Characteristics  |    | Portfolio   | BBgBarc Aggregate |
|----------------------------|----|-------------|-------------------|
| Total Number of Securities |    | 5,108       |                   |
| Total Market Value         | \$ | 137,965,723 |                   |
| Current Coupon             |    | 4.59        | 3.27              |
| Yield to Maturity          |    | 4.71        | 2.27              |
| Average Life               |    | 8.53        | 7.91              |
| Duration                   |    | 1.83        | 5.64              |
| Quality                    |    | A           | AA                |

| Yield to Maturity |        |
|-------------------|--------|
| Range             | % Held |
| 0.0 - 5.0         | 72.7   |
| 5.0 - 7.0         | 22.3   |
| 7.0 - 9.0         | 5.8    |
| 9.0 - 11.0        | 0.9    |
| 11.0 - 13.0       | 0.7    |
| 13.0+             | 1.8    |
| Unclassified      | -4.2   |

| Average Life |        |
|--------------|--------|
| Range        | % Held |
| 0.0 - 1.0    | 16.7   |
| 1.0 - 3.0    | 16.0   |
| 3.0 - 5.0    | 19.0   |
| 5.0 - 10.0   | 15.6   |
| 10.0 - 20.0  | 14.1   |
| 20.0+        | 18.6   |
| Unclassified | 0.0    |

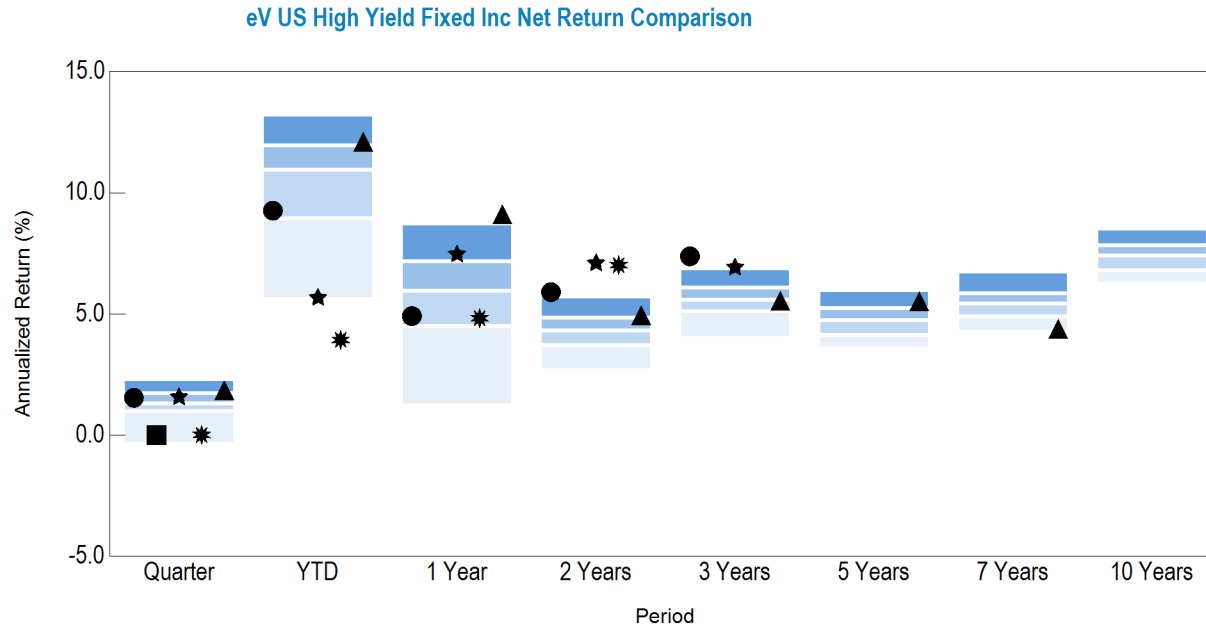
| Duration     |        |
|--------------|--------|
| Range        | % Held |
| < 1.0        | 29.6   |
| 1.0 - 3.0    | 15.9   |
| 3.0 - 5.0    | 16.5   |
| 5.0 - 7.0    | 18.1   |
| 7.0 - 10.0   | 3.8    |
| 10.0+        | 16.2   |
| Unclassified | 0.0    |

\*Unclassified includes negative YTM

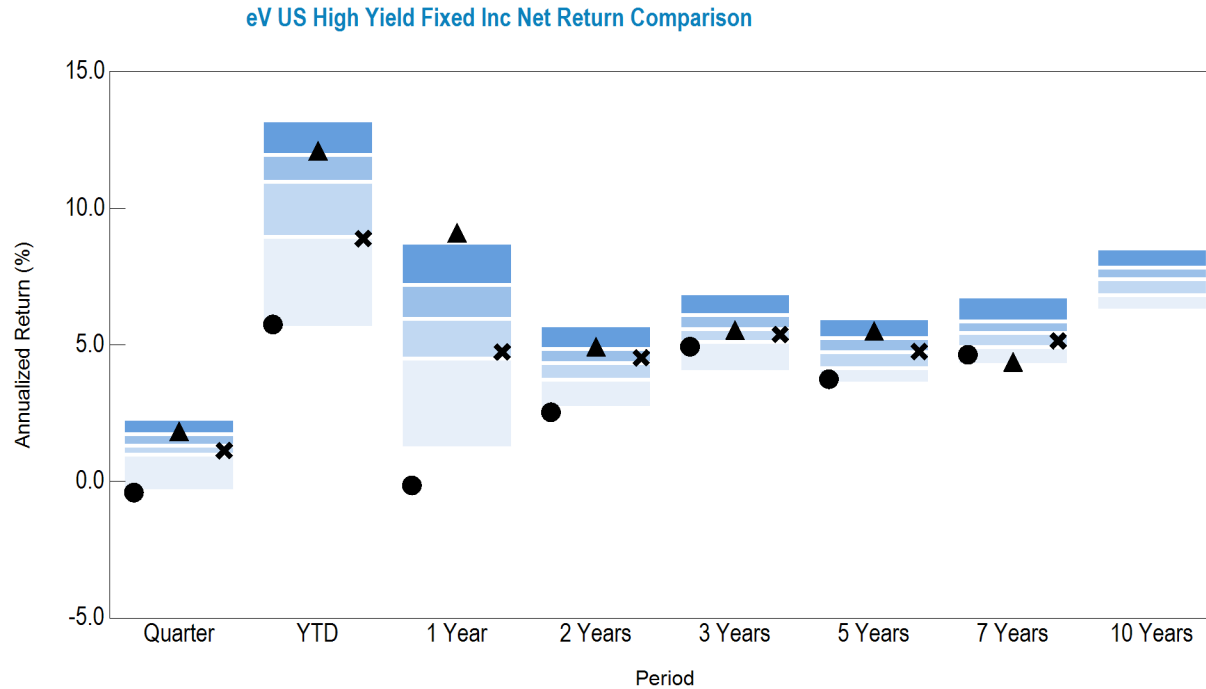
| Quality         |        |
|-----------------|--------|
| Range           | % Held |
| Govt* (10)      | 5.8    |
| Aaa (10)        | 19.9   |
| Aa (9)          | 2.1    |
| A (8)           | 19.9   |
| Baa (7)         | 26.5   |
| Below Baa (6-1) | 25.1   |
| Other           | 0.5    |

| Coupon       |        |
|--------------|--------|
| Range        | % Held |
| 0.0 - 5.0    | 53.6   |
| 5.0 - 7.0    | 27.3   |
| 7.0 - 9.0    | 13.6   |
| 9.0 - 10.0   | 0.6    |
| 10.0+        | 4.9    |
| Unclassified | 0.0    |

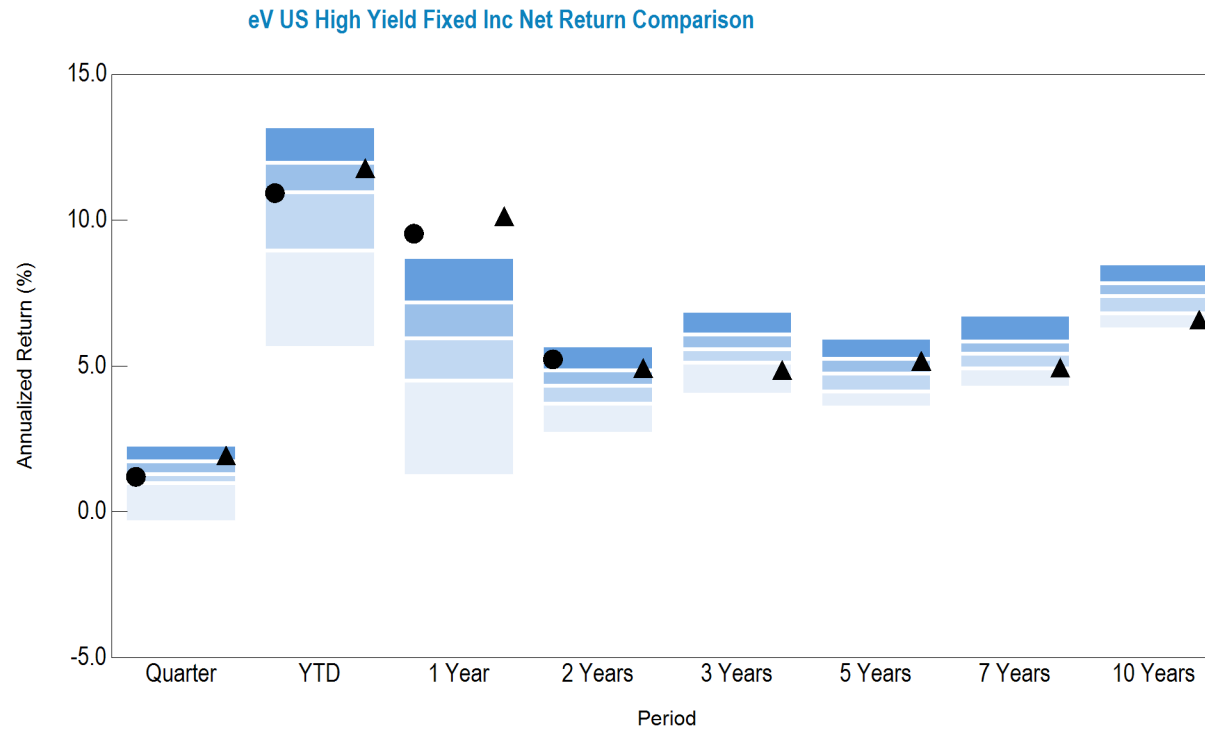
\*Govt is specifically U.S Govt securities



|                              | Return (Rank) |           |          |          |          |          |          |          |
|------------------------------|---------------|-----------|----------|----------|----------|----------|----------|----------|
|                              | Quarter       | YTD       | 1 Year   | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile               | 2.3           | 13.2      | 8.7      | 5.7      | 6.9      | 6.0      | 6.7      | 8.5      |
| 25th Percentile              | 1.7           | 12.0      | 7.2      | 4.9      | 6.1      | 5.3      | 5.9      | 7.8      |
| Median                       | 1.3           | 11.0      | 6.0      | 4.3      | 5.6      | 4.7      | 5.4      | 7.4      |
| 75th Percentile              | 1.0           | 9.0       | 4.5      | 3.7      | 5.1      | 4.1      | 4.9      | 6.8      |
| 95th Percentile              | -0.3          | 5.6       | 1.2      | 2.7      | 4.0      | 3.6      | 4.3      | 6.3      |
| # of Portfolios              | 137           | 137       | 137      | 136      | 132      | 119      | 99       | 79       |
| ● Beach Point Select         | 1.5 (40)      | 9.3 (72)  | 4.9 (72) | 5.9 (4)  | 7.4 (2)  | -- (--)  | -- (--)  | -- (--)  |
| ■ PIMCO Private Income       | 0.0 (92)      | -- (--)   | -- (--)  | -- (--)  | -- (--)  | -- (--)  | -- (--)  | -- (--)  |
| ★ TCP Direct Lending VIII    | 1.6 (38)      | 5.7 (95)  | 7.5 (22) | 7.1 (1)  | 6.9 (4)  | -- (--)  | -- (--)  | -- (--)  |
| * White Oak Yield            | 0.0 (92)      | 3.9 (98)  | 4.8 (73) | 7.0 (1)  | -- (--)  | -- (--)  | -- (--)  | -- (--)  |
| ▲ BBgBarc BA Intermediate HY | 1.8 (19)      | 12.1 (23) | 9.1 (4)  | 4.9 (22) | 5.5 (54) | 5.5 (15) | 4.4 (92) | -- (--)  |

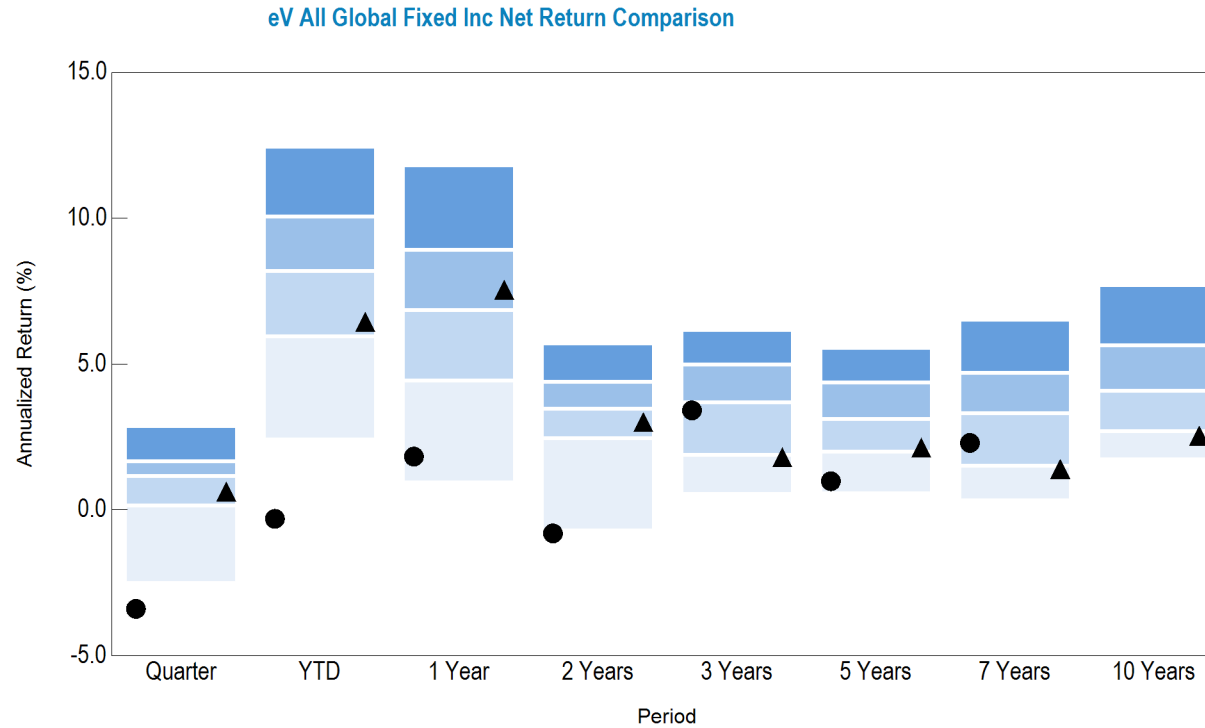


|                                  | Return (Rank) |           |           |          |          |          |          |          |
|----------------------------------|---------------|-----------|-----------|----------|----------|----------|----------|----------|
|                                  | Quarter       | YTD       | 1 Year    | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile                   | 2.3           | 13.2      | 8.7       | 5.7      | 6.9      | 6.0      | 6.7      | 8.5      |
| 25th Percentile                  | 1.7           | 12.0      | 7.2       | 4.9      | 6.1      | 5.3      | 5.9      | 7.8      |
| Median                           | 1.3           | 11.0      | 6.0       | 4.3      | 5.6      | 4.7      | 5.4      | 7.4      |
| 75th Percentile                  | 1.0           | 9.0       | 4.5       | 3.7      | 5.1      | 4.1      | 4.9      | 6.8      |
| 95th Percentile                  | -0.3          | 5.6       | 1.2       | 2.7      | 4.0      | 3.6      | 4.3      | 6.3      |
| # of Portfolios                  | 137           | 137       | 137       | 136      | 132      | 119      | 99       | 79       |
| ● Brigade Capital                | -0.4 (96)     | 5.7 (95)  | -0.1 (98) | 2.5 (97) | 4.9 (80) | 3.7 (91) | 4.6 (85) | -- (--)  |
| ▲ BBgBarc BA Intermediate HY     | 1.8 (19)      | 12.1 (23) | 9.1 (4)   | 4.9 (22) | 5.5 (54) | 5.5 (15) | 4.4 (92) | -- (--)  |
| ✕ 50% Barclays HY/ 50% Bank Loan | 1.1 (65)      | 8.9 (76)  | 4.7 (73)  | 4.5 (44) | 5.4 (63) | 4.8 (50) | 5.1 (69) | -- (--)  |



|                                   | Return (Rank) |           |          |          |          |          |          |          |
|-----------------------------------|---------------|-----------|----------|----------|----------|----------|----------|----------|
|                                   | Quarter       | YTD       | 1 Year   | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile                    | 2.3           | 13.2      | 8.7      | 5.7      | 6.9      | 6.0      | 6.7      | 8.5      |
| 25th Percentile                   | 1.7           | 12.0      | 7.2      | 4.9      | 6.1      | 5.3      | 5.9      | 7.8      |
| Median                            | 1.3           | 11.0      | 6.0      | 4.3      | 5.6      | 4.7      | 5.4      | 7.4      |
| 75th Percentile                   | 1.0           | 9.0       | 4.5      | 3.7      | 5.1      | 4.1      | 4.9      | 6.8      |
| 95th Percentile                   | -0.3          | 5.6       | 1.2      | 2.7      | 4.0      | 3.6      | 4.3      | 6.3      |
| # of Portfolios                   | 137           | 137       | 137      | 136      | 132      | 119      | 99       | 79       |
| ● PIMCO Diversified               | 1.2 (58)      | 10.9 (51) | 9.5 (2)  | 5.2 (11) | -- (--)  | -- (--)  | -- (--)  | -- (--)  |
| ▲ Blended PIMCO Diversified Index | 1.9 (14)      | 11.8 (31) | 10.1 (1) | 4.9 (22) | 4.9 (82) | 5.2 (31) | 4.9 (75) | 6.6 (87) |

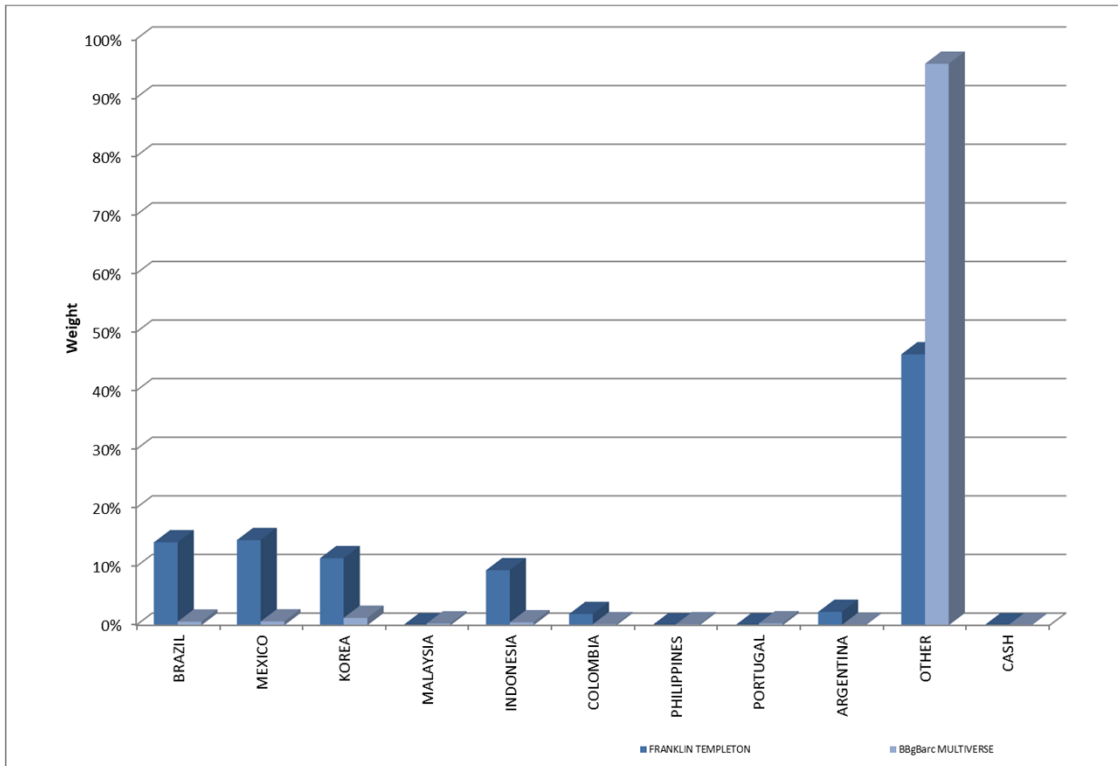




|                         | Return (Rank) |           |          |           |          |          |          |          |
|-------------------------|---------------|-----------|----------|-----------|----------|----------|----------|----------|
|                         | Quarter       | YTD       | 1 Year   | 2 Years   | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile          | 2.9           | 12.4      | 11.8     | 5.7       | 6.2      | 5.6      | 6.5      | 7.7      |
| 25th Percentile         | 1.7           | 10.1      | 8.9      | 4.4       | 5.0      | 4.4      | 4.7      | 5.7      |
| Median                  | 1.2           | 8.2       | 6.9      | 3.5       | 3.7      | 3.1      | 3.3      | 4.1      |
| 75th Percentile         | 0.2           | 6.0       | 4.4      | 2.5       | 1.9      | 2.0      | 1.5      | 2.7      |
| 95th Percentile         | -2.5          | 2.4       | 1.0      | -0.7      | 0.6      | 0.6      | 0.3      | 1.7      |
| # of Portfolios         | 227           | 225       | 216      | 212       | 205      | 186      | 161      | 108      |
| ● Franklin Templeton    | -3.4 (98)     | -0.3 (99) | 1.8 (92) | -0.8 (96) | 3.4 (57) | 1.0 (91) | 2.3 (63) | -- (--)  |
| ▲ BBgBarc Multiverse TR | 0.6 (65)      | 6.5 (70)  | 7.5 (40) | 3.0 (64)  | 1.8 (77) | 2.1 (70) | 1.4 (77) | 2.5 (85) |

Franklin Templeton  
Portfolio Country Weights

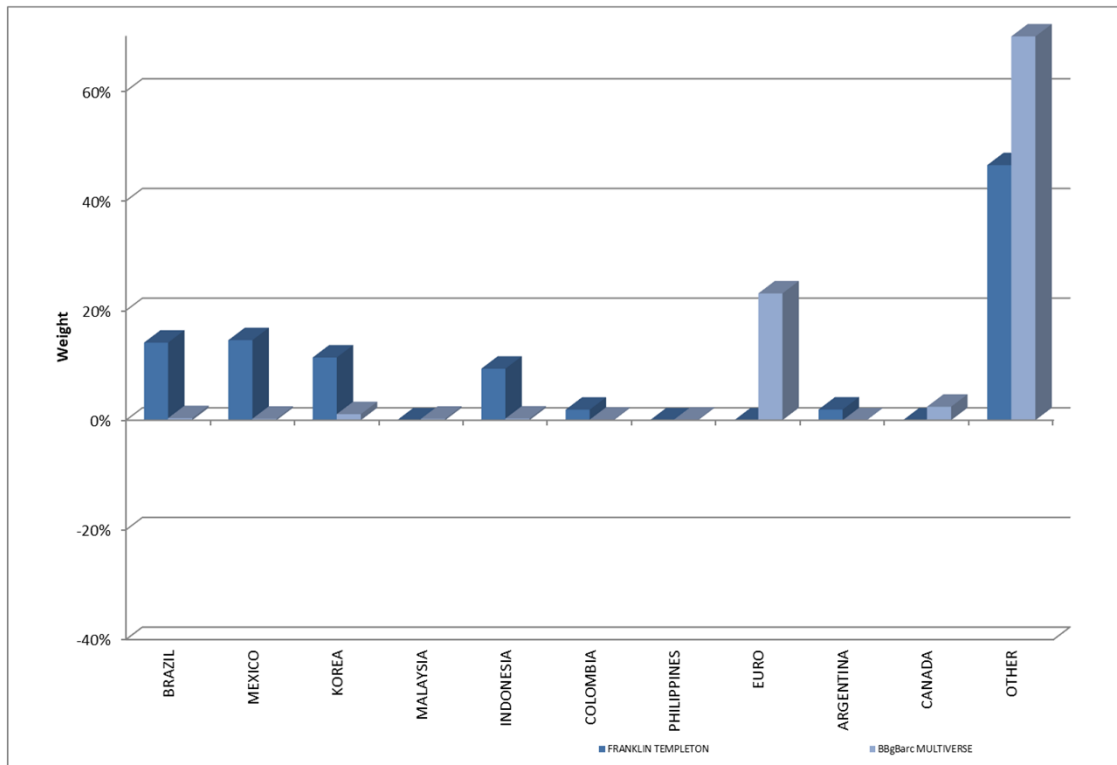
Period Ending: September 30, 2019



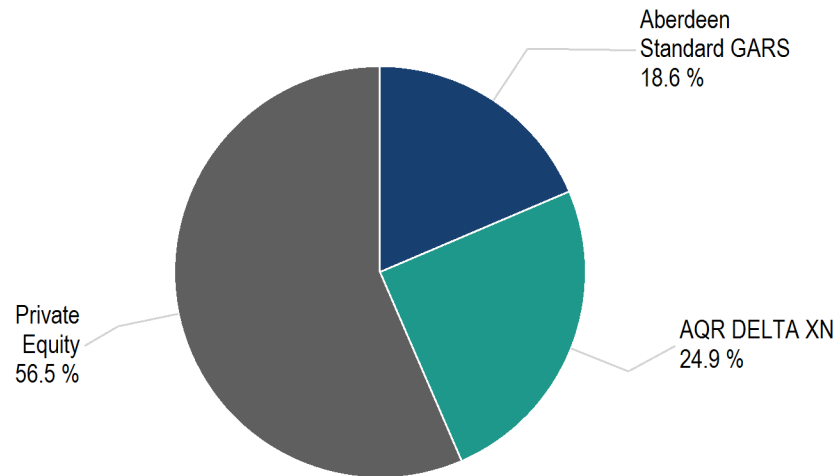
| COUNTRY     | MARKET VALUE | FRANKLIN TEMPLETON | BBgBarc MULTIVERSE | DIFF   |
|-------------|--------------|--------------------|--------------------|--------|
| BRAZIL      | \$ 5,792     | 14.2%              | 0.6%               | +13.5% |
| MEXICO      | \$ 5,951     | 14.5%              | 0.7%               | +13.9% |
| KOREA       | \$ 4,680     | 11.4%              | 1.3%               | +10.2% |
| MALAYSIA    | \$ -         | 0.0%               | 0.3%               | -0.3%  |
| INDONESIA   | \$ 3,847     | 9.4%               | 0.5%               | +8.9%  |
| COLOMBIA    | \$ 786       | 1.9%               | 0.2%               | +1.7%  |
| PHILIPPINES | \$ -         | 0.0%               | 0.2%               | -0.2%  |
| PORTUGAL    | \$ -         | 0.0%               | 0.3%               | -0.3%  |
| ARGENTINA   | \$ 938       | 2.3%               | 0.1%               | +2.2%  |
| OTHER       | \$ 18,921    | 46.2%              | 95.8%              | -49.6% |
| CASH        | \$ -         | 0.0%               | 0.0%               | 0.0%   |
|             | \$ 40,915    | 100.0%             | 100.0%             | 0.0%   |

Franklin Templeton  
Portfolio Currency Exposures

Period Ending: September 30, 2019



| CURRENCY    | MARKET VALUE | FRANKLIN TEMPLETON | BBgBarc MULTIVERSE | DIFF   |
|-------------|--------------|--------------------|--------------------|--------|
| BRAZIL      | \$ 5,792     | 14.2%              | 0.4%               | +13.8% |
| MEXICO      | \$ 5,974     | 14.6%              | 0.3%               | +14.3% |
| KOREA       | \$ 4,680     | 11.4%              | 1.1%               | +10.3% |
| MALAYSIA    | \$ -         | 0.0%               | 0.3%               | -0.3%  |
| INDONESIA   | \$ 3,847     | 9.4%               | 0.3%               | +9.1%  |
| COLOMBIA    | \$ 786       | 1.9%               | 0.1%               | +1.8%  |
| PHILIPPINES | \$ -         | 0.0%               | 0.1%               | -0.1%  |
| EURO        | \$ 1         | 0.0%               | 23.1%              | -23.1% |
| ARGENTINA   | \$ 800       | 2.0%               | 0.0%               | +2.0%  |
| CANADA      | \$ -         | 0.0%               | 2.5%               | -2.5%  |
| OTHER       | \$ 19,035    | 46.5%              | 71.9%              | -25.3% |
|             | \$ 40,915    | 100.0%             | 100.0%             | 0.0%   |



|                                     | Actual \$            | Actual %      | Manager Contribution to Excess Return % |
|-------------------------------------|----------------------|---------------|---|
| Aberdeen Standard GARS              | \$104,074,795        | 18.6%         | 0.0%                                    |
| AQR DELTA XN                        | \$138,918,173        | 24.9%         | -0.7%                                   |
| Private Equity                      | \$315,113,728        | 56.5%         | 6.4%                                    |
| Actual vs. Policy Weight Difference |                      |               | -0.1%                                   |
| <b>Total</b>                        | <b>\$558,106,696</b> | <b>100.0%</b> | <b>5.6%</b>                             |

Statistics Summary

3 Years

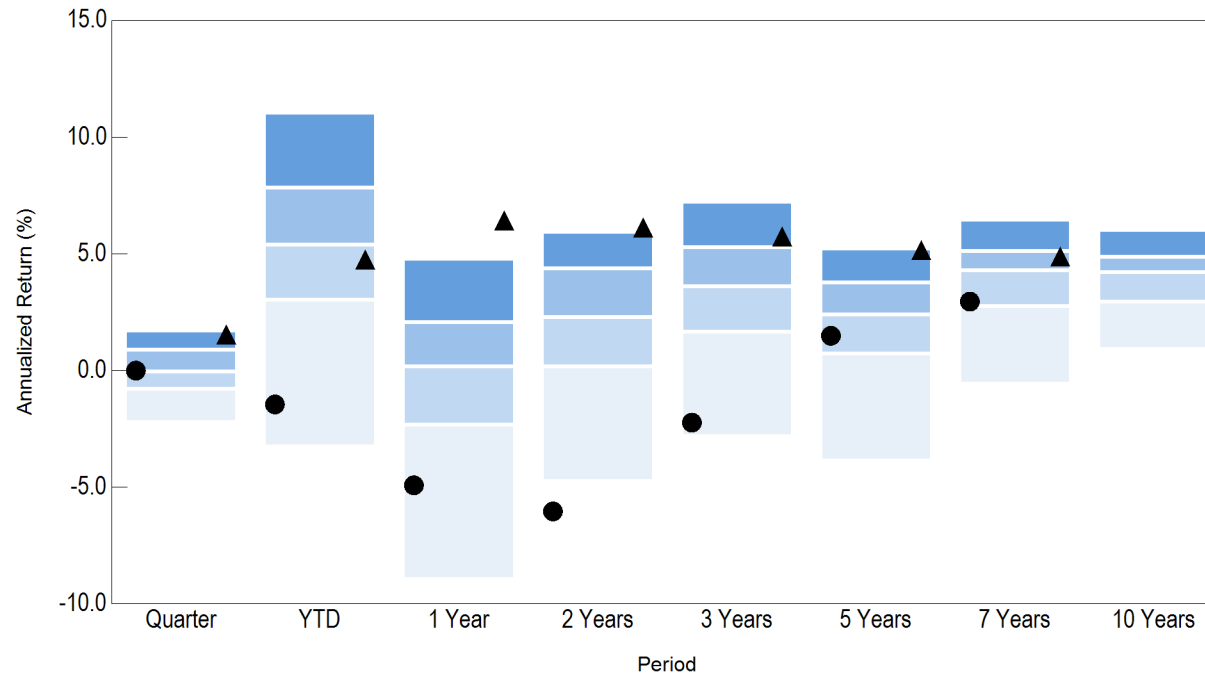
|                              | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Alternatives                 | 8.7%         | 6.7%                     | 1.1          | -0.3              | 7.9%           |
| Blended Alternatives Index   | 10.9%        | 6.5%                     | 1.4          | --                | 0.0%           |
| Private Equity               | 19.4%        | 11.3%                    | 1.6          | 0.3               | 14.4%          |
| Blended Private Equity Index | 15.1%        | 12.7%                    | 1.1          | --                | 0.0%           |
| Hedge Fund/Absolute Return   | -2.2%        | 4.6%                     | -0.8         | -1.7              | 4.7%           |
| Libor 1 month +4%            | 5.7%         | 0.2%                     | 20.7         | --                | 0.0%           |
| AQR DELTA XN                 | -5.3%        | 6.0%                     | -1.2         | -1.8              | 6.1%           |
| Libor 1 month +4%            | 5.7%         | 0.2%                     | 20.7         | --                | 0.0%           |
| Aberdeen Standard GARS       | 2.4%         | 3.6%                     | 0.2          | -0.9              | 3.7%           |
| Libor 1 month +4%            | 5.7%         | 0.2%                     | 20.7         | --                | 0.0%           |

**Statistics Summary**

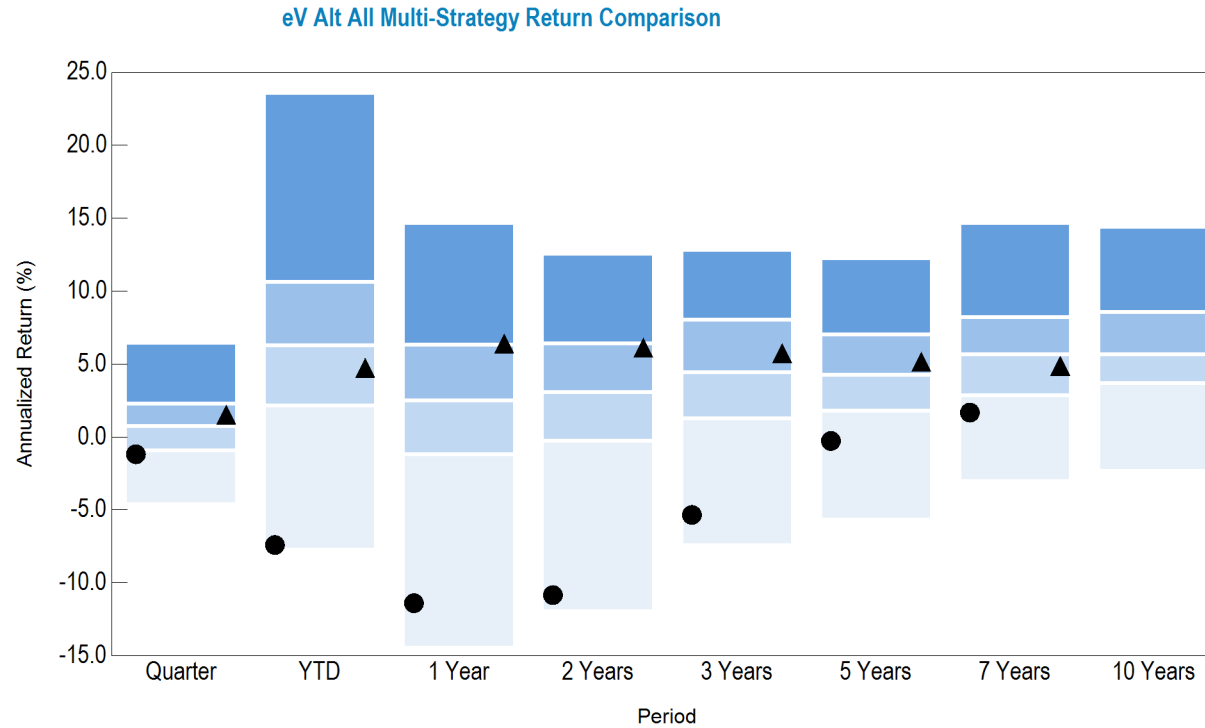
**5 Years**

|                              | Anlzd Return | Anlzd Standard<br>Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Alternatives                 | 7.9%         | 6.2%                        | 1.1          | 0.0               | 7.5%           |
| Blended Alternatives Index   | 7.6%         | 6.4%                        | 1.0          | --                | 0.0%           |
| Private Equity               | 18.9%        | 11.0%                       | 1.6          | 0.4               | 14.4%          |
| Blended Private Equity Index | 13.0%        | 12.2%                       | 1.0          | --                | 0.0%           |
| Hedge Fund/Absolute Return   | 1.5%         | 5.2%                        | 0.1          | -0.7              | 5.3%           |
| Libor 1 month +4%            | 5.2%         | 0.3%                        | 16.1         | --                | 0.0%           |
| AQR DELTA XN                 | -0.3%        | 6.2%                        | -0.2         | -0.9              | 6.3%           |
| Libor 1 month +4%            | 5.2%         | 0.3%                        | 16.1         | --                | 0.0%           |

InvMetrics All DB Hedge Funds Net Return Comparison



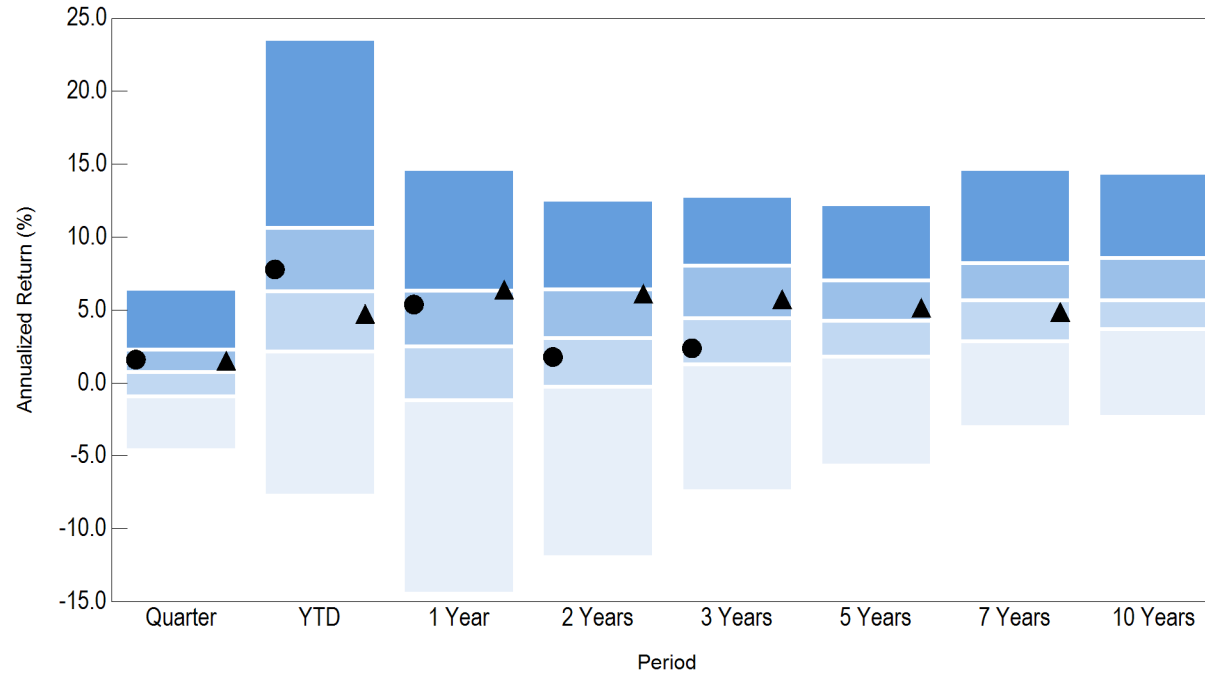
|                              | Return (Rank) |           |           |           |           |          |          |         |
|------------------------------|---------------|-----------|-----------|-----------|-----------|----------|----------|---------|
| 5th Percentile               | 1.7           | 11.0      | 4.8       | 5.9       | 7.2       | 5.2      | 6.4      | 6.0     |
| 25th Percentile              | 0.9           | 7.8       | 2.1       | 4.4       | 5.3       | 3.8      | 5.1      | 4.9     |
| Median                       | 0.0           | 5.4       | 0.2       | 2.3       | 3.6       | 2.4      | 4.3      | 4.2     |
| 75th Percentile              | -0.8          | 3.0       | -2.3      | 0.2       | 1.7       | 0.8      | 2.8      | 3.0     |
| 95th Percentile              | -2.2          | -3.2      | -8.9      | -4.7      | -2.8      | -3.8     | -0.5     | 0.9     |
| # of Portfolios              | 162           | 161       | 160       | 159       | 151       | 144      | 128      | 83      |
| ● Hedge Fund/Absolute Return | 0.0 (50)      | -1.5 (93) | -4.9 (90) | -6.0 (97) | -2.2 (93) | 1.5 (65) | 2.9 (73) | -- (--) |
| ▲ Libor 1 month +4%          | 1.5 (15)      | 4.7 (57)  | 6.4 (1)   | 6.1 (4)   | 5.7 (18)  | 5.2 (7)  | 4.9 (35) | -- (--) |



|                     | Return (Rank) |           |            |            |           |           |          |         |
|---------------------|---------------|-----------|------------|------------|-----------|-----------|----------|---------|
| 5th Percentile      | 6.4           | 23.6      | 14.6       | 12.5       | 12.8      | 12.2      | 14.7     | 14.4    |
| 25th Percentile     | 2.3           | 10.6      | 6.4        | 6.4        | 8.1       | 7.0       | 8.2      | 8.6     |
| Median              | 0.8           | 6.3       | 2.5        | 3.1        | 4.5       | 4.3       | 5.7      | 5.7     |
| 75th Percentile     | -0.9          | 2.2       | -1.1       | -0.2       | 1.3       | 1.8       | 2.9      | 3.7     |
| 95th Percentile     | -4.6          | -7.7      | -14.4      | -11.9      | -7.4      | -5.6      | -3.0     | -2.3    |
| # of Portfolios     | 253           | 245       | 240        | 234        | 218       | 188       | 153      | 113     |
| ● AQR DELTA XN      | -1.2 (78)     | -7.4 (95) | -11.4 (92) | -10.8 (94) | -5.3 (93) | -0.3 (87) | 1.7 (84) | -- (--) |
| ▲ Libor 1 month +4% | 1.5 (37)      | 4.7 (60)  | 6.4 (25)   | 6.1 (28)   | 5.7 (42)  | 5.2 (41)  | 4.9 (55) | -- (--) |



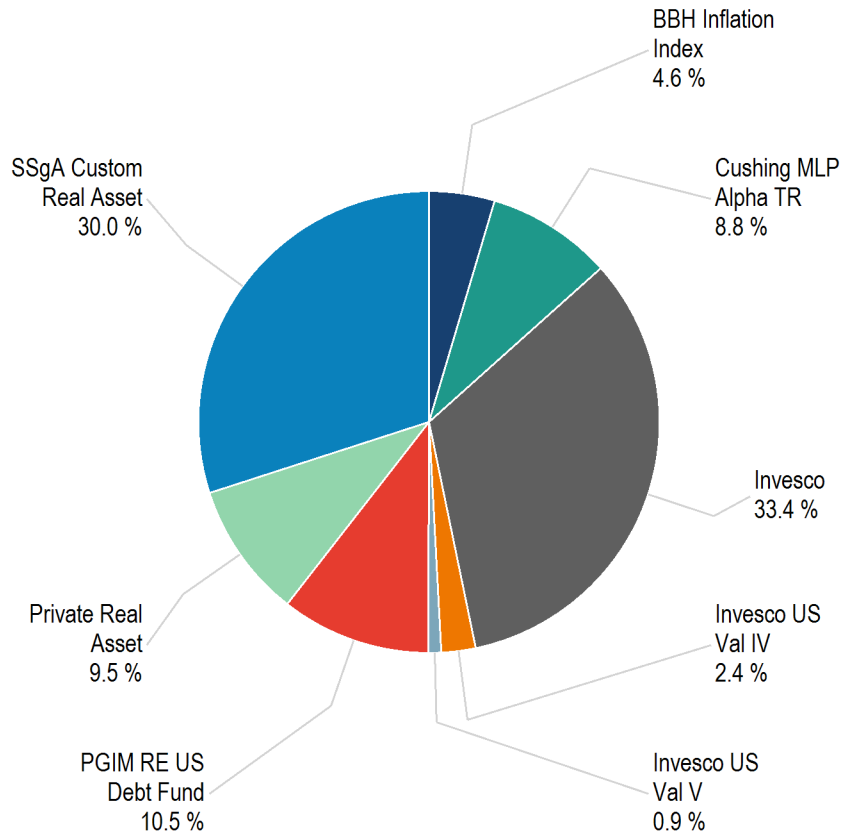
eV Alt All Multi-Strategy Return Comparison



|                          | Return (Rank) |          |          |          |          |          |          |          |
|--------------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
|                          | Quarter       | YTD      | 1 Year   | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years |
| 5th Percentile           | 6.4           | 23.6     | 14.6     | 12.5     | 12.8     | 12.2     | 14.7     | 14.4     |
| 25th Percentile          | 2.3           | 10.6     | 6.4      | 6.4      | 8.1      | 7.0      | 8.2      | 8.6      |
| Median                   | 0.8           | 6.3      | 2.5      | 3.1      | 4.5      | 4.3      | 5.7      | 5.7      |
| 75th Percentile          | -0.9          | 2.2      | -1.1     | -0.2     | 1.3      | 1.8      | 2.9      | 3.7      |
| 95th Percentile          | -4.6          | -7.7     | -14.4    | -11.9    | -7.4     | -5.6     | -3.0     | -2.3     |
| # of Portfolios          | 253           | 245      | 240      | 234      | 218      | 188      | 153      | 113      |
| ● Aberdeen Standard GARS | 1.6 (36)      | 7.8 (37) | 5.4 (32) | 1.8 (65) | 2.4 (67) | -- (--)  | -- (--)  | -- (--)  |
| ▲ Libor 1 month +4%      | 1.5 (37)      | 4.7 (60) | 6.4 (25) | 6.1 (28) | 5.7 (42) | 5.2 (41) | 4.9 (55) | -- (--)  |

Inflation Hedge  
 Manager Allocation Analysis

Period Ending: September 30, 2019



|                                     | Actual \$            | Actual %      | Manager Contribution to Excess Return % |
|-------------------------------------|----------------------|---------------|---|
| Brown Brother Harriman              | \$37,278,220         | 4.6%          | 0.0%                                    |
| Cushing MLP Alpha TR                | \$71,794,624         | 8.8%          | -0.3%                                   |
| Invesco                             | \$272,016,461        | 33.4%         | 0.2%                                    |
| Invesco US Val IV                   | \$19,450,833         | 2.4%          | 0.0%                                    |
| Invesco US Val V                    | \$7,457,351          | 0.9%          | 0.0%                                    |
| PGIM RE US Debt Fund                | \$85,274,457         | 10.5%         | 0.0%                                    |
| Private Real Asset                  | \$77,239,837         | 9.5%          | -0.4%                                   |
| SSgA Custom Real Asset              | \$244,764,211        | 30.0%         | 0.0%                                    |
| Actual vs. Policy Weight Difference |                      |               | -0.2%                                   |
| <b>Total</b>                        | <b>\$815,275,995</b> | <b>100.0%</b> | <b>-0.6%</b>                            |

Statistics Summary

3 Years

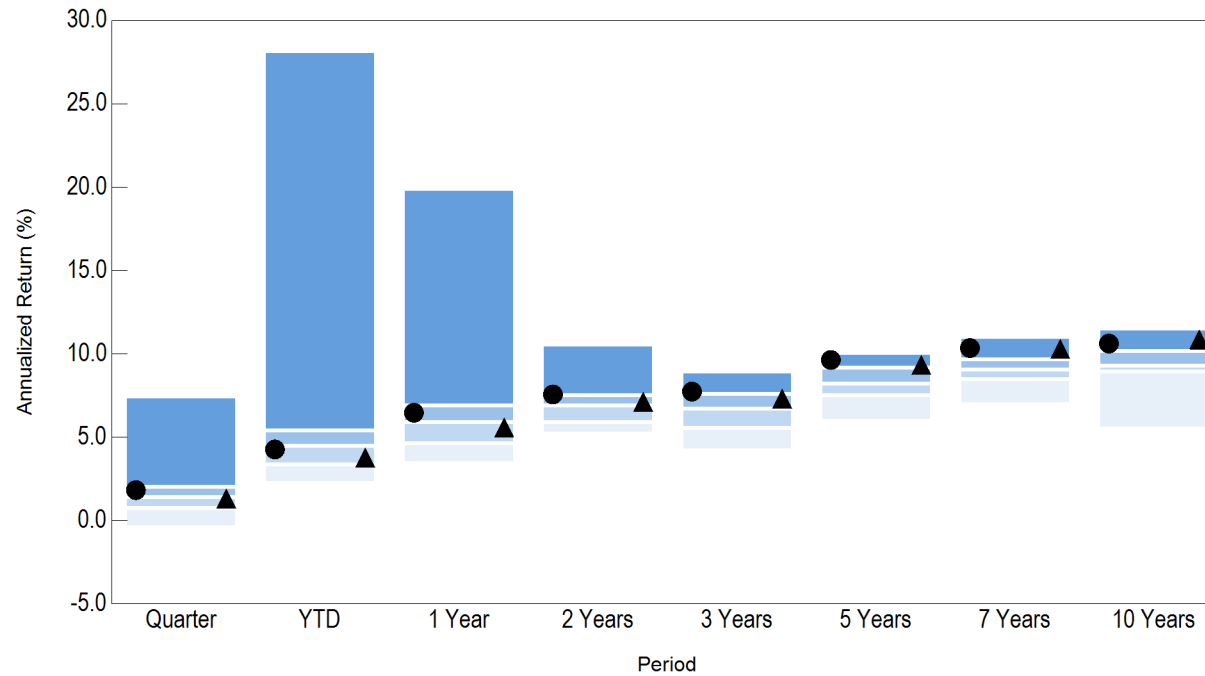
|                                  | Anlzd Return | Anlzd Standard<br>Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|----------------------------------|--------------|-----------------------------|--------------|-------------------|----------------|
| Real Estate                      | 7.73%        | 3.22%                       | 1.92         | 0.65              | 0.66%          |
| NCREIF ODCE                      | 7.30%        | 3.03%                       | 1.90         | --                | 0.00%          |
| Invesco                          | 7.70%        | 3.26%                       | 1.89         | 0.54              | 0.74%          |
| NCREIF ODCE                      | 7.30%        | 3.03%                       | 1.90         | --                | 0.00%          |
| Invesco US Val IV                | 10.42%       | 4.89%                       | 1.81         | 1.08              | 2.88%          |
| NCREIF ODCE                      | 7.30%        | 3.03%                       | 1.90         | --                | 0.00%          |
| Private Real Asset               | -3.32%       | 8.86%                       | -0.55        | -0.78             | 11.44%         |
| Blended Private Real Asset Index | 5.59%        | 10.77%                      | 0.38         | --                | 0.00%          |
| TIPS                             | 2.38%        | 2.33%                       | 0.36         | 0.13              | 1.24%          |
| BBgBarc US TIPS TR               | 2.21%        | 3.28%                       | 0.20         | --                | 0.00%          |
| Brown Brothers Harriman          | 2.38%        | 2.33%                       | 0.36         | 0.13              | 1.24%          |
| BBgBarc US TIPS TR               | 2.21%        | 3.28%                       | 0.20         | --                | 0.00%          |

Statistics Summary

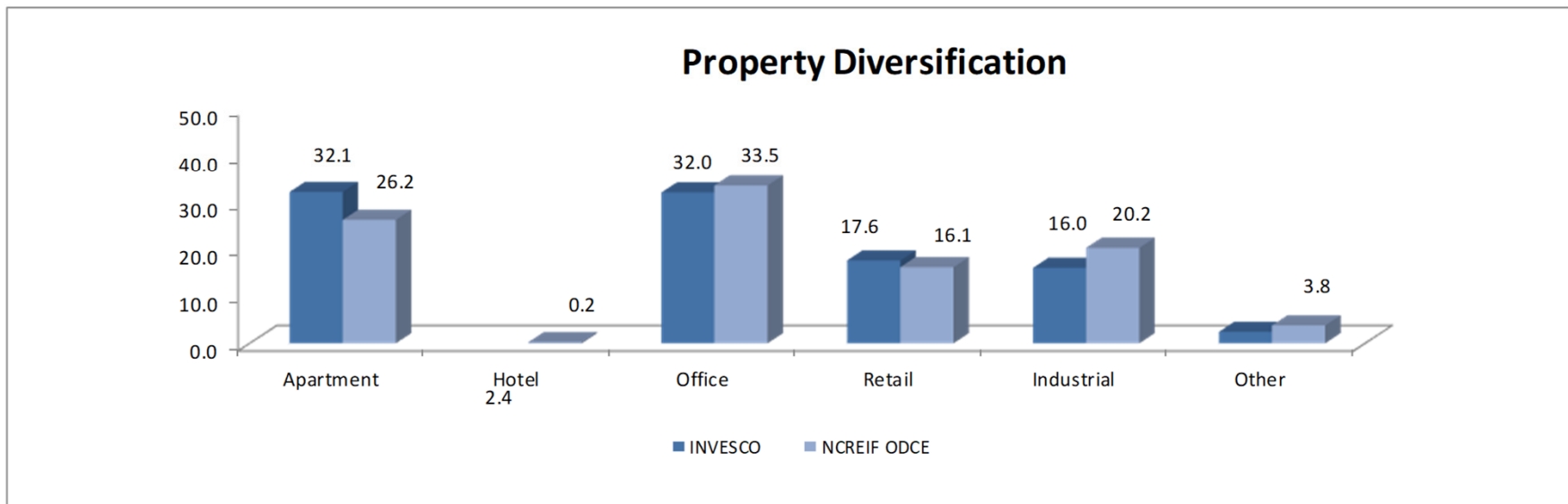
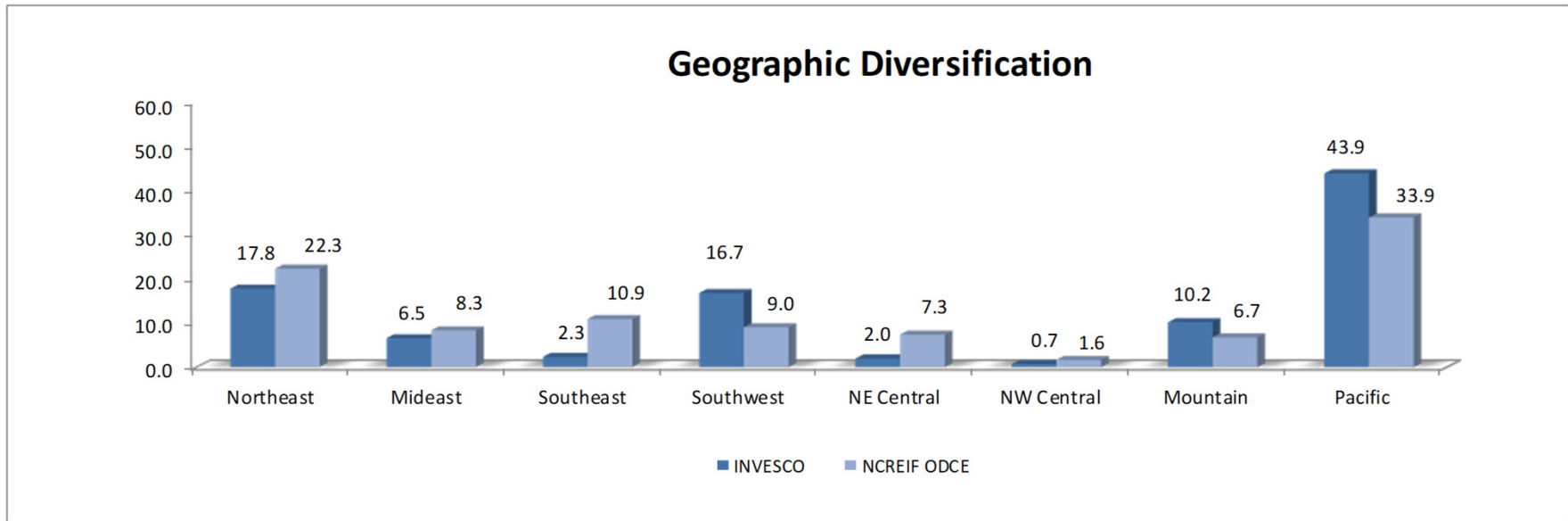
5 Years

|                         | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error Rank |
|-------------------------|--------------|--------------------------|--------------|-------------------|---------------------|
| Real Estate             | 9.63%        | 4.29%                    | 2.02         | 0.25              | 34                  |
| NCREIF ODCE             | 9.34%        | 4.04%                    | 2.07         | --                | 1                   |
| Invesco                 | 9.53%        | 4.28%                    | 2.00         | 0.15              | --                  |
| NCREIF ODCE             | 9.34%        | 4.04%                    | 2.07         | --                | --                  |
| TIPS                    | 2.09%        | 2.58%                    | 0.43         | -0.27             | --                  |
| BBgBarc US TIPS TR      | 2.45%        | 3.51%                    | 0.42         | --                | --                  |
| Brown Brothers Harriman | 2.09%        | 2.58%                    | 0.43         | -0.27             | 63                  |
| BBgBarc US TIPS TR      | 2.45%        | 3.51%                    | 0.42         | --                | 1                   |

InvMetrics All DB Real Estate Pub Net Return Comparison



|                      | Quarter  | YTD      | 1 Year   | 2 Years  | 3 Years  | 5 Years  | 7 Years  | 10 Years  |
|----------------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| <b>Return (Rank)</b> |          |          |          |          |          |          |          |           |
| 5th Percentile       | 7.4      | 28.1     | 19.9     | 10.5     | 8.9      | 10.0     | 11.0     | 11.5      |
| 25th Percentile      | 2.0      | 5.4      | 6.9      | 7.5      | 7.6      | 9.2      | 9.7      | 10.2      |
| Median               | 1.4      | 4.5      | 5.9      | 6.9      | 6.7      | 8.2      | 9.1      | 9.3       |
| 75th Percentile      | 0.8      | 3.4      | 4.6      | 5.9      | 5.6      | 7.5      | 8.5      | 9.0       |
| 95th Percentile      | -0.4     | 2.3      | 3.4      | 5.2      | 4.2      | 6.0      | 7.0      | 5.5       |
| # of Portfolios      | 89       | 86       | 86       | 85       | 81       | 79       | 70       | 49        |
| ● Real Estate        | 1.8 (31) | 4.3 (55) | 6.5 (33) | 7.6 (24) | 7.7 (20) | 9.6 (15) | 10.3 (8) | 10.6 (15) |
| ▲ NCREIF ODCE        | 1.3 (58) | 3.8 (65) | 5.6 (58) | 7.1 (44) | 7.3 (35) | 9.3 (21) | 10.3 (8) | 10.9 (8)  |



INVESCO Core Real Estate  
Real Estate Valuation Analysis

Period Ending: September 30, 2019

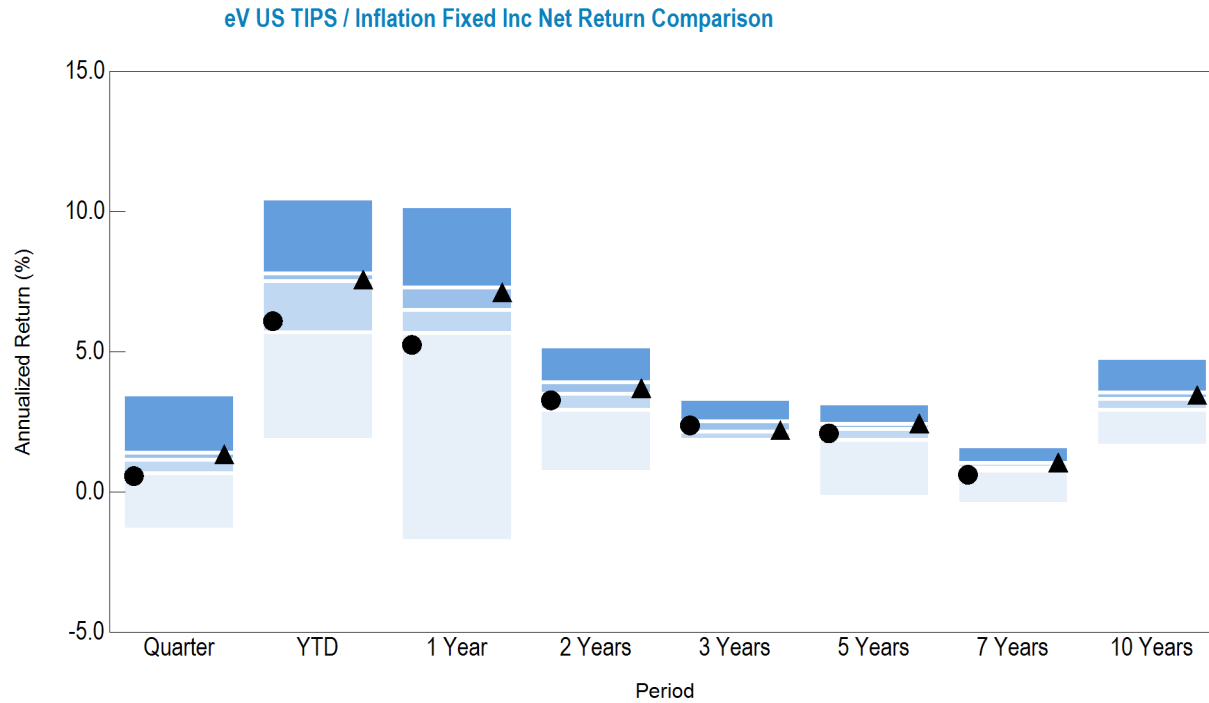
| Property Name                                     | MSA                      | Prior Quarter Carry Value | Current Quarter Carry Value | Net Market Value       | Date Added to Fund | Last Valuation Date | SamCERA ownership as of 9/30/2019 2.60% |
|---|--------------------------|---------------------------|-----------------------------|------------------------|--------------------|---------------------|---|
| <b>APARTMENTS</b>                                 |                          |                           |                             |                        |                    |                     |   |
| Stoneridge Apartments                             | Pleasanton, CA           | \$240,000,000             | \$240,000,000               | \$240,000,000          | 4Q06               | September-19        | \$6,241,710                             |
| Instrata Pentagon City                            | Arlington, VA            | \$160,000,000             | \$167,000,000               | \$167,000,000          | 3Q10               | September-19        | \$4,343,190                             |
| Ladd Tower  | Portland, OR             | \$126,000,000             | \$126,000,000               | \$68,693,737           | 4Q10               | September-19        | \$1,786,527                             |
| Legacy Fountain Plaza                             | San Jose, CA             | \$163,000,000             | \$166,000,000               | \$166,000,000          | 1Q11               | September-19        | \$4,317,183                             |
| Instrata Gramercy (fka The Elektra)               | New York, NY             | \$173,000,000             | \$174,000,000               | \$102,427,918          | 1Q11               | September-19        | \$2,663,856                             |
| Instrata Brooklyn Heights (fka 75 Clinton Street) | Brooklyn, NY             | \$67,000,000              | \$62,900,000                | \$62,900,000           | 1Q12               | September-19        | \$1,635,848                             |
| The Artisan Laguna Beach                          | Orange County, CA        | \$166,000,000             | \$169,000,000               | \$106,982,779          | 3Q12               | September-19        | \$2,782,315                             |
| The GoodWynn                                      | Atlanta, GA              | \$98,478,820              | \$0                         | \$0                    | 4Q12               | September-19        | \$0                                     |
| Instrata Hell's Kitchen                           | New York, NY             | \$185,000,000             | \$190,000,000               | \$190,000,000          | 1Q13               | September-19        | \$4,941,354                             |
| Sunset Vine Tower                                 | Los Angeles, CA          | \$104,000,000             | \$104,300,000               | \$104,300,000          | 2Q13               | September-19        | \$2,712,543                             |
| Instrata Ashton Uptown                            | Dallas, TX               | \$115,000,000             | \$115,000,000               | \$57,390,293           | 4Q13               | September-19        | \$1,492,557                             |
| 206 Bell  | Seattle, WA              | \$49,000,000              | \$49,100,000                | \$49,100,000           | 4Q13               | September-19        | \$1,276,950                             |
| Cadence Union Station                             | Denver, CO               | \$94,600,000              | \$92,000,000                | \$55,397,119           | 1Q14               | September-19        | \$1,440,720                             |
| Joseph Arnold Lofts                               | Seattle, WA              | \$70,400,000              | \$72,771,160                | \$38,270,664           | 2Q14               | September-19        | \$995,310                               |
| Verve   | Denver, CO               | \$107,400,000             | \$107,500,000               | \$107,500,000          | 3Q14               | September-19        | \$2,795,766                             |
| Broadstone Little Italy                           | San Diego CA             | \$120,000,000             | \$120,000,000               | \$66,399,600           | 3Q14               | September-19        | \$1,726,863                             |
| 33 Tehama   | San Francisco, CA        | \$304,551,162             | \$304,641,337               | \$165,786,926          | 3Q14               | September-19        | \$4,311,642                             |
| The Parker  | Portland, OR             | \$62,600,000              | \$62,600,000                | \$30,714,918           | 1Q15               | September-19        | \$798,807                               |
| Legacy West Apartments                            | Plano, TX                | \$145,000,000             | \$145,000,000               | \$52,793,226           | 1Q15               | September-19        | \$1,373,000                             |
| The Royce   | Irvine, CA               | \$214,139,657             | \$217,614,827               | \$110,381,648          | 2Q15               | September-19        | \$2,870,709                             |
| Jefferson Marketplace                             | Washington, DC           | \$159,000,000             | \$160,000,000               | \$88,794,316           | 4Q15               | September-19        | \$2,309,285                             |
| Retreat at Park Meadows                           | Littleton, CO            | \$161,000,000             | \$162,000,000               | \$162,000,000          | 4Q15               | September-19        | \$4,213,154                             |
| North Water Apartments                            | Chicago, IL              | \$256,000,000             | \$256,000,000               | \$256,000,000          | 1Q16               | September-19        | \$6,657,824                             |
| 2270 Broadway                                     | Oakland, CA              | \$28,208,950              | \$28,211,284                | \$28,211,284           | 1Q16               | September-19        | \$733,694                               |
| Runway at Playa Vista Apartments                  | Playa Vista, CA          | \$167,480,000             | \$167,480,000               | \$104,846,263          | 1Q16               | September-19        | \$2,726,750                             |
| Clayton Lane Apartments                           | Denver, CO               | \$39,669,161              | \$42,072,964                | \$42,072,964           | 1Q16               | September-19        | \$1,094,197                             |
| Biscayne 27                                       | Miami, FL                | \$102,870,604             | \$106,190,134               | \$55,321,326           | 2Q16               | September-19        | \$1,438,749                             |
| Flats 8300  | Washington DC            | \$244,000,000             | \$236,000,000               | \$236,000,000          | 2Q16               | September-19        | \$6,137,682                             |
| 407 1st Ave                                       | New York, NY             | \$203,000,000             | \$204,200,000               | \$204,200,000          | 4Q16               | September-19        | \$5,310,655                             |
| 5250 Park   | Miami, FL                | \$45,253,423              | \$46,045,322                | \$28,907,997           | 2Q17               | September-19        | \$751,814                               |
| The Mason   | Pleasanton, CA           | \$104,000,000             | \$104,000,000               | \$104,000,000          | 3Q17               | September-19        | \$2,704,741                             |
| The Arnold  | Austin, TX               | \$103,000,000             | \$110,000,000               | \$110,000,000          | 4Q18               | September-19        | \$2,860,784                             |
| The Harlo   | Boston, MA               | \$155,000,000             | \$158,000,000               | \$158,000,000          | 1Q19               | September-19        | \$4,109,126                             |
| Sunset Vine Tower II                              | Hollywood, CA            | \$19,014,857              | \$19,019,023                | \$19,019,023           | 2Q19               | September-19        | \$494,630                               |
| Legacy West - Block H - Apartment                 | Plano, TX                | \$6,344,160               | \$6,291,532                 | \$6,291,532            | 2Q19               | September-19        | \$163,625                               |
|   |                          | <b>\$4,559,010,793</b>    | <b>\$4,491,737,584</b>      | <b>\$3,545,703,534</b> |                    |                     | <b>\$92,213,559</b>                     |
| <b>INDUSTRIAL</b>                                 |                          |                           |                             |                        |                    |                     |   |
| Arjons Industrial Park                            | San Diego CA             | \$49,100,000              | \$49,700,000                | \$49,700,000           | 2Q04               | September-19        | \$1,292,554                             |
| Gateway Business Park                             | Dallas TX                | \$14,500,000              | \$14,600,000                | \$14,600,000           | 2Q04               | September-19        | \$379,704                               |
| Hayward Industrial                                | Oakland CA               | \$218,000,000             | \$224,900,000               | \$224,900,000          | 3Q04-3Q07          | September-19        | \$5,849,003                             |
| Oakdale Commerce Center                           | Seattle - Belle - Eve WA | \$69,700,000              | \$71,400,000                | \$71,400,000           | 1Q06               | September-19        | \$1,856,909                             |
| South Bay Industrial                              | Los Angeles, CA          | \$62,600,000              | \$70,700,000                | \$70,700,000           | 4Q06               | September-19        | \$1,838,704                             |
| Steeplechase Portfolio                            | Capitol Heights, MD      | \$109,100,000             | \$110,300,000               | \$110,300,000          | 1Q11               | September-19        | \$2,868,586                             |
| Airport Trade Center Portfolio                    | Dallas, TX               | \$148,100,000             | \$148,400,000               | \$148,400,000          | 1Q11               | September-19        | \$3,859,458                             |
| IE Logistics                                      | San Bernardino, CA       | \$168,000,000             | \$172,800,000               | \$172,800,000          | 3Q11               | September-19        | \$4,494,031                             |
| Railhead Industrial                               | Dallas, TX               | \$66,500,000              | \$66,100,000                | \$66,100,000           | 4Q11               | September-19        | \$1,719,071                             |
| Empire Gateway aka Chino South Logistics Center   | Chino, CA                | \$311,000,000             | \$317,000,000               | \$317,000,000          | 4Q12               | September-19        | \$8,244,259                             |
| SFO Logistics Center                              | San Francisco, CA        | \$164,000,000             | \$165,000,000               | \$165,000,000          | 4Q13               | September-19        | \$4,291,176                             |
| Miami Industrial Portfolio                        | Various, FL              | \$86,915,006              | \$87,654,891                | \$61,019,916           | 1Q16               | September-19        | \$1,586,953                             |
| Miami Industrial Portfolio - Fedex                | Hollywood, FL            | \$47,400,000              | \$47,400,000                | \$33,647,318           | 1Q16               | September-19        | \$875,070                               |
| OMP Burbank                                       | Los Angeles, CA          | \$130,620,348             | \$143,095,390               | \$143,095,390          | 2Q16               | September-19        | \$3,721,500                             |
| Pacific Commons                                   | Freemont, CA             | \$225,613,743             | \$256,112,410               | \$215,739,023          | 1Q17               | September-19        | \$5,610,752                             |
| Gateway 80 Business Park                          | Fairfield, CA            | \$107,500,000             | \$107,800,000               | \$107,800,000          | 1Q18               | September-19        | \$2,803,568                             |
| Meridian Distribution Center II                   | Riverside, CA            | \$60,300,000              | \$61,100,000                | \$61,100,000           | 3Q18               | September-19        | \$1,589,035                             |
| Bayport North Industrial Building II and III      | Riverside, CA            | \$60,400,000              | \$60,700,000                | \$60,700,000           | 4Q18               | September-19        | \$1,578,633                             |
| Skyline Industrial                                | Riverside, CA            | \$0                       | \$65,684,266                | \$65,684,266           | 3Q19               | Acq in 3Q19         | \$1,708,259                             |
|   |                          | <b>\$2,099,349,097</b>    | <b>\$2,240,646,956</b>      | <b>\$2,159,685,913</b> |                    |                     | <b>\$56,167,224</b>                     |

INVESCO Core Real Estate  
Real Estate Valuation Analysis

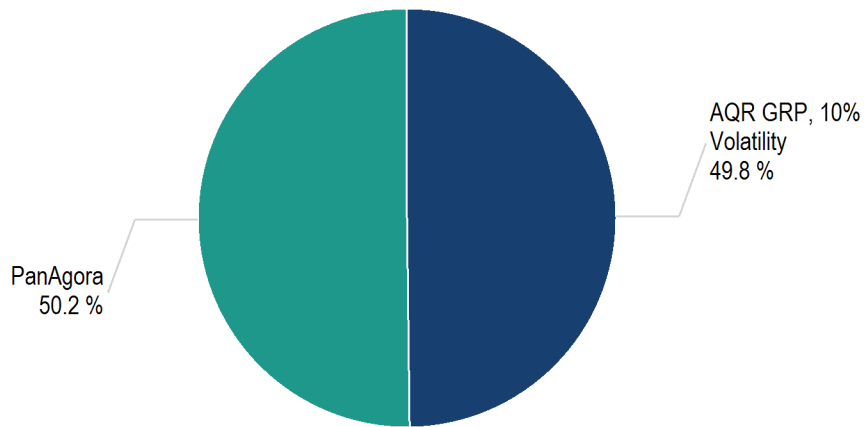
Period Ending: September 30, 2019

| OFFICE                              |                      |                         |                         |                         |      |              |                      |
|-------------------------------------|----------------------|-------------------------|-------------------------|-------------------------|------|--------------|----------------------|
| 55 Cambridge Parkway                | Boston MA - NH       | \$367,000,000           | \$369,000,000           | \$369,000,000           | 4Q06 | September-19 | \$9,596,630          |
| 1800 Larimer                        | Denver, CO           | \$339,000,000           | \$338,000,000           | \$338,000,000           | 1Q11 | September-19 | \$8,790,409          |
| Hillview Office                     | San Jose, CA         | \$70,000,000            | \$68,700,000            | \$68,700,000            | 3Q12 | September-19 | \$1,786,690          |
| Williams Tower                      | Houston, TX          | \$619,000,000           | \$613,000,000           | \$427,547,272           | 1Q13 | September-19 | \$11,119,276         |
| Westlake Park Place                 | Westlake Village, CA | \$109,000,000           | \$109,000,000           | \$109,000,000           | 4Q13 | September-19 | \$2,834,777          |
| 101 Second                          | San Francisco, CA    | \$471,000,000           | \$493,000,000           | \$493,000,000           | 1Q14 | September-19 | \$12,821,513         |
| Energy Crossing II                  | Houston, TX          | \$103,000,000           | \$104,000,000           | \$104,000,000           | 2Q14 | September-19 | \$2,704,741          |
| 1776 Wilson Blvd.                   | Arlington, VA        | \$85,400,000            | \$85,100,000            | \$85,100,000            | 3Q14 | September-19 | \$2,213,206          |
| 631 Howard                          | San Francisco, CA    | \$108,000,000           | \$117,000,000           | \$117,000,000           | 3Q14 | September-19 | \$3,042,834          |
| Barton Oaks                         | Austin, TX           | \$105,000,000           | \$112,000,000           | \$112,000,000           | 3Q14 | September-19 | \$2,912,798          |
| Hercules East and South Campus      | Los Angeles, CA      | \$192,435,398           | \$193,429,166           | \$193,429,166           | 3Q14 | September-19 | \$5,030,537          |
| The Reserve                         | Playa Vista, CA      | \$399,017,940           | \$400,189,063           | \$400,189,063           | 1Q15 | September-19 | \$10,407,767         |
| Fort Point Portfolio                | Boston, MA           | \$287,899,699           | \$291,857,083           | \$291,857,083           | 2Q15 | September-19 | \$7,590,364          |
| Legacy West Office                  | Plano, TX            | \$146,000,000           | \$152,000,000           | \$59,793,226            | 1Q15 | September-19 | \$1,555,050          |
| 1101 Westlake                       | Seattle, WA          | \$149,000,000           | \$148,000,000           | \$148,000,000           | 3Q15 | September-19 | \$3,849,055          |
| PearlWest                           | Boulder, CO          | \$132,000,000           | \$135,000,000           | \$135,000,000           | 4Q16 | September-19 | \$3,510,962          |
| The Mark 302                        | Santa Monica, CA     | \$58,170,374            | \$60,074,234            | \$60,074,234            | 1Q18 | September-19 | \$1,562,358          |
| 430 West 15th Street                | New York NY          | \$164,000,000           | \$164,000,000           | \$164,000,000           | 2Q18 | September-19 | \$4,265,169          |
| Ten Fawcett                         | Cambridge, MA        | \$59,752,000            | \$60,916,000            | \$31,816,000            | 3Q18 | September-19 | \$827,443            |
| Press Blocks                        | Portland, OR         | \$19,868,763            | \$27,070,467            | \$27,070,467            | 3Q18 | September-19 | \$704,025            |
| Union Tower West                    | Denver, CO           | \$70,500,000            | \$70,600,000            | \$70,600,000            | 4Q18 | September-19 | \$1,836,103          |
| Tryon South End                     | Denver, CO           | \$33,730,259            | \$57,115,990            | \$57,115,990            | 1Q19 | September-19 | \$1,485,423          |
| 22 Boston Wharf Rd                  | Boston, MA           | \$182,000,000           | \$183,000,000           | \$183,000,000           | 1Q19 | September-19 | \$4,759,304          |
| Legacy West - Block H - Office      | Plano, TX            | \$7,645,526             | \$10,244,324            | \$10,244,324            | 2Q19 | September-19 | \$266,425            |
|                                     |                      | <b>\$4,390,419,959</b>  | <b>\$4,476,296,327</b>  | <b>\$4,169,536,825</b>  |      |              | <b>\$108,437,671</b> |
| RETAIL                              |                      |                         |                         |                         |      |              |                      |
| Chandler Pavilion                   | Phoenix - Mesa AZ    | \$22,500,000            | \$22,500,000            | \$22,500,000            | 2Q04 | September-19 | \$585,160            |
| Cityline at Tenley                  | Washington, D.C.     | \$64,100,000            | \$66,000,000            | \$66,000,000            | 4Q05 | September-19 | \$1,716,470          |
| Ridgehaven Shopping Center          | Minnetonka, MN       | \$41,600,000            | \$40,100,000            | \$40,100,000            | 4Q05 | September-19 | \$1,042,886          |
| The Beacon Garage (units)           | San Francisco, CA    | \$38,800,000            | \$38,800,000            | \$38,800,000            | 1Q06 | September-19 | \$1,009,076          |
| The Beacon Office (210 King)        | San Francisco, CA    | \$30,400,000            | \$31,400,000            | \$31,400,000            | 1Q15 | September-19 | \$816,624            |
| Hawthorne Plaza                     | Overland Park, KS    | \$53,275,000            | \$52,000,000            | \$52,000,000            | 4Q07 | September-19 | \$1,352,371          |
| The Loop                            | Boston MA - NH       | \$75,000,000            | \$73,400,000            | \$73,400,000            | 1Q08 | September-19 | \$1,908,923          |
| Westbank Market                     | Austin, TX           | \$66,100,000            | \$66,100,000            | \$66,100,000            | 3Q10 | September-19 | \$1,719,071          |
| 910 Lincoln Road                    | Miami, FL            | \$30,500,000            | \$30,900,000            | \$30,900,000            | 4Q10 | September-19 | \$803,620            |
| Lake Pointe Village                 | Houston, TX          | \$88,250,000            | \$88,250,000            | \$88,250,000            | 4Q11 | September-19 | \$2,295,129          |
| Safeway Kapahulu                    | Hawaii               | \$95,400,000            | \$95,100,000            | \$58,820,541            | 4Q11 | September-19 | \$1,529,753          |
| Safeway Burlingame                  | San Francisco, CA    | \$58,800,000            | \$58,300,000            | \$35,550,054            | 4Q11 | September-19 | \$924,555            |
| Shamrock Plaza                      | Oakland, CA          | \$40,700,000            | \$40,800,000            | \$24,514,367            | 4Q11 | September-19 | \$637,548            |
| Pavilions Marketplace               | West Hollywood, CA   | \$71,000,000            | \$71,200,000            | \$46,470,197            | 1Q12 | September-19 | \$1,208,556          |
| 130 Prince                          | New York, NY         | \$198,735,712           | \$0                     | \$0                     | 2Q12 | September-19 | \$0                  |
| Safeway Pleasanton                  | Pleasanton, CA       | \$86,600,000            | \$86,500,000            | \$86,500,000            | 4Q12 | September-19 | \$2,249,616          |
| Liberty Wharf                       | Boston, MA           | \$92,000,000            | \$92,000,000            | \$92,000,000            | 4Q12 | September-19 | \$2,392,656          |
| Shops at Legacy                     | Plano, TX            | \$124,000,000           | \$126,000,000           | \$126,000,000           | 3Q13 | September-19 | \$3,276,898          |
| Pasadena Commons                    | Pasadena, CA         | \$63,300,000            | \$63,800,000            | \$63,800,000            | 4Q14 | September-19 | \$1,659,255          |
| Rush Street Retail                  | Chicago, IL          | \$16,900,000            | \$16,900,000            | \$16,900,000            | 4Q14 | September-19 | \$439,520            |
| Legacy West Retail                  | Plano, TX            | \$280,000,000           | \$280,000,000           | \$157,057,635           | 1Q15 | September-19 | \$4,084,618          |
| 131-137 Spring Street               | New York, NY         | \$251,000,000           | \$231,000,000           | \$231,000,000           | 3Q15 | September-19 | \$6,007,646          |
| Runway at Playas Vista - Retail     | Playa Vista, CA      | \$133,030,000           | \$133,560,000           | \$71,972,337            | 1Q16 | September-19 | \$1,871,794          |
| 139 Spring                          | New York, NY         | \$100,151,603           | \$100,151,600           | \$100,151,600           | 1Q16 | September-19 | \$2,604,655          |
| Clayton Lane                        | Denver, CO           | \$150,199,498           | \$150,754,381           | \$104,794,737           | 1Q16 | September-19 | \$2,725,410          |
| 4th & Colorado                      | Santa Monica, CA     | \$13,280,000            | \$13,280,000            | \$13,280,000            | 1Q16 | September-19 | \$345,375            |
| Legacy West - Block H               | Plano, TX            | \$2,277,391             | \$13,153,668            | \$13,153,668            | 4Q17 | September-19 | \$342,089            |
| Shops at Crystals                   | Las Vegas, NV        | \$301,500,000           | \$302,000,000           | \$164,055,085           | 2Q16 | September-19 | \$4,266,601          |
|                                     |                      | <b>\$2,662,999,204</b>  | <b>\$2,458,249,649</b>  | <b>\$1,989,770,220</b>  |      |              | <b>\$51,748,205</b>  |
| Other                               |                      |                         |                         |                         |      |              |                      |
| Baranof - Walden Park               | San Marcos, TX       | \$9,724,008             | \$9,816,617             | \$9,816,617             | 1Q18 | September-19 | \$255,302            |
| Baranof - Ranch Road 620            | San Marcos, TX       | \$9,260,960             | \$9,353,569             | \$9,353,569             | 1Q18 | September-19 | \$243,259            |
| Baranof - Glenwood Avenue           | Raleigh, NC          | \$9,724,008             | \$9,816,617             | \$9,816,617             | 1Q18 | September-19 | \$255,302            |
| Baranof - 1-84 & 60th               | Vancouver, WA        | \$23,337,619            | \$23,708,057            | \$23,708,057            | 1Q18 | September-19 | \$616,578            |
| Baranof - Fishers Landing Vancouver | Vancouver, WA        | \$17,317,995            | \$17,503,214            | \$17,503,214            | 1Q18 | September-19 | \$455,208            |
| US Storage - Compton                | Compton, CA          | \$24,999,745            | \$29,099,353            | \$20,081,586            | 4Q17 | September-19 | \$522,264            |
| The Quad                            | New York NY          | \$108,156,649           | \$118,473,747           | \$77,800,787            | 2Q18 | September-19 | \$2,023,375          |
| Baranof - 622 Capital               | Raleigh, NC          | \$20,466,721            | \$20,837,160            | \$20,837,160            | 3Q18 | September-19 | \$541,915            |
| 51st Street Self Storage            | Austin, TX           | \$12,200,000            | \$12,400,000            | \$12,400,000            | 3Q18 | September-19 | \$322,488            |
| Campbell Self Storage               | Campbell, CA         | \$17,900,000            | \$18,600,000            | \$18,600,000            | 3Q18 | September-19 | \$483,733            |
| Baranof - Belmont and 7th           | Portland, OR         | \$19,170,187            | \$19,540,625            | \$19,540,625            | 4Q18 | September-19 | \$508,196            |
| Boston Lane Self Storage            | Austin, TX           | \$16,100,000            | \$16,300,000            | \$16,300,000            | 4Q18 | September-19 | \$423,916            |
| US Storage - 4800 Valley            | Los Angeles, CA      | \$5,905,960             | \$6,091,061             | \$6,091,061             | 1Q19 | September-19 | \$158,411            |
| Newark Self Storage                 | Newark, CA           | \$6,722,867             | \$8,593,119             | \$8,593,119             | 1Q19 | September-19 | \$223,482            |
| Norwood Extra Space                 | Norwood, MA          | \$19,900,000            | \$19,300,000            | \$19,300,000            | 1Q19 | September-19 | \$501,938            |
|                                     |                      | <b>\$320,886,718</b>    | <b>\$339,433,141</b>    | <b>\$289,742,414</b>    |      |              | <b>\$7,535,368</b>   |
| <b>Portfolio Total</b>              |                      | <b>\$14,032,665,772</b> | <b>\$14,006,363,657</b> | <b>\$12,154,438,905</b> |      |              | <b>\$316,102,027</b> |





|                           | Return (Rank) |          |          |          |          |          |          |          |
|---------------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
| 5th Percentile            | 3.5           | 10.5     | 10.2     | 5.2      | 3.3      | 3.2      | 1.6      | 4.8      |
| 25th Percentile           | 1.4           | 7.8      | 7.3      | 3.9      | 2.5      | 2.4      | 1.1      | 3.6      |
| Median                    | 1.2           | 7.5      | 6.5      | 3.5      | 2.2      | 2.3      | 0.9      | 3.3      |
| 75th Percentile           | 0.7           | 5.7      | 5.7      | 3.0      | 1.9      | 1.9      | 0.8      | 3.0      |
| 95th Percentile           | -1.3          | 1.9      | -1.7     | 0.7      | 1.8      | -0.2     | -0.4     | 1.7      |
| # of Portfolios           | 20            | 20       | 19       | 19       | 19       | 18       | 16       | 12       |
| ● Brown Brothers Harriman | 0.6 (85)      | 6.1 (73) | 5.2 (85) | 3.3 (63) | 2.4 (30) | 2.1 (60) | 0.6 (86) | -- (--)  |
| ▲ BBgBarc US TIPS TR      | 1.3 (38)      | 7.6 (47) | 7.1 (34) | 3.7 (31) | 2.2 (41) | 2.4 (25) | 1.1 (25) | 3.5 (36) |



|                                     | Actual \$            | Actual %      | Manager Contribution to Excess Return % |
|-------------------------------------|----------------------|---------------|---|
| AQR GRP, 10% Volatility             | \$198,846,488        | 49.8%         | -0.1%                                   |
| PanAgora                            | \$200,667,018        | 50.2%         | 1.4%                                    |
| Actual vs. Policy Weight Difference |                      |               | 0.0%                                    |
| <b>Total</b>                        | <b>\$399,513,506</b> | <b>100.0%</b> | <b>1.3%</b>                             |

**Statistics Summary**

**3 Years**

|                           | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---------------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Risk Parity               | 7.3%         | 7.8%                     | 0.7          | -0.2              | 5.5%           |
| Blended Risk Parity Index | 8.1%         | 6.8%                     | 1.0          | --                | 0.0%           |
| AQR GRP, 10% Volatility   | 7.9%         | 7.8%                     | 0.8          | 0.0               | 4.9%           |
| Blended Risk Parity Index | 8.1%         | 6.8%                     | 1.0          | --                | 0.0%           |
| PanAgora                  | 6.8%         | 8.1%                     | 0.7          | -0.2              | 6.6%           |
| Blended Risk Parity Index | 8.1%         | 6.8%                     | 1.0          | --                | 0.0%           |

**Statistics Summary**

**5 Years**

|                           | Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Information Ratio | Tracking Error |
|---------------------------|--------------|--------------------------|--------------|-------------------|----------------|
| Risk Parity               | 6.4%         | 8.0%                     | 0.7          | -0.2              | 6.0%           |
| Blended Risk Parity Index | 7.3%         | 6.8%                     | 0.9          | --                | 0.0%           |
| AQR GRP, 10% Volatility   | 4.8%         | 8.1%                     | 0.5          | -0.4              | 5.7%           |
| Blended Risk Parity Index | 7.3%         | 6.8%                     | 0.9          | --                | 0.0%           |

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: September 30, 2019

|   | 3 Mo<br>(%) | YTD<br>(%)  | 1 Yr<br>(%)  | 2 Yrs<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) | 10 Yrs<br>(%) |
|---|-------------|-------------|--------------|--------------|--------------|--------------|---------------|
| <b>Total Fund</b>                         | <b>1.6</b>  | <b>12.1</b> | <b>5.1</b>   | <b>5.3</b>   | <b>7.6</b>   | <b>6.6</b>   | <b>8.5</b>    |
| <i>Policy Index</i>                       | 1.1         | 11.9        | 5.3          | 5.9          | 8.1          | 6.7          | 8.6           |
| <b>Total Fund ex Overlay</b>              | <b>1.4</b>  | <b>11.6</b> | <b>4.6</b>   | <b>5.1</b>   | <b>7.4</b>   | <b>6.4</b>   | <b>8.4</b>    |
| <i>Policy Index</i>                       | 1.1         | 11.9        | 5.3          | 5.9          | 8.1          | 6.7          | 8.6           |
| <b>Public Equity</b>                      | <b>0.6</b>  | <b>16.8</b> | <b>1.5</b>   | <b>5.7</b>   | <b>9.9</b>   | <b>7.8</b>   | <b>10.0</b>   |
| <i>Blended Public Equity Index</i>        | 0.4         | 16.6        | 1.4          | 5.7          | 10.1         | 7.6          | 10.0          |
| <b>US Equity</b>                          | <b>1.7</b>  | <b>19.9</b> | <b>2.4</b>   | <b>9.6</b>   | <b>12.8</b>  | <b>10.4</b>  | <b>12.9</b>   |
| <i>Blended US Equity Index</i>            | 1.2         | 20.1        | 2.9          | 10.0         | 12.8         | 10.5         | 13.0          |
| <i>Russell 3000</i>                       | 1.2         | 20.1        | 2.9          | 10.0         | 12.8         | 10.4         | 13.1          |
| <b>Large Cap Equity</b>                   | <b>1.9</b>  | <b>20.6</b> | <b>4.5</b>   | <b>11.0</b>  | <b>14.1</b>  | <b>11.4</b>  | <b>13.3</b>   |
| <i>Russell 1000</i>                       | 1.4         | 20.5        | 3.9          | 10.6         | 13.2         | 10.6         | 13.2          |
| Acadian US MGD V                          | 2.8         | 19.2        | --           | --           | --           | --           | --            |
| BlackRock Russell 1000                    | 1.4         | 20.6        | 3.9          | 10.6         | --           | --           | --            |
| DE Shaw                                   | 1.5         | 17.6        | 1.0          | 9.5          | 13.8         | 12.1         | 14.2          |
| PanAgora Defuseq                          | 3.2         | 25.3        | --           | --           | --           | --           | --            |
| <i>Russell 1000</i>                       | 1.4         | 20.5        | 3.9          | 10.6         | 13.2         | 10.6         | 13.2          |
| <b>Small Cap Equity</b>                   | <b>-0.6</b> | <b>12.3</b> | <b>-10.7</b> | <b>0.4</b>   | <b>7.3</b>   | <b>6.1</b>   | <b>11.3</b>   |
| <i>Russell 2000</i>                       | -2.4        | 14.2        | -8.9         | 2.5          | 8.2          | 8.2          | 11.2          |
| QMA US Small Cap                          | -0.6        | 12.3        | -10.7        | 0.4          | 7.3          | --           | --            |
| <i>Russell 2000</i>                       | -2.4        | 14.2        | -8.9         | 2.5          | 8.2          | 8.2          | 11.2          |
| <b>International Equity</b>               | <b>-0.8</b> | <b>13.5</b> | <b>0.6</b>   | <b>1.3</b>   | <b>6.5</b>   | <b>4.1</b>   | <b>4.9</b>    |
| <i>Blended International Equity Index</i> | -0.6        | 12.7        | -0.5         | 0.6          | 6.7          | 3.6          | 5.0           |
| <i>MSCI EAFE Gross</i>                    | -1.0        | 13.3        | -0.8         | 1.2          | 7.0          | 3.8          | 5.4           |
| <b>Developed Markets</b>                  | <b>-1.5</b> | <b>13.3</b> | <b>-0.5</b>  | <b>1.0</b>   | <b>6.2</b>   | <b>4.2</b>   | <b>5.1</b>    |
| <i>MSCI ACWI ex USA Gross</i>             | -1.7        | 12.1        | -0.7         | 0.8          | 6.8          | 3.4          | 4.9           |
| Baillie Gifford                           | -0.9        | 19.1        | 1.1          | 2.3          | 7.0          | 6.1          | --            |
| <i>MSCI ACWI ex US</i>                    | -1.7        | 12.1        | -0.7         | 0.8          | 6.8          | 3.4          | --            |
| <i>MSCI ACWI ex US Growth</i>             | -0.8        | 16.6        | 2.4          | 2.9          | 7.8          | 5.3          | --            |

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: September 30, 2019

|                                       | 3 Mo<br>(%) | YTD<br>(%) | 1 Yr<br>(%) | 2 Yrs<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) | 10 Yrs<br>(%) |
|---------------------------------------|-------------|------------|-------------|--------------|--------------|--------------|---------------|
| BlackRock EAFE Index                  | -1.0        | 13.2       | -1.0        | 1.1          | 6.9          | 3.7          | --            |
| <i>MSCI EAFE</i>                      | -1.1        | 12.8       | -1.3        | 0.7          | 6.5          | 3.3          | 4.9           |
| <i>MSCI EAFE Gross</i>                | -1.0        | 13.3       | -0.8        | 1.2          | 7.0          | 3.8          | 5.4           |
| Mondrian                              | -2.7        | 7.9        | -1.7        | -0.4         | 5.2          | 2.4          | 4.6           |
| <i>MSCI ACWI ex USA Value Gross</i>   | -2.7        | 7.5        | -3.9        | -1.5         | 5.9          | 1.5          | 3.6           |
| <i>MSCI ACWI ex USA Gross</i>         | -1.7        | 12.1       | -0.7        | 0.8          | 6.8          | 3.4          | 4.9           |
| <b>Emerging Markets</b>               | <b>-4.2</b> | <b>5.4</b> | <b>-0.8</b> | <b>-2.1</b>  | <b>4.5</b>   | <b>0.7</b>   | <b>--</b>     |
| <i>MSCI Emerging Markets Gross</i>    | -4.1        | 6.2        | -1.6        | -1.0         | 6.4          | 2.7          | 3.7           |
| Parametric Core                       | -4.2        | 5.4        | -0.8        | -2.1         | 4.5          | --           | --            |
| <i>MSCI Emerging Markets Gross</i>    | -4.1        | 6.2        | -1.6        | -1.0         | 6.4          | 2.7          | 3.7           |
| Parametric Currency Overlay           | 31.4        | 45.5       | 63.7        | --           | --           | --           | --            |
| <b>Fixed Income</b>                   | <b>1.1</b>  | <b>7.0</b> | <b>7.3</b>  | <b>3.9</b>   | <b>4.7</b>   | <b>4.2</b>   | <b>5.7</b>    |
| <i>Blended Fixed Income Index</i>     | 2.1         | 9.7        | 9.9         | 4.6          | 3.7          | 3.9          | 4.1           |
| <b>Core Fixed</b>                     | <b>1.6</b>  | <b>7.2</b> | <b>8.7</b>  | <b>3.7</b>   | <b>3.4</b>   | <b>3.7</b>   | <b>5.0</b>    |
| <i>BBgBarc US Aggregate TR</i>        | 2.3         | 8.5        | 10.3        | 4.4          | 2.9          | 3.4          | 3.7           |
| BlackRock Intermediate Govt           | 1.2         | 5.3        | 7.7         | 3.3          | --           | --           | --            |
| <i>BBgBarc US Govt Int TR</i>         | 1.2         | 5.2        | 7.5         | 3.1          | 1.8          | 2.2          | 2.3           |
| FIAM Bond                             | 2.2         | 9.1        | 10.3        | 4.7          | 3.4          | 3.9          | 4.8           |
| <i>BBgBarc US Aggregate TR</i>        | 2.3         | 8.5        | 10.3        | 4.4          | 2.9          | 3.4          | 3.7           |
| Western TRU                           | 1.0         | 6.4        | 7.2         | 2.5          | 4.7          | --           | --            |
| <i>3-Month Libor Total Return USD</i> | 0.6         | 1.9        | 2.6         | 2.3          | 1.9          | 1.3          | 0.8           |
| <i>BBgBarc US Aggregate TR</i>        | 2.3         | 8.5        | 10.3        | 4.4          | 2.9          | 3.4          | 3.7           |
| <b>Opportunistic Credit</b>           | <b>0.2</b>  | <b>6.8</b> | <b>4.7</b>  | <b>4.5</b>   | <b>6.6</b>   | <b>6.1</b>   | <b>--</b>     |
| <i>BBgBarc BA Intermediate HY</i>     | 1.8         | 12.1       | 9.1         | 4.9          | 5.5          | 5.5          | --            |
| Angelo Gordon Opportunistic           | 3.3         | 9.8        | 10.2        | 20.4         | 17.2         | 11.5         | --            |
| Angelo Gordon STAR                    | -0.9        | 10.3       | 12.9        | 17.5         | 17.7         | 13.4         | --            |
| <i>BBgBarc US Aggregate TR</i>        | 2.3         | 8.5        | 10.3        | 4.4          | 2.9          | 3.4          | 3.7           |

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: September 30, 2019

|   | 3 Mo<br>(%) | YTD<br>(%)  | 1 Yr<br>(%) | 2 Yrs<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) | 10 Yrs<br>(%) |
|---|-------------|-------------|-------------|--------------|--------------|--------------|---------------|
| Beach Point Select  | 1.5         | 9.3         | 4.9         | 5.9          | 7.5          | --           | --            |
| <i>BBgBarc BA Intermediate HY</i>                             | 1.8         | 12.1        | 9.1         | 4.9          | 5.5          | 5.5          | --            |
| Brigade Capital   | -0.4        | 5.7         | -0.1        | 2.5          | 5.0          | 4.1          | --            |
| <i>BBgBarc BA Intermediate HY</i>                             | 1.8         | 12.1        | 9.1         | 4.9          | 5.5          | 5.5          | --            |
| <i>50% Barclays HY/ 50% Bank Loan</i>                         | 1.1         | 8.9         | 4.7         | 4.5          | 5.4          | 4.8          | --            |
| PIMCO Diversified   | 1.2         | 10.9        | 9.5         | 5.2          | --           | --           | --            |
| <i>Blended PIMCO Diversified Index</i>                        | 1.9         | 11.8        | 10.1        | 4.9          | 4.9          | 5.2          | 6.6           |
| <i>BBgBarc BA Intermediate HY</i>                             | 1.8         | 12.1        | 9.1         | 4.9          | 5.5          | 5.5          | --            |
| Franklin Templeton  | -3.4        | -0.3        | 1.8         | -0.8         | 3.4          | 1.0          | --            |
| <i>BBgBarc Multiverse TR</i>                                  | 0.6         | 6.5         | 7.5         | 3.0          | 1.8          | 2.1          | 2.5           |
| <b>Private Credit</b>   | <b>0.6</b>  | <b>4.5</b>  | <b>5.9</b>  | <b>7.0</b>   | <b>6.6</b>   | <b>--</b>    | <b>--</b>     |
| <i>Cliffwater Direct Lending Index</i>                        | 2.3         | 7.5         | 8.4         | 8.8          | 9.0          | 8.4          | 10.6          |
| PIMCO Private Income  | 0.0         | --          | --          | --           | --           | --           | --            |
| <i>BBgBarc BA Intermediate HY</i>                             | 1.8         | 12.1        | 9.1         | 4.9          | 5.5          | 5.5          | --            |
| <i>Cliffwater Direct Lending Index</i>                        | 2.3         | 7.5         | 8.4         | 8.8          | 9.0          | 8.4          | 10.6          |
| TCP Direct Lending VIII                                       | 1.6         | 5.7         | 7.5         | 7.1          | 6.9          | --           | --            |
| White Oak Yield   | 0.0         | 3.9         | 4.8         | 7.0          | --           | --           | --            |
| <i>Cliffwater Direct Lending Index</i>                        | 2.3         | 7.5         | 8.4         | 8.8          | 9.0          | 8.4          | 10.6          |
| <b>Risk Parity</b>  | <b>2.7</b>  | <b>20.6</b> | <b>14.9</b> | <b>8.2</b>   | <b>7.3</b>   | <b>6.4</b>   | <b>--</b>     |
| <i>Blended Risk Parity Index</i>                              | 1.4         | 14.2        | 5.7         | 6.4          | 8.1          | 7.3          | --            |
| AQR GRP, 10% Volatility                                       | 1.2         | 18.9        | 12.4        | 7.8          | 7.9          | 4.8          | --            |
| PanAgora  | 4.2         | 22.4        | 17.4        | 8.7          | 6.8          | 7.8          | --            |
| <i>Blended Risk Parity Index</i>                              | 1.4         | 14.2        | 5.7         | 6.4          | 8.1          | 7.3          | --            |
| <i>S&amp;P Risk Parity 10% Target Volatility Index TR USD</i> | 2.4         | 15.4        | 10.3        | 7.0          | 6.2          | 4.4          | 6.2           |
| <b>Alternatives</b>   | <b>8.5</b>  | <b>10.4</b> | <b>11.3</b> | <b>7.1</b>   | <b>8.7</b>   | <b>7.9</b>   | <b>--</b>     |
| <i>Blended Alternatives Index</i>                             | 2.9         | 4.6         | 9.6         | 9.4          | 10.9         | 7.6          | --            |
| <b>Private Equity</b>   | <b>15.9</b> | <b>21.2</b> | <b>26.9</b> | <b>20.3</b>  | <b>19.4</b>  | <b>18.9</b>  | <b>--</b>     |
| <i>Blended Private Equity Index</i>                           | 4.1         | 3.5         | 12.0        | 11.9         | 15.1         | 13.0         | 15.9          |

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: September 30, 2019

|   | 3 Mo<br>(%) | YTD<br>(%)   | 1 Yr<br>(%) | 2 Yrs<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) | 10 Yrs<br>(%) |
|---|-------------|--------------|-------------|--------------|--------------|--------------|---------------|
| <b>Hedge Fund/Absolute Return</b>                 | <b>0.0</b>  | <b>-1.5</b>  | <b>-4.9</b> | <b>-6.0</b>  | <b>-2.2</b>  | <b>1.5</b>   | <b>--</b>     |
| <i>Libor 1 month +4%</i>                          | 1.5         | 4.7          | 6.4         | 6.1          | 5.7          | 5.2          | --            |
| AQR DELTA XN                                      | -1.2        | -7.4         | -11.4       | -10.8        | -5.3         | -0.3         | --            |
| Aberdeen Standard GARS                            | 1.6         | 7.8          | 5.4         | 1.8          | 2.4          | --           | --            |
| <i>Libor 1 month +4%</i>                          | 1.5         | 4.7          | 6.4         | 6.1          | 5.7          | 5.2          | --            |
| <b>Inflation Hedge</b>                            | <b>-0.3</b> | <b>5.4</b>   | <b>2.0</b>  | <b>3.5</b>   | <b>4.7</b>   | <b>--</b>    | <b>--</b>     |
| <i>Blended Inflation Hedge Index</i>              | 0.3         | 6.7          | 4.1         | 4.5          | 5.3          | --           | --            |
| <b>Real Estate</b>                                | <b>1.9</b>  | <b>4.6</b>   | <b>6.9</b>  | <b>8.0</b>   | <b>8.2</b>   | <b>10.0</b>  | <b>11.1</b>   |
| <i>NCREIF ODCE</i>                                | 1.3         | 3.8          | 5.6         | 7.1          | 7.3          | 9.3          | 10.9          |
| Invesco   | 2.0         | 4.2          | 6.4         | 7.9          | 8.1          | 9.9          | 11.0          |
| <i>NCREIF ODCE</i>                                | 1.3         | 3.8          | 5.6         | 7.1          | 7.3          | 9.3          | 10.9          |
| Invesco US Val IV                                 | 2.1         | 7.7          | 12.2        | 11.1         | 11.5         | --           | --            |
| <i>NCREIF ODCE</i>                                | 1.3         | 3.8          | 5.6         | 7.1          | 7.3          | 9.3          | 10.9          |
| <i>NCREIF CEVA 1Q Lag - NET</i>                   | 3.0         | 9.1          | 12.3        | 12.2         | 11.3         | 13.0         | --            |
| Invesco US Val V                                  | 1.1         | --           | --          | --           | --           | --           | --            |
| <i>NCREIF ODCE</i>                                | 1.3         | 3.8          | 5.6         | 7.1          | 7.3          | 9.3          | 10.9          |
| <i>NCREIF CEVA 1Q Lag - NET</i>                   | 3.0         | 9.1          | 12.3        | 12.2         | 11.3         | 13.0         | --            |
| PGIM RE US Debt Fund                              | 1.6         | 5.1          | 7.0         | 7.2          | --           | --           | --            |
| <i>NCREIF ODCE</i>                                | 1.3         | 3.8          | 5.6         | 7.1          | 7.3          | 9.3          | 10.9          |
| <b>Private Real Asset</b>                         | <b>-0.8</b> | <b>-11.0</b> | <b>-7.3</b> | <b>-4.8</b>  | <b>-3.3</b>  | <b>6.1</b>   | <b>--</b>     |
| <i>Blended Private Real Asset Index</i>           | 3.7         | 7.0          | 6.8         | 4.0          | 5.6          | 5.5          | --            |
| <i>Blended Secondary CA Private RA Index</i>      | -0.1        | -0.1         | 2.0         | 6.5          | 8.7          | 3.8          | --            |
| <b>Public Real Assets</b>                         | <b>-2.8</b> | <b>10.3</b>  | <b>-2.0</b> | <b>0.4</b>   | <b>--</b>    | <b>--</b>    | <b>--</b>     |
| <i>Blended Public Real Asset Index</i>            | -2.7        | 9.4          | -0.6        | 1.3          | 4.5          | 4.9          | --            |
| Cushing MLP Alpha TR                              | -3.7        | 12.3         | -7.5        | --           | --           | --           | --            |
| <i>50% BBgBarc US TIPS/ 50% Blended PRA Index</i> | -0.6        | 8.7          | 3.4         | --           | --           | --           | --            |
| <i>Alerian MLP TR USD</i>                         | -5.0        | 11.1         | -8.1        | -1.8         | -2.5         | -8.6         | 6.3           |
| SSgA Custom Real Asset                            | -2.6        | 9.7          | -0.3        | 1.6          | --           | --           | --            |
| <i>SSgA Custom Real Asset Index</i>               | -2.7        | 9.4          | -0.6        | 1.3          | 4.5          | --           | --            |

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: September 30, 2019

|                           | 3 Mo<br>(%) | YTD<br>(%) | 1 Yr<br>(%) | 2 Yrs<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) | 10 Yrs<br>(%) |
|---------------------------|-------------|------------|-------------|--------------|--------------|--------------|---------------|
| <b>TIPS</b>               | <b>0.6</b>  | <b>6.2</b> | <b>5.4</b>  | <b>3.4</b>   | <b>2.5</b>   | <b>2.3</b>   | <b>--</b>     |
| <i>BBgBarc US TIPS TR</i> | 1.3         | 7.6        | 7.1         | 3.7          | 2.2          | 2.4          | 3.5           |
| Brown Brothers Harriman   | 0.6         | 6.2        | 5.4         | 3.4          | 2.5          | 2.3          | --            |
| <i>BBgBarc US TIPS TR</i> | 1.3         | 7.6        | 7.1         | 3.7          | 2.2          | 2.4          | 3.5           |
| <b>Cash</b>               | <b>0.3</b>  | <b>0.9</b> | <b>1.4</b>  | <b>1.2</b>   | <b>1.1</b>   | <b>1.0</b>   | <b>0.9</b>    |
| <i>91 Day T-Bills</i>     | 0.5         | 1.7        | 2.3         | 2.0          | 1.5          | 1.0          | 0.5           |
| General Account           | 0.6         | 2.6        | 5.1         | 4.1          | 3.2          | 2.5          | 1.4           |
| Treasury & LAIF           | 0.8         | 2.4        | 3.1         | 3.7          | 2.7          | 2.0          | 1.4           |
| <i>91 Day T-Bills</i>     | 0.5         | 1.7        | 2.3         | 2.0          | 1.5          | 1.0          | 0.5           |



## **Acadian Asset Management – Acadian U.S. Managed Volatility**

Acadian attempts to take advantage of the mispricing of risk by building low-risk equity portfolios that hold predominantly low-risk stocks, and then also adding information on the correlation structure of equities to help further reduce risk through diversification.

## **Angelo, Gordon & Co. – AG STAR Fund**

The STAR Fund will focus on CMBS and non-Agency RMBS priced between 25-75% of par, which AG believes are even today mispriced due to their complex nature and a dearth of natural buyers capable of accurately valuing these assets. In addition, AG will target securities that are well-positioned to benefit from home and commercial property price stabilization and recovery, and/or borrower credit quality improvement. In this regard the STAR Fund will be more aggressive than the PPIP Fund since it will target securities that are more geared to a recovery of the commercial and residential real estate markets. The Fund will utilize a moderate amount of leverage (1x to 1.5x) and is targeting a base-case 15% net IRR with a downside return in the mid/high single digits and an upside projection of 25%+ returns.

## **Angelo, Gordon & Co. – AG Opportunistic Whole Loan Fund**

As bank balance sheets have strengthened since the crisis, Angelo Gordon expects approximately \$40 billion of re-performing loans and non-performing loans will trade hands each year in the near term. By acquiring these loans at a discounted price and replacing original servicers with better-focused special servicers, Angelo Gordon believes it can improve operational efficiency and generate attractive returns. To take advantage of this opportunity, Angelo Gordon established this Opportunistic Whole Loan Fund to make investments primarily in a portfolio of non-performing loans and re-performing, but will also include investments in new residential mortgage loans and excess mortgage servicing rights. Opportunistic investments in commercial mortgage loans and other mortgage related investments may also be included in the Fund's portfolio. Angelo Gordon has been an active participant in the residential and consumer debt market since 2008. The Partnership's investment approach to residential mortgage loans and securities is guided by an analytically based investment process anchored by distressed asset valuation and cash flow modeling. Angelo Gordon's analysis of re-performing and non-performing loans begins with its loan due diligence process. This process will include a review of substantially all of the properties in the pool, as well as a review of the loan files backing the loan pool. In addition, a macro overlay is embedded in the investment process which incorporates general economic trends, along with specific views on interest rates, unemployment, collateral appreciation or depreciation, governmental intervention in creditors' rights and liquidation timelines.

## **AQR Capital Management - AQR Delta**

The AQR DELTA Fund aims to deliver efficient exposure to a well-diversified portfolio of hedge fund strategies, including Convertible Arbitrage, Event Driven, Fixed Income Relative Value, Equity Market Neutral, Long/Short Equity, Dedicated Short Bias, Global Macro, Managed Futures, and Emerging Markets. The Delta Fund's approach is to capture and deliver the "hedge fund risk premiums" that explain much of the returns of each of these strategies by building bottom-up positions in each strategy. AQR's research has demonstrated that many hedge funds use similar strategies to generate returns. These strategies are often well-known, widely understood and share common exposures. AQR's experience and research suggests much of the insight underlying these strategies - as well as a meaningful portion of their returns - can be captured using a dynamic, disciplined investment approach. Just as the equity risk premium can explain a large portion of the returns from equity investing, hedge fund risk premiums can explain the returns from hedge fund investing. Importantly, while compensation for equity risk is dependent on economic growth, hedge fund risk premiums are largely unrelated to economic activity, and thus provide attractive diversification properties.

## **AQR – Risk Parity**

The objective of Global Risk Parity (GRP) is to generate excess returns from a risk diversified portfolio of asset exposures. AQR believes that its approach maximizes the diversification benefit across a broad range of economic environments. For many institutional portfolios, equity risk has historically been the predominant risk and the source of most return expectations since equities offer higher expected returns to compensate for their high risk. Investor preference for and concentration in equities has been driven by their expected return needs, which cannot be satisfied in a well-diversified un-levered portfolio. GRP is a diversified portfolio that can be scaled to similar levels of risk as a portfolio concentrated in equities, but with a higher expected return resulting from diversification across asset class risk. The approach helps do away with the compromise of concentrating in high risk assets to meet high return needs. Consistent with portfolio theory, the GRP strategy is designed to maximize diversification across a broad spectrum of liquid global risk premia to create a portfolio with higher expected risk-adjusted returns. Research shows that risk-adjusted returns across asset classes are similar over the long-term. Since realized risk-adjusted returns across asset classes are similar, AQR expects a portfolio that is diversified equally by risk to perform better. The Global Risk Premium strategy aims to deliver efficient market exposure across four broad asset classes in a risk balanced fashion.

## **Baillie Gifford – ACWI ex US Focus Equities**

ACWI ex US Focus is a fundamental growth strategy. Research is organized primarily by regional teams, with each member of the ACWI ex US Focus Portfolio Construction Group representing a regional team. Four global sector groups also contribute research. Baillie Gifford conducts approximately 2000 company meetings annually both in Edinburgh and onsite. Companies are evaluated on their growth opportunity relative to the average company, their ability to execute on that opportunity, and the degree to which probability of future success is already valued by the market. Baillie Gifford's basic philosophy is that share prices ultimately follow earnings. They believe that the stock market has a recurring tendency to under-appreciate the value of long-term compound growth. The process seeks to add value through use of proprietary fundamental research to identify companies exhibiting some combination of sustained above average growth, and attractive financial characteristics. The portfolio generally holds 80-120 stocks, with country and sector weights +/-6% relative to the index and industry weights +/- 5% relative to the index.

## **Beach Point Capital Management, L.P. - Beach Point Select Fund**

Beach Point Select Fund is a commingled fund vehicle within the firm's Opportunistic Credit strategy. This fund focuses on off-the-run, complex, and less-liquid securities. It is a best ideas portfolio of distressed debt, special situations, private/direct loans, catalyst-driven high yield bonds and bank loans, and credit-informed equities with a North American and European focus. The Select Fund differs from other funds and accounts in the Opportunistic Credit strategy by pursuing a more concentrated portfolio and emphasizing a higher percentage of less-liquid/private investments. Beach Point invests up and down the entire capital structure and it constructs portfolios with a bottom-up, research-driven approach that also takes into account top-down macro considerations. Its investment process includes idea generation, detailed credit analysis, relative value decision making and investment selection, portfolio construction and on-going monitoring. The ultimate goal of its investment process is to produce a well-diversified investment portfolio with limited downside risk and substantial upside potential.

## **BlackRock – EAFE Index**

The EAFE Index Fund seeks to replicate the return of the MSCI EAFE Index. This index represents the developed equity markets outside of North America: Europe, Austral, Asia and the Far East.

### **BlackRock – Intermediate Government Index**

The Intermediate Government Index Fund seeks to track the results of an index composed of U.S. dollar-denominated government, government related, and investment grade U.S. corporate bonds with maturities between 1 and 10 years.

### **BlackRock – Russell 1000 Index**

The Russell 1000 Index Fund tracks large U.S. companies and achieve broad diversification with low costs by fully replicating the Russell 1000 Index.

### **Brigade – Opportunistic Credit**

Opportunistic Credit is a fundamental, bottom-up strategy focused on high yield corporate bonds and bank loans with tactical allocations to structured securities, convertibles and other sectors of the bond markets as they become attractive on a relative value basis. While performing credits represent the majority, Brigade will invest up to 35% of the portfolio in distressed securities and restructuring situations if these types of opportunities are attractive on a risk-adjusted basis and the timing is right with respect to the credit cycle. The portfolio is comprised of mostly North American issuers, but they are not restricted geographically and expect to have a moderate allocation to Europe over time. Although the portfolio is generally long-only, Brigade has the ability to implement a limited amount of tactical macro hedges.

### **Brown Brothers Harriman – Inflation Indexed Securities**

BBH manages TIPS using three main types of strategies: Fundamental, Technical and Opportunistic. The Fundamental bucket has two sub-strategies, real yield duration and real yield curve slope vs. nominal yield curve slope. The Technical strategies consist of yield curve roll-down, auction cycle trading, seasonal vs. non-seasonal CPI and security selection/option value analysis. Finally, nominal Treasuries vs. TIPS, sector relative value (i.e., corporate or Agency inflation-linked bonds) and non-Dollar inflation-linked bonds make up the Opportunistic group. Real yield duration is held to +/- 1 year vs. the benchmark and the portfolio has a limited allocation to non-index securities, typically 5-10% with a maximum of 20% (including nominal Treasuries).

### **Cushing MLP Alpha TR**

A strategy focusing on bottom-up research of company and sectors that will allow them to identify superior distribution growth opportunities in public MLPs.

## **DE Shaw – DE Shaw US Broad Market Core Alpha Extension Fund**

The D. E. Shaw group believes that there exist some market inefficiencies that may be identified through quantitative analysis, advanced technology, and the insight of practitioners. Identifying these inefficiencies involves a process of hypothesis formulation, testing, and validation. Importantly, to avoid data-mining, the hypothesis formulation precedes the analysis of the historical data. D.E. Shaw's Structured Equity strategies rely largely on quantitative and computational investment techniques developed by the D. E. Shaw over the last 19 years in the course of research conducted for purposes of managing the firm's hedge funds. In addition to its beta one strategies, D.E. Shaw manages substantial assets in its hedge fund strategies. D.E. Shaw's investment process involves a suite of quantitative models, each designed to capitalize on a distinct and uncorrelated set of market inefficiencies. Some of these models are technical in nature and involve price and volume inputs. Other models rely on fundamental data, such as figures gleaned from corporate balance sheets or income statements. Still others, again quantitative, anticipate or react to a particular corporate event or set of events. These models typically operate with forecast horizons of a few weeks to many months. The ability to trade on shorter-term signals distinguishes D.E. Shaw from many of its long only and 130/30 peers. Portfolio construction involves the use of a proprietary optimizer which runs dynamically throughout the trading day. The portfolio is broadly diversified with several hundred long and short positions. Over- and under-weighting of sectors and industries relative to the benchmark will be quite modest, with the intention that most of the alpha be generated by security selection. The US Broad Market Core Alpha Extension Fund is a 130/30 strategy which maintains a beta that is approximately neutral to the Russell 1000 Index.

## **Eaton Vance/Parametric – Structured Emerging Markets Core Equity**

Parametric utilizes a structured, rules-based approach, which they believe is capable of generating enhanced returns with lower volatility compared to both traditional active management and passive capitalization weighted indices. The basic idea is to structure the portfolio with more balanced country weights than the market cap weighted indices, and also to capture a rebalancing premium. This provides more diversification and greater exposure to smaller countries than is provided by the market cap weighted indices. The approach is to divide emerging markets countries into three tiers, and to equally weight the countries within each tier. Tier 1 countries are the largest eight countries that dominate the cap weighted index. Each successive tier is comprised of smaller countries, each of which is given a smaller target weighting in the model portfolio. In aggregate, the eight Tier 1 countries are given a much lower weighting than in the capitalization weighted index, but they nevertheless comprise more than 50% of the portfolio. The Core SEM strategy targets excess return of 3% over a market cycle with 2.5%-4.5% tracking error. It is designed to generate a level of volatility 90%-100% of the MSCI EM index. The strategy invests in 44 countries and will typically hold 700-1,000 securities. Turnover is expected to be in the range of 5%-15%.

## **Franklin Templeton Investments – Global Fixed Income**

Franklin Templeton manages the global bond mandate in an unconstrained fashion using a top-down, fundamental framework. In the short term and on a country-by-country basis there are often inefficiencies in global bond and currency markets, however, over the longer term the market will generally price to fundamentals. Thus, FT focuses on fundamental research to identify long-term opportunities and uses short-term market inefficiencies to build positions in such investments. The investment and portfolio construction process begin with the determination of the Fund's or institutional client's investment objectives, resulting in a set of risk-return parameters and exposure limits within which the portfolio is managed. Next the firm's global economic outlook for the industrialized countries is developed, with a focus on interest rate and exchange rate forecasts. The portfolio's interest rate outlook is a function of global general equilibrium macroeconomic analysis as well as country-specific research. Macroeconomic conditions in the G-3 economies are analyzed first, primarily with respect to how current and projected growth and inflation dynamics are expected to influence monetary policy. This analysis is then extended out to the rest of the industrialized countries (G-13) as well as emerging markets, which results in broad targets for cash, duration, currencies and the developed/emerging market mix. Using the firm's interest rate and exchange rate outlook, probability-weighted horizon returns for bonds of various countries are then calculated. This analysis is used to establish specific country weights and duration targets based on risk-adjusted expected total return measured in the portfolio's base currency. Analysis of emerging markets includes sovereign credit analysis along with greater emphasis on capital flows, inter-market dynamics and trends in the level of risk aversion in the market.

### **INVESCO Realty Advisors – INVESCO Core Equity, LLC**

SamCERA is a founding member of INVESCO's open-end Core Equity real estate fund and rolled its separate account properties into the fund. INVESCO Core Equity, LLC (the "Fund") is a perpetual life, open-end vehicle which invests in a diversified portfolio of institutional quality office, retail, industrial and multifamily residential real estate assets. The Fund buys core properties that are located within the United States, typically requiring an investment of \$10 million or more. The portfolio cannot be more than 30% leveraged.

### **INVESCO Realty Advisors – INVESCO US Val IV**

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund. The Invesco real estate team manages around \$62B in assets with investments and offices around the globe. Invesco Value Fund IV will look to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments will be limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA's). Invesco Value Fund IV will provide a nice compliment to the more conservative Invesco Core Fund and offer the potential of enhanced returns to the SamCERA Real Estate portfolio.

### **INVESCO Realty Advisors – INVESCO US Val V**

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund and through the Invesco US Value IV Fund since December 2015. The Invesco real estate team manages around \$62B in assets with investments and offices around the globe. Invesco Value Fund V will be similar to the Value Add IV and look to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments will be limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA's).

### **Mondrian Investment Partners – International Equity**

Mondrian is a value-oriented, defensive manager whose investment philosophy is based on the principle that investments must be evaluated for their fundamental long-term value. The firm's philosophy involves three stated investment objectives: 1) provide a rate of return meaningfully greater than the client's domestic rate of inflation, 2) structure client portfolios that preserve capital during protracted international market declines, and 3) provide portfolio performance that is less volatile than benchmark indices and other international managers. Mondrian applies typical value screening criteria to a universe of 1,500 stocks, from which 500 are selected for more detailed work. Through fundamental research, and the deliberations of the Investment Committee, the universe is further reduced to a list of 150 stocks. The investment team conducts detailed fundamental analysis on the remaining stocks, a process which includes applying the firm's dividend discount model consistently across all markets and industries. Mondrian also uses a purchasing power parity model to give an accurate currency comparison of the value of the stocks under consideration. The firm will only consider buying stocks in countries with good investor protection practices and relatively simple repatriation procedures. A computer-based optimization program is employed in the portfolio construction process. Mondrian's portfolio holds 80-125 issues.

### **PanAgora Asset Management – Defensive U.S. Equity Low Volatility**

PanAgora's Defensive Equity strategy seeks to balance risk exposures within the portfolio across multiple dimensions to achieve true diversification. The Defensive Equity approach is used to construct equity portfolios designed to achieve tailored exposure to certain factors, including low volatility, multi-factor (value, quality, and momentum), and high dividend yield while maintaining less risk concentration throughout the portfolio.

## **Panagora – Diversified Risk Multi Asset Fund**

The Multi Asset team is headed up by Edward Qian, CIO of the group, and the founder of Panagora’s risk parity strategy. A staff of approximately thirteen works in this group on research and portfolio construction, with some people spending more time on the former and some more on the latter. Panagora implements risk parity by distinguishing between three categories of assets: equities, nominal fixed income, and inflation protection. Each of these categories corresponds to a respective economic environment: economic growth, economic contraction and inflation. Panagora’s risk allocation targets 40% each from equities and nominal fixed income, and 20% from inflation protection. In addition to applying concept of risk parity between asset classes, Panagora also applies it within each asset class. The 40/40/20 allocation to equities/nominal fixed income/inflation protection is a long-term strategic allocation. In 2009 Panagora introduced what they refer to as “Dynamic Risk Allocation” or “DRA,” which involves tactically tilting the risk allocations away from the neutral targets in order to enhance returns and reduce risk.

## **Parametric Currency Overlay – Currency Hedge**

An overlay hedge placed on half of the notional value of international equities. The portfolio uses Parametric for this overlay.

## **PIMCO Diversified**

PIMCO Diversified Income Fund offers a broad and flexible multi-credit approach in a liquid and cost-effective format. The Diversified Income Fund seeks to produce consistent above benchmark performance using diversified sources of alpha from a universe that includes global credit as well as “non-core” credit sectors (ex., securitized, emerging markets).

## **PIMCO Private Income Fund**

PIMCO Private Income Fund provides an attractive total return oriented global credit exposure utilizing both top-down sector relative value and bottom up security selection. The strategy invests across private residential, commercial, corporate and specialty finance markets.

## **PGIM RE Debt**

PGIM Real Estate US Debt Fund focuses on a loan origination strategy with a mix of 20% senior long duration loans on stable assets, 60% senior short/medium duration loans on stable and transitional assets, and 20% mezzanine mid/long duration debt.

## **Pyramis Global Advisors – Broad Market Duration Commingled Pool**

Pyramis’ Broad Market Duration (BMD) investment strategy seeks to achieve absolute and risk-adjusted returns in excess of the BC U.S. Aggregate Index, focusing its investments in US Treasuries, agencies, investment grade corporate bonds, mortgage-backed and asset-backed securities. The BMD commingled pool can also hold small, opportunistic positions in out-of-benchmark securities, such as inflation-linked bonds. The investable universe includes all US dollar denominated, investment grade debt securities. The BMD investment approach emphasizes issuer and sector valuation and individual security selection. Through the integration of fundamental and quantitative research and trading, the BMD strategy is implemented in a team environment. Risk management technology is utilized to explicitly quantify benchmark exposures on a daily basis, and Pyramis uses the same analytical framework to assess both index and portfolio risk. Tracking error should range between 40 and 60 basis points per annum over the benchmark, and stringent portfolio construction risk control rules are strictly adhered to.

## **Quantitative Management Associates – QMA Small-Cap Core**

Quantitative Management Associates (QMA) utilizes a bottom-up quantitative framework in order provide a diversified exposure to core U.S. small-cap stocks, while attempting to produce consistent outperformance versus the benchmark with moderate tracking error levels. QMA uses an adaptive, systematic investment process to exploit opportunities created by mispriced securities to consistently add value over long time periods. Bottom-up stock selection drives exposure to key sources of alpha (valuation, growth, and quality). The QMA stock selection model adapts to changes in company growth rates and market environments by putting more emphasis on valuation for slowly growing companies, and more emphasis on future growth projections for companies with higher projected growth rates.

## **Standard Life Aberdeen Global Absolute Return Strategy (GARS)**

The Standard Life Aberdeen Global Absolute Return Strategy (GARS) was initially launched in 2005 to help address Standard Life's own pension plan's deficit problem. GARS' primary investment objective is to deliver a positive absolute return over the medium to long term with lower volatility than equities, irrespective of market conditions. It seeks returns through dynamic allocation to investment opportunities in traditional and advanced asset classes, and also separately exploits the team's security selection expertise. In the search for attractive investment positions, the team follows a rigorous research process. This includes a variety of research techniques, including broad global macro-economic, fundamental analysis, quantitative research and valuation modeling. The GARS investment process is designed to capitalize on an array of research and investment techniques and draws together the team's three-year investment insights. The team then rigorously examines and review position proposals to approve a high conviction, short list of positions that work well together. Having a cash benchmark means that GARS has a potentially unrestricted investment universe and all portfolio holdings are at the Portfolio Manager's discretion. The GARS portfolio also routinely uses a variety of conventional derivatives for investment, liquidity, efficiency and hedging purposes. The GARS strategy has experienced significant growth in its asset under management since it becomes available to external investors in 2006.

## **State Street Global Advisors (SSgA) Custom Real Asset**

SSgA Custom Real Asset portfolio uses a portfolio of liquid real assets to proxy private real assets. The portfolio is comprised of equal weightings of the Bloomberg Commodity Index, S&P Global Natural Resources Index, and S&P Global Infrastructure Index. The portfolio is used to fund upcoming private real asset mandates.

## **Tennenbaum Capital Partners - TCP Direct Lending Fund VIII**

TCP Direct Lending Fund VIII is a private investment fund managed by Tennenbaum Capital Partners ("TCP"). The Fund is designed to continue TCP's successful strategy of investing in privately-originated, performing senior secured debt primarily in North America-based companies with target enterprise values between \$100 million and \$1.5 billion. The Fund will include positions in 1st lien, 2nd lien and unitranche debt, with a preference for floating-rate debt, which TCP believes provides better flexibility to adapt to market conditions. TCP's direct lending strategy has generated attractive investment opportunities across market cycles, as evidenced by the Firm's prior direct lending track record. Fund VIII targets an unlevered annual yield of approximately 9-12%, with its return primarily driven by current income.

### **Western Asset Management – Total Return Unconstrained (TRU)**

Western Asset's Total Return Unconstrained strategy (TRU) seeks to provide bond-like risk and return over the long term but does not have a benchmark. This allows for asset allocation based on value rather than using the construction of a benchmark as baseline positioning. The investment approach is active with very broad latitude on duration (-3 to +8 years) and on asset allocation across all of the eligible sectors in a core plus mandate. The portfolio must have at least 50% of its holdings in investment-grade securities. The flexibility offered by this strategy allows for defensive positioning in rising rate environments and opportunistic deployment of capital when value opportunities arise. It also allows the portfolio managers to emphasize (or deemphasize) either credit or rates when one or the other appears to offer greater (or lesser) value. um non-US exposure.

### **White Oak - White Oak Yield Spectrum Fund**

The White Oak Yield Spectrum Fund's objective is to earn substantial current income by originating, extending, and/or investing in a diversified portfolio of primarily senior secured corporate credit and debt instruments consisting of term loans, asset-based loans and equipment leases and loans issued by small to middle-market companies located primarily in the United States and Canada. It focuses on providing self-originated deals for predominantly non-sponsored, privately-held borrowers.



# Policy Index and Benchmark History

Period Ending: September 30, 2019

| Total Plan Policy Index                        | As of         |               |               |               |               |
|--|---------------|---------------|---------------|---------------|---------------|
|  | 7/1/19        | 4/1/19        | 1/1/19        | 10/1/18       | 4/1/18        |
| 10 Year Treasury +2%                           | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| 60/40 MSCI World/BBgBarc Global Aggregate (RP) | 8.0%          | 8.0%          | 8.0%          | 8.0%          | 8.0%          |
| 60/40 Russell 3000/BBgBarc US Aggregate (RP)   | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| BBgBarc Aggregate                              | 14.0%         | 14.0%         | 14.0%         | 14.0%         | 14.0%         |
| BBgBarc BA Intermediate HY                     | 7.0%          | 7.0%          | 7.0%          | 7.0%          | 7.0%          |
| BBgBarc BBB                                    | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| BBgBarc Credit BAA                             | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| BBgBarc Multiverse                             | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| BBgBarc TIPS                                   | 2.0%          | 2.0%          | 2.0%          | 2.0%          | 2.0%          |
| Bloomberg Commodity                            | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Citigroup non-US WGBI                          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| CPI + 5% (RA)                                  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Blended Liquid Real Asset                      | 6.0%          | 6.0%          | 6.0%          | 6.0%          | 6.0%          |
| Blended Private Real Asset                     | 2.0%          | 2.0%          | 2.0%          | 2.0%          | 2.0%          |
| Libor +4% (HF)                                 | 6.0%          | 6.0%          | 6.0%          | 6.0%          | 6.0%          |
| MSCI ACWI ex-US                                | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| MSCI ACWI ex US IMI 100% Hedged (Net)          | 7.6%          | 5.7%          | 3.8%          | 1.9%          | 0.0%          |
| MSCI ACWI ex-US IMI                            | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| MSCI ACWI ex-US IMI (Net)                      | 11.4%         | 13.3%         | 15.2%         | 17.1%         | 19.0%         |
| MSCI EAFE                                      | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| NCREIF ODCE                                    | 8.0%          | 8.0%          | 8.0%          | 8.0%          | 8.0%          |
| NCREIF Property                                | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Russell 1000                                   | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Russell 1000 Value                             | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Russell 2000                                   | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Russell 3000                                   | 22.0%         | 22.0%         | 22.0%         | 22.0%         | 21.0%         |
| Russell 3000 +3% (PE)                          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Russell 3000 +3% 1Q Lag (PE)                   | 6.0%          | 6.0%          | 6.0%          | 6.0%          | 7.0%          |
| S&P 500  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
|  | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> |

|  | 10/1/17       | 2/1/17        | 1/1/17        | 10/1/16       | 9/1/16        | 1/1/16        | 7/1/14        | 1/1/14        | 2/1/13        | 1/1/11        | 10/1/10       | 1/1/09        | 5/1/07        | 6/1/00        | 3/1/99        | 9/1/98        | 7/1/96        |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 10 Year Treasury +2%                           | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 8.0%          | 10.0%         | 10.0%         |
| 60/40 MSCI World/BBgBarc Global Aggregate (RP) | 8.0%          | 8.0%          | 8.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| 60/40 Russell 3000/BBgBarc US Aggregate (RP)   | 0.0%          | 0.0%          | 0.0%          | 8.0%          | 8.0%          | 8.0%          | 8.0%          | 8.0%          | 6.0%          | 6.0%          | 6.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| BBgBarc Aggregate                              | 14.0%         | 12.0%         | 10.0%         | 10.0%         | 10.0%         | 10.0%         | 10.0%         | 9.3%          | 11.0%         | 11.0%         | 12.9%         | 27.0%         | 27.0%         | 29.0%         | 25.0%         | 21.0%         | 21.0%         |
| BBgBarc BA Intermediate HY                     | 7.0%          | 6.0%          | 6.0%          | 6.0%          | 5.0%          | 5.0%          | 5.0%          | 5.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| BBgBarc BBB                                    | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 1.6%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| BBgBarc Credit BAA                             | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 3.5%          | 3.3%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| BBgBarc Multiverse                             | 0.0%          | 3.0%          | 3.0%          | 3.0%          | 3.0%          | 3.0%          | 3.0%          | 3.8%          | 4.4%          | 4.4%          | 4.5%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| BBgBarc TIPS                                   | 2.0%          | 2.0%          | 2.0%          | 2.0%          | 2.0%          | 2.0%          | 2.0%          | 2.0%          | 3.1%          | 3.3%          | 3.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Bloomberg Commodity                            | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 3.0%          | 3.0%          | 3.0%          | 3.0%          | 3.0%          | 3.0%          | 3.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Citigroup non-US WGBI                          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 5.0%          | 9.0%          | 9.0%          |
| CPI + 5% (RA)                                  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 2.0%          | 2.0%          | 2.0%          | 2.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Blended Liquid Real Asset                      | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Blended Private Real Asset                     | 8.0%          | 7.0%          | 5.0%          | 5.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Libor +4% (HF)                                 | 6.0%          | 6.0%          | 5.0%          | 5.0%          | 5.0%          | 5.0%          | 4.0%          | 4.0%          | 3.0%          | 3.0%          | 3.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| MSCI ACWI ex-US                                | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 18.0%         | 18.0%         | 18.0%         | 21.0%         | 21.0%         | 15.0%         | 0.0%          | 0.0%          | 0.0%          |
| MSCI ACWI ex US IMI 100% Hedged (Net)          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| MSCI ACWI ex-US IMI                            | 0.0%          | 19.0%         | 19.0%         | 19.0%         | 20.0%         | 20.0%         | 20.0%         | 20.0%         | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| MSCI ACWI ex-US IMI (Net)                      | 19.0%         | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| MSCI EAFE                                      | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 20.0%         | 20.0%         | 20.0%         |
| NCREIF ODCE                                    | 8.0%          | 7.0%          | 7.0%          | 7.0%          | 7.0%          | 7.0%          | 6.0%          | 6.0%          | 5.0%          | 5.0%          | 5.0%          | 6.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| NCREIF Property                                | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 6.0%          | 6.0%          | 0.0%          | 0.0%          | 0.0%          |
| Russell 1000                                   | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 24.0%         | 24.0%         | 24.0%         | 28.0%         | 28.0%         | 28.0%         | 37.0%         | 37.0%         | 40.0%         | 22.0%         | 20.0%         | 20.0%         |
| Russell 1000 Value                             | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 5.0%          | 5.0%          | 0.0%          |
| Russell 2000                                   | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 4.0%          | 6.0%          | 6.0%          | 7.0%          | 7.0%          | 7.0%          | 9.0%          | 9.0%          | 10.0%         | 15.0%         | 15.0%         | 15.0%         |
| Russell 3000                                   | 21.0%         | 23.0%         | 28.0%         | 28.0%         | 28.0%         | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Russell 3000 +3% (PE)                          | 7.0%          | 7.0%          | 7.0%          | 7.0%          | 7.0%          | 7.0%          | 7.0%          | 7.0%          | 8.0%          | 8.0%          | 8.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| Russell 3000 +3% 1Q Lag (PE)                   | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          |
| S&P 500  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 5.0%          |
|  | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> |

# Policy Index and Benchmark History

Period Ending: September 30, 2019

| Public Equity Benchmark               | As of: |        |        |         |         |        |         |        |        |        |         |        |        |        |        |        |
|---------------------------------------|--------|--------|--------|---------|---------|--------|---------|--------|--------|--------|---------|--------|--------|--------|--------|--------|
|                                       | 7/1/19 | 4/1/19 | 1/1/19 | 10/1/18 | 10/1/17 | 2/1/17 | 10/1/16 | 9/1/16 | 1/1/16 | 1/1/14 | 10/1/10 | 5/1/07 | 6/1/00 | 3/1/99 | 9/1/98 | 1/1/96 |
| MSCI ACWI ex-US                       | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 34.0%   | 31.3%  | 23.1%  | 0.0%   | 0.0%   | 0.0%   |
| MSCI ACWI ex US IMI 100% Hedged (Net) | 18.5%  | 13.9%  | 9.3%   | 4.6%    | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%   |
| MSCI ACWI ex-US IMI                   | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 47.5%   | 45.2%  | 40.4%   | 41.7%  | 41.7%  | 40.0%  | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%   |
| MSCI ACWI ex US IMI (Net)             | 27.8%  | 32.4%  | 37.0%  | 41.7%   | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%   |
| MSCI EAFE                             | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 32.3%  | 33.3%  | 33.3%  |
| Russell 1000                          | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 50.0%  | 48.0%  | 52.8%   | 55.2%  | 61.5%  | 35.5%  | 33.3%  | 33.3%  |
| Russell 1000 Value                    | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 8.0%   | 8.4%   | 0.0%   |
| Russell 2000                          | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 8.3%   | 12.0%  | 13.2%   | 13.5%  | 15.4%  | 24.2%  | 25.0%  | 25.0%  |
| Russell 3000                          | 53.7%  | 53.7%  | 53.7%  | 53.7%   | 52.5%   | 54.8%  | 59.6%   | 58.3%  | 0.0%   | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%   |
| S&P 500                               | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 8.4%   |
|                                       | 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% | 100.0% |

| US Equity Benchmark | As of: |        |        |        |        |        |        |
|---------------------|--------|--------|--------|--------|--------|--------|--------|
|                     | 9/1/16 | 1/1/16 | 6/1/00 | 3/1/99 | 9/1/98 | 7/1/96 | 1/1/95 |
| Russell 1000        | 0.0%   | 85.7%  | 80.0%  | 52.0%  | 50.0%  | 50.0%  | 69.0%  |
| Russell 1000 Value  | 0.0%   | 0.0%   | 0.0%   | 12.0%  | 12.5%  | 0.0%   | 0.0%   |
| Russell 2000        | 0.0%   | 14.3%  | 20.0%  | 36.0%  | 37.5%  | 37.5%  | 14.0%  |
| Russell 3000        | 100.0% | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%   |
| S & P 500           | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 12.5%  | 17.0%  |
|                     | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

| International Equity Benchmark        | As of: |        |        |         |         |        |        |        |
|---------------------------------------|--------|--------|--------|---------|---------|--------|--------|--------|
|                                       | 7/1/19 | 4/1/19 | 1/1/19 | 10/1/18 | 10/1/17 | 1/1/14 | 6/1/00 | 1/1/96 |
| MSCI ACWI ex US                       | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%    | 0.0%   | 100.0% | 0.0%   |
| MSCI ACWI ex US IMI 100% Hedged (Net) | 40.0%  | 30.0%  | 20.0%  | 10.0%   | 0.0%    | 0.0%   | 100.0% | 0.0%   |
| MSCI ACWI ex-US IMI                   | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%    | 100.0% | 0.0%   | 0.0%   |
| MSCI ACWI ex US IMI (Net)             | 60.0%  | 70.0%  | 80.0%  | 90.0%   | 100.0%  | 0.0%   | 0.0%   | 0.0%   |
| MSCI EAFE                             | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%    | 0.0%   | 0.0%   | 100.0% |
|                                       | 100.0% | 100.0% | 100.0% | 100.0%  | 100.0%  | 100.0% | 100.0% | 100.0% |

| Fixed Income Benchmark     | As of:  |        |         |        |        |        |        |        |         |        |        |        |
|----------------------------|---------|--------|---------|--------|--------|--------|--------|--------|---------|--------|--------|--------|
|                            | 10/1/17 | 2/1/17 | 10/1/16 | 4/1/16 | 7/1/14 | 1/1/14 | 2/1/13 | 1/1/11 | 10/1/10 | 6/1/00 | 3/1/99 | 7/1/96 |
| BBgBarc Aggregate          | 66.7%   | 57.1%  | 52.6%   | 55.5%  | 50.0%  | 46.3%  | 50.0%  | 50.0%  | 58.6%   | 100.0% | 83.3%  | 70.0%  |
| BBgBarc BA Intermediate HY | 33.3%   | 28.6%  | 31.6%   | 27.8%  | 25.0%  | 25.0%  | 0.0%   | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   |
| BBgBarc BBB                | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 7.3%    | 0.0%   | 0.0%   | 0.0%   |
| BBgBarc Credit BAA         | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 16.0%  | 15.0%  | 0.0%    | 0.0%   | 0.0%   | 0.0%   |
| BBgBarc Multiverse         | 0.0%    | 14.3%  | 15.8%   | 16.7%  | 15.0%  | 18.8%  | 20.0%  | 20.0%  | 20.5%   | 0.0%   | 0.0%   | 0.0%   |
| BBgBarc TIPS               | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 10.0%  | 10.0%  | 14.0%  | 15.0%  | 13.6%   | 0.0%   | 0.0%   | 0.0%   |
| Citigroup non-US WGBI      | 0.0%    | 0.0%   | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%    | 0.0%   | 16.7%  | 30.0%  |
|                            | 100.0%  | 100.0% | 100.0%  | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0%  | 100.0% | 100.0% | 100.0% |

| Opportunistic Credit Benchmark | As of: |         |
|--------------------------------|--------|---------|
|                                | 1/1/14 | 12/1/09 |
| BBgBarc BA Intermediate HY     | 100.0% | 0.0%    |
| BBgBarc Credit BAA             | 0.0%   | 100.0%  |
|                                | 100.0% | 100.0%  |

| Risk Parity Benchmark    | As of: |         |
|--------------------------|--------|---------|
|                          | 1/1/17 | 10/1/10 |
| BBgBarc Aggregate        | 0.0%   | 40.0%   |
| BBgBarc Global Aggregate | 40.0%  | 0.0%    |
| MSCI World               | 60.0%  | 0.0%    |
| Russell 3000             | 0.0%   | 60.0%   |
|                          | 100.0% | 100.0%  |

# Policy Index and Benchmark History

Period Ending: September 30, 2019

| Alternatives Benchmark                       | As of:  |        |        |        |        |        |        |
|--|---------|--------|--------|--------|--------|--------|--------|
|  | 10/1/18 | 4/1/18 | 2/1/17 | 4/1/16 | 1/1/16 | 1/1/14 | 1/1/11 |
| 60/40 Russell 3000/BBgBarc US Aggregate (RP) | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 30.0%  |
| Bloomberg Commodity                          | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 17.7%  | 18.8%  | 15.0%  |
| CPI + 5% (RA)                                | 0.0%    | 0.0%   | 0.0%   | 0.0%   | 11.8%  | 12.5%  | 0.0%   |
| Libor +4% (HF)                               | 50.0%   | 46.2%  | 46.2%  | 41.7%  | 29.4%  | 25.0%  | 15.0%  |
| Russell 3000 +3% (PE)                        | 0.0%    | 0.0%   | 53.8%  | 58.3%  | 41.2%  | 43.8%  | 40.0%  |
| Russell 3000 +3% 1Q Lag (PE)                 | 50.0%   | 53.8%  | 0.0%   | 0.0%   | 0.0%   | 0.0%   | 0.0%   |
|  | 100.0%  | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

| Private Equity Benchmark | As of: |         |
|--------------------------|--------|---------|
|                          | 4/1/18 | 10/1/10 |
| Russell 3000 +3% 1Q Lag  | 100.0% | 0.0%    |
| Russell 3000 +3%         | 0.0%   | 100.0%  |
|                          | 100.0% | 100.0%  |

| Hedge Fund Benchmark | As of:  |  |
|----------------------|---------|--|
|                      | 10/1/10 |  |
| Libor +4%            | 100.0%  |  |
|                      | 100.0%  |  |

| Inflation Hedge            | As of: |        |         |        |
|----------------------------|--------|--------|---------|--------|
|                            | 4/1/18 | 2/1/17 | 10/1/16 | 4/1/16 |
| BBgBarc TIPS               | 11.11% | 12.50% | 14.3%   | 14.3%  |
| Bloomberg Commodity        | 0.00%  | 0.00%  | 0.0%    | 21.4%  |
| CPI + 5% (RA)              | 0.00%  | 0.00%  | 0.0%    | 14.3%  |
| Blended Liquid Real Asset  | 33.34% | 0.00%  | 0.0%    | 0.0%   |
| Blended Private Real Asset | 11.11% | 43.75% | 35.7%   | 0.0%   |
| NCREIF ODCE                | 44.44% | 43.75% | 50.0%   | 50.0%  |
|                            | 100.0% | 100.0% | 100.0%  | 100.0% |

| Public Real Asset Benchmark                     | As of:  |         |
|---|---------|---------|
|   | 10/1/16 | 1/1/14  |
| Bloomberg Roll Select Commodity                 | 34.00%  | 0.00%   |
| S&P Global Large-MidCap Commodity and Resources | 33.00%  | 0.00%   |
| S&P Global Infrastructure                       | 33.00%  | 0.00%   |
| CPI + 5%  | 0.00%   | 100.00% |
|   | 100.0%  | 100.0%  |

| Private Real Asset Benchmark                                | As of:  |         |        |
|---|---------|---------|--------|
|   | 4/1/18  | 10/1/16 | 1/1/14 |
| Bloomberg Roll Select Commodity                             | 0.00%   | 34.00%  | 0.0%   |
| S&P Global Large-MidCap Commodity and Resources             | 0.00%   | 33.00%  | 0.0%   |
| 50/50 S&P Global Infra & Lrg-MidCap Com & Resources +2% 1QL | 100.00% | 0.00%   | 0.0%   |
| S&P Global Infrastructure                                   | 0.00%   | 33.00%  | 0.0%   |
| CPI + 5%  | 0.00%   | 0.00%   | 100.0% |
|   | 100.0%  | 100.0%  | 100.0% |

| Private RA Secondary Benchmark                           | As of: |  |
|--|--------|--|
|  | 9/1/14 |  |
| Cambridge Associates Private Natural Resources 1 Qtr Lag | 50.0%  |  |
| Cambridge Associates Private Infrastructure 1 Qtr Lag    | 50.0%  |  |
|  | 100.0% |  |

| Real Estate Benchmark | As of: |        |        |
|-----------------------|--------|--------|--------|
|                       | 1/1/09 | 6/1/00 | 7/1/96 |
| 10 Year Treasury +2%  | 0.0%   | 0.0%   | 100.0% |
| NCREIF ODCE           | 100.0% | 0.0%   | 0.0%   |
| NCREIF Property       | 0.0%   | 100.0% | 0.0%   |
|                       | 100.0% | 100.0% | 100.0% |

| Baillie Gifford Benchmark | As of:        |               |
|---------------------------|---------------|---------------|
|                           | 1/1/14        | 5/1/12        |
| MSCI ACWI ex-US           | 100.0%        | 0.0%          |
| MSCI EAFE                 | 0.0%          | 100.0%        |
|                           | <b>100.0%</b> | <b>100.0%</b> |

| Baillie Gifford Secondary Benchmark | As of:        |               |
|-------------------------------------|---------------|---------------|
|                                     | 1/1/14        | 5/1/12        |
| MSCI ACWI ex-US Growth              | 100.0%        | 0.0%          |
| MSCI EAFE Growth                    | 0.0%          | 100.0%        |
|                                     | <b>100.0%</b> | <b>100.0%</b> |

| Brigade Secondary Benchmark   | As of:        |  |
|-------------------------------|---------------|--|
|                               | 8/1/10        |  |
| BBgBarc High Yield            | 50.0%         |  |
| Credit Suisse Leveraged Loans | 50.0%         |  |
|                               | <b>100.0%</b> |  |

| AQR GRP, 10% Volatility  | As of:        |               |
|--------------------------|---------------|---------------|
|                          | 1/1/17        | 3/1/11        |
| BBgBarc Aggregate        | 0.0%          | 40.0%         |
| BBgBarc Global Aggregate | 40.0%         | 0.0%          |
| MSCI World               | 60.0%         | 0.0%          |
| Russell 3000             | 0.0%          | 60.0%         |
|                          | <b>100.0%</b> | <b>100.0%</b> |

| PanAgora                 | As of:        |               |
|--------------------------|---------------|---------------|
|                          | 1/1/17        | 8/1/14        |
| BBgBarc Aggregate        | 0.0%          | 40.0%         |
| BBgBarc Global Aggregate | 40.0%         | 0.0%          |
| MSCI World               | 60.0%         | 0.0%          |
| Russell 3000             | 0.0%          | 60.0%         |
|                          | <b>100.0%</b> | <b>100.0%</b> |

| PIMCO Diversified                    | As of:        |  |
|--------------------------------------|---------------|--|
|                                      | 9/1/17        |  |
| JPMorgan EMBI Global                 | 33.3%         |  |
| ICE BofAMLBB-BRatedDvlpdMktsHYHgdUSD | 33.3%         |  |
| Global Agg Credit Ex EM USD hedged   | 33.4%         |  |
|                                      | <b>100.0%</b> |  |

| SSgA Custom Real Asset                          | As of:        |  |
|---|---------------|--|
|   | 10/1/16       |  |
| Bloomberg Roll Select Commodity TR              | 33.34%        |  |
| S&P Global Large-MidCap Commodity and Resources | 33.33%        |  |
| S&P Global Infrastructure                       | 33.33%        |  |
|   | <b>100.0%</b> |  |

# Fee Schedule

Period Ending: September 30, 2019

## Baillie Gifford

|                     |                 |
|---------------------|-----------------|
| First \$25 million: | 0.60% per annum |
| Next \$75 million:  | 0.50% per annum |
| Next \$300 million: | 0.40% per annum |
| Thereafter:         | 0.30% per annum |

## BlackRock-EAFE Equity Index Fund

|                |                 |
|----------------|-----------------|
| On All Assets: | 0.03% per annum |
|----------------|-----------------|

## BlackRock-Russell 1000 Index Fund

|                |                 |
|----------------|-----------------|
| On All Assets: | 0.01% per annum |
|----------------|-----------------|

## BlackRock-Intermediate Govt Bond Index Fund

|                |                  |
|----------------|------------------|
| On All Assets: | 0.025% per annum |
|----------------|------------------|

## Brown Brothers Harriman

|                |                 |
|----------------|-----------------|
| On All Assets: | 0.15% per annum |
|----------------|-----------------|

## Parametric

|                |                 |
|----------------|-----------------|
| On All Assets: | 0.30% per annum |
|----------------|-----------------|

## Acadian Asset Management

|                     |                  |
|---------------------|------------------|
| First \$50 million: | 0.27% per annum  |
| Next \$50 million:  | 0.225% per annum |
| Thereafter:         | 0.18% per annum  |

## Parametric Overlay

|                                      |                 |
|--------------------------------------|-----------------|
| First \$50 million:                  | 0.12% per annum |
| Next \$100 million:                  | 0.10% per annum |
| Thereafter:                          | 0.05% per annum |
| Plus monthly reporting fee of \$1500 |                 |

## Parametric Currency Overlay

|                      |                 |
|----------------------|-----------------|
| First \$250 million: | 0.05% per annum |
| Thereafter:          | 0.03% per annum |

## Cushing Asset Management

|                     |                 |
|---------------------|-----------------|
| First \$50 million: | 0.70% per annum |
| Next \$50 million:  | 0.60% per annum |
| Thereafter:         | 0.55% per annum |

## Franklin Templeton Investment

|                     |                 |
|---------------------|-----------------|
| First \$50 million: | 0.40% per annum |
| Next \$50 million:  | 0.30% per annum |
| Thereafter:         | 0.25% per annum |

## FIAM Bond

|                     |                  |
|---------------------|------------------|
| First \$50 million: | 0.20% per annum  |
| Next \$50 million:  | 0.175% per annum |
| Next \$100 million: | 0.10% per annum  |
| Thereafter:         | 0.085% per annum |

## PanAgora Asset Management

|                     |                 |
|---------------------|-----------------|
| First \$50 million: | 0.25% per annum |
| Next \$50 million:  | 0.15% per annum |
| Thereafter:         | 0.10% per annum |

## PIMCO Diversified

|                |                 |
|----------------|-----------------|
| On All Assets: | 0.75% per annum |
|----------------|-----------------|

## QMA

|                     |                 |
|---------------------|-----------------|
| First \$50 million: | 0.55% per annum |
| Thereafter:         | 0.50% per annum |

## Western Asset Management

|                  |                 |
|------------------|-----------------|
| On All Assets:   | 0.25% per annum |
| Performance Fee: | 20.00%          |

## Mondrian Investment Partners

### Assets Below \$190 million

|                     |                 |
|---------------------|-----------------|
| First \$20 million: | 1.00% per annum |
| Thereafter:         | 0.33% per annum |

### Assets Above \$190 million

|                     |                 |
|---------------------|-----------------|
| First \$50 million: | 1.00% per annum |
| Next \$150 million: | 0.19% per annum |
| Thereafter:         | 0.33% per annum |

| Name                        | Primary Benchmark               | Rule 1 | Rule 2 | Rule 3 |
|-----------------------------|---------------------------------|--------|--------|--------|
| Acadian US MGD V            | Russell 1000                    | --     | --     | --     |
| DE Shaw                     | Russell 1000                    | ✓      | ✓      | ✓      |
| PanAgora Defuseq            | Russell 1000                    | --     | --     | --     |
| QMA US Small Cap            | Russell 2000                    | --     | --     | --     |
| Baillie Gifford             | MSCI ACWI ex US                 | ✓      | ✗      | ✓      |
| Mondrian                    | MSCI ACWI ex USA Value Gross    | ✓      | ✓      | ✓      |
| Parametric Core             | MSCI Emerging Markets Gross     | --     | --     | --     |
| FIAM Bond                   | BBgBarc US Aggregate TR         | ✓      | ✓      | ✓      |
| Western TRU                 | 3-Month Libor Total Return USD  | --     | --     | --     |
| Angelo Gordon Opportunistic | BBgBarc US Aggregate TR         | ✓      | --     | ✓      |
| Angelo Gordon STAR          | BBgBarc US Aggregate TR         | ✓      | --     | ✓      |
| Beach Point Select          | BBgBarc BA Intermediate HY      | --     | --     | --     |
| Brigade Capital             | BBgBarc BA Intermediate HY      | ✗      | ✗      | ✗      |
| PIMCO Diversified           | Blended PIMCO Diversified Index | --     | --     | --     |
| Franklin Templeton          | BBgBarc Multiverse TR           | --     | --     | --     |
| PIMCO Private Income        | BBgBarc BA Intermediate HY      | --     | --     | --     |
| TCP Direct Lending VIII     | Cliffwater Direct Lending Index | --     | --     | --     |
| White Oak Yield             | Cliffwater Direct Lending Index | --     | --     | --     |
| AQR DELTA XN                | Libor 1 month +4%               | ✗      | ✗      | ✗      |
| Aberdeen Standard GARS      | Libor 1 month +4%               | --     | --     | --     |

Rule 1 - Manager has underperformed the benchmark index for the five year period.

Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive

Manager Compliance (Gross)

Period Ending: September 30, 2019

| Name                        | Primary Benchmark               | Rule 1 | Rule 2 | Rule 3 |
|-----------------------------|---------------------------------|--------|--------|--------|
| Acadian US MGD V            | Russell 1000                    | --     | --     | --     |
| DE Shaw                     | Russell 1000                    | ✓      | ✓      | ✓      |
| PanAgora Defuseq            | Russell 1000                    | --     | --     | --     |
| QMA US Small Cap            | Russell 2000                    | --     | --     | --     |
| Baillie Gifford             | MSCI ACWI ex US                 | ✓      | ✓      | ✓      |
| Mondrian                    | MSCI ACWI ex USA Value Gross    | ✓      | ✓      | ✓      |
| Parametric Core             | MSCI Emerging Markets Gross     | --     | --     | --     |
| FIAM Bond                   | BBgBarc US Aggregate TR         | ✓      | ✓      | ✓      |
| Western TRU                 | 3-Month Libor Total Return USD  | --     | --     | --     |
| Angelo Gordon Opportunistic | BBgBarc US Aggregate TR         | ✓      | --     | ✓      |
| Angelo Gordon STAR          | BBgBarc US Aggregate TR         | ✓      | --     | ✓      |
| Beach Point Select          | BBgBarc BA Intermediate HY      | --     | --     | --     |
| Brigade Capital             | BBgBarc BA Intermediate HY      | ✗      | ✗      | ✗      |
| PIMCO Diversified           | Blended PIMCO Diversified Index | --     | --     | --     |
| Franklin Templeton          | BBgBarc Multiverse TR           | --     | --     | --     |
| PIMCO Private Income        | BBgBarc BA Intermediate HY      | --     | --     | --     |
| TCP Direct Lending VIII     | Cliffwater Direct Lending Index | --     | --     | --     |
| White Oak Yield             | Cliffwater Direct Lending Index | --     | --     | --     |
| AQR DELTA XN                | Libor 1 month +4%               | ✗      | ✗      | ✗      |
| Aberdeen Standard GARS      | Libor 1 month +4%               | --     | --     | --     |

Rule 1 - Manager has underperformed the benchmark index for the five year period.

Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive

Manager Performance Comparison (Gross of Fees)

Period Ending: September 30, 2019

|                              | Jul    | Aug    | Sep    | 3rd Qtr.<br>2019 | Difference | 2nd Qtr.<br>2019 | Difference | 1st Qtr.<br>2019 | Difference | 4th Qtr.<br>2018 | Difference | 3rd Qtr.<br>2018 | Difference |
|------------------------------|--------|--------|--------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|
| Verus                        | 2.10%  | -0.98% | 1.71%  | 2.82%            |            | 4.71%            |            | 10.70%           |            | -13.79%          |            | 7.41%            |            |
| Acadian US MGD V             | 2.10%  | -0.98% | 1.71%  | 2.82%            | 0.00%      | 4.71%            | 0.00%      | 10.69%           | 0.01%      | -13.79%          | 0.00%      | 7.41%            | 0.00%      |
| Russell 1000 Index           | 1.55%  | -1.83% | 1.73%  | 1.42%            |            | 4.25%            |            | 14.00%           |            | -13.82%          |            | 7.42%            |            |
| Verus                        | 1.55%  | -1.83% | 1.74%  | 1.43%            |            | 4.25%            |            | 14.02%           |            | -13.79%          |            | 7.41%            |            |
| BlackRock Russell 1000       | 1.55%  | -1.83% | 1.73%  | 1.42%            | 0.01%      | 4.25%            | 0.00%      | 14.02%           | 0.00%      | -13.79%          | 0.00%      | 7.41%            | 0.00%      |
| Russell 1000 Index           | 1.55%  | -1.83% | 1.73%  | 1.42%            |            | 4.25%            |            | 14.00%           |            | -13.82%          |            | 7.42%            |            |
| Verus                        | 1.34%  | -1.66% | 1.88%  | 1.53%            |            | 2.75%            |            | 12.68%           |            | -14.04%          |            | 7.23%            |            |
| D.E. Shaw                    | 1.34%  | -1.66% | 1.89%  | 1.54%            | -0.01%     | 2.75%            | 0.00%      | 12.69%           | -0.01%     | -14.04%          | 0.00%      | 7.24%            | -0.01%     |
| Russell 1000 Index           | 1.55%  | -1.83% | 1.73%  | 1.42%            |            | 4.25%            |            | 14.00%           |            | -13.82%          |            | 7.42%            |            |
| Verus                        | 0.96%  | 0.66%  | 1.55%  | 3.20%            |            | 5.51%            |            | 15.01%           |            | -14.04%          |            | 7.23%            |            |
| PanAgora Defuseq             | 0.96%  | 0.66%  | 1.54%  | 3.19%            | 0.01%      | 5.55%            | -0.04%     | 15.01%           | 0.00%      | -14.04%          | 0.00%      | 7.24%            | -0.01%     |
| Russell 1000 Index           | 1.55%  | -1.83% | 1.73%  | 1.42%            |            | 4.25%            |            | 14.00%           |            | -13.82%          |            | 7.42%            |            |
| Verus                        | 0.89%  | -5.08% | 3.77%  | -0.62%           |            | 0.37%            |            | 12.59%           |            | -20.52%          |            | 3.70%            |            |
| QMA US Small Cap             | 0.89%  | -5.08% | 3.77%  | -0.62%           | 0.00%      | 0.38%            | -0.01%     | 12.59%           | 0.00%      | -20.52%          | 0.00%      | 3.70%            | 0.00%      |
| Russell 2000 Index           | 0.58%  | -4.94% | 2.08%  | -2.40%           |            | 2.10%            |            | 14.58%           |            | -20.20%          |            | 3.58%            |            |
| Verus                        | 0.62%  | -2.46% | 0.96%  | -0.92%           |            | 5.96%            |            | 13.47%           |            | -15.28%          |            | -1.31%           |            |
| Baillie Gifford              | 0.61%  | -2.46% | 0.93%  | -0.95%           | 0.03%      | 5.89%            | 0.08%      | 13.41%           | 0.06%      | -15.28%          | 0.00%      | -1.29%           | -0.01%     |
| MSCI ACWI ex US              | -1.18% | -3.07% | 2.62%  | -1.70%           |            | 3.22%            |            | 10.44%           |            | -11.41%          |            | 0.80%            |            |
| MSCI ACWI ex US Growth       | -0.19% | -1.80% | 1.22%  | -0.79%           |            | 4.55%            |            | 12.42%           |            | -12.16%          |            | -0.20%           |            |
| Verus                        | -1.27% | -2.60% | 2.89%  | -1.05%           |            | 3.92%            |            | 10.08%           |            | -12.52%          |            | 1.40%            |            |
| BlackRock EAFE Equity        | -1.27% | -2.60% | 2.89%  | -1.05%           | 0.00%      | 3.92%            | 0.00%      | 10.08%           | 0.00%      | -12.52%          | 0.00%      | 1.40%            | 0.00%      |
| MSCI EAFE (Net)              | -1.27% | -2.59% | 2.87%  | -1.07%           |            | 3.68%            |            | 9.98%            |            | -12.54%          |            | 1.35%            |            |
| MSCI EAFE (Gross)            | -1.26% | -2.58% | 2.92%  | -1.00%           |            | 3.97%            |            | 10.13%           |            | -12.50%          |            | 1.42%            |            |
| Verus                        | -1.82% | -4.30% | 3.60%  | -2.66%           |            | 1.47%            |            | 9.19%            |            | -8.82%           |            | 1.54%            |            |
| Mondrian                     | -1.81% | -4.28% | 3.61%  | -2.62%           | -0.04%     | 1.48%            | -0.01%     | 9.18%            | 0.01%      | -8.79%           | -0.03%     | 1.55%            | -0.01%     |
| MSCI ACWI -ex US Value Index | -2.22% | -4.45% | 4.18%  | -2.66%           |            | 1.86%            |            | 8.46%            |            | -10.63%          |            | 1.85%            |            |
| MSCI ACWI -ex US             | -1.18% | -3.07% | 2.62%  | -1.70%           |            | 3.22%            |            | 10.44%           |            | -11.41%          |            | 0.80%            |            |
| Verus                        | -1.65% | -4.01% | 1.45%  | -4.23%           |            | 2.13%            |            | 7.73%            |            | -5.81%           |            | -0.11%           |            |
| Parametric Core              | -1.64% | -4.00% | 1.47%  | -4.19%           | -0.04%     | 2.19%            | -0.06%     | 7.80%            | -0.07%     | -5.77%           | -0.04%     | -0.06%           | -0.05%     |
| MSCI EM Market Index         | -1.14% | -4.85% | 1.94%  | -4.11%           |            | 0.74%            |            | 9.97%            |            | -7.40%           |            | -0.95%           |            |
| Verus                        | -0.15% | 1.81%  | -0.43% | 1.22%            |            | 2.37%            |            | 1.63%            |            | 2.24%            |            | -0.07%           |            |
| BlackRock Intermediate Govt  | -0.15% | 1.81%  | -0.43% | 1.22%            | 0.00%      | 2.37%            | 0.00%      | 1.63%            | 0.00%      | 2.24%            | 0.00%      | -0.07%           | 0.00%      |
| BBgBarc US Govt Int Index    | -0.17% | 1.80%  | -0.44% | 1.18%            |            | 2.34%            |            | 1.58%            |            | 2.22%            |            | -0.11%           |            |
| Verus                        | 0.35%  | 2.37%  | -0.47% | 2.23%            |            | 3.16%            |            | 3.47%            |            | 1.07%            |            | 0.15%            |            |
| FIAM Bond                    | 0.35%  | 2.37%  | -0.47% | 2.23%            | 0.00%      | 3.16%            | 0.00%      | 3.47%            | 0.00%      | 1.07%            | 0.00%      | 0.15%            | 0.00%      |
| BBgBarc US Aggregate Index   | 0.22%  | 2.59%  | -0.53% | 2.27%            |            | 3.08%            |            | 2.94%            |            | 1.64%            |            | 0.02%            |            |



Manager Performance Comparison (Gross of Fees)

Period Ending: September 30, 2019

|                                      | Jul    | Aug    | Sep    | 3rd Qtr.<br>2019 | Difference | 2nd Qtr.<br>2019 | Difference | 1st Qtr.<br>2019 | Difference | 4th Qtr.<br>2018 | Difference | 3rd Qtr.<br>2018 | Difference |
|--------------------------------------|--------|--------|--------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|
| Verus                                | 0.49%  | -1.27% | 1.82%  | 1.02%            |            | 2.31%            |            | 2.95%            |            | 0.74%            |            | 0.17%            |            |
| Western TRU                          | 0.49%  | -1.27% | 1.82%  | 1.02%            | 0.00%      | 2.31%            | 0.00%      | 2.95%            | 0.00%      | 0.74%            | 0.00%      | 0.17%            | 0.00%      |
| 3-Month Libor Total Return USD Index | 0.20%  | 0.18%  | 0.17%  | 0.55%            |            | 0.62%            |            | 0.67%            |            | 0.68%            |            | 0.60%            |            |
| BBgBarc US Aggregate Index           | 0.22%  | 2.59%  | -0.53% | 2.27%            |            | 3.08%            |            | 2.94%            |            | 1.64%            |            | 0.02%            |            |
| Verus (Net)                          |        |        |        | 3.34%            |            | 5.43%            |            | 0.89%            |            | 0.45%            |            | 5.35%            |            |
| Angelo Gordon Opportunistic          |        |        |        | 3.34%            | 0.00%      | 5.43%            | 0.00%      | 0.89%            | 0.00%      | 0.45%            | 0.00%      | 5.35%            | 0.00%      |
| BBgBarc US Aggregate Index           |        |        |        | 2.27%            |            | 3.08%            |            | 2.94%            |            | 1.64%            |            | 0.02%            |            |
| Verus (Net)                          |        |        |        | -3.95%           |            | 6.24%            |            | 5.44%            |            | 2.51%            |            | 6.59%            |            |
| Angelo Gordon STAR Fund (Net)        |        |        |        | -3.95%           | 0.00%      | 6.24%            | 0.00%      | 5.44%            | 0.00%      | 2.51%            | 0.00%      | 6.59%            | 0.00%      |
| BBgBarc US Aggregate Index           |        |        |        | 2.27%            |            | 3.08%            |            | 2.94%            |            | 1.64%            |            | 0.02%            |            |
| Verus                                | 0.80%  | -0.03% | 0.76%  | 1.54%            |            | 3.03%            |            | 4.44%            |            | -3.98%           |            | 1.80%            |            |
| Beach Point Select (Net)             | 0.80%  | -0.03% | 0.76%  | 1.54%            | 0.00%      | 3.03%            | 0.00%      | 4.44%            | 0.00%      | -3.98%           | 0.00%      | 1.80%            | 0.00%      |
| BBgBarc BA Intermediate HY           | 0.52%  | 1.06%  | 0.25%  | 1.84%            |            | 2.87%            |            | 7.00%            |            | -2.67%           |            | 2.27%            |            |
| Verus                                | 0.18%  | -1.25% | 0.67%  | -0.41%           |            | 1.92%            |            | 4.26%            |            | -5.56%           |            | 2.28%            |            |
| Brigade Capital (Net)                | 0.18%  | -1.25% | 0.67%  | -0.41%           | 0.00%      | 1.92%            | 0.00%      | 4.18%            | 0.08%      | -5.55%           | -0.01%     | 2.21%            | 0.07%      |
| BBgBarc BA Intermediate HY           | 0.52%  | 1.06%  | 0.25%  | 1.84%            |            | 2.87%            |            | 7.00%            |            | -2.67%           |            | 2.27%            |            |
| 50% BBgBarc HY/ 50% Bank Loan        | 0.67%  | 0.06%  | 0.39%  | 1.13%            |            | 2.05%            |            | 5.51%            |            | -3.81%           |            | 2.17%            |            |
| Verus                                | 0.62%  | 0.73%  | -0.15% | 1.20%            |            | 3.59%            |            | 5.82%            |            | -1.26%           |            | 1.66%            |            |
| PIMCO Diversified (Net)              | 0.62%  | 0.73%  | -0.15% | 1.20%            | 0.00%      | 3.59%            | 0.00%      | 5.81%            | 0.01%      | -1.26%           | 0.00%      | 1.66%            | 0.00%      |
| Blended PIMCO Diversified Index      | 0.91%  | 1.22%  | -0.20% | 1.93%            |            | 3.48%            |            | 5.97%            |            | -1.47%           |            | 1.65%            |            |
| BBgBarc BA Intermediate HY           | 0.52%  | 1.06%  | 0.25%  | 1.84%            |            | 2.87%            |            | 7.00%            |            | -2.67%           |            | 2.27%            |            |
| Verus                                | 1.62%  | -5.55% | 0.65%  | -3.39%           |            | 1.45%            |            | 1.72%            |            | 2.14%            |            | 0.32%            |            |
| Franklin Templeton Investments       | 1.62%  | -5.55% | 0.65%  | -3.39%           | 0.00%      | 1.45%            | 0.00%      | 1.72%            | 0.00%      | 2.14%            | 0.00%      | 0.32%            | 0.00%      |
| BBgBarc Multiverse Index             | -0.23% | 1.83%  | -0.95% | 0.63%            |            | 3.31%            |            | 2.40%            |            | 1.02%            |            | 0.00%            |            |
| Verus                                |        |        |        | 0.00%            |            |                  |            |                  |            |                  |            |                  |            |
| PIMCO Private Income                 |        |        |        | 0.00%            | 0.00%      |                  |            |                  |            |                  |            |                  |            |
| BBgBarc BA Intermediate HY           |        |        |        | 1.84%            |            |                  |            |                  |            |                  |            |                  |            |
| Cliffwater Direct Lending Index      |        |        |        | 2.25%            |            |                  |            |                  |            |                  |            |                  |            |
| Verus                                |        |        |        | 1.57%            |            | 1.75%            |            | 2.41%            |            | 1.75%            |            | 3.41%            |            |
| TCP Direct Lending VIII              |        |        |        | 1.57%            | 0.00%      | 1.75%            | 0.00%      | 2.41%            | 0.00%      | 1.75%            | 0.00%      | 3.41%            | 0.00%      |
| Cliffwater Direct Lending Index      |        |        |        | 2.25%            |            | 2.78%            |            | 0.84%            |            | 2.38%            |            | 2.44%            |            |
| Verus                                |        |        |        | 0.00%            |            | 0.00%            |            | 0.00%            |            | 2.03%            |            | 0.00%            |            |
| White Oak Yield                      |        |        |        | 0.00%            | 0.00%      | 0.00%            | 0.00%      | 0.00%            | 0.00%      | 2.03%            | 0.00%      | 0.00%            | 0.00%      |
| Cliffwater Direct Lending Index      |        |        |        | 2.25%            |            | 2.78%            |            | 0.84%            |            | 2.38%            |            | 2.44%            |            |

Manager Performance Comparison (Gross of Fees)

Period Ending: September 30, 2019

|  | Jul    | Aug    | Sep    | 3rd_Qtr.<br>2019 | Difference | 2nd_Qtr.<br>2019 | Difference | 1st_Qtr.<br>2019 | Difference | 4th_Qtr.<br>2018 | Difference | 3rd_Qtr.<br>2018 | Difference |
|--|--------|--------|--------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|
| Verus                                    | 1.24%  | -0.12% | 0.12%  | 1.23%            |            | 5.70%            |            | 11.14%           |            | -5.44%           |            | 0.30%            |            |
| AQR GRP, 10% Volatility (Net)            | 1.24%  | -0.12% | 0.12%  | 1.23%            | 0.00%      | 5.70%            | 0.00%      | 11.14%           | 0.00%      | -5.44%           | 0.00%      | 0.30%            | 0.00%      |
| 60% R3000/ 40% BBgBarc Agg               | 0.61%  | -0.32% | 1.09%  | 1.38%            |            | 3.68%            |            | 8.65%            |            | -7.49%           |            | 2.95%            |            |
| S&P Risk Parity 10% Target Volatility TR | 0.23%  | 0.84%  | 1.31%  | 2.41%            |            | 4.34%            |            | 7.98%            |            |                  |            |                  |            |
| Verus                                    | 0.91%  | 3.26%  | -0.03% | 4.18%            |            | 5.44%            |            | 11.43%           |            | -4.10%           |            | -2.11%           |            |
| PanAgora (Net)                           | 0.91%  | 3.26%  | -0.03% | 4.18%            | 0.00%      | 5.44%            | 0.00%      | 11.43%           | 0.00%      | -4.10%           | 0.00%      | -2.11%           | 0.00%      |
| 60% R3000/ 40% BBgBarc Agg               | 0.61%  | -0.32% | 1.09%  | 1.38%            |            | 3.68%            |            | 8.65%            |            | -7.49%           |            | 2.95%            |            |
| S&P Risk Parity 10% Target Volatility TR | 0.23%  | 0.84%  | 1.31%  | 2.41%            |            | 4.34%            |            | 7.98%            |            | -8.05%           |            | 4.25%            |            |
| Verus                                    | 1.28%  | -2.59% | 0.16%  | -1.18%           |            | -4.43%           |            | -1.95%           |            | -4.31%           |            | -1.94%           |            |
| AQR DELTA XN (Net)                       | 1.28%  | -2.59% | 0.16%  | -1.18%           | 0.00%      | -4.43%           | 0.00%      | -1.97%           | 0.02%      | -4.31%           | 0.00%      | -1.94%           | 0.00%      |
| Libor + 4%                               | 0.53%  | 0.49%  | 0.51%  | 1.54%            |            | 1.62%            |            | 1.52%            |            | 1.59%            |            | 1.55%            |            |
| Verus                                    | 0.98%  | 0.60%  | 0.02%  | 1.60%            |            | 1.39%            |            | 4.63%            |            | -2.24%           |            | 0.54%            |            |
| Aberdeen Standard GARS (Net)             | 0.98%  | 0.60%  | 0.02%  | 1.60%            | 0.00%      | 1.39%            | 0.00%      | 4.63%            | 0.00%      | -2.25%           | 0.01%      | 0.54%            | 0.00%      |
| Libor + 4%                               | 0.53%  | 0.49%  | 0.51%  | 1.54%            |            | 1.62%            |            | 1.52%            |            | 1.59%            |            | 1.55%            |            |
| Verus                                    |        |        |        | 2.01%            |            | 1.04%            |            | 1.09%            |            | 2.16%            |            | 2.56%            |            |
| INVESCO Real Estate                      |        |        |        | 2.00%            | 0.01%      | 1.04%            | 0.00%      | 1.11%            | -0.02%     | 2.16%            | 0.00%      | 2.57%            | -0.01%     |
| NCREIF NFI ODCE Index                    |        |        |        | 1.31%            |            | 0.99%            |            | 1.42%            |            | 1.76%            |            | 2.09%            |            |
| Verus                                    |        |        |        | 2.12%            |            | 1.20%            |            | 4.17%            |            | 4.25%            |            | 2.98%            |            |
| Invesco US Val IV                        |        |        |        | 2.12%            | 0.00%      | 1.20%            | 0.00%      | 4.17%            | 0.00%      | 4.25%            | 0.00%      | 2.98%            | 0.00%      |
| NCREIF NFI ODCE Index                    |        |        |        | 1.31%            |            | 0.99%            |            | 1.42%            |            | 1.76%            |            | 2.09%            |            |
| NCREIF CEVA 1Q Lag - NET                 |        |        |        | 2.95%            |            | 2.95%            |            | 2.95%            |            | 2.95%            |            | 2.95%            |            |
| Verus                                    |        |        |        | 1.09%            |            | 5.72%            |            |                  |            |                  |            |                  |            |
| Invesco US Val V                         |        |        |        | 1.09%            | 0.00%      | 5.72%            | 0.00%      |                  |            |                  |            |                  |            |
| NCREIF NFI ODCE Index                    |        |        |        | 1.31%            |            | 0.99%            |            |                  |            |                  |            |                  |            |
| NCREIF CEVA 1Q Lag - NET                 |        |        |        | 2.95%            |            | 2.95%            |            |                  |            |                  |            |                  |            |
| Verus (net)                              |        |        |        | 1.57%            |            | 1.45%            |            | 1.61%            |            | 1.64%            |            | 2.12%            |            |
| PGIM RE US Debt Fund (net)               |        |        |        | 1.57%            | 0.00%      | 1.45%            | 0.00%      | 1.61%            | 0.00%      | 1.64%            | 0.00%      | 1.95%            | 0.17%      |
| NCREIF NFI ODCE Index                    |        |        |        | 1.31%            |            | 0.99%            |            | 1.42%            |            | 1.76%            |            | 2.09%            |            |
| Verus                                    | -1.43% | -4.60% | 2.39%  | -3.73%           |            | -1.06%           |            | 17.88%           |            | -17.65%          |            |                  |            |
| Cushing MLP Alpha TR                     | -1.43% | -4.60% | 2.39%  | -3.73%           | 0.00%      | -1.06%           | 0.00%      | 17.88%           | 0.00%      | -17.65%          | 0.00%      |                  |            |
| 50% BBgBarc US TIPS/ 50% Blended PRA     | -0.63% | -0.23% | 0.22%  | -0.63%           |            | 2.17%            |            | 6.62%            |            | -4.98%           |            |                  |            |
| Alerian MLP TR USD                       | -0.19% | -5.51% | 0.71%  | -5.02%           |            | 0.12%            |            | 16.82%           |            | -17.30%          |            |                  |            |
| Verus                                    | 0.09%  | 1.52%  | -1.03% | 0.57%            |            | 2.63%            |            | 2.86%            |            | -0.69%           |            | -0.33%           |            |
| BBH Inflation Index                      | 0.09%  | 1.52%  | -1.03% | 0.57%            | 0.00%      | 2.63%            | 0.00%      | 2.85%            | 0.01%      | -0.67%           | -0.02%     | -0.33%           | 0.00%      |
| BBgBarc U.S Tips                         | 0.35%  | 2.38%  | -1.36% | 1.34%            |            | 2.87%            |            | 3.19%            |            | -0.42%           |            | -0.82%           |            |

**1 MSCI**

**1.1 MSCI US MARKET BREAKPOINTS**

| Break Point*     | Companies included |
|------------------|--------------------|
| Large Cap        | 1-200              |
| Medium-Large Cap | 201-550            |
| Medium Cap       | 551-750            |
| Medium-Small Cap | 751-2500           |
| Small Cap        | 2501+              |

\*MSCI only categorizes equities per size into large, mid and small cap. For InvestorForce Report analytics coherence regarding domestic benchmarks the buffer zones of the mid-cap category are used to determine Medium-Large and Medium-Small Cap categories.

| As Of      | Large Cap | Medium Large Cap | Medium Cap | Medium Small Cap | Small Cap |
|------------|-----------|------------------|------------|------------------|-----------|
| 9/30/2019  | 19.41     | 11.708           | 5.699      | 2.981            | 0         |
| 6/30/2019  | 17.991    | 11.416           | 5.265      | 3.039            | 0         |
| 3/31/2019  | 17.991    | 11.416           | 5.265      | 3.039            | 0         |
| 12/31/2018 | 18.559    | 11.536           | 5.547      | 3.012            | 0         |
| 09/30/2018 | 18.559    | 11.536           | 5.547      | 3.012            | 0         |
| 06/30/2018 | 17.921    | 10.888           | 5.334      | 3.023            | 0         |
| 03/31/2018 | 17.921    | 10.888           | 5.334      | 3.023            | 0         |
| 12/31/2017 | 17.679    | 9.979            | 5.011      | 2.793            | 0         |
| 9/30/2017  | 17.696    | 9.979            | 5.011      | 2.793            | 0         |
| 6/30/2017  | 15.834    | 9.267            | 4.517      | 2.573            | 0         |
| 3/31/2017  | 15.834    | 9.267            | 4.517      | 2.573            | 0         |
| 12/31/2016 | 15.239    | 9.375            | 4.416      | 2.520            | 0         |
| 9/30/2016  | 15.239    | 9.375            | 4.416      | 2.520            | 0         |
| 6/30/2016  | 15.358    | 9.43             | 4.548      | 2.591            | 0         |
| 3/31/2016  | 15.358    | 9.43             | 4.548      | 2.591            | 0         |
| 12/31/2015 | 16.507    | 9.968            | 5.069      | 2.917            | 0         |
| 9/30/2015  | 16.507    | 9.968            | 5.069      | 2.917            | 0         |
| 6/30/2015  | 15.288    | 9.09             | 4.506      | 2.596            | 0         |
| 3/31/2015  | 15.356    | 9.083            | 4.491      | 2.577            | 0         |
| 12/31/2014 | 15.356    | 9.083            | 4.491      | 2.577            | 0         |

Number in billion USD

InvestorForce Report reflects changes in the MSCI breakpoints once MSCI publishes new breakpoints. For months when no new breakpoints are published always the last breakpoints are applied. Changes usually but always happen around re-balancing of the indexes. Some index reviews do not contain changes to the market-cap breakpoints.

## 1.2 MSCI DEVELOPED AND EMERGING MARKET BREAKPOINTS

In case of MSCI Indexes to define the Size - Segment Indexes for a market, the following free float - adjusted market capitalization Market Coverage Target Ranges are applied to the Market Investable Equity Universe:

| Break Point               | Companies included |
|---------------------------|--------------------|
| Large Cap Index           | 70% ±5%            |
| Standard Index*           | 85% ±5%            |
| Investable Market Index** | 99%+1% or -0.5%    |

\* Standard Index (Large+Mid)

\*\*Investable Market Index (Large+Mid+Small)

MSCI Country Classification can be found here: <https://www.msci.com/market-classification>

For Emerging Markets, the Global Minimum Size Reference is set at *one-half* the corresponding level of full market capitalization used for the Developed Markets for each size-segment.

| As Of      | Large Cap DM | Large Cap EM | Medium Cap DM | Medium Cap EM | Small Cap |
|------------|--------------|--------------|---------------|---------------|-----------|
| 9/30/2019  | 17.274       | 8.637        | 6.203         | 3.1015        | 0         |
| 6/30/2019  | 17.274       | 8.637        | 6.203         | 3.1015        | 0         |
| 3/31/2019  | 16.204       | 8.102        | 5.928         | 2.964         | 0         |
| 12/31/2018 | 16.204       | 8.102        | 5.928         | 2.964         | 0         |
| 9/30/2018  | 17.201       | 8.6005       | 6.374         | 3.187         | 0         |
| 6/30/2018  | 17.201       | 8.6005       | 6.374         | 3.187         | 0         |
| 3/31/2018  | 16.392       | 8.196        | 6.106         | 3.053         | 0         |
| 12/31/2017 | 16.392       | 8.196        | 6.106         | 3.053         | 0         |
| 9/30/2017  | 15.008       | 7.504        | 5.500         | 2.750         | 0         |
| 6/30/2017  | 15.008       | 7.504        | 5.500         | 2.750         | 0         |
| 3/31/2017  | 14.361       | 7.180        | 5.077         | 2.538         | 0         |
| 12/31/2016 | 14.361       | 7.180        | 5.077         | 2.538         | 0         |
| 9/30/2016  | 14.180       | 7.090        | 5.076         | 2.538         | 0         |
| 6/30/2016  | 14.180       | 7.090        | 5.076         | 2.538         | 0         |
| 3/31/2016  | 14.077       | 7.0385       | 5.046         | 2.523         | 0         |
| 12/31/2015 | 14.077       | 7.0385       | 5.046         | 2.5230        | 0         |
| 9/30/2015  | 14.883       | 7.4415       | 5.359         | 2.6795        | 0         |
| 6/30/2015  | 14.883       | 7.4415       | 5.359         | 2.6795        | 0         |
| 3/31/2015  | 13.368       | 6.684        | 4.781         | 2.3905        | 0         |
| 12/31/2014 | 13.368       | 6.684        | 4.781         | 2.3905        | 0         |

Number in billion USD

InvestorForce Report shows changes in the MSCI breakpoints once MSCI publishes a new one. For months when no new breakpoints are published always the last breakpoint is applied. Changes usually happen around re-balancing of the indexes.

## 2 RUSSELL US BREAKPOINTS

The market capitalization breakpoints that appear in the Market Capitalization Chart are defined by the Russell 3000 Index and change for each period end. Russell calculated the total market capitalization of each security for the end of the period, based on the total shares and price, to determine whether it is large enough for inclusion in one or more of the Russell Breakpoints.

Once the market capitalization for each security is determined, each security is then placed in the appropriate market capitalization breakpoint. A market capitalization breakpoint is determined by the break between the companies below.

| Break Point      | Companies included                   |
|------------------|--------------------------------------|
| Large Cap        | 50 Largest US Companies              |
| Medium Large Cap | Next largest 150 US Companies        |
| Medium Cap       | Next largest 300 US Companies        |
| Medium Small Cap | Next largest 500 US Companies        |
| Small Cap        | All US Companies below 1,000 largest |

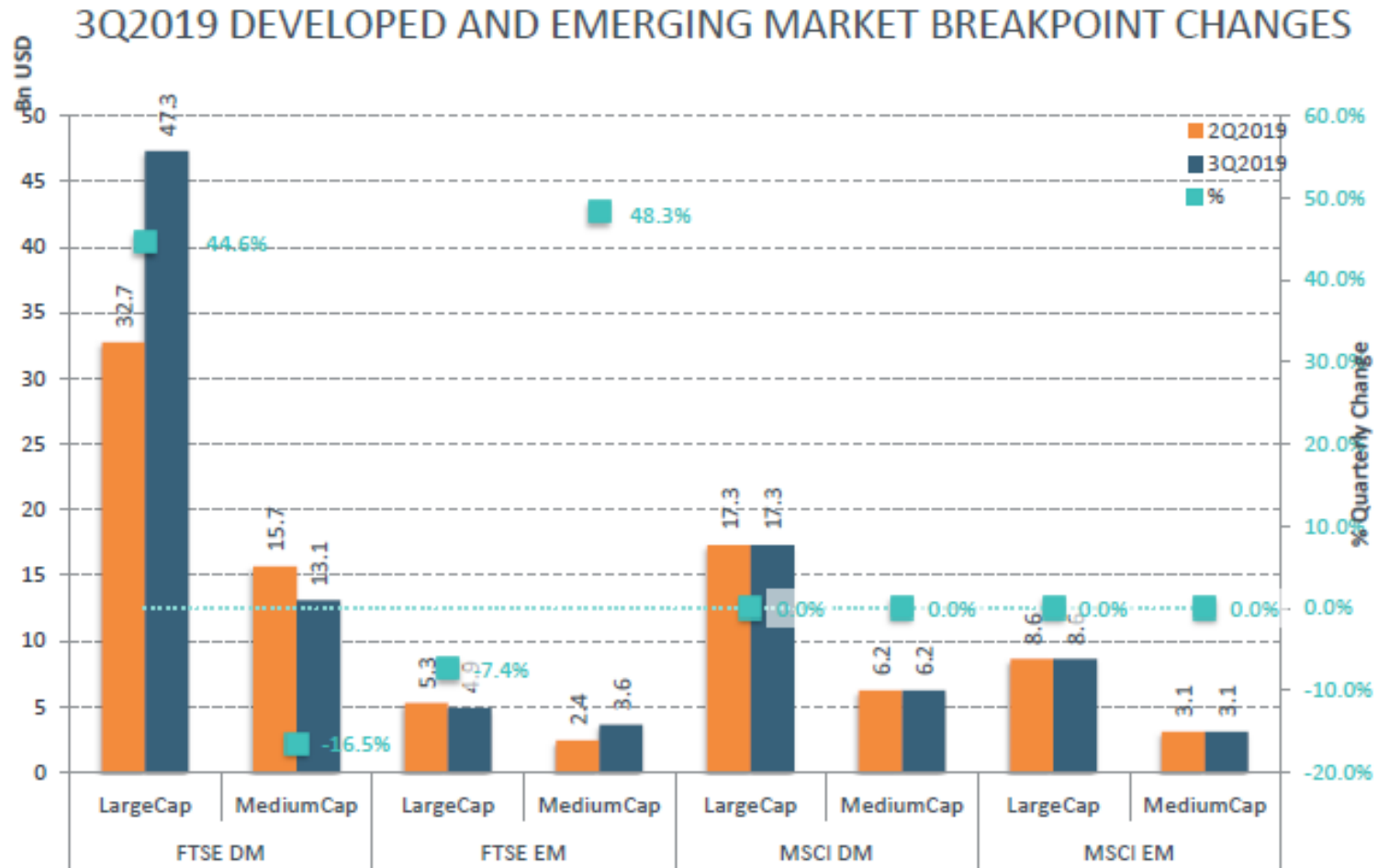
After the breakpoints are determined by the ranges above, new members are assigned on the basis of the breakpoints and existing members are reviewed to determine if they fall within a cumulative 5% market cap range around the new market capitalization breakpoints. If an existing securities market cap falls within this 5%, it will remain in its current index rather than move into a new market capitalization based index.

# Market Capitalization Breakpoints

Period Ending: September 30, 2019

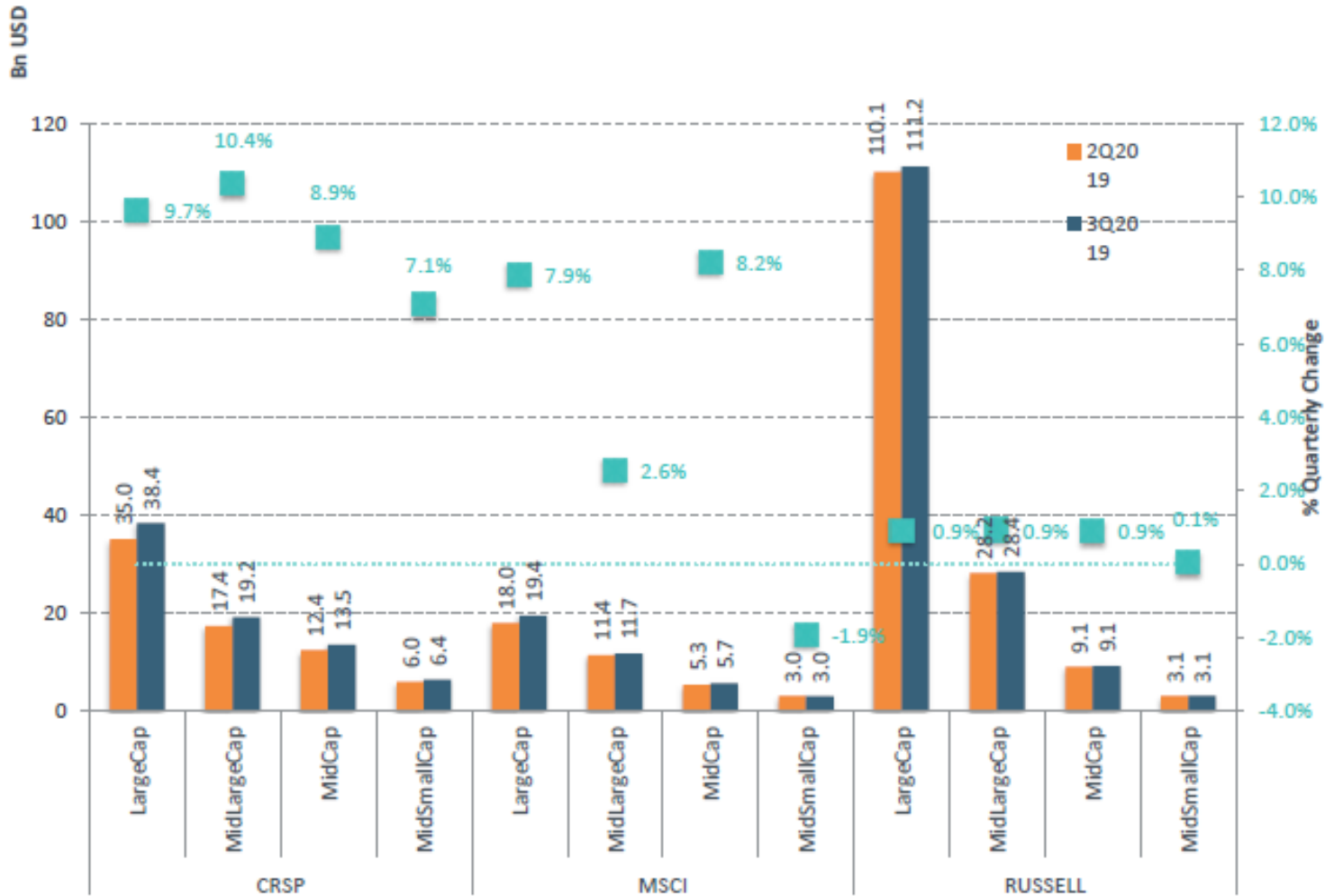
| As Of      | Large Cap | Medium Large Cap | Medium Cap | Medium Small Cap | Small Cap |
|------------|-----------|------------------|------------|------------------|-----------|
| 9/30/2019  | 111.164   | 28.416           | 9.142      | 3.059            | 0         |
| 6/30/2019  | 110.136   | 28.151           | 9.061      | 3.057            | 0         |
| 3/31/2019  | 113.008   | 26.539           | 8.787      | 2.951            | 0         |
| 12/31/2018 | 93.377    | 23.285           | 7.693      | 2.595            | 0         |
| 9/30/2018  | 106.633   | 28.088           | 9.457      | 3.273            | 0         |
| 6/30/2018  | 104.455   | 26.511           | 9.202      | 3.171            | 0         |
| 3/31/2018  | 101.922   | 26.399           | 8.890      | 2.958            | 0         |
| 12/31/2017 | 95.036    | 26.237           | 8.819      | 3.021            | 0         |
| 9/30/2017  | 93.539    | 24.882           | 8.344      | 2.935            | 0         |
| 6/30/2017  | 87.845    | 25.481           | 8.204      | 2.859            | 0         |
| 3/31/2017  | 89.968    | 25.293           | 8.241      | 2.737            | 0         |
| 12/31/2016 | 84.960    | 23.168           | 7.890      | 2.702            | 0         |
| 9/30/2016  | 78.745    | 23.385           | 7.394      | 2.533            | 0         |
| 6/30/2016  | 77.349    | 22.250           | 7.1432     | 2.444            | 0         |
| 3/31/2016  | 83.360    | 22.414           | 7.435      | 2.395            | 0         |
| 12/31/2015 | 90.075    | 24.308           | 8.141      | 2.936            | 0         |
| 9/30/2015  | 88.944    | 23.139           | 7.993      | 2.946            | 0         |
| 6/30/2015  | 92.87     | 25.07            | 8.797      | 3.352            | 0         |
| 3/31/2015  | 93.082    | 25.494           | 8.794      | 3.384            | 0         |
| 12/31/2014 | 89.92     | 25.19            | 8.51       | 3.29             | 0         |
| 9/30/2014  | 84.51     | 24.44            | 7.97       | 3.04             | 0         |
| 6/30/2014  | 80.39     | 23.62            | 8.07       | 3.24             | 0         |
| 3/31/2014  | 76.77     | 23.15            | 7.83       | 3.06             | 0         |
| 12/31/2013 | 77.11     | 22.27            | 7.65       | 3.03             | 0         |
| 9/30/2013  | 72.4      | 19.93            | 7.15       | 2.71             | 0         |
| 6/30/2013  | 68.47     | 19.36            | 6.48       | 2.46             | 0         |
| 3/31/2013  | 64.31     | 18.64            | 6.39       | 2.39             | 0         |
| 12/31/2012 | 58.45     | 16.8             | 5.75       | 2.13             | 0         |
| 9/30/2012  | 57.06     | 16.48            | 5.49       | 2.08             | 0         |
| 6/30/2012  | 55.65     | 16.13            | 5.14       | 1.99             | 0         |
| 3/31/2012  | 57.58     | 16.43            | 5.55       | 2.13             | 0         |
| 12/31/2011 | 51.97     | 14.66            | 4.93       | 1.93             | 0         |
| 9/30/2011  | 45.35     | 13.88            | 4.38       | 1.66             | 0         |
| 6/30/2011  | 54.25     | 15.95            | 5.66       | 2.16             | 0         |
| 3/31/2011  | 52.22     | 15.69            | 5.7        | 2.16             | 0         |
| 12/31/2010 | 49.54     | 14.8             | 5.16       | 2.04             | 0         |
| 9/30/2010  | 42.83     | 13.13            | 4.64       | 1.8              | 0         |
| 6/30/2010  | 39.95     | 11.58            | 4.1        | 1.59             | 0         |

Numbers are billions USD



*MSCI is releasing market capitalization breakpoints less frequently than FTSE, hence the market capitalization breakpoints are longer in effect. This could result in no change.*

### 3Q2019 US MARKET BREAKPOINT CHANGES



MSCI is releasing market capitalization breakpoints less frequently than others, hence the market capitalization breakpoints are longer in effect. This could result in no change.





**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**

4<sup>TH</sup> QUARTER 2019  
Investment Landscape

# Recent Verus research

Visit: <https://www.verusinvestments.com/insights/>

## Annual outlooks

### PRIVATE EQUITY OUTLOOK

In our annual outlook we discuss the following trends occurring in the private markets:

- Continued strong deal flow in 2018, surpassing the all-time high of 2017.
- Another strong year for M&A activity by strategic buyers in response to slowing global growth to shore up profit margins.
- Europe's continued deployment into new investments to surpass exits by almost 2x, despite the uncertainty of political policies.
- Persistent excess returns above public markets and borrower-friendly leveraged financing driving more capital into the private markets, however investors are gravitating towards larger fund managers with longer track records.
- The continued evolution of secondary markets encompassing increasingly complex transactions.

## Topics of interests

### CRISIS RISK MITIGATION

We went back in time to find the worst periods in U.S. stock market history. There is always a question regarding whether it is possible to employ risk mitigation within a portfolio without giving up too much in terms of returns or paying too much in expenses.

We briefly examine strategies which are thought to mitigate these effects and find that some are better than others. Most institutional investors already have an effective program of crisis risk mitigation in the form of a significant allocation to high-quality bonds. For those wishing to construct a dedicated crisis risk allocation, we suggest a roadmap.

### THE INVESTMENT GOLDEN RULE

Effective capital allocation involves distributing financial resources in a way that aligns the goals and objectives of an organization with its investment program. For institutional investors, this involves designing an appropriate strategic asset allocation (SAA), selecting competent investment managers, and then managing the resulting portfolio well. We believe there is a framework that can help. The "Investment Golden Rule" combines the components of the capital allocation process with the return objective in order to improve investment decisions across the organization. In this paper we analyze some practical examples of the capital allocation process through the lens of this framework.

# Table of Contents



---

VERUSINVESTMENTS.COM

SEATTLE 206-622-3700

LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

---

Economic environment 6

---

Fixed income rates & credit 17

---

Equity 24

---

Other assets 35

---

Appendix 37

# 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. **p. 7**
- 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. **p. 16**

## 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. **p. 26**
- 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. **p. 9**

## 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%. **p. 18**
- 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. **p. 18**

## 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. **p. 41**
- 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. **p. 36**

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

# What drove the market in Q3?

## “Trade talks seen as unlikely to mend U.S.-China divide”

### U.S. TREASURY FEDERAL BUDGET NET CUSTOMS RECEIPTS (\$BILLIONS)

| Apr    | May    | Jun    | Jul    | Aug    |
|--------|--------|--------|--------|--------|
| \$5.24 | \$4.93 | \$5.61 | \$6.47 | \$7.01 |

Article Source: Reuters, September 16<sup>th</sup>, 2019

## “World Economy Sends Up Flares as Manufacturing Slump Hits U.S.”

### ISM MANUFACTURING PURCHASING MANAGERS’ INDEX

| Apr  | May  | Jun  | Jul  | Aug  | Sep  |
|------|------|------|------|------|------|
| 52.8 | 52.1 | 51.7 | 51.2 | 49.1 | 47.8 |

Article Source: Bloomberg, September 30<sup>th</sup>, 2019

## “Fed Will Weigh Resuming Balance Sheet Growth at October Meeting”

### SIZE OF FEDERAL RESERVE BALANCE SHEET (\$TRILLIONS)

| Apr    | May    | Jun    | Jul    | Aug    | Sep    |
|--------|--------|--------|--------|--------|--------|
| \$3.93 | \$3.85 | \$3.83 | \$3.78 | \$3.76 | \$3.86 |

Article Source: The Wall Street Journal, September 19<sup>th</sup>, 2019

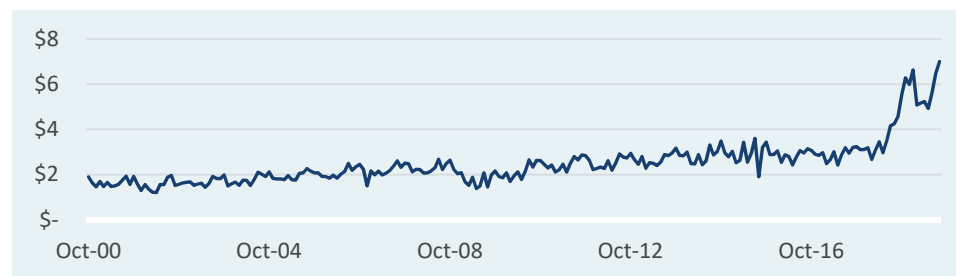
## “Can Boris Johnson deliver Brexit as he pledged?”

### GBP/USD SPOT EXCHANGE RATE (PRICE OF 1 GBP in USD)

| Apr    | May    | Jun    | Jul    | Aug    | Sep    |
|--------|--------|--------|--------|--------|--------|
| \$1.30 | \$1.26 | \$1.27 | \$1.22 | \$1.22 | \$1.23 |

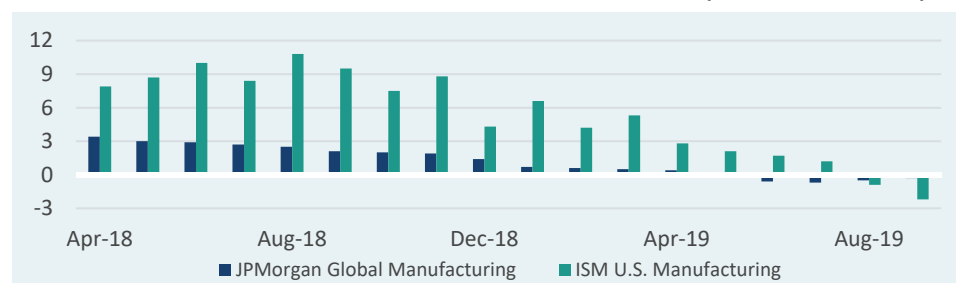
Article Source: The Australian Financial Review, September 11<sup>th</sup>, 2019

### U.S. TREASURY FEDERAL BUDGET NET RECEIPTS CUSTOMS (\$BILLIONS)



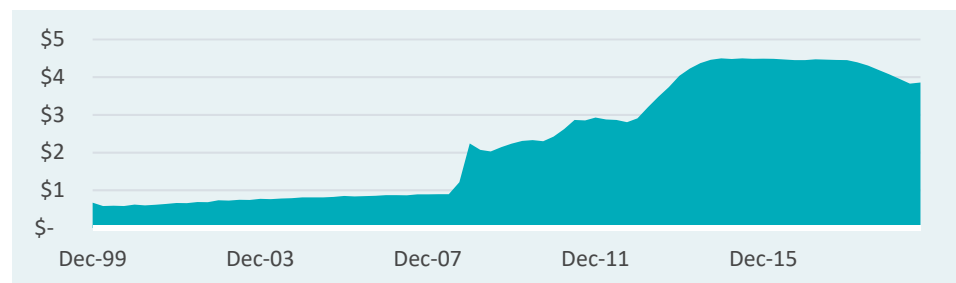
Source: Bloomberg, as of 8/31/19

### MANUFACTURING PURCHASING MANAGERS INDEXES (RELATIVE TO 50)



Source: Bloomberg, Federal Reserve, as of 9/30/19. A reading of 0 is considered neutral.

### FEDERAL RESERVE BALANCE SHEET (\$TRILLIONS)



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

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

# GDP growth

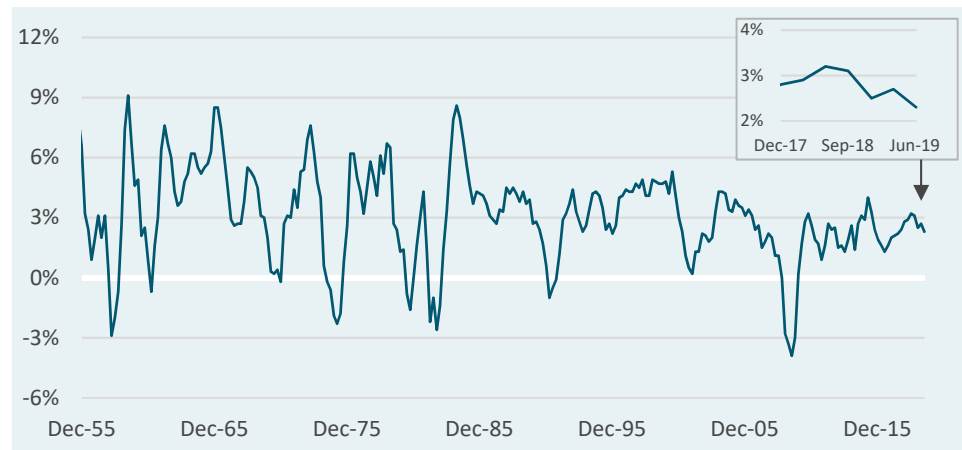
Real GDP grew at a 2.3% rate year-over-year in the second quarter (2.0% quarterly annualized rate). A lack of corporate inventory investment detracted -0.9% from the overall GDP print, perhaps fueled by frontloaded business purchases in efforts to avoid tariffs. Business investment also acted as a slight drag. Weakness was offset by strength in consumer spending not seen since late 2014. Economists broadly expect U.S. economic growth to moderate to a 2.0% pace in 2020.

economic growth. Uncertainty regarding the future of U.S.-China trade relations and supply chain disruptions caused by new tariff impositions are expected to further weigh on trade, spending, and business investment.

On October 9<sup>th</sup>, the Federal Reserve Bank of Atlanta GDPNow forecast indicated GDP growth of 1.7% in the third quarter. This forecast has recently fallen due to weaker than expected inventory investment.

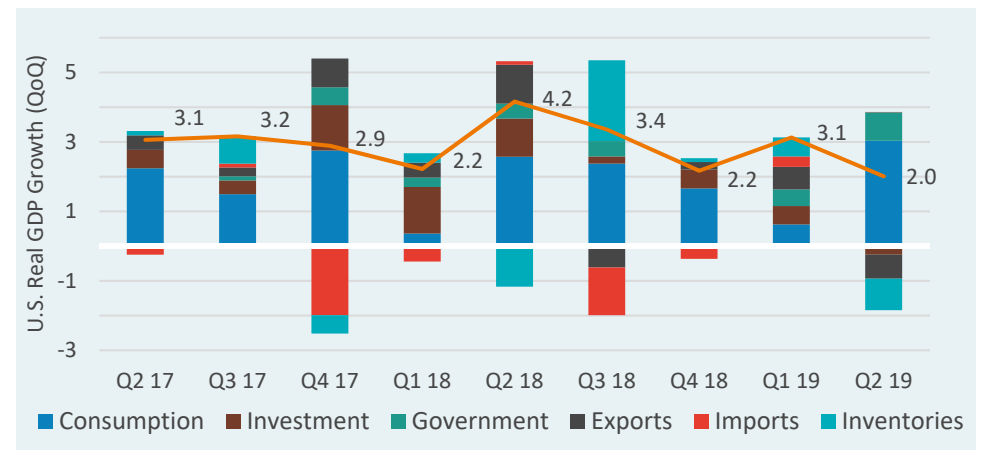
Trade policies and conflict likely resulted in a mild drag on

**U.S. REAL GDP GROWTH (YOY)**



Source: Bloomberg, as of 6/30/19

**U.S. GDP GROWTH ATTRIBUTION**



Source: BEA, annualized quarterly rate, as of 6/30/19



# Inflation

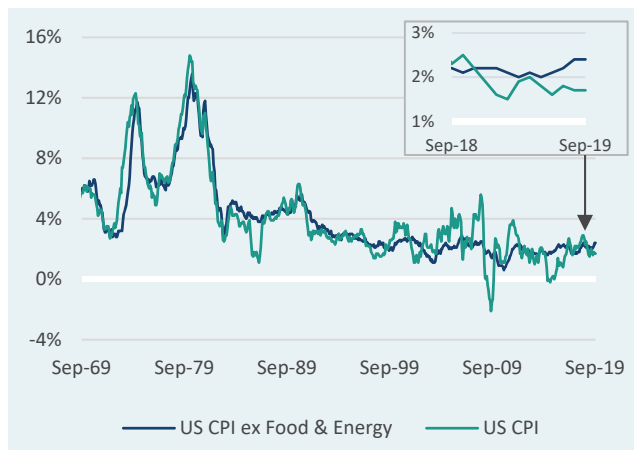
Core inflation has crept up to cycle-highs, rising 2.4% YoY in September. Headline inflation increased 1.7% YoY, held down by falling energy prices. Neither the media nor investors appear to be concerned about rising inflation, as of yet. Investors remain focused on deflationary forces across the global economy.

The market is pricing inflation to be very low over the next 10 years, as indicated by the U.S. 10yr TIPS breakeven inflation rate of 1.52%. This breakeven rate is still a ways

from its cycle low of 1.18% achieved in February 2016, when the price of oil crashed to below \$30 per barrel and pushed inflation down drastically.

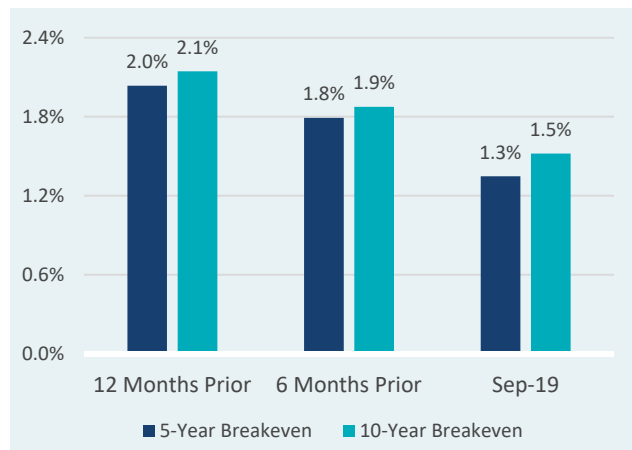
We believe it is likely that inflation will remain subdued. If inflation was to rise persistently, this might place central banks in a perilous position, given their recent unwillingness to raise interest rates. A rising inflation environment would also put upward pressure on interest rates, creating a drag on the global economy.

## U.S. CPI (YOY)



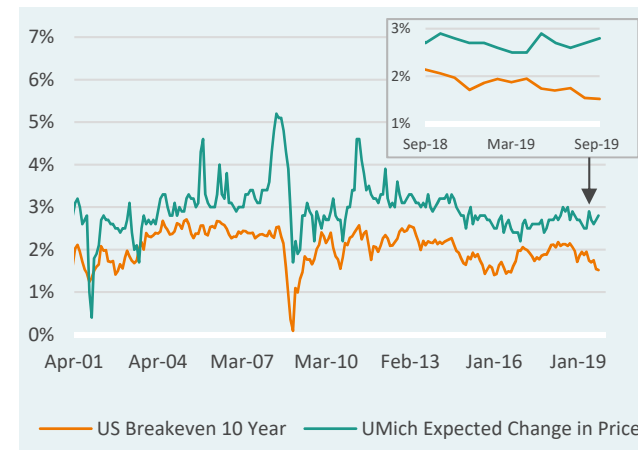
Source: Bloomberg, as of 9/30/19

## U.S. BREAKEVEN INFLATION RATES



Source: FRED, as of 9/30/19

## INFLATION EXPECTATIONS



Source: Bloomberg, as of 9/30/19

# Labor market

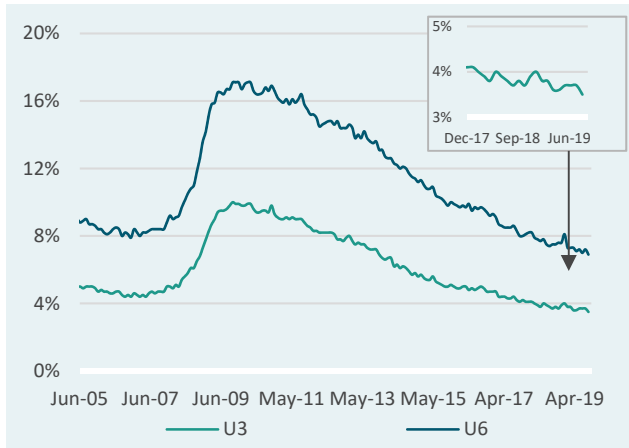
The U.S. unemployment rate reached a 50-year low of 3.5% in September. Historically, the rate of unemployment has risen prior to the beginning of each U.S. recession, which suggests the U.S. expansion may still have room to run. Despite record unemployment, wage growth remains lukewarm, decelerating to 2.9% YoY in September, down from a cycle high of 3.4% YoY achieved in February.

Interestingly, the small pool of U.S. workers who are currently unemployed have been out of work for much

longer, on average, than during past economic cycles. A shift in the composition of U.S. jobs may be contributing to this effect, as many manufacturing jobs have been outsourced/lost, and automated production processes have displaced some workers. Mismatches between the skills of available U.S. job-seekers and the skills required for current jobs appears to be creating some *structural unemployment*. Workers who are *structurally unemployed* require retraining and education to reposition themselves in the labor market.

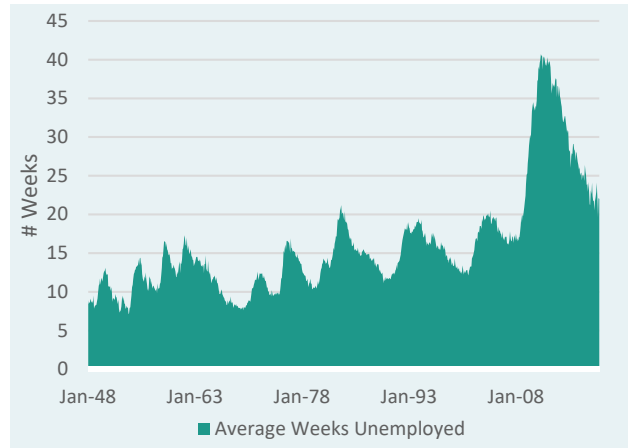
U.S. labor market remains strong, though further upside may be limited

U.S. UNEMPLOYMENT



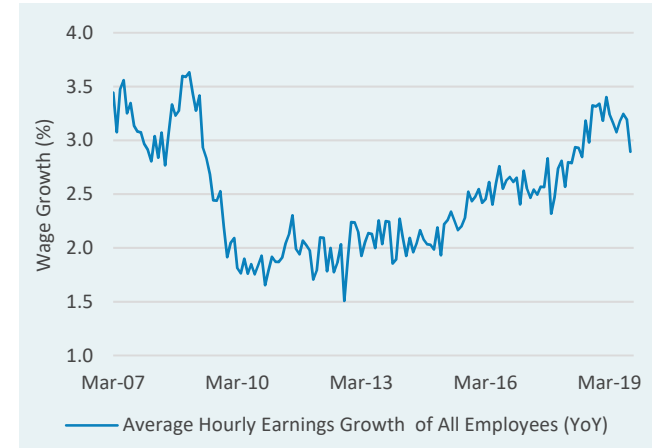
Source: FRED, as of 9/30/19

LENGTH OF UNEMPLOYMENT



Source: FRED, as 9/30/19

U.S. WAGE GROWTH



Source: FRED, as of 9/30/19

# The consumer

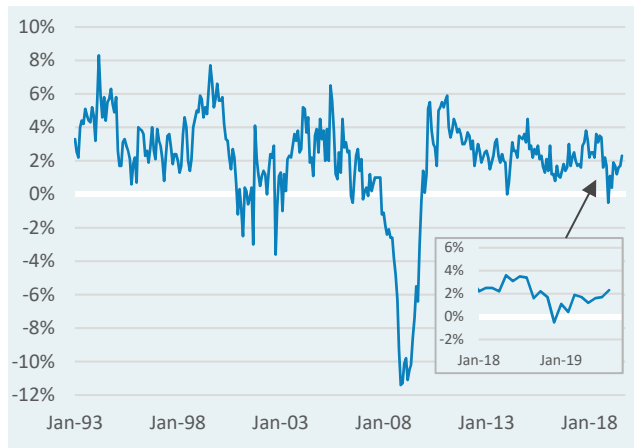
Retail sales fell in late 2018 but recovered year-to-date with a September growth rate of 2.3% YoY. Big-ticket purchases of items such as automobiles and homes have slowed from their 2016 highs.

The U.S. consumer continues to exhibit strength, as the labor market has reached record tightness, sentiment remains solid, and borrowing costs have fallen. However, slowing big ticket purchases will act as a headwind to growth. This slowing may be partly an effect of low interest rate burnout. As interest rates have been low for many years, consumers in need of big-ticket items have likely already purchased those items. Since

consumers are not likely to purchase yet another car or home, the incremental positive impacts of lower interest rates may be limited.

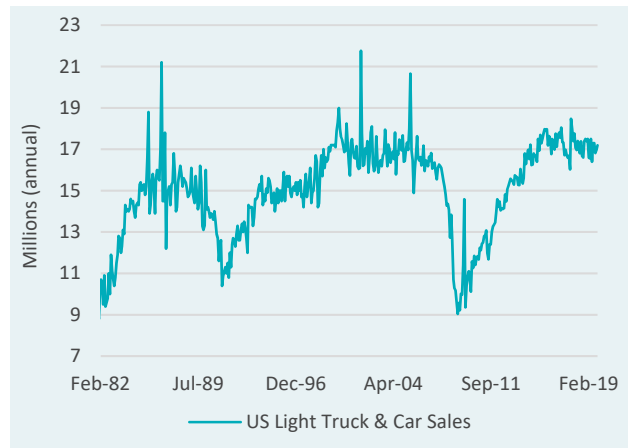
Consumer spending growth throughout this expansion has been a bright spot but has remained moderate, perhaps influenced by memories of the U.S. housing bubble and global financial crisis. Conservative spending habits are reflected in much higher savings rates than those witnessed during the economic boom of the 2000s – during which households spent more of their disposable income than any time since the Great Depression of the 1930s.

**REAL RETAIL SALES GROWTH (YOY)**



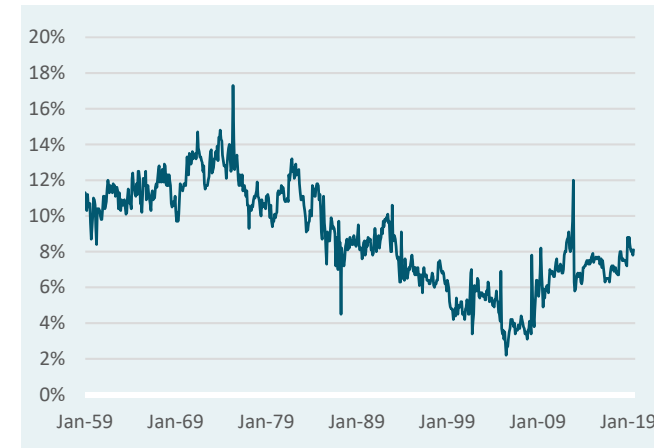
Source: FRED, as of 8/31/19

**AUTO SALES**



Source: Bloomberg, as of 9/30/19

**PERSONAL SAVINGS RATE**



Source: FRED, as of 8/31/19

# Sentiment

Consumer sentiment faded but remained strong relative to history. The ratcheting up of trade tensions between the U.S. and China cast a shadow over a robust U.S. labor market.

Quits rate data from the Bureau of Labor Statistics indicated that 2.3% of total employed U.S. workers voluntarily quit their jobs in August - a level not seen since April 2001. Policymakers and economists view the quits rate as a measure of job confidence; quits rates typically rise when the labor market is relatively tight, and wages are moving higher.

Over the quarter, the University of Michigan's Consumer Sentiment Index fell from 98.2 to 93.2. Consumers remained more concerned about the near-term future than about the current situation. The two components of the index - Expectations and Current Situation - fell from 89.3 to 83.4 and from 111.9 to 108.5, respectively.

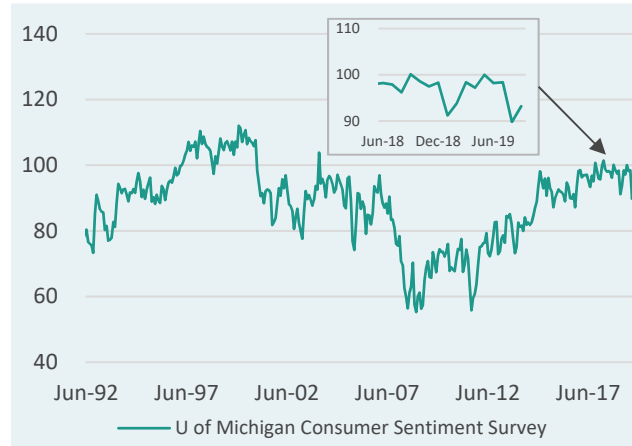
Optimism among small business owners trended lower as well. In the September NFIB report, 30% of small business owners reported they were negatively affected by tariffs.

**U.S. WORKER QUIT RATE**



Source: FRED, as of 8/31/19

**CONSUMER SENTIMENT**



Source: University of Michigan, as of 9/30/19 (see Appendix)

**NFIB SMALL BUSINESS OPTIMISM INDEX**



Source: NFIB, as of 9/30/19

# Housing

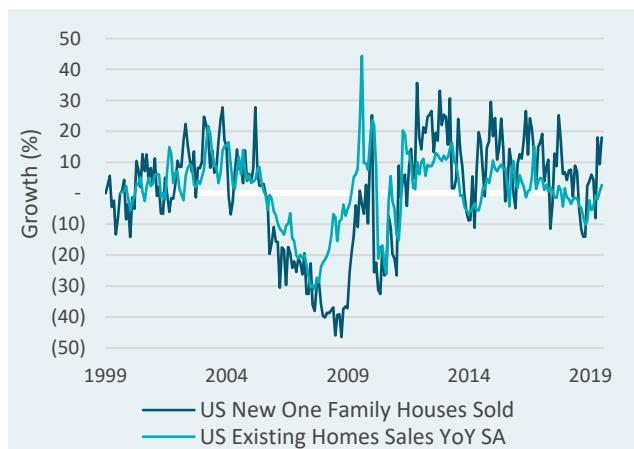
The housing market appears to be cooling off after a strong boom throughout the recent economic expansion. Home prices are falling modestly in some markets, and sales activity slowed in 2018. However, the recent drop in interest rates and mortgage rates has eased the cost of home ownership and may reignite activity.

Existing home sales grew +2.6% YoY in August. New home sales, a far smaller portion of the overall market, grew at a stronger rate of +18% YoY. An increase in new home sales likely reflects rising homebuilder activity in recent years, as indicated by the NAHB Housing Starts and Housing Permits Indices.

Home prices have fallen. The median U.S. home sale price was down -5% YoY in Q2. Falling prices and further weakening of the U.S. economy may create negative momentum as many buyers do not wish to purchase a home in a falling housing market, or in an economy that may be headed for recession.

It is always helpful to remember that home price trends can vary meaningfully by location, which means national statistics are sometimes difficult to interpret at a local level.

## U.S. HOME SALES (YOY)



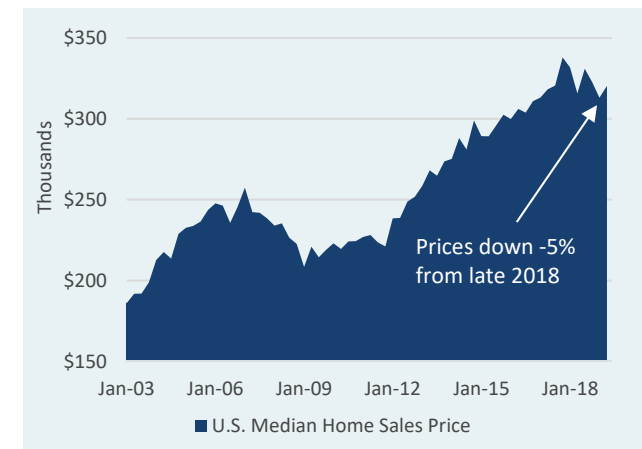
Source: FRED, as of 8/31/19

## HOUSING STARTS & PERMITS



Source: Bloomberg, NAHB, as of 8/31/19 (see appendix)

## MEDIAN U.S. HOME SALES PRICE



Source: FRED, as of 6/30/19

# 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%, 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.
- 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

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

# International economics

The United States delivered year-over-year GDP growth of 2.3% in the second quarter, extending outperformance relative to other developed nations, which have posted year-over-year growth of around 1.0%.

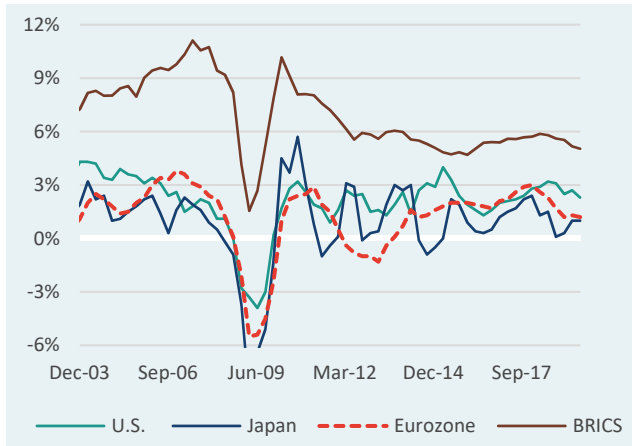
The Organization for Economic Development cut its 2019 calendar year forecast for global growth from 3.2% to 2.9% and its 2020 calendar year forecast from 3.4% to 3.0%.

Driving the downward revisions were trade tensions, which the OECD estimated would reduce 2019 global growth by 0.6%, 2019 U.S. growth by 0.7%, and 2019 Chinese growth by 1.0%

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%.

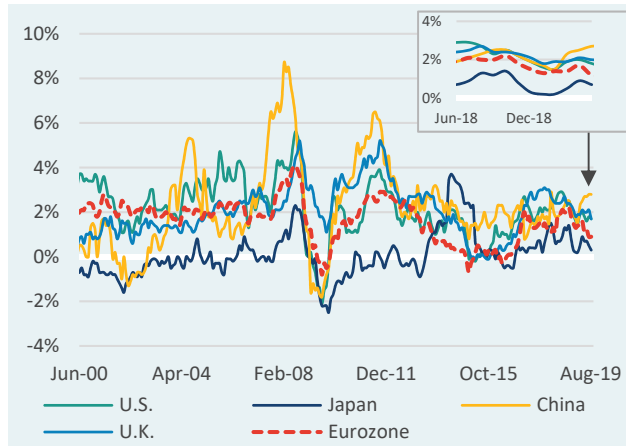
Chinese GDP expanded 6.0% year-over-year in the third quarter, its slowest rate of growth since the first quarter of 1992. Beijing's official target range for 2019 growth is between 6.0-6.5%.

**REAL GDP GROWTH (YOY)**



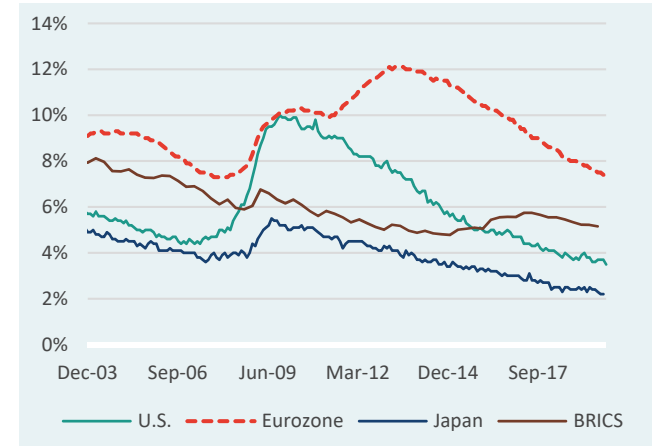
Source: Bloomberg, as of 6/30/19

**INFLATION (CPI YOY)**



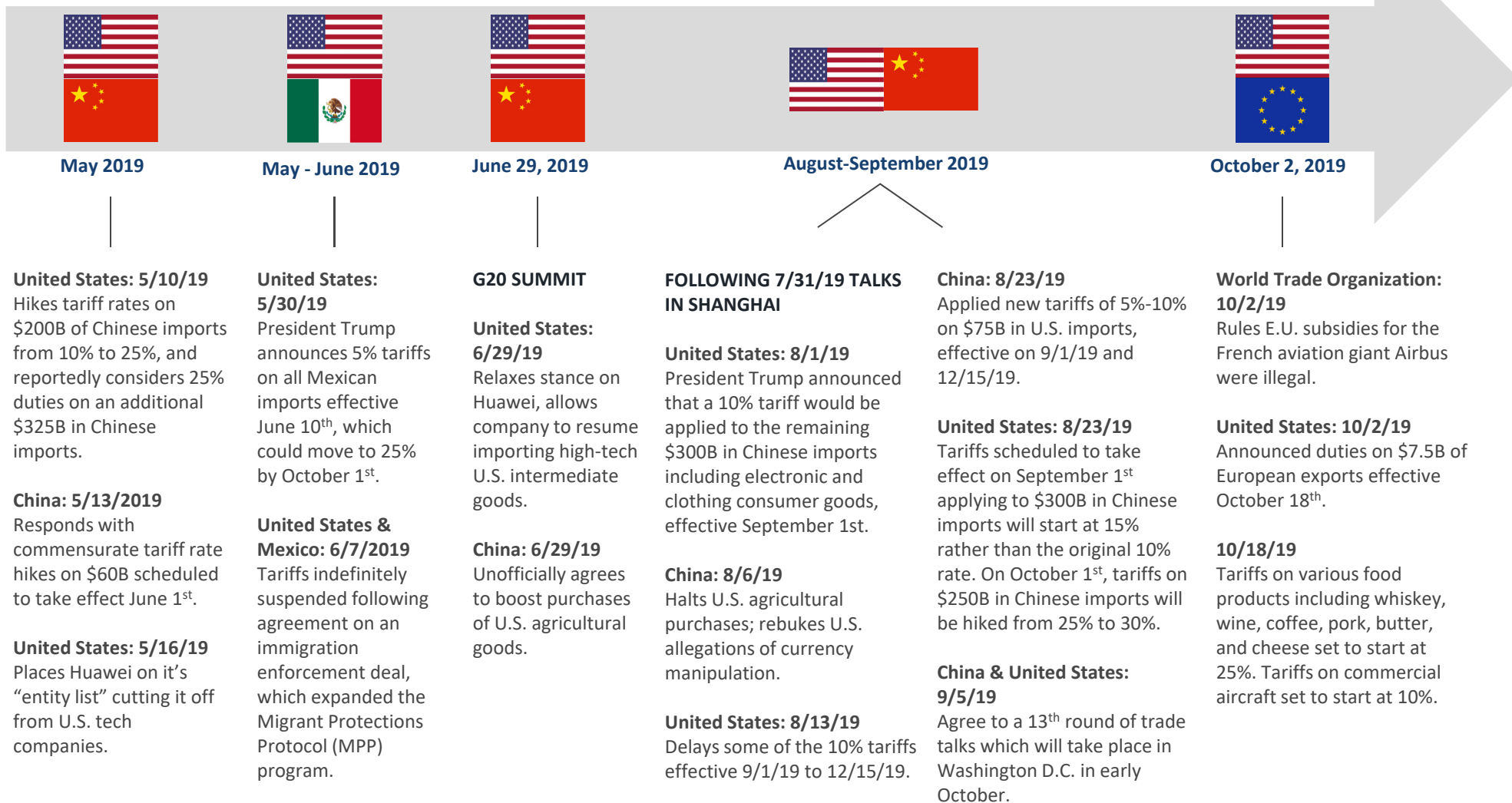
Source: Bloomberg, as of 9/30/19

**UNEMPLOYMENT RATE**



Source: Bloomberg, as of 9/30/19 or most recent release

# Trade update



Source: Wikimedia Commons



# Fixed income rates & credit

# 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

# Rising global debt – two opposing forces

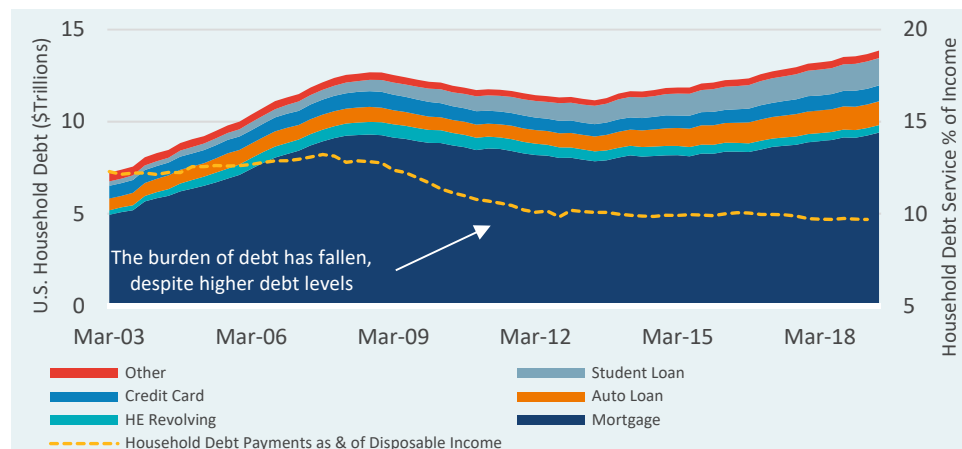
As the world has entered a low interest rate environment, many businesses and households have taken on greater debt. This is a natural trend – cheaper financing makes many purchases economical that were not when interest rates were high. As the cost of debt falls, businesses have also increasingly sought debt as a preferred source of overall financing.

Simultaneously, lower interest rates have offset much of the burden of taking on more debt. Some may argue that if an entity loads up on debt, but interest rates fall enough so that the entity's monthly debt payment does not change, this additional debt does not add significant risk to the entity's situation. It appears this is what is occurring around the world – greater use of debt, with the

burden of that debt largely offset by much lower interest rates. However, we believe risks are heightened in this environment.

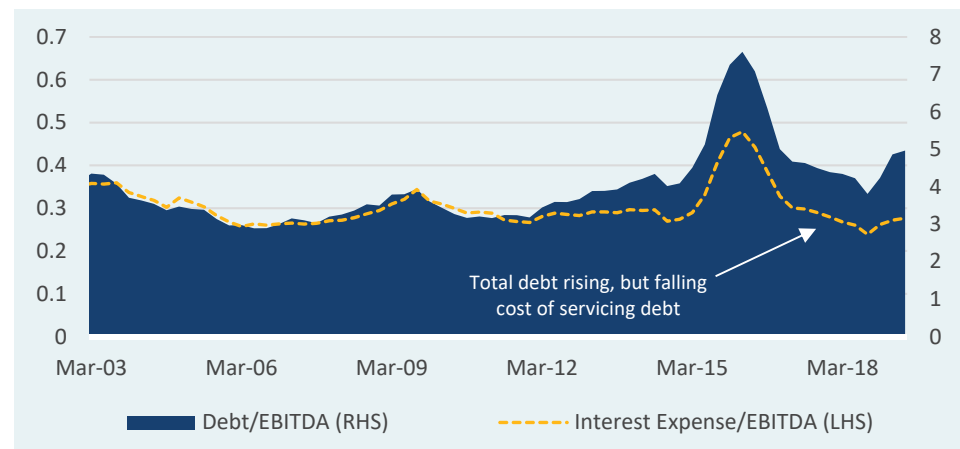
What are the investment implications? Changes in debt levels and interest rates tend to be slow-moving and secular, and difficult to act upon. But these events may in fact be informative about the future. First, expanded budgets and higher debt loads create incentives for governments to keep interest rates low to avoid economic problems. Second, significant corporate profit growth in recent years from financial engineering should not be expected to continue indefinitely. Third, higher debt loads may add to deflationary pressure, if debt service begins to take a greater share of income. We will continue to watch these secular forces.

## HOUSEHOLD DEBT BURDEN



Source: FRED, as of 6/30/19

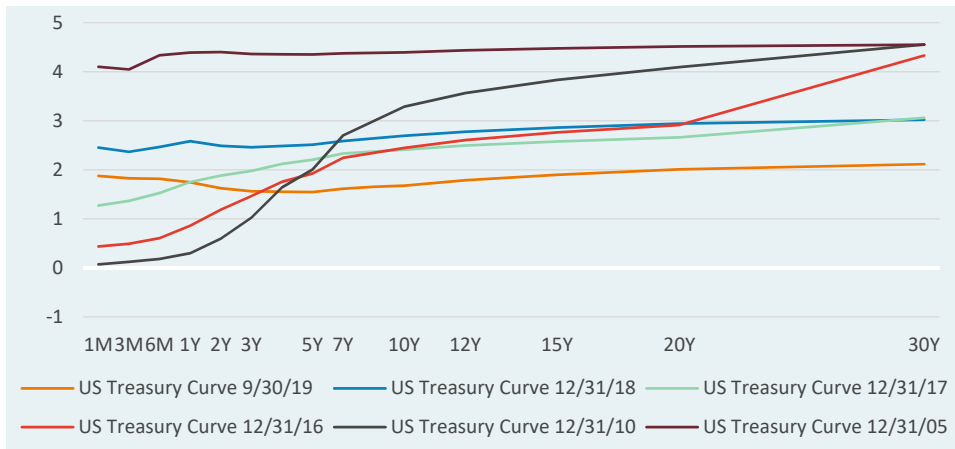
## HIGH YIELD DEBT BURDEN



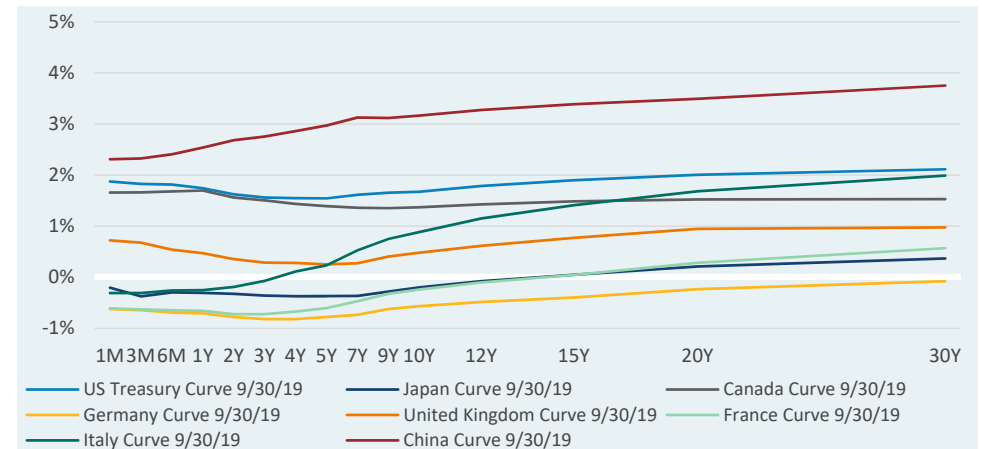
Source: Bank of America Merrill Lynch, as of 6/30/19 – Interest expense divided by total debt

# Yield environment

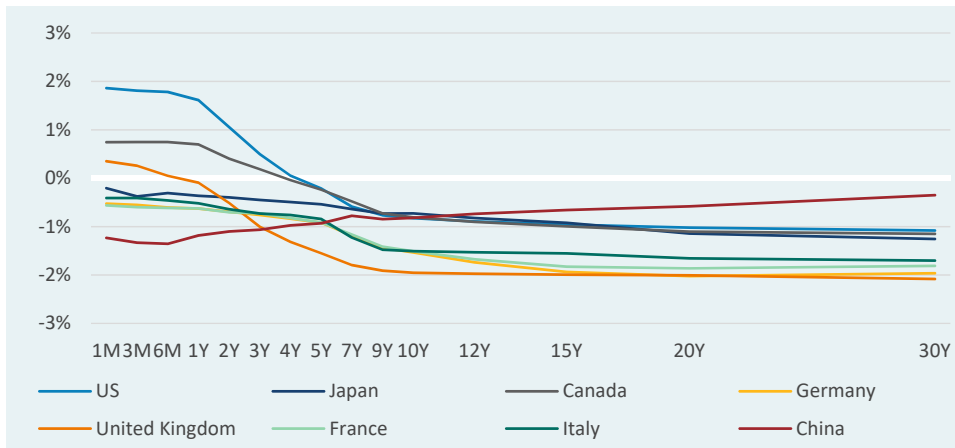
## U.S. YIELD CURVE



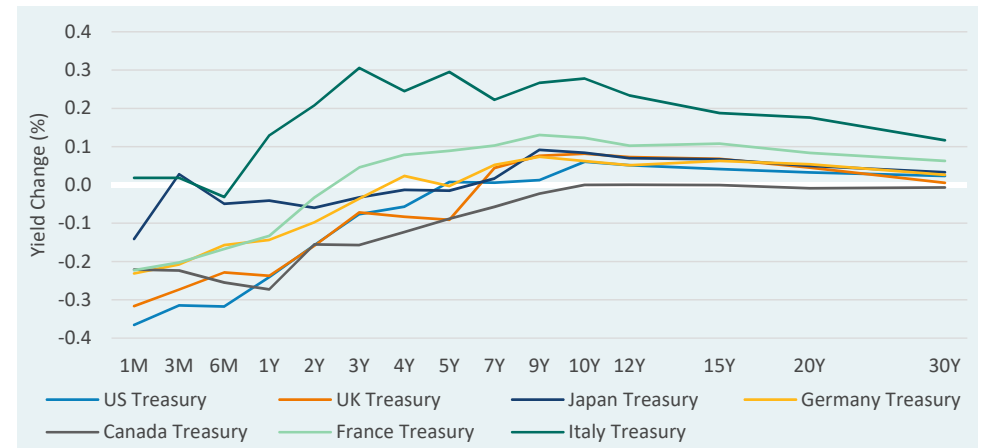
## GLOBAL GOVERNMENT YIELD CURVES



## YIELD CURVE CHANGES OVER LAST FIVE YEARS



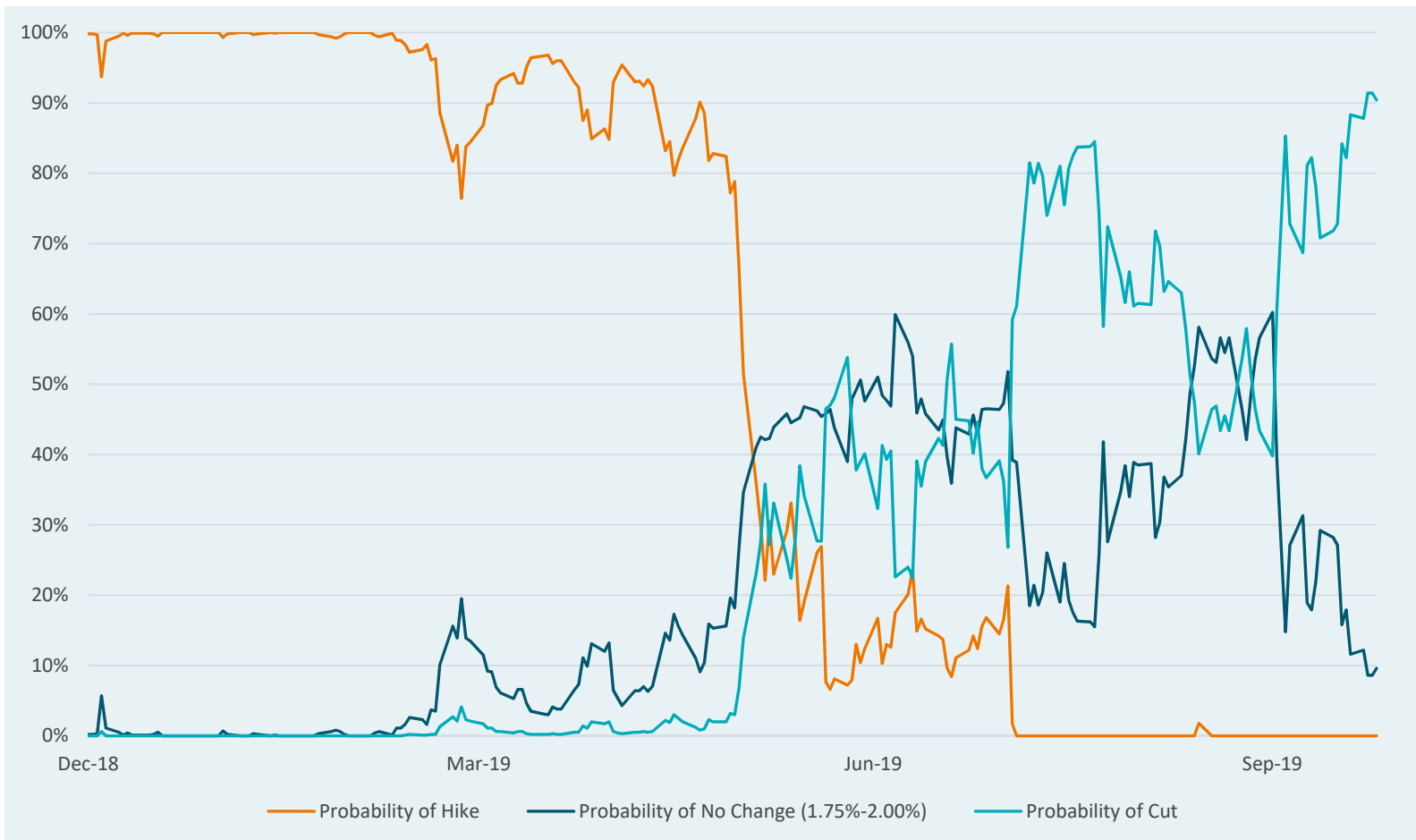
## IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/19

# October Fed meeting

FUTURES IMPLIED PROBABILITIES FOR OCTOBER FED RATE DECISION



In September, the Fed cut its range for federal funds by 0.25%, in line with expectations

Investors expect the Fed to cut rates again by 0.25% at the October 30<sup>th</sup> meeting

Source: Bloomberg, as of 10/24/19

# Credit environment

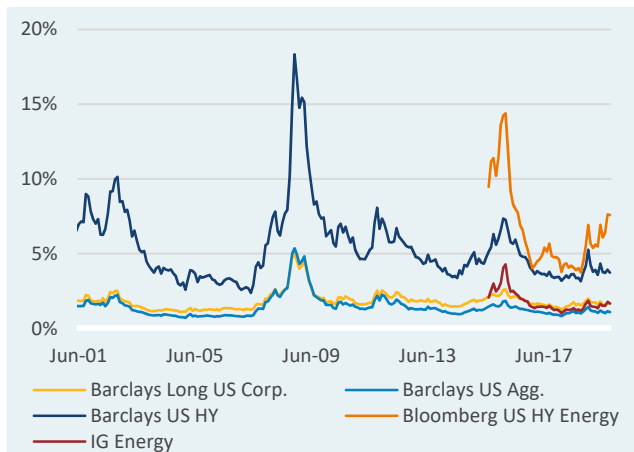
High yield bond spreads tightened slightly during Q3 as below investment grade assets remained somewhat stable over the period. Credit in general has been positively impacted by Federal Reserve dovishness. Anticipation of easier interest rate policies, which could potentially lengthen the credit cycle, has strengthened sentiment for risk assets. BB-rated bonds outperformed both CCC- and B-rated bonds in the third quarter once again. High yield bonds have returned +11.4% YTD, materially outperforming bank loans (+6.4%), but slightly underperforming investment grade credit (+12.6%).

The bank loan market has experienced some modest positive performance as interest rates rose off of their lows during the

quarter. The asset class was impacted by a pause in the Fed's hiking cycle and uncertainty surrounding future moves.

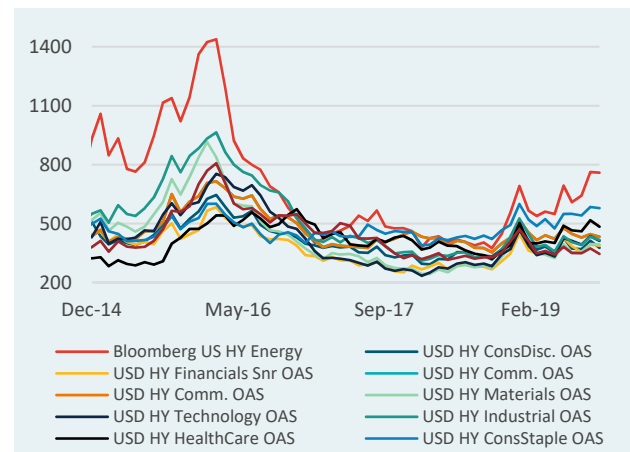
Based on concerns over late-cycle behavior in credit markets, we do not believe investors are being adequately compensated for credit risk. Late-cycle volatility tends to coincide with widening credit spreads and higher propensity for default activity. An underweight to U.S. investment grade, high yield credit, and bank loans may be warranted, with an overweight to emerging market debt which appears to offer more attractive value. This positioning should result in an overall neutral credit risk stance. Within U.S. markets, higher quality and more liquid assets appear most attractive.

## SPREADS



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

## HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 9/30/19

| Market              | Credit Spread (OAS) |         |
|---------------------|---------------------|---------|
|                     | 9/30/19             | 9/30/18 |
| Long U.S. Corp      | 1.7%                | 1.5%    |
| U.S. Inv Grade Corp | 1.2%                | 1.1%    |
| U.S. High Yield     | 3.7%                | 3.2%    |
| U.S. Bank Loans*    | 4.5%                | 3.7%    |

Source: Barclays, Credit Suisse, Bloomberg, as of 9/30/19

\*Discount margin (4-year life)

# Default & issuance

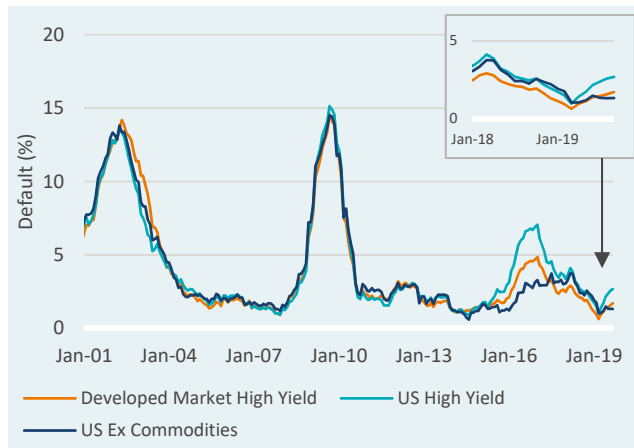
Default activity has been low and stable in the U.S. credit market, despite price volatility. The par-weighted default rate for high yield increased to 2.5% but remains below its long-term average range of 3.0-3.5%. For loans, the par-weighted default rate at the end of the third quarter was 1.4% and remains below the long-term average of 3.1%, according to data from J.P. Morgan. Consumer, retail, telecom, and utilities sectors may be especially prone to stress in the current environment.

Senior loan and high yield markets have essentially

recovered from a wave of defaults seen in 2015-2016 that were generated by energy and metals/mining sectors. High yield bond recovery rates have improved significantly since that time. However, the recent reversal in this recovery trend is notable and worth watching.

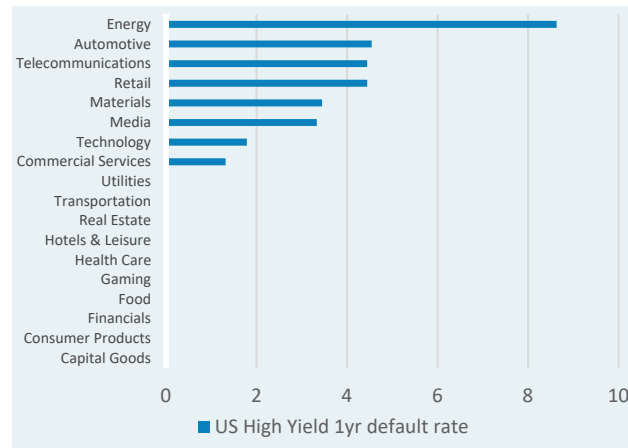
Gross high yield issue activity increased in September as investors took advantage of a dip in yields. Loan market issuance is significantly behind last year's pace, likely influenced by lower demand for floating rate securities now that the Federal Reserve has paused monetary tightening.

**HY DEFAULT RATE (ROLLING 1-YEAR)**



Source: BofA Merrill Lynch, as of 9/30/19

**U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)**



Source: BofA Merrill Lynch, as of 9/30/19 – par weighted

**GLOBAL ISSUANCE (\$ BILLIONS)**



Source: Bloomberg, BofA Merrill Lynch, as of 9/30/19

# Equity



# 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.

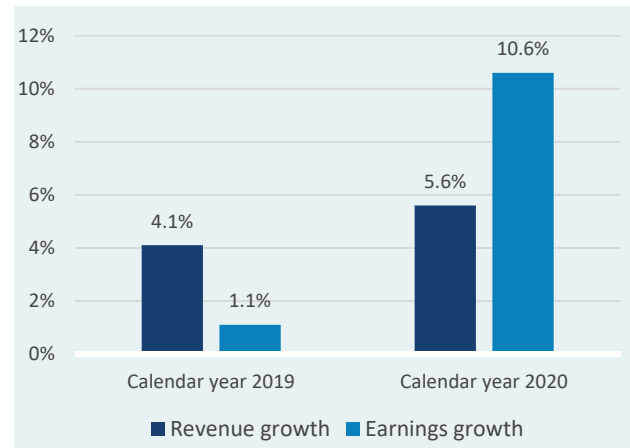
U.S. equities offer lower yields and less attractive valuations relative to other markets around the world, which suggests domestic equities might underperform over the long-term. However, U.S. may continue to outperform over the shorter-term due to relative economic and market strength.

## U.S. EQUITIES



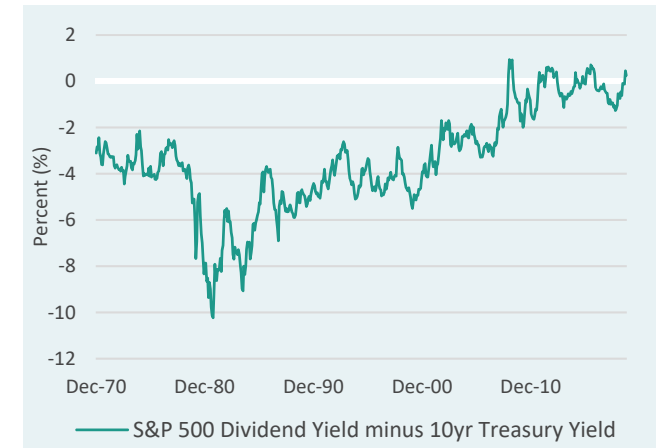
Source: Standard & Poor's, as of 9/30/19

## Q3 2019 EARNINGS EXPECTATIONS



Source: FactSet, as of 10/11/19

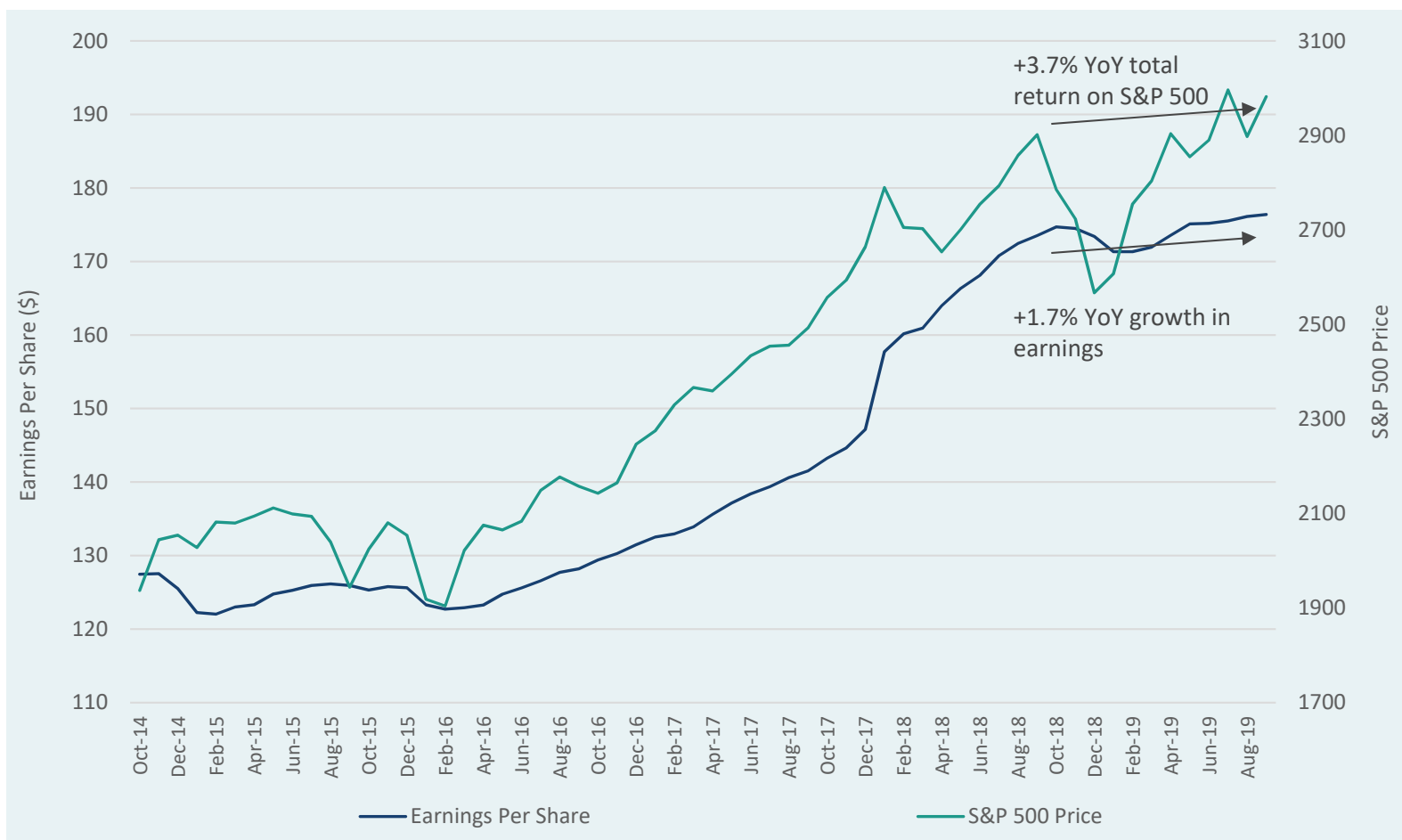
## RELATIVE YIELDS



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

# Domestic equity

S&P 500 INDEX PRICE & EARNINGS LEVEL



U.S. equity performance has moderated

If earnings flatten out, this may lead to milder future returns

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

# Domestic equity size & style

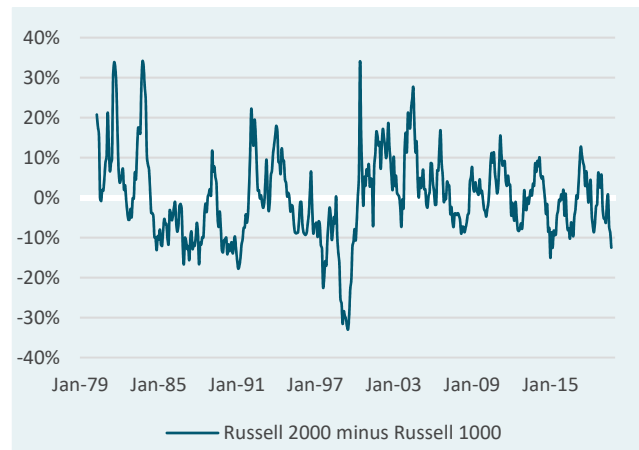
Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have extended their run of weakness.

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.

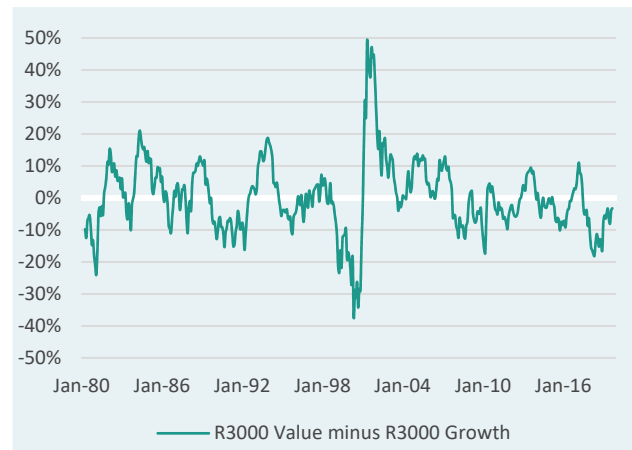
Value stocks have exhibited a long run of underperformance over the past decade. Our view has been that value stocks did not appear attractive, despite persistent performance pain. This was because value stocks had underperformed due to fundamental reasons rather than due to prices becoming stretched. 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)**



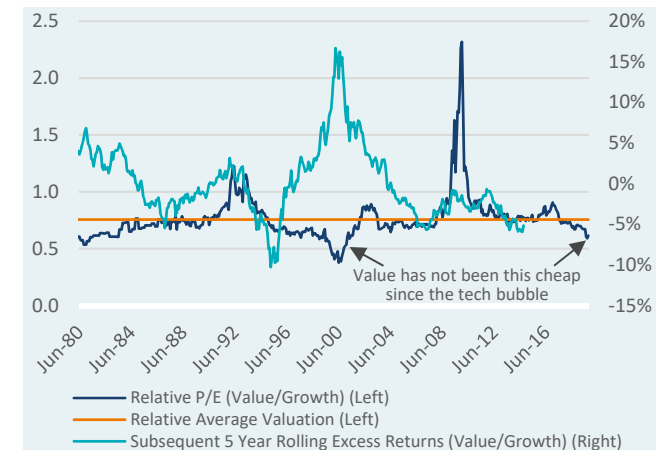
Source: FTSE, as of 9/30/19

**VALUE VS GROWTH (YOY)**



Source: FTSE, as of 9/30/19

**VALUE STARTING TO LOOK CHEAP**



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

# Domestic equity style – a closer look

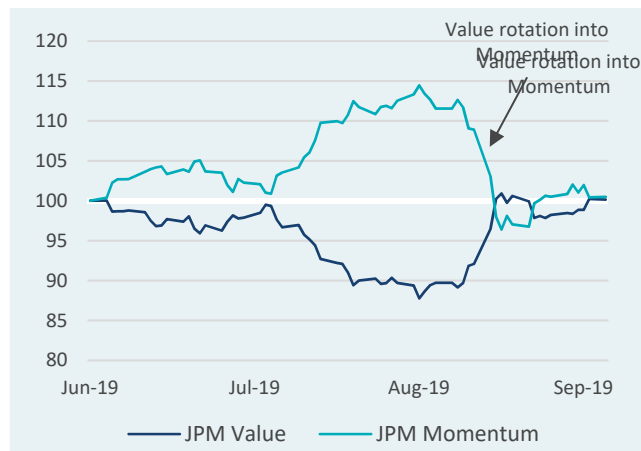
One of the largest rotations in decades into value stocks from momentum stocks occurred in Q3. The selloff was a multi-standard deviation event, with performance accruing from the prior five months largely reversed in several days. The reversal was likely due to a combination of better than expected economic news, monetary/fiscal stimulus expectations, and extreme positioning in these factors.

However, the selloff was short-lived as factor volatility reversed later in September. The Q3 reversal did not negate a long run of poor value results. As mentioned, the value factor

remains cheap relative to history.

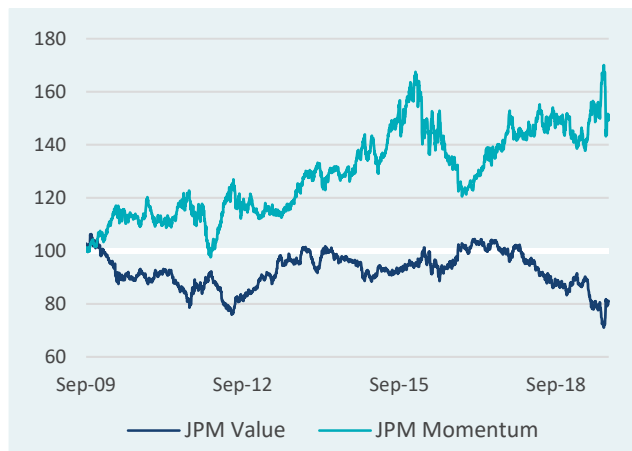
Mean reversion is a key underlying driver of the value factor. After the Global Financial Crisis, the speed at which stocks moved in/out of the respective top (cheap) and bottom (expensive) factor quintiles slowed relative to history. While expensive stocks are now exiting the bottom quintile at a somewhat faster rate, stocks with the most attractive valuations continued to remain cheap for longer periods of time relative to the pre-Global Financial Crisis period.

**Q3 CUMULATIVE FACTOR PERFORMANCE**  
(INDEXED 6/30/2019 = 100)



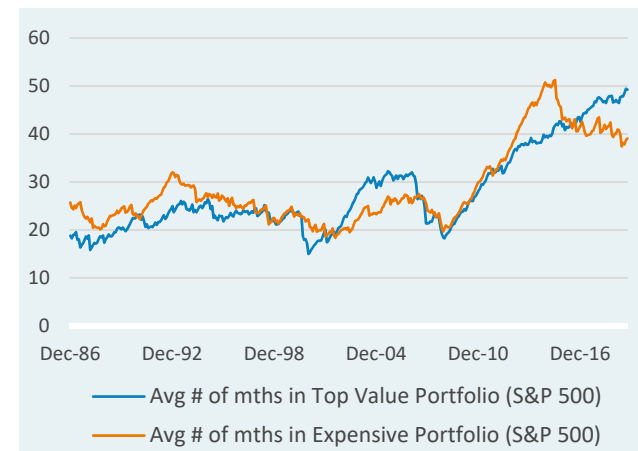
Source: J.P. Morgan Chase & Co., Copyright 2019, as of 9/30/19

**10YR CUMULATIVE FACTOR PERFORMANCE**  
(INDEXED 9/30/2009 = 100)



Source: J.P. Morgan Chase & Co., Copyright 2019, as of 9/30/19

**STRUCTURAL HEADWIND TO VALUE**



Source: J.P. Morgan Chase & Co., Copyright 2019, as of 9/30/19

# 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.

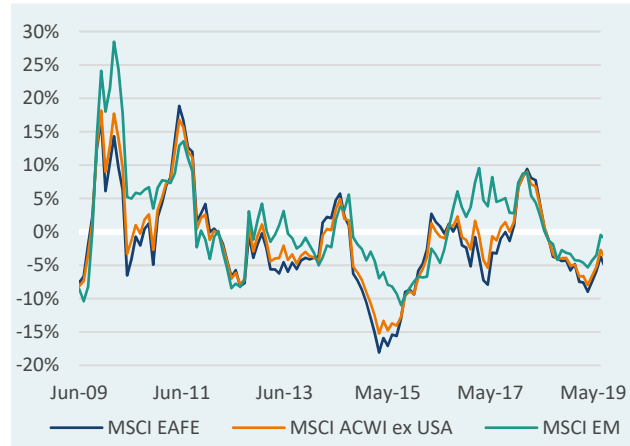
The British pound weakened in July as the new Prime Minister Boris Johnson signaled a much harder line on Brexit than his predecessor's. Toward the end of the quarter, the pound strengthened as markets began pricing a lower likelihood of a "no-deal" Brexit, which many market participants viewed as unfriendly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

**INTERNATIONAL DEVELOPED EQUITIES**



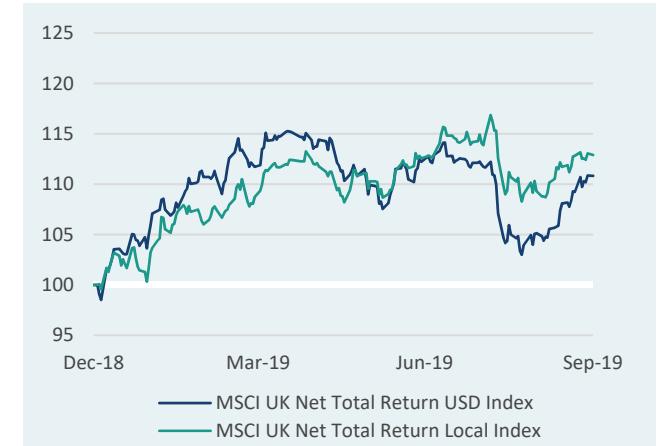
Source: MSCI, as of 9/30/19

**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

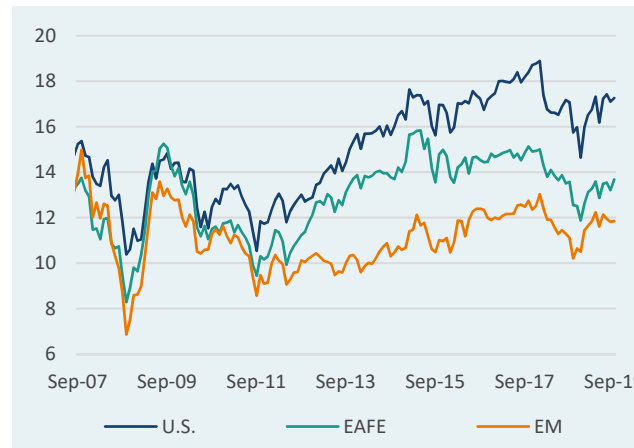
the current environment. The first force is decelerating global growth and a rising probability of recession, which likely bodes poorly for emerging market performance. However, the second force of widespread central bank dovishness may boost emerging market performance in the near term. Specifically, 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)**



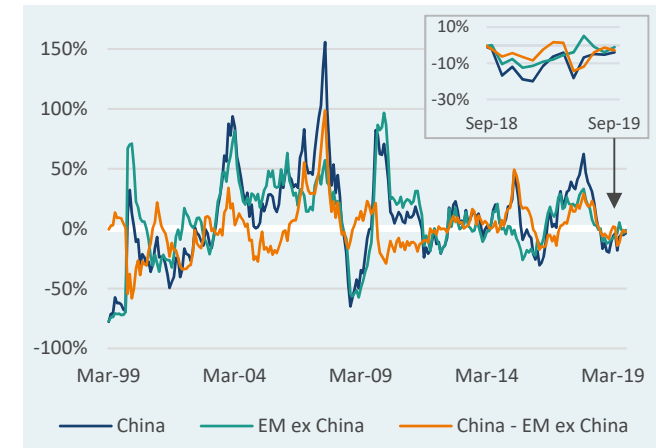
Source: Standard & Poor's, MSCI, as of 9/30/19

**FORWARD P/E**



Source: MSCI, as of 9/30/19

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



Source: MSCI, as of 9/30/19

# Equity valuations

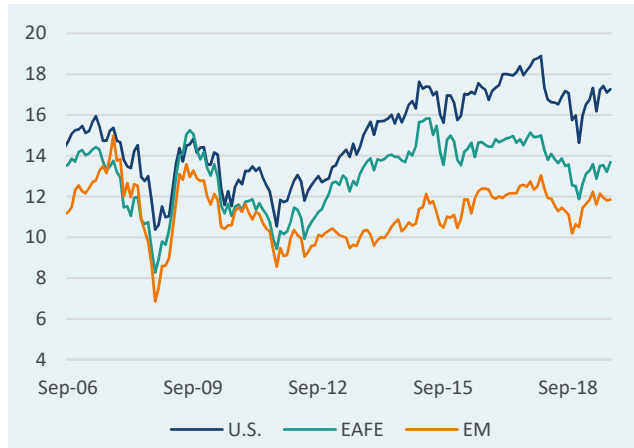
Equity valuations have climbed back up year-to-date as prices recover from their large drop in late 2018. U.S. equities are expensive relative to their long-run average, while international and emerging equities currently sit at normal levels.

The forward P/E multiple on the MSCI US Index ticked up from 17.2x to 17.3x over the quarter and remains above both its 5-year (17.1x) and 10-year (15.3x) averages. International equities remain at a forward P/E multiple (13.7x) between the

5-year (14.2x) and 10-year (13.2x) averages. Emerging market equities became a bit cheaper but are still trading at a forward P/E of 11.9x, above both their 5-year and 10-year averages.

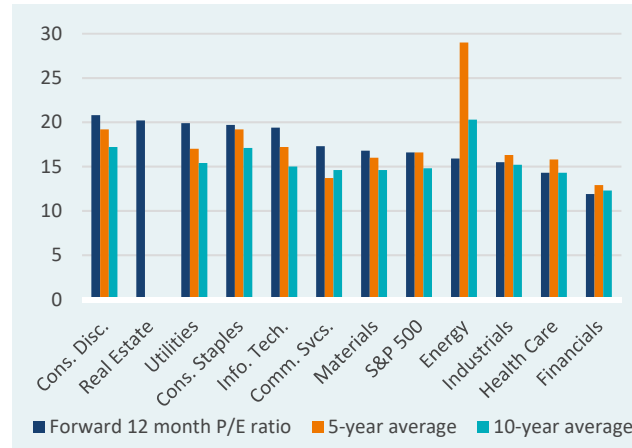
U.S. large cap stocks outperformed most unhedged international and emerging market equities. In a more uncertain geopolitical landscape, investors appear to remain willing to stomach loftier relative valuations in exchange for the quality of U.S. institutions. The U.S. economy is less reliant on exports, and U.S. companies are less reliant on foreign demand, helping to shield U.S. stocks from trade turbulence.

## FORWARD P/E RATIOS



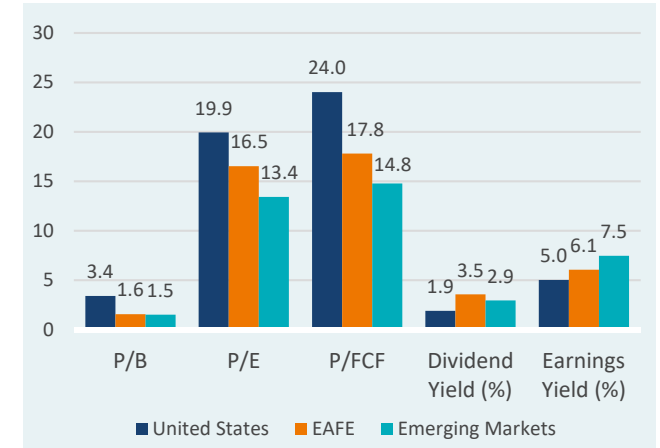
Source: MSCI, 12m forward P/E, as of 9/30/19

## S&P 500 INDEX FORWARD SECTOR P/E RATIOS



Source: Standard & Poor's, FactSet, as of 10/11/19

## VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI as of 9/30/19 - trailing P/E

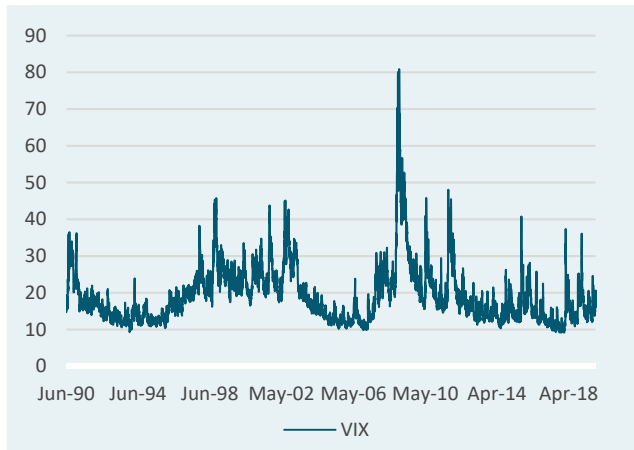


# Equity volatility

Implied volatility on both U.S. stocks and European stocks picked up over the quarter, albeit from depressed levels. The VIX Index which measures the 30-day implied volatility of U.S. stocks jumped to nearly 25.0 in August following a material escalation in U.S.-Chinese trade tensions. By quarter-end, the VIX settled at 16.2, up 1.1 points, and above its year-to-date average of 15.9. In Europe, the V2X Index gauging implied volatility on the Euro Stoxx 50 Index rose from 13.7 to 15.8, above its year-to-date average of 15.4.

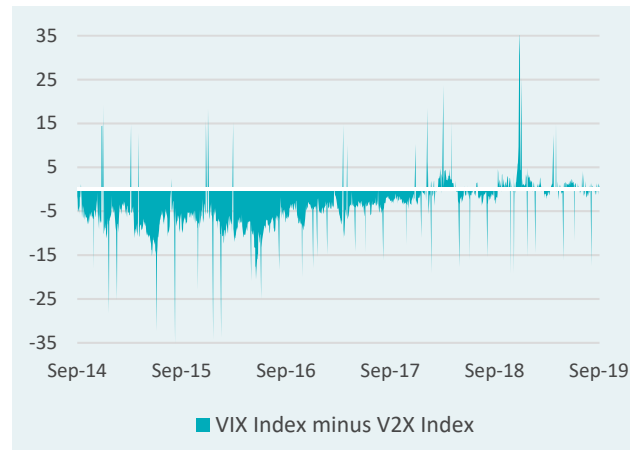
Despite the ratcheting up of trade tension in Q3, the realized trailing 30-day realized volatility on Chinese mainland shares was surprisingly low – falling from 18.0% to 12.9%. In comparison, U.S. 30-day volatility rose from 12.2% to 12.7%. Volatility of U.S. and China equities has only been this close 17% of the time. Looking ahead to Q4, despite realized volatility being low, it is important to remember that Chinese equities have been extremely volatile. As recent as 2014, 30-day annualized volatility reached 60% in mainland China.

**U.S. IMPLIED VOLATILITY (VIX)**



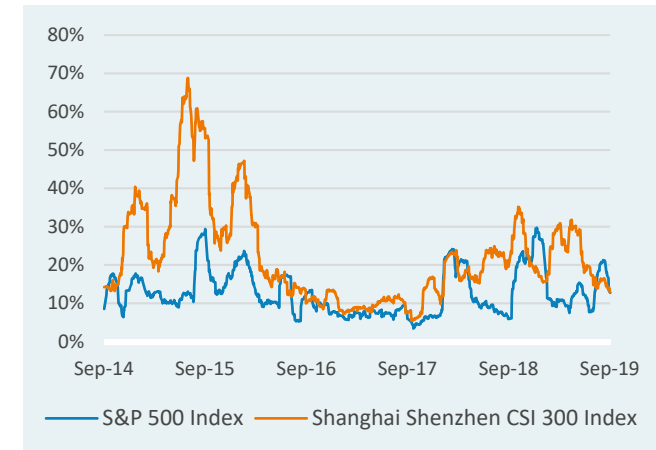
Source: CBOE, as of 9/30/19

**U.S. IMPLIED VOLATILITY VS. EUROPEAN IMPLIED VOLATILITY**



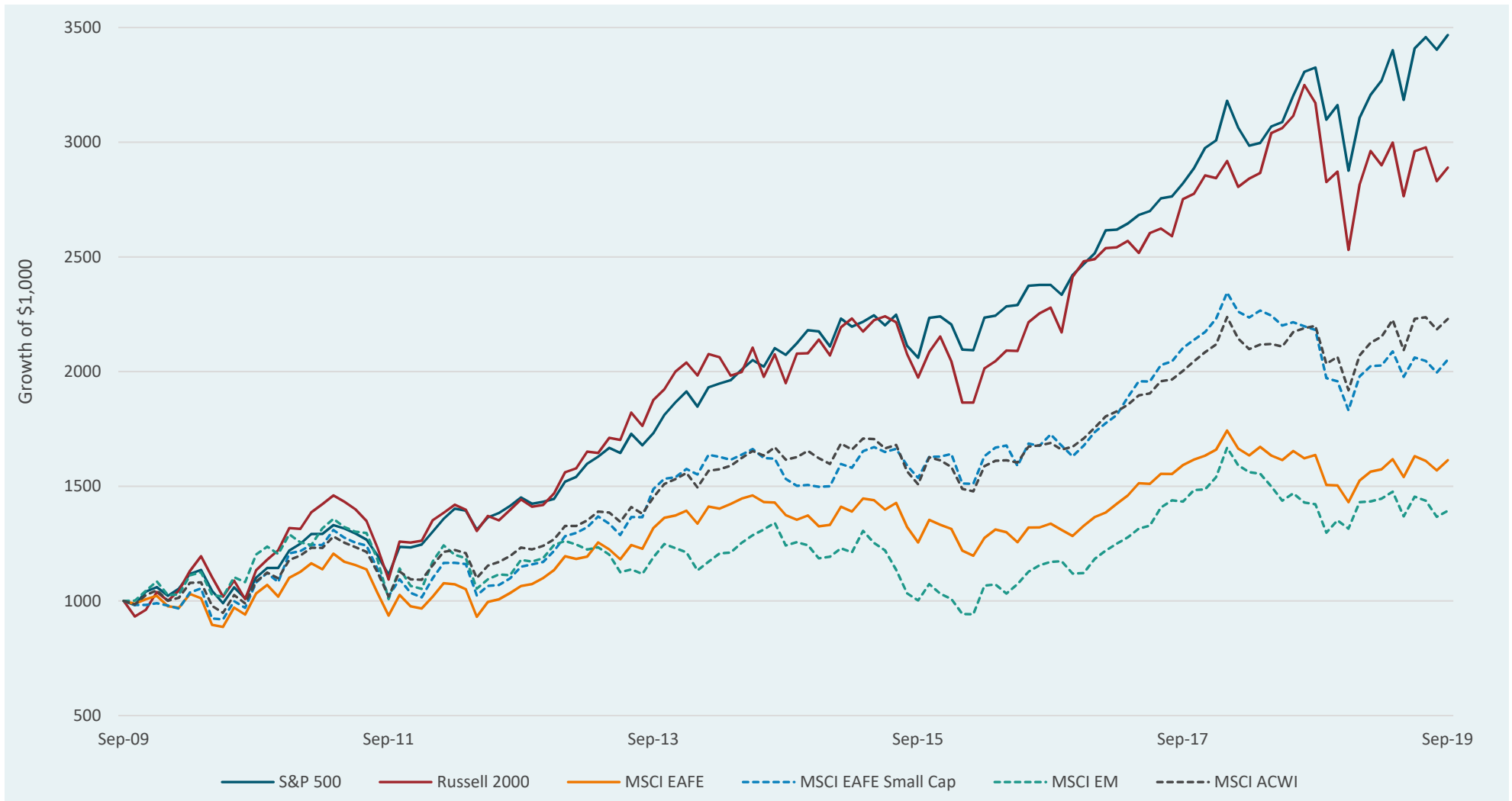
Source: Bloomberg, as of 9/30/19

**30-DAY REALIZED VOLATILITY – U.S. LARGE CAP STOCKS VS. CHINESE MAINLAND STOCKS**



Source: Bloomberg, as of 9/30/19

# Long-term equity performance



Source: Morningstar, as of 9/30/19

# Other assets

# Currency

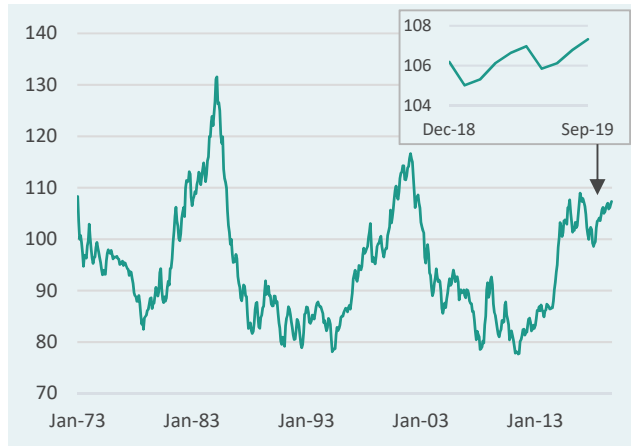
The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted basket of currencies. Dollar volatility has been suppressed so far in 2019, following large swings experienced during years 2014-2018. Investors are pricing in a 78% chance of one more 0.25% rate cut by the end of 2019, and a 25% chance 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.

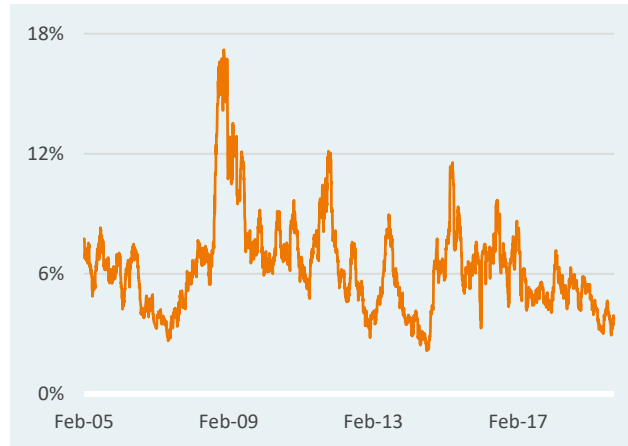
A variety of market scenarios may lead to U.S. dollar

**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

# Appendix

# Periodic table of returns

|                         | 1998  | 1999 | 2000  | 2001  | 2002  | 2003 | 2004 | 2005 | 2006 | 2007 | 2008  | 2009  | 2010 | 2011  | 2012 | 2013 | 2014  | 2015  | 2016 | 2017 | 2018  | YTD  | 5-Year | 10-Year |
|-------------------------|-------|------|-------|-------|-------|------|------|------|------|------|-------|-------|------|-------|------|------|-------|-------|------|------|-------|------|--------|---------|
| Large Cap Growth        | 38.7  | 66.4 | 31.8  | 14.0  | 25.9  | 56.3 | 26.0 | 34.5 | 32.6 | 39.8 | 5.2   | 79.0  | 29.1 | 14.3  | 18.6 | 43.3 | 13.5  | 13.3  | 31.7 | 37.3 | 6.7   | 23.3 | 13.1   | 15.4    |
| Large Cap Equity        | 27.0  | 43.1 | 22.8  | 8.4   | 10.3  | 48.5 | 22.2 | 21.4 | 26.9 | 16.2 | 1.4   | 37.2  | 26.9 | 7.8   | 18.1 | 38.8 | 13.2  | 5.7   | 21.3 | 30.2 | 1.9   | 18.5 | 9.9    | 13.5    |
| Small Cap Growth        | 20.3  | 33.2 | 12.2  | 7.3   | 6.7   | 47.3 | 20.7 | 20.1 | 23.5 | 15.8 | -6.5  | 34.5  | 24.5 | 2.6   | 17.9 | 34.5 | 13.0  | 0.9   | 17.3 | 25.0 | 0.0   | 16.3 | 8.8    | 13.1    |
| Large Cap Value         | 19.3  | 27.3 | 11.6  | 3.3   | 1.6   | 46.0 | 18.3 | 14.0 | 22.2 | 11.8 | -21.4 | 32.5  | 19.2 | 1.5   | 17.5 | 33.5 | 11.8  | 0.6   | 12.1 | 22.2 | -1.5  | 13.8 | 8.1    | 11.6    |
| Small Cap Equity        | 16.2  | 26.5 | 7.0   | 2.8   | 1.0   | 39.2 | 16.5 | 7.5  | 18.4 | 11.6 | -25.9 | 28.4  | 16.8 | 0.4   | 16.4 | 33.1 | 6.0   | 0.0   | 11.8 | 21.7 | -3.5  | 11.8 | 6.6    | 11.5    |
| 60/40 Global Portfolio  | 8.7   | 21.3 | 4.1   | -2.4  | -6.0  | 29.9 | 14.3 | 6.3  | 15.5 | 10.3 | -33.8 | 23.3  | 16.1 | -2.1  | 15.3 | 23.3 | 4.9   | -0.8  | 11.2 | 14.6 | -6.0  | 11.4 | 6.4    | 10.0    |
| International Equity    | 15.6  | 24.3 | 6.0   | 2.5   | -5.9  | 30.0 | 14.5 | 7.1  | 16.6 | 10.9 | -28.9 | 27.2  | 16.7 | 0.1   | 16.3 | 32.5 | 5.6   | -0.4  | 11.3 | 17.1 | -4.8  | 9.7  | 4.6    | 9.3     |
| US Bonds                | 4.9   | 20.9 | -3.0  | -5.6  | -11.4 | 29.7 | 12.9 | 5.3  | 15.1 | 7.0  | -35.6 | 20.6  | 15.5 | -2.9  | 14.6 | 12.1 | 4.2   | -1.4  | 8.0  | 13.7 | -8.3  | 9.1  | 4.1    | 6.4     |
| Small Cap Value         | 1.2   | 13.2 | -7.3  | -9.1  | -15.5 | 25.2 | 11.4 | 4.7  | 13.3 | 7.0  | -36.8 | 19.7  | 13.1 | -4.2  | 11.5 | 11.0 | 3.4   | -2.5  | 7.1  | 7.8  | -9.3  | 7.3  | 3.3    | 5.0     |
| Hedge Funds of Funds    | -2.5  | 11.4 | -7.8  | -9.2  | -15.7 | 23.9 | 9.1  | 4.6  | 10.4 | 5.8  | -37.6 | 18.9  | 10.2 | -5.5  | 10.5 | 9.0  | 2.8   | -3.8  | 5.7  | 7.7  | -11.0 | 5.7  | 2.0    | 4.1     |
| Emerging Markets Equity | -5.1  | 7.3  | -14.0 | -12.4 | -20.5 | 11.6 | 6.9  | 4.6  | 9.1  | 4.4  | -38.4 | 11.5  | 8.2  | -5.7  | 4.8  | 0.1  | 0.0   | -4.4  | 2.6  | 7.0  | -11.2 | 3.9  | 1.9    | 3.9     |
| Real Estate             | -6.5  | 4.8  | -22.4 | -19.5 | -21.7 | 9.0  | 6.3  | 4.2  | 4.8  | -0.2 | -38.5 | 5.9   | 6.5  | -11.7 | 4.2  | -2.0 | -1.8  | -7.5  | 1.0  | 3.5  | -12.9 | 3.3  | 0.9    | 2.9     |
| Commodities             | -25.3 | -0.8 | -22.4 | -20.4 | -27.9 | 4.1  | 4.3  | 3.2  | 4.3  | -1.6 | -43.1 | 0.2   | 5.7  | -13.3 | 0.1  | -2.3 | -4.5  | -14.9 | 0.5  | 1.7  | -13.8 | 1.9  | 0.4    | 0.5     |
| Cash                    | -27.0 | -1.5 | -30.6 | -21.2 | -30.3 | 1.0  | 1.4  | 2.4  | 2.1  | -9.8 | -53.2 | -16.9 | 0.1  | -18.2 | -1.1 | -9.5 | -17.0 | -24.7 | 0.3  | 0.9  | -14.6 | 1.5  | -8.6   | -4.3    |

BEST
↑

WORST
↓

- Large Cap Equity
- Large Cap Value
- Large Cap Growth
- Small Cap Equity
- Small Cap Value

- Small Cap Growth
- International Equity
- Emerging Markets Equity
- US Bonds
- Cash

- Commodities
- Real Estate
- Hedge Funds of Funds
- 60% MSCI ACWI/40% BBgBarc Global Bond

Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 6/30/19.

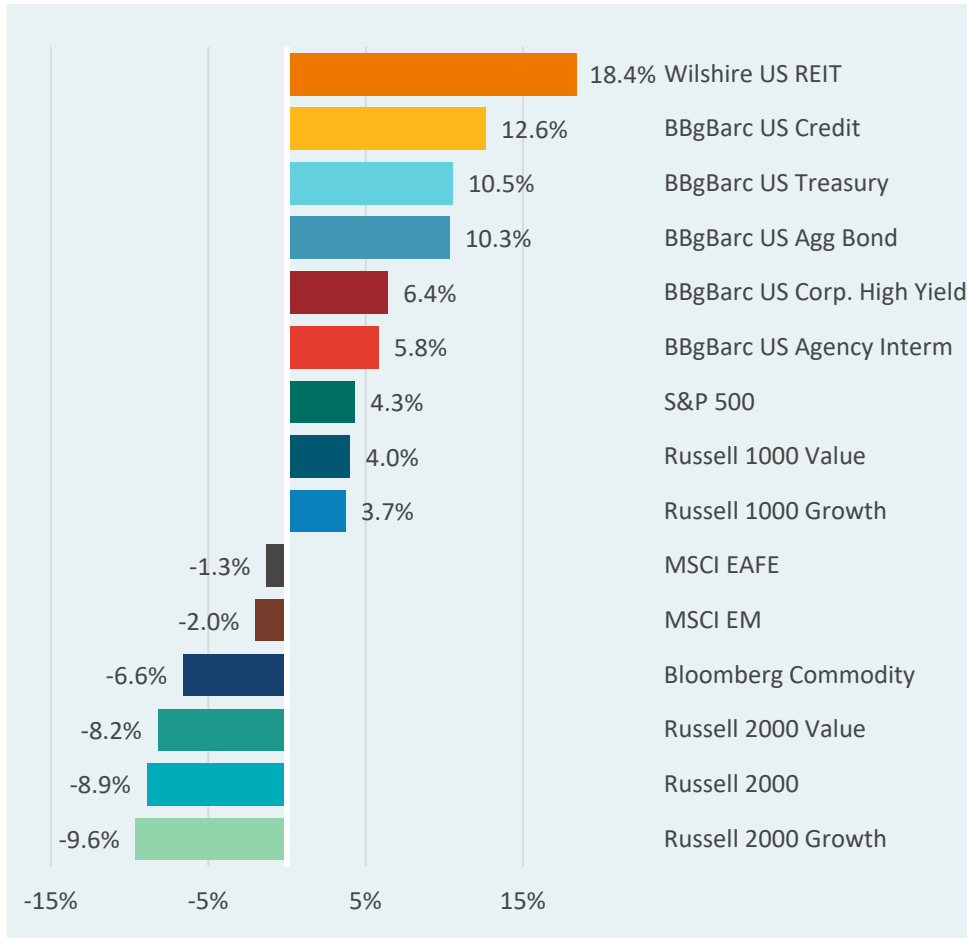
Verus<sup>77</sup>

Investment Landscape  
4th Quarter 2019

38

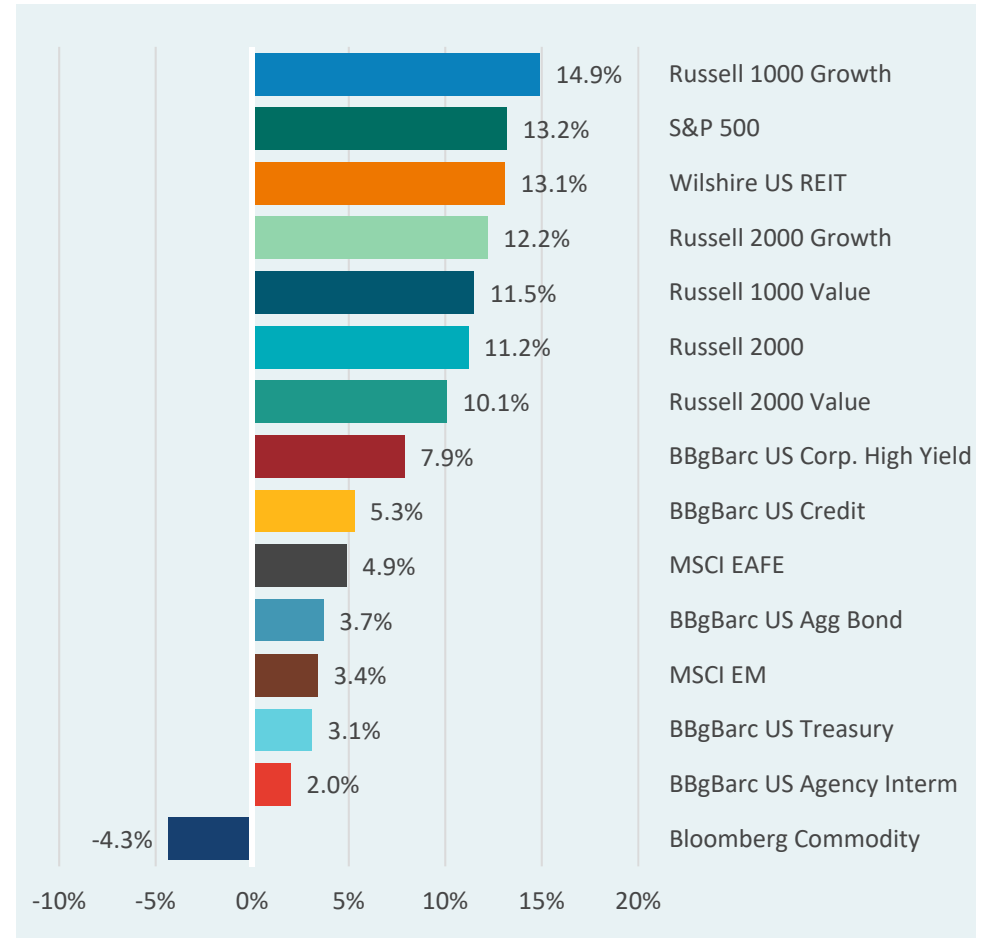
# Major asset class returns

ONE YEAR ENDING SEPTEMBER



Source: Morningstar, as of 9/30/19

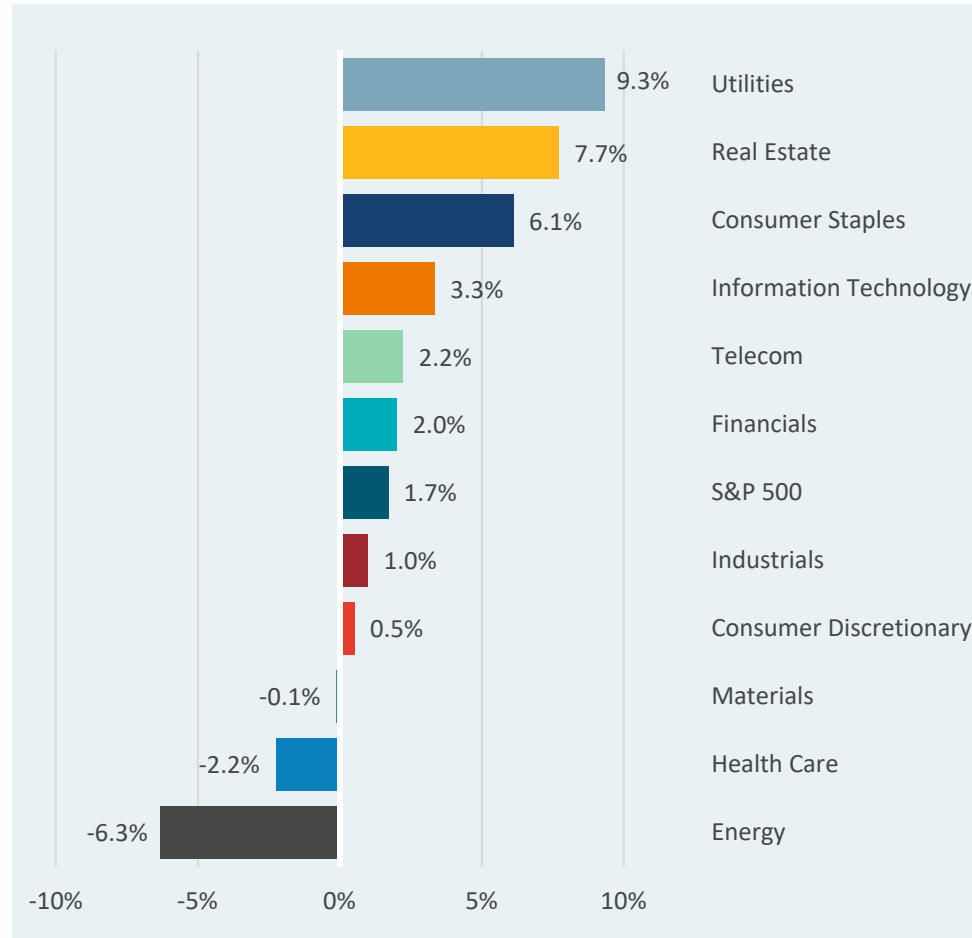
TEN YEARS ENDING SEPTEMBER



Source: Morningstar, as of 9/30/19

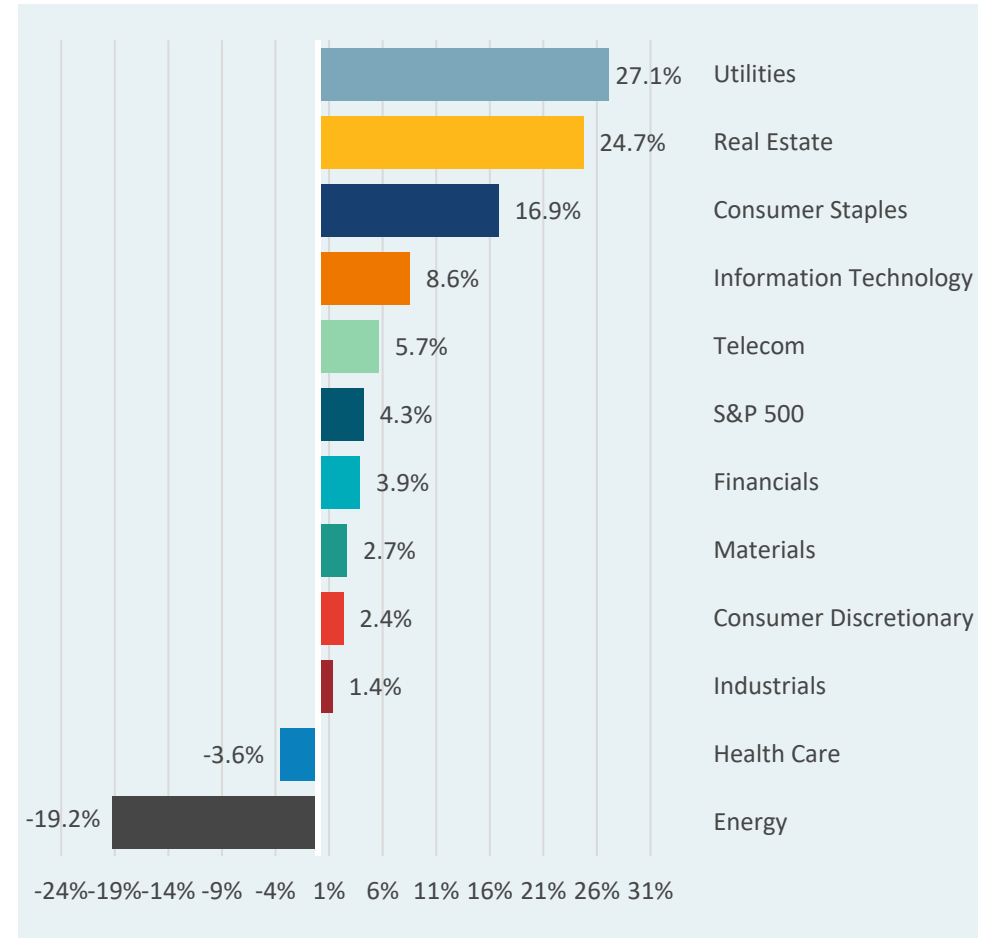
# S&P 500 sector returns

Q3



Source: Morningstar, as of 9/30/19

ONE YEAR ENDING SEPTEMBER



Source: Morningstar, as of 9/30/19



# Detailed index returns

## DOMESTIC EQUITY

|                        | Month | QTD   | YTD  | 1 Year | 3 Year | 5 Year | 10 Year |
|------------------------|-------|-------|------|--------|--------|--------|---------|
| <b>Core Index</b>      |       |       |      |        |        |        |         |
| S&P 500                | 1.9   | 1.7   | 20.6 | 4.3    | 13.4   | 10.8   | 13.2    |
| S&P 500 Equal Weighted | 3.1   | 0.8   | 20.1 | 3.4    | 11.1   | 9.5    | 13.4    |
| DJ Industrial Average  | 2.1   | 1.8   | 17.5 | 4.2    | 16.4   | 12.3   | 13.6    |
| Russell Top 200        | 1.6   | 1.8   | 20.0 | 4.1    | 14.2   | 11.2   | 13.3    |
| Russell 1000           | 1.7   | 1.4   | 20.5 | 3.9    | 13.2   | 10.6   | 13.2    |
| Russell 2000           | 2.1   | (2.4) | 14.2 | (8.9)  | 8.2    | 8.2    | 11.2    |
| Russell 3000           | 1.8   | 1.2   | 20.1 | 2.9    | 12.8   | 10.4   | 13.1    |
| Russell Mid Cap        | 2.0   | 0.5   | 21.9 | 3.2    | 10.7   | 9.1    | 13.1    |
| <b>Style Index</b>     |       |       |      |        |        |        |         |
| Russell 1000 Growth    | 0.0   | 1.5   | 23.3 | 3.7    | 16.9   | 13.4   | 14.9    |
| Russell 1000 Value     | 3.6   | 1.4   | 17.8 | 4.0    | 9.4    | 7.8    | 11.5    |
| Russell 2000 Growth    | (0.8) | (4.2) | 15.3 | (9.6)  | 9.8    | 9.1    | 12.2    |
| Russell 2000 Value     | 5.1   | (0.6) | 12.8 | (8.2)  | 6.5    | 7.2    | 10.1    |

## INTERNATIONAL EQUITY

|                        |     |       |      |       |     |       |       |
|------------------------|-----|-------|------|-------|-----|-------|-------|
| <b>Broad Index</b>     |     |       |      |       |     |       |       |
| MSCI ACWI              | 2.1 | (0.0) | 16.2 | 1.4   | 9.7 | 6.7   | 8.3   |
| MSCI ACWI ex US        | 2.6 | (1.8) | 11.6 | (1.2) | 6.3 | 2.9   | 4.5   |
| MSCI EAFE              | 2.9 | (1.1) | 12.8 | (1.3) | 6.5 | 3.3   | 4.9   |
| MSCI EM                | 1.9 | (4.2) | 5.9  | (2.0) | 6.0 | 2.3   | 3.4   |
| MSCI EAFE Small Cap    | 2.8 | (0.4) | 12.1 | (5.9) | 5.9 | 6.0   | 7.5   |
| <b>Style Index</b>     |     |       |      |       |     |       |       |
| MSCI EAFE Growth       | 1.1 | (0.4) | 17.9 | 2.2   | 7.8 | 5.5   | 6.5   |
| MSCI EAFE Value        | 4.8 | (1.7) | 7.7  | (4.9) | 5.1 | 1.0   | 3.2   |
| <b>Regional Index</b>  |     |       |      |       |     |       |       |
| MSCI UK                | 4.2 | (2.5) | 10.1 | (2.9) | 4.6 | 0.4   | 4.8   |
| MSCI Japan             | 4.0 | 3.1   | 11.1 | (4.7) | 6.2 | 5.6   | 5.5   |
| MSCI Euro              | 2.8 | (2.0) | 13.9 | (1.1) | 7.1 | 2.4   | 3.1   |
| MSCI EM Asia           | 2.0 | (3.4) | 6.0  | (3.9) | 6.3 | 4.1   | 5.2   |
| MSCI EM Latin American | 2.6 | (5.6) | 6.3  | 6.7   | 6.8 | (0.8) | (0.5) |

## FIXED INCOME

|                             | Month | QTD | YTD  | 1 Year | 3 Year | 5 Year | 10 Year |
|-----------------------------|-------|-----|------|--------|--------|--------|---------|
| <b>Broad Index</b>          |       |     |      |        |        |        |         |
| BBgBarc US TIPS             | (1.4) | 1.3 | 7.6  | 7.1    | 2.2    | 2.4    | 3.5     |
| BBgBarc US Treasury Bills   | 0.2   | 0.6 | 1.9  | 2.4    | 1.5    | 1.0    | 0.6     |
| BBgBarc US Agg Bond         | (0.5) | 2.3 | 8.5  | 10.3   | 2.9    | 3.4    | 3.7     |
| <b>Duration</b>             |       |     |      |        |        |        |         |
| BBgBarc US Treasury 1-3 Yr  | (0.1) | 0.6 | 3.1  | 4.4    | 1.5    | 1.3    | 1.2     |
| BBgBarc US Treasury Long    | (2.5) | 7.9 | 19.8 | 24.8   | 4.1    | 6.8    | 6.9     |
| BBgBarc US Treasury         | (0.8) | 2.4 | 7.7  | 10.5   | 2.2    | 2.9    | 3.1     |
| <b>Issuer</b>               |       |     |      |        |        |        |         |
| BBgBarc US MBS              | 0.1   | 1.4 | 5.6  | 7.8    | 2.3    | 2.8    | 3.1     |
| BBgBarc US Corp. High Yield | 0.4   | 1.3 | 11.4 | 6.4    | 6.1    | 5.4    | 7.9     |
| BBgBarc US Agency Interm    | (0.2) | 1.0 | 4.1  | 5.8    | 1.9    | 2.0    | 2.0     |
| BBgBarc US Credit           | (0.7) | 3.0 | 12.6 | 12.6   | 4.3    | 4.5    | 5.3     |

## OTHER

|                        |       |       |       |       |       |       |       |
|------------------------|-------|-------|-------|-------|-------|-------|-------|
| <b>Index</b>           |       |       |       |       |       |       |       |
| Bloomberg Commodity    | 1.2   | (1.8) | 3.1   | (6.6) | (1.5) | (7.2) | (4.3) |
| Wilshire US REIT       | 2.8   | 7.9   | 27.2  | 18.4  | 7.2   | 10.2  | 13.1  |
| CS Leveraged Loans     | 0.4   | 0.9   | 6.4   | 3.1   | 4.7   | 4.1   | 5.4   |
| Alerian MLP            | 0.8   | (5.1) | 11.8  | (6.4) | (2.7) | (8.2) | 7.0   |
| <b>Regional Index</b>  |       |       |       |       |       |       |       |
| JPM EMBI Global Div    | (0.5) | 1.5   | 13.0  | 11.6  | 4.6   | 5.7   | 6.9   |
| JPM GBI-EM Global Div  | 1.0   | (0.8) | 7.9   | 10.1  | 3.1   | 0.6   | 2.5   |
| <b>Hedge Funds</b>     |       |       |       |       |       |       |       |
| HFRI Composite         | (0.3) | (0.5) | 6.7   | 0.3   | 3.8   | 2.9   | 4.0   |
| HFRI FOF Composite     | (0.6) | (1.1) | 5.0   | (0.2) | 3.1   | 1.9   | 2.7   |
| <b>Currency (Spot)</b> |       |       |       |       |       |       |       |
| Euro                   | (1.8) | (0.3) | 1.5   | 5.1   | (2.1) | 0.3   | (1.9) |
| Pound                  | 1.2   | (3.2) | (3.2) | (5.5) | (1.7) | (5.3) | (2.6) |
| Yen                    | (1.0) | (4.3) | (4.6) | (6.1) | (1.0) | (2.9) | (2.9) |

Source: Morningstar, HFR, as of 9/30/19

# Definitions

**Bloomberg US Weekly Consumer Comfort Index** - tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. ([www.lanqerresearch.com](http://www.lanqerresearch.com))

**University of Michigan Consumer Sentiment Index** - A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. ([www.Bloomberg.com](http://www.Bloomberg.com))

**NFIB Small Business Outlook** - Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (<http://www.nfib-sbet.org/about/>)

**NAHB Housing Market Index** - the housing market index is a weighted average of separate diffusion indices for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula  $(\text{Good-Poor} + 100)/2$  to the present and future sales series and  $(\text{High/Very High-Low/Very Low} + 100)/2$  to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.

# Notices & disclosures

**Past performance is no guarantee of future results.** This report or presentation is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and should not be relied upon by 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. The opinions and information expressed are current as of the date provided or cited only and are subject to change without notice. This information is obtained from sources deemed reliable, but there is no representation or warranty as to its accuracy, completeness or reliability. Verus Advisory Inc. expressly disclaim any and all implied warranties or originality, accuracy, completeness, non-infringement, merchantability and fitness for a particular purpose. This report or presentation cannot be used by the recipient for advertising or sales promotion purposes.

The material may include estimates, outlooks, projections and other "forward-looking statements." Such statements can be identified by the use of terminology such as "believes," "expects," "may," "will," "should," "anticipates," or the negative of any of the foregoing or comparable terminology, or by discussion of strategy, or assumptions such as economic conditions underlying other statements. No assurance can be given that future results described or implied by any forward looking information will be achieved. Actual events may differ significantly from those presented. Investing entails risks, including possible loss of principal. Risk controls and models do not promise any level of performance or guarantee against loss of principal.

"VERUS ADVISORY"™ and any associated designs are the respective trademarks of Verus Advisory, Inc. Additional information is available upon request.

# 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.

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**  
**Board of Retirement**

December 3, 2019

Agenda Item 6.3

**TO:** Board of Retirement

**FROM:** Doris Ng, Investment Analyst 

**SUBJECT:** Report on Absolute Return and Risk Parity Annual Manager Reviews

**Recommendation**

Accept and review the report on the annual review of SamCERA's Absolute Return and Risk Parity managers.

**Background**

On October 10<sup>th</sup>, SamCERA staff and consultant held annual review meetings in SamCERA's office for our absolute return managers (Aberdeen Standard and AQR) and one of our risk parity managers, AQR. We reviewed AQR's risk parity strategy at a high-level during the meeting, and subsequent to the meeting, reviewed PanAgora's risk parity strategy separately. As part of the new asset allocation policy approved by the Board in September and the implementation plan discussed in October, risk parity will be liquidated from the portfolio in two phases.

Each meeting lasted approximately 1.5 hours, and consisted of a firm/organizational update, investment process review, performance review and attribution, and current positioning/market outlook.

**Discussion**

The Aberdeen Standard Global Absolute Return Strategies (GARS) product was reviewed first. GARS is a multi-strategy fundamentally-driven approach that targets absolute returns with significantly less volatility than equity investments. The chairman of Aberdeen Standard Investments announced his plan to retire next year. Subsequent to the on-site meeting, the firm communicated a personnel change that is expected to occur by year-end.

AQR's Delta XN Fund, a multi-strategy return fund that seeks to provide systematic exposure to a diversified set of hedge fund premia, was also reviewed. AQR discussed the underperformance of the Delta XN Fund and some personnel changes expected to occur by year-end.

There were no major concerns or issues identified with regards to the risk parity strategies with AQR (AQR's Global Risk Premium fund) and PanAgora (PanAgora's Diversified Risk Multi Asset fund).

The Verus meeting notes summarizing the findings from these annual reviews will be distributed to the Board before the meeting.

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**  
**Board of Retirement**

December 3, 2019

Agenda Item 6.4

**TO:** Board of Retirement

**FROM:** Lilibeth Dames, Investment Analyst *Lilibeth Dames*

**SUBJECT:** Presentation of Private Asset Semi-Annual Performance Reports as of June 30, 2019

**Recommendation**

Accept and review Verus' semi-annual private equity and private real assets performance reports as of June 30, 2019.

**Background**

The Board of Retirement approved the implementation of SamCERA's private equity program in August 2010. The Board subsequently approved the implementation of SamCERA's private real asset program in October 2013. Verus provides a semi-annual private equity and private real asset performance report as of June 30<sup>th</sup> and December 31<sup>st</sup> each year.

**Discussion**

As of June 30, 2019, SamCERA's private equity portfolio had a total market value of \$336.0 million (7.2% of SamCERA's total fund). SamCERA's target allocation for Private Equity is 6.0%.

The private equity portfolio has a 18.4% net IRR since inception. For the six-month period from January 1, 2019 through June 30, 2019, SamCERA committed to one new fund for a total of \$20 million. This brought the sum of private equity funds in the portfolio to twenty-six with \$448.2 million in committed capital across sixteen private equity managers.

As of June 30, 2019, SamCERA's private real assets portfolio had a total market value of \$63.6 million (1.4% of SamCERA's total fund). SamCERA's current target asset allocation to private real assets is 2.0%. Our new long-term target allocation is 3.0%.

The private real assets portfolio has a -2.09% net IRR since inception. For the six-month period from January 1, 2019 through June 30, 2019, SamCERA committed to one new fund for a total of \$25 million. As of June 30, 2019, there were eleven private asset funds in the portfolio with \$184.8 million in committed capital across nine private real asset managers.

Faraz Shooshani and John Nicolini will review the performance reports with the Board and be available for questions.

**Attachments**

- A. Verus Semi-Annual Private Equity Performance Report for Period Ending 6/30/2019
- B. Verus Semi-Annual Private Real Assets Performance Report for Period Ending 6/30/2019



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



PERIOD ENDING: JUNE 30, 2019

Private Equity Review

**San Mateo 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 | Significant Events / Material Exceptions to Policy | 13 |
| Private Equity Portfolio Overview              | 7 |  |    |
| Private Equity Portfolio Performance           | 8 |  |    |
| Private Equity Portfolio Diversification       | 9 |  |    |
| — PE Portfolio Diversification by Strategy     |   |  |    |
| — PE Portfolio Diversification by Geography    |   |  |    |
| — PE Portfolio Diversification by Industry     |   |  |    |
| — PE Portfolio Diversification by Vintage Year |   |  |    |

*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, but interest coverage deteriorated.** 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 was 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 activities was 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. However, dry powder outside the US was still slightly less than dry powder in the US (\$790.9 billion<sup>4</sup>) by 10.7%.
  - **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) have 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*

| Investment Type                               | Policy Target | Policy Range | Market Value % | Market Value \$(000) | Unfunded Commitment \$(000) | Market Value + Unfunded \$(000) |
|---|---------------|--------------|----------------|----------------------|-----------------------------|---------------------------------|
| <b>SamCERA - Total Plan</b>                   |               |              | <b>100.0%</b>  | <b>4,660,521</b>     |                             |                                 |
| Buyout (60% +/- 20%)                          | 3.6%          | 2.4%-4.8%    | 4.0%           | 185,112              | 102,560                     | 287,672                         |
| Venture Capital (20%, 0%-30%)                 | 1.2%          | 0.0%-1.8%    | 2.6%           | 122,392              | 11,161                      | 133,553                         |
| Debt-Related/Special Situations (20% +/- 10%) | 1.2%          | 0.6%-1.8%    | 0.6%           | 28,449               | 68,108                      | 96,557                          |
| <b>Total Private Equity*</b>                  | <b>6.0%</b>   | <b>4%-8%</b> | <b>7.2%</b>    | <b>335,953</b>       | <b>181,829</b>              | <b>517,782</b>                  |

### Portfolio Summary

- As of June 30, 2019, the Private Equity Portfolio had a total market value of \$336.0 million, with \$185.1 million in Buyout, \$122.4 million in Venture Capital, and \$28.4 million in Debt-Related/Special Situations. Total market value is the current reported value of investments, excluding the remaining amount of unfunded commitments.
- SamCERA has contributed \$303.5 million toward its Private Equity commitments. Unfunded commitments total \$181.8 million.
- The portfolio exposure at 7.2% is above the new 6% policy target, but within range. Compared to December 31, 2018, portfolio exposure is up 17.0%, largely driven by an 47.1% increase in value of its Venture Capital portfolio. All sub-asset classes, except Venture Capital which is above its policy range, are within the policy range while commitments continue to be made to new managers at a slower pace.

### Portfolio Activity

- SamCERA committed \$20.0 million to Great Hill Equity Partners VII, L.P. in the first half of 2019.
- SamCERA requested redemption from Cevian Capital II, L.P. for \$20M, effective July 1, 2019.

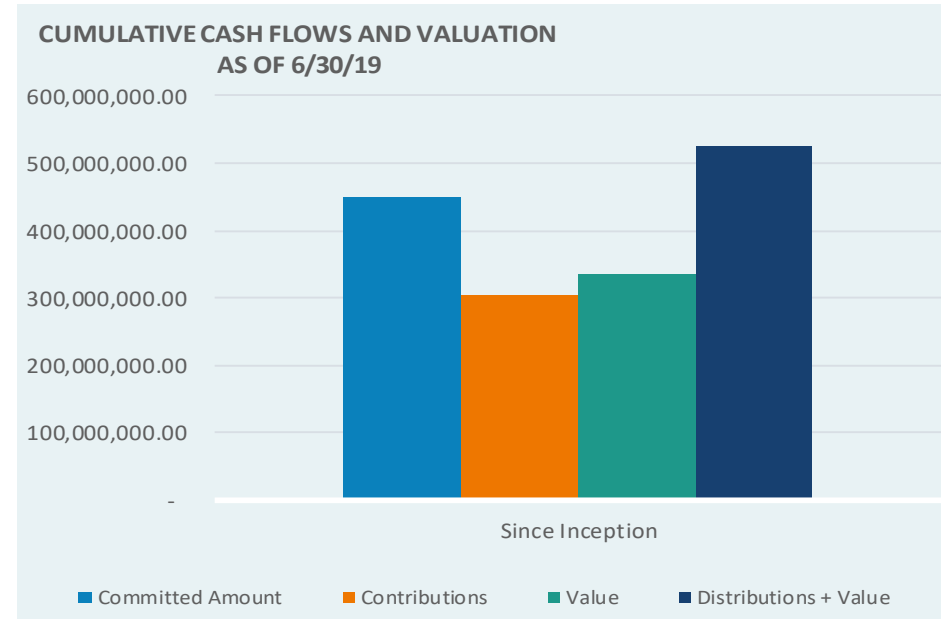
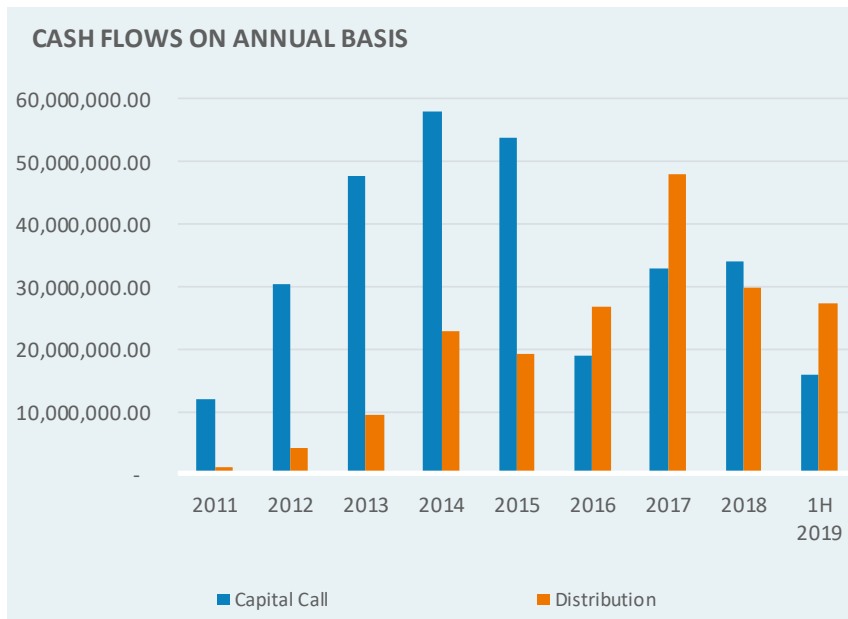
# PE Performance

Period Ending: June 30, 2019

## Performance

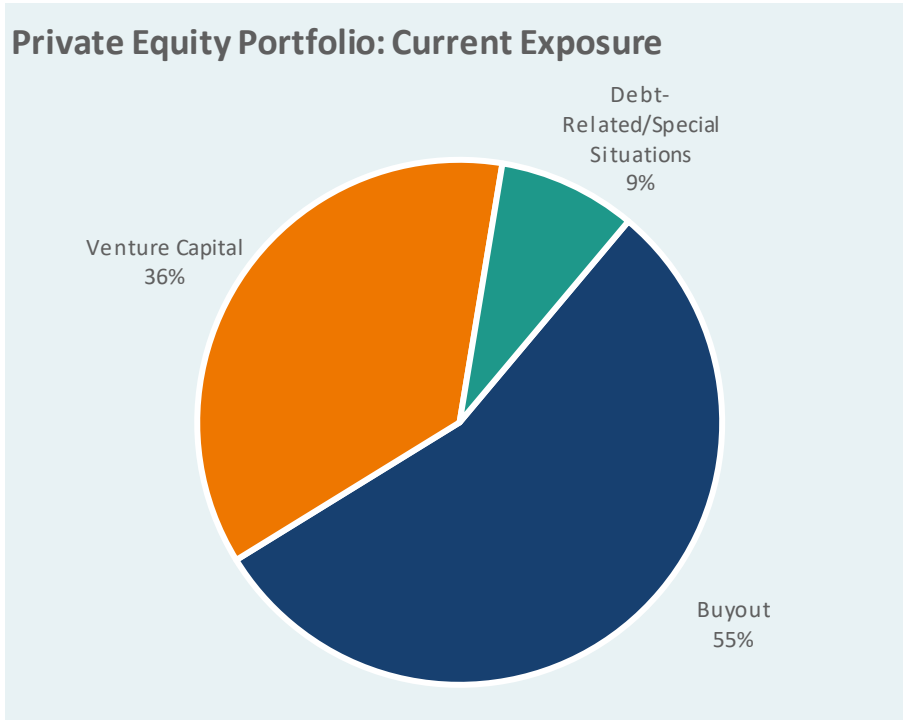
- The Private Equity portfolio’s performance, as measured by net IRR, is 18.40%, 589 bps above the same cash flow invested in Russell 3000 Total Return Index of 12.51%. Capital weighted average investment age of the portfolio is 4.1 years.
- The portfolio is currently valued at \$336.0 million. Together with \$188.5 million in realized distributions, the Total Value at \$524.5 million is approximately \$221.0 million above \$303.5 million total capital contributions, resulting in a total value multiple of 1.73x and a distribution multiple of 0.62x.
- Distributions surpassed contributions with a ratio of 1.7:1 in the first quarter of 2019 compared to 1.4:1 in 2016, 1.4:1 in 2017, and 0.9:1 in 2018.

- Attribution of returns:
  - Buyouts up \$101.8 million / +53.4% versus cost (Sycamore, Great Hill V, ABRY VII , and Warburg Pincus XI leading), with 56.3% of called capital realized and distributed;
  - Venture Capital up \$102.1 million / +192.9% versus cost (Emergence Capital III, General Catalyst VI, NEA 14, and Third Rock III leading), with 61.6% of called capital realized and distributed; and
  - Debt-related/Special Situations up \$17.2 million / 28.6% versus cost (ABRY Advanced Securities II and III leading), with 81.1% of called capital realized and distributed.
- Within Private Equity, the current allocation of market value exposure is 55.1% to Buyout, 36.4% to Venture Capital, and 8.5% to Debt-Related/Special Situations.



Current Exposure as  
% of Private Equity

| Investment Type                 | Commitment         | Reported Value     | Current Exposure as % of Private Equity |
|---------------------------------|--------------------|--------------------|---|
| Buyout                          | 269,742,000        | 185,112,292        | 55.1%                                   |
| Venture Capital                 | 64,000,000         | 122,391,699        | 36.4%                                   |
| Debt-Related/Special Situations | 114,500,000        | 28,448,580         | 8.5%                                    |
| <b>Total Private Equity</b>     | <b>448,242,000</b> | <b>335,952,571</b> | <b>100.0%</b>                           |

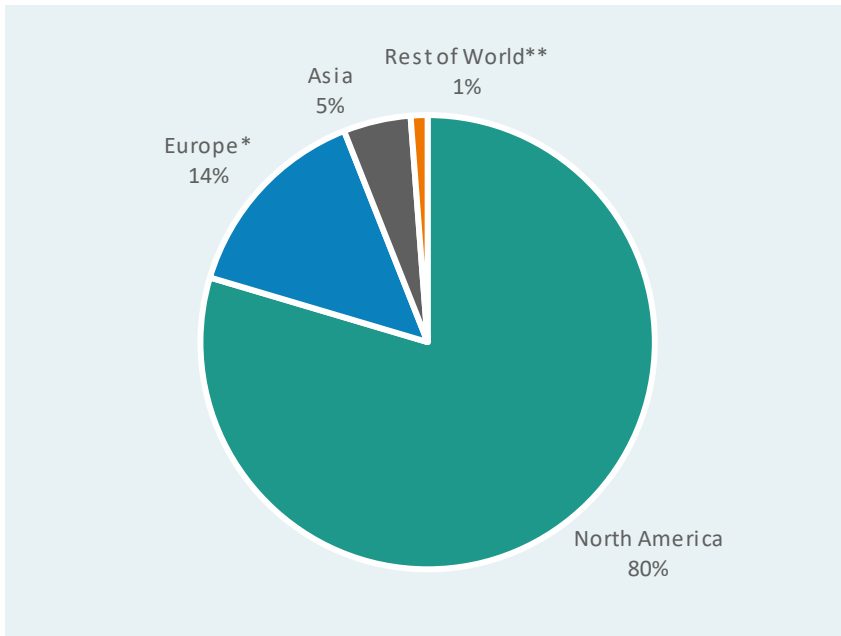


# Geography

## Portfolio Diversification

Period Ending: June 30, 2019

| Geography                   | Current Exposure   |
|-----------------------------|--------------------|
| North America               | 251,702,645        |
| Europe*                     | 45,484,120         |
| Asia                        | 15,280,843         |
| Rest of World**             | 3,934,291          |
| <b>Total Private Equity</b> | <b>316,401,899</b> |



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

\* Europe includes 100% market value from Cevian II.

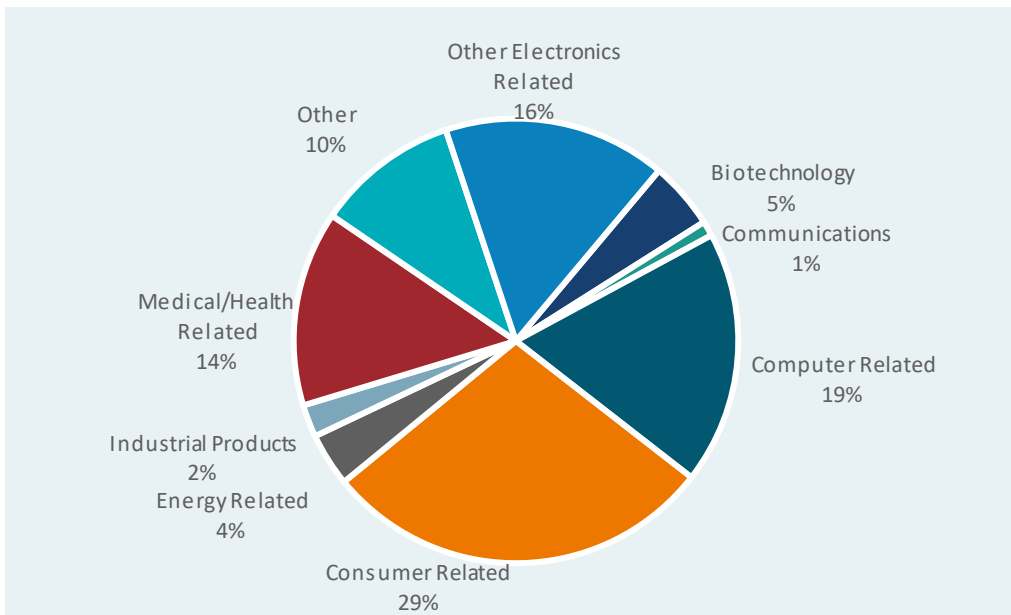
\*\* Rest of World includes Kenya, United Arab Emirates, Turkey, and Brazil.



# Industry Portfolio Diversification

Period Ending: June 30, 2019

| Industry                    | Current Exposure   |
|-----------------------------|--------------------|
| Biotechnology               | 13,765,459         |
| Communications              | 3,019,686          |
| Computer Related            | 51,547,511         |
| Consumer Related            | 79,872,432         |
| Energy Related              | 10,872,796         |
| Industrial Products         | 6,632,258          |
| Medical/Health Related      | 39,747,002         |
| Other                       | 29,034,798         |
| Other Electronics Related   | 45,396,948         |
| <b>Total Private Equity</b> | <b>279,888,890</b> |

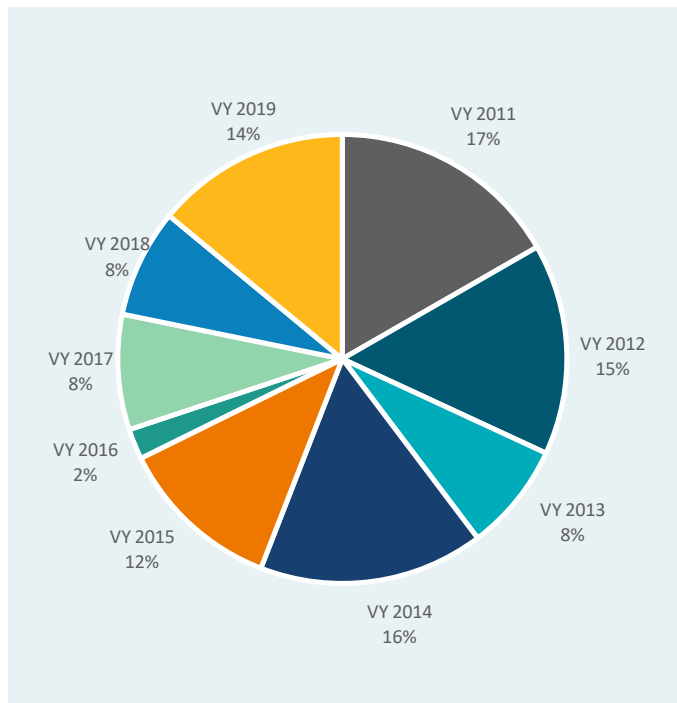


Based on the value of portfolio companies as of June 30, 2019, if provided by the partnerships. Differences between reported value and the total portfolio valuation is due to temporary cash funds, fees, other expenses, and holdings with undisclosed geography breakdown.

# 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 |
|-----------------------------|--------------------------|---------------------------|------------------------------|
| 2011                        | 75,000,000               | 16.7%                     | 30,816,857                   |
| 2012                        | 68,000,000               | 15.2%                     | 128,315,486                  |
| 2013                        | 35,000,000               | 7.8%                      | 49,409,966                   |
| 2014                        | 72,500,000               | 16.2%                     | 64,868,693                   |
| 2015                        | 53,000,000               | 11.8%                     | 41,336,193                   |
| 2016                        | 10,000,000               | 2.2%                      | 1,818,917                    |
| 2017                        | 37,000,000               | 8.3%                      | 15,276,933                   |
| 2018                        | 35,000,000               | 7.8%                      | 2,642,242                    |
| 2019                        | 62,742,000               | 14.0%                     | 1,467,284                    |
| <b>Total Private Equity</b> | <b>448,242,000</b>       | <b>100%</b>               | <b>335,952,571</b>           |



- The Private Equity policy target was reduced from 7.0% to 6.0% effective October 1, 2018.
- As of June 30, 2019, the Private Equity Portfolio is above the new 6% policy target, but within range, with exposures within target diversification bands.
  - Venture Capital is outside the policy range while Buyouts and Debt-Related/Special Situations are within the policy range.
  - Compared to December 31, 2018, portfolio exposure is up 17.0%, largely driven by an increase (47.1%) in value of its Venture Capital portfolio.



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



PERIOD ENDING: JUNE 30, 2019

Real Assets Review

**San Mateo 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 | 4 |
|---------------------------------------|---|

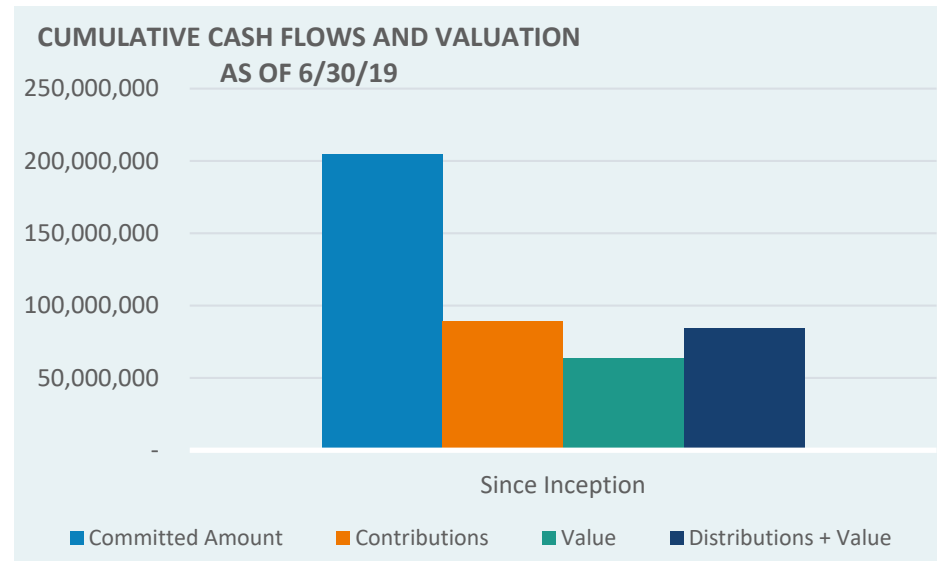
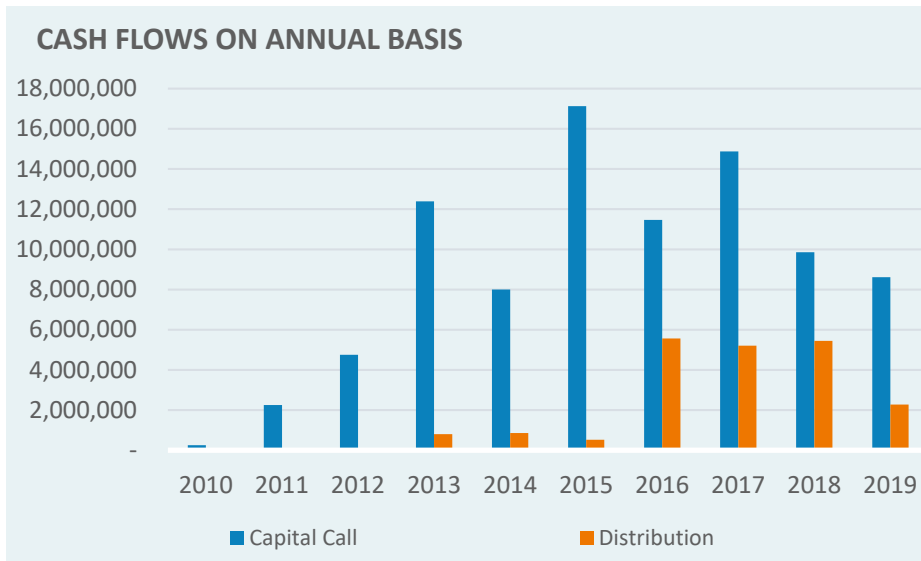
- RA Portfolio Diversification by Strategy
  - RA Portfolio Diversification by Geography
  - RA Portfolio Diversification by Vintage Year
- 

|                            |   |
|----------------------------|---|
| Real Assets Program Update | 7 |
|----------------------------|---|

*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**

- The portfolio is currently valued at \$63.6 million. Together with \$20.7 million in realized distributions, the Total Value at \$84.3 million is approximately \$5.3 million below \$89.6 million total capital contributions, resulting in a total value multiple of 0.94x and a net IRR of -2.09%. If we exclude the investment in Sheridan, the portfolio IRR would be +8.87%. Capital weighted average investment age of the portfolio is 3.5 years.
- SamCERA funded a liquid real asset pool in 2016 that seeks to proxy many of the risk exposures targeted in private real assets. SSgA is managing the pool in a mix of passive exposures to infrastructure, natural resource equities and commodities.
- Within Private Real Assets, the current allocation of market value exposure is 13.6% to Agriculture, 23.0% to Energy, 28.9% to Mining, and 34.6% to Infrastructure. The Portfolio is expected to be diversified over a period of 3 to 5 years.

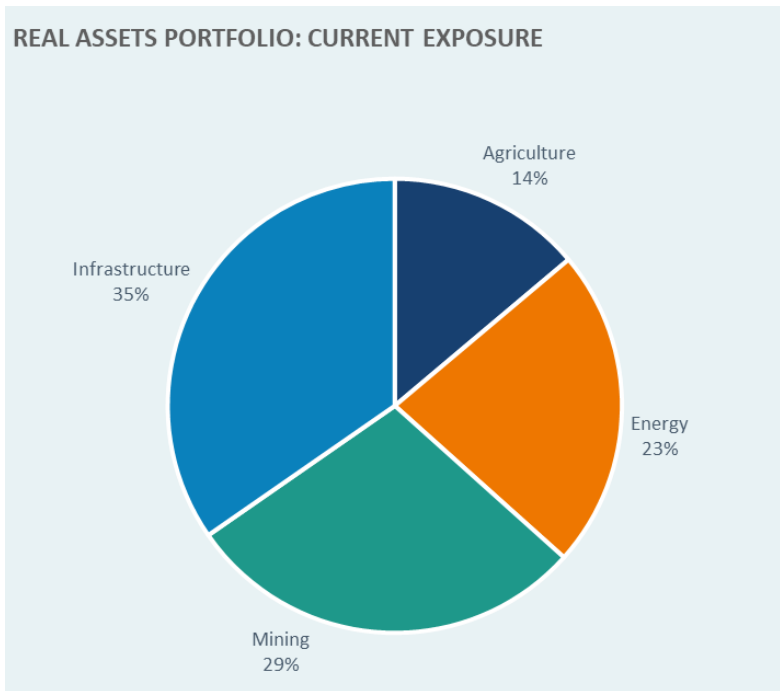


# Strategy

## Portfolio Diversification

Period Ending: June 30, 2019

| Investment Type        | Commitment         | Current Exposure  | Current Exposure as % of Portfolio |
|------------------------|--------------------|-------------------|------------------------------------|
| Agriculture            | 15,000,000         | 8,646,326         | 13.6%                              |
| Energy                 | 49,800,000         | 14,618,072        | 23.0%                              |
| Mining                 | 55,000,000         | 18,378,215        | 28.9%                              |
| Infrastructure         | 85,000,000         | 21,988,334        | 34.6%                              |
| <b>Total Portfolio</b> | <b>204,800,000</b> | <b>63,630,947</b> | <b>100.0%</b>                      |

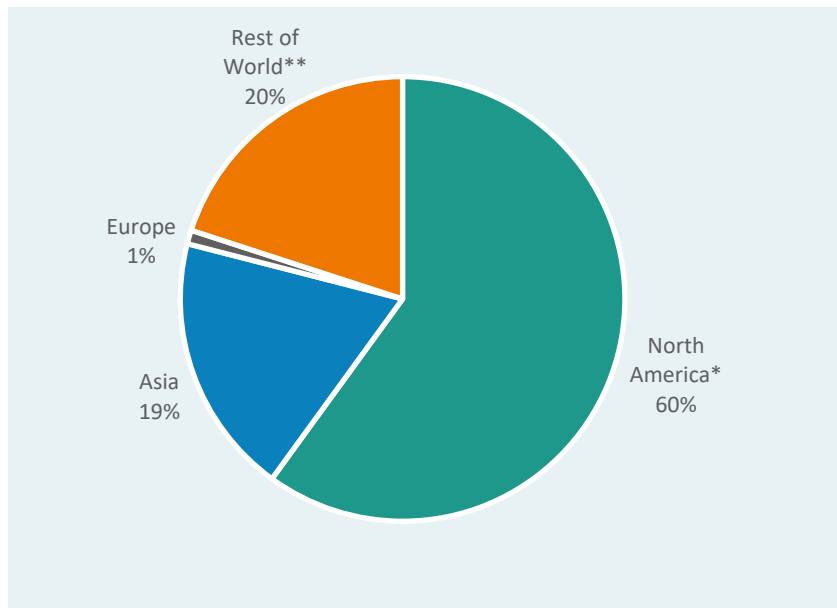


# Geography

## Portfolio Diversification

Period Ending: June 30, 2019

| Geography              | Reported Fair Value |
|------------------------|---------------------|
| North America*         | 38,096,637          |
| Asia                   | 12,094,282          |
| Europe                 | 729,926             |
| Rest of World**        | 12,710,102          |
| <b>Total Portfolio</b> | <b>63,630,947</b>   |



Based on invested capital as of June 30, 2019, if provided by the partnerships. The portfolio is expected to be US-biased given the mandate to hedge domestic inflation.

\* North America includes 100% market value from Sheridan II-B.

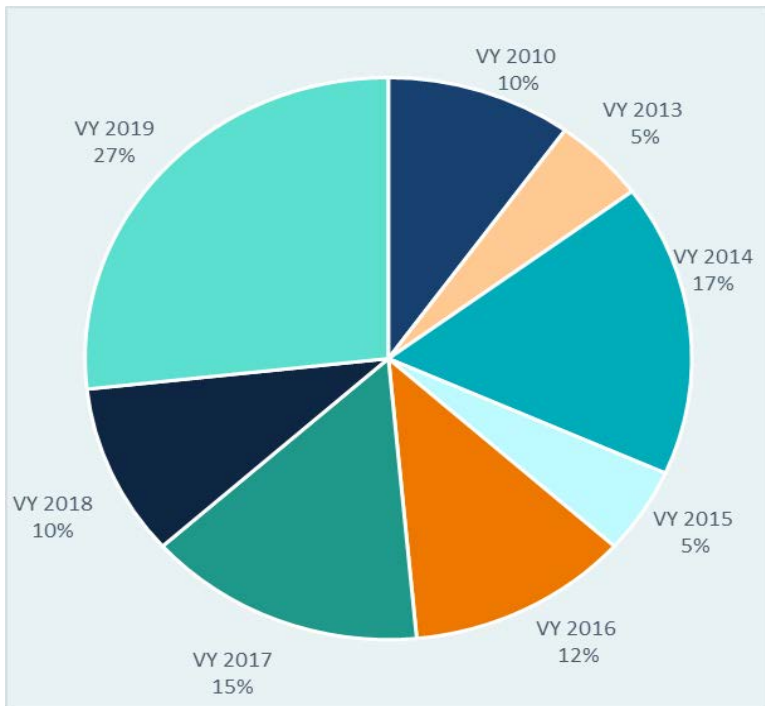
\*\* Rest of World includes Australia, Chile, and Senegal.



# 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 |
|------------------------|--------------------------|---------------------------|------------------------------|
| 2010                   | 20,000,000               | 9.8%                      | 0                            |
| 2013                   | 10,000,000               | 4.9%                      | 6,438,212                    |
| 2014                   | 35,000,000               | 17.1%                     | 21,688,123                   |
| 2015                   | 10,000,000               | 4.9%                      | 13,456,600                   |
| 2016                   | 25,000,000               | 12.2%                     | 6,456,624                    |
| 2017                   | 29,800,000               | 14.6%                     | 13,516,278                   |
| 2018                   | 20,000,000               | 9.8%                      | 1,118,445                    |
| 2019                   | 55,000,000               | 26.9%                     | 956,665                      |
| <b>Total Portfolio</b> | <b>204,800,000</b>       | <b>100%</b>               | <b>63,630,947</b>            |



The portfolio is increasingly diversified by vintage year with larger capital commitments expected over the next 2-3 years.

- SamCERA committed \$30.0 million to EQT Infrastructure IV, a new GP relationship for SamCERA within the infrastructure portfolio.
- Verus and Staff are actively looking at an opportunity in Core Infrastructure which we may bring to SamCERA's 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.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
Board of Retirement

December 3, 2019

Agenda Item 6.5

**TO:** Board of Retirement

**FROM:** Michael Coultrip, Chief Investment Officer *Michael R. Coultrip*

**SUBJECT:** Approval of Real Estate Manager Structure

**Recommendation**

Approve proposed real estate manager structure.

**Background**

The current targets and allocation ranges for the real estate program are summarized below:

| Real Estate Strategy  | Target Allocation | Range   |
|-----------------------|-------------------|---------|
| Core Real Estate      | 60%               | 50 -70% |
| Value-Add Real Estate | 20%               | 0 - 30% |
| Real Estate Debt      | 20%               | 0 - 30% |

SamCERA's long-term target to real estate is 10%. The current target is 8%.

**Discussion**

According to the asset allocation implementation plan that the Board approved in October, the allocation to real estate is expected to increase to 9% with the funding of Harrison Street. The Board approved an initial commitment of \$30 million to Harrison Street in July. In order to minimize the number of real estate managers (and complexity of the real estate portfolio), staff and consultant propose allocating 1% of plan assets to Harrison Street, which would require an additional \$20 million commitment. The current and proposed interim real estate structure is shown below.

| Current Real Estate Structure |            |                 | Interim Real Estate Structure |            |                 |
|-------------------------------|------------|-----------------|-------------------------------|------------|-----------------|
| Real Estate                   | \$MV       | % of Total Fund | Real Estate                   | \$MV       | % of Total Fund |
| Invesco Core                  | 272        | 5.6%            | Invesco Core                  | 264        | 5.5%            |
| Harrison Core                 | 0          | 0.0%            | Harrison Core                 | 48         | 1.0%            |
| PGIM Debt                     | 85         | 1.8%            | PGIM Debt                     | 96         | 2.0%            |
| Invesco VA Funds              | 29         | 0.6%            | Invesco VA Funds              | 24         | 0.5%            |
| <b>Total:</b>                 | <b>386</b> | <b>8.0%</b>     | <b>Total:</b>                 | <b>432</b> | <b>9.0%</b>     |

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
Board of Retirement

The proposed long-term real estate structure is shown below. The 10% allocation to real estate would be achieved over several years and would necessitate adding another value-add manager at a 1% target allocation, and upsizing Invesco's future value-add commitments to 1% of plan assets.

| <b>Long-Term Real Estate Structure</b> |             |                        |
|--|-------------|------------------------|
| <b>Real Estate</b>                     | <b>\$MV</b> | <b>% of Total Fund</b> |
| Invesco Core                           | 241         | 5.0%                   |
| Harrison Core                          | 48          | 1.0%                   |
| PGIM Debt                              | 96          | 2.0%                   |
| Invesco VA Funds                       | 48          | 1.0%                   |
| <b>New Value-Add Funds</b>             | <b>48</b>   | <b>1.0%</b>            |
| <b>Total:</b>                          | <b>480</b>  | <b>10.0%</b>           |

**Attachment**

Verus Real Estate Pacing Study



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



DECEMBER 2019

Real Estate Pacing Model

**San Mateo County Employees' Retirement Association**

# Assumptions used to model real estate

## Assumptions:

- SamCERA's Plan Growth Rate of 6.50%
- Core Real Estate
  - *Linear Growth at 2.0% - (reduced growth rate by 1.0% from 2018)*
- Real Estate Debt
  - *Linear Growth at 1.0% - (reduced growth rate by 0.5% from 2018)*
- Value-Add
  - *Custom Cash Flow Assumptions*
  - *Assumes a 7-Year Fund Life*
  - *Net 13.2% IRR Return*
- *The 10% Real Estate allocation is split into three segments*
  - *Core Real Estate – 6%*
  - *Value-Add Real Estate – 2%*
  - *Real Estate Debt – 2%*

# Commitment schedule

| RA Category      | 2019                  | 2020                  | 2021                  | 2022                  | 2023                  | 2024                  | 2025                  |
|------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                  | Projected Commit (\$) | Projected Commit (\$) | Projected Commit (\$) | Projected Commit (\$) | Projected Commit (\$) | Projected Commit (\$) | Projected Commit (\$) |
| Real Estate      | \$ 30,000,000         | \$ 45,000,000         | \$ 40,000,000         | \$ 40,000,000         | \$ 35,000,000         | \$ 35,000,000         | \$ 35,000,000         |
| Real Estate Core | \$ 30,000,000         | \$ 15,000,000         | \$ 30,000,000         | \$ -                  | \$ 30,000,000         | \$ -                  | \$ 30,000,000         |
| Real Estate Debt | \$ 15,000,000         |                       |                       | \$ 20,000,000         |                       | \$ 20,000,000         |                       |

Annual Commitment (\$)\*

|              |                      |                      |                      |                      |                      |                      |                      |
|--------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>Total</b> | <b>\$ 75,000,000</b> | <b>\$ 60,000,000</b> | <b>\$ 70,000,000</b> | <b>\$ 60,000,000</b> | <b>\$ 65,000,000</b> | <b>\$ 55,000,000</b> | <b>\$ 65,000,000</b> |
|--------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|

|                  | Projected Commit (#) | Projected Commit (#) | Projected Commit (#) | Projected Commit (#) | Projected Commit (#) | Projected Commit (#) | Projected Commit (#) |
|------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Real Estate      | 1                    | 1                    | 1                    | 1                    | 1                    | 1                    | 1                    |
| Real Estate Core | 1                    | 1                    | 1                    |                      | 1                    |                      | 1                    |
| Real Estate Debt | 1                    |                      |                      | 1                    |                      | 1                    |                      |

Number of Commitments\*

|              |          |          |          |          |          |          |          |
|--------------|----------|----------|----------|----------|----------|----------|----------|
| <b>Total</b> | <b>3</b> | <b>2</b> | <b>2</b> | <b>2</b> | <b>2</b> | <b>2</b> | <b>2</b> |
|--------------|----------|----------|----------|----------|----------|----------|----------|

- Assumes additional commitments to both Core and Debt RE Funds in order to maintain a 60/20/20 split between Core/Value-Add/Debt
- Reaching 10% Target within Real Estate will require larger commitments in value-add going forward
- Expectations are that SamCERA will reach the 10% real estate target in 2025

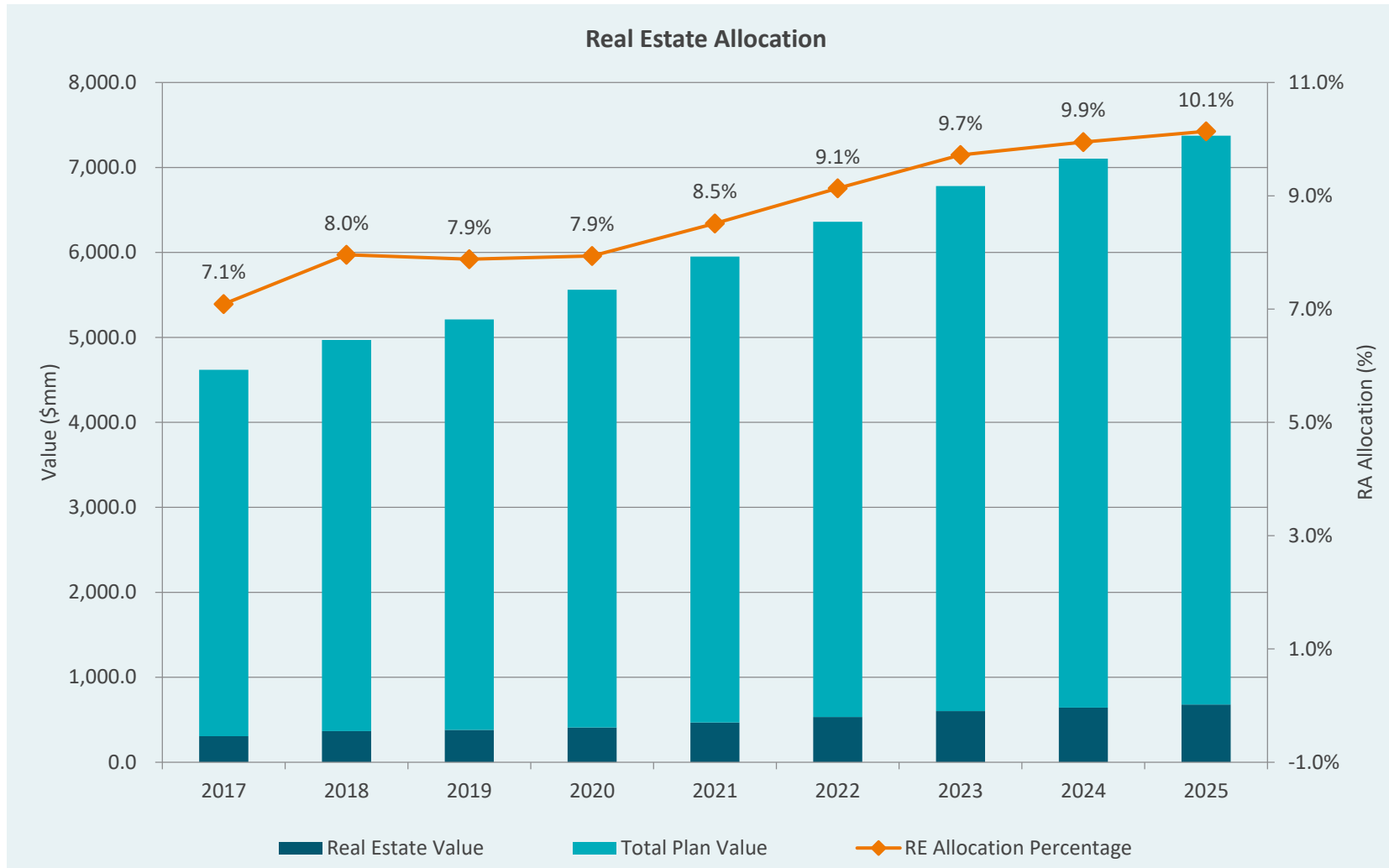
# Projected allocations

| TOTAL PROJECTED ALLOCATIONS                       | 12/31/2019            | 12/31/2020            | 12/31/2021            | 12/31/2022            | 12/31/2023            | 12/31/2024            | 12/31/2025            |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|   | Projected Allocation  | Projected Allocation  | Projected Allocation  | Projected Allocation  | Projected Allocation  | Projected Allocation  | Projected Allocation  |
| Real Estate                                       | \$ 26,488,418         | \$ 33,490,418         | \$ 54,684,418         | \$ 92,797,449         | \$ 123,739,955        | \$ 137,089,955        | \$ 134,339,955        |
| Real Estate Core                                  | \$ 269,030,019        | \$ 289,410,619        | \$ 325,198,832        | \$ 331,702,808        | \$ 368,336,865        | \$ 375,703,602        | \$ 413,217,674        |
| Real Estate Debt                                  | \$ 85,208,628         | \$ 86,060,714         | \$ 86,921,321         | \$ 107,790,535        | \$ 108,868,440        | \$ 129,957,124        | \$ 131,256,696        |
| <b>Total Real Estate</b>                          | <b>\$ 380,727,065</b> | <b>\$ 408,961,752</b> | <b>\$ 466,804,571</b> | <b>\$ 532,290,792</b> | <b>\$ 600,945,260</b> | <b>\$ 642,750,681</b> | <b>\$ 678,814,325</b> |
| Approximate Plan Value - Beginning of Year        | \$ 4,660,521,127      | \$ 4,821,223,176      | \$ 5,141,949,030      | \$ 5,473,965,750      | \$ 5,816,919,148      | \$ 6,169,587,494      | \$ 6,448,077,150      |
| + Verus Growth Assumption (6.5% per year)         | \$ 151,466,937        | \$ 313,379,506        | \$ 334,226,687        | \$ 355,807,774        | \$ 378,099,745        | \$ 401,023,187        | \$ 419,125,015        |
| - Contributions                                   | \$ 9,235,112          | \$ 7,346,348          | \$ (2,209,968)        | \$ (12,854,375)       | \$ (25,431,399)       | \$ (122,533,531)      | \$ (185,100,923)      |
| = Plan Value - End of Year                        | \$ 4,821,223,176      | \$ 5,141,949,030      | \$ 5,473,965,750      | \$ 5,816,919,148      | \$ 6,169,587,494      | \$ 6,448,077,150      | \$ 6,682,101,241      |
| <b>Real Estate as a % of Plan (Target ~10.0%)</b> | <b>7.90%</b>          | <b>7.95%</b>          | <b>8.53%</b>          | <b>9.15%</b>          | <b>9.74%</b>          | <b>9.97%</b>          | <b>10.16%</b>         |
| Real Estate % of Total Real Estate                | 6.96%                 | 8.19%                 | 11.71%                | 17.43%                | 20.59%                | 21.33%                | 19.79%                |
| Real Estate Core % of Total Real Estate           | 70.66%                | 70.77%                | 69.66%                | 62.32%                | 61.29%                | 58.45%                | 60.87%                |
| Real Estate Debt % of Total Real Estate           | 22.38%                | 21.04%                | 18.62%                | 20.25%                | 18.12%                | 20.22%                | 19.34%                |

- Annual projected value of each real estate segment based on the prior pages commitment schedule
- Initial overweight in Core Real Estate is reduced over time as commitments are made in value-add



# Projected real estate allocation



**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**  
**Board of Retirement**

December 3, 2019

Agenda Item 6.6

**TO:** Board of Retirement

**FROM:** Michael Coultrip, Chief Investment Officer *Michael R. Coultrip*

**SUBJECT:** Report on Securitized Fixed Income and Absolute Return Short-List Managers

**Recommendation**

Review the report on the securitized core fixed and absolute return short-list managers.

**Background**

In September the Board approved an updated asset allocation policy, with the largest changes being the removal of risk parity and a resulting increase in the allocation of core fixed income from 14% to 21%. In October the Board approved an implementation plan that adds this core fixed income exposure in multiple stages.

**Discussion**

Staff and consultant propose adding two new strategies to implement this increased core fixed income exposure in two stages. In the first stage, staff proposes implementing a securitized core fixed income strategy. A securitized core strategy is expected to provide a higher yield with a slightly lower interest rate sensitivity compared to the aggregate index, along with diversification to SamCERA's existing core fixed income managers.

SamCERA staff and consultant conducted analysis on the securitized core fixed income universe and identified an initial subset of four managers to send due diligence questionnaires. The attached search document from Verus summarizes these four strategies and compares the performance and portfolio characteristics of each. After reviewing the questionnaire responses, two potential strategies were selected as shortlist managers to conduct onsite due diligence visits.

The allocation to absolute return is unchanged in the new policy, but staff and consultant propose further diversifying the manager risk within the program. SamCERA currently has two strategies within its absolute return program: 1) an alternative hedge fund risk premia strategy, and 2) a global multi-strategy. Staff and consultant intend to add two additional strategies to further diversify each of these two existing strategies within the absolute return program. Three managers were sent due diligence questionnaires, and after reviewing the questionnaire responses, two strategies were selected as shortlist managers to conduct onsite due diligence visits.

A Verus short-list manager search memo will be provided to the Board before the meeting. Margaret Jadallah and Joe Abdou from Verus will review this report with the Board.

**Attachment**

Verus Securitized Fixed Income Manager Search



# **PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS**



**November 2019**

Securitized Fixed Income Search

**San Mateo County Employees' Retirement Association**

# I. Manager overview

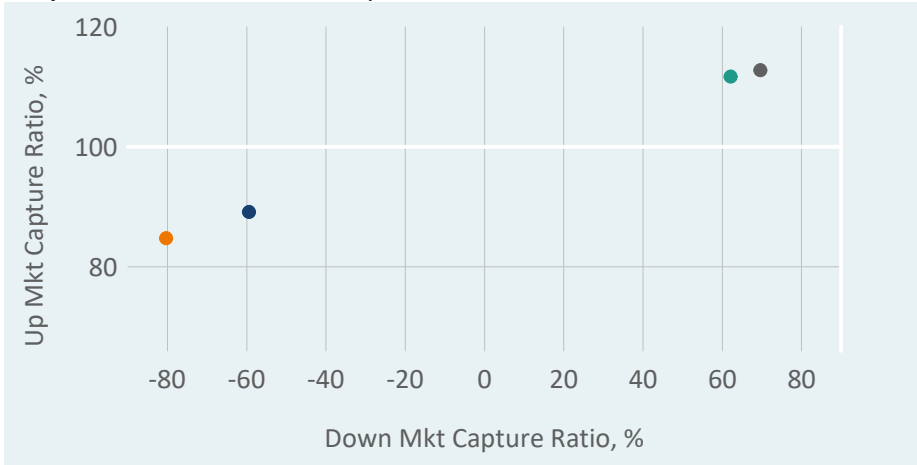
# Manager comparison

|                       | <b>BBH</b>                    | <b>DoubleLine</b>                                  | <b>Loomis</b>                                 | <b>TCW</b>                           |
|-----------------------|-------------------------------|--|---|--------------------------------------|
| FIRM OWNERSHIP        | 100% employee owned           | 80% employee owned, 20% Oaktree Capital Management | 100% owned by Natixis Global Asset Management | 40% employee owned, 60% parent owned |
| FIRM NAME             | Brown Brothers Harriman & Co. | DoubleLine   | Loomis, Sayles & Company, L.P.                | The TCW Group, Inc.                  |
| PRODUCT NAME          | BBH Structured Fixed Income   | Total Return                                       | Investment Grade Securitized                  | TCW Securitized Opportunities        |
| FIRM TOTAL AUM (\$MM) | \$68,501                      | \$140,040  | \$278,159                                     | \$205,387                            |
| STRATEGY AUM (\$MM)   | \$2,045                       | \$63,210   | \$1,185                                       | \$4,199                              |
| INCEPTION DATE        | Jan-16                        | Apr-10   | May-06  | Jan-92                               |
| PREFERRED BENCHMARK   | Bloomberg Barclays ABS        | Bloomberg Barclays US Aggregate                    | Bloomberg Barclays US Securitized             | Bloomberg Barclays US Aggregate      |
| INVESTMENT APPROACH   | Fundamental                   | Fundamental  | Combined                                      | Fundamental                          |
| SCREENING APPROACH    | Bottom-Up                     | Combined   | Combined                                      | Bottom-Up                            |
| STYLE EMPHASIS        | Asset-Backed Securities (ABS) | Securitized / Collateralized                       | Agency Mortgage-Backed Securities (MBS)       | Securitized / Collateralized         |

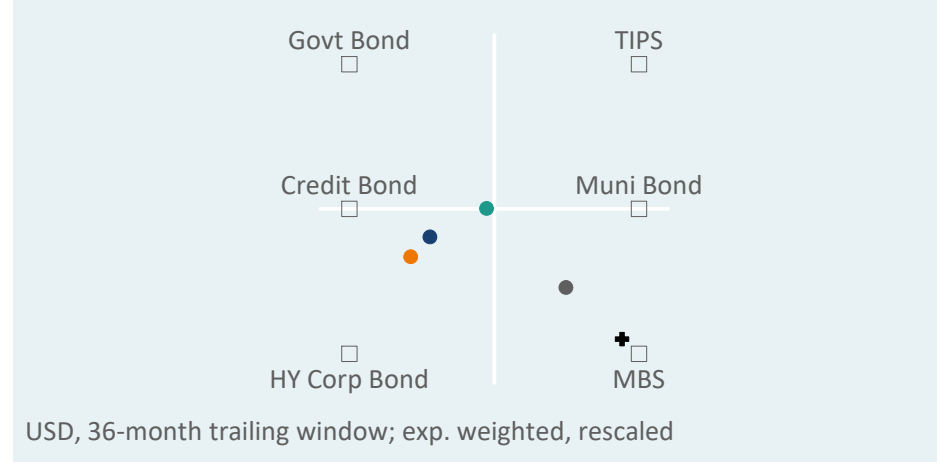
# Style and portfolio comparison

● BBH ● DoubleLine ● Loomis ● TCW + Bloomberg Barclays US Securitized

UP/DOWN MARKET CAPTURE, JAN-16 TO SEP-19



BARCAP 6-INDEX MAP, DEC-18 TO SEP-19

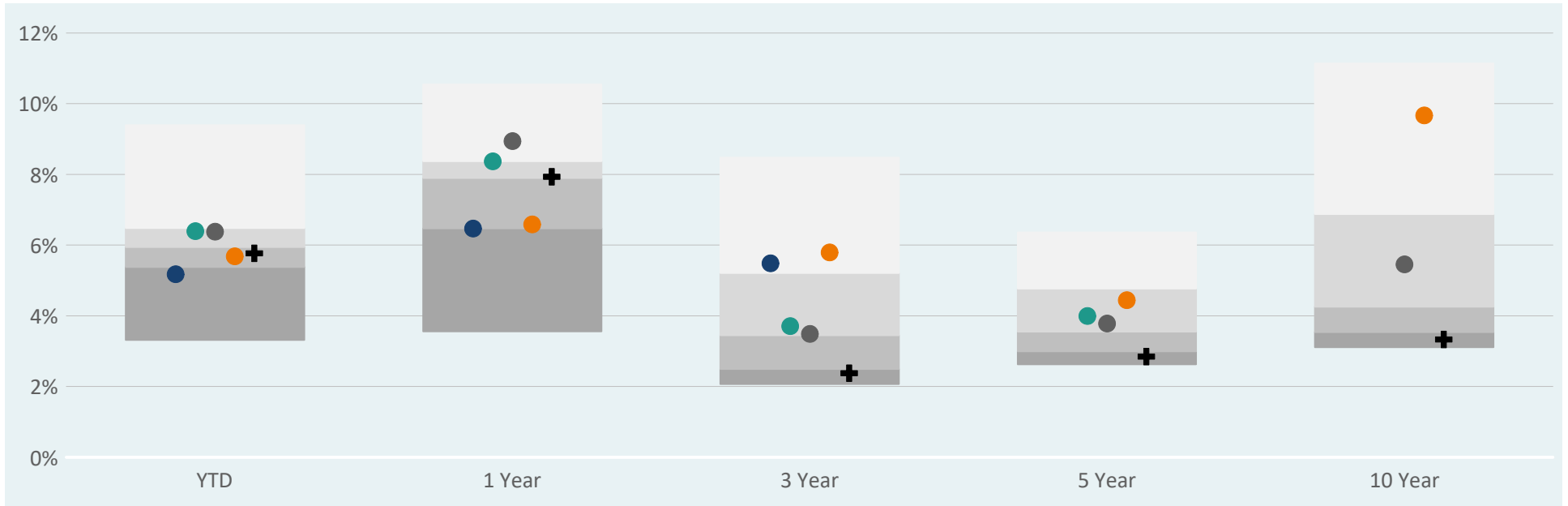


|                       | BBH  | DoubleLine | Loomis | TCW  |
|-----------------------|------|------------|--------|------|
| YIELD TO MATURITY     | 4.4% | 3.0%       | 3.7%   | 3.2% |
| EFFECTIVE DURATION    | 2.1  | 3.5        | 3.7    | 1.9  |
| AVERAGE QUALITY ISSUE | A    | A          | AA     | BBB  |
| HIGH YIELD            | 0.8% | 0.0%       | 0.0%   | 0.0% |

# Performance comparison - as of September 2019

● BBH ● DoubleLine ● Loomis ● TCW + Bloomberg Barclays US Securitized

## PERFORMANCE TO DATE

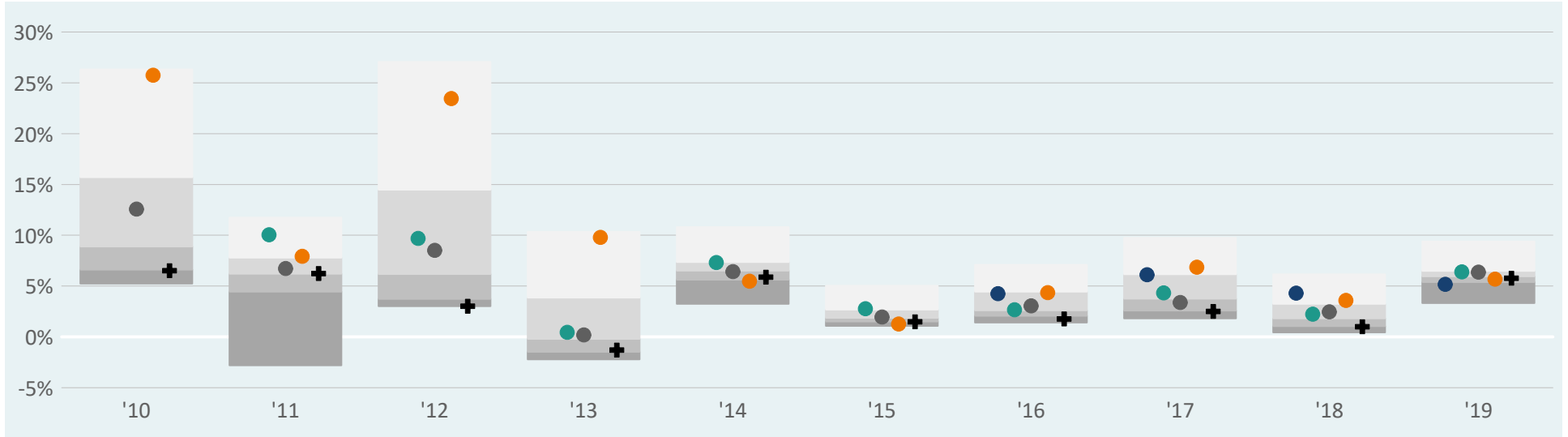


| EXCESS ANNUALIZED RETURN TO DATE, % | YTD  | 1 Year | 3 Year | 5 Year | 10 Year |
|-------------------------------------|------|--------|--------|--------|---------|
| BBH                                 | -0.6 | -1.5   | 3.1    | ---    | ---     |
| DoubleLine                          | 0.6  | 0.4    | 1.3    | 1.2    | ---     |
| Loomis                              | 0.6  | 1.0    | 1.1    | 0.9    | 2.1     |
| TCW                                 | -0.1 | -1.3   | 3.4    | 1.6    | 6.3     |

# Calendar year performance

● BBH ● DoubleLine ● Loomis ● TCW + Bloomberg Barclays US Securitized

## ANNUAL PERFORMANCE



| ANNUAL PERFORMANCE AND RANKING    | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|
| BBH                               |      |      |      |      |      |      | 4.3  | 6.1  | 4.3  | 5.2  |
| Rank                              |      |      |      |      |      |      | 28   | 25   | 10   | 77   |
| DoubleLine                        |      | 10.1 | 9.7  | 0.5  | 7.3  | 2.8  | 2.7  | 4.3  | 2.2  | 6.4  |
| Rank                              |      | 12   | 36   | 43   | 27   | 22   | 49   | 42   | 42   | 27   |
| Loomis                            | 12.6 | 6.7  | 8.5  | 0.2  | 6.4  | 2.0  | 3.1  | 3.4  | 2.5  | 6.4  |
| Rank                              | 36   | 36   | 42   | 47   | 53   | 45   | 44   | 56   | 38   | 29   |
| TCW                               | 25.8 | 7.9  | 23.5 | 9.8  | 5.5  | 1.3  | 4.4  | 6.9  | 3.6  | 5.7  |
| Rank                              | 5    | 23   | 9    | 8    | 78   | 90   | 26   | 14   | 21   | 66   |
| Bloomberg Barclays US Securitized | 6.5  | 6.2  | 3.0  | -1.3 | 5.9  | 1.5  | 1.8  | 2.5  | 1.0  | 5.8  |
| Rank                              | 77   | 50   | 95   | 72   | 72   | 79   | 88   | 80   | 81   | 64   |



# Performance summary - as of September 2019

|   | BBH   | DoubleLine | Loomis | TCW  | Bloomberg Barclays<br>US Securitized |
|---|-------|------------|--------|------|--------------------------------------|
| <b>PERFORMANCE ANALYSIS - (3 Years)</b> |       |            |        |      |                                      |
| Alpha %                                 | 3.6   | 1.4        | 1.1    | 4.0  | 0.0                                  |
| Beta                                    | 0.2   | 0.9        | 0.9    | 0.2  | 1.0                                  |
| R-squared %                             | 37.8  | 89.2       | 95.5   | 18.5 | 100.0                                |
| Sharpe Ratio                            | 4.6   | 1.0        | 0.8    | 4.6  | 0.4                                  |
| Treynor Ratio                           | 0.2   | 0.0        | 0.0    | 0.3  | 0.0                                  |
| Tracking Error %                        | 2.0   | 0.8        | 0.5    | 2.1  | 0.0                                  |
| Annualized Std Dev %                    | 0.9   | 2.4        | 2.4    | 0.9  | 2.5                                  |
| Information Ratio                       | 1.5   | 1.7        | 2.2    | 1.5  | ---                                  |
| Max Drawdown %                          | 0.0   | -1.8       | -1.7   | 0.0  | -2.0                                 |
| Calmar Ratio                            | 227.8 | 2.1        | 2.1    | 0.0  | 1.2                                  |
| Excess Ann. Return %                    | 3.1   | 1.3        | 1.1    | 3.4  | 0.0                                  |
| <b>PERFORMANCE TO DATE</b>              |       |            |        |      |                                      |
| 1 Year                                  | 6.5   | 8.4        | 8.9    | 6.6  | 7.9                                  |
| 3 Year                                  | 5.5   | 3.7        | 3.5    | 5.8  | 2.4                                  |
| 5 Year                                  | ---   | 4.0        | 3.8    | 4.4  | 2.8                                  |
| 7 Year                                  | ---   | 3.9        | 3.6    | 5.8  | 2.4                                  |
| 10 Year                                 | ---   | ---        | 5.5    | 9.7  | 3.3                                  |
| Common Inception (Jan-16)               | 5.3   | 4.2        | 4.1    | 5.5  | 2.9                                  |
| <b>CALENDAR YEAR RETURNS</b>            |       |            |        |      |                                      |
| 2018                                    | 4.3   | 2.2        | 2.5    | 3.6  | 1.0                                  |
| 2017                                    | 6.1   | 4.3        | 3.4    | 6.9  | 2.5                                  |
| 2016                                    | 4.3   | 2.7        | 3.1    | 4.4  | 1.8                                  |
| 2015                                    | ---   | 2.8        | 2.0    | 1.3  | 1.5                                  |
| 2014                                    | ---   | 7.3        | 6.4    | 5.5  | 5.9                                  |
| 2013                                    | ---   | 0.5        | 0.2    | 9.8  | -1.3                                 |
| 2012                                    | ---   | 9.7        | 8.5    | 23.5 | 3.0                                  |
| 2011                                    | ---   | 10.1       | 6.7    | 7.9  | 6.2                                  |
| 2010                                    | ---   | ---        | 12.6   | 25.8 | 6.5                                  |
| 2009                                    | ---   | ---        | 24.2   | 41.6 | 7.8                                  |

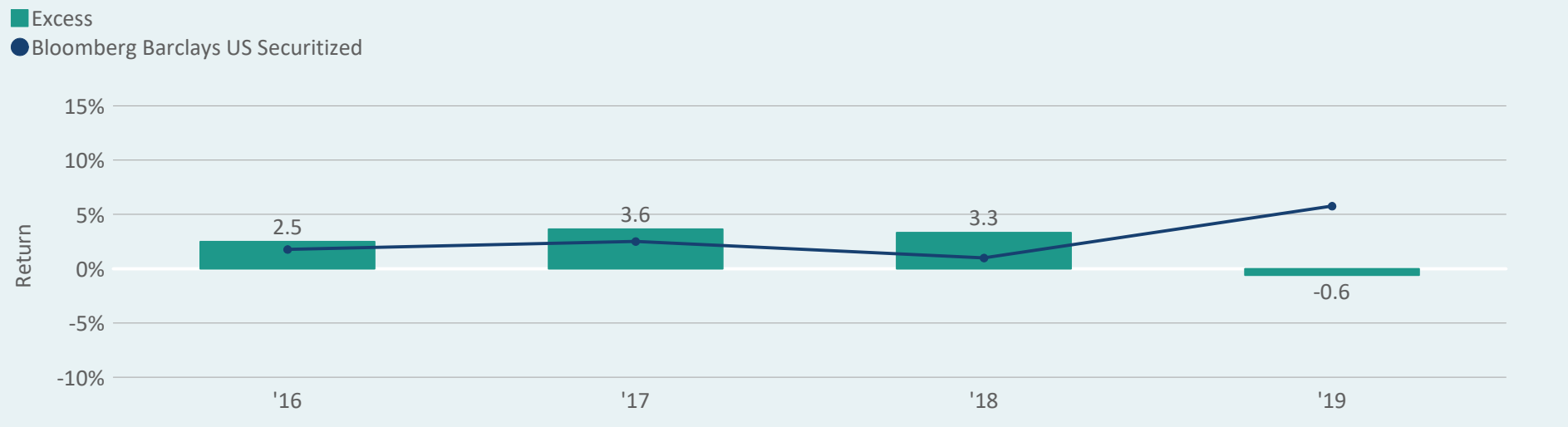
# Investment vehicle information

|                   | INVESTMENT VEHICLES | MINIMUM INVESTMENT | EXPENSE RATIO                                 | FEE SCHEDULE   | Liquidity |
|-------------------|---------------------|--------------------|---|--|-----------|
| <b>BBH</b>        | Separate Account    | \$50MM             | 0.35%<br>0.30%<br>0.25%                       | First \$200MM<br>Next \$200MM<br>Thereafter                                | Daily     |
| <b>DoubleLine</b> | Separate Account    | \$100MM            | 0.37%<br>(0.30% Mgmt Fee/<br>0.07% Admin Fee) | All Assets   | Daily     |
| <b>Loomis</b>     | Separate Account    | \$50MM             | 0.34%<br>0.30%<br>0.25%                       | First \$50MM<br>Next \$50MM<br>Thereafter                                  | Daily     |
| <b>TCW</b>        | Separate Account    | \$75MM             | 1.00%<br>0.50%<br>0.32%<br>0.15%<br>0.10%     | First \$50MM<br>Next \$450MM<br>Next \$500MM<br>Next \$500MM<br>Thereafter | Daily     |

# II. Strategy detail

# Strategy overview - BBH

## ANNUAL PERFORMANCE



## INVESTMENT PHILOSOPHY

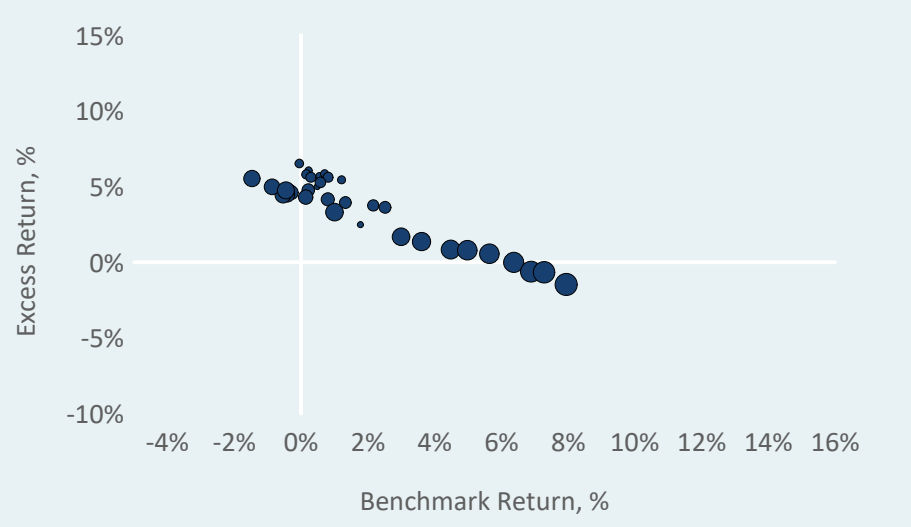
- BBH purchases durable credits when they are available at attractive yields.
- The team believes that credit valuations across fixed income sectors historically offer compensation well in excess of default-driven losses.
- Credit spreads are more volatile than the underlying fundamentals justify, providing a conducive environment for active management.
- BBH believes that a patient, long-term approach is necessary to deliver positive total returns.
- Process is entirely bottom-up.

## TEAM DESCRIPTION

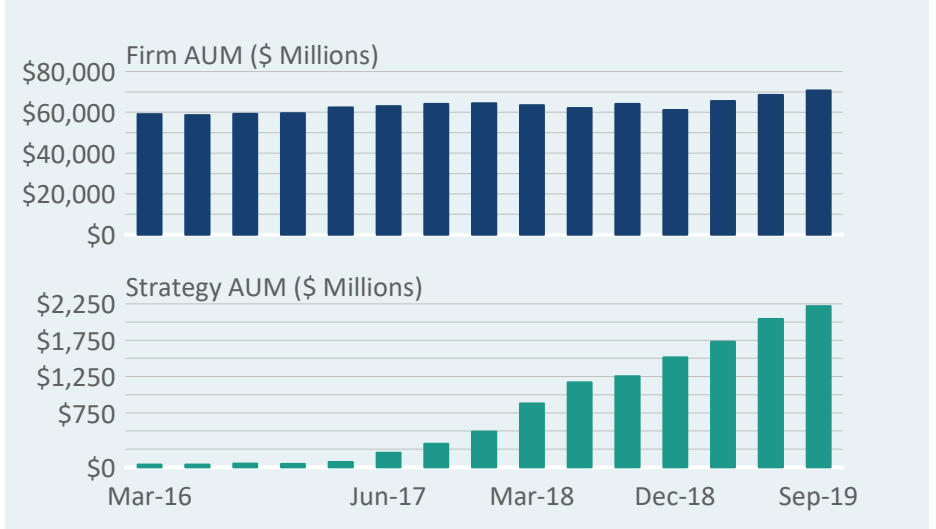
- Team-based approach.
- Seasoned team of structured product professionals.
- PMs work in teams as player-coaches.

# Strategy overview - BBH

12 MONTH EXCESS PERFORMANCE VS. BENCHMARK, DEC-16 TO SEP-19



AUM GROWTH



## PORTFOLIO CONSTRUCTION

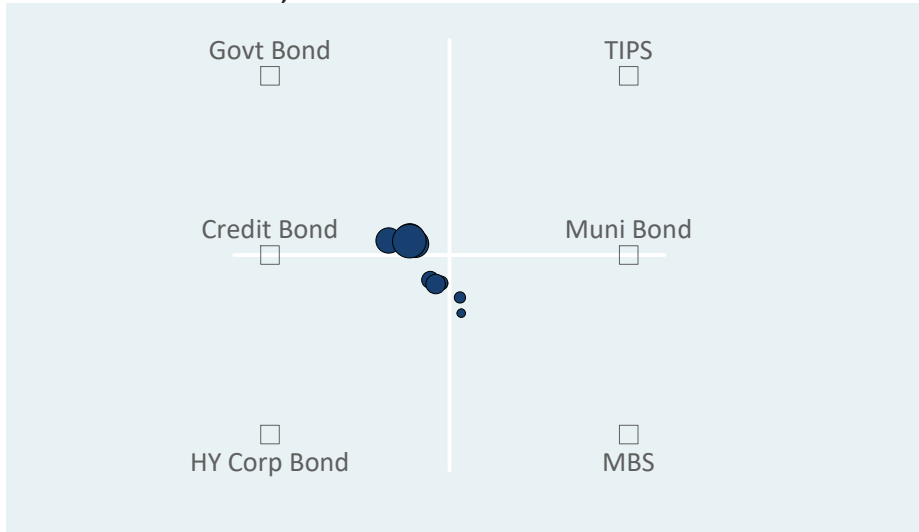
- BBH takes a long-term approach; the team will only invest in credit when it meets both the long-term valuation and credit criteria.
- Portfolio sector exposures take shape one position at a time. The adherence to the long-term approach has resulted in BBH's specialization in high value sectors such as structured credit, loans and municipal revenue bonds.
- Ultimately, value opportunities drive portfolio construction.

## PERFORMANCE SENSITIVITY

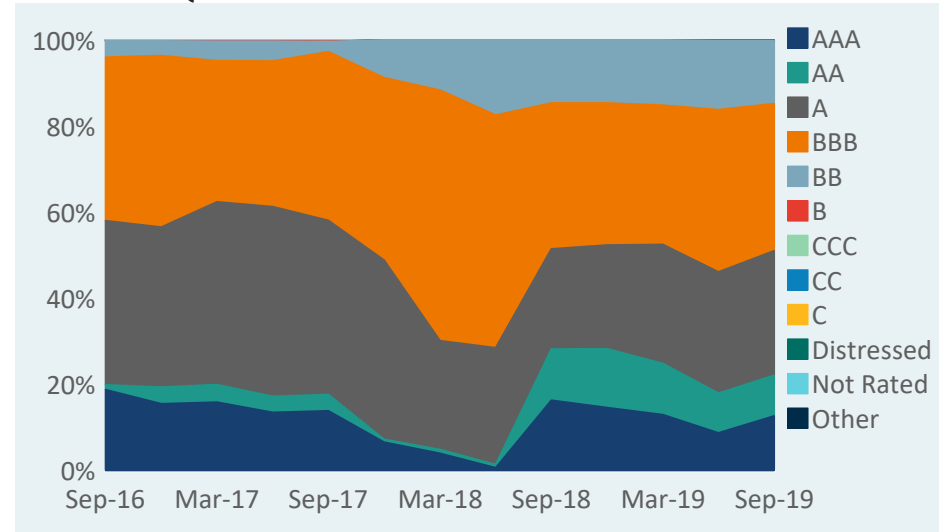
- Tends to do well in rising rate environments due to lower duration profile versus the Barclays Aggregate Index.
- Portfolio tends to do well alongside IG credit.
- ABS markets has historically had a positive Sharpe ratio.

# Strategy overview - BBH

BARCAP 6-INDEX MAP, DEC-18 TO SEP-19



HISTORICAL QUALITY ALLOCATIONS



## DIFFERENTIATING CHARACTERISTICS

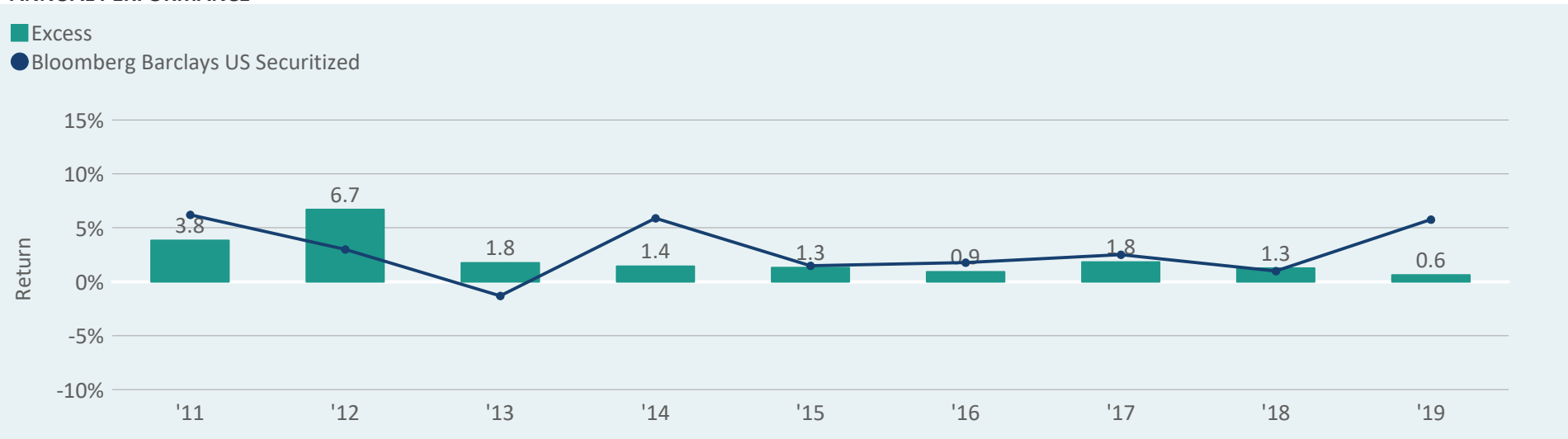
- There is no top-down overlay, no policy group and no view of growth, inflation and rates embedded in the portfolio. The only top-down inputs are risk-limiting (sector concentration, total portfolio risk).
- Portfolio is composed of mostly ABS, CMBS, corporates and a small amount of loans.
- Portfolios are primarily investment grade.

## POTENTIAL CONCERNS

- Securitized index may not be the best index for comparison and performance purposes as the portfolio holds few to no residential MBS positions. Additionally, the portfolio has a significant overweight to ABS versus the benchmark.
- Portfolio can underperform significantly in big rate rallies (ex:2019) due to its short duration positioning.

# Strategy overview - DoubleLine

## ANNUAL PERFORMANCE



## INVESTMENT PHILOSOPHY

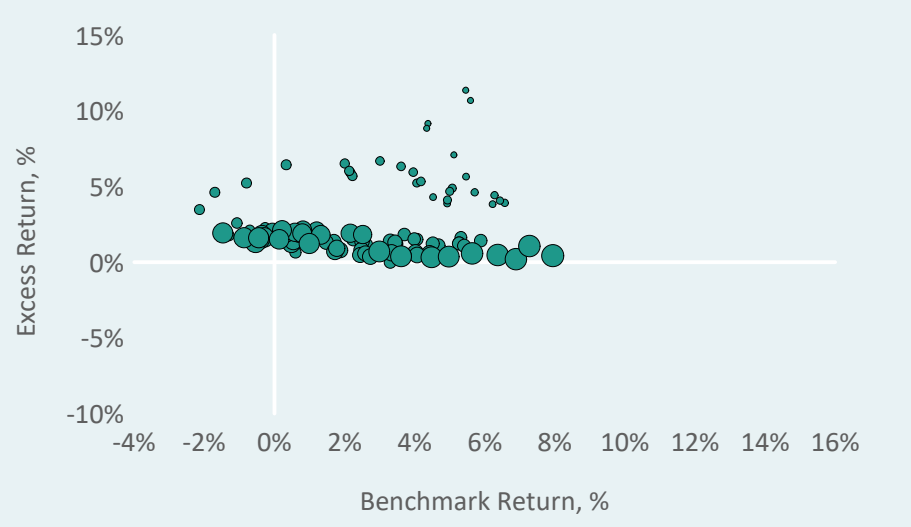
- The team seeks to maximize total return in its portfolios utilizing a mix of structured products with an emphasis on MBS.
- Doubleline believes that the most reliable way to enhance return is to exploit inefficiencies within the subsectors of the structured products market, while maintaining active risk management constraints.
- The team's portfolios typically hold more than 50% in MBS and generally have exposure to other structured products, including ABS and CLOs.
- Credit risk is taken in structured products rather than corporate bonds.

## TEAM DESCRIPTION

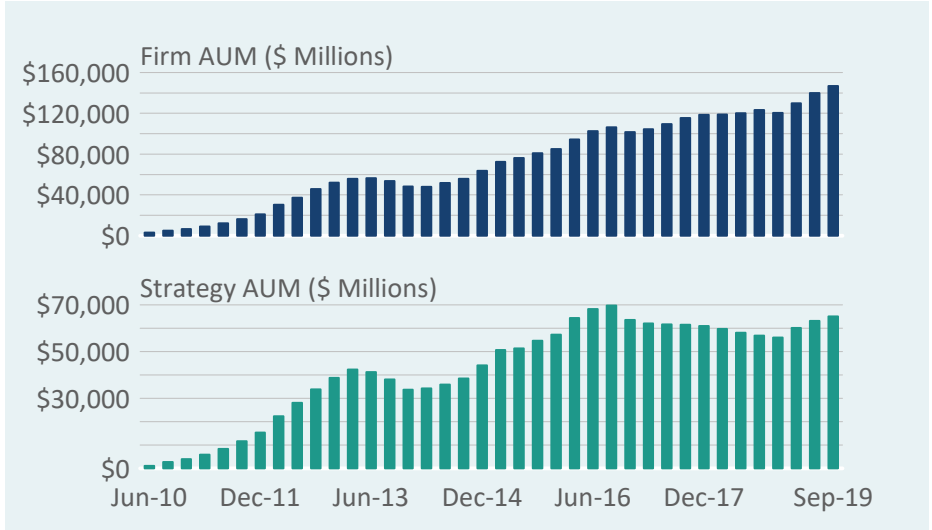
- Led by Jeff Gundlach and Phil Barach.
- Gundlach sets credit risk and duration ranges for portfolios. Sector teams then manage their sleeves from the bottom-up.

# Strategy overview - DoubleLine

12 MONTH EXCESS PERFORMANCE VS. BENCHMARK, APR-11 TO SEP-19



AUM GROWTH



## PORTFOLIO CONSTRUCTION

- Structured products Committee meets weekly to assess relative value and potential risk across sectors.
- This includes incorporation of the firm's macro outlooks.
- The Committee discusses portfolio positioning, strategy and portfolio evaluation, allocation and duration management decisions.
- From a bottom-up perspective, the team focuses on fundamental analysis and research and security selection/relative value.

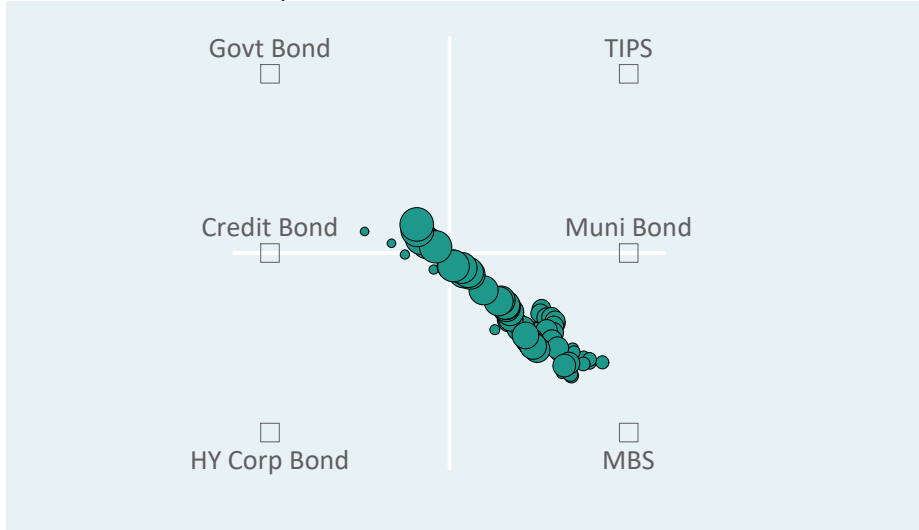
## PERFORMANCE SENSITIVITY

- The portfolio tends to underperform when there is significant outperformance in the corporate bond market.
- Portfolios tend to have lower duration but higher yield than the benchmark. If rates fall, the portfolio may underperform on a duration(price) basis but will make up the difference with higher income.

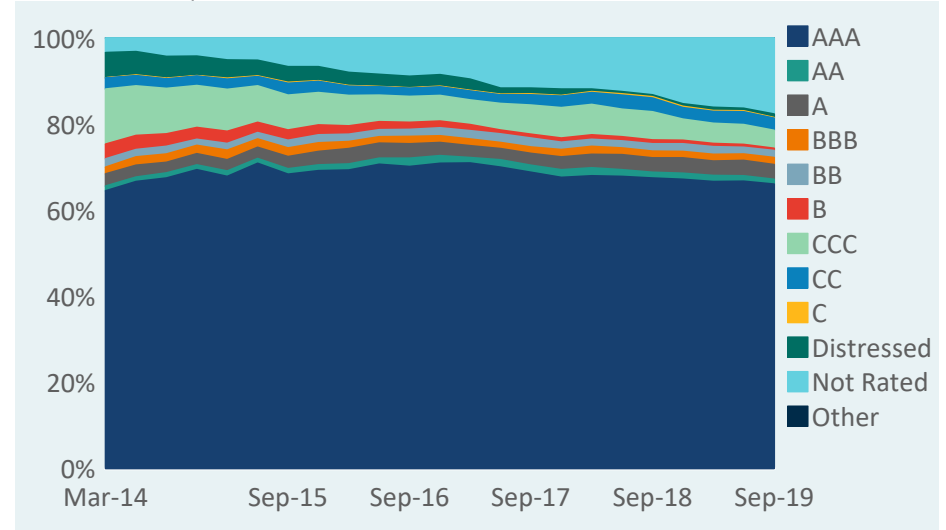


# Strategy overview - DoubleLine

BARCAP 6-INDEX MAP, APR-13 TO SEP-19



HISTORICAL QUALITY ALLOCATIONS



## DIFFERENTIATING CHARACTERISTICS

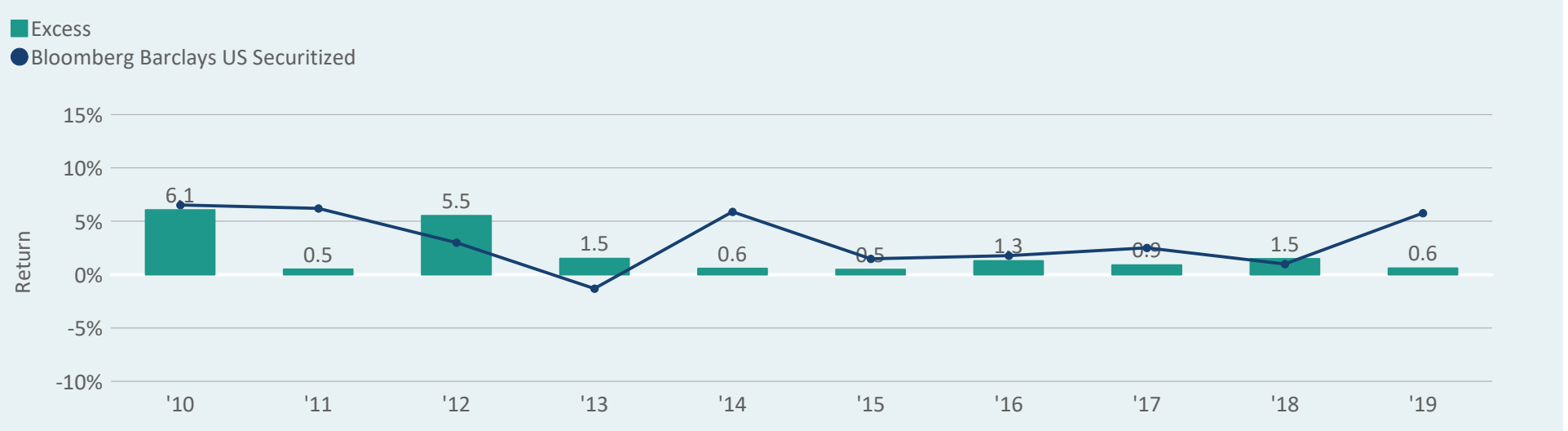
- Portfolio has no exposure to traditional investment grade corporate bonds.
- Significant top-down component embedded in process.
- Active management of interest rate risk. Duration has consistently been lower than the duration of the Barclays Aggregate Index.
- Portfolio will have a sizable allocation to high quality government/agency bonds.

## POTENTIAL CONCERNS

- Historically, this strategy has been popular in retail channels. According to eVestment, only 16% of product AUM is considered institutional.
- Doubleline tends to invest in a lot of Not-Rated issues; they consider their credit process to be robust enough to take advantage of the premium associated with issuers that aren't actively rated.
- Large part of portfolio is invested in non-agency MBS, a shrinking market.
- Significant key person risk with Jeff Gundlach.

# Strategy overview - Loomis

## ANNUAL PERFORMANCE



## INVESTMENT PHILOSOPHY

— Team uses a fundamental, top-down approach to evaluate each sector and then determines the allocation to each sector and the capital structure given the current investment environment. Through intensive research and bottom-up investing, the strategy seeks to identify bonds that have attractive risk/return potential relative to the benchmark.

## TEAM DESCRIPTION

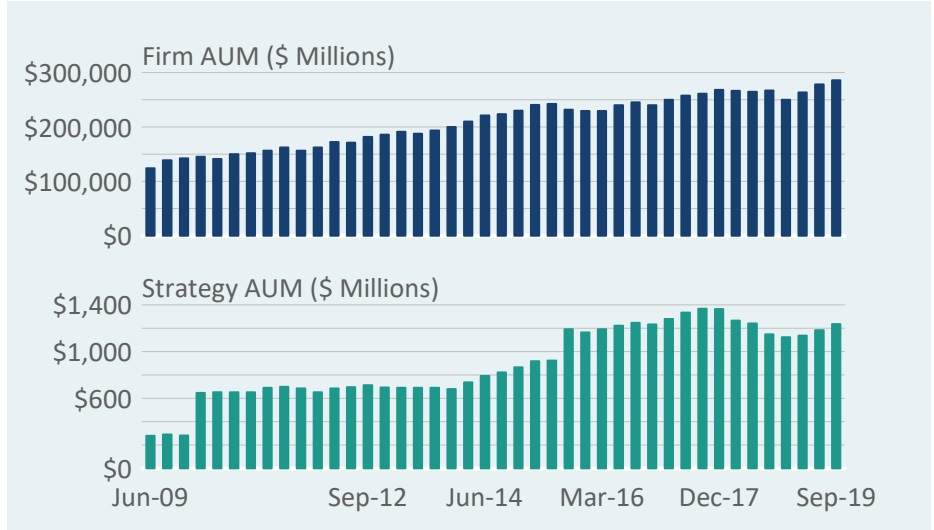
— Team Approach  
 — Loomis Sayles' Mortgage & Structured Finance Team oversees more than \$25 billion of firm wide securitized assets. The team is supported by an investment, research and trading team with decades of experience across Agency MBS and securitized credit. We believe the extent and diversity of the experience represented on the team, as well as the investments Loomis has made in data and technology, are significant advantages given the size and complexity of the securitized market.

# Strategy overview - Loomis

12 MONTH EXCESS PERFORMANCE VS. BENCHMARK, APR-07 TO SEP-19



AUM GROWTH



## PORTFOLIO CONSTRUCTION

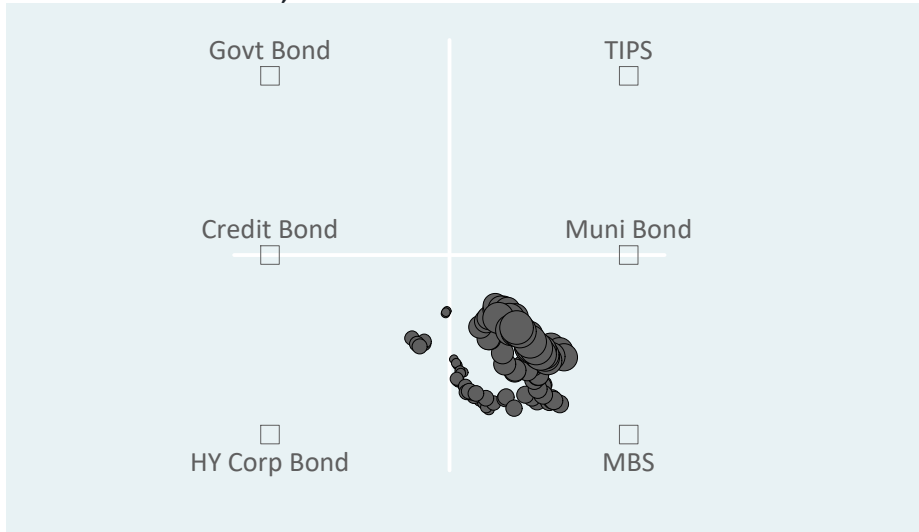
- General top-down macro views are generated during weekly meetings with the Mortgage and Structured Finance Team. The team discusses the current risk posture of the market, spreads and correlations of securitized sectors versus similar corporate and Treasury markets, and make sector allocation recommendations.
- The team uses a fundamental top-down approach in formulating broad sector and capital structure allocation "tranche" recommendations.
- The security selection process uses a bottom-up approach aimed at assigning an independent credit rating, which is used to test the suitability for client portfolios. Scenario analysis is used to understand the risk/return profile of the security.
- Portfolio construction reflects the interaction between portfolio managers and traders in an attempt to achieve efficient implementation of the investment strategy.

## PERFORMANCE SENSITIVITY

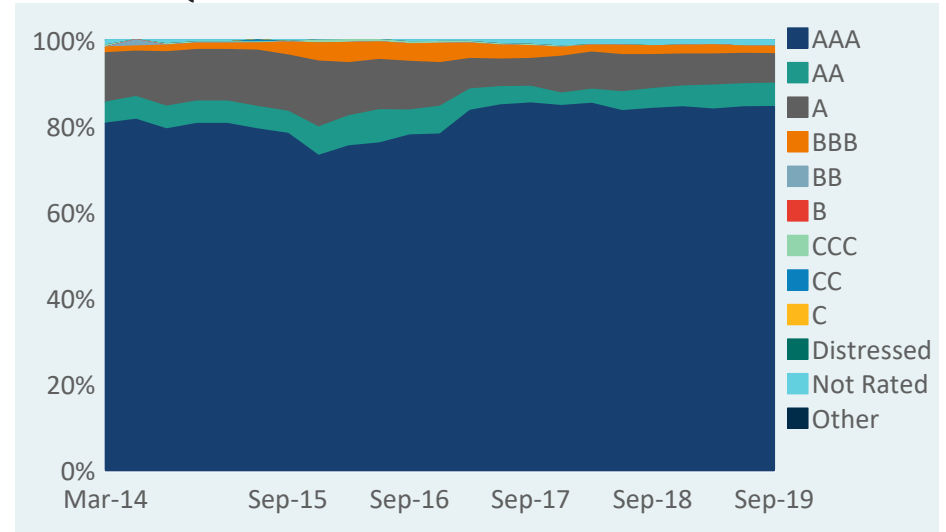
- Portfolios tend to have high Sharpe Ratios as well as attractive UMC/DMC over time. Betas tend to be slightly less than 1.0 versus the Securitized Index.
- Performance tends to be consistent over market cycles, the strategy has outperformed the Barclays Securitized Index for the past ten calendar years.
- Portfolios tend to be high quality and might underperform during low quality rallies.

# Strategy overview - Loomis

BARCAP 6-INDEX MAP, APR-09 TO SEP-19



HISTORICAL QUALITY ALLOCATIONS



## DIFFERENTIATING CHARACTERISTICS

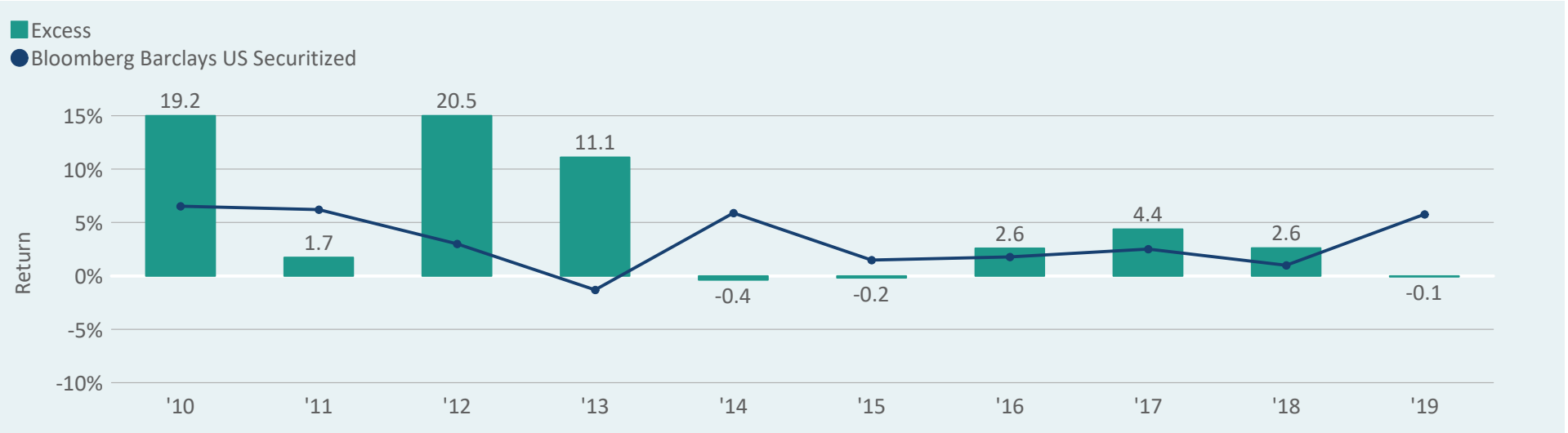
- Strategy is value-oriented, opportunistic, and benchmark-aware that seeks broad exposure to the investment grade securitized markets while providing attractive risk-adjusted returns. The team primarily invests in Agency MBS as well as investment grade ABS, CMBS and Non-Agency RMBS, resulting in a portfolio that is generally very high in quality.

## POTENTIAL CONCERNS

- Portfolios are mostly made up of Agency MBS and ABS. Durations tend to be lower than the Barclays Aggregate Index, resulting in outperformance during rising rate environments versus core fixed income peers.
- Portfolios tend to be high quality and might underperform during low quality rallies.

# Strategy overview - TCW

## ANNUAL PERFORMANCE



## INVESTMENT PHILOSOPHY

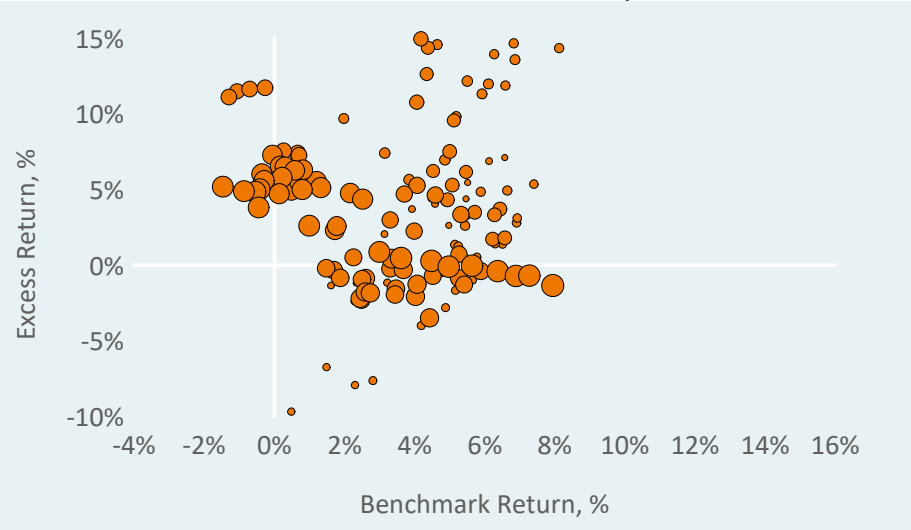
- The team believes that fixed income markets are not efficient, and as a result, bonds often are not priced to accurately reflect fundamental risks. Through careful research TCW can identify and exploit these inefficiencies, which is a more reliable and repeatable way to add value than more macro-focused trades.
- TCW builds portfolios with an eye toward mean-reversion, meaning that market indicators (credit spreads, rates, volatility, etc.) tend to return to long-term average levels and the team structures portfolios to benefit from this movement.
- The firm follows disciplined process of dollar cost averaging across products to build and reduce positions gradually over time, allowing TCW to capture most of the benefit of market movements without having to be terribly precise in picking the top or bottom of markets.

## TEAM DESCRIPTION

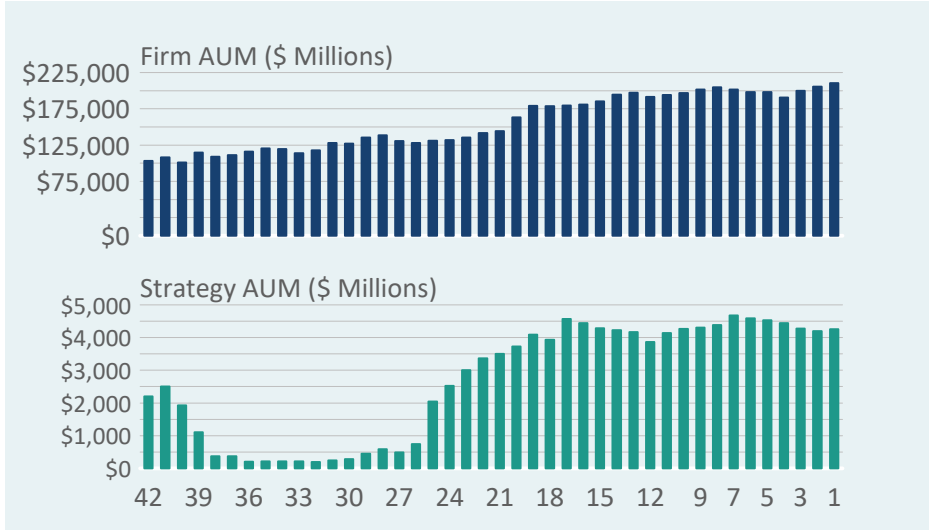
- Team approach.
- Generalist portfolio managers oversee and ensure that the investment philosophy, process, and disciplines used by the team remain consistent. The Generalist team also formulates the long-term investment outlook (in conjunction with the senior Specialist portfolio managers) and sets, communicates, and monitors risk budgets. Specialist portfolio managers are provided with fairly wide autonomy to find opportunity in their sectors and in the implementation of sector strategy.

# Strategy overview - TCW

12 MONTH EXCESS PERFORMANCE VS. BENCHMARK, OCT-04 TO SEP-19



AUM GROWTH



## PORTFOLIO CONSTRUCTION

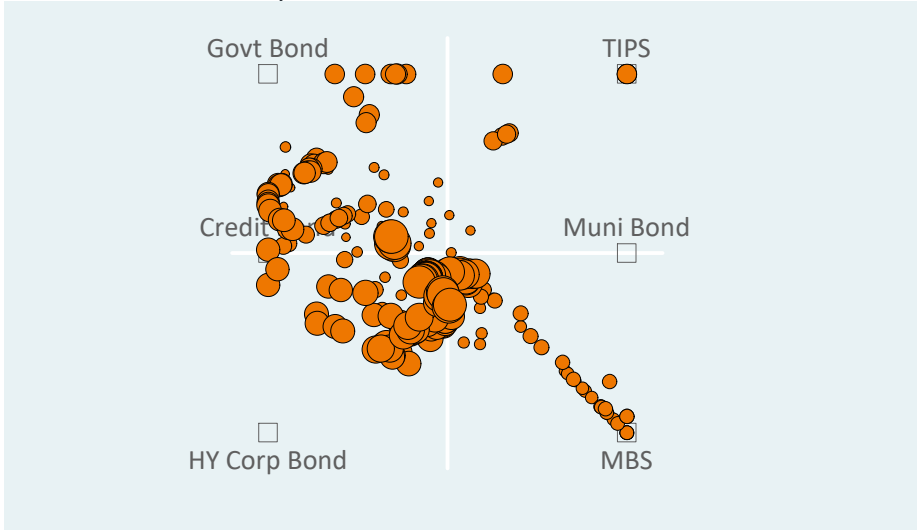
- The TCW Securitized Opportunities investable universe includes but is not limited to: Agency Mortgage-Backed Securities (including CMOs, Stripped Mortgage Securities, and Adjustable Rate Mortgage Securities), Non-Agency Mortgage-Backed Securities, Commercial Mortgage-Backed Securities, Asset Backed Securities and other opportunistic hedging instruments.
- TCW Securitized Opportunities concentrates on in-depth underlying portfolio and structural analysis for a wide range of securitized product securities and the variables affecting the returns of these investments. Emphasis is placed on reducing exposure to those variables which can adversely impact portfolio performance and increasing exposure to those that can improve performance. The net effect of variables such as changing interest rates, market trends, and mortgage refinancing and default activity is carefully quantified using a variety of proprietary analytic tools and models.
- The investment team focuses on bottom up-security selection to identify the most favorable risk-adjusted return investments. By applying a disciplined fundamental-based research effort to distinguish opportunities among security types, the team believes they will provide a competitive return over a full market cycle. This asset-selection technique seeks to create portfolios that the team believes will perform well without requiring substantial turnover, but also enables the portfolio managers to restructure the portfolios to take advantage of evolving market opportunities.

## PERFORMANCE SENSITIVITY

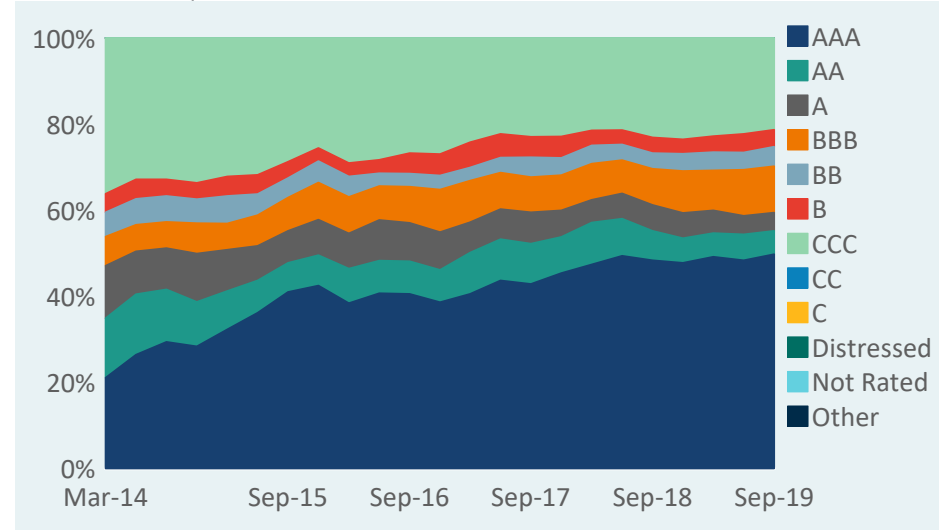
- Objective is to achieve 500 bps of annual performance net of fees over the relevant benchmark.
- The portfolio should experience return variability (measured by standard deviation) consistent with Long Duration fixed income (12-15 year indices).
- Duration tends to be <2.5 years and has a low correlation with credit.

# Strategy overview - TCW

BARCAP 6-INDEX MAP, JAN-00 TO SEP-19



HISTORICAL QUALITY ALLOCATIONS



## DIFFERENTIATING CHARACTERISTICS

- An opportunistic, enhanced total return fixed income strategy that emphasizes residential mortgage, commercial mortgage, and asset-backed securities. The strategy is not managed within a prescribed duration range or credit limitation, and may vary greatly over time.
- Fund does not employ leverage.

## POTENTIAL CONCERNS

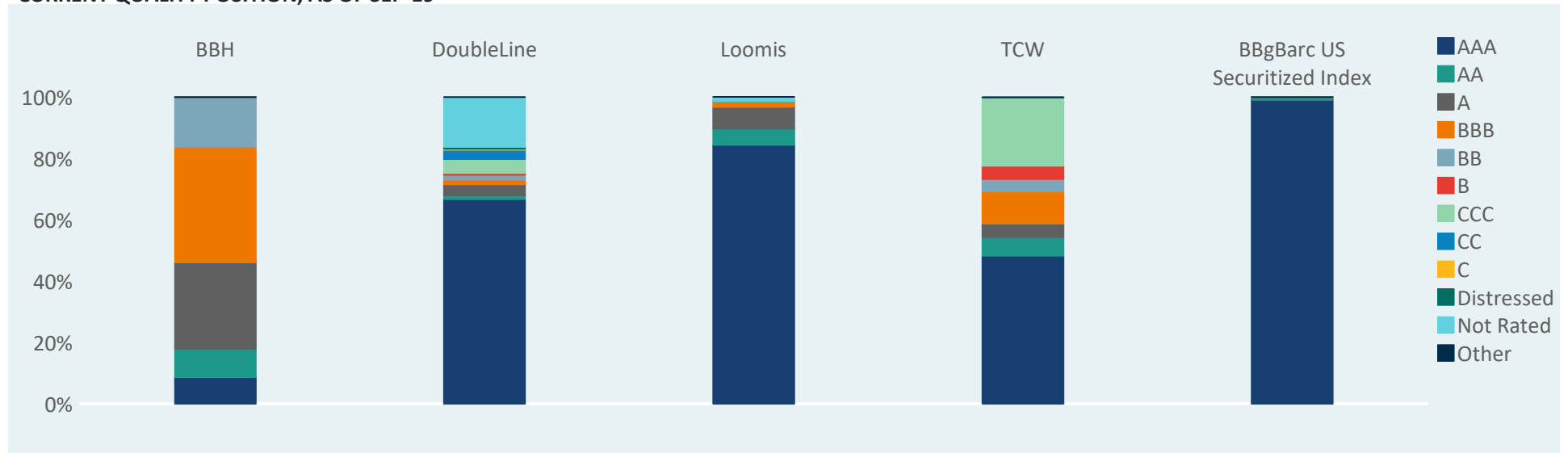
- Durations tend to be lower than the Barclays Aggregate Index, resulting in outperformance during rising rate environments versus core fixed income peers.
- High percentage of CCC rated securities (currently 21% as of 9/30/2019).

# III. Appendix

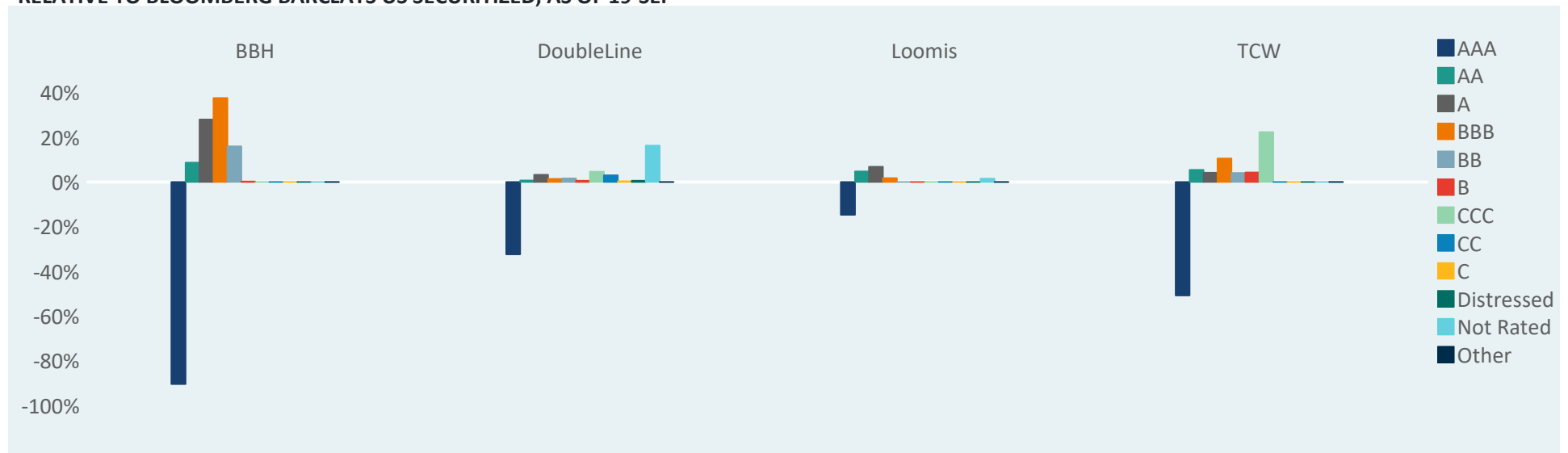


# Quality comparison

CURRENT QUALITY POSITION, AS OF SEP-19

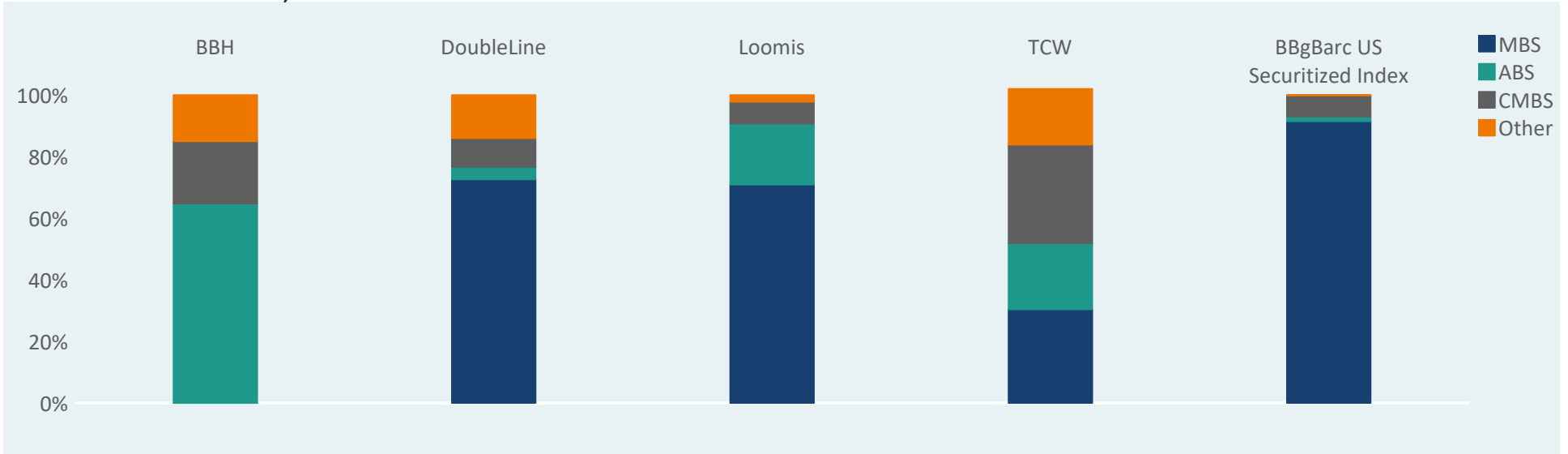


RELATIVE TO BLOOMBERG BARCLAYS US SECURITIZED, AS OF 19-SEP

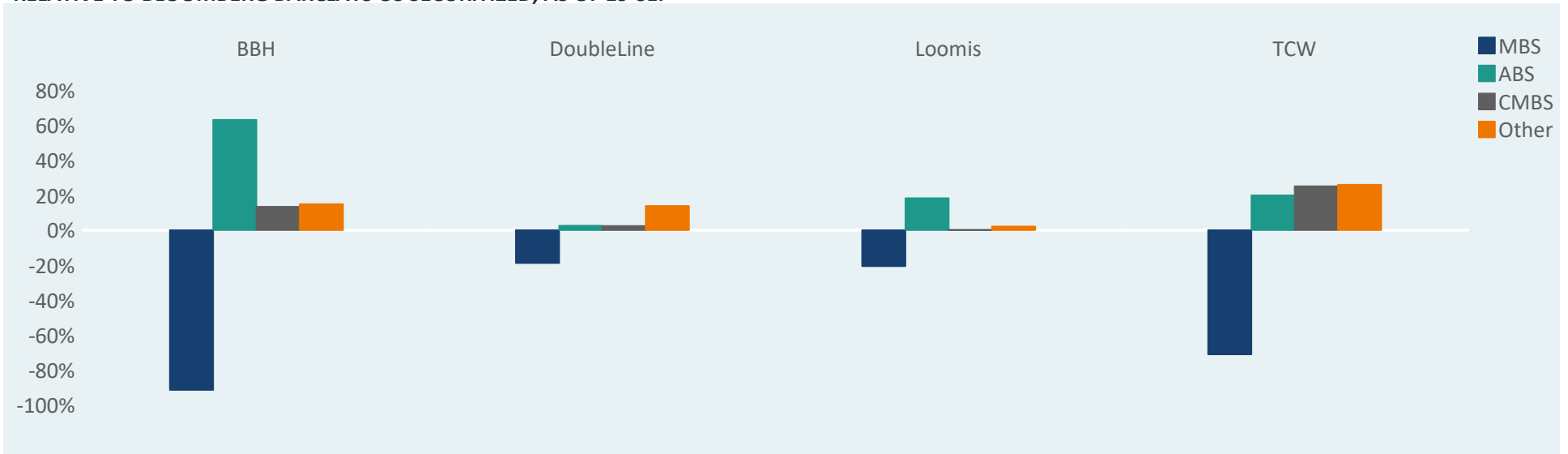


# Sector comparison

CURRENT SECTOR POSITION, AS OF SEP-19



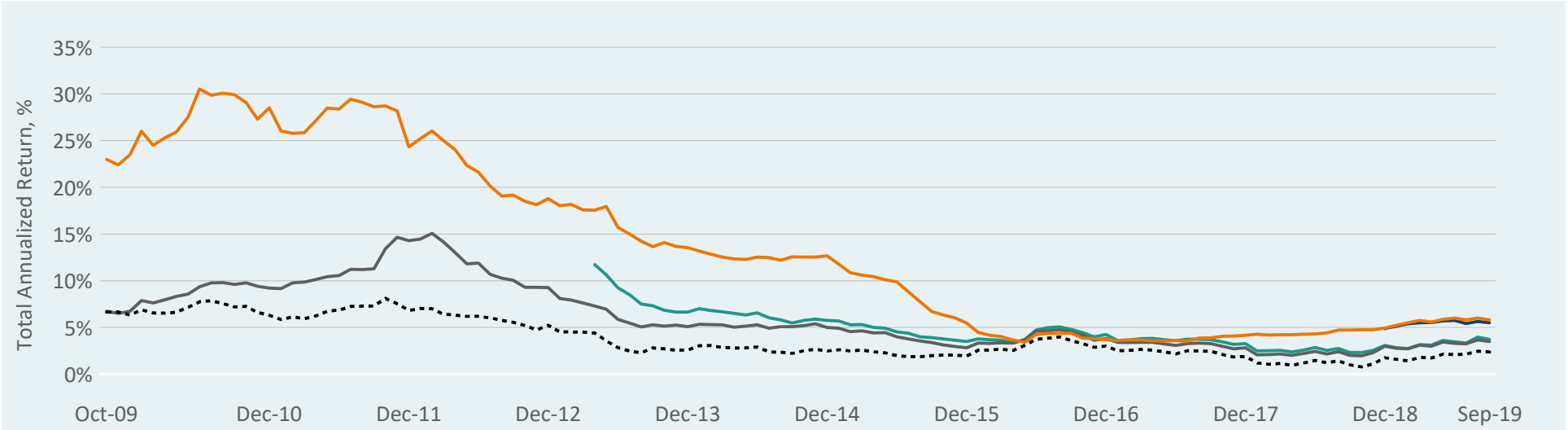
RELATIVE TO BLOOMBERG BARCLAYS US SECURITIZED, AS OF 19-SEP



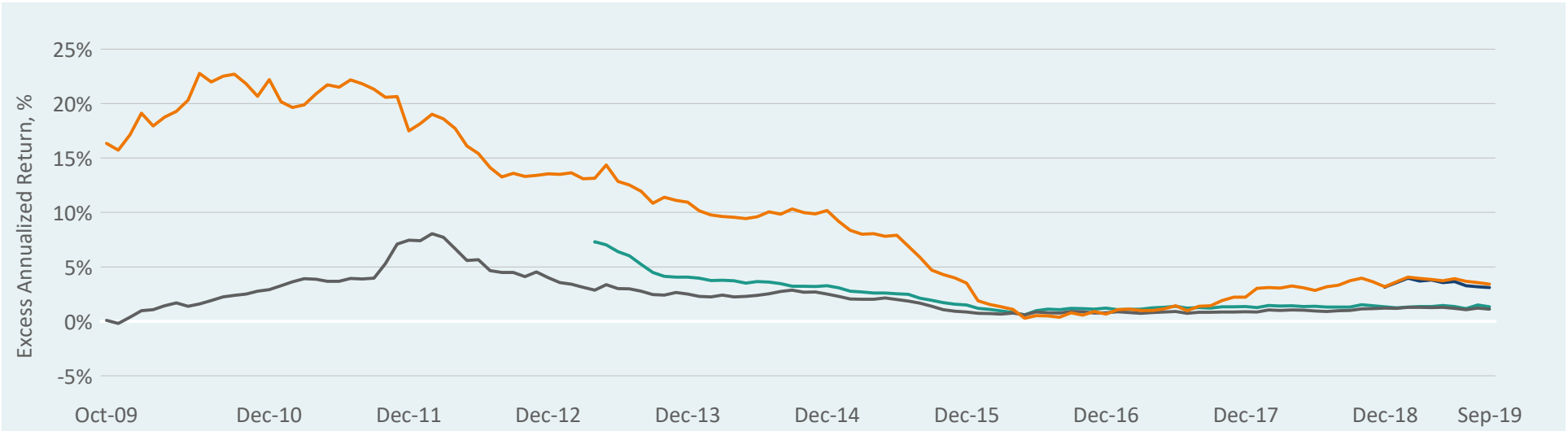
# Rolling performance

● BBH ● DoubleLine ● Loomis ● TCW + Bloomberg Barclays US Securitized

## TOTAL 36 MONTH ROLLING PERFORMANCE



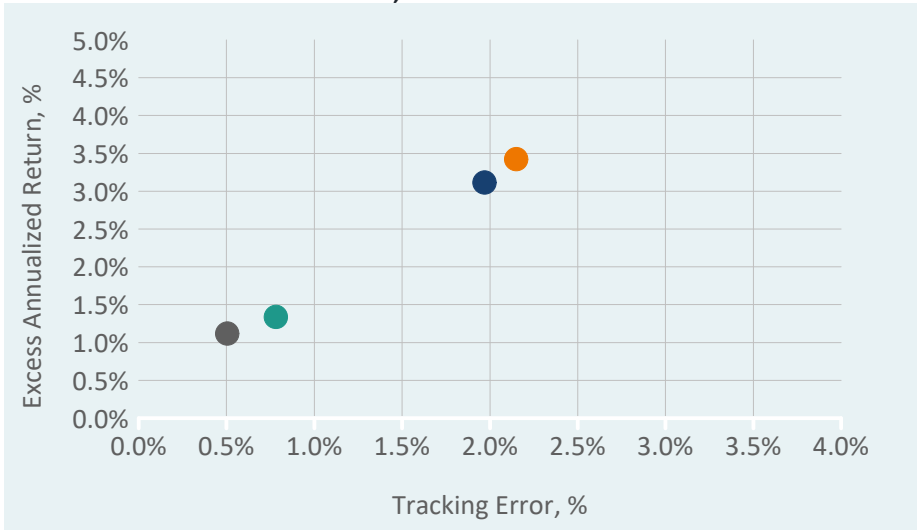
## EXCESS 36 MONTH ROLLING PERFORMANCE



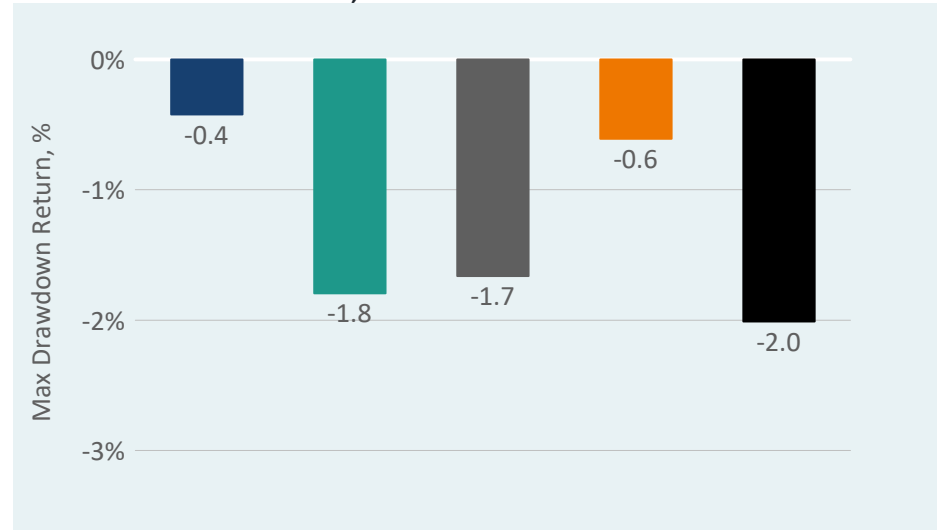
# Performance statistics

● BBH ● DoubleLine ● Loomis ● TCW + Bloomberg Barclays US Securitized

EXCESS PERFORMANCE VS. RISK, OCT-16 TO SEP-19



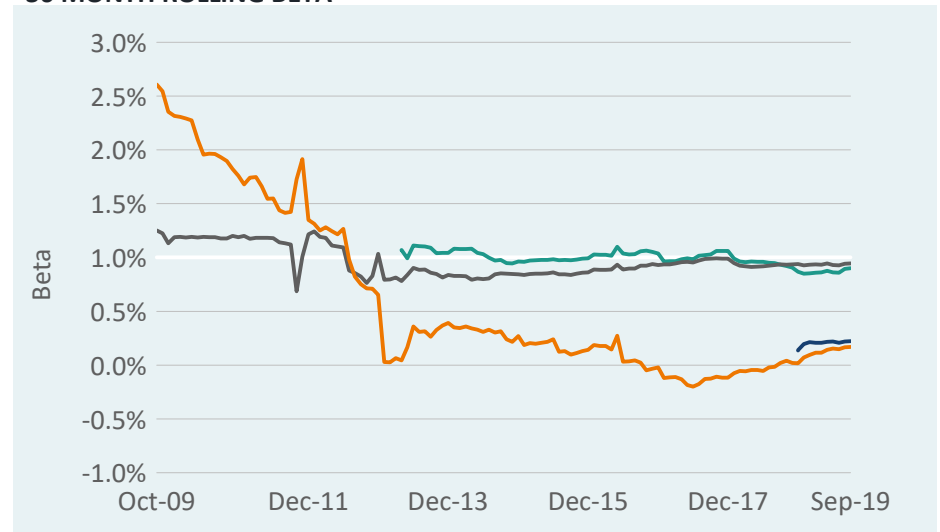
MAX DRAWDOWN RETURN, JAN-16 TO SEP-19



36 MONTH ROLLING ALPHA



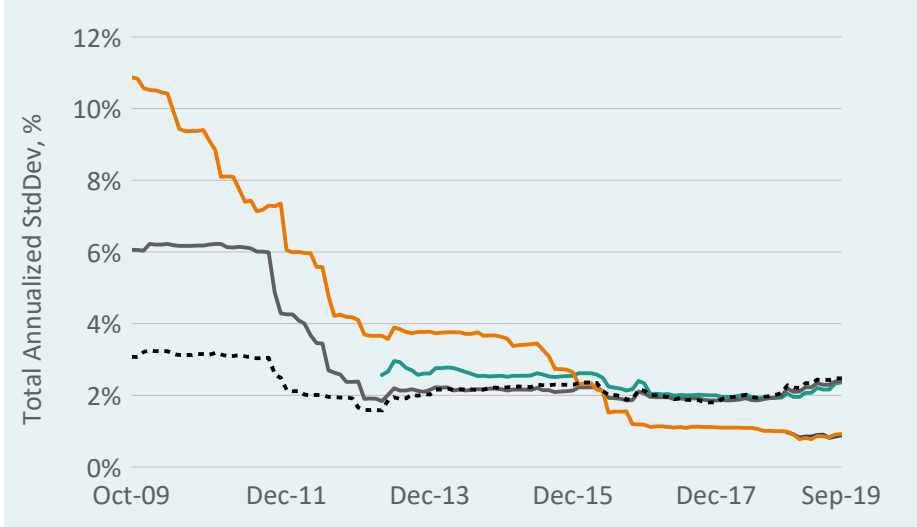
36 MONTH ROLLING BETA



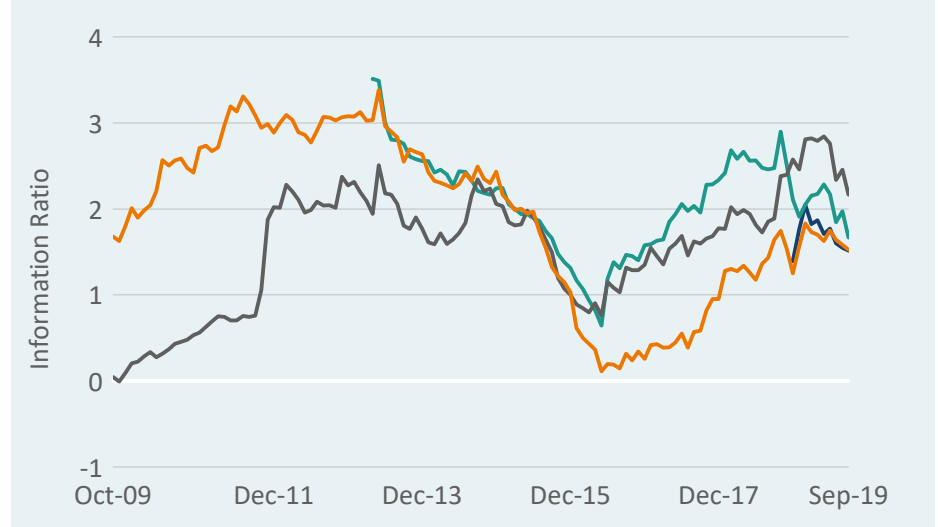
# Performance statistics

● BBH ● DoubleLine ● Loomis ● TCW + Bloomberg Barclays US Securitized

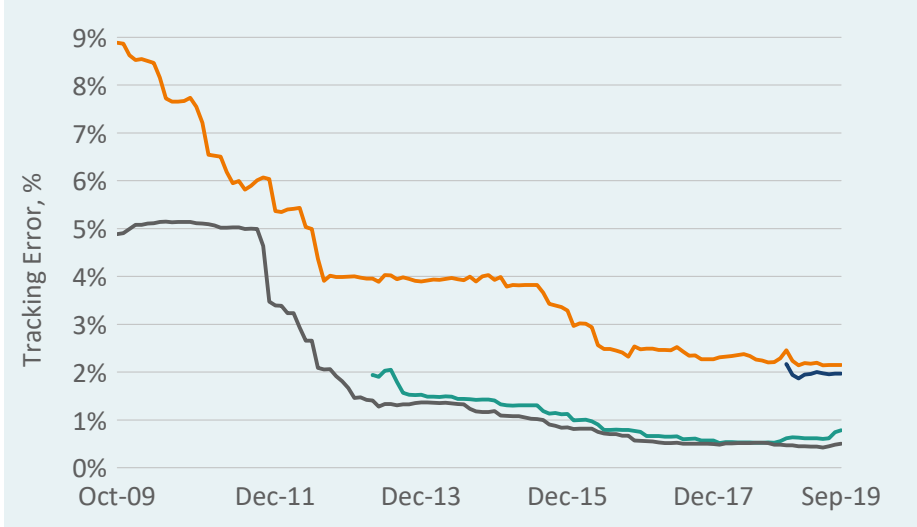
36 MONTH ROLLING RISK



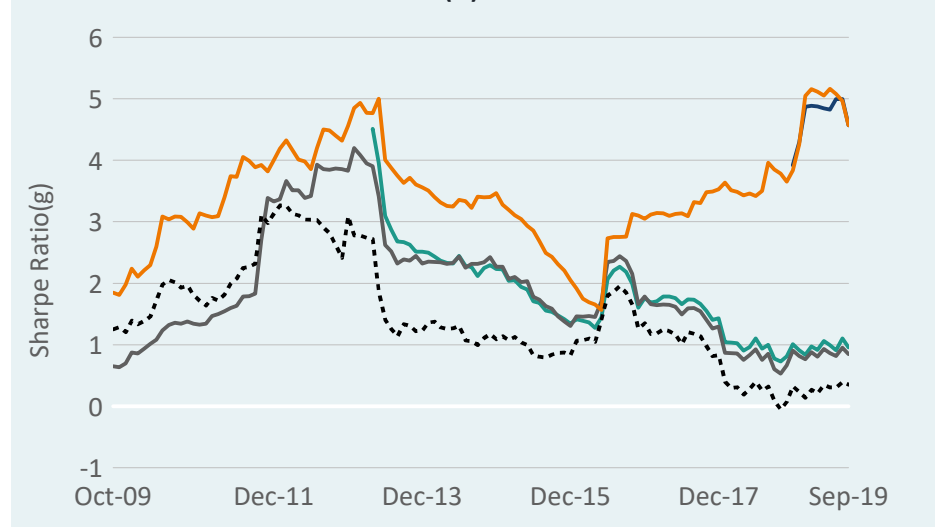
36 MONTH ROLLING INFORMATION RATIO



36 MONTH ROLLING TRACKING ERROR



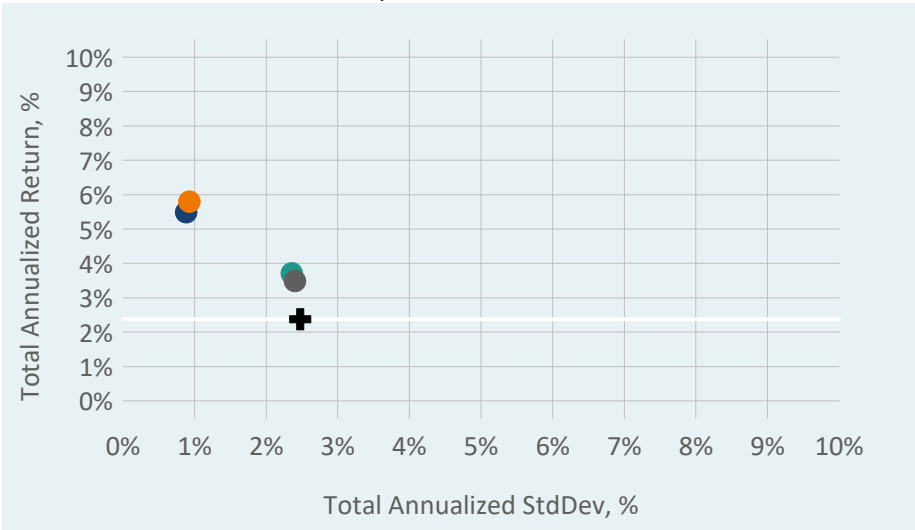
36 MONTH ROLLING SHARPE RATIO(G)



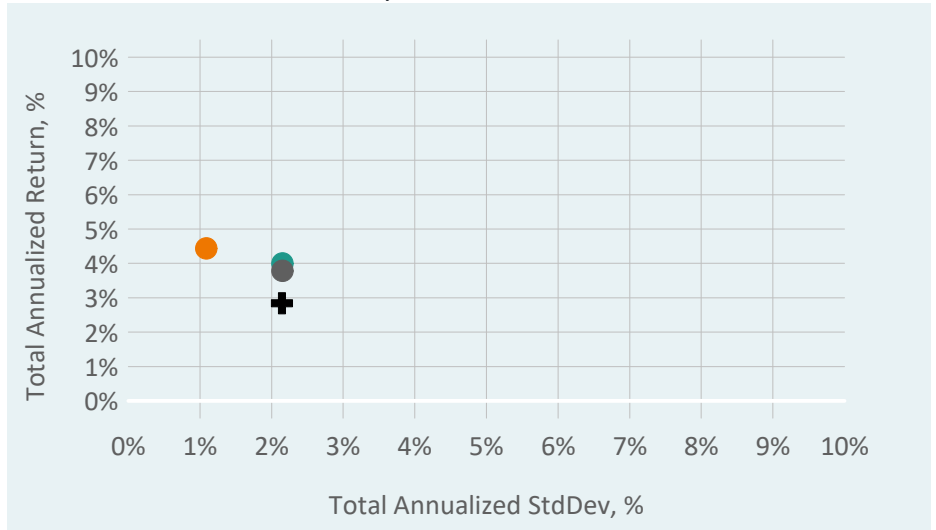
# Risk vs. return

● BBH ● DoubleLine ● Loomis ● TCW + Bloomberg Barclays US Securitized

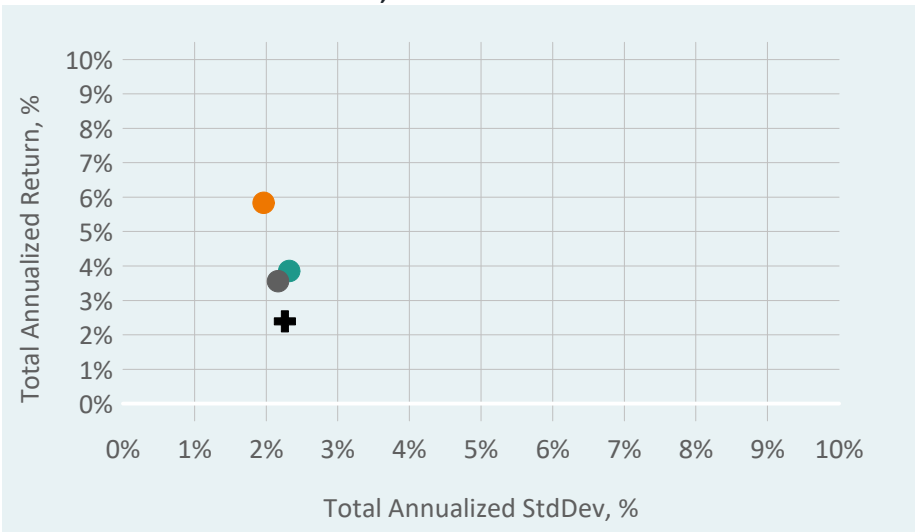
TOTAL PERFORMANCE VS. RISK, OCT-16 TO SEP-19



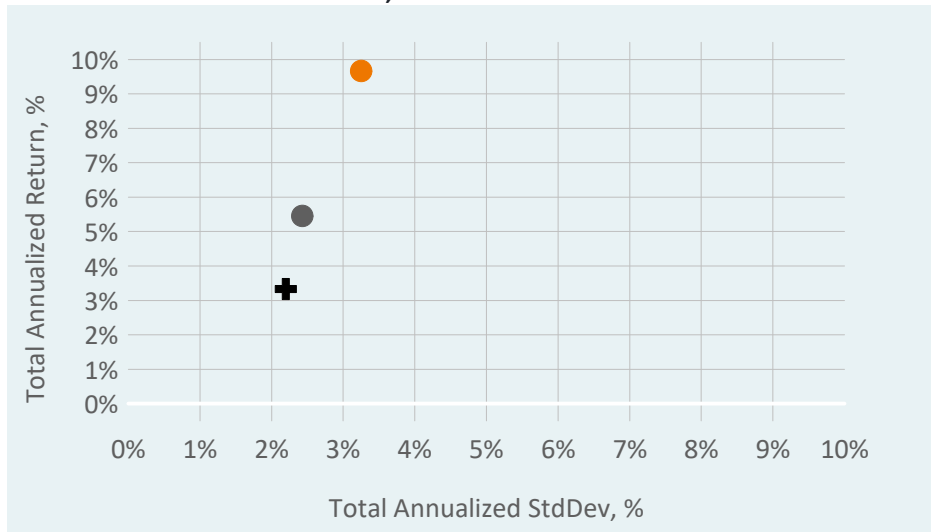
TOTAL PERFORMANCE VS. RISK, OCT-14 TO SEP-19



TOTAL PERFORMANCE VS. RISK, OCT-12 TO SEP-19



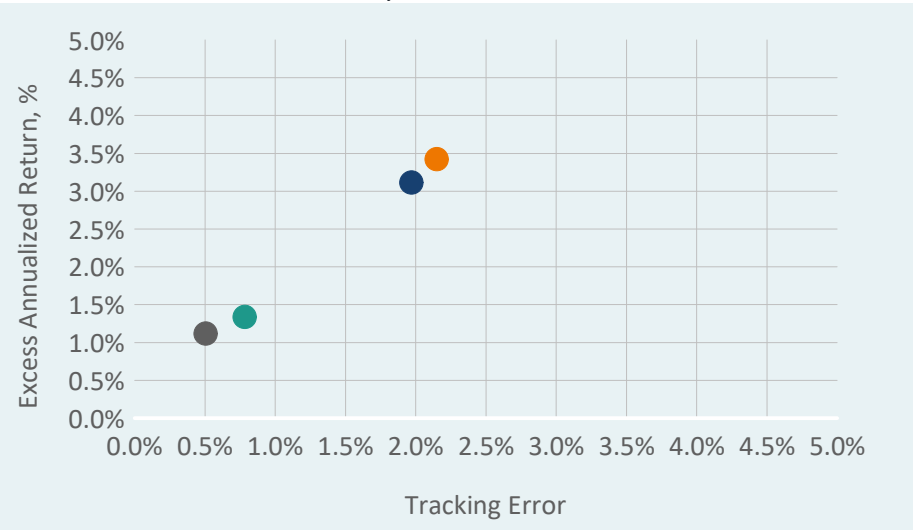
TOTAL PERFORMANCE VS. RISK, OCT-09 TO SEP-19



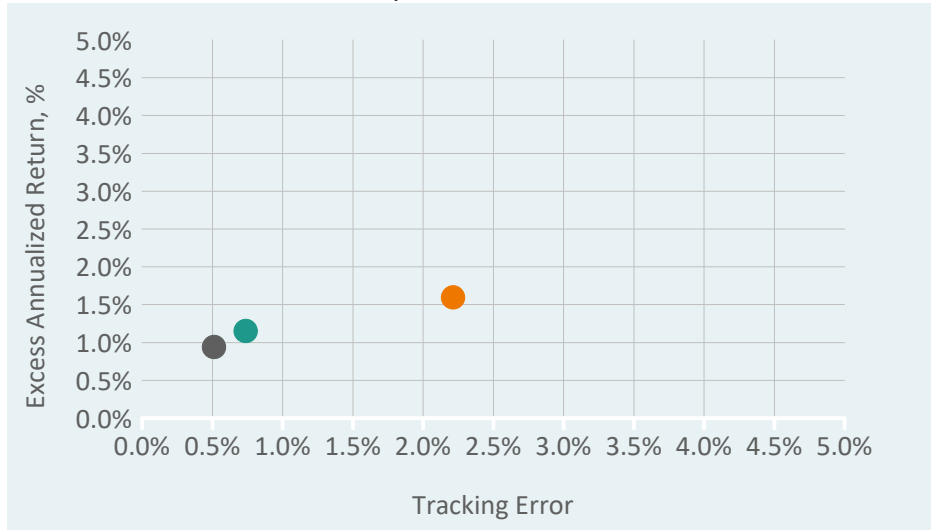
# Performance efficiency

● BBH ● DoubleLine ● Loomis ● TCW + Bloomberg Barclays US Securitized

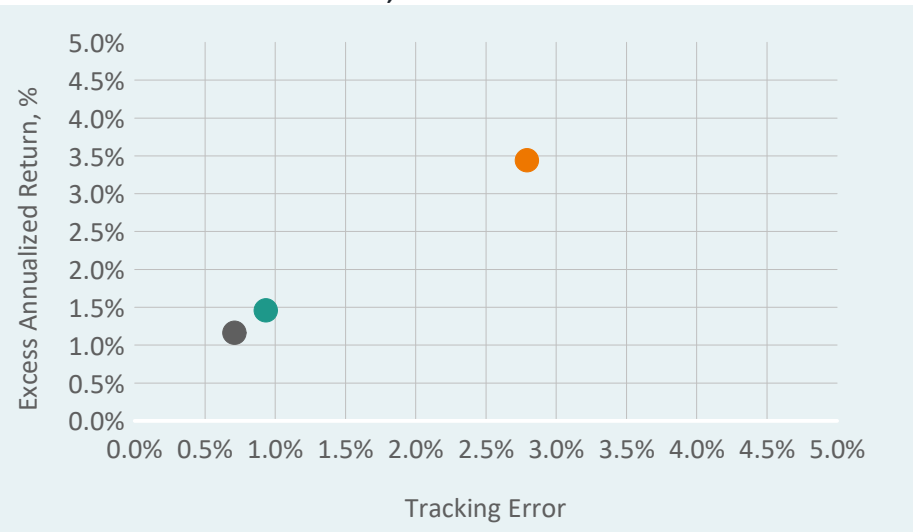
EXCESS PERFORMANCE VS. RISK, OCT-16 TO SEP-19



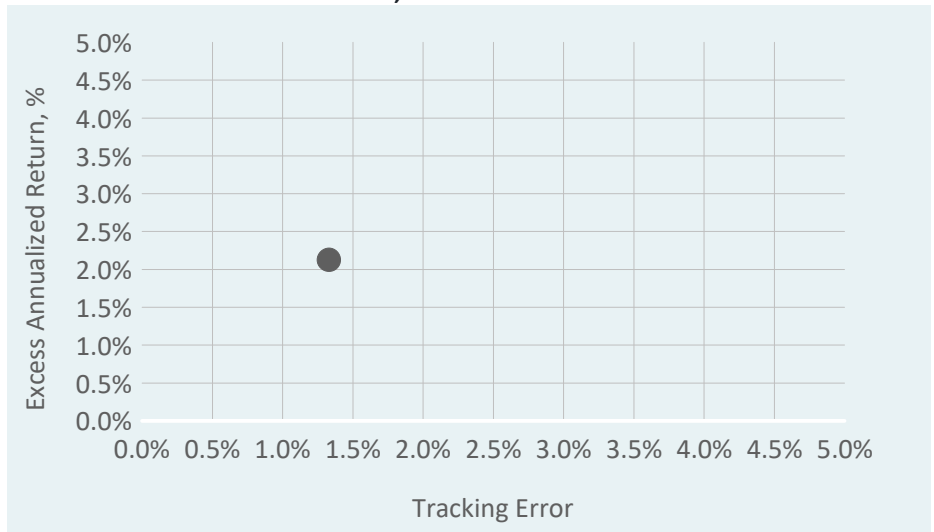
EXCESS PERFORMANCE VS. RISK, OCT-14 TO SEP-19



EXCESS PERFORMANCE VS. RISK, OCT-12 TO SEP-19



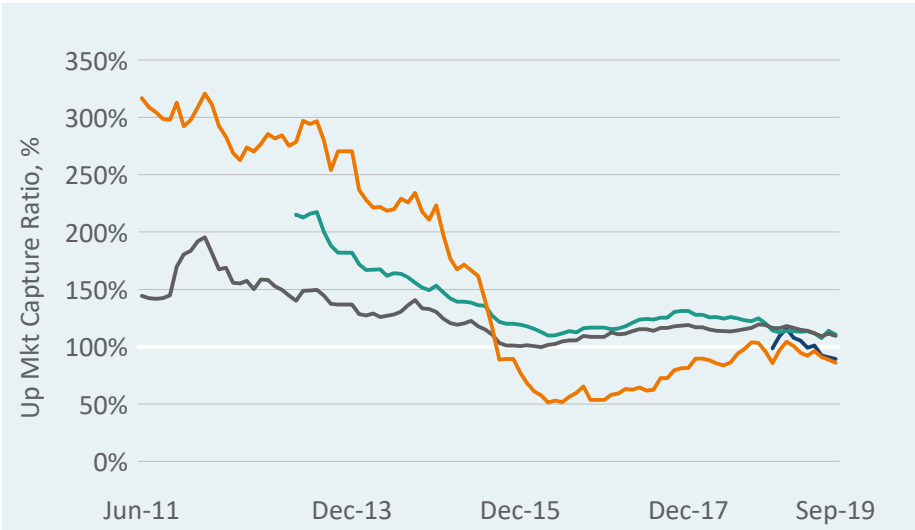
EXCESS PERFORMANCE VS. RISK, OCT-09 TO SEP-19



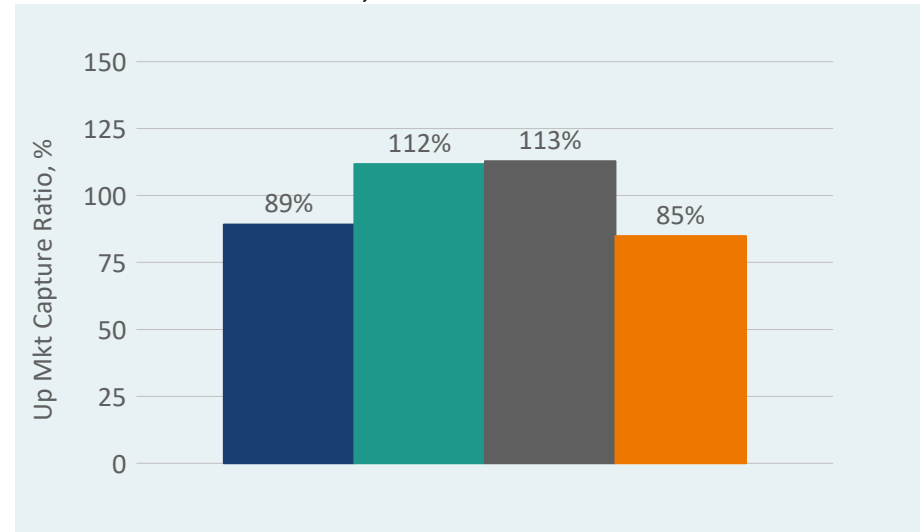
# Up & down market analysis

● BBH ● DoubleLine ● Loomis ● TCW ● Bloomberg Barclays US Securitized

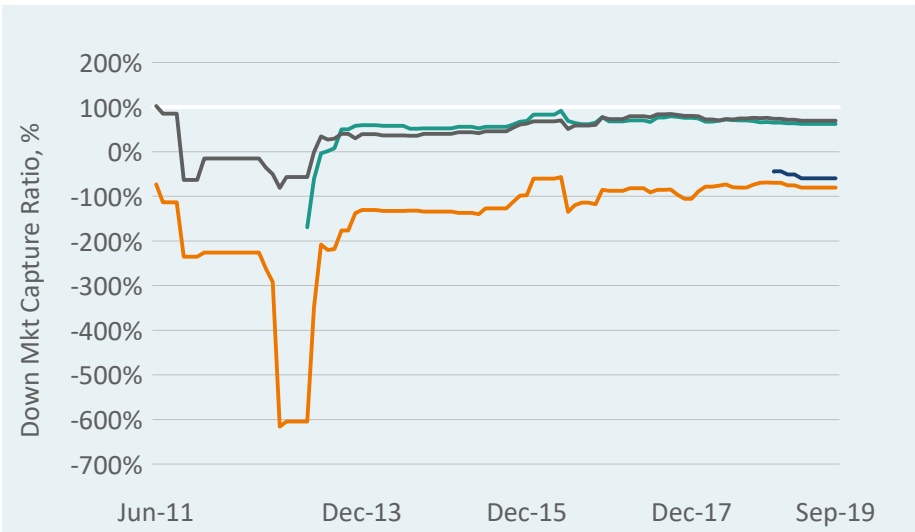
36 MONTH ROLLING UP MKT CAPTURE RATIO



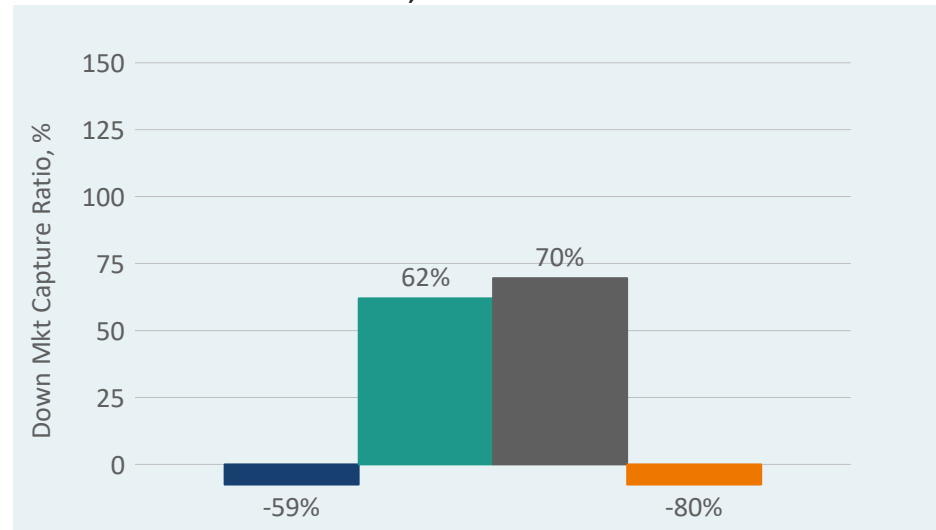
UP MARKET CAPTURE RATIO, JAN-16 TO SEP-19



36 MONTH ROLLING DOWN MKT CAPTURE RATIO



DOWN MARKET CAPTURE RATIO, JAN-16 TO SEP-19





# IV. Glossary of terms

# Glossary

**Alpha (a):** The excess return of a portfolio after adjusting for market risk, usually attributable to the selection skill of the portfolio manager.  $\text{Alpha} = \text{Excess Return} - (\text{Beta} \times \text{Excess Market Return})$ .

**Annualized Return:** Converts the Total Return to an annual basis for comparison purposes. Periods shorter than one year are not annualized.

**Benchmark:** Investment index used as a standard by which to measure the relative performance of an overall portfolio or an individual money manager. Appropriate benchmarks are selected based on their similarity to a portfolio or to the style of the individual money manager being measured.

**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 (b):** 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.

**Calmar Ratio** - The Calmar Ratio is a risk/return ratio that calculates return on a downside risk adjusted basis. Similar to other efficiency ratios it balances return in the numerator per unit risk in the denominator. In this case risk is characterized by the Maximum Drawdown.

**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/fallen. 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 Coefficient (r):** 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.

**Hurst Exponent:** quantifies the relative tendency of a time series either to regress the mean. A value  $H$  in the range  $0.5 < H < 1$  indicates a time series with long-term positive autocorrelation, meaning a high value in the series will probably be followed by another high value. A value in the range  $0 < H < 0.5$  indicates a time series with long-term switching between high and low values in adjacent pairs, meaning that a single high value will probably be followed by a low value. A value of  $H=0.5$  can indicate a completely uncorrelated series.

**Excess Correlation:** Correlation of the excess returns (above the benchmark).

**GARP:** Growth-At-A-Reasonable-Price. Equity strategy that combines tenets of both growth and value investing, looking for companies with above average earnings growth but excluding those with high valuations.

**Information Ratio:** A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as:  $\text{alpha} / \text{tracking error}$ .

# Glossary

**Kurtosis (excess returns)**- Kurtosis describes whether the series distribution is peaked or flat and how thick the tails are as compared to a normal distribution. Positive kurtosis indicates a relatively peaked distribution near the mean and tends to decline rapidly and have fat tails. Negative kurtosis indicates a relatively flat distribution near the mean.

**Long Term Reversal Factor:** Risk premium associated with buying past losers and selling past winners (five year time horizon).

**Low Volatility:** Risk premium generated by picking low volatility stocks, measured by the MSCI USA Minimum Volatility Index.

**Momentum Factor:** Risk premium associated with buying past winners and selling past losers.

**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.

**Predicted Style R-squared:** Measures how well the manager's predicted style fits the manager's return series. Adding many unnecessary indices will not improve the Predicted Style R-Squared. The methodology essentially predicts the manager's style at each point in time without the data at that point with the rationale being that if the style estimates obtained so far are good, then they can be used to predict the style at the estimation point.

**Price-to-Earnings Ratio:** 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.

**Quality:** The quality factors measured the manager's exposure to high quality stocks versus low quality stocks as defined by S&P. The factor is constructed by combining a long position in the S&P 500 High Quality index and short position S&P 500 Low Quality index.

**Regression Based Asset Loadings:** Represents the exposure period of an investment product (called a Manager, Fund, or Index in Stylus) to various explanatory variables. It is also referred to as Style Indices or Asset Classes. These Indices can be interpreted as the Manager Betas or risk factors at a given point in time.

**Risk Premium:** An expected return in excess of the risk-free rate. The premium provides compensation for the assumption of risk.

**Risk-Free Rate:** The rate of interest that one can earn on an investment with no default risk. It is generally assumed to be the interest rate on a 91 day T-Bill.

**R-Squared:** Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another. 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 return:** The difference between the Manager and the Manager's Style Return.

**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:  $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$ .

**Short Term Reversal Factor:** Risk premium associated with buying past losers and selling past winners (two month time horizon).

**Significance Level (Excess Returns)** - The Significance Level of a test is the probability that the test statistic will reject the null hypothesis when the hypothesis is true. Significance is a property of the distribution of a test statistic, not of any particular draw of the statistic.

# Glossary

**Size Factor:** Risk premium associated with buying small companies.

**Skewness (Excess Returns)-** Skewness describes the degree of asymmetry of a distribution around its mean. A distribution is said to be symmetric if it has the same shape to both the left and right of the mean. A perfectly symmetrical distribution has a Skewness of 0. A positively skewed distribution has larger gains than losses, while a negatively skewed distribution has a longer tail of losses.

**Standard Deviation (s):** 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.

**Style Returns:** The sum of the Return of each Style Asset multiplied by its weight for the time period.

**Style R-squared:** Measures how well the estimated Manager's style return series fits the manager's return series. The higher the Style R-squared, the better the fit between the manager's style and return series.

**Total Return:** Total Return geometrically compounds the Returns in the series from one period to the next.

**Tracking Error/Excess Standard Deviation:** The standard deviation of the difference between the rate of return of a portfolio and its benchmark.

**Treynor Ratio** - The Treynor Ratio is defined as the ratio of the manager's excess geometrically annualized return over the portfolio Beta. Excess returns are computed versus the cash index.

**Universe:** Also called a peer group, a universe is a large number of portfolios of a similar style. These portfolios can be divided into deciles or quartiles and then used for performance measurement and comparative purposes. Portfolios are ranked within the universe, which tells the investor how well a manager has done relative to his or her peers.

**Value:** Refers to the style of an equity manager. A value manager seeks to create returns by purchasing stocks selling at a discount to their true or intrinsic value. Typical portfolio characteristics of this strategy include a low price-to-earnings ratio, high book-to-market ratio, and high dividend yield.

**Valuation Factor:** Risk premium associated with buying companies trading at a low price/book multiple.

**VIX** : VIX is a trademark ticker symbol for the Chicago Board Options Exchange Market Volatility Index, a popular measure of the implied volatility of S&P 500 index options. Often referred to as the fear index or the fear gauge, it represents one measure of the market's expectation of stock market volatility over the next 30 day period.

# Notices & Disclosures

**Past performance is no guarantee of future results.** This report or presentation is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and should not be relied upon by 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. The opinions and information expressed are current as of the date provided or cited only and are subject to change without notice. This information is obtained from sources deemed reliable, but there is no representation or warranty as to its accuracy, completeness or reliability. Verus Advisory Inc. and Verus Investors, LLC expressly disclaim any and all implied warranties or originality, accuracy, completeness, non-infringement, merchantability and fitness for a particular purpose. This report or presentation cannot be used by the recipient for advertising or sales promotion purposes.

The material may include estimates, outlooks, projections and other “forward-looking statements.” Such statements can be identified by the use of terminology such as “believes,” “expects,” “may,” “will,” “should,” “anticipates,” or the negative of any of the foregoing or comparable terminology, or by discussion of strategy, or assumptions such as economic conditions underlying other statements. No assurance can be given that future results described or implied by any forward looking information will be achieved. Actual events may differ significantly from those presented. Investing entails risks, including possible loss of principal. Risk controls and models do not promise any level of performance or guarantee against loss of principal.

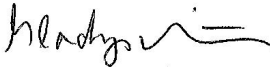
“VERUS ADVISORY™ and VERUS INVESTORS™ and any associated designs are the respective trademarks of Verus Advisory, Inc. and Verus Investors, LLC. Additional information is available upon request.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
Board of Retirement

December 3, 2019

Agenda Item 7.1

**TO:** Board of Retirement

**FROM:** Gladys Smith, Assistant Executive Officer 

**SUBJECT:** Annual Review of Independent Auditor, Brown Armstrong

**Recommendation**

Accept the annual performance report of Brown Armstrong Accountancy Corporation.

**Background**

Each year an evaluation is conducted of SamCERA's independent auditor. The evaluation consists of three parts: (1) A survey completed by trustees, staff and the auditor; (2) the auditor's responses to approved questions; and (3) a discussion at the Board meeting to present the results of the responses.

**Discussion**

Due to the packet submission timeline, the results of the survey will be made available in the "Day Of" Folder.

Andrew Paulden, via phone, will highlight areas in Brown Armstrong's attached survey responses and will be available to respond to any questions or comments regarding his firm's audit services.


**Attachments**

Brown Armstrong Questionnaire Response

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
Board of Retirement

December 3, 2019

Agenda Item 7.2

**TO:** Board of Retirement  
**FROM:** Scott Hood, Chief Executive Officer   
**SUBJECT:** 2020 Board-Staff Retreat Topics

**Recommendation**

Provide direction for staff regarding the topics and schedule for the March 24, 2020, Board-Staff Retreat.

**Background**

The annual Board retreat is scheduled for March 24, 2020. The Board assists on setting the topics to be addressed at the retreat and provides input regarding the proposed presenters. This agenda item gives trustees its first opportunity to discuss retreat topics. We will bring this back to Board again prior to finalizing the agenda.

**Discussion**

Last year's retreat was condensed to one day. We had the regular meeting early at 8:30 a.m. and then commenced the retreat topics at 9:00 a.m. The retreat featured only 4 major topics: the first was a high-level look at the economy from Ian Toner from Verus followed by Mike Coultrip and Verus doing the deep dive into the portfolio. In the afternoon we had Jeff MacClean from Verus talk about when a plan matures and Paul Kreiselmaier, also from Verus led a discussion on Absolute Return.

The Board should discuss if the retreat should revert to the two-day format or keep the one-day format.

Some suggested topics are included in the following list:

- High level-look at the economy
- Deep Dive into the portfolio
- Addressing liquidity and other issues raised by a maturing benefit plan and the increase in PEPRA plan membership
- Discussion on the tradeoffs in balancing portfolio simplicity and transparency with accessing private equity, real assets, and alternatives
- Defining what is and preparing for a fully funded status
- Discussion on reducing portfolio risk
- Update on current actuarial topics