



# Notice of Public Meeting

## The Board of Retirement of the San Mateo County Employees' Retirement Association will meet on **Tuesday, August 22, 2017, 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 Board Meeting Minutes from July 25, 2017
  - 3.2 Approval of Special Board Meeting Minutes from July 11, 2017
  - 3.3 Approval of Special Board Meeting Minutes from August 10, 2017
- 4. Approval of the Consent Agenda\***

4.1 Disability Retirements (2) <ul style="list-style-type: none"><li>• Andrew Allee</li><li>• Esther Munoz</li></ul>	4.9 Acceptance of Trustees' Reports of Educational Activities
4.2 Survivor Death Benefits	4.10 Approval of Questions for Annual Review of Brown Armstrong Accountancy
4.3 Service Retirements	4.11 Acceptance of Semi-Annual Compliance Certification Statements for Period Ended June 30, 2017
4.4 Continuances	4.12 Approval of Resolution Authorizing Amendment to Agreement with Verus Advisory, Inc.
4.5 Deferred Retirements	4.13 Reaffirmation of Conflict of Interest Code
4.6 Member Account Refunds	4.14 Reaffirmation of Authorization for CEO to Execute Documentation for Investments as Required
4.7 Member Account Rollovers	
4.8 Member Account Redeposits	
- 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 Report for the Period Ended July 31, 2017
  - 6.2 Report on Quarterly Investment Performance Report for the Period Ended June 30, 2017
  - 6.3 Report on the Fixed Income Manager Reviews
  - 6.4 Report on Trading Cost Analysis for Public Equity and Fixed Income Managers
  - 6.5 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 Report on Preliminary Financial Statements for the Fiscal Year Ended June 30, 2017
  - 7.2 Report on Budget-to-Actual for the Fiscal Year Ended June 30, 2017
- 8. Management Reports**
  - 8.1 Chief Executive Officer's Report
  - 8.2 Assistant Executive Officer's Reports
  - 8.3 Chief Investment Officer's Report
  - 8.4 Chief Legal Counsel's Report

# Notice of Public Meeting

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**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 6.5*)

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

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

Platt, Nancy	May 15, 2017	Environmental Services
Mary Pozorski	June 17, 2017	Health Department
Parry, Cheryl	July 7, 2017	Medical Center
Sohrabji, Lulu	July 14, 2017	Sheriff's
Damon, Anne	July 20, 2017	Health Services
Low, Jennie	July 22, 2017	District Attorney's Office
Petty, Thomas	July 23, 2017	Medical Center
Barrett, Helen	July 25, 2017	Social Service Dept
Vigo, Christie	August 2, 2017	Environmental Services
Ball, Thom	August 6, 2017	Library



Scott Hood, Chief Executive Officer

Posted: August 16, 2017

(\* 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.

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**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**  
JULY 25, 2017 – REGULAR BOARD MEETING MINUTES

1707.1 **Call to Order, Roll Call and Miscellaneous Business**

**Call to Order:** Mr. Mark Battey, Vice 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, Albert David, Alma Salas (for Paul Hackleman), Kurt Hoefer, David Spinello, Eric Tashman and Shirley Tourel.

*Excused:* Paul Hackleman.

*Alternates present:* Susan Lee.

*Staff:* Scott Hood, Michael Coultrip, Brenda Carlson, Gladys Smith, Elizabeth LeNguyen, Barbara Edwards, Lili Dames, Doris Ng, and Kristina Perez.

*Consultants:* Margaret Jadallah, Joe Abdou (*Verus*); Nick Collier (*Milliman, Inc.*); Andy Yeung (*Segal*).

- 1707.1.1 **Election of Board Officers:** Ms. Salas, Chair of the Ad Hoc Nominating Committee reported to the Board that many trustees had expressed interest in serving as an officer this term, and that was appreciated. After considering past years' officers and seniority of the current board members, the Committee recommended the following slate of officers for the term ending June 30, 2018: Mark Battey, Chair; Shirley Tourel, Vice Chair; and David Spinello, Secretary. There were no other nominations made.

**Action:** Mr. David moved to approve the nominations of Mark Battey, Chair; Shirley Tourel, Vice Chair; and David Spinello, Secretary for the term ending June 30, 2018. The motion was seconded by Mr. Tashman and carried with a vote of 9-0, with trustees Arnott, Battey, Bowler, David, Salas (for Hackleman), Hoefer, Spinello, Tashman and Tourel, all in favor, and none opposed.

- 1707.1.2 **Announcement of Appointment of Board Committees:** Mr. Battey announced that the Audit Committee and the Investment Committee would continue with the current members serving another term as follows: Audit Committee: Sandie Arnott, Kurt Hoefer, Susan Lee and Shirley Tourel, Chair; and Investment Committee: Alma Salas, Eric Tashman and Ben Bowler, Chair. This item was informational only and no other action was taken.

- 1707.2.1 **Oral Communications from the Public:** None.

- 1707.2.2 **Oral Communications from the Board:** Mr. Tashman presented his concerns regarding the cost of disability retirements that occur when a fairly young employee discontinues employment with the County, due to the lack of appropriate accommodations available within the employee's department. Mr. Tashman asked what, if any, process the County engages in to determine if a disabled employee can, or will, be accommodated in his/her job; and whether County officials are aware of the costs incurred when there is a decision not to accommodate an employee. Staff will look at data from San Mateo County and other counties, and return to the Board with more information on this topic.

Mr. Hoefer read the following statement, on the record: "At the July 11th special Board meeting, I left the meeting room after listening to the presentation by Versus Consulting. I did not participate in any discussion of the RFP process for the selection of an Investment Consultant. I will be leaving the meeting today during the discussion under agenda item 7.1 and returning after that discussion has been completed. I will not participate in any deliberation by the Board regarding any decision directly or indirectly involving the provision of services to SamCERA by Versus Consulting. Here is the reason why: I am a partner at Golub Group. The Golub Group has no financial or other connection with Versus Consulting as an entity. However, the Golub Group does handle the personal account of a director /shareholder of Versus."

1707.3.1 **Approval of Board Meeting Minutes from June 6, 2017:** Mr. Battey asked if there were any changes or corrections to the minutes from June 6, 2017. None were noted.

**Action:** Ms. Salas moved to approve the minutes from June 6, 2017. The motion was seconded by Mr. Spinello and carried with a vote of 8-0-1, with trustees Battey, Bowler, David, Salas (for Hackleman), Hoefler, Spinello, Tashman and Tourel, all in favor; none opposed; and Arnott abstained.

1707.4.0 **Approval of the Consent Agenda:** Mr. Battey asked if there were any items to be removed from the Consent Agenda. Item 4.13 Approval of Update to Strategic Plan was removed, and Mr. Hood discussed the strategic plan prior to his report, at the end of the meeting.

**Action:** Mr. Spinello moved to approve the remaining items on the Consent Agenda, and the motion was seconded by Mr. Hoefler. The motion carried with a vote of 9-0, Arnott, Battey, Bowler, David, Salas (for Hackleman), Hoefler, Spinello, Tashman and Tourel, all in favor, and none opposed.

1707.4.1 **Disability Retirements:**

- a) The Board found that Xylidine Mitchell is (1) permanently incapacitated for the performance of her usual and customary duties as a Communications Dispatcher II, (2) found that her disability was the result of an injury arising out of and in the course of her employment and (3) granted her application for a service-connected disability retirement.
- b) The Board found that that Angeline Prasad is (1) permanently incapacitated from the performance of her usual and customary duties as a Hospital Unit Coordinator, (2) found that her disability was not the result of an illness arising out of and in the course of her employment and (3) granted her application for a non-service-connected disability retirement.
- c) The Board found that that Julie Reilly is (1) permanently incapacitated from the performance of her usual and customary duties as a Peer Support Worker II, (2) found that her disability was not the result of an illness arising out of and in the course of her employment and (3) granted her application for a non-service-connected disability retirement.
- d) The Board found that that Damarys Sanchez is (1) permanently incapacitated from the performance of her usual and customary duties as a Hospital Unit Coordinator, (2) found that her disability was not the result of an illness arising out of and in the course of her employment and (3) granted her application for a non-service-connected disability retirement.
- e) The Board found that Mahnaz Stutz is (1) permanently incapacitated for the performance of her usual and customary duties as a Benefits Analyst II, (2) found that her disability was not the result of an injury arising out of and in the course of her employment, (3) denied her application for a service-connected disability retirement, and (4) granted her a non-service-connected disability retirement.
- f) The Board found that Tully Vogt is (1) permanently incapacitated for the performance of her usual and customary duties as a Supervising Deputy Coroner, (2) found that her disability was the result of an injury arising out of and in the course of her employment and (3) granted her application for a service-connected disability retirement.

1707.4.2 **Survivor Death Benefits:** The Board found that Solane Louie, would have been entitled to a non-service-connected disability but died, and Benjamin Louie, the surviving spouse, has elected to receive an optional death allowance pursuant to Government Code § 31781.1.

1707.4.3 **Service Retirements:**

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

<b>Member Name</b>	<b>Effective Retirement Date</b>	<b>Department</b>
Aguilar, Carlos	May 23, 2017	Deferred from Mental Health
Bennett, Brenda	June 1, 2017	Parks
Fettig, Lee	May 6, 2017	Human Services Agency

**Service Retirements (con't):**

<b>Member Name</b>	<b>Effective Retirement Date</b>	<b>Department</b>
Gomez, Reyna	May 6, 2017	Health
Hughes, Kenneth	May 11, 2017	Superior Court
Lee, Gloria	May 27, 2017	Health
Reilly, Julie	May 25, 2017	Behavioral Health
Robblee, Mary	May 19, 2017	Behavioral Health
Rosete, Edna	May 15, 2017	Deferred from Med Center
Salas, Gus	June 1, 2017	Human Services Agency
Sun, Yik-Ching	May 7, 2017	Health IT
Torres, Alfred	May 13, 2017	Behavioral Health
Weems, Charles	May 20, 2017	Public Works

1707.4.4 **Continuances:**

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

<b>Survivor's Name</b>	<b>Beneficiary of:</b>
Furnanz, James	Furnanz, Marie
Orbeta, Cecilia	Orbeta, Jorge
Pardini, Carol	Pardini, Eugene

1707.4.5 **Deferred Retirements:**

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

<b>Member Name</b>	<b>Retirement Plan Type</b>
Allen, Catherine	G5, Vested
Anderson, Yvonne	G4, Vested – Reciprocity
Bruggeman, Jennifer	G4, Vested – Reciprocity
Dardon-Gutierrez, Monica A.	P6, Non-vested – Reciprocity
Dabel, Sean	G4, Vested – Auto Defer Government Code 31700
Dennison, Stephen	G4, Vested
Frazier, Dennis	G5, Vested – Reciprocity
Franchi, Don	G4, Vested – Reciprocity
Gilbert, Anna	P4, Vested
Munoz, Olga	G7 Non-vested - Reciprocity
Rusmiser, Benjamin	G4, Vested – Reciprocity
Solorzano, Walfred	G5, Vested – Reciprocity
Ventura, Melissa	G5, Vested – Auto Defer Government Code 31700
Vigil, Selina	G3, Non-vested – Reciprocity
Viramones, Gabriella	G4, Vested – Reciprocity
White, Christopher	G5, Non-vested – Reciprocity

1707.4.6 **Member Account Refunds:**

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

<b>Member Name</b>	<b>Retirement Plan Type</b>
Ahmed, Fatima	G7, Non-vested
Cotton, Shanelle	G7, Non-vested
Cuevas, Christina	G7, Non-vested
Gonzalez, Yolanda	G7, Non-vested
Hernandez, Teresa	G7, Non-vested
Icasiano, Renee	G7, Non-vested
Martinez Rivas, Diana	G7, Non-vested
Mosley, Tysha	G4, Vested

**Member Account Refunds (con't):**

<b>Member Name</b>	<b>Retirement Plan Type</b>
Patu, Rachel	G7, Non-vested
Smith, Dana	S4, Vested
Tostado, Daniel	G7, Non-vested
Williams, Danielle	G7, Non-vested
Yoakum, Jason	G7, Non-vested

1707.4.7 **Member Account Rollovers:**

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

<b>Member Name</b>	<b>Retirement Plan Type</b>
Brown, Kristen	G7, Non-vested
Camacho, Luis	G7, Non-vested
Ferrer, Alidia	G4, Non-vested
Fox, Julia	G4, Non-vested
Marasigan, Michael	G7, Non-vested
Mosley, Tyesha	G4, Vested
Perez, Martha	G4, Vested

1707.4.8 **Member Account Redeposit:**

Madden, Jacob G4, Vested

1707.4.9 **Acceptance of Trustees' Reports of Educational Activities:** The Board accepted the submitted reports for educational activities attended by trustees Lee and Tourel.

1707.4.10 **Approval of Questions for Annual Review of Milliman, Inc.:** The Board approved the evaluation questions in the "Questions for Annual Actuarial Consultant Evaluation."

1707.4.11 **Acceptance of Semi-Annual Compliance Certification Statements for Period Ended June 30, 2017:** The Board accepted the semi-annual Compliance Certification Statements for SamCERA's non-alternative investment managers, as of June 30, 2017.

1707.4.12 **Report on Payment of Employer Contributions:** The Board accepted the report of the Fiscal Year 2017-18 prepayments for the San Mateo County (County) of its estimated employer contribution totaling \$184,066,429 and the San Mateo County Superior Court (Court) of its estimated employer contribution totaling \$6,489,803; and the lump sum supplemental payment of \$250,000 made by San Mateo County Mosquito and Vector Control District (District).

1707.5.1 **Consideration of Agenda Items, if any, Removed from the Consent Agenda:** None.

1707.5.2 **Acceptance of Milliman Inc.'s Investigation of Experience July 1, 2014 – April 30, 2017:** Nick Collier, from Milliman, Inc. presented the triennial investigation of experience report to the Board and reviewed the findings and assumptions. This item was for discussion only; and with no objections, this report was accepted.

1707.5.3 **Acceptance of Segal Consulting's Findings Regarding the Investigation of Experience, July 1, 2014-April 30, 2017:** Andy Yeung, of Segal Consulting, presented Segal's "Actuarial Review of Investigation of Experience" and reviewed Segal's recommendations. He reported Segal had determined that Milliman's work for SamCERA had used generally accepted actuarial practices and that all major actuarial functions were properly addressed; and that the assumptions as recommended by Milliman were reasonable to use in SamCERA's actuarial valuation. Reyna Farrales, Deputy County Manager, was present, and had no comments. Nick Collier stated he had no comments. This item was for discussion only; and with no objections, the report was accepted.

1707.5.4 **Approval of Resolution Adopting Recommended Changes to Assumptions Based on Milliman's Investigation of Experience, July 1, 2014 – April 30, 2017:** Following the discussion of items 5.2 and 5.3 as described above, the Board took the following action:

**Action:** Mr. Bowler moved to approve Milliman's Investigation of Experience Report for FYs 2014-2017 and to approve a resolution adopting recommended changes to assumptions based on the same report. The motion was seconded by Mr. Tashman. The motion carried with a vote of 9-0, with trustees Arnott, Battey, Bowler, David, Salas (for Hackleman), Hoefer, Spinello, Tashman and Tourel, all in favor; and none opposed.

The Board was adjourned for a short break at 11:16 a.m., and reconvened in to open session at 11:22 a.m.

1707.6.1 **Preliminary Monthly Portfolio Performance Report for the Period Ended June 30, 2017:** Mr. Coultrip discussed the preliminary monthly performance report with the Board. He reported that SamCERA's net preliminary return for June 2017 was 0.14%, while the preliminary trailing twelve-month return ending June 30, 2017 was 12.7% net. This item was informational and for discussion only, no action was taken.

1707.6.2 **Report on the International Equity Manager Annual Reviews:** Ms. Ng reviewed the meeting notes from the annual reviews of SamCERA's International Equity Managers. Staff met at SamCERA's offices with Eaton Vance Parametric and Fidelity Institutional Asset Management (FIAM) on May 11, 2017; and with Mondrian and Ballie Gifford on June 15, 2017. Ms. Ng reported that FIAM Select International Small Cap Plus investment was terminated, following the international structure review by the Board. There were no additional concerns identified during the review. This item was informational and for discussion only, no action was taken.

1707.6.3 **Approval of Fixed Income Manager Structure:** Mr. Coultrip and Ms. Jadallah went over the proposed changes to the fixed income manager structure, and compared the proposal to the current allocations. The proposed structure moves the Templeton Multi-Sector strategy into the opportunistic credit bucket, and downsizes the allocation (to 1% of total plan assets) so that the risk is more consistent with other opportunistic credit managers, while allocating the remainder (2%) to the Core bucket via the Blackrock Intermediate Government Bond Index. This change will result in a better diversification of manager concentration risk to the portfolio, while increasing the defensive nature of the fixed income portfolio.

**Action:** Mr. David moved to approve the proposed fixed income manager structure. The motion was seconded by Mr. Tashman. The motion carried with a vote of 9-0, with trustees Arnott, Battey, Bowler, David, Salas (for Hackleman), Hoefer, Spinello, Tashman and Tourel, all in favor; and none opposed.

1707.6.4 **Approval of Strategic Credit Investment Recommendation:** Ms. Jadallah reviewed the due diligence performed on the short-list of strategic credit managers. She informed the Board that staff and consultant identified PIMCO as the top candidate in this process, and conducted an on-site due diligence visit at PIMCO's offices on May 15<sup>th</sup>, 2017. She reviewed the results of this meeting and reviewed the recommendation that the Board approve the hiring of PIMCO Diversified Income with an overall investment of \$80 million to be allocated to the Opportunistic Credit category within SamCERA's fixed income asset class.

**Action:** Mr. Tashman moved to approve the recommendation to invest 2% of plan assets (\$80 million) in the PIMCO Diversified Income Fund within the Opportunistic Credit category in the fixed income class. The motion was seconded by Mr. Bowler, and carried with a vote of 8-1, with trustees Arnott, Battey, Bowler, David, Salas (for Hackleman), Hoefer, Tashman and Tourel, all in favor; Spinello, opposed.

Mr. Battey adjourned the meeting into closed session at 11:47 a.m., and the closed session was concluded at 12:03 p.m. The Board then took a break for lunch at 12:03 p.m., and reconvened into open session at 12:27 p.m.

- 1707.6.5 **Approval of Proposed Alternative Investment** (to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see item C2): The Board met in closed session and upon reconvening, Ms. Carlson stated that the following reportable action had been taken by the Board.  
**Action:** Mr. Spinello moved to approve a commitment of \$20 million to Quantum Energy Partners VII, as part of SamCERA's natural resources portfolio, within the private real assets class. The motion was seconded by Mr. Bowler, and carried with a vote of 9-0, with trustees Arnott, Battey, Bowler, David, Salas (for Hackleman), Hoefer, Spinello, Tashman and Tourel, all in favor; and none opposed.

At this time Mr. Hoefer, excused himself and left the boardroom, prior to item 7.1 being heard.

- 1707.7.1 **Discussion of Next Steps in the Investment Consultant RFP Process and Direction to Staff:** Mr. Battey and Mr. Coultrip reviewed the prior activities of the Ad Hoc Committee, and the status of the search process at this time. With no consensus achieved at the July 11, 2017 Special meeting, staff returned for further direction from the Board. The Board discussed options for moving forward, including bringing in another consultant to interview, or to direct staff to begin contract negotiations.  
**Action:** Mr. David moved to direct staff to invite Meketa Consulting to make a presentation to the full Board. The motion was seconded by Ms. Arnott. A roll call vote was taken. The motion carried by a vote of 5-3-1.  
AYES: Arnott, David, Spinello, Tashman, Salas (for Hackleman).  
NOES: Battey, Bowler, Tourel.  
ABSENT: Hoefer.

Mr. Tashman, left the boardroom at 1:15 p.m. and was excused for the remainder of the meeting. Mr. Hoefer returned to the boardroom after the vote on item 7.1, and took his seat on the dais.

- 1707.7.2 **Approval of Resolution Authorizing the CEO to Enter into Agreement for Tax Counsel Services:** Mr. Hood updated the Board on the RFP process to select a provider for tax counsel services. Having reviewed the proposals submitted, staff recommended Steptoe & Johnson as the best fit for SamCERA needs.  
**Action:** Mr. David moved to approve a resolution authorizing the CEO to execute an agreement with Steptoe & Johnson LLP for tax counsel services. The motion was seconded by Mr. Bowler and carried with a vote of 8-0-1, with trustees Arnott, Battey, Bowler, David, Salas (for Hackleman), Hoefer, Spinello and Tourel, all in favor; none opposed; Tashman, absent.
- 1707.7.3 **Consideration of Trustee Requests to Attend an Education Conference not on Approved List:** Mr. Battey reviewed the requests to attend the Public Funds Forum submitted by Ms. Arnott and Ms. Lee.  
**Action:** Mr. Hoefer moved to approve the requests submitted by Ms. Arnott and Ms. Lee to attend the Public Funds Forum. The motion was seconded by Mr. David. A roll call vote was taken. The motion carried by a vote of 6-2-1.  
AYES: Arnott, Bowler, David, Hoefer, Spinello, Salas (for Hackleman).  
NOES: Battey, Tourel.  
ABSENT: Tashman.
- 1707.4.13 **Update to Strategic Plan:** Mr. Hood reviewed SamCERA's Strategic Plan with the Board. This item was informational and for discussion only, no action was taken.



- 1707.8.1 **Chief Executive Officer's Report:** Mr. Hood called attention to the items in the Day of Meeting folder, including the SACRS publication, and the list SamCERA's policies. Mr. Hood stated next month's meeting agenda would include a review of two policies, as well as the budget report. He also mentioned that benefit payments to retirees were sent 6 days earlier this month, and the issue that caused the early payment had been resolved. Mr. Hood thanked staff who assisted with the actuarial audit and investigation of experience study.
- 1707.8.2 **Assistant Executive Officer's Report:** Ms. Smith reported that the auditors finished their interim field work. The internal audit of IT was still pending, but so far there have been no recommendations or findings. The "MySamCERA" mobile app was launched last week. Ms. Perez reminded Board members about upcoming educational events.
- 1707.8.3 **Chief Investment Officer's Report:** Mr. Coultrip reported that Zeno will present their trading cost analyst report at the August meeting. He announced the Fixed Income Manager annual reviews are scheduled for August 3, 2017, and invited interested trustees to attend.
- 1707.8.4 **Chief Legal Counsel's Report:** Ms. Carlson explained where the Board could find a list of their policies on SamCERA.org. She gave an update on new cases including one from Contra Costa County, regarding the treatment of legal separation status, as it relates to the definition of a qualified spouse, eligible for continuance.

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

1707.9 **Report on Actions Taken in Closed Session:** See the report above, for Item 6.5 Approval of Proposed Alternative Investment.

1707.10 **Adjournment:** Mr. Battey adjourned the meeting at 1:44 p.m. in memory of the deceased members listed below.

Pult, Sylvia	April 27, 2017	Medical Center
Wilson, Roselynn	May 6, 2017	Probation
Lew, Bradford	May 7, 2017	Medical Center
Pardini, Eugene	May 7, 2017	Public Works
Bottarini, Loretta	May 25, 2017	Hospital
Husmas, Vasiliki	May 29, 2017	Mental Health
Schoeppner, Robert	June 2, 2017	Mosquito
Christensen, Clifford	June 6, 2017	Probation
Louie, Solane	June 6, 2017	Medical Center
Mendoza, Corazon	June 12, 2017	Assessor's
Arguello, Juan	June 13, 2017	Medical Center
Bracksher, George	June 15, 2017	Food Service
Mullaney, Marc	June 15, 2017	Environmental Health
Oates, Willard	June 18, 2017	Probation
Stratton, Leon	June 19, 2017	Public Works
Longanecker, Evelyn	June 22, 2017	Social Service
Thompson, Charles	July 1, 2017	County Engineer
Abitsch, Barbara	July 4, 2017	Medical Center

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Scott Hood  
Chief Executive Officer

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Kristina Perez  
Retirement Executive Secretary

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**  
**JULY 11, 2017 – SPECIAL BOARD MEETING MINUTES**

1707.1 **Call to Order, Roll Call and Miscellaneous Business**

**Call to Order:** Mr. Paul Hackleman, Chair, called the Special Meeting of the Board of Retirement to order at 9:00 a.m.

**Roll Call:**

*Present:* Sandie Arnott, Mark Battey, Albert David, Paul Hackleman, Kurt Hoefer (arrived 9:07 a.m.), David Spinello and Shirley Tourel.

*Excused:* Ben Bowler, Eric Tashman.

*Alternates present:* Susan Lee. *Alternates excused:* Alma Salas.

*Staff:* Scott Hood, Michael Coultrip, Brenda Carlson, Gladys Smith, Doris Ng, and Kristina Perez.

*Consultants:* Margaret Jadallah, Jeff MacLean, Scott Whalen, John Nicolini and Faraz Shooshani (*Verus*).

1707.2 **Oral Communications from the Public:** None.

1707.3 **Report on Investment Consultant RFP Process:** Mr. Coultrip and Mr. Battey reviewed and discussed the process undertaken by staff and by members of the Ad-Hoc committee thus far. This item was informational and for discussion only, no action was taken.

1707.4 **Presentation by Finalist in the Investment Consultant RFP:** Margaret Jadallah, Jeff MacLean, Scott Whalen, John Nicolini and Faraz Shooshani, representing Verus, appeared before the Board. Beginning at 9:20 a.m., Ms. Jadallah, Mr. MacLean and Mr. Whalen gave a presentation outlining Verus' history, staffing, culture and highlighted Verus' areas of focus and expertise. The Verus representatives left the Boardroom at 10:30 a.m. at the conclusion of their presentation. This item was informational and for discussion only, no action was taken.

Mr. Hoefer was excused from the remainder of the meeting, and left the boardroom at 10:31 a.m.

1707.5 **Discussion of Next Steps in the Investment Consultant RFP Process and Direction to Staff:** Board members discussed the selection process and were not able to reach agreement for the next steps. Two motions were made, but failed to carry. The matter will be discussed again at the July 25, 2017, Regular Board Meeting.

**Action:** Mr. Battey moved to direct staff to begin contract negotiations with Verus. The motion was seconded by Ms. Tourel and failed, with a vote of 3-3-1, with trustees Battey, Hackleman, and Tourel in favor; Arnott, David and Spinello opposed; Hoefer, absent.

**Action:** Ms. Arnott made a motion directing staff to invite Pension Consulting Alliance (PCA) to make a presentation to the Board. The motion was seconded by Mr. David, and failed, with a vote of 3-3-1; with trustees Arnott, David and Spinello in favor; Battey, Hackleman, and Tourel opposed; Hoefer, absent.

1707.6 **Adjournment:** Mr. Hackleman adjourned the meeting at 11:25 a.m.

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Scott Hood  
Chief Executive Officer

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Kristina Perez  
Retirement Executive Secretary

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
AUGUST 10, 2017 – SPECIAL BOARD MEETING MINUTES**

1708.1 **Call to Order, Roll Call and Miscellaneous Business**

**Call to Order:** Mr. Mark Battey, Chair, called the Special Meeting of the Board of Retirement to order at 8:00 a.m.

**Roll Call:**

*Present:* Sandie Arnott, Mark Battey, Ben Bowler, Albert David, Paul Hackleman, Kurt Hoefer, Susan Lee (for David Spinello) and Shirley Tourel.

*Excused:* David Spinello, Eric Tashman.

*Alternates present:* Alma Salas.

*Staff:* Scott Hood, Michael Coultrip, Brenda Carlson, Lili Dames, and Kristina Perez.

*Consultants:* Steven Hartt, Mika Malone, Leandro Festino, and Stephen McCourt (Meketa).

Immediately following the roll call, Mr. Hoefer made the following statement on the record: "I will be leaving the meeting today after the presentation by Meketa. I will not participate in any deliberation by the Board regarding any decision directly or indirectly involving the provision of services to SamCERA by Verus Consulting. Here is the reason why: I am a partner at Golub Group. The Golub Group has no financial or other connection with Verus Consulting. However, the Golub Group does handle the personal account of an employee and shareholder of Verus."

1708.2 **Oral Communications from the Public:** None.

1708.3 **Presentation by Finalist in the Investment Consultant RFP:** Leandro Festino, Mika Malone, Steven Hartt, and Stephen McCourt, representing Meketa, appeared before the Board. They gave a presentation outlining Meketa's history, staffing, culture and highlighted Meketa's areas of focus and expertise. This item was informational and for discussion only, no action was taken.

The Meketa representatives left the boardroom at the conclusion of their presentation. Mr. Hoefer was excused from the remainder of the meeting, and left the boardroom at the conclusion of the presentation.

1708.4 **Discussion of Presentation and Direction to Staff:** Board members discussed the presentation with staff, and each other. Each Board member had the opportunity to give remarks and ask questions. After further discussion, the Board took the following action:

**Action:** Mr. Hackleman moved to direct staff to begin contract negotiations with Verus. The motion was seconded by Mr. David and carried, with a vote of 7-0-1 with trustees Arnott, Battey, Bowler, David, Hackleman, Lee (for David Spinello) and Tourel, all in favor; none opposed; Hoefer, absent.

1708.5 **Adjournment:** Mr. Battey adjourned the meeting at 9:44 a.m.

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Scott Hood  
Chief Executive Officer

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Kristina Perez  
Retirement Executive Secretary

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

August 22, 2017

Agenda Items 4.1- 4.9

**TO:** Board of Retirement

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



**SUBJECT:** Approval of Consent Agenda Items 4.1 – 4.9

**4.1 Disability Retirements**

- a) The Board find that **Andrew Allee** is (1) permanently incapacitated from the performance of his usual and customary duties as an Information Technology Technician, (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.
  
- b) The Board find that **Esther Munoz** is (1) permanently incapacitated for the performance of her usual and customary duties as a Community Worker I, (2) find that her disability was not the result of an illness arising out of and in the course of her employment, (3) deny her application for a service-connected disability retirement, and (4) grant her a non-service-connected disability retirement.

**4.2 Survivor Death Benefits**

None.

**4.3 Service Retirements**

The Board ratifies the actions as listed below for the following members regarding service retirements:

<b>Member Name</b>	<b>Effective Retirement Date</b>	<b>Department</b>
Angeles, Encarnacion	July 1, 2017	Medical Center
Candelaria, Michael	July 1, 2017	Correctional Health
Cole, Jessica	July 1, 2017	Deferred from Family Support
Dunn, Felton	June 26, 2017	Retiree activating G3 pension
Ingco, Gilbert	June 24, 2017	Courts
Kaur, Seerada	June 20, 2017	Deferred from Medical Center
Martins-Sandaga, Mario	June 10, 2017	Controller's
Ortiz, Rosario	June 5, 2017	Behavioral Health
Otte, Michael	June 9, 2017	Sheriff's

Quaid, Michael	July 1, 2017	Correctional Health
Skinner, Elizabeth	June 3, 2017	Deferred from Sheriff's
Vissiere, Michael	June 13, 2017	Deferred from Sheriff's
Viveiros, Filomena	June 16, 2017	Human Resources
White, Sonja	June 20, 2017	Probation

#### **4.4 Continuances**

The Board ratifies the actions as listed below for the following members regarding continuances:

<b>Survivor's Name</b>	<b>Beneficiary of:</b>
Arguello, Flor	Arguello, Juan
Ho, Thanh Thao	Mullaney, Marc
Louie, Benjamin	Louie, Solane

#### **4.5 Deferred Retirements**

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

<b>Member Name</b>	<b>Retirement Plan Type</b>
Aung, Thanda	G4 Vested - Reciprocity
Dwyer, Mary Yvette	G4 Vested
Gage, Tammela	S4 Vested
Hacker, Katie	G4 Vested
Nassar, Noel	G7 Non Vested - Reciprocity
Ng-Irwin, Ginelle	G7 Non Vested - Reciprocity

#### **4.6 Member Account Refunds**

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

<b>Member Name</b>	<b>Retirement Plan Type</b>
Cheechov, Joy	G4, Vested
Delai, Elik	S7, Non-vested
Jacobo, Birzayit	G4, Vested

Ocampo, Reeden	G7, Non-vested
Panayotova, Mihaela	G7, Non-vested
Pult, Sylvia (FBO: Stephen Pult)	G4, Non-vested
Raul, Gary	S4, Vested
Rbeiz, Diala	G7, Non-vested
Shaw, John	P4, Vested
Speier, Kimberly	G7, Non-vested

#### **4.7 Member Account Rollovers**

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

<b>Member Name</b>	<b>Retirement Plan Type</b>
Anjomshoaa, Andrea	G7, Non-vested
Chien, Yulin	G4, Non-vested
Earles, Lori	G7, Non-vested
Herrera, Octavio	G7, Non-vested
Hoover, Cora	G4, Non-vested
Li, Yinglin	G7, Non-vested
Raul, Gary	S4, Vested

#### **4.8 Member Account Redeposits**

None.

#### **4.9 Acceptance of Trustees' Reports of Educational Activities**

None.

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

August 22, 2017

Agenda Item 4.10

**TO:** Board of Retirement

**FROM:** Gladys Smith, Assistant Executive Officer



**SUBJECT:** Approval of Questions for Annual Review of Brown Armstrong  
Accountancy

**Staff Recommendation**

Staff recommends the Board review, suggest changes and then approve the questions in the attached document entitled, "Questions for Annual Audit Consultant Evaluation."

**Discussion**

The questions in the attached document will be submitted to SamCERA's auditor, Brown Armstrong, prior to the annual review, which will be scheduled for the December 5, 2017 Board meeting. In addition, there will be a survey of trustees and staff regarding Brown Armstrong's performance.

Staff will provide Brown Armstrong's responses to the questionnaire as well as the survey results at the December meeting.

**Attachment**

Questions for Annual Auditor Consultant Evaluation

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

**Questions for Annual Auditor Consultant Evaluation  
Calendar Year 2017**

**Organizational Update**

- 1) Provide an update on your firm's organization, with particular emphasis on changes to your management structure over the past twelve months. All significant changes should be accompanied by an explanation. An updated organizational chart should accompany this response.
- 2) Update all significant personnel changes or expected changes to the "SamCERA Team."
- 3) Has your firm or any of its employees been involved in regulatory or litigation actions related to your business in the past twelve months?
- 4) Has a peer review been performed on any of your firm's audit products? If yes, discuss the review and the findings. Any material findings or recommendations must be accompanied by an explanation.
- 5) Are any of your operations outsourced? If the answer is yes, provide details regarding the firm(s) with which your firm has contracted.
- 6) Please describe how your firm monitors and manages cyber security risks as they relate to confidential SamCERA data/information. Has your firm experienced any problems with cyber security in the past 18 months? What is your cyber security breach policy? What procedures do you have in place for a cyber security breach?

**Client Update**

- 7) What is your firm's philosophy and current policy regarding new business?
- 8) Please list all clients gained or lost in the past eighteen months.

**Outlook**

- 9) What issues are other clients concerned with in regards to products, services, education and governance that your staff has not addressed with SamCERA?
- 10) Are your clients making significant changes that SamCERA should be made aware?
- 11) Relative to your expertise, what trends are occurring in the retirement industry that SamCERA should be tracking?



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

**Conclusion**

- 12) How can SamCERA better assist you in accomplishing the goals it has established for your firm?
- 13) How can we better utilize your firm's capabilities?
- 14) Is there any information that would be timely pursuant to SamCERA's annual review?
- 15) What audit related changes should SamCERA consider that were not mentioned in your audit or audit presentation?

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

August 22, 2017

Agenda Item 4.11

**TO:** Board of Retirement

**FROM:** Doris Ng, Retirement Investment Analyst 

**SUBJECT:** Semi-Annual Compliance Certification Statements for Period Ended June 30, 2017

**Staff Recommendation**

Accept the semi-annual Compliance Certification Statement for the Franklin Templeton Global Multisector Plus Bond Fund, as of June 30, 2017.

**Background**

As part of SamCERA's ongoing due diligence process, the Compliance Certification Statement is completed by each of the association's public equity, fixed income, real estate, risk parity and cash overlay investment managers on a semi-annual basis.

These statements are used to update SamCERA on any firm-wide compliance issues and to provide strategic-level information regarding such things as derivatives and portfolio positioning. For investment managers whose investments are considered "alternative investment vehicles" per the California Government Section Code §6254.26, the Compliance Certification Statements are not provided in the public board packet and will be sent separately to the Board.

The attached Compliance Certification Statement (along with applicable statements for "alternative investment vehicles" – which will be submitted separately to the Board) were not received in time to be included in the mailing for the July Board meeting.

**Discussion**

The attached Compliance Certification Statement reports that Franklin Templeton is in compliance with SamCERA's Investment Policy as of June 30, 2017. There were no reported significant developments in portfolio construction, investment approach, firm ownership or organizational structure. There were no notable issues regarding industry or regulatory actions that impact SamCERA. The manager was also requested to provide data regarding the characteristics and composition of its portfolio. No prominent issues were identified during the review. Any items that raise concern will be brought to the manager's attention and will be thoroughly vetted by staff.

**Attachments**

Compliance Certification Statement Matrix 06-2017  
Compliance Certification Statement (1) – Franklin Templeton

## Compliance Certification Statement Matrix – June 30, 2017

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
<b>Global Fixed Income</b>					
Franklin Templeton		<ul style="list-style-type: none"> <li>• Feb 2017- AlphaParity (a risk premia invmnt firm), joined FRK's Multi-Asset Solutions platform</li> <li>• May 2017-Ed Perks named CIO of Multi-Asset Solutions, Stephen Dover named Hd of Equities, Mat Gulley oversee Alt Strategies, CEO &amp; Board Chairman Greg Johnson assume direct oversight of PAIR (Perf Analysis &amp; Invmnt Risk Grp)</li> </ul>	No Concerns	No Concerns	No Concerns



FRANKLIN TEMPLETON  
INSTITUTIONAL

July 27, 2017

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**RESPONSE TO COMPLIANCE CERTIFICATION STATEMENT FROM**  
**San Mateo County Employees' Retirement Association**

Franklin Templeton Global Multisector Plus (Master) Fund, Ltd. (3c7)  
*Review Period: January 1, 2017 – June 30, 2017*

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**Bill Deakyne, CFA**

Senior Vice President – Director of Institutional Client Relations  
Franklin Templeton Institutional

tel: (650) 312-2270

email: [bill.deakyne@franklintempleton.com](mailto:bill.deakyne@franklintempleton.com)

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**APPENDIX 1**

FRANKLIN ADVISERS, INC. REGULATORY HISTORY

Please note that the San Mateo Employees' Retirement account is in a 3c7 fund and is no longer managed in a separately managed account within the guidelines of an investment management agreement (IMA).

As such, any references to the terms, guideline(s) and policy statement(s) within this questionnaire refer to the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd.'s offering documents and/or private placement memorandum.

## GENERAL COMPLIANCE ISSUES

1. **Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?**

**Yes**       **No**

**If yes, please explain.**

### Portfolio Developments

There have been no significant developments to the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd. over the last six months ended June 30, 2017.

### Firm Ownership

There have been no material changes to the ownership structure of Franklin Resources, Inc. (Parent Company) during the past six months ended June 30, 2017.

### Organizational Structure

In February, AlphaParity, a risk premia investment firm, joined the Franklin Templeton Multi-Asset Solutions platform. Founded in October 2012, the management team's expertise in quantitative, fundamental and derivatives strategies across asset classes allows for unique insights and investment solutions across styles and disciplines.

The following organizational changes became effective May 1, 2017:

- Ed Perks was named CIO – Multi-Asset Solutions, overseeing Franklin Templeton Multi-Asset Solutions. His expanded role reflects the growing importance of multi asset solutions for both retail and institutional investors. Ed continues to serve as lead portfolio manager of the investment strategies he currently manages.
- Stephen Dover was appointed Head of Equities, focusing on global oversight and administration of the company's equity investment business. The firm's various equity CIOs now report to Stephen, and he continues to oversee the Templeton Emerging Markets Group, Templeton Private Equity Partners, and the equity teams of Franklin Local Asset Management.
- Mat Gulley assumed oversight for Alternative Strategies, including Darby, Franklin Real Asset Advisors, K2 and Pelagos. In addition, Mat, alongside Joe Boerio, co-leads the firm's initiatives in the areas of Investment Management Data Science, and the rapid development of viable fintech opportunities. They partner with the firm's CIOs and investment teams to identify new ways to use data science and analytics to extract unique insights from large and complex data sets, and work to translate these insights into actionable investment-related intelligence.
- Reflecting the importance of investment risk management, CEO and Chairman of the Board Greg Johnson, assumed direct oversight for the Performance Analysis and Investment Risk Group (PAIR). As the Head of PAIR, Kelsey Biggers began reporting directly to Greg Johnson.
- Alok Sethi was promoted to Executive Vice President – Operations and Technology.

There have been no significant developments to the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd. over the last six months ended June 30, 2017.

**Personnel**

The investment team responsible for managing the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd., the Templeton Global Macro group, has not experienced personnel turnover during the past six months ended June 30, 2017.

**2. Have there been any changes in the firm's investment approach?**

Yes       No

**If yes, please explain.**

**3. Have there have been any industry or regulatory disciplinary actions taken against the firm?**

Yes       No

**If yes, please explain.**

During the period of January 1, 2017 through June 30, 2017, Franklin Advisers Inc. (FAV) was not the subject of any *investment-related proceedings, findings or orders* brought or made by any U.S. federal or state regulatory agency, *foreign financial regulatory authority or self-regulatory organization*.

For a summary of *investment-related proceedings, findings or orders* brought or made by any U.S. federal or state regulatory agency, *foreign financial regulatory authority or self-regulatory organization* against FAV and/or certain of its *advisory affiliates* in the past 10 years ended March 31, 2017, as well as certain other regulatory matters, please see Appendix 1: Franklin Advisers, Inc. Regulatory History. From time to time FAV and its *advisory affiliates* receive subpoenas and inquiries, including requests for documents or other information from governmental authorities or regulatory bodies and also may be the subject of governmental or regulatory examinations or investigations. *Investment-related proceedings, findings or orders* resulting from such subpoenas, inquiries, examinations or investigations, if any, will be reported, to the extent required and permitted by law, on FAV's Form ADV filed with the U.S. Securities and Exchange Commission. (Italicized terms are as defined on the U.S. Securities and Exchange Commission's Form ADV.)

**4. Has the firm's insurance coverage been sustained?**

Yes       No

**If no, please explain.**

**INVESTMENT MANAGEMENT FEES**

1. Is *SamCERA's* investment management fee schedule higher than those charged other institutional clients who hold an account investment substantially similar to ours?

Yes       No

If yes, please explain.



## DERIVATIVE INVESTMENTS

1. Are derivatives used in the management of the investment strategy?

Yes       No

If Yes, please answer the remaining questions in this section. If No, please skip the remaining questions in this section.

2. If the firm entered into a non-exchange traded derivative, was the general nature and associated risks of the counter-party fully evaluated?

Yes       No

If no, please explain.

3. For non-exchange traded derivative transactions, were the counter-parties broker/dealers?

Yes       No

If yes:

a) Do the counter-parties have investment grade debt?

Yes       No

b) Are the counter-parties registered with the SEC and do they have net capital to protect against potential adverse market circumstances?

Yes       No

If no, please explain.

4. For non-exchange traded derivative transactions, were the counter-parties financial institutions (banks)?

Yes       No

If yes:

a) Do the counter-parties have investment grade debt?

Yes       No

b) Do the counter-parties have total assets in excess of \$1 billion, and significant net capital to protect against potential adverse market circumstances?

Yes       No

If no, please explain.

**5. Is individual counter-party exposure well diversified?**

**Yes**       **No**

The risk exposure to a single counterparty in an OTC derivative transaction may not exceed 10%.

All proposed counterparties are subject to review and initial approval by the Counterparty Credit Committee satisfying certain credit and other standards. The Counterparty Credit Committee and Portfolio Analysis and Investment Risk (PAIR) team provide ongoing monitoring of counterparties creditworthiness and FTI-wide exposure. Counterparty risk is an issue addressed at a firm-wide level by Franklin Templeton. Franklin Templeton requires all OTC counterparties to maintain a credit rating of BBB- or better. Additionally, Funds are only permitted to enter into derivative instruments with counterparties included on the "approved list" maintained by the investment manager in conjunction with the counterparty credit risk policy. PAIR calculates Account and FTI-wide exposure to each counterparty on a weekly basis, and on an as needed basis based on market conditions. Total exposure is compared to monetary limits that vary based on the size and creditworthiness of the counterparty.

Finally, the majority of our counterparty relationships are collateralized. This means that an account is set up in between FTI and the counterparty and every night the side that "lost" on the trade that day transfers the equivalent amount of cash or T-bills into the account to reflect the mark-to-market of the derivative's value. The account itself is ring-fenced and protected from the balance sheet of either firm. Therefore, should one of our counterparties go out of business overnight it would not affect the value of the trade we have on, given that the trade's cash value would be in the collateral account and protected from creditors.

If no, please explain.

- a) **What is the largest exposure to a single counter-party within the portfolio?**
- b) **Please specify the name of the counter-party and the amount of exposure.**
- c) **Have there been any changes to the investment manager's list of approved counter-parties over the past six month?**

Counter-party exposure cannot be released under fair disclosure rules.

Changes to our approved list of counter-parties routinely occur nearly every month.

**6. Specify the security pricing sources used when developing portfolio market value exposures for limited allocation derivatives.**

Not applicable. No limited allocation derivative investments are held in the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd.

**7. Provide a statement regarding the liquidity of the derivative investments. Provide a general statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.**

It is the policy of the Franklin Templeton Fixed Income Group, the investment platform of the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd., to use derivatives only when client guidelines permit. Derivatives may be an efficient way to implement fixed income investment views on a particular sector in one transaction and also as a

tool to help isolate risk exposures. Compared with cash bonds, derivatives can be more flexible and more liquid, and may have lower transaction costs. In those strategies that employ derivative instruments, or when clients request the use of derivatives to achieve certain investment objectives, we may also seek to gain exposure through the use of exchange-traded and/or over-the-counter derivatives.

As an opportunistic strategy, the Templeton Global Multisector Plus Strategy (the investment strategy of the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd.) utilizes a wide variety of instruments to gain exposure to various fixed income sectors and achieve strategy objectives. For example, foreign exchange forward contracts are frequently used for hedging purposes and to express currency views. We may also engage in cross hedging as an efficient method of implementing the portfolio's optimal currency structure. Interest rate futures and swaps may be used to implement views on interest rates, quickly adjust portfolio duration, or efficiently handle cash flows. Total return swaps can quickly add or reduce bond market exposure.

Franklin Templeton's proprietary risk management systems enable us to properly model derivative instruments and fully understand portfolio risk. Derivatives are used only when portfolio guidelines permit and are not used to generate alpha.

**8. State if the legal and regulatory risk associated with portfolio derivative investments have changed over the past six months.**

Yes       No

**If yes, please explain.**

## INVESTMENT MANAGER GUIDELINES

### 1. Are portfolio holdings well-diversified, and made in liquid securities?

Yes       No

As an essential part of the investment process, liquidity risk is researched in the security selection stage. Our research analysts and traders partner to ensure that any required liquidity provisions can be met given the risk parameters of the underlying mandate. In the event that, within the confines of the account structure, we invest in securities that have limited liquidity, we seek to ensure that investors are being adequately compensated for any liquidity risk. On an ongoing basis, analysts are required to ensure that current market prices reflect attractive valuations. Liquidity risk is further controlled by monitoring aggregate ownership levels to help ensure that they remain prudent.

The global government bond and foreign currency markets in which the fund invests are among the largest and most liquid markets in the world. We generally seek to avoid holding assets in which we believe forced selling could occur at stressed levels due to liquidity constraints. Historically, the fund has never experienced any significant issues with liquidity, and we do not believe that liquidity issues going forward are likely to be of great concern, regardless of the economic environment.

It is also important to note that at a firm level, we have our Global Credit Facility, an unsecured, senior committed line of credit, if required as a source of funds for temporary and emergency purposes to meet unanticipated or unusually large redemption requests by shareholders. In the case that this facility would be needed, this would provide the portfolio managers with added flexibility in managing redemptions without disrupting our ability to meet our investment objectives and serve the long-term interests of our shareholders. Currently, it is undrawn.

**If no, please explain.**

### 2. Has the firm engaged in short selling, use of leverage or margin and/or investments in commodities?

Yes       No

The Templeton Global Multisector Plus Strategy does not engage in short selling, employ leverage, margins or investments in commodities.

**If yes, please explain.**

## GLOBAL FIXED INCOME PORTFOLIOS

**1. State the percentage of the portfolio held in each of the following types of securities (please sub-total each by region):**

The following table represents the sector versus region breakdown as of June 30, 2017.

Sector	Region	MV%
Certificates of Deposit (by region)		
Cash & Cash Equivalents		19.87
Preferred Stock <sup>[1]</sup>		0.65
Commercial Paper (by region)		
Other high grade short-term securities (by region)		
Government securities (by region)	US	
	Non-US	78.06
Agency Securities (by region)	US	
	Non-US	
Investment Grade Corporate Bonds (by region)	US	
	Non-US	0.14
High Yield Corporate Bonds (by region)	US	0.11
	Non-US	0.03
Mortgage and asset-backed securities (by region)		
Supranational		0.08
Derivatives		-0.86
Bank Loans		
Other <sup>[2]</sup>		1.92

<sup>[1]</sup> Includes Convertibles.

<sup>[2]</sup> Includes Sovereign and Equity.

The following table represents the sector breakdown for the portfolio as of June 30, 2017.

## San Mateo County Employees' Retirement Association

Types of Securities	Investment Objective	Percentage of Portfolio (%)
Cash & Cash Equivalents		19.87
Convertibles		0.65
Corporate Bonds	Investment Grade	0.14
	Non-Investment Grade	0.14
Derivatives		-0.86
Local Currency Government/Agency Bonds	Investment Grade	50.78
	Non-Investment Grade	27.28
Other		0.01
Non-Local Currency Sovereign Bonds	Investment Grade	0.00
	Non-Investment Grade	1.91
Supranational		0.08
<b>Total</b>		<b>100.00</b>

The following table represents the regional breakdown for the portfolio as of June 30, 2017.

Region	Percentage (%)
Americas	44.40
Asia	24.60
Europe/Africa	11.05
Cash and Cash Equivalents	19.87
Other	0.00
Supranational	0.08
<b>Total</b>	<b>100.00</b>

## 2. Please list any holdings that are below investment grade or not-rated

The table below represents the allocation ratings data as of June 30, 2017. During that quarter, 29.68% of the portfolios fall below investment grade or are not rated.

Range	IG/Non-IG	Percentage
AAA	IG	0.08
AA+	IG	0.00
AA	IG	11.63
AA-	IG	0.14
A+	IG	0.00
A	IG	0.00
A-	IG	18.86
BBB+	IG	0.00

Range	IG/Non-IG	Percentage
BBB	IG	6.84
BBB-	IG	12.90
BB+	Non-IG	0.00
BB	Non-IG	14.11
BB-	Non-IG	1.63
B+	Non-IG	0.29
B	Non-IG	0.00
B-	Non-IG	12.86
CCC+	Non-IG	0.00
CCC	Non-IG	0.00
CCC-	Non-IG	0.00
CC+	Non-IG	0.00
C	Non-IG	0.00
NR	Non-IG	0.79
N/A	Non-IG	0.00
Cash & Cash Equivalents		19.87

3. Excluding U. S. Government and Agency bond holdings, did any individual bond issue represent more than 5% of the market value of the portfolio?

Yes       No

If yes, please specify the bond issue and percentage amount.

4. What percentage of the portfolio is held in Rule 144A securities?

There were no Rule 144A securities held as of June 30, 2017.

5. At the time of purchase, was there any single industry which represented more than 15% of the market value of the account.

Yes       No

If yes, please specify the name of the industry, percentage amount and size relative to benchmark.

6. What proportion of total AUM do the assets in this product make-up of the firm? What size does the SamCERA's account comprise of total product assets?

The table below provides assets under management figures requested regarding the Templeton Global Multisector Plus strategy and the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd. (3c7) as of June 30, 2017.

## San Mateo County Employees' Retirement Association

	Assets Under Management (in Million \$)	% of Total Firm Assets
Templeton Global Multisector Plus Strategy	40,247.56	5.42
Franklin Templeton Global Multisector Plus (Master) Fund, Ltd. (3c7)	1,088.00	0.15

The table below provides the requested figures regarding the SamCERA account assets compared to the Templeton Global Multisector Plus strategy and the Franklin Templeton Global Multisector Plus (Master) Fund, Ltd. (3c7) as of June 30, 2017.

SamCERA Assets Under Management (in Million \$)	% of Strategy Assets	% of Product Assets
110.86	0.28	10.19

**Signed By:**



**Name:**

Breda Beckerle

**Title:**

Chief Compliance Officer

**Dated:**

July 26, 2017

**Name of Firm:**

Franklin Advisers, Inc. (FAV)



### IMPORTANT NOTES

This response (the Response) is based on the information provided in the Due Diligence Questionnaire (the Questionnaire). To the extent any such information in the Questionnaire is incomplete or inaccurate, Franklin Templeton reserves the right to alter, amend or delete any information it has provided in the Response. Franklin Templeton has prepared the Response in good faith and, to the best of its knowledge; all information provided in the Response is accurate as of the date submitted. Information, including all data, provided in the Response is unaudited, unless otherwise indicated. Additionally, any information relating to assets under management (AUM) is being provided in response to the particular request contained in the Questionnaire and the figures provided may, therefore, be categorized differently than those reported for regulatory or other disclosure purposes. AUM includes assets for which the firm provides various investment management services as described in Franklin Resources, Inc.'s current Form 10K (See Item I, "Business". A copy of the current Form 10K as well as the most recent Annual Report can be located at [www.franklintempleton.com](http://www.franklintempleton.com)). The way we calculate our AUM may change from time to time based on such factors as changes in industry standards, regulatory requirements or specific requests. Any information from third-party sources is believed to be reliable, but Franklin Templeton cannot guarantee its accuracy or completeness. Information set forth in the Response is subject to change and Franklin Templeton does not undertake any duty to update the Response after its issuance nor does it accept responsibility for any modifications made to the Response after its date of issue. Responses may include a general description of the types of services Franklin Templeton may provide to its clients and may not be applicable or tailored to the Questionnaire. Data shown for currency exposure, country exposure, maturity, duration, coupon allocation, sector allocation and asset allocation may reflect certain derivatives held in the portfolio (or their underlying reference assets). Breakdowns may not total 100% or may be negative due to rounding, use of derivatives, unsettled trades or other factors.

The information contained in the Response is solely for the purpose of responding to the Questionnaire, shall be treated as confidential, and shall be distributed internally on an as-needed basis only. Subject to applicable regulatory requirements, it shall not be distributed or otherwise communicated to third parties (other than any consultant engaged by the issuer of the Questionnaire to assist in connection therewith) without the prior written consent of Franklin Templeton. Any such consultant shall likewise be obligated to treat the Response as confidential.

Investing may involve a high degree of risk. The issuer of the Questionnaire is deemed to be an experienced institutional investor or consultant and is expected to make its own independent assessment of the appropriateness and the associated risks of investing. Franklin Templeton shall not be held liable for any losses or damages arising out of any person's reliance upon the information contained in the Response. Except as expressly provided in the Response, no person, firm, or corporation has been authorized to give any information or to make any representation other than those contained in the Response.

All investors should inform themselves as to the legal and other requirements applicable to them with respect to any investments, holdings, and/or disposition of any investments. Franklin Templeton takes no responsibility for informing or advising investors of any applicable laws or regulations.

Views or opinions expressed in the Response do not constitute investment, legal, tax, financial or other advice. The Response is neither an offer for a particular security nor a recommendation to purchase any investments. The way Franklin Templeton implements its investment strategies and the resulting portfolio holdings may change depending on a variety of factors such as market and economic conditions, as well as client account guidelines and restrictions, if applicable. The information provided in the Response is not a complete analysis of every aspect of any market, country, industry, security, strategy or portfolio. Past performance does not guarantee future results and results may differ over future time periods.

By accepting these materials, you confirm your acceptance of the above terms.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
Board of Retirement

August 22, 2017

Agenda Item 4.12

**TO:** Board of Retirement   
**FROM:** Scott Hood, Chief Executive Officer  
**SUBJECT:** Amendment to Agreement with Verus Advisory, Inc.

**Recommendation**

Approve a resolution authorizing the Chief Executive Officer to execute a Third Amendment to the Agreement with Verus Advisory, Inc. for investment consulting services.

**Background**

After a Request for Proposal (RFP) process, on March 23, 2010, the Board re-selected Strategic Investment Services (SIS) and entered into an agreement with SIS. Thereafter, the Board amended the agreement twice to extend the term. On January 1, 2016, the assignment of the SIS agreement to Verus, Inc. became effective. The current agreement with Verus Consulting, Inc. ends August 31, 2017.

**Discussion**

In January 2017, staff issued an RFP for investment consulting services and seven proposals were received. Staff performed a thorough evaluation of the proposals and performed site visits of the selected proposers. Staff reviewed its findings with the Board's Ad Hoc Investment Consultant Selection Committee. The Board requested a presentation from two finalists: Verus Advisory, Inc. and Meketa Consulting, Inc. After the finalists' presentations and discussion by the Board, the Board directed staff to commence contract negotiations with Verus Advisory, Inc.

It is anticipated that these negotiations will be completed by the September Board meeting. However, since the current agreement terminates on August 31, staff would like to extend the existing agreement by 4 months to cover the negotiations and to give flexibility as to setting the commencement date for the new agreement. The amended agreement will be at the existing fee rate and can be terminated upon written notice.

**Attachment**

Resolution Authorizing the Chief Executive Officer to Execute a Third Amendment to Agreement with Verus Advisory, Inc. for Investment Consulting Services

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

RESOLUTION 2017-11

**RESOLUTION AUTHORIZING CHIEF EXECUTIVE OFFICER TO EXECUTE A THIRD  
AMENDMENT TO THE AGREEMENT WITH VERUS ADVISORY, INC.  
FOR INVESTMENT CONSULTING SERVICES**

**WHEREAS**, Article XVI, §17 of the Constitution of the State of California and Government Code §31595 vests the Board of Retirement ("Board") with "plenary authority and fiduciary responsibility for the investment of moneys and the administration of the system"; and

**WHEREAS**, Government Code §31596.1 (d) authorizes the Board to retain investment consultants "in connection with administration of the Board's investment program"; and

**WHEREAS**, after a Request for Proposal process, on March 23, 2010, the Board re-selected Strategic Investment Services (SIS) entered into an agreement with SIS; and

**WHEREAS**, the Board amended its agreement with SIS twice to extend the term of said agreement; and

**WHEREAS**, on January 1, 2016, the assignment of the SIS agreement to Verus Advisory, Inc. became effective and the current agreement with Verus Advisory, Inc. ends August 31, 2017; and

**WHEREAS**, the Board has determined that it is in the best interest of SamCERA to extend this agreement with Consultant by four months through December 31, 2017; Therefore, be it

**RESOLVED**, that the Chief Executive Officer be and is hereby authorized and directed to execute said Third Amendment to the Agreement with Verus Advisory, Inc. for investment consulting services.

\* \* \* \* \*

*Regularly passed and adopted, by the San Mateo County Employees' Retirement Association, Board of Retirement, on August 22, 2017.*

*Ayes, Trustees:*

*Noes, Trustees:*

*Absent, Trustees:*

*Abstain, Trustees:*

---

*David Spinello, Board Secretary*

*SamCERA*

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

August 22, 2017

Agenda Item 4.13

**TO:** Board of Retirement

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

**SUBJECT:** Conflict of Interest Code

**Staff Recommendation**

Reaffirm SamCERA's Conflict of Interest Code.

**Background**

The Political Reform Act prohibits a public official from using his or her official position to influence a governmental decision in which he or she has a financial interest. Every public agency must adopt a Conflict of Interest (COI) code that identifies all officials and employees within the agency who make governmental decisions based on the positions they hold. The individuals in the designed positions must disclose on a Statement of Economic Interests (Form 700) their financial interests as specified.

**Discussion**

SamCERA is required to review its COI code at least every other year -Staff performs this review with the County every even year. In the review staff determines whether, since the last code was approved, there have been any:

- Substantial changes to the agency's organizational structure
- Positions eliminated or re-named
- Positions added
- Substantial changes in duties or responsibilities for any positions

If there are any such changes, staff would bring an amended COI code reflecting the changes to the Board for its approval. At this time, no changes to the code are needed. Staff recommends that the Board reaffirm the current Conflict of Interest Code.

**Attachment**

Conflict of Interest Code

**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
CONFLICT OF INTEREST CODE**

The Fair Political Practices Commission (FPPC) has adopted a regulation (2 Cal. Code of Regs. 18730), which contains the terms of a standard conflict of interest code, which may be amended from time to time. The terms of 2 Cal. Code of Regs. 18730, and any amendments to it duly adopted by the FPPC, are hereby incorporated into this Conflict of Interest Code.

Each person holding any position listed below must file FPPC Form 700--Statement of Economic Interests disclosing the kinds of financial interest shown for the designated employee's position. Statements must be filed at the times and on the forms prescribed by law. Failure to file statements on time may result in penalties including but not limited to late fines. Each person holding a position who must file a Statements of Economic Interest in accordance with Government Code section 87200 *et seq* and California Code of Regulations shall file in accordance with those statutes, with the proviso that the original statements will be filed with *SamCERA* and with a copy to County Clerk. The County Clerk does not need to forward the Statement of Economic Interest to the Fair Political Practices Commission.

**LIST OF DESIGNATED POSITIONS AND APPLICABLE DISCLOSURE CATEGORIES**

**Government Code section 87200 filers:** the following positions which manage public investments for purposes Government Code section 87200, shall, *in addition* to the disclosures required by Government Code section 87200 *et seq.* and California Code of Regulations, disclose:

	Disclosure Category
Trustees and Alternate Trustees	1, 2, 3
Chief Executive Officer	1, 2, 3
Chief Investment Officer	1, 2, 3

**Government Code section 87100 filers:** Designated SamCERA employee positions and employees of consultants, who shall file in accordance with Government Code section 87100:

	Disclosure Category
Assistant Executive Officer	1, 2, 3
Chief Legal Counsel	1, 2, 3
Chief Technology Officer	2
Benefits Manager	2
Finance Officer	2
Investment Consultants	4
Other Consultants	*

\* "*Investment Consultants*" are those investment managers and investment consultants who have been determined by the Chief Executive Officer to perform the same or substantially the same functions as SamCERA's Chief Investment Officer, which includes, but is not limited to directing or approving investment transactions, formulating or approving investment policies, and establishing guidelines for asset allocation. "*Other Consultants*" are those contractors who have been determined by the Chief Executive Officer to perform the functions of a SamCERA employee who pursuant to California Code of regulations section 18700 (a)(2) are required to file statements of economic interests. The Chief Executive Officer shall further determine the applicable disclosure categories.

## DESCRIPTION OF FINANCIAL DISCLOSURE CATEGORIES

**Category 1:** Persons in this category shall disclose all interest in real property within the boundaries of the County of San Mateo or within two miles outside the boundaries of the County of San Mateo and property located within two miles of any land owned or used by *SamCERA*. Persons are not required to disclose property, such as a home or vacation cabin, used exclusively as a personal residence.

**Category 2:** Persons in this category shall disclose all business positions, investments in, or income (including gifts and loans) received from business entities that manufacture, provide or sell service and/or supplies of a type utilized by *SamCERA*.

**Category 3:** Persons in this category shall disclose all business positions and investments in business entities that are the type in which *SamCERA*'s trust funds may be invested (include securities, real estate and business entities), all income (including gifts and loans) from such business entities, and all interests in real estate co-owned with or purchased from such *SamCERA* business entities.

**Category 4:** Those investment consultant firms ("consultant") under contract with *SamCERA* that have been determined by the Chief Executive Officer to have a requirement to file. Such consultant shall designate those employees who have influence over the investment decisions pertaining to *SamCERA*'s portfolio. Employees designated by the consultant will disclose all investments in business entities that are the type in which *SamCERA*'s portfolio may be invested by that consultant (including securities, real estate and business entities) which may foreseeably be materially affected by their decision making on behalf of *SamCERA*, all income (including gifts and loans) from such business entities, and all interests in real estate co-owned with or purchased from such *SamCERA* business entities.

ADOPTED by unanimous vote, February 23, 1999

AMENDED by unanimous vote, February 22, 2000

AMENDED by unanimous vote, February 27, 2001

AMENDED by unanimous vote, February 26, 2002

AMENDED by unanimous vote, March 25, 2003

AMENDED by unanimous vote, February 22, 2005

AMENDED by unanimous vote, January 24, 2006

AMENDED by unanimous vote, February 26, 2008

AMENDED by unanimous vote, July 28, 2009

AMENDED by unanimous vote, March, 2010

AMENDED by unanimous vote, September 2011

AMENDED BY unanimous vote, March 2012

ATT: GOVERNMENT CODE SECTION 87314 APPENDIX

## **Government Code Section 87314 Appendix**

### Agency Positions that Manage Public Investments For purposes of Section 87200 of the Government Code

The following positions manage Public Investments for purposes of Section 87200 of the Government Code:

Trustees and Alternate Trustees

Chief Executive Officer

Chief Investment Officer

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

August 22, 2017

Agenda Item 4.14

**TO:** Board of Retirement

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



**SUBJECT:** Authorization for the Chief Executive Officer to Execute Documentation for Investments as Required

**Staff Recommendation**

Reaffirm Authorization for the Chief Executive Officer to Execute Documentation for Investments as Required.

**Background**

After the Board has decided to invest SamCERA funds with external managers, or to increase, decrease or otherwise change the amount of such investments, there is certain documentation that must be executed and there are certain actions to be taken regarding day-to-day operations of the investments. In 2012, the Board determined that the Chief Executive Officer should have the authority to execute such documentation and to respond to the ongoing demands of the investment under certain circumstances.

The Board also determined that for certain alternative investments opportunities that, due to the timing of such investments, the Chief Executive Officer, in consultation with the Board Chair or if the Chair is not available, the Vice Chair, and one member of the Investment Committee, the Board's Investment Consultant, staff and legal counsel, to make investment decisions for those Alternative Investments of \$25 million or less if such decision must be made prior to the date of the next regularly scheduled Board meeting and as long as such decision is in the best interest of the investment fund and consistent with applicable Board policy.

All significant actions of the Chief Executive Officer authorized above are to be reported to the Board at a subsequent regularly scheduled meeting.

**Discussion**

The policy has been implemented smoothly since 2012 and staff is of the opinion that no adjustments are needed. Staff recommends that the Board reaffirm the Authorization for the Chief Executive Officer to Execute Documentation for Investments as required.

**Attachment**

Authorization for the Chief Executive Officer to Execute Documentation for Investments as required



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

**AUTHORIZATION FOR THE CHIEF EXECUTIVE OFFICER TO EXECUTE  
DOCUMENTATION FOR INVESTMENTS AS REQUIRED**

RESOLUTION 12-13-04

WHEREAS, Article XVI, §17 of the Constitution of the State of California vests the Board with *"plenary authority and fiduciary responsibility for the investment of moneys and the administration of the system"*; and

WHEREAS, Government Code §31595 vests in the Board *"... exclusive control of the investment of the employees retirement fund."*; and

WHEREAS, Government Code §31596.1 (d) authorizes the Board to retain investment managers *"... in connection with administration of the Board's investment program ..."*; and

WHEREAS, the Board's Investment Consultant and Chief Investment Officer bring investment opportunities and investment decisions to the Board for its determination; and

WHEREAS, after the Board has made a determination to invest SamCERA funds with external managers, or to increase, decrease or otherwise change the amount of such investments, there is certain documentation that must be executed on behalf of the Board in order to effectuate the Board's decisions and to respond to the demands of the day-to-day operations of the investment; and

WHEREAS, the Board has determined that it is in the best interest of the fund that the Chief Executive Officer have the authority to execute any and all documentation with the external manager on behalf of the Board in order to effectuate the Board's investment decisions and to respond to the demands of the day-to-day operations of the investment; and

WHEREAS, the Board has determined that in regards to certain Alternative Investments opportunities that, due to the timing of such investments, that the Chief Executive Officer have the authority to make the investment decision as long as such decision is consistent with the Board policy; and

**RESOLVED** that the Board hereby authorizes the Chief Executive Officer, in consultation with staff and legal counsel, to execute any and all documentation with SamCERA's external investment managers, on behalf of the Board, in order to effectuate the Board's investment decisions and to respond to the demands of the day-to-day operations of the investments. Be it further

**RESOLVED** that the Board hereby authorizes the Chief Executive Officer, in consultation with the Board Chair, or if the Chair is not available, the Vice Chair, and one member of the Investment Committee, the Board's Investment Consultant, staff and legal counsel, to make investment decisions for those Alternative Investments of \$25 million or less if such decision must be made prior to the date of the next regularly scheduled Board meeting and as long as such decision is in the best interest of the investment fund and consistent with applicable Board policy. Be it further

RESOLVED that all significant actions of the Chief Executive Officer authorized by this resolution shall be reported to the Board at a subsequent regularly scheduled meeting. Be it further

RESOLVED that this resolution shall supercede provisions contained in resolutions previously adopted by the Board that are inconsistent with the provisions set forth in this resolution.

I, the undersigned, hereby certify that the forgoing Resolution was duly passed and adopted on the 25<sup>th</sup> of September, 2012, by the San Mateo County Employees' Retirement Association, Board of Retirement, by the following vote:

AYES, Trustees: Agnew, Arnott, David, Hackleman, Miller (for Kwan Lloyd), Settles, Tashman

NOES, Trustees: Spinello

ABSENT, Trustees: Bowler

ABSTAIN, Trustees: None

ATTEST:

  
Lauryn Agnew, Board Secretary

  
C. David Bailey, CEO

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

August 22, 2017

Agenda Item 6.1

**TO:** Board of Retirement

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



**SUBJECT:** Preliminary Monthly Portfolio Performance Report for the Period Ended July 31, 2017

**Staff Recommendation**

Accept the preliminary performance report dated July 31, 2017.

**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 4-8) also shown.

**Discussion**

The fund's net preliminary return for July was 1.5%, while the preliminary trailing twelve-month return ending July 2017 was 11.6% net. The twelve-month net return is higher than both SamCERA's Total Plan Policy Benchmark return of 11.5% and the Actuarial Assumed Earnings Rate of 6.75%.

Global equities continued moving higher while exhibiting low volatility. Domestic equities were higher on the month, with the broad U.S. equity market (as measured by the Russell 1000 Index) up 2.0%, while developed international equity (as measured by MSCI EAFE) was up 2.9%. Emerging markets were also higher and returned 6.0%.

Real GDP growth for the second quarter increased at an annual rate of 2.6%, which was less than expected but higher than the 1.2% growth in the first quarter. Consumer confidence remained strong, while manufacturing slipped a bit during the month. The labor market remained healthy as the unemployment rate fell from 4.4% to 4.3%. U.S. inflation remained below target, with the 12-month CPI dropping to 1.6% in July.

The general U.S. fixed income market was up 0.4% during the month. The 10-year U.S. Treasury yield decreased by 1 basis point during the month with the yield ending at 2.30% by month-end. Credit spreads tightened during the month, leading the high yield market higher by 0.9%.

The Verus Capital Markets Update for July was not ready in time for the Board mailing. It will be added to Dropbox when available.

**Attachment**

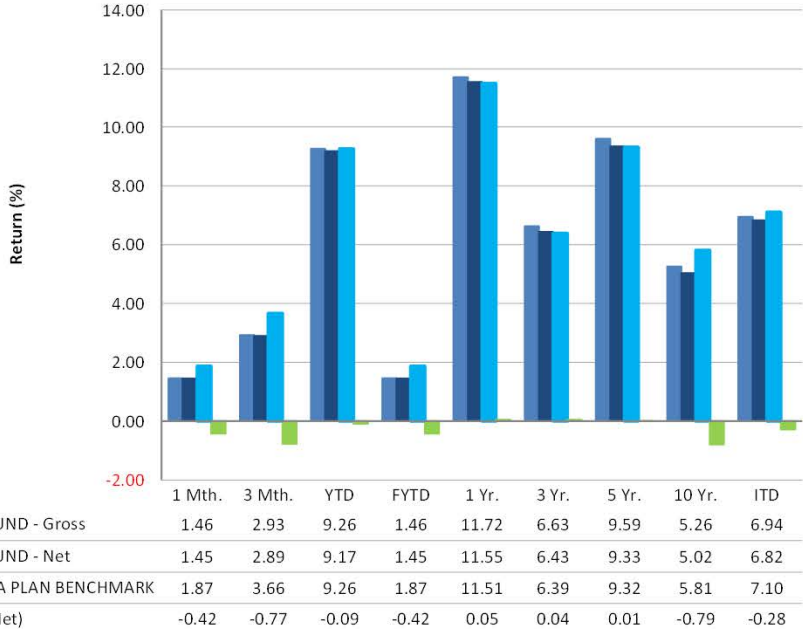
Northern Trust Performance Report

# San Mateo County Total Fund Characteristics

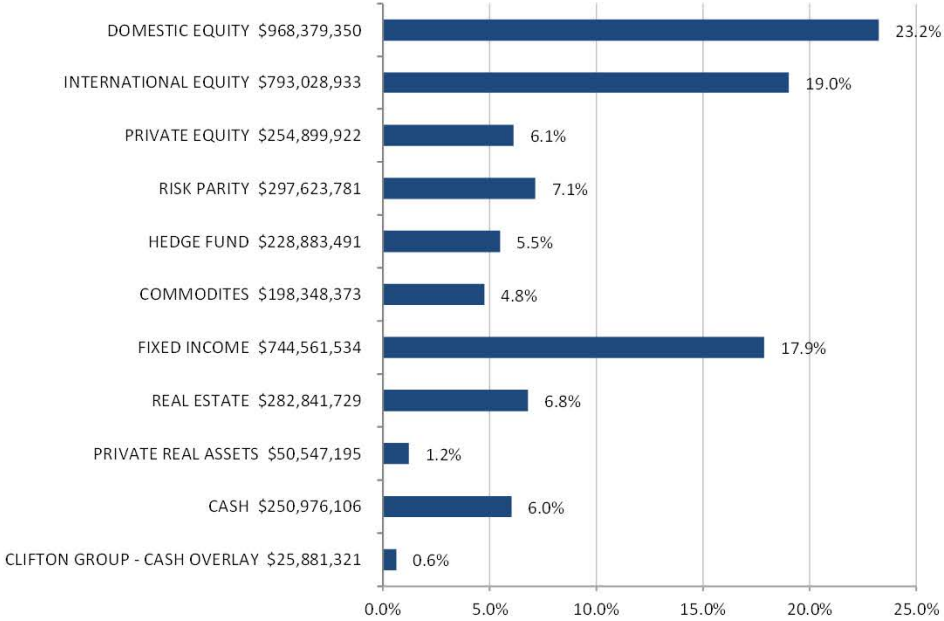


July 31, 2017

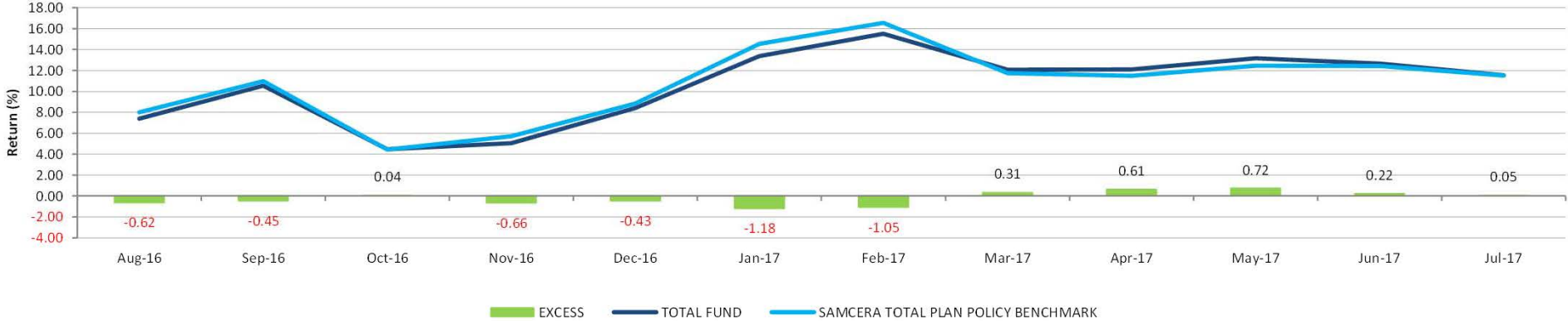
**Total Fund Performance**



**Asset Allocation**



**Rolling Month End Annual Returns**

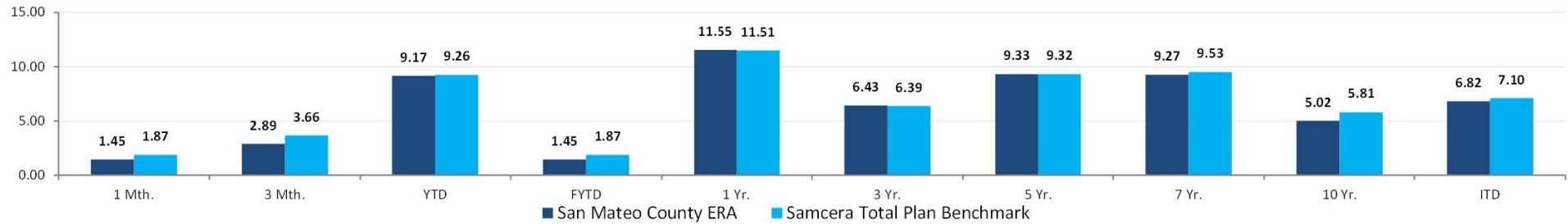


# San Mateo County Composite Return Summary



July 31, 2017

Return Comparison



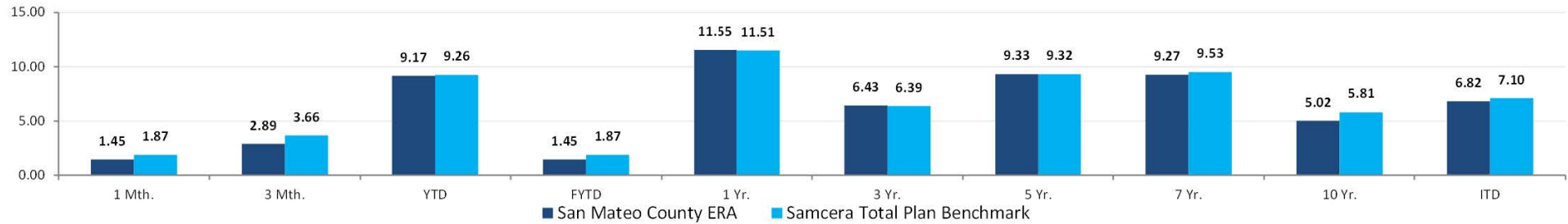
Composite Returns (Net of Manager Fees)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
San Mateo County ERA	4,167,174,088	1.45	2.89	9.17	1.45	11.55	6.43	9.33	9.27	5.02	6.82
Samcera Total Plan Benchmark		1.87	3.66	9.26	1.87	11.51	6.39	9.32	9.53	5.81	7.10
Excess		-0.42	-0.77	-0.09	-0.42	0.05	0.04	0.01	-0.25	-0.79	-0.28
San Mateo Ex-Clifton Overlay	4,141,292,767	1.43	2.87	9.06	1.43	11.50	6.32	9.27	9.23	4.92	6.74
Samcera Total Plan Benchmark		1.87	3.66	9.26	1.87	11.51	6.39	9.32	9.53	5.81	7.10
Excess		-0.44	-0.80	-0.20	-0.44	-0.01	-0.07	-0.04	-0.29	-0.89	-0.36
Total Equity	1,761,408,283	2.42	4.93	15.15	2.42	17.17	7.88	12.40	11.38	4.95	7.82
Samcera Total Equity Benchmark		2.27	4.56	12.51	2.27	17.39	9.05	13.26	12.18	6.26	8.37
Excess		0.15	0.37	2.63	0.15	-0.22	-1.17	-0.86	-0.80	-1.31	-0.55
Total Fixed Income	744,561,534	0.37	1.36	4.65	0.37	6.49	3.72	4.18	5.24	5.47	5.70
Samcera Fixed Income Benchmark		0.74	1.69	3.95	0.74	1.65	3.06	2.27	3.51	4.73	5.15
Excess		-0.37	-0.33	0.70	-0.37	4.83	0.67	1.90	1.73	0.74	0.55
Total Risk Parity	297,623,781	2.01	1.64	8.09	2.01	4.19	3.61	5.36	--	--	6.31
Samcera Risk Parity Benchmark		1.61	3.41	8.97	1.61	10.62	7.93	9.92	--	--	8.99
Excess		0.40	-1.77	-0.88	0.40	-6.43	-4.32	-4.56	--	--	-2.69

# San Mateo County Composite Return Summary



July 31, 2017

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
Total Hedge Fund Composite	228,883,491	0.70	0.44	1.29	0.70	4.49	7.35	5.77	--	--	4.95
Samcera LIBOR + 4%		0.43	1.25	2.86	0.43	4.77	4.43	4.34	--	--	4.32
Excess		0.27	-0.81	-1.57	0.27	-0.28	2.92	1.43	--	--	0.63
Total Private Real Assets	50,547,195	-0.43	-2.69	3.53	-0.43	26.64	--	--	--	--	35.53
SamCera Custom Real Asset Inde		4.12	4.23	7.41	4.12	9.65	--	--	--	--	15.02
Excess		-4.55	-6.92	-3.89	-4.55	16.99	--	--	--	--	20.51
Total Real Estate	282,841,729	0.11	1.81	4.35	0.11	8.15	--	--	--	--	9.89
Samcera NCREIF ODCE EW (gross)		0.00	1.71	3.57	0.00	8.12	--	--	--	--	7.76
Excess		0.11	0.10	0.77	0.11	0.04	--	--	--	--	2.13
Total Cash	250,976,106	0.07	0.22	0.16	0.07	0.89	0.51	0.55	0.63	0.63	2.01
Samcera Cash Benchmark		0.09	0.22	0.39	0.09	0.54	0.26	0.19	0.16	0.55	1.85
Excess		-0.02	0.00	-0.23	-0.02	0.34	0.25	0.36	0.47	0.08	0.16

# San Mateo County Manager Return Summary



July 31, 2017

Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Equity	1,761,408,283	2.42	4.93	15.15	2.42	17.17	7.88	12.40	11.38	4.95	7.82
Samcera Total Equity Benchmark		2.27	4.56	12.51	2.27	17.39	9.05	13.26	12.18	6.26	8.37
Excess		0.15	0.37	2.63	0.15	-0.22	-1.17	-0.86	-0.80	-1.31	-0.55
Total Domestic Equity	968,379,350	1.86	3.55	12.03	1.86	16.99	10.35	14.38	13.88	6.82	8.55
Samcera Dom. Equity Benchmark		1.89	3.86	10.99	1.89	16.26	10.41	14.71	14.41	7.85	8.91
Excess		-0.03	-0.31	1.04	-0.03	0.73	-0.07	-0.33	-0.52	-1.03	-0.36
Total Large Cap Equity	837,895,245	2.03	4.06	13.24	2.03	17.41	11.23	14.93	14.26	7.12	9.31
Russell 1000		1.98	4.00	11.44	1.98	15.95	10.58	14.85	14.65	7.84	9.63
Excess		0.05	0.06	1.80	0.05	1.46	0.65	0.08	-0.39	-0.72	-0.32
Blackrock Russell 1000	692,745,836	1.98	4.03	--	1.98	--	--	--	--	--	9.89
Russell 1000		1.98	4.00	--	1.98	--	--	--	--	--	9.66
Excess		0.00	0.03	--	0.00	--	--	--	--	--	0.23
DE Shaw Commingled Fund	145,149,409	2.27	4.20	12.18	2.27	16.97	--	--	--	--	11.12
Russell 1000		1.98	4.00	11.44	1.98	15.95	--	--	--	--	9.36
Excess		0.29	0.20	0.74	0.29	1.02	--	--	--	--	1.75
Total Small Cap Equity	130,484,105	0.77	0.29	4.95	0.77	14.87	6.07	12.05	12.33	5.51	6.45
Russell 2000		0.74	2.11	5.77	0.74	18.45	9.89	14.19	13.39	7.76	7.91
Excess		0.03	-1.82	-0.82	0.03	-3.58	-3.82	-2.13	-1.06	-2.25	-1.45
QMA US Small Cap	130,484,105	0.77	0.29	4.95	0.77	--	--	--	--	--	18.62
Russell 2000		0.74	2.11	5.77	0.74	--	--	--	--	--	16.74
Excess		0.03	-1.82	-0.82	0.03	--	--	--	--	--	1.89
Total International Equity	793,028,933	3.12	6.67	19.10	3.12	16.43	3.41	8.43	6.17	0.93	5.68
MS AC WldxUS IMI Nt		3.66	7.30	18.49	3.66	18.87	2.74	8.07	6.18	1.76	5.22
Excess		-0.55	-0.63	0.61	-0.55	-2.43	0.67	0.36	-0.01	-0.83	0.46
Total Developed Markets Equity	703,393,148	2.86	6.63	18.99	2.86	16.26	3.75	8.94	6.56	1.36	4.57
MS AC WldxUS IMI Nt		3.66	7.30	18.49	3.66	18.87	2.74	8.07	6.18	1.76	5.05
Excess		-0.80	-0.67	0.50	-0.80	-2.61	1.01	0.87	0.37	-0.40	-0.48
Baillie Gifford	252,855,957	2.86	7.94	22.97	2.86	15.95	5.64	10.64	--	--	9.17
MSCI ACWI ex US Growth		3.47	8.27	21.77	3.47	16.28	4.60	8.76	--	--	7.26
Excess		-0.61	-0.32	1.20	-0.61	-0.33	1.04	1.88	--	--	1.91
Blackrock EAFE Index Fund	207,675,364	2.90	6.60	17.45	2.90	18.22	3.10	--	--	--	3.43
MSCI EAFE ND		2.88	6.47	17.09	2.88	17.77	2.79	--	--	--	3.10





# San Mateo County Manager Return Summary



July 31, 2017

Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Excess		0.01	0.12	0.36	0.01	0.45	0.32	--	--	--	0.33
Mondrian Investment Partners	242,860,078	2.91	5.38	15.91	2.91	15.74	1.87	7.55	6.22	1.77	5.76
MSCI ACWI ex US Value		3.95	6.88	15.85	3.95	22.93	1.02	7.55	5.58	1.35	5.61
Excess		-1.04	-1.51	0.07	-1.04	-7.19	0.84	0.00	0.64	0.42	0.15
FIAM Intl Small Cap	1,748	--	--	--	--	--	--	--	--	--	--
MSCI ACWI Small Cap ex US Net		--	--	--	--	--	--	--	--	--	--
Excess		--	--	--	--	--	--	--	--	--	--
Total Emerging Markets Equity	89,635,786	5.17	6.90	19.91	5.17	17.78	0.26	4.29	--	--	2.53
MSCI Emerging Markets ND		5.96	10.19	25.49	5.96	24.84	2.39	4.76	--	--	3.02
Excess		-0.80	-3.29	-5.58	-0.80	-7.06	-2.13	-0.47	--	--	-0.49
EV Parametric EM	89,635,786	5.17	6.90	19.91	5.17	17.78	--	--	--	--	9.80
MSCI Emerging Markets GD		6.04	10.37	25.77	6.04	25.30	--	--	--	--	11.73
Excess		-0.88	-3.47	-5.86	-0.88	-7.52	--	--	--	--	-1.93
Total Fixed Income	744,561,534	0.37	1.36	4.65	0.37	6.49	3.72	4.18	5.24	5.47	5.70
Samcera Fixed Income Benchmark		0.74	1.69	3.95	0.74	1.65	3.06	2.27	3.51	4.73	5.15
Excess		-0.37	-0.33	0.70	-0.37	4.83	0.67	1.90	1.73	0.74	0.55
Total Domestic Fixed Income	634,285,343	0.53	1.81	4.84	0.53	5.60	4.03	4.00	5.24	5.52	5.83
Samcera US Fixed Inc Benchmark		0.57	1.21	3.31	0.57	1.93	3.37	2.38	3.75	4.90	5.33
Excess		-0.04	0.61	1.52	-0.04	3.67	0.66	1.62	1.49	0.62	0.50
Total Core Fixed Income	467,693,400	0.56	1.48	3.68	0.56	2.55	3.52	3.19	4.45	4.95	5.51
BB Barclays U.S. Aggregate		0.43	1.10	2.71	0.43	-0.51	2.71	2.02	3.10	4.44	5.08
Excess		0.13	0.38	0.97	0.13	3.07	0.81	1.17	1.35	0.52	0.44
FIAM Core Bond	231,100,694	0.62	1.14	3.13	0.62	0.58	3.27	2.69	3.96	5.02	4.87
BB Barclays U.S. Aggregate		0.43	1.10	2.71	0.43	-0.51	2.71	2.02	3.10	4.44	4.39
Excess		0.19	0.04	0.41	0.19	1.10	0.56	0.67	0.87	0.58	0.48
Western Total Return	114,803,824	0.70	3.26	6.48	0.70	8.75	--	--	--	--	5.76
BB Barclays U.S. Aggregate		0.43	1.10	2.71	0.43	-0.51	--	--	--	--	2.66
Excess		0.27	2.16	3.76	0.27	9.26	--	--	--	--	3.10
Blackrock Inter Gov	121,788,883	0.34	0.50	--	0.34	--	--	--	--	--	--
BB Barclays U.S. Aggregate		0.43	1.10	--	0.43	--	--	--	--	--	--
Excess		-0.10	-0.60	--	-0.10	--	--	--	--	--	--

# San Mateo County Manager Return Summary



July 31, 2017

Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Opportunistic Credit	166,591,942	0.44	2.77	7.81	0.44	13.13	5.73	8.74	9.54	--	9.93
BB Barc BA Intermediate HY Ind		0.88	2.11	5.22	0.88	7.71	5.55	6.12	7.26	--	8.00
Excess		-0.44	0.67	2.59	-0.44	5.42	0.18	2.61	2.28	--	1.93
AG Opportunistic Whole Loan	12,918,982	0.00	5.06	7.99	0.00	15.09	5.24	--	--	--	4.20
BB Barc BA Intermediate HY Ind		0.88	2.11	5.22	0.88	7.71	5.55	--	--	--	5.21
Excess		-0.88	2.95	2.77	-0.88	7.38	-0.30	--	--	--	-1.01
Angelo Gordon	14,576,145	0.00	5.46	7.86	0.00	16.22	7.43	--	--	--	9.57
BB Barc BA Intermediate HY Ind		0.88	2.11	5.22	0.88	7.71	5.55	--	--	--	5.73
Excess		-0.88	3.36	2.64	-0.88	8.52	1.88	--	--	--	3.84
Beach Point Select Fund	46,602,732	0.00	1.59	6.65	0.00	11.56	--	--	--	--	9.38
BB Barc BA Intermediate HY Ind		0.88	2.11	5.22	0.88	7.71	--	--	--	--	5.93
Excess		-0.88	-0.51	1.43	-0.88	3.85	--	--	--	--	3.45
Brigade Cap Mngmt	74,793,774	0.98	2.47	9.07	0.98	13.68	4.17	6.47	7.37	--	7.37
BB Barc BA Intermediate HY Ind		0.88	2.11	5.22	0.88	7.71	5.55	6.12	7.26	--	7.26
Excess		0.09	0.37	3.85	0.09	5.97	-1.38	0.35	0.11	--	0.11
TCP Direct Lending VIII	13,300,895	0.00	2.31	5.33	0.00	--	--	--	--	--	--
BB Barc BA Intermediate HY Ind		0.88	2.11	5.22	0.88	--	--	--	--	--	--
Excess		-0.88	0.21	0.11	-0.88	--	--	--	--	--	--
Total Global Fixed Income	110,276,191	-0.53	-1.16	3.67	-0.53	10.94	1.89	4.64	--	--	4.74
Samcera Global Fixed Benchmark		1.71	3.20	6.37	1.71	-0.53	0.72	1.16	--	--	2.15
Excess		-2.24	-4.36	-2.71	-2.24	11.47	1.17	3.48	--	--	2.58
Franklin Templeton	110,276,191	-0.53	-1.16	3.67	-0.53	10.94	1.89	4.36	--	--	4.52
BB Barclays Multiverse Index		1.71	3.20	6.37	1.71	-0.53	0.72	1.16	--	--	2.15
Excess		-2.24	-4.36	-2.71	-2.24	11.47	1.17	3.20	--	--	2.37
Total Risk Parity	297,623,781	2.01	1.64	8.09	2.01	4.19	3.61	5.36	--	--	6.31
Samcera Risk Parity Benchmark		1.61	3.41	8.97	1.61	10.62	7.93	9.92	--	--	8.99
Excess		0.40	-1.77	-0.88	0.40	-6.43	-4.32	-4.56	--	--	-2.69
AQR Global Risk III	139,950,390	2.75	2.75	9.02	2.75	7.76	1.11	3.84	--	--	5.11
Samcera Risk Parity Benchmark		1.61	3.41	8.97	1.61	10.62	7.93	9.92	--	--	8.99
Excess		1.14	-0.66	0.05	1.14	-2.86	-6.83	-6.09	--	--	-3.88
Panagora	157,673,391	1.37	0.66	7.27	1.37	1.22	6.61	--	--	--	6.43
Samcera Risk Parity Benchmark		1.61	3.41	8.97	1.61	10.62	7.93	--	--	--	7.26



# San Mateo County Manager Return Summary



July 31, 2017

Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Excess		-0.24	-2.74	-1.69	-0.24	-9.40	-1.32	--	--	--	-0.83
Total Alternatives	483,783,413	-0.09	0.77	5.61	-0.09	12.69	6.33	5.07	-6.36	-7.93	-2.85
Samcera Alternatives Benchmark		1.22	2.80	7.40	1.22	11.95	5.57	8.64	9.48	6.16	7.47
Excess		-1.31	-2.03	-1.79	-1.31	0.73	0.76	-3.57	-15.83	-14.09	-10.32
Total Private Equity	254,899,922	-0.80	1.07	9.78	-0.80	20.54	15.25	12.81	--	--	-23.19
Samcera PE Benchmark		2.13	4.62	12.89	2.13	19.58	13.72	18.14	--	--	17.09
Excess		-2.93	-3.55	-3.10	-2.93	0.97	1.53	-5.33	--	--	-40.28
Total Hedge Fund Composite	228,883,491	0.70	0.44	1.29	0.70	4.49	7.35	5.77	--	--	4.95
Samcera LIBOR + 4%		0.43	1.25	2.86	0.43	4.77	4.43	4.34	--	--	4.32
Excess		0.27	-0.81	-1.57	0.27	-0.28	2.92	1.43	--	--	0.63
AQR Delta XN	158,013,125	0.66	0.17	0.75	0.66	4.22	7.51	5.86	--	--	5.02
Samcera LIBOR + 4%		0.43	1.25	2.86	0.43	4.77	4.43	4.34	--	--	4.32
Excess		0.24	-1.08	-2.11	0.24	-0.55	3.08	1.52	--	--	0.70
SamCERA-Aberdeen Std GARS	70,870,366	0.78	1.05	2.25	0.78	4.16	--	--	--	--	-0.08
Samcera LIBOR + 4%		0.43	1.25	2.86	0.43	4.77	--	--	--	--	4.59
Excess		0.36	-0.20	-0.61	0.36	-0.61	--	--	--	--	-4.66
Total Inflation Hedge	602,939,651	1.42	1.92	4.49	1.42	9.85	--	--	--	--	12.10
SamCERA Inflation Hedge Index		1.86	2.54	4.98	1.86	8.28	--	--	--	--	8.86
Excess		-0.44	-0.62	-0.49	-0.44	1.57	--	--	--	--	3.24
Total TIPS	71,202,354	0.40	-0.64	0.88	0.40	0.83	--	--	--	--	1.77
BBG Barclays US TIPS		0.45	-0.55	1.30	0.45	-1.04	--	--	--	--	1.14
Excess		-0.05	-0.09	-0.42	-0.05	1.87	--	--	--	--	0.63
Brown Brothers Harriman	71,202,354	0.40	-0.64	0.88	0.40	0.83	0.46	-0.61	2.55	--	2.55
BBG Barclays US TIPS		0.45	-0.55	1.30	0.45	-1.04	0.77	-0.02	2.92	--	2.92
Excess		-0.05	-0.09	-0.42	-0.05	1.87	-0.31	-0.59	-0.37	--	-0.37
Total Real Estate	282,841,729	0.11	1.81	4.35	0.11	8.15	--	--	--	--	9.89
Samcera NCREIF ODCE EW (gross)		0.00	1.71	3.57	0.00	8.12	--	--	--	--	7.76
Excess		0.11	0.10	0.77	0.11	0.04	--	--	--	--	2.13
Invesco Core Real Estate	248,118,768	0.00	1.79	4.29	0.00	8.16	11.83	11.81	13.01	5.06	7.90
Samcera NCREIF ODCE EW (gross)		0.00	1.71	3.57	0.00	8.12	11.61	11.79	13.09	5.07	7.72
Excess		0.00	0.08	0.72	0.00	0.05	0.22	0.02	-0.07	-0.01	0.18

# San Mateo County Manager Return Summary



July 31, 2017

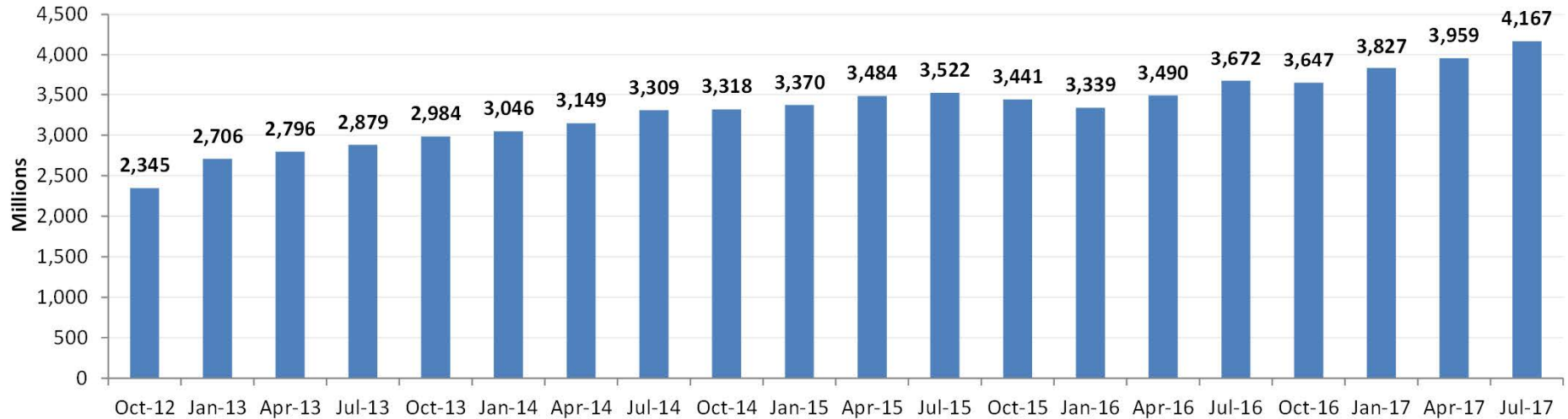
Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Invesco US Val IV	18,983,489	1.65	1.65	4.95	1.65	7.71	--	--	--	--	12.50
Samcera NCREIF ODCE EW (gross)		0.00	1.71	3.57	0.00	8.12	--	--	--	--	9.91
Excess		1.65	-0.06	1.38	1.65	-0.41	--	--	--	--	2.60
PGIM Real Estate US Debt Fund	15,739,472	0.00	--	--	0.00	--	--	--	--	--	0.00
Samcera NCREIF ODCE EW (gross)		0.00	--	--	0.00	--	--	--	--	--	0.00
Excess		0.00	--	--	0.00	--	--	--	--	--	0.00
Liquid Real Assets	198,348,373	4.12	4.31	6.82	4.12	--	--	--	--	--	--
SamCera Custom Real Asset Index		4.12	4.23	7.41	4.12	--	--	--	--	--	--
Excess		-0.00	0.09	-0.59	-0.00	--	--	--	--	--	--
SSGA CST REAL ASSET NL	198,348,373	4.12	4.31	6.82	4.12	--	--	--	--	--	--
SamCera Custom Real Asset Index		4.12	4.23	7.41	4.12	--	--	--	--	--	--
Excess		-0.00	0.09	-0.59	-0.00	--	--	--	--	--	--
Total Private Real Assets	50,547,195	-0.43	-2.69	3.53	-0.43	26.64	--	--	--	--	35.53
SamCera Custom Real Asset Inde		4.12	4.23	7.41	4.12	9.65	--	--	--	--	15.02
Excess		-4.55	-6.92	-3.89	-4.55	16.99	--	--	--	--	20.51
Total Cash	250,976,106	0.07	0.22	0.16	0.07	0.89	0.51	0.55	0.63	0.63	2.01
Samcera Cash Benchmark		0.09	0.22	0.39	0.09	0.54	0.26	0.19	0.16	0.55	1.85
Excess		-0.02	0.00	-0.23	-0.02	0.34	0.25	0.36	0.47	0.08	0.16
SamCera General Account	146,899,128	0.10	0.29	0.59	0.10	0.86	0.51	0.35	0.34	0.76	2.00
County Treasury Pool	104,071,737	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.50	0.45	2.66
San Mateo County ERA	4,167,174,088	1.45	2.89	9.17	1.45	11.55	6.43	9.33	9.27	5.02	6.82
Samcera Total Plan Benchmark		1.87	3.66	9.26	1.87	11.51	6.39	9.32	9.53	5.81	7.10
Excess		-0.42	-0.77	-0.09	-0.42	0.05	0.04	0.01	-0.25	-0.79	-0.28

July 31, 2017

**Record of Asset Growth**

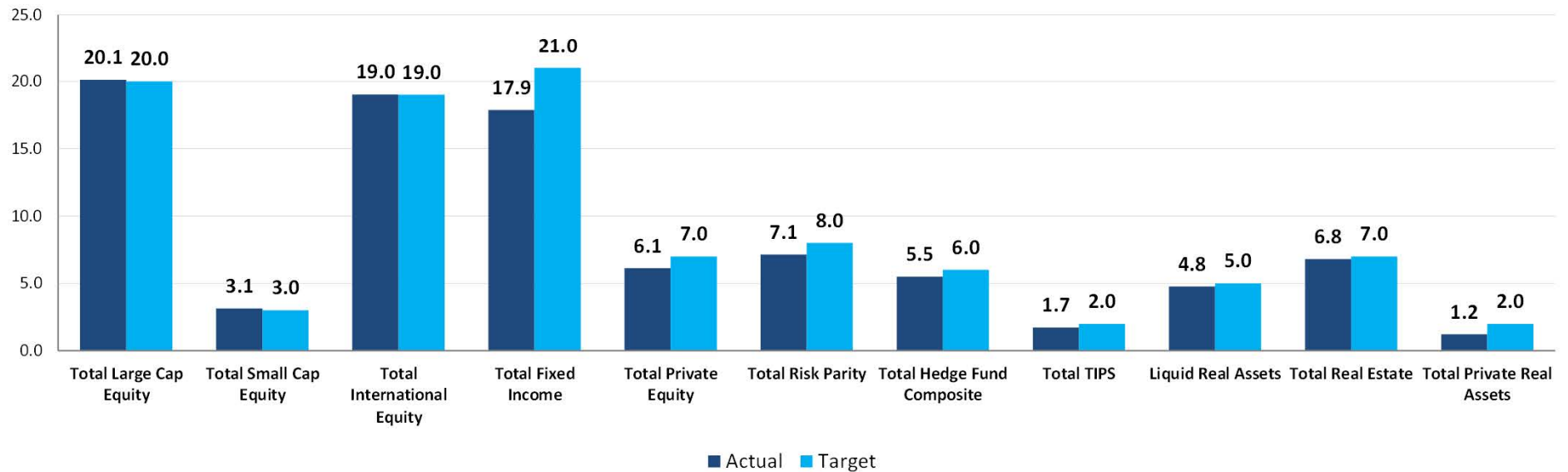
	Three Months	One Year
TOTAL FUND		
Beginning Market Value	3,959,027,184	3,671,874,188
Contributions	144,110,166	1,686,420,609
Withdrawals	-53,336,253	-1,623,851,173
Income Received	9,133,282	36,691,159
Gain/Loss	108,172,459	394,105,996
Ending Market Value	4,167,174,088	4,167,174,088

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



July 31, 2017

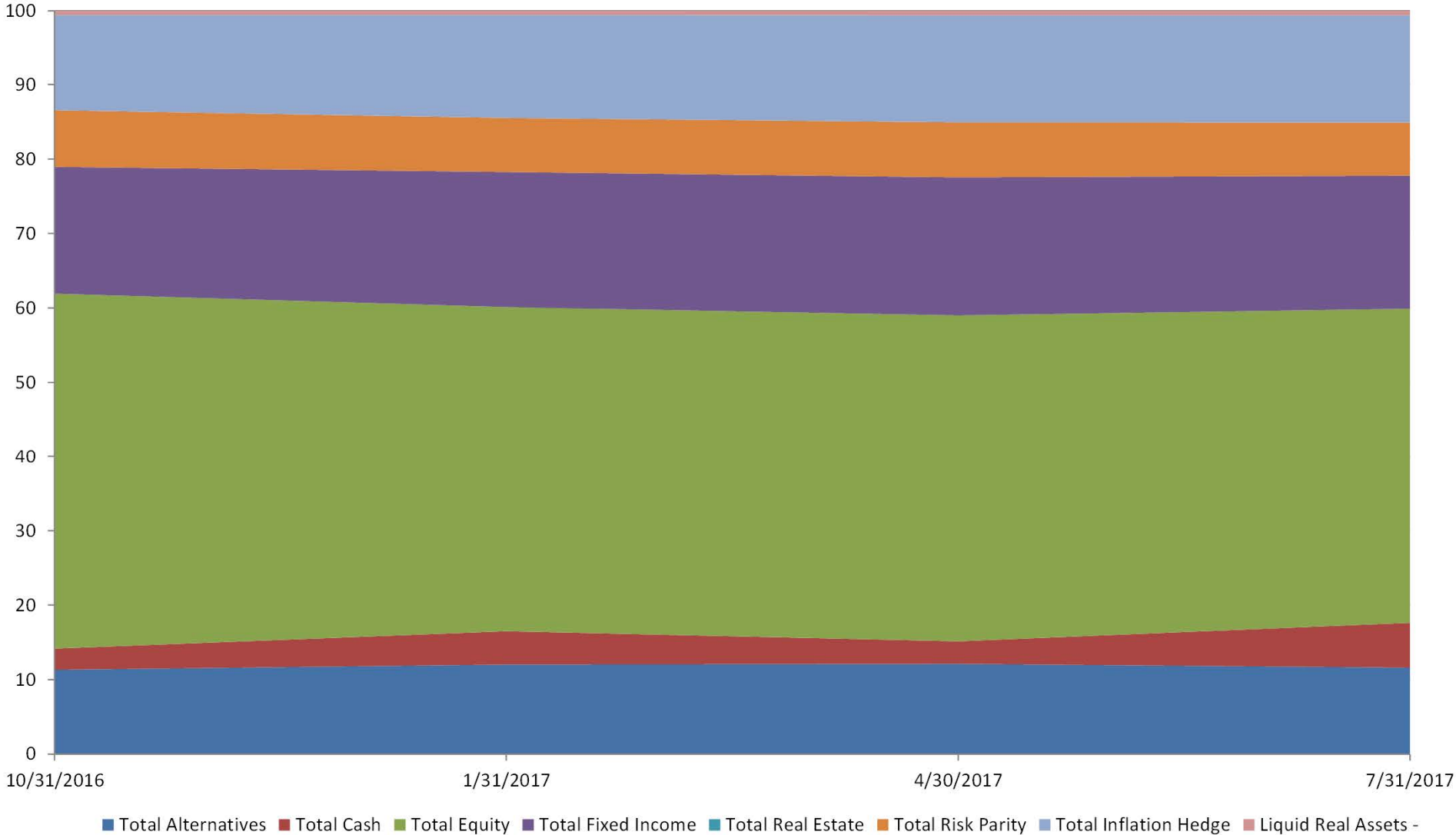
Actual vs Target Weights



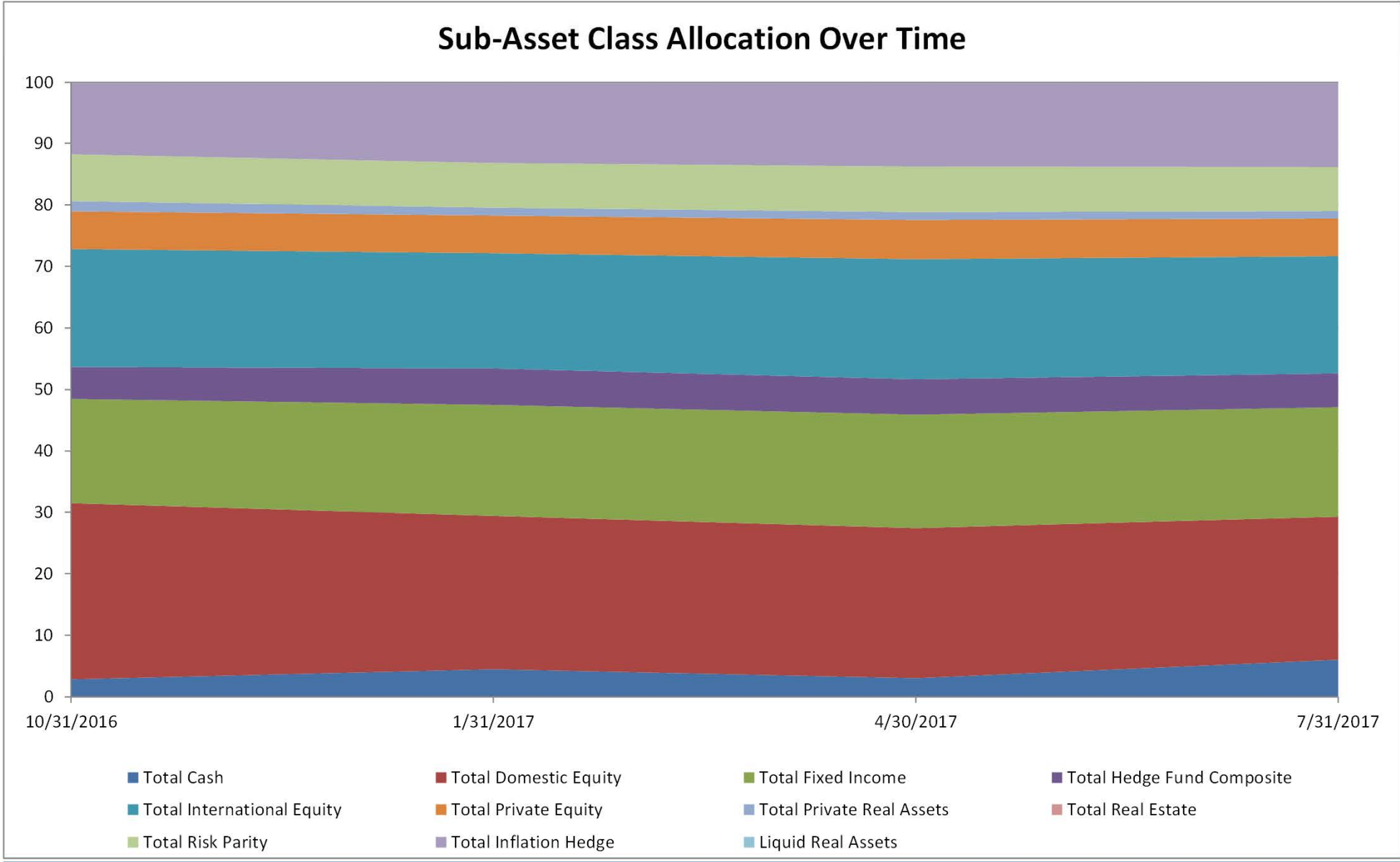
	Min	Actual	Target	Deviation	Max
Total Large Cap Equity	18.0	20.1	20.0	0.1	22.0
Total Small Cap Equity	1.0	3.1	3.0	0.1	5.0
Total International Equity	17.0	19.0	19.0	0.0	21.0
Total Fixed Income	19.0	17.9	21.0	-3.1	23.0
Total Private Equity	5.0	6.1	7.0	-0.9	9.0
Total Risk Parity	6.0	7.1	8.0	-0.9	10.0
Total Hedge Fund Composite	4.0	5.5	6.0	-0.5	8.0
Total TIPS	0.0	1.7	2.0	-0.3	4.0
Liquid Real Assets	3.0	4.8	5.0	-0.2	7.0
Total Real Estate	5.0	6.8	7.0	-0.2	9.0
Total Private Real Assets	0.0	1.2	2.0	-0.8	4.0

July 31, 2017

Asset Allocation over Time



July 31, 2017





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

August 22, 2017

Agenda Item 6.2

**TO:** Board of Retirement

**FROM:** Lilibeth Dames, Investment Analyst

**SUBJECT:** Report on Quarterly Investment Performance Report for the Period Ended June 30, 2017

**Staff Recommendation**

Accept Verus Advisory's quarterly performance report for the period ended June 30, 2017.

**Discussion**

The 2nd quarter net total return for the SamCERA portfolio was +2.6%, which was 20 bps lower than the +2.8% policy benchmark return. As can be seen on Page 19 and 20 of the report, global fixed income and hedge fund/absolute return were the main detractors of performance.

For the Fiscal Year ending June 30, 2017, the net total return for the SamCERA portfolio was +12.6%, which was in line with the +12.6% policy benchmark return. The main drivers of outperformance for the year came from Fixed Income and Private Equity, while the primary detractors were Public Equity (primarily from International Equity) and Risk Parity.

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

**Attachment**

Verus Quarterly Performance Report Ending 6/30/2017



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



**PERIOD ENDING: JUNE 30, 2017**

Investment Performance Review for

**San Mateo County Employees' Retirement Association**

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Market Environment

TAB I

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Alternatives

TAB VI

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Total Fund

TAB II

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Inflation Hedge

TAB VII

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US Equity

TAB III

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Risk Parity

TAB VIII

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International Equity

TAB IV

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Appendix

TAB IX

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Fixed Income

TAB V

# 2<sup>nd</sup> quarter summary

## THE ECONOMIC CLIMATE

- Developed and emerging economies have exhibited coordinated positive growth for the first time in this recovery. Absolute growth remains subdued relative to history.
- Economic releases have begun to miss expectations in the U.S. and U.K. after much upside surprise. The Eurozone continued to deliver positive surprises, but by a smaller margin. Heightened expectations help to explain some of the recent data disappointment.
- Despite a healthy economy and longer than average expansion there is little indication of overheating in the U.S. This suggests the current expansion may have more room to run.

## MARKET PORTFOLIO IMPACTS

- Treasury yields fell slightly over the quarter.
- Credit spreads are tight, implying limited upside performance potential. U.S. credit markets have stabilized from recent defaults in the energy and metals/mining sectors.

## THE INVESTMENT CLIMATE

- Central banks communicated a more hawkish tone across developed markets. The Fed announced plans for balance sheet reduction, the ECB is expected to reduce easing starting next year, and Mark Carney of the BOE indicated he is receptive to tightening under the right conditions. Central bank governors have shown less concern over the recent decline in inflation than in the past.
- U.S. equities are expected to deliver robust earnings growth in Q2 of 6.8% YoY. Energy sector earnings have provided much of this improvement after a challenging period a year ago.

## ASSET ALLOCATION ISSUES

- Earnings growth beat expectations in recent quarters leading to a broad fall in equity price-to-earnings multiples, causing equities to become more attractive.
- Realized and implied market volatility is at historic lows across assets classes. This could be a sign of market complacency.

We maintain a neutral to slightly overweight risk stance

# U.S. economics summary

- U.S. real GDP grew 2.1% YoY in Q1, on par with the level of economic expansion in recent quarters. Consumer spending and business investment were the primary drivers of growth.
- Headline inflation decelerated from 2.4% in February to 1.6% in June. The slowdown was partially influenced by the effect of lower oil prices falling out of the year-over-year calculation, but the fall in price level was not solely due to energy. Lower telecom prices helped lead to a drop in core CPI, which fell from 2.0% to 1.7%.
- For a third consecutive quarter, the Fed raised the target federal funds rate by 25 bps. FOMC members looked past the recent soft patch in inflation and cited improving overall economic conditions.
- The Fed also released details on its balance sheet normalization plan, although timing remains unclear. Once the program begins, \$6 billion in Treasuries and \$4 billion in mortgage-backed securities will roll off the balance sheet each month. These amounts will increase every three months until a total cap of \$50 billion per month is reached.
- The economy added 194,000 jobs per month in the second quarter, on average. This marks the best quarter for job growth since the second quarter of 2010. Many of these jobs have been created in lower paying sectors such as leisure and hospitality, which may be helping to keep overall wage growth subdued.

	Most Recent	12 Months Prior
GDP ( <i>annual YoY</i> )	2.1% <i>3/31/17</i>	1.6% <i>3/31/16</i>
Inflation ( <i>CPI YoY, Headline</i> )	1.6% <i>6/30/17</i>	0.9% <i>6/30/16</i>
Expected Inflation ( <i>5yr-5yr forward</i> )	1.8% <i>6/30/17</i>	1.5% <i>6/30/16</i>
Fed Funds Rate	1.25% <i>6/30/17</i>	0.50% <i>6/30/16</i>
10 Year Rate	2.3% <i>6/30/17</i>	1.5% <i>6/30/16</i>
U-3 Unemployment	4.4% <i>6/30/17</i>	4.9% <i>6/30/16</i>
U-6 Unemployment	8.6% <i>6/30/17</i>	9.6% <i>6/30/16</i>

# International economics summary

- Developed and emerging economies have exhibited coordinated positive growth momentum from low absolute growth rates relative to history. A continuation of this trend may be self reinforcing, lifting weak and strong economies alike.
- Economic releases have missed expectations in the U.S. and U.K. after extended upside surprise. The Eurozone has delivered positive surprise, but by a smaller margin.
- Oil further contributed to commodity underperformance due to oversupply, disagreements within OPEC regarding production cuts, and concerns over the magnitude of U.S. production.
- Developed world inflation remained within a normal range, though slightly below levels targeted by central banks.
- In May, Emmanuel Macron defeated Marine Le Pen in the French presidential election, calming fears over populist politics gaining an increased foothold in Europe.
- On June 8th, the U.K. held a snap election in which the Conservative party surprised polls and gave up their majority in Parliament, potentially weakening their position in the upcoming Brexit negotiations.
- On June 27th, ECB President Mario Draghi surprised markets with comments perceived as hawkish compared to previous comments. In the following two days the Euro appreciated 2.3% against the U.S. dollar and developed global rates moved upward - German bunds in particular.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.1% <i>3/31/17</i>	1.6% <i>6/30/17</i>	4.4% <i>6/30/17</i>
Western Europe	1.8% <i>3/31/17</i>	1.3% <i>6/30/17</i>	8.1% <i>3/31/17</i>
Japan	1.3% <i>3/31/17</i>	0.4% <i>5/31/17</i>	3.1% <i>5/31/17</i>
BRICS Nations	5.4% <i>3/31/17</i>	2.3% <i>3/31/17</i>	5.6% <i>12/31/16</i>
Brazil	(0.4%) <i>3/31/17</i>	3.0% <i>6/30/17</i>	13.5% <i>6/30/17</i>
Russia	0.5% <i>3/31/17</i>	4.4% <i>6/30/17</i>	5.5% <i>3/31/17</i>
India	6.1% <i>3/31/17</i>	2.2% <i>5/31/17</i>	8.4% <i>12/31/16</i>
China	6.9% <i>3/31/17</i>	1.5% <i>5/31/17</i>	4.0% <i>12/31/16</i>

# Equity environment

- We maintain a moderate overweight to equities with a preference for emerging markets due to attractive valuations and better growth prospects relative to developed markets.
- Global equity markets delivered another positive quarter, driven by strong earnings growth across regions. Earnings were strongest in Western Europe and emerging markets. These regions outperformed on a relative basis during the quarter.
- According to FactSet, the estimated Q2 earnings growth rate of the S&P 500 is 6.8% YoY. Energy companies are expected to contribute the most to overall growth due to stabilizing oil prices and a low earnings base one year ago.
- Increased uncertainty surrounding the Brexit negotiations following the Conservative party's surprise loss of a majority in Parliament likely helped lead to underperformance in U.K. equities. The FTSE 100 Index returned -4.9% in Q2.
- MSCI approved the inclusion of 222 mainland Chinese companies (China A Shares) into the MSCI Emerging Markets Index. This represents only a small portion of the overall market. Starting in 2018, these domestic shares will represent approximately 0.7% of the index. While initially this decision will have a minimal effect on index performance, it opens the door for additional China A shares to be added. If the entire market was included, it would represent 12.8% of the MSCI index.

	QTD TOTAL RETURN		YTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	3.1%		9.3%		18.0%	
US Small Cap (Russell 2000)	2.5%		5.0%		24.6%	
US Large Value (Russell 1000 Value)	1.3%		4.7%		4.7%	
US Large Growth (Russell 1000 Growth)	4.7%		14.0%		20.4%	
International Large (MSCI EAFE)	6.1%	3.1%	13.8%	16.1%	20.3%	23.5%
Eurozone (Euro Stoxx 50)	6.5%	3.8%	19.1%	22.5%	26.6%	28.3%
U.K. (FTSE 100)	4.9%	1.2%	10.0%	5.0%	13.6%	17.5%
Japan (NIKKEI 225)	5.1%	6.5%	9.6%	6.6%	19.9%	32.0%
Emerging Markets (MSCI Emerging Markets)	6.3%	6.1%	18.4%	11.6%	23.8%	19.3%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 6/30/17



# Domestic equity

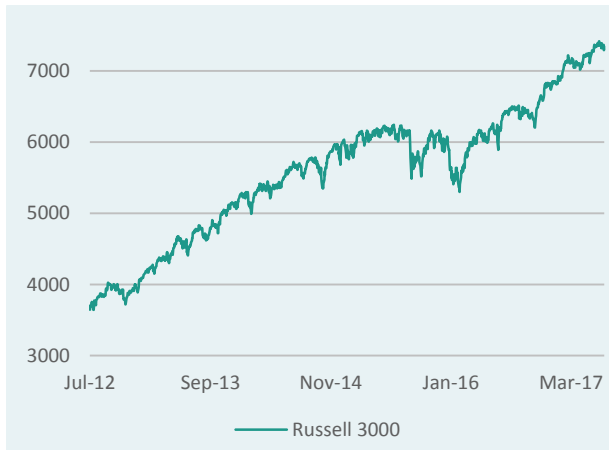
U.S. equities moved higher on robust earnings growth. According to FactSet, the estimated Q2 earnings growth rate of the S&P 500 is 6.8% YoY. Energy companies are expected to contribute the most to overall growth due to a low earnings base one year ago and stabilizing oil prices. The earnings outlook for the rest of the year is strong, and the expected growth rate for the 2017 calendar year is 9.8%. Positive global growth trends could help lift earnings further since a substantial portion of U.S. corporate revenues come from abroad.

All major U.S. banks passed the Fed's stress test in June, citing strong capital levels and ability to lend during a recession. The news drove financials upward as the positive results allowed banks to increase their future dividends and buybacks.

As discussed in recent quarters, we are relatively bullish on U.S. earnings growth in the near term, but investors may be paying for this excess growth upfront through higher valuations. We maintain a neutral weight to U.S. equities.

We maintain a neutral weight to U.S. equities

## U.S. EQUITIES



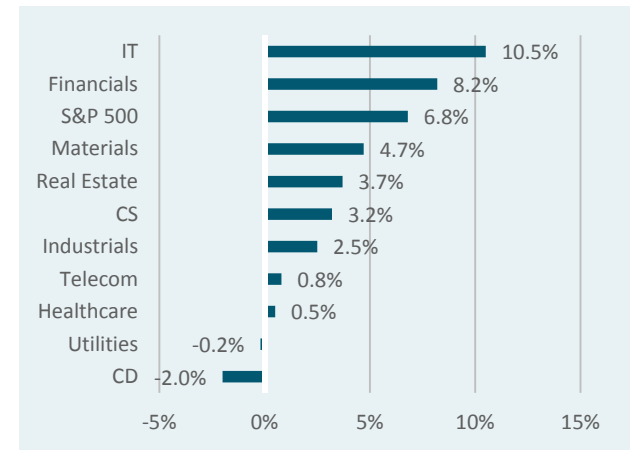
Source: Russell Investments, as of 7/7/17

## S&P 500 EPS GROWTH



Source: Bloomberg, as of 6/30/17

## Q2 FORECAST EPS GROWTH



Source: FactSet, as of 7/14/17 - excludes energy sector

# Domestic equity size and style

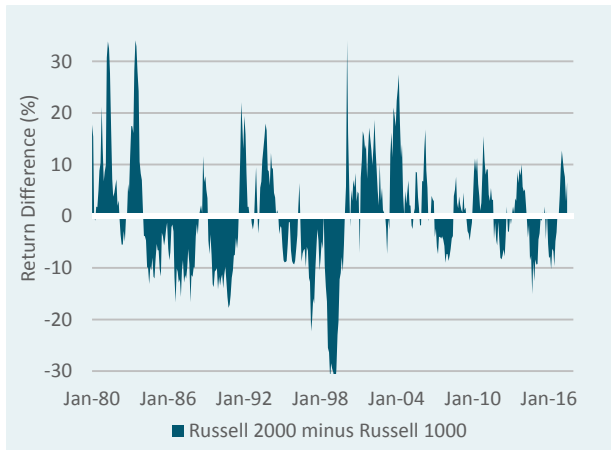
Despite a short selloff in June, strong returns from the tech sector helped lead to positive relative performance of growth over value during the quarter. Much of the gains were concentrated in the well known mega-cap stocks, including Apple, Amazon, and Microsoft. Momentum in growth stocks has continued to perform well so far this year.

In the second quarter, the Russell 1000 Growth Index and the Russell 1000 Value Index returned 4.7% and 1.3%, respectively. Falling oil prices were a headwind to energy

companies, which were the largest detractor from the value index.

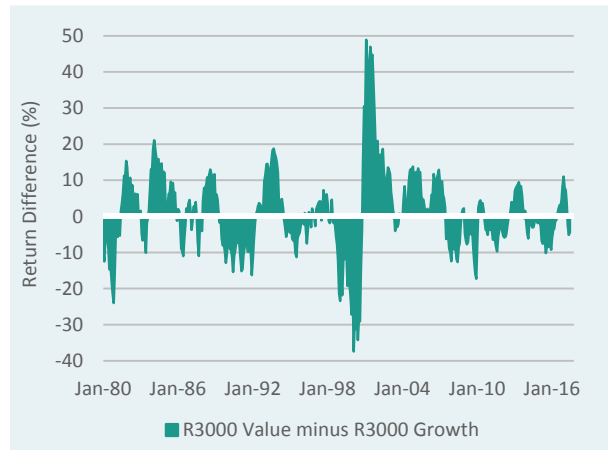
Large cap equities narrowly outperformed small cap equities. Much of the optimism surrounding Trump's pro-small business policies after his victory, including deregulation and tax reform, appears to have faded so far this year. If progress on these measures is made, smaller companies could receive another boost in the second half of 2017.

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



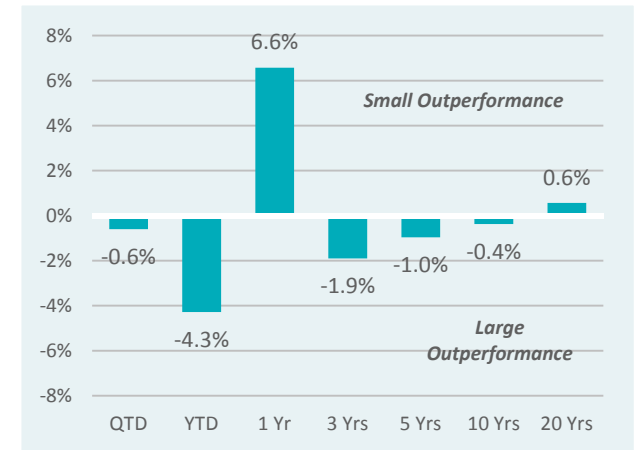
Source: Russell Investments, as of 6/30/17

**VALUE VS GROWTH (YOY)**



Source: Russell Investments, as of 6/30/17

**U.S. LARGE VS. SMALL RELATIVE PERFORMANCE**



Source: Morningstar, as of 6/30/17

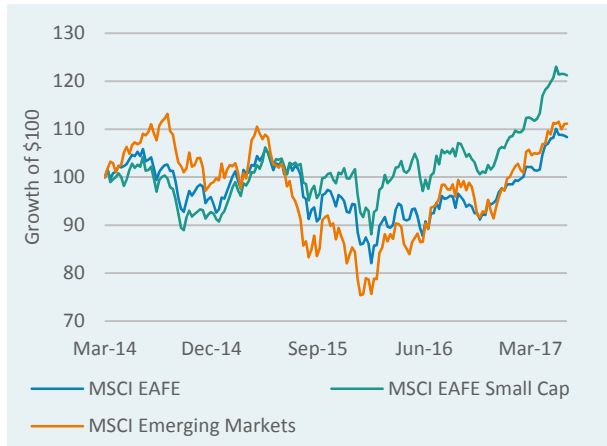
# International equity

International equities outperformed domestic equities over the quarter. The MSCI ACWI ex U.S. returned 5.8% on an unhedged basis while the S&P 500 returned 3.1%.

The U.S. dollar has steadily depreciated in value year-to-date against major currencies, down around 7%. This currency movement has added volatility to investors with unhedged currency exposure, with the MSCI EAFE Index returning 13.8% unhedged vs. 16.1% hedged, and the MSCI Emerging Markets Index returning 18.4% unhedged vs. 11.6% hedged.

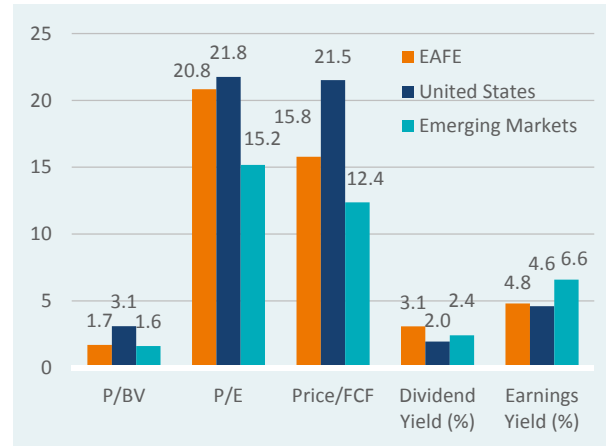
International equities are trading at lower multiples than domestic equities, based on various metrics. Valuations and earnings growth both play an important role in equity return outcomes and risk. Higher equity valuations imply greater optimism surrounding growth expectations, and greater optimism presents investors with more downside risk as the possibility of disappointment rises. Because of lower valuation levels, international markets may possess greater upside potential through either valuation expansion or positive earnings growth surprise. However, due to apparent tail risks in these markets we maintain a neutral weight in portfolios.

## GLOBAL EQUITY PERFORMANCE



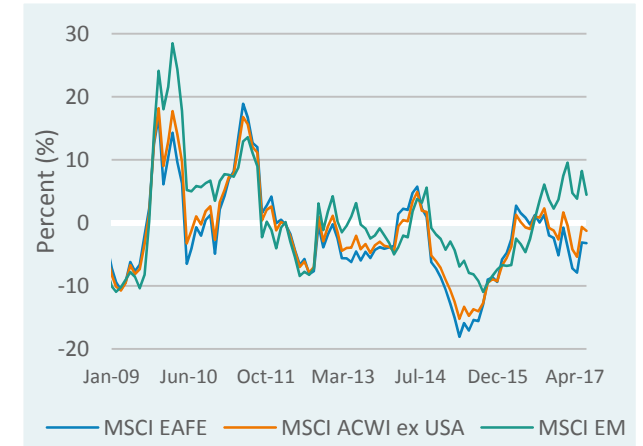
Source: Bloomberg, as of 6/30/17

## VALUATIONS



Source: Bloomberg, MSCI, as of 6/30/17 - 3 month average

## EFFECT OF CURRENCY (1 YEAR ROLLING)



Source: MSCI, as of 6/30/17

# Emerging market equity

We maintain an overweight to emerging markets due to attractive valuations and better growth prospects relative to developed markets.

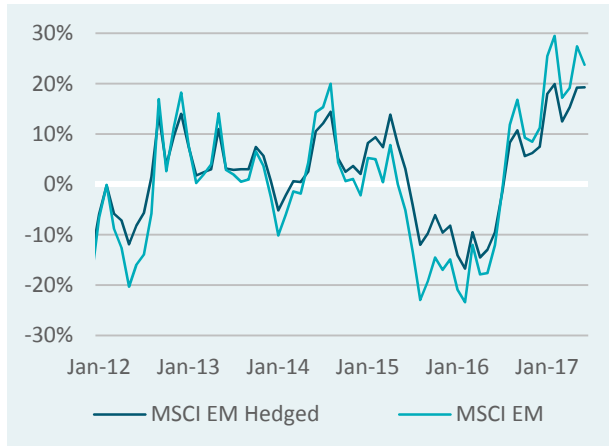
Emerging market equities continue to outperform developed markets, delivering 4.8% in Q2 and 17.1% year-to-date. Currency movement has been additive. Emerging market equity earnings are now expected to grow 22% YoY in 2017, which is a material increase from the 13% YoY increase expected at the beginning of 2017.

Interestingly, valuations have come down slightly despite very strong equity returns, as earnings rise faster than price.

If economic growth turns upward across the globe, we would expect major exporting economies to experience a significant tailwind. Emerging markets in particular tend to provide high exposure to global growth. Stabilizing commodities in this type of environment would likely provide an additional tailwind.

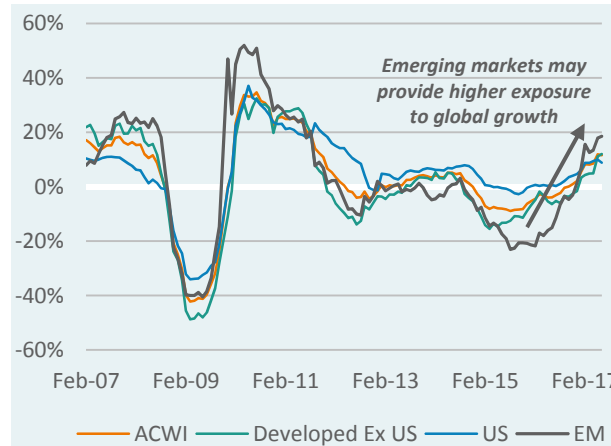
Accelerating global growth should have a positive effect on EM economies

12-MONTH ROLLING PERFORMANCE



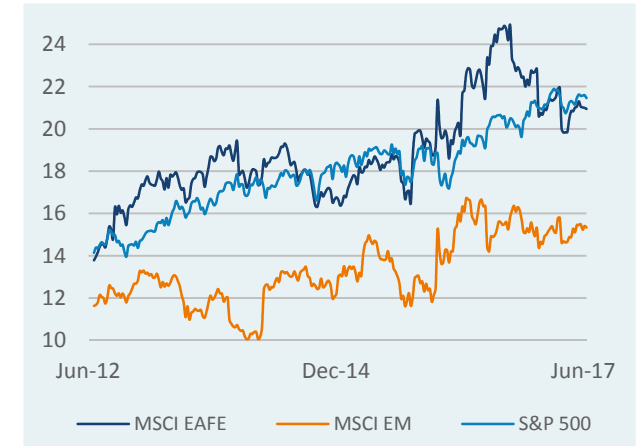
Source: MPI, as of 6/30/17

EM EARNINGS GROWTH (YOY)



Source: Bloomberg, as of 6/30/17

TRAILING P/E RATIOS



Source: Bloomberg as of 6/30/17

# Interest rate environment

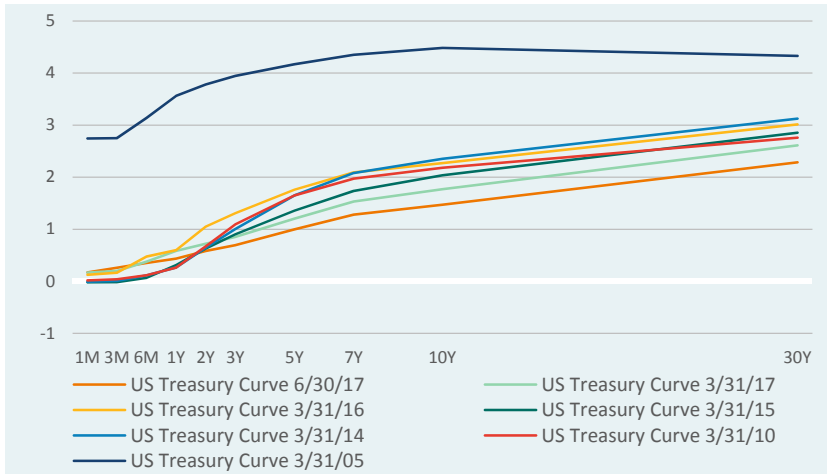
- On June 14th, the Federal Reserve raised the federal funds rate by 25 bps to a target range of 1.00% - 1.25%.
- The Fed's own forecast indicates one more rate hike this year, and three more hikes in each of the next two years. Rates are expected to normalize at 3% at the end of 2019. We believe the probability that the Fed undershoots its target is significant, given persistent low inflation and a high degree of risk if policy is tightened too quickly.
- The Fed announced plans to begin reducing their balance sheet sometime this year. The initial plan is to runoff \$6 billion of Treasuries and \$4 billion of mortgage-backed securities per month. This will be scaled up commensurately every 3 months to \$50 billion per month.
- Markets expect the ECB to reduce monetary easing gradually throughout 2018, with a tapering plan announcement this fall.
- In May, the Bank of Japan raised its economic forecasts. The central bank implemented a "yield curve control" policy at its September meeting along with a mandate to keep the 10-year yield at 0%. The BoJ plans to maintain an easy stance until inflation hits its 2% target.
- Credit spreads remain broadly tight. Spread levels have historically been a strong predictor of credit performance relative to Treasuries, which at current levels implies muted future performance.
- We favor emerging market debt due to higher yields relative to other bond markets.

Area	Short Term (3M)	10 Year
United States	1.01%	2.30%
Germany	(0.82%)	0.47%
France	(0.60%)	0.82%
Spain	(0.44%)	1.54%
Italy	(0.38%)	2.16%
Greece	2.43%	5.42%
U.K.	0.17%	1.26%
Japan	(0.10%)	0.09%
Australia	1.63%	2.73%
China	2.63%	3.57%
Brazil	9.41%	10.54%
Russia	8.16%	7.90%

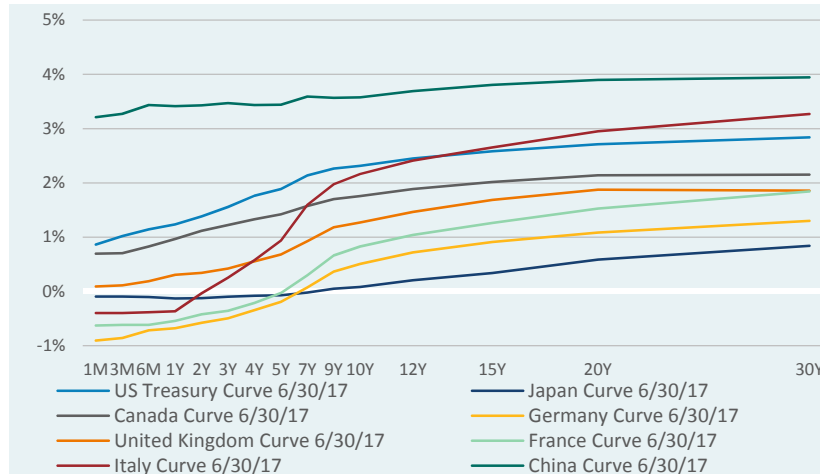
Source: Bloomberg, as of 6/30/17

# Yield environment

**U.S. YIELD CURVE**

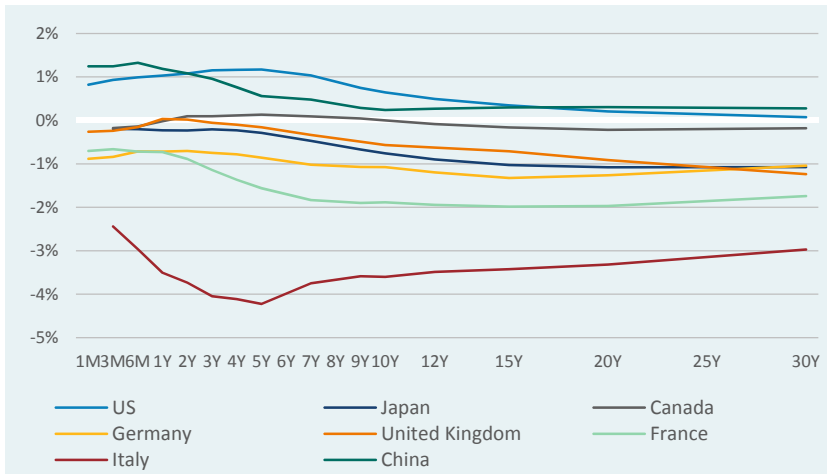


**GLOBAL GOVERNMENT YIELD CURVES**

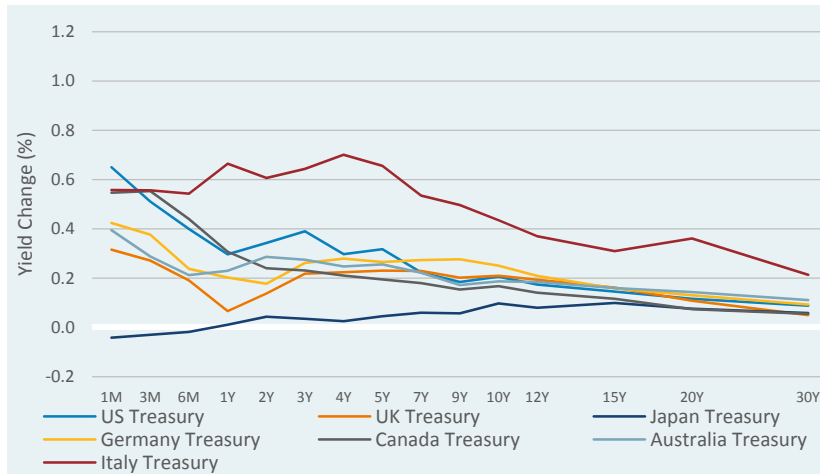


Across developed markets, U.S. Treasuries offer higher yields

**YIELD CURVE CHANGES OVER LAST FIVE YEARS**



**IMPLIED CHANGES OVER NEXT YEAR**



Source: Bloomberg, as of 6/30/17

# Currency

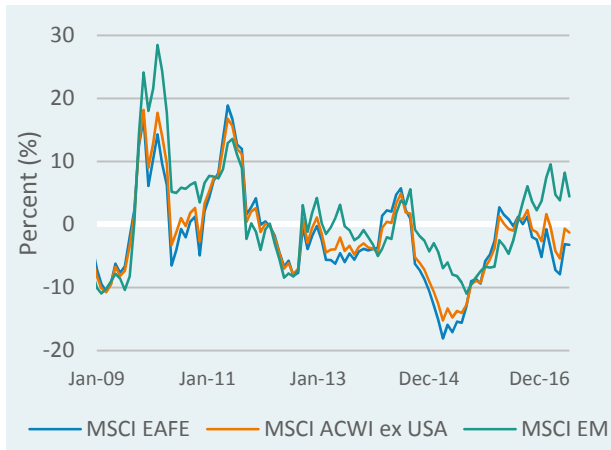
The U.S. dollar has steadily depreciated in value year-to-date against major currencies, down approximately 7% through quarter-end. Global central bank hawkishness, relative interest rate expectations, and improving international growth have likely guided the U.S. dollar lower.

Emerging market currencies exhibited further strength in Q2 and have appreciated 4.8% year-to-date according to

the JP Morgan Emerging Market Currency Index.

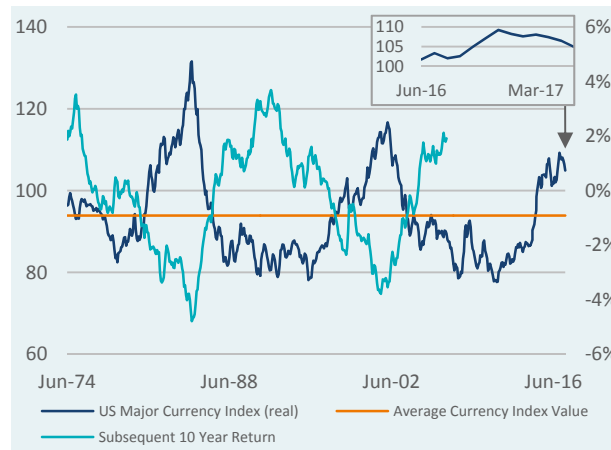
Currency movement has recently had a positive impact on the performance of unhedged foreign asset exposure. Dollar weakness has also acted as a tailwind for corporate earnings for those U.S. companies with revenues in foreign currency.

**EFFECT OF CURRENCY (1YR ROLLING)**



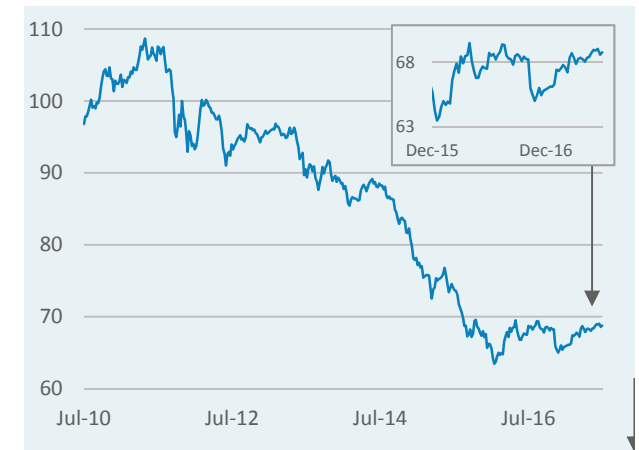
Source: MPI, as of 6/30/17

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



Source: Federal Reserve, as of 6/30/17

**JPM EM CURRENCY INDEX**



Source: Bloomberg, as of 6/30/17

- The Total Fund, net of manager fees, returned 2.6% in the second quarter of 2017 and ranked 71<sup>st</sup> among other public plans greater than \$1 billion (median of 2.8%). It lagged the policy index return of 2.8%. The Total Fund w/o Overlay was 2.6% for the quarter. The Total Fund one year return of 12.6% matched the policy index, and ranked in 50<sup>th</sup> percentile of its peer universe. The three-year return of 5.5% (33<sup>rd</sup> percentile) was above median among large public plans (5.1%).
- Second quarter results were enhanced by the following factors:
  1. Baillie Gifford gained 8.7%, beating the MSCI ACWI ex U.S. (6.0%) and ranking in the 37<sup>th</sup> percentile of its peers. Stock selection within the financial sector and an underweight to energy both contributed to relative performance.
  2. Western TRU ranked in the 1<sup>st</sup> percentile of Core Fixed Income managers, gaining 3.2% versus the Bloomberg Barclays Aggregate (1.4%). Risk assets did well this quarter, and macro strategies were strong contributors to performance. A positive US duration also contributed to performance as longer-term interest rates declined.
- Second quarter results were hindered by the following factors:
  1. Franklin Templeton lost 1.0%, trailing the Bloomberg Barclays Aggregate return of 2.6% and ranking in the bottom of its peer group. Currency positions were the main detractor from relative performance. Within currencies, an underweight position to the Euro was the main contributor to underperformance.
  2. Parametric Core gained 3.4% while the MSCI Emerging Markets Index gained 6.4%. The manager ranked in the 90<sup>th</sup> percentile of its peer group. For the second quarter, an underweight to China and Korea detracted from performance versus the index.



Total Fund  
Performance Summary (Net of Fees)

Period Ending: June 30, 2017

	3 Mo (%)	Rank*	YTD (%)	Rank	Fiscal YTD (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Total Fund **</b>	<b>2.6</b>	<b>71</b>	<b>7.6</b>	<b>37</b>	<b>12.6</b>	<b>50</b>	<b>6.5</b>	<b>36</b>	<b>5.5</b>	<b>33</b>	<b>9.4</b>	<b>22</b>	<b>4.6</b>	<b>63</b>
<i>Policy Index<sup>1</sup></i>	2.8	49	7.3	51	12.6	51	6.6	31	5.3	40	9.2	24	5.5	20
<i>Allocation Index</i>	2.8	53	7.2	58	12.2	62	6.5	37	5.2	44	9.1	28	--	--
<i>InvestorForce Public DB &gt; \$1B Net Median</i>	2.8		7.3		12.6		6.1		5.1		8.7		4.7	
<b>Total Fund ex Overlay</b>	<b>2.6</b>	<b>73</b>	<b>7.5</b>	<b>39</b>	<b>12.7</b>	<b>48</b>	<b>6.4</b>	<b>40</b>	<b>5.4</b>	<b>38</b>	<b>9.3</b>	<b>23</b>	<b>4.5</b>	<b>64</b>
<i>Policy Index<sup>1</sup></i>	2.8	49	7.3	51	12.6	51	6.6	31	5.3	40	9.2	24	5.5	20
<i>Allocation Index</i>	2.8	53	7.2	58	12.2	62	6.5	37	5.2	44	9.1	28	--	--
<i>InvestorForce Public DB &gt; \$1B Net Median</i>	2.8		7.3		12.6		6.1		5.1		8.7		4.7	
<b>Public Equity</b>	<b>4.3</b>	<b>38</b>	<b>11.7</b>	<b>35</b>	<b>18.6</b>	<b>66</b>	<b>7.7</b>	<b>50</b>	<b>6.1</b>	<b>52</b>	<b>12.0</b>	<b>48</b>	<b>4.3</b>	<b>72</b>
<i>Blended Public Equity Index<sup>2</sup></i>	4.4	36	11.4	39	20.0	32	7.8	46	6.0	53	12.0	47	5.3	37
<i>InvestorForce All DB Total Eq Net Median</i>	4.1		10.9		19.0		7.6		6.1		12.0		4.9	
<b>US Equity</b>	<b>2.9</b>	<b>59</b>	<b>8.9</b>	<b>43</b>	<b>18.3</b>	<b>60</b>	<b>9.1</b>	<b>52</b>	<b>8.5</b>	<b>51</b>	<b>14.1</b>	<b>50</b>	<b>6.1</b>	<b>87</b>
<i>Blended US Equity Index<sup>2</sup></i>	3.0	43	8.9	40	18.8	40	9.6	40	8.8	39	14.4	33	7.2	27
<i>Russell 3000</i>	3.0	43	8.9	40	18.5	52	10.0	26	9.1	25	14.6	23	7.3	26
<i>InvestorForce All DB US Eq Net Median</i>	2.9		8.7		18.5		9.2		8.5		14.1		6.8	
<b>Large Cap Equity</b>	<b>3.0</b>	<b>50</b>	<b>11.0</b>	<b>32</b>	<b>19.4</b>	<b>36</b>	<b>10.7</b>	<b>12</b>	<b>9.9</b>	<b>17</b>	<b>14.9</b>	<b>25</b>	<b>6.5</b>	<b>62</b>
<i>Russell 1000</i>	3.1	48	9.3	45	18.0	49	10.2	19	9.3	27	14.7	27	7.3	43
<i>eA US Large Cap Equity Net Median</i>	3.0		8.7		17.8		8.2		7.8		13.7		7.0	
<i>BlackRock Russell 1000<sup>***</sup></i>	3.1	47	--	--	--	--	--	--	--	--	--	--	--	--
<i>Russell 1000</i>	3.1	47	9.3	44	18.0	40	10.2	18	9.3	22	14.7	18	7.3	37
<i>eA US Large Cap Core Equity Net Median</i>	2.9		8.8		16.9		8.3		8.0		13.5		7.0	

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

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

\*\*\*Funded January 2017.

1. Effective 2/1/17, Policy Index is 23% Russell 3000/19% MSCI ACWI ex US IMI/ 12% BBgBarc Aggregate/ 2% BBgBarc TIPS/ 6% BBgBarc BA Intermediate HY / 3% BBgBarc Multi-verse/ 7% NCREIF NFI ODCE/ 7% Russell 3000 + 3% 8% (60% Russell 3000/40% BBgBarc Aggregate)/ 6% Labor +4%/ 7% (34% Bloomberg Roll Select Commodity/ 33% S&P Global Large-MidCap Commodity and Resources/ 33% S&P Global Infrastructure)

2. See Appendix for Benchmark History.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: June 30, 2017

	3 Mo (%)	Rank	YTD (%)	Rank	Fiscal YTD (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
DE Shaw	2.7	62	9.7	37	19.4	25	11.5	7	10.9	5	15.6	8	--	--
<i>Russell 1000</i>	3.1	47	9.3	44	18.0	39	10.2	18	9.3	22	14.7	19	7.3	37
<i>eA US Large Cap Core Equity Net Median</i>	2.9		8.8		16.7		8.3		8.1		13.5		7.0	
<b>Small Cap Equity</b>	<b>1.8</b>	<b>59</b>	<b>4.1</b>	<b>53</b>	<b>21.8</b>	<b>58</b>	<b>5.7</b>	<b>69</b>	<b>4.7</b>	<b>82</b>	<b>12.3</b>	<b>77</b>	<b>4.9</b>	<b>93</b>
<i>Russell 2000</i>	2.5	49	5.0	47	24.6	35	7.8	52	7.4	50	13.7	55	6.9	56
<i>eA US Small Cap Equity Net Median</i>	2.4		4.8		22.6		7.9		7.3		14.0		7.1	
QMA US Small Cap*	1.8	58	4.1	59	--	--	--	--	--	--	--	--	--	--
<i>Russell 2000</i>	2.5	48	5.0	45	24.6	29	7.8	52	7.4	58	13.7	61	6.9	58
<i>eA US Small Cap Core Equity Net Median</i>	2.3		4.8		21.7		8.1		7.9		14.1		7.2	
<b>International Equity</b>	<b>6.2</b>	<b>56</b>	<b>15.5</b>	<b>55</b>	<b>18.3</b>	<b>84</b>	<b>5.0</b>	<b>35</b>	<b>1.8</b>	<b>45</b>	<b>8.0</b>	<b>52</b>	<b>0.5</b>	<b>74</b>
<i>MSCI ACWI ex US IMI<sup>2</sup></i>	6.1	62	14.6	78	21.0	48	4.8	41	1.6	51	7.9	53	1.7	39
<i>MSCI EAFE Gross</i>	6.4	48	14.2	87	20.8	50	4.4	50	1.6	51	9.2	22	1.5	47
<i>InvestorForce All DB ex-US Eq Net Median</i>	6.3		15.7		20.8		4.4		1.6		8.0		1.3	
<b>Developed Markets</b>	<b>6.6</b>	<b>41</b>	<b>15.7</b>	<b>30</b>	<b>18.5</b>	<b>69</b>	<b>5.1</b>	<b>39</b>	<b>2.2</b>	<b>47</b>	<b>8.6</b>	<b>52</b>	<b>0.8</b>	<b>73</b>
<i>MSCI ACWI ex USA Gross</i>	6.0	57	14.5	51	21.0	41	4.5	50	1.3	67	7.7	75	1.6	41
<i>InvestorForce All DB Dev Mkt ex-US Eq Net Median</i>	6.3		14.5		20.0		4.4		1.9		8.6		1.2	
Baillie Gifford	8.7	37	19.6	32	20.4	32	6.9	43	4.3	44	10.5	33	--	--
<i>MSCI ACWI ex US<sup>2</sup></i>	6.0	93	14.5	91	21.0	31	4.5	67	1.3	83	9.1	62	--	--
<i>MSCI ACWI ex US Growth<sup>2</sup></i>	7.7	62	17.7	61	17.8	61	5.3	59	2.9	68	9.6	55	--	--
<i>eA ACWI ex-US Growth Equity Net Median</i>	8.3		18.5		19.2		6.5		4.0		9.8		3.8	
BlackRock EAFE Index	6.3	65	14.1	61	20.7	42	4.3	56	1.5	72	--	--	--	--
<i>MSCI EAFE</i>	6.1	70	13.8	67	20.3	46	3.9	61	1.1	79	8.7	74	1.0	74
<i>MSCI EAFE Gross</i>	6.4	62	14.2	60	20.8	42	4.4	49	1.6	68	9.2	63	1.5	60
<i>eA EAFE Core Equity Net Median</i>	6.7		14.8		20.0		4.4		2.3		9.9		2.0	

\* Funded August 2016.

2. See Appendix for Benchmark History.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: June 30, 2017

	3 Mo (%)	Rank	YTD (%)	Rank	Fiscal YTD (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
FIAM Equity	7.7	67	16.3	67	17.3	65	5.8	73	3.5	76	9.6	85	--	--
<i>MSCI ACWI ex US Small Cap Gross</i>	6.4	84	15.8	71	20.8	37	7.0	58	3.7	74	10.4	76	3.3	85
<i>eA ACWI ex-US Small Cap Equity Net Median</i>	8.3		18.0		18.3		7.4		4.7		12.6		5.1	
Mondrian	4.2	87	12.6	65	15.7	84	3.8	78	0.2	80	7.0	91	1.3	60
<i>MSCI ACWI ex USA Value Gross</i>	4.3	86	11.4	81	24.3	43	3.6	79	-0.4	88	6.9	92	0.9	81
<i>MSCI ACWI ex USA Gross</i>	6.0	46	14.5	37	21.0	59	4.5	76	1.3	65	7.7	87	1.6	42
<i>eA ACWI ex-US Value Equity Net Median</i>	5.8		13.8		23.5		5.5		2.1		9.3		1.4	
<b>Emerging Markets</b>	<b>3.4</b>	<b>86</b>	<b>14.0</b>	<b>94</b>	<b>16.9</b>	<b>88</b>	<b>4.0</b>	<b>70</b>	<b>-0.9</b>	<b>88</b>	<b>3.4</b>	<b>73</b>	<b>--</b>	<b>--</b>
<i>MSCI Emerging Markets Gross</i>	6.4	32	18.6	47	24.2	25	4.7	58	1.4	44	4.3	39	2.2	33
<i>InvestorForce All DB Emg Mkt Eq Net Median</i>	5.8		18.4		21.0		5.2		1.0		4.0		1.6	
Parametric Core	3.4	90	14.0	93	16.9	80	--	--	--	--	--	--	--	--
<i>MSCI Emerging Markets Gross</i>	6.4	51	18.6	60	24.2	40	4.7	60	1.4	58	4.3	69	2.2	57
<i>eA Emg Mkts Equity Net Median</i>	6.4		19.3		22.8		5.2		1.7		5.2		2.5	
<b>Fixed Income</b>	<b>1.4</b>	<b>59</b>	<b>3.9</b>	<b>34</b>	<b>7.2</b>	<b>5</b>	<b>4.8</b>	<b>26</b>	<b>3.5</b>	<b>28</b>	<b>4.5</b>	<b>19</b>	<b>5.5</b>	<b>43</b>
<i>Blended Fixed Income Index<sup>2</sup></i>	1.9	33	3.2	47	2.2	49	4.0	39	2.7	47	2.5	75	4.7	66
<i>InvestorForce All DB Total Fix Inc Net Median</i>	1.6		3.1		2.2		3.5		2.6		3.0		5.3	
<b>US Fixed Income</b>	<b>1.9</b>	<b>29</b>	<b>3.8</b>	<b>28</b>	<b>6.5</b>	<b>4</b>	<b>5.0</b>	<b>24</b>	<b>3.8</b>	<b>26</b>	<b>4.3</b>	<b>25</b>	<b>5.5</b>	<b>37</b>
<i>Blended US Fixed Index<sup>2</sup></i>	1.8	31	3.0	44	3.0	26	4.1	35	3.2	36	2.7	61	5.0	50
<i>InvestorForce All DB US Fix Inc Net Median</i>	1.5		2.7		1.0		3.4		2.8		3.1		4.9	
<b>Core Fixed</b>	<b>1.6</b>	<b>--</b>	<b>3.0</b>	<b>--</b>	<b>3.0</b>	<b>--</b>	<b>3.9</b>	<b>--</b>	<b>3.1</b>	<b>--</b>	<b>3.2</b>	<b>--</b>	<b>4.8</b>	<b>--</b>
<i>BBgBarc US Aggregate TR</i>	1.4	--	2.3	--	-0.3	--	2.8	--	2.5	--	2.2	--	4.5	--
BlackRock Intermediate Govt*	0.7	97	--	--	--	--	--	--	--	--	--	--	--	--
FIAM Bond	1.3	78	2.5	38	1.0	21	3.5	15	3.0	19	2.9	25	5.0	35
Western TRU	3.2	1	5.4	1	9.0	1	--	--	--	--	--	--	--	--
<i>3-Month Libor Total Return USD</i>	0.3	99	0.6	99	1.0	20	0.8	99	0.6	99	0.5	99	1.0	99
<i>BBgBarc US Aggregate TR</i>	1.4	66	2.3	67	-0.3	72	2.8	66	2.5	60	2.2	74	4.5	77
<i>eA US Core Fixed Inc Net Median</i>	1.5		2.4		0.2		3.0		2.6		2.5		4.8	

\* Funded January 2017.

2. See Appendix for Benchmark History.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: June 30, 2017

	3 Mo (%)	Rank	YTD (%)	Rank	Fiscal YTD (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Opportunistic Credit</b>	<b>2.5</b>	<b>--</b>	<b>6.1</b>	<b>--</b>	<b>15.1</b>	<b>--</b>	<b>7.6</b>	<b>--</b>	<b>5.7</b>	<b>--</b>	<b>9.6</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>BBgBarc BA Intermediate HY</i>	2.5	--	4.3	--	9.2	--	6.4	--	4.8	--	4.7	--	--	--
Angelo Gordon Opportunistic*	4.2	--	8.6	--	16.5	--	7.8	--	4.5	--	--	--	--	--
Angelo Gordon STAR*	6.1	--	10.9	--	17.6	--	8.6	--	8.7	--	--	--	--	--
<i>BBgBarc US Aggregate TR</i>	1.4	--	2.3	--	-0.3	--	2.8	--	2.5	--	2.2	--	4.5	--
Beach Point Select	1.9	50	4.4	50	13.8	16	8.9	1	--	--	--	--	--	--
<i>BBgBarc BA Intermediate HY<sup>2</sup></i>	2.5	8	4.3	61	9.2	78	6.4	28	4.8	21	4.7	92	--	--
<i>eA US High Yield Fixed Inc Net Median</i>	1.9		4.4		11.4		5.7		3.8		6.3		6.9	
Brigade Capital	1.8	61	5.7	4	16.1	3	6.8	19	3.3	69	6.2	59	--	--
<i>BBgBarc BA Intermediate HY<sup>2</sup></i>	2.5	8	4.3	61	9.2	78	6.4	28	4.8	21	4.7	92	--	--
<i>50% Barclays HY/ 50% Bank Loan<sup>2</sup></i>	1.5	84	3.4	83	10.1	70	5.6	55	4.0	43	5.9	68	--	--
<i>eA US High Yield Fixed Inc Net Median</i>	1.9		4.4		11.4		5.7		3.8		6.3		6.9	
<b>Private Credit</b>	<b>2.5</b>	<b>--</b>	<b>4.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>BBgBarc BA Intermediate HY</i>	2.5	--	4.3	--	9.2	--	6.4	--	4.8	--	4.7	--	--	--
TCP Direct Lending VIII* **	2.6	4	4.6	45	--	--	--	--	--	--	--	--	--	--
<i>BBgBarc BA Intermediate HY</i>	2.5	8	4.3	61	9.2	78	6.4	28	4.8	21	4.7	92	--	--
<i>eA US High Yield Fixed Inc Net Median</i>	1.9		4.4		11.4		5.7		3.8		6.3		6.9	
White Oak Yield***	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>BBgBarc BA Intermediate HY</i>	2.5	8	4.3	61	9.2	78	6.4	28	4.8	21	4.7	92	--	--
<i>eA US High Yield Fixed Inc Net Median</i>	1.9		4.4		11.4		5.7		3.8		6.3		6.9	
<b>Global Fixed Income</b>	<b>-1.0</b>	<b>99</b>	<b>4.2</b>	<b>72</b>	<b>10.9</b>	<b>14</b>	<b>3.5</b>	<b>71</b>	<b>1.5</b>	<b>53</b>	<b>4.8</b>	<b>16</b>	<b>--</b>	<b>--</b>
<i>BBgBarc Multiverse TR</i>	2.6	33	4.6	58	-1.4	99	3.5	69	-0.2	83	1.1	84	3.8	99
<i>InvestorForce All DB Gbl Fix Inc Net Median</i>	2.2		5.4		6.0		4.0		1.5		3.4		5.2	
Franklin Templeton	-1.0	99	4.2	65	10.9	19	3.5	65	1.5	57	4.8	32	--	--
<i>BBgBarc Multiverse TR</i>	2.6	40	4.6	57	-1.4	91	3.5	64	-0.2	76	1.1	83	3.8	81
<i>eA All Global Fixed Inc Net Median</i>	2.3		4.9		4.5		4.1		2.1		3.7		5.0	

\* Preliminary return as of 06/30/2017.

\*\* Funded September 2016.

\*\*\* Funded June 2017.

2. See Appendix for Benchmark History.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: June 30, 2017

	3 Mo (%)	Rank	YTD (%)	Rank	Fiscal YTD (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Risk Parity</b>	1.5	--	6.0	--	4.1	--	4.9	--	2.8	--	5.8	--	--	--
60/40 Russell 3000/BBgBarc US Aggregate	2.4	--	6.2	--	10.7	--	7.3	--	6.6	--	9.6	--	6.5	--
AQR GRP, 10% Volatility	1.5	--	6.1	--	5.9	--	2.5	--	0.2	--	4.2	--	--	--
PanAgora	1.6	--	5.8	--	2.5	--	7.1	--	--	--	--	--	--	--
60/40 Russell 3000/BBgBarc US Aggregate	2.4	--	6.2	--	10.7	--	7.3	--	6.6	--	9.6	--	6.5	--
60/40 MSCI World/BBgBarc Global Aggregate	2.8	--	6.9	--	10.4	--	5.8	--	4.6	--	8.2	--	--	--
<b>Alternatives</b>	1.8	--	6.2	--	17.1	--	7.8	--	7.8	--	7.2	--	--	--
Alternatives Allocation Index <sup>2</sup>	2.2	--	6.2	--	13.6	--	6.3	--	3.8	--	6.7	--	--	--
Blended Alternatives Index	2.2	--	6.4	--	14.0	--	6.6	--	4.7	--	8.7	--	--	--
<b>Private Equity **</b>	4.1	33	11.3	4	29.1	1	15.6	5	19.0	1	15.2	13	--	--
Russell 3000 +3%	3.1	44	9.8	8	21.5	2	13.0	11	12.1	22	17.6	3	10.3	11
InvestorForce All DB Private Eq Net Median	2.7		5.4		10.5		7.8		8.9		10.9		7.4	
<b>Hedge Fund/Absolute Return</b>	-0.6	91	0.7	85	4.5	81	5.7	7	7.1	3	6.3	16	--	--
Libor 1 month +4%	1.3	32	2.4	51	4.8	77	4.6	11	4.4	11	4.3	61	--	--
InvestorForce All DB Hedge Funds Net Median	0.8		2.4		7.3		1.0		1.6		4.8		2.3	
AQR DELTA XN	-1.2	79	0.2	80	4.3	65	6.0	32	7.3	29	6.4	48	--	--
Libor 1 month +4%	1.3	45	2.4	62	4.8	62	4.6	40	4.4	48	4.3	66	--	--
eV Alt All Multi-Strategy Median	1.0		3.2		7.3		3.3		4.1		6.0		5.1	
Standard Life GARS	0.8	56	1.4	73	3.7	69	--	--	--	--	--	--	--	--
Libor 1 month +4%	1.3	45	2.4	62	4.8	62	4.6	40	4.4	48	4.3	66	--	--
eV Alt All Multi-Strategy Median	1.0		3.2		7.3		3.3		4.1		6.0		5.1	
<b>Inflation Hedge</b>	0.5	--	3.0	--	5.9	--	--	--	--	--	--	--	--	--
Blended Inflation Pool Index <sup>2</sup>	0.6	--	2.6	--	4.2	--	--	--	--	--	--	--	--	--

\*\* Returns are one-quarter lag.

2. See Appendix for Benchmark History.

Total Fund  
Performance Summary (Net of Fees)

Period Ending: June 30, 2017

	3 Mo (%)	Rank	YTD (%)	Rank	Fiscal YTD (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Real Estate</b>	1.8	31	4.3	8	8.2	16	9.6	30	11.7	4	11.7	4	5.0	17
<i>NCREIF ODCE</i>	1.7	36	3.5	41	7.9	22	9.8	23	11.3	9	11.8	4	5.7	4
<i>InvestorForce All DB Real Estate Pub Net Median</i>	1.5		3.0		6.2		8.4		9.7		10.2		4.2	
Invesco	1.8	--	4.3	--	8.2	--	9.4	--	11.6	--	11.7	--	5.0	--
<i>NCREIF ODCE</i>	1.7	--	3.5	--	7.9	--	9.8	--	11.3	--	11.8	--	5.7	--
Invesco US Val IV	1.6	--	4.3	--	9.1	--	--	--	--	--	--	--	--	--
<i>NCREIF ODCE</i>	1.7	--	3.5	--	7.9	--	9.8	--	11.3	--	11.8	--	5.7	--
<i>NCREIF CEVA 1Q Lag - NET</i>	1.4	--	4.2	--	9.2	--	12.8	--	14.6	--	--	--	--	--
<b>Private Real Asset **</b>	-3.1	--	2.9	--	2.9	--	19.2	--	--	--	--	--	--	--
<i>Blended Real Asset Index</i>	-0.2	--	2.6	--	5.0	--	5.7	--	5.2	--	--	--	--	--
<b>Liquid Pool</b>	0.2	--	3.3	--	--	--	--	--	--	--	--	--	--	--
<i>Blended Real Asset Index</i> <sup>2</sup>	-0.2	--	2.6	--	5.0	--	5.7	--	5.2	--	--	--	--	--
SSgA Custom Real Asset***	0.2	--	3.3	--	--	--	--	--	--	--	--	--	--	--
<i>Blended Real Asset Index</i> <sup>2</sup>	-0.2	--	2.6	--	5.0	--	5.7	--	5.2	--	--	--	--	--
<b>TIPS</b>	-0.6	--	0.5	--	1.1	--	1.6	--	0.4	--	-0.1	--	--	--
<i>BBgBarc US TIPS TR</i>	-0.4	--	0.9	--	-0.6	--	1.8	--	0.6	--	0.3	--	4.3	--
Brown Brothers Harriman	-0.6	86	0.5	84	1.1	18	1.6	57	0.4	49	-0.1	94	--	--
<i>BBgBarc US TIPS TR</i>	-0.4	41	0.9	46	-0.6	60	1.8	35	0.6	23	0.3	37	4.3	61
<i>eA TIPS / Infl Indexed Fixed Inc Net Median</i>	-0.4		0.8		-0.6		1.6		0.4		0.2		4.3	
<b>Cash</b>	0.2	--	0.4	--	0.8	--	1.1	--	1.0	--	0.7	--	0.8	--
91 Day T-Bills	0.2	--	0.4	--	0.5	--	0.4	--	0.2	--	0.2	--	0.4	--
General Account	0.3	--	0.6	--	1.0	--	1.6	--	1.3	--	0.8	--	1.1	--
Treasury & LAIF	0.3	--	0.6	--	0.5	--	0.8	--	0.9	--	0.8	--	0.7	--
91 Day T-Bills	0.2	--	0.4	--	0.5	--	0.4	--	0.2	--	0.2	--	0.4	--

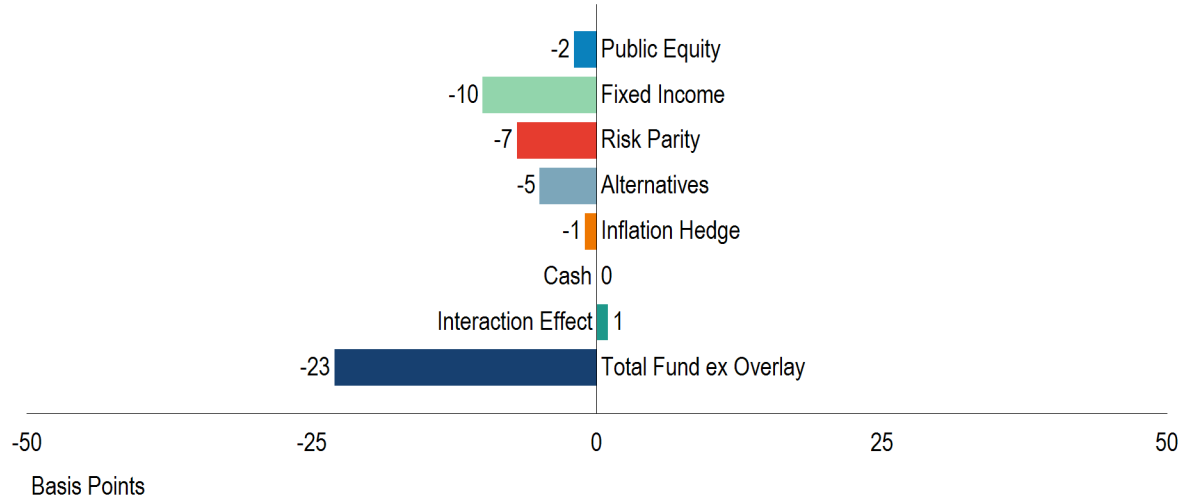
\*\* Returns are one-quarter lag.

\*\*\* Funded October 2016.

2. See Appendix for Benchmark History.

Total Fund ex Overlay  
Performance Attribution

Period Ending: June 30, 2017

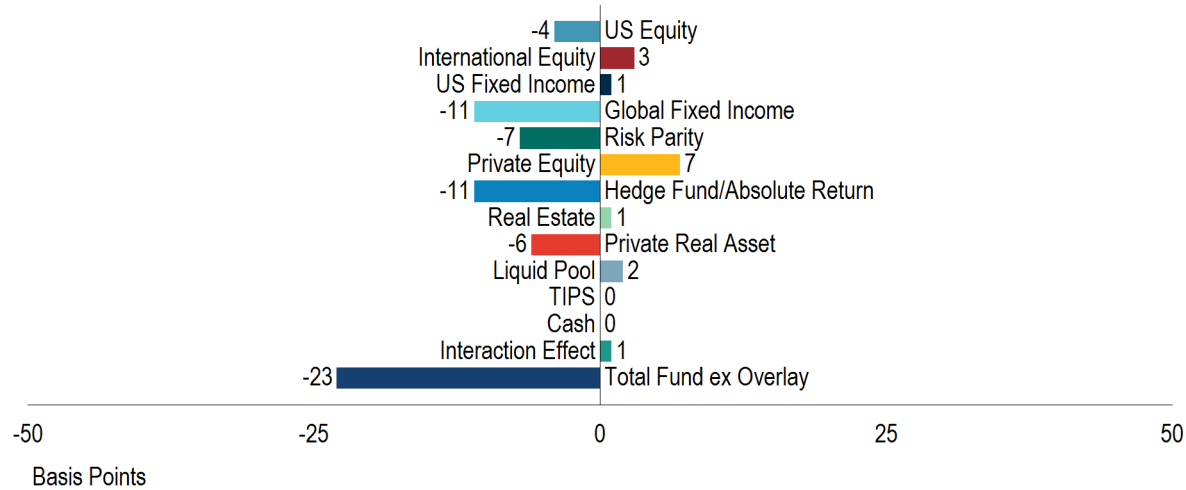


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction*	Total Effects
Public Equity	4.33%	4.39%	-0.05%	-0.02%	0.03%	0.00%	0.01%
Fixed Income	1.42%	1.92%	-0.50%	-0.10%	0.02%	0.01%	-0.07%
Risk Parity	1.54%	2.39%	-0.85%	-0.07%	0.00%	0.00%	-0.06%
Alternatives	1.82%	2.24%	-0.41%	-0.05%	0.00%	0.00%	-0.05%
Inflation Hedge	0.52%	0.59%	-0.07%	-0.01%	0.03%	0.00%	0.02%
Cash	0.24%	0.22%	0.02%	0.00%	-0.08%	0.00%	-0.08%
<b>Total</b>	<b>2.58%</b>	<b>2.81%</b>	<b>-0.23%</b>	<b>-0.25%</b>	<b>0.01%</b>	<b>0.01%</b>	<b>-0.23%</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: June 30, 2017



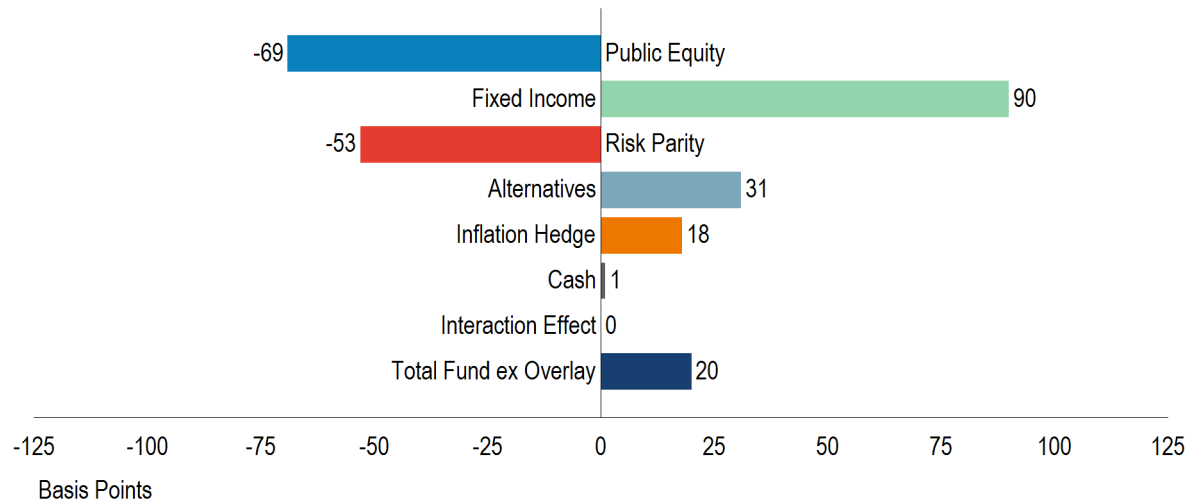
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction * Effects	Total Effects
US Equity	2.86%	3.02%	-0.15%	-0.04%	0.00%	0.00%	-0.04%
International Equity	6.20%	6.05%	0.15%	0.03%	0.01%	-0.01%	0.04%
US Fixed Income	1.85%	1.80%	0.06%	0.01%	0.02%	0.00%	0.03%
Global Fixed Income	-0.98%	2.64%	-3.62%	-0.11%	0.00%	0.01%	-0.10%
Risk Parity	1.54%	2.39%	-0.85%	-0.07%	0.00%	0.00%	-0.06%
Private Equity	4.08%	3.06%	1.03%	0.07%	0.00%	-0.01%	0.06%
Hedge Fund/Absolute Return	-0.58%	1.29%	-1.87%	-0.11%	0.00%	0.00%	-0.11%
Real Estate	1.81%	1.70%	0.11%	0.01%	0.00%	0.00%	0.01%
Private Real Asset	-3.14%	-0.25%	-2.90%	-0.06%	0.02%	0.02%	-0.02%
Liquid Pool	0.18%	-0.25%	0.43%	0.02%	0.00%	0.00%	0.03%
TIPS	-0.62%	-0.40%	-0.21%	0.00%	0.01%	0.00%	0.00%
Cash	0.24%	0.22%	0.02%	0.00%	-0.08%	0.00%	-0.08%
<b>Total</b>	<b>2.58%</b>	<b>2.81%</b>	<b>-0.23%</b>	<b>-0.24%</b>	<b>0.00%</b>	<b>0.01%</b>	<b>-0.23%</b>

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



Total Fund ex Overlay  
Performance Attribution (Fiscal YTD)

Period Ending: June 30, 2017

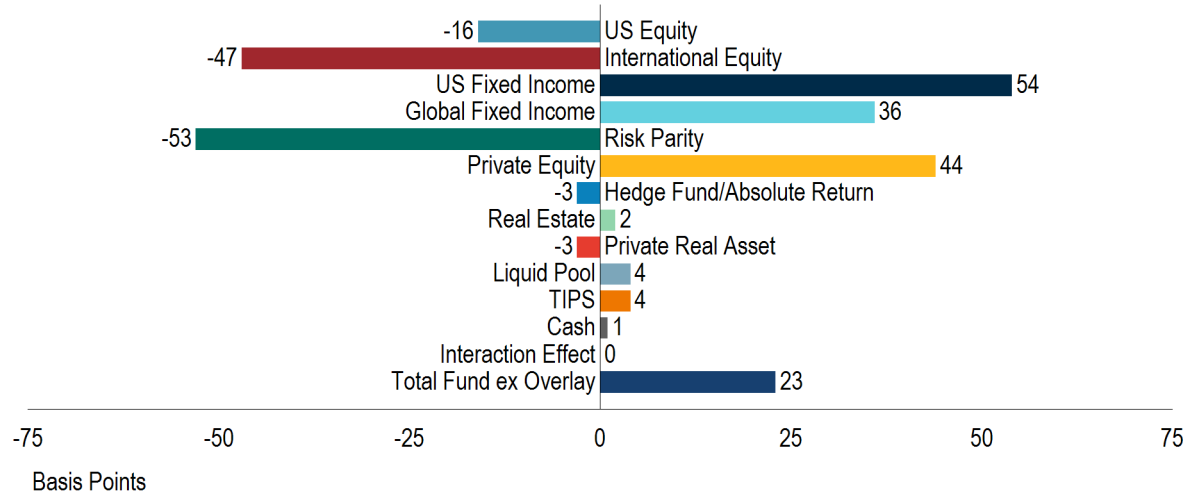


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction *	Total Effects
Public Equity	18.55%	20.01%	-1.46%	-0.69%	0.00%	0.00%	-0.69%
Fixed Income	7.23%	2.25%	4.98%	0.90%	0.00%	0.00%	0.90%
Risk Parity	4.07%	10.69%	-6.61%	-0.53%	0.00%	0.00%	-0.53%
Alternatives	17.05%	14.05%	3.01%	0.31%	0.00%	0.00%	0.31%
Inflation Hedge	5.93%	4.23%	1.69%	0.18%	0.00%	0.00%	0.18%
Cash	0.81%	0.54%	0.28%	0.01%	0.00%	0.00%	0.01%
<b>Total</b>	<b>12.91%</b>	<b>12.71%</b>	<b>0.20%</b>	<b>0.20%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.20%</b>

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

Total Fund ex Overlay  
Performance Attribution (Fiscal YTD )

Period Ending: June 30, 2017



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction*	Total Effects
US Equity	18.25%	18.81%	-0.56%	-0.16%	0.00%	0.00%	-0.16%
International Equity	18.34%	20.97%	-2.63%	-0.47%	0.00%	0.00%	-0.47%
US Fixed Income	6.51%	2.96%	3.55%	0.54%	0.00%	0.00%	0.54%
Global Fixed Income	10.86%	-1.38%	12.24%	0.36%	0.00%	0.00%	0.36%
Risk Parity	4.07%	10.69%	-6.61%	-0.53%	0.00%	0.00%	-0.53%
Private Equity	29.14%	21.51%	7.63%	0.44%	0.00%	0.00%	0.44%
Hedge Fund/Absolute Return	4.47%	4.79%	-0.32%	-0.03%	0.00%	0.00%	-0.03%
Real Estate	8.23%	7.87%	0.36%	0.02%	0.00%	0.00%	0.02%
Private Real Asset	2.89%	4.98%	-2.10%	-0.03%	0.00%	0.00%	-0.03%
Liquid Pool	--	--	--	0.04%	0.00%	0.00%	0.04%
TIPS	1.09%	-0.63%	1.71%	0.04%	0.00%	0.00%	0.04%
Cash	0.81%	0.54%	0.28%	0.01%	0.00%	0.00%	0.01%
<b>Total</b>	<b>12.99%</b>	<b>12.76%</b>	<b>0.23%</b>	<b>0.23%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.23%</b>

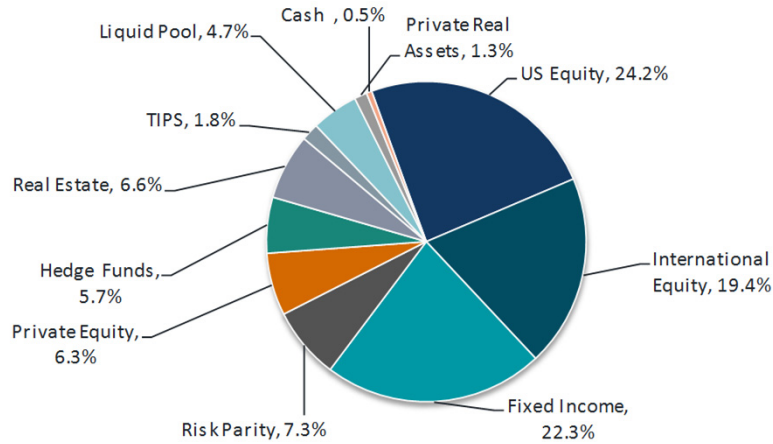
Attribution does not include the impact of the Parametric Minneapolis strategy.  
\* Interaction Effects include Residual Effects.

# Total Fund

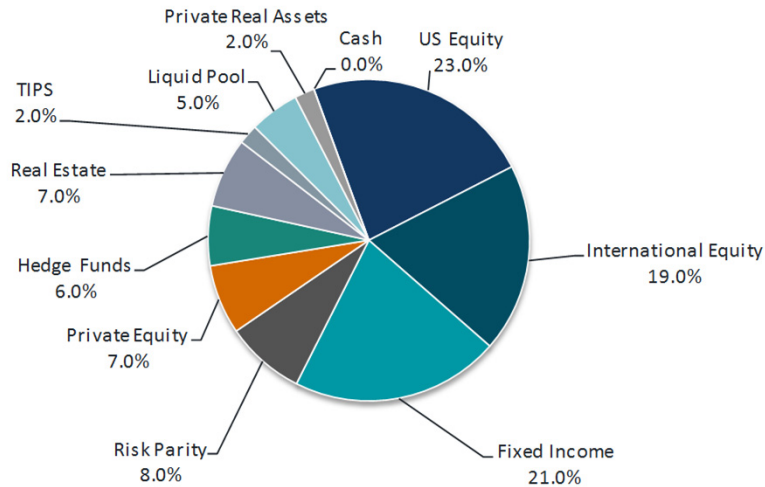
## Asset Allocation Analysis

Period Ending: June 30, 2017

Current w/Overlay



Target



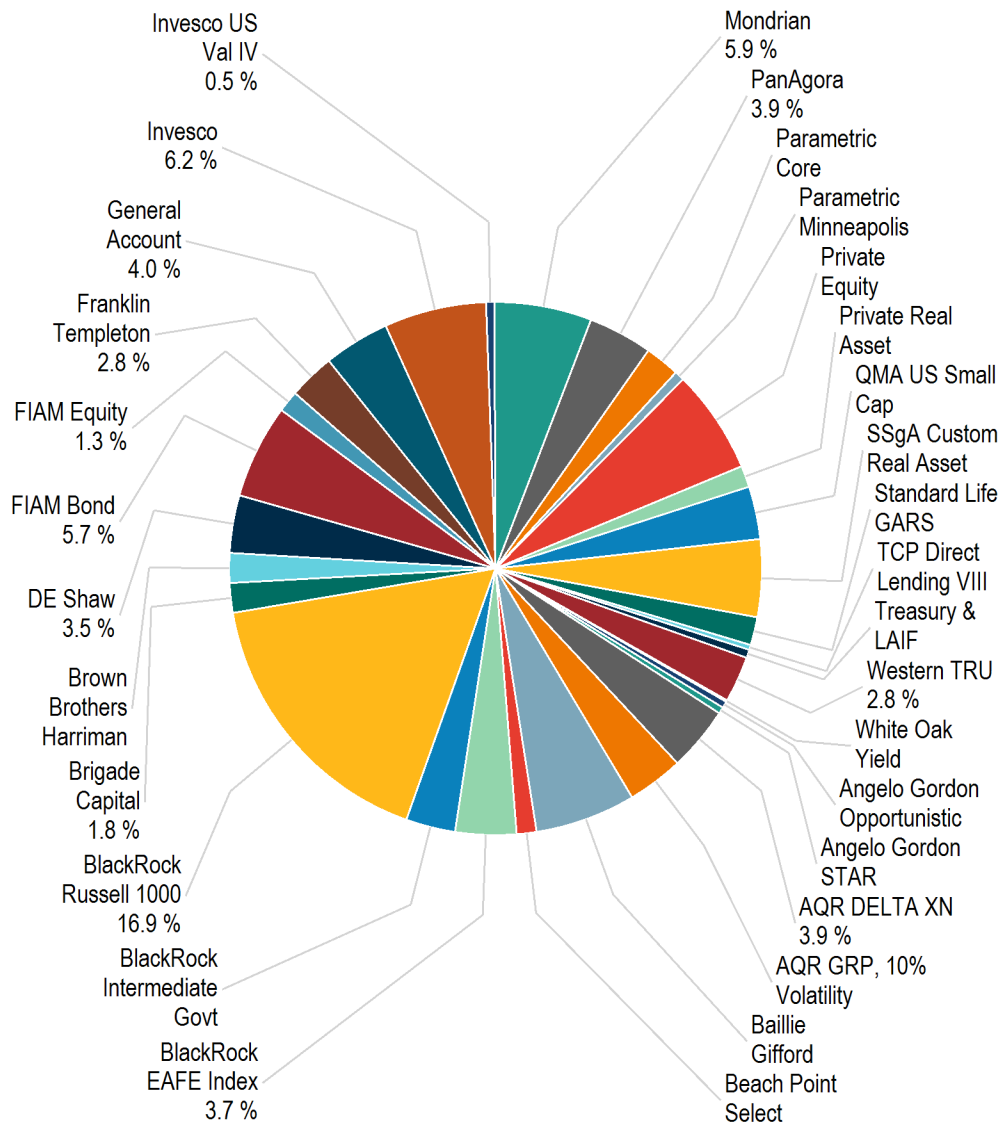
MARKET VALUE

ASSET ALLOCATION	W/OVERLAY	W/OVERLAY	W/O OVERLAY
US Equity	971,804,094	24.2%	23.6%
International Equity	780,640,722	19.4%	19.1%
Fixed Income	895,044,558	22.3%	18.5%
Risk Parity	291,757,142	7.3%	7.3%
Private Equity	253,994,925	6.3%	6.3%
Hedge Funds	227,288,007	5.7%	5.7%
Real Estate	267,102,447	6.6%	6.6%
TIPS	70,919,206	1.8%	1.8%
Liquid Pool	190,503,104	4.7%	4.7%
Private Real Assets	51,254,052	1.3%	1.3%
Cash	22,036,060	0.5%	5.2%
<b>TOTAL</b>	<b>4,022,344,317</b>	<b>100.0%</b>	<b>100.0%</b>

ASSET ALLOCATION	W/OVERLAY	TARGET	DIFF
US Equity	24.2%	23.0%	1.2%
International Equity	19.4%	19.0%	0.4%
Fixed Income	22.3%	21.0%	1.3%
Risk Parity	7.3%	8.0%	-0.7%
Private Equity	6.3%	7.0%	-0.7%
Hedge Funds	5.7%	6.0%	-0.3%
Real Estate	6.6%	7.0%	-0.4%
TIPS	1.8%	2.0%	-0.2%
Liquid Pool	4.7%	5.0%	-0.3%
Private Real Assets	1.3%	2.0%	-0.7%
Cash	0.5%	0.0%	0.5%
<b>TOTAL</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>

# Total Fund Manager Allocation Analysis

Period Ending: June 30, 2017



	Actual	Actual
Angelo Gordon Opportunistic	\$14,407,000	0%
Angelo Gordon STAR	\$16,809,000	0%
AQR DELTA XN	\$156,969,306	4%
AQR GRP, 10% Volatility	\$136,211,099	3%
Baillie Gifford	\$245,816,349	6%
Beach Point Select	\$46,602,732	1%
BlackRock EAFE Index	\$150,227,780	4%
BlackRock Intermediate Govt	\$121,382,020	3%
BlackRock Russell 1000	\$679,283,748	17%
Brigade Capital	\$74,070,354	2%
Brown Brothers Harriman	\$70,919,206	2%
DE Shaw	\$141,927,651	4%
FIAM Bond	\$229,685,998	6%
FIAM Equity	\$51,752,296	1%
Franklin Templeton	\$110,863,931	3%
General Account	\$162,117,600	4%
Invesco	\$248,118,958	6%
Invesco US Val IV	\$18,983,489	0%
Mondrian	\$235,989,894	6%
PanAgora	\$155,546,043	4%
Parametric Core	\$85,232,814	2%
Parametric Minneapolis Overlay	\$24,701,377	1%
Private Equity	\$253,994,925	6%
Private Real Asset	\$51,254,052	1%
QMA US Small Cap	\$129,484,536	3%
SSgA Custom Real Asset	\$190,503,104	5%
Standard Life GARS	\$70,318,701	2%
TCP Direct Lending VIII	\$11,550,895	0%
Transition 3	\$1,823	0%
Treasury & LAIF	\$20,726,585	1%
Western TRU	\$114,008,666	3%
White Oak Yield	\$2,882,386	0%
<b>Total</b>	<b>\$4,022,344,317</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	5.5%	33	6.3%	62	0.8	36	0.2	35	1.1%	57
Policy Index	5.3%	40	6.8%	82	0.7	49	--	--	0.0%	1
InvestorForce Public DB > \$1B Net Median	5.1%	--	6.1%	--	0.7	--	-0.1	--	1.1%	--

**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	9.4%	22	6.1%	70	1.5	35	0.1	44	1.0%	32
Policy Index	9.2%	24	6.4%	80	1.4	47	--	--	0.0%	1
InvestorForce Public DB > \$1B Net Median	8.7%	--	5.7%	--	1.4	--	0.1	--	1.1%	--

**Statistics Summary**

**3 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Cash	1.0%	0.4%	2.0	1.9	0.4%
91 Day T-Bills	0.2%	0.1%	0.0	--	0.0%
General Account	1.3%	0.6%	2.0	1.9	0.6%
91 Day T-Bills	0.2%	0.1%	0.0	--	0.0%
Treasury & LAIF	0.9%	0.5%	1.2	1.2	0.5%
91 Day T-Bills	0.2%	0.1%	0.0	--	0.0%

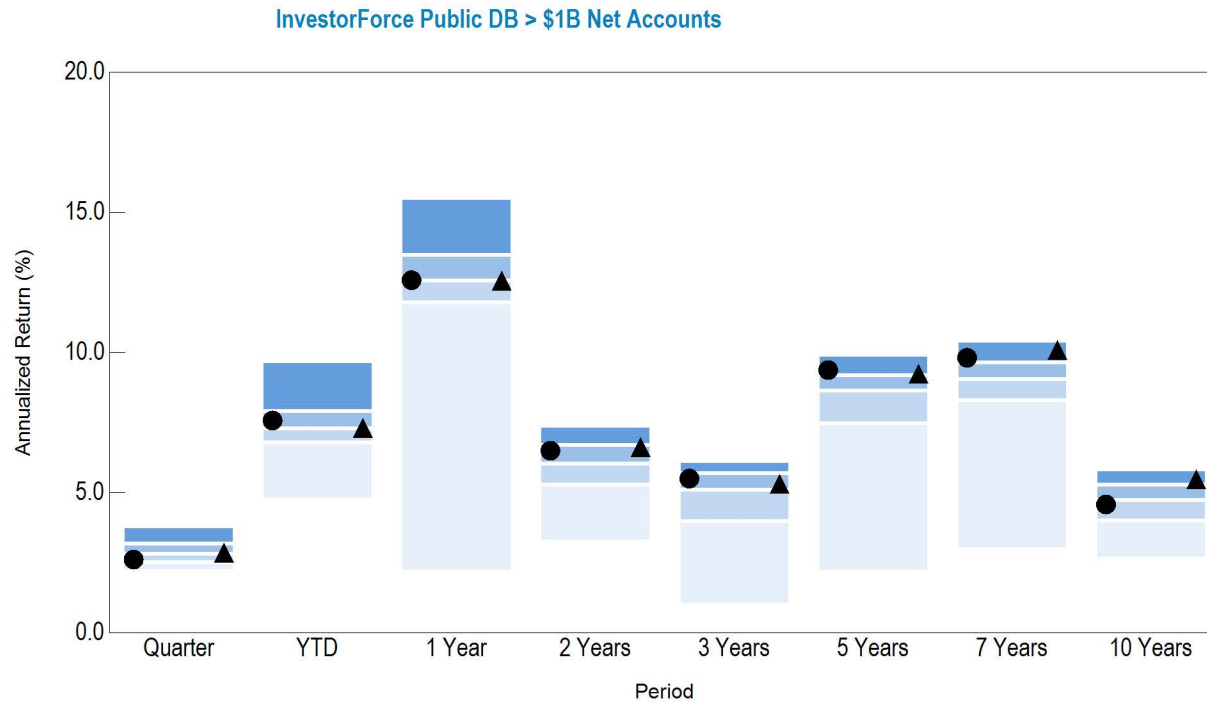
**Statistics Summary**

**5 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Cash	0.7%	0.3%	1.9	1.9	0.3%
91 Day T-Bills	0.2%	0.1%	0.0	--	0.0%
General Account	0.8%	0.5%	1.4	1.5	0.5%
91 Day T-Bills	0.2%	0.1%	0.0	--	0.0%
Treasury & LAIF	0.8%	0.4%	1.5	1.5	0.4%
91 Day T-Bills	0.2%	0.1%	0.0	--	0.0%

Total Fund  
Peer Universe Comparison

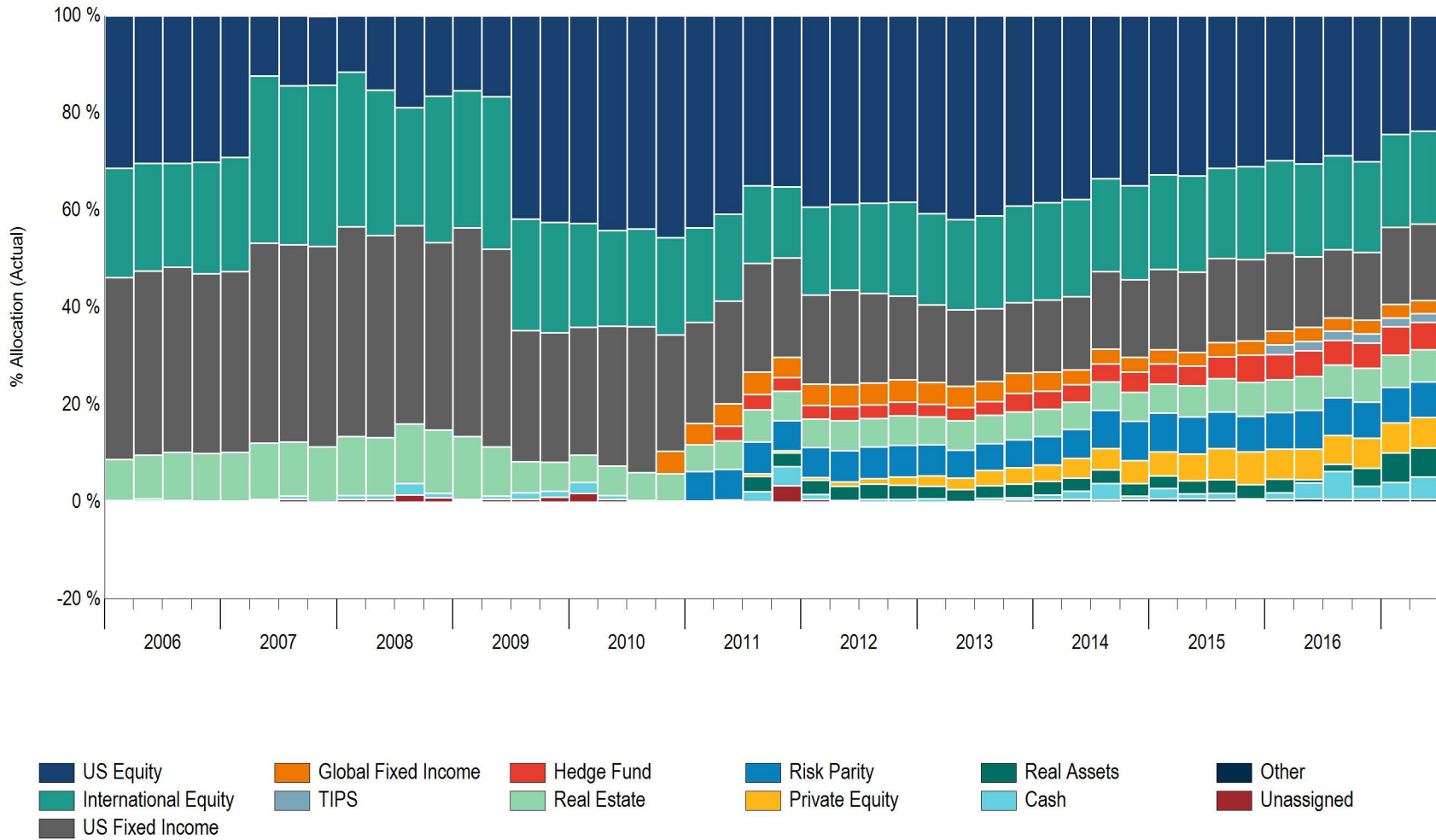
Period Ending: June 30, 2017



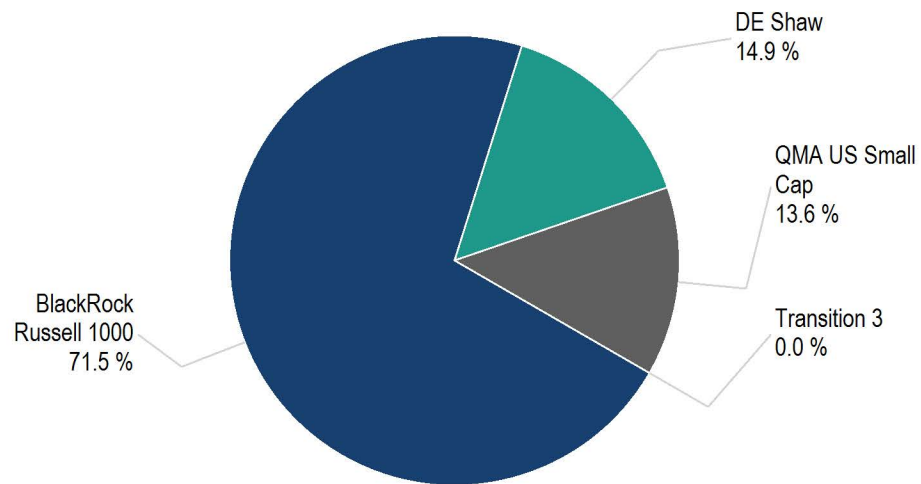
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
<b>Return (Rank)</b>								
5th Percentile	3.8	9.7	15.5	7.4	6.1	9.9	10.4	5.8
25th Percentile	3.2	7.9	13.5	6.7	5.7	9.2	9.7	5.3
Median	2.8	7.3	12.6	6.1	5.1	8.7	9.1	4.7
75th Percentile	2.5	6.8	11.8	5.3	4.0	7.5	8.3	4.0
95th Percentile	2.2	4.8	2.2	3.3	1.0	2.2	3.0	2.7
# of Portfolios	46	46	46	46	46	46	45	42
● Total Fund	2.6 (71)	7.6 (37)	12.6 (50)	6.5 (36)	5.5 (33)	9.4 (22)	9.8 (22)	4.6 (63)
▲ Policy Index	2.8 (49)	7.3 (51)	12.6 (51)	6.6 (31)	5.3 (40)	9.2 (24)	10.1 (16)	5.5 (20)

Total Fund  
Asset Allocation History

Period Ending: June 30, 2017







	Actual \$	Actual %	Manager Contribution to Excess Return %
BlackRock Russell 1000	\$679,283,748	71.5%	0.0%
DE Shaw	\$141,927,651	14.9%	-0.1%
QMA US Small Cap	\$129,484,536	13.6%	-0.1%
Transition Account	\$1,823	0.0%	0.0%
Actual vs. Policy Weight Difference			0.0%
<b>Total</b>	<b>\$950,697,757</b>	<b>100.0%</b>	<b>-0.2%</b>

**Statistics Summary**

**3 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	8.5%	10.6%	0.8	-0.4	0.8%
Blended US Equity Index	8.8%	10.8%	0.8	--	0.0%
Russell 3000	9.1%	10.6%	0.8	0.4	0.9%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	9.9%	10.5%	0.9	0.6	1.2%
Russell 1000	9.3%	10.4%	0.9	--	0.0%
DE Shaw	10.9%	10.9%	1.0	0.8	2.1%
Russell 1000	9.3%	10.4%	0.9	--	0.0%
Small Cap Equity	4.7%	14.5%	0.3	-0.9	3.0%
Russell 2000	7.4%	15.4%	0.5	--	0.0%

**Statistics Summary**

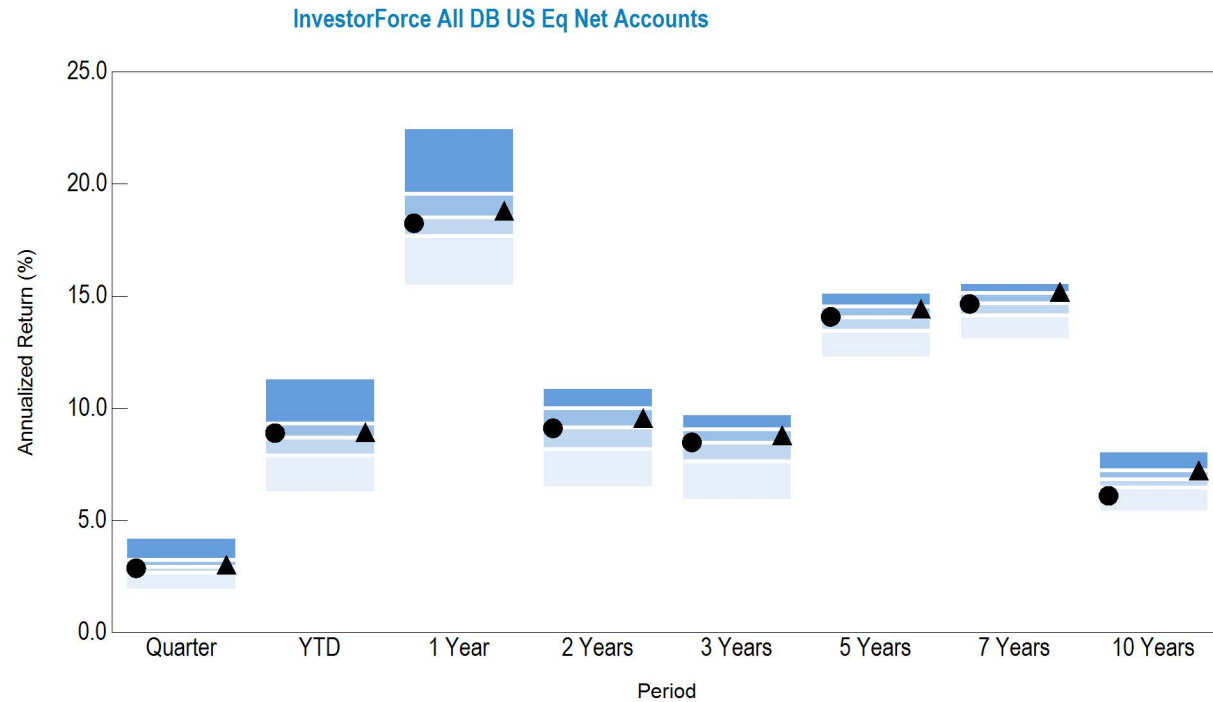
**5 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	14.1%	9.8%	1.4	-0.4	0.8%
Blended US Equity Index	14.4%	10.0%	1.4	--	0.0%
Russell 3000	14.6%	9.8%	1.5	0.2	0.8%

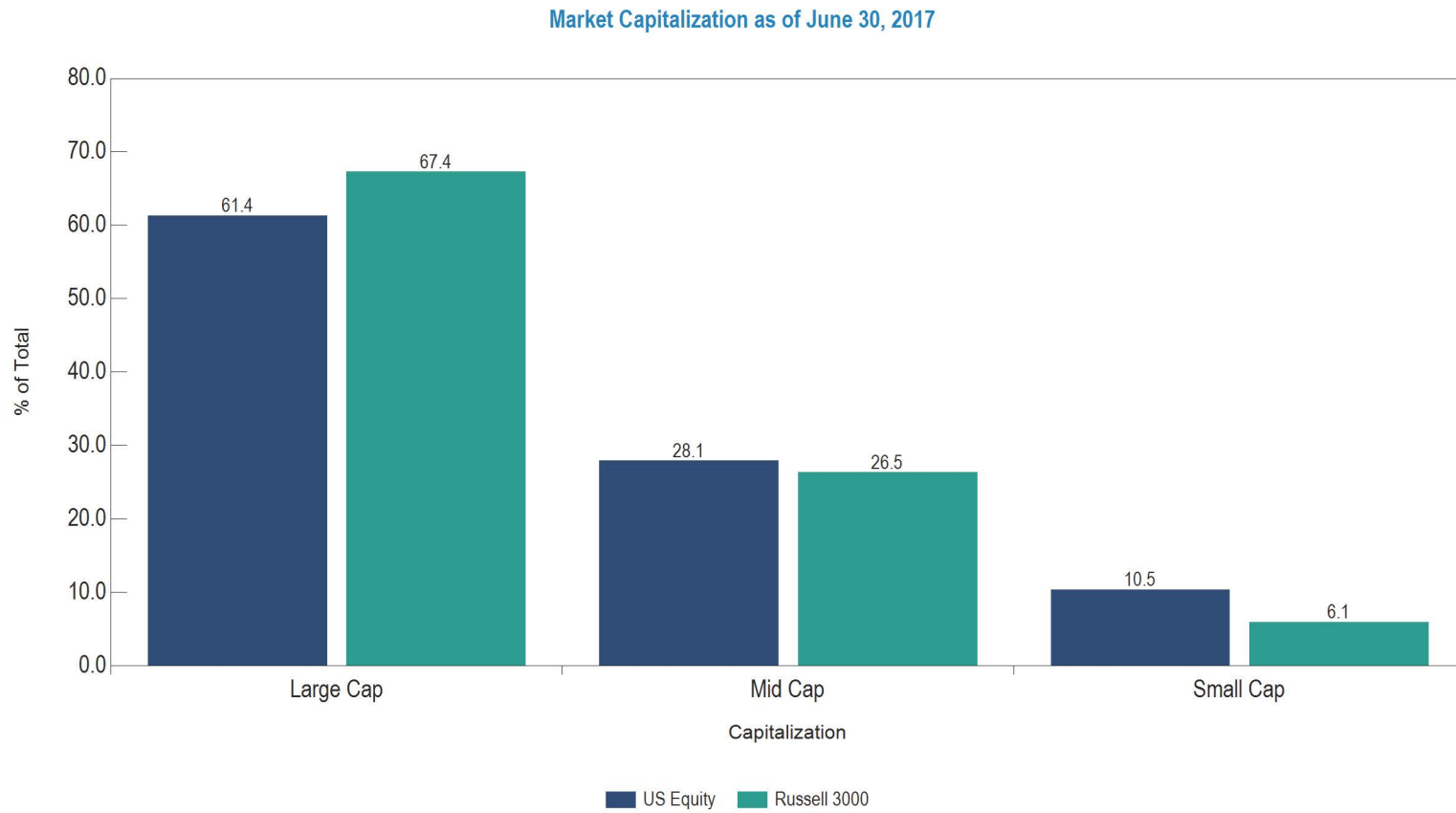
**Statistics Summary**

**5 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	14.9%	9.6%	1.5	0.2	1.1%
Russell 1000	14.7%	9.6%	1.5	--	0.0%
DE Shaw	15.6%	9.9%	1.6	0.5	2.0%
Russell 1000	14.7%	9.6%	1.5	--	0.0%
Small Cap Equity	12.3%	13.4%	0.9	-0.5	2.8%
Russell 2000	13.7%	13.9%	1.0	--	0.0%



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	4.3	11.4	22.5	10.9	9.8	15.2	15.6	8.1
25th Percentile	3.3	9.3	19.6	10.0	9.1	14.6	15.2	7.3
Median	2.9	8.7	18.5	9.2	8.5	14.1	14.7	6.8
75th Percentile	2.7	7.9	17.7	8.2	7.6	13.5	14.2	6.5
95th Percentile	1.9	6.2	15.4	6.4	5.9	12.3	13.0	5.4
# of Portfolios	591	588	580	569	558	486	403	322
● US Equity	2.9 (59)	8.9 (43)	18.3 (60)	9.1 (52)	8.5 (51)	14.1 (50)	14.7 (53)	6.1 (87)
▲ Blended US Equity Index	3.0 (43)	8.9 (40)	18.8 (40)	9.6 (40)	8.8 (39)	14.4 (33)	15.2 (23)	7.2 (27)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	Russell 3000
Number of Holdings	2,561	3,000
Weighted Avg. Market Cap. (\$B)	118.8	128.5
Median Market Cap. (\$B)	2.9	1.6
Price To Earnings	24.6	24.7
Price To Book	4.9	4.2
Price To Sales	3.5	3.5
Return on Equity (%)	20.0	16.7
Yield (%)	1.9	1.9
Beta (holdings; domestic)	1.1	1.0

Top Holdings

APPLE	3.2%
JOHNSON & JOHNSON	1.6%
MICROSOFT	1.6%
ALPHABET 'C'	1.2%
AMAZON.COM	1.2%
JP MORGAN CHASE & CO.	1.1%
FACEBOOK CLASS A	1.1%
EXXON MOBIL	1.0%
ALPHABET 'A'	1.0%
AT&T	1.0%

Best Performers

	Return %
PUMA BIOTECHNOLOGY (PBYI)	134.9%
ANGIE'S LIST (ANGI)	124.4%
WEIGHTWATCHERS INTL.	114.6%
GLYCOMIMETICS (GLYC)	105.5%
VIRNETX HOLDING	97.8%
NUVECTRA ORD SHS (NVTR)	94.4%
LOXO ONCOLOGY	90.6%
WAYFAIR CL.A	89.9%
PTC THERAPEUTICS (PTCT)	86.3%
MAUI LAND & PINEAPPLE	72.8%

Worst Performers

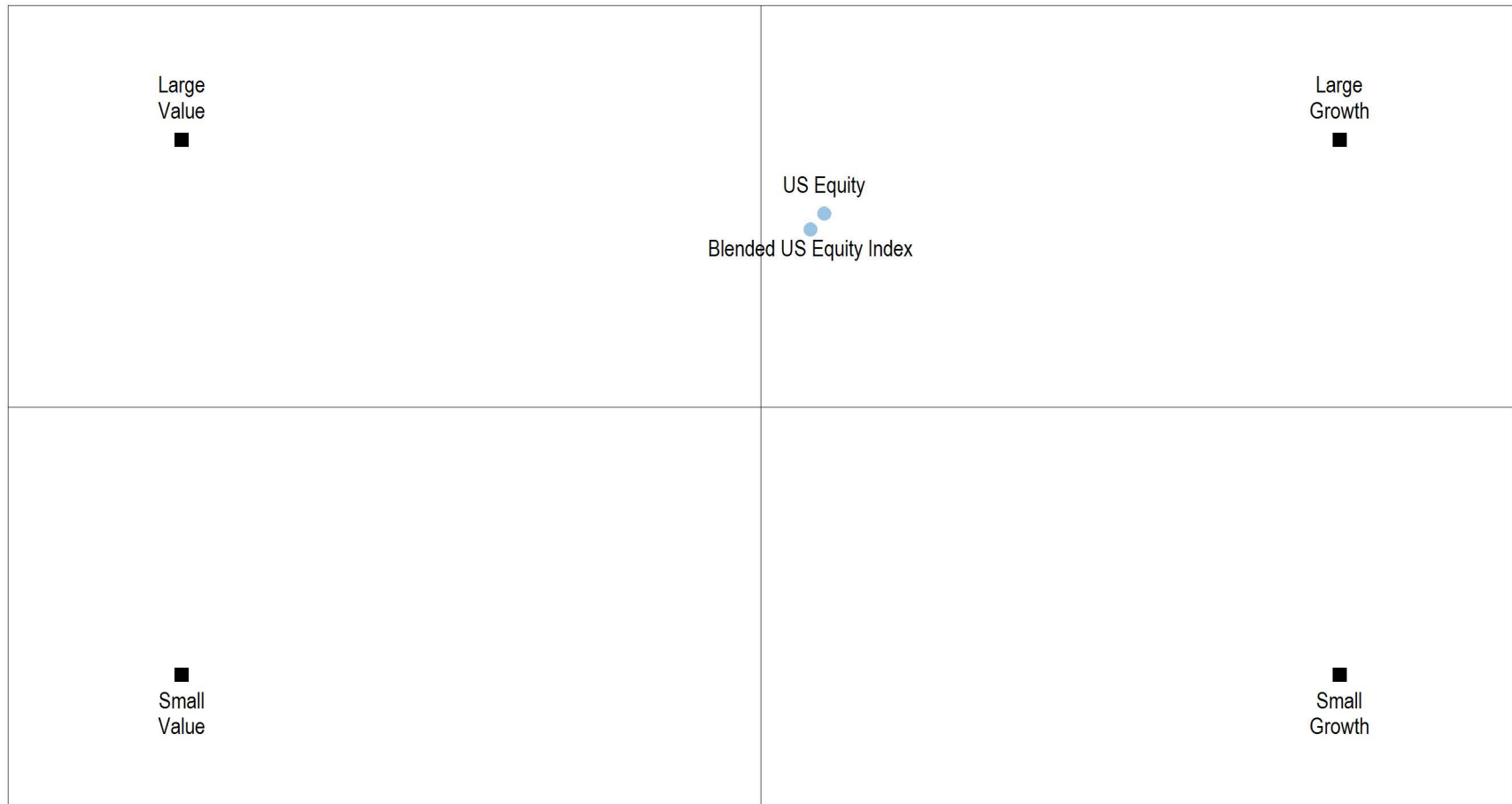
	Return %
FIRST NBC BANK HOLDING (FNBCQ)	-99.3%
CIBER (CBRIQ)	-83.5%
VINCE HOLDING (VNCE)	-69.6%
NEWLINK GENETICS	-69.5%
COBALT INTL.ENERGY	-69.1%
WESTMORELAND COAL (WLB)	-66.5%
ONCOMED PHARMACEUTICALS	-63.8%
ARDELYX (ARDX)	-59.7%
FORTERRA ORD	-57.8%
EGALET	-53.5%

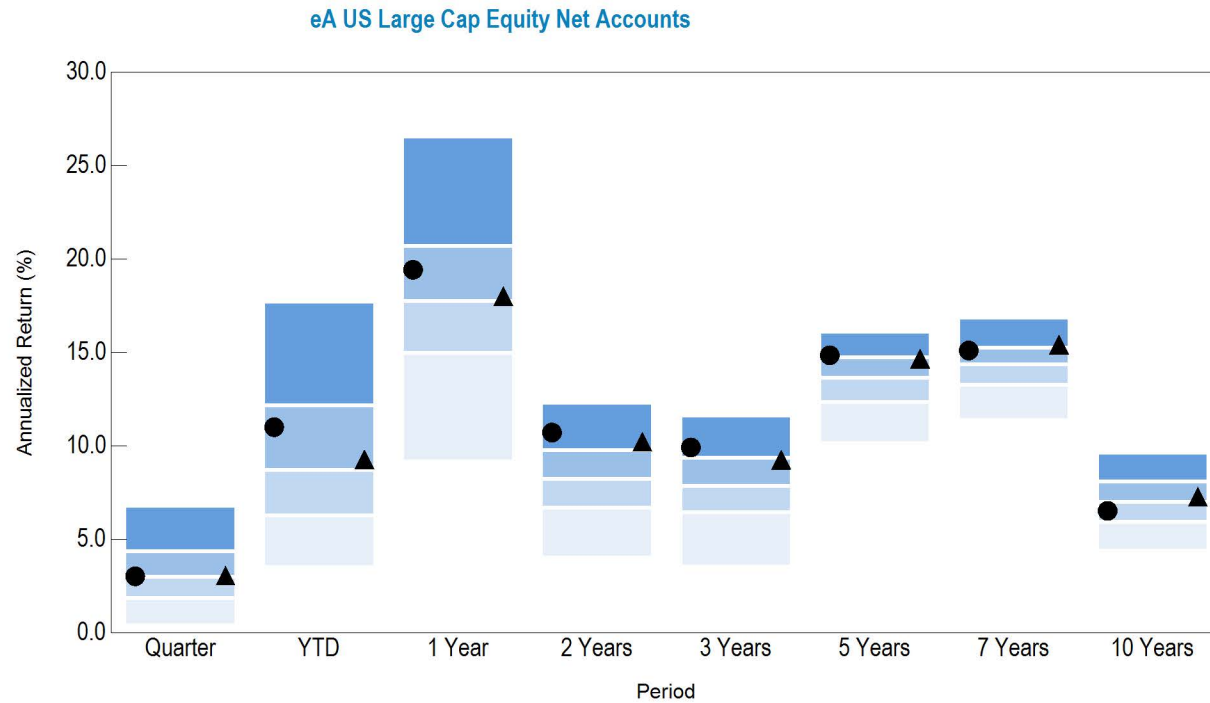


US Equity Performance Attribution vs. Russell 3000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.0%	0.0%	0.0%	0.0%	-8.4%	-7.7%	5.7%	6.1%			
Materials	0.0%	0.0%	0.0%	0.0%	1.7%	2.6%	3.8%	3.4%			
Industrials	-0.1%	-0.1%	0.0%	0.0%	3.2%	4.2%	11.3%	10.7%			
Consumer Discretionary	0.0%	0.0%	0.0%	0.0%	3.1%	3.0%	12.7%	12.7%			
Consumer Staples	0.0%	0.0%	0.0%	0.0%	1.1%	1.2%	7.7%	8.3%			
Health Care	0.0%	0.0%	0.0%	0.0%	7.5%	7.4%	13.5%	13.4%			
Financials	0.0%	0.0%	0.0%	0.0%	3.9%	3.8%	14.7%	15.0%			
Information Technology	-0.2%	-0.2%	0.0%	0.0%	3.4%	4.3%	21.7%	21.2%			
Telecommunication Services	0.0%	0.0%	0.0%	0.0%	-6.8%	-6.6%	2.2%	2.2%			
Utilities	0.0%	0.0%	0.0%	0.0%	2.6%	2.2%	2.9%	3.2%			
Real Estate	0.0%	0.0%	0.0%	0.0%	2.6%	2.3%	3.7%	4.0%			
Cash	0.0%	0.0%	0.0%	0.0%	0.2%	--	0.0%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	3.1%	--	0.1%	0.0%			
<b>Portfolio</b>	<b>-0.2%</b>	<b>=</b>	<b>-0.3%</b>	<b>+</b>	<b>0.1%</b>	<b>+</b>	<b>0.0%</b>	<b>2.8%</b>	<b>3.0%</b>	<b>100.0%</b>	<b>100.0%</b>

U.S. Effective Style Map





	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	6.8	17.7	26.6	12.3	11.6	16.1	16.9	9.6
25th Percentile	4.4	12.2	20.7	9.8	9.4	14.8	15.3	8.1
Median	3.0	8.7	17.8	8.2	7.9	13.7	14.4	7.0
75th Percentile	1.9	6.3	15.0	6.7	6.5	12.4	13.3	6.0
95th Percentile	0.4	3.5	9.2	4.1	3.5	10.2	11.4	4.4
# of Portfolios	576	575	573	561	546	500	452	391
● Large Cap Equity	3.0 (51)	11.0 (32)	19.4 (36)	10.7 (13)	9.9 (17)	14.9 (25)	15.1 (29)	6.5 (62)
▲ Russell 1000	3.1 (49)	9.3 (46)	18.0 (49)	10.2 (19)	9.3 (28)	14.7 (27)	15.4 (21)	7.3 (43)

Characteristics

	Portfolio	Russell 1000
Number of Holdings	2,470	990
Weighted Avg. Market Cap. (\$B)	137.4	139.0
Median Market Cap. (\$B)	3.4	8.9
Price To Earnings	24.7	24.8
Price To Book	5.1	4.5
Price To Sales	3.6	3.5
Return on Equity (%)	20.4	18.0
Yield (%)	1.9	1.9
Beta (holdings; domestic)	1.0	1.0

Top Holdings

APPLE	3.8%
JOHNSON & JOHNSON	1.9%
MICROSOFT	1.8%
ALPHABET 'C'	1.4%
AMAZON.COM	1.4%
JP MORGAN CHASE & CO.	1.3%
FACEBOOK CLASS A	1.2%
EXXON MOBIL	1.2%
ALPHABET 'A'	1.2%
AT&T	1.2%

Best Performers

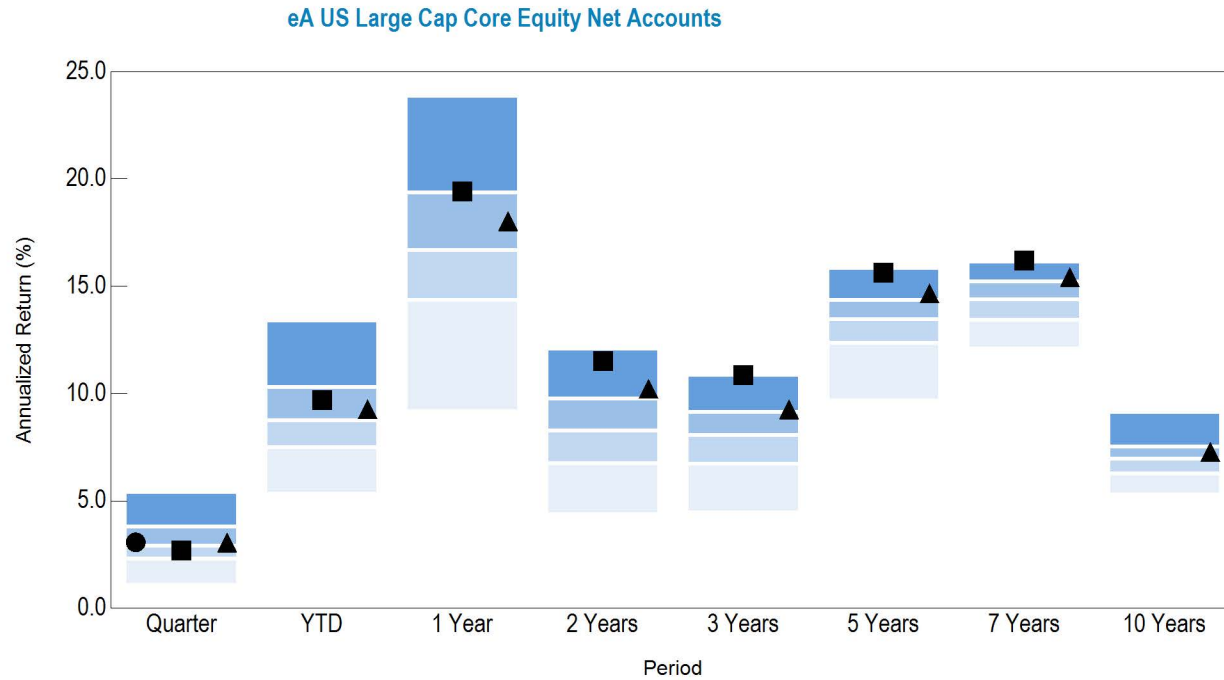
	Return %
PUMA BIOTECHNOLOGY (PBYI)	134.9%
ANGIE'S LIST (ANGI)	124.4%
WEIGHTWATCHERS INTL.	114.6%
GLYCOMIMETICS (GLYC)	105.5%
VIRNETX HOLDING	97.8%
NUVECTRA ORD SHS	94.4%
LOXO ONCOLOGY	90.6%
WAYFAIR CL.A	89.9%
PTC THERAPEUTICS (PTCT)	86.3%
MAUI LAND & PINEAPPLE	72.8%

Worst Performers

	Return %
FIRST NBC BANK HOLDING (FNBCQ)	-99.3%
CIBER (CBRIQ)	-83.5%
VINCE HOLDING (VNCE)	-69.6%
NEWLINK GENETICS	-69.5%
COBALT INTL.ENERGY	-69.1%
WESTMORELAND COAL (WLB)	-66.5%
ONCOMED PHARMACEUTICALS	-63.8%
ARDELYX	-59.7%
FORTERRA ORD (FRTA)	-57.8%
EGALET (EGLT)	-53.5%

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	0.0%	-0.1%	0.0%	0.0%	-8.1%	-7.1%	6.1%	6.3%			
Materials	0.0%	0.0%	0.0%	0.0%	1.8%	2.9%	3.6%	3.2%			
Industrials	0.0%	0.0%	0.0%	0.0%	4.2%	4.4%	10.8%	10.4%			
Consumer Discretionary	0.1%	0.1%	0.0%	0.0%	3.6%	3.0%	12.7%	12.8%			
Consumer Staples	0.0%	0.0%	0.0%	0.0%	1.3%	1.4%	8.4%	8.7%			
Health Care	0.1%	0.1%	0.0%	0.0%	7.7%	7.2%	13.4%	13.4%			
Financials	0.0%	0.0%	0.0%	0.0%	4.2%	4.1%	14.0%	14.7%			
Information Technology	-0.1%	-0.1%	0.0%	0.0%	3.7%	4.3%	22.2%	21.5%			
Telecommunication Services	0.0%	0.0%	0.0%	0.0%	-7.0%	-7.1%	2.4%	2.3%			
Utilities	0.0%	0.0%	0.0%	0.0%	2.8%	2.2%	2.9%	3.1%			
Real Estate	0.0%	0.0%	0.0%	0.0%	2.6%	2.3%	3.4%	3.7%			
Cash	0.0%	0.0%	0.0%	0.0%	0.2%	--	0.0%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	3.1%	--	0.1%	0.0%			
<b>Portfolio</b>	<b>-0.1%</b>	<b>=</b>	<b>-0.1%</b>	<b>+</b>	<b>0.0%</b>	<b>+</b>	<b>0.0%</b>	<b>3.0%</b>	<b>3.1%</b>	<b>100.0%</b>	<b>100.0%</b>



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	5.4	13.4	23.9	12.1	10.9	15.8	16.1	9.1
25th Percentile	3.8	10.3	19.4	9.8	9.2	14.4	15.2	7.6
Median	2.9	8.8	16.7	8.3	8.1	13.5	14.4	7.0
75th Percentile	2.3	7.5	14.4	6.8	6.7	12.4	13.5	6.3
95th Percentile	1.1	5.3	9.2	4.4	4.5	9.7	12.1	5.3
# of Portfolios	177	176	175	172	169	150	132	119
● BlackRock Russell 1000	3.1 (46)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
■ DE Shaw	2.7 (62)	9.7 (37)	19.4 (25)	11.5 (7)	10.9 (5)	15.6 (8)	16.2 (5)	-- (--)
▲ Russell 1000	3.1 (47)	9.3 (44)	18.0 (39)	10.2 (18)	9.3 (22)	14.7 (19)	15.4 (18)	7.3 (37)

Characteristics

	Portfolio	Russell 1000
Number of Holdings	987	990
Weighted Avg. Market Cap. (\$B)	138.9	139.0
Median Market Cap. (\$B)	8.9	8.9
Price To Earnings	25.4	24.8
Price To Book	5.1	4.5
Price To Sales	3.7	3.5
Return on Equity (%)	19.8	18.0
Yield (%)	1.9	1.9
Beta (holdings; domestic)	1.0	1.0

Top Holdings

APPLE	3.2%
MICROSOFT	2.2%
AMAZON.COM	1.7%
JOHNSON & JOHNSON	1.5%
FACEBOOK CLASS A	1.5%
EXXON MOBIL	1.5%
BERKSHIRE HATHAWAY 'B'	1.4%
JP MORGAN CHASE & CO.	1.4%
ALPHABET 'A'	1.2%
ALPHABET 'C'	1.2%

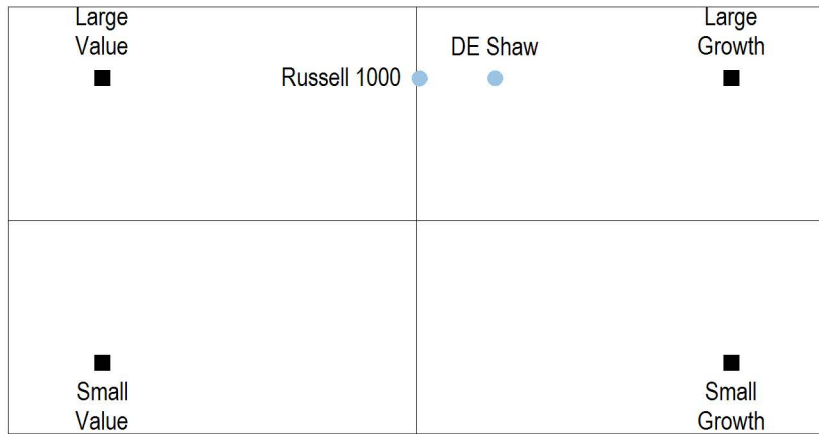
Best Performers

	Return %
WAYFAIR CL.A	89.9%
ALNYLAM PHARMACEUTICALS (ALNY)	55.6%
SUNPOWER (SPWR)	53.1%
FIRST SOLAR	47.2%
ZILLOW GROUP CLASS C	45.6%
YUM CHINA ORD	45.0%
ZILLOW GROUP CLASS A (ZG)	44.5%
WHOLE FOODS MARKET (WFM)	43.0%
IAC/INTERACTIVECORP	40.0%
AKORN	39.3%

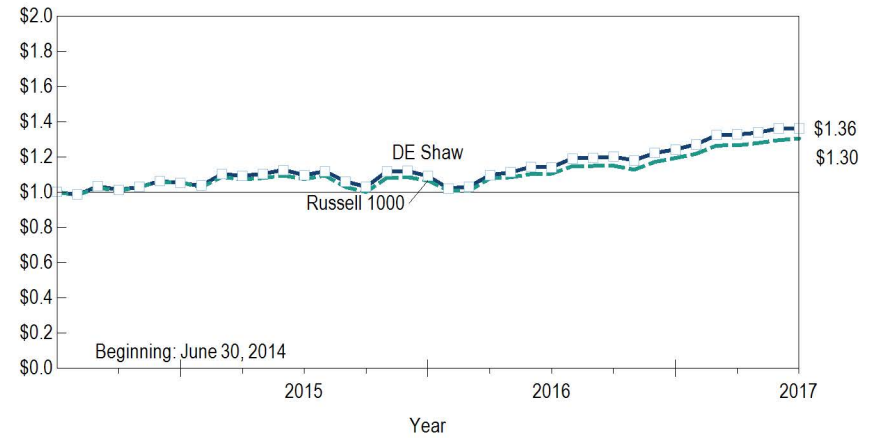
Worst Performers

	Return %
FRONTIER COMMUNICATIONS (FTR)	-44.2%
ENSCO CLASS A (ESV)	-42.3%
WEATHERFORD INTL. (WFT)	-41.8%
WHITING PETROLEUM (WLL)	-41.8%
NOBLE CORPORATION (NE)	-41.5%
NABORS INDUSTRIES	-37.3%
CHICAGO BDG.&IO. (CBI)	-35.5%
DIAMOND OFFS.DRL. (DO)	-35.2%
HERTZ RENTAL CAR HLDG. WNI. (HTZ)	-34.4%
UNITED STATES STEEL	-34.4%

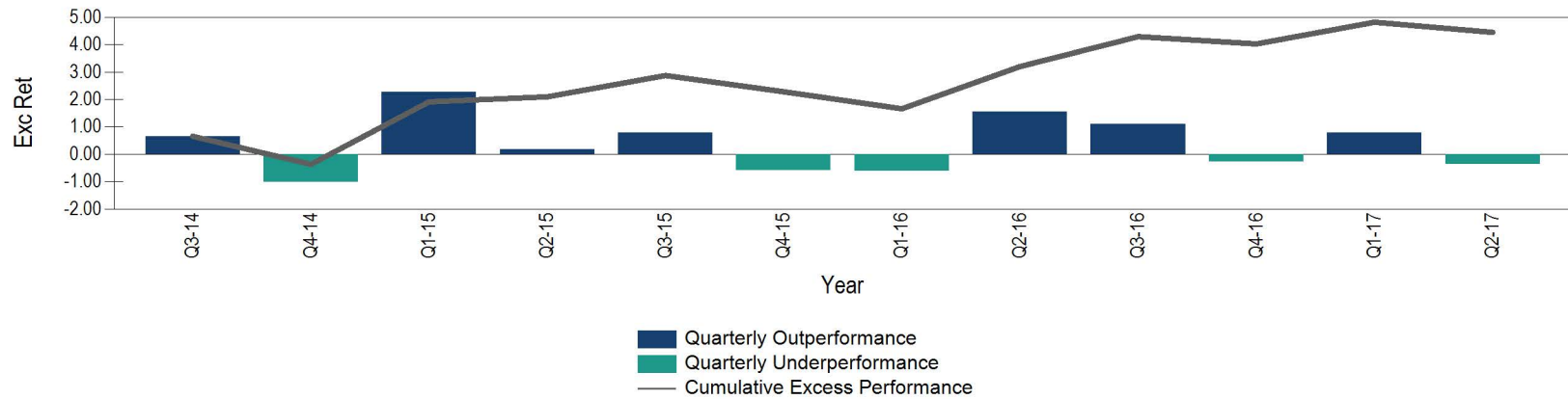
U.S. Effective Style Map



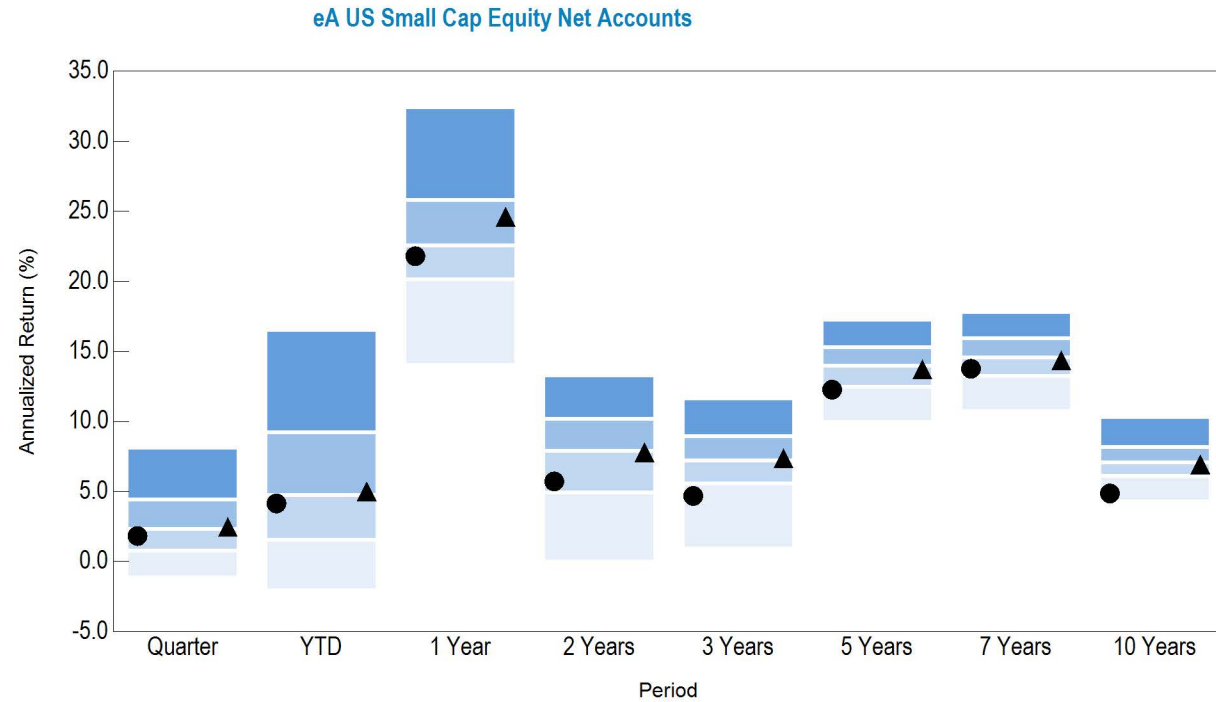
Growth of a Dollar



Quarterly and Cumulative Excess Performance







	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
<b>Return (Rank)</b>								
5th Percentile	8.1	16.5	32.4	13.3	11.6	17.2	17.8	10.3
25th Percentile	4.5	9.2	25.8	10.2	9.0	15.3	16.0	8.2
Median	2.4	4.8	22.6	7.9	7.3	14.0	14.6	7.1
75th Percentile	0.8	1.6	20.2	4.9	5.6	12.5	13.3	6.2
95th Percentile	-1.1	-2.0	14.1	0.0	0.9	10.0	10.8	4.3
# of Portfolios	384	380	377	364	352	327	308	258
● Small Cap Equity	1.8 (59)	4.1 (53)	21.8 (58)	5.7 (69)	4.7 (82)	12.3 (77)	13.8 (67)	4.9 (93)
▲ Russell 2000	2.5 (49)	5.0 (47)	24.6 (35)	7.8 (52)	7.4 (50)	13.7 (55)	14.4 (56)	6.9 (56)

Characteristics

	Portfolio	Russell 2000
Number of Holdings	350	2,010
Weighted Avg. Market Cap. (\$B)	2.2	2.0
Median Market Cap. (\$B)	1.2	0.8
Price To Earnings	23.9	23.9
Price To Book	3.7	3.0
Price To Sales	2.5	3.0
Return on Equity (%)	18.1	10.3
Yield (%)	1.5	1.1
Beta (holdings; domestic)	1.3	1.3

Top Holdings

CHEMOURS	1.0%
EXELIXIS	0.9%
GRAND CANYON EDUCATION	0.8%
BRINK'S	0.8%
MASIMO	0.8%
GEO GROUP	0.8%
FAIR ISAAC	0.8%
WINTRUST FINANCIAL	0.7%
BGC PARTNERS CL.A	0.7%
ADVANCED ENERGY INDS.	0.7%

Best Performers

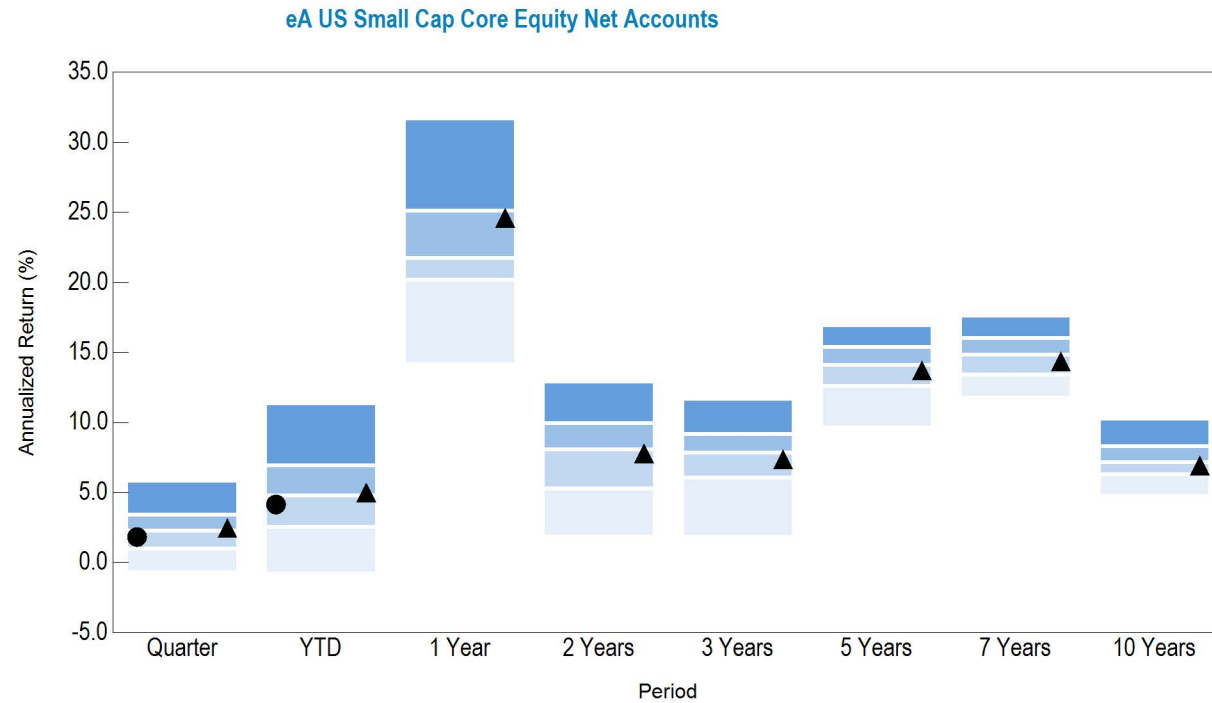
	Return %
LIVEPERSON	60.6%
AXOVANT SCIENCES (AXON)	55.2%
VECTRUS (VEC)	44.6%
BASSETT FRTR.INDS.	41.5%
SUPERNUS PHARMACEUTICALS (SUPN)	37.7%
ATRION	37.6%
GSI GROUP (NOVT)	35.6%
MYRIAD GENETICS (MYGN)	34.6%
ORASURE TECHS. (OSUR)	33.5%
BANKRATE DELAWARE (RATE)	33.2%

Worst Performers

	Return %
SMART SAND ORD	-45.2%
LIBBEY	-43.9%
MATRIX SERVICE	-43.3%
GENESCO (GCO)	-38.9%
JOUNCE THERAPEUTICS ORD	-36.2%
OVERSEAS SHIPPLDG.GP.'A'	-31.1%
BRIGHTCOVE (BCOV)	-30.3%
CARDTRONICS (CATM)	-29.7%
W&T OFFSHORE	-29.2%
RAIT FINANCIAL TRUST (RAS)	-28.9%

**Small Cap Equity Performance Attribution vs. Russell 2000**

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.0%	0.0%	0.0%	0.0%	-7.5%	-19.3%	2.8%	3.4%			
Materials	0.0%	0.0%	0.0%	0.0%	2.5%	0.2%	5.1%	5.2%			
Industrials	0.0%	0.0%	0.0%	0.0%	3.3%	2.2%	15.1%	14.3%			
Consumer Discretionary	0.0%	0.0%	0.0%	0.0%	2.1%	2.7%	12.4%	12.2%			
Consumer Staples	0.0%	0.0%	0.0%	0.0%	9.7%	-4.1%	3.4%	2.9%			
Health Care	0.0%	0.0%	0.0%	0.0%	2.5%	8.9%	13.7%	13.0%			
Financials	0.0%	0.0%	0.0%	0.0%	1.6%	0.9%	19.4%	19.7%			
Information Technology	0.0%	0.0%	0.0%	0.0%	2.4%	3.8%	18.2%	17.5%			
Telecommunication Services	0.0%	0.0%	0.0%	0.0%	6.8%	15.5%	0.2%	0.7%			
Utilities	0.0%	0.0%	0.0%	0.0%	1.3%	2.8%	3.2%	3.7%			
Real Estate	0.0%	0.0%	0.0%	0.0%	2.8%	2.8%	6.3%	7.5%			
Cash	0.0%	0.0%	0.0%	0.0%	0.1%	--	0.2%	0.0%			
<b>Portfolio</b>	<b>0.0%</b>	<b>=</b>	<b>0.0%</b>	<b>+</b>	<b>0.0%</b>	<b>+</b>	<b>0.0%</b>	<b>2.3%</b>	<b>2.3%</b>	<b>100.0%</b>	<b>100.0%</b>



	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
<b>5th Percentile</b>	5.8	11.3	31.7	12.9	11.7	16.9	17.6	10.3
<b>25th Percentile</b>	3.5	6.9	25.2	10.0	9.2	15.4	16.0	8.3
<b>Median</b>	2.3	4.8	21.7	8.1	7.9	14.1	14.9	7.2
<b>75th Percentile</b>	1.0	2.6	20.2	5.3	6.1	12.6	13.4	6.3
<b>95th Percentile</b>	-0.7	-0.8	14.2	1.9	1.8	9.6	11.8	4.8
<b># of Portfolios</b>	105	102	102	102	99	90	83	65
<b>● QMA US Small Cap</b>	1.8 (58)	4.1 (59)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
<b>▲ Russell 2000</b>	2.5 (48)	5.0 (45)	24.6 (29)	7.8 (52)	7.4 (58)	13.7 (61)	14.4 (60)	6.9 (58)

Characteristics

	Portfolio	Russell 2000
Number of Holdings	350	2,010
Weighted Avg. Market Cap. (\$B)	2.2	2.0
Median Market Cap. (\$B)	1.2	0.8
Price To Earnings	23.9	23.9
Price To Book	3.7	3.0
Price To Sales	2.5	3.0
Return on Equity (%)	18.1	10.3
Yield (%)	1.5	1.1
Beta (holdings; domestic)	1.3	1.3

Top Holdings

CHEMOURS	1.0%
EXELIXIS	0.9%
GRAND CANYON EDUCATION	0.8%
BRINK'S	0.8%
MASIMO	0.8%
GEO GROUP	0.8%
FAIR ISAAC	0.8%
WINTRUST FINANCIAL	0.7%
BGC PARTNERS CL.A	0.7%
ADVANCED ENERGY INDS.	0.7%

Best Performers

	Return %
LIVEPERSON	60.6%
AXOVANT SCIENCES	55.2%
VECTRUS	44.6%
BASSETT FRTR.INDS. (BSET)	41.5%
SUPERNUS PHARMACEUTICALS (SUPN)	37.7%
ATRION	37.6%
GSI GROUP (NOVT)	35.6%
MYRIAD GENETICS	34.6%
ORASURE TECHS. (OSUR)	33.5%
BANKRATE DELAWARE (RATE)	33.2%

Worst Performers

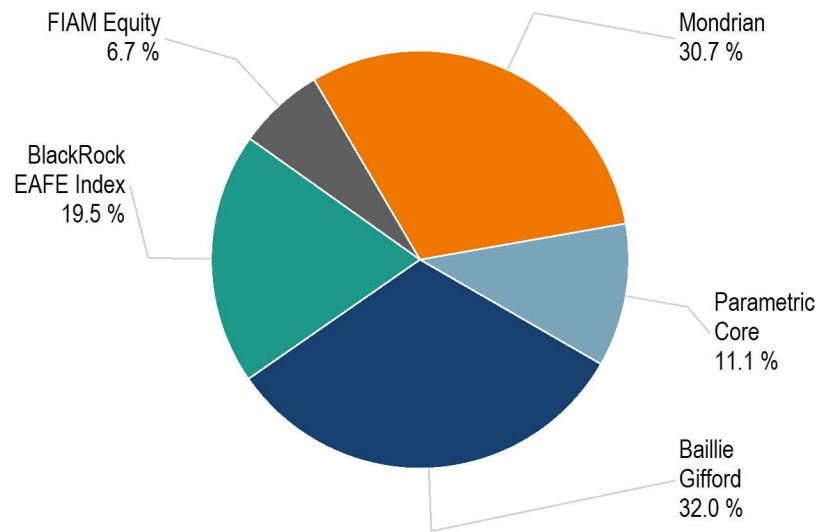
	Return %
SMART SAND ORD	-45.2%
LIBBEY	-43.9%
MATRIX SERVICE	-43.3%
GENESCO (GCO)	-38.9%
JOUNCE THERAPEUTICS ORD	-36.2%
OVERSEAS SHIPHLDG.GP.'A'	-31.1%
BRIGHTCOVE (BCOV)	-30.3%
CARDTRONICS (CATM)	-29.7%
W&T OFFSHORE	-29.2%
RAIT FINANCIAL TRUST (RAS)	-28.9%

QMA US Small Cap Performance Attribution vs. Russell 2000

	Total Effects	Attribution Effects				Returns		Sector Weights			
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.3%	0.3%	0.1%	0.0%	-12.8%	-21.0%	2.8%	3.3%			
Materials	0.1%	0.1%	0.0%	0.0%	1.3%	0.1%	5.1%	5.0%			
Industrials	-0.6%	-0.6%	0.0%	0.0%	-1.7%	2.3%	15.2%	14.3%			
Consumer Discretionary	-0.4%	-0.4%	0.0%	0.0%	-0.2%	2.6%	12.5%	12.4%			
Consumer Staples	0.0%	0.0%	0.0%	0.0%	-3.5%	-4.6%	2.9%	2.9%			
Health Care	-0.4%	-0.4%	0.0%	0.0%	6.0%	8.9%	13.8%	13.1%			
Financials	0.3%	0.3%	0.0%	0.0%	2.5%	0.9%	19.6%	19.3%			
Information Technology	-0.4%	-0.4%	0.0%	0.0%	1.6%	3.7%	18.1%	17.5%			
Telecommunication Services	-0.1%	-0.1%	-0.1%	0.0%	7.1%	15.5%	0.2%	0.7%			
Utilities	-0.1%	-0.1%	0.0%	0.0%	1.3%	2.8%	3.2%	3.7%			
Real Estate	0.0%	0.0%	0.0%	0.0%	2.3%	2.8%	6.4%	7.6%			
Cash	0.0%	0.0%	0.0%	0.0%	0.2%	--	0.2%	0.0%			
<b>Portfolio</b>	<b>-1.1%</b>	<b>=</b>	<b>-1.2%</b>	<b>+</b>	<b>0.1%</b>	<b>+</b>	<b>0.0%</b>	<b>1.1%</b>	<b>2.3%</b>	<b>100.0%</b>	<b>100.0%</b>

International Equity  
 Manager Allocation Analysis

Period Ending: June 30, 2017



	Actual \$	Actual %	Manager Contribution to Excess Return %
Baillie Gifford	\$245,816,349	32.0%	0.8%
BlackRock EAFE Index	\$150,227,780	19.5%	0.0%
FIAM Equity	\$51,752,296	6.7%	0.1%
Mondrian	\$235,989,894	30.7%	0.0%
Parametric Core	\$85,232,814	11.1%	-0.3%
Actual vs. Policy Weight Difference			-0.5%
<b>Total</b>	<b>\$769,019,133</b>	<b>100.0%</b>	<b>0.1%</b>

**Statistics Summary**

**3 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	1.8%	12.2%	0.1	0.1	1.8%
MSCI ACWI ex US IMI	1.6%	12.4%	0.1	--	0.0%
Developed Markets	2.2%	12.3%	0.2	0.4	2.3%
MSCI ACWI ex USA Gross	1.3%	12.5%	0.1	--	0.0%
Baillie Gifford	4.3%	13.8%	0.3	0.7	4.3%
MSCI ACWI ex US	1.3%	12.5%	0.1	--	0.0%
BlackRock EAFE Index	1.5%	12.5%	0.1	2.5	0.1%
MSCI EAFE	1.1%	12.4%	0.1	--	0.0%
FIAM Equity	3.5%	12.0%	0.3	-0.1	2.7%
MSCI ACWI ex US Small Cap Gross	3.7%	12.3%	0.3	--	0.0%
Mondrian	0.2%	11.7%	0.0	0.1	5.4%
MSCI ACWI ex USA Value Gross	-0.4%	13.3%	-0.1	--	0.0%

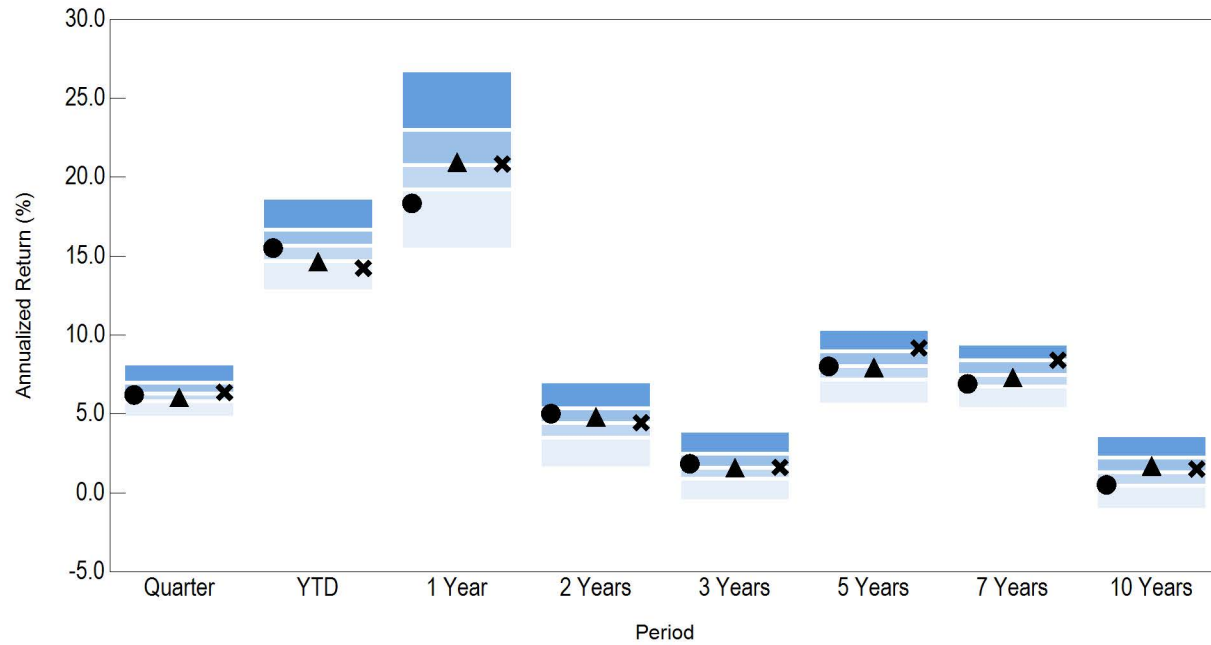


Statistics Summary

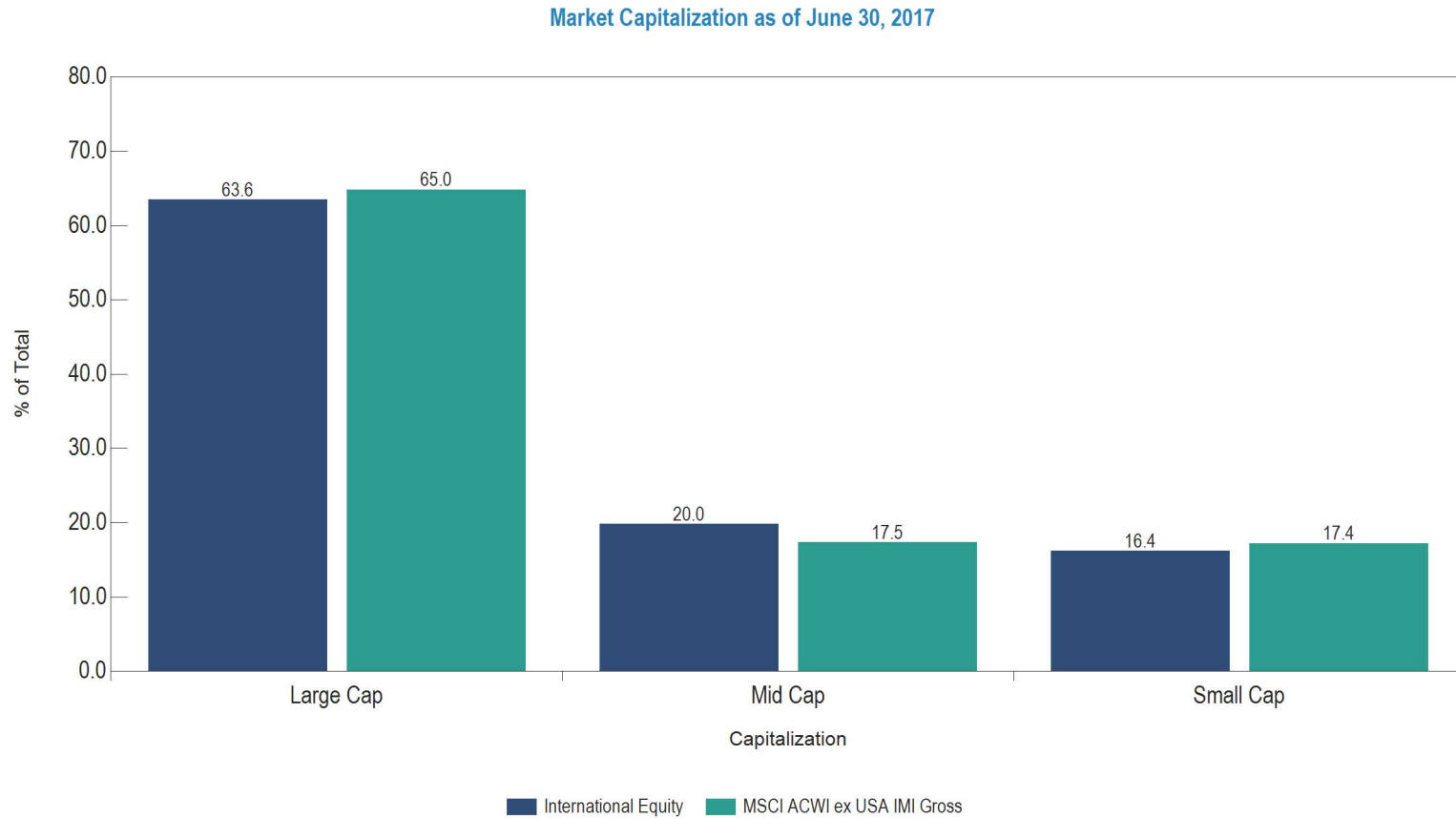
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	8.0%	11.3%	0.7	0.0	1.8%
MSCI ACWI ex US IMI	7.9%	11.5%	0.7	--	0.0%
Developed Markets	8.6%	11.3%	0.7	0.4	2.2%
MSCI ACWI ex USA Gross	7.7%	11.6%	0.7	--	0.0%
FIAM Equity	9.6%	11.1%	0.8	-0.3	2.6%
MSCI ACWI ex US Small Cap Gross	10.4%	11.5%	0.9	--	0.0%
Mondrian	7.0%	11.1%	0.6	0.0	4.7%
MSCI ACWI ex USA Value Gross	6.9%	12.5%	0.5	--	0.0%

InvestorForce All DB ex-US Eq Net Accounts



	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
<b>Return (Rank)</b>								
5th Percentile	8.2	18.7	26.7	7.0	3.9	10.4	9.4	3.6
25th Percentile	7.0	16.7	23.0	5.4	2.5	9.0	8.4	2.3
Median	6.3	15.7	20.8	4.4	1.6	8.0	7.5	1.3
75th Percentile	5.8	14.7	19.2	3.5	0.9	7.2	6.7	0.5
95th Percentile	4.8	12.8	15.4	1.6	-0.5	5.6	5.3	-1.1
# of Portfolios	398	395	393	382	376	327	276	212
● International Equity	6.2 (56)	15.5 (55)	18.3 (84)	5.0 (35)	1.8 (45)	8.0 (52)	6.9 (71)	0.5 (74)
▲ MSCI ACWI ex US IMI	6.1 (62)	14.6 (78)	21.0 (48)	4.8 (41)	1.6 (51)	7.9 (53)	7.3 (58)	1.7 (39)
✕ MSCI EAFE Gross	6.4 (48)	14.2 (87)	20.8 (50)	4.4 (50)	1.6 (51)	9.2 (22)	8.4 (26)	1.5 (47)



Excludes FIAM Equity Holdings.

See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	MSCI ACWI ex USA IMI Gross
Number of Holdings	2,145	6,195
Weighted Avg. Market Cap. (\$B)	46.9	49.9
Median Market Cap. (\$B)	6.6	1.4
Price To Earnings	22.8	20.9
Price To Book	3.5	2.5
Price To Sales	2.8	2.2
Return on Equity (%)	17.7	14.1
Yield (%)	2.9	2.8
Beta (holdings; global)	1.1	1.0

Top Holdings

NESTLE 'R'	1.4%
UNITED OVERSEAS BANK	1.4%
SANOFI	1.1%
GLAXOSMITHKLINE	1.0%
IBERDROLA	1.0%
NOVARTIS 'R'	0.9%
NASPERS	0.9%
TAIWAN SEMICON.SPN.ADR 1:5	0.9%
HONDA MOTOR	0.9%
ABB LTD N	0.8%

Best Performers

	Return %
INDIABULLS REAL ESTATE (IN:IBR)	129.7%
EVERGRANDE REAL EST.GP.	93.9%
EUROBANK ERGASIAS	81.8%
GRUPO ELEKTRA	79.0%
GEK TERNA HLDG.RLST.CON. (G:ERMI)	76.0%
HELLENIC PETROLEUM (G:HPI)	72.2%
PUBLIC POWER	71.5%
SUNAC CHINA HOLDINGS (K:SCHL)	65.1%
KARDEMIR 'D' (TK:KDM)	56.0%
HARTALEGA HOLDINGS	53.9%

Worst Performers

	Return %
DRYSHIPS (DRYS)	-99.4%
AEGEAN MARINE PTL.NET. (ANW)	-51.3%
SISTEMA JSFC (RS:AFK)	-48.1%
PETROFAC (UKIR:PFC)	-48.0%
RELIANCE COMMUNICATIONS (IN:RCN)	-43.6%
IMAGINATION TECHNOLOGIES (UKIR:IMG)	-40.7%
JBS ON	-38.5%
MATAHARI PUTRA PRIMA (ID:MPP)	-36.7%
GULF INTERNATIONAL SVS.	-33.1%
HARMONY GOLD MNG. (R:HARJ)	-32.5%

Excludes FIAM Equity Holdings.

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	0.2%	0.0%	0.1%	0.0%	-2.0%	-3.0%	4.7%	6.4%			
Materials	0.1%	-0.2%	0.1%	0.2%	0.4%	2.3%	5.8%	8.4%			
Industrials	0.1%	0.0%	0.0%	0.1%	8.4%	7.3%	13.3%	12.9%			
Consumer Discretionary	-0.2%	-0.2%	0.0%	0.1%	4.0%	5.5%	14.4%	11.9%			
Consumer Staples	0.3%	0.1%	0.1%	0.1%	7.9%	7.6%	12.0%	9.4%			
Health Care	0.3%	0.3%	0.0%	0.1%	9.7%	7.3%	9.0%	7.9%			
Financials	0.1%	0.4%	0.0%	-0.3%	7.8%	6.2%	19.5%	21.6%			
Information Technology	-0.2%	-0.4%	0.1%	0.1%	9.5%	12.3%	9.9%	10.2%			
Telecommunication Services	0.0%	-0.1%	0.0%	0.1%	4.3%	4.3%	4.6%	4.0%			
Utilities	0.1%	0.0%	0.0%	0.1%	8.4%	5.4%	3.5%	3.1%			
Real Estate	-0.1%	-0.1%	0.0%	0.1%	4.9%	6.0%	2.4%	4.2%			
Cash	0.0%	0.0%	0.0%	0.0%	0.2%	--	0.9%	0.0%			
Unclassified	0.0%	--	0.0%	--	--	6.1%	0.0%	0.0%			
<b>Portfolio</b>	<b>0.7%</b>	<b>=</b>	<b>-0.3%</b>	<b>+</b>	<b>0.3%</b>	<b>+</b>	<b>0.6%</b>	<b>6.7%</b>	<b>6.1%</b>	<b>100.0%</b>	<b>100.0%</b>

Excludes FIAM Equity Holdings.

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	7.2%	19.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Belgium	3.9%	4.8%	0.3%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	14.9%	12.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Denmark	15.2%	15.2%	2.1%	1.1%	0.0%	0.0%	0.1%	0.0%	0.1%
Finland	15.7%	13.9%	0.7%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
France	9.8%	10.3%	4.9%	6.5%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Germany	8.0%	7.3%	6.5%	6.2%	0.0%	0.0%	0.0%	0.0%	0.1%
Greece*	33.4%	34.6%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Hungary*	17.8%	19.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Ireland	12.3%	5.7%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Italy	5.3%	10.0%	1.8%	1.7%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Luxembourg	0.8%	6.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	1.4%	8.5%	1.9%	2.3%	-0.2%	0.0%	0.0%	0.0%	-0.2%
Norway	3.2%	3.9%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	13.0%	13.9%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Portugal	12.1%	8.8%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Russia*	-9.2%	-9.7%	0.9%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Spain	5.4%	8.5%	3.1%	2.2%	-0.1%	0.0%	0.1%	0.0%	-0.1%
Sweden	9.8%	10.6%	3.4%	2.2%	0.0%	0.0%	0.1%	0.0%	0.1%
Switzerland	9.6%	9.7%	7.3%	5.7%	0.0%	0.0%	0.1%	0.0%	0.1%
United Kingdom	4.2%	5.2%	15.1%	12.4%	-0.1%	-0.1%	0.1%	0.0%	-0.1%

Excludes FIAM Equity Holdings.

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	2.8%	-1.4%	4.4%	5.2%	0.2%	0.0%	0.0%	0.0%	0.2%	
China*	9.9%	9.6%	2.7%	6.1%	0.0%	-0.2%	0.0%	0.0%	-0.2%	
Hong Kong	7.5%	6.9%	2.2%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
India*	4.8%	3.8%	1.6%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
Indonesia*	13.3%	7.2%	4.3%	0.6%	0.0%	0.1%	0.0%	0.2%	0.4%	
Japan	7.4%	5.4%	16.6%	17.1%	0.3%	0.0%	0.0%	0.0%	0.3%	
Korea*	4.5%	9.4%	4.1%	3.6%	-0.2%	0.0%	0.0%	0.0%	-0.2%	
Malaysia*	5.2%	5.6%	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
New Zealand	8.1%	11.9%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
Pakistan*	-3.8%	6.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Philippines*	4.7%	6.5%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
Singapore	3.7%	4.9%	3.2%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Taiwan*	11.0%	8.0%	2.0%	3.0%	0.1%	0.0%	0.0%	0.0%	0.0%	
Thailand*	1.8%	2.3%	0.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
<b>Americas</b>										
Brazil*	-4.3%	-6.3%	0.7%	1.7%	0.0%	0.1%	0.0%	0.0%	0.1%	
Canada	-0.5%	0.7%	0.3%	6.9%	-0.1%	0.4%	-0.2%	0.1%	0.2%	
Chile*	-2.1%	-1.7%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
Colombia*	1.4%	1.5%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
Mexico*	6.9%	7.5%	1.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	
Peru*	4.8%	7.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
United States	14.1%	3.1%	1.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	

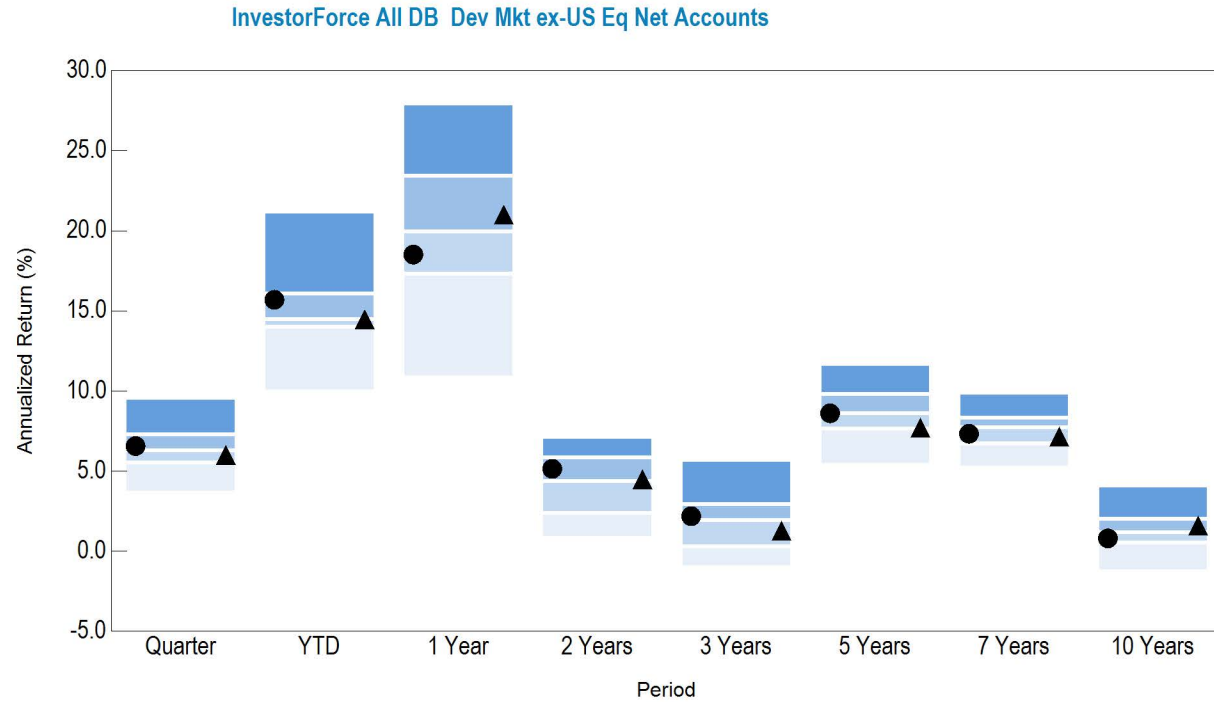
Excludes FIAM Equity Holdings.

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*	--	4.2%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	19.0%	6.2%	0.2%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%
Kazakhstan**	-4.2%	6.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Kuwait**	-1.3%	6.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	-13.9%	-13.4%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	7.7%	6.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	7.5%	2.7%	1.8%	1.6%	0.1%	0.0%	0.0%	0.0%	0.1%
Turkey*	19.1%	19.5%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	3.0%	1.8%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Totals</b>									
Americas	4.7%	0.1%	3.8%	9.9%	0.6%	0.3%	-0.1%	-0.4%	0.4%
Europe	7.1%	7.9%	49.7%	44.5%	-0.3%	-0.1%	0.3%	0.0%	-0.2%
Asia/Pacific	7.0%	5.7%	42.7%	42.8%	0.6%	0.0%	0.0%	0.0%	0.6%
Other	7.9%	3.8%	2.9%	2.8%	0.1%	0.0%	0.0%	0.0%	0.1%
Cash	0.2%	--	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>7.0%</b>	<b>6.1%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.9%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>-0.4%</b>	<b>0.9%</b>
<b>Totals</b>									
Developed	7.0%	6.1%	75.9%	76.6%	0.6%	0.0%	0.1%	0.0%	0.6%
Emerging*	7.3%	5.9%	23.0%	23.4%	0.2%	0.0%	0.1%	0.0%	0.3%
Frontier**	-1.3%	--	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.2%	--	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Excludes FIAM Equity Holdings.





	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
<b>Return (Rank)</b>								
5th Percentile	9.6	21.2	28.0	7.1	5.7	11.7	9.9	4.1
25th Percentile	7.3	16.1	23.5	5.9	2.9	9.8	8.4	2.0
Median	6.3	14.5	20.0	4.4	1.9	8.6	7.8	1.2
75th Percentile	5.6	14.0	17.3	2.4	0.3	7.7	6.7	0.6
95th Percentile	3.7	10.0	10.8	0.8	-1.0	5.4	5.2	-1.3
# of Portfolios	153	153	148	148	139	118	92	62
● Developed Markets	6.6 (41)	15.7 (30)	18.5 (69)	5.1 (39)	2.2 (47)	8.6 (52)	7.3 (60)	0.8 (73)
▲ MSCI ACWI ex USA Gross	6.0 (57)	14.5 (51)	21.0 (41)	4.5 (50)	1.3 (67)	7.7 (75)	7.1 (67)	1.6 (41)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	1,068	1,866
Weighted Avg. Market Cap. (\$B)	50.2	57.8
Median Market Cap. (\$B)	10.7	7.6
Price To Earnings	23.2	21.0
Price To Book	3.7	2.6
Price To Sales	2.8	2.2
Return on Equity (%)	17.9	14.0
Yield (%)	2.9	2.9
Beta (holdings; global)	1.1	1.0

Top Holdings

NESTLE 'R'	1.6%
UNITED OVERSEAS BANK	1.6%
SANOFI	1.2%
GLAXOSMITHKLINE	1.1%
IBERDROLA	1.1%
NOVARTIS 'R'	1.1%
TAIWAN SEMICON.SPN.ADR 1:5	1.0%
HONDA MOTOR	1.0%
ABB LTD N	1.0%
NASPERS	1.0%

Best Performers

	Return %
MINERAL DEPOSITS (A:MDLX)	53.1%
QANTAS AIRWAYS	47.8%
DEUTSCHE LUFTHANSA	44.9%
NINTENDO (J:NNDO)	44.6%
EASYJET	37.6%
IPSEN	37.3%
SHISEIDO (J:SHDO)	35.5%
EULER HERMES GROUP (F:EULE)	35.2%
OMV	34.8%
SCA 'B' (W:SW@G)	34.4%

Worst Performers

	Return %
PETROFAC (UKIR:PFC)	-48.0%
IMAGINATION TECHNOLOGIES (UKIR:IMG)	-40.7%
KEPCO PLANT SER.& ENGR. (KO:KPG)	-30.8%
SAMCHULY BICYCLE (KO:SAB)	-27.2%
AKER SOLUTIONS (N:AKSO)	-25.3%
CHINA BLUE CHEMICAL 'H' (K:CHBC)	-24.2%
HIKMA PHARMACEUTICALS	-22.2%
VOCUS COMMUNICATIONS (A:VOCX)	-20.5%
SANTOS	-19.8%
SUPER RETAIL GROUP (A:SULX)	-19.6%

Excludes FIAM Equity Holdings.

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	0.1%	-0.1%	0.2%	0.1%	-2.5%	-2.6%	4.1%	6.8%			
Materials	0.2%	-0.1%	0.2%	0.1%	1.1%	1.7%	4.9%	8.0%			
Industrials	0.3%	0.1%	0.0%	0.2%	8.6%	7.0%	13.8%	11.8%			
Consumer Discretionary	-0.2%	-0.2%	0.0%	0.1%	4.1%	5.7%	15.0%	11.3%			
Consumer Staples	0.3%	0.1%	0.1%	0.1%	7.9%	7.6%	12.3%	9.9%			
Health Care	0.3%	0.3%	0.0%	0.1%	9.8%	7.2%	9.5%	8.0%			
Financials	0.1%	0.5%	0.0%	-0.3%	7.7%	5.9%	20.0%	23.4%			
Information Technology	-0.3%	-0.5%	0.1%	0.1%	9.4%	13.0%	10.1%	9.9%			
Telecommunication Services	0.0%	-0.2%	0.0%	0.1%	3.6%	4.2%	4.1%	4.5%			
Utilities	0.1%	0.0%	0.0%	0.1%	8.6%	5.4%	3.1%	3.1%			
Real Estate	-0.1%	-0.1%	0.0%	0.1%	4.7%	5.9%	2.1%	3.2%			
Cash	0.0%	0.0%	0.0%	0.0%	0.2%	--	1.0%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
<b>Portfolio</b>	<b>0.8%</b>	<b>=</b>	<b>-0.3%</b>	<b>+</b>	<b>0.5%</b>	<b>+</b>	<b>0.6%</b>	<b>6.8%</b>	<b>6.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Excludes FIAM Equity Holdings.

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	7.2%	22.3%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Belgium	3.9%	4.9%	0.3%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	--	10.9%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	15.2%	15.3%	2.3%	1.1%	0.0%	0.1%	0.1%	0.0%	0.1%
Finland	15.7%	14.3%	0.8%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
France	9.8%	9.8%	5.5%	7.0%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Germany	8.0%	6.7%	7.3%	6.5%	0.1%	0.0%	0.1%	0.0%	0.1%
Greece*	--	34.2%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	19.6%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	12.3%	3.9%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Italy	5.3%	9.5%	2.0%	1.5%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Luxembourg	0.7%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	1.4%	8.1%	2.1%	2.4%	-0.2%	0.0%	0.0%	0.0%	-0.2%
Norway	3.2%	4.9%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	--	14.1%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	12.1%	4.1%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Russia*	-10.4%	-9.9%	0.2%	0.9%	0.0%	0.1%	0.0%	0.0%	0.1%
Spain	5.4%	8.3%	3.5%	2.3%	-0.1%	0.0%	0.1%	0.0%	0.0%
Sweden	9.8%	10.3%	3.9%	2.0%	0.0%	0.0%	0.1%	0.0%	0.1%
Switzerland	9.6%	9.4%	8.2%	6.1%	0.0%	0.0%	0.1%	0.0%	0.1%
United Kingdom	4.2%	4.7%	16.9%	12.4%	-0.1%	-0.1%	0.2%	0.0%	0.0%

Excludes FIAM Equity Holdings.

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

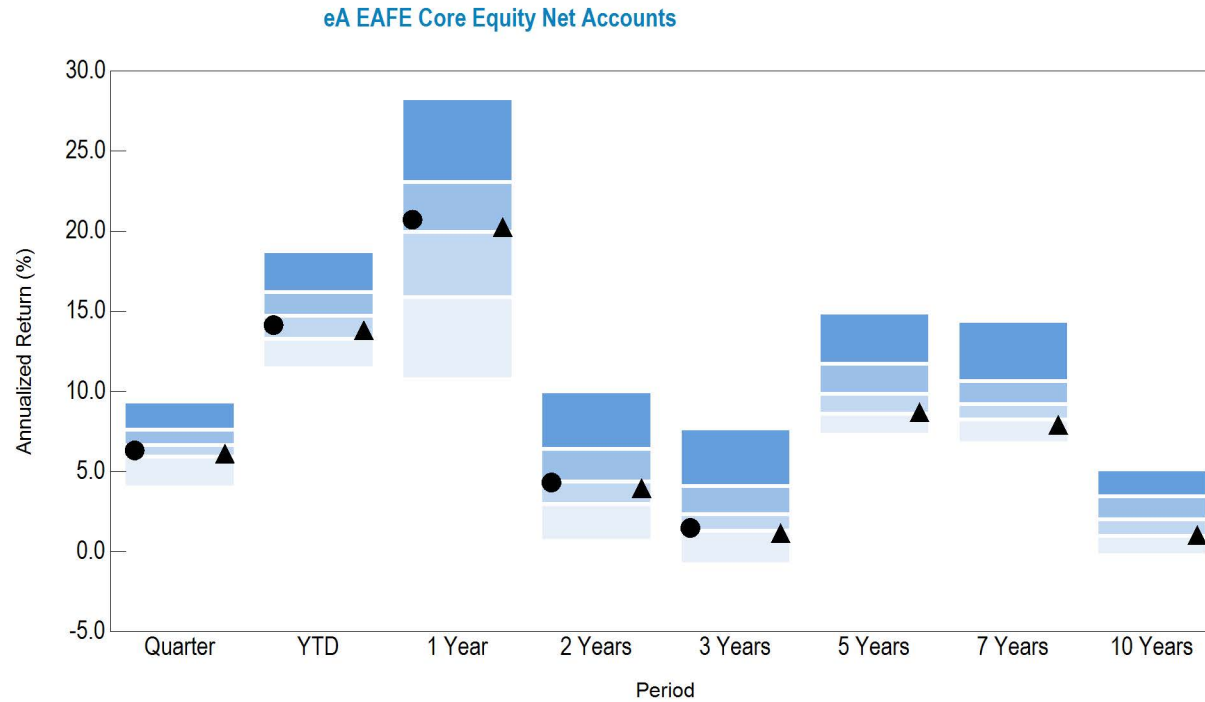
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>AsiaPacific</b>									
Australia	2.8%	-1.9%	4.9%	5.3%	0.2%	0.0%	0.0%	0.0%	0.3%
China*	11.5%	10.7%	2.3%	6.3%	0.0%	-0.3%	0.0%	0.0%	-0.3%
Hong Kong	7.4%	7.2%	1.7%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%
India*	5.5%	3.0%	0.9%	2.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Indonesia*	14.2%	8.8%	4.4%	0.6%	0.0%	0.2%	0.0%	0.2%	0.4%
Japan	7.4%	5.1%	18.7%	16.4%	0.4%	0.1%	0.0%	0.1%	0.5%
Korea*	4.1%	9.9%	3.8%	3.5%	-0.2%	0.0%	0.0%	0.0%	-0.2%
Malaysia*	5.3%	5.1%	0.2%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	8.1%	8.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Philippines*	1.4%	7.4%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	3.7%	5.2%	3.5%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Taiwan*	14.6%	9.1%	1.4%	2.9%	0.2%	-0.1%	0.0%	-0.1%	0.0%
Thailand*	5.3%	2.6%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Americas</b>									
Brazil*	-1.3%	-6.6%	0.0%	1.8%	0.1%	0.1%	0.1%	-0.1%	0.2%
Canada	-0.5%	0.9%	0.3%	6.9%	-0.1%	0.3%	-0.2%	0.1%	0.2%
Chile*	5.8%	-1.5%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Colombia*	--	2.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	5.6%	7.4%	0.2%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru*	12.6%	7.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
United States	15.9%	3.1%	0.9%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%

Excludes FIAM Equity Holdings.

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*	--	6.3%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	19.0%	6.6%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Kazakhstan**	-4.2%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	-14.8%	-12.8%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	7.7%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	12.4%	3.6%	1.2%	1.6%	0.1%	0.0%	0.0%	0.0%	0.1%
Turkey*	16.5%	20.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	--	2.1%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
<b>Totals</b>									
Americas	10.6%	0.1%	1.5%	10.0%	1.1%	0.4%	-0.1%	-0.9%	0.5%
Europe	7.2%	7.5%	54.1%	45.3%	-0.2%	-0.1%	0.5%	0.0%	0.2%
Asia/Pacific	7.3%	5.8%	42.0%	41.9%	0.6%	0.0%	0.0%	0.0%	0.6%
Other	13.4%	4.4%	1.4%	2.7%	0.2%	0.0%	0.0%	-0.1%	0.1%
Cash	0.2%	--	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>7.3%</b>	<b>6.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>1.7%</b>	<b>0.3%</b>	<b>0.4%</b>	<b>-1.0%</b>	<b>1.3%</b>
<b>Totals</b>									
Developed	7.0%	5.8%	84.2%	76.4%	0.8%	-0.1%	0.3%	0.1%	1.1%
Emerging*	9.8%	6.4%	14.8%	23.6%	0.8%	-0.3%	0.1%	-0.3%	0.3%
Frontier**	1.3%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.2%	--	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Excludes FIAM Equity Holdings.



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	9.3	18.7	28.3	10.0	7.6	14.9	14.4	5.1
25th Percentile	7.6	16.2	23.1	6.4	4.1	11.8	10.6	3.5
Median	6.7	14.8	20.0	4.4	2.3	9.9	9.2	2.0
75th Percentile	6.0	13.3	15.9	3.0	1.3	8.6	8.2	1.0
95th Percentile	4.0	11.5	10.8	0.7	-0.8	7.3	6.8	-0.2
# of Portfolios	122	120	120	113	107	91	79	57
● BlackRock EAFE Index	6.3 (65)	14.1 (61)	20.7 (42)	4.3 (56)	1.5 (72)	-- (--)	-- (--)	-- (--)
▲ MSCI EAFE	6.1 (70)	13.8 (67)	20.3 (46)	3.9 (61)	1.1 (79)	8.7 (74)	7.9 (80)	1.0 (74)

Characteristics

	Portfolio	MSCI EAFE
Number of Holdings	930	927
Weighted Avg. Market Cap. (\$B)	55.7	55.8
Median Market Cap. (\$B)	10.2	10.2
Price To Earnings	22.6	21.0
Price To Book	3.0	2.5
Price To Sales	2.4	2.1
Return on Equity (%)	15.3	13.1
Yield (%)	3.0	3.0
Beta (holdings: global)	1.1	1.1

Top Holdings

NESTLE 'R'	2.0%
NOVARTIS 'R'	1.3%
HSBC HOLDINGS	1.3%
ROCHE HOLDING	1.3%
TOYOTA MOTOR	1.0%
BRITISH AMERICAN TOBACCO	0.9%
ROYAL DUTCH SHELL A	0.9%
TOTAL	0.8%
BP	0.8%
SANOFI	0.8%

Best Performers

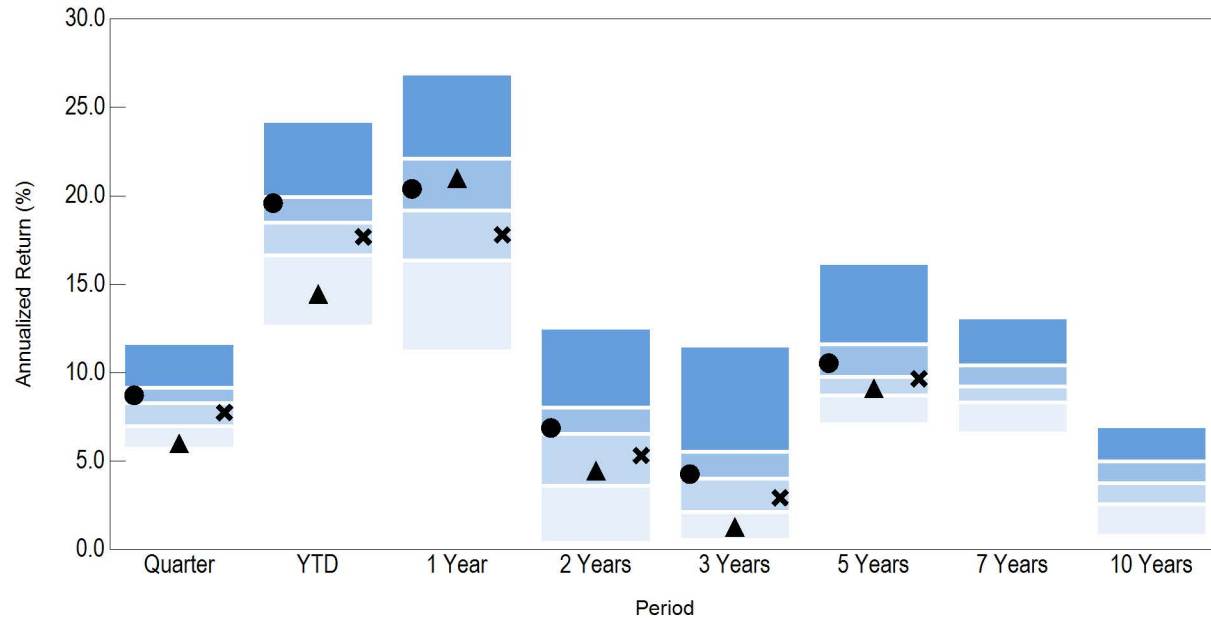
	Return %
QANTAS AIRWAYS	47.8%
DEUTSCHE LUFTHANSA (D:LHA)	44.9%
NINTENDO (J:NNDO)	44.6%
EASYJET	37.6%
IPSEN	37.3%
SHISEIDO (J:SHDO)	35.5%
OMV (O:OMV)	34.8%
SCA 'B' (W:SW@G)	34.4%
EDF (F:EDF)	33.6%
FLIGHT CENTRE TRAVEL GP. (A:FLTXX)	33.3%

Worst Performers

	Return %
PETROFAC	-48.0%
HIKMA PHARMACEUTICALS	-22.2%
VOCUS COMMUNICATIONS (A:VOCX)	-20.5%
SANTOS	-19.8%
SAIPEM	-18.9%
IDEMITSU KOSAN (J:IDKO)	-18.3%
SUMITOMO DAINIPPON PHA. (J:DPPH)	-17.3%
HISAMITSU PHARM.	-16.1%
FORTESCUE METALS GP.	-15.8%
SCHAEFFLER (D:SHA)	-15.6%



eA ACWI ex-US Growth Equity Net Accounts



	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
<b>Return (Rank)</b>								
5th Percentile	11.7	24.2	26.9	12.5	11.5	16.2	13.1	6.9
25th Percentile	9.2	19.9	22.1	8.0	5.5	11.6	10.4	5.0
Median	8.3	18.5	19.2	6.5	4.0	9.8	9.2	3.8
75th Percentile	7.0	16.6	16.4	3.6	2.1	8.7	8.3	2.6
95th Percentile	5.7	12.6	11.2	0.4	0.6	7.1	6.6	0.8
# of Portfolios	67	67	67	65	59	53	46	36
● Baillie Gifford	8.7 (37)	19.6 (32)	20.4 (32)	6.9 (43)	4.3 (44)	10.5 (33)	-- (--)	-- (--)
▲ MSCI ACWI ex US	6.0 (93)	14.5 (91)	21.0 (31)	4.5 (67)	1.3 (83)	9.1 (62)	-- (--)	-- (--)
✕ MSCI ACWI ex US Growth	7.7 (62)	17.7 (61)	17.8 (61)	5.3 (59)	2.9 (68)	9.6 (55)	-- (--)	-- (--)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	92	1,866
Weighted Avg. Market Cap. (\$B)	42.2	57.8
Median Market Cap. (\$B)	13.4	7.6
Price To Earnings	28.6	21.0
Price To Book	6.1	2.6
Price To Sales	4.1	2.2
Return on Equity (%)	25.1	14.0
Yield (%)	1.8	2.9
Beta (holdings; global)	1.2	1.0

Top Holdings

TAIWAN SEMICON.SPN.ADR 1:5	2.7%
NASPERS	2.5%
ATLAS COPCO 'B'	2.2%
MS&AD INSURANCE GP.HDG.	2.1%
KAO	2.1%
COCHLEAR	2.1%
METTLER TOLEDO INTL.	2.0%
JAPAN EXCHANGE GROUP	2.0%
HARGREAVES LANSDOWN	2.0%
SAMSUNG ELECTRONICS GDR	1.9%

Best Performers

	Return %
SHISEIDO (J:SHDO)	35.5%
CAPITA (UKIR:CPI)	32.1%
ALIBABA GROUP HLDG.SPN. ADR 1:1 (BABA)	30.7%
SHOPIFY 'A' (NYS)	27.6%
JAPAN EXCHANGE GROUP (J:OSEX)	27.3%
JD.COM 'A' ADR 1:2 (JD)	26.1%
HON HAI PREC.GDR (UKIR:HHPD)	25.6%
NOVO NORDISK 'B' (DK:NON)	24.2%
JUPITER FUND MANAGEMENT (UKIR:JUP)	23.1%
METTLER TOLEDO INTL. (MTD)	22.9%

Worst Performers

	Return %
IMAGINATION TECHNOLOGIES (UKIR:IMG)	-40.7%
WOOD GROUP (JOHN) (UKIR:WG.)	-10.5%
PJSC MAGNIT GDR (REG S) (UKIR:MGNT)	-10.4%
MESOBLAST (A:MSBX)	-8.3%
OLYMPUS (J:OLYC)	-5.0%
WEIR GROUP (UKIR:WEIR)	-4.8%
NAVER	-4.2%
DENSO (J:DE@N)	-4.0%
TSINGTAO BREWERY 'H' (K:TSIN)	-3.9%
MAKEMYTRIP (MMYT)	-3.0%

**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%	-0.6%	0.5%	0.4%	-10.5%	-2.6%	0.7%	6.8%			
Materials	0.2%	0.1%	0.2%	-0.1%	4.3%	1.7%	3.7%	8.0%			
Industrials	0.4%	0.2%	0.0%	0.2%	9.0%	7.0%	14.4%	11.8%			
Consumer Discretionary	0.6%	0.2%	0.0%	0.5%	7.6%	5.7%	20.7%	11.3%			
Consumer Staples	0.8%	0.3%	0.1%	0.3%	9.7%	7.6%	19.0%	9.9%			
Health Care	0.5%	0.5%	0.0%	-0.1%	11.9%	7.2%	9.2%	8.0%			
Financials	0.5%	1.2%	0.0%	-0.7%	10.6%	5.9%	15.3%	23.4%			
Information Technology	-0.1%	-0.5%	0.5%	-0.1%	8.9%	13.0%	15.0%	9.9%			
Telecommunication Services	0.0%	--	0.1%	--	--	4.2%	0.0%	4.5%			
Utilities	-0.1%	--	0.0%	--	--	5.4%	0.0%	3.1%			
Real Estate	-0.1%	--	0.0%	--	--	5.9%	0.0%	3.2%			
Cash	-0.1%	0.0%	-0.1%	0.0%	0.2%	--	2.0%	0.0%			
<b>Portfolio</b>	<b>2.9%</b>	<b>=</b>	<b>1.5%</b>	<b>+</b>	<b>1.3%</b>	<b>+</b>	<b>0.2%</b>	<b>8.9%</b>	<b>6.0%</b>	<b>100.0%</b>	<b>100.0%</b>

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

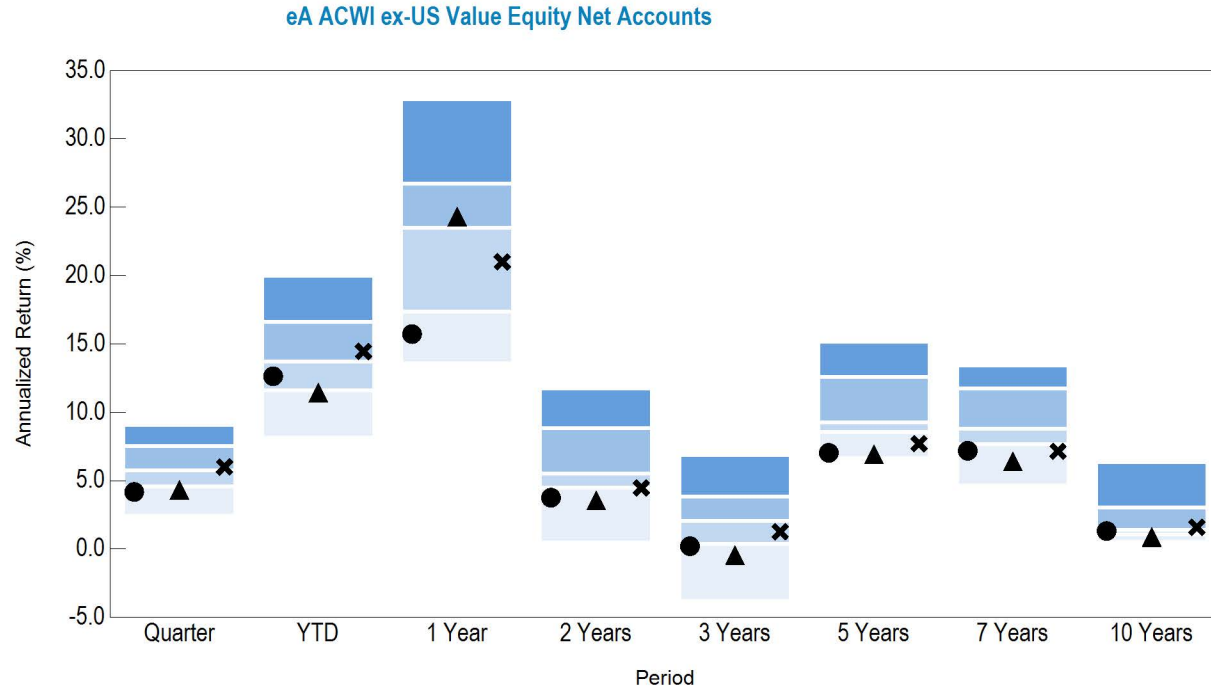
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>Europe</b>									
Austria	--	22.1%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Belgium	--	4.8%	0.0%	0.8%	--	0.0%	-0.1%	--	0.0%
Czech Republic*	--	11.0%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	16.8%	15.3%	4.6%	1.1%	0.0%	0.2%	0.3%	0.0%	0.5%
Finland	15.4%	14.3%	1.1%	0.7%	0.0%	0.0%	0.0%	0.0%	0.1%
France	17.8%	9.8%	0.9%	7.0%	0.5%	0.0%	-0.4%	-0.5%	-0.3%
Germany	7.1%	6.8%	4.7%	6.6%	0.0%	0.1%	-0.1%	0.0%	0.0%
Greece*	--	34.2%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	19.1%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	--	3.9%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Italy	--	9.5%	0.0%	1.5%	--	0.0%	-0.1%	--	-0.1%
Netherlands	--	8.1%	0.0%	2.4%	--	0.0%	-0.2%	--	-0.1%
Norway	--	4.8%	0.0%	0.4%	--	0.0%	0.0%	--	0.0%
Poland*	--	14.2%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	12.7%	4.3%	1.1%	0.1%	0.0%	-0.1%	0.1%	0.1%	0.1%
Russia*	-10.4%	-9.9%	0.7%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Spain	8.6%	8.0%	2.3%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Sweden	9.6%	10.4%	5.4%	2.0%	0.0%	0.0%	0.2%	0.0%	0.2%
Switzerland	7.3%	9.4%	6.6%	6.1%	-0.1%	0.0%	0.0%	0.0%	-0.1%
United Kingdom	5.0%	4.7%	15.6%	12.4%	0.0%	-0.1%	0.1%	0.0%	0.1%

**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	9.3%	-1.8%	6.3%	5.3%	0.6%	-0.1%	0.0%	0.1%	0.6%
China*	11.5%	10.7%	6.9%	6.3%	0.0%	0.0%	0.0%	0.0%	0.1%
Hong Kong	1.3%	7.2%	1.1%	2.4%	-0.1%	0.0%	0.0%	0.1%	-0.1%
India*	6.1%	3.1%	2.3%	2.1%	0.1%	0.0%	0.0%	0.0%	0.1%
Indonesia*	--	8.9%	0.0%	0.6%	--	0.0%	0.0%	--	0.0%
Japan	10.6%	5.1%	18.8%	16.3%	0.9%	0.1%	0.0%	0.1%	1.1%
Korea*	7.9%	9.9%	3.3%	3.5%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Malaysia*	5.3%	5.1%	0.7%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	--	8.1%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Philippines*	1.4%	7.4%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	2.4%	5.2%	4.8%	0.9%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Taiwan*	14.9%	9.1%	3.8%	2.9%	0.2%	0.1%	0.0%	0.1%	0.3%
Thailand*	--	2.6%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
<b>Americas</b>									
Brazil*	-4.5%	-6.6%	0.0%	1.8%	0.0%	0.1%	0.1%	0.0%	0.2%
Canada	--	0.8%	0.0%	6.9%	--	0.4%	-0.2%	--	0.2%
Chile*	--	-1.5%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Colombia*	--	2.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	5.5%	7.4%	0.7%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru*	--	7.2%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
United States	17.1%	3.1%	2.5%	0.0%	0.0%	0.0%	0.0%	0.3%	0.3%

**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*	--	6.3%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	--	6.7%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
Qatar*	--	-12.7%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
South Africa*	12.5%	3.6%	3.5%	1.6%	0.1%	-0.1%	0.1%	0.2%	0.3%
Turkey*	--	20.0%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
United Arab Emirates*	--	2.1%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
<b>Totals</b>									
Americas	14.3%	0.1%	3.1%	10.0%	1.5%	0.3%	-0.1%	-1.0%	0.7%
Europe	8.1%	7.5%	43.0%	45.3%	0.3%	0.1%	-0.2%	0.0%	0.2%
Asia/Pacific	9.3%	5.8%	48.4%	41.9%	1.3%	0.2%	0.1%	0.2%	1.8%
Other	12.5%	4.4%	3.5%	2.7%	0.2%	0.0%	0.0%	0.1%	0.3%
Cash	0.2%	--	2.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%
<b>Total</b>	<b>8.9%</b>	<b>6.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>3.4%</b>	<b>0.5%</b>	<b>-0.2%</b>	<b>-0.7%</b>	<b>2.9%</b>
<b>Totals</b>									
Developed	8.8%	5.9%	75.7%	76.4%	2.6%	0.0%	-0.4%	0.0%	2.2%
Emerging*	9.9%	6.4%	22.3%	23.6%	0.6%	0.0%	0.2%	0.0%	0.8%
Cash	0.2%	--	2.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	9.1	20.0	32.9	11.7	6.8	15.1	13.4	6.4
25th Percentile	7.6	16.7	26.8	8.9	3.9	12.6	11.8	3.1
Median	5.8	13.8	23.5	5.5	2.1	9.3	8.8	1.4
75th Percentile	4.6	11.6	17.4	4.5	0.4	8.6	7.7	1.1
95th Percentile	2.4	8.1	13.6	0.5	-3.8	6.7	4.7	0.5
# of Portfolios	37	36	35	31	30	26	21	17
● Mondrian	4.2 (87)	12.6 (65)	15.7 (84)	3.8 (78)	0.2 (80)	7.0 (91)	7.2 (88)	1.3 (60)
▲ MSCI ACWI ex USA Value Gross	4.3 (86)	11.4 (81)	24.3 (43)	3.6 (79)	-0.4 (88)	6.9 (92)	6.4 (92)	0.9 (81)
✕ MSCI ACWI ex USA Gross	6.0 (46)	14.5 (37)	21.0 (59)	4.5 (76)	1.3 (65)	7.7 (87)	7.1 (90)	1.6 (42)

Characteristics

	Portfolio	MSCI ACWI ex USA Value Gross
Number of Holdings	150	1,059
Weighted Avg. Market Cap. (\$B)	54.7	55.6
Median Market Cap. (\$B)	17.5	7.2
Price To Earnings	18.4	15.0
Price To Book	2.0	1.6
Price To Sales	1.7	1.6
Return on Equity (%)	12.9	11.0
Yield (%)	3.9	3.8
Beta (holdings: global)	1.0	1.1

Top Holdings

SANOFI	2.8%
IBERDROLA	2.6%
HONDA MOTOR	2.4%
GLAXOSMITHKLINE	2.4%
UNITED OVERSEAS BANK	2.4%
TELIASONERA	2.3%
ABB LTD N	2.3%
TAKEDA PHARMACEUTICAL	2.3%
KIRIN HOLDINGS	2.2%
CANON	2.2%

Best Performers

	Return %
TURKIYE HALK BANKASI	33.2%
EREGLI DEMIR CELIK	32.6%
SAIC MOTOR 'A'	31.4%
TUPRAS TKI.PEL.RFNE. (TK:TUP)	24.7%
BELLE INTERNATIONAL HDG.	21.4%
MEDIATEK (TW:MDT)	20.9%
WH GROUP	20.6%
TKI.GARANTI BKSI.	17.8%
BANK RAKYAT INDONESIA	17.5%
NESTLE 'R'	16.9%

Worst Performers

	Return %
CHINA BLUE CHEMICAL 'H' (K:CHBC)	-24.2%
QATAR ELTY.& WT.	-15.0%
QATAR NATIONAL BANK (QA:QNB)	-14.6%
KOREA ELECTRIC POWER	-14.1%
OAO GAZPROM SPN.ADR 1:2	-11.3%
KANGWON LAND (KO:KWL)	-10.8%
WOOD GROUP (JOHN)	-10.5%
GOLDEN EAGLE RETAIL GP. (K:GERG)	-10.0%
WOOLWORTHS HDG.	-9.8%
CMPH.COCS. RODOVIARIAS ON (BR:CCR)	-9.3%



**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	0.1%	-0.2%	0.1%	0.1%	-1.6%	-1.9%	7.7%	9.9%			
Materials	0.2%	0.3%	0.2%	-0.2%	6.1%	0.5%	2.5%	7.6%			
Industrials	0.2%	0.1%	0.0%	0.1%	7.4%	4.4%	9.2%	10.4%			
Consumer Discretionary	-0.4%	-0.4%	0.0%	0.0%	-1.7%	2.3%	10.3%	9.7%			
Consumer Staples	0.0%	-0.1%	0.2%	-0.1%	3.0%	6.7%	9.0%	1.6%			
Health Care	0.4%	0.0%	0.2%	0.2%	7.9%	8.8%	10.0%	3.3%			
Financials	0.7%	2.1%	-0.1%	-1.3%	9.9%	5.6%	26.4%	38.4%			
Information Technology	0.1%	-0.2%	0.3%	0.1%	9.1%	10.8%	7.5%	4.7%			
Telecommunication Services	0.1%	0.0%	-0.1%	0.2%	3.4%	2.4%	8.8%	5.7%			
Utilities	0.1%	0.0%	0.0%	0.2%	6.7%	5.8%	6.3%	4.3%			
Real Estate	-0.2%	-0.2%	-0.1%	0.1%	2.6%	5.8%	2.0%	4.2%			
Cash	0.0%	0.0%	0.0%	0.0%	0.2%	--	0.4%	0.0%			
<b>Portfolio</b>	<b>1.4%</b>	<b>=</b>	<b>1.5%</b>	<b>+</b>	<b>0.7%</b>	<b>+</b>	<b>-0.8%</b>	<b>5.7%</b>	<b>4.2%</b>	<b>100.0%</b>	<b>100.0%</b>

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

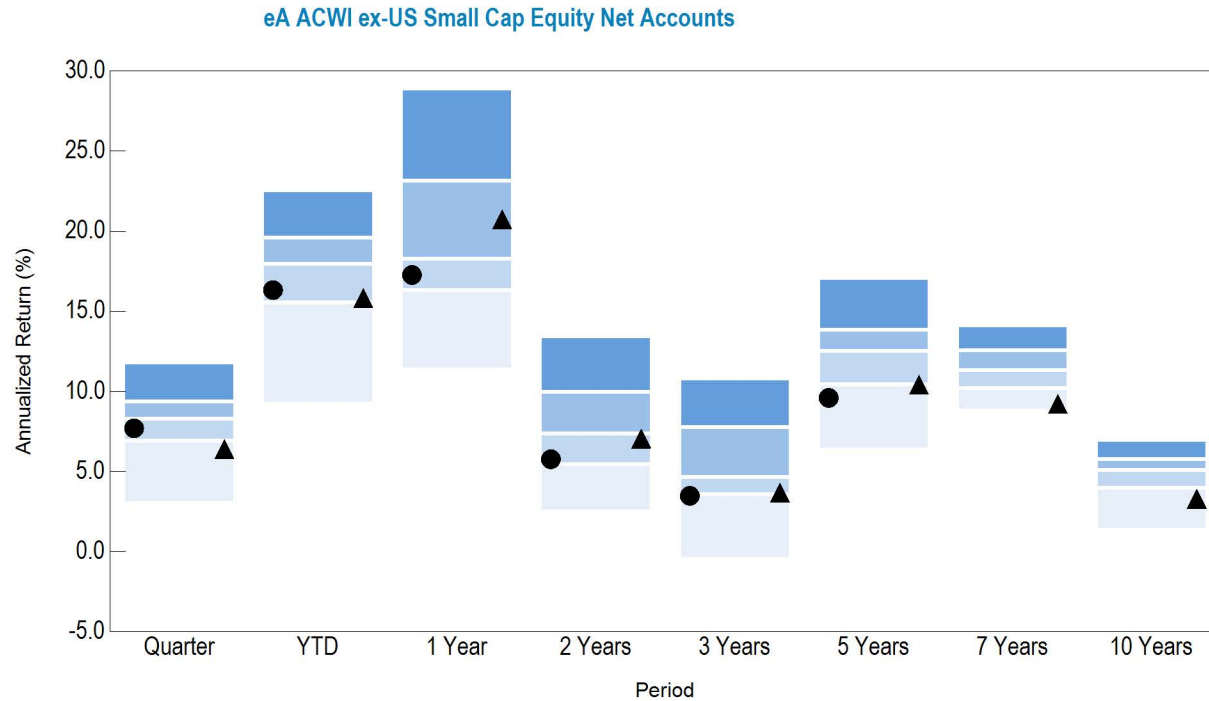
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>Europe</b>									
Austria	--	23.3%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Belgium	--	12.3%	0.0%	0.5%	--	0.0%	0.0%	--	-0.1%
Czech Republic*	--	9.6%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	3.4%	15.0%	0.9%	0.5%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Finland	--	14.4%	0.0%	1.0%	--	-0.1%	-0.1%	--	-0.1%
France	8.4%	7.9%	6.0%	7.9%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Germany	6.1%	4.5%	8.2%	6.7%	0.1%	-0.1%	0.1%	0.0%	0.2%
Greece*	--	38.6%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	20.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	--	4.4%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Italy	2.6%	9.8%	4.0%	2.4%	-0.2%	0.0%	0.1%	-0.1%	-0.2%
Netherlands	-4.0%	11.3%	3.3%	1.4%	-0.2%	0.1%	0.1%	-0.3%	-0.3%
Norway	--	7.0%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
Poland*	--	16.1%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	--	1.8%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Russia*	-10.3%	-11.3%	0.0%	0.8%	0.0%	0.1%	0.0%	0.0%	0.1%
Spain	2.8%	6.6%	4.5%	3.5%	-0.1%	0.0%	0.1%	0.0%	-0.1%
Sweden	10.0%	10.2%	3.5%	2.2%	0.0%	0.0%	0.1%	0.0%	0.1%
Switzerland	10.0%	8.9%	10.0%	3.4%	0.0%	0.2%	0.3%	0.1%	0.6%
United Kingdom	2.6%	4.8%	18.2%	13.1%	-0.3%	0.0%	0.2%	-0.1%	-0.2%

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	-7.9%	-4.5%	1.0%	5.4%	-0.2%	0.3%	0.0%	0.1%	0.2%
China*	-1.1%	3.1%	0.0%	6.1%	-0.3%	-0.1%	0.0%	0.3%	-0.1%
Hong Kong	8.8%	4.0%	0.0%	2.4%	0.1%	-0.1%	0.0%	-0.1%	0.0%
India*	2.3%	1.2%	0.4%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Indonesia*	14.2%	8.4%	13.0%	0.6%	0.0%	0.8%	0.0%	0.7%	1.6%
Japan	3.3%	2.7%	14.2%	16.5%	0.1%	0.0%	0.0%	0.0%	0.1%
Korea*	3.3%	7.3%	6.8%	3.4%	-0.1%	0.3%	-0.1%	-0.1%	-0.1%
Malaysia*	9.3%	6.7%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	--	9.3%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Philippines*	9.8%	6.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	5.2%	8.6%	4.3%	0.9%	0.0%	0.2%	0.1%	-0.1%	0.1%
Taiwan*	7.5%	8.5%	0.2%	2.9%	0.0%	-0.2%	0.0%	0.0%	-0.2%
Thailand*	5.3%	0.2%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Americas</b>									
Brazil*	-1.3%	-10.0%	0.0%	1.8%	0.2%	0.1%	0.1%	-0.2%	0.2%
Canada	-0.5%	-0.2%	1.0%	7.2%	0.0%	0.3%	-0.2%	0.0%	0.1%
Chile*	5.8%	-1.8%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Colombia*	--	0.7%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	7.7%	8.7%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	-0.1%
Peru*	12.6%	7.8%	0.0%	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*	--	6.1%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	--	6.6%	0.0%	0.4%	--	0.0%	0.0%	--	0.0%
Kazakhstan**	-4.2%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	-14.8%	-11.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	7.7%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	-5.2%	-0.6%	0.0%	1.6%	-0.1%	0.1%	0.0%	0.1%	0.0%
Turkey*	16.5%	20.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	--	3.5%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
<b>Totals</b>									
Americas	-0.2%	-1.1%	1.1%	10.4%	0.0%	0.4%	-0.1%	0.0%	0.3%
Europe	5.1%	6.9%	58.5%	45.0%	-0.8%	-0.1%	0.7%	-0.2%	-0.4%
Asia/Pacific	6.8%	2.9%	40.0%	41.9%	1.7%	0.0%	0.0%	-0.1%	1.5%
Other	-3.9%	2.0%	0.0%	2.7%	-0.2%	0.0%	-0.1%	0.2%	0.0%
Cash	0.2%	--	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>5.7%</b>	<b>4.2%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.7%</b>	<b>0.4%</b>	<b>0.5%</b>	<b>-0.1%</b>	<b>1.4%</b>
<b>Totals</b>									
Developed	4.5%	4.6%	79.1%	76.7%	-0.5%	0.0%	0.5%	0.0%	0.0%
Emerging*	10.2%	3.2%	20.5%	23.3%	1.7%	-0.1%	-0.1%	-0.2%	1.4%
Frontier**	1.3%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.2%	--	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



	Return (Rank)							
5th Percentile	11.8	22.6	28.9	13.4	10.8	17.0	14.1	6.9
25th Percentile	9.4	19.6	23.2	10.0	7.8	13.9	12.6	5.8
Median	8.3	18.0	18.3	7.4	4.7	12.6	11.3	5.1
75th Percentile	6.9	15.6	16.3	5.5	3.6	10.5	10.2	4.0
95th Percentile	3.0	9.3	11.4	2.5	-0.4	6.4	8.8	1.3
# of Portfolios	45	44	43	39	33	25	18	12
● FIAM Equity	7.7 (67)	16.3 (67)	17.3 (65)	5.8 (73)	3.5 (76)	9.6 (85)	-- (--)	-- (--)
▲ MSCI ACWI ex US Small Cap Gross	6.4 (84)	15.8 (71)	20.8 (37)	7.0 (58)	3.7 (74)	10.4 (76)	9.2 (95)	3.3 (85)

## Characteristics

	Portfolio	MSCI ACWI ex-US Small Cap
No. of Securities	228	4,317
Wgt'd. Avg. Market Cap (000's)	2,854	2,203
Price to Book Ratio	1.9	1.6
Return on Equity	11.8%	11.0%

## Ten Holdings

OBIC CO LTD	1.6
TECHTRONIC INDUSTRIES CO LTD	1.5
FRUTAROM INDS LTD	1.4
JUNGHEINRICH AG NON-VTG PFD	1.4
NIHON PARKERIZING CO LTD	1.3
IWG PLC	1.1
QUEBECOR INC CL B SUB VTG	1.0
MELIA HOTELS INTERNATIONAL SA	1.0
RENEWI PLC	1.0
AAREAL BANK AG	1.0

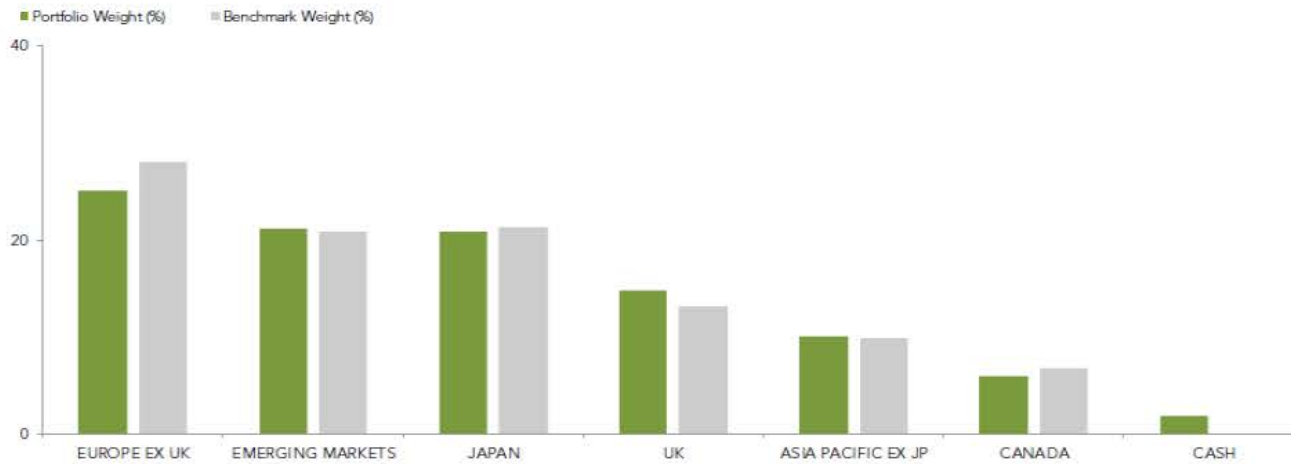
## Best Performers (Absolute Return %)

MINERAL DEPOSITS LTD	52.7
TCC INTERNATIONAL HLDGS LTD	44.1
AKSA (AKRILIK KIMYA SANAYI)	39.9
EULER HERMES GROUP	34.2
OXFORD INSTRUMENTS GROUP PLC	32.7
OBIC CO LTD	29.2
UDG HEALTHCARE PLC(UK)	28.7
TOWER BERSAMA INFRASTRUCTURE	27.3
OC OERLIKON CORP AG (REGD)	26.6
UNITED INTERNET AG (REG)	26.5

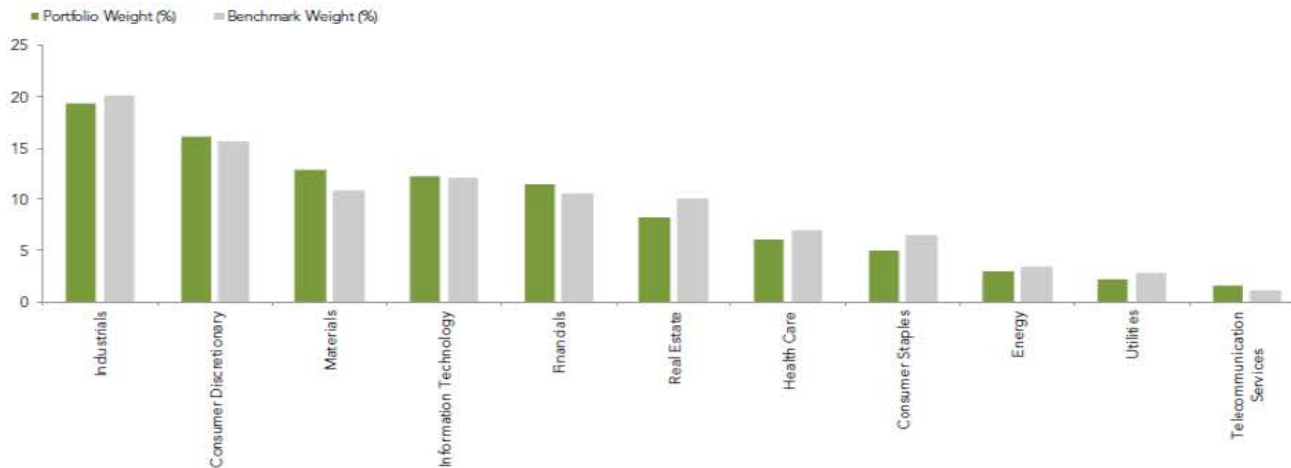
## Worst Performers (Absolute Return %)

KEPCO PLANT SER & ENG CO LTD	(31.0)
TIMAH TBK PT	(26.0)
AKER SOLUTIONS ASA	(25.4)
WESTERN ENERGY SERVICES CORP	(23.9)
MET AIR INVESTMENT LTD	(21.5)
TORRENT PHARMA LTD (DEMAT)	(20.9)
PHOENIX SATELLITE TV HLDGS LTD	(20.5)
TULLOW OIL PLC	(20.0)
COPPER MOUNTAIN MINING CORP	(17.3)
ASALEO CARE LTD	(13.5)

REGIONAL WEIGHTS



SECTOR WEIGHTS



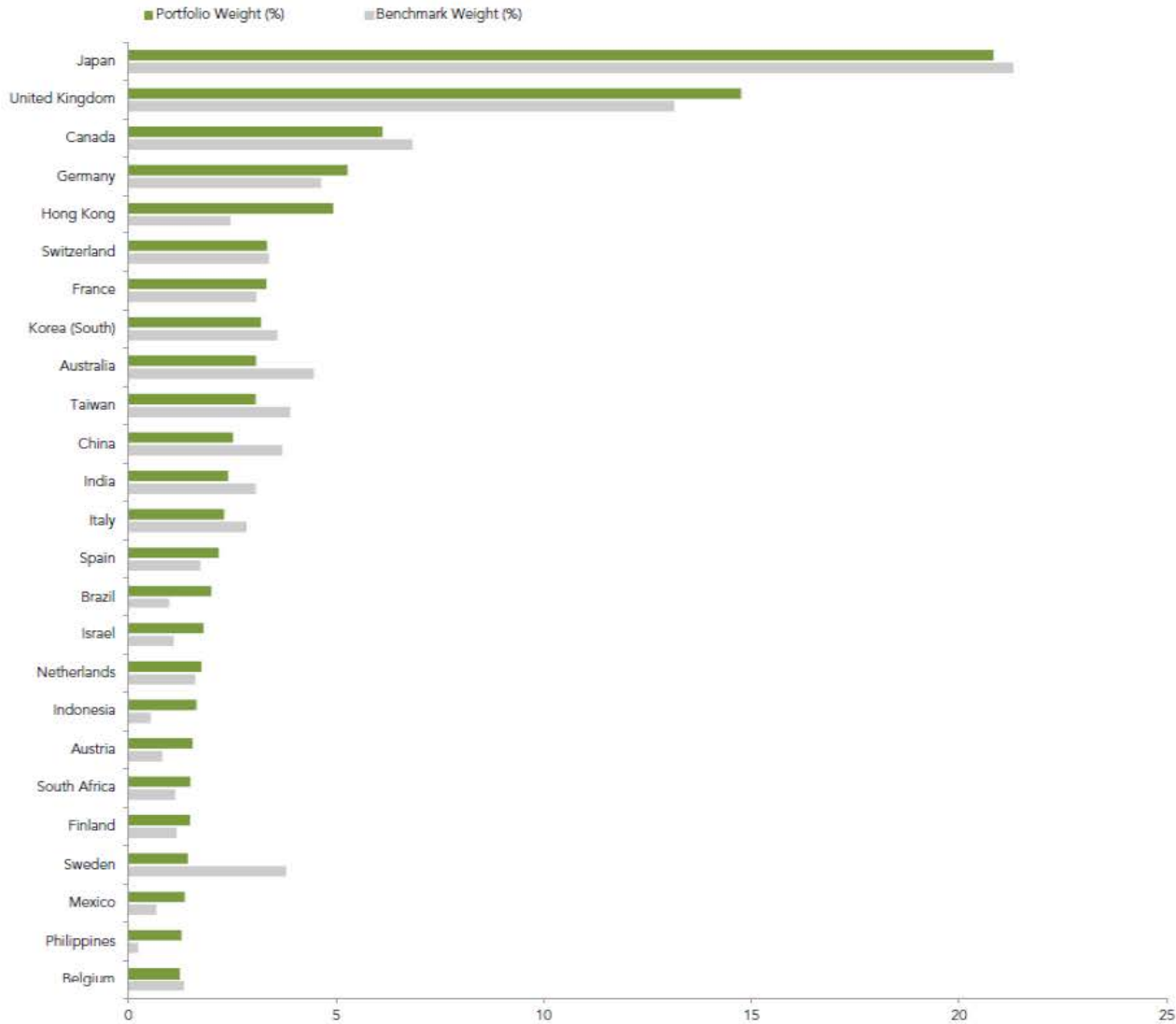
Sector breakdowns are only applied to equities and convertibles and the allocation percentages may not add to 100%.

Benchmark: MSCI AC Wld Sm Cap xUS(N)

# FIAM Equity Country Weights

Period Ending: June 30, 2017

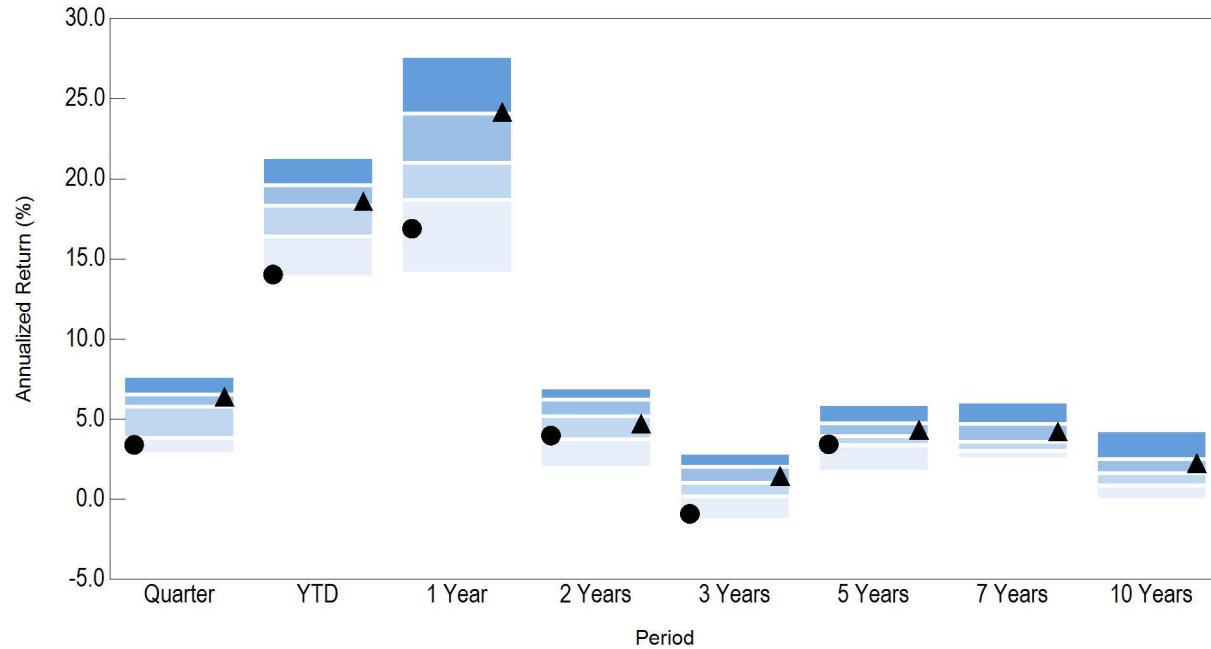
## TOP 25 COUNTRY WEIGHTS



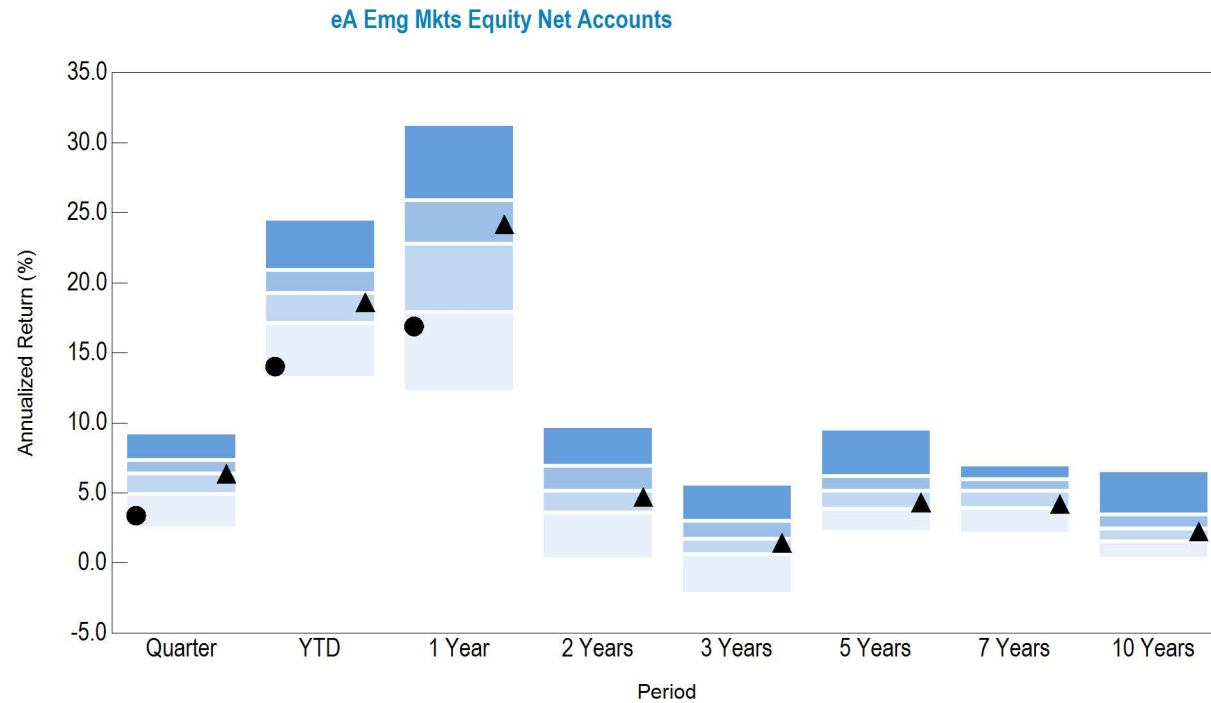
Benchmark: MSCI AC Wld Sm Cap xUS(N)



InvestorForce All DB Emg Mkt Eq Net Accounts



	Return (Rank)									
5th Percentile	7.7	21.4	27.7	6.9	2.9	5.9	6.1	4.3		
25th Percentile	6.6	19.6	24.1	6.2	2.0	4.7	4.7	2.5		
Median	5.8	18.4	21.0	5.2	1.0	4.0	3.6	1.6		
75th Percentile	3.8	16.4	18.7	3.8	0.2	3.4	3.0	0.9		
95th Percentile	2.8	13.8	14.1	2.0	-1.3	1.7	2.5	-0.1		
# of Portfolios	84	84	83	82	79	59	28	14		
● Emerging Markets	3.4 (86)	14.0 (94)	16.9 (88)	4.0 (70)	-0.9 (88)	3.4 (73)	-- (--)	-- (--)	-- (--)	-- (--)
▲ MSCI Emerging Markets Gross	6.4 (32)	18.6 (47)	24.2 (25)	4.7 (58)	1.4 (44)	4.3 (39)	4.2 (42)	2.2 (33)		



	Return (Rank)															
	Quarter		YTD		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
5th Percentile	9.3	(90)	24.6	(93)	31.3	(80)	9.7	(60)	5.6	(58)	9.6	(69)	7.0	(67)	6.6	(57)
25th Percentile	7.4	(51)	20.9	(60)	25.9	(40)	7.0	(60)	3.0	(58)	6.2	(69)	6.0	(67)	3.5	(57)
Median	6.4	(51)	19.3	(60)	22.8	(40)	5.2	(60)	1.7	(58)	5.2	(69)	5.2	(67)	2.5	(57)
75th Percentile	5.0	(51)	17.2	(60)	17.9	(40)	3.6	(60)	0.7	(58)	3.9	(69)	4.0	(67)	1.6	(57)
95th Percentile	2.5	(51)	13.2	(60)	12.2	(40)	0.3	(60)	-2.2	(58)	2.3	(69)	2.1	(67)	0.3	(57)
# of Portfolios	180		179		179		173		159		130		85		54	
● Parametric Core	3.4	(90)	14.0	(93)	16.9	(80)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)
▲ MSCI Emerging Markets Gross	6.4	(51)	18.6	(60)	24.2	(40)	4.7	(60)	1.4	(58)	4.3	(69)	4.2	(67)	2.2	(57)

Characteristics

	Portfolio	MSCI Emerging Markets Gross
Number of Holdings	1,156	845
Weighted Avg. Market Cap. (\$B)	22.1	68.1
Median Market Cap. (\$B)	3.2	5.4
Price To Earnings	19.8	20.5
Price To Book	2.9	2.8
Price To Sales	2.6	2.2
Return on Equity (%)	16.2	16.8
Yield (%)	2.8	2.4
Beta (holdings; global)	0.9	1.0

Top Holdings

AMERICA MOVIL SAB DE CV SPN.ADR 'L' 1:20	1.1%
TAIWAN SEMICON.MNFG.	1.0%
SAMSUNG ELECTRONICS	0.9%
CHINA MOBILE	0.7%
NASPERS	0.7%
TENCENT HOLDINGS	0.7%
GPO FINANCE BANORTE	0.7%
SBERBANK OF RUSSIA	0.7%
SASOL	0.7%
GRUPO TELEVISIA SPN.ADR 1:5	0.6%

Best Performers

	Return %
INDIABULLS REAL ESTATE (IN:IBR)	129.7%
EVERGRANDE REAL EST.GP.	93.9%
EUROBANK ERGASIAS (G:EFG)	81.8%
GRUPO ELEKTRA	79.0%
GEK TERNA HLDG.RLST.CON. (G:ERMI)	76.0%
HELLENIC PETROLEUM	72.2%
PUBLIC POWER	71.5%
SUNAC CHINA HOLDINGS	65.1%
KARDEMIR 'D' (TK:KDM)	56.0%
HARTALEGA HOLDINGS	53.9%

Worst Performers

	Return %
DRYSHIPS (DRYS)	-99.4%
AEGEAN MARINE PTL.NET. (ANW)	-51.3%
SISTEMA JSFC (RS:AFK)	-48.1%
RELIANCE COMMUNICATIONS	-43.6%
JBS ON (BR:JBS)	-38.5%
MATAHARI PUTRA PRIMA	-36.7%
GULF INTERNATIONAL SVS.	-33.1%
HARMONY GOLD MNG.	-32.5%
FUFENG GROUP (K:FUFE)	-32.2%
KEPCO PLANT SER.& ENGR. (KO:KPG)	-30.8%

**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	0.1%	0.1%	-0.2%	0.2%	-1.7%	-4.6%	9.2%	7.3%			
Materials	-0.3%	0.0%	-0.4%	0.1%	0.2%	-0.4%	12.8%	7.4%			
Industrials	-0.1%	0.0%	-0.1%	0.1%	4.1%	3.6%	9.8%	5.9%			
Consumer Discretionary	-0.2%	-0.2%	0.0%	0.0%	6.7%	8.5%	9.6%	10.4%			
Consumer Staples	-0.2%	-0.1%	0.0%	0.0%	3.9%	5.2%	9.4%	7.0%			
Health Care	-0.1%	0.0%	-0.1%	0.0%	4.6%	4.5%	5.4%	2.4%			
Financials	0.5%	0.2%	0.2%	0.1%	6.1%	4.1%	14.9%	24.2%			
Information Technology	-1.8%	-1.2%	-1.6%	1.0%	11.4%	15.6%	8.3%	24.4%			
Telecommunication Services	-0.2%	0.0%	-0.2%	0.0%	1.2%	2.1%	9.2%	5.7%			
Utilities	-0.2%	0.0%	-0.3%	0.1%	0.9%	-1.5%	6.9%	2.8%			
Real Estate	0.1%	0.0%	0.1%	0.0%	11.4%	11.4%	4.2%	2.6%			
Cash	0.0%	0.0%	0.0%	0.0%	0.2%	--	0.2%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
<b>Portfolio</b>	<b>-2.3%</b>	<b>=</b>	<b>-1.2%</b>	<b>+</b>	<b>-2.6%</b>	<b>+</b>	<b>1.5%</b>	<b>4.0%</b>	<b>6.4%</b>	<b>100.0%</b>	<b>100.0%</b>

Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

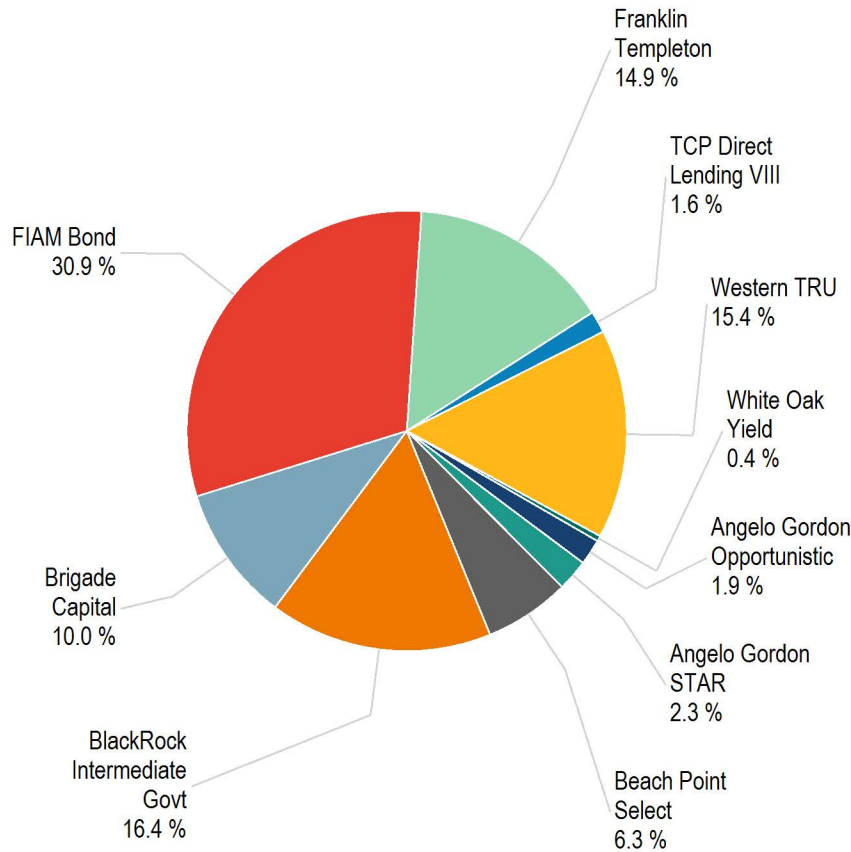
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
<b>Europe</b>									
Czech Republic*	14.9%	10.9%	0.9%	0.2%	0.0%	0.0%	0.1%	0.0%	0.1%
Greece*	33.4%	34.2%	1.7%	0.3%	0.0%	0.3%	0.1%	0.0%	0.4%
Hungary*	17.8%	19.6%	0.9%	0.3%	0.0%	0.0%	0.0%	0.0%	0.1%
Luxembourg	1.5%	6.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	1.1%	8.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	13.0%	14.1%	3.6%	1.2%	0.0%	0.0%	0.2%	0.0%	0.1%
Russia*	-8.9%	-9.9%	6.0%	3.8%	0.0%	-0.3%	0.0%	0.0%	-0.3%
United Kingdom	1.5%	4.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>AsiaPacific</b>									
China*	4.6%	10.7%	5.8%	26.8%	-1.6%	-0.9%	0.1%	1.3%	-1.2%
Hong Kong	7.7%	7.2%	6.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%
India*	4.0%	3.0%	6.7%	8.7%	0.1%	0.1%	0.0%	0.0%	0.1%
Indonesia*	3.8%	8.8%	3.4%	2.5%	-0.1%	0.0%	0.0%	0.0%	-0.2%
Korea*	5.9%	9.9%	7.1%	15.0%	-0.6%	-0.5%	0.2%	0.3%	-0.5%
Malaysia*	5.1%	5.1%	3.5%	2.4%	0.0%	-0.1%	0.0%	0.0%	0.0%
Pakistan*	-3.8%	6.4%	1.6%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.2%
Philippines*	5.8%	7.4%	3.4%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	2.7%	5.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Taiwan*	5.8%	9.1%	7.7%	12.2%	-0.4%	-0.1%	0.0%	0.1%	-0.4%
Thailand*	1.7%	2.6%	3.4%	2.2%	0.0%	-0.1%	0.0%	0.0%	-0.1%
<b>Americas</b>									
Brazil*	-4.3%	-6.6%	6.5%	7.7%	0.1%	0.1%	0.1%	0.0%	0.3%
Chile*	-2.1%	-1.5%	3.9%	1.2%	0.0%	-0.2%	0.0%	0.0%	-0.2%
Colombia*	1.4%	2.0%	1.7%	0.4%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Mexico*	7.3%	7.4%	7.6%	3.7%	0.1%	-0.1%	0.0%	0.1%	0.0%
Peru*	4.8%	7.4%	1.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
United States	2.3%	3.1%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%

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*	--	6.3%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Kuwait**	-1.3%	6.4%	1.7%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Qatar*	-13.9%	-12.8%	1.6%	0.8%	0.0%	-0.2%	0.0%	0.0%	-0.2%
South Africa*	0.2%	3.6%	6.5%	7.0%	-0.2%	0.0%	0.0%	0.0%	-0.2%
Turkey*	19.1%	20.0%	3.8%	1.0%	0.0%	0.3%	0.1%	0.0%	0.3%
United Arab Emirates*	3.0%	2.1%	1.2%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Totals</b>									
Americas	1.4%	-1.6%	22.5%	13.5%	0.3%	-0.6%	0.1%	0.2%	-0.1%
Europe	5.9%	-0.4%	13.5%	5.8%	0.2%	-0.6%	0.4%	0.2%	0.3%
Asia/Pacific	4.9%	8.8%	48.9%	71.0%	-3.0%	-0.6%	0.3%	0.9%	-2.3%
Other	3.6%	3.9%	14.8%	9.7%	0.0%	-0.3%	0.1%	0.0%	-0.2%
Cash	0.2%	--	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4.0%</b>	<b>6.4%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>-2.5%</b>	<b>-2.0%</b>	<b>0.9%</b>	<b>1.4%</b>	<b>-2.3%</b>
<b>Totals</b>									
Developed	6.4%	--	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Emerging*	3.9%	6.4%	90.0%	100.0%	-3.4%	0.0%	0.9%	0.3%	-2.2%
Frontier**	-1.3%	--	1.7%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Cash	0.2%	--	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Fixed Income  
 Manager Allocation Analysis

Period Ending: June 30, 2017



	Actual \$	Actual %	Manager Contribution to Excess Return %
Angelo Gordon Opportunistic	\$14,407,000	1.9%	0.1%
Angelo Gordon STAR	\$16,809,000	2.3%	0.1%
Beach Point Select	\$46,602,732	6.3%	0.0%
BlackRock Intermediate Govt	\$121,382,020	16.4%	0.1%
Brigade Capital	\$74,070,354	10.0%	-0.1%
FIAM Bond	\$229,685,998	30.9%	0.3%
Franklin Templeton	\$110,863,931	14.9%	-0.6%
TCP Direct Lending VIII	\$11,550,895	1.6%	0.0%
Western Asset TRU	\$114,008,666	15.4%	0.4%
White Oak Yield	\$2,882,386	0.4%	0.0%
Actual vs. Policy Weight Difference			-0.9%
<b>Total</b>	<b>\$742,262,982</b>	<b>100.0%</b>	<b>-0.5%</b>

Statistics Summary

3 Years

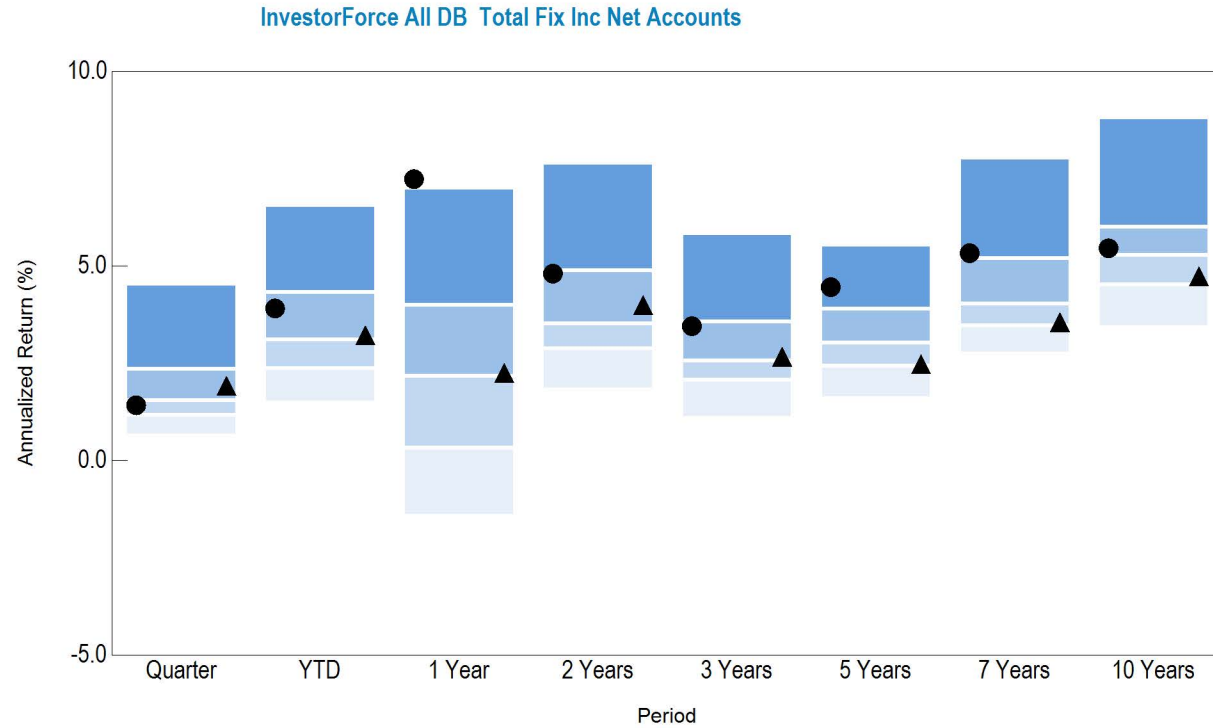
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	3.5%	3.0%	1.1	0.4	2.1%
Blended Fixed Income Index	2.7%	3.1%	0.8	--	0.0%
US Fixed Income	3.8%	2.8%	1.3	0.4	1.5%
Blended US Fixed Index	3.2%	2.9%	1.0	--	0.0%
FIAM Bond	3.0%	3.1%	0.9	0.6	0.9%
BBgBarc US Aggregate TR	2.5%	2.9%	0.8	--	0.0%
Angelo Gordon STAR	8.7%	5.5%	1.5	0.9	6.5%
BBgBarc US Aggregate TR	2.5%	2.9%	0.8	--	0.0%
Brigade Capital	3.3%	7.6%	0.4	-0.3	4.7%
BBgBarc BA Intermediate HY	4.8%	4.9%	0.9	--	0.0%
Global Fixed Income	1.5%	6.5%	0.2	0.2	8.1%
BBgBarc Multiverse TR	-0.2%	5.0%	-0.1	--	0.0%
Franklin Templeton	1.5%	6.5%	0.2	0.2	8.1%
BBgBarc Multiverse TR	-0.2%	5.0%	-0.1	--	0.0%



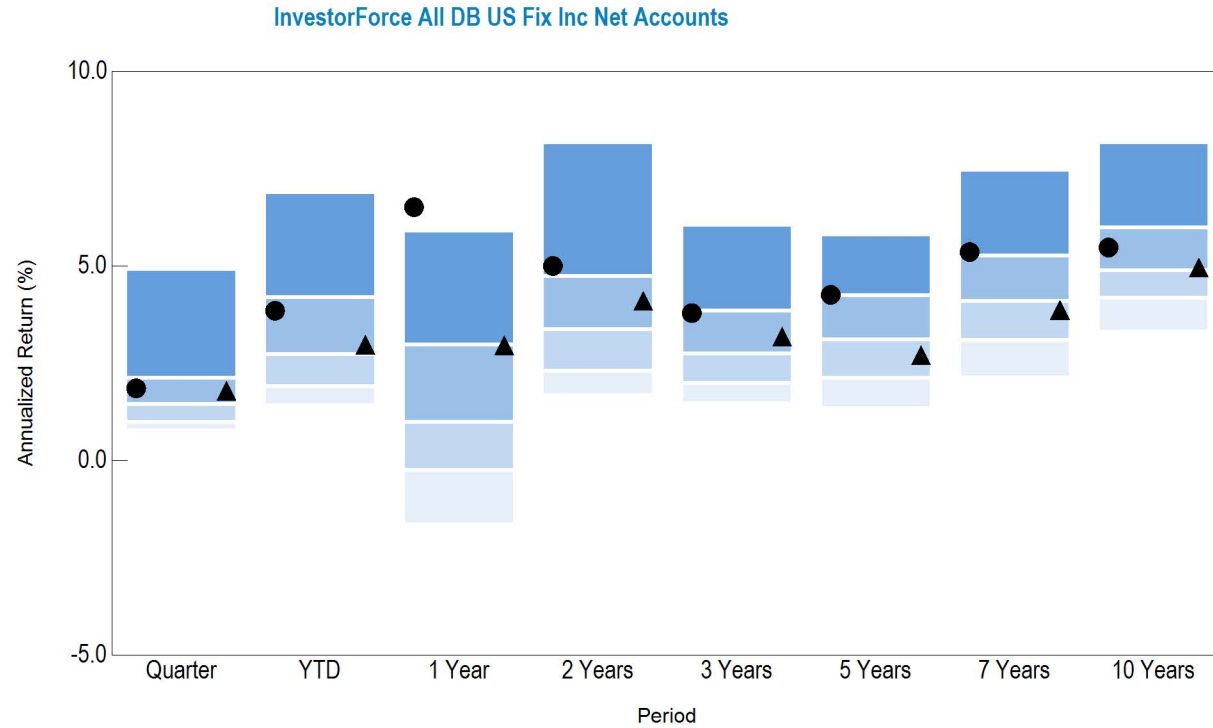
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	4.5%	3.2%	1.3	1.0	1.9%
Blended Fixed Income Index	2.5%	3.2%	0.7	--	0.0%
US Fixed Income	4.3%	3.0%	1.4	1.2	1.3%
Blended US Fixed Index	2.7%	3.2%	0.8	--	0.0%
FIAM Bond	2.9%	3.1%	0.9	0.9	0.8%
BBgBarc US Aggregate TR	2.2%	2.9%	0.7	--	0.0%
Brigade Capital	6.2%	6.2%	1.0	0.3	4.3%
BBgBarc BA Intermediate HY	4.7%	4.9%	0.9	--	0.0%
Global Fixed Income	4.8%	6.4%	0.7	0.5	7.0%
BBgBarc Multiverse TR	1.1%	4.6%	0.2	--	0.0%
Franklin Templeton	4.8%	6.4%	0.7	0.5	7.0%
BBgBarc Multiverse TR	1.1%	4.6%	0.2	--	0.0%



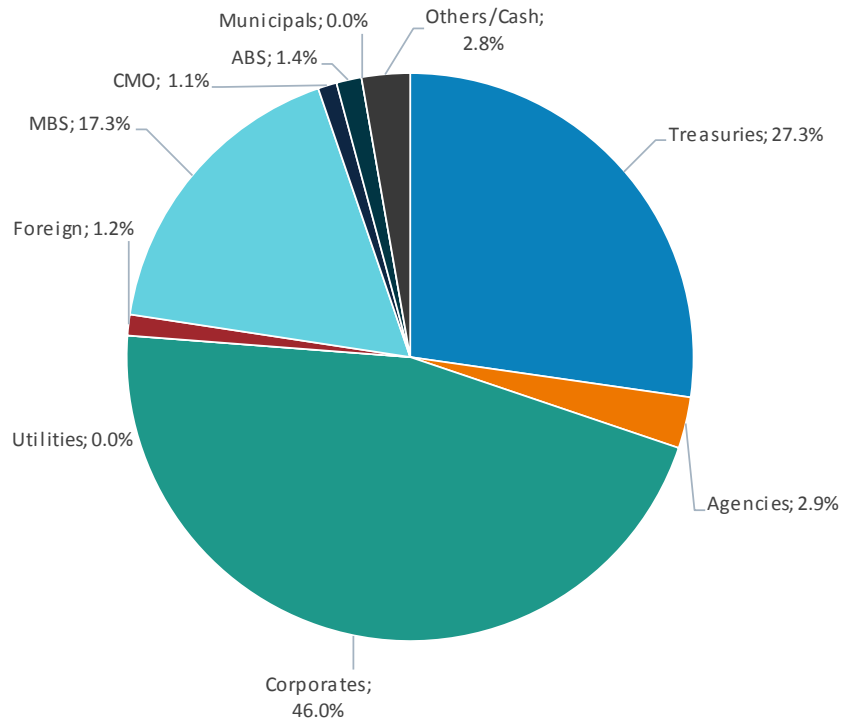
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
<b>Return (Rank)</b>								
5th Percentile	4.5	6.6	7.0	7.6	5.8	5.5	7.8	8.8
25th Percentile	2.4	4.3	4.0	4.9	3.6	3.9	5.2	6.0
Median	1.6	3.1	2.2	3.5	2.6	3.0	4.0	5.3
75th Percentile	1.2	2.4	0.3	2.9	2.1	2.5	3.5	4.5
95th Percentile	0.7	1.5	-1.4	1.8	1.1	1.6	2.8	3.4
# of Portfolios	288	286	282	276	271	248	201	169
● Fixed Income	1.4 (59)	3.9 (34)	7.2 (5)	4.8 (26)	3.5 (28)	4.5 (19)	5.3 (23)	5.5 (43)
▲ Blended Fixed Income Index	1.9 (33)	3.2 (47)	2.2 (49)	4.0 (39)	2.7 (47)	2.5 (75)	3.6 (73)	4.7 (66)



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	4.9	6.9	5.9	8.2	6.0	5.8	7.5	8.2
25th Percentile	2.1	4.2	3.0	4.8	3.9	4.3	5.3	6.0
Median	1.5	2.7	1.0	3.4	2.8	3.1	4.1	4.9
75th Percentile	1.0	1.9	-0.2	2.3	2.0	2.1	3.1	4.2
95th Percentile	0.8	1.4	-1.6	1.7	1.5	1.3	2.1	3.3
# of Portfolios	392	390	388	385	379	328	264	194
● US Fixed Income	1.9 (29)	3.8 (28)	6.5 (4)	5.0 (24)	3.8 (26)	4.3 (25)	5.4 (24)	5.5 (37)
▲ Blended US Fixed Index	1.8 (31)	3.0 (44)	3.0 (26)	4.1 (35)	3.2 (36)	2.7 (61)	3.9 (57)	5.0 (50)

US Fixed Income  
Bond Sector Allocation

Period Ending: June 30, 2017



Sector*	Account Weight	BBgBarc Aggregate	
		Weight	Difference
Treasuries	27.3%	36.8%	-9.5%
Agencies	2.9%	7.3%	-4.4%
Corporates	46.0%	25.2%	20.8%
Utilities	0.0%	0.0%	0.0%
Foreign	1.2%	0.0%	1.2%
MBS	17.3%	28.4%	-11.0%
CMO	1.1%	0.0%	1.1%
ABS	1.4%	2.3%	-0.9%
Municipals	0.0%	0.0%	0.0%
Others/Cash	2.8%	0.0%	2.8%
<b>TOTAL</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>

\* Sector Allocation excludes Opportunistic Credit Managers.

US Fixed Income  
Bond Summary Statistics

Period Ending: June 30, 2017

Portfolio Characteristics*		Portfolio	BBgBarc Aggregate
Total Number of Securities			
Total Market Value	\$	465,076,684	
Current Coupon		2.37	3.14
Yield to Maturity		3.15	2.52
Average Life		8.68	7.98
Duration		4.82	5.85
Quality		AA-	AA

Yield to Maturity	
Range	% Held
0.0 - 5.0	n/a
5.0 - 7.0	n/a
7.0 - 9.0	n/a
9.0 - 11.0	n/a
11.0 - 13.0	n/a
13.0+	n/a
Unclassified	n/a

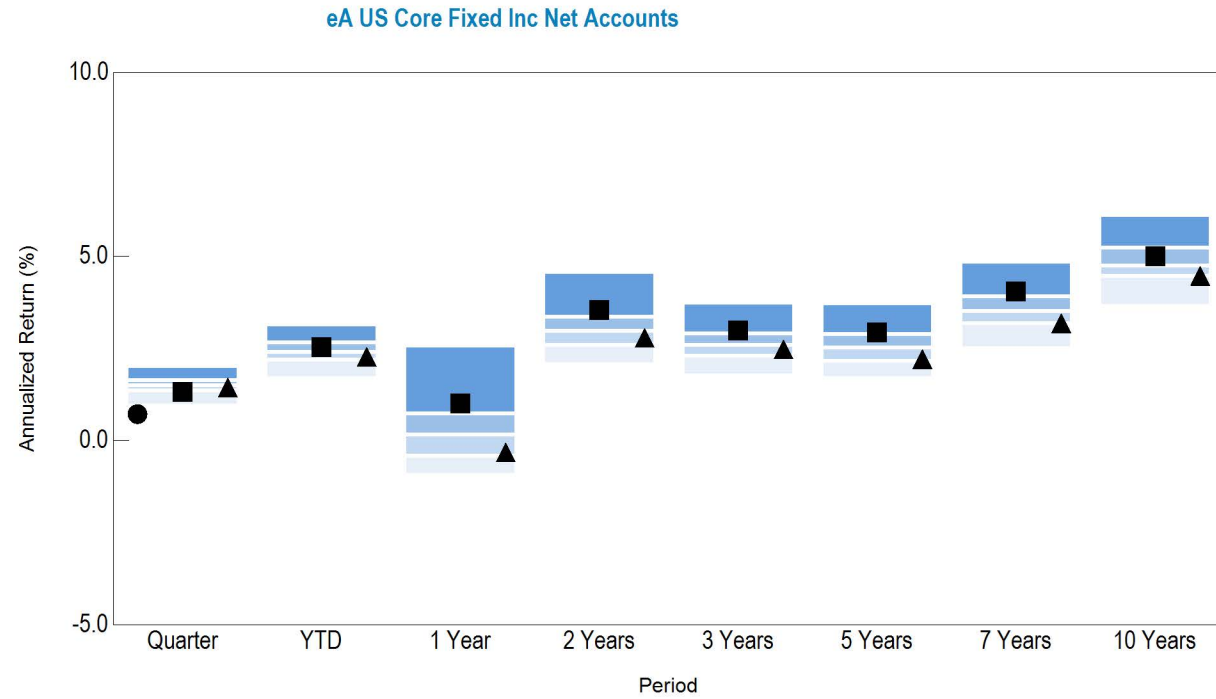
Average Life	
Range	% Held
0.0 - 1.0	n/a
1.0 - 3.0	n/a
3.0 - 5.0	n/a
5.0 - 10.0	n/a
10.0 - 20.0	n/a
20.0+	n/a
Unclassified	n/a

Duration	
Range	% Held
0.0 - 1.0	1.2
1.0 - 3.0	32.8
3.0 - 5.0	28.2
5.0 - 7.0	17.5
7.0 - 10.0	6.9
10.0+	13.4
Unclassified	0.0

Quality	
Range	% Held
Govt (10)	29.3
Aaa (10)	19.1
Aa (9)	1.5
A (8)	33.8
Baa (7)	13.1
Below Baa (6-1)	1.0
Other	2.2

Coupon	
Range	% Held
0.0 - 5.0	91.2
5.0 - 7.0	5.1
7.0 - 9.0	1.1
9.0 - 11.0	0.0
11.0 - 13.0	0.0
13.0+	2.6
Unclassified	0.0

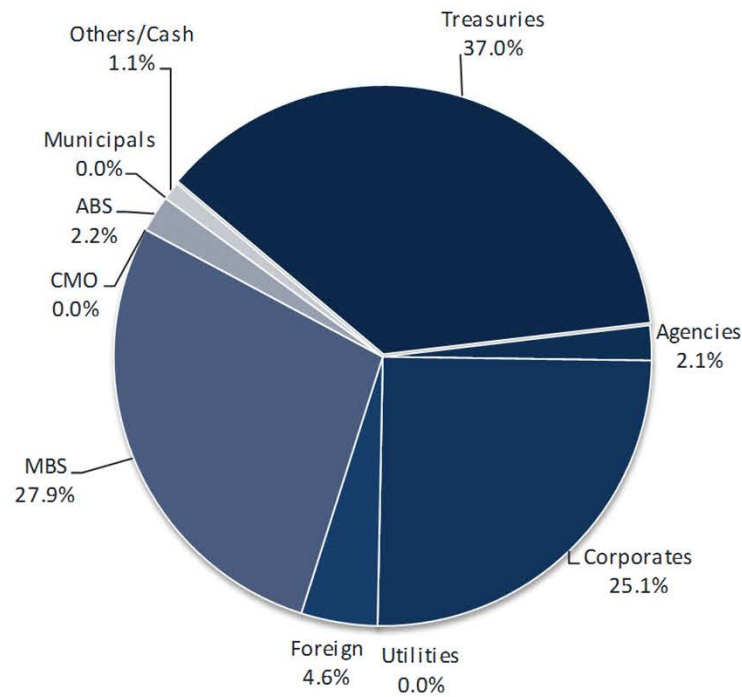
\* Characteristics excludes Opportunistic Credit Managers.



	Return (Rank)															
	Quarter		YTD		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
5th Percentile	2.0	3.2	2.6	4.6	3.7	3.7	4.8	6.1	2.0	3.2	2.6	4.6	3.7	3.7	4.8	6.1
25th Percentile	1.6	2.7	0.8	3.4	2.9	2.9	3.9	5.3	1.6	2.7	0.8	3.4	2.9	2.9	3.9	5.3
Median	1.5	2.4	0.2	3.0	2.6	2.5	3.5	4.8	1.5	2.4	0.2	3.0	2.6	2.5	3.5	4.8
75th Percentile	1.4	2.2	-0.4	2.6	2.3	2.2	3.2	4.5	1.4	2.2	-0.4	2.6	2.3	2.2	3.2	4.5
95th Percentile	1.0	1.7	-0.9	2.1	1.8	1.7	2.5	3.7	1.0	1.7	-0.9	2.1	1.8	1.7	2.5	3.7
# of Portfolios	128	128	128	127	127	126	118	102	128	128	128	127	127	126	118	102
● BlackRock Intermediate Govt	0.7 (97)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	0.7 (97)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
■ FIAM Bond	1.3 (78)	2.5 (38)	1.0 (21)	3.5 (15)	3.0 (19)	2.9 (25)	4.1 (22)	5.0 (35)	1.3 (78)	2.5 (38)	1.0 (21)	3.5 (15)	3.0 (19)	2.9 (25)	4.1 (22)	5.0 (35)
▲ BBgBarc US Aggregate TR	1.4 (66)	2.3 (67)	-0.3 (72)	2.8 (66)	2.5 (60)	2.2 (74)	3.2 (76)	4.5 (77)	1.4 (66)	2.3 (67)	-0.3 (72)	2.8 (66)	2.5 (60)	2.2 (74)	3.2 (76)	4.5 (77)

BlackRock Intermediate Govt Market Duration Pool  
 Bond Sector Allocation

Period Ending: June 30, 2017



Sector	Account Weight	BBgBarc Aggregate	
		Weight	Difference
Treasuries	37.0%	36.8%	0.3%
Agencies	2.1%	7.3%	-5.3%
Corporates	25.1%	25.2%	-0.1%
Utilities	0.0%	0.0%	0.0%
Foreign	4.6%	0.0%	4.6%
MBS	27.9%	28.4%	-0.4%
CMO	0.0%	0.0%	0.0%
ABS	2.2%	2.3%	-0.1%
Municipals	0.0%	0.0%	0.0%
Others/Cash	1.1%	0.0%	1.1%
<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: June 30, 2017

Portfolio Characteristics		Portfolio
Total Number of Securities		7,495
Total Market Value	\$	121,382,020
Current Coupon		3.16
Yield to Maturity		2.53
Average Life		7.98
Duration		5.73
Quality		AA

BBgBarc Aggregate
3.14
2.52
7.98
5.85
AA

Yield to Maturity	
Range	% Held
0.0 - 5.0	98.9
5.0 - 7.0	1.1
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
< 1.0	0.0
1.0 - 3.0	12.4
3.0 - 5.0	30.6
5.0 - 7.0	26.2
7.0 - 10.0	14.2
10.0+	16.6
Unclassified	0.0

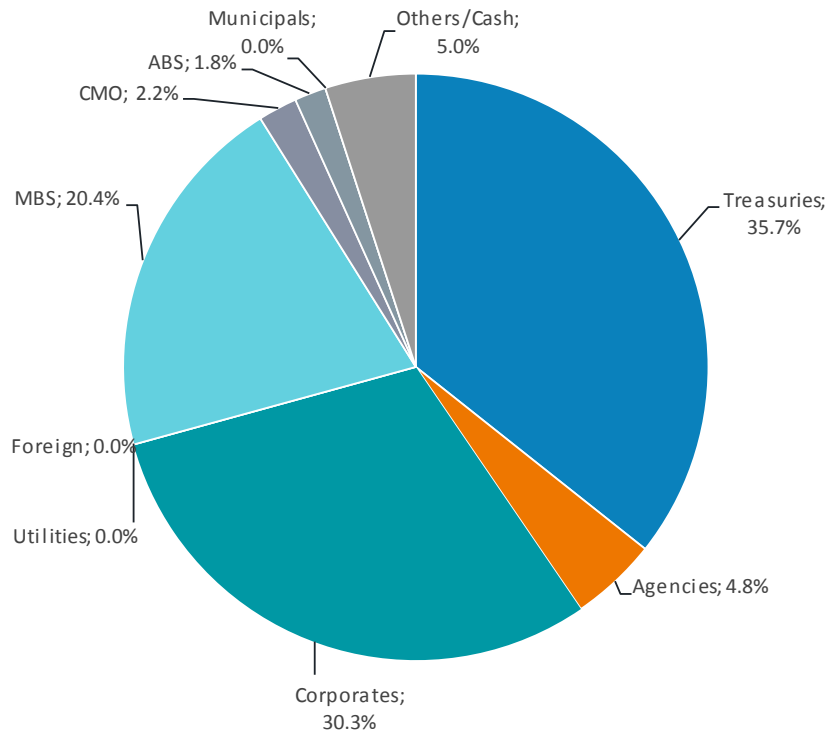
Quality	
Range	% Held
Govt (10)	0.0
Aaa (10)	72.1
Aa (9)	4.0
A (8)	10.5
Baa (7)	13.4
Below Baa (6-1)	0.0
Other	0.0

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



FIAM Bond Market Duration Pool  
Bond Sector Allocation

Period Ending: June 30, 2017



Sector	Account Weight	BBgBarc Aggregate	
		Weight	Difference
Treasuries	35.7%	36.8%	-1.1%
Agencies	4.8%	7.3%	-2.5%
Corporates	30.3%	25.2%	5.1%
Utilities	0.0%	0.0%	0.0%
Foreign	0.0%	0.0%	0.0%
MBS	20.4%	28.4%	-8.0%
CMO	2.2%	0.0%	2.2%
ABS	1.8%	2.3%	-0.6%
Municipals	0.0%	0.0%	0.0%
Others/Cash	5.0%	0.0%	5.0%
<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: June 30, 2017

Portfolio Characteristics		Portfolio
Total Number of Securities		858
Total Market Value	\$	229,685,998
Current Coupon		3.13
Yield to Maturity		2.60
Average Life		7.95
Duration		5.64
Quality		AA-

BBgBarc Aggregate
3.14
2.52
7.98
5.85
AA

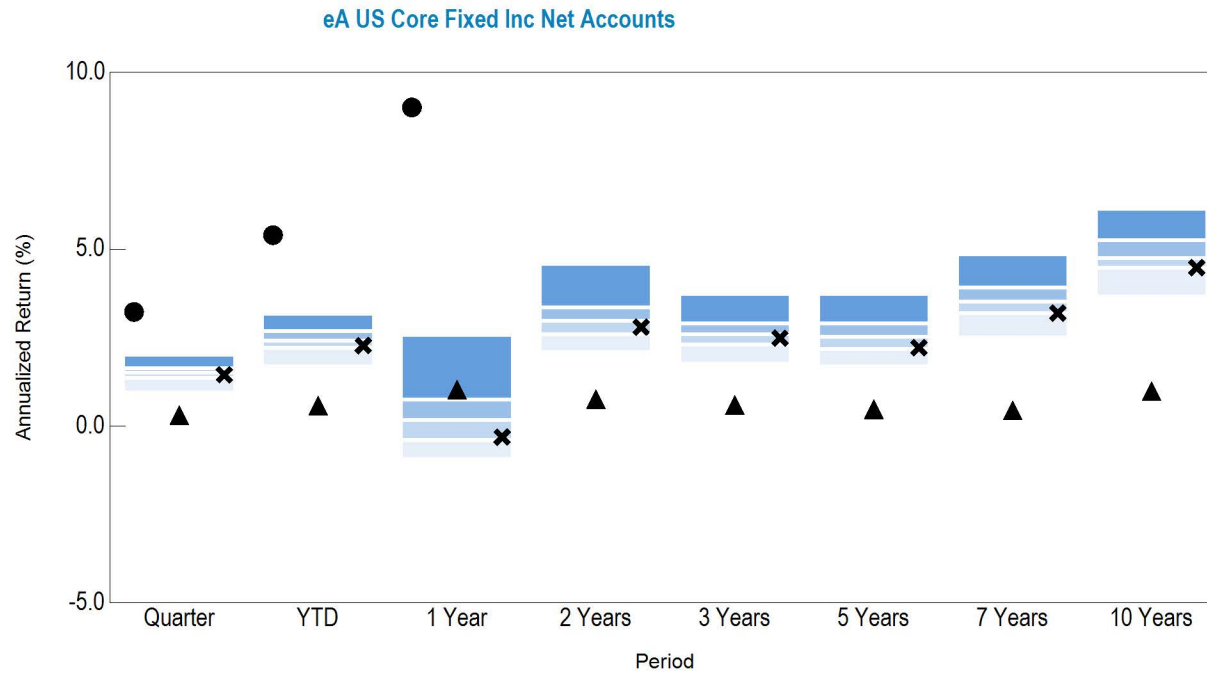
Yield to Maturity	
Range	% Held
0.0 - 5.0	96.8
5.0 - 7.0	2.4
7.0 - 9.0	0.4
9.0 - 11.0	0.0
11.0 - 13.0	0.1
13.0+	0.4
Unclassified	0.0

Average Life	
Range	% Held
0.0 - 1.0	2.4
1.0 - 3.0	9.0
3.0 - 5.0	27.6
5.0 - 10.0	41.1
10.0 - 20.0	4.0
20.0+	16.0
Unclassified	0.0

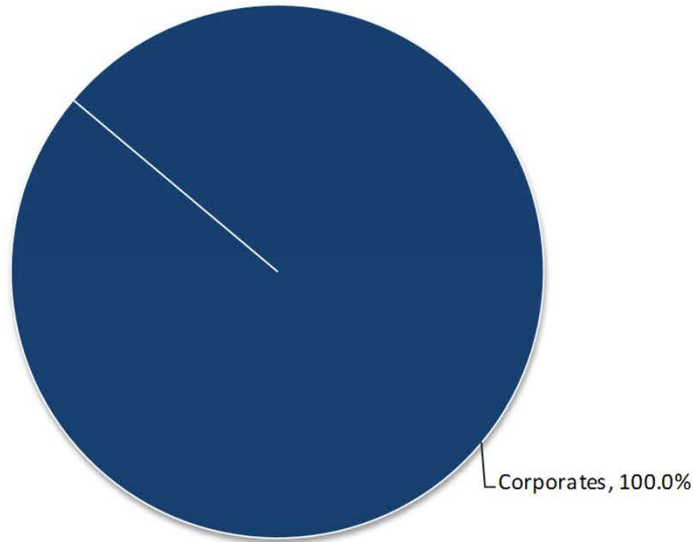
Duration	
Range	% Held
0.0 - 1.0	2.4
1.0 - 3.0	10.2
3.0 - 5.0	40.9
5.0 - 7.0	21.5
7.0 - 10.0	6.5
10.0+	18.5
Unclassified	0.0

Quality	
Range	% Held
Govt (10)	59.3
Aaa (10)	0.5
Aa (9)	1.0
A (8)	13.3
Baa (7)	19.4
Below Baa (6-1)	2.0
Other	4.5

Coupon	
Range	% Held
0.0 - 5.0	82.2
5.0 - 7.0	10.3
7.0 - 9.0	2.2
9.0 - 11.0	0.1
11.0 - 13.0	0.0
13.0+	5.2
Unclassified	0.0



	Quarter		YTD		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
<b>5th Percentile</b>	2.0	3.2	2.6	4.6	3.7	3.7	4.8	6.1								
<b>25th Percentile</b>	1.6	2.7	0.8	3.4	2.9	2.9	3.9	5.3								
<b>Median</b>	1.5	2.4	0.2	3.0	2.6	2.5	3.5	4.8								
<b>75th Percentile</b>	1.4	2.2	-0.4	2.6	2.3	2.2	3.2	4.5								
<b>95th Percentile</b>	1.0	1.7	-0.9	2.1	1.8	1.7	2.5	3.7								
<b># of Portfolios</b>	128	128	128	127	127	126	118	102								
<b>● Western TRU</b>	3.2 (1)	5.4 (1)	9.0 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)								
<b>▲ 3-Month Libor Total Return USD</b>	0.3 (99)	0.6 (99)	1.0 (20)	0.8 (99)	0.6 (99)	0.5 (99)	0.4 (99)	1.0 (99)								
<b>✕ BBgBarc US Aggregate TR</b>	1.4 (66)	2.3 (67)	-0.3 (72)	2.8 (66)	2.5 (60)	2.2 (74)	3.2 (76)	4.5 (77)								



Sector	Account Weight	BBgBarc Aggregate	
		Weight	Difference
Treasuries	0.0%	36.8%	-36.8%
Agencies	0.0%	7.3%	-7.3%
Corporates	100.0%	25.2%	74.8%
Utilities	0.0%	0.0%	0.0%
Foreign	0.0%	0.0%	0.0%
MBS	0.0%	28.4%	-28.4%
CMO	0.0%	0.0%	0.0%
ABS	0.0%	2.3%	-2.3%
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>

Portfolio Characteristics		
	Portfolio	
Total Number of Securities		1
Total Market Value	\$	114,008,666
Current Coupon		0.00
Yield to Maturity		4.90
Average Life		10.91
Duration		2.19
Quality		A-

BBgBarc Aggregate
3.14
2.52
7.98
5.85
AA

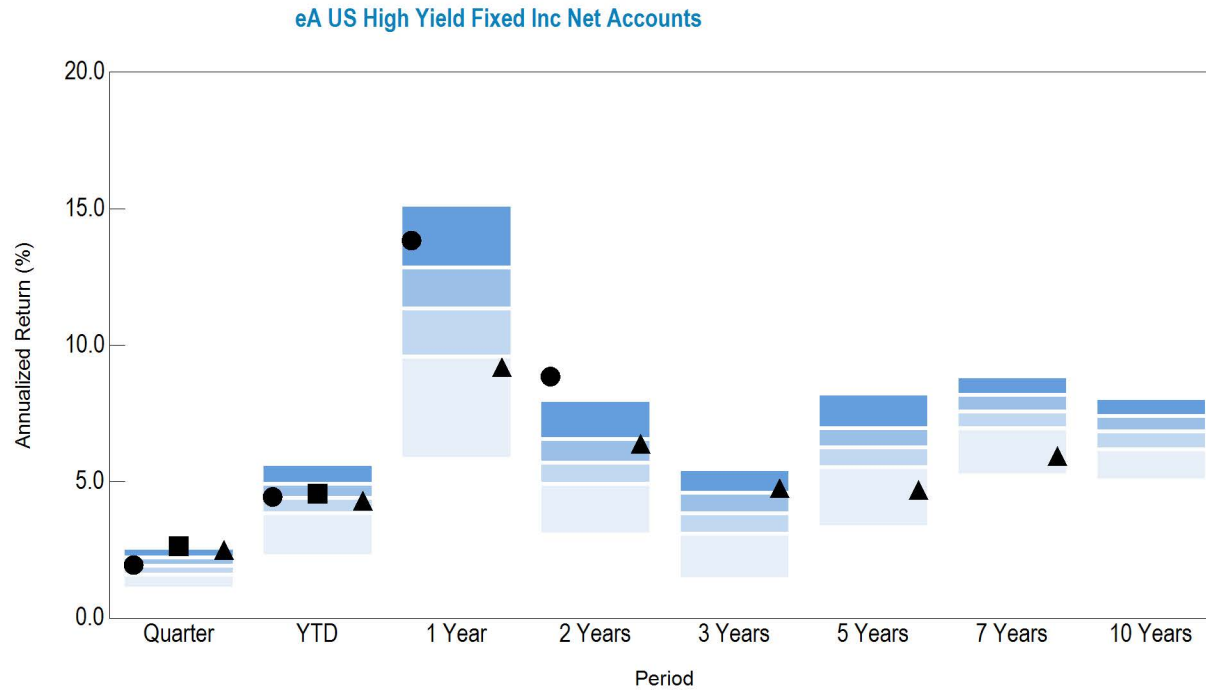
Yield to Maturity	
Range	% Held
0.0 - 5.0	n/a
5.0 - 7.0	n/a
7.0 - 9.0	n/a
9.0 - 11.0	n/a
11.0 - 13.0	n/a
13.0+	n/a
Unclassified	n/a

Average Life	
Range	% Held
0.0 - 1.0	0.0
1.0 - 3.0	0.0
3.0 - 5.0	0.0
5.0 - 10.0	0.0
10.0 - 20.0	100.0
20.0+	0.0
Unclassified	0.0

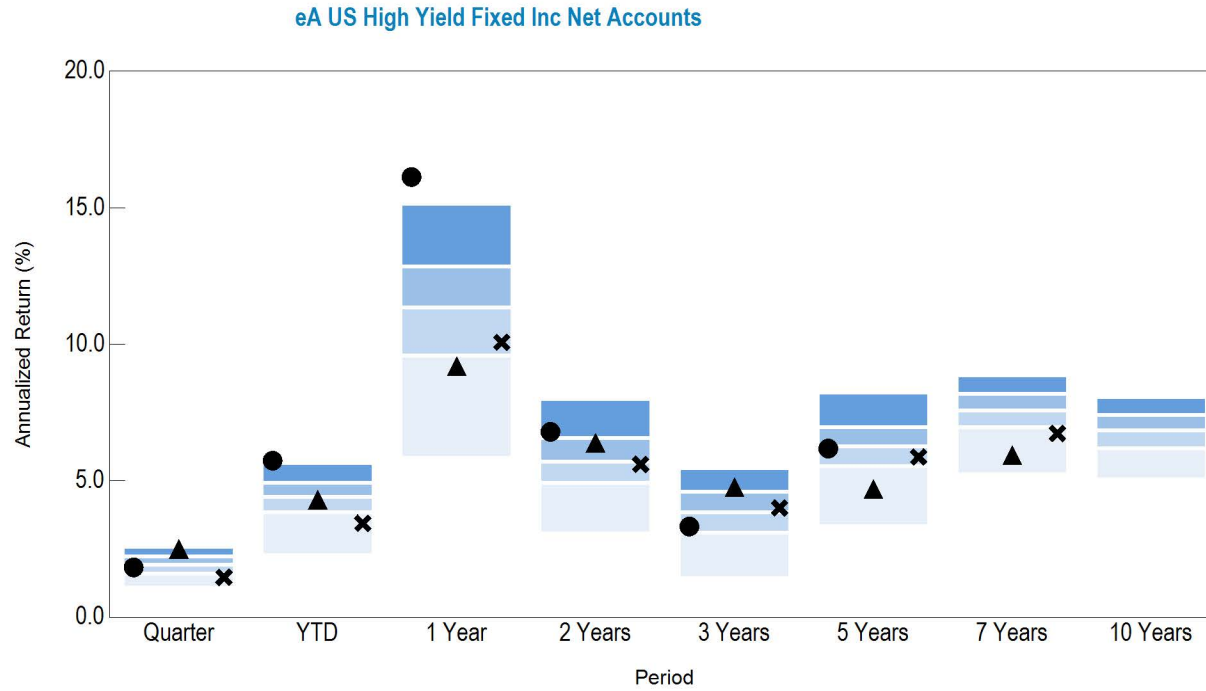
Duration	
Range	% Held
< 1.0	0.0
1.0 - 3.0	100.0
3.0 - 5.0	0.0
5.0 - 7.0	0.0
7.0 - 10.0	0.0
10.0+	0.0
Unclassified	0.0

Quality	
Range	% Held
Govt (10)	0.0
Aaa (10)	0.0
Aa (9)	0.0
A (8)	100.0
Baa (7)	0.0
Below Baa (6-1)	0.0
Other	0.0

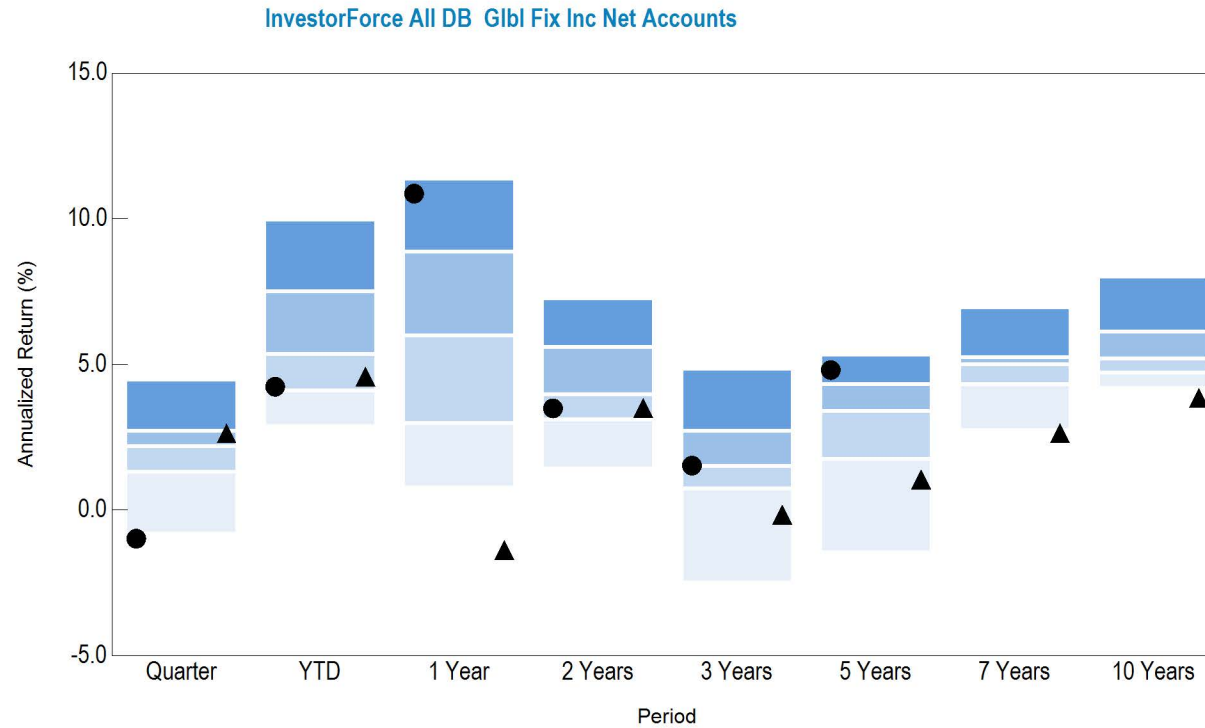
Coupon	
Range	% Held
0.0 - 5.0	100.0
5.0 - 7.0	0.0
7.0 - 9.0	0.0
9.0 - 10.0	0.0
10.0+	0.0
Unclassified	0.0



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.6	5.6	15.1	8.0	5.4	8.2	8.9	8.1
25th Percentile	2.2	4.9	12.9	6.6	4.6	7.0	8.2	7.4
Median	1.9	4.4	11.4	5.7	3.8	6.3	7.6	6.9
75th Percentile	1.6	3.9	9.6	4.9	3.1	5.6	7.0	6.2
95th Percentile	1.1	2.3	5.9	3.1	1.5	3.3	5.2	5.0
# of Portfolios	118	117	116	114	105	93	77	58
● Beach Point Select	1.9 (50)	4.4 (50)	13.8 (16)	8.9 (1)	-- (--)	-- (--)	-- (--)	-- (--)
■ TCP Direct Lending VIII	2.6 (4)	4.6 (45)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
▲ BBgBarc BA Intermediate HY	2.5 (8)	4.3 (61)	9.2 (78)	6.4 (28)	4.8 (21)	4.7 (92)	5.9 (94)	-- (--)

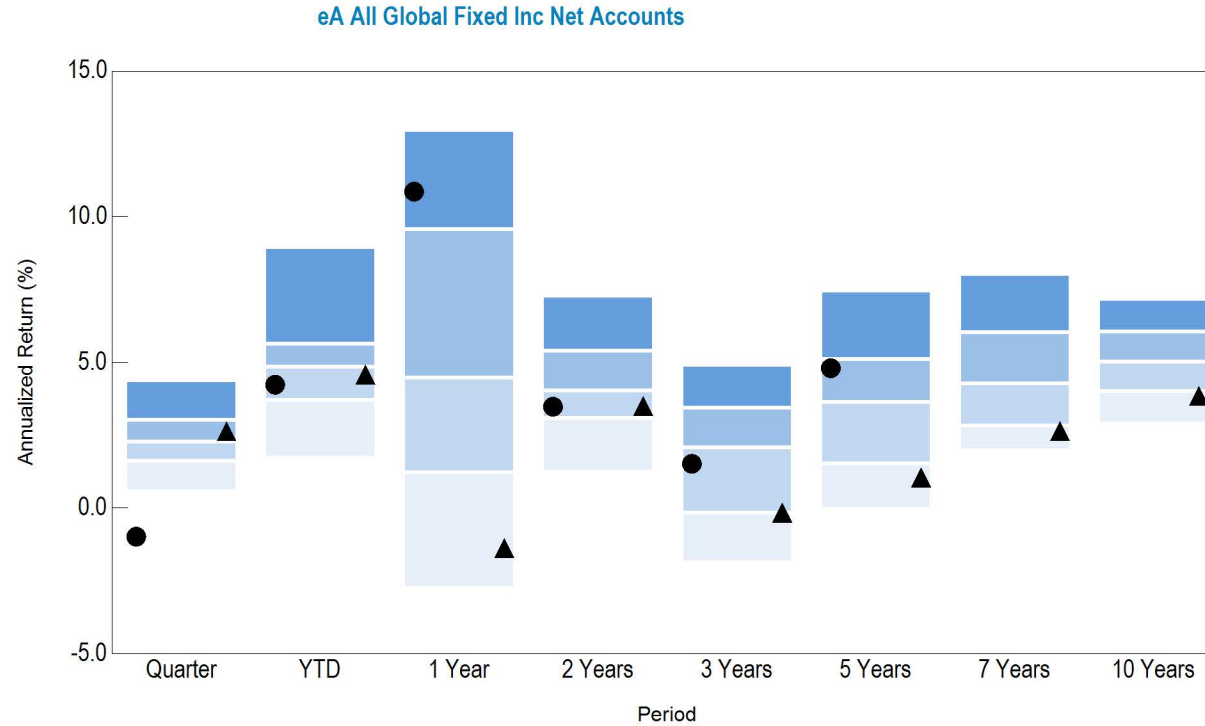


	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.6	5.6	15.1	8.0	5.4	8.2	8.9	8.1
25th Percentile	2.2	4.9	12.9	6.6	4.6	7.0	8.2	7.4
Median	1.9	4.4	11.4	5.7	3.8	6.3	7.6	6.9
75th Percentile	1.6	3.9	9.6	4.9	3.1	5.6	7.0	6.2
95th Percentile	1.1	2.3	5.9	3.1	1.5	3.3	5.2	5.0
# of Portfolios	118	117	116	114	105	93	77	58
● Brigade Capital	1.8 (61)	5.7 (4)	16.1 (3)	6.8 (19)	3.3 (69)	6.2 (59)	-- (--)	-- (--)
▲ BBgBarc BA Intermediate HY	2.5 (8)	4.3 (61)	9.2 (78)	6.4 (28)	4.8 (21)	4.7 (92)	5.9 (94)	-- (--)
✕ 50% Barclays HY/ 50% Bank Loan	1.5 (84)	3.4 (83)	10.1 (70)	5.6 (55)	4.0 (43)	5.9 (68)	6.7 (84)	-- (--)



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	4.5	10.0	11.4	7.3	4.8	5.3	7.0	8.0
25th Percentile	2.7	7.5	8.9	5.6	2.7	4.3	5.3	6.1
Median	2.2	5.4	6.0	4.0	1.5	3.4	5.0	5.2
75th Percentile	1.3	4.1	3.0	3.1	0.8	1.8	4.3	4.7
95th Percentile	-0.8	2.9	0.8	1.4	-2.5	-1.4	2.8	4.2
# of Portfolios	39	39	38	38	35	27	18	16
● Global Fixed Income	-1.0 (99)	4.2 (72)	10.9 (14)	3.5 (71)	1.5 (53)	4.8 (16)	-- (--)	-- (--)
▲ BBgBarc Multiverse TR	2.6 (33)	4.6 (58)	-1.4 (99)	3.5 (69)	-0.2 (83)	1.1 (84)	2.6 (97)	3.8 (99)

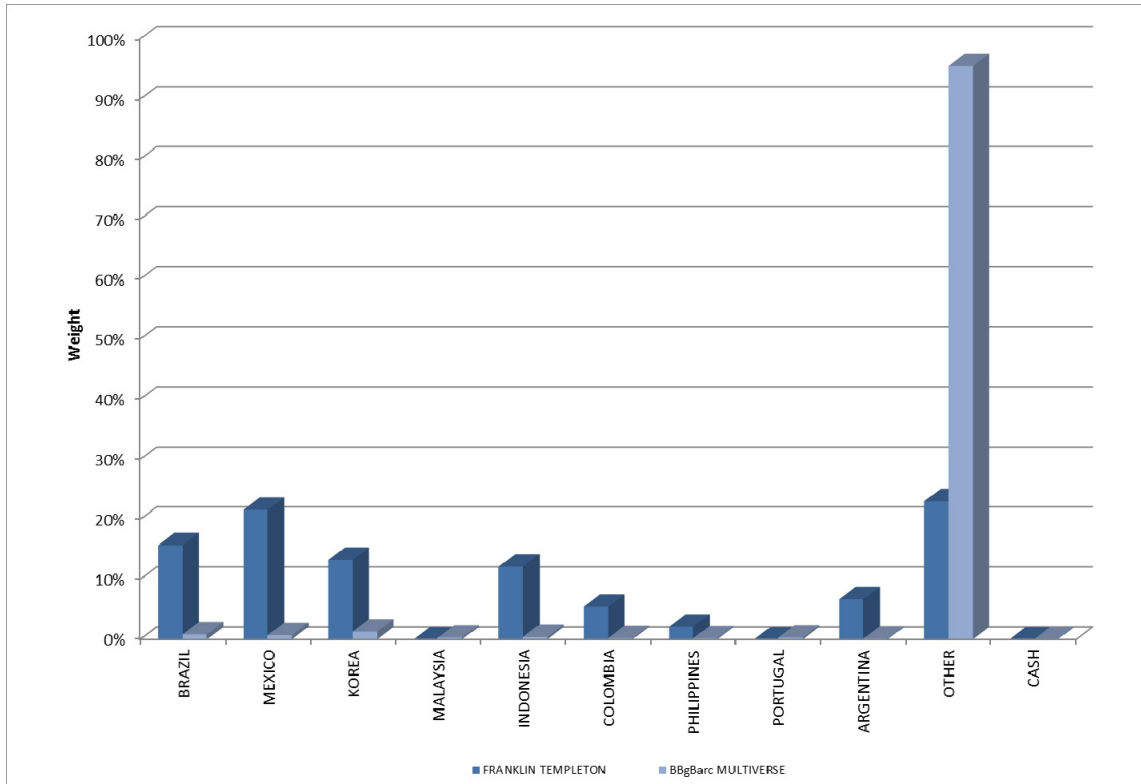




	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	4.4	8.9	13.0	7.3	4.9	7.5	8.0	7.2
25th Percentile	3.0	5.7	9.6	5.4	3.5	5.1	6.0	6.1
Median	2.3	4.9	4.5	4.1	2.1	3.7	4.3	5.0
75th Percentile	1.6	3.7	1.2	3.1	-0.1	1.5	2.8	4.0
95th Percentile	0.6	1.7	-2.7	1.3	-1.9	0.0	2.0	2.9
# of Portfolios	203	203	200	191	179	157	119	87
● Franklin Templeton	-1.0 (99)	4.2 (65)	10.9 (19)	3.5 (65)	1.5 (57)	4.8 (32)	-- (--)	-- (--)
▲ BBgBarc Multiverse TR	2.6 (40)	4.6 (57)	-1.4 (91)	3.5 (64)	-0.2 (76)	1.1 (83)	2.6 (81)	3.8 (81)

Franklin Templeton  
Portfolio Country Weights

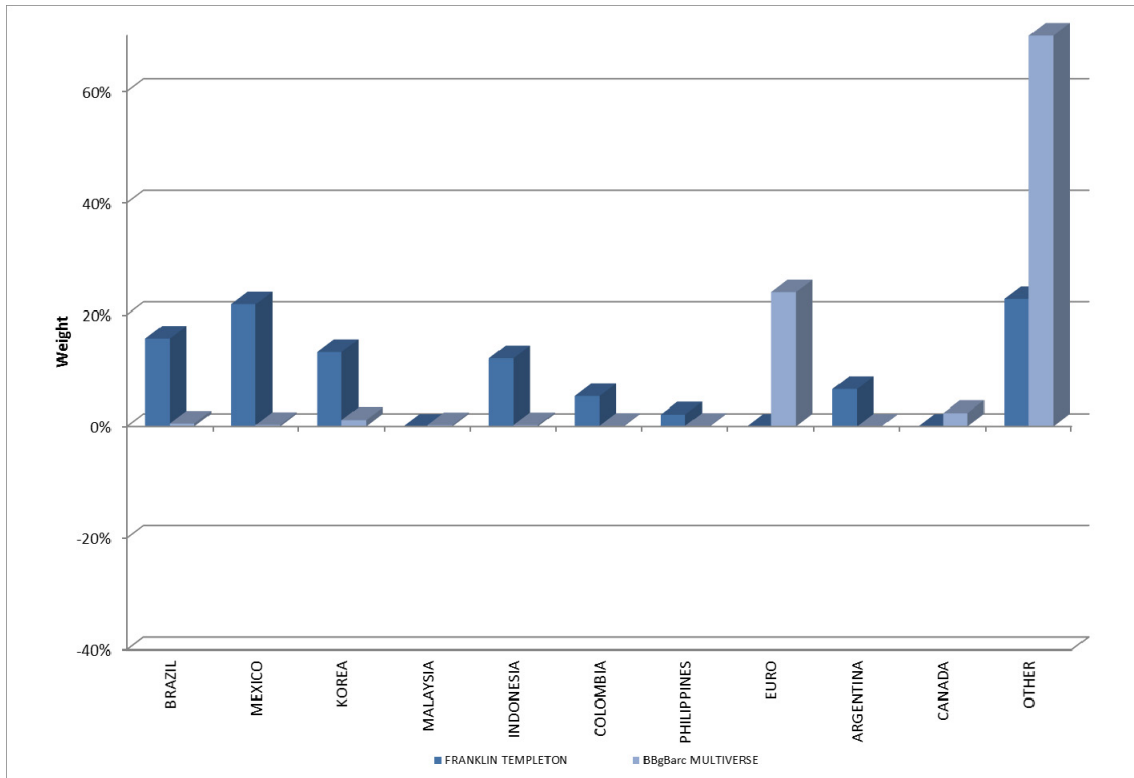
Period Ending: June 30, 2017



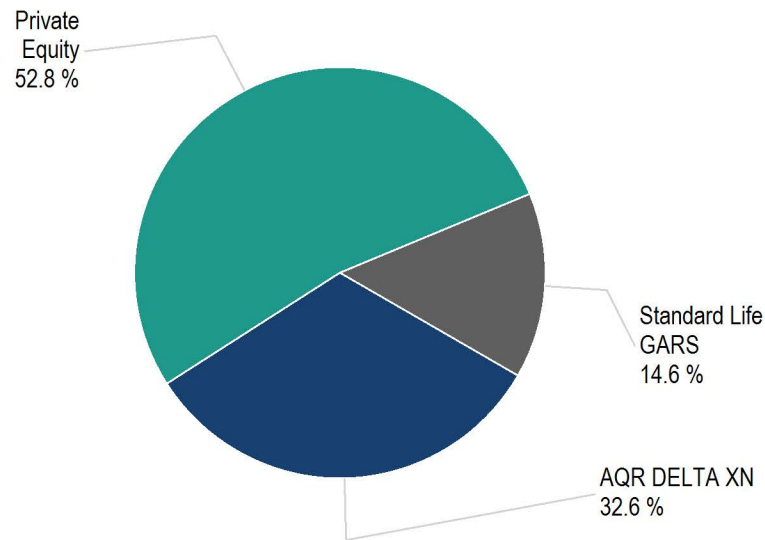
COUNTRY	MARKET VALUE	FRANKLIN TEMPLETON	BBgBarc MULTIVERSE	DIFF
BRAZIL	\$ 17,405	15.7%	0.9%	+14.8%
MEXICO	\$ 23,950	21.6%	0.7%	+20.9%
KOREA	\$ 14,709	13.3%	1.3%	+12.0%
MALAYSIA	\$ -	0.0%	0.3%	-0.3%
INDONESIA	\$ 13,461	12.1%	0.4%	+11.7%
COLOMBIA	\$ 6,022	5.4%	0.2%	+5.2%
PHILIPPINES	\$ 2,359	2.1%	0.2%	+1.9%
PORTUGAL	\$ -	0.0%	0.3%	-0.3%
ARGENTINA	\$ 7,433	6.7%	0.2%	+6.6%
OTHER	\$ 25,524	23.0%	95.5%	-72.5%
CASH	\$ -	0.0%	0.0%	0.0%
	\$ 110,864	100.0%	100.0%	0.0%

Franklin Templeton  
Portfolio Currency Exposures

Period Ending: June 30, 2017



CURRENCY	MARKET VALUE	FRANKLIN TEMPLETON	BBgBarc MULTIVERSE	DIFF
BRAZIL	\$ 17,406	15.7%	0.5%	+15.2%
MEXICO	\$ 24,213	21.8%	0.3%	+21.6%
KOREA	\$ 14,712	13.3%	1.1%	+12.1%
MALAYSIA	\$ -	0.0%	0.3%	-0.3%
INDONESIA	\$ 13,459	12.1%	0.3%	+11.9%
COLOMBIA	\$ 6,020	5.4%	0.1%	+5.3%
PHILIPPINES	\$ 2,361	2.1%	0.1%	+2.0%
EURO	\$ -	0.0%	24.0%	-24.0%
ARGENTINA	\$ 7,428	6.7%	0.0%	+6.7%
CANADA	\$ -	0.0%	2.4%	-2.4%
OTHER	\$ 25,266	22.8%	70.9%	-48.1%
	\$ 110,864	100.0%	100.0%	0.0%



	Actual \$	Actual %	Manager Contribution to Excess Return %
AQR DELTA XN	\$156,969,306	32.6%	-0.8%
Private Equity	\$253,994,925	52.8%	0.5%
Standard Life GARS	\$70,318,701	14.6%	-0.1%
Actual vs. Policy Weight Difference			0.0%
<b>Total</b>	<b>\$481,282,932</b>	<b>100.0%</b>	<b>-0.4%</b>

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	7.8%	5.4%	1.4	0.6	7.0%
Alternatives Allocation Index	3.8%	5.9%	0.6	--	0.0%
Private Equity	19.0%	10.0%	1.9	0.5	14.2%
Russell 3000 +3%	12.1%	10.4%	1.1	--	0.0%
Hedge Fund/Absolute Return	7.1%	5.0%	1.4	0.5	5.0%
Libor 1 month +4%	4.4%	0.1%	33.8	--	0.0%
AQR DELTA XN	7.3%	5.3%	1.3	0.5	5.4%
Libor 1 month +4%	4.4%	0.1%	33.8	--	0.0%

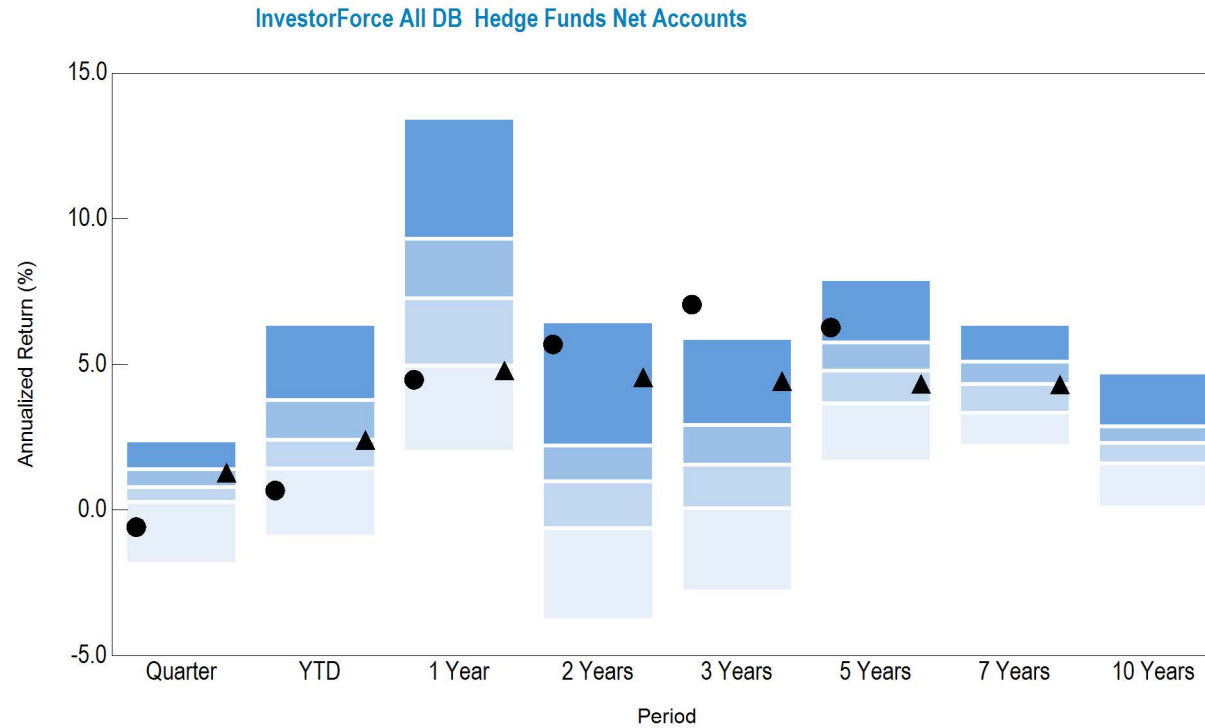
**Statistics Summary**

**5 Years**

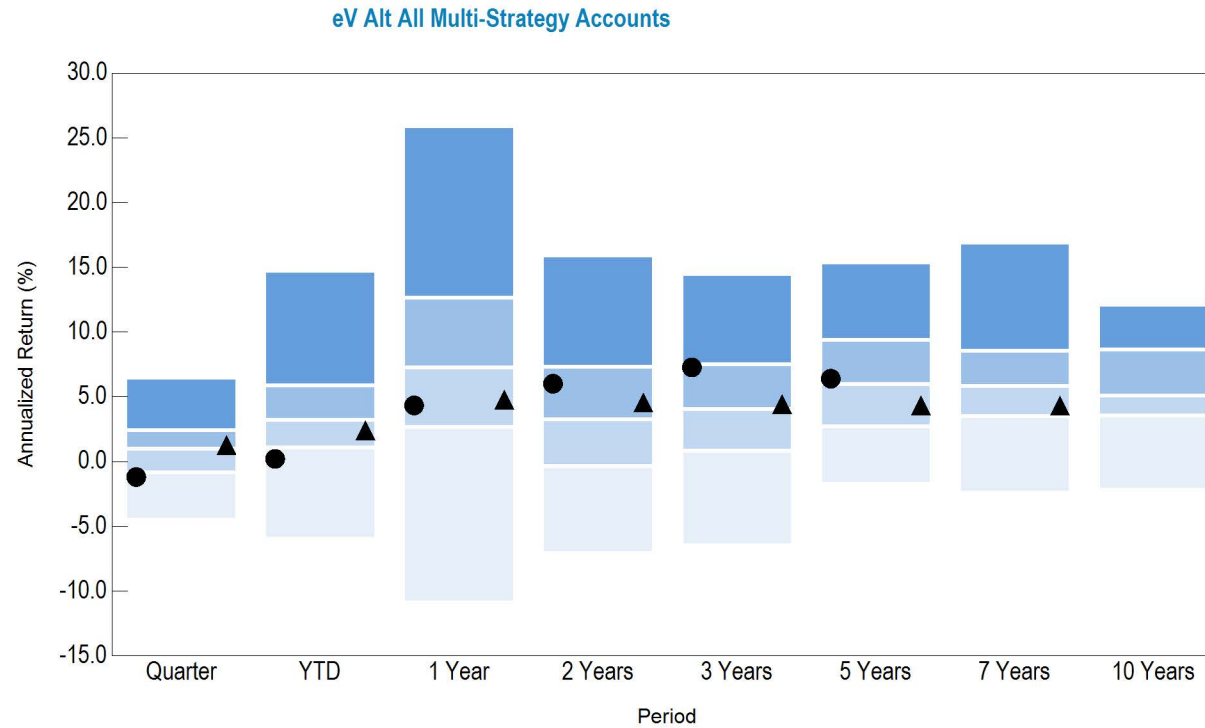
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	7.2%	5.5%	1.3	0.1	6.2%
Alternatives Allocation Index	6.7%	5.5%	1.2	--	0.0%
Private Equity	15.2%	9.2%	1.6	-0.2	13.0%
Russell 3000 +3%	17.6%	9.6%	1.8	--	0.0%
Hedge Fund/Absolute Return	6.3%	4.9%	1.2	0.4	4.9%
Libor 1 month +4%	4.3%	0.1%	36.5	--	0.0%
AQR DELTA XN	6.4%	5.1%	1.2	0.4	5.1%
Libor 1 month +4%	4.3%	0.1%	36.5	--	0.0%

Hedge Fund/Absolute Return  
Peer Universe Comparison

Period Ending: June 30, 2017

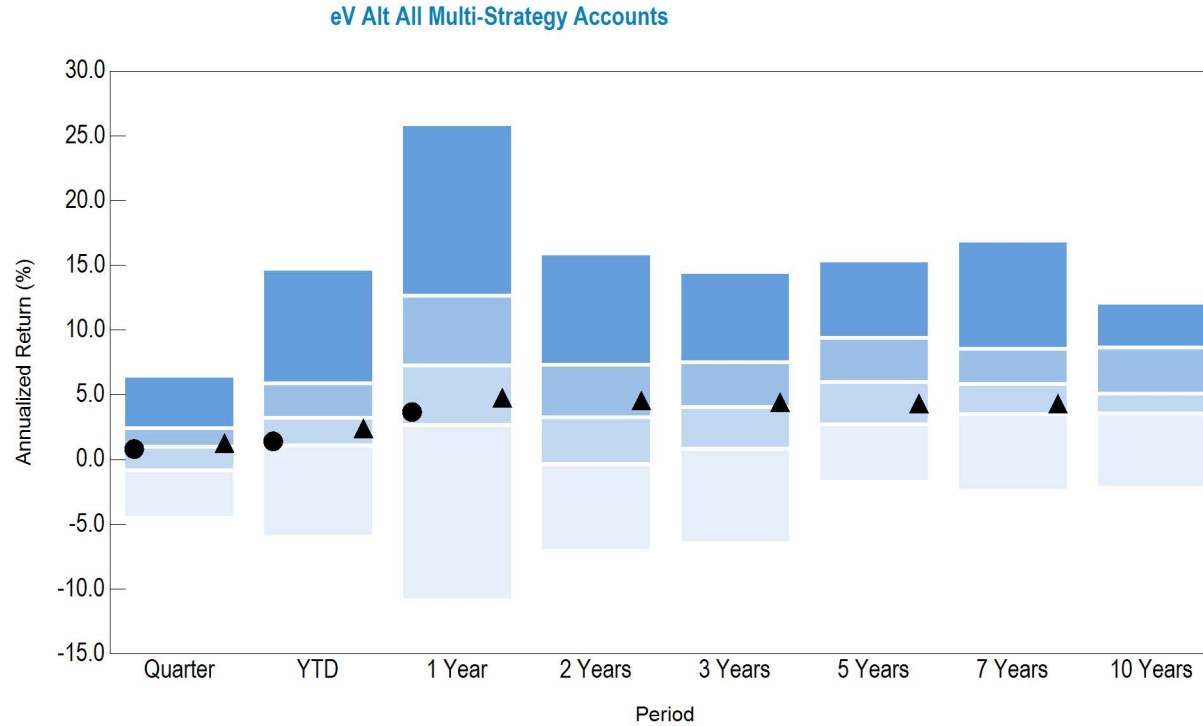


	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.4	6.4	13.5	6.5	5.9	7.9	6.4	4.7
25th Percentile	1.4	3.8	9.3	2.2	2.9	5.8	5.1	2.9
Median	0.8	2.4	7.3	1.0	1.6	4.8	4.3	2.3
75th Percentile	0.3	1.4	5.0	-0.6	0.1	3.7	3.3	1.6
95th Percentile	-1.8	-0.9	2.0	-3.8	-2.8	1.7	2.2	0.1
# of Portfolios	213	210	208	204	202	183	130	74
● Hedge Fund/Absolute Return	-0.6 (91)	0.7 (85)	4.5 (81)	5.7 (7)	7.1 (3)	6.3 (16)	-- (--)	-- (--)
▲ Libor 1 month +4%	1.3 (32)	2.4 (51)	4.8 (77)	4.6 (11)	4.4 (11)	4.3 (61)	4.3 (51)	-- (--)

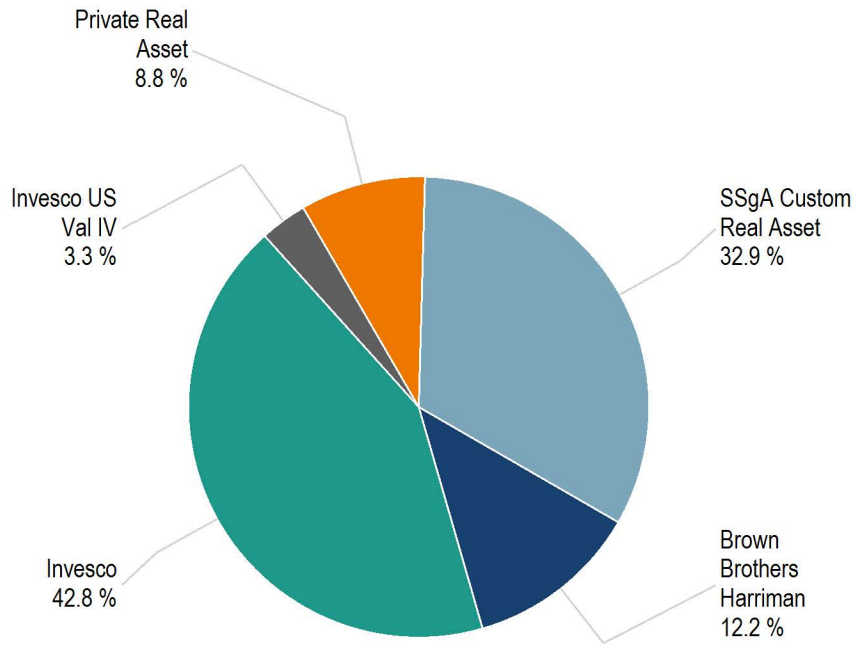


	Return (Rank)							
5th Percentile	6.5	14.7	25.9	15.9	14.5	15.4	16.9	12.1
25th Percentile	2.5	5.9	12.7	7.3	7.6	9.4	8.6	8.7
Median	1.0	3.2	7.3	3.3	4.1	6.0	5.9	5.1
75th Percentile	-0.8	1.1	2.7	-0.3	0.8	2.8	3.5	3.6
95th Percentile	-4.5	-6.0	-10.9	-7.1	-6.4	-1.7	-2.4	-2.2
# of Portfolios	297	295	288	269	246	192	153	93
● AQR DELTA XN	-1.2 (79)	0.2 (80)	4.3 (65)	6.0 (32)	7.3 (29)	6.4 (48)	-- (--)	-- (--)
▲ Libor 1 month +4%	1.3 (45)	2.4 (62)	4.8 (62)	4.6 (40)	4.4 (48)	4.3 (66)	4.3 (66)	-- (--)





	Return (Rank)							
5th Percentile	6.5	14.7	25.9	15.9	14.5	15.4	16.9	12.1
25th Percentile	2.5	5.9	12.7	7.3	7.6	9.4	8.6	8.7
Median	1.0	3.2	7.3	3.3	4.1	6.0	5.9	5.1
75th Percentile	-0.8	1.1	2.7	-0.3	0.8	2.8	3.5	3.6
95th Percentile	-4.5	-6.0	-10.9	-7.1	-6.4	-1.7	-2.4	-2.2
# of Portfolios	297	295	288	269	246	192	153	93
● Standard Life GARS	0.8 (56)	1.4 (73)	3.7 (69)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
▲ Libor 1 month +4%	1.3 (45)	2.4 (62)	4.8 (62)	4.6 (40)	4.4 (48)	4.3 (66)	4.3 (66)	-- (--)



	Actual \$	Actual %	Manager Contribution to Excess Return %
Invesco	\$248,118,958	42.8%	0.0%
Invesco US Val IV	\$18,983,489	3.3%	0.0%
Brown Brother Harriman	\$70,919,206	12.2%	0.0%
Private Real Asset	\$51,254,052	8.8%	-0.3%
SSgA Custom Real Asset	\$190,503,104	32.9%	0.1%
Actual vs. Policy Weight Difference			0.0%
<b>Total</b>	<b>\$579,778,809</b>	<b>100.0%</b>	<b>-0.1%</b>

Statistics Summary

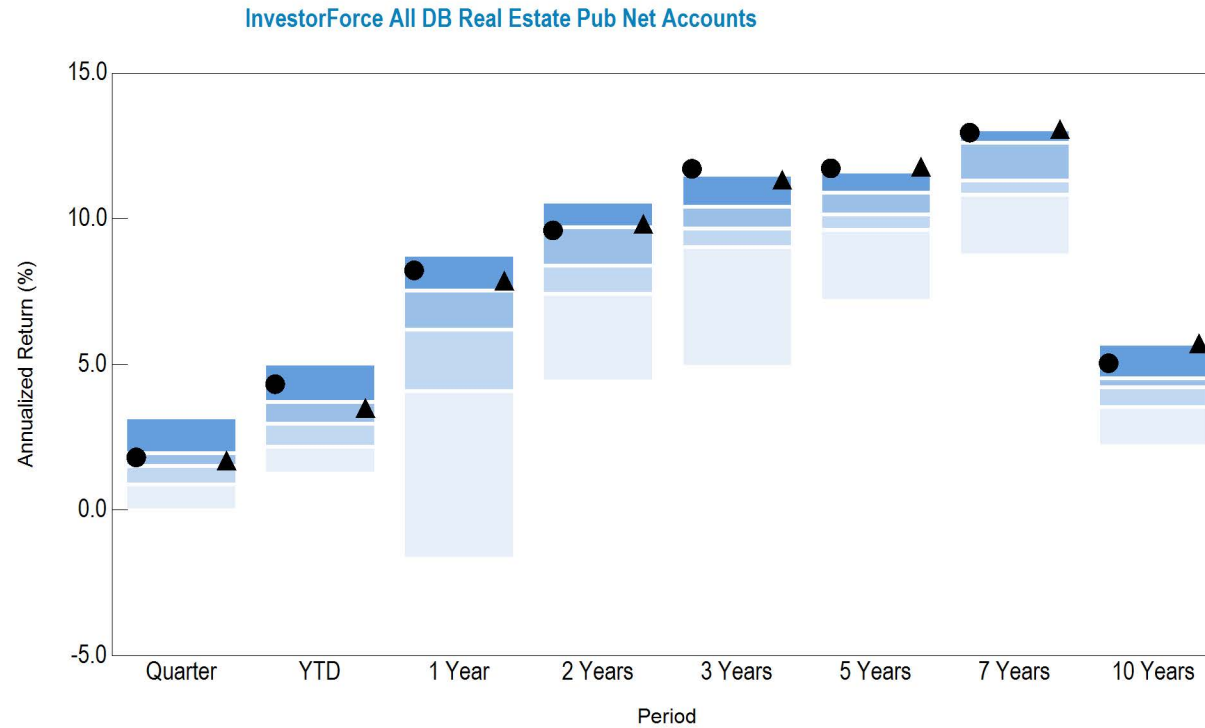
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Real Estate	11.71%	5.10%	2.25	0.26	1.44%
NCREIF ODCE	11.34%	4.77%	2.33	--	0.00%
Invesco	11.59%	5.06%	2.24	0.16	1.52%
NCREIF ODCE	11.34%	4.77%	2.33	--	0.00%
TIPS	0.37%	2.86%	0.05	-0.17	1.50%
BBgBarc US TIPS TR	0.63%	3.83%	0.10	--	0.00%
Brown Brothers Harriman	0.37%	2.86%	0.05	-0.17	1.50%
BBgBarc US TIPS TR	0.63%	3.83%	0.10	--	0.00%

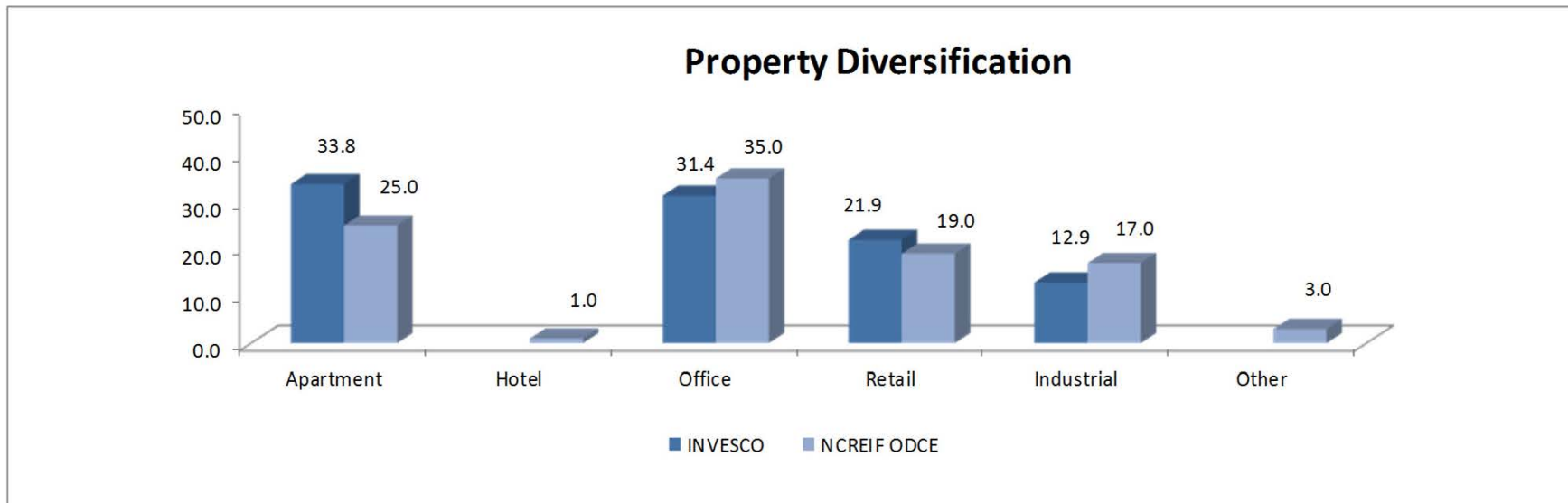
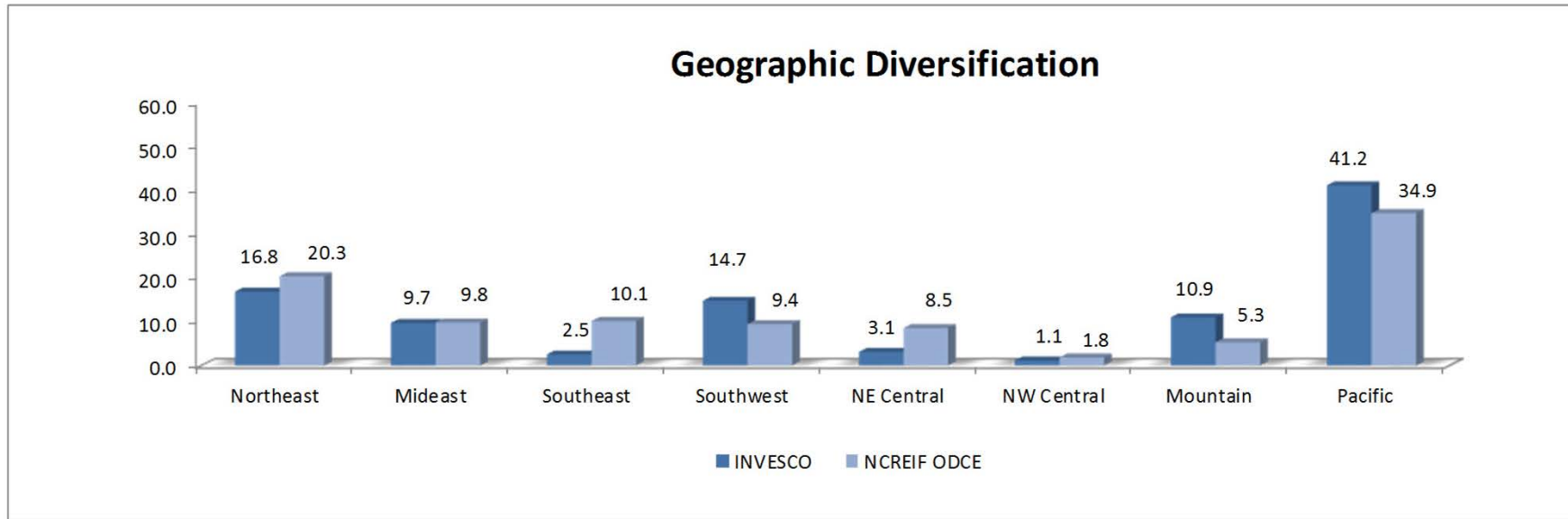
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error Rank
Real Estate	11.73%	5.03%	2.30	-0.04	28
NCREIF ODCE	11.78%	4.85%	2.40	--	1
Invesco	11.65%	5.01%	2.29	-0.09	--
NCREIF ODCE	11.78%	4.85%	2.40	--	--
TIPS	-0.09%	3.97%	-0.06	-0.28	--
BBgBarc US TIPS TR	0.27%	4.52%	0.02	--	--
Brown Brothers Harriman	-0.09%	3.97%	-0.06	-0.28	53
BBgBarc US TIPS TR	0.27%	4.52%	0.02	--	1



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.2	5.0	8.8	10.6	11.5	11.6	13.1	5.7
25th Percentile	2.0	3.7	7.6	9.7	10.4	10.9	12.6	4.5
Median	1.5	3.0	6.2	8.4	9.7	10.2	11.3	4.2
75th Percentile	0.9	2.2	4.1	7.4	9.0	9.6	10.8	3.6
95th Percentile	0.0	1.3	-1.7	4.4	4.9	7.2	8.7	2.2
# of Portfolios	71	70	70	69	67	58	53	34
● Real Estate	1.8 (31)	4.3 (8)	8.2 (16)	9.6 (30)	11.7 (4)	11.7 (4)	13.0 (11)	5.0 (17)
▲ NCREIF ODCE	1.7 (36)	3.5 (41)	7.9 (22)	9.8 (23)	11.3 (9)	11.8 (4)	13.1 (4)	5.7 (4)



INVESCO Core Real Estate  
Real Estate Valuation Analysis

Period Ending: June 30, 2017

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 06/30/2017 2.92%
<b>APARTMENTS</b>							
Stoneridge Apartments	Pleasanton, CA	\$241,100,000	\$234,000,000	\$234,000,000	4Q06	June-17	\$6,837,143
Instrata Pentagon City	Arlington, VA	\$149,000,000	\$151,000,000	\$91,000,000	3Q10	June-17	\$2,658,889
Ladd Tower	Portland, OR	\$137,000,000	\$137,000,000	\$79,739,286	4Q10	June-17	\$2,329,867
Legacy Fountain Plaza	San Jose, CA	\$155,959,280	\$155,962,259	\$155,962,259	1Q11	June-17	\$4,556,992
Instrata Gramercy (fka The Elektra)	New York, NY	\$177,500,000	\$176,900,000	\$104,019,888	1Q11	June-17	\$3,039,311
Instrata Brooklyn Heights (fka 75 Clinton Street)	Brooklyn, NY	\$66,000,000	\$66,400,000	\$66,400,000	1Q12	June-17	\$1,940,112
The Artisan Laguna Beach	Orange County, CA	\$163,000,000	\$164,000,000	\$102,032,072	3Q12	June-17	\$2,981,230
The GoodWynn	Atlanta, GA	\$97,200,000	\$97,500,000	\$97,500,000	4Q12	June-17	\$2,848,809
Instrata Hell's Kitchen	New York, NY	\$194,000,000	\$188,000,000	\$114,380,000	1Q13	June-17	\$3,342,019
Sunset Vine Tower	Los Angeles, CA	\$96,000,000	\$96,300,000	\$96,300,000	2Q13	June-17	\$2,813,747
The Ashton	Dallas, TX	\$124,000,000	\$124,000,000	\$66,436,083	4Q13	June-17	\$1,941,167
The Pointe at Westchester	West Chester, PA	\$58,500,000	\$58,800,000	\$58,800,000	4Q13	June-17	\$1,718,051
206 Bell	Seattle, WA	\$46,200,000	\$48,000,000	\$48,000,000	4Q13	June-17	\$1,402,491
Cadence Union Station	Denver, CO	\$88,100,000	\$90,000,000	\$52,626,846	1Q14	June-17	\$1,537,681
Joseph Arnold Lofts	Seattle, WA	\$70,100,000	\$71,200,000	\$36,726,925	2Q14	June-17	\$1,073,108
Verve	Denver, CO	\$114,000,000	\$113,000,000	\$113,000,000	3Q14	June-17	\$3,301,697
Broadstone Little Italy	San Diego CA	\$118,000,000	\$121,000,000	\$67,442,203	3Q14	June-17	\$1,970,564
33 Tehama	San Francisco, CA	\$215,507,125	\$234,229,935	\$155,637,180	3Q14	June-17	\$4,547,494
The Parker	Portland, OR	\$67,000,000	\$67,000,000	\$34,595,721	1Q15	June-17	\$1,010,837
Legacy West Apartments	Plano, TX	\$93,619,102	\$103,991,140	\$74,389,114	1Q15	June-17	\$2,173,543
Village at Park Place	Irvine, CA	\$118,386,247	\$130,808,885	\$88,981,716	2Q15	June-17	\$2,599,917
Wheaton 121	Wheaton, IL	\$89,300,000	\$81,900,000	\$81,900,000	2Q15	June-17	\$2,393,000
Jefferson Marketplace	Washington, DC	\$149,000,000	\$152,000,000	\$81,245,875	4Q15	June-17	\$2,373,887
Retreat at Park Meadows	Littleton, CO	\$129,000,000	\$132,000,000	\$132,000,000	4Q15	June-17	\$3,856,850
North Water	Chicago, IL	\$257,000,000	\$263,000,000	\$263,000,000	1Q16	June-17	\$7,684,481
2270 Broadway	Oakland, CA	\$20,466,761	\$23,105,355	\$23,105,355	1Q16	June-17	\$675,105
Runway at Playa Vista -Apartments	Playa Vista, CA	\$154,760,000	\$163,770,000	\$100,296,108	1Q16	June-17	\$2,930,508
Clayton Lane Apartments	Denver, CO	\$34,083,028	\$34,788,644	\$34,788,644	1Q16	June-17	\$1,016,474
Biscayne 27	Miami, FL	\$17,738,305	\$36,026,090	\$36,026,090	2Q16	June-17	\$1,052,630
Flats 8300	Washington DC	\$219,000,000	\$228,000,000	\$124,500,000	2Q16	June-17	\$3,637,710
407 1st Ave	New York, NY	\$190,000,000	\$193,500,000	\$193,500,000	4Q16	June-17	\$5,653,791
5250 Park	Miami, FL	\$0	\$8,711,262	\$8,711,262	2Q17	Acq 2Q17	\$254,531
		<b>\$3,850,519,848</b>	<b>\$3,945,893,570</b>	<b>\$3,017,042,627</b>			<b>\$88,153,635</b>
<b>INDUSTRIAL</b>							
Arjons Industrial Park	San Diego CA	\$39,900,000	\$40,900,000	\$40,900,000	2Q04	June-17	\$1,195,039
Gateway Business Park	Dallas TX	\$13,400,000	\$13,500,000	\$13,500,000	2Q04	June-17	\$394,451
Hayward Industrial	Oakland CA	\$178,600,000	\$183,000,000	\$183,000,000	3Q04-3Q07	June-17	\$5,346,996
Lackman Park	Kansas City MO-KS	\$24,900,000	\$25,100,000	\$25,100,000	2Q04	June-17	\$733,386
Crossroads Industrial	Kansas City MO-KS	\$8,400,000	\$8,800,000	\$8,800,000	1Q06	June-17	\$257,123
Oakesdale Commerce Center	Seattle - Belle - Eve WA	\$52,200,000	\$53,100,000	\$53,100,000	1Q06	June-17	\$1,551,505
South Bay Industrial	Los Angeles, CA	\$47,200,000	\$55,800,000	\$55,800,000	4Q06	June-17	\$1,630,396
Steeplechase 95 International Business Park	Capitol Heights, MD	\$96,300,000	\$96,400,000	\$96,400,000	1Q11	June-17	\$2,816,669
Airport Trade Center Portfolio	Dallas, TX	\$121,700,000	\$126,800,000	\$126,800,000	1Q11	June-17	\$3,704,913
IE Logistics	San Bernardino, CA	\$134,800,000	\$132,700,000	\$132,700,000	3Q11	June-17	\$3,877,303
Railhead Drive Industrial	Dallas, TX	\$62,500,000	\$62,500,000	\$62,500,000	4Q11	June-17	\$1,826,160
Empire Gateway aka Chino South Logistics Center	Chino, CA	\$245,000,000	\$257,000,000	\$257,000,000	4Q12	June-17	\$7,509,169
SFO Logistics Center	San Francisco, CA	\$140,000,000	\$140,000,000	\$140,000,000	4Q13	June-17	\$4,090,598
Miami Industrial Portfolio	Variious ,FL	\$93,864,605	\$114,495,190	\$83,414,659	1Q16	June-17	\$2,437,256
OMP Burbank	Los Angeles, CA	\$70,896,635	\$70,539,525	\$70,539,525	2Q16	June-17	\$2,061,063
Pacific Commons	Freemont, CA	\$121,263,390	\$122,661,267	\$58,198,367	1Q17	June-17	\$1,700,472
		<b>\$1,450,924,630</b>	<b>\$1,503,295,982</b>	<b>\$1,407,752,551</b>			<b>\$41,132,499</b>

INVESCO Core Real Estate  
Real Estate Valuation Analysis

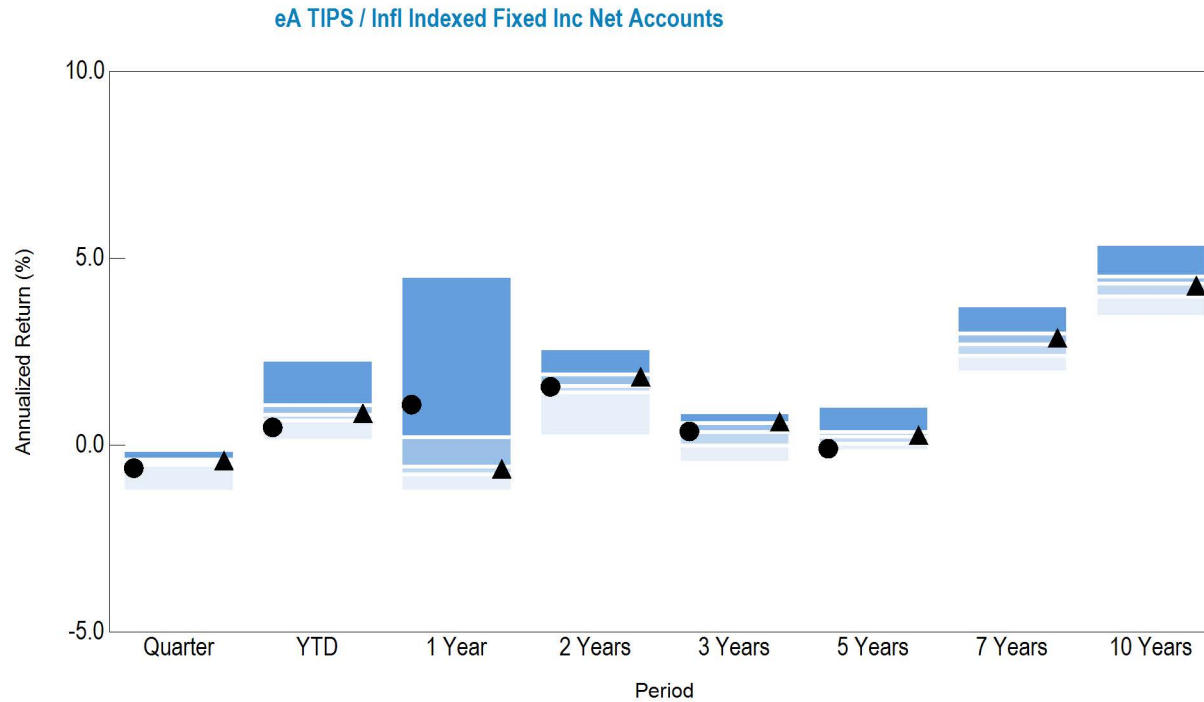
Period Ending: June 30, 2017

OFFICE							
55 Cambridge Parkway	Boston MA - NH	\$272,000,000	\$285,000,000	\$285,000,000	4Q06	June-17	\$8,327,289
1111 Pennsylvania Avenue	Washington, D.C.	\$313,000,000	\$317,000,000	\$317,000,000	4Q10	June-17	\$9,262,283
1800 Larimer	Denver, CO	\$321,000,000	\$328,000,000	\$328,000,000	1Q11	June-17	\$9,583,687
Hillview Office	San Jose, CA	\$77,900,000	\$78,400,000	\$78,400,000	3Q12	June-17	\$2,290,735
Williams Tower	Houston, TX	\$587,000,000	\$590,000,000	\$405,902,504	1Q13	June-17	\$11,859,886
Westlake Park Place	Westlake Village, CA	\$112,000,000	\$112,000,000	\$112,000,000	4Q13	June-17	\$3,272,478
101 Second	San Francisco, CA	\$390,000,000	\$394,000,000	\$394,000,000	1Q14	June-17	\$11,512,112
Energy Crossing II	Houston, TX	\$108,000,000	\$108,000,000	\$108,000,000	2Q14	June-17	\$3,155,604
1776 Wilson Blvd.	Arlington, VA	\$94,800,000	\$94,600,000	\$94,600,000	3Q14	June-17	\$2,764,076
631 Howard	San Francisco, CA	\$94,400,000	\$94,700,000	\$94,700,000	3Q14	June-17	\$2,766,997
Barton Oaks	Austin, TX	\$85,700,000	\$87,300,000	\$87,300,000	3Q14	June-17	\$2,550,780
Hercules East and South Campus	Los Angeles, CA	\$164,920,672	\$166,413,301	\$166,413,301	3Q14	June-17	\$4,862,357
The Reserve	Playa Vista, CA	\$366,277,678	\$367,470,065	\$367,470,065	1Q15	June-17	\$10,736,945
Fort Point Portfolio	Boston, MA	\$218,719,105	\$223,120,254	\$133,978,449	2Q15	June-17	\$3,914,657
Legacy West Office	Plano, TX	\$56,147,262	\$64,509,497	\$64,509,497	1Q15	June-17	\$1,884,874
Summit IV	Aliso Viejo, CA	\$124,000,000	\$123,000,000	\$84,496,701	2Q15	June-17	\$2,468,872
1101 Westlake	Seattle, WA	\$99,300,000	\$106,000,000	\$106,000,000	3Q15	June-17	\$3,097,167
PearlWest	Boulder, CO	\$122,000,000	\$122,000,000	\$122,000,000	4Q16	June-17	\$3,564,664
		<b>\$3,607,164,717</b>	<b>\$3,661,513,117</b>	<b>\$3,349,770,517</b>			<b>\$97,875,464</b>
RETAIL							
Chandler Pavilion	Phoenix - Mesa AZ	\$23,900,000	\$24,000,000	\$24,000,000	2Q04	June-17	\$701,245
Cityline at Tenley	Washington, D.C.	\$63,000,000	\$63,100,000	\$63,100,000	4Q05	June-17	\$1,843,691
Ridgehaven Shopping Center	Minnetonka, MN	\$42,600,000	\$42,940,000	\$42,940,000	4Q05	June-17	\$1,254,645
The Beacon Retail	San Francisco, CA	\$68,430,751	\$68,496,378	\$68,496,378	1Q06	June-17	\$2,001,365
The Beacon Garage (units)	San Francisco, CA	\$36,069,249	\$36,103,622	\$36,103,622	1Q06	June-17	\$1,054,896
The Beacon Office (210 King)	San Francisco, CA	\$24,800,000	\$25,000,000	\$25,000,000	1Q15	June-17	\$730,464
Hawthorne Plaza	Overland Park, KS	\$54,400,000	\$52,925,000	\$52,925,000	4Q07	June-17	\$1,546,392
The Loop	Boston MA - NH	\$92,800,000	\$92,800,000	\$92,800,000	1Q08	June-17	\$2,711,482
Westbank Market	Austin, TX	\$60,700,000	\$62,000,000	\$62,000,000	3Q10	June-17	\$1,811,551
Lake Pointe Village	Houston, TX	\$79,250,000	\$79,650,000	\$79,650,000	4Q11	June-17	\$2,327,258
Safeway Kapahulu	Hawaii	\$91,600,000	\$91,700,000	\$55,361,438	4Q11	June-17	\$1,617,581
Safeway Burlingame	San Francisco, CA	\$58,600,000	\$58,600,000	\$35,782,259	4Q11	June-17	\$1,045,506
Shamrock Plaza	Oakland, CA	\$39,200,000	\$39,500,000	\$23,220,188	4Q11	June-17	\$678,460
Pavilions Marketplace	West Hollywood, CA	\$67,800,000	\$67,600,000	\$42,822,955	1Q12	June-17	\$1,251,225
130 Prince	New York, NY	\$223,800,000	\$219,700,000	\$219,700,000	2Q12	June-17	\$6,419,317
Safeway Pleasanton	Pleasanton, CA	\$82,000,000	\$82,800,000	\$82,800,000	4Q12	June-17	\$2,419,297
Liberty Wharf	Boston, MA	\$94,600,000	\$94,900,000	\$64,696,785	4Q12	June-17	\$1,890,347
Shops at Legacy	Plano, TX	\$110,690,478	\$110,690,478	\$110,690,478	3Q13	June-17	\$3,234,216
Pasadena Commons	Pasadena, CA	\$58,800,000	\$58,800,000	\$58,800,000	4Q14	June-17	\$1,718,051
Rush Street Retail	Chicago, IL	\$15,800,000	\$16,100,000	\$16,100,000	4Q14	June-17	\$470,419
Legacy West Retail	Plano, TX	\$165,353,014	\$182,331,898	\$118,625,012	1Q15	June-17	\$3,466,052
Legacy West Land	Plano, TX	\$8,549,783	\$917,188	\$917,188	2Q17	June-17	\$26,799
131-137 Spring Street	New York, NY	\$235,905,423	\$236,769,849	\$125,488,020	3Q15	June-17	\$3,666,579
Runway at Playa Vista - Retail	Playa Vista, CA	\$119,780,000	\$121,900,000	\$59,486,215	1Q16	June-17	\$1,738,101
139 Spring	New York, NY	\$125,850,405	\$125,933,200	\$125,933,200	1Q16	June-17	\$3,679,587
Clayton Lane	Denver, CO	\$142,157,558	\$142,041,999	\$95,261,920	1Q16	June-17	\$2,783,416
4th & Colorado	Santa Monica, CA	\$12,880,000	\$13,120,000	\$13,120,000	1Q16	June-17	\$383,347
Shops at Crystals	Las Vegas, NV	\$287,500,000	\$290,000,000	\$152,283,293	2Q16	June-17	\$4,449,498
		<b>\$2,546,716,661</b>	<b>\$2,560,519,612</b>	<b>\$2,008,203,951</b>			<b>\$58,676,824</b>
<b>Portfolio Total</b>		<b>\$11,455,325,856</b>	<b>\$11,671,222,281</b>	<b>\$9,782,769,646</b>			<b>\$285,838,422</b>

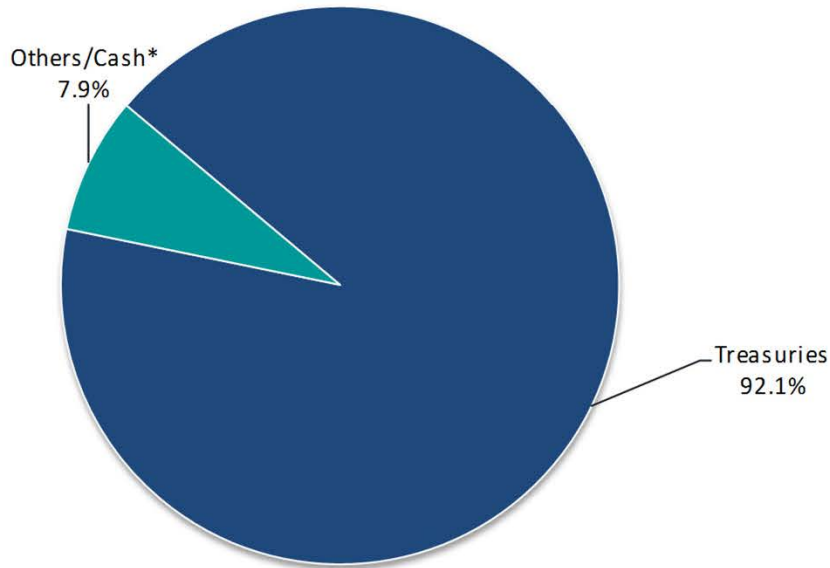


TIPS / Inflation Indexed Fixed Income  
Peer Universe Comparison

Period Ending: June 30, 2017



	Return (Rank)							
	Quarter	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	-0.1	2.3	4.5	2.6	0.9	1.0	3.7	5.4
25th Percentile	-0.4	1.1	0.2	1.9	0.6	0.4	3.0	4.5
Median	-0.4	0.8	-0.6	1.6	0.4	0.2	2.7	4.3
75th Percentile	-0.5	0.7	-0.8	1.4	0.0	0.0	2.4	4.0
95th Percentile	-1.2	0.1	-1.2	0.2	-0.5	-0.2	2.0	3.4
# of Portfolios	22	22	22	22	20	19	15	11
● Brown Brothers Harriman	-0.6 (86)	0.5 (84)	1.1 (18)	1.6 (57)	0.4 (49)	-0.1 (94)	-- (--)	-- (--)
▲ BBgBarc US TIPS TR	-0.4 (41)	0.9 (46)	-0.6 (60)	1.8 (35)	0.6 (23)	0.3 (37)	2.9 (29)	4.3 (61)



Sector	Account Weight	BBgBarc TIPS	
		Index	Difference
Treasuries	92.1%	100.0%	-7.9%
Agencies	0.0%	0.0%	0.0%
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*	7.9%	0.0%	7.9%
<b>TOTAL</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>

\* May include Derivatives, Futures, Swaps, Credit Default Swaps, Total Return Swaps or Currency Contracts.

Portfolio Characteristics		
		Portfolio
Total Number of Securities		12
Total Market Value	\$	70,919,206
Current Coupon		0.98
Yield to Maturity		0.36
Average Life		
Duration		5.75
Quality		GOV

BBgBarc TIPS	
	38
	N/A
	0.82
	0.36
	5.38
	AAA

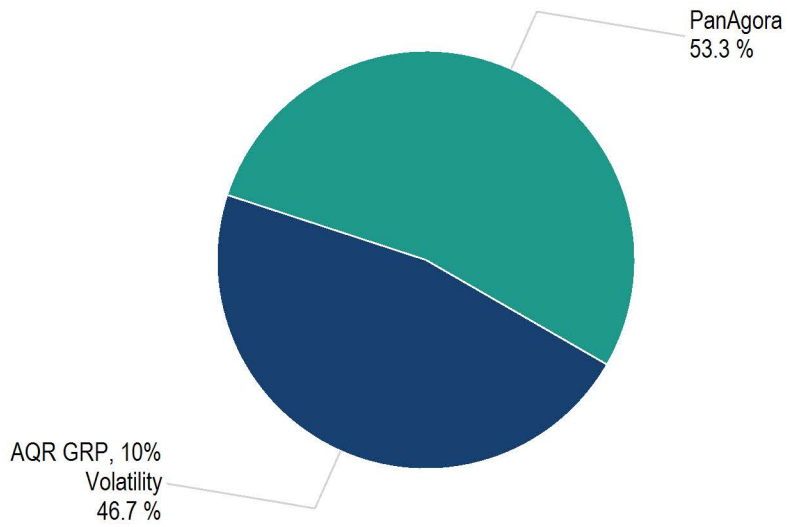
Yield to Maturity	
Range	% Held
0.0 - 5.0	100.0
5.0 - 7.0	0.0
7.0 - 9.0	0.0
9.0 - 11.0	0.0
11.0 - 13.0	0.0
13.0+	0.0
Unclassified	0.0

Average Life	
Range	% Held
0.0 - 3.0	10.3
3.0 - 5.0	13.5
5.0 - 10.0	38.3
10.0- 15.0	17.4
15.0+	20.6
Unclassified	0.0

Duration	
Range	% Held
0.0 - 3.0	31.6
3.0 - 5.0	14.5
5.0 - 10.0	35.1
10.0- 15.0	6.1
15.0+	12.8
Unclassified	0.0

Quality	
Range	% Held
Govt (10)	92.1
Aaa (10)	0.0
Aa (9)	0.0
A (8)	0.0
Baa (7)	0.0
Below Baa (6-1)	0.0
Other	7.9

Coupon	
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



	Actual \$	Actual %	Manager Contribution to Excess Return %
AQR GRP, 10% Volatility	\$136,211,099	46.7%	-0.4%
PanAgora	\$155,546,043	53.3%	-0.4%
Actual vs. Policy Weight Difference			0.0%
<b>Total</b>	<b>\$291,757,142</b>	<b>100.0%</b>	<b>-0.8%</b>

**Statistics Summary**

**3 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Risk Parity	2.8%	8.5%	0.3	-0.6	6.6%
60/40 Russell 3000/BBgBarc US Aggregate	6.6%	6.4%	1.0	--	0.0%
AQR GRP, 10% Volatility	0.2%	8.4%	0.0	-1.0	6.4%
60/40 Russell 3000/BBgBarc US Aggregate	6.6%	6.4%	1.0	--	0.0%

**Statistics Summary**

**5 Years**

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Risk Parity	5.8%	8.8%	0.6	-0.6	6.9%
60/40 Russell 3000/BBgBarc US Aggregate	9.6%	5.9%	1.6	--	0.0%
AQR GRP, 10% Volatility	4.2%	8.8%	0.5	-0.8	6.8%
60/40 Russell 3000/BBgBarc US Aggregate	9.6%	5.9%	1.6	--	0.0%

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: June 30, 2017

	3 Mo (%)	YTD (%)	Fiscal YTD (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Total Fund</b>	<b>2.7</b>	<b>7.7</b>	<b>12.8</b>	<b>6.8</b>	<b>5.8</b>	<b>9.7</b>	<b>4.9</b>
<i>Policy Index</i>	2.8	7.3	12.6	6.6	5.3	9.2	5.5
<i>Allocation Index</i>	2.8	7.2	12.2	6.5	5.2	9.1	--
<b>Total Fund ex Overlay</b>	<b>2.6</b>	<b>7.6</b>	<b>13.0</b>	<b>6.7</b>	<b>5.7</b>	<b>9.6</b>	<b>4.9</b>
<i>Policy Index</i>	2.8	7.3	12.6	6.6	5.3	9.2	5.5
<i>Allocation Index</i>	2.8	7.2	12.2	6.5	5.2	9.1	--
<b>Public Equity</b>	<b>4.4</b>	<b>11.8</b>	<b>18.9</b>	<b>8.0</b>	<b>6.4</b>	<b>12.3</b>	<b>4.7</b>
<i>Blended Public Equity Index</i>	4.4	11.4	20.0	7.8	6.0	12.0	5.3
<b>US Equity</b>	<b>2.9</b>	<b>9.0</b>	<b>18.6</b>	<b>9.4</b>	<b>8.8</b>	<b>14.4</b>	<b>6.5</b>
<i>Blended US Equity Index</i>	3.0	8.9	18.8	9.6	8.8	14.4	7.2
<i>Russell 3000</i>	3.0	8.9	18.5	10.0	9.1	14.6	7.3
<b>Large Cap Equity</b>	<b>3.0</b>	<b>11.1</b>	<b>19.7</b>	<b>11.0</b>	<b>10.1</b>	<b>15.1</b>	<b>6.8</b>
<i>Russell 1000</i>	3.1	9.3	18.0	10.2	9.3	14.7	7.3
<i>BlackRock Russell 1000</i>	3.1	--	--	--	--	--	--
<i>Russell 1000</i>	3.1	9.3	18.0	10.2	9.3	14.7	7.3
<i>DE Shaw</i>	2.8	10.0	20.2	12.3	11.6	16.3	--
<i>Russell 1000</i>	3.1	9.3	18.0	10.2	9.3	14.7	7.3
<b>Small Cap Equity</b>	<b>1.8</b>	<b>4.3</b>	<b>22.6</b>	<b>6.5</b>	<b>5.4</b>	<b>13.1</b>	<b>5.6</b>
<i>Russell 2000</i>	2.5	5.0	24.6	7.8	7.4	13.7	6.9
<i>QMA US Small Cap</i>	1.8	4.3	--	--	--	--	--
<i>Russell 2000</i>	2.5	5.0	24.6	7.8	7.4	13.7	6.9
<b>International Equity</b>	<b>6.3</b>	<b>15.7</b>	<b>18.8</b>	<b>5.4</b>	<b>2.2</b>	<b>8.4</b>	<b>0.9</b>
<i>MSCI ACWI ex US IMI</i>	6.1	14.6	21.0	4.8	1.6	7.9	1.7
<i>MSCI EAFE Gross</i>	6.4	14.2	20.8	4.4	1.6	9.2	1.5
<b>Developed Markets</b>	<b>6.6</b>	<b>15.9</b>	<b>19.0</b>	<b>5.5</b>	<b>2.5</b>	<b>9.0</b>	<b>1.1</b>
<i>MSCI ACWI ex USA Gross</i>	6.0	14.5	21.0	4.5	1.3	7.7	1.6
<i>Baillie Gifford</i>	8.8	19.8	20.9	7.4	4.7	11.0	--
<i>MSCI ACWI ex US</i>	6.0	14.5	21.0	4.5	1.3	9.1	--
<i>MSCI ACWI ex US Growth</i>	7.7	17.7	17.8	5.3	2.9	9.6	--

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: June 30, 2017

	3 Mo (%)	YTD (%)	Fiscal YTD (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
BlackRock EAFE Index	6.3	14.2	20.8	4.4	1.5	--	--
<i>MSCI EAFE</i>	6.1	13.8	20.3	3.9	1.1	8.7	1.0
<i>MSCI EAFE Gross</i>	6.4	14.2	20.8	4.4	1.6	9.2	1.5
FIAM Equity	7.9	16.8	18.3	6.7	4.3	10.5	--
<i>MSCI ACWI ex US Small Cap Gross</i>	6.4	15.8	20.8	7.0	3.7	10.4	3.3
Mondrian	4.3	12.8	16.2	4.1	0.5	7.3	1.6
<i>MSCI ACWI ex USA Value Gross</i>	4.3	11.4	24.3	3.6	-0.4	6.9	0.9
<i>MSCI ACWI ex USA Gross</i>	6.0	14.5	21.0	4.5	1.3	7.7	1.6
<b>Emerging Markets</b>	<b>3.4</b>	<b>14.2</b>	<b>17.3</b>	<b>4.4</b>	<b>-0.4</b>	<b>4.0</b>	<b>--</b>
<i>MSCI Emerging Markets Gross</i>	6.4	18.6	24.2	4.7	1.4	4.3	2.2
Parametric Core	3.4	14.2	17.3	--	--	--	--
<i>MSCI Emerging Markets Gross</i>	6.4	18.6	24.2	4.7	1.4	4.3	2.2
<b>Fixed Income</b>	<b>1.5</b>	<b>4.0</b>	<b>7.6</b>	<b>5.2</b>	<b>3.8</b>	<b>4.8</b>	<b>5.7</b>
<i>Blended Fixed Income Index</i>	1.9	3.2	2.2	4.0	2.7	2.5	4.7
<b>US Fixed Income</b>	<b>1.9</b>	<b>4.0</b>	<b>6.9</b>	<b>5.4</b>	<b>4.2</b>	<b>4.6</b>	<b>5.8</b>
<i>Blended US Fixed Index</i>	1.8	3.0	3.0	4.1	3.2	2.7	5.0
<b>Core Fixed</b>	<b>1.7</b>	<b>3.2</b>	<b>3.3</b>	<b>4.1</b>	<b>3.4</b>	<b>3.4</b>	<b>5.0</b>
<i>BBgBarc US Aggregate TR</i>	1.4	2.3	-0.3	2.8	2.5	2.2	4.5
BlackRock Intermediate Govt	0.7	--	--	--	--	--	--
FIAM Bond	1.4	2.6	1.2	3.7	3.1	3.1	5.2
Western TRU	3.5	5.9	9.9	--	--	--	--
<i>3-Month Libor Total Return USD</i>	0.3	0.6	1.0	0.8	0.6	0.5	1.0
<i>BBgBarc US Aggregate TR</i>	1.4	2.3	-0.3	2.8	2.5	2.2	4.5
<b>Opportunistic Credit</b>	<b>2.5</b>	<b>6.1</b>	<b>15.7</b>	<b>8.5</b>	<b>6.5</b>	<b>10.4</b>	<b>--</b>
<i>BBgBarc BA Intermediate HY</i>	2.5	4.3	9.2	6.4	4.8	4.7	--
Angelo Gordon Opportunistic	4.2	8.6	17.2	8.6	5.3	--	--
Angelo Gordon STAR	6.1	10.9	18.7	9.9	10.0	--	--
<i>BBgBarc US Aggregate TR</i>	1.4	2.3	-0.3	2.8	2.5	2.2	4.5

Total Fund  
Performance Summary (Gross of Fees)

Period Ending: June 30, 2017

	3 Mo (%)	YTD (%)	Fiscal YTD (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Beach Point Select	1.9	4.4	14.4	9.7	--	--	--
<i>BBgBarc BA Intermediate HY</i>	2.5	4.3	9.2	6.4	4.8	4.7	--
Brigade Capital	1.8	5.7	16.6	7.4	4.0	6.7	--
<i>BBgBarc BA Intermediate HY</i>	2.5	4.3	9.2	6.4	4.8	4.7	--
<i>50% Barclays HY/ 50% Bank Loan</i>	1.5	3.4	10.1	5.6	4.0	5.9	--
<b>Private Credit</b>	<b>2.5</b>	<b>4.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>BBgBarc BA Intermediate HY</i>	2.5	4.3	9.2	6.4	4.8	4.7	--
TCP Direct Lending VIII	2.6	4.6	--	--	--	--	--
<i>BBgBarc BA Intermediate HY</i>	2.5	4.3	9.2	6.4	4.8	4.7	--
White Oak Yield	--	--	--	--	--	--	--
<i>BBgBarc BA Intermediate HY</i>	2.5	4.3	9.2	6.4	4.8	4.7	--
<b>Global Fixed Income</b>	<b>-1.0</b>	<b>4.2</b>	<b>10.9</b>	<b>3.5</b>	<b>1.5</b>	<b>4.9</b>	<b>--</b>
<i>BBgBarc Multiverse TR</i>	2.6	4.6	-1.4	3.5	-0.2	1.1	3.8
Franklin Templeton	-1.0	4.2	10.9	3.5	1.5	4.9	--
<i>BBgBarc Multiverse TR</i>	2.6	4.6	-1.4	3.5	-0.2	1.1	3.8
<b>Risk Parity</b>	<b>1.5</b>	<b>6.0</b>	<b>4.1</b>	<b>4.9</b>	<b>2.8</b>	<b>5.9</b>	<b>--</b>
<i>60/40 Russell 3000/BBgBarc US Aggregate</i>	2.4	6.2	10.7	7.3	6.6	9.6	6.5
AQR GRP, 10% Volatility	1.5	6.1	5.9	2.5	0.2	4.3	--
PanAgora	1.6	5.8	2.5	7.1	--	--	--
<i>60/40 Russell 3000/BBgBarc US Aggregate</i>	2.4	6.2	10.7	7.3	6.6	9.6	6.5
<i>60/40 MSCI World/BBgBarc Global Aggregate</i>	2.8	6.9	10.4	5.8	4.6	8.2	--
<b>Alternatives</b>	<b>1.8</b>	<b>6.2</b>	<b>17.1</b>	<b>7.8</b>	<b>7.9</b>	<b>7.3</b>	<b>--</b>
<i>Alternatives Allocation Index</i>	2.2	6.2	13.6	6.3	3.8	6.7	--
<i>Blended Alternatives Index</i>	2.2	6.4	14.0	6.6	4.7	8.7	--
<b>Private Equity</b>	<b>4.1</b>	<b>11.3</b>	<b>29.1</b>	<b>15.6</b>	<b>19.0</b>	<b>15.2</b>	<b>--</b>
<i>Russell 3000 +3%</i>	3.1	9.8	21.5	13.0	12.1	17.6	10.3
<b>Hedge Fund/Absolute Return</b>	<b>-0.6</b>	<b>0.7</b>	<b>4.5</b>	<b>5.7</b>	<b>7.1</b>	<b>6.3</b>	<b>--</b>
<i>Libor 1 month +4%</i>	1.3	2.4	4.8	4.6	4.4	4.3	--



Total Fund  
Performance Summary (Gross of Fees)

Period Ending: June 30, 2017

	3 Mo (%)	YTD (%)	Fiscal YTD (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>AQR DELTA XN</b>	-1.2	0.2	4.3	6.0	7.3	6.4	--
<i>Libor 1 month +4%</i>	1.3	2.4	4.8	4.6	4.4	4.3	--
<b>Standard Life GARS</b>	0.8	1.4	3.7	--	--	--	--
<i>Libor 1 month +4%</i>	1.3	2.4	4.8	4.6	4.4	4.3	--
<b>Inflation Hedge</b>	0.6	3.2	6.2	--	--	--	--
<i>Blended Inflation Pool Index</i>	0.6	2.6	4.2	--	--	--	--
<b>Real Estate</b>	1.9	4.5	8.6	10.0	12.1	12.1	5.5
<i>NCREIF ODCE</i>	1.7	3.5	7.9	9.8	11.3	11.8	5.7
<b>Invesco</b>	1.9	4.5	8.6	9.7	11.9	12.0	5.4
<i>NCREIF ODCE</i>	1.7	3.5	7.9	9.8	11.3	11.8	5.7
<b>Invesco US Val IV</b>	1.8	4.8	10.2	--	--	--	--
<i>NCREIF ODCE</i>	1.7	3.5	7.9	9.8	11.3	11.8	5.7
<i>NCREIF CEVA 1Q Lag - NET</i>	1.4	4.2	9.2	12.8	14.6	--	--
<b>Private Real Asset</b>	-3.1	2.9	2.9	20.6	--	--	--
<i>Blended Real Asset Index</i>	-0.2	2.6	5.0	5.7	5.2	--	--
<b>Liquid Pool</b>	0.2	3.3	--	--	--	--	--
<i>Blended Real Asset Index</i>	-0.2	2.6	5.0	5.7	5.2	--	--
<b>SSgA Custom Real Asset</b>	0.2	3.3	--	--	--	--	--
<i>Blended Real Asset Index</i>	-0.2	2.6	5.0	5.7	5.2	--	--
<b>TIPS</b>	-0.6	0.6	1.2	1.7	0.5	0.1	--
<i>BBgBarc US TIPS TR</i>	-0.4	0.9	-0.6	1.8	0.6	0.3	4.3
<b>Brown Brothers Harriman</b>	-0.6	0.6	1.2	1.7	0.5	0.1	--
<i>BBgBarc US TIPS TR</i>	-0.4	0.9	-0.6	1.8	0.6	0.3	4.3
<b>Cash</b>	0.2	0.4	0.8	1.1	1.0	0.7	0.8
<i>91 Day T-Bills</i>	0.2	0.4	0.5	0.4	0.2	0.2	0.4
<b>General Account</b>	0.3	0.6	1.0	1.6	1.3	0.8	1.1
<b>Treasury &amp; LAIF</b>	0.3	0.6	0.5	0.8	0.9	0.8	0.7
<i>91 Day T-Bills</i>	0.2	0.4	0.5	0.4	0.2	0.2	0.4

## **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 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 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).

## **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 begins 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.

## **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 – 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.

## **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.

## **Pyramis Global Advisors – Select International Small Cap**

Pyramis Select International Small Cap is a core strategy. The approach is designed to leverage Pyramis/Fidelity's proprietary resources to add value exclusively via stock selection. To that end the portfolio is constructed to be regionally neutral, with only modest deviations from the benchmark's country and sector weights. The investment process involves three basic stages. The first stage is the security level research conducted by the analysts. The second stage is stock selection from within the pool of names that are highly ranked by the analysts. The third step is portfolio construction and risk management. The essential differentiating feature of this strategy is the breadth of coverage that is made possible by the large staff of analysts. Analysts actively conduct regular fundamental research on, and give a formal rating of 1-5, 1200-1300 international small cap companies. While there is no single firm-wide approach to security research, analysts are expected to establish an upside target for any given stock and assign a formal rating. The decision making structure is quite efficient, with portfolio manager Rob Feldman making all the buy and sell decisions. His role, as he puts it, is to be an intelligent user of the analysts' research. He selects the 1- and 2-rated stocks that he thinks are compelling and additive to his portfolio, and he sells names when they are downgraded by the analysts. There are approximately 200 holdings in the portfolio. Country and sector weights are within 3 percentage points of the benchmark and position sizes are within 2 percentage points of the benchmark. Turnover tends to be in the 60%-80% range.

## **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 Global Absolute Return Strategy (GARS)**

The Standard Life 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: June 30, 2017

Total Plan Policy Index	As of															
	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%	8.0%	10.0%	10.0%
60/40 MSCI World/BBgBarc Global Aggregate (RP)	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%	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	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	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%	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%	3.5%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Multiverse	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%	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%	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%	5.0%	9.0%	9.0%
CPI + 5% (RA)	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 Real Asset	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%	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%	18.0%	18.0%	18.0%	21.0%	21.0%	15.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI	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 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%	20.0%	20.0%	20.0%
NCREIF ODCE	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%	6.0%	6.0%	0.0%	0.0%	0.0%
Russell 1000	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%	5.0%	5.0%	0.0%
Russell 2000	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	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%	8.0%	8.0%	8.0%	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%	5.0%
	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%	100.0%

# Policy Index and Benchmark History

Period Ending: June 30, 2017

Total Equity Benchmark	As of:										
	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%	34.0%	31.3%	23.1%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI	45.2%	40.4%	41.7%	41.7%	40.0%	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%	32.3%	33.3%	33.3%
Russell 1000	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%	8.0%	8.4%	0.0%
Russell 2000	0.0%	0.0%	0.0%	8.3%	12.0%	13.2%	13.5%	15.4%	24.2%	25.0%	25.0%
Russell 3000	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%	8.4%
	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:		
	1/1/14	6/1/00	1/1/96
MSCI ACWI ex US	0.0%	100.0%	0.0%
MSCI ACWI ex US IMI	100.0%	0.0%	0.0%
MSCI EAFE	0.0%	0.0%	100.0%
	100.0%	100.0%	100.0%

Total Fixed Income Benchmark	As of:										
	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	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	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%	7.3%	0.0%	0.0%	0.0%
BBgBarc Credit BAA	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	15.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Multiverse	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%	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%	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%

US Fixed Income Benchmark	As of:									
	2/1/17	10/1/16	4/1/16	7/1/14	1/1/14	2/1/13	1/1/11	10/1/10	7/1/96	
BBgBarc Aggregate	66.7%	62.5%	66.7%	58.8%	56.9%	62.5%	62.5%	73.7%	100.0%	
BBgBarc BA Intermediate HY	33.3%	37.5%	33.3%	29.4%	30.8%	0.0%	0.0%	0.0%	0.0%	
BBgBarc BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.1%	0.0%	
BBgBarc Credit BAA	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	18.8%	0.0%	0.0%	
BBgBarc TIPS	0.0%	0.0%	0.0%	11.8%	12.3%	17.5%	18.8%	17.2%	0.0%	
	<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>	

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%
	<b>100.0%</b>	<b>100.0%</b>

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%
	<b>100.0%</b>	<b>100.0%</b>

Alternatives Benchmark	As of:				
	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%	30.0%
Bloomberg Commodity	0.0%	0.0%	17.7%	18.8%	15.0%
CPI + 5% (RA)	0.0%	0.0%	11.8%	12.5%	0.0%
Libor +4% (HF)	46.2%	41.7%	29.4%	25.0%	15.0%
Russell 3000 +3% (PE)	53.8%	58.3%	41.2%	43.8%	40.0%
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Private Equity Benchmark	As of:
	10/1/10
Russell 3000 +3%	100.0%
	<b>100.0%</b>

Hedge Fund Benchmark	As of:
	10/1/10
Libor +4%	100.0%
	<b>100.0%</b>

Inflation Hedge	As of:		
	2/1/17	10/1/16	4/1/16
BBgBarc TIPS	12.50%	14.3%	14.3%
Bloomberg Commodity	0.00%	0.0%	21.4%
CPI + 5% (RA)	0.00%	0.0%	14.3%
Bloomberg Roll Select Commodity	14.87%	12.1%	21.4%
S&P Global Large-MidCap Commodity and Resource	14.44%	11.8%	14.3%
S&P Global Infrastructure	14.44%	11.8%	0.0%
NCREIF ODCE	43.75%	50.0%	50.0%
	<b>100.0%</b>	<b>100.0%</b>	<b>135.7%</b>

Real Asset Benchmark	As of:	
	10/1/16	1/1/14
Bloomberg Roll Select Commodity	34.00%	0.0%
S&P Global Large-MidCap Commodity and Resource	33.00%	0.0%
S&P Global Infrastructure	33.00%	0.0%
CPI + 5%	0.00%	100.0%
	<b>0.0%</b>	<b>100.0%</b>

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%
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## Policy Index and Benchmark History

Period Ending: June 30, 2017

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

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

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

# Fee Schedule

Period Ending: June 30, 2017

## 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:	0.05% per annum
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## BlackRock-Russell 1000 Index Fund

First \$250 million:	0.02% per annum
Thereafter:	0.015% per annum

## BlackRock-Intermediate Govt Bond Index Fund

On All Assets:	0.04% per annum
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## Brown Brothers Harriman

On All Assets:	0.15% per annum
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## Clifton Group

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	

## Franklin Templeton Investment

First \$50 million:	0.45% per annum
Next \$50 million:	0.35% per annum
Thereafter:	0.30% 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

## FIAM Equity

On All Assets:	0.90% per annum
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## Parametric

On All Assets:	0.30% per annum
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## 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
DE Shaw	Russell 1000	✓	✓	✓
QMA US Small Cap	Russell 2000	--	--	--
Baillie Gifford	MSCI ACWI ex US	✓	✓	✓
FIAM Equity	MSCI ACWI ex US Small Cap Gross	✗	✗	✗
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	--	--	--
Beach Point Select	BBgBarc BA Intermediate HY	--	--	--
Brigade Capital	BBgBarc BA Intermediate HY	✓	✗	✗
TCP Direct Lending VIII	BBgBarc BA Intermediate HY	--	--	--
White Oak Yield	BBgBarc BA Intermediate HY	--	--	--
Franklin Templeton	BBgBarc Multiverse TR	✓	✓	✓

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

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
DE Shaw	Russell 1000	✓	✓	✓
QMA US Small Cap	Russell 2000	--	--	--
Baillie Gifford	MSCI ACWI ex US	✓	✓	✓
FIAM Equity	MSCI ACWI ex US Small Cap Gross	✓	R	✓
Mondrian	MSCI ACWI ex USA Value Gross	✓	R	✓
Parametric Core	MSCI Emerging Markets Gross	--	--	--
FIAM Bond	BBgBarc US Aggregate TR	✓	✓	✓
Western TRU	3-Month Libor Total Return USD	--	--	--
Beach Point Select	BBgBarc BA Intermediate HY	--	--	--
Brigade Capital	BBgBarc BA Intermediate HY	✓	✓	R
TCP Direct Lending VIII	BBgBarc BA Intermediate HY	--	--	--
White Oak Yield	BBgBarc BA Intermediate HY	--	--	--
Franklin Templeton	BBgBarc Multiverse TR	✓	✓	✓

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: June 30, 2017

	Apr	May	Jun	2nd Qtr. 2017	Difference	1st Qtr. 2017	Difference	4th Qtr. 2016	Difference	3rd Qtr. 2016	Difference	2nd Qtr. 2016	Difference
Verus	1.06%	1.28%	0.70%	3.07%		0.00%		0.00%		0.00%		0.00%	
BlackRock Russell 1000	1.06%	1.28%	0.70%	3.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Russell 1000 Index	1.06%	1.28%	0.70%	3.07%		0.00%		0.00%		0.00%		0.00%	
Verus	0.84%	1.87%	0.06%	2.79%		7.02%		3.76%		5.32%		4.28%	
D.E. Shaw	0.84%	1.87%	0.06%	2.79%	0.00%	7.02%	0.00%	3.76%	0.00%	5.33%	-0.01%	4.29%	-0.01%
Russell 1000 Index	1.06%	1.28%	0.70%	3.07%		6.02%		3.83%		4.03%		2.54%	
Verus	2.31%	-3.03%	2.63%	1.82%		2.46%		10.64%					
QMA US Small Cap (Net)	2.31%	-3.03%	2.63%	1.82%	0.00%	2.46%	0.00%	10.64%	-0.01%				
Russell 2000 Index	1.10%	-2.03%	3.46%	2.46%		2.47%		8.83%					
Verus	3.56%	5.29%	-0.20%	8.83%		10.12%		-7.01%		8.50%		-0.20%	
Baillie Gifford	3.54%	5.29%	-0.20%	8.80%	0.03%	10.07%	0.01%	-7.01%	0.00%	8.55%	-0.05%	-0.21%	0.01%
MSCI ACWI ex US	2.20%	3.35%	0.35%	5.99%		7.98%		-1.20%		7.00%		-0.40%	
MSCI ACWI ex US Growth	2.97%	4.52%	0.11%	7.74%		9.22%		-5.68%		6.11%		0.64%	
Verus	2.62%	3.78%	-0.16%	6.32%		7.38%		-0.66%		6.49%		-1.24%	
BlackRock EAFE Equity	2.62%	3.78%	-0.16%	6.32%	0.00%	7.38%	0.00%	-0.65%	-0.01%	6.49%	0.00%	-1.24%	0.00%
MSCI EAFE (Net)	2.54%	3.67%	-0.18%	6.12%		7.25%		-0.71%		6.43%		-1.46%	
MSCI EAFE (Gross)	2.62%	3.81%	-0.15%	6.37%		7.39%		-0.68%		6.51%		-1.19%	
Verus	3.85%	3.35%	0.54%	7.91%		8.25%		-5.35%		7.00%		-0.16%	
FIAM Equity	3.85%	3.35%	0.54%	7.91%	0.00%	8.25%	0.00%	-5.36%	0.01%	6.99%	0.01%	-0.15%	-0.01%
MSCI ACWI -ex US Small Cap Index	3.04%	2.79%	0.46%	6.40%		8.86%		-3.47%		8.00%		-0.72%	
Verus	1.73%	4.40%	-1.83%	4.26%		8.23%		-1.01%		3.99%		0.49%	
Mondrian	1.74%	4.40%	-1.81%	4.29%	-0.03%	8.23%	0.00%	-0.97%	-0.04%	4.00%	-0.01%	0.50%	-0.01%
MSCI ACWI -ex US Value Index	1.47%	2.21%	0.60%	4.33%		6.82%		3.36%		7.92%		-1.46%	
MSCI ACWI -ex US	2.20%	3.35%	0.35%	5.99%		7.98%		-1.20%		7.00%		-0.40%	
Verus	1.70%	1.48%	0.22%	3.44%		10.39%		-2.58%		5.41%		1.40%	
Parametric Core	1.70%	1.50%	0.24%	3.47%	-0.03%	10.44%	0.00%	-2.54%	-0.04%	5.47%	-0.06%	1.42%	-0.02%
MSCI EM Market Index	2.21%	2.98%	1.07%	6.38%		11.49%		-4.08%		9.15%		0.80%	

Manager Performance Comparison (Gross of Fees)

Period Ending: June 30, 2017

	Apr	May	Jun	2nd Qtr. 2017	Difference	1st Qtr. 2017	Difference	4th Qtr. 2016	Difference	3rd Qtr. 2016	Difference	2nd Qtr. 2016	Difference
Verus	0.56%	0.41%	-0.24%	0.73%		0.00%		0.00%		0.00%		0.00%	
BlackRock Intermediate Govt	0.56%	0.41%	-0.24%	0.73%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
BBgBarc US Aggregate Index	0.77%	0.77%	-0.10%	1.45%		0.00%		0.00%		0.00%		0.00%	
Verus	0.80%	0.69%	-0.13%	1.36%		1.24%		-2.66%		1.27%		2.77%	
FIAM Bond	0.80%	0.69%	-0.13%	1.36%	0.00%	1.24%	0.00%	-2.66%	0.00%	1.27%	0.00%	2.77%	0.00%
BBgBarc US Aggregate Index	0.77%	0.77%	-0.10%	1.45%		0.82%		-2.98%		0.46%		2.21%	
Verus	0.85%	0.93%	1.73%	3.54%		2.25%		1.09%		2.67%		2.62%	
Western TRU	0.85%	0.93%	1.73%	3.54%	0.00%	2.25%	0.00%	1.09%	0.00%	2.67%	0.00%	2.62%	-0.01%
3-Month Libor Total Return USD Index	0.10%	0.10%	0.11%	0.31%		0.27%		0.24%		0.21%		0.17%	
BBgBarc US Aggregate Index	0.77%	0.77%	-0.10%	1.45%		0.82%		-2.98%		0.46%		2.21%	
Verus (Net)				4.18%		4.34%		2.54%		5.38%		0.31%	
Angelo Gordon Opportunistic				4.18%	0.00%	4.34%	0.00%	2.54%	0.00%	5.38%	0.00%	0.31%	0.00%
BBgBarc US Aggregate Index				1.45%		0.82%		-2.98%		-0.06%		2.21%	
Verus (Net)				6.13%		4.58%		1.99%		5.17%		2.05%	
Angelo Gordon STAR Fund (Net)				6.13%	0.00%	4.58%	0.00%	1.99%	0.00%	5.17%	0.00%	2.05%	0.00%
BBgBarc US Aggregate Index				1.45%		0.82%		-2.98%		-0.06%		2.21%	
Verus	0.47%	0.75%	0.71%	1.95%		2.45%		3.56%		5.50%		4.23%	
Beach Point Select (Net)	0.47%	0.75%	0.71%	1.95%	0.00%	2.45%	0.00%	3.56%	0.00%	5.25%	0.25%	3.98%	0.26%
BBgBarc BA Intermediate HY	1.27%	0.77%	0.44%	2.50%		1.76%		0.63%		4.04%		3.29%	
Verus	0.34%	0.82%	0.65%	1.83%		3.84%		2.50%		7.15%		8.52%	
Brigade Capital (Net)	0.34%	0.80%	0.62%	1.77%	0.06%	3.77%	0.01%	2.50%	0.00%	7.09%	0.06%	8.48%	0.05%
BBgBarc BA Intermediate HY	1.27%	0.77%	0.44%	2.50%		1.76%		0.63%		4.04%		3.29%	
50% BBgBarc HY/ 50% Bank Loan	0.80%	0.62%	0.04%	1.46%		1.95%		2.00%		4.32%		4.19%	
Verus				2.65%		2.06%		0.17%					
TCP Direct Lending VIII				2.65%	0.00%	2.06%	0.00%	0.17%	0.00%				
BBgBarc BA Intermediate HY				2.50%		1.76%		0.63%					
Verus	-0.35%	-1.24%	0.61%	-0.98%		5.27%		6.49%		-0.13%		1.11%	
Franklin Templeton Investments	-0.35%	-1.24%	0.61%	-0.98%	0.00%	5.27%	0.00%	6.49%	0.00%	-0.13%	0.00%	1.11%	0.00%
BBgBarc Multiverse	1.16%	1.53%	-0.07%	2.64%		1.90%		-6.68%		1.05%		3.00%	

Manager Performance Comparison (Gross of Fees)

Period Ending: June 30, 2017

	Apr	May	Jun	2nd Qtr. 2017	Difference	1st Qtr. 2017	Difference	4th Qtr. 2016	Difference	3rd Qtr. 2016	Difference	2nd Qtr. 2016	Difference
Verus	1.46%	1.37%	-1.35%	1.46%		4.57%		-2.38%		2.23%		5.80%	
AQR GRP, 10% Volatility (Net)	1.46%	1.37%	-1.35%	1.46%	0.00%	4.57%	0.00%	-2.39%	0.00%	2.24%	-0.01%	5.80%	0.00%
60% R3000/ 40% BBgBarc Agg	0.94%	0.92%	0.50%	2.39%		3.76%		1.34%		2.82%		2.47%	
60% MSCI World/ 40% BBgBarc Glb	1.16%	1.50%	0.12%	2.80%		3.98%		0.17%		3.13%		1.62%	
Verus	2.31%	1.44%	-2.10%	1.60%		4.16%		-5.19%		2.20%		7.99%	
PanAgora (Net)	2.31%	1.44%	-2.10%	1.60%	0.00%	4.16%	0.00%	-5.19%	0.00%	2.20%	0.00%	7.99%	0.00%
60% R3000/ 40% BBgBarc Agg	0.94%	0.92%	0.50%	2.39%		3.76%		1.34%		2.82%		2.47%	
60% MSCI World/ 40% BBgBarc Glb	1.16%	1.50%	0.12%	2.80%		3.98%		0.17%		3.13%		1.62%	
Verus	-0.71%	-1.29%	0.81%	-1.19%		1.42%		2.38%		1.69%		-1.39%	
AQR DELTA XN (Net)	-0.71%	-1.29%	0.81%	-1.19%	0.00%	1.43%	0.00%	2.38%	0.00%	1.70%	-0.01%	-1.39%	0.00%
Libor + 4%	0.42%	0.42%	0.43%	1.29%		1.11%		1.17%		1.14%		1.13%	
Verus	0.54%	0.34%	-0.08%	0.81%		0.59%		1.80%		0.42%		-0.85%	
Standard Life GARS (Net)	0.54%	0.34%	-0.08%	0.81%	0.00%	0.59%	0.00%	1.80%	0.00%	0.42%	0.00%	-0.85%	-0.01%
Libor + 4%	0.42%	0.42%	0.43%	1.29%		1.11%		1.17%		1.14%		1.13%	
Verus				1.88%		2.55%		2.19%		1.68%		3.64%	
INVESCO Real Estate				1.88%	0.00%	2.54%	0.00%	2.17%	0.02%	1.68%	0.00%	3.62%	0.02%
NCREIF NFI ODCE Index				1.70%		1.77%		2.11%		2.07%		2.13%	
Verus				1.85%		2.90%		1.31%		3.82%		2.31%	
Invesco US Val IV				1.85%	0.00%	2.90%	0.00%	1.31%	0.00%	3.82%	0.00%	2.31%	0.00%
NCREIF NFI ODCE Index				1.70%		1.77%		2.11%		2.07%		2.13%	
NCREIF CEVA 1Q Lag - NET				1.36%		2.75%		2.54%		2.17%		1.99%	
Verus	0.42%	-0.14%	-0.86%	-0.58%		1.13%		-0.55%		1.24%		0.90%	
Brown Brothers Harriman	0.43%	-0.17%	-0.86%	-0.60%	0.02%	1.13%	0.00%	-0.53%	-0.02%	1.22%	0.02%	0.91%	-0.02%
BBgBarc U.S Tips	0.59%	-0.04%	-0.95%	-0.40%		1.26%		-2.41%		0.97%		1.71%	

**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
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
6/30/2017	14.361	7.180	5.077	2.538	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.

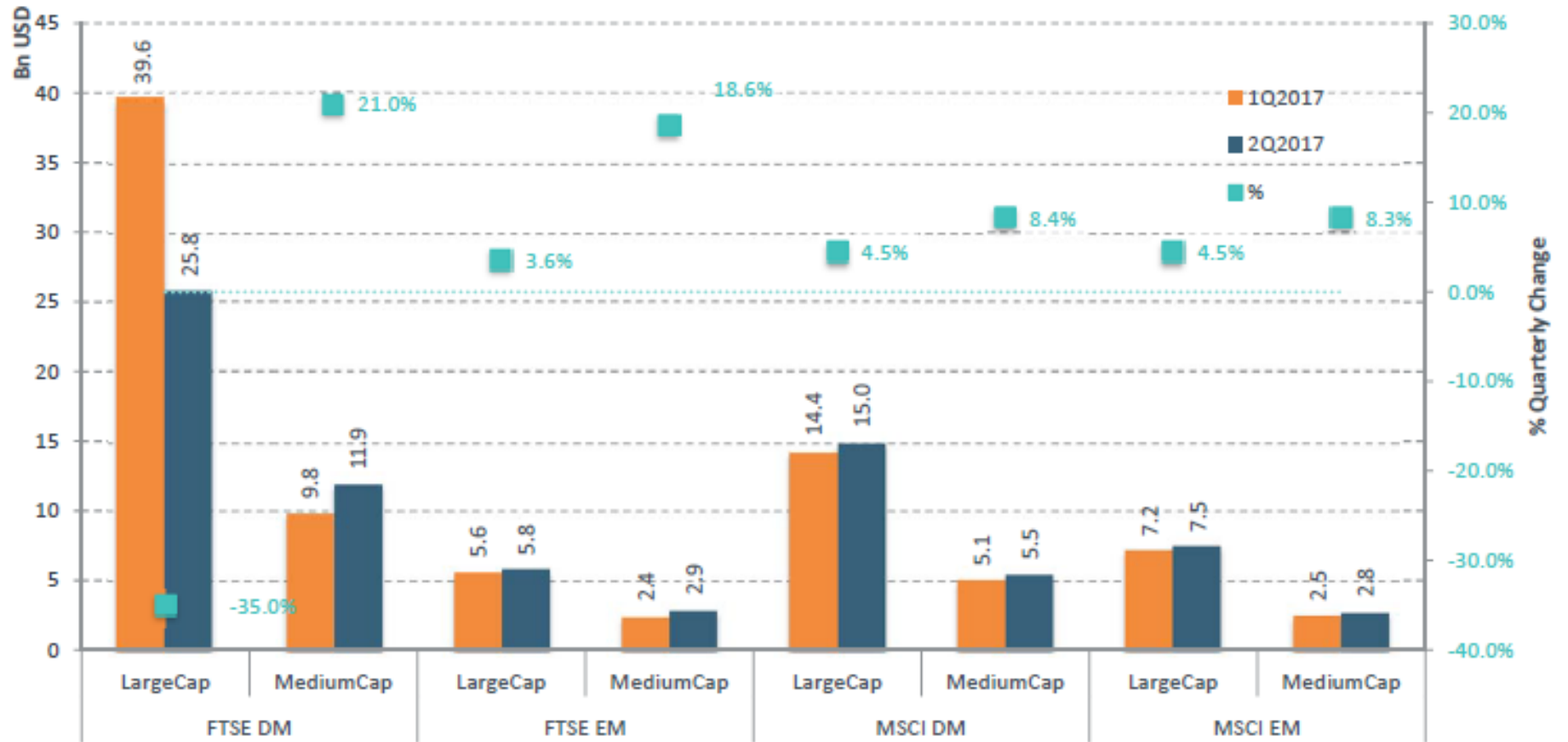
As Of	Large Cap	Medium Large Cap	Medium Cap	Medium Small Cap	Small Cap
6/30/2017	87.845	25.481	8.204	2.859	0
3/31/2017	89.968	25.293	8.241	2.737	0
12/31/2016	84.960	23.168	7.890	2.702	0
9/30/2016	78.745	23.385	7.394	2.533	0
6/30/2016	77.349	22.250	7.1432	2.444	0
3/31/2016	83.360	22.414	7.435	2.395	0
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

As Of	Large Cap	Medium Large Cap	Medium Cap	Medium Small Cap	Small Cap
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
3/31/2010	42.43	12.61	4.3	1.68	0

Numbers are billions USD

**BREAKPOINT TRENDS**

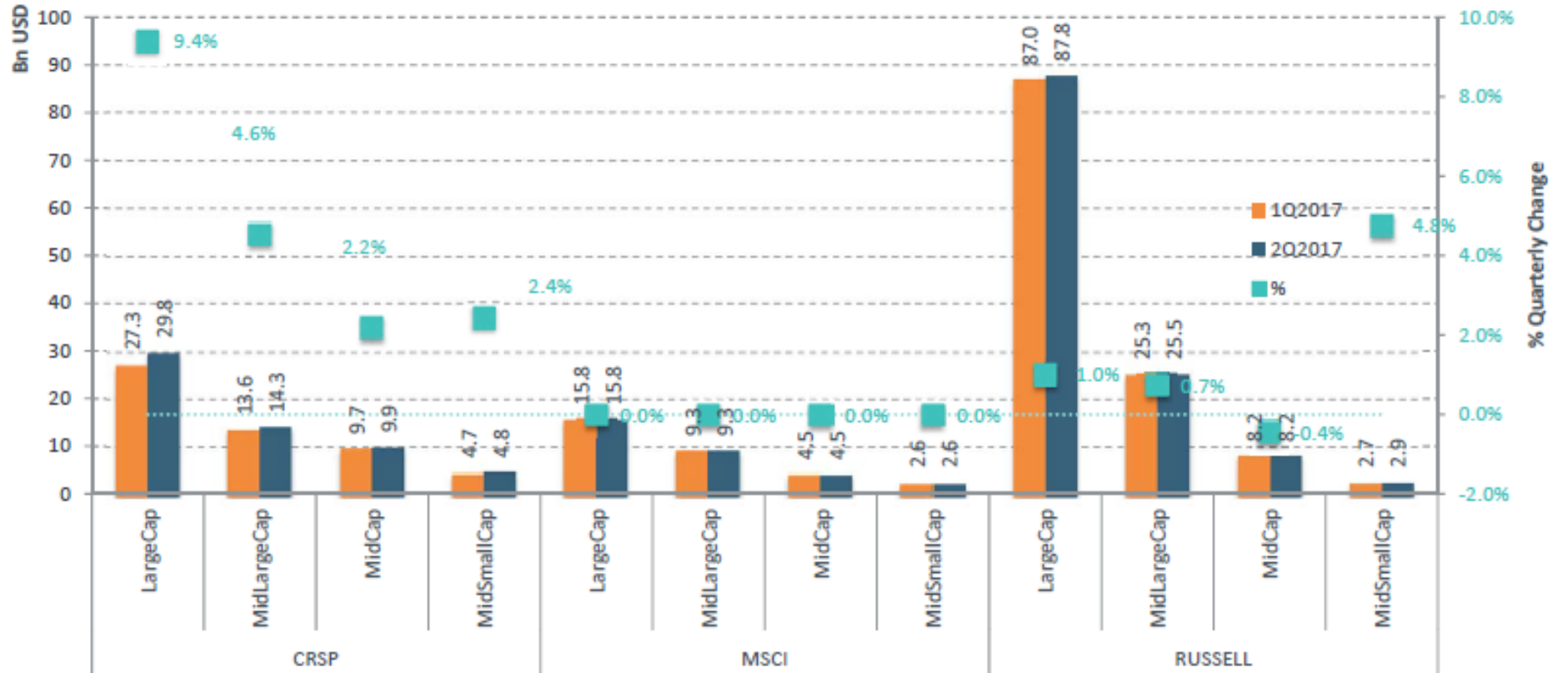
**2Q2017 DEVELOPED AND EMERGING MARKET BREAKPOINT CHANGES**



MSCI is releasing market capitalization breakpoints less frequently than FTSE, hence the market capitalization breakpoints are longer in effect, showing as no change.



### 2Q2017 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**

3<sup>RD</sup> QUARTER 2017  
Investment Landscape

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Appendix 36

# 2<sup>nd</sup> quarter summary

## THE ECONOMIC CLIMATE

- Developed and emerging economies have exhibited coordinated positive growth for the first time in this recovery. Absolute growth remains subdued relative to history. [p. 15](#)
- Economic releases have begun to miss expectations in the U.S. and U.K. after much upside surprise. The Eurozone continued to deliver positive surprises, but by a smaller margin. Heightened expectations help to explain some of the recent data disappointment. [p. 10](#)
- Despite a healthy economy and longer than average expansion there is little indication of overheating in the U.S. This suggests the current expansion may have more room to run. [p. 7](#)

## MARKET PORTFOLIO IMPACTS

- Treasury yields fell slightly over the quarter. [p. 19](#)
- Credit spreads are tight, implying limited upside performance potential. U.S. credit markets have stabilized from recent defaults in the energy and metals/mining sectors. [p. 20](#)

## THE INVESTMENT CLIMATE

- Central banks communicated a more hawkish tone across developed markets. The Fed announced plans for balance sheet reduction, the ECB is expected to reduce easing starting next year, and Mark Carney of the BOE indicated he is receptive to tightening under the right conditions. Central bank governors have shown less concern over the recent decline in inflation than in the past. [p. 18](#)
- U.S. equities are expected to deliver robust earnings growth in Q2 of 6.8% YoY. Energy sector earnings have provided much of this improvement after a challenging period a year ago. [p. 30](#)

## ASSET ALLOCATION ISSUES

- Earnings growth beat expectations in recent quarters leading to a broad fall in equity price-to-earnings multiples, causing equities to become more attractive. [p. 29](#)
- Realized and implied market volatility is at historic lows across assets classes. This could be a sign of market complacency. [p. 31](#)

We maintain a neutral to slightly overweight risk stance

# What drove the market in Q2?

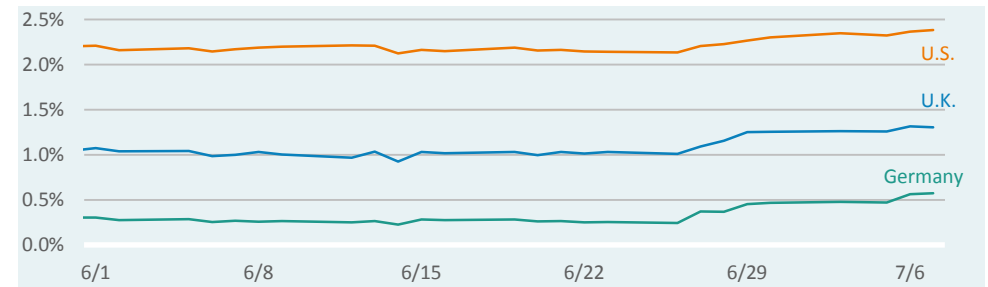
## “Bonds Continue Decline as Central Banks Signal Waning Stimulus”

### 10-YEAR GOVERNMENT YIELDS (%)

U.S.		U.K.		Germany	
Jun 1 <sup>st</sup>	Jul 7 <sup>th</sup>	Jun 1 <sup>st</sup>	Jul 7 <sup>th</sup>	Jun 1 <sup>st</sup>	Jul 7 <sup>th</sup>
2.21	2.38	1.07	1.31	0.30	0.57

Article Source: New York Times, June 30<sup>th</sup> 2017

### DEVELOPED 10-YEAR YIELDS



Source: Bloomberg, 7/7/17

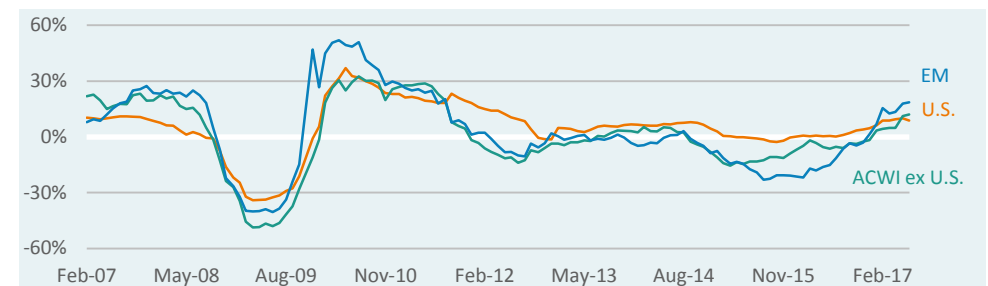
## “Investors Look to Global Growth for Earnings Power”

### EQUITY EARNINGS GROWTH BY REGION (YOY)

ACWI ex U.S.	U.S.	Emerging Markets
12.0%	8.8%	18.5%

Article Source: Reuters, April 7<sup>th</sup> 2017

### EARNINGS GROWTH (YOY)



Source: Bloomberg, as of 6/30/17

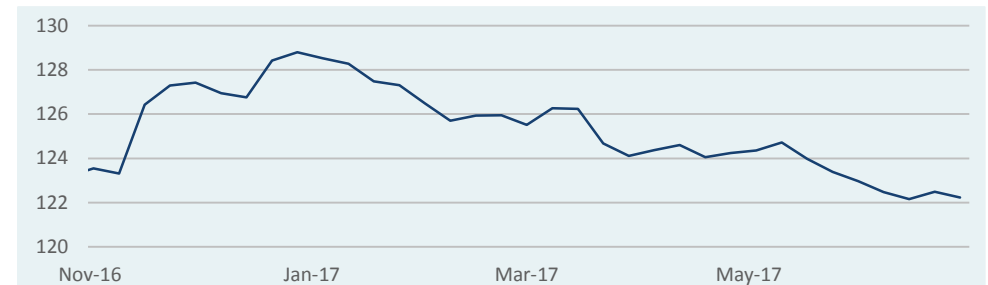
## “Dollar Has Worst Week in Over a Year Amid Political Uncertainty”

### USD TRADE WEIGHTED INDEX

Jan 31 <sup>st</sup>	Feb 28 <sup>th</sup>	Mar 31 <sup>st</sup>	Apr 30 <sup>th</sup>	May 31 <sup>st</sup>	Jun 30 <sup>th</sup>
127	126	124	124	123	122

Article Source: Reuters, May 19<sup>th</sup> 2017

### USD TRADE WEIGHTED INDEX



Source: FRED, as of 6/28/17

## “Tumbling U.S. Inflation Expectations Challenge the Fed”

### 10-YEAR BREAKEVEN INFLATION RATE (%)

Jan 31 <sup>st</sup>	Feb 28 <sup>th</sup>	Mar 31 <sup>st</sup>	Apr 30 <sup>th</sup>	May 31 <sup>st</sup>	Jun 30 <sup>th</sup>
2.1	2.0	2.0	1.9	1.8	1.7

Article Source: Financial Times, June 15<sup>th</sup> 2017

# Economic environment

# U.S. economics summary

- U.S. real GDP grew 2.1% YoY in Q1, on par with the level of economic expansion in recent quarters. Consumer spending and business investment were the primary drivers of growth.
- Headline inflation decelerated from 2.4% in February to 1.6% in June. The slowdown was partially influenced by the effect of lower oil prices falling out of the year-over-year calculation, but the fall in price level was not solely due to energy. Lower telecom prices helped lead to a drop in core CPI, which fell from 2.0% to 1.7%.
- For a third consecutive quarter, the Fed raised the target federal funds rate by 25 bps. FOMC members looked past the recent soft patch in inflation and cited improving overall economic conditions.
- The Fed also released details on its balance sheet normalization plan, although timing remains unclear. Once the program begins, \$6 billion in Treasuries and \$4 billion in mortgage-backed securities will roll off the balance sheet each month. These amounts will increase every three months until a total cap of \$50 billion per month is reached.
- The economy added 194,000 jobs per month in the second quarter, on average. This marks the best quarter for job growth since the second quarter of 2010. Many of these jobs have been created in lower paying sectors such as leisure and hospitality, which may be helping to keep overall wage growth subdued.

	Most Recent	12 Months Prior
GDP ( <i>annual YoY</i> )	2.1% 3/31/17	1.6% 3/31/16
Inflation ( <i>CPI YoY, Headline</i> )	1.6% 6/30/17	0.9% 6/30/16
Expected Inflation ( <i>5yr-5yr forward</i> )	1.8% 6/30/17	1.5% 6/30/16
Fed Funds Rate	1.25% 6/30/17	0.50% 6/30/16
10 Year Rate	2.3% 6/30/17	1.5% 6/30/16
U-3 Unemployment	4.4% 6/30/17	4.9% 6/30/16
U-6 Unemployment	8.6% 6/30/17	9.6% 6/30/16

# U.S. economics – GDP growth

Real GDP grew 2.1% YoY in Q1 (1.4% quarterly annualized rate), slightly below expectations. First quarter growth has disappointed over the past few years, and investors seemed to overlook this release as second quarter growth forecasts were revised upward.

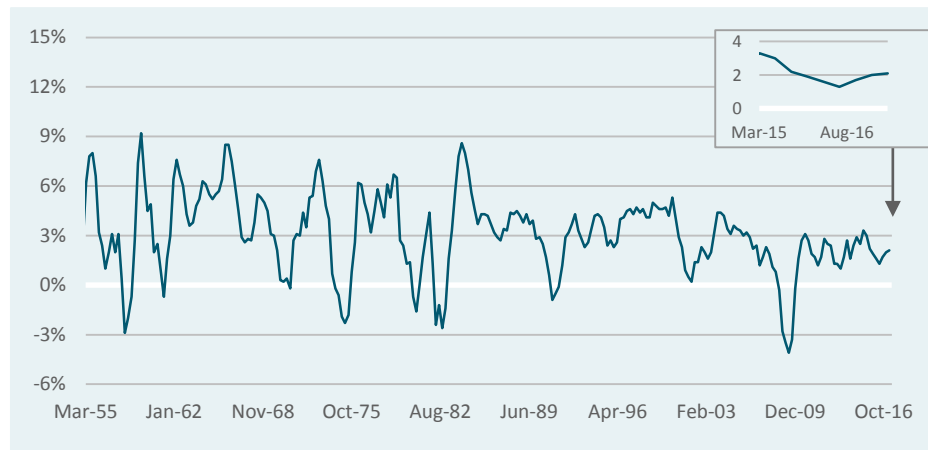
Personal consumption cooled in the first quarter, but was still a positive contributor to GDP. A temporary decline in utilities spending from milder winter weather across the country contributed to the softer growth.

Business investment increased the most in more than three years, and was the largest contributor to growth, suggestive of a rise in business confidence as companies put cash to work. Slower accumulation of private inventories was the largest detractor from GDP.

Economists are forecasting moderate economic growth throughout the rest of the year. Fundamentals for consumers and businesses remain strong even as the Fed is gradually tightening monetary policy.

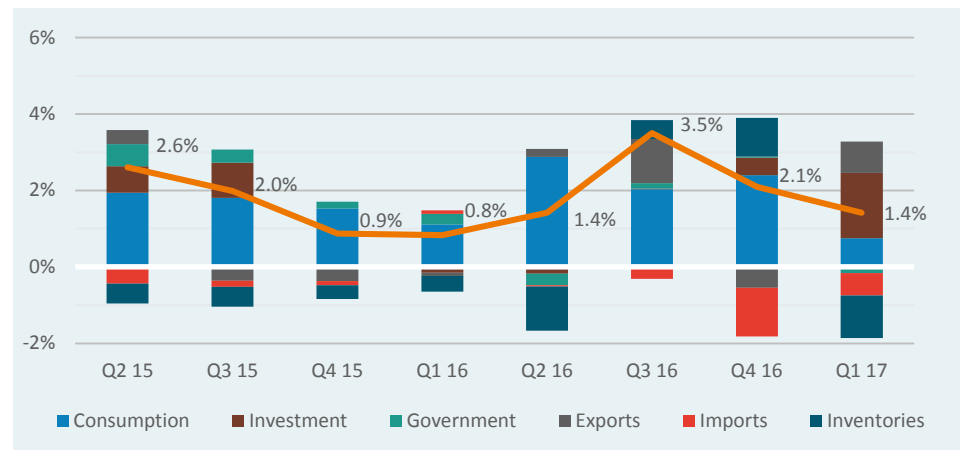
The trend of steady, moderate growth was sustained in Q1

U.S. REAL GDP GROWTH (YOY)



Source: FRED, as of 3/31/17

U.S. GDP COMPONENTS



Source: BEA, annualized quarterly rate, as of 3/31/17



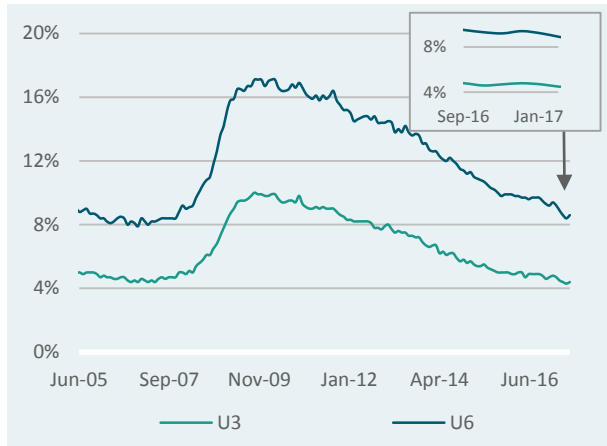
# U.S. economics – Labor market

Although low unemployment suggests a tight labor market, the economy still added jobs at a solid pace. Payrolls added an average of 194,000 jobs per month during the second quarter, compared to the expansion average of 198,000. The headline unemployment rate dropped 0.1% to 4.4%, and the broader U-6 unemployment rate fell 0.3% to 8.6%. The U-6 rate, which includes discouraged workers, has come down materially since the beginning of the year as people have reentered the labor force and been able to find work.

Despite low unemployment and other indicators of a tight labor market, workers have yet to experience strong wage gains. Average hourly earnings rose 2.5% on a nominal basis from the previous year and 0.6% on a real basis. Historically, wage growth has been higher during similar times of low unemployment. Mild wage growth is likely tied to the inflow of previously discouraged, less skilled, and less productive workers into the workforce. As these workers begin to participate in the economy they may provide continuing support for expansion.

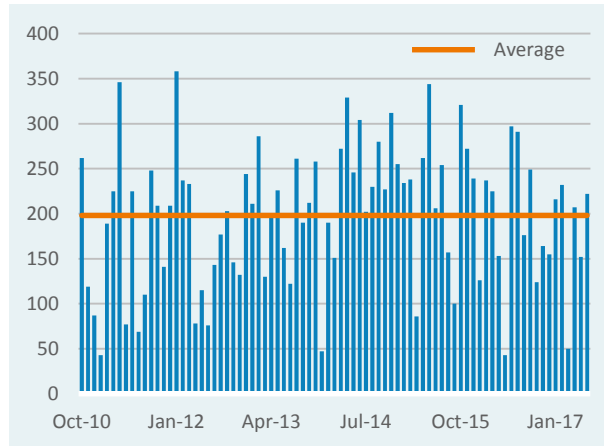
Job growth has been strong, while wages have seen less improvement

U.S. UNEMPLOYMENT



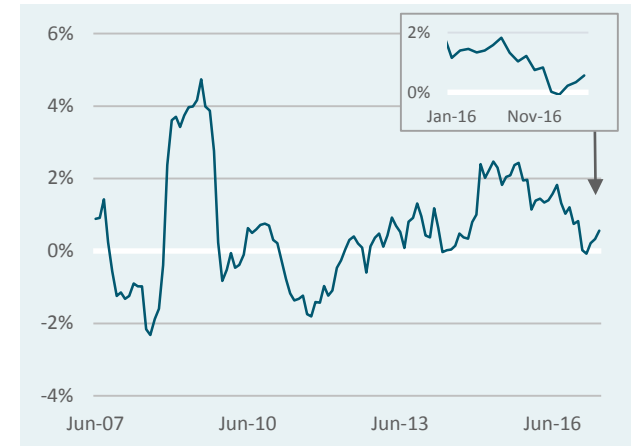
Source: FRED, as of 6/30/17

CHANGE IN NONFARM PAYROLLS (THOUSANDS)



Source: FRED, as of 6/30/17

REAL AVERAGE HOURLY EARNINGS (YOY)



Source: FRED, as of 5/31/17

# U.S. economics – The consumer

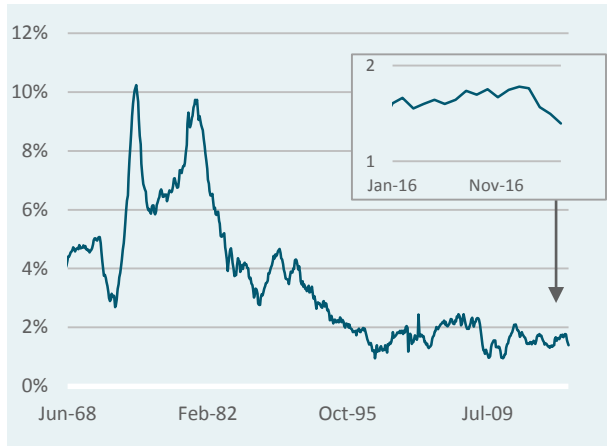
Consumer spending growth has slowed slightly this year, but is within a normal range. The move was partially due to a temporary decline in utilities expenditures. Despite the recent cooling, the fundamental picture for consumers is still positive. Low inflation, low unemployment, and moderate wage gains should provide a backdrop for further spending growth even though it appears less likely that the post-election jump in consumer sentiment will translate into a large increase in spending.

In addition, households have experienced a significant deleveraging over the past few years, and consumers have used credit sparingly in this cycle relative to history. Healthy balance sheets and a low interest burden should also support moderate spending in the future.

A potential risk to the consumer is that borrowing costs such as credit card, auto and student loan interest rates, are expected to rise along with Fed monetary tightening. This will act as a headwind to income and spending, but at this point these borrowing rates have only experienced a slight increase.

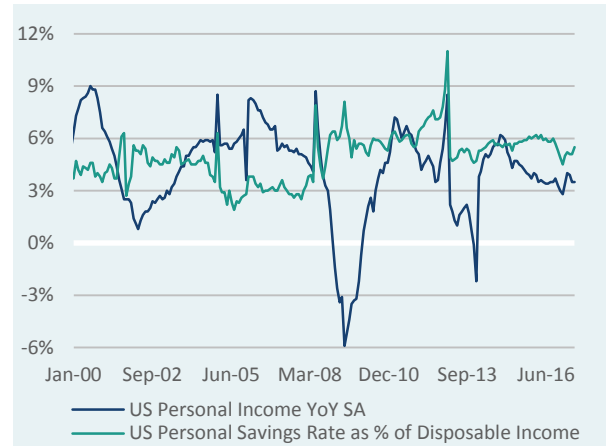
Consumer spending has cooled, but is still an important contributor to growth

**CONSUMER SPENDING (YOY GROWTH)**



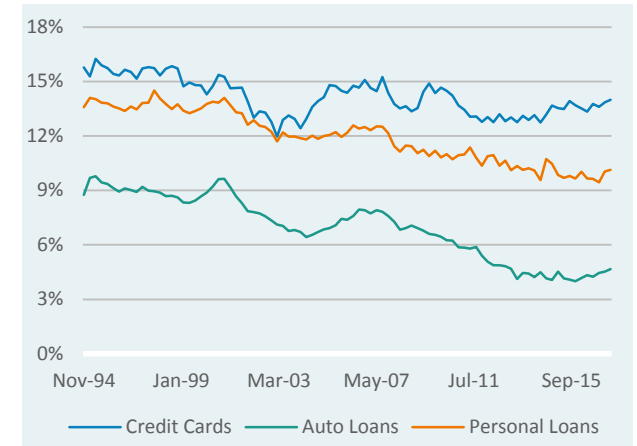
Source: Bloomberg, as of 5/31/17

**SAVINGS & INCOME (YOY)**



Source: FRED, as of 5/31/17

**CONSUMER INTEREST RATES**



Source: FRED, as of 5/31/17

# U.S. economics – Sentiment

Consumer sentiment indicators have trended downward from post-election highs, but remain elevated from a historical perspective. The University of Michigan Consumer Sentiment Index, which tracks both consumers' perception of current conditions and expectations of future conditions, fell from 96.9 to 95.1 during the quarter, its lowest level since the election.

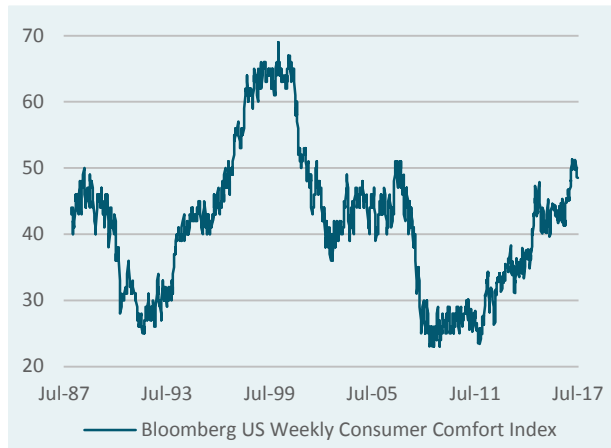
Weakened confidence was fueled by uncertainty surrounding fiscal policies, as reported by the University of Michigan Sentiment Survey. Consumers expect a low likelihood of successful policy implementation. Progress

from the Trump administration on these policies could lead to a positive surprise.

In aggregate, U.S. economic data came in below expectations during the quarter as the Citi Economic Surprise Index fell from 48 to -73. Although the drop is somewhat concerning, this indicator tends to be mean-reverting in nature and some of the decline should be expected. A positive (negative) reading of the Economic Surprise Index suggests that economic releases have on balance been beating (missing) consensus.

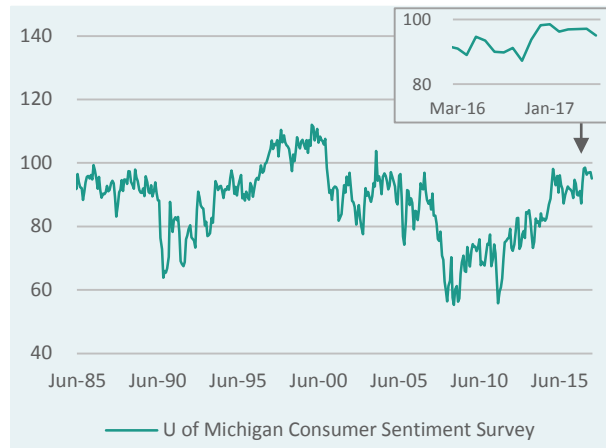
Consumer sentiment has faded since the post-election peak

**CONSUMER COMFORT INDEX**



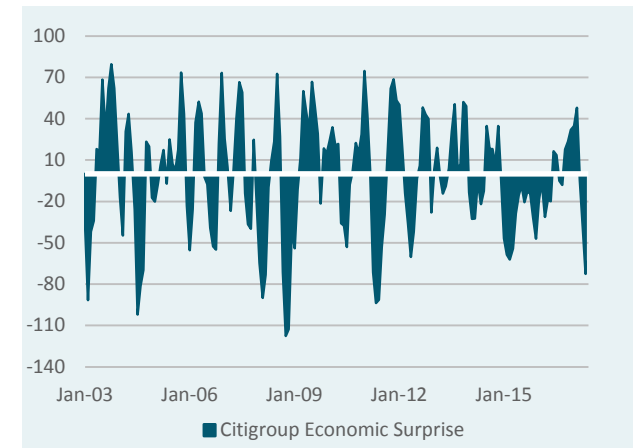
Source: Bloomberg, as of 7/2/17 (see Appendix)

**CONSUMER SENTIMENT**



Source: University of Michigan, as of 6/30/17 (see Appendix)

**U.S. ECONOMIC SURPRISE**



Source: Bloomberg, as of 6/30/17 (see Appendix for details)

# U.S. economics – Housing

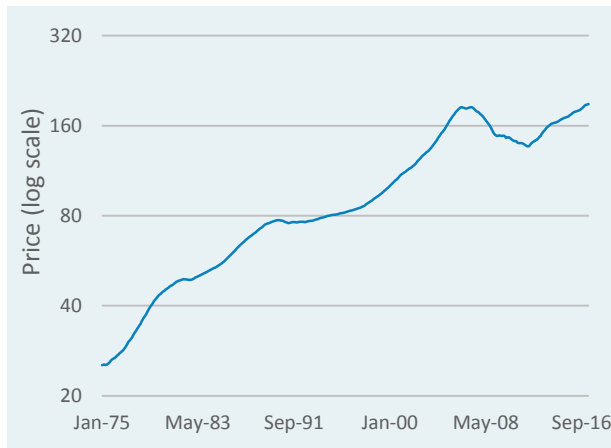
Single family home prices increased at a steady rate amid strong demand and low supply. Over the past 12 months, the Case-Shiller National Home Price Index rose 5.5%. Seattle, Portland, and Dallas reported the highest yearly growth among the top 20 metropolitan areas.

Tighter mortgage lending standards by banks have led to a higher quality pool of borrowers than in the previous real estate cycle. In addition to tighter lending standards, household deleveraging and lower interest rates have

been important drivers of lower delinquency and default rates. Mortgage rates spiked following the election, but have since come down slightly.

Housing starts and permits declined throughout the quarter, indicating a slowing of construction activity that could weigh on economic growth. The market is already constrained by low supply, and if new construction were to decline further, it may add upward pressure to housing prices.

**CASE-SHILLER HOME PRICE INDEX**



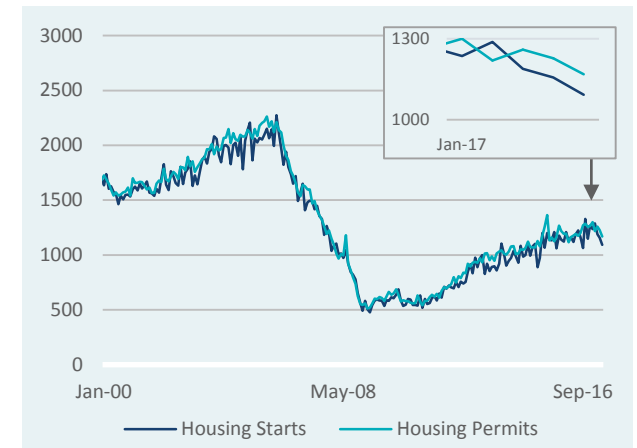
Source: FRED, as of 4/30/17

**30-YEAR MORTGAGE RATE**



Source: FRED, as of 7/6/17

**HOUSING STARTS AND PERMITS**



Source: FRED, as of 5/31/17

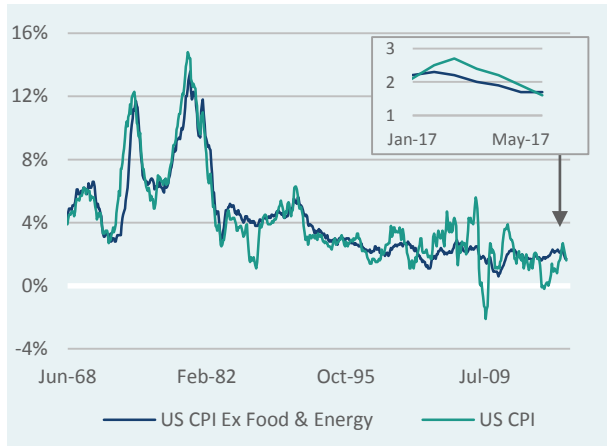
# U.S. economics – Inflation

Inflation decelerated during the quarter, falling back below the Fed's target of 2%. Headline CPI fell 0.8% to 1.6% and core CPI (ex food and energy) declined 0.3% to 1.7%. Much of the decline in the headline number was due to lower energy prices, though weakness in telecommunication, apparel, and health care prices also contributed to lower inflation. In her testimony to the Senate, Janet Yellen acknowledged the recent weakness in inflation as a concern, but said she still believes price levels will move gradually higher to reach the Fed's target. Further softness in inflation could give the Fed pause when considering additional tightening.

Lower realized inflation, which missed estimates for three consecutive months, helped lead the market to reprice inflation expectations. The 10-year TIPS breakeven inflation rate fell from 2.0% in March to 1.7% in June. Market-based inflation expectations are low compared to history, and participants may simply be naively projecting the current low inflation environment into the future. Late stage cyclical conditions including moderate economic expansion and a tightening labor market could place gradual pressure on inflation.

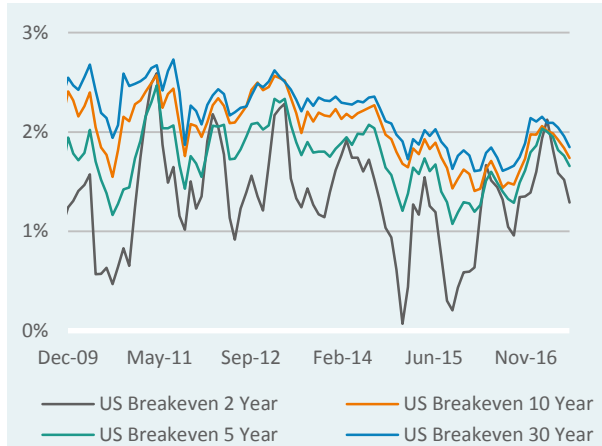
**Inflation decelerated in the second quarter**

**U.S. CPI (YOY)**



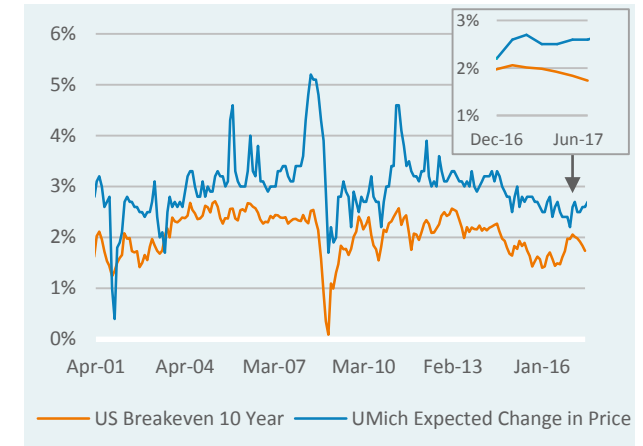
Source: FRED, as of 6/30/17

**U.S. TIPS BREAKEVEN RATES**



Source: FRED, as of 6/30/17

**INFLATION EXPECTATIONS**



Source: Bloomberg, as of 6/30/17

# International economics summary

- Developed and emerging economies have exhibited coordinated positive growth momentum from low absolute growth rates relative to history. A continuation of this trend may be self reinforcing, lifting weak and strong economies alike.
- Economic releases have missed expectations in the U.S. and U.K. after extended upside surprise. The Eurozone has delivered positive surprise, but by a smaller margin.
- Oil further contributed to commodity underperformance due to oversupply, disagreements within OPEC regarding production cuts, and concerns over the magnitude of U.S. production.
- Developed world inflation remained within a normal range, though slightly below levels targeted by central banks.
- In May, Emmanuel Macron defeated Marine Le Pen in the French presidential election, calming fears over populist politics gaining an increased foothold in Europe.
- On June 8th, the U.K. held a snap election in which the Conservative party surprised polls and gave up their majority in Parliament, potentially weakening their position in the upcoming Brexit negotiations.
- On June 27th, ECB President Mario Draghi surprised markets with comments perceived as hawkish compared to previous comments. In the following two days the Euro appreciated 2.3% against the U.S. dollar and developed global rates moved upward - German bunds in particular.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.1% 3/31/17	1.6% 6/30/17	4.4% 6/30/17
Western Europe	1.8% 3/31/17	1.3% 6/30/17	8.1% 3/31/17
Japan	1.3% 3/31/17	0.4% 5/31/17	3.1% 5/31/17
BRICS Nations	5.4% 3/31/17	2.3% 3/31/17	5.6% 12/31/16
Brazil	(0.4%) 3/31/17	3.0% 6/30/17	13.5% 6/30/17
Russia	0.5% 3/31/17	4.4% 6/30/17	5.5% 3/31/17
India	6.1% 3/31/17	2.2% 5/31/17	8.4% 12/31/16
China	6.9% 3/31/17	1.5% 5/31/17	4.0% 12/31/16

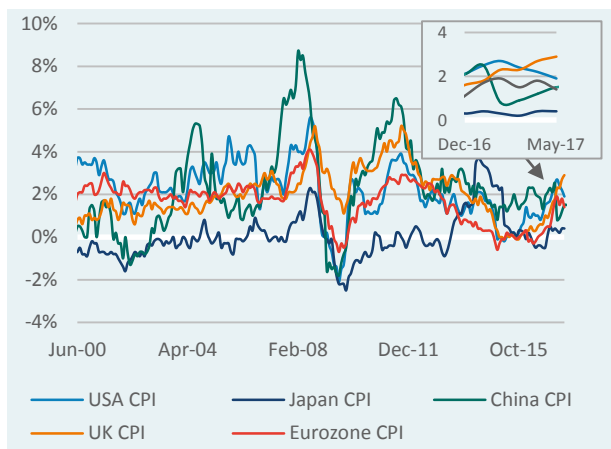
# International economics

Eurozone CPI was 1.3% YoY in June, arguably within the bounds of the European Central Bank mandate “...to maintain inflation rates below, but close to, 2% over the medium term.” Inflation below 2% likely implies a more dovish central bank stance.

Japan CPI remained low at 0.4% YoY in May. Bank of Japan Governor Haruhiko Kuroda explained in June that “...there is still a long way to go until the price stability target of 2 percent is achieved.” The Bank of Japan maintains its aggressive stimulus policy which separates the bank from those of other developed economies.

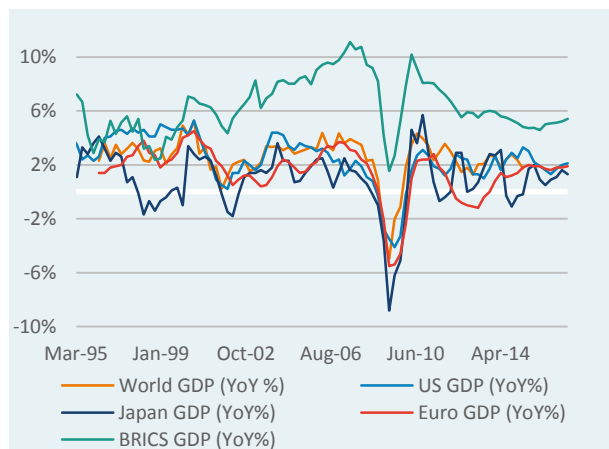
Employment has improved markedly across the globe, recovering to pre-crisis levels in most economies. Europe remains the exception in terms of aggregate employment, with labor markets displaying disparate levels of health from one country to the next. Core countries such as Germany and France have experienced a much greater fall in unemployment than periphery countries such as Spain and Italy.

## INTERNATIONAL INFLATION



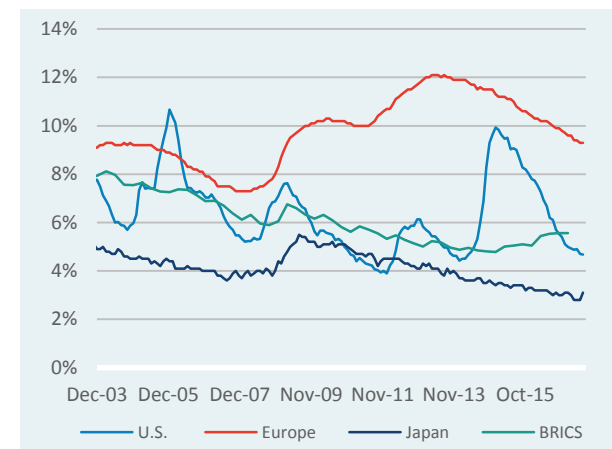
Source: Bloomberg, as of 5/31/17

## REAL GDP GROWTH



Source: Bloomberg, as of 3/31/17

## GLOBAL UNEMPLOYMENT



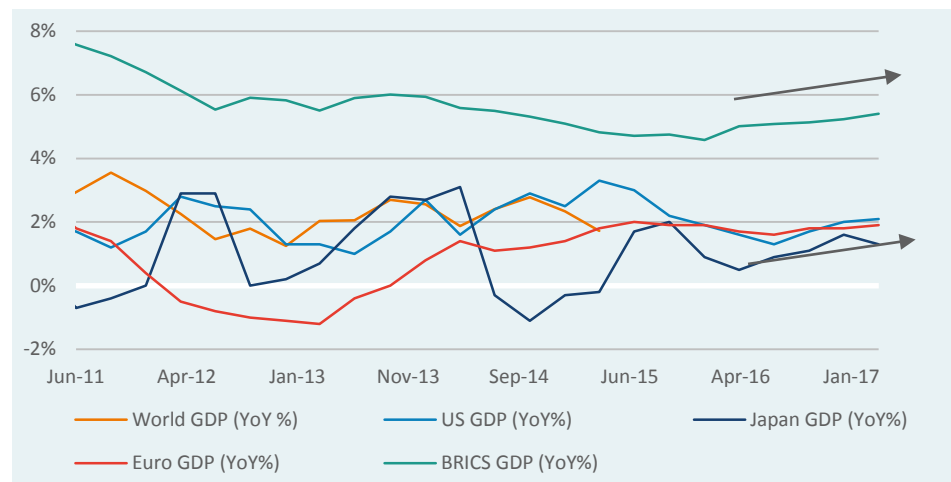
Source: Bloomberg, as of 5/31/17 or most recent release

# Synchronized global growth

Developed and emerging economies have begun to accelerate. A confluence of low inflation, higher employment (but weak wage pressure), improving consumer/business sentiment, and relatively accommodative central bank policy may lead to a unified global expansion. We expect that this trend would deliver outsized gains to open, export-focused economies. Emerging markets may be noteworthy beneficiaries within this environment, as these economies tend to be highly exposed to global growth trends.

The U.S. economy is arguably further along in its economic cycle than other economies; however, it is important to note that American corporations derive a significant portion of sales from overseas. S&P 500 foreign sales make up more than one third of total index revenue. U.S. corporations could participate substantially in global growth despite a more mild domestic expansion scenario.

## REAL GDP GROWTH



Source: Bloomberg, as of 3/31/17

## GLOBAL PMI

	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17
<b>Manufacturing</b>												
Global	51	51	51	52	52	53	53	53	53	53	53	53
Developed	52	51	52	53	53	54	54	54	54	54	54	54
US	52	49	52	52	54	55	56	58	57	55	55	58
Eurozone	52	52	53	54	54	55	55	55	56	57	57	57
Japan	49	50	50	51	51	52	53	53	52	53	53	52
EM	50	50	50	51	51	51	51	51	52	51	51	51
<b>Services</b>												
Global	52	52	52	53	53	53	54	53	54	54	54	54
Developed	51	52	52	54	54	54	55	54	54	54	54	55
US	55	52	57	55	56	57	57	58	55	58	57	57
Eurozone	53	53	52	53	54	54	54	56	56	56	56	55
Japan	50	50	48	51	52	52	52	51	53	52	53	53
EM	53	53	52	53	54	54	54	56	56	56	56	55

Source: Bloomberg, as of 6/30/17 – (blue stronger / orange weaker)



# Fixed income rates & credit

# Interest rate environment

- On June 14th, the Federal Reserve raised the federal funds rate by 25 bps to a target range of 1.00% - 1.25%.
- The Fed's own forecast indicates one more rate hike this year, and three more hikes in each of the next two years. Rates are expected to normalize at 3% at the end of 2019. We believe the probability that the Fed undershoots its target is significant, given persistent low inflation and a high degree of risk if policy is tightened too quickly.
- The Fed announced plans to begin reducing their balance sheet sometime this year. The initial plan is to runoff \$6 billion of Treasuries and \$4 billion of mortgage-backed securities per month. This will be scaled up commensurately every 3 months to \$50 billion per month.
- Markets expect the ECB to reduce monetary easing gradually throughout 2018, with a tapering plan announcement this fall.
- In May, the Bank of Japan raised its economic forecasts. The central bank implemented a "yield curve control" policy at its September meeting along with a mandate to keep the 10-year yield at 0%. The BoJ plans to maintain an easy stance until inflation hits its 2% target.
- Credit spreads remain broadly tight. Spread levels have historically been a strong predictor of credit performance relative to Treasuries, which at current levels implies muted future performance.
- We favor emerging market debt due to higher yields relative to other bond markets.

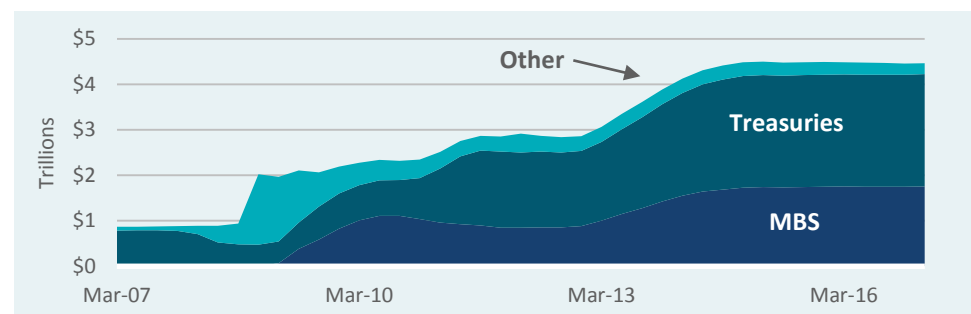
Area	Short Term (3M)	10 Year
United States	1.01%	2.30%
Germany	(0.82%)	0.47%
France	(0.60%)	0.82%
Spain	(0.44%)	1.54%
Italy	(0.38%)	2.16%
Greece	2.43%	5.42%
U.K.	0.17%	1.26%
Japan	(0.10%)	0.09%
Australia	1.63%	2.73%
China	2.63%	3.57%
Brazil	9.41%	10.54%
Russia	8.16%	7.90%

Source: Bloomberg, as of 6/30/17

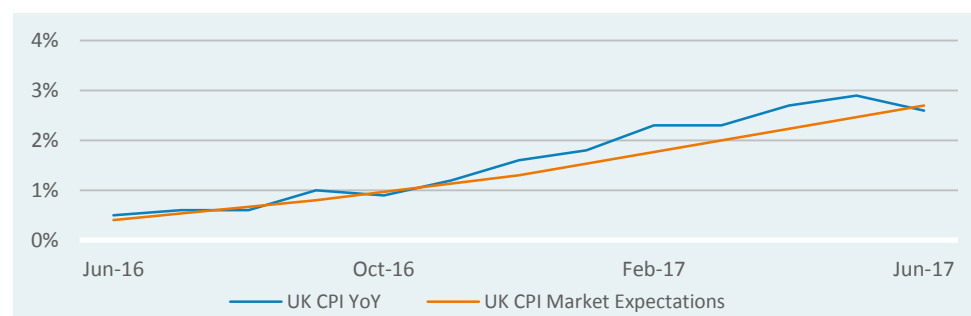
# Central bank confidence

- The U.S. Federal Reserve announced plans to begin reducing its balance sheet, which is expected to begin later this year. The initial plan is to runoff \$6 billion of Treasuries and \$4 billion of mortgage-backed securities per month. This will be scaled up commensurately every three months to a total of \$50 billion per month. Considering the Fed balance sheet has grown to \$4.5 trillion in size, it would take nearly seven years of uninterrupted runoff to fully unwind the balance sheet to the pre-crisis level. Central banks are likely aiming to build up more dry powder in order to address future economic downturns.
- Markets expect the ECB to announce a gradual tapering plan to its asset purchase program in the fall that will most likely begin sometime in 2018. More policy timing clues are anticipated from the ECB at the September 7<sup>th</sup> meeting.
- In the U.K., the argument for a rate hike is building after higher than expected inflation in May. This has likely contributed to recent British Pound appreciation. Mark Carney seems more receptive to rate hikes but has stated that business investment would need to grow to offset weaker consumer spending in order for him to push for a hike.
- The Bank of Japan announced that it would buy unlimited quantities of government bonds to keep yields from rising too far – recently this seems to be defined as 0.1% yield on the 10-year government bond. The bank plans to stick to policy until inflation hits the 2% target.

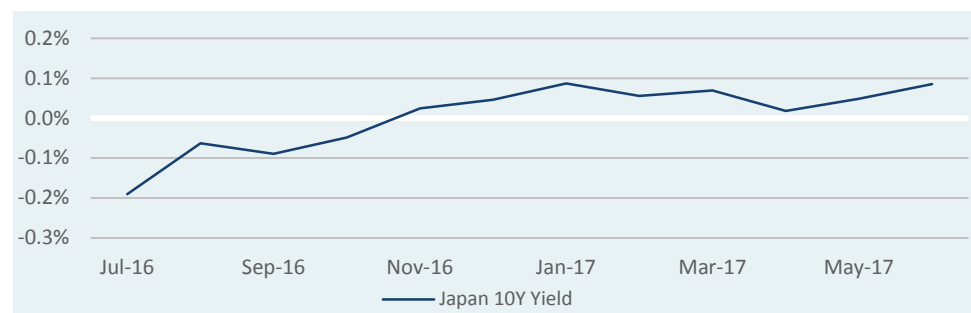
**FEDERAL RESERVE BALANCE SHEET**



**U.K. CPI YOY VS MARKET EXPECTATIONS**

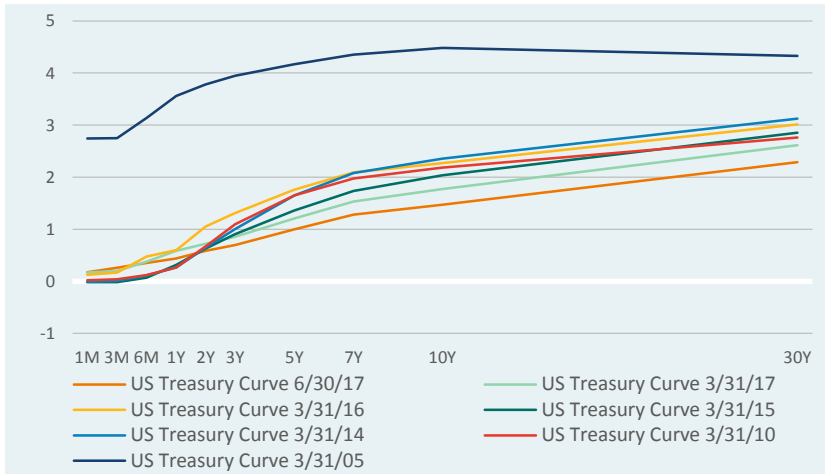


**JAPAN 10Y YIELD**

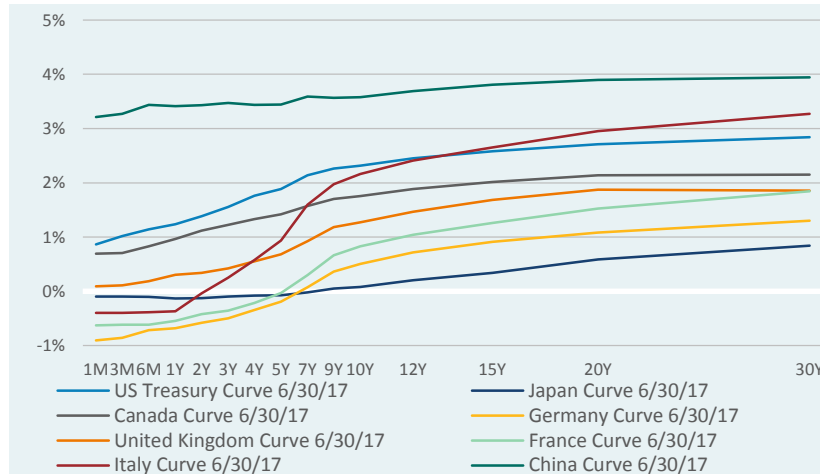


# Yield environment

U.S. YIELD CURVE

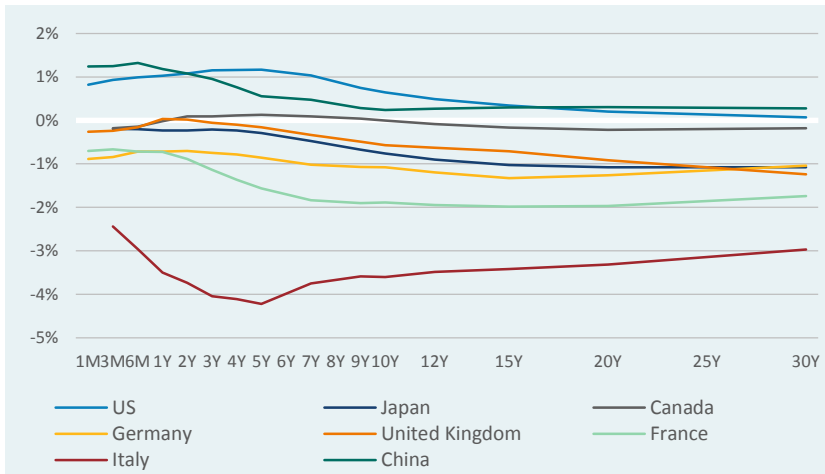


GLOBAL GOVERNMENT YIELD CURVES

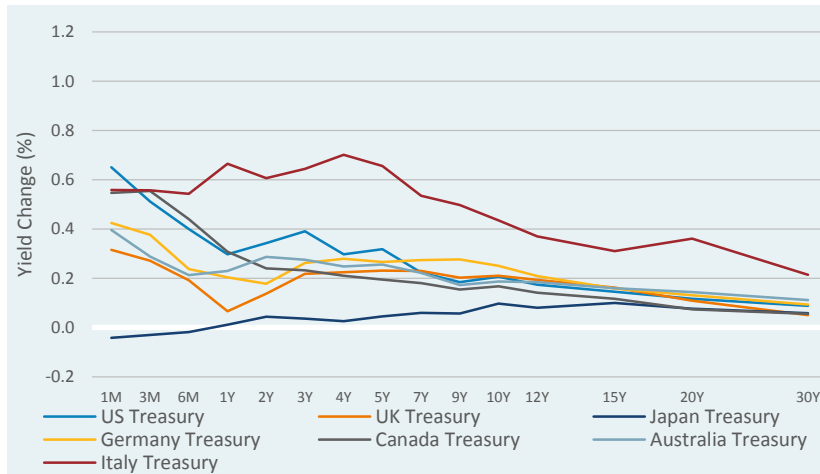


Across developed markets, U.S. Treasuries offer higher yields

YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 6/30/17

# Credit environment

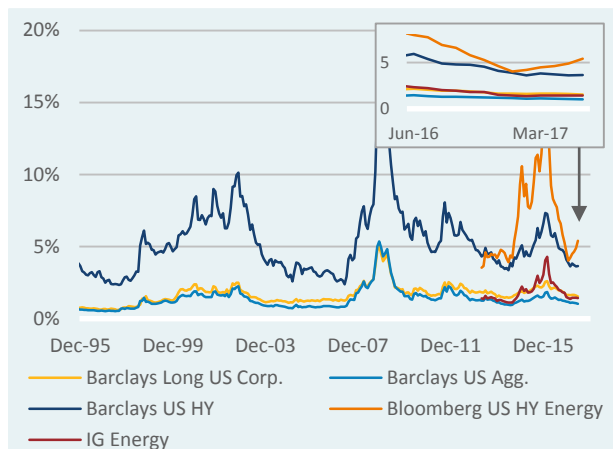
U.S. high yield option-adjusted spreads compressed in the second quarter to 3.6%, and the asset class generated a 2.2% total return (BBgBarc U.S. Corp. High Yield Index). High yield spreads are tighter than those of bank loans on a duration neutral basis.

The U.S. labor market remained strong, which helped the Fed to justify a rate increase of 0.25% in June. Investors continued to favor credit. A combination of tighter credit spreads and additional carry (greater yield) over Treasuries led credit to broadly outperform Treasuries in Q2. Spreads are near historic lows, though these levels

have been witnessed in later stages of previous credit cycles. Credit spreads have historically been a good indicator of future performance relative to Treasuries.

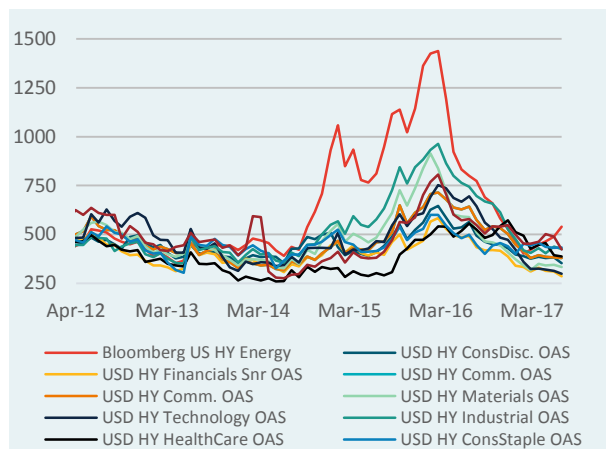
High yield energy spreads widened over the quarter to 5.4% - a very moderate rise relative to what was witnessed following the 2014 commodity drawdown. This lesser magnitude can be partly attributed to better credit ratings of companies in the index today. Additionally, innovation and technological gains have helped lower costs, which allows businesses to stay profitable at lower price levels.

## CREDIT SPREADS



Source: Barclays Capital Indices, Bloomberg, as of 6/30/17

## HIGH YIELD SECTOR SPREADS



Source: Bloomberg, as of 6/30/17

## SPREADS

Market	Credit Spread (6/30/17)	Credit Spread (1 Year Ago)
Long US Corporate	1.6%	2.2%
US Aggregate	1.1%	1.6%
US High Yield	3.6%	5.9%
US High Yield Energy	5.4%	8.0%
US Bank Loans	3.7%	3.9%

Source: Barclays, Credit Suisse, Bloomberg, as of 6/30/17

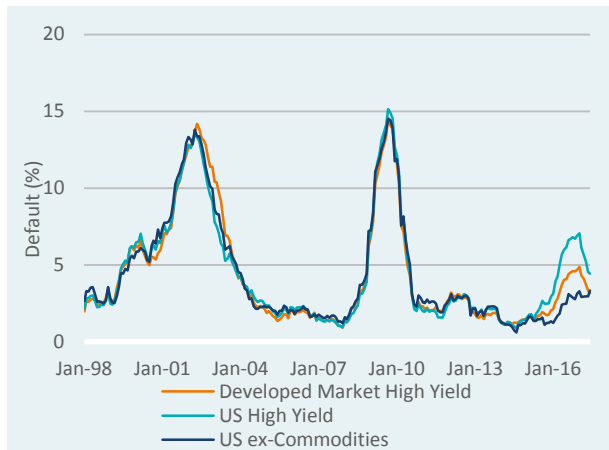
# Issuance and default

Both U.S. senior loan and high yield markets are stabilizing with the majority of par defaults last year coming from energy and metals/mining sectors. Rolling default rates should fall as commodity prices recover and commodity price-induced credit problems have a lesser impact on the credit universe. Active management may offer value to investors in the high yield space.

Global high yield and bank loan issuance has grown at a faster pace than what was seen last year. Lower spread levels have resulted in more attractive borrowing costs for these issuers. The direction of interest rates will likely impact future debt issuance levels.

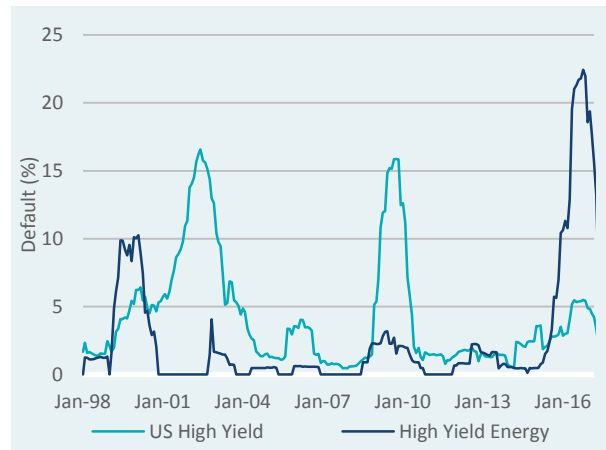
The effects of commodity related defaults are subsiding

**HY DEFAULT TRENDS (ROLLING 1 YEAR)**



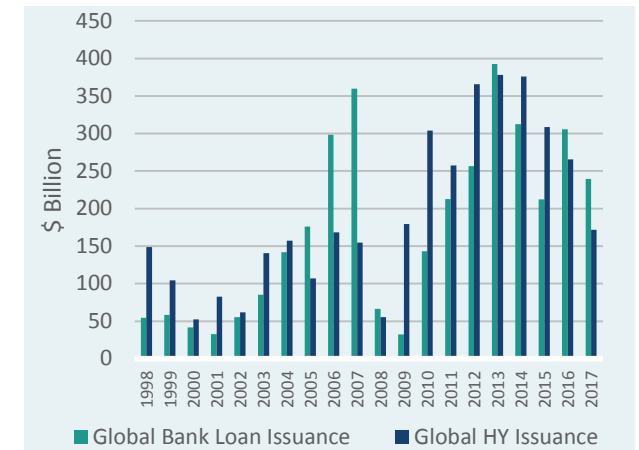
Source: BofA Merrill Lynch, as of 6/30/17

**ENERGY DEFAULT TRENDS**



Source: BofA Merrill Lynch, as of 6/30/17

**GLOBAL ISSUANCE**



Source: Bloomberg, BofA Merrill Lynch, as of 6/30/17

# Equity

# Equity environment

- We maintain a moderate overweight to equities with a preference for emerging markets due to attractive valuations and better growth prospects relative to developed markets.
- Global equity markets delivered another positive quarter, driven by strong earnings growth across regions. Earnings were strongest in Western Europe and emerging markets. These regions outperformed on a relative basis during the quarter.
- According to FactSet, the estimated Q2 earnings growth rate of the S&P 500 is 6.8% YoY. Energy companies are expected to contribute the most to overall growth due to stabilizing oil prices and a low earnings base one year ago.
- Increased uncertainty surrounding the Brexit negotiations following the Conservative party's surprise loss of a majority in Parliament likely helped lead to underperformance in U.K. equities. The FTSE 100 Index returned -4.9% in Q2.
- MSCI approved the inclusion of 222 mainland Chinese companies (China A Shares) into the MSCI Emerging Markets Index. This represents only a small portion of the overall market. Starting in 2018, these domestic shares will represent approximately 0.7% of the index. While initially this decision will have a minimal effect on index performance, it opens the door for additional China A shares to be added. If the entire market was included, it would represent 12.8% of the MSCI index.

	QTD TOTAL RETURN		YTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	3.1%		9.3%		18.0%	
US Small Cap (Russell 2000)	2.5%		5.0%		24.6%	
US Large Value (Russell 1000 Value)	1.3%		4.7%		4.7%	
US Large Growth (Russell 1000 Growth)	4.7%		14.0%		20.4%	
International Large (MSCI EAFE)	6.1%	3.1%	13.8%	16.1%	20.3%	23.5%
Eurozone (Euro Stoxx 50)	6.5%	3.8%	19.1%	22.5%	26.6%	28.3%
U.K. (FTSE 100)	4.9%	1.2%	10.0%	5.0%	13.6%	17.5%
Japan (NIKKEI 225)	5.1%	6.5%	9.6%	6.6%	19.9%	32.0%
Emerging Markets (MSCI Emerging Markets)	6.3%	6.1%	18.4%	11.6%	23.8%	19.3%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 6/30/17



# Domestic equity

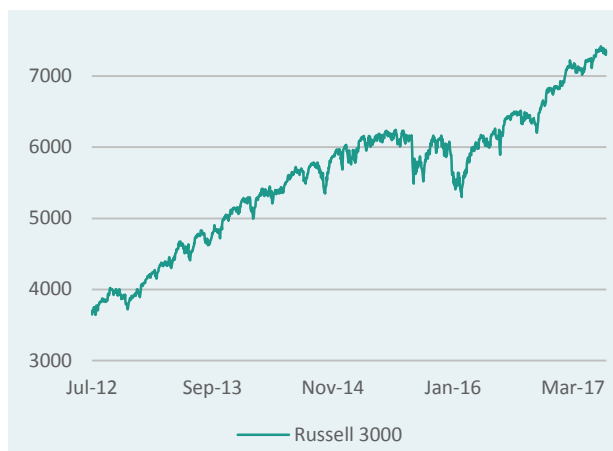
U.S. equities moved higher on robust earnings growth. According to FactSet, the estimated Q2 earnings growth rate of the S&P 500 is 6.8% YoY. Energy companies are expected to contribute the most to overall growth due to a low earnings base one year ago and stabilizing oil prices. The earnings outlook for the rest of the year is strong, and the expected growth rate for the 2017 calendar year is 9.8%. Positive global growth trends could help lift earnings further since a substantial portion of U.S. corporate revenues come from abroad.

All major U.S. banks passed the Fed's stress test in June, citing strong capital levels and ability to lend during a recession. The news drove financials upward as the positive results allowed banks to increase their future dividends and buybacks.

As discussed in recent quarters, we are relatively bullish on U.S. earnings growth in the near term, but investors may be paying for this excess growth upfront through higher valuations. We maintain a neutral weight to U.S. equities.

We maintain a neutral weight to U.S. equities

## U.S. EQUITIES



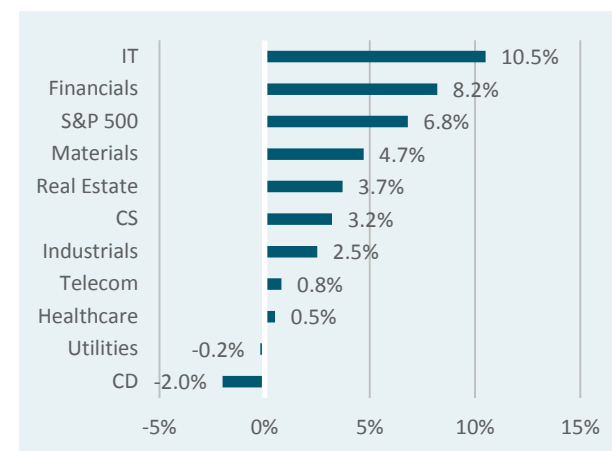
Source: Russell Investments, as of 7/7/17

## S&P 500 EPS GROWTH



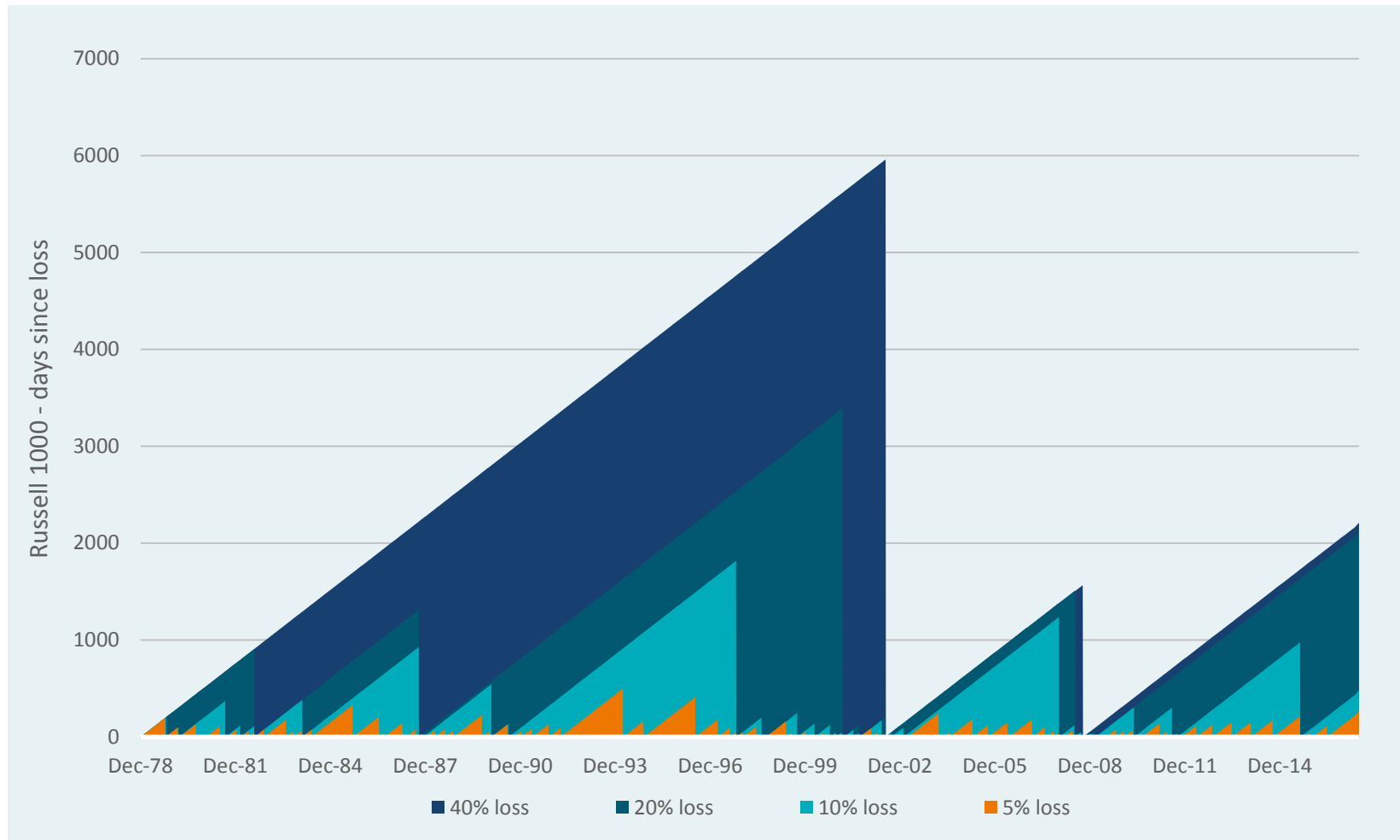
Source: Bloomberg, as of 6/30/17

## Q2 FORECAST EPS GROWTH



Source: FactSet, as of 7/14/17 - excludes energy sector

# Expect surprises



Market surprises are normal and in most cases should not affect long-term portfolio planning

Source: Bloomberg

# Domestic equity size and style

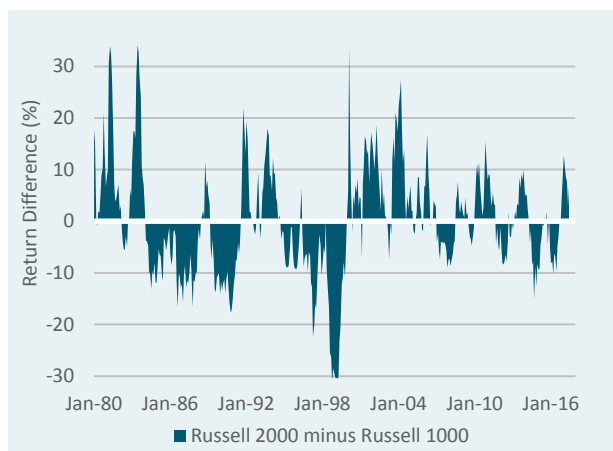
Despite a short selloff in June, strong returns from the tech sector helped lead to positive relative performance of growth over value during the quarter. Much of the gains were concentrated in the well known mega-cap stocks, including Apple, Amazon, and Microsoft. Momentum in growth stocks has continued to perform well so far this year.

In the second quarter, the Russell 1000 Growth Index and the Russell 1000 Value Index returned 4.7% and 1.3%, respectively. Falling oil prices were a headwind to energy

companies, which were the largest detractor from the value index.

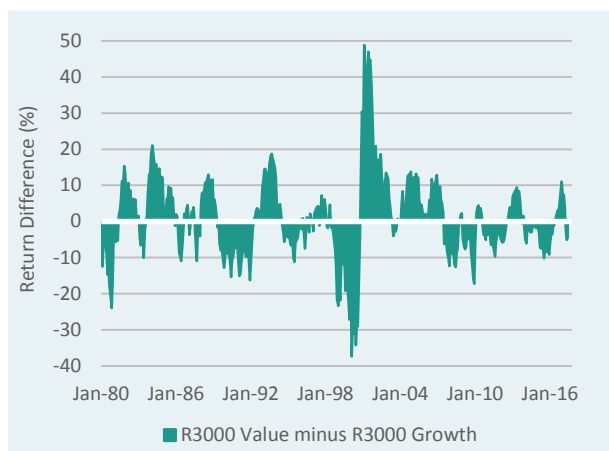
Large cap equities narrowly outperformed small cap equities. Much of the optimism surrounding Trump's pro-small business policies after his victory, including deregulation and tax reform, appears to have faded so far this year. If progress on these measures is made, smaller companies could receive another boost in the second half of 2017.

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



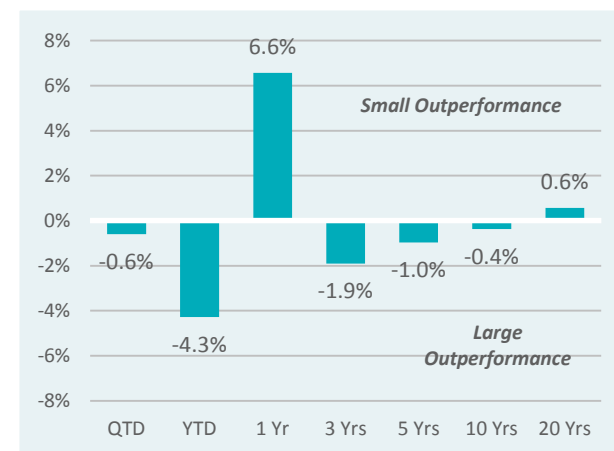
Source: Russell Investments, as of 6/30/17

**VALUE VS GROWTH (YOY)**



Source: Russell Investments, as of 6/30/17

**U.S. LARGE VS. SMALL RELATIVE PERFORMANCE**



Source: Morningstar, as of 6/30/17

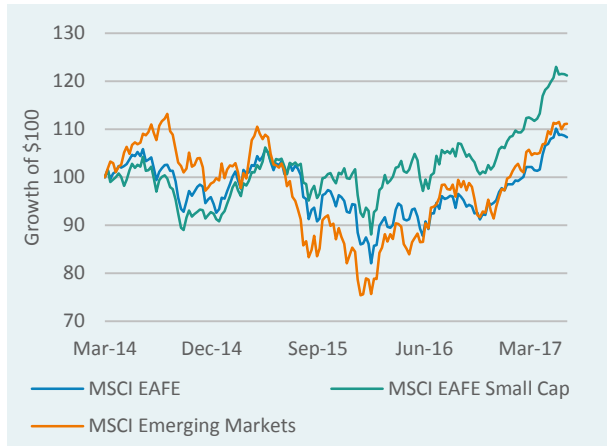
# International equity

International equities outperformed domestic equities over the quarter. The MSCI ACWI ex U.S. returned 5.8% on an unhedged basis while the S&P 500 returned 3.1%.

The U.S. dollar has steadily depreciated in value year-to-date against major currencies, down around 7%. This currency movement has added volatility to investors with unhedged currency exposure, with the MSCI EAFE Index returning 13.8% unhedged vs. 16.1% hedged, and the MSCI Emerging Markets Index returning 18.4% unhedged vs. 11.6% hedged.

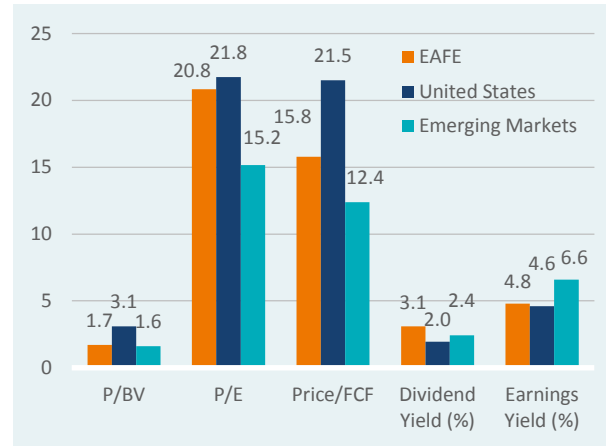
International equities are trading at lower multiples than domestic equities, based on various metrics. Valuations and earnings growth both play an important role in equity return outcomes and risk. Higher equity valuations imply greater optimism surrounding growth expectations, and greater optimism presents investors with more downside risk as the possibility of disappointment rises. Because of lower valuation levels, international markets may possess greater upside potential through either valuation expansion or positive earnings growth surprise. However, due to apparent tail risks in these markets we maintain a neutral weight in portfolios.

## GLOBAL EQUITY PERFORMANCE



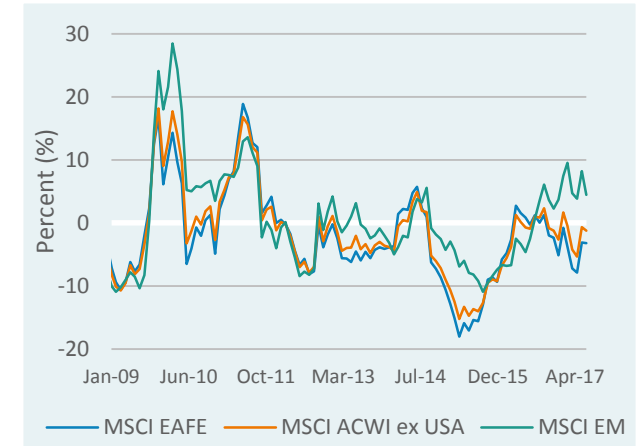
Source: Bloomberg, as of 6/30/17

## VALUATIONS



Source: Bloomberg, MSCI, as of 6/30/17 - 3 month average

## EFFECT OF CURRENCY (1 YEAR ROLLING)



Source: MSCI, as of 6/30/17

# Emerging market equity

We maintain an overweight to emerging markets due to attractive valuations and better growth prospects relative to developed markets.

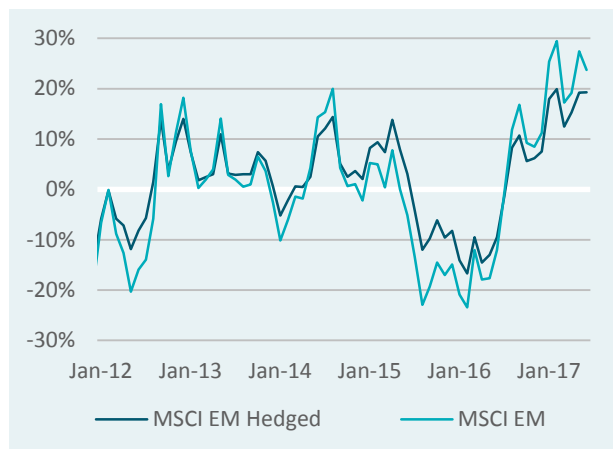
Emerging market equities continue to outperform developed markets, delivering 4.8% in Q2 and 17.1% year-to-date. Currency movement has been additive. Emerging market equity earnings are now expected to grow 22% YoY in 2017, which is a material increase from the 13% YoY increase expected at the beginning of 2017.

Interestingly, valuations have come down slightly despite very strong equity returns, as earnings rise faster than price.

If economic growth turns upward across the globe, we would expect major exporting economies to experience a significant tailwind. Emerging markets in particular tend to provide high exposure to global growth. Stabilizing commodities in this type of environment would likely provide an additional tailwind.

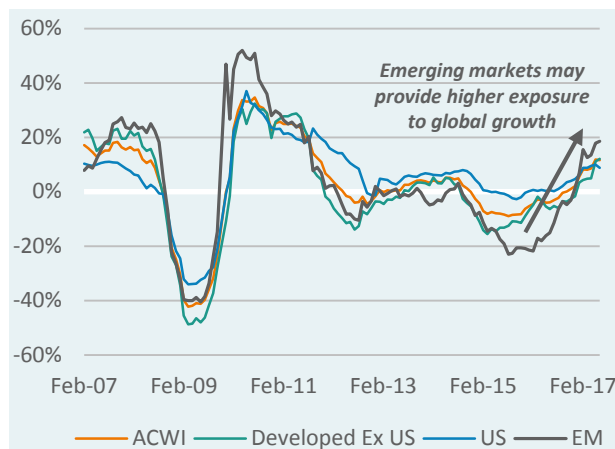
Accelerating global growth should have a positive effect on EM economies

12-MONTH ROLLING PERFORMANCE



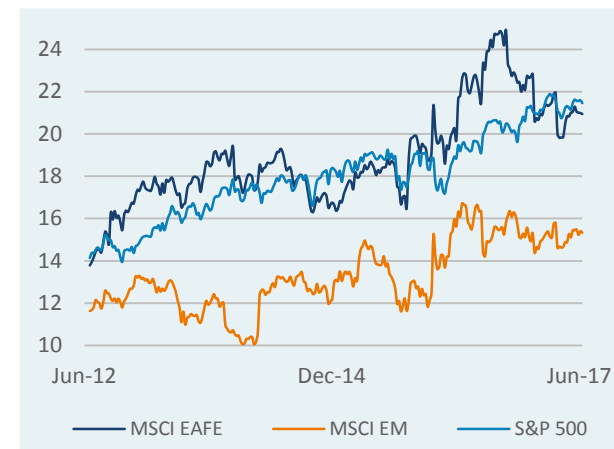
Source: MPI, as of 6/30/17

EM EARNINGS GROWTH (YOY)



Source: Bloomberg, as of 6/30/17

TRAILING P/E RATIOS



Source: Bloomberg as of 6/30/17

# Equity valuations

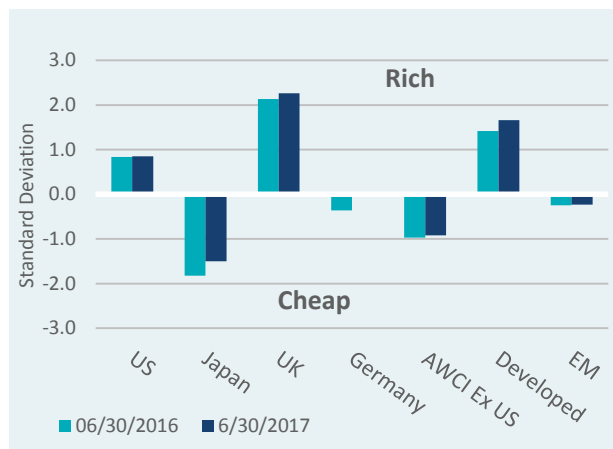
Strong global earnings in the first quarter and an increase in expected earnings growth throughout the rest of the year led to lower valuation multiples, especially in international developed markets. A pick up in earnings growth could help normalize P/E ratios.

Despite the recent strong earnings growth, valuation measures remain elevated relative to history. The trailing P/E for the S&P 500 was 21.5 at the end of June, above the 30-year average of 19.2. Higher P/E ratios imply lower future returns, but valuations can stay elevated for long periods of time, and changes are unpredictable.

Looking at the historical differences between regional P/E ratios and the global P/E ratio (ACWI) shows that Japan and emerging markets are the cheapest, while the U.K. and U.S. are the richest. Emerging markets are attractive on a variety of valuation measures. Strong global economic and earnings growth could give these cheaper markets more upside potential than richer markets such as the U.S.

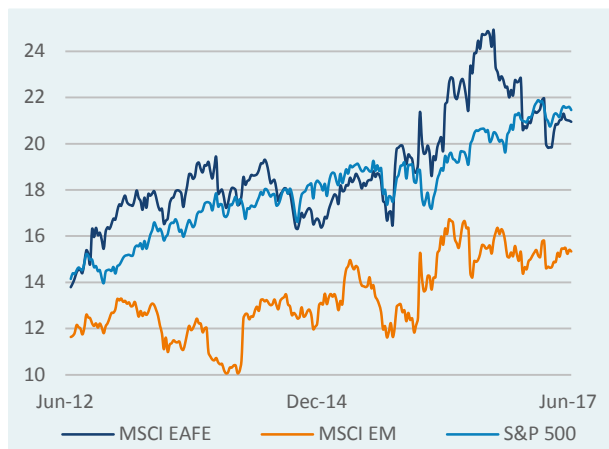
Valuations are elevated, but relative opportunities exist

RELATIVE PE TO ACWI



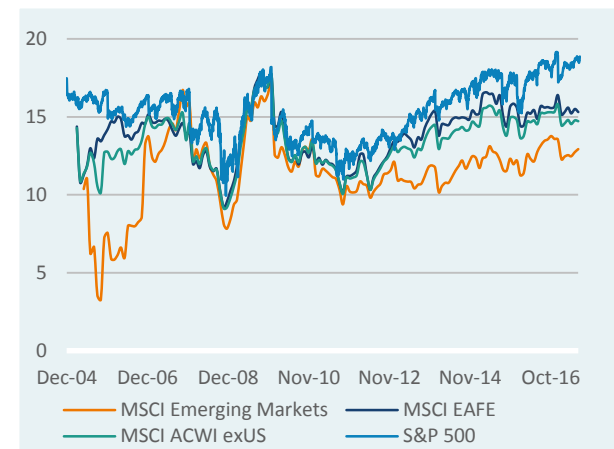
Source: Bloomberg, as of 6/30/17

TRAILING P/E RATIOS



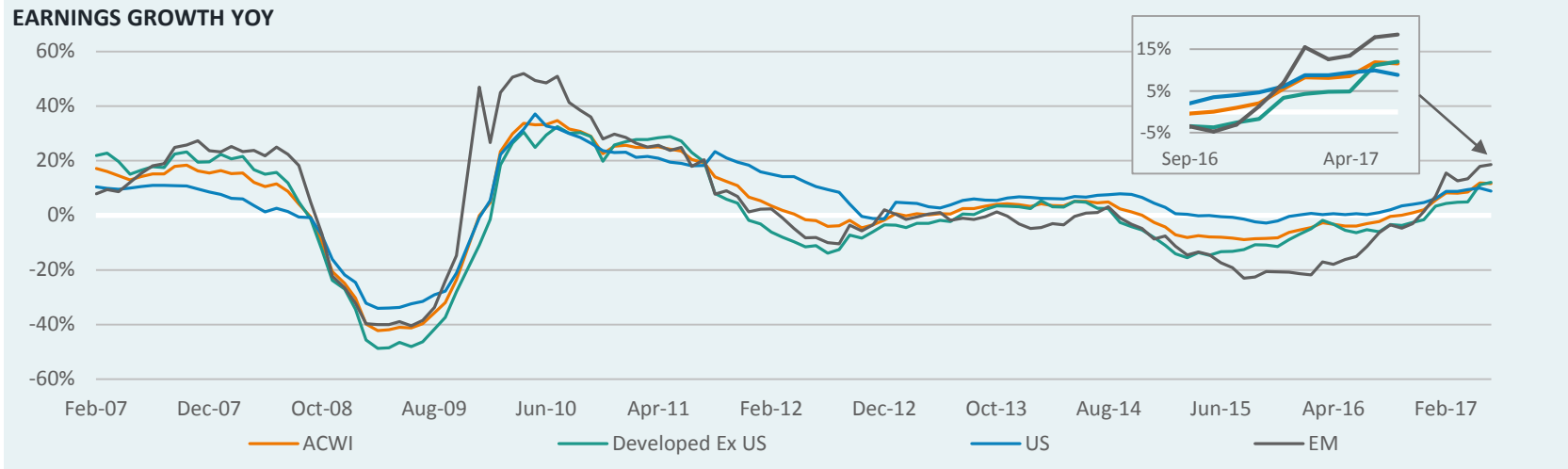
Source: Bloomberg, as of 6/30/17

INTERNATIONAL FORWARD P/E RATIOS

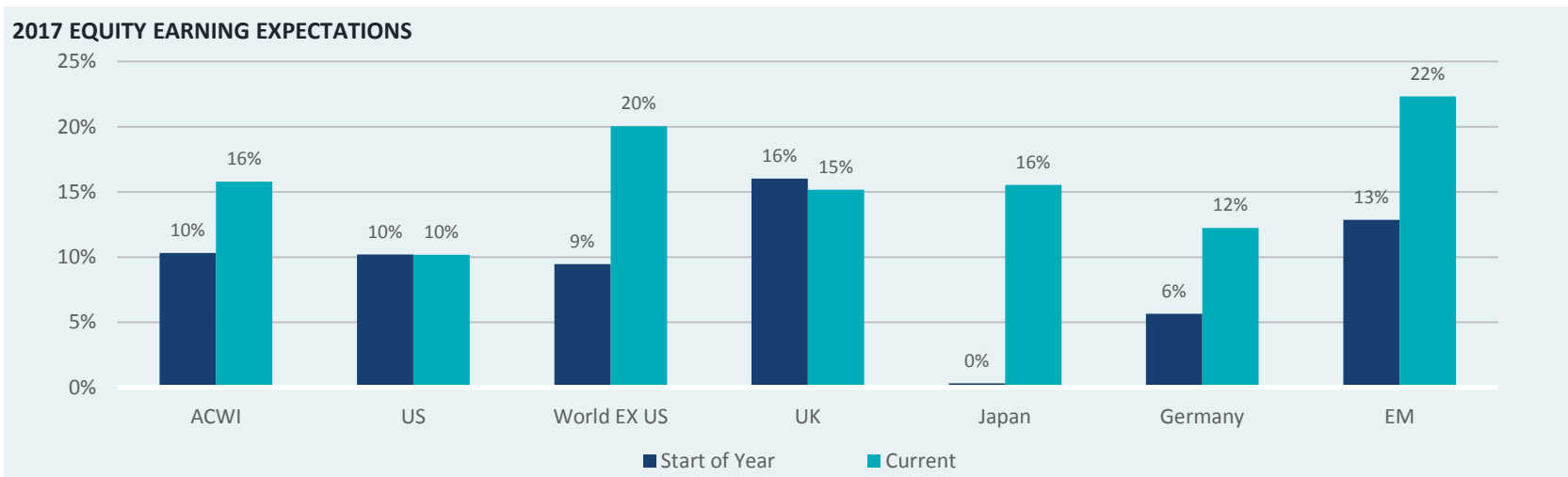


Source: Bloomberg, as of 6/30/17

# Global earnings growth



Earnings & earnings expectations have risen considerably across global markets



Source: MSCI, as of 6/30/17

# Equity volatility

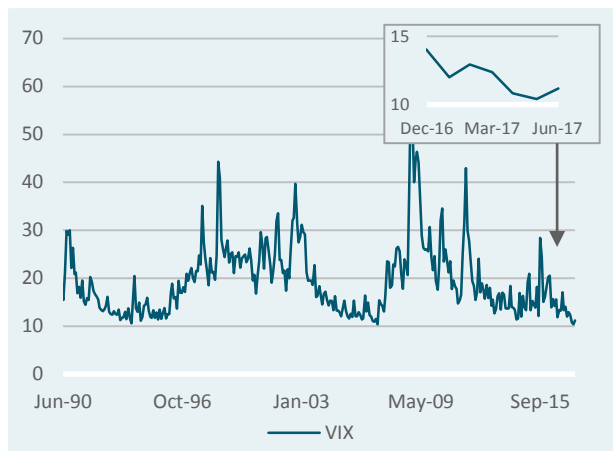
Both realized and implied volatility remains low relative to history across global equity markets. Although there have been a few spikes in implied volatility, including immediately after the first round of the French presidential election and the British general election, these have been short lived. For example, during the recent sell off in U.S. tech companies, the VIX jumped to 15, but fell back down within hours. While low equity market risk has been persistent, volatility can return quickly in an often unpredictable manner. For this reason,

judging portfolio volatility based on the current environment may understate the actual risks.

The CBOE Skew Index, which looks at the steepness of the volatility curve is above its historical average, indicates investors are paying a premium for large downside protection.

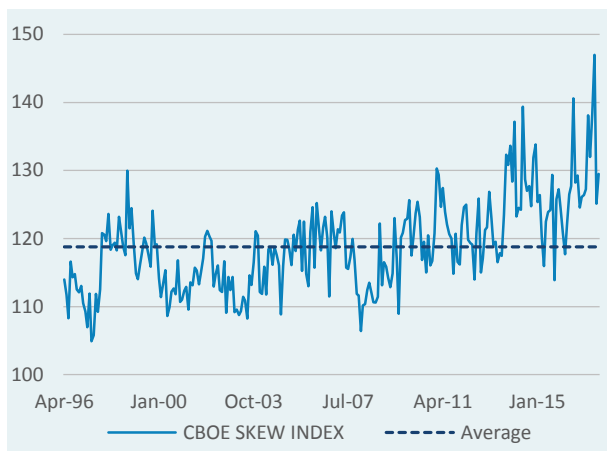
Equity volatility is well below average, but within a range consistent with past bull markets

**U.S. IMPLIED VOLATILITY**



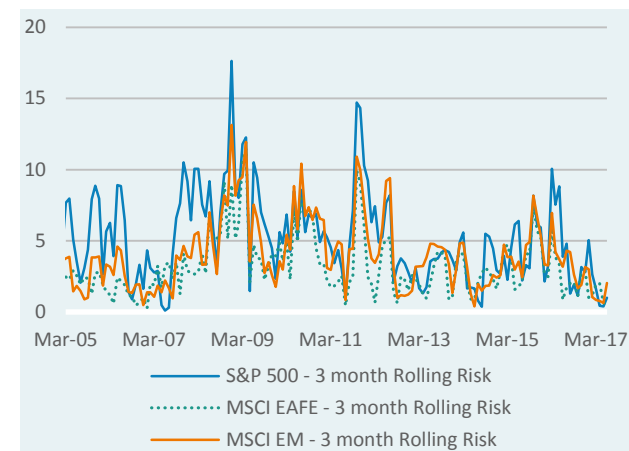
Source: CBOE, as of 6/30/17

**U.S. VOLATILITY SKEW**



Source: CBOE, as of 6/30/17

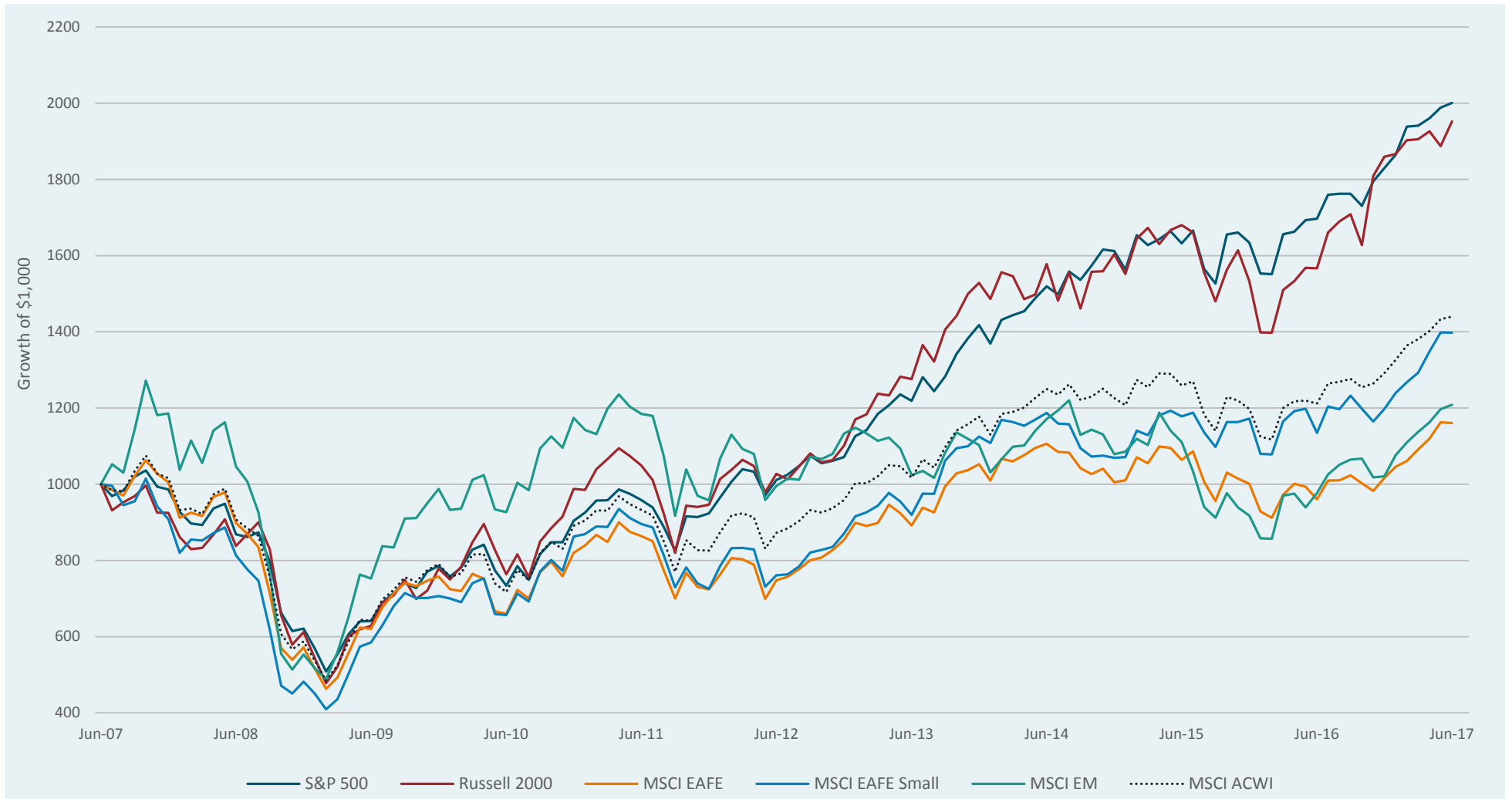
**INTERNATIONAL EQUITY VOLATILITY**



Source: MSCI, as of 6/30/17



# Long-term equity performance



Source: MPI, as of 6/30/17

# Other assets

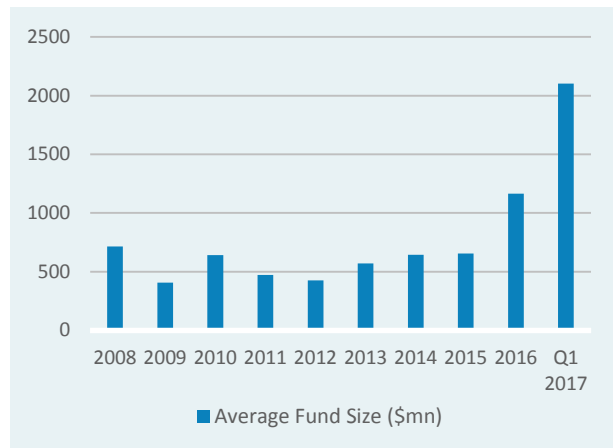
# Infrastructure

Global infrastructure performed strongly in the second quarter, with S&P Global Infrastructure Index up 14.4% for the year through June. Transaction multiples in several infrastructure sectors seemed to have peaked over the last year, impacted by rising interest; however, falling Treasury yields during the quarter sent yield-oriented investments higher in value.

Demand remains quite strong for infrastructure assets with institutional investors allocating to commingled funds and an influx of Asian buyers seeking higher yielding investments both in the U.S. and Europe.

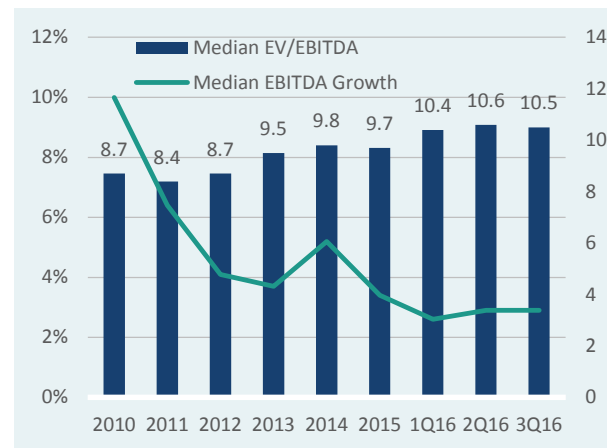
We are favorable towards value-add relative to core infrastructure as the risk/reward appears more attractive today. Interest rate sensitivity is generally lower in value-add infrastructure and pricing levels, though elevated, are below comparable core valuations. Within value-add we focus on sector specialists or teams with a track record of successful project development. As an example, in the utility/energy sectors there could be some interesting opportunities in merchant power generation where low natural gas prices and an influx of renewables have put downward pressure on spot power prices.

## INFRASTRUCTURE AVERAGE FUND SIZE



Source: Preqin

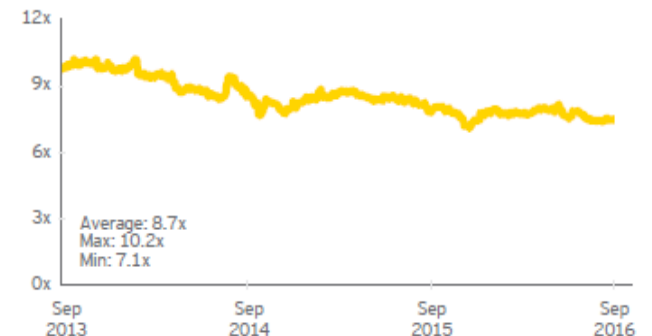
## LISTED INFRASTRUCTURE VALUATIONS/GROWTH



Source: Capital IQ

## VALUATIONS IN MERCHANT POWER

Average enterprise value/earnings before interest, taxes, depreciation and amortization (EV/EBITDA) trading multiples for select IPPs (on FY2 consensus EBITDA estimates, 2013-Q3 2016)



Source: E&Y

# Currency

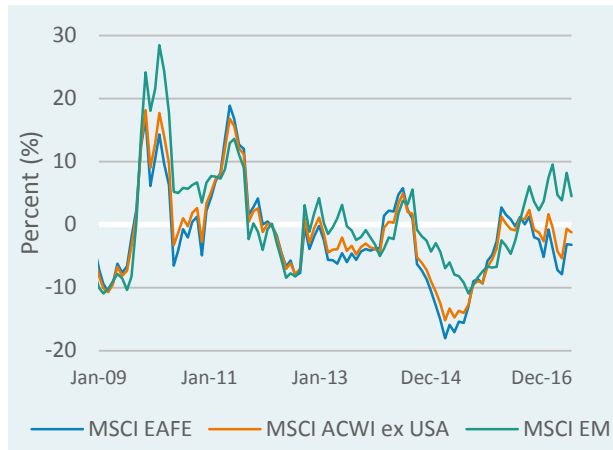
The U.S. dollar has steadily depreciated in value year-to-date against major currencies, down approximately 7% through quarter-end. Global central bank hawkishness, relative interest rate expectations, and improving international growth have likely guided the U.S. dollar lower.

Emerging market currencies exhibited further strength in Q2 and have appreciated 4.8% year-to-date according to

the JP Morgan Emerging Market Currency Index.

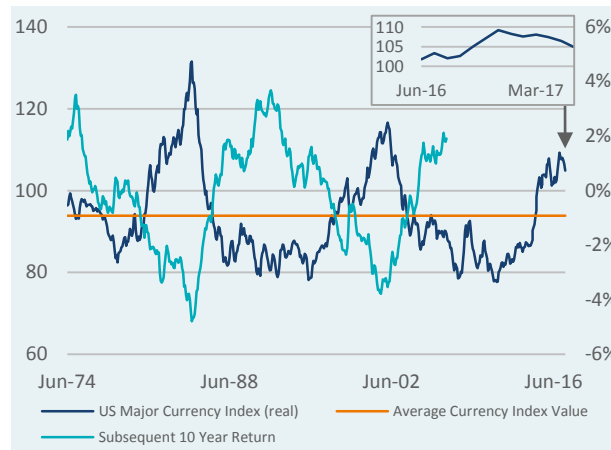
Currency movement has recently had a positive impact on the performance of unhedged foreign asset exposure. Dollar weakness has also acted as a tailwind for corporate earnings for those U.S. companies with revenues in foreign currency.

**EFFECT OF CURRENCY (1YR ROLLING)**



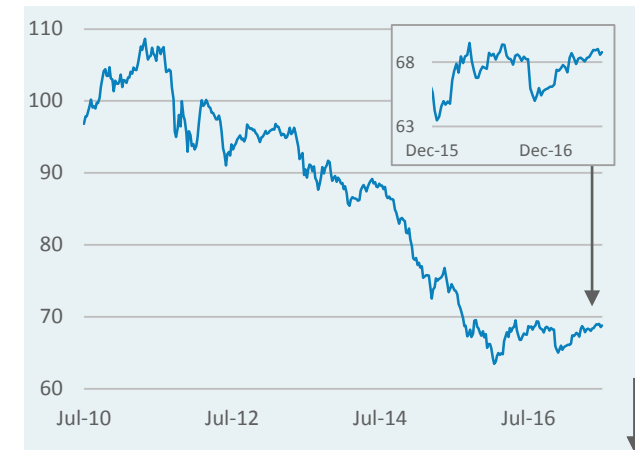
Source: MPI, as of 6/30/17

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



Source: Federal Reserve, as of 6/30/17

**JPM EM CURRENCY INDEX**



Source: Bloomberg, as of 6/30/17

# Appendix

# Periodic table of returns

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	YTD	5-Year	10-Year
Emerging Markets Equity	16.6	38.4	23.2	35.2	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	18.4	15.3	8.9
Large Cap Growth	8.1	37.8	23.1	32.9	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	14.0	14.7	7.8
International Equity	6.4	37.2	22.4	31.8	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	13.8	14.0	7.3
Small Cap Growth	4.4	31.0	21.6	30.5	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	10.0	13.9	6.9
Large Cap Equity	3.2	28.5	21.4	22.4	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	9.3	13.7	6.7
60/40 Global Portfolio	2.6	25.7	16.5	16.2	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	8.6	13.4	5.9
Small Cap Equity	0.4	19.6	14.4	13.9	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	5.0	10.7	5.6
Large Cap Value	-1.5	18.5	11.3	12.9	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	4.7	8.7	4.5
Hedge Funds of Funds	-1.8	15.2	10.3	10.6	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	3.7	6.7	4.0
US Bonds	-2.0	11.6	9.9	9.7	-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	2.3	4.9	3.0
Real Estate	-2.4	11.1	6.4	5.2	-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	1.6	4.0	1.9
Small Cap Value	-2.9	7.5	6.0	2.1	-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	0.5	2.2	1.0
Cash	-3.5	5.7	5.1	-3.4	-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	0.4	0.2	0.4
Commodities	-7.3	-5.2	3.6	-11.6	-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	-5.3	-9.2	-6.5

WORST

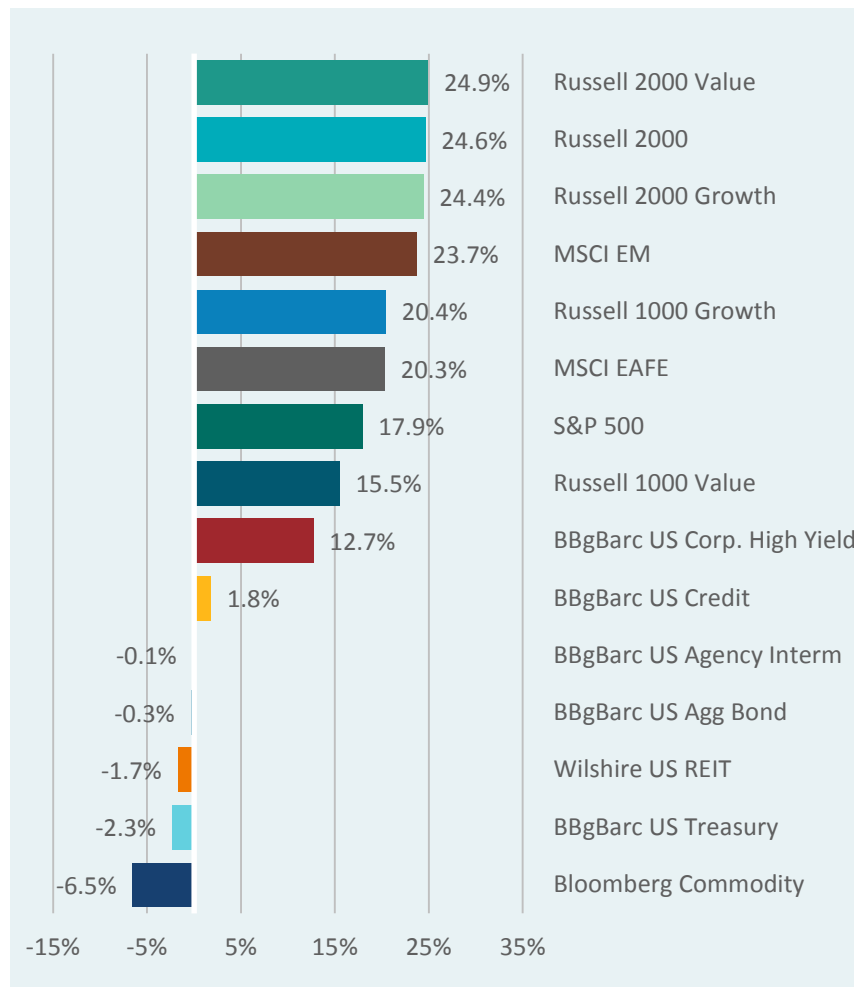
BEST

- Large Cap Equity
- Small Cap Growth
- Commodities
- Large Cap Value
- International Equity
- Real Estate
- Emerging Markets Equity
- Hedge Funds of Funds
- US Bonds
- 60% MSCI ACWI/40% BBgBarc Global Bond
- Cash

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 3/31/17.

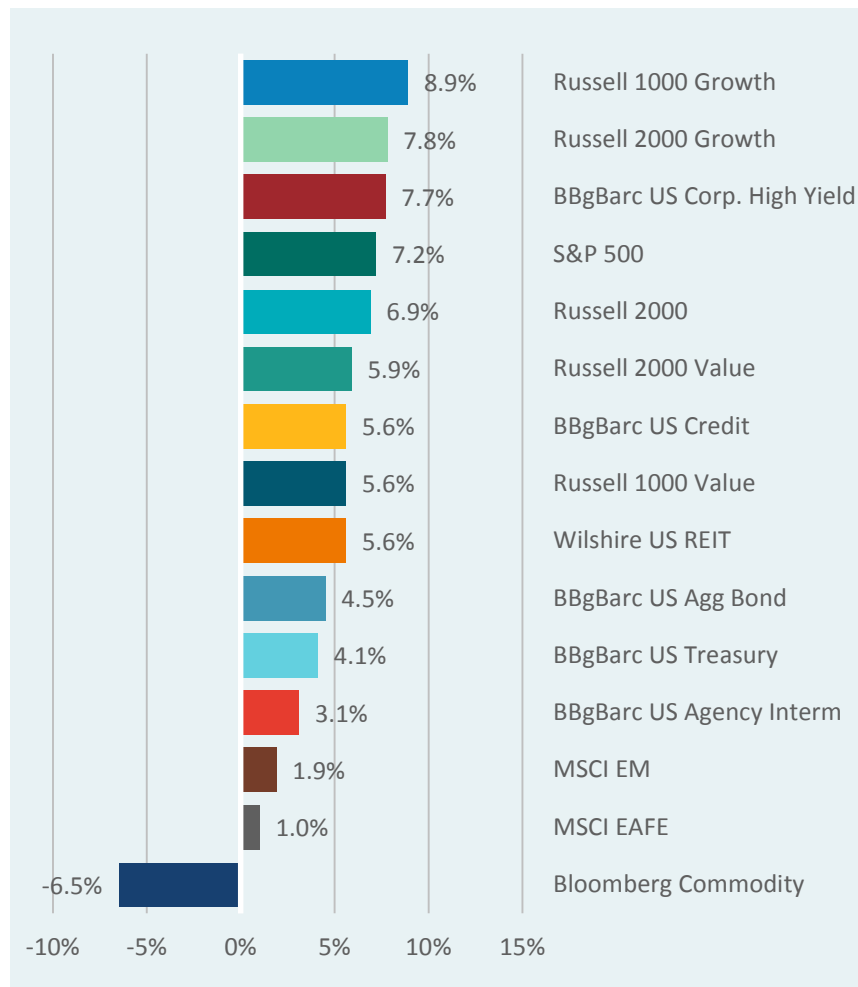
# Major asset class returns

ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/17

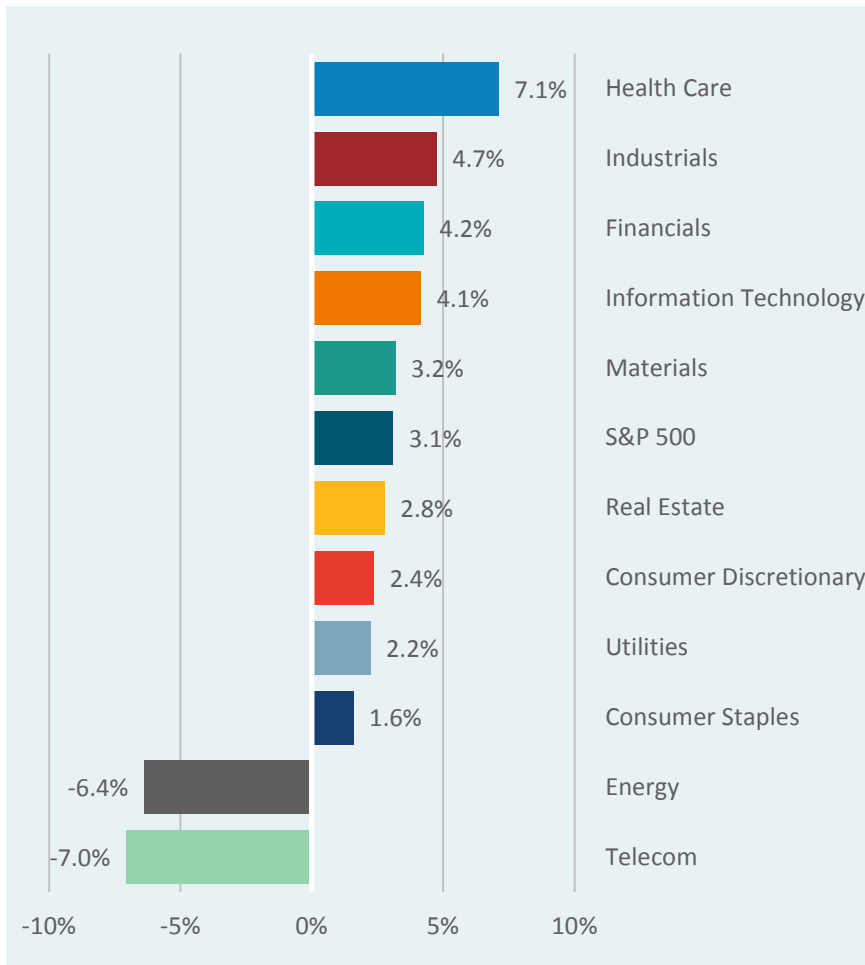
TEN YEARS ENDING JUNE



Source: Morningstar, as of 6/30/17

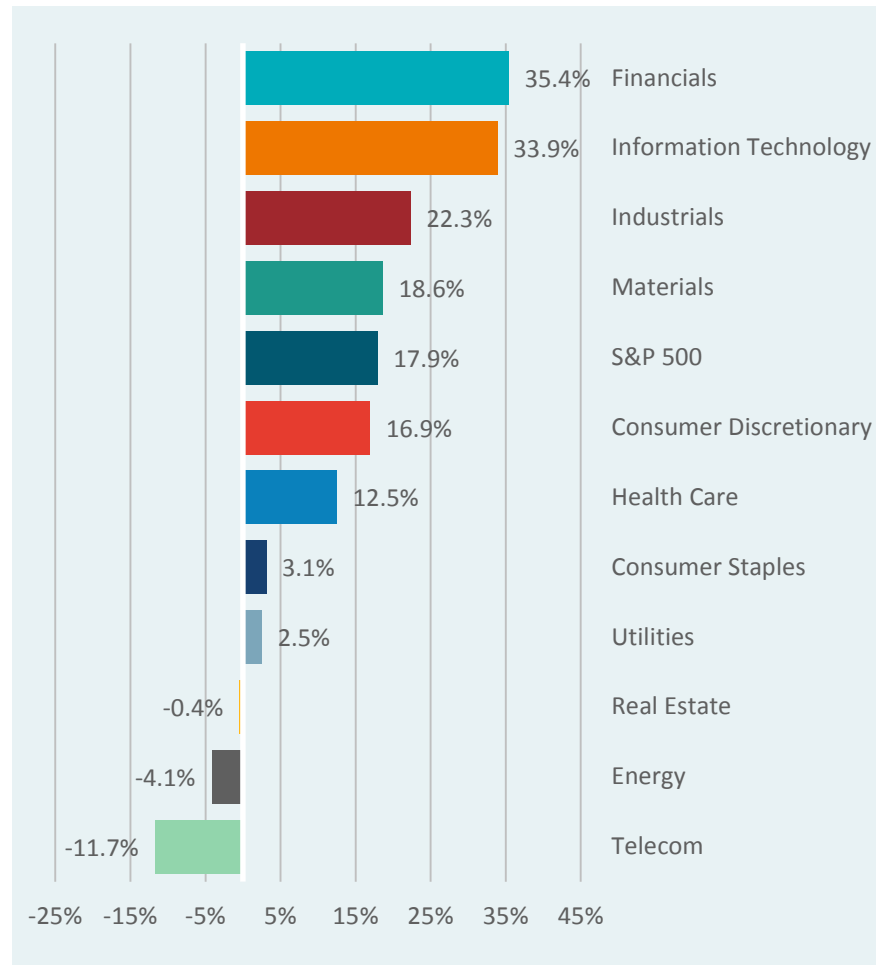
# S&P 500 sector returns

2<sup>ND</sup> QUARTER



Source: Morningstar, as of 6/30/17

ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/17



# Detailed index returns

## DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Core Index</b>							
S&P 500	0.6	3.1	9.3	17.9	9.6	14.6	7.2
S&P 500 Equal Weighted	1.2	2.5	8.1	17.3	8.5	15.5	8.3
DJ Industrial Average	1.7	4.0	9.3	22.1	11.0	13.5	7.6
Russell Top 200	0.6	3.2	9.8	18.6	9.9	14.6	7.2
Russell 1000	0.7	3.1	9.3	18.0	9.3	14.7	7.3
Russell 2000	3.5	2.5	5.0	24.6	7.4	13.7	6.9
Russell 3000	0.9	3.0	8.9	18.5	9.1	14.6	7.3
Russell Mid Cap	1.0	2.7	8.0	16.5	7.7	14.7	7.7
<b>Style Index</b>							
Russell 1000 Growth	(0.3)	4.7	14.0	20.4	11.1	15.3	8.9
Russell 1000 Value	1.6	1.3	4.7	15.5	7.4	13.9	5.6
Russell 2000 Growth	3.4	4.4	10.0	24.4	7.6	14.0	7.8
Russell 2000 Value	3.5	0.7	0.5	24.9	7.0	13.4	5.9

## INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Broad Index</b>							
MSCI ACWI	0.5	4.3	11.5	18.8	4.8	10.5	3.7
MSCI ACWI ex US	0.3	5.8	14.1	20.5	0.8	7.2	1.1
MSCI EAFE	(0.2)	6.1	13.8	20.3	1.1	8.7	1.0
MSCI EM	1.0	6.3	18.4	23.7	1.1	4.0	1.9
MSCI EAFE Small Cap	(0.0)	8.1	16.7	23.2	5.6	12.9	3.4
<b>Style Index</b>							
MSCI EAFE Growth	(0.7)	7.5	16.7	15.7	2.8	9.2	2.1
MSCI EAFE Value	0.3	4.8	11.1	25.0	(0.6)	8.1	(0.1)
<b>Regional Index</b>							
MSCI UK	(1.9)	4.7	10.0	13.3	(3.0)	5.3	0.2
MSCI Japan	1.1	5.2	9.9	19.2	5.5	9.6	1.2
MSCI Euro	(1.2)	7.5	16.6	27.7	0.1	10.4	(0.5)
MSCI EM Asia	1.7	8.6	23.2	27.9	5.0	7.7	3.8
MSCI EM Latin American	0.7	(1.7)	10.1	15.0	(6.6)	(3.8)	(1.1)

Source: Morningstar, as of 6/30/17

## FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Broad Index</b>							
BBgBarc US Treasury US TIPS	(0.9)	(0.4)	0.9	(0.6)	0.6	0.3	4.3
BBgBarc US Treasury Bills	0.1	0.2	0.3	0.5	0.3	0.2	0.7
BBgBarc US Agg Bond	(0.1)	1.4	2.3	(0.3)	2.5	2.2	4.5
<b>Duration</b>							
BBgBarc US Treasury 1-3 Yr	(0.1)	0.2	0.5	(0.1)	0.7	0.6	2.0
BBgBarc US Treasury Long	0.4	4.0	5.4	(7.2)	5.6	2.8	7.3
BBgBarc US Treasury	(0.2)	1.2	1.9	(2.3)	2.0	1.3	4.1
<b>Issuer</b>							
BBgBarc US MBS	(0.4)	0.9	1.3	(0.1)	2.2	2.0	4.3
BBgBarc US Corp. High Yield	0.1	2.2	4.9	12.7	4.5	6.9	7.7
BBgBarc US Agency Interm	(0.1)	0.5	1.0	(0.1)	1.4	1.1	3.1
BBgBarc US Credit	0.3	2.4	3.7	1.8	3.4	3.7	5.6

## OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
<b>Index</b>							
Bloomberg Commodity	(0.2)	(3.0)	(5.3)	(6.5)	(14.8)	(9.2)	(6.5)
Wilshire US REIT	2.4	1.8	1.8	(1.7)	8.3	9.3	5.6
CS Leveraged Loans	(0.1)	0.8	2.0	7.5	3.5	4.8	4.2
<b>Regional Index</b>							
JPM EMBI Global Div	(0.1)	2.2	6.2	6.0	5.4	5.7	7.4
JPM GBI-EM Global Div	0.5	3.6	10.4	6.4	(2.8)	(0.7)	4.0
<b>Hedge Funds</b>							
HFRI Composite	(0.6)	0.2	2.6	5.8	1.3	3.7	0.8
HFRI FOF Composite	0.4	1.1	3.7	8.0	2.6	4.9	3.0
<b>Currency (Spot)</b>							
Euro	1.4	6.6	8.1	2.7	(5.9)	(2.1)	(1.7)
Pound	0.6	3.9	5.1	(2.8)	(8.8)	(3.7)	(4.3)
Yen	(1.6)	(0.8)	3.8	(8.7)	(3.4)	(6.6)	0.9

# 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))

**Citi Economic Surprise Index** - objective and quantitative measures of economic news. Defined as weighted historical standard deviations of data surprises (actual releases vs Bloomberg survey median). A positive reading of the Economic Surprise Index suggests that economic releases have on balance been beating consensus. The indices are calculated daily in a rolling three-month window. The weights of economic indicators are derived from relative high-frequency spot FX impacts of 1 standard deviation data surprises. The indices also employ a time decay function to replicate the limited memory of markets. ([www.Bloomberg.com](http://www.Bloomberg.com))

**Merrill Lynch Option Volatility Estimate (MOVE) Index** - a yield curve weighted index comprised of a weighted set of 1-month Treasury options, including 2.5.10 and 30 year tenor contracts. This index is an indicator of the expected (implied) future volatility in the rate markets. ([www.Bloomberg.com](http://www.Bloomberg.com))

**OECD Consumer Confidence Index** - based on households' plans for major purchases and their economic situation, both currently and their expectations for the immediate future. Opinions compared to a "normal" state are collected and the difference between positive and negative answers provides a qualitative index on economic conditions. (<https://data.oecd.org/>)

**OECD Business Confidence Index** - based on enterprises' assessment of production, orders and stocks, as well as its current position and expectations for the immediate future. Opinions compared to a "normal" state are collected and the difference between positive and negative answers provides a qualitative index on economic conditions. (<https://data.oecd.org/>)

**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/>)

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# Glossary

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**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:  $\text{excess return} / \text{tracking error}$ .

**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

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

August 22, 2017

Agenda Item 6.3

**TO:** Board of Retirement

**FROM:** Doris Ng, Investment Analyst 

**SUBJECT:** Report on Fixed Income Manager Annual Reviews

**Staff Recommendation**

Accept the reports on the annual review of SamCERA's global and core bond managers.

**Background**

On August 3<sup>rd</sup>, SamCERA staff and consultant held annual review meetings in SamCERA's office for our global bond manager, Franklin Templeton and two core bond managers, Western Asset Management and Fidelity Institutional Asset Management.

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 Franklin Templeton Global Multi-Sector Plus bond strategy, which is a global unconstrained bond mandate managed in an opportunistic fashion using a top-down fundamental framework, was reviewed first. At the end of 2016, one of the Co-Presidents of Franklin Templeton Investments left the firm with the remaining promoted to President. Western Asset Management's Total Return Unconstrained (TRU) strategy, which is an unconstrained core product with broad latitude in duration (-3 to +8 years) and asset allocation and may hold up to 50% in high yield, was reviewed next. Lastly, Fidelity Institutional Asset Management's Broad Market Duration product, which is a commingled pool that focuses in U.S. Treasuries, agencies, investment grade corporate bonds, mortgage-backed and asset-backed securities, was reviewed. In April 2017, Fidelity's Fixed Income Bond Group added a second CIO due to business growth and intend to retain two CIOs going forward. The former sole CIO will leave Fidelity at the end of 2017 and will be replaced.

There were no significant concerns identified during the portfolio reviews. Attached you will find meeting notes from Verus summarizing the findings from these annual reviews.

**Attachments**

- A. Franklin Templeton Annual Review Meeting Notes
- B. Western Asset Management Annual Review Meeting Notes
- C. Fidelity Institutional Asset Management Core Bond Annual Review Meeting Notes

*Date of meeting: 8/3/2017*

*Location: SamCERA Office*

Manager Representative(s)

Beau Coash (Portfolio Manager)  
Arthur Greenwood (Relationship Manager)

Account Assets

\$229.7 million (6/30/17)

Verus Representative(s)

Margaret Jadallah  
Joseph Abdou

Client Representative(s)

Scott Hood (CEO), Mike Coultrip (CIO), Doris Ng (Analyst),  
Lilibeth Dames (Analyst)

## Product Description

Fidelity's Broad Market Duration (BMD) investment strategy seeks to achieve absolute and risk-adjusted returns in excess of the Bloomberg Barclays U.S. Aggregate Index, focusing its investments in U.S. 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 U.S. 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 Fidelity uses the same analytical framework to assess both index and portfolio risk. Tracking error should range between 1.00 - 1.50% per annum over the benchmark, and stringent portfolio construction risk control rules are strictly adhered to.

## Meeting Notes

## Organization

As previously reported, Pyramis was recently rebranded as "Fidelity Institutional Asset Management" (FIAM). Over the last year, Abby Johnson has been implementing some changes to leadership roles. Bob Brown retired July 1<sup>st</sup> 2017 as Head of Institutional Fixed Income. He was succeeded by Chris Pariseault. Christine Thompson, who has been the sole CIO for the past 7 years during a period of tremendous growth will be leaving the firm at the end of the year. According to FIAM, she is orienting her career in a different direction. Jamie Pagliocco was named Co-CIO assuming many of Christine's responsibilities. There will be another co-CIO added when Christine leaves FIAM. This individual will likely be an internal replacement based in Merrimack, NH. Judy Marlinski became the president of FIAM. She succeeded Scott Couto who left the firm June 30, 2017. His primary focus at FIAM was growing the third- party distribution channels, and Judy will take a broader role.

## Investment Team

There were no investment team changes specific to BMD in the past year. Ford O'Neil, Jeff Moore, Celso Munoz and Michael Plage are the portfolio managers responsible for the Broad Market Duration strategy.

## Investment Strategy

Fidelity' Broad Market Duration uses bottom-up issuer and sector selections as its primary sources of alpha. Because Fidelity recognizes that macroeconomic forces have often overwhelmed underlying fundamentals for extended period of time, the BMD team incorporates inputs from both global macro and quantitative analyst teams to guide every decision. Risk management is also a priority and serves as the framework in managing this strategy.

Credit analysts cover approximately 2–3 industries across 30–50 names, resulting in a high degree of specialization and focus. Analysts provide their own credit rating for each issuer they cover as well as a numerically ranked (1-strong buy, 6-strong sell) relative value rank for each issuer and sector they cover. This quantitative ranking is incorporated into the portfolio management and risk monitoring systems. Analysts also provide qualitative assessments to portfolio managers. In meetings with the portfolio manager and traders, analysts propose their security recommendations, discuss industry trends, and provide updates on company-specific situations. Outputs from these meetings can include formal ratings changes to both fundamental outlooks and relative value.

While the investment process is rooted in a bottom-up, fundamental approach based on research and risk management, FIAM incorporates macroeconomic variables that can influence credit, liquidity and valuation perspectives into their bottom-up process. These global macro perspectives serve a twofold function: (1) they facilitate the risk management process and (2) they represent potential sources of alpha.

## Performance & Positioning

As of June 30, 2017, SamCERA BMD account's trailing 12-month gross return outperformed the Bloomberg Barclays U.S. Aggregate benchmark by 147bps (1.16% versus -0.31% for the Bloomberg Barclays U.S. Aggregate Index). The portfolio's security selection within financials was a large factor in YTD performance. FIAM mentioned they have had historical success in the financial sector. Main detractors to year-to-date performance include the strategy's underweight to Treasuries, and its overweight to TIPS. The portfolio has historically been overweight spread products and been underweight Treasuries.

Overall, the portfolio is modestly overweight risk assets as the U.S. economy is still growing, and the Fed is anticipating one more rate hike in 2017. FIAM is also overweight investment grade corporates. The team has been trimming back this overweight and reducing its underweight to Treasuries. The portfolio also holds a sizable allocation to TIPS. Beau noted TIPS are correlated to credit, and provide a high quality way to get credit exposure. In general, the team is taking down risk with the view that we are late in the market cycle.

As of June 30, 2017, 45% of portfolio securities are excluded from the benchmark. Beau noted non-index bonds are another opportunity set for FIAM (since half the issues available aren't represented in the benchmark.) Non-benchmark securities are subject to the same scrutiny with relation to liquidity, quality, etc.

Portfolio duration is 5.64 years, which is in line with the benchmark. The portfolio continues to hold an underweight in AAA and AA securities, and overweight in A and BBB due to better valuation.

As of June 30, 2017, Fidelity BMD out-yields its benchmark by 10 basis points on a yield-to-worst basis.

SamCERA will be making an additional contribution to FIAM BMD as a result of recent manager structure review.

Date of meeting: 8/3/17

Location: SamCERA

Manager Representative(s)

Bill Deakyne (Client Relations),  
Richard Herbert (Product Manager)

Account Assets

\$110.8 million (6/30/17)

Verus Representative(s)

Margaret Jadallah  
Joseph Abdou

Client Representative(s)

Mike Coultrip (CIO), Doris Ng (Analyst), Lilibeth Dames  
(Analyst)

## Product Description

Franklin Templeton (FT) manages the Global Multisector Plus global bond mandate in an unconstrained fashion using a top-down fundamental framework. FT believes that 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 ultimately 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 Global Multisector Plus approach allows for meaningful amounts of emerging markets and active currency management. Corporates and bank loans can be utilized as well. The portfolio must maintain at least 50% investment grade exposure. Targeted volatility is 8-10%.

The format of SamCERA's investment in this strategy was changed from a separate account to a commingled vehicle in June 2014. As a result of the manager structure review, SamCERA will be redeeming \$70 million from the Franklin.

## Meeting Notes

### Organization

As of June 30, 2017, Franklin Templeton managed \$743 billion, of which approximately \$133 billion was in global bond mandates. The Global Macro team, led by Michael Hasenstab, managed \$40 billion in the Global Multisector Plus style employed in the SamCERA portfolio at year-end. The Global Multisector Plus strategy has gained three accounts and lost five accounts this past year; outflows coincided with underperformance.

Effective December 2016, Vijay Advani, co-president since 2015 left Franklin Templeton. This was reported as a smooth departure. Co-President Jennifer Johnson became president upon his departure, and has taken Vijay's daily responsibilities. No replacement is planned for Vijay. Interestingly, while investment heads report to president Jennifer Johnson, Michael Hasenstab reports directly to the firm's CEO.

### Investment Team

Franklin's Fixed Income Group consists of a team of more than 172 global fixed income investment professionals located in offices around the world. A large portion of the team, including portfolio managers, is located in the local San Mateo office. The group is structured in sector research teams, which serve to generate investment ideas and present them to the portfolio management team. The Global Macro Research team also includes a global macro-focused team of Ph.Ds, country analysts, quantitative analysts and separate and segregated risk analysts. Michael Hasenstab continues as the lead portfolio manager for the Global Macro and a Global Macro and Economics advisor



to the CEO. Two promotions were announced within the investment team. Calvin Ho became deputy director of research, and Christine Zhu was promoted to director of portfolio construction.

### **Investment Strategy**

Franklin Templeton (FT) manages the global bond mandate in an unconstrained fashion using a top-down, fundamental framework. As stated above, FT focuses on fundamental research to identify long-term opportunities, using short-term market inefficiencies to build positions. 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 industrial countries (G-13) as well as emerging markets, which results in broad targets for duration, currencies and the developed/emerging market mix. Credit, while not currently a meaningful part of the portfolio, is part of the investable universe as well.

The investment philosophy focuses on getting the country selection decision right as the primary driver of portfolio performance. There are three main sources of risk and return: currency, interest rates and credit. On average and over longer periods of time, risk should be approximately equal across these three sources. However, currently about 60% of the portfolio's risk is allocated to currency exposures. The portfolio is sized such that liquid positions (Mexico) offset illiquid positions (Argentina).

The portfolio is not managed to be similar to the benchmark, and there is little focus on tracking error. But the team is attentive to other multiple risks, such as political and liquidity risk. Franklin models the VAR of the portfolio as well as conditional VAR, which considers tail risks. During our review meeting, Richard stressed the importance of having flexibility in the portfolio in order to adapt to changing market environments. The investment process integrates inputs from various sources within the fixed income team. The sector heads meet weekly. Different fixed income teams make presentations each week. Analysts pitch their ideas to the portfolio managers, and lead portfolio manager Michael Hasenstab must sign off on them before they are purchased. The risk team assesses the impact any trade will have on the risk of the portfolio. Franklin Templeton considers this strategy a diversifier to other traditional fixed income strategies in that the portfolio currently has a negative correlation to Treasuries.

### **Performance & Positioning**

The portfolio was struggling early 2016, as it was positioned for higher rates and was short duration. They continued to hold this strategy, and post-election in Q4 2016 the strategy had significant gains. Franklin Templeton ended 2016 with an 8.23% return, significantly outperforming the Bloomberg Barclays Multiverse return of 2.84%.

Year to date through June 30, 2017, returns are in line with the index (4.49% vs. 4.58%). Currencies provided 164 bps of return and country yield curve decisions provided 230 bps of return.

Franklin Templeton feels the illiquidity premium in the high yield market isn't being priced into prices, so they have limited their exposure to high yield. They will continue to seek opportunities in local country sovereign until they see credit spreads widen.

The risk profile of the strategy is still tilted towards currencies. They are starting to move into local currency opportunities. The most recent opportunities have been in Brazil and Argentina, where the PM's see the countries working towards governmental reform. These countries provide very attractive yields, that the PM's want to lock in. The team exited its Ireland position in 2016. It had built significant exposure during the global financial crisis and rode yields from 15% to 1% at the time of exit.

*Date of meeting: 8/3/2017*

*Location: SamCERA Office*

Manager Representative(s)

Julien Scholnick (Portfolio Manager)  
Frances Coombes (Client Service)

Account Assets

\$114 million (6/30/17)

Verus Representative(s)

Margaret Jadallah  
Joseph Abdou

Client Representative(s)

Scott Hood (CEO), Mike Coultrip (CIO), Doris Ng  
(Analyst), Lilibeth Dames (Analyst)

## Product Description

Western Asset's Total Return Unconstrained (TRU) strategy seeks to provide bond-like risk and return over the long term, within a benchmark agnostic framework. This allows for asset allocation based purely on fundamental, long term, value. 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 an unconstrained core mandate without having to adhere to the benchmark construction. The portfolio must have at least 50% of its holdings in investment-grade securities. This strategy can be appropriate in all market environments, but may be particularly attractive in rising rate environment, as the flexibility offered by this strategy allows for defensive positioning 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.

Western Asset uses a team approach to portfolio management with duration, term structure, and sector allocation decisions developed by the Investment Strategy Group. The Research Group employs these determinations as they look for issues and issuers that are appropriate for the firm's eligible universe. Factors such as relative credit strength, liquidity, issue structure, event risk, covenant protection, and market valuation are central to its inquiries. Throughout this process, the Portfolio Management Group provides both teams with a picture of key capital markets. The Portfolio Management Group is also responsible for portfolio structuring and implementation.

## Meeting Notes

### Organization

The Firm's total AUM are about \$430 billion as of June 30, 2017. There have been no major organizational changes within the firm's organization since the last SamCERA review.

### Investment Team

There have been no leadership or investment team changes to the organization, and the strategy. Western TRU is led by Mark Lindbloom and S. Kenneth Leech each with 40 years of experience. Western Asset has 127 investment professionals in seven offices.

## Investment Strategy

The investment philosophy of Western Asset is long-term fundamental value investing, using multiple diversified strategies. Western Asset combines a top-down macroeconomic view with bottom-up fundamental research and relative analysis. Portfolio management is directed by the U.S. Broad Strategy Committee which sets macro and sector investment themes. The Committee meets weekly to establish a U.S. investment outlook over a 6-9 month horizon, which provides guidance to the PMs.

Western Asset believes it can identify and capitalize on markets and securities that are priced below fundamental fair value. The Firm does this through disciplined and rigorous analysis, comparing prices to the fundamental fair values estimated by its macroeconomic and credit research teams around the globe.

The TRU portfolio emphasizes the team's highest conviction ideas. The greater the difference between the firm's view of fair value and market pricing, the bigger the potential value opportunity. The greater the degree of confidence in its view of fundamentals, the greater the emphasis of the strategies in the portfolio.

Western Asset seeks diversified sources of returns. Western Asset's objective is to meet or exceed its investors' performance objectives within their tolerances for risk. The Firm seeks to diversify investments and add value across interest rate duration, yield curve, sector allocation, security selection, country and currency strategies. Western Asset deploys multiple diversified strategies that benefit in different environments so no one strategy dominates performance, helping to dampen volatility.

## Performance & Positioning

For the period ending June 30, 2017, the portfolio has returned 5.9% YTD, 9.9% over one year (versus the Bloomberg Barclays Aggregate 2.3% YTD and -0.3% one year return). In Q4 post-election, when the markets were pricing in growth and an assumed rise in interest rates, Western was skeptical the growth would happen as fast as the markets believed and extended duration to reflect this view. At the same time, Western added to its Treasury position as a hedge if there was a flight to quality and overweighed the back end of the yield curve. As rates went down, the portfolio benefited. As a result, 216 bps of the YTD return was attributed to duration related decisions.

Western also benefited from its holdings in emerging markets debt. The market priced in dollar strength, but Western believed the market consensus was too optimistic. The dollar was weaker than expected, and local currencies in emerging markets outperformed. This strategy provided 118 bps of return year to date. Western is holding but not adding to emerging markets.

Currently Western TRU is limiting its holdings in high yield and buying protection using high index hedges (CDX). They are overallocated to bank loans versus high yield bonds for the first time, and are generally becoming more defensive. The portfolio is short German Bunds and long U.S. Treasuries to take advantage of the yield differential.

The portfolio has a yield of 4.77%, and a total duration of two years. As a whole, while volatility has been low, the TRU portfolio is being repositioned in anticipation of increased volatility.

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

August 22, 2017

Agenda Item 6.4

**TO:** Board of Retirement

**FROM:** Doris Ng, Investment Analyst 

**SUBJECT:** Report on Trading Cost Analysis for Public Equity and Fixed Income Managers

**Staff Recommendation**

Accept the Zeno Consulting Group's Trading Cost Analysis Presentation for SamCERA.

**Background**

SamCERA initially hired Zeno Consulting Group to provide trade cost analysis oversight of the fund's public equity and fixed income managers in June 2012 and then in July 2013, each for a 1-year term where Zeno would monitor trade costs and provide reports on an on-going, quarterly basis. Subsequently, the Board directed Staff to reduce the frequency of the trade cost analysis review from a quarterly to triennial basis (every 3 years).

**Discussion**

Vinod Pakianathan, Senior Vice President and Senior Consultant of Zeno Consulting Group, will be present to provide an analysis of SamCERA's trading costs for 2016. Mr. Pakianathan will begin by providing a refresher on equity, fixed income and foreign exchange transaction costs, how Zeno puts these costs into context and the details of their manager oversight program. He will then report on the analysis of SamCERA's trading costs and observations for the year. Mr. Pakianathan will also discuss information gathered from a follow-up call with one of SamCERA's investment managers.

**Attachment**

Board Review Transaction Cost Analysis and Consulting



# Transaction Cost Analysis and Consulting Board Meeting Review and Analysis

*San Mateo County Employees Retirement Assoc.  
August 22<sup>nd</sup>, 2017*



## Agenda

**Tab A: Zeno Relationship with San Mateo County ERA**

- San Mateo County ERA's TCA Oversight Program

**Tab B: TCA Primer - Approach and Methodology**

- Equity TCA
- Fixed Income TCA
- Foreign Exchange TCA

**Tab C: San Mateo County ERA - 2016 TCA Review**

- Summary of Findings
- Review of Flagged Managers
- 2017 Follow-up Recommendations



## Zeno Relationship with San Mateo County ERA



## Who is Zeno Consulting Group?

Zeno Consulting Group is a consulting firm, **not a broker**, that specializes in helping large institutional clients proactively monitor, and manage, their asset managers' trading processes.

*All analytical thought is a function of math, logic, and ethics –  
but math and logic must be subordinate to ethics.*

Zeno of Citium c.335-c.263 B.C. (paraphrased)

As prudent fiduciaries, more than ever before, asset owners should understand their managers' trading process, what they pay to execute trades, whether they obtained best execution, and its impact on performance.

*The easiest route to the top quartile of performance  
is to be in the bottom quartile of expenses.*

Jack Bogle





## Benefits of Meaningful TCA Oversight

- The Zeno oversight process is designed to help plan fiduciaries assess overall execution quality and identify where, when and how portfolio managers, traders and brokers execute trades. In this respect, it is a measurement of trading efficiencies in multi-asset global markets.
- Two types of issues are flagged in Zeno's reports:
  - Compliance/Fiduciary due-diligence related issues.
  - Issues that when addressed appropriately can result in Trade Cost savings.
- Four primary benefits that plan sponsors enjoys through this level of TCA oversight:
  1. Satisfy your Fiduciary/Compliance obligations with respect to ongoing trade cost and commission monitoring (for equity, fixed income and foreign exchange trades).
  2. Enjoy greater insight into your managers' internal trading procedures and practices (i.e. this type of due-diligence helps you better understand what your managers do with your Fund assets).
  3. Once your managers realize you are monitoring their trading practices and commissions in a meaningful way, they tend to pay more attention themselves, particularly with respect to your account. As a general rule, this results in improved trading performance and savings for your Fund (*Business School 101 – "Hawthorn Effect"*).
  4. To the extent specific "issues" are flagged in the TCA analysis, this enables more focused discussions on those items. As a result, improvements are often seen over time, in those areas as well.



## San Mateo County ERA's Relationship with Zeno

- Zeno was hired by San Mateo County ERA in June 2012 to provide Trade Cost Analysis (“TCA”) oversight, of the Fund’s Separate Account investment managers, and Commingled Managers (to the extent they submitted trade data). Currently, Zeno provides triennial reviews for San Mateo County ERA, with 2016 being the current analysis.
- The scope of the TCA service includes: Equity, Fixed Income and Foreign Exchange trading activity. In 2016, this consisted of:
  - Four equity portfolios (two Separate Account Equity and two Commingled managers).
  - Three fixed income portfolios (one Separate Account and two Commingled managers).
  - Three foreign exchange portfolios (two Separate Account and one Commingled managers).
- In addition to the quantitative TCA reports, the service includes follow-up throughout the year with those managers for whom due-diligence and/or cost-related “issues” were flagged in the annual analysis.
- Aside from its TCA services, Zeno also periodically provides educational workshops on areas of topical interest. A recent example was the workshop provided to the Fund’s Investment Committee regarding the fiduciary implications of MiFID II and the use of Fund assets by managers to purchase soft-dollar research.



## TCA Primer – Approach and Methodology



## ZENO's Equity TCA Service: *Sponsor Monitor*

As prudent fiduciaries, more than ever before, money owners should understand their managers' trading process, what they pay to execute trades, whether they obtained best execution, and its impact on performance. The ***Sponsor Monitor*** service was designed for this specific purpose.

The ***Sponsor Monitor*** service assists pension funds in meeting their fiduciary obligations by providing greater transparency in how investment managers handle their assets, and helping minimize excessive trading costs (often the single greatest expense of the Fund). It is also designed to highlight the impact trading has on fund performance.

***Sponsor Monitor*** enables funds to monitor and evaluate their managers' trading process in meaningful ways by answering the following questions:

- What were your trading costs at the: fund, manager, broker, and commission levels?
- Were those costs reasonable relative to each trades' "difficulty," and your Peers?
- What were the reasons behind those costs?
- What potential follow-up is required with your managers?



## What are “trading costs?”

*Trade cost analysis should reflect the needs of the Asset Owner.*

*If there’s a reason for asset owners to monitor trading costs (other than as a legal CYA), its to understand the impact those costs have on the returns of their Funds.*

### **Common Sense Definition for Trading Costs :**

***The loss of asset value, incurred by your Fund, as a result of a manager building or unwinding a position in their portfolio.***

- Whether it takes 1, 3, or 10 days for a manager to sell a certain number of shares, if the shares were selling for \$X when trading began, and the manager ultimately sold all the shares at an average price of \$Y per share, then the Fund paid \$X-Y. This is called “Implementation Shortfall.”
- Defining costs as “Implementation Shortfall” on the total decision size, is consistent with how we calculate overall Fund performance, and helps Fund fiduciaries better understand the true impact trading has on their Fund.



# Equity Trading Costs: An Inconvenient Truth...

*Some equity managers' trade costs are dramatically worse than their peers. Why is that?*

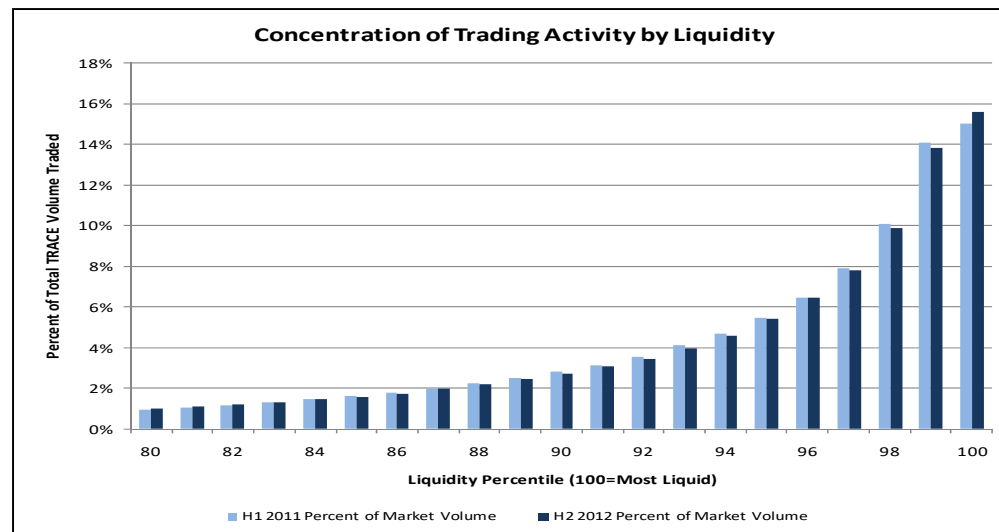
Zeno Total Trading Costs (one way)				
	Small Cap Growth	Small Cap Value	Large Cap Growth	Large Cap Value
25th Percentile (Least Expensive)	-48 bps	+28 bps	-19 bps	+4 bps
50th (Median) Percentile	-91 bps	-35 bps	-46 bps	-16 bps
75th Percentile (Most Expensive)	-142 bps	-73 bps	-79 bps	-43 bps
Difference Between 25th and 75th Percentile Round Trip Trading Costs	<b>188 bps</b>	<b>202 bps</b>	<b>120 bps</b>	<b>94 bps</b>

\* Zeno Consulting Group Total Cost Ranking Universes as of 4Q14



## Unique Characteristics of Bond Market = Risk to you!

- Unlike Equities, the Bond market is a dealer-driven market, with limited transparency.
- While there are many more Bonds than Stocks, the overall Bond market is much less liquid – with some securities not trading for weeks or months.
- The top 20% of bonds currently account for over 90% of all fixed income trading!
- Someone owns the other 80%. What happens when those bonds need to be traded?





## What are we finding?

- A seminal study in 2011 calculated the cost of trading *Investment Grade* bonds in an Implementation Shortfall context (i.e. loss of asset value incurred by the fund).\*

Trade Size	Under \$100K	\$100K - \$1 M	\$1M - \$5 M	\$5+ M
Average Trade Costs	-78 bp	-46 bp	-21 bp	-19 bp

- Double these numbers to calculate the full impact on Fund performance.
- Trading costs for *High Yield, Emerging Markets* etc. would be even higher!

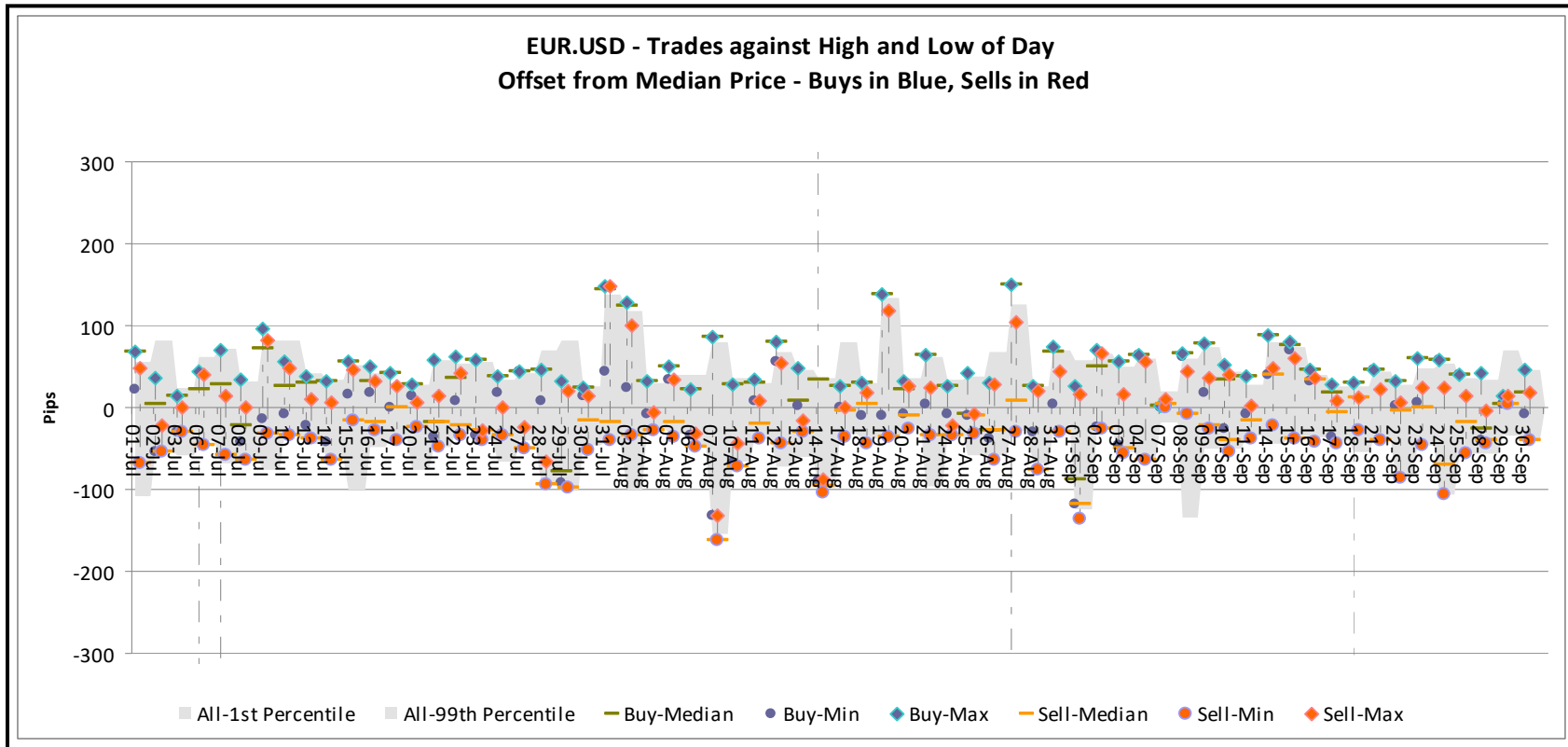
\* Hendershott and Madhavan, *Click or Call? Auction versus Search in the Over-the-Counter Market*, October 2011.





# FX Trading Costs: Interests are inherently adverse!

## What's Wrong With This Picture?



Source: Zeno client's 3Q10 analysis, powered by FXAll



# Zeno's Oversight Program: A Three Step Process

*Satisfy fiduciary obligations to monitor, achieve deeper understanding of (and comfort with) manager trade processes, better manage/control excessive costs, and custom due-diligence/research as needed*

- **Step One: Quantitative review of report analytics**

*Top-down approach maximizes staff time and resources. Basic metrics reviewed:*

- Aggregate Fund costs, benchmark, ranking, commissions, brokers, traded returns
- Which managers are driving overall: costs, commission rates, and broker usage
- Individual manager: costs, benchmark, ranking, commissions, brokers, traded returns
- Any other Compliance items of specific interest to your Fund

- **Step Two: Identify specific issues that may drive manager's costs and suggest specific questions for follow-up. For example:**

- What resources does the manager use to manage and trade portfolios?
- What are the manager's trading policies and procedures?
- Is asset under management causing "capacity" issues?
- Are Client-specific instructions potentially affecting execution quality?

- **Step Three: Consultative communication and follow-up with managers**

*Engage managers in focused meaningful discussions to gain comfort in their process.*

- In general, share manager-specific pages (in the spirit of open communication)
- Where appropriate, identify "Significant Issues" that warrant follow-up
- Schedule calls with relevant managers to discuss "Significant Issues"



## San Mateo County ERA's - 2016 TCA Review

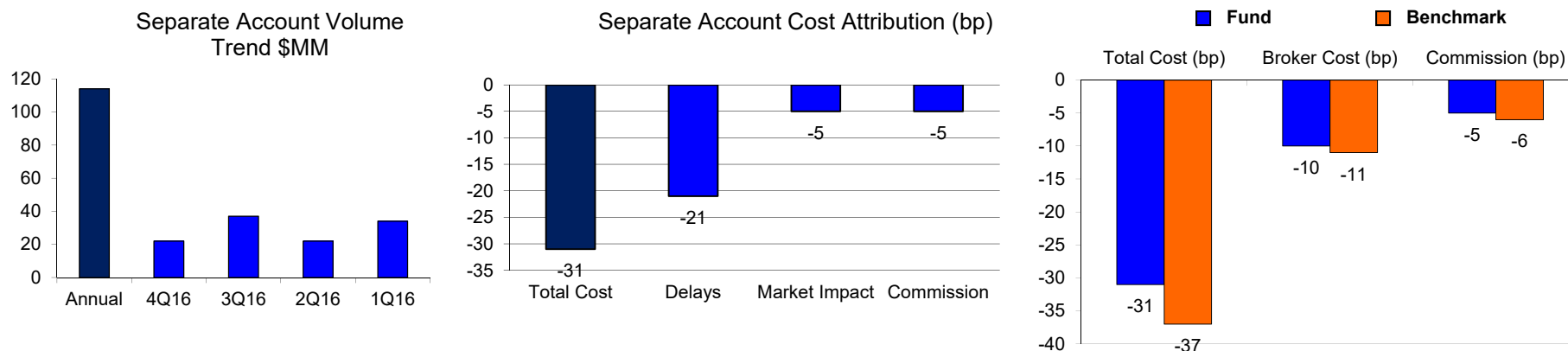


## 2016 TCA Review Summary

- In the 2016 TCA analysis:
  - Aggregate equity trading costs ranked slightly below the median of Zeno's Peer Universe for absolute trading costs, and in the 4<sup>th</sup> Quartile for equity Execution Efficiency. However, that only reflects the two Separate Account managers, since the two Commingled managers do not yet have sufficient history to be included in Zeno's Universe rankings. In 4Q16, both the Separate Account and Commingled managers outperformed Zeno's Benchmark (by 13bp and 12bp, respectively).
  - Aggregate FX trading costs of both the Fund's Separate Account and Commingled managers were in-line with Zeno's cost benchmarks (for both the year and 4Q16).
  - Aggregate fixed income trading costs of the Fund's Commingled managers were in-line with Zeno's cost benchmarks (for both the year and 4Q16). However, the Fund's Separate Account manager (Brown Brothers Harriman) incurred relatively high trading costs in both the year and 4Q16.
- Zeno's 2016 TCA review flagged 15 unique issues (regarding six of the portfolios) warranting follow-up in 2017. These issues consisted of:
  - 7 Compliance/Fiduciary due diligence-related issues (2 equity, 3 FX, and 2 fixed income).
  - 8 Trade Cost-related issues (2 equity, 5 FX, and 1 fixed income) involving approximately \$419,000 in potential excess trade and commission costs.
- Throughout 2017 Zeno will follow-up with the Fund's managers regarding both their trading processes in general, and the "issues" flagged in the 2016 TCA analysis. In this regard, the Fund will have:
  - Met its Fiduciary obligations with respect to ongoing trade cost and commission monitoring obligations (for equity, fixed income and foreign exchange trades).
  - Continue to work on reducing the excessive trading and commissions costs identified in the 2016 TCA analysis.



# 2016 Aggregate Fund - Equity

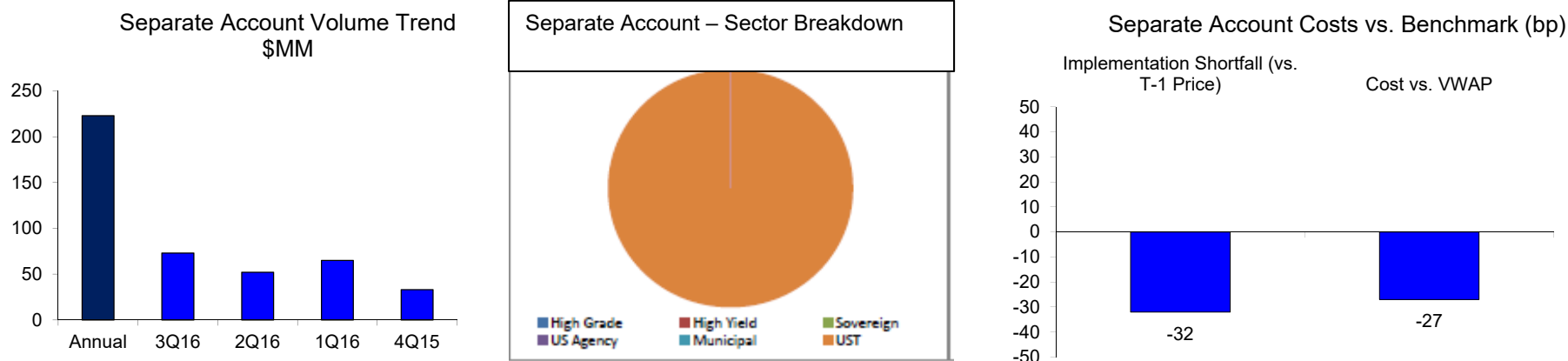


## Observations

- Separate Account trading activity (\$113.8 million) was relatively low and consistent throughout the year. The annualized turnover rate was 14%. Commingled Fund trading activity (\$2.4 billion) represented only two quarters worth of activity, and had an annualized turnover rate of only 10% (consistent with Blackrock’s passive mandate).
- Separate Account Total Costs (-31 bp) slightly outperformed the Total Cost Benchmark (-37 bp), and ranked in the 3<sup>rd</sup> Quartile of Zeno’s Peer Universe for Total Trading Costs and 4<sup>th</sup> Quartile of Execution Efficiency. However, costs exhibited an improving trends. Commingled Fund trading activity generated trading gains (+4 bp), and slightly outperformed the Total Cost Benchmark (-8 bp). Once four quarters of data have been reviewed, these managers will be included in Zeno’s Peer Universe rankings.
- Separate Account Commissions (-5 bp) were in-line with Zeno’s Client Universe average. Sanford Bernstein received the highest allocation of trade volume (13%) and provided best execution on its trades. Commingled Fund Commissions (-2 bp) significantly outperformed Zeno’s Client Universe average. Exane received the highest allocation of trade volume (24%) and incurred costs in-line with expectations.
- Quarter-end returns on traded securities (after costs) were negative for both Separate Account and Commingled Fund managers (-13bp and -133 bp, respectively), driven by flat/weak returns throughout the year (except 1Q16).



## 2016 Aggregate Fund – Fixed Income



### Observations

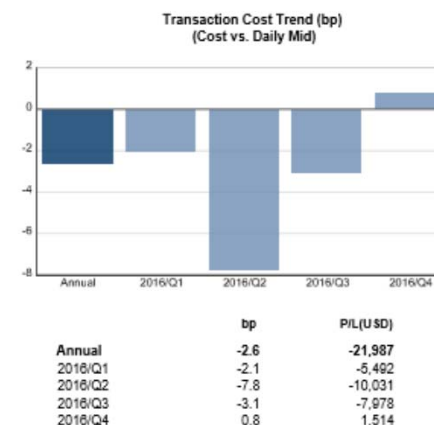
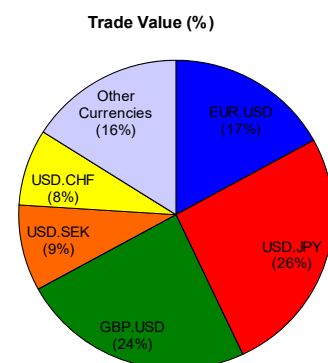
- Separate Account manager trading (BBH) was approximately \$223 million for the four-quarter period ending 3Q16. Evaluated 81% of trading activity (405 trades), of which 100% were “High Confidence.” Commingled Fund manager trading (Franklin Advisors and WAMCO) was approximately \$23.7 billion (although over \$18.5 billion of that amount were 1-day maturity bonds traded by Franklin Advisors, which Zeno doesn’t evaluate - since they’re essentially like money market securities). Approximately 82% of WAMCO’s trades were evaluated (1,382 trades), of which 89% were “High Confidence.”
- Separate Account manager trades were executed at an implementation shortfall cost of -32bp (i.e. relative to the prior night’s evaluated price), and -27 bp of the 3-day average price. Costs were consistent throughout the year (except for 4Q15). Commingled Fund manager trades were executed at an implementation shortfall cost of -2bp (i.e. relative to the prior night’s evaluated price), and +2 bp relative to the 3-day average price. Costs were consistent throughout the year (except for 4Q15).
- During the review period, RBS Greenwich Capital received the largest trade allocation from Separate Account managers (\$6 mm), and Citigroup received the largest trade allocation from Commingled Fund managers (\$91 mm).
- All Separate Account manager trades were US TIPS; while Commingled Fund managers traded: 37% US Agency, 26% High Grade, and 16% UST.



## 2016 Aggregate Fund – Foreign Exchange

### Summary Separate Accounts

<i>Total FX Dollars Traded:</i>	\$83.0 MM
<i>Total Costs/Savings</i>	
vs. Avg Daily Mid:	-3 bp
vs. London 4:00 pm Close:	-3 bp
 <i>FX Dollars Traded through Custodian:</i>	 \$49.1 MM
<i>Total Costs/Savings</i>	
vs. Avg Daily Mid:	-3 bp
vs. London 4:00 pm Close :	-6 bp

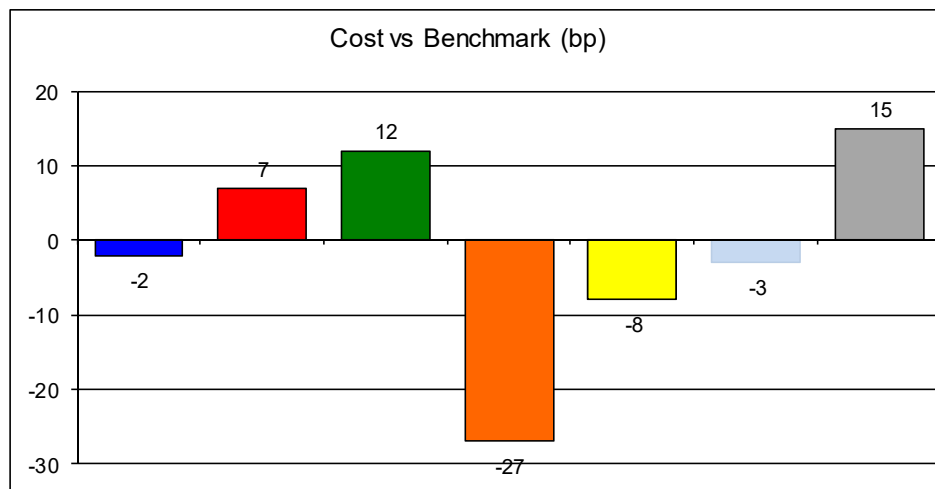
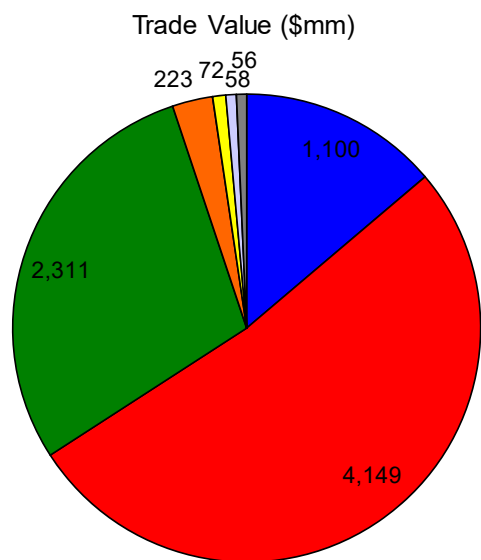


### Observations

- \$71.0 million of Separate Account manager FX trading activity occurred in 2016, with the non-custodian trades having an average trade size of approximately \$219,000. The custodian share of the FX trades was 59%, with an average trade size of approximately \$119,000. Commingled Fund manager trading activity was \$6.4 billion, with no trades executed through the Fund's custodian.
- Annual Separate Account FX execution rates were in-line with both the Daily Mid (-3bp), and London Close (-3bp). Trades executed by the custodian were also in-line with both the Daily Mid and London Close. Annual Commingled Fund FX execution rates were in-line with both the Daily Mid (+2bp), and London Close (-2bp). *In aggregate, both Separate Account and Commingled Fund Buys and Sells were randomly distributed, and within their respective daily range.*
- Northern Trust received approximately 59% of Separate Account trade volume in 2016. Deutsche Bank received approximately 23% of Commingled Fund trade volume in 2016.
- The Top 5 Separate Account currency pairs (USD.JPY, EUR.USD, GBP.USD, USD.SEK, and USD.CHF) represented 84% of total volume during 2016. Overall, 98% of this FX activity occurred in Non-restricted markets. The Top 5 Commingled Fund currency pairs (USD.JPY, EUR.USD, USD.KRW, USD.INR, and USD.CLP) represented 87% of total volume during 2016. Overall, 69% of this FX activity occurred in Non-restricted markets.



# 2016 Aggregate Fund –Trading Volume



Franklin – Global Bonds

WAMCO – US Core Plus

Blackrock – EAFE Passive

BBH – US TIPS

QMA – Small Cap Core

Baillie Gifford – Non-US All Country

Mondrian – Non-US All Country Value





## 2016 Aggregate Plan - Top & Bottom Three Managers

### Top 3 - Total Cost vs Benchmark Results

Manager	Value Added (\$)	Cost vs Benchmark
Mondrian – Non-US All Country Value	+\$83,000	+15 bps
Blackrock – EAFE Passive	+\$2.9 million*	+12 bps
WAMCO – US Core Plus	+\$1.8 million*	+7 bps

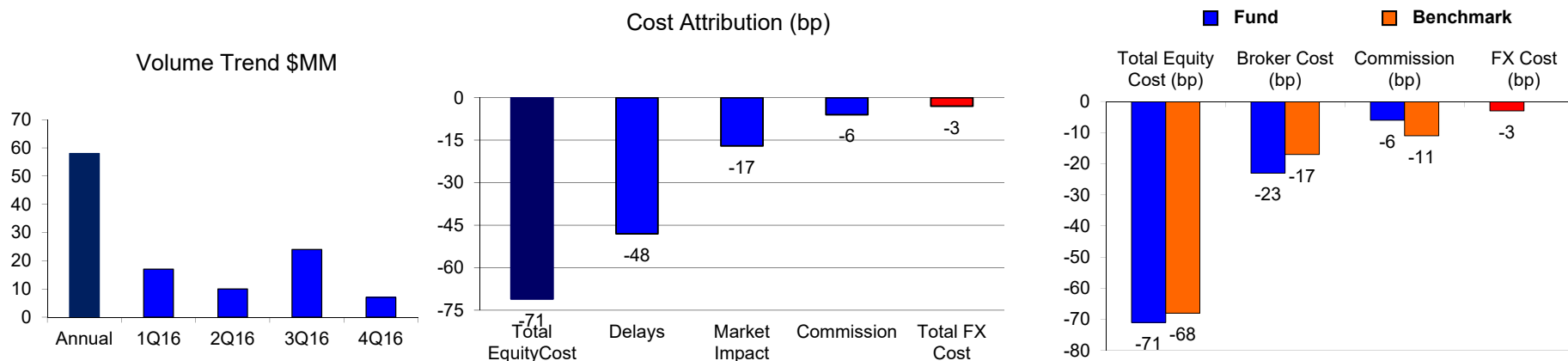
### Bottom 3 - Total Cost vs Benchmark Results

Manager	Value Detracted (\$)	Cost vs Benchmark
BBH – US MBS	-\$470,000	-27 bps
QMA – US Small Cap Core	-\$61,000*	-8 bps
Baillie Gifford – Non-US All CountryGrowth	-\$20,000	-3 bps

\* Represents the Commingled Fund's total dollar amount, San Mateo County ERA's impact would be a pro-rata slice of this amount.



# Baillie Gifford – Non-US All Country Growth



## Review

- Equity Trading activity (\$68.1 mm) was very low, with annual turnover averaging only 14%. Quarter-end returns on traded securities were negative both before costs and after costs.
- Total Equity Costs (-71 bp) slightly lagged the Total Cost Benchmark (-68 bp), but ranked in the 4<sup>th</sup> Quartile of Zeno’s Non-US All Country Growth Peer Universe (which has a one-quarter lag). Multi-day Delay costs on illiquid names resulted in higher costs of approximately \$20,000. However, improving cost trend likely moves their rank out of the 4<sup>th</sup> Quartile next quarter.
- Brokerage Costs (-23 bp) slightly lagged the Brokerage Benchmark (-17 bp). JPMorgan received the largest allocation of trade volume (13%), and appeared to be expensive (with possible price reversions). Given the amount traded, these excess costs equate to approximately -\$46,000. A Sell of Protalix Bio on 12/5/16 also cost 9% of principal value.
- Commissions (-6 bp) outperformed the median commission rate in Zeno’s Non-US All Country Growth (-11 bp), and are likely execution-only.
- The FX transactions (291 trades) were executed at an average cost of -3 bp vs the Daily Mid. However, only three Counterparties were used, and 4Q16 trades executed through Northern Trust appeared high (-10bp), as were EUR.USD transactions (-7 bp).



# Baillie Gifford – Relevant Supporting Documentation

Components of Cost Analysis						
Review Period	---- Execution Costs ----					Total Cost Benchmark
	Delay	Implicit Cost	Impact	Explicit Costs Commissions		
	bp		bp	bp	(c)	bp
2016/Q1	-105		-48	-5	(-0.4)	-158
2016/Q2	54		24	-6	(-0.3)	71
2016/Q3	-62		-14	-5	(-0.6)	-82
2016/Q4	-19		-14	-8	(-1.3)	-41
<b>Total</b>	<b>-48</b>		<b>-17</b>	<b>-6</b>	<b>(-0.5)</b>	<b>-71</b>



Broker	---- Trades ----			---- Trading Cost ----			--- Comparison ---		---- Price Trends ----				-Average Trade Characteristics-				
	#	Value	%	Commissions	Impact Cost	Brokerage Cost	Brokerage Benchmark	Value Added	1-Day Pre	Open to VWAP	VWAP to Execution	1-Day Post	Share Price	Liquidity (%MDV)	Market Cap	Shares	
	#	\$Millions	%	(c)	bp	bp	bp	bp	bp	bp	bp	bp	\$	%	\$Billions	000	
J P Morgan	32	7.3	12.5	(-0.7)	-4	-79	-83	-17	-66	-66	-21	-58	-85	16.6	12.1	17.1	13.9
HSBC Securities	17	5.9	10.2	(-0.1)	-2	-12	-14	-13	-2	-8	-1	-11	-8	5.2	1.2	35.9	67.3
Credit Suisse	29	5.7	9.8	(-1.1)	-8	-51	-59	-54	-5	4	-46	-5	43	14.2	8.9	28.8	13.8
Societe Generale	51	5.5	9.5	(-0.5)	-4	-19	-23	-29	6	-19	-25	6	16	14.2	7.1	7.2	7.6
RBC Dain Rauscher	21	3.3	5.6	(-1.1)	-7	13	6	-7	14	57	4	9	39	15.6	2.3	22.1	9.7



# Baillie Gifford – Relevant Supporting Documentation

Counterparty	Total					Spot				Forward			
	Review Period	#	Deal Size	Total Cost vs Mid		#	Deal Size	Total Cost vs Mid		#	Deal Size	Total Cost vs Mid	
Security Class	Trades	USD MM	%	bp	USD M	Trades	USD MM	bp	USD M	Trades	USD MM	bp	USD M
<b>Northern Trust Securities</b>													
Last 4 Quarters	158	22.5	48	-5	-11.0	60	10.0	-10	-10.1	98	12.5	-1	-0.9
Non-Restricted	152	20.6	44	-4	-9.0	58	9.3	-9	-8.8	94	11.2	-0	-0.2
Restricted	6	2.0	4	-10	-2.0	2	0.7	-20	-1.3	4	1.3	-5	-0.7
<b>Brown Brothers Harriman</b>													
Last 4 Quarters	108	17.4	37	-2	-3.9	26	4.7	-2	-1.1	82	12.7	-2	-2.7
Non-Restricted	108	17.4	37	-2	-3.9	26	4.7	-2	-1.1	82	12.7	-2	-2.7
<b>Bank of New York</b>													
Last 4 Quarters	25	7.0	15	3	2.1	10	4.9	3	1.5	15	2.2	3	0.6
Non-Restricted	25	7.0	15	3	2.1	10	4.9	3	1.5	15	2.2	3	0.6
<b>Total</b>													
Last 4 Quarters	291	47.0	100	-3	-12.7	96	19.6	-5	-9.7	195	27.4	-1	-3.0
Non-Restricted	285	45.0	96	-2	-10.8	94	18.9	-4	-8.4	191	26.1	-1	-2.4

ZENO Consulting Group, LLC MM = Millions; M = Thousands

Currency Pair	Total					Spot				Forward			
	Review Period	#	Deal Size	Total Cost vs Mid		#	Deal Size	Total Cost vs Mid		#	Deal Size	Total Cost vs Mid	
Security Class	Trades	USD MM	%	bp	USD M	Trades	USD MM	bp	USD M	Trades	USD MM	bp	USD M
<b>GBPUSD</b>													
2016/Q4	2	3.0	32	4		1.2	2	3.0	4	1.2			
Non-Restricted	2	3.0	32	4		1.2	2	3.0	4	1.2			
<b>EURUSD</b>													
2016/Q4	11	2.1	22	-7	-1.5	1	0.2	-10	-0.3	10	1.8	-7	-1.3
Non-Restricted	11	2.1	22	-7	-1.5	1	0.2	-10	-0.3	10	1.8	-7	-1.3



## Recommended 2017 Monitoring and Oversight

Manager	Comment
Baillie Gifford – Non-US All Country Growth	<p><i>Explore manager’s execution process and policies regarding its impact on returns; particularly with respect to multi-day Delay Costs.</i></p> <p><i>Discuss manager’s Counterparty-allocation and best-execution oversight policies, particularly regarding the use of JPMorgan.</i></p> <p><i>Discuss relatively high costs on custodian FX transactions - in the context of the Fund’s Standing Instruction language (contrast with Mondrian’s use of the Fund’s custodian); as well as the use of limited Counterparties, and relatively high EUR.USD trades.</i></p> <p><i>Note: high cost trade of Protalix Bio on 12/5/16.</i></p> <p><i>Monitor for potential savings of approximately \$69,500 from improved equity and FX efficiency, once manager has been put on notice regarding the Fund’s oversight efforts.</i></p>
Brown Brothers Harriman – US TIPS	<p><i>Discuss relatively high costs on Buys, particularly 2-year and 30-year maturities; and the manager’s best-execution oversight policies.</i></p> <p><i>Monitor for potential savings of approximately \$200,000 from improved execution quality.</i></p>
Franklin Templeton – Global Universal	<p><i>Note: use of only eight fixed income Counterparties, and discuss manager’s views regarding Counterparty-risk.</i></p> <p><i>Discuss the manager’s best-execution allocation and oversight policies regarding Deutsche Bank, and USD.MXN transactions.</i></p> <p><i>Monitor for potential savings of approximately \$129,000 from improved execution, once manager has been put on notice regarding the Fund’s oversight efforts.</i></p>



## Recommended 2017 Monitoring and Oversight cont.

Manager	Comment
Mondrian – Non-US All Country	<p><i>Note: use of only five FX Counterparties (and the custodian executes 75% of all trades), and discuss manager's views regarding Counterparty-risk.</i></p> <p><i>Explore manager's execution process and policies regarding its FX transactions in USD.JPY and USD.CHF.</i></p> <p><i>Monitor for potential savings of approximately \$5,000 from improved FX execution quality, once manager has been put on notice regarding the Fund's oversight efforts.</i></p>
QMA – US Small Cap Core/Enhanced	<p><i>Note: manager selling and purchase of shares in First NBC Bank within a ten-week period (particularly given the manager's very low turnover rate).</i></p>
WAMCO – US Core Plus	<p><i>Note: several high cost trades, and the manager's best-execution oversight policies.</i></p>

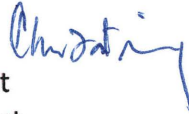
**SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**  
**Board of Retirement**

August 22, 2017

Agenda Item 7.1

**TO:** Board of Retirement

**FROM:** Tat-Ling Chow, Finance Officer  
Chezelle Milan, Senior Accountant  
Lilibeth Dames, Investment Analyst



**SUBJECT:** Preliminary Financial Statements for the Fiscal Year Ended June 30, 2017

**Staff Recommendation**

Accept the Preliminary Financial Statements for the Fiscal Year Ended June 30, 2017.

**Background**

The preliminary financial statements provide financial information on SamCERA's financial position as of June 30, 2017, and its operating results for the fiscal year ended June 30, 2017.

The *Statement of Fiduciary Net Position* (balance sheet) provides a snapshot of the account balance as of June 30, 2017. This Statement indicates the amount of fiduciary net position (total assets minus total liabilities) available to pay future pension benefits. Over time, increases and decreases in net position may serve as a useful indicator of whether the financial health of SamCERA is improving or declining. Other factors, such as market conditions, should also be considered in measuring SamCERA's overall financial health.

The *Statement of Changes in Fiduciary Net Position* (income statement) reports additions to, and deductions from, SamCERA's fiduciary net position for the fiscal year ended June 30, 2017. "Additions" consist of contributions from plan sponsors and members, investment income net of investment expenses, securities lending income net of related expenses, and other additions. "Deductions" include member benefits, member refunds, administrative and other expenses.

**Summary**

SamCERA's financial position improved modestly over the fiscal year just ended. Its net position increased \$498 million, or 14%, to \$4.0 billion, fueled mainly by an appreciation of investments.

**Statement of Fiduciary Net Position**

The table following shows SamCERA's preliminary Statement of Fiduciary Net Position as of June 30, 2017. Its assets and liabilities as of June 30, 2017, were compared to those as of June 30, 2016, to reflect changes over the fiscal year. Significant changes are discussed on the following pages.

**Statement of Fiduciary Net Position**

	Preliminary	Actual	Increase (Decrease)	
	6/30/17	6/30/16	Amount	Percentage
<b>ASSETS:</b>				
Cash and Cash Equivalents	\$ 191,894,527	\$ 130,111,362	\$ 61,783,165	47%
Cash Management Overlay	25,207,998	26,249,148	(1,041,150)	-4%
Securities Lending Cash Collateral	-	88,363,269	(88,363,269)	-100%
Subtotal - Cash and Other Cash Related Activities	<u>217,102,525</u>	<u>244,723,779</u>	<u>(27,621,254)</u>	-11%
Receivables				
Contributions	8,622,173	7,812,557	809,616	10%
Due from Broker for Investments Sold	7,438,707	9,809,813	(2,371,106)	-24%
Investment Income	8,327,115	4,886,171	3,440,944	70%
Securities Lending Income	-	26,788	(26,788)	-100%
Other Receivable	95,658	100,028	(4,370)	-4%
Subtotal - Receivables	<u>24,483,653</u>	<u>22,635,357</u>	<u>1,848,296</u>	8%
Prepaid Expense	7,669	7,669	-	0%
Investments at Fair Value				
Fixed Income	737,559,880	610,607,729	126,952,151	21%
Equity	1,717,653,931	1,723,373,856	(5,719,925)	0%
Alternatives	484,039,936	404,376,940	79,662,996	20%
Risk Parity	291,757,142	280,336,352	11,420,790	4%
Inflation Hedge	573,535,849	349,680,120	223,855,729	64%
Subtotal - Investment at Fair Value	<u>3,804,546,738</u>	<u>3,368,374,997</u>	<u>436,171,741</u>	13%
Fixed Assets, net of accumulated depreciation	7,629,372	5,162,123	2,467,249	48%
<b>TOTAL ASSETS</b>	<u><b>4,053,769,957</b></u>	<u><b>3,640,903,925</b></u>	<u><b>412,866,032</b></u>	<b>11%</b>
<b>LIABILITIES:</b>				
Payable - Investment Management Fees	1,822,557	1,807,507	15,050	1%
Due to Broker for Investments Purchased	9,416,634	7,582,018	1,834,616	24%
Securities Lending Cash Collateral - Due to Borrowers	-	88,363,269	(88,363,269)	-100%
Other	2,658,714	1,762,634	896,080	51%
<b>TOTAL LIABILITIES</b>	<u><b>13,897,905</b></u>	<u><b>99,515,428</b></u>	<u><b>(85,617,523)</b></u>	<b>-86%</b>
<b>NET POSITION RESTRICTED FOR PENSIONS</b>	<u><b>\$4,039,872,052</b></u>	<u><b>\$ 3,541,388,497</b></u>	<u><b>\$ 498,483,555</b></u>	<b>14%</b>

**Assets.** SamCERA's total assets increased \$413 million, or 11%, due primarily to the following:

- Cash and cash equivalents increased \$62 million, or 47%. Near year-end, SamCERA received \$33.6 million in supplemental contributions from the County. The remaining increase in cash came mainly from changes in asset allocation, ensuring sufficient cash was available to fund new investments in the upcoming fiscal year.
- Securities lending cash collateral decreased \$88 million, or 100%. SamCERA did not participate in any securities lending activity at June 30, 2017, due to changes in asset allocation.
- Investments overall increased \$436 million, or 13%. SamCERA's investments performed relatively well in fiscal year 2016-17 with a net investment return of 12.6% compared to 0.7% in prior year. The net appreciation of investments amounted to \$412 million. Apart from this, \$24 million were put in new investments across the entire portfolio.



- Fixed assets (net of accumulated depreciation) increased \$2.5 million, or 48%. During the first six months of the fiscal year, a tremendous amount of time and effort went into preparing the new pension system for implementation in January 2017.

**Liabilities.** SamCERA's total liabilities decreased \$86 million, or 86%. Most of the decrease was caused by an \$88 million decline in securities lending cash collateral. Due to changes in asset allocation, SamCERA did not participate in any securities lending activity at June 30, 2017.

#### **Statement of Changes in Fiduciary Net Position**

SamCERA's preliminary Statement of Changes in Fiduciary Net Position (income statement) for the fiscal year ended June 30, 2017, is presented on page 4. Additions to and deductions from the Retirement Fund for the fiscal year were compared to those of the prior fiscal year.

**Additions.** Total additions to the Retirement Fund during the year was \$699 million, which was \$422 million higher than last year. Significant changes are discussed below.

- Employee contributions were \$6 million, or 11%, higher than last year. The increase was mainly from a memorandum of Understanding (MOU) between the County and certain bargaining units. Under this MOU, a portion of the Cost of Living Adjustment (COLA) contributions was shifted to County employees. Most employees in Plans 1, 2, and 4 are required to contribute 50% of the COLA in addition to the basic and cost sharing contributions effective July 2016.
- Employer contributions were \$5 million, or 3%, less than last year, due primarily to the County shifting 50% of its COLA contributions to employees in Plans 1, 2, and 4.
- Employer Supplemental Contribution was \$13 million, or 61%, higher than last year. To accelerate the payoff of unfunded liabilities, employers may make supplemental contributions to the Retirement Fund. The County increased its supplemental contributions by \$14.1 million, from \$19.5 million last year to \$33.6 million this year. On the contrary, the Mosquito and Vector Control District decreased its supplemental contributions by \$1.25 million, from \$1.5 million last year to \$0.25 million this year.
- Investment income overall was \$414 million, or 1716%, higher than last year. SamCERA's investment performance soared under favorable economic conditions. Its net investment return was 12.6% in fiscal year 2016-17 compared to 0.7% in prior year.
- Other additions were \$5 million, or 100%, less than last year. In the prior year, one of the general partners in a Limited Partnership was in default. Its equity was distributed to the remaining general partners, including SamCERA. Consequently, SamCERA recognized an unanticipated gain of \$4.5 million.

**Deductions.** Total deductions from the Retirement Fund during the fiscal year was approximately \$200 million, which was \$11 million, or 6%, higher than last year. The increase was due mainly

to an increase in the number of retirees (from 4,826 in June 2016 to 4,952 in June 2017) with a relatively higher final average compensation.

**Statement of Changes in Fiduciary Net Position**


	Preliminary	Actual	Increase (Decrease)	
	2017	2016	Amount	Percentage
<b>ADDITIONS:</b>				
Contributions				
Employee Contribution	\$ 62,160,101	\$ 56,068,706	\$ 6,091,395	11%
Employer Contributions	164,877,135	170,046,059	(5,168,924)	-3%
Employer Supplemental Contribution	33,850,000	21,048,429	12,801,571	61%
Subtotal - Contributions	260,887,236	247,163,194	13,724,042	6%
Investment Income				
Interest and Dividends	37,450,201	36,703,717	746,484	2%
Net Appreciation in fair value of investments	433,300,731	22,197,249	411,103,482	1852%
Totl investment income	470,750,932	58,900,966	411,849,966	699%
Less: Investment Expense	(32,953,111)	(34,789,209)	1,836,098	-5%
Subtotal - Investment Income	437,797,821	24,111,757	413,686,064	1716%
Securities Lending Income				
Earnings	80,152	423,019	(342,867)	-81%
Less: Securities Lending Expenses	(34,881)	(145,240)	110,359	-76%
Subtotal - Securities Lending Income	45,271	277,779	(232,508)	-84%
Other Additions	2,675	4,910,228	(4,907,553)	-100%
<b>Total Additions</b>	<b>698,733,003</b>	<b>276,462,958</b>	<b>422,270,045</b>	<b>153%</b>
<b>DEDUCTIONS:</b>				
Benefits				
Service Retirement Benefits	166,979,890	157,513,099	9,466,791	6%
Disability Retirement Benefits	22,689,813	21,090,529	1,599,284	8%
Survivor, Death and Other Benefits	698,946	893,633	(194,687)	-22%
Subtotal - Benefits	190,368,649	179,497,261	10,871,388	6%
Refund of Member Contributions	2,871,632	3,366,437	(494,805)	-15%
Administrative Expense	5,983,356	5,961,802	21,554	0%
Information technology expenses	995,979	714,347	281,632	39%
Other Expense	29,832	10,942	18,890	173%
<b>Total Deductions</b>	<b>200,249,448</b>	<b>189,550,789</b>	<b>10,698,659</b>	<b>6%</b>
<b>Net Income</b>	<b>498,483,555</b>	<b>86,912,169</b>	<b>411,571,386</b>	<b>474%</b>
Net position restricted for pensions				
Beginning of the year	3,541,388,497	3,454,476,328	86,912,169	3%
End of year	\$ 4,039,872,052	\$ 3,541,388,497	\$ 498,483,555	14%

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
Board of Retirement

August 22, 2017

Agenda Item 7.2

**TO:** Board of Retirement

**FROM:** Tat-Ling Chow, Finance Officer   
Chezelle Milan, Senior Accountant  
Lilibeth Dames, Investment Analyst

**SUBJECT:** Preliminary Report on Budget-to-Actual for the Fiscal Year Ended June 30, 2017

**Staff Recommendation**

Accept the Preliminary Report on Budget-to-Actual for the fiscal year ended June 30, 2017.

**Background**

SamCERA's budget covers three different areas as follows:

1. Administrative Budget – covers personnel expenses (salaries and benefits) and administrative overhead (services and supplies). The administrative budget cannot exceed the mandated limit of 0.21% of the accrued actuarial liability of the retirement fund (Government Code §31580.2(a)).
2. Technology Budget – covers expenses for computer software, computer hardware, and computer technology consulting services in support of these computer products, and is not subject to the mandated limit of 0.21% discussed above (Government Code §31580.2(b)).
3. Professional Services Budget – covers costs for actuarial consulting services, custodial services, investment management, investment consulting services, and outside legal services. (Government Code §31596.1).

**Discussion**

The annual budget review indicates that SamCERA's overall budget was on track as of June 30, 2017.

**Administrative Budget.** About 88% of the administrative budget (or \$6 million) were used during the fiscal year. This is a good indicator that the expenses were properly managed and under control. The following table summarizes all administrative expenses with explanations for why the actual results of certain items significantly differ from the expected outcomes.

*Salaries and Benefits* – Total expenses were \$4.5 million, which was closely in line with the adopted budget.

*Services and Supplies* – Total expenses were \$1.5 million, which was modestly lower than the initial expectation. Significant variances are identified and explained in the following:

	Budget FY 2016-17	Actual FY 2016-17	% of Budget Used	Under (Above) Budget	% of Budget Remaining
<b>Salaries and Benefits</b>					
Salaries	\$ 3,352,710	\$ 3,013,494	90%	\$ 339,216	10%
Benefits	1,686,813	1,503,135	89%	183,678	11%
<b>Total Salaries and Benefits</b>	<b>5,039,523</b>	<b>4,516,629</b>	<b>90%</b>	<b>522,894</b>	<b>10%</b>
<b>Services and Supplies</b>					
Board Expense	10,500	6,300	60%	4,200	40%
Insurance	80,000	65,275	82%	14,725	18%
Medical record and hearing service	50,000	66,324	133%	(16,324)	-33%
Member Education	60,000	58,649	98%	1,351	2%
Education and Conference	137,800	106,361	77%	31,439	23%
Transportation and Lodging	205,500	71,100	35%	134,400	65%
Property and Equipment	43,000	14,973	35%	28,027	65%
General Office Supplies	45,000	34,666	77%	10,334	23%
Postage and Printing	70,000	64,844	93%	5,156	7%
Leased Facilities	575,000	555,712	97%	19,288	3%
County Services	397,900	344,016	86%	53,884	14%
Audit Services	52,500	51,918	99%	582	1%
Other Administration	55,000	26,588	48%	28,412	52%
<b>Total Services and Supplies</b>	<b>1,782,200</b>	<b>1,466,726</b>	<b>82%</b>	<b>315,474</b>	<b>18%</b>
<b>Total</b>	<b>\$ 6,821,723</b>	<b>\$ 5,983,355</b>	<b>88%</b>	<b>\$ 838,368</b>	<b>12%</b>

- Medical record and hearing services expenses were higher than anticipated. The number of disability hearings exceeded expectation as County Counsel made a concerted effort to resolve all pending appeals for disability benefits received in the current and previous years.
- “Education and Conference” and “Transportation and Lodging” expenses were significantly lower than anticipated. During the first six-months, staff concentrated on implementing the new pension system. After the system went live in January, staff shifted their focus to assessing the final deliverables produced. Plans for training, conferences, or traveling were either canceled or deferred.
- Property and Equipment expenses were substantially lower than expected. This budget item included an estimate to cover unforeseen needs for office equipment. The amount set aside for this purpose was not fully depleted.
- General office supplies expenses were lower than anticipated as the demand for office supplies was far less than estimated.
- County Services expenses consist of fixed fees for basic services (such as Human Resources and Risk Management) and variable fees for non-basic services. The need for non-basic services was less than projected.
- Other Administration expenses were substantially lower than expected. The budget set aside monies for hiring a tax attorney to assist with the tax determination process. In August 2016, the Internal Revenue Services issued a favorable tax determination letter to SamCERA. Thus, the tax determination process was complete without incurring additional charges.

**Technology Expenses.** About 59% of the budgeted expenses (or \$3.5 million) were used during the fiscal year. Below is a summary of all technology expenses along with explanations for the significant variances.

	Budget FY 2016-17	Actual FY 2016-17	% of Budget Used	Under Budget	% of Budget Remaining
Computer equipment and software	\$ 200,000	\$ 20,414	10%	\$ 179,586	90%
Software license maintenance - IT infrastructure	230,340	124,282	54%	106,058	46%
Electronic content management	500,000	7,252	1%	492,748	99%
Technology infrastructure	200,000	-	0%	200,000	100%
Contract IT Services - IT Infrastructure	503,000	431,852	86%	71,148	14%
Leasehold improvements	20,000	-	0%	20,000	100%
ISD budget	150,000	-	0%	150,000	100%
Pension administration software system	4,000,000	2,879,428	72%	1,120,572	28%
Technology research and development	104,000	-	0%	104,000	100%
<b>Total</b>	<b>\$ 5,907,340</b>	<b>\$ 3,463,228</b>	59%	<b>\$ 2,444,112</b>	41%

- “Computer equipment and software”, “Electronic content management”, and “Technology infrastructure” expenses were significantly lower than anticipated. Staff gave priority to system implementation and post-implementation review over other IT projects. Plans for acquiring new equipment/software, managing documents electronically, and improving the capacities of the existing infrastructure were deferred.
- Software license maintenance expenses were modestly lower than anticipated. The budget included \$100,000 of enhancements to the old benefit system (Pension Gold). Management subsequently decided to suspend further improvement as Pension Gold was slated to discontinue in January 2017.
- Leasehold improvements did not take place as anticipated since the plan of taking new space was not needed.
- ISD budget was initially setup for network connectivity, remote access, cell phones, network backup, and other IT related services offered by the County. Management subsequently decided to record these service charges as administrative expenses effective July 2016.
- Capital expenses were about \$1 million less than anticipated. The remaining fund will be used to finance future enhancement to the existing pension system.
- Technology research and development (R&D) budget was initially set aside for staff to capitalize on new technologies. With priority given to the pension system implementation, all R&D projects were deferred to the next fiscal year.

**Professional Services Expenses.** For the year ended June 30, 2017, the actual professional service expenses totaled \$21 million, or 52 basis points of the total fund. Overall expenses were closely in line with estimated.

Below is a summary of professional services expenses incurred during the fiscal year.

<b>Investment Management &amp; Other Professional Services</b>				
<b>Service</b>	<b>Actual Fee (bps)</b>	<b>Projected Fee FY 16-17</b>	<b>Actual Fee FY 16-17</b>	<b>Percentage of Projected Fee Used</b>
Investment Management	50.0	\$ 22,193,414	\$ 20,118,853	91%
Other Professional Services	2.1	952,500	861,471	90%
<b>TOTAL</b>	<b>52.1</b>	<b>\$ 23,145,914</b>	<b>\$ 20,980,324</b>	<b>91%</b>

Investment management fees are driven by contractual agreements and based on assets under management, the amount of capital committed, and/or investment performance.

<b>Investment Management Services</b>				
<b>Investment</b>	<b>Actual Fee (bps)</b>	<b>Projected Fee FY 16-17</b>	<b>Actual Fee FY 16-17</b>	<b>Percentage of Projected Fee Used</b>
Total Public Equity	29.5	\$ 6,150,324	\$ 5,067,471	82%
Total Fixed Income	58.7	3,969,190	4,336,838	109%
Total Risk Parity	36.3	967,483	1,058,181	109%
Total Alternative Assets	135.1	8,033,508	6,501,183	81%
Total Inflation Hedge	51.1	2,924,909	2,961,622	101%
Total Cash Overlay	N/A	148,000	193,557	131%
<b>TOTAL</b>	<b>50.0</b>	<b>\$ 22,193,414</b>	<b>\$ 20,118,853</b>	<b>91%</b>

Key variances include the following:

- The management fee for “Public Equity” was 18% under budget, due mostly to the transition from active management to passive management, and the simplification of the small cap portfolio.
- The management fee for “Alternative Assets” was 19% under budget, as a result of the over projection of private equity management and performance fees in the adopted budget.
- The management fee for “Cash Overlay” was 31% above budget as SamCERA was holding more cash than expected during the fiscal year.

Other professional service charges are primarily based on contractual agreements. Actuarial consulting fees were modestly higher than expected due to underestimation of time used for the triennial experience study.

<b>Other Professional Services</b>					
<b>Contractor</b>	<b>Service</b>	<b>Actual Fee (bps)</b>	<b>Projected Fee Fiscal Year 16-17</b>	<b>Actual Fee FY 16-17</b>	<b>Percentage of Projected Fee Used</b>
Milliman Inc.	Actuarial Consulting	0.2	\$ 117,500	\$ 134,000	114%
Segal Consulting	Actuarial Audit	0.1	35,000	35,000	100%
Verus Investments	Investment Consulting	1.1	450,000	450,596	100%
Northern Trust	Custodian	0.6	350,000	241,875	69%
	<b>TOTAL</b>	<b>2.1</b>	<b>\$ 952,500</b>	<b>\$ 861,471</b>	<b>90%</b>